

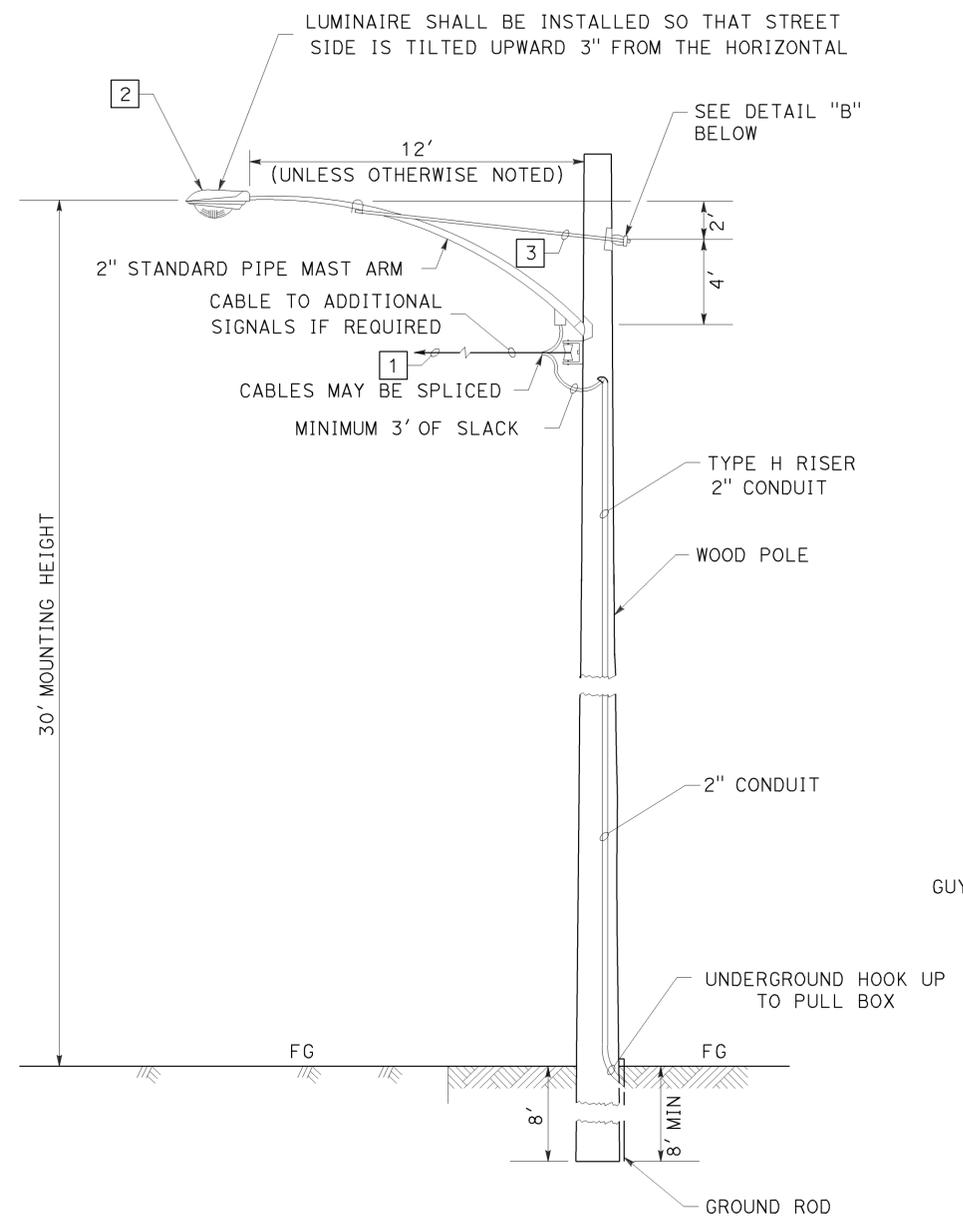
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1301	1929
		8/10/09		DATE	
REGISTERED CIVIL ENGINEER		DENWUN LIN			
2-1-10		No. C46719			
PLANS APPROVAL DATE		* Exp. 6/30/11			
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LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780			ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584		

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

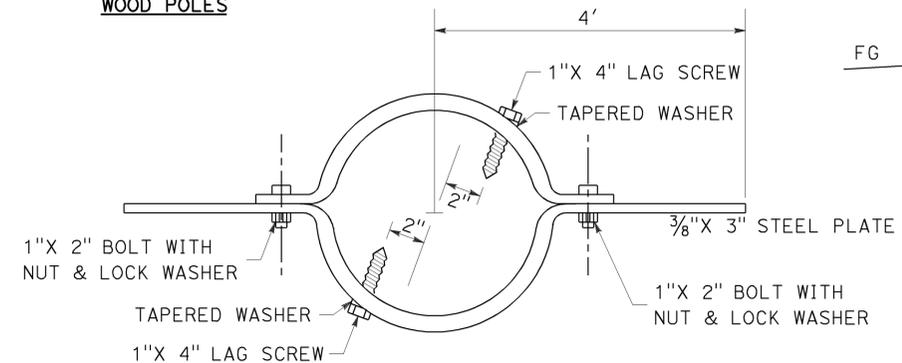
- 1 CABLE SHALL BE SUSPENDED FROM SPAN-WIRE AS FOLLOWS:
A) MAIN RUN - 3/8" SPAN-WIRE
B) SECONDARY RUN - 1/4" SPAN-WIRE
- 2 LUMINAIRE SHALL HAVE INTEGRAL BALLAST.
- 3 MAST ARM FOR LUMINARIES SHALL CONFORM TO SECTION 86-2.12 OF THE STANDARD SPECIFICATIONS. PIPE TIE RODS SHALL BE 3/4" FOR MAST ARMS WITH 5/8" ROUND BOLT ON EACH END.

NOTES (THIS SHEET ONLY):

1. ALL OVERHEAD CABLE SHALL BE SLACK SPANNED WITH 20' MINIMUM OVERHEAD CLEARANCE.
2. NO SPARE CONDUCTOR REQUIRED EXCEPT AS NOTED.
3. MULTI-CONDUCTOR OR SINGLE CONDUCTOR CABLE MAY BE USED.
4. WOOD POLES SHALL CONFORM TO SECTION 86-2.12 OF THE STANDARD SPECIFICATIONS. POLES SHALL BE BREAST BLOCKED, GUYED OR RAKED WHERE NECESSARY.
5. COLOR CODING ON MULTI-CONDUCTOR CABLE NEED NOT CONFORM TO THE STANDARD SPECIFICATIONS REQUIREMENT.
6. MAST ARM FOR LUMINARIES SHALL CONFORM TO SECTION 86-2.12 OF THE STANDARD SPECIFICATIONS.
7. OVERHEAD LINE CONSTRUCTION NOT SPECIFICALLY COVERED HEREON SHALL CONFORM WITH THE PROVISIONS OF GENERAL ORDER NO. 95 OF PUBLIC UTILITIES COMMISSION.

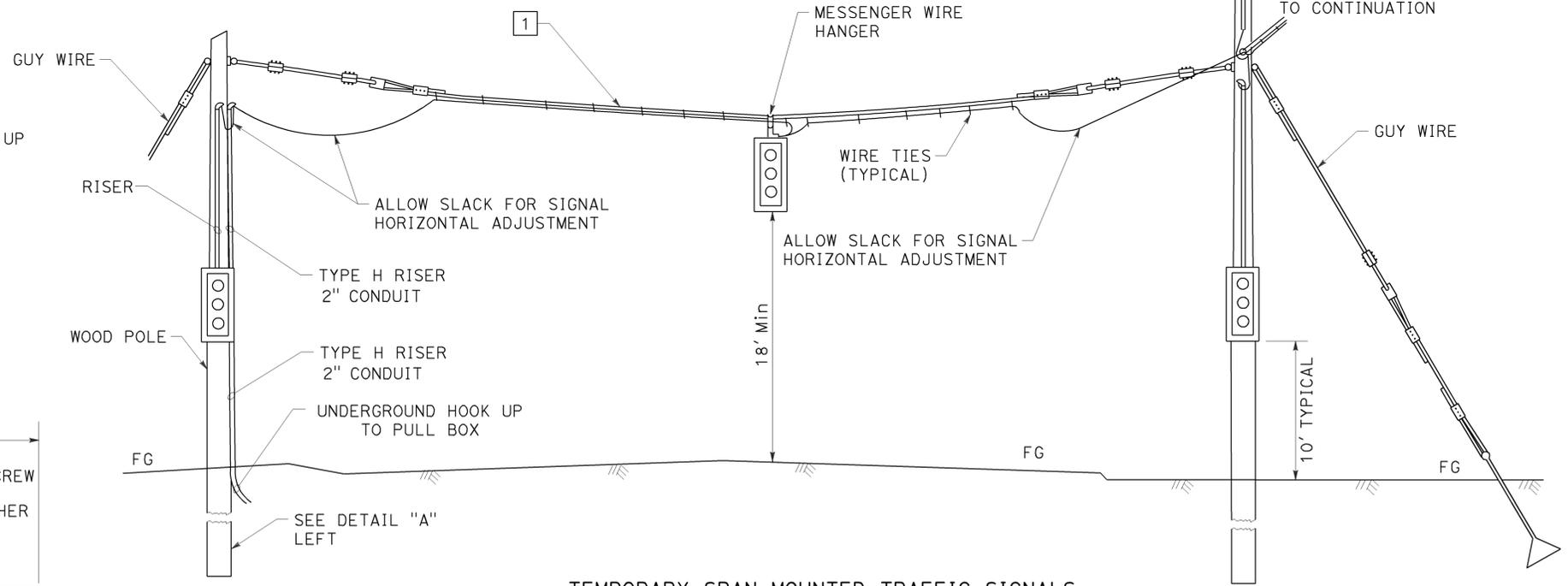


DETAIL "A"
TYPICAL MOUNTING DETAILS
WOOD POLES



DETAIL "B"
WIND ANCHOR

TO BE INSTALLED PERPENDICULAR TO
MAST ARMS AND 2' MINIMUM BELOW GRADE



TEMPORARY SPAN MOUNTED TRAFFIC SIGNALS
TYPICAL DETAIL

**TEMPORARY
SIGNAL AND LIGHTING
(DETAILS)**
NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => s135318
DGN FILE => c07163ua115.dgn

CU 12235

EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Vicente Encarnacion - Charlotte Wu
 DENWUN LIN
 8/10/09
 8/1/2008



LAST REVISION | DATE PLOTTED => 02-FEB-2010
 08-10-09 | TIME PLOTTED => 13:06

CONDUCTOR AND CONDUIT SCHEDULE

AWG	CONDUCTOR RUN	△1	△2	△3	△4 ^{OH}	△5 ^{OH}	△6 ^{OH}	△7 ^{OH}	△8 ^{OH}	△9	△10	△11	△12
#14	RAMP SIGNAL METER ON SPARE		2	2	2	2	2			3	3	2	2
#10	SIGNAL COMMON		1	1	1	1	1			1	1	1	1
#2	SERVICE	2(E)	1	2	2	2	2			1	2	2	2
DLC	DEMAND PASSAGE QUEUE COUNT			2	2	2	2			1	1	2	2
	TOTAL		2	2	2	2	4	1	1	2	3	2	3
	CONDUIT SIZE	1½"(E)	1½"(E)	2"(E)						3"	2-3"(E)	2"	2"

ALL CONDUITS, CONDUCTORS AND DLC ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E)= EXISTING
OH= PROPOSED OVERHEAD LINE

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MODEL 334 CABINET.
- EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- INSTALL TEMPORARY 1A POLE.
- INSTALL MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY WOOD POLE PER SPECIFICATIONS. SEE SHEET E-131 TO E-134 FOR INSTALLATION DETAILS.
- INSTALL TEMPORARY LOOP AS SHOWN.
- INSTALL TYPE H RISER.
- EXISTING CONDUCTORS AND DLC. INSTALL NEW CONDUCTORS AND DLC AS SHOWN.
- OVERHEAD LINES MUST MAINTAIN A MINIMUM CLERANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.
- TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING UNLESS OTHERWISE NOTED. USE DEAD-END ASSEMBLIES AS NEEDED.

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
12	Ora	22,405, 605	TOTAL PROJECT R0.3/R0.9, 22.3/24.0,3.0/R1.6	1302	1929

8/10/09
REGISTERED CIVIL ENGINEER DATE

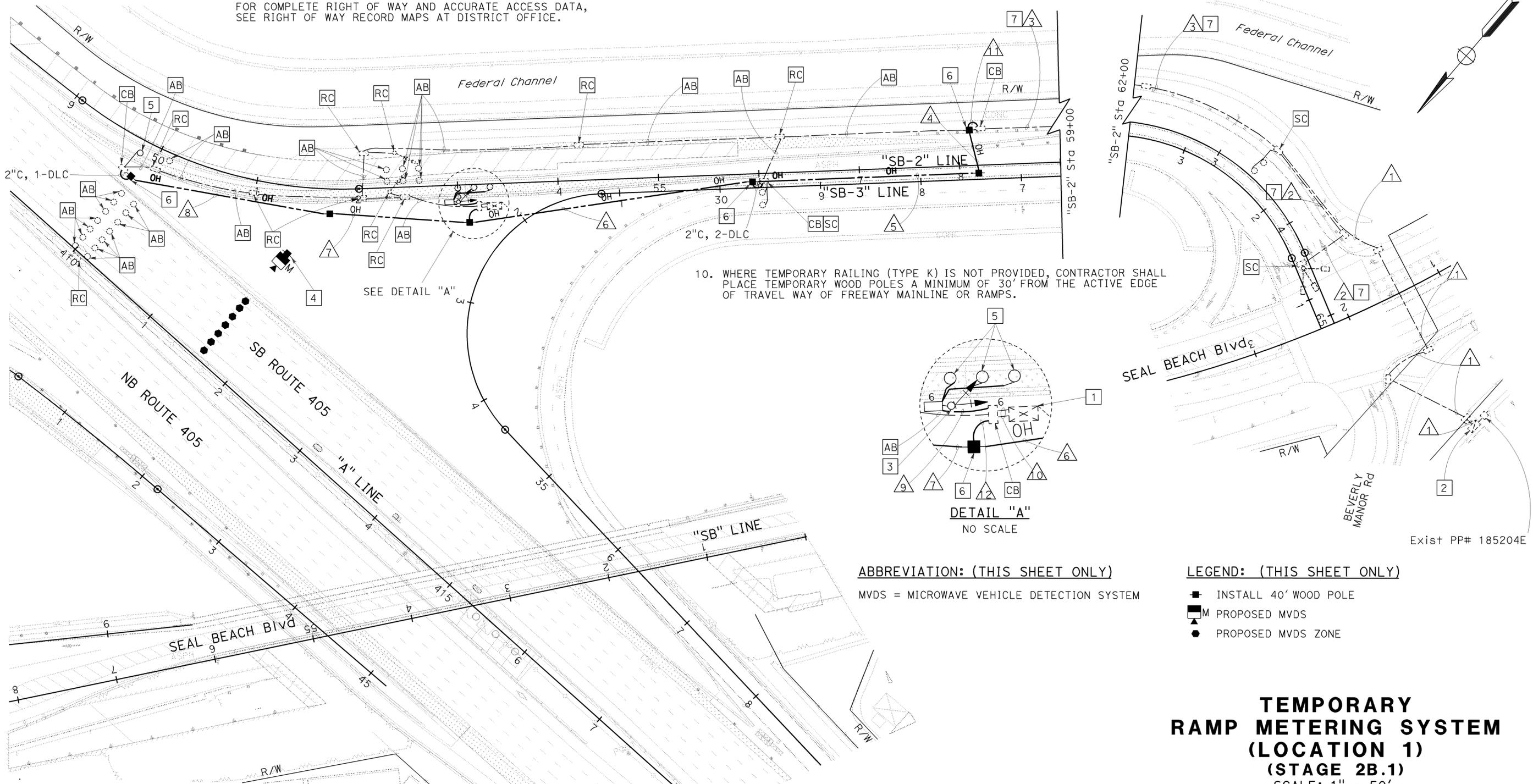
2-1-10
PLANS APPROVAL DATE

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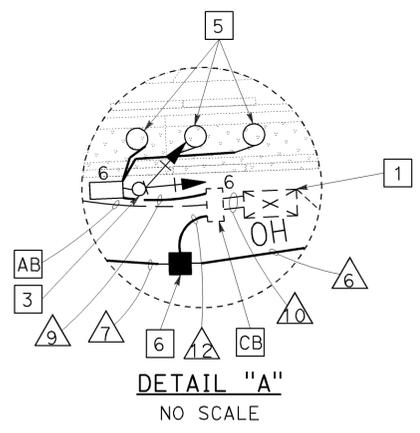
LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY
TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL



10. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.



ABBREVIATION: (THIS SHEET ONLY)
MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

LEGEND: (THIS SHEET ONLY)

- INSTALL 40' WOOD POLE
- M PROPOSED MVDS
- PROPOSED MVDS ZONE

TEMPORARY RAMP METERING SYSTEM (LOCATION 1) (STAGE 2B.1) SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Vicente Encarnacion - Charlotte Wu
Denwun Lin
8/10/09

LAST REVISION | DATE PLOTTED => 09-FEB-2010
08-10-09 TIME PLOTTED => 09:12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: FUNCTIONAL SUPERVISOR DENWUN LIN
 CALCULATED/DESIGNED BY: []
 CHECKED BY: []
 VICENTE ENCARNACION CHARLOTTE WU
 TIMMY TO
 REVISED BY: []
 DATE REVISED: 8/10/09
 CW

CONDUCTOR AND CONDUIT SCHEDULE

AWG	CONDUCTOR RUN	1	2	3	4 ^{oh}	5 ^{oh}	6 ^{oh}	7	8	9 ^{OH}	10 ^{oh}	11	12	13	14	
#14	RAMP SIGNAL METER ON SPARE		2(E)	2(E)	2(E)	2(E)	2(E)	3		3	3	3	2(E)	2(E)	2(E)	3
#10	SIGNAL COMMON		1(E)	1(E)	1(E)	1(E)	1(E)	1		1	1	1(E)+1	1(E)	1(E)	1	
#2	SERVICE DEMAND	2(E)										1				1
	PASSAGE											1				1
	QUEUE			2(E)	2(E)	2(E)	2(E)					2(E)	2(E)	2(E)		
	COUNT								1	1	1	2(E)+1	2(E)	2(E)		
	TOTAL		2(E)	2(E)	2(E)	4(E)	2	1	3	3	4(E)+3	2(E)	2(E)	2		
	CONDUIT SIZE	1 1/2"(E)	1 1/2"(E)	2"(E)				2"*	2"*			2-3"(E)	2"(E)	2"(E)	2"	

ALL CONDUITS, CONDUCTORS AND DLC ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 OH= PROPOSED OVERHEAD LINE
 oh= EXISTING OVERHEAD LINE
 * = INSTALL CONDUIT FOR PERMANENT CONDITION

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MODEL 334 CABINET.
- EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- INSTALL NEW RAMP METER SIGNAL PER DETAIL "A" ON SHEET E-130.
- EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY.
- INSTALL TEMPORARY LOOP AS SHOWN.
- INSTALL TYPE H RISER.
- REMOVE EXISTING WIRES, AND INSTALL NEW CONDUCTORS AND DLC AS INDICATED.
- ADJUST MVDS ZONE PER STAGE 2C.
- TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING UNLESS OTHERWISE NOTED.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1303	1929

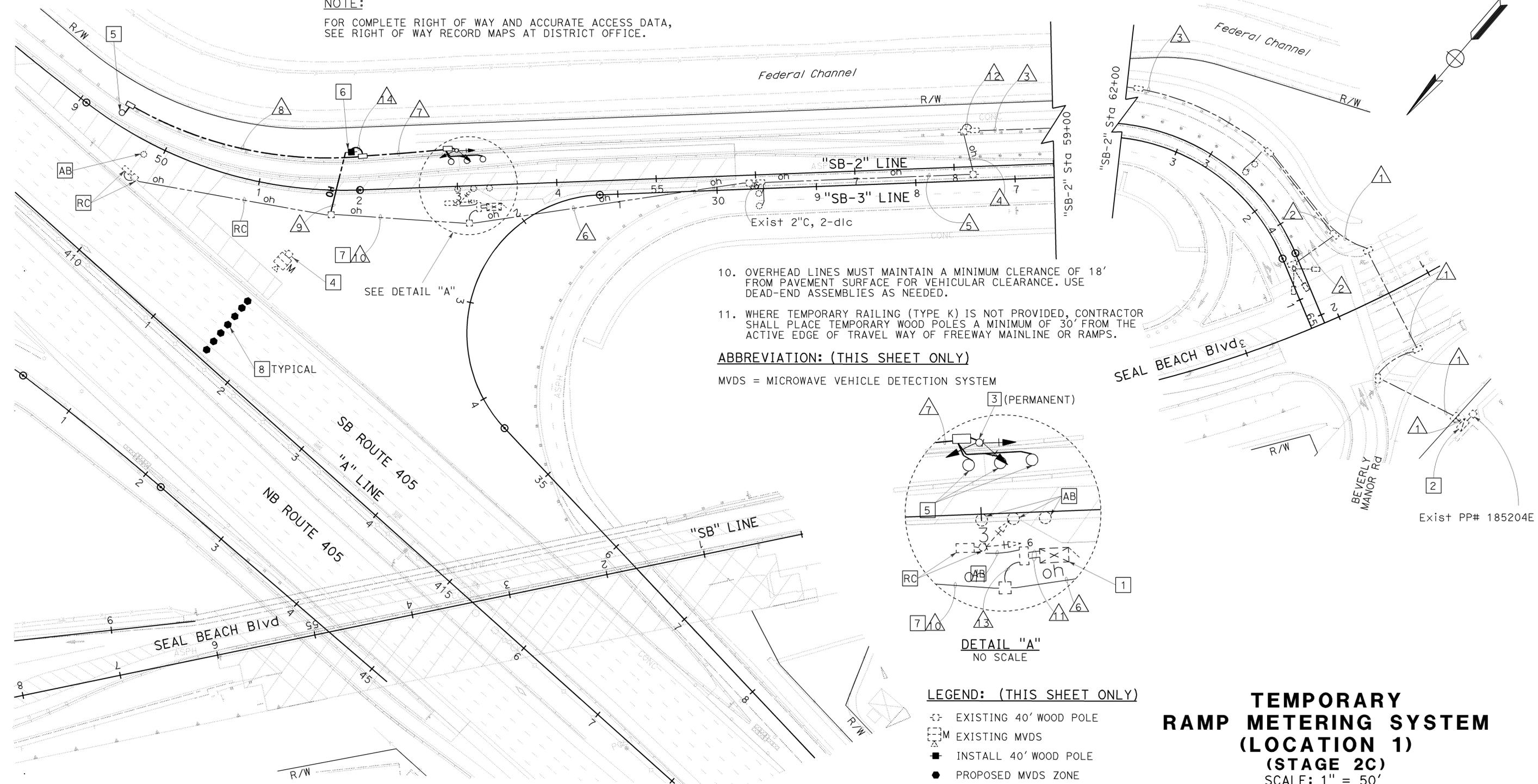
8/10/09
 REGISTERED CIVIL ENGINEER DATE
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER

2-1-10
 PLANS APPROVAL DATE

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

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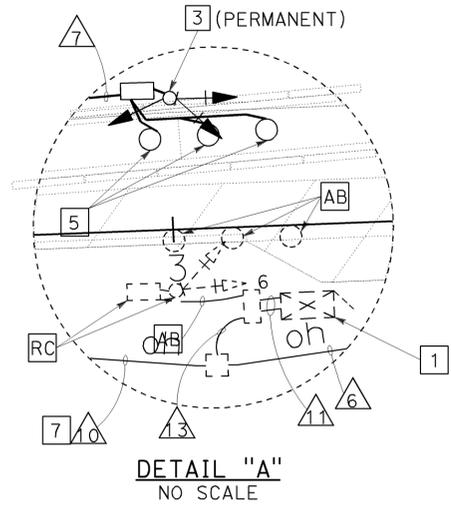
ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584



- OVERHEAD LINES MUST MAINTAIN A MINIMUM CLERANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

ABBREVIATION: (THIS SHEET ONLY)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM



LEGEND: (THIS SHEET ONLY)

- EXISTING 40' WOOD POLE
- EXISTING MVDS
- INSTALL 40' WOOD POLE
- PROPOSED MVDS ZONE

TEMPORARY RAMP METERING SYSTEM (LOCATION 1) (STAGE 2C)
 SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

CONDUCTOR AND CONDUIT SCHEDULE

.AWG	CONDUCTOR RUN	1	2	3	4	5	6	7	8 ^{OH}	9
#14	RAMP SIGNAL						3*	6*		6*
	METER ON		2*	2*	2*		2*	2*		2*
	SPARE		2*	2*	2*		5*	5*		5*
#10	SIGNAL COMMON		1*	1*	1*		1*	1*		1*
#2	SERVICE	2(E)		2(E)	2*		2*	2*		2*
	DEMAND						1*	2*		2*
	PASSAGE						1*	2*		2*
	QUEUE			2*	2*		2*	2*		2*
	COUNT					1*	1*	1*		1*+1
	TOTAL		2*	2*	1*	5*	7*	1		7*+1
	CONDUIT SIZE	1 1/2"(E)	1 1/2"(E)	2"(E)	2"*	2"(E)	3"*	3"*		2-3"(E)

ALL CONDUITS, CONDUCTORS AND DLC ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 * = INSTALL CONDUIT, CONDUCTOR OR DLC FOR PERMANENT CONDITION
 OH= PROPOSED OVERHEAD LINE

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MODEL 334 CABINET.
- EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- INSTALL NEW RAMP METER SIGNAL PER DETAIL "A" ON SHEET E-130.
- EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY.
- INSTALL DETECTOR LOOP PER DETAIL "C" ON SHEET E-130.
- INSTALL TYPE H RISER.
- INSTALL TYPICAL TYPE E DETECTOR LOOP.
- ADJUST MVDS ZONE PER STAGE 3A.1.
- INSTALL TEMPORARY LOOP AS SHOWN.
- TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING UNLESS OTHERWISE NOTED.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	22.3/24.0,3.0/R1.6	1304	1929

8/10/09
 REGISTERED CIVIL ENGINEER DATE

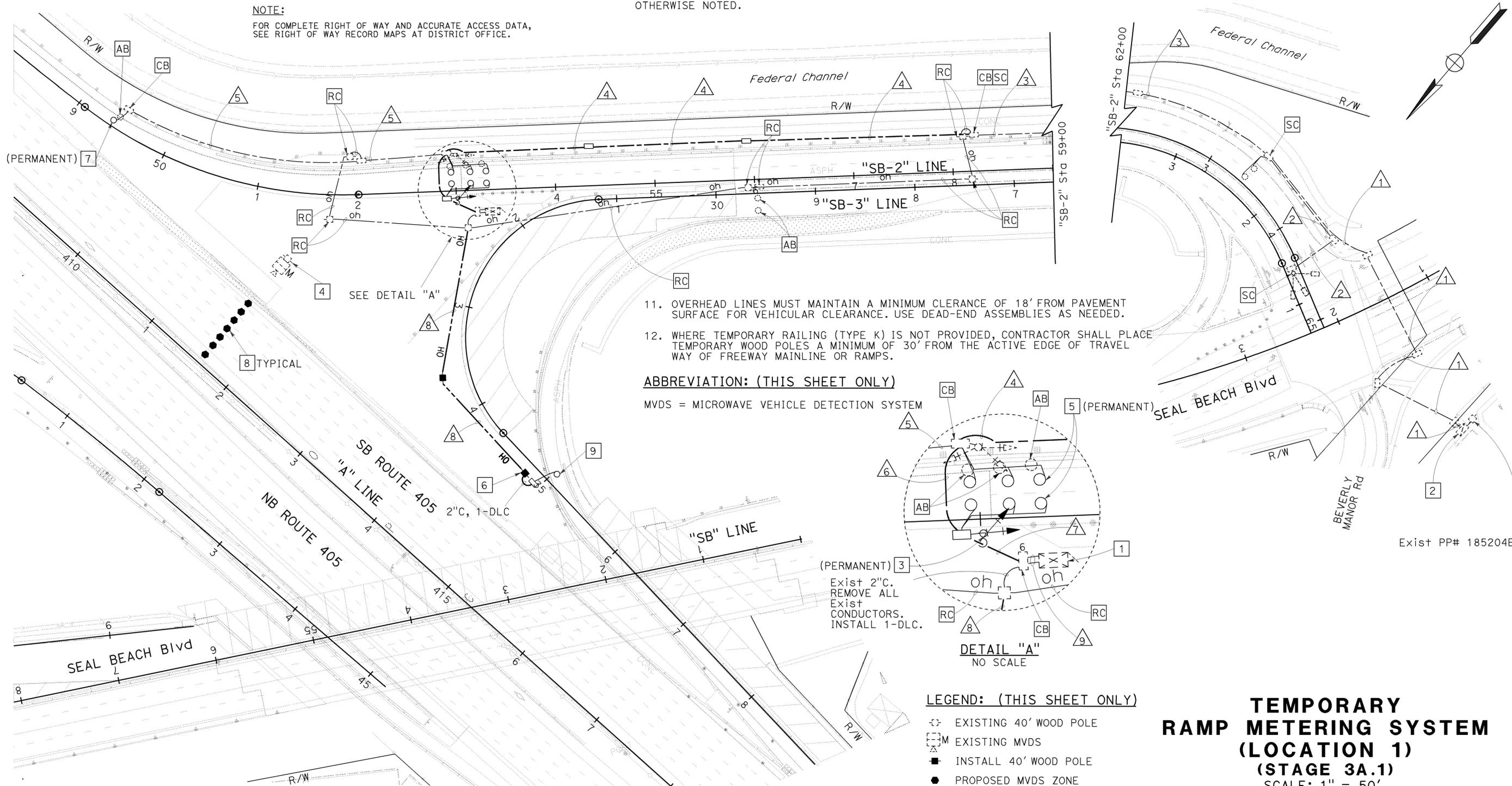
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ORANGE COUNTY TRANSPORTATION AUTHORITY
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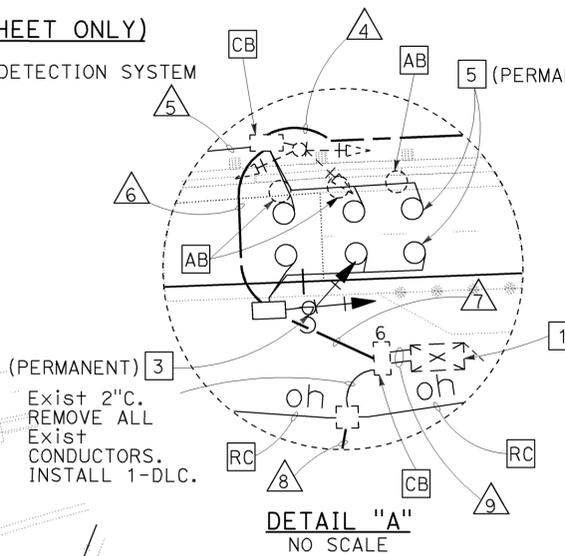
DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL



- OVERHEAD LINES MUST MAINTAIN A MINIMUM CLERANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

ABBREVIATION: (THIS SHEET ONLY)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM



LEGEND: (THIS SHEET ONLY)

- EXISTING 40' WOOD POLE
- EXISTING MVDS
- INSTALL 40' WOOD POLE
- PROPOSED MVDS ZONE

TEMPORARY RAMP METERING SYSTEM (LOCATION 1) (STAGE 3A.1)
 SCALE: 1" = 50'

E-118

CONDUCTOR AND CONDUIT SCHEDULE

AWG	CONDUCTOR RUN	1	2	3	4	5	6	7	8
#14	RAMP SIGNAL					3(E)	6(E)		6(E)
	METER ON		2(E)	2(E)		2(E)	2(E)		2(E)
	SPARE			2(E)		5(E)	5(E)		5(E)
#10	SIGNAL COMMON		1(E)	1(E)		1(E)	1(E)		1(E)
#2	SERVICE	2(E)		2(E)		2(E)	2(E)		2(E)
	DEMAND					1(E)	2(E)		2(E)
	PASSAGE					1(E)	2(E)		2(E)
	QUEUE			2(E)		2(E)	2(E)		2(E)
	COUNT				1(E)	1(E)	1(E)	1	1(E)+1
	TOTAL			2(E)	1(E)	5(E)	7(E)	1	7(E)+1
	CONDUIT SIZE	1 1/2"(E)	1 1/2"(E)	2"(E)	2"(E)	3"(E)	3"(E)	1 1/2"*	2-3"(E)

ALL CONDUITS, CONDUCTORS, AND DLC ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 * = INSTALL CONDUIT FOR PERMANENT CONDITION

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MODEL 334 CABINET.
- EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- ADJUST MVDS ZONE PER STAGE 3B.1.
- EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY.
- INSTALL TEMPORARY LOOP AS SHOWN.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1305	1929

8/10/09
 REGISTERED CIVIL ENGINEER DATE

2-1-10
 PLANS APPROVAL DATE

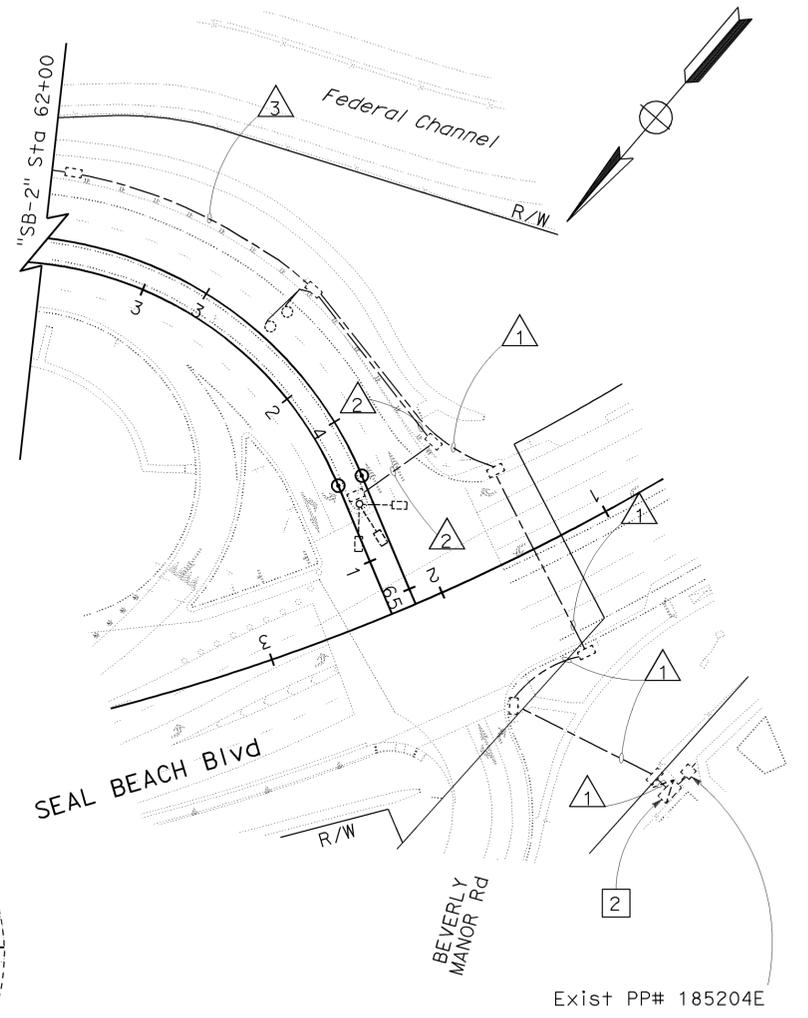
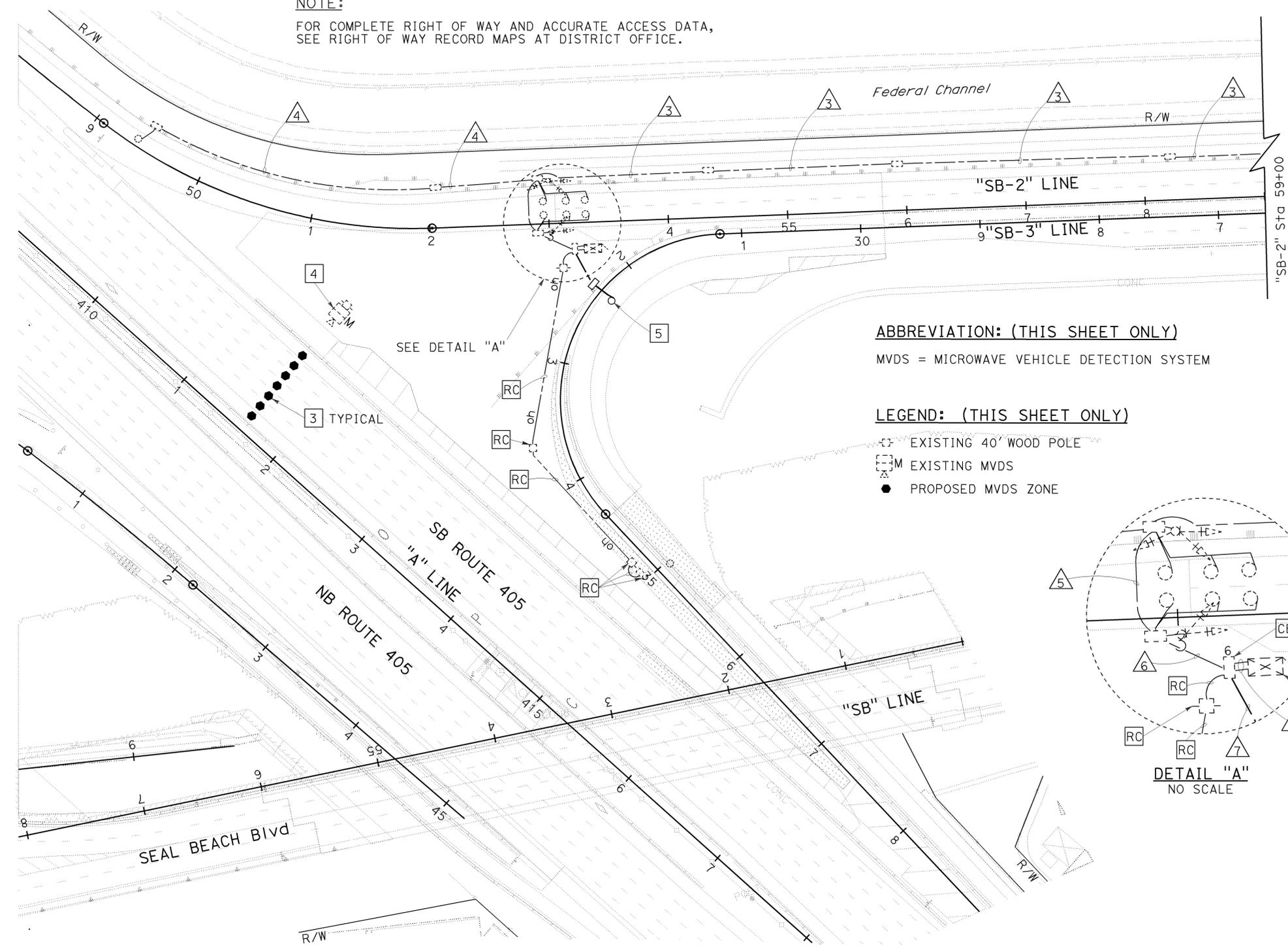
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ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

DENWUN LIN
 No. C46719
 Exp. 6/30/11
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VicENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 8/10/09

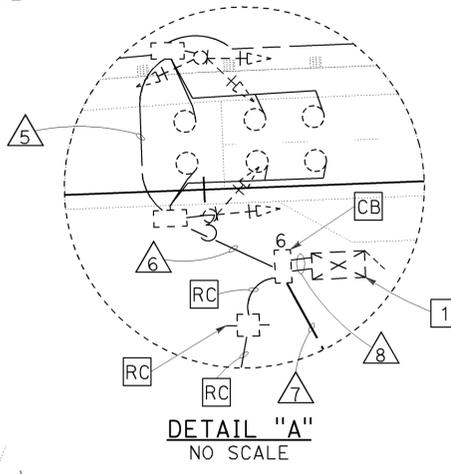


ABBREVIATION: (THIS SHEET ONLY)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

LEGEND: (THIS SHEET ONLY)

- EXISTING 40' WOOD POLE
- EXISTING MVDS
- PROPOSED MVDS ZONE



TEMPORARY RAMP METERING SYSTEM (LOCATION 1) (STAGE 3B.1)
 SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

CONDUCTOR AND CONDUIT SCHEDULE

AWG	CONDUCTOR RUN	①	②	③	④	⑤	⑥	⑦	⑧
#14	RAMP SIGNAL					3(E)	6(E)		6(E)
	METER ON		2(E)	2(E)		2(E)	2(E)		2(E)
	SPARE		2(E)	2(E)		5(E)	5(E)		5(E)
#10	SIGNAL COMMON		1(E)	1(E)		1(E)	1(E)		1(E)
	SERVICE	2(E)		2(E)		2(E)	2(E)		2(E)
#2	DEMAND					1(E)	2(E)		2(E)
	PASSAGE					1(E)	2(E)		2(E)
	QUEUE			2(E)		2(E)	2(E)		2(E)
	COUNT				1(E)	1(E)	1(E)	1(E)+1	2(E)+1
TOTAL			2(E)	1(E)	5(E)	7(E)	1(E)+1	8(E)+1	
CONDUIT SIZE		1½"(E)	1½"(E)	2"(E)	2"(E)	3"(E)	3"(E)	1½"(E)	2-3"(E)

ALL CONDUITS, CONDUCTORS, AND DLC ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E) = EXISTING

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MODEL 334 CABINET.
- EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- ADJUST MVDS ZONE PER STAGE 3D.1.
- EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY.
- INSTALL TEMPORARY LOOP AS SHOWN.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	22.3/24.0,3.0/R1.6	1306	1929

8/10/09
REGISTERED CIVIL ENGINEER DATE

2-1-10
PLANS APPROVAL DATE

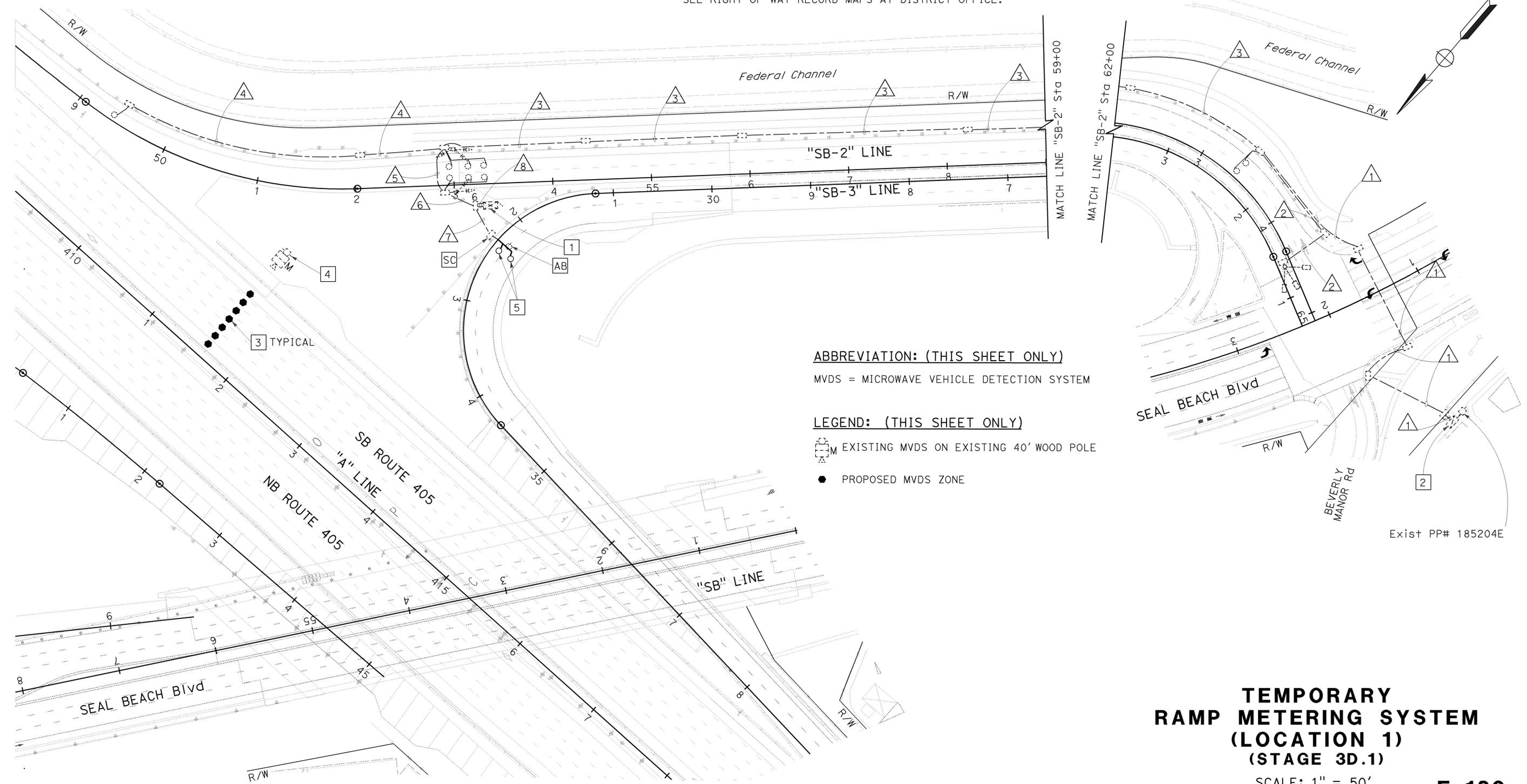
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TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Vicente Encarnacion Charlotte Wu
Denwun Lin
8/10/09



ABBREVIATION: (THIS SHEET ONLY)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

LEGEND: (THIS SHEET ONLY)

- EXISTING MVDS ON EXISTING 40' WOOD POLE
- PROPOSED MVDS ZONE

TEMPORARY RAMP METERING SYSTEM (LOCATION 1) (STAGE 3D.1)

SCALE: 1" = 50'

E-120

CONDUCTOR AND CONDUIT SCHEDULE

AWG	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9	10	11
#14	RAMP SIGNAL					3	6					6
	METER ON		2	2		2	2					2
	SPARE		2	2		5	5					5
#10	SIGNAL COMMON		1	1		1	1					1
	SERVICE	2		2		2	2					2
#14	LOOP WIRE								16(N)			
DLC	DEMAND					1	2					2
	PASSAGE					1	2					2
	SURVEILLANCE (MAINLINE)							16(N)				16(N)
	QUEUE			2		2	2					2
	COUNT				1	1	1			2(N)	2(N)	1+2(N)
	TOTAL		2	2	1	5	7	16(N)		2(N)	2(N)	7+18(N)
	CONDUIT SIZE	1 1/2"	1 1/2"	2"	2"	3"	3"	3"(N)	3"(N)	1 1/2"(N)	1 1/2"	2-3"

ALL CONDUITS, CONDUCTORS AND DLC ARE EXISTING UNLESS OTHERWISE NOTED.
(N) = NEW

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MODEL 334 CABINET. INSTALL OUTPUT FILE NUMBER 2 IN THE CABINET.
- EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- INSTALL TYPICAL TYPE E DETECTOR LOOP.
- REMOVE EXISTING MVDS, PHOTOVOLTAIC POWER SUPPLY AND TEMPORARY WOOD POLE.
- ALL DOUBLE DETECTOR LOOPS SHALL BE TYPE E, SPACING 20' FROM LEADING EDGE TO LEADING EDGE AND CENTERED IN LANE.

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	22.3/24.0,3.0/R1.6	1307	1929

8/10/09
REGISTERED CIVIL ENGINEER DATE

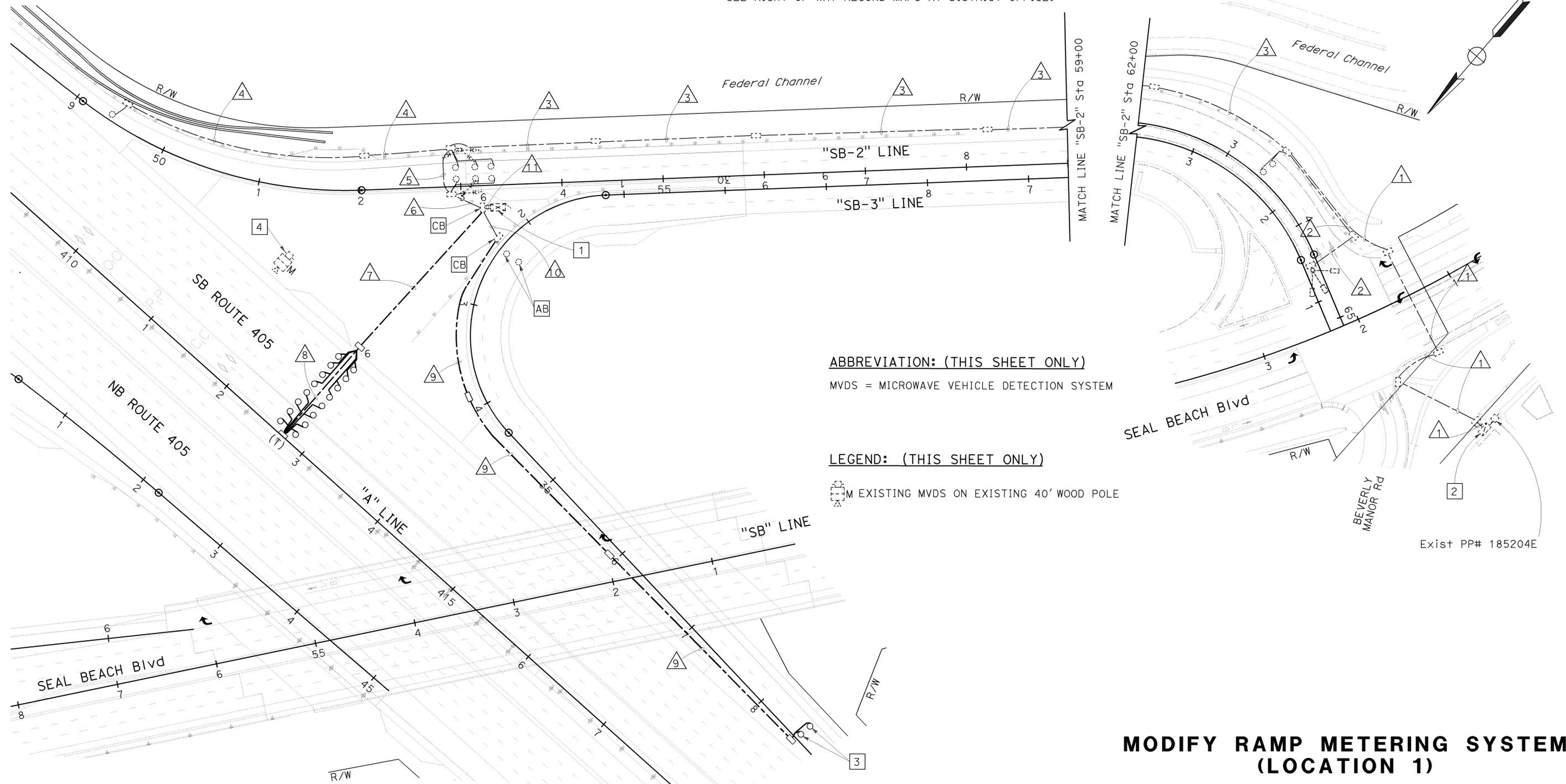
2-1-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL



ABBREVIATION: (THIS SHEET ONLY)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

LEGEND: (THIS SHEET ONLY)

Existing MVDS on existing 40' wood pole

MODIFY RAMP METERING SYSTEM (LOCATION 1)

SCALE: 1" = 50'

E-121

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Vicente Encarnacion - Charlotte Wu
Caltrans

REVISOR: CW
DATE: 8/10/09
DESIGNED BY: VICENTE ENCARNACION
CHECKED BY: CHARLOTTE WU

CONSULTANT SUPERVISOR: DENWUN LIN

FUNCTIONAL SUPERVISOR: DENWUN LIN

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	22.3/24.0, 3.0/R1.6	1308	1929

REGISTERED CIVIL ENGINEER
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL

8/10/09
 DATE
 2-1-10
 PLANS APPROVAL DATE

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

L/N CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

CONDUCTOR AND CONDUIT SCHEDULE

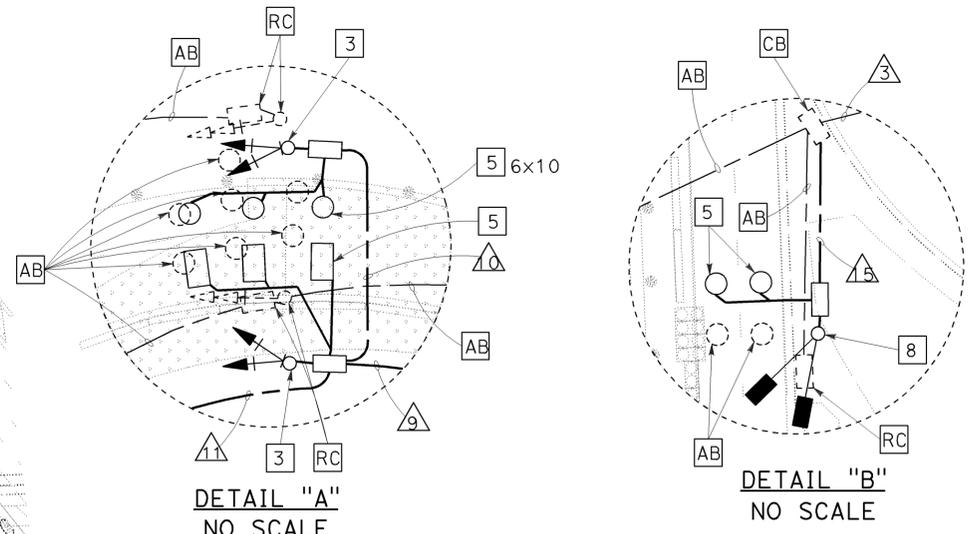
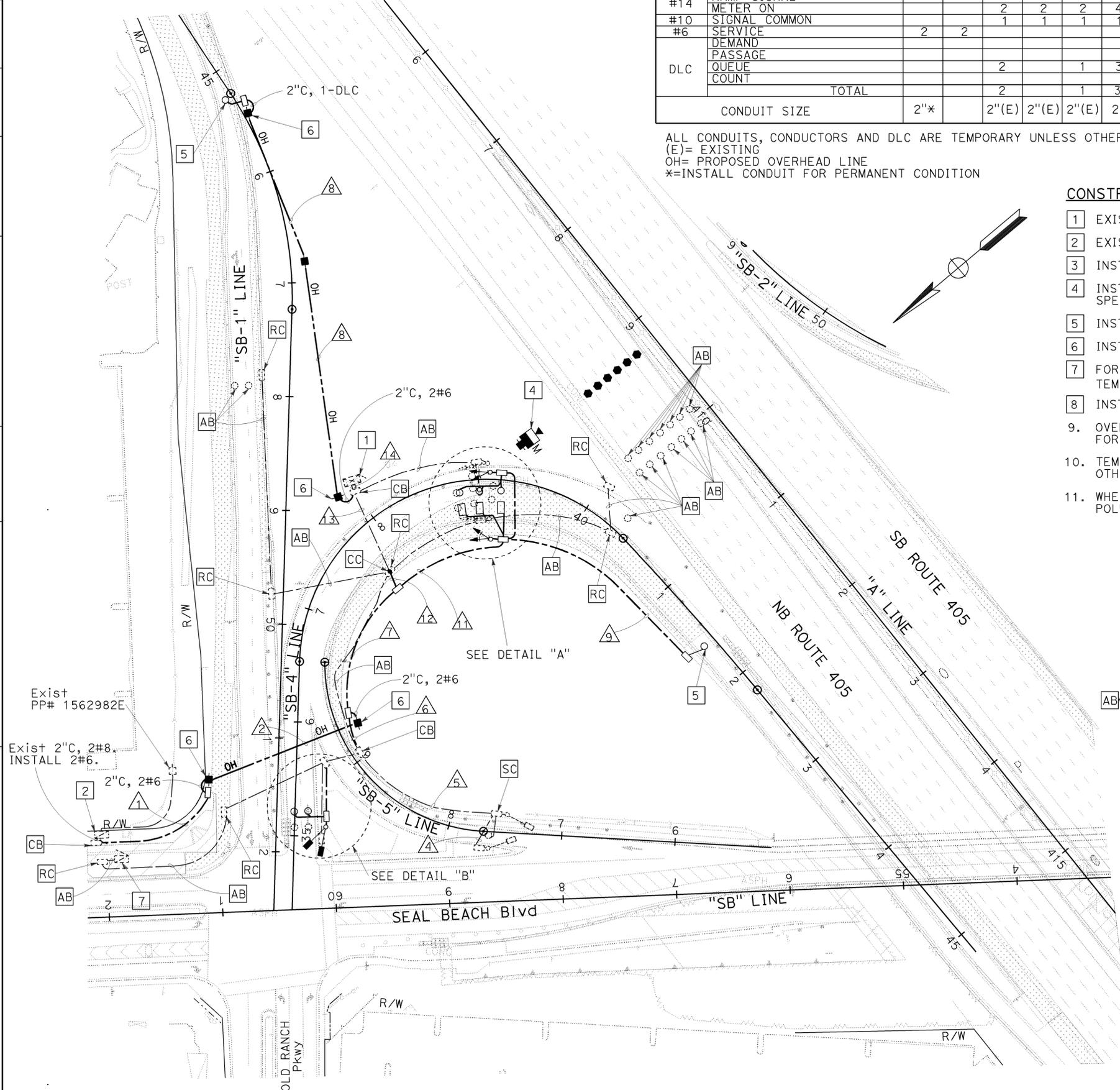
TYPE AWG	CONDUCTOR RUN	1	2 ^{OH}	3	4	5	6	7	8 ^{OH}	9	10	11	12	13	14	15
#14	RAMP SIGNAL METER ON			2	2	2	4	4			3	6	6	6	6	2
#10	SIGNAL COMMON			1	1	1	1	1			1	1	1	1	1	1
#6	SERVICE DEMAND	2	2									2	2	2	2	2
DLC	PASSAGE QUEUE COUNT			2		1	3	3			1	2	2	2	2	2
	TOTAL			2		1	3	3	1	1	2	5	8	8	9	2
	CONDUIT SIZE	2"*		2"(E)	2"(E)	2"(E)	2"	2"		1 1/2"	3"	3"	3"	3"(E)	2-3"(E)	1 1/2"

ALL CONDUITS, CONDUCTORS AND DLC ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E)= EXISTING
 OH= PROPOSED OVERHEAD LINE
 *=INSTALL CONDUIT FOR PERMANENT CONDITION

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MODEL 334 CABINET.
- EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- INSTALL TEMPORARY 1A POLE AS SHOWN.
- INSTALL MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY WOOD POLE PER SPECIFICATIONS. SEE SHEET E-131 TO E-134 FOR INSTALLATION DETAILS.
- INSTALL TEMPORARY LOOP AS SHOWN.
- INSTALL TYPE H RISER.
- FOR REFERENCE ONLY. FOR SERVICE CABINET RELOCATION, SEE STAGE 2B.1 OF TEMPORARY LIGHTING PLAN.
- INSTALL TEMPORARY 1A POLE WITH "METER ON" SIGN AS INDICATED.
- OVERHEAD LINES MUST MAINTAIN A MINIMUM CLERANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.
- TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING UNLESS OTHERWISE NOTED. USE DEAD-END ASSEMBLIES AS NEEDED.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMP.

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



ABBREVIATION: (THIS SHEET ONLY)
 MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

LEGEND: (THIS SHEET ONLY)
 ■ INSTALL 40' WOOD POLE
 □ M PROPOSED MVDS
 ● PROPOSED MVDS ZONE

TEMPORARY RAMP METERING SYSTEM (LOCATION 2) (STAGE 2B.1)
 SCALE: 1" = 50'
E-122

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISED BY: CW
 DATE REVISED: 8/10/09
 BORDER LAST REVISED 8/1/2008

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
 DGN FILE => c07163ua122.dgn

CU 12235
 EA 071631

LAST REVISION: DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 08:55

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
12	Ora	22,405, 605	TOTAL PROJECT 22.3/24.0,3.0/R1.6	1309	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

2-1-10
PLANS APPROVAL DATE

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

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

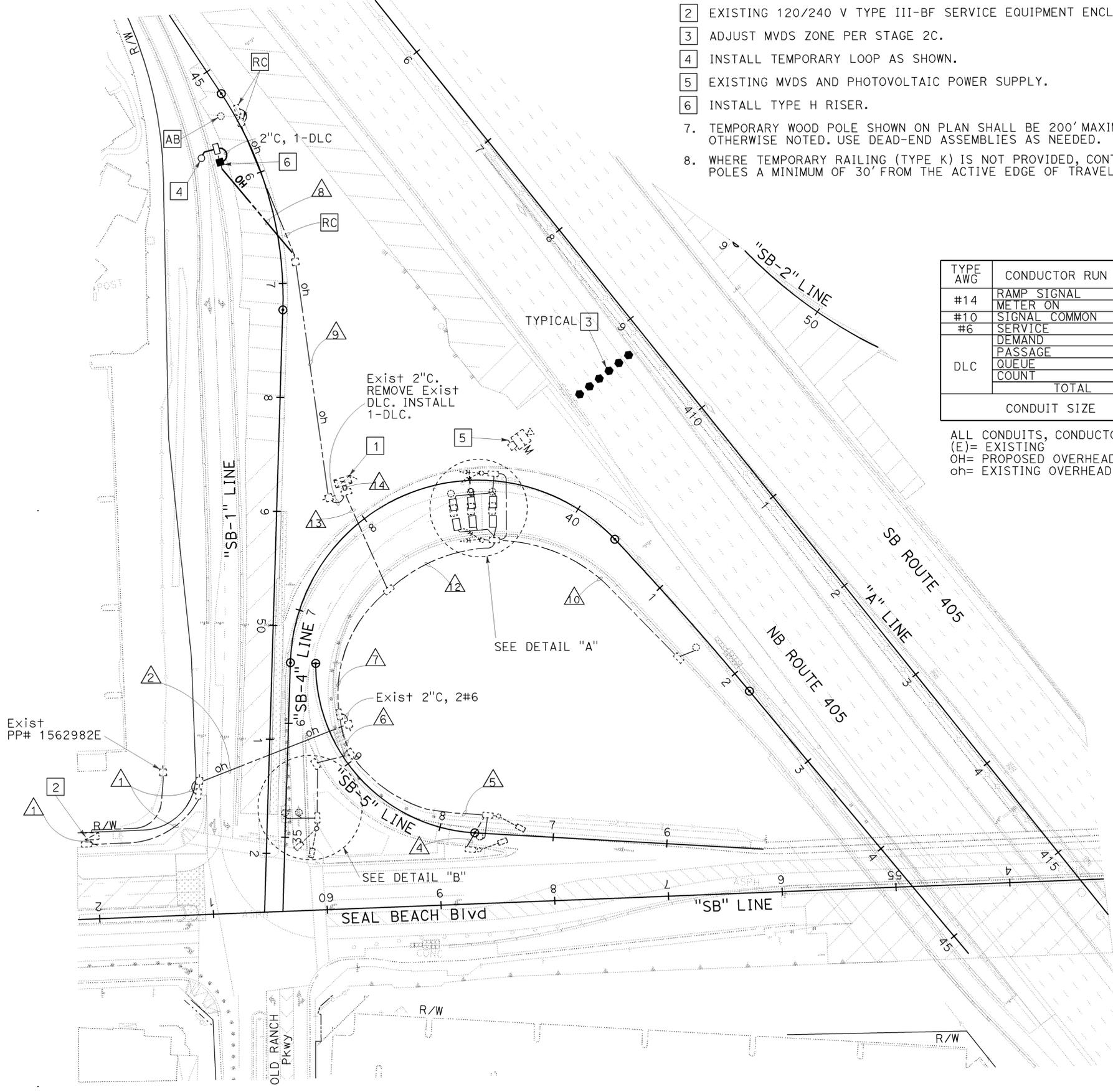
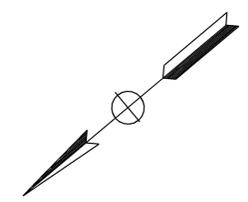
LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY
TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

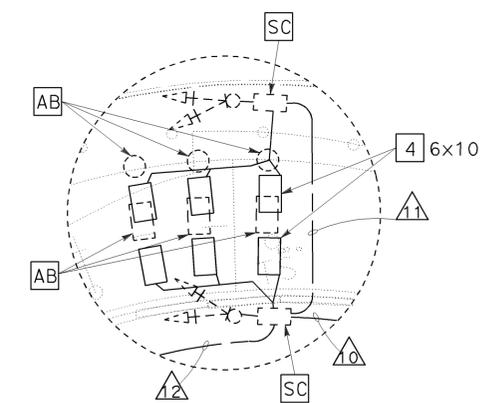
- EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MODEL 334 CABINET.
- EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- ADJUST MVDS ZONE PER STAGE 2C.
- INSTALL TEMPORARY LOOP AS SHOWN.
- EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY.
- INSTALL TYPE H RISER.
- TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING UNLESS OTHERWISE NOTED. USE DEAD-END ASSEMBLIES AS NEEDED.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.



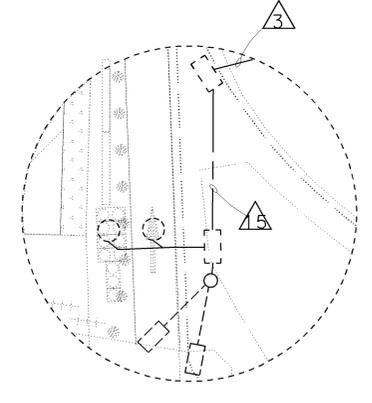
CONDUCTOR AND CONDUIT SCHEDULE

TYPE AWG	CONDUCTOR RUN	1	2 ^{OH}	3	4	5	6	7	8 ^{OH}	9 ^{OH}	10	11	12	13	14	15
#14	RAMP SIGNAL			2(E)	2(E)	2(E)	4(E)	4(E)				3(E)	6(E)	6(E)	6(E)	2(E)
#10	METER ON			1(E)	1(E)	1(E)	1(E)	1(E)				1(E)	1(E)	1(E)	1(E)	1(E)
#6	SIGNAL COMMON															
	SERVICE	2(E)	2(E)					2(E)								
	DEMAND															
	PASSAGE											1(E)	2(E)	2(E)	2(E)	
	QUEUE											1(E)	2(E)	2(E)	2(E)	
	COUNT			2(E)		1(E)	3(E)	3(E)						3(E)	3(E)	2(E)
	TOTAL			2(E)		1(E)	3(E)	3(E)	1	1	1(E)	1(E)	5(E)	8(E)	8(E)+1	2(E)
	CONDUIT SIZE	2"(E)		2"(E)	2"(E)	2"(E)	2"(E)	2"(E)			1 1/2"(E)	3"(E)	3"(E)	3"(E)	2-3"(E)	1 1/2"(E)

ALL CONDUITS, CONDUCTORS AND DLC ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E)= EXISTING
OH= PROPOSED OVERHEAD LINE
oh= EXISTING OVERHEAD LINE



DETAIL "A"
NO SCALE



DETAIL "B"
NO SCALE

ABBREVIATION: (THIS SHEET ONLY)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

LEGEND: (THIS SHEET ONLY)

- ⊘ EXISTING 40' WOOD POLE
- ⊘ M EXISTING MVDS
- INSTALL 40' WOOD POLE
- PROPOSED MVDS ZONE

TEMPORARY RAMP METERING SYSTEM (LOCATION 2) (STAGE 2C)

SCALE: 1" = 50'

E-123

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VICENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 8/10/09
 8/1/2008

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
DGN FILE => c07163ua123.dgn

CU 12235

EA 071631

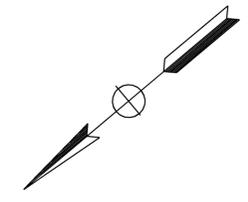
LAST REVISION: DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 08:55

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	22.3/24.0,3.0/R1.6	1310	1929

REGISTERED CIVIL ENGINEER **DENWUN LIN** No. C46719 Exp. 6/30/11
 DATE 8/10/09
 PLANS APPROVAL DATE 2-1-10

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MODEL 334 CABINET.
- EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- ADJUST MVDS ZONE PER STAGE 2D.1.
- INSTALL TEMPORARY LOOP AS SHOWN.
- EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY.
- INSTALL TYPE H RISER.
- TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING UNLESS OTHERWISE NOTED. USE DEAD-END ASSEMBLIES AS NEEDED.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE

TYPE AWG	CONDUCTOR RUN	1	2 ^{oh}	3	4	5	6	7	8 ^{oh}	9 ^{oh}	10	11	12	13	14	15
#14	RAMP SIGNAL METER ON			2(E)	2(E)	2(E)	4(E)	4(E)				3(E)	6(E)	6(E)	6(E)	2(E)
#10	SIGNAL COMMON			1(E)	1(E)	1(E)	1(E)	1(E)				1(E)	1(E)	1(E)	1(E)	1(E)
#6	SERVICE	2(E)	2(E)					2(E)								
DLC	DEMAND											1(E)	2(E)	2(E)	2(E)	
	PASSAGE											1(E)	2(E)	2(E)	2(E)	
	QUEUE			1(E)		1(E)	2(E)	2(E)						2(E)	2(E)	1(E)
	COUNT								1	1	1(E)	2(E)	5(E)	7(E)	7(E)+1	1(E)
	TOTAL			1(E)		1(E)	2(E)	2(E)	1	1	1(E)	2(E)	5(E)	7(E)	7(E)+1	1(E)
	CONDUIT SIZE	2"(E)		2"(E)	2"(E)	2"(E)	2"(E)	2"(E)			1 1/2"(E)	3"(E)	3"(E)	3"(E)	2-3"(E)	1 1/2"(E)

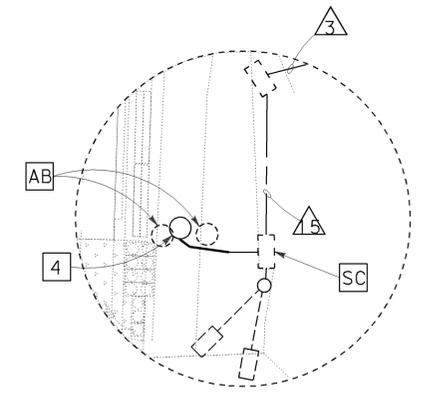
ALL CONDUITS, CONDUCTORS AND DLC ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E)= EXISTING
 OH= PROPOSED OVERHEAD LINE
 oh= EXISTING OVERHEAD LINE

ABBREVIATION: (THIS SHEET ONLY)

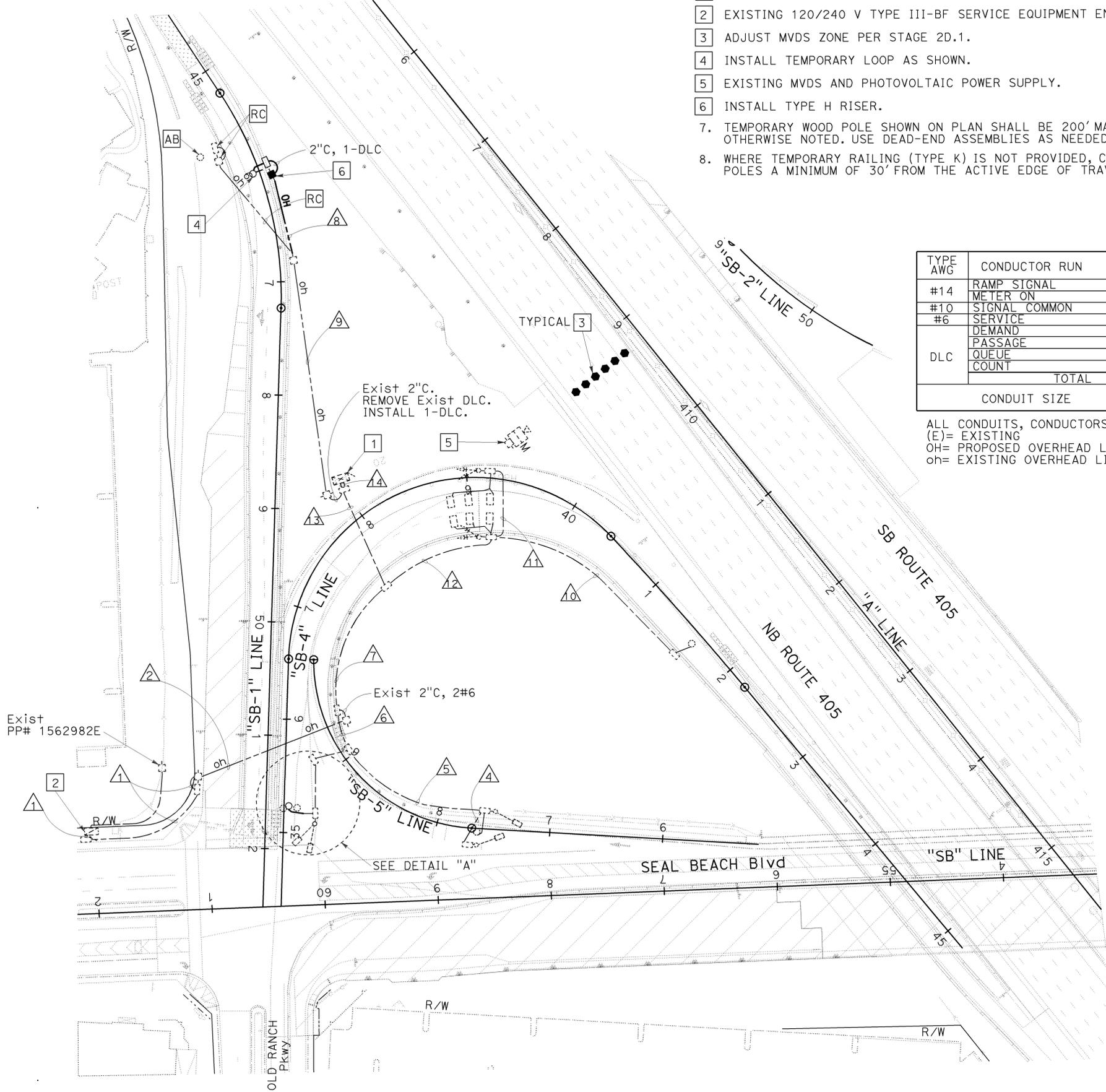
MVDS= MICROWAVE VEHICLE DETECTION SYSTEM

LEGEND: (THIS SHEET ONLY)

- EXISTING 40' WOOD POLE
- EXISTING MVDS
- INSTALL 40' WOOD POLE
- PROPOSED MVDS ZONE



DETAIL "A"
NO SCALE



THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
DGN FILE => c07163ua124.dgn

CU 12235

EA 071631

TEMPORARY RAMP METERING SYSTEM (LOCATION 2) (STAGE 2D.1)

SCALE: 1" = 50'

E-124

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT: DENWUN LIN
 SUPERVISOR: VICENTE ENCARNACION - CHARLOTTE WU
 DESIGNED BY: TIMMY TO
 CHECKED BY:
 REVISIONS: 8/10/09
 REVISIONS: 8/10/09
 REVISIONS: 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MDOEL 334 CABINET.
- 2 EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- 3 ADJUST MVDS ZONE PER STAGE 3A.1.
- 4 INSTALL TEMPORARY LOOP AS SHOWN.
- 5 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY.
- 6 INSTALL TYPE H RISER.
7. TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING UNLESS OTHERWISE NOTED. USE DEAD-END ASSEMBLIES AS NEEDED.
8. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
12	Ora	22,405, 605	TOTAL PROJECT R0.3/R0.9, 22.3/24.0,3.0/R1.6	1311	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

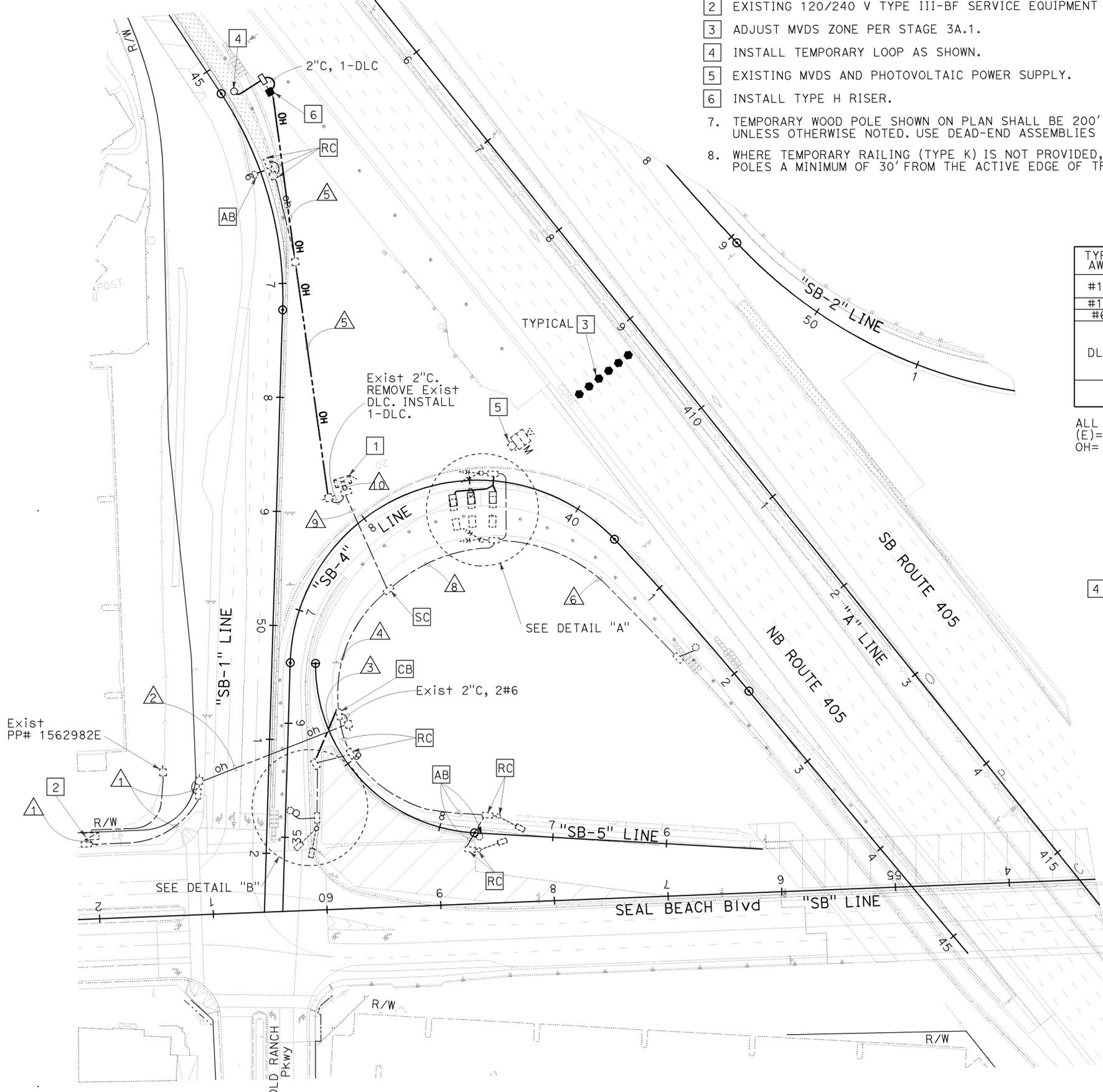
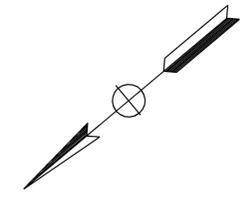
2-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL
STATE OF CALIFORNIA

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

LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

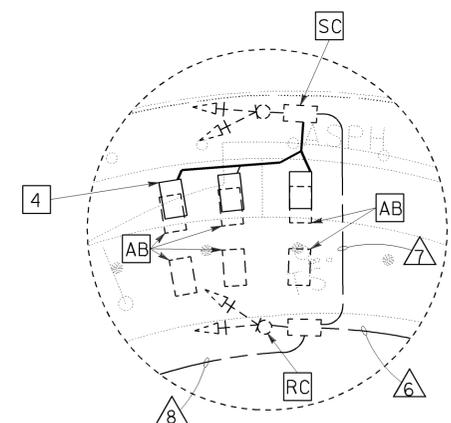
ORANGE COUNTY
TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584



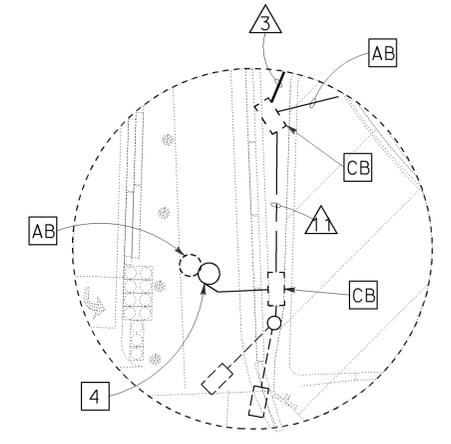
CONDUCTOR AND CONDUIT SCHEDULE

TYPE AWG	CONDUCTOR RUN	1	2 ^{OH}	3	4	5 ^{OH}	6	7	8	9	10	11
#14	RAMP SIGNAL							3(E)	3(E)	3(E)	3(E)	
#10	METER ON											
#10	SIGNAL COMMON			2	2					2	2	2
#6	SERVICE	2(E)	2(E)	1	1			1(E)	1(E)	2(E)	2(E)	1
	DEMAND							1(E)	1(E)	1(E)	1(E)	
	PASSAGE							1(E)	1(E)	1(E)	1(E)	
	QUEUE			1	1					1	1	1
	COUNT										1(E)+1	
	TOTAL			1	1	1	1(E)	2(E)	3(E)	3(E)+1	3(E)+2	1
	CONDUIT SIZE	2"(E)	2"	2"(E)		1 1/2"(E)	3"(E)	3"(E)	3"(E)	3"(E)	2-3"(E)	2"(E)

ALL CONDUITS, CONDUCTORS AND DLC ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E)= EXISTING
OH= PROPOSED OVERHEAD LINE



DETAIL "A"
NO SCALE



DETAIL "B"
NO SCALE

ABBREVIATION: (THIS SHEET ONLY)

MVDS= MICROWAVE VEHICLE DETECTION SYSTEM

LEGEND: (THIS SHEET ONLY)

- ⊠ EXISTING 40' WOOD POLE
- ⊠ EXISTING MVDS
- INSTALL 40' WOOD POLE
- PROPOSED MVDS ZONE

TEMPORARY RAMP METERING SYSTEM (LOCATION 2) (STAGE 3A.1)

SCALE: 1" = 50'

E-125

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
DGN FILE => c07163ua125.dgn

CU 12235

EA 071631

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MODEL 334 CABINET.
- 2 EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- 3 ADJUST MVDS ZONE PER STAGE 3B.1.
- 4 INSTALL TEMPORARY LOOP AS SHOWN.
- 5 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY.
- 6 INSTALL TYPE H RISER.
7. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLERANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.
8. TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING UNLESS OTHERWISE NOTED. USE DEAD-END ASSEMBLIES AS NEEDED.
9. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1312	1929

8/10/09
REGISTERED CIVIL ENGINEER DATE

2-1-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT: DENWUN LIN

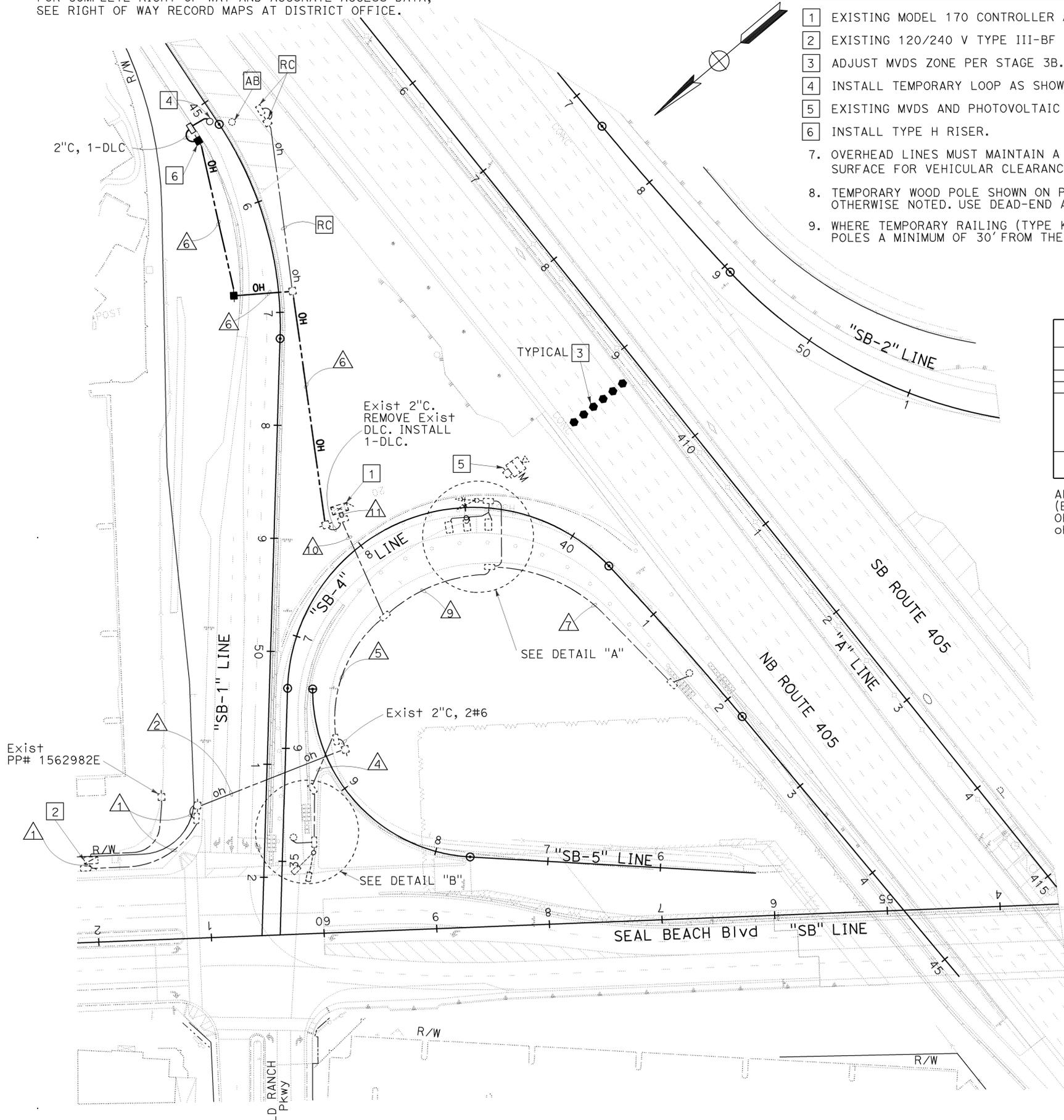
FUNCTIONAL SUPERVISOR: DENWUN LIN

DESIGNED BY: VICENTE ENCARNACION - CHARLOTTE WU

CHECKED BY: TIMMY TO

REVISOR: CW

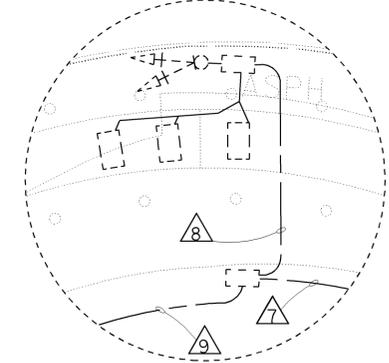
DATE REVISED: 8/10/09



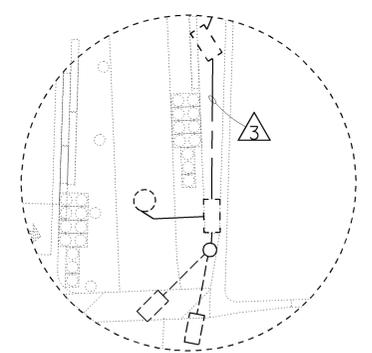
CONDUCTOR AND CONDUIT SCHEDULE

TYPE AWG	CONDUCTOR RUN	1	2 ^{oh}	3	4	5	6 ^{OH}	7	8	9	10	11
#14	RAMP SIGNAL METER ON			2(E)	2(E)	2(E)			3(E)	3(E)	3(E)	3(E)
#10	SIGNAL COMMON			1(E)	1(E)	1(E)			1(E)	1(E)	1(E)	1(E)
#6	SERVICE DEMAND PASSAGE	2(E)	2(E)			2(E)			1(E)	1(E)	1(E)	1(E)
DLC	QUEUE COUNT			1(E)	1(E)	1(E)			1(E)	1(E)	1(E)	1(E)
	TOTAL			1(E)	1(E)	1(E)	1	1(E)	2(E)	3(E)	4(E)	4(E)+1
	CONDUIT SIZE	2"(E)	2"(E)	2"(E)	2"(E)		1 1/2"(E)	3"(E)	3"(E)	3"(E)	3"(E)	2-3"(E)

ALL CONDUITS, CONDUCTORS AND DLC ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E)= EXISTING
OH= PROPOSED OVERHEAD LINE
oh= EXISTING OVERHEAD LINE



DETAIL "A"
NO SCALE



DETAIL "B"
NO SCALE

ABBREVIATION: (THIS SHEET ONLY)

MVDS= MICROWAVE VEHICLE DETECTION SYSTEM

LEGEND: (THIS SHEET ONLY)

- ⊠ EXISTING 40' WOOD POLE
- ⊠ EXISTING MVDS
- ⊠ INSTALL 40' WOOD POLE
- PROPOSED MVDS ZONE

TEMPORARY RAMP METERING SYSTEM (LOCATION 2) (STAGE 3B.1)

SCALE: 1" = 50'

E-126

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	22.3/24.0,3.0/R1.6	1314	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

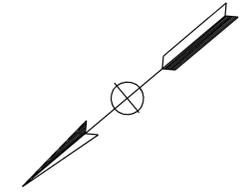
2-1-10
PLANS APPROVAL DATE

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

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

LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT: DENWUN LIN

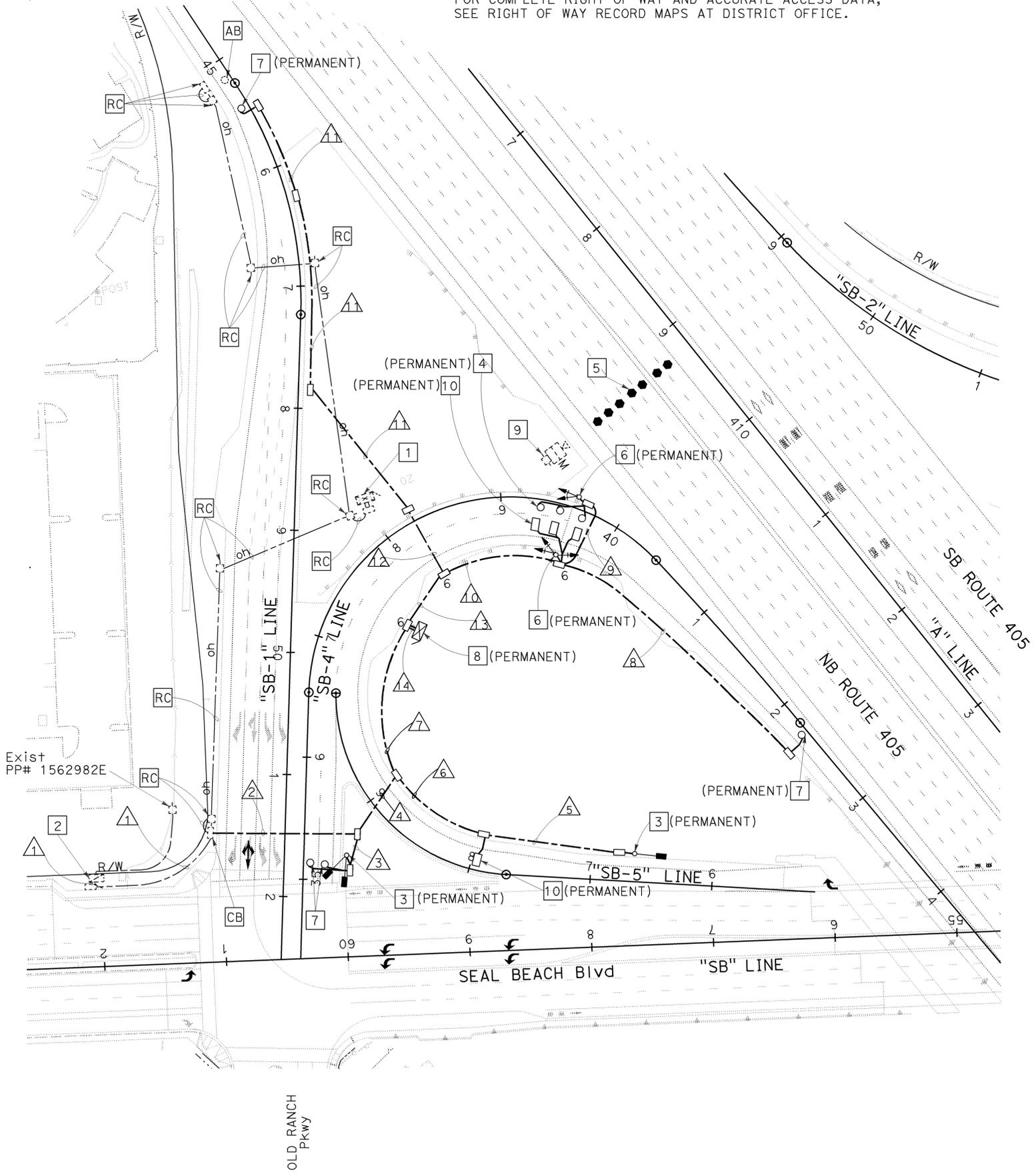
FUNCTIONAL SUPERVISOR: DENWUN LIN

DESIGNED BY: DENWUN LIN

CHECKED BY: TIMMY TO

REVISOR: CHARLOTTE WU

DATE REVISED: 8/10/09



CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 REMOVE AND SALVAGE EXISTING MODEL 334 CABINET. REMOVE EXISTING FOUNDATION. RELOCATE EXISTING MODEL 170 CONTROLLER ASSEMBLY AND ALL EQUIPMENT TO NEW CABINET LOCATION (SEE NOTE 8).
- 2 EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- 3 INSTALL "METER ON" SIGN PER DETAIL "E" ON SHEET E-130, AS INDICATED ON PLAN.
- 4 INSTALL DETECTOR LOOPS PER DETAIL "C" ON SHEET E-130, AS INDICATED ON PLAN.
- 5 ADJUST MVDS ZONE PER STAGE 3E.
- 6 INSTALL NEW RAMP METER SIGNAL AS INDICATED ON PLAN. SEE DETAIL "A" ON SHEET E-130.
- 7 INSTALL TYPICAL TYPE E LOOP.
- 8 INSTALL MODEL 334 CABINET WITH NEW FOUNDATION. RELOCATED EXISTING MODEL 170 CONTROLLER ASSEMBLY AND ALL EQUIPMENT IN THE NEW MODEL 334 CABINET (SEE NOTE 1).
- 9 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY.
- 10 INSTALL 6x10 DETECTOR LOOP.
11. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE

TYPE AWG	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9	10	11	12	13	14
#14	RAMP SIGNAL														
	METER ON														
#10	SIGNAL COMMON														
	SERVICE														
DLC	DEMAND														
	PASSAGE														
	QUEUE														
	COUNT														
TOTAL															
CONDUIT SIZE		2"(E)	2"	1 1/2"	2"	1 1/2"	1 1/2"	2"	1 1/2"	3"	3"	1 1/2"	2"	3"	2-3"

ALL CONDUITS, CONDUCTORS AND CABLES ARE PERMANENT UNLESS OTHERWISE NOTED.
(E) = EXISTING

ABBREVIATION: (THIS SHEET ONLY)

MVDS= MICROWAVE VEHICLE DETECTION SYSTEM

LEGEND: (THIS SHEET ONLY)

- ⊕ EXISTING 40' WOOD POLE
- ⊕M EXISTING MVDS
- INSTALL 40' WOOD POLE
- PROPOSED MVDS ZONE

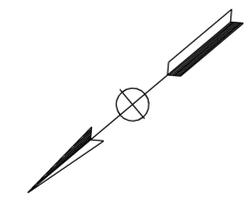
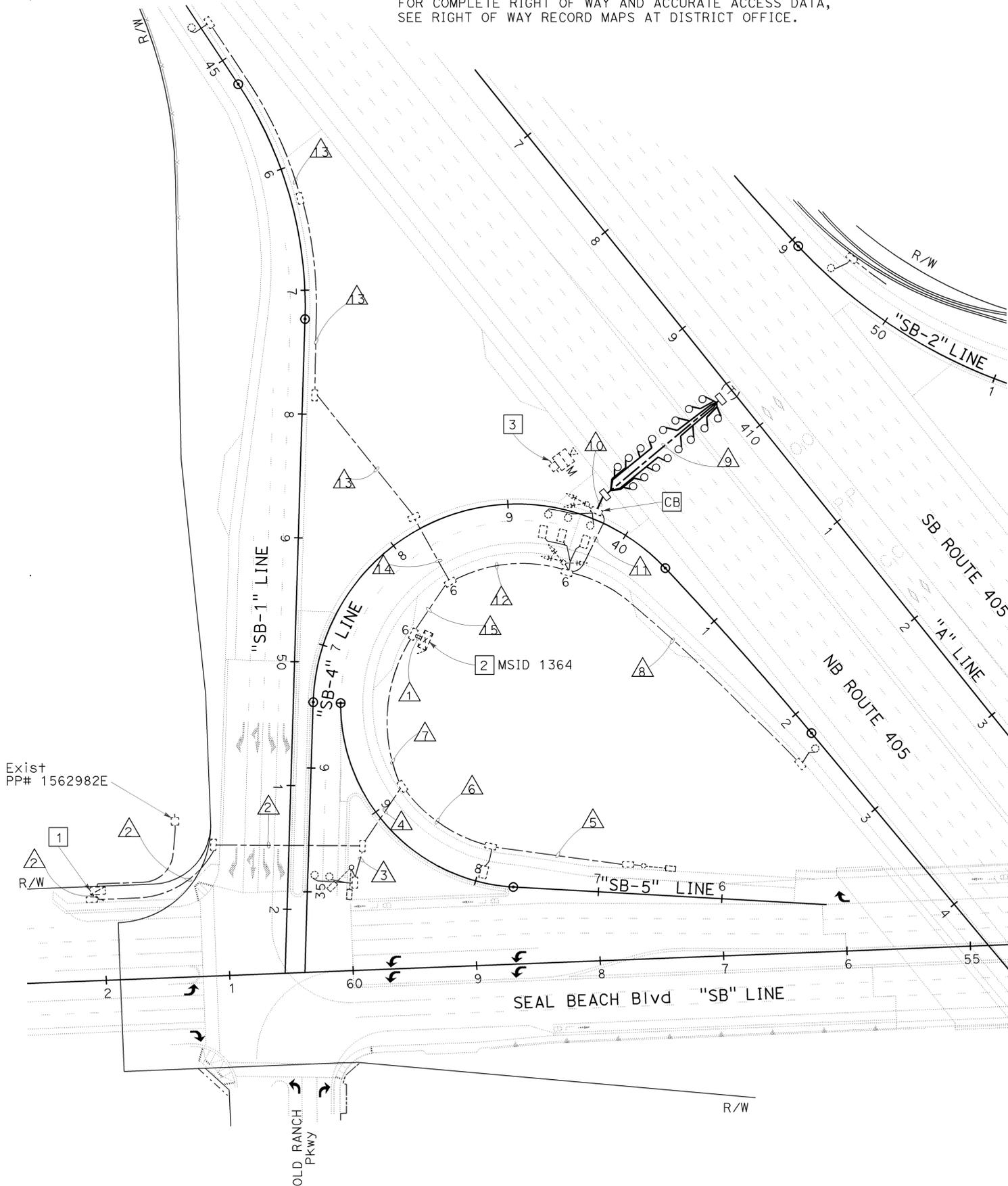
TEMPORARY RAMP METERING SYSTEM (LOCATION 2) (STAGE 3E)

SCALE: 1" = 50'

E-128

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: CHECKED BY:
 VICENTE ENCARNACION CHARLOTTE WU
 REVISED BY: DATE REVISED: 8/10/09
 CW

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1315	1929

REGISTERED CIVIL ENGINEER: *Denwun Lin* 8/10/09
 DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 FOR REFERENCE ONLY. SEE STREET LIGHTING PLAN SHEET E-63.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY AND MODEL 334 CABINET.
- 3 REMOVE EXISTING MVDS, PHOTOVOLTAIC POWER SUPPLY AND TEMPORARY WOOD POLE.
4. ALL DOUBLE DETECTOR LOOPS SHALL BE TYPE E, SPACING 20' FROM LEADING EDGE TO LEADING EDGE AND CENTERED IN LANE.

CONDUCTOR AND CONDUIT SCHEDULE

TYPE AWG	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
#14	RAMP SIGNAL	6										3	6			6
	METER ON	4														
	SPARE	7		2	2	2	2	4				3	3			3
#10	SIGNAL COMMON	1		1	1	1	1	1				1	1			1
#6	SERVICE	2	2		2			2								
#14	LOOPWIRE									16(N)						
	DEMAND	2										1	2			2
	PASSAGE	2										1	2			2
DLC	SURVEILLANCE (MAINLINE)	16(N)									16(N)	16(N)	16(N)			16(N)
	QUEUE	3		2	2			1	3							
	COUNT	2								1				1	1	2
	TOTAL	16(N)+9	2	2			1	3	1		16(N)	16(N)+2	16(N)+5	1	1	16(N)+6
	CONDUIT SIZE	2-3"	2"	1 1/2"	2"	1 1/2"	1 1/2"	2"	1 1/2"	3"(N)	3"(N)	3"	3"	1 1/2"	2"	3"

ALL CONDUITS, CONDUCTORS AND CABLES ARE EXISTING UNLESS OTHERWISE NOTED.
 (N)= NEW

ABBREVIATION: (THIS SHEET ONLY)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

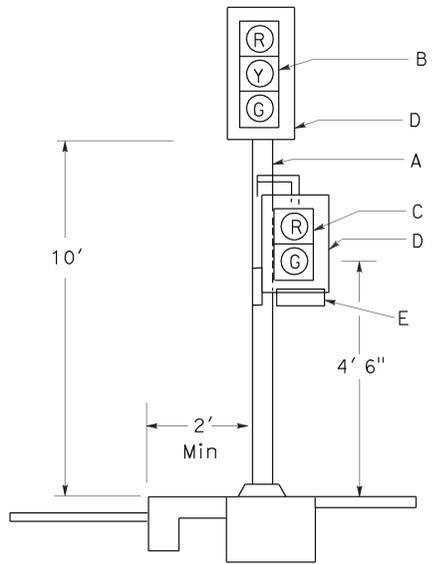
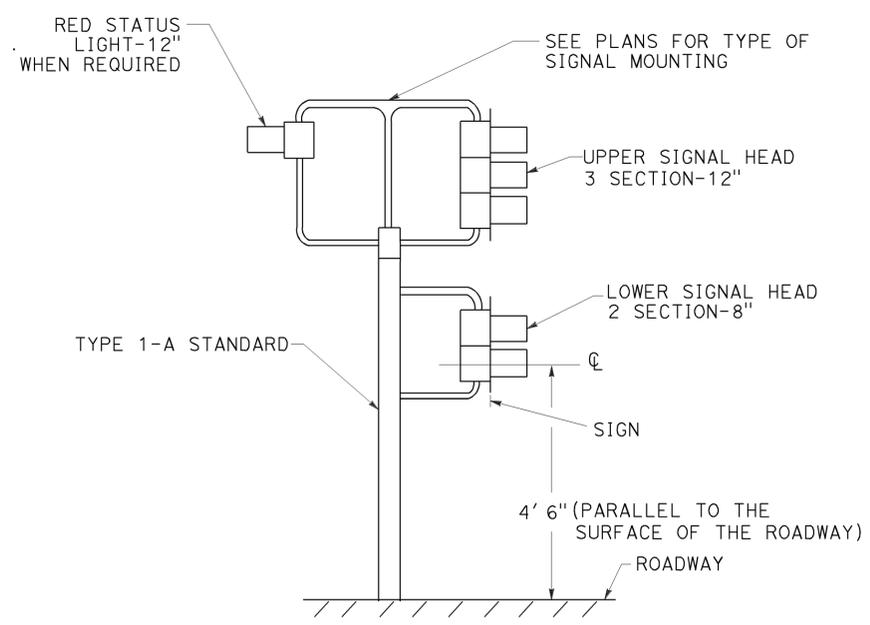
LEGEND: (THIS SHEET ONLY)

EXISTING MVDS ON EXISTING 40' WOOD POLE

MODIFY RAMP METERING SYSTEM (LOCATION 2)

SCALE: 1" = 50'

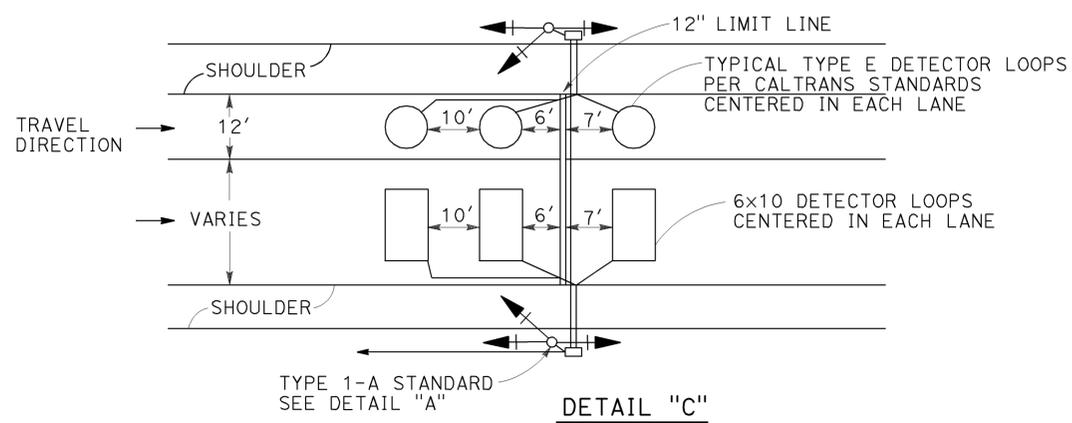
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1316	1929
			8/10/09		
			REGISTERED CIVIL ENGINEER	DATE	
			2-1-10	PLANS APPROVAL DATE	
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780			ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584		



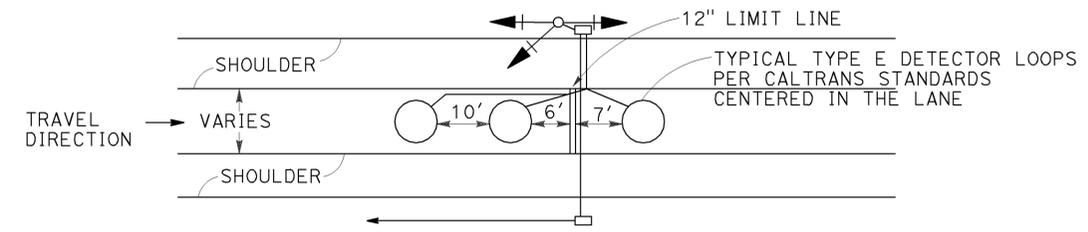
DETAIL "A"
RAMP METER SIGNAL

NOTES:

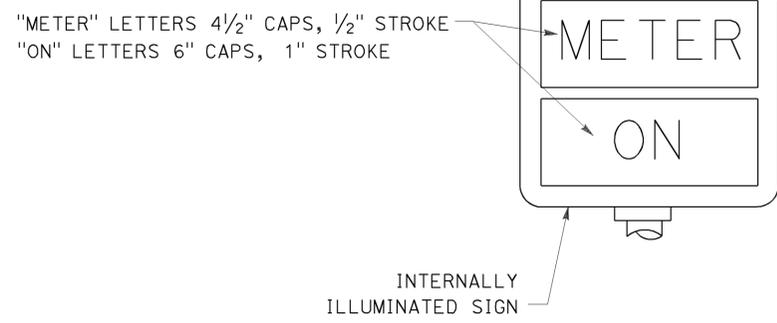
- A. TYPE 1-A SIGNAL STANDARD
- B. 3-SECTION 12" SIGNAL HEAD (RED, YELLOW, GREEN), 12" FULL 18" X 8" ANGLED VISORS ARE REQUIRED WHERE SHOWN ON PLANS.
- C. 2-SECTION 8" SIGNAL HEAD (RED, GREEN), 12" FULL CIRCLE VISORS TYPE SV-1-T BRACKET MOUNTING ON SIDE OF STANDARD AWAY FROM THE RAMP TRAFFIC.
- D. BACKPLATE
- E. "ONE CAR PER GREEN THIS LANE" R89-2(CA) SIGN MOUNTED ON BACK PLATE AND CENTERED BETWEEN GREEN SECTION AND BOTTOM OF BACK PLATES AND SIDES. ATTACH WITH 1/4" Ø ALUM. BLIND RIVETS OR GALV. 1/4" Ø X 3/4" Ø BOLTS, HEX NUTS PLAIN AND LOCK WASHERS.



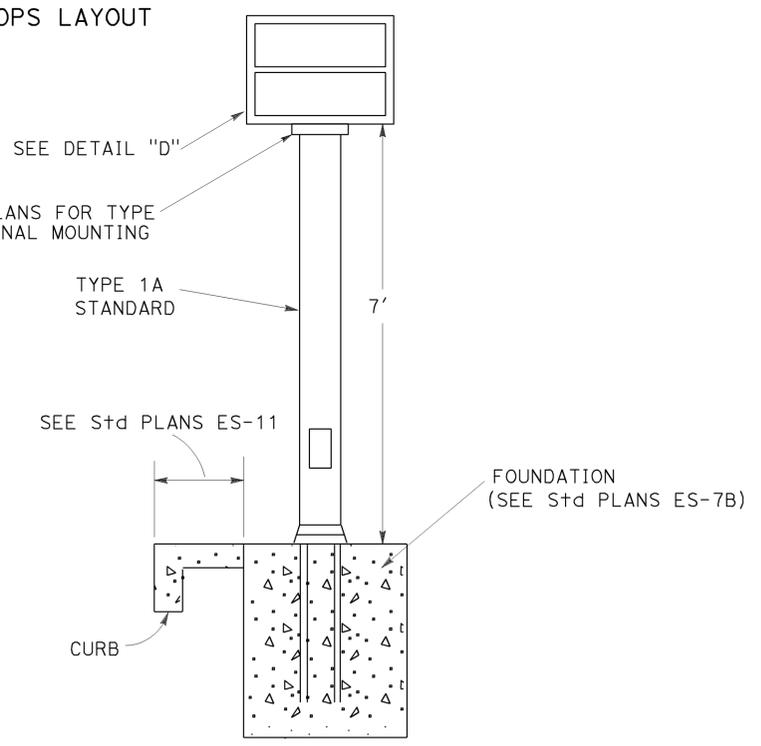
DETAIL "C"
2-LANE RAMP METERING
DETECTOR LOOPS LAYOUT



DETAIL "B"
1-LANE RAMP METERING
DETECTOR LOOPS LAYOUT



DETAIL "D"
METER ON SIGN



DETAIL "E"
METER ON SIGN

**MODIFY RAMP METERING SYSTEM
(ELECTRICAL DETAILS)**

E-130

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmartin
DGN FILE => c07163ua130.dgn

CU 12235

EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VicENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 08-10-09

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 02-FEB-2010
 08-10-09 | TIME PLOTTED => 13:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1317	1929

<i>Denwun Lin</i>	8/10/09
REGISTERED CIVIL ENGINEER	DATE
2-1-10	
PLANS APPROVAL DATE	

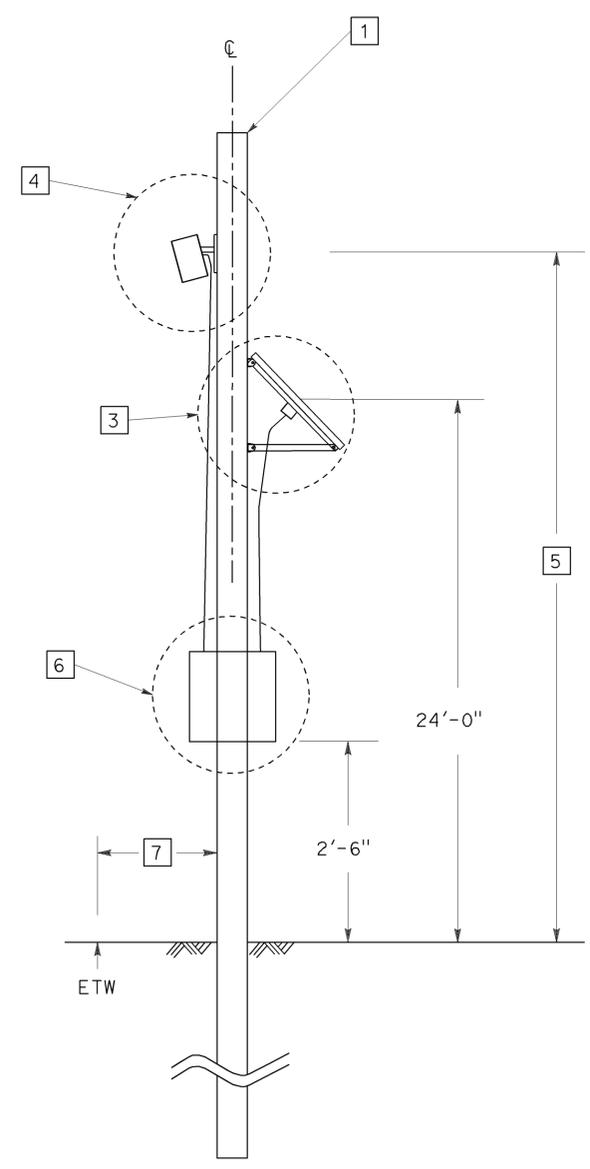
REGISTERED PROFESSIONAL ENGINEER
No. C46719
Exp. 6/30/11
CIVIL
STATE OF CALIFORNIA

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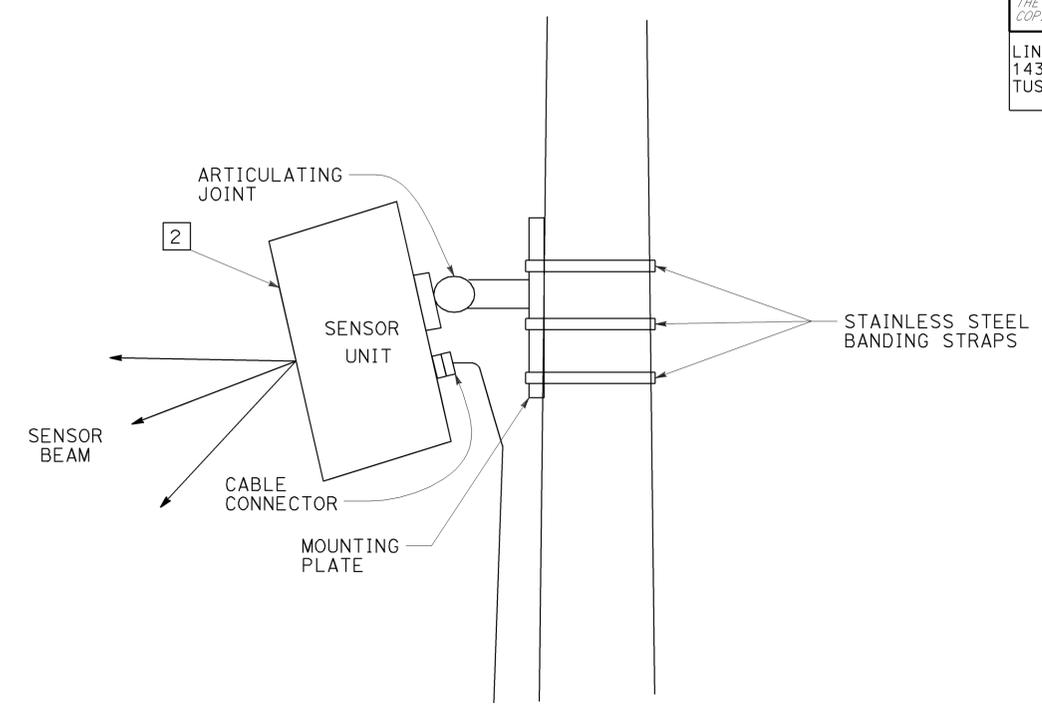
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780	ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584
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CONSTRUCTION NOTES: (THIS SHEET ONLY)

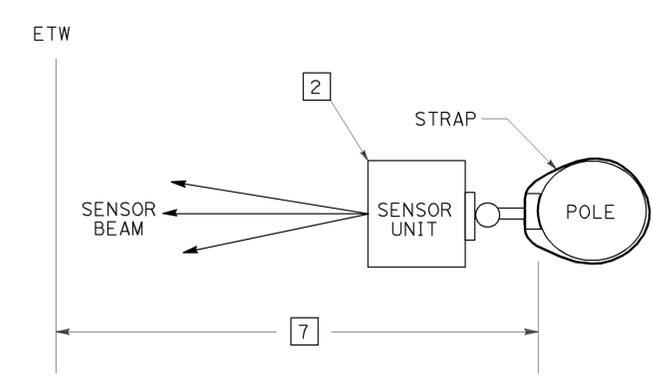
- 1 TEMPORARY 40' WOOD POLE.
- 2 SENSOR UNIT DIRECTED TOWARD TRAFFIC LANES PER MANUFACTURER'S RECOMMENDATIONS.
- 3 PHOTOVOLTAIC PANEL FACE SHALL BE PLACED AND DIRECTED WHERE OBSTRUCTIONS TO SUNLIGHT ARE AVOIDED. ATTACH HARDWARE TO PANEL PER MANUFACTURER'S RECOMMENDATIONS. PHOTOVOLTAIC PANEL MAXIMUM AREA IS 11 SQFT. SEE DETAIL "B", SHEET E-132 FOR PHOTOVOLTAIC PANEL DETAILS.
- 4 SEE DETAIL "A", ON RIGHT, FOR SENSOR UNIT ATTACHMENT. MOUNTING PLATE, ARTICULATING JOINT AND SENSOR UNIT ASSEMBLY CONNECTIONS PER MANUFACTURER'S RECOMMENDATIONS.
- 5 MOUNTING HEIGHT PER MANUFACTURER'S RECOMMENDATION AND ENGINEER'S APPROVAL.
- 6 EQUIPMENT AND BATTERY ENCLOSURE. SEE DETAIL "C", SHEET E-133 FOR ENCLOSURE MOUNTING DETAILS. SEE SHEET E-134 FOR ENCLOSURE EQUIPMENT DETAILS.
- 7 OFFSET FROM ETW PER MANUFACTURER'S RECOMMENDATIONS AND ENGINEER'S APPROVAL.



MICROWAVE VEHICLE DETECTION SYSTEM



**DETAIL "A"
PROFILE VIEW
NO SCALE**



**DETAIL "A"
PLAN VIEW
NO SCALE**

**TEMPORARY
RAMP METERING SYSTEM
(ELECTRICAL DETAILS)**

NO SCALE

E-131

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmartin
DGN FILE => c07163ua131.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 02-FEB-2010
08-10-09 TIME PLOTTED => 13:18

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Vicente Encarnacion - Charlotte Wu
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR
DENWUN LIN
CHECKED BY
TIMMY TO

REVISOR
CW
DATE REVISED
8/10/09

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED-DESIGNED BY: CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISOR: CW
 DATE: 8/10/09

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 ATTACH "L" BRACE TO SOLAR PANEL FRAME PER MANUFACTURER'S RECOMMENDATIONS.
- 2 JUNCTION BOX.
- 3 1/2"C, FLEXIBLE.
- 4 123 TO 130 WATTS PHOTOVOLTAIC PANEL, WEIGHT SHALL NOT EXCEED 31 lbs.
- 5 65 WATTS PHOTOVOLTAIC PANEL, WEIGHT SHALL NOT EXCEED 16 lbs.
- 6 "U" CHANNEL WITH ANGLE BRACKET.
- 7 INSTALL A SECOND PHOTOVOLTAIC PANEL PER DETAIL "B" WHEN REQUIRED.
- 8 THE AREA, L X W, SHALL NOT EXCEED 6 SQFT. THE W DIMENSION SHALL BE GREATER THAN 2.2'. THE L DIMENSION SHALL BE THE LONGEST EDGE.
- 9 PHOTOVOLTAIC PANEL FACE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1318	1929

8/10/09
 REGISTERED CIVIL ENGINEER DATE

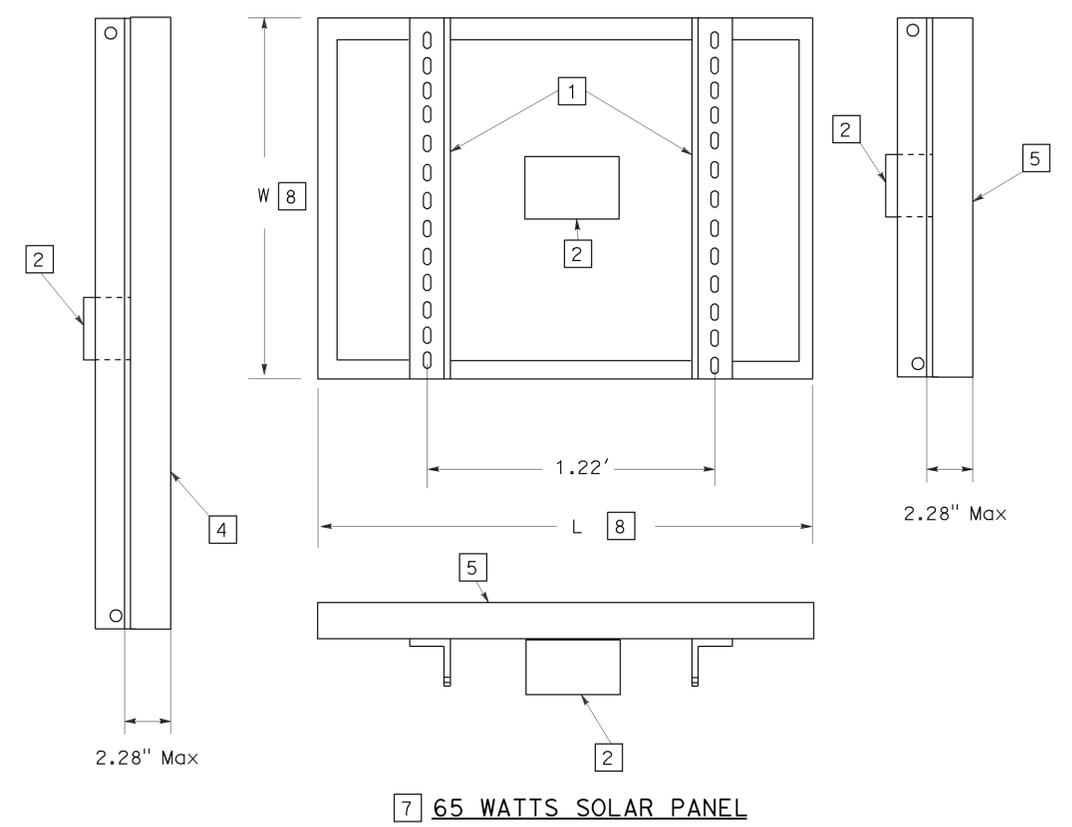
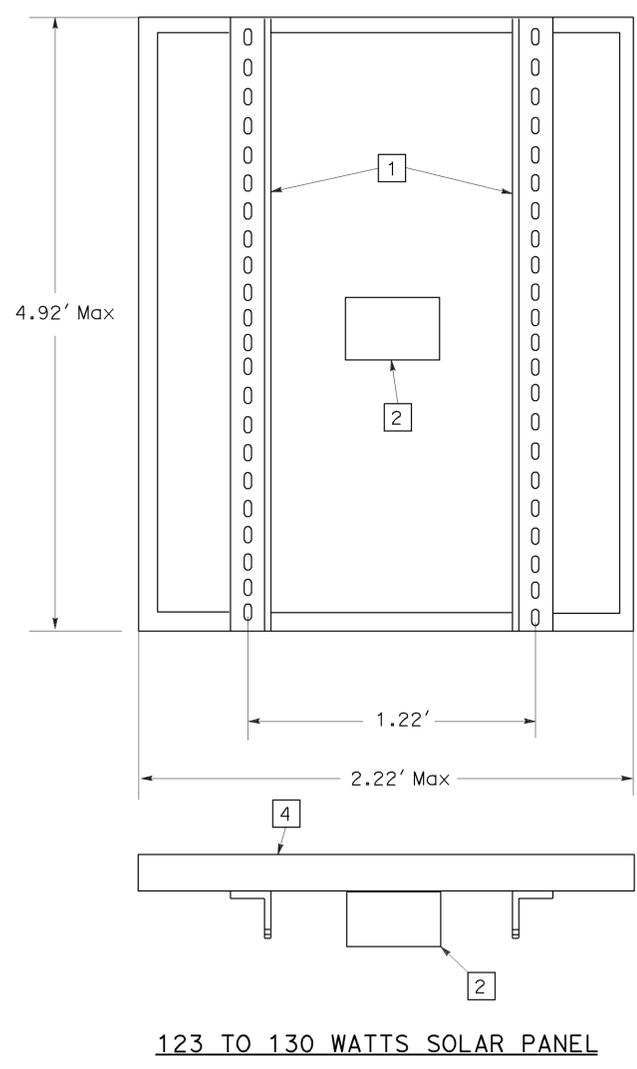
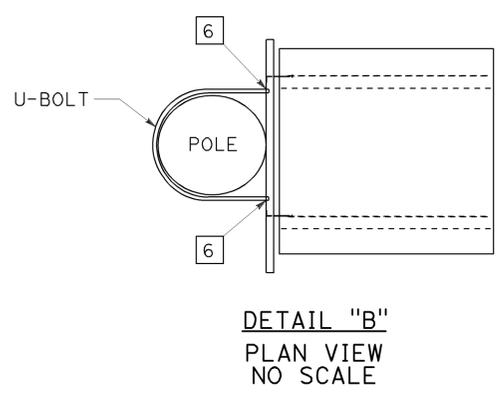
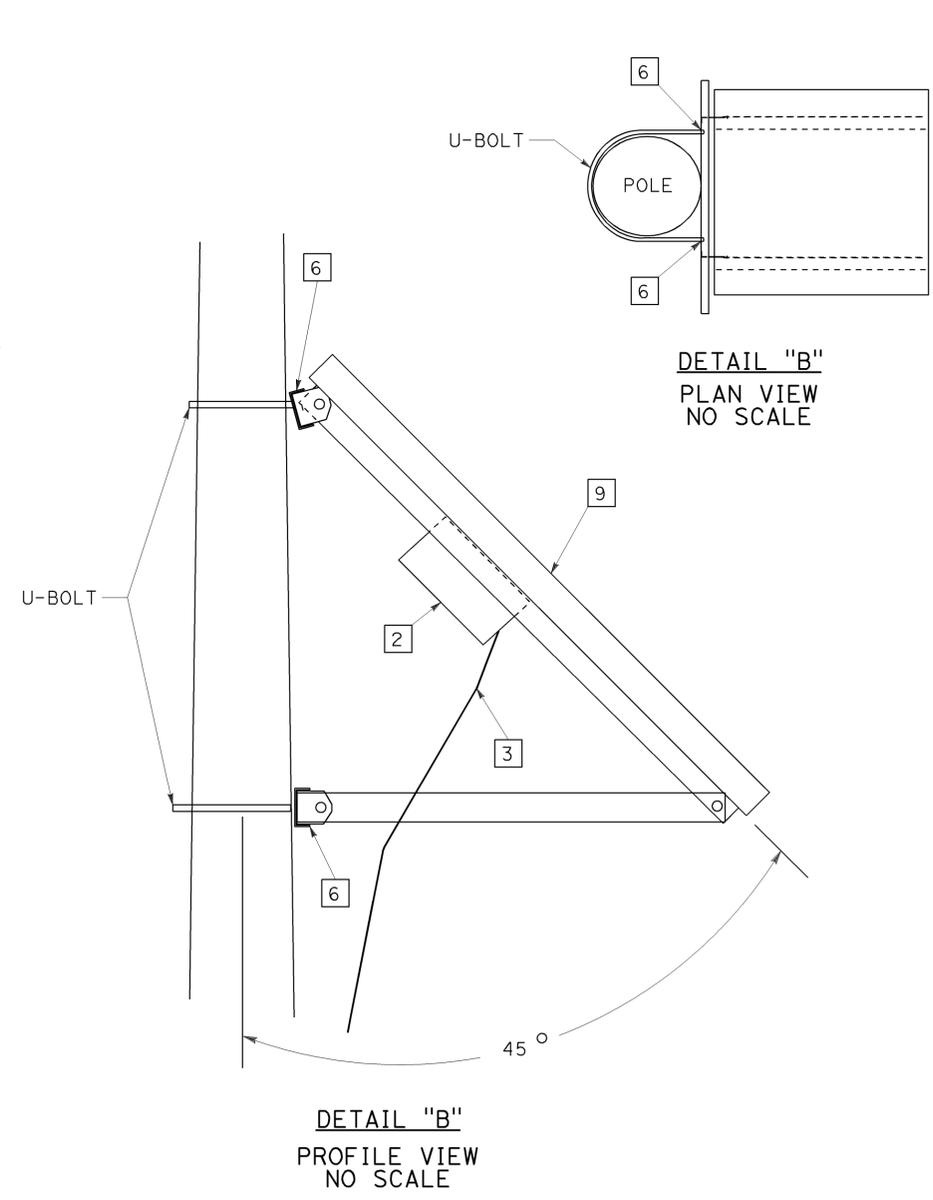
2-1-10
 PLANS APPROVAL DATE

DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL

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

LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780

ORANGE COUNTY
 TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584



**TEMPORARY
 RAMP METERING SYSTEM
 (ELECTRICAL DETAILS)**
 NO SCALE
E-132

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmartin
 DGN FILE => c07163ua132.dgn

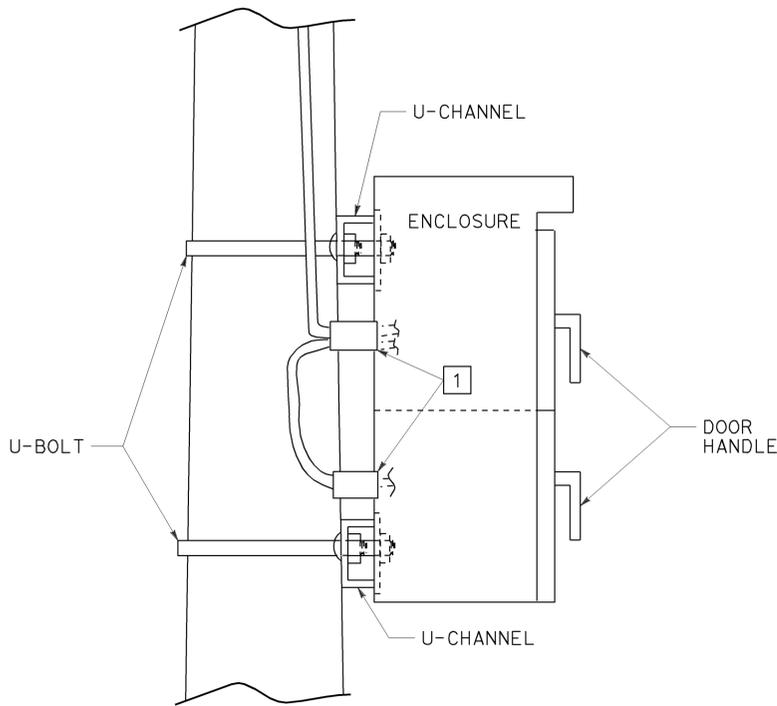
CU 12235

EA 071631

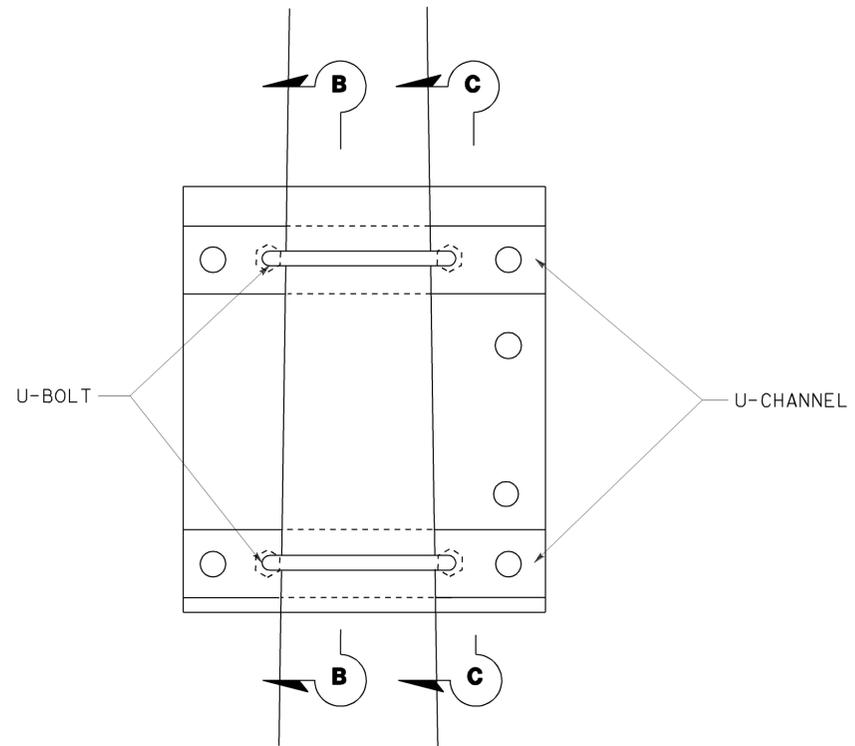
BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 02-FEB-2010
 08-10-09 TIME PLOTTED => 13:18

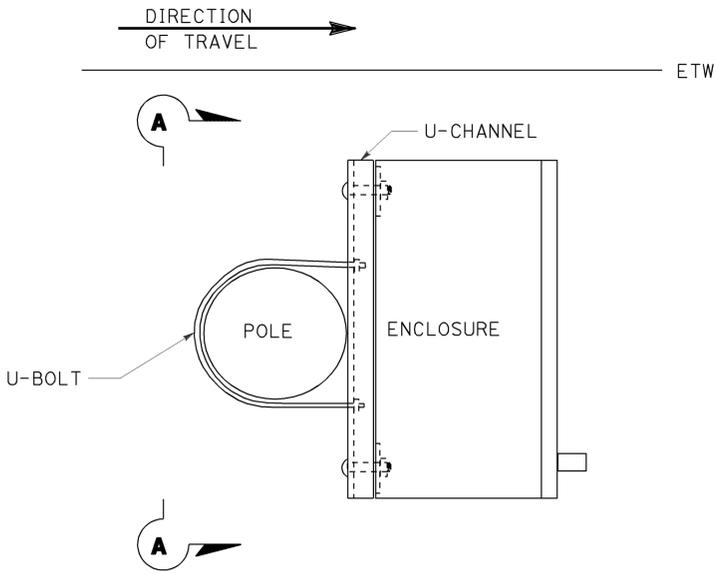
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1319	1929
			8/10/09		
REGISTERED CIVIL ENGINEER			DATE		
2-1-10			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.</small>					
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780			ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584		



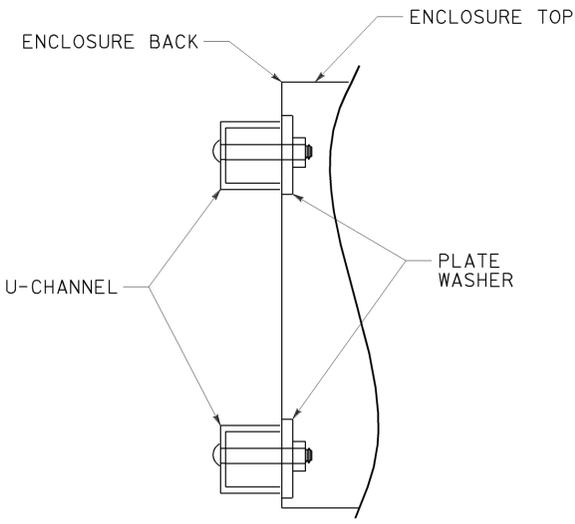
DETAIL "C"
PROFILE VIEW
NO SCALE



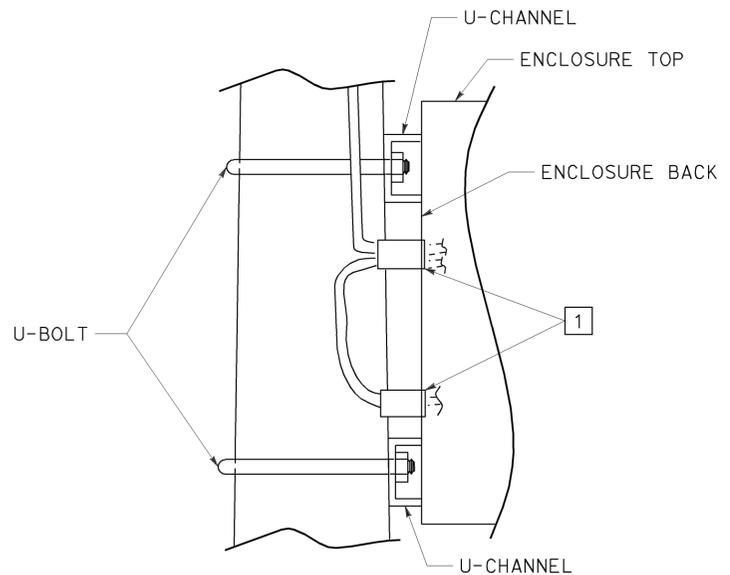
DETAIL "C"
SECTION A-A



DETAIL "C"
PLAN VIEW
NO SCALE



DETAIL "C"
SECTION B-B



DETAIL "C"
SECTION C-C

CONSTRUCTION NOTE: (THIS SHEET ONLY)

- 1 2" RECESSED COUPLING

**TEMPORARY
RAMP METERING SYSTEM
(ELECTRICAL DETAILS)**

NO SCALE

E-133

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VicENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 08-10-09

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



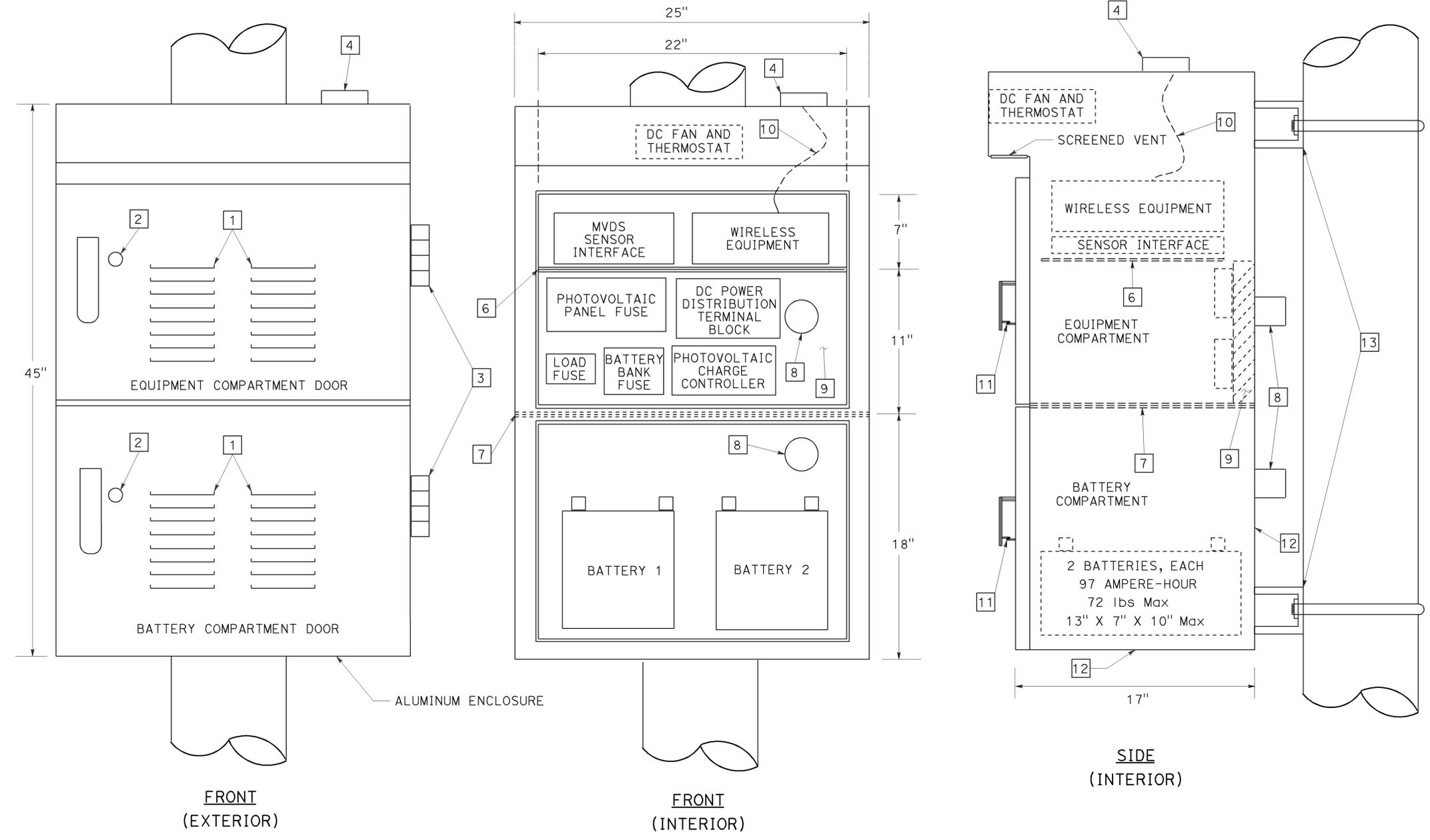
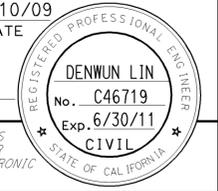
USERNAME => trmartin
DGN FILE => c07163ua133.dgn

CU 12235

EA 071631

LAST REVISION | DATE PLOTTED => 02-FEB-2010
 08-10-09 | TIME PLOTTED => 13:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1320	1929
			8/10/09		
			REGISTERED CIVIL ENGINEER	DATE	
			2-1-10	PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.</small>					
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780			ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584		



POLE MOUNTED EQUIPMENT ENCLOSURE AND EQUIPMENT LAYOUT

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 FILTERED VENTILATION LOUVERS.
- 2 KEY LOCK AND THREE POINT LOCKING SYSTEM SHALL BE INTEGRATED WITH DOOR HANDLE. ROLLERS SHALL BE USED IN CONJUNCTION WITH THE THREE POINT LOCKING SYSTEM.
- 3 DOOR HINGE.
- 4 INSTALL ANTENNA.
- 6 ALUMINUM SHELF REQUIRED FOR EQUIPMENT. 2" SPACE BETWEEN SHELF AND ENCLOSURE BACK WALL REQUIRED.
- 7 ALUMINUM SHELF REQUIRED TO PROVIDE SEPARATION OF EQUIPMENT AND BATTERY COMPARTMENTS. THE SHELF EDGE SHALL EXTEND TO ALL FOUR ENCLOSURE WALLS. SPACES BETWEEN THE SHELF AND ENCLOSURE WALLS SHALL BE SEALED.
- 8 SEAL OPENING AROUND CONDUCTORS.
- 9 BACK MOUNTING BOARD (1/2" THICK AND GRADE ACX PLYWOOD).
- 10 INSTALL ANTENNA CABLE.
- 11 DOOR HANDLE TO ENCLOSURE PADLOCK LATCH.
- 12 ALUMINUM ENCLOSURE SHALL BE 1/4" THICK, BOTTOM AND BACK WALL OF ENCLOSURE.
- 13 SEE DETAIL "C", ON SHEET E-132 FOR ENCLOSURE MOUNTING DETAILS.
- 14 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING MATERIAL.
- 15 EQUIPMENT SHALL BE CONNECTED PER MANUFACTURER'S SPECIFICATIONS.
- 16 THE ENCLOSURE SHALL BE ALUMINUM WALLS, DOORS AND SHELVES WITH A THICKNESS OF 1/8", UNLESS OTHERWISE NOTED.

**TEMPORARY
RAMP METERING SYSTEM
(ELECTRICAL DETAILS)**

NO SCALE **E-134**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmartin
DGN FILE => c07163ua134.dgn

CU 12235 EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT - FUNCTIONAL SUPERVISOR - DENWUN LIN
 CALCULATED/DESIGNED BY - CHARLOTTE WU
 CHECKED BY - TIMMY TO
 REVISOR - CW
 DATE REVISED - 8/10/09

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 02-FEB-2010
 08-10-09 TIME PLOTTED => 13:19

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: DENWUN LIN
 SUPERVISOR: DENWUN LIN
 DESIGNED BY: DENWUN LIN
 CHECKED BY: TIMMY TO
 REVISIONS: HK 8/10/09
 REVISIONS: 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

1. INSTALL MVDS AND PHOTOVOLTAIC POWER SUPPLY PER SPECIFICATION ON TEMPORARY 40' WOOD POLE. SEE SHEETS E-131 TO E-134 FOR DETAIL.
2. INSTALL RELOCATED EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET FROM SOUTH BOUND AT Sta 439+73 "A"-LINE, ON NEW FOUNDATION. INSTALL GSM BASED GPRS/EDGE MODEM PER SPECIFICATIONS
3. RELOCATE EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET TO NORTH BOUND AT Sta 16+07 "N405-W22 Conn". REMOVE EXISTING FOUNDATION.
4. INSTALL MVDS ZONE PER LOCATION 1 STAGE 1A.
5. EXISTING SERVICE TYPE III-CF SERVICE EQUIPMENT ENCLOSURE. FOR DETAILS, SEE SHEET E-1.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

LEGEND: (FOR SHEETS E-135 TO E-139)

- PROPOSED MVDS
- INSTALL 40' WOOD POLE, SEE SHEET E-115
- PROPOSED MVDS ZONE
- PROPOSED OVERHEAD LINE
- Exist MVDS
- Exist 40' WOOD POLE
- Exist MVDS ZONE
- Exist OVERHEAD LINE

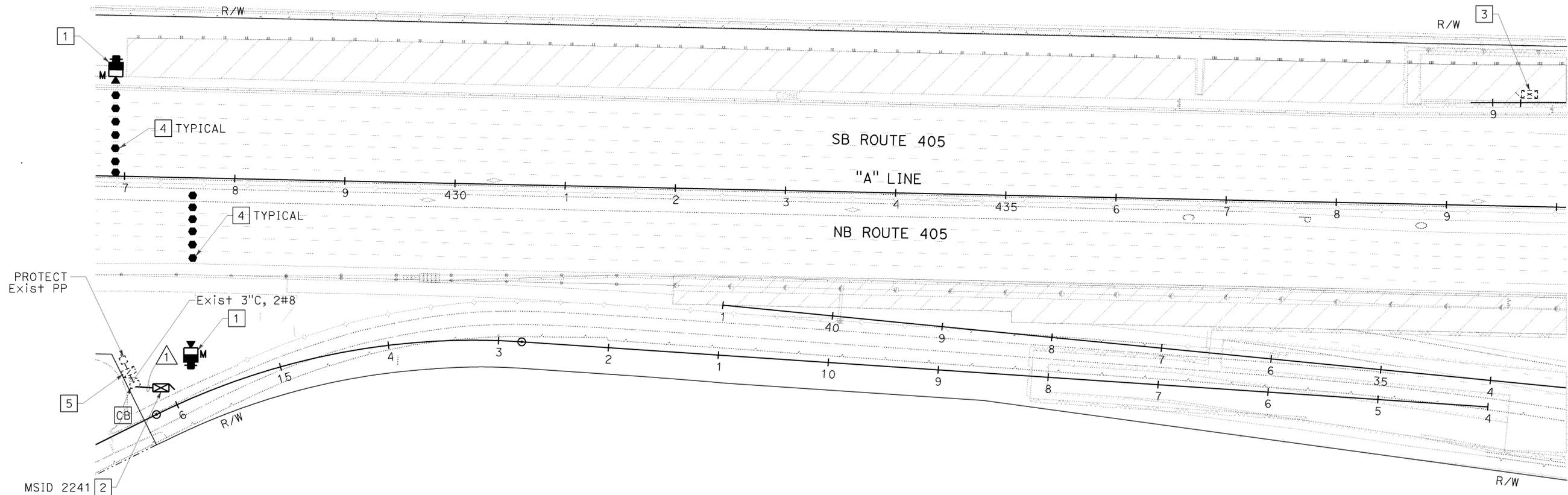
ABBREVIATION: (FOR SHEETS E-135 TO E-139)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	22.3/24.0, 3.0/R1.6	1321	1929

REGISTERED CIVIL ENGINEER: DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584



CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△
#8	TMS SERVICE MSID 2241	2
CONDUIT SIZE		2"

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 1) (STAGE 1A)

SCALE: 1" = 50'

E-135

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISED BY: HK
 DATE REVISED: 8/10/09

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
- 4 EXISTING MVDS ZONE TO REMAIN UNLESS OTHERWISE INDICATED.
- 5 PROTECT EXISTING SERVICE TYPE III-CF SERVICE EQUIPMENT ENCLOSURE. FOR DETAILS, SEE SHEET E-1.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△
#8	TMS SERVICE MSID 2241	2(E)
CONDUIT SIZE		2"(E)

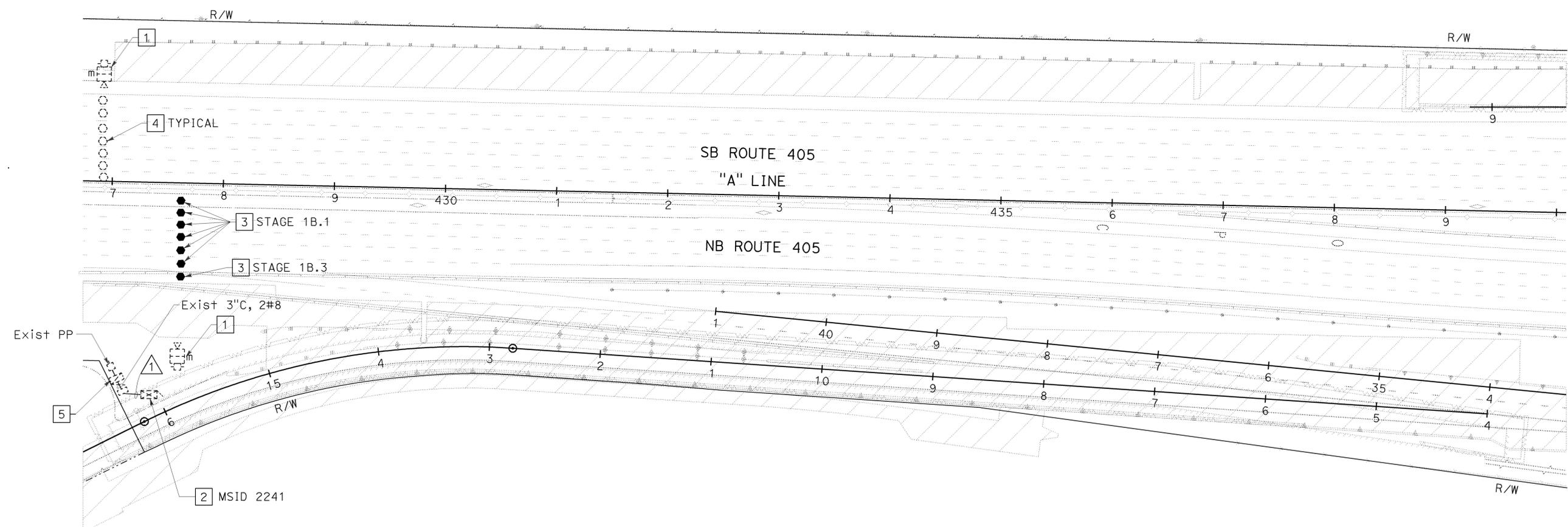
ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1322	1929

REGISTERED CIVIL ENGINEER: DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



TEMPORARY TRAFFIC MONITORING STATION (LOCATION 1) (STAGE 1B)

SCALE: 1" = 50'

E-136

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
 DGN FILE => c07163ua136.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 | TIME PLOTTED => 08:56

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR DENWUN LIN
 CALCULATED/DESIGNED BY
 CHECKED BY
 VICENTE ENCARNACION CHARLOTTE WU
 TIMMY TO
 REVISED BY HK
 DATE REVISED 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY PER SPECIFICATION ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
- 4 RELOCATE EXISTING TEMPORARY 40' WOOD POLE WITH MVDS AND PHOTOVOLTAIC POWER SUPPLY.
- 5 EXISTING SERVICE TYPE III-CF SERVICE EQUIPMENT ENCLOSURE. FOR DETAILS, SEE SHEET E-1.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△
#8	TMS SERVICE MSID 2241	2(E)
CONDUIT SIZE		2"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED. (E) = EXISTING



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1323	1929

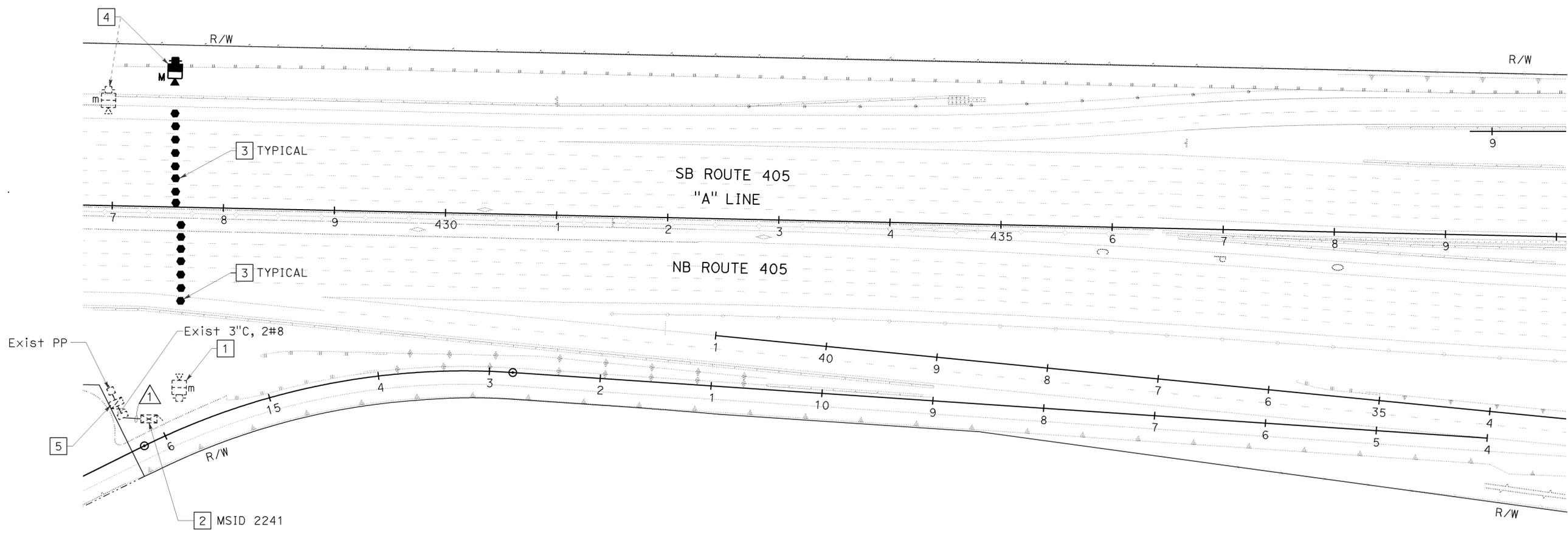
REGISTERED CIVIL ENGINEER DATE 8/10/09

2-1-10 PLANS APPROVAL DATE

DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



TEMPORARY TRAFFIC MONITORING STATION (LOCATION 1) (STAGE 2A)

SCALE: 1" = 50'

E-137

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR DENWUN LIN
 CALCULATED/DESIGNED BY CHARLOTTE WU
 CHECKED BY TIMMY TO
 REVISOR BY HK
 DATE REVISED 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
- 4 EXISTING SERVICE TYPE III-CF SERVICE EQUIPMENT ENCLOSURE. FOR DETAILS, SEE SHEET E-1.
5. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△
#8	TMS SERVICE MSID 2241	2(E)
CONDUIT SIZE		2"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1324	1929

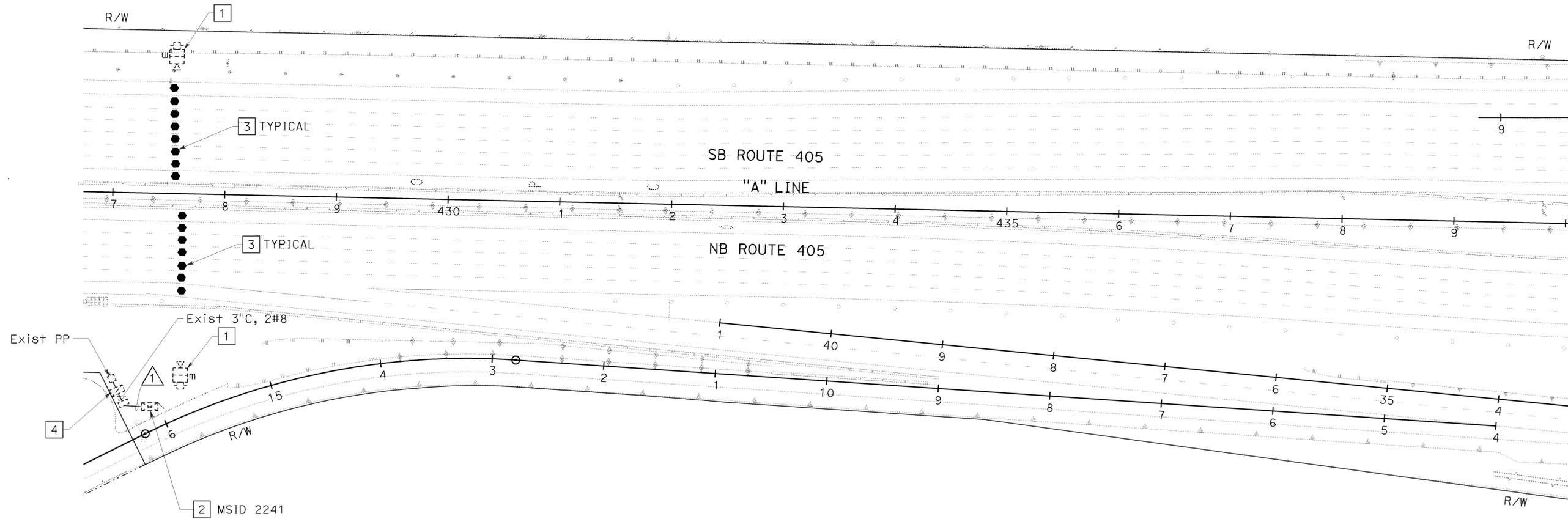
REGISTERED CIVIL ENGINEER DATE 8/10/09

2-1-10 PLANS APPROVAL DATE

DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL

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LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



TEMPORARY TRAFFIC MONITORING STATION (LOCATION 1) (STAGE 3C)

SCALE: 1" = 50'

E-138

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR DENWUN LIN
 CALCULATED/DESIGNED BY CHECKED BY
 VICENTE ENCARNACION CHARLOTTE WU
 TIMMY TO
 REVISED BY DATE REVISED
 HK 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
 - 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
 - 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
 - 4 PROTECT EXISTING SERVICE TYPE III-CF SERVICE EQUIPMENT ENCLOSURE IN-PLACE. FOR DETAILS, SEE SHEET E-1.
 - 5 EXISTING MVDS ZONE TO REMAIN UNLESS OTHERWISE NOTED.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△
#8	TMS SERVICE MSID 2241	2(E)
CONDUIT SIZE		2"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1325	1929

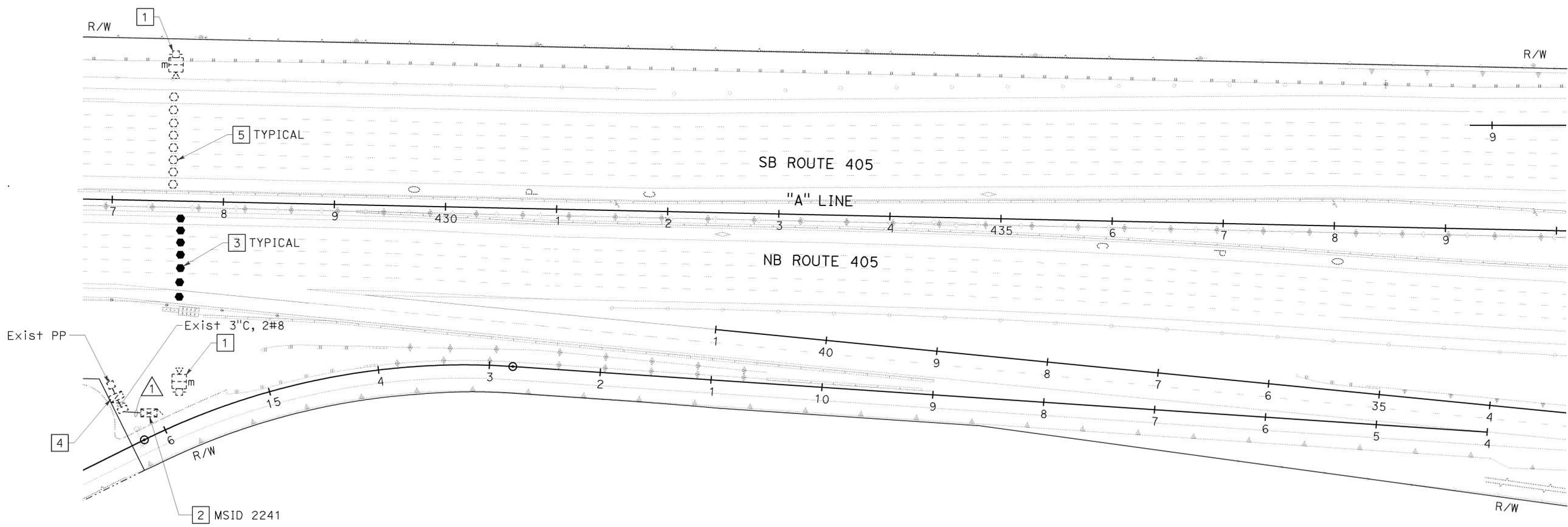
REGISTERED CIVIL ENGINEER DATE 8/10/09

2-1-10 PLANS APPROVAL DATE

DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



TEMPORARY TRAFFIC MONITORING STATION (LOCATION 1) (STAGE 3D)

SCALE: 1" = 50'

E-139

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1326	1929

REGISTERED CIVIL ENGINEER	DATE
<i>Denwun Lin</i>	8/10/09
PLANS APPROVAL DATE	
2-1-10	

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780	ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584
--	--

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONDUIT AND CONDUCTOR SCHEDULE

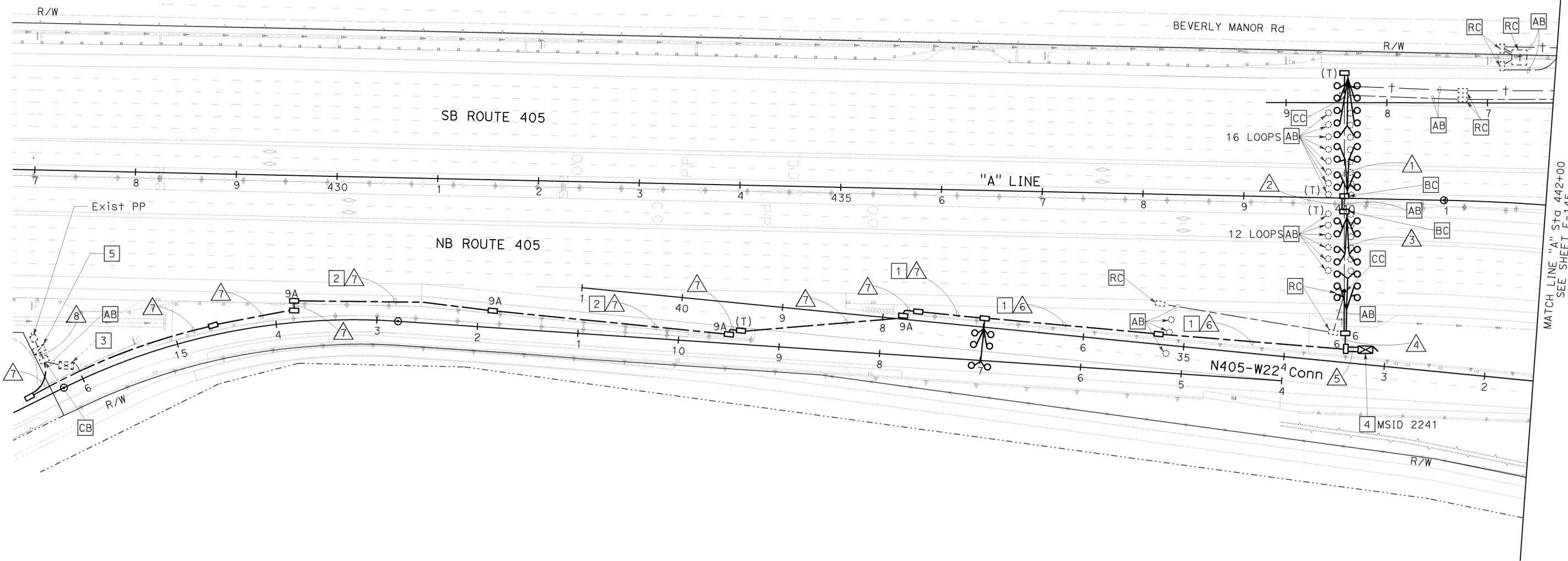
AWG OR CABLE	CONDUCTOR RUN	△1	△2	△3	△4	△5	△6	△7	△8
#6	SERVICE TO CONTROLLER CABINET MSID 2241 (LOCATION 1)	-	-	-	-	2	2	2	2
#14	LOOP WIRES	16	-	16	-	-	-	-	-
DLC	SURVEILLANCE	18	18	18	32	32	-	-	-
	COUNT	-	-	-	-	6	6	-	-
	TOTAL	18	18	18	32	38	6	-	-
	CONDUIT SIZE	3"(E)	3"	3"(E)	4"	2-4"(E)	2"	2"	3"(E)

ALL CONDUITS, CONDUCTORS AND DLC ARE NEW UNLESS OTHERWISE NOTED.
(E) = EXISTING

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

1. INSTALL 2" CONDUIT BEHIND WALL AS INDICATED.
2. INSTALL 2" CONDUIT IN BARRIER AS INDICATED.
3. RELOCATE EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET TO Sta 440+00 "A" LINE. REMOVE EXISTING FOUNDATION.
4. INSTALL RELOCATED EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET FROM Sta 427+30 "A" LINE ON NEW FOUNDATION.
5. EXISTING SERVICE TYPE III-CF SERVICE EQUIPMENT ENCLOSURE IN-PLACE. FOR DETAILS, SEE SHEET E-1.
6. ALL DOUBLE DETECTOR LOOPS SHALL BE TYPE E, SPACING 20' FROM LEADING EDGE TO LEADING EDGE AND CENTERED IN LANE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT FUNCTIONAL SUPERVISOR
 DENWUN LIN
 CALCULATED/DESIGNED BY
 VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY
 TIMMY TO
 REVISED BY
 HK
 DATE REVISED
 8/10/09



MODIFY TRAFFIC MONITORING STATION (LOCATION 1)
SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 08:52

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1327	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

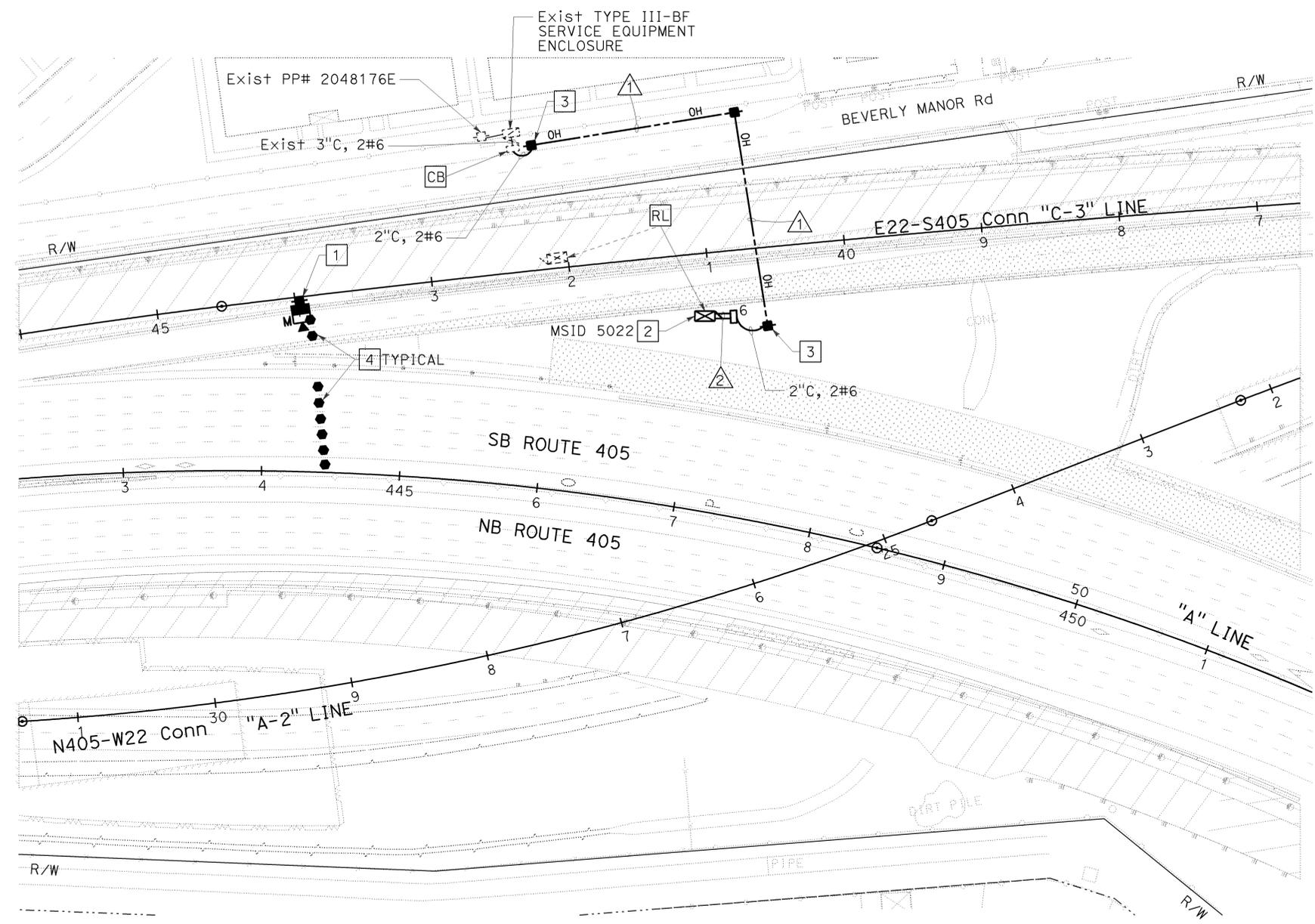
2-1-10 PLANS APPROVAL DATE

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LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL



CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- INSTALL MVDS AND PHOTOVOLTAIC POWER SUPPLY PER SPECIFICATION ON TEMPORARY 40' WOOD POLE. FOR DETAILS, SEE SHEETS E-131 TO E-134.
- INSTALL GSM BASED GPRS/EDGE MODEM PER SPECIFICATIONS AND.
- INSTALL TYPE H RISER, SEE SHEET E-115.
- INSTALL MVDS ZONE PER LOCATION 2 STAGE 1A.
- OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
- TEMPORARY WOOD POLES AS SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMP.

LEGEND:(FOR SHEETS E-141 TO E-144)

- PROPOSED MVDS
- INSTALL 40' WOOD POLE, SEE SHEET E-115
- PROPOSED MVDS ZONE
- PROPOSED OVERHEAD LINE
- Exist MVDS
- Exist 40' WOOD POLE
- Exist MVDS ZONE
- Exist OVERHEAD LINE

ABBREVIATION:(FOR SHEETS E-141 TO E-144)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	▲**	▲
#6	TMS SERVICE MSID 5022	2	2
	CONDUIT SIZE	-	2-3"*

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 * INSTALL NEW FOR PERMANENT CONDITION
 ** OVERHEAD LINE

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 2) (STAGE 1A)
 SCALE: 1" = 50'
E-141

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DENWUN LIN
 VICENTE ENCARNACION - CHARLOTTE WU
 8/10/09
 2008-10-09

DATE PLOTTED => 09-FEB-2010
 TIME PLOTTED => 08:52

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1328	1929

REGISTERED CIVIL ENGINEER: *Denwun Lin*
 DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

REGISTERED PROFESSIONAL ENGINEER
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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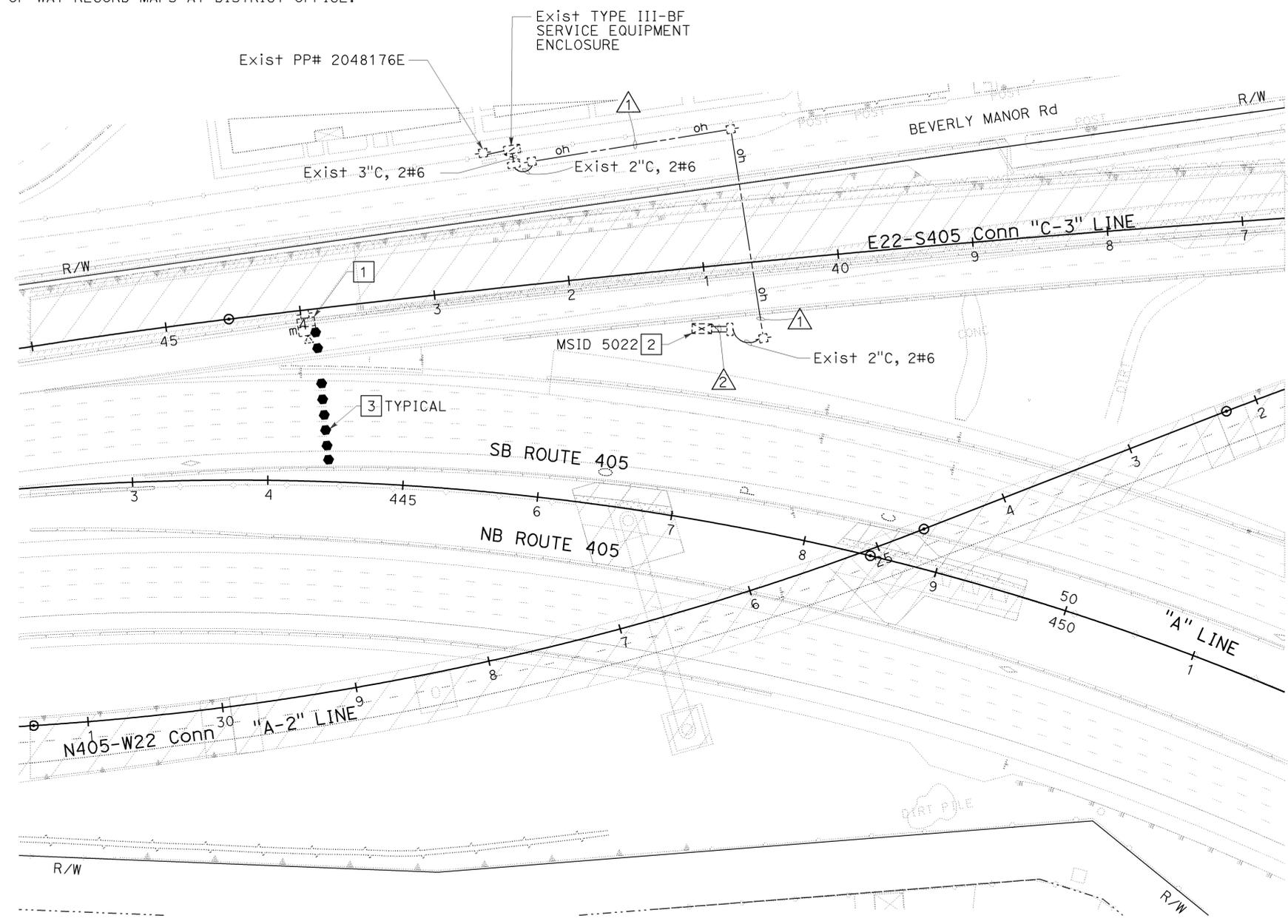
LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584



CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
4. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
5. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.



CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	▲**	△
#6	TMS SERVICE MSID 5022	2(E)	2(E)
	CONDUIT SIZE	-	2-3"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** OVERHEAD LINE

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 2) (STAGE 1B)
 SCALE: 1" = 50'
E-142

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikesl
 DGN FILE => c07163ua142.dgn

CU 12235

EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Vicente Encarnacion - Charlotte Wu
 Denwun Lin
 8/10/09
 8/10/09

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1329	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09
 2-1-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

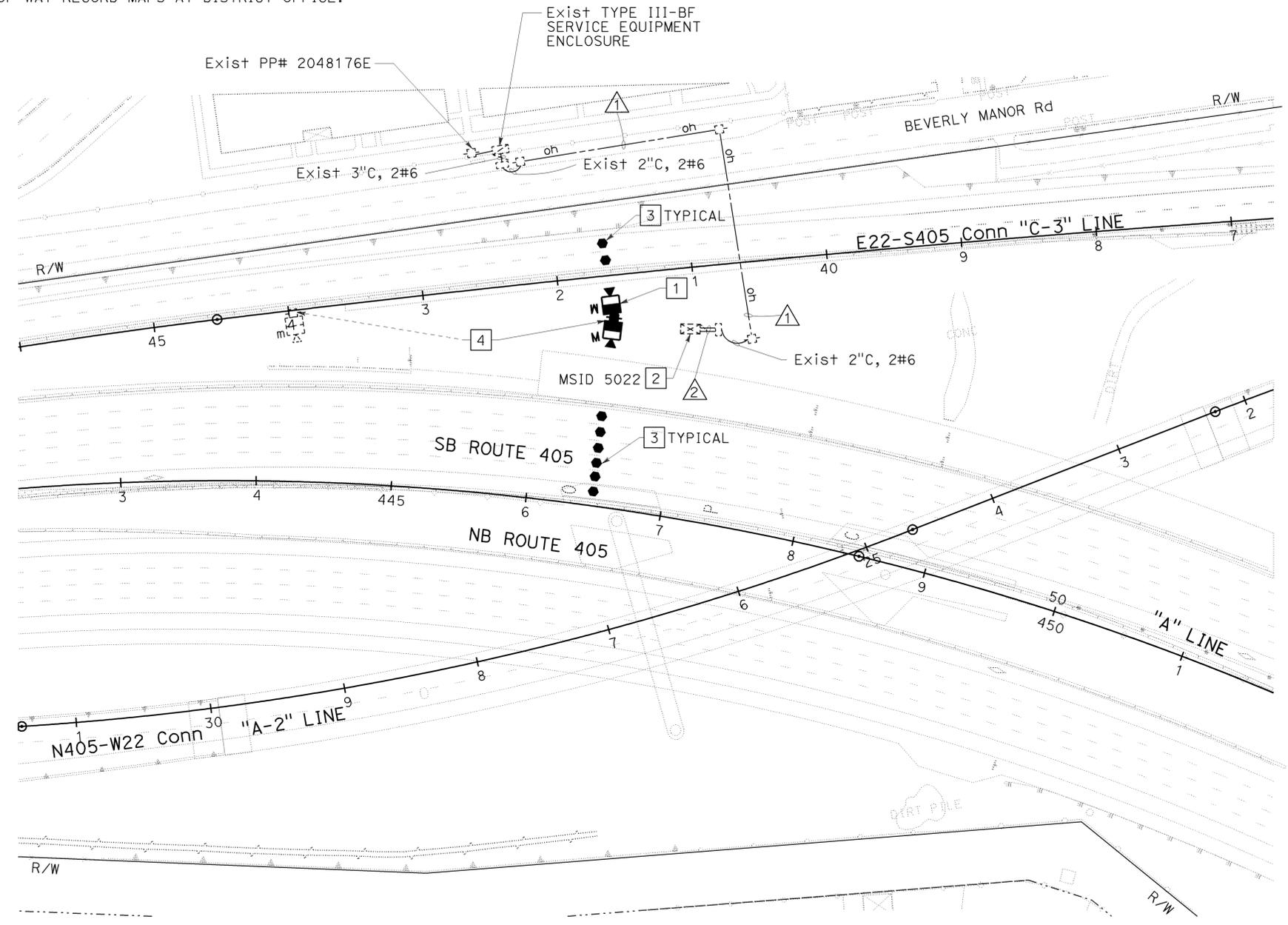
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 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

1. INSTALL MVDS AND PHOTOVOLTAIC POWER SUPPLY PER SPECIFICATION ON TEMPORARY 40' WOOD POLE. SEE SHEETS E-131 TO E-134 FOR DETAIL.
2. EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
3. ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
4. RELOCATE TEMPORARY 40' WOOD POLE WITH MVDS AND PHOTOVOLTAIC POWER SUPPLY.
5. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMP.



CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△**	△
#6	TMS SERVICE MSID 5022	2(E)	2(E)
	CONDUIT SIZE	-	2-3"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** OVERHEAD LINE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 2) (STAGE 2A)
 SCALE: 1" = 50'
E-143

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DENWUN LIN
 VICENTE ENCARNACION CHARLOTTE WU
 TIMMY TO
 8/10/09
 HK
 REVISOR BY DATE
 CALCULATED BY DESIGNED BY
 CHECKED BY
 CONSULTANT FUNCTIONAL SUPERVISOR
 BORDER LAST REVISED 8/1/2008



USERNAME => trmikes1
 DGN FILE => c07163ua143.dgn

CU 12235 EA 071631

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 | TIME PLOTTED => 08:52

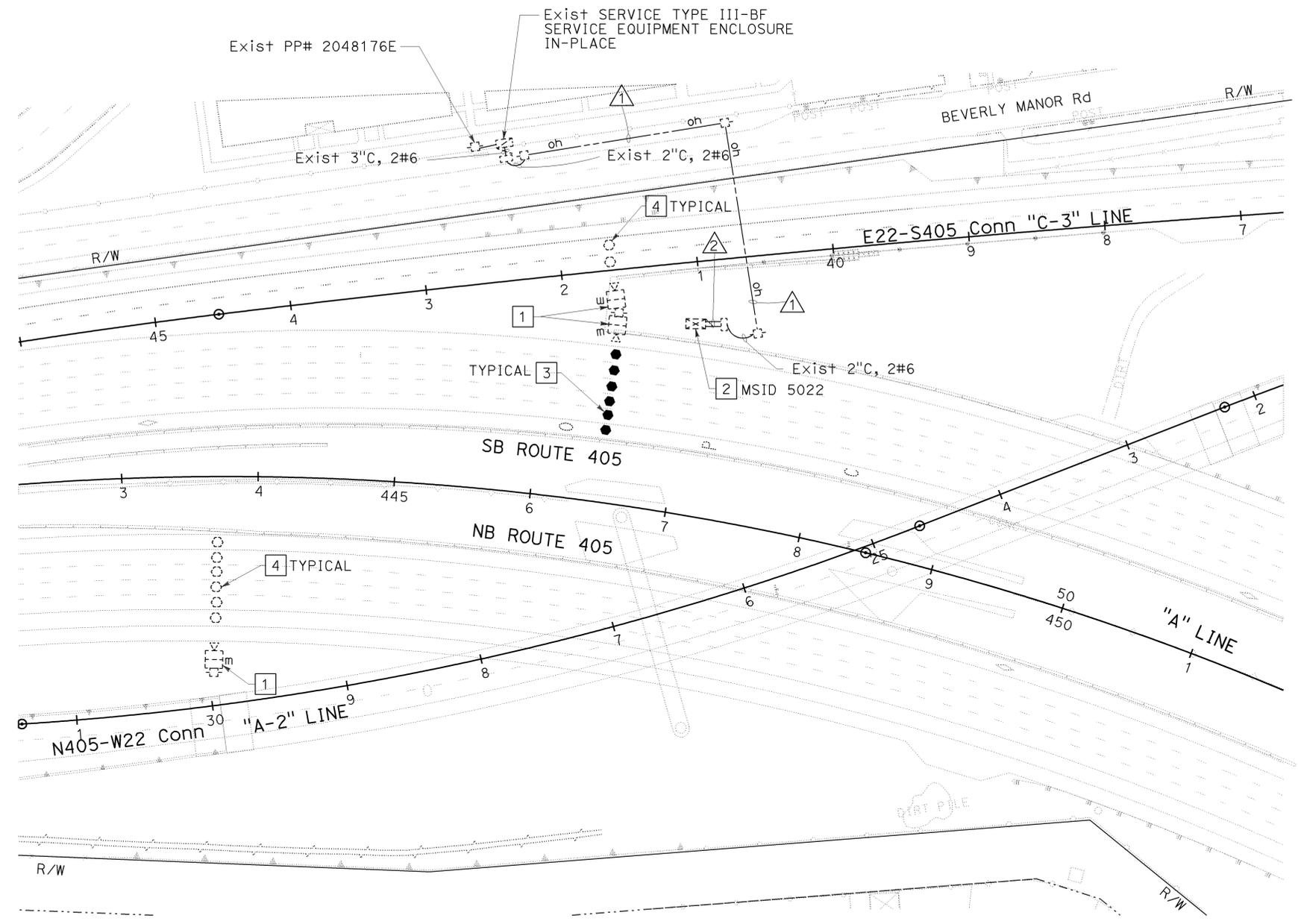
NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	22.3/24.0,3.0/R1.6	1330	1929

REGISTERED CIVIL ENGINEER: *Denwun Lin* DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10
 REGISTERED PROFESSIONAL ENGINEER: DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL STATE OF CALIFORNIA

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
- 4 EXISTING MVDS ZONE TO REMAIN UNLESS OTHERWISE NOTED.
5. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	▲**	△
#6	TMS SERVICE MSID 5022	2(E)	2(E)
	CONDUIT SIZE	-	2-3"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** OVERHEAD LINE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 2) (STAGE 2C)
 SCALE: 1" = 50'
E-144

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VicENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 8/10/09
 8/10/09
 2-1-10
 8/1/2008



USERNAME => trmikesl
 DGN FILE => c07163ua144.dgn

CU 12235 EA 071631

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 08:52

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
12	Oran	22,405,605	TOTAL PROJECT R0.3/R0.9, 22.3/24.0,3.0/R1.6	No. 1331	SHEETS 1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

2-1-10
PLANS APPROVAL DATE

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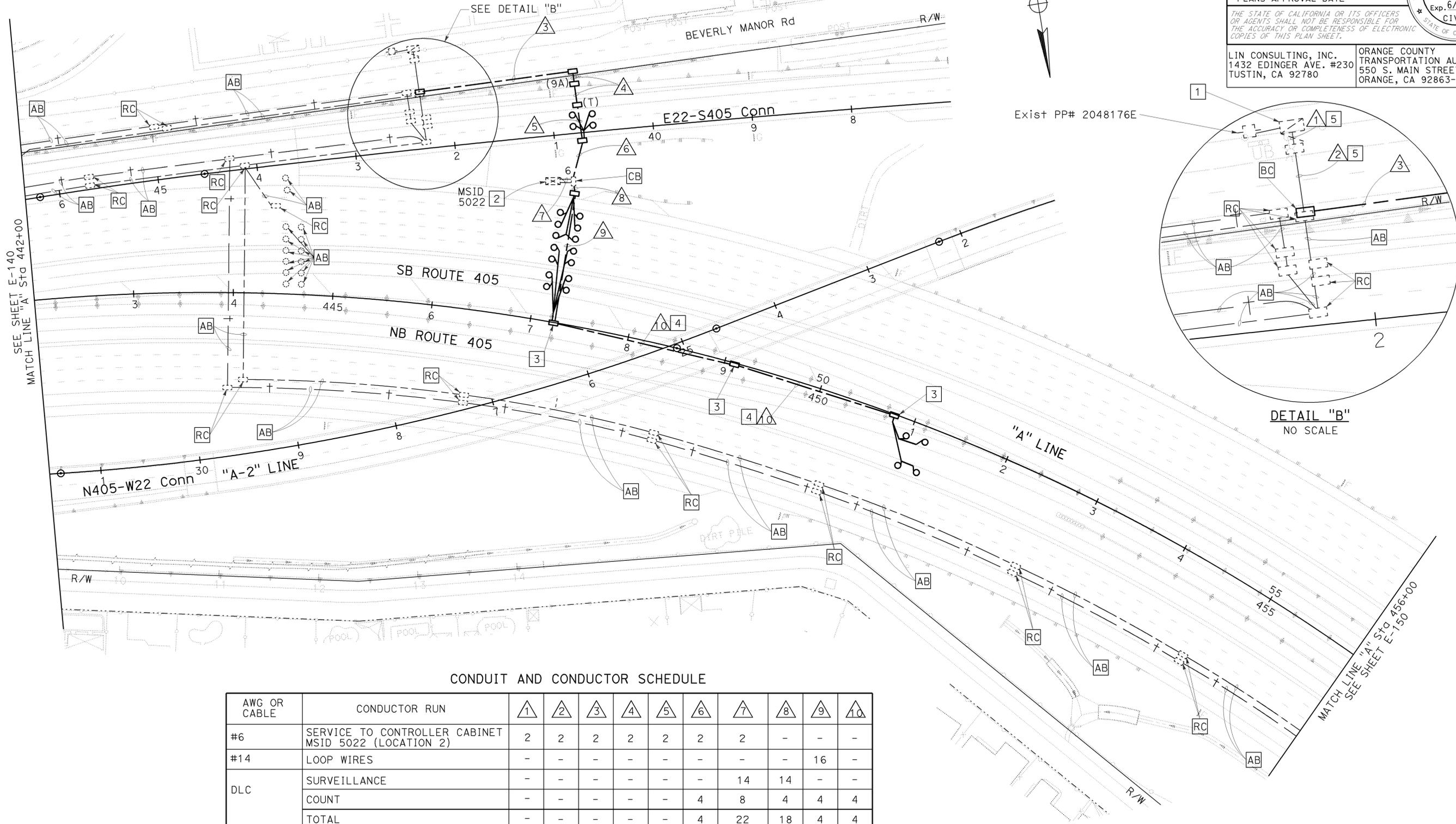
LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- EXISTING TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET.
- INSTALL PULL BOX IN-BETWEEN BARRIER AS INDICATED.
- INSTALL CONDUIT UNDER GROUND AND IN-BETWEEN BARRIER AS INDICATED.
- CONTRACTOR SHALL REMOVE EXISTING CONDUCTORS FROM THE EXISTING CONDUIT AND INSTALL NEW CONDUCTORS AS SPECIFIED ON PLAN.
- ALL DOUBLE DETECTOR LOOPS SHALL BE TYPE E, SPACING 20' FROM LEADING EDGE TO LEADING EDGE AND CENTERED IN LANE.
- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CONDUIT AND CONDUCTOR SCHEDULE

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9	10
#6	SERVICE TO CONTROLLER CABINET MSID 5022 (LOCATION 2)	2	2	2	2	2	2	2	-	-	-
#14	LOOP WIRES	-	-	-	-	-	-	-	-	16	-
DLC	SURVEILLANCE	-	-	-	-	-	-	14	14	-	-
	COUNT	-	-	-	-	-	4	8	4	4	4
	TOTAL	-	-	-	-	-	4	22	18	4	4
CONDUIT SIZE		4"(E)	4"(E)	3"	2"	3"	3"	2-3"(E)	3"	3"	2"

ALL CONDUITS, CONDUCTORS AND DLC ARE NEW UNLESS OTHERWISE NOTED.
(E) = EXISTING

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

MODIFY TRAFFIC MONITORING STATION (LOCATION 2)

SCALE: 1" = 50'

E-145

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT: DENWUN LIN

FUNCTIONAL SUPERVISOR: DENWUN LIN

DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU

CHECKED BY: TIMMY TO

REVISOR: HK

DATE REVISED: 8/10/09



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR DENWUN LIN
 CALCULATED/DESIGNED BY
 CHECKED BY
 VICENTE ENCARNACION CHARLOTTE WU
 TIMMY TO
 REVISOR BY HK
 DATE REVISED 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

1. INSTALL MVDS AND PHOTOVOLTAIC POWER SUPPLY PER SPECIFICATION ON TEMPORARY 40' WOOD POLE. SEE SHEETS E-131 TO E-134 FOR DETAIL.
2. INSTALL GSM BASED GPRS/EDGE MODEM PER SPECIFICATIONS.
3. INSTALL TYPE H RISER, SEE SHEET E-115.
4. INSTALL MVDS ZONE PER LOCATION 3 STAGE 1A.
5. EXISTING TYPE III-BF SERVICE EQUIPMENT ENCLOSURE FOR REFERENCE ONLY. SEE SHEET E-68, DETAIL "A" CONSTRUCTION NOTE 22, FOR INSTALLATION DETAILS.
6. TEMPORARY WOOD POLES AS SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
7. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	1**	2	3**
#6	TMS SERVICE MSID 2218	2	2	-
#2	TMS SERVICE MSID 2430	2	-	2
#2/0	TMS SERVICE MSID 2219	2	-	2
	CONDUIT SIZE	-	2-3"*	-

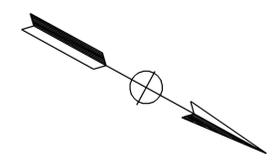
ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 * INSTALL NEW CONDUIT FOR PERMANENT CONDITION
 ** OVERHEAD LINE

LEGEND: (FOR SHEETS E-146 TO E-149)

- PROPOSED MVDS
- INSTALL 40' WOOD POLE, SEE SHEET E-115
- PROPOSED MVDS ZONE
- PROPOSED OVERHEAD LINE
- Exist MVDS
- Exist 40' WOOD POLE
- Exist MVDS ZONE
- Exist OVERHEAD LINE

ABBREVIATION: (FOR SHEETS E-146 TO E-149)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM



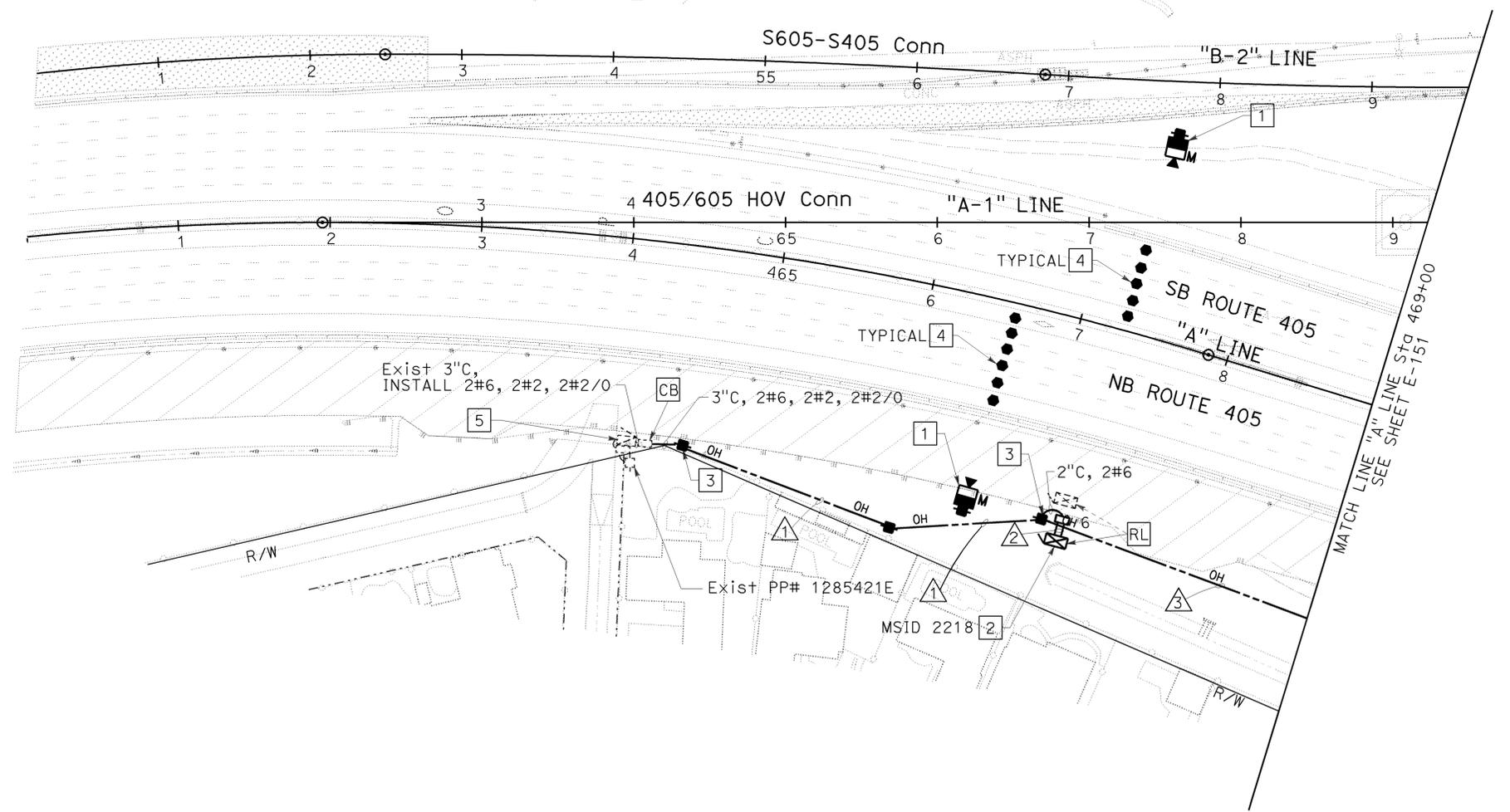
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0, 3.0/R1.6	1332	1929

REGISTERED CIVIL ENGINEER DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

8/10/09
 DATE
 2-1-10
 PLANS APPROVAL DATE

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780



TEMPORARY TRAFFIC MONITORING STATION (LOCATION 3) (STAGE 1A)
 SCALE: 1" = 50'
E-146

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikes1
 DGN FILE => c07163ua146.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 | TIME PLOTTED => 08:53

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR DENWUN LIN
 CALCULATED/DESIGNED BY CHARLOTTE WU
 CHECKED BY TIMMY TO
 VICENTE ENCARNACION
 CHARLOTTE WU
 REVISED BY HK
 DATE REVISED 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

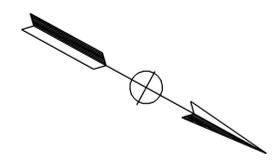
CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
- 4 EXISTING TYPE III-BF SERVICE EQUIPMENT ENCLOSURE. SEE SHEET E-68, DETAIL "A" CONSTRUCTION NOTE 22, FOR DETAILS.
5. TEMPORARY WOOD POLES AS SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	1**	2	3**
#6	TMS SERVICE MSID 2218	2(E)	2(E)	-
#2	TMS SERVICE MSID 2430	2(E)	-	2(E)
#2/0	TMS SERVICE MSID 2219	2(E)	-	2(E)
	CONDUIT SIZE	-	2-3"(E)	-

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** OVERHEAD LINE



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0, 3.0/R1.6	1333	1929

REGISTERED CIVIL ENGINEER DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

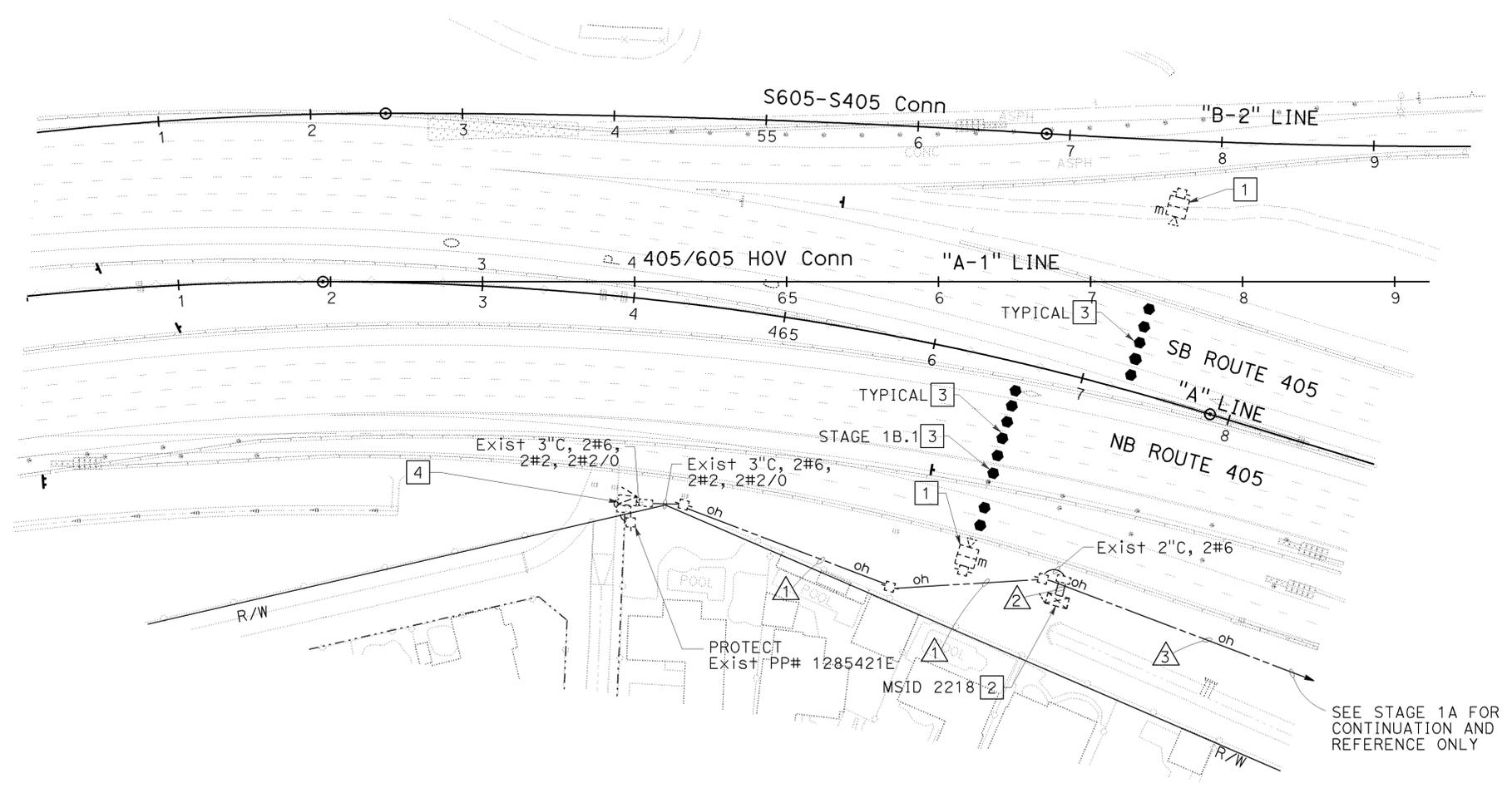
8/10/09
 DATE

2-1-10
 PLANS APPROVAL DATE

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LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584



TEMPORARY TRAFFIC MONITORING STATION (LOCATION 3) (STAGE 1B)
 SCALE: 1" = 50'
E-147

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikes1
 DGN FILE => c07163ua147.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 09-FEB-2010 08-10-09 | TIME PLOTTED => 08:53

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR DENWUN LIN
 CALCULATED/DESIGNED BY CHARLOTTE WU
 CHECKED BY TIMMY TO
 VICENTE ENCARNACION
 REVISOR BY HK
 DATE REVISED 8/10/09

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

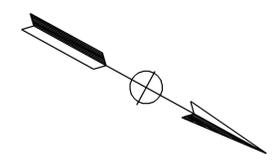
CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
- 4 EXISTING TYPE III-BF SERVICE EQUIPMENT ENCLOSURE IN-PLACE. SEE SHEET E-68, DETAIL "A" CONSTRUCTION NOTE 22, FOR DETAILS.
5. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△1**	△2	△3**
#6	TMS SERVICE MSID 2218	2(E)	2(E)	-
#2	TMS SERVICE MSID 2430	2(E)	-	2(E)
#2/0	TMS SERVICE MSID 2219	2(E)	-	2(E)
	CONDUIT SIZE	-	2-3"(E)	-

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** OVERHEAD LINE



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1334	1929

REGISTERED CIVIL ENGINEER DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

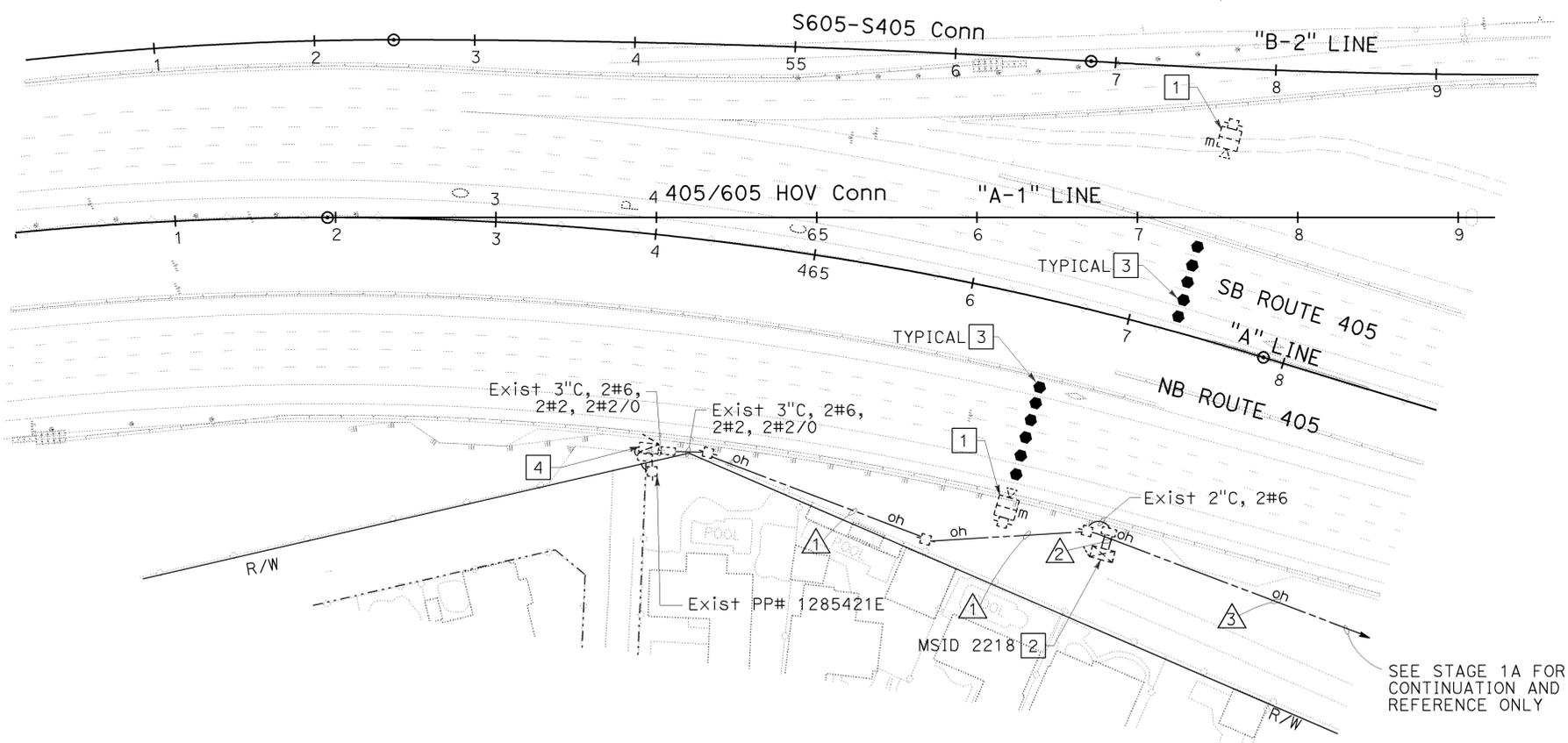
8/10/09
 DATE

2-1-10
 PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584



SEE STAGE 1A FOR CONTINUATION AND REFERENCE ONLY

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 3) (STAGE 2A)
 SCALE: 1" = 50'
E-148

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikes1
 DGN FILE => c07163ua148.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 | TIME PLOTTED => 08:53

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: CHARLOTTE WU
 CHECKED BY: TIMMY TO
 VICENTE ENCARNACION
 REVISOR: HK
 DATE: 8/10/09

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

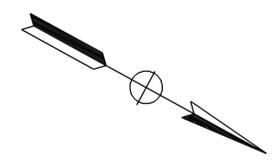
CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
- 4 EXISTING TYPE III-BF SERVICE EQUIPMENT ENCLOSURE. SEE SHEET E-68, DETAIL "A" CONSTRUCTION NOTE [22], FOR DETAILS.
5. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△1**	△2	△3**
#6	TMS SERVICE MSID 2218	2(E)	2(E)	-
#2	TMS SERVICE MSID 2430	2(E)	-	2(E)
#2/0	TMS SERVICE MSID 2219	2(E)	-	2(E)
	CONDUIT SIZE	-	2-3"(E)	-

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** OVERHEAD LINE

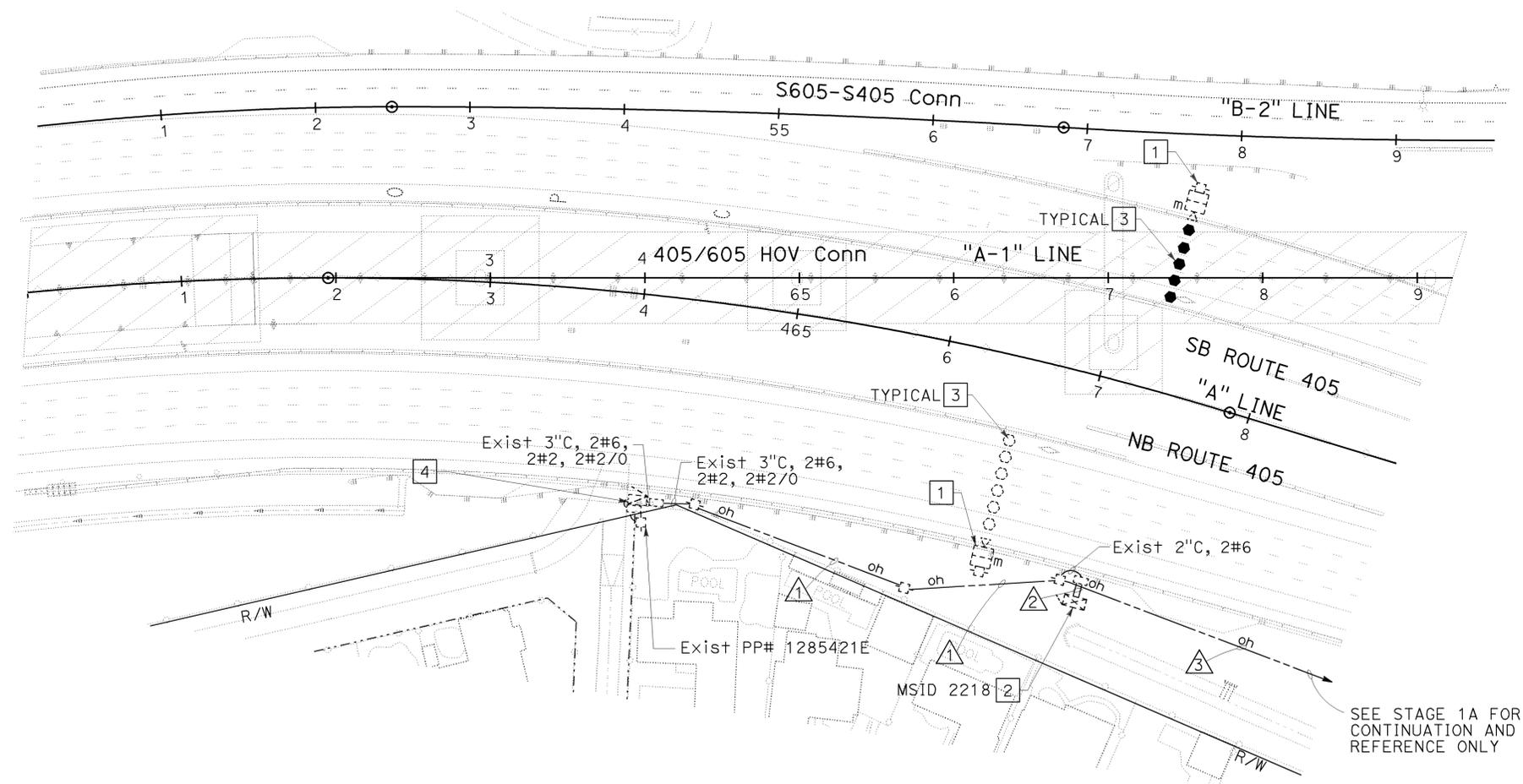


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1335	1929

REGISTERED CIVIL ENGINEER: DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780



SEE STAGE 1A FOR CONTINUATION AND REFERENCE ONLY

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 3) (STAGE 2C)
 SCALE: 1" = 50'
E-149

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1336	1929

REGISTERED CIVIL ENGINEER **DENWUN LIN** No. 46719 Exp. 6/30/11
 DATE 8/10/09
 PLANS APPROVAL DATE 2-1-10

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

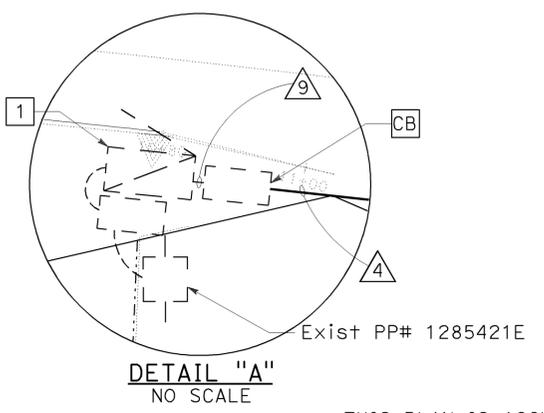
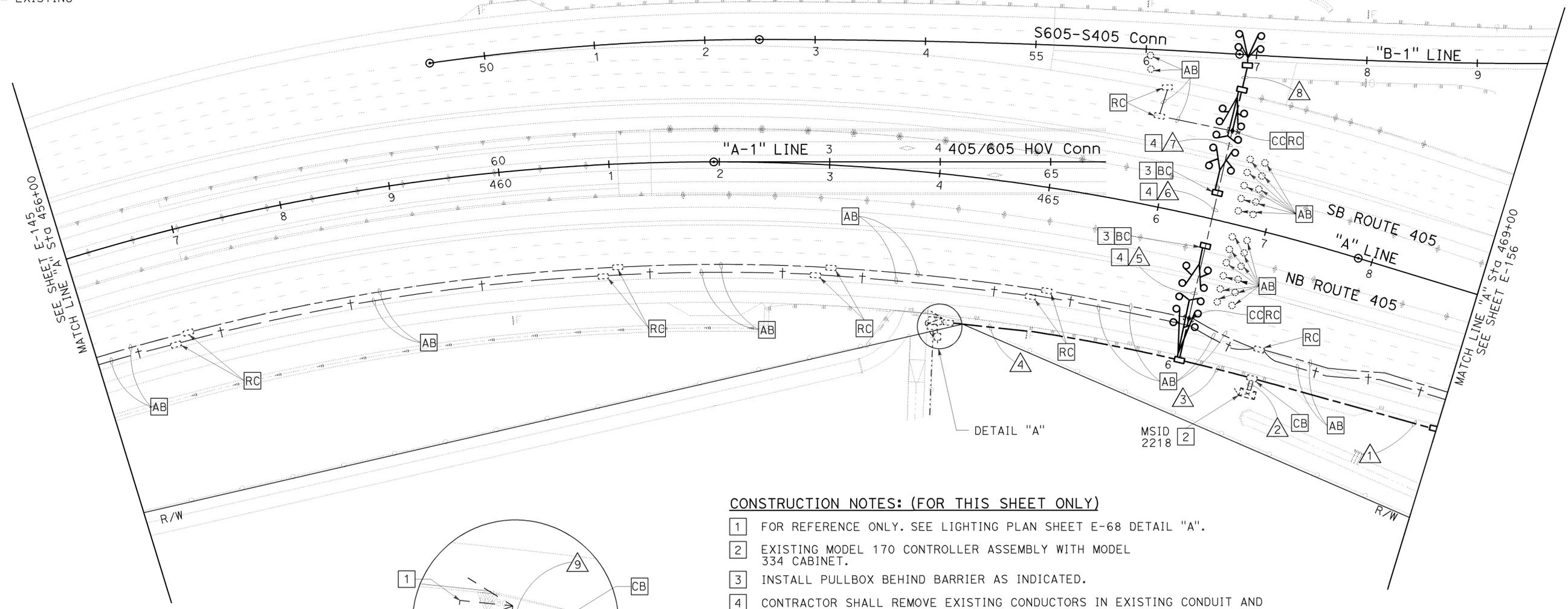
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONDUIT AND CONDUCTOR SCHEDULE

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9
#14	LOOP WIRE	-	-	-	-	8	-	8	-	-
#6	SERVICE TO CONTROLLER CABINET MSID 2218 (LOCATION 3)	-	2	2	2	-	-	-	-	2
#2	SERVICE TO CONTROLLER CABINET MSID 2430 (LOCATION 4)	2	-	2	2	-	-	-	-	2
#2/0	SERVICE TO CONTROLLER CABINET MSID 2219 (LOCATION 5)	2	-	2	2	-	-	-	-	2
DLC	SURVEILLANCE	-	20	20	-	10	10	10	-	-
	COUNT	-	4	4	-	4	4	4	4	-
	TOTAL	-	24	24	-	14	14	14	4	-
CONDUIT SIZE		4"	2-3"(E)	4"	4"	3"(E)	3"(E)	3"(E)	2"	3"(E)

ALL CONDUITS, CONDUCTORS AND DLC ARE NEW UNLESS OTHERWISE NOTED.
 (E) = EXISTING



- CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)**
- 1 FOR REFERENCE ONLY. SEE LIGHTING PLAN SHEET E-68 DETAIL "A".
 - 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET.
 - 3 INSTALL PULLBOX BEHIND BARRIER AS INDICATED.
 - 4 CONTRACTOR SHALL REMOVE EXISTING CONDUCTORS IN EXISTING CONDUIT AND INSTALL NEW CONDUCTORS AS SPECIFIED IN THE CONDUIT AND CONDUCTOR SCHEDULE.
 5. ALL DOUBLE DETECTOR LOOPS SHALL BE TYPE E, SPACING 20' FROM LEADING EDGE TO LEADING EDGE AND CENTERED IN LANE.

MODIFY TRAFFIC MONITORING STATION (LOCATION 3)

SCALE: 1" = 50'

E-150

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Vicente Encarnacion - Charlotte Wu
 Denwun Lin
 8/10/09
 8/10/09
 8/1/2008

LAST REVISION DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	22.3/24.0, 3.0/R1.6	1337	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09
 2-1-10 PLANS APPROVAL DATE
 DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.
 LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

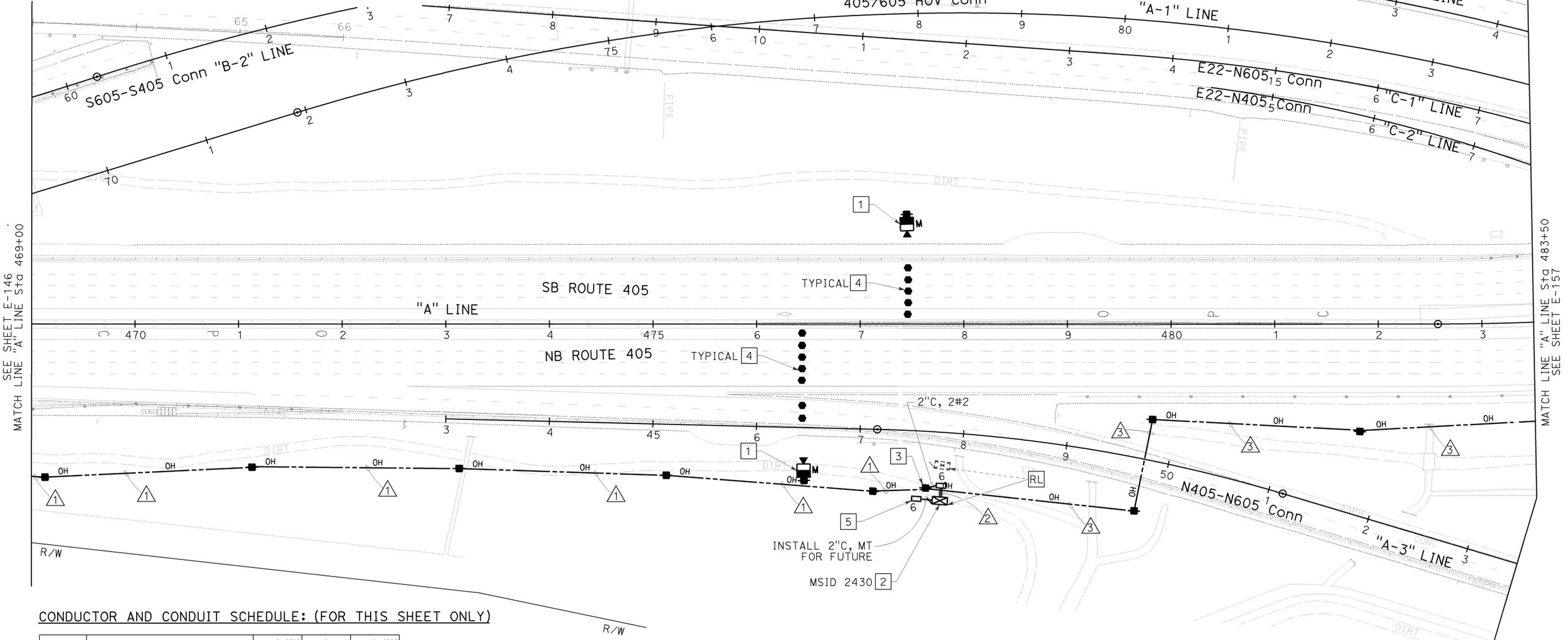
- INSTALL MVDS AND PHOTOVOLTAIC POWER SUPPLY PER SPECIFICATION ON TEMPORARY 40' WOOD POLE. SEE SHEETS E-131 TO E-134 FOR DETAIL.
- INSTALL GSM BASED GPRS/EDGE MODEM PER SPECIFICATIONS.
- INSTALL TYPE H RISER, SEE SHEET E-115.
- INSTALL MVDS ZONE PER LOCATION 4 STAGE 1A.
- INSTALL No. 6 PULLBOX FOR FUTURE COMMUNICATION SYSTEM.
- TEMPORARY WOOD POLES AS SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
- OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

LEGEND:(FOR SHEETS E-149 TO E-153)

- PROPOSED MVDS
- INSTALL 40' WOOD POLE, SEE SHEET E-115
- PROPOSED MVDS ZONE
- PROPOSED OVERHEAD LINE
- Exist MVDS
- Exist 40' WOOD POLE
- Exist MVDS ZONE
- Exist OVERHEAD LINE

ABBREVIATION:(FOR SHEETS E-149 TO E-153)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM



CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△**	△	△**
#2	TMS SERVICE MSID 2430	2	2	-
#2/0	TMS SERVICE MSID 2219	2	-	2
	CONDUIT SIZE	-	2-3"*	-

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 * INSTALL NEW CONDUIT FOR ULTIMATE
 ** OVERHEAD LINE

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 4) (STAGE 1A)
 SCALE: 1" = 50'
E-151

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikes1
 DGN FILE => c07163ua151.dgn

CU 12235

EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VicENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 DENWUN LIN
 Et Caltrans

BORDER LAST REVISED 8/1/2008

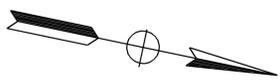
LAST REVISION DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:14

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
- 4 EXISTING MVDS ZONE TO REMAIN UNLESS OTHERWISE NOTED.
5. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	22.3/24.0, 3.0/R1.6	1338	1929

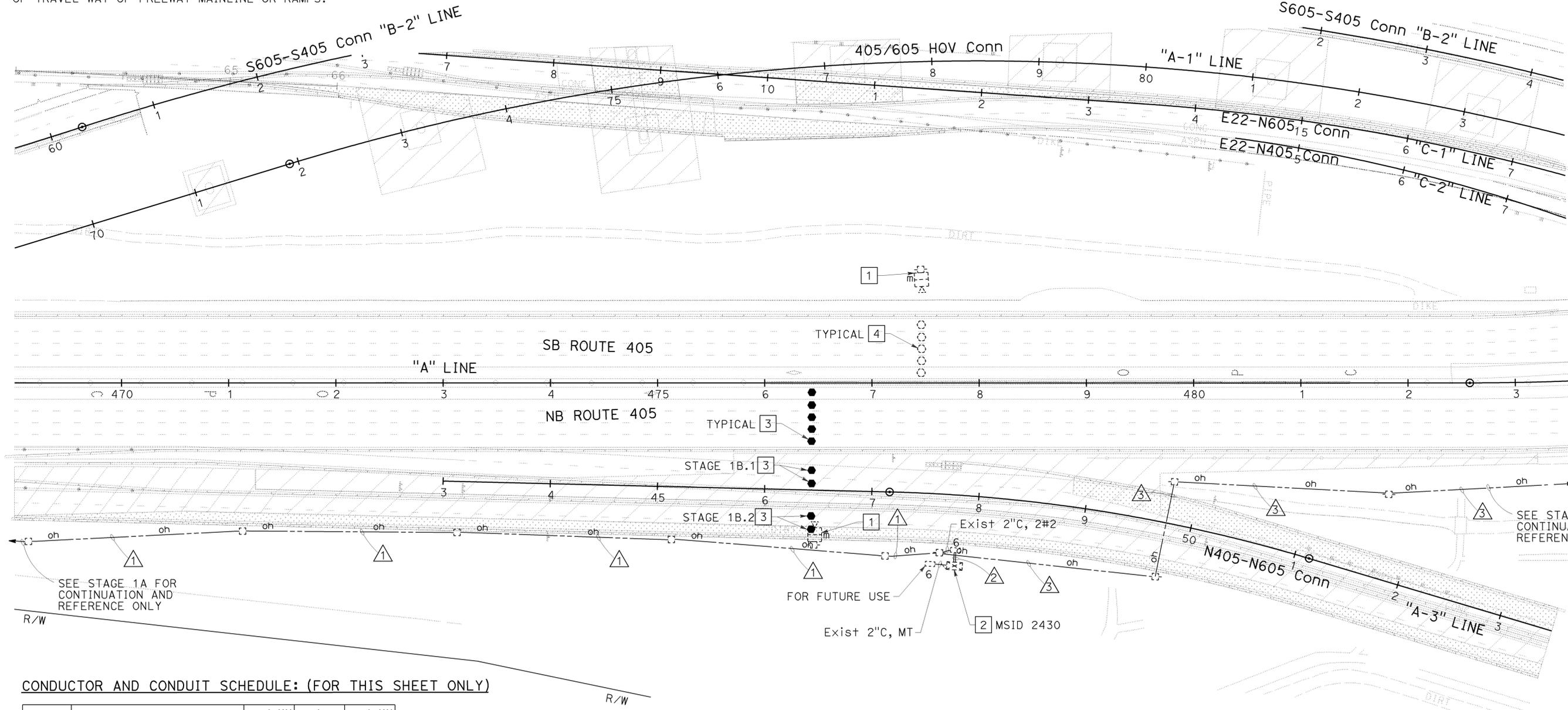
REGISTERED CIVIL ENGINEER: *Denwun Lin*
 DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT: DENWUN LIN
 SUPERVISOR: DENWUN LIN
 DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISIONS: HK 8/10/09
 REVISOR: VICENTE ENCARNACION CHARLOTTE WU
 DATE: 8/10/09



CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△**	△	△**
#2	TMS SERVICE MSID 2430	2(E)	2(E)	-
#2/0	TMS SERVICE MSID 2219	2(E)	-	2(E)
	CONDUIT SIZE	-	2-3"(E)	-

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** OVERHEAD LINE

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 4) (STAGE 1B)
 SCALE: 1" = 50'
E-152

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



LAST REVISION: DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	22.3/24.0,3.0/R1.6	1339	1929

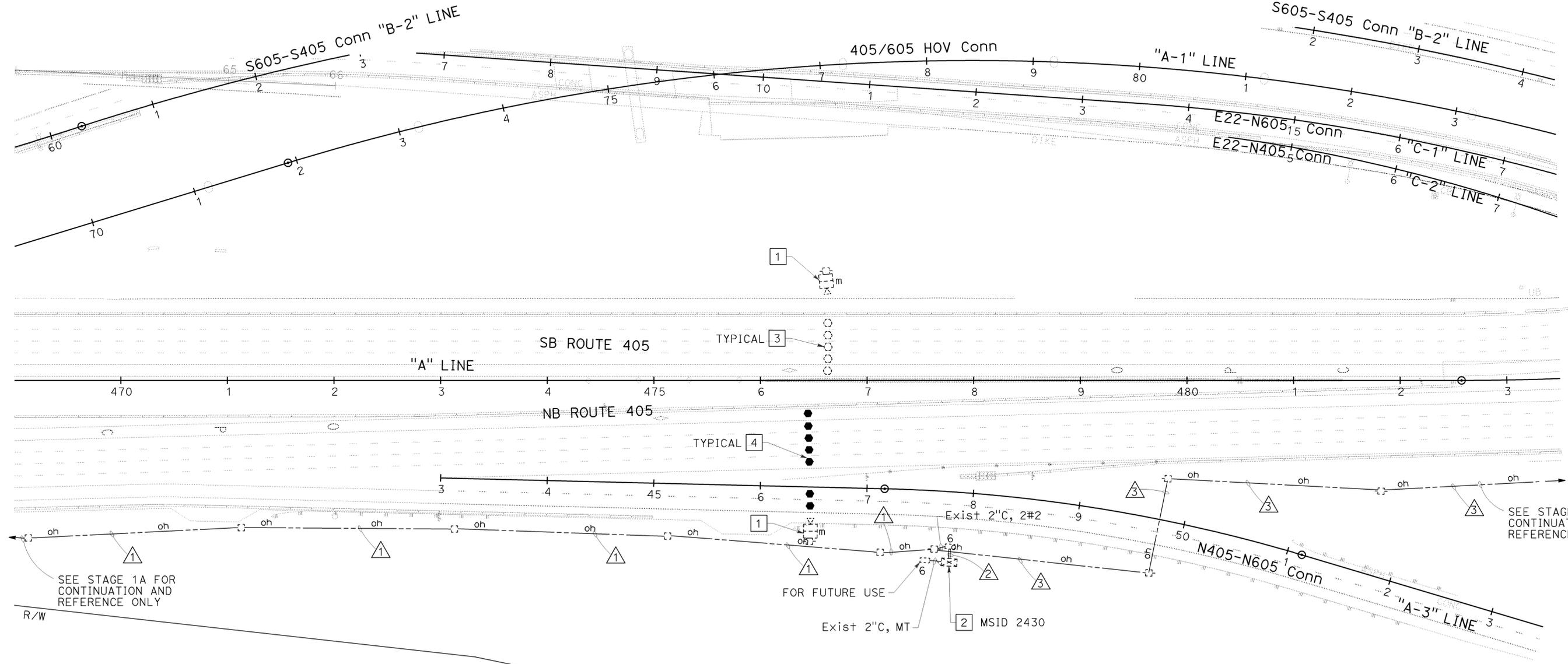
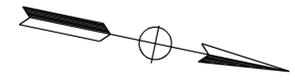
REGISTERED CIVIL ENGINEER *Denwun Lin* DATE 8/10/09
 PLANS APPROVAL DATE 2-1-10
 REGISTERED PROFESSIONAL ENGINEER
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- EXISTING MVDS ZONE TO REMAIN UNLESS OTHERWISE NOTED.
- ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
- OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.



CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	①**	②	③**
#2	TMS SERVICE MSID 2430	2(E)	2(E)	-
#2/0	TMS SERVICE MSID 2219	2(E)	-	2(E)
	CONDUIT SIZE	-	2-3"(E)	-

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** OVERHEAD LINE

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 4) (STAGE 2A)
 SCALE: 1" = 50'
E-153

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VICENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 8/10/09
 8/10/09
 8/10/09

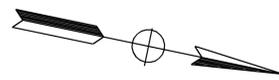
LAST REVISION: DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:15

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
- 4 EXISTING MVDS ZONE TO REMAIN UNLESS OTHERWISE NOTED.
5. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1340	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

2-1-10 PLANS APPROVAL DATE

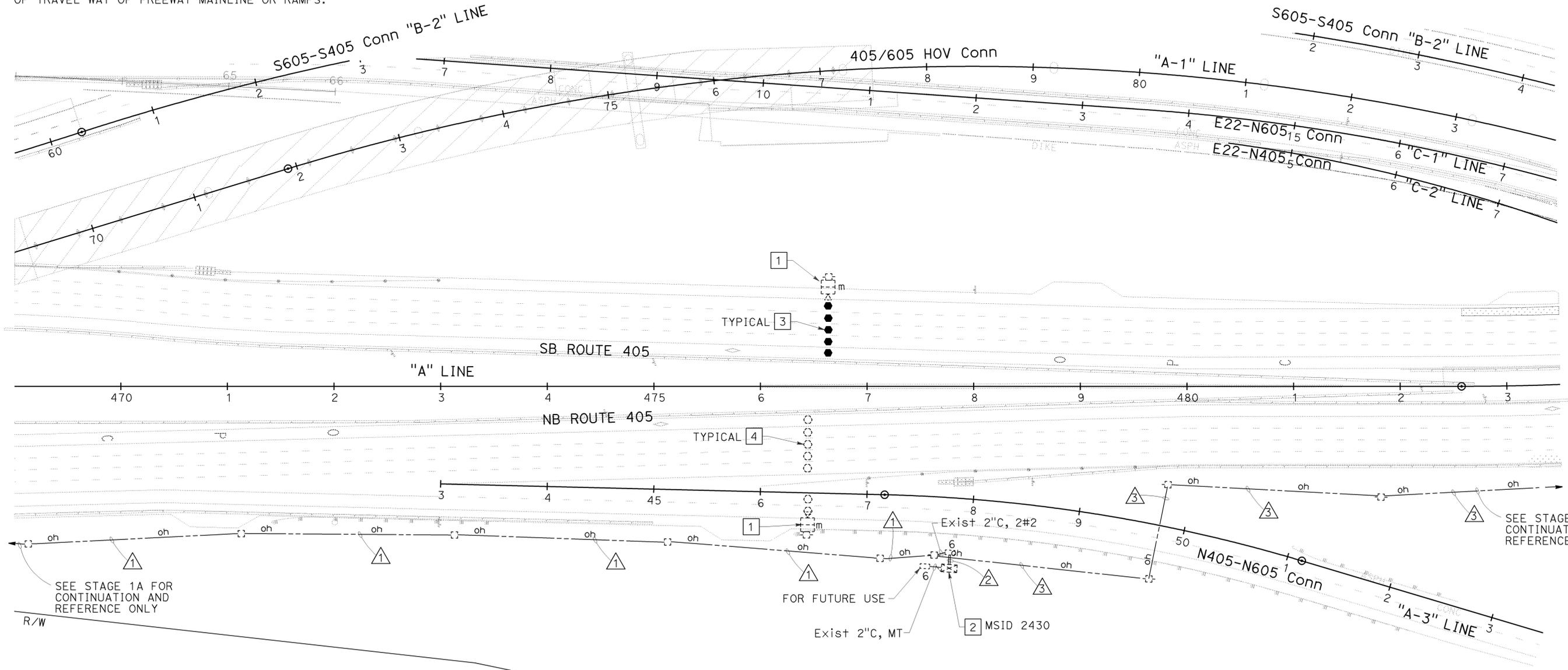
DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL

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LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Vicente Encarnacion Charlotte Wu
 Denwun Lin
 8/10/09
 HK
 REVISOR
 DATE
 CHECKED BY
 SUPERVISOR
 FUNCTIONAL SUPERVISOR
 TRANSPORTATION



CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△**	△	△**
#2	TMS SERVICE MSID 2430	2(E)	2(E)	-
#2/0	TMS SERVICE MSID 2219	2(E)	-	2(E)
	CONDUIT SIZE	-	2-3"(E)	-

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** OVERHEAD LINE

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 4) (STAGE 2C)
 SCALE: 1" = 50'
E-154

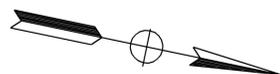
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
4. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
5. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1341	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

2-1-10 PLANS APPROVAL DATE

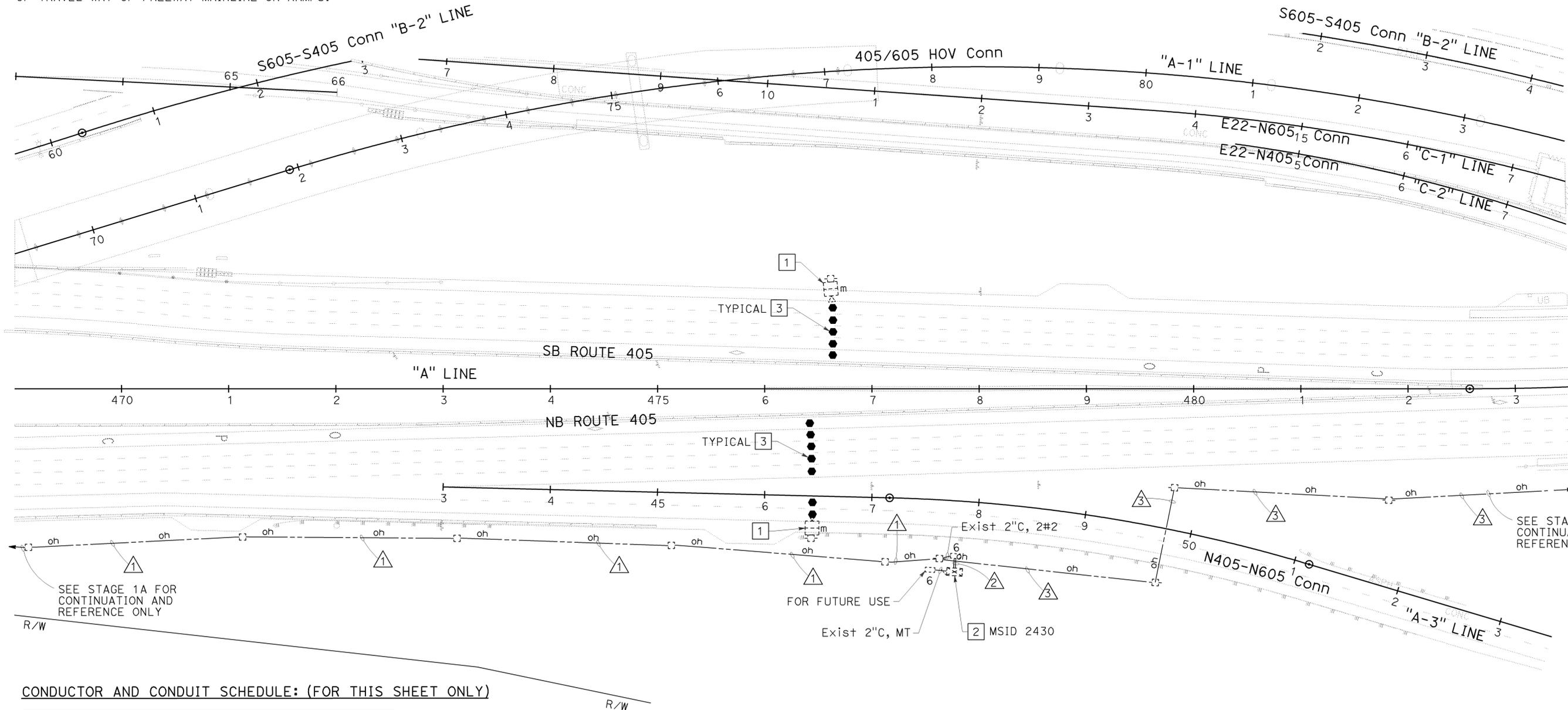
DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL

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LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VicENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 Et Caltrans



CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△**	△	△**
#2	TMS SERVICE MSID 2430	2(E)	2(E)	-
#2/0	TMS SERVICE MSID 2219	2(E)	-	2(E)
	CONDUIT SIZE	-	2-3"(E)	-

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E) = EXISTING
** OVERHEAD LINE

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 4) (STAGE 3B)
SCALE: 1" = 50'
E-155

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikes1
DGN FILE => c07163ua155.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: FUNCTIONAL SUPERVISOR DENWUN LIN
 CALCULATED/DESIGNED BY VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY TIMMY TO
 REVISED BY HK
 DATE REVISED 8/10/09

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET.
- FOR REFERENCE ONLY, EXISTING #6 PULL BOX, FOR FUTURE COMMUNICATION SYSTEM.
- ALL DOUBLE DETECTOR LOOPS SHALL BE TYPE E, SPACING 20' FROM LEADING EDGE TO LEADING EDGE AND CENTERED IN LANE.

CONDUIT AND CONDUCTOR SCHEDULE

AWG OR CABLE	CONDUCTOR RUN	①	②	③	④	⑤	⑥	⑦	⑧
#2	SERVICE TO CONTROLLER CABINET MSID 2430 (LOCATION 4)	-	-	-	-	-	-	2	2
#2/0	SERVICE TO CONTROLLER CABINET MSID 2219 (LOCATION 5)	-	-	-	2	2	2	-	2
#14	LOOP WIRES	6	-	8	-	-	-	-	-
DLC	SURVEILLANCE	-	10	10	-	20	20	20	-
	COUNT	-	-	-	-	-	4	4	-
CONDUIT SIZE		3"(E)	3"	3"(E)	4"	4"	4"	2-3"(E)	4"

ALL CONDUITS, CONDUCTORS AND DLC ARE NEW UNLESS OTHERWISE NOTED.
 (E) = EXISTING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	RO.3/R0.9, 22.3/24.0,3.0/R1.6	1342	1929

8/10/09
 REGISTERED CIVIL ENGINEER DATE

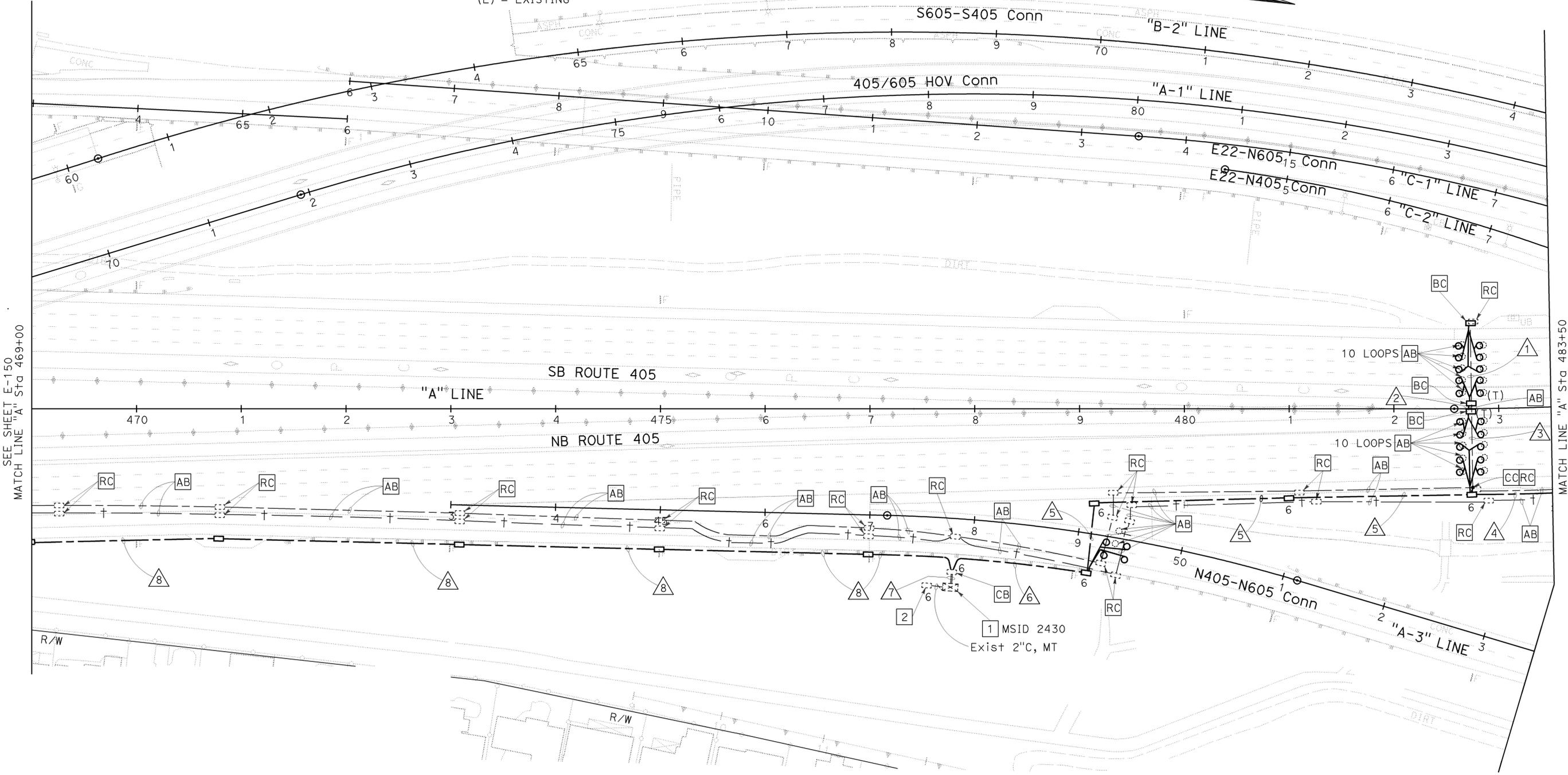
2-1-10
 PLANS APPROVAL DATE

DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584



SEE SHEET E-150
 MATCH LINE "A" Sta 469+00

MATCH LINE "A" Sta 483+50
 SEE SHEET E-158

**MODIFY TRAFFIC MONITORING STATION
 (LOCATION 4)**

SCALE: 1" = 50'

E-156

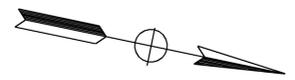
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: DENWUN LIN
 SUPERVISOR: DENWUN LIN
 DESIGNED BY: DENWUN LIN
 CHECKED BY: TIMMY TO
 REVISIONS: HK 8/10/09
 DATE REVISED: 8/10/09

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET. INSTALL GSM BASED GPRS/EDGE MODEM PER SPECIFICATIONS.
- 2 INSTALL TYPE H RISER, SEE SHEET E-115.
- 3 INSTALL TEMPORARY CONDUIT UNDER SHOULDER AS INDICATED.
4. TEMPORARY WOOD POLES AS SHOWN ON PLANS SHALL BE 200' MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
5. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

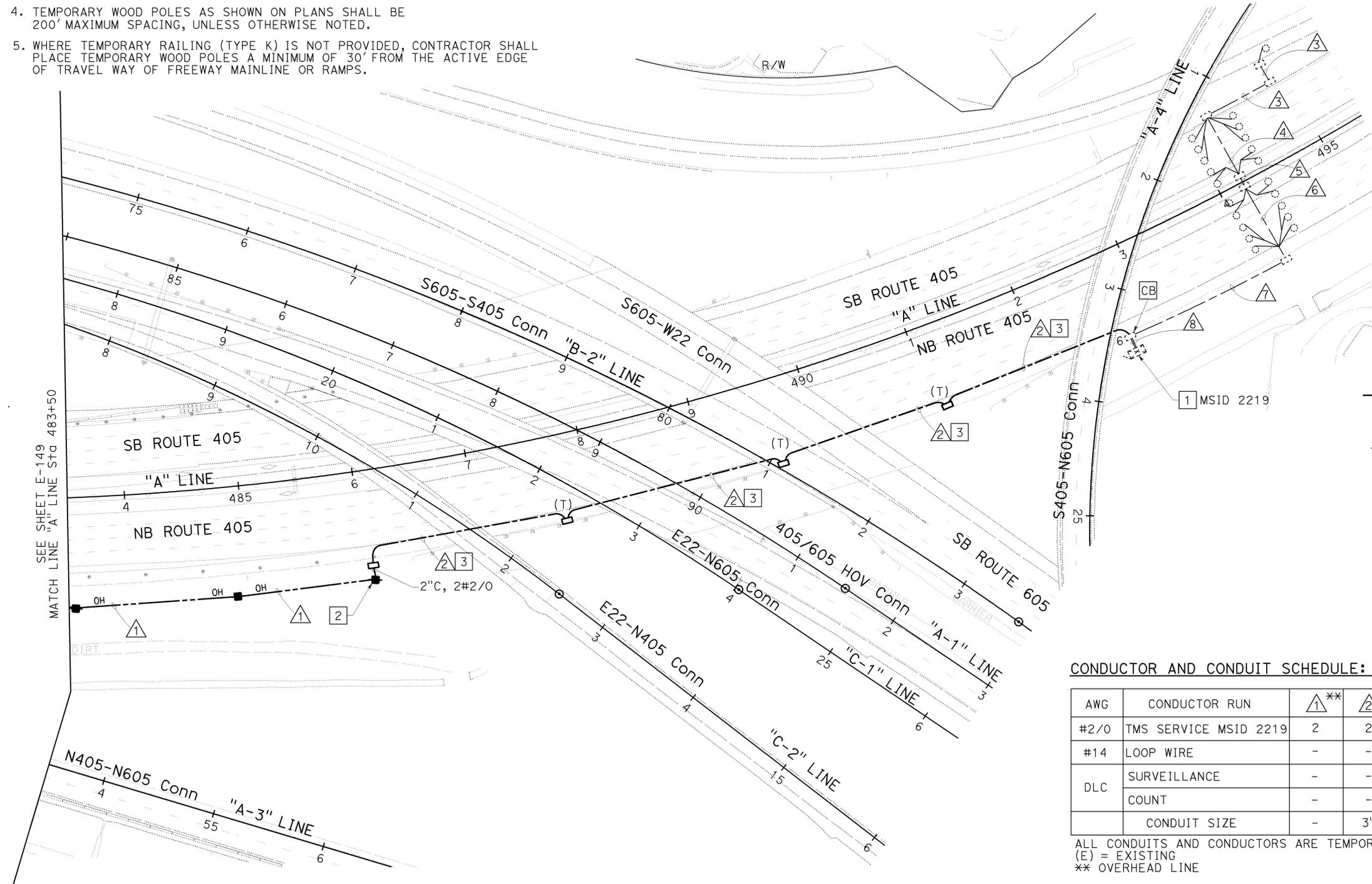


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1343	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09
 2-1-10 PLANS APPROVAL DATE
DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



LEGEND:(FOR THIS SHEET ONLY)
 ■ INSTALL 40' WOOD POLE, SEE SHEET E-115.
 --- PROPOSED OVERHEAD LINE

ABBREVIATION:(FOR FOR THIS SHEET ONLY)
 MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	1**	2	3	4	5	6	7	8
#2/0	TMS SERVICE MSID 2219	2	2	-	-	-	-	-	2
#14	LOOP WIRE	-	-	-	12(E)	-	8(E)	-	-
DLC	SURVEILLANCE	-	-	-	-	10(E)	10(E)	20(E)	20(E)
	COUNT	-	-	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)
	CONDUIT SIZE	-	3"	1 1/2"(E)	2"(E)	2"(E)	2"(E)	3"(E)	2-3"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** OVERHEAD LINE

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 5) (STAGE 1A)
 SCALE: 1" = 50'
E-157

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1344	1929

8/10/09
REGISTERED CIVIL ENGINEER DATE

2-1-10
PLANS APPROVAL DATE

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

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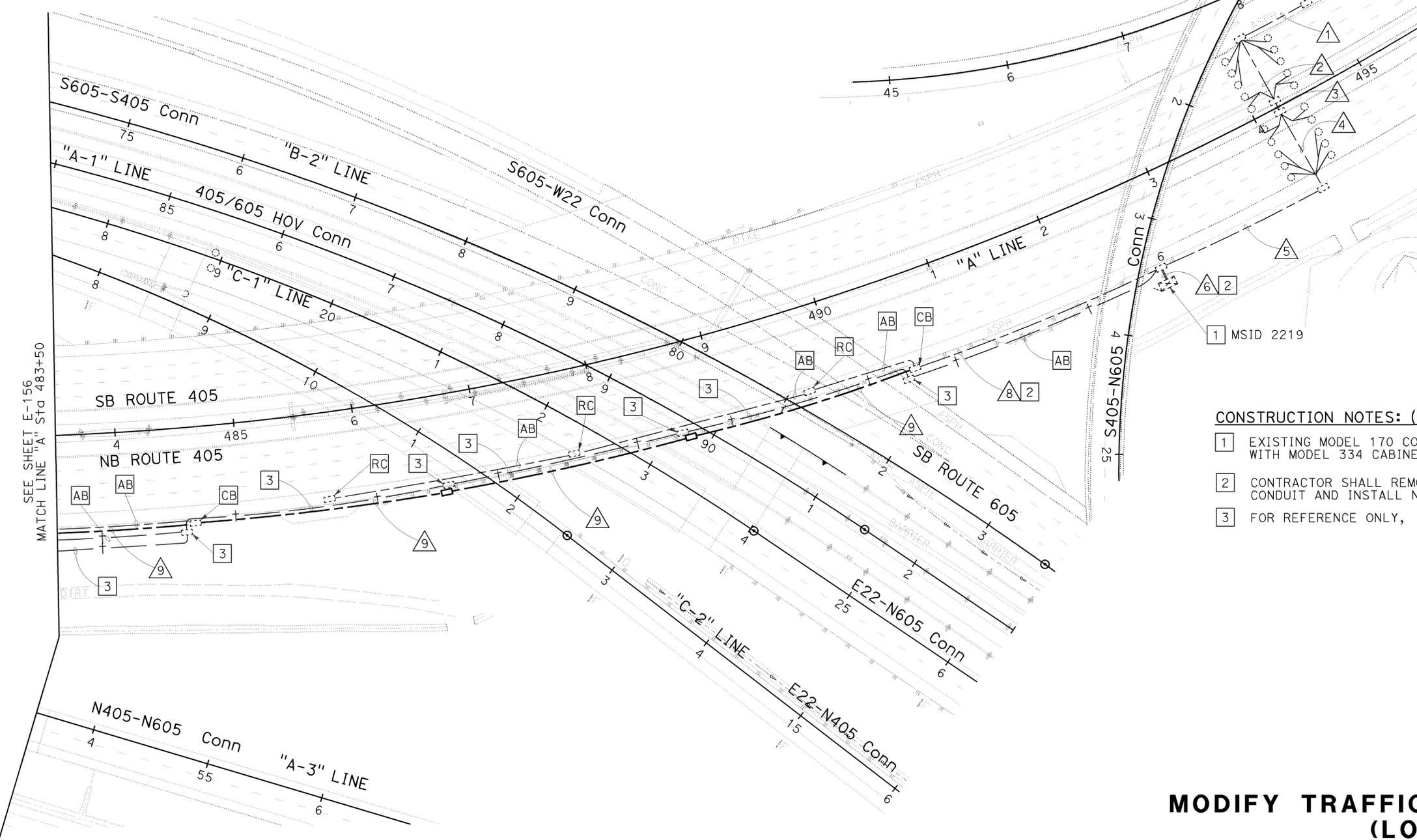
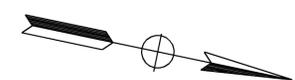
LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY
TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

CONDUIT AND CONDUCTOR SCHEDULE

AWG OR CABLE	CONDUCTOR RUN	△1	△2	△3	△4	△5	△6	△8	△9
#2/0	SERVICE TO CONTROLLER CABINET MSID 2219 (LOCATION 5)	-	-	-	-	-	2	2	2
#14	LOOP WIRES	-	12(E)	-	8(E)	-	-	-	-
DLC	SURVEILLANCE	-	-	10(E)	10(E)	20(E)	20(E)	-	-
	COUNT	1(E)	1(E)	1(E)	1(E)	1(E)	1(E)	-	-
	TOTAL	1(E)	11(E)	11(E)	11(E)	21(E)	21(E)	-	-
CONDUIT SIZE		1½"(E)	2"(E)	2"(E)	2"(E)	3"(E)	2-3"(E)	4"(E)	4"

ALL CONDUITS, CONDUCTORS AND DLC ARE NEW UNLESS OTHERWISE NOTED.
(E) = EXISTING



CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 2 CONTRACTOR SHALL REMOVE EXISTING POWER CONDUCTORS FROM EXISTING CONDUIT AND INSTALL NEW POWER CONDUCTORS AS SPECIFIED ON PLAN.
- 3 FOR REFERENCE ONLY, SEE SHEET E-192 FOR DETAILS.

**MODIFY TRAFFIC MONITORING STATION
(LOCATION 5)**

SCALE: 1" = 50'

E-158

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikes1
DGN FILE => c07163ua158.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Vicente Encarnacion - Charlotte Wu
Denwun Lin
Caltrans

LAST REVISION DATE PLOTTED => 09-FEB-2010
08-10-09 TIME PLOTTED => 09:15

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

1. INSTALL MVDS AND PHOTOVOLTAIC POWER SUPPLY PER SPECIFICATION ON TEMPORARY 100' WOOD POLE. SEE SHEETS E-131 TO E-134 FOR DETAIL.
2. EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET. INSTALL GSM BASED GPRS/EDGE MODEM PER SPECIFICATIONS.
3. INSTALL TYPE H RISER, SEE SHEET E-115.
4. INSTALL MVDS ZONE PER LOCATION 6 STAGE 1A.
5. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
6. TEMPORARY WOOD POLES AS SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
7. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	22.3/24.0, 3.0/R1.6	1345	1929

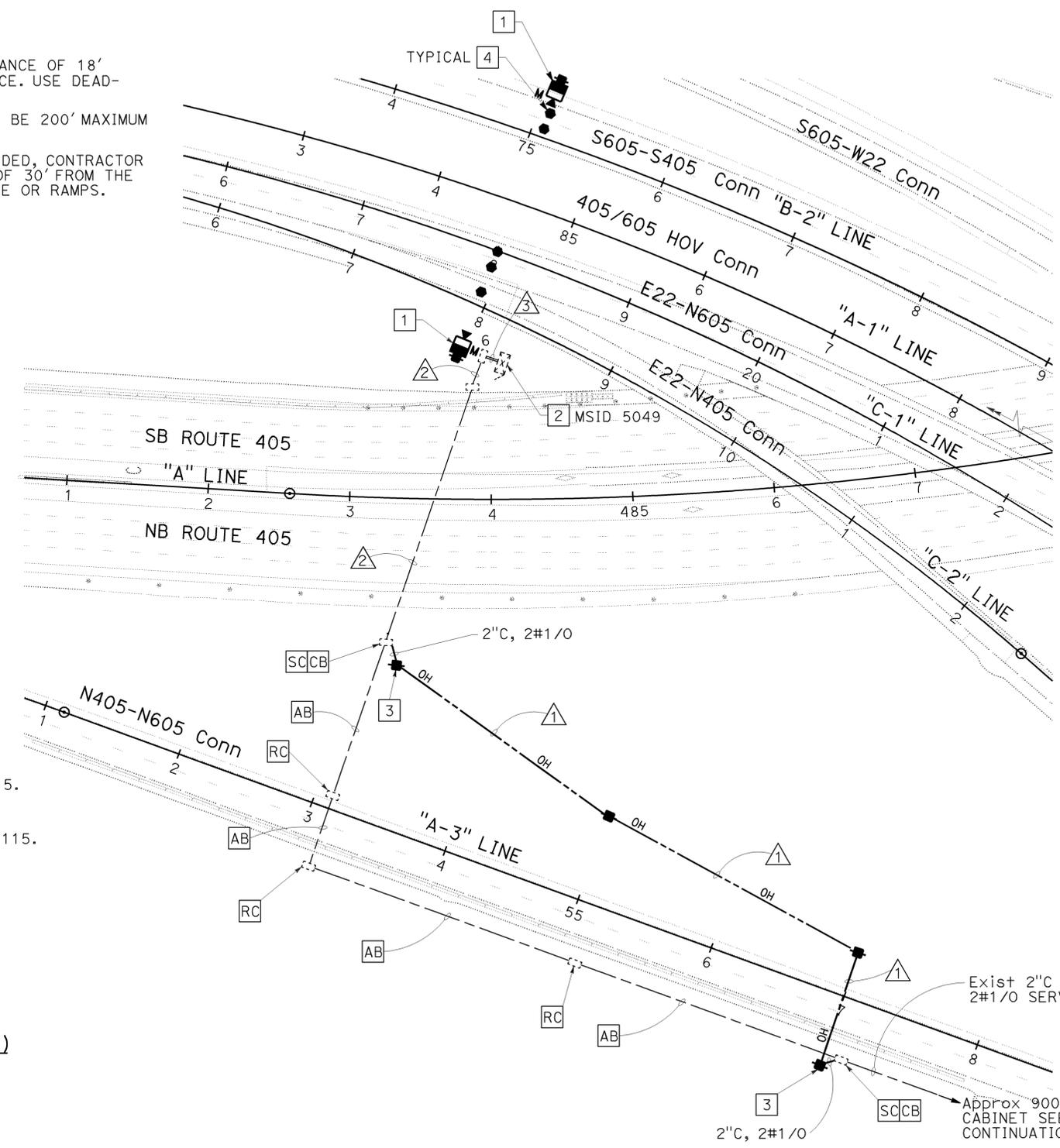
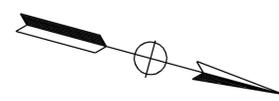
REGISTERED CIVIL ENGINEER DATE 8/10/09

PLANS APPROVAL DATE 2-1-10

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

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LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	1**	2	3
#1/0	TMS SERVICE MSID 5049	2	2(E)	2(E)
	CONDUIT SIZE	-	2"(E)	2-3"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E) = EXISTING
** OVERHEAD LINE

LEGEND: (FOR SHEETS E-159 TO E-161)

- PROPOSED MVDS
- INSTALL 40' WOOD POLE, SEE SHEET E-115.
- PROPOSED MVDS ZONE
- PROPOSED OVERHEAD LINE, SEE SHEET E-115.
- Exist MVDS
- Exist 40' WOOD POLE
- Exist MVDS ZONE
- Exist OVERHEAD LINE

ABBREVIATION: (FOR SHEETS E-159 TO E-161)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 6) (STAGE 1A)
SCALE: 1" = 50'

E-159

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikes1
DGN FILE => c07163ua159.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION: DATE PLOTTED => 09-FEB-2010 08-10-09 TIME PLOTTED => 09:15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1346	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

2-1-10
PLANS APPROVAL DATE

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LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

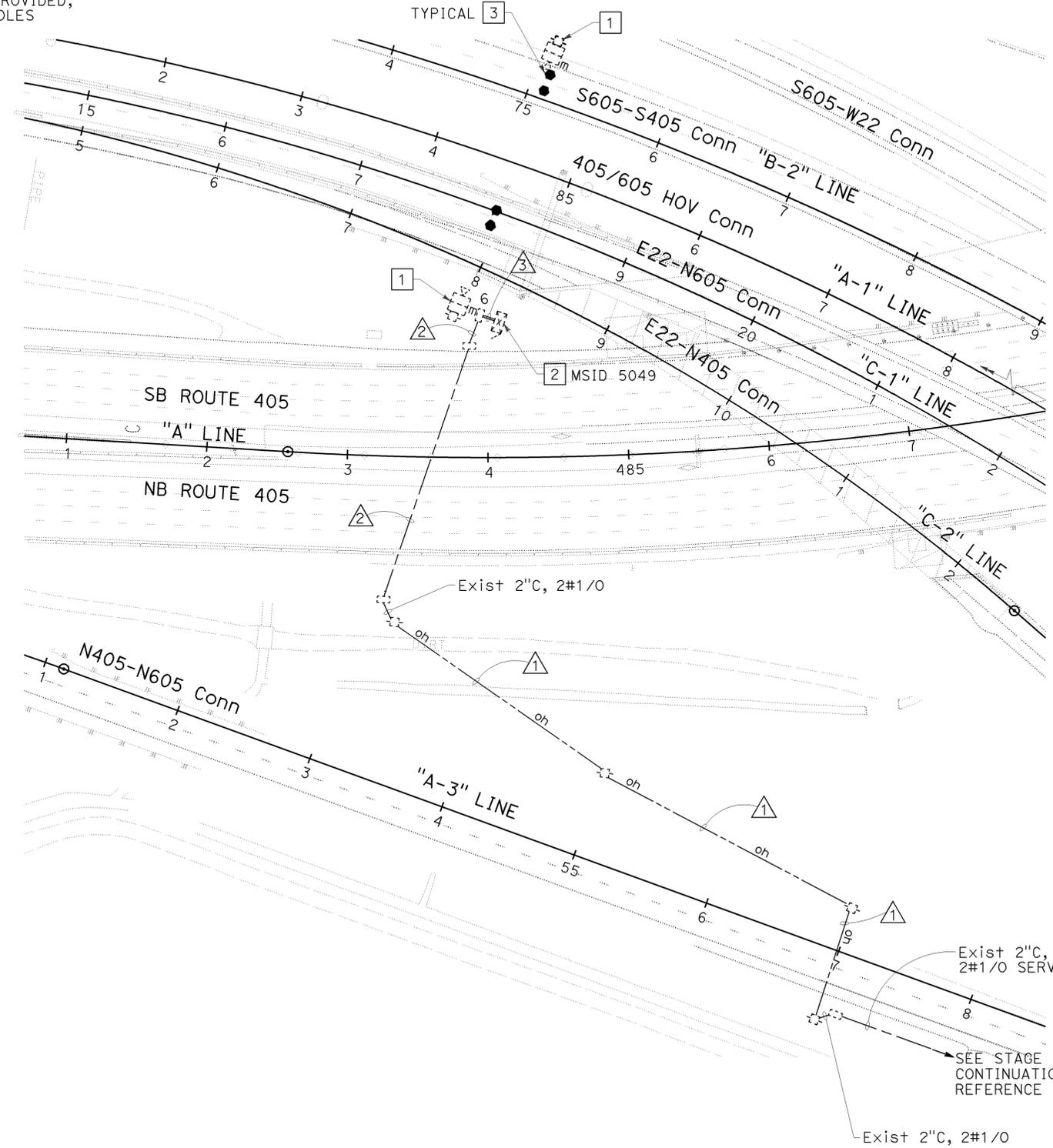
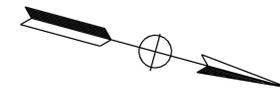
ORANGE COUNTY
TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 100' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
4. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
5. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	1**	2	3
#1/0	TMS SERVICE MSID 5049	2(E)	2(E)	2(E)
	CONDUIT SIZE	-	2"(E)	2-3"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E) = EXISTING
** OVERHEAD LINE

**TEMPORARY
TRAFFIC MONITORING STATION
(LOCATION 6)
(STAGE 2A)**
SCALE: 1" = 50'

E-160

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
DGN FILE => c07163ua160.dgn

CU 12235

EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN

CALCULATED/DESIGNED BY: [blank]

CHECKED BY: [blank]

VICENTE ENCARNACION - CHARLOTTE WU

TIMMY TO

REVISOR: HK

DATE REVISED: 8/10/09

BORDER LAST REVISED 8/1/2008

LAST REVISION: DATE PLOTTED => 09-FEB-2010
08-10-09 TIME PLOTTED => 09:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1347	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

2-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL
STATE OF CALIFORNIA

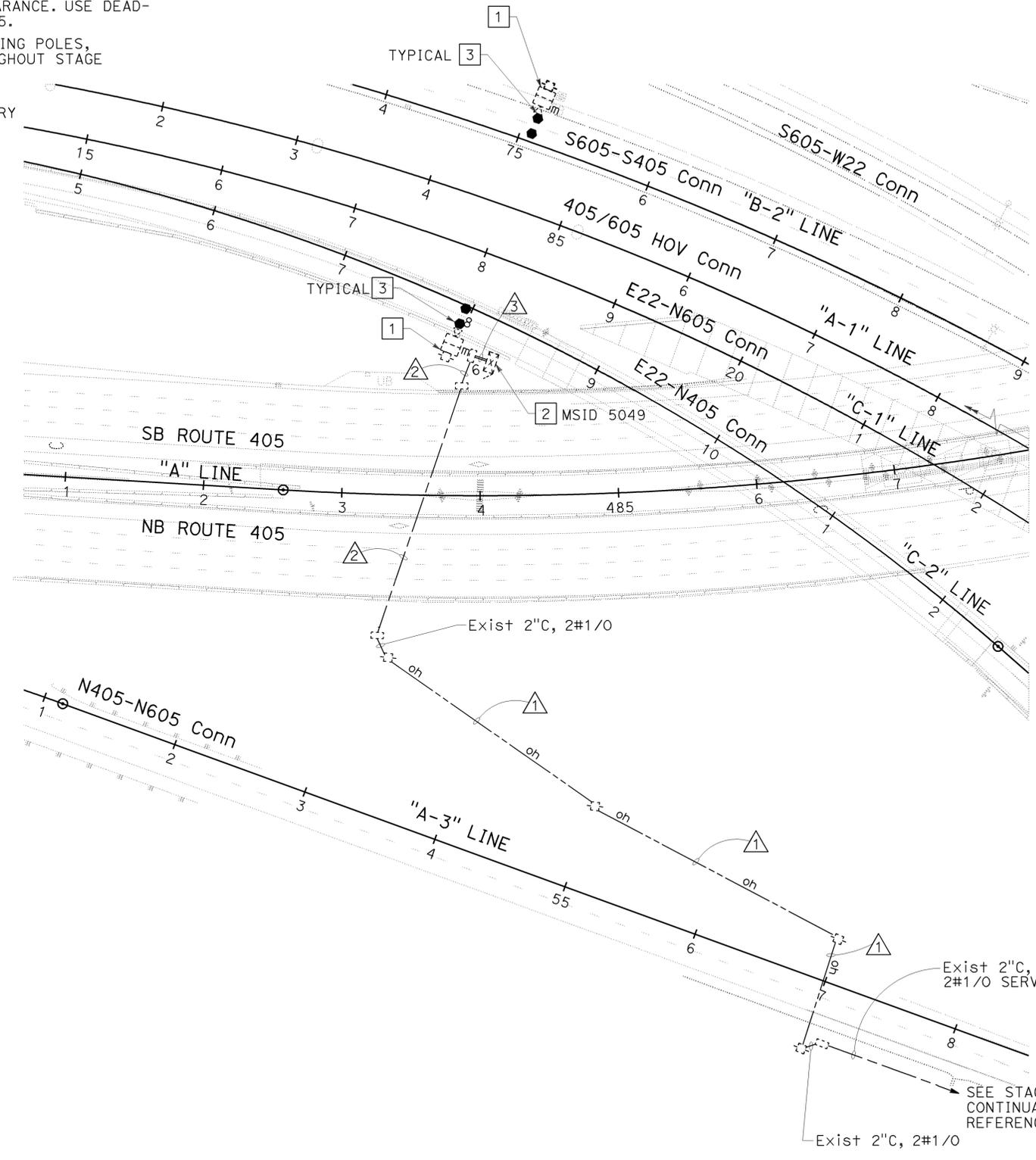
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LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 100' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
4. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM PAVEMENT SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED. SEE SHEET E-115.
5. PROTECT IN-PLACE ALL TEMPORARY AND EXISTING POLES, CONDUITS, PULLBOXES AND CONDUCTORS THROUGHOUT STAGE CONSTRUCTION, UNLESS OTHERWISE NOTED.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△1**	△2	△3
#1/0	TMS SERVICE MSID 5049	2(E)	2(E)	2(E)
	CONDUIT SIZE	-	2"(E)	2-3"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E) = EXISTING
** OVERHEAD LINE

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 6) (STAGE 3A)
SCALE: 1" = 50'

E-161

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
DGN FILE => c07163ua161.dgn

CU 12235

EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN

CALCULATED/DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU

CHECKED BY: TIMMY TO

REVISOR: HK

DATE REVISED: 8/10/09

BORDER LAST REVISED 8/1/2008

LAST REVISION: DATE PLOTTED => 09-FEB-2010 08-10-09 TIME PLOTTED => 09:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1348	1929

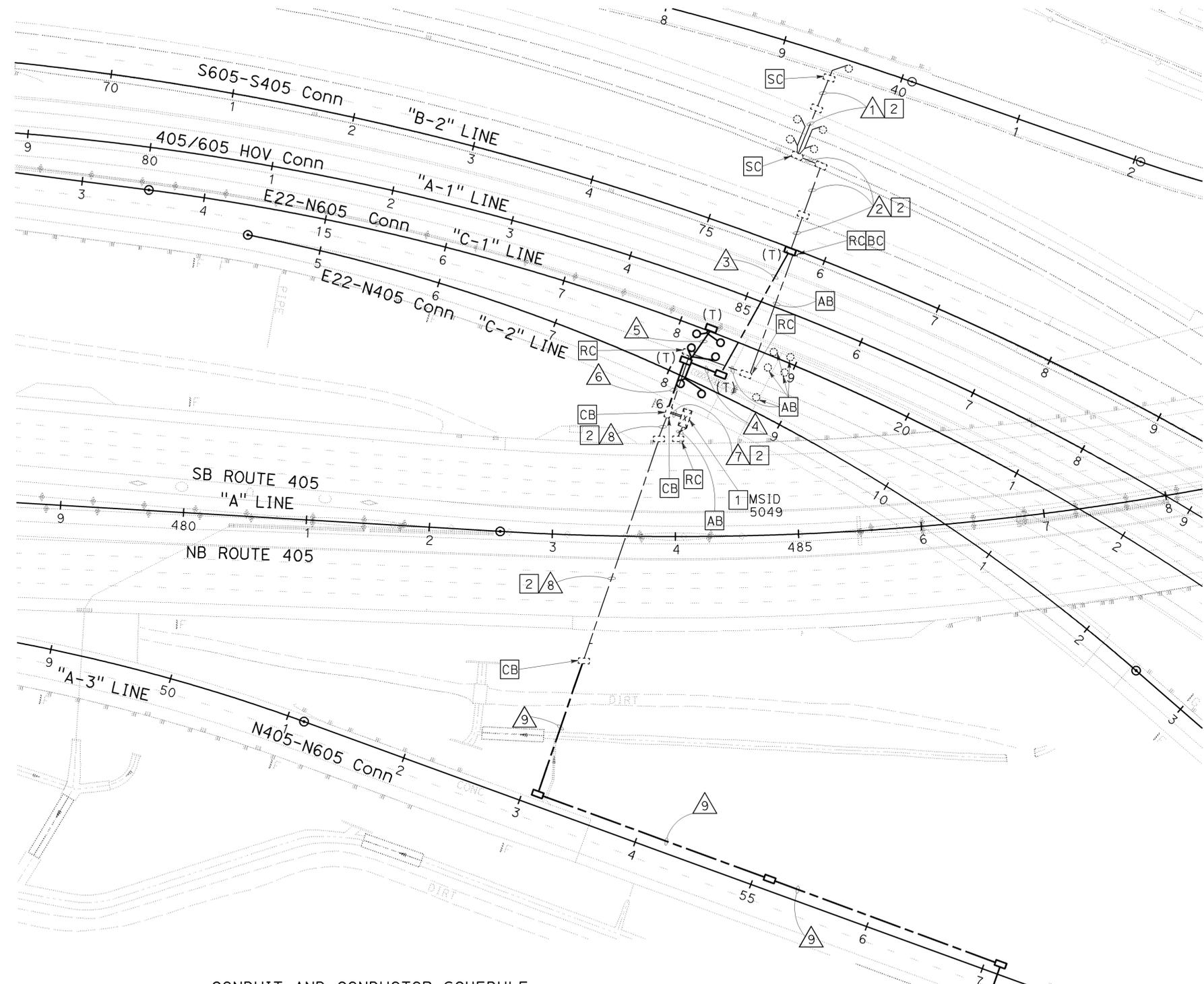
REGISTERED CIVIL ENGINEER DATE 8/10/09
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

2-1-10
 PLANS APPROVAL DATE

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



- CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)**
- EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
 - CONTRACTOR SHALL REMOVE EXISTING CONDUCTORS OR DLC FROM THE EXISTING CONDUIT AND INSTALL NEW DLC AS SPECIFIED ON PLAN.
 - ALL DOUBLE DETECTOR LOOPS SHALL BE TYPE E, SPACING 20' FROM LEADING EDGE TO LEADING EDGE AND CENTERED IN LANE.

CONDUIT AND CONDUCTOR SCHEDULE

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9
#1/0	SERVICE TO CONTROLLER CABINET MSID 5049 (LOCATION 6)	-	-	-	-	-	-	2	2	2
#14	LOOP WIRES	-	-	-	-	4	-	-	-	-
DLC	SURVEILLANCE	-	4	4	4	-	8	8	-	-
	COUNT	1	1	1	1	-	3	3	-	-
CONDUIT SIZE		2"(E)	2"(E)	2"	2"	2"	2"(E)	2-3"(E)	2"(E)	2"

ALL CONDUITS, CONDUCTORS AND DLC ARE NEW UNLESS OTHERWISE NOTED.
 (E) = EXISTING

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



**MODIFY TRAFFIC MONITORING STATION
 (LOCATION 6)**

SCALE: 1" = 50'

E-162

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT: DENWUN LIN
 SUPERVISOR: DENWUN LIN
 DESIGNED BY: DENWUN LIN
 CHECKED BY: DENWUN LIN
 ENCARNACION: CHARLOTTE WU
 TO: TIMMY TO
 REVISIONS: 8/10/09
 BY: HK

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

ABBREVIATION: (FOR SHEETS E-163 TO E-166)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

LEGEND: (FOR SHEETS E-163 TO E-166)

- PROPOSED MVDS
- INSTALL 40' WOOD POLE, SEE SHEET E-115.
- PROPOSED MVDS ZONE
- Exist MVDS
- Exist 40' WOOD POLE
- Exist MVDS ZONE



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	22.3/24.0, 3.0/R1.6	1349	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

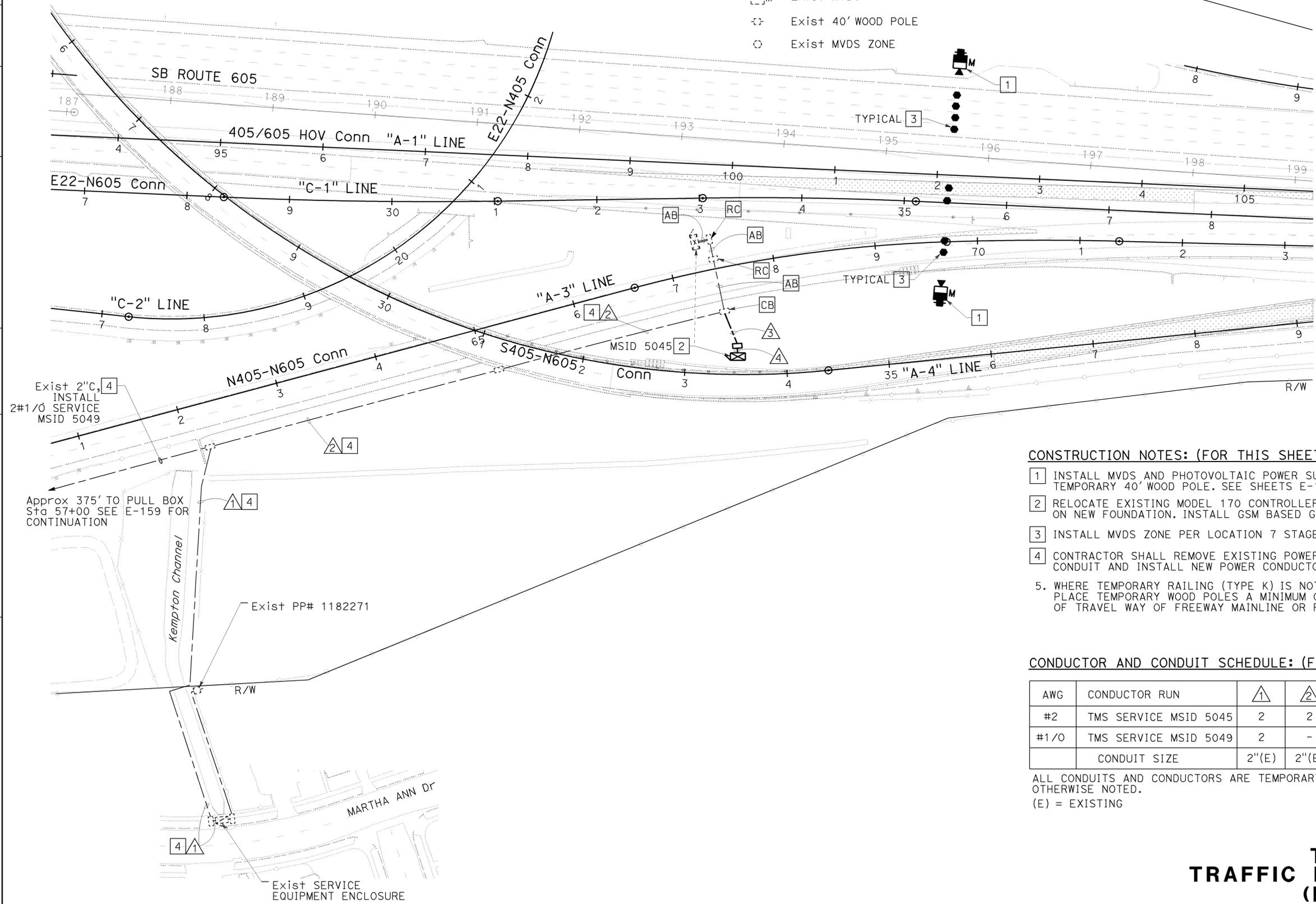
2-1-10 PLANS APPROVAL DATE

DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 INSTALL MVDS AND PHOTOVOLTAIC POWER SUPPLY PER SPECIFICATION ON TEMPORARY 40' WOOD POLE. SEE SHEETS E-131 TO E-134 FOR DETAIL.
- 2 RELOCATE EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET ON NEW FOUNDATION. INSTALL GSM BASED GPRS/EDGE MODEM PER SPECIFICATIONS.
- 3 INSTALL MVDS ZONE PER LOCATION 7 STAGE 1A.
- 4 CONTRACTOR SHALL REMOVE EXISTING POWER CONDUCTORS FROM EXISTING CONDUIT AND INSTALL NEW POWER CONDUCTORS PER SCHEDULE.
5. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	①	②	③	④
#2	TMS SERVICE MSID 5045	2	2	2	2
#1/0	TMS SERVICE MSID 5049	2	-	-	-
	CONDUIT SIZE	2"(E)	2"(E)	2"	2"

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E) = EXISTING

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 7) (STAGE 1A)
SCALE: 1" = 50'

E-163

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Vicente Encarnacion Charlotte Wu
Denwun Lin

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
DGN FILE => c07163ua163.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

08-10-09 09:49 AM

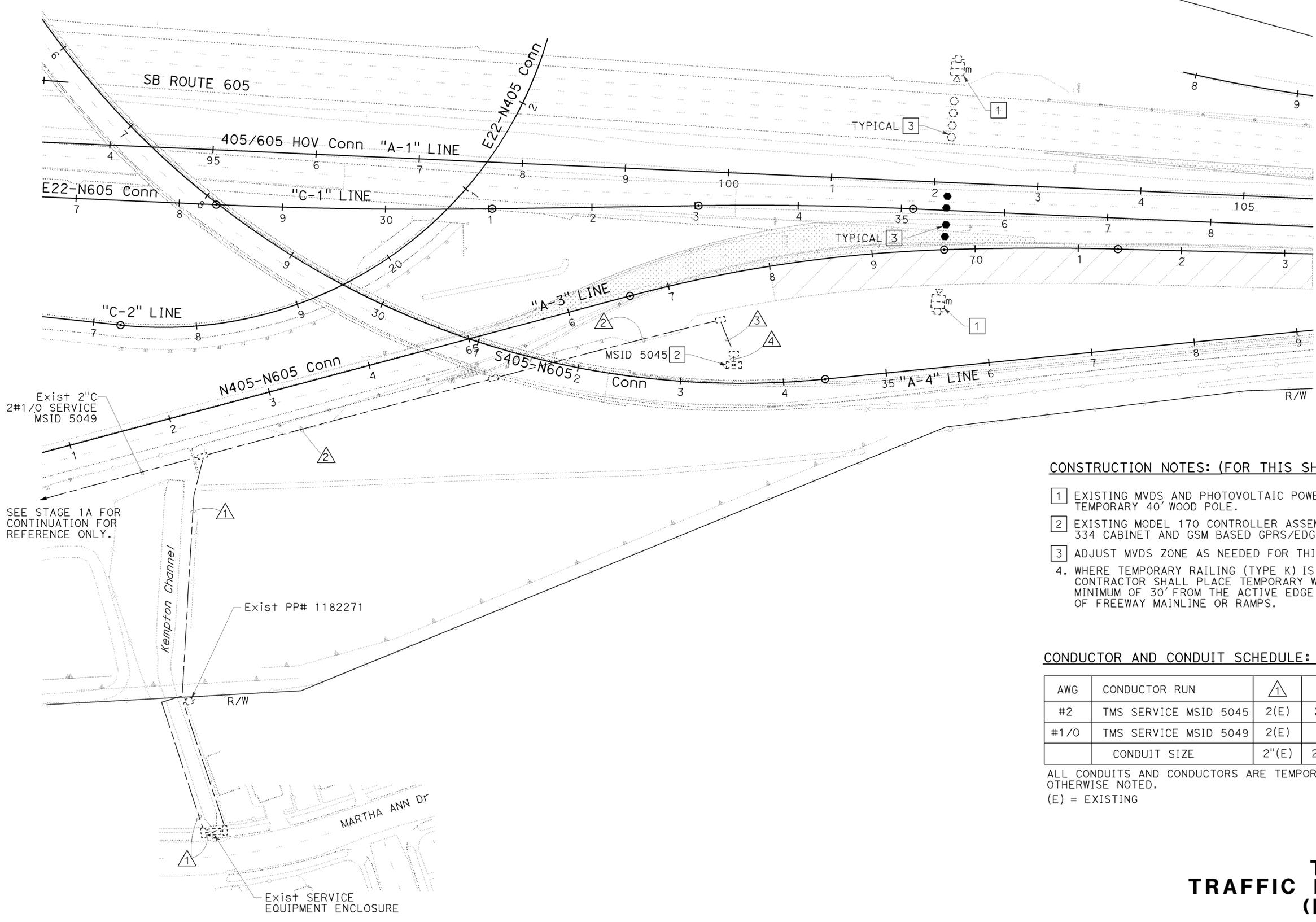
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3,0/R1.6	1350	1929

REGISTERED CIVIL ENGINEER **Denwun Lin** DATE 8/10/09
 PLANS APPROVAL DATE 2-1-10
 No. C46719 Exp. 6/30/11
 CIVIL ENGINEER STATE OF CALIFORNIA

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
4. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	①	②	③	④
#2	TMS SERVICE MSID 5045	2(E)	2(E)	2(E)	2(E)
#1/0	TMS SERVICE MSID 5049	2(E)	-	-	-
	CONDUIT SIZE	2"(E)	2"(E)	2"(E)	2"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 7) (STAGE 1B)
 SCALE: 1" = 50'
E-164

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
 DGN FILE => c07163ua164.dgn

CU 12235

EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VicENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 8/10/09
 8/10/09
 8/10/09

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1351	1929

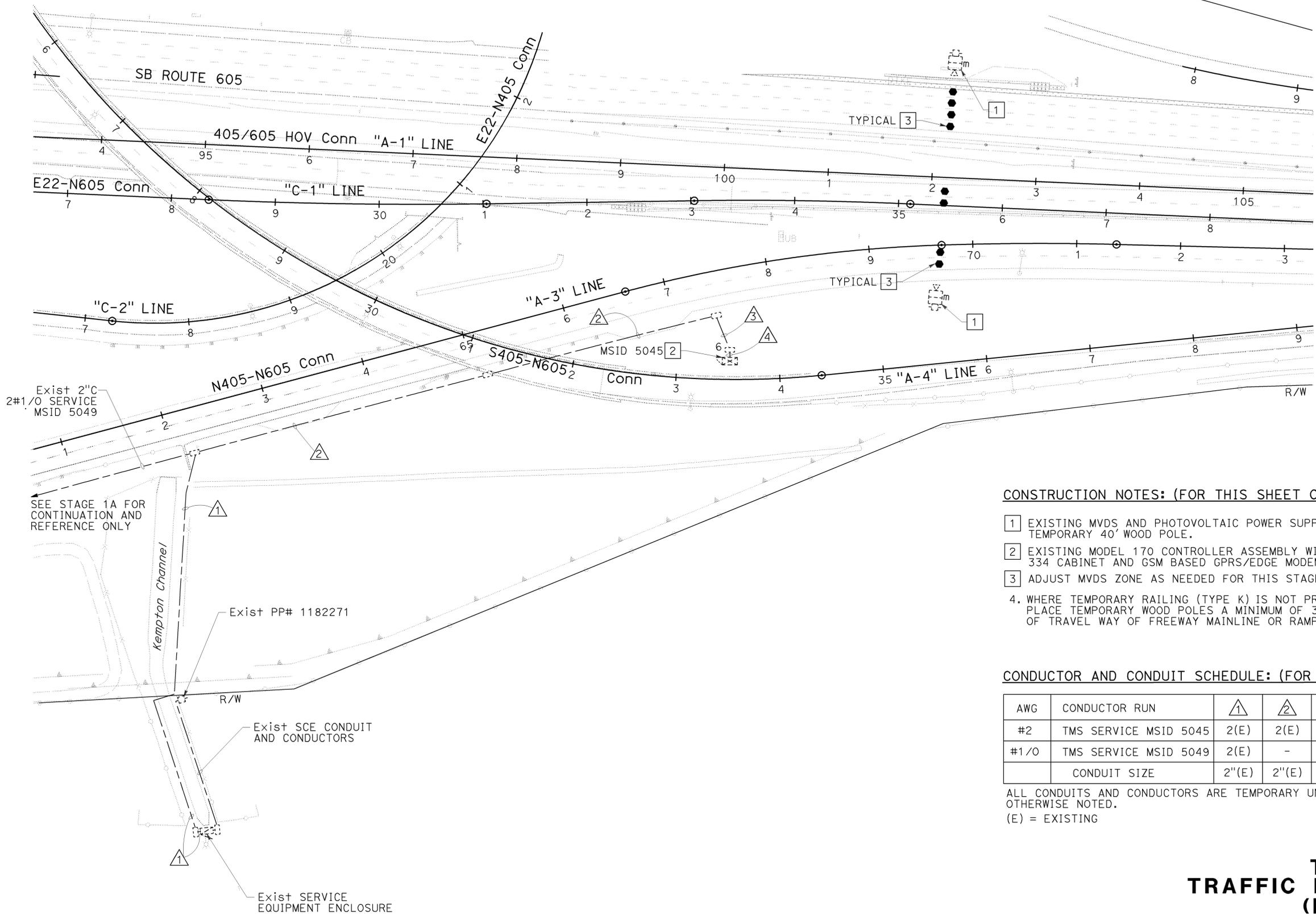
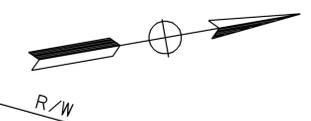
REGISTERED CIVIL ENGINEER **Denwun Lin** DATE 8/10/09
 No. C46719 Exp. 6/30/11
 CIVIL ENGINEER STATE OF CALIFORNIA

2-1-10
 PLANS APPROVAL DATE

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LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780	ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584
--	--

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
4. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	▲	▲	▲	▲
#2	TMS SERVICE MSID 5045	2(E)	2(E)	2(E)	2(E)
#1/0	TMS SERVICE MSID 5049	2(E)	-	-	-
	CONDUIT SIZE	2"(E)	2"(E)	2"(E)	2"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING

**TEMPORARY
 TRAFFIC MONITORING STATION
 (LOCATION 7)
 (STAGE 2A)
 SCALE: 1"=50'**

E-165

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



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 DGN FILE => c07163ua165.dgn

CU 12235

EA 071631

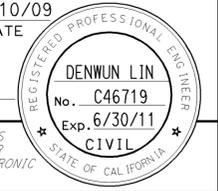
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VicENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 8/10/09
 8/10/09
 8/1/2008



LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:49

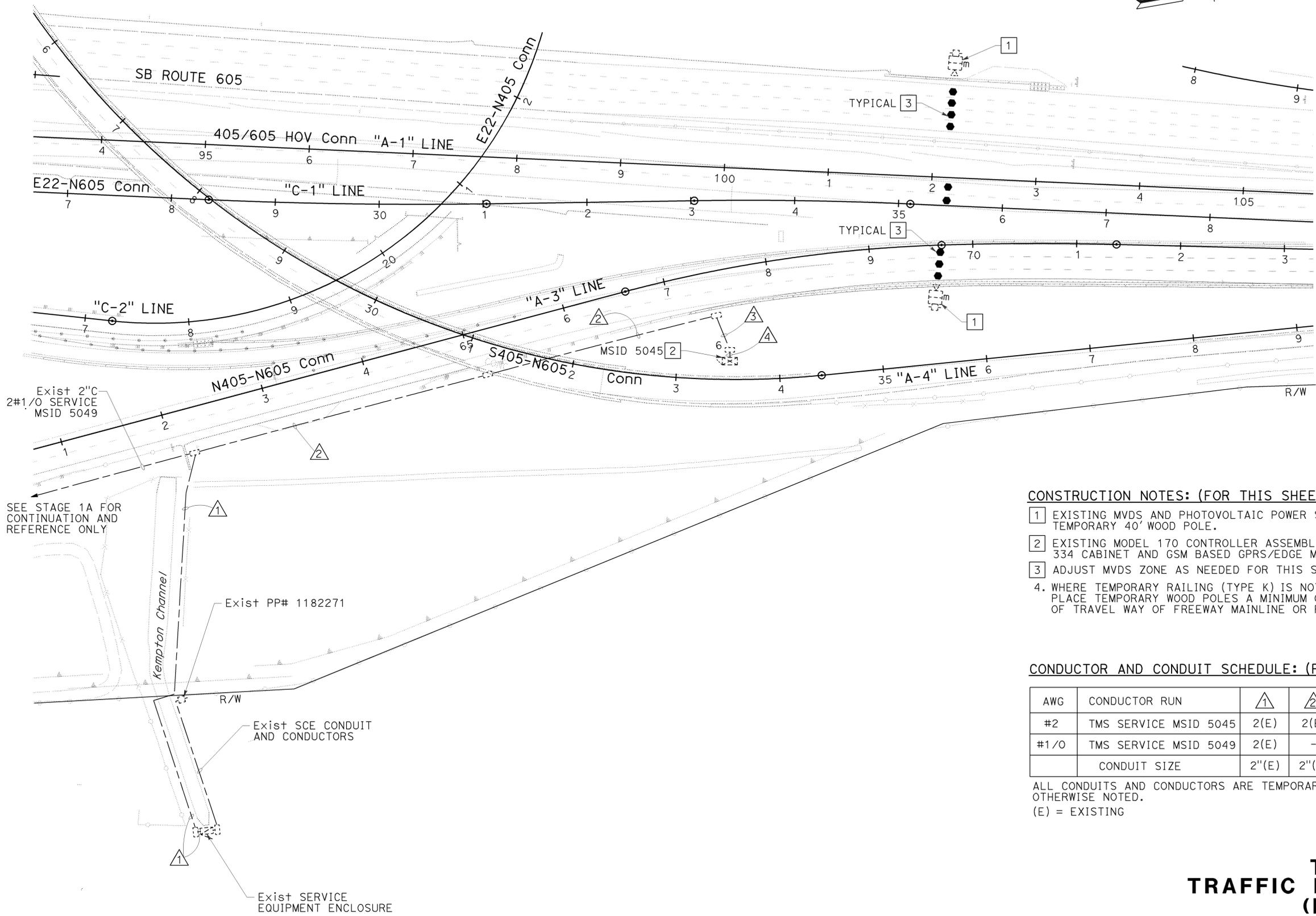
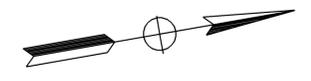
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0, 3.0/R1.6	1352	1929

 8/10/09
 REGISTERED CIVIL ENGINEER DATE
 2-1-10
 PLANS APPROVAL DATE
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LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 ADJUST MVDS ZONE AS NEEDED FOR THIS STAGE.
4. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△1	△2	△3	△4
#2	TMS SERVICE MSID 5045	2(E)	2(E)	2(E)	2(E)
#1/0	TMS SERVICE MSID 5049	2(E)	-	-	-
	CONDUIT SIZE	2"(E)	2"(E)	2"(E)	2"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 7) (STAGE 3A)
 SCALE: 1" = 50'
E-166

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
 DGN FILE => c07163ua166.dgn

CU 12235

EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Vicente Encarnacion - Charlotte Wu
 Denwun Lin
 Et Caltrans

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 | TIME PLOTTED => 09:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0, 3.0/R1.6	1353	1929

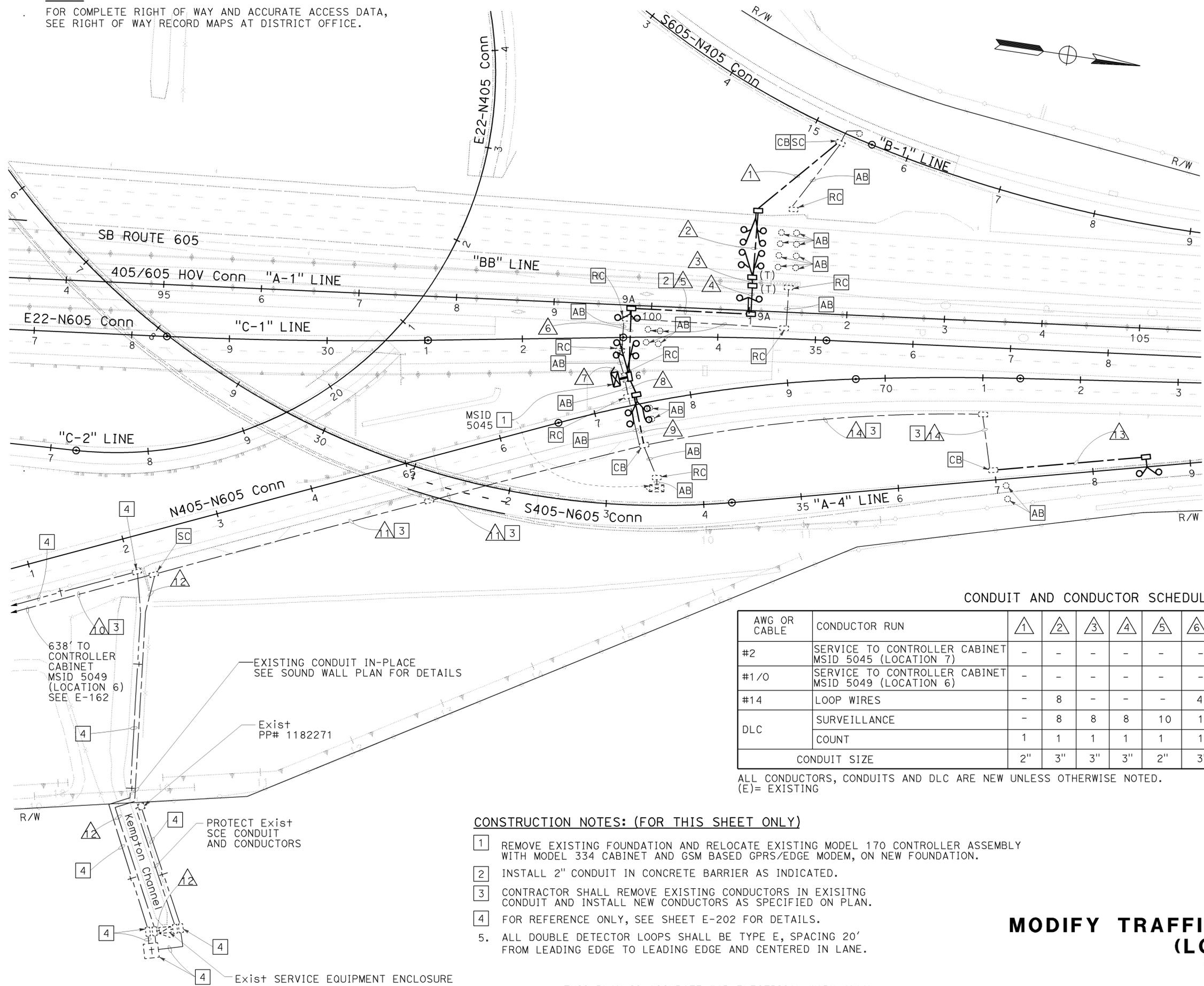
REGISTERED CIVIL ENGINEER
 8/10/09 DATE
 2-1-10 PLANS APPROVAL DATE
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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

LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CONDUIT AND CONDUCTOR SCHEDULE

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9	10	11	12	13	14
#2	SERVICE TO CONTROLLER CABINET MSID 5045 (LOCATION 7)	-	-	-	-	-	-	2	2	2	-	2	2(E)	-	-
#1/0	SERVICE TO CONTROLLER CABINET MSID 5049 (LOCATION 6)	-	-	-	-	-	-	-	-	-	2	-	2(E)	-	-
#14	LOOP WIRES	-	8	-	-	-	4	-	-	-	-	-	-	-	-
DLC	SURVEILLANCE	-	8	8	8	10	10	20	4	-	-	-	-	-	-
	COUNT	1	1	1	1	1	1	3	2	2	-	-	-	2	2
CONDUIT SIZE		2"	3"	3"	3"	2"	3"	2-3"(E)	2"	2"	2"(E)	2"(E)	2"(E)	2"	2"(E)

ALL CONDUCTORS, CONDUITS AND DLC ARE NEW UNLESS OTHERWISE NOTED.
 (E)= EXISTING

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- REMOVE EXISTING FOUNDATION AND RELOCATE EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM, ON NEW FOUNDATION.
- INSTALL 2" CONDUIT IN CONCRETE BARRIER AS INDICATED.
- CONTRACTOR SHALL REMOVE EXISTING CONDUCTORS IN EXISTING CONDUIT AND INSTALL NEW CONDUCTORS AS SPECIFIED ON PLAN.
- FOR REFERENCE ONLY, SEE SHEET E-202 FOR DETAILS.
- ALL DOUBLE DETECTOR LOOPS SHALL BE TYPE E, SPACING 20' FROM LEADING EDGE TO LEADING EDGE AND CENTERED IN LANE.

MODIFY TRAFFIC MONITORING STATION (LOCATION 7)

SCALE: 1" = 50'

E-167

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VICENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 8/10/09
 8/10/09

LAST REVISION DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:49

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 INSTALL MVDS AND PHOTOVOLTAIC POWER SUPPLY PER SPECIFICATION ON TEMPORARY 40' WOOD POLE. SEE SHEETS E-131 TO E-134 FOR DETAIL.
 - 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET. INSTALL GSM BASED GPRS/EDGE MODEM PER SPECIFICATIONS.
 - 3 EXISTING TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
 - 4 INSTALL MVDS ZONE PER LOCATION 8 STAGE 1A.
5. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△1	△2
#8	TMS SERVICE MSID 5044	2	2
	CONDUIT SIZE	2"(E)	2-3"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E) = EXISTING

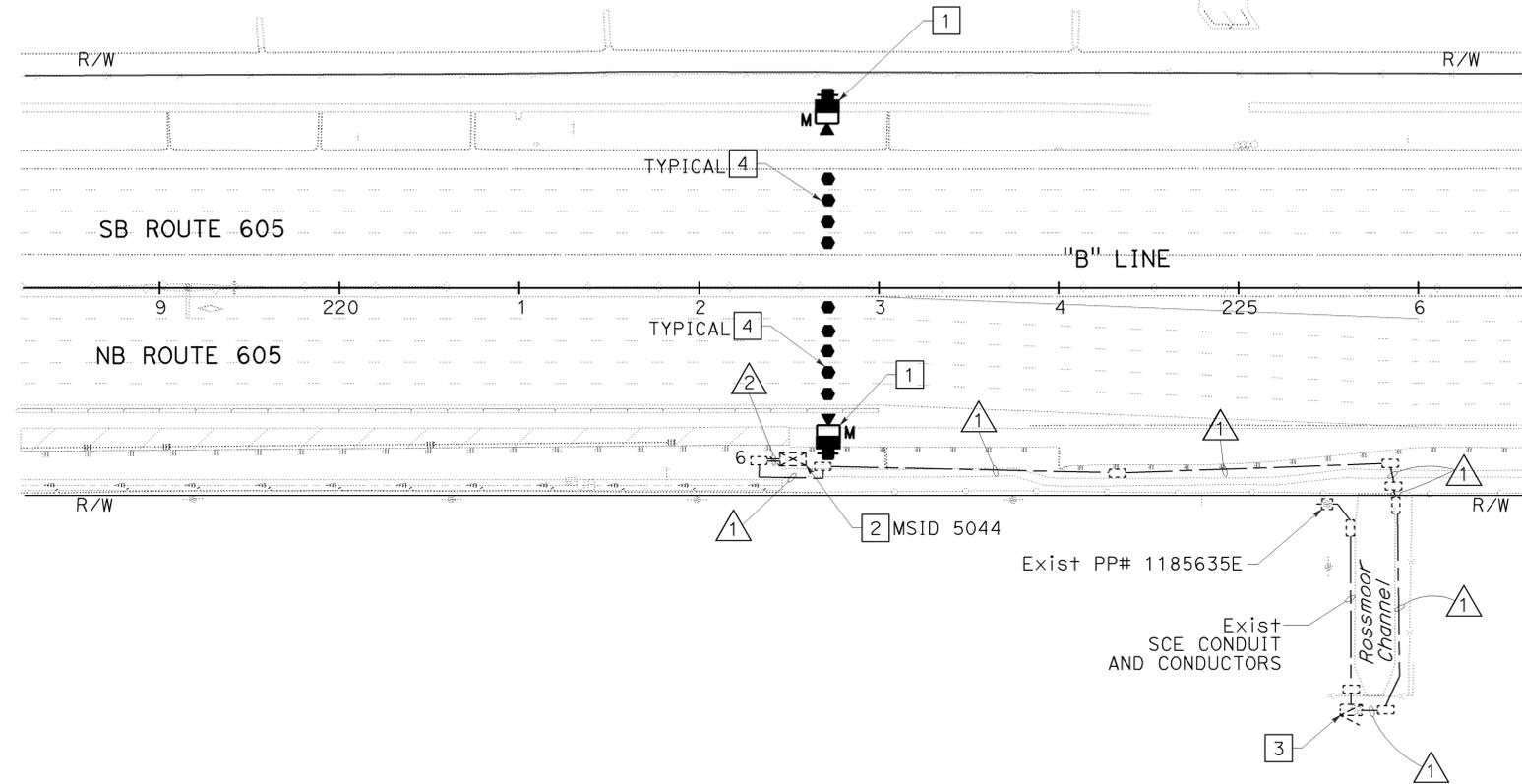


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1354	1929


 REGISTERED CIVIL ENGINEER DATE 8/10/09
 2-1-10
 PLANS APPROVAL DATE
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



LEGEND: (FOR SHEETS E-168 TO E-171)

-  M PROPOSED MVDS
-  INSTALL 40' WOOD POLE, SEE SHEET E-115
-  PROPOSED MVDS ZONE
-  Exist MVDS
-  Exist 40' WOOD POLE
-  Exist MVDS ZONE

ABBREVIATION: (FOR SHEETS E-168 TO E-171)

MVDS = MICROWAVE VEHICLE DETECTION SYSTEM

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 8) (STAGE 1A)
 SCALE: 1" = 50'
E-168

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
DGN FILE => c07163ua168.dgn

CU 12235 EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VicENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 8/10/09
 8/10/09

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: [blank]
 CHECKED BY: [blank]
 VICENTE ENCARNACION CHARLOTTE WU
 TIMMY TO
 REVISOR: HK
 DATE: 8/10/09

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 EXISTING TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- 4 ADJUST DETECTION ZONE AS NEEDED FOR THIS STAGE.
- 5 EXISTING MVDS ZONE TO REMAIN UNLESS OTHERWISE NOTED.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

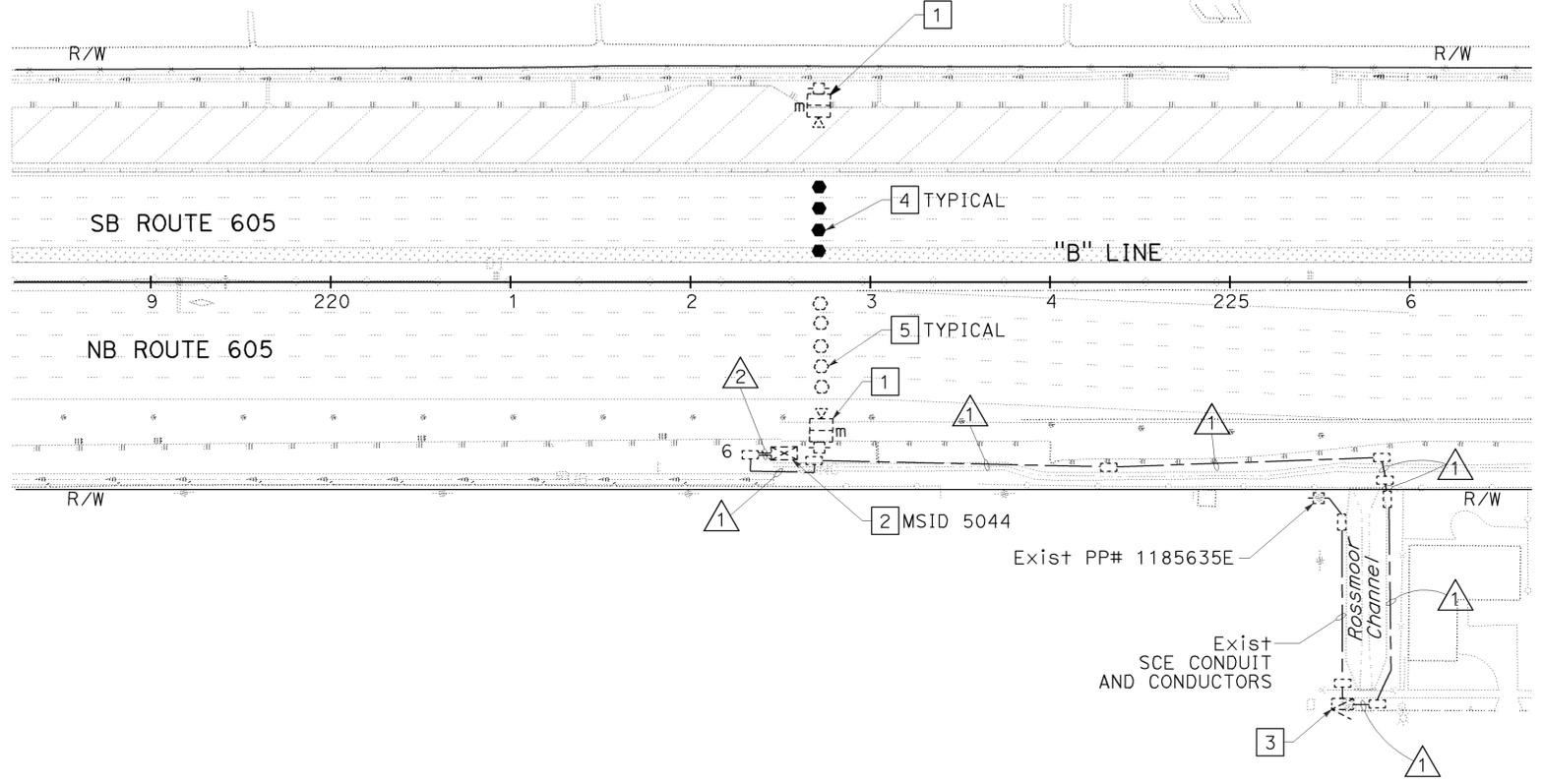
NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	1	2
#8	TMS SERVICE MSID 5044	2(E)	2(E)
	CONDUIT SIZE	2"(E)	2-3"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1355	1929

REGISTERED CIVIL ENGINEER: DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 8) (STAGE 1B)
 SCALE: 1" = 50'
E-169

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 EXISTING TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- 4 ADJUST DETECTION ZONE AS NEEDED FOR THIS STAGE.
- 5 EXISTING MVDS ZONE TO REMAIN UNLESS OTHERWISE NOTED.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	△1	△2
#8	TMS SERVICE MSID 5044	2(E)	2(E)
	CONDUIT SIZE	2"(E)	2-3"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E) = EXISTING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0, 3.0/R1.6	1356	1929

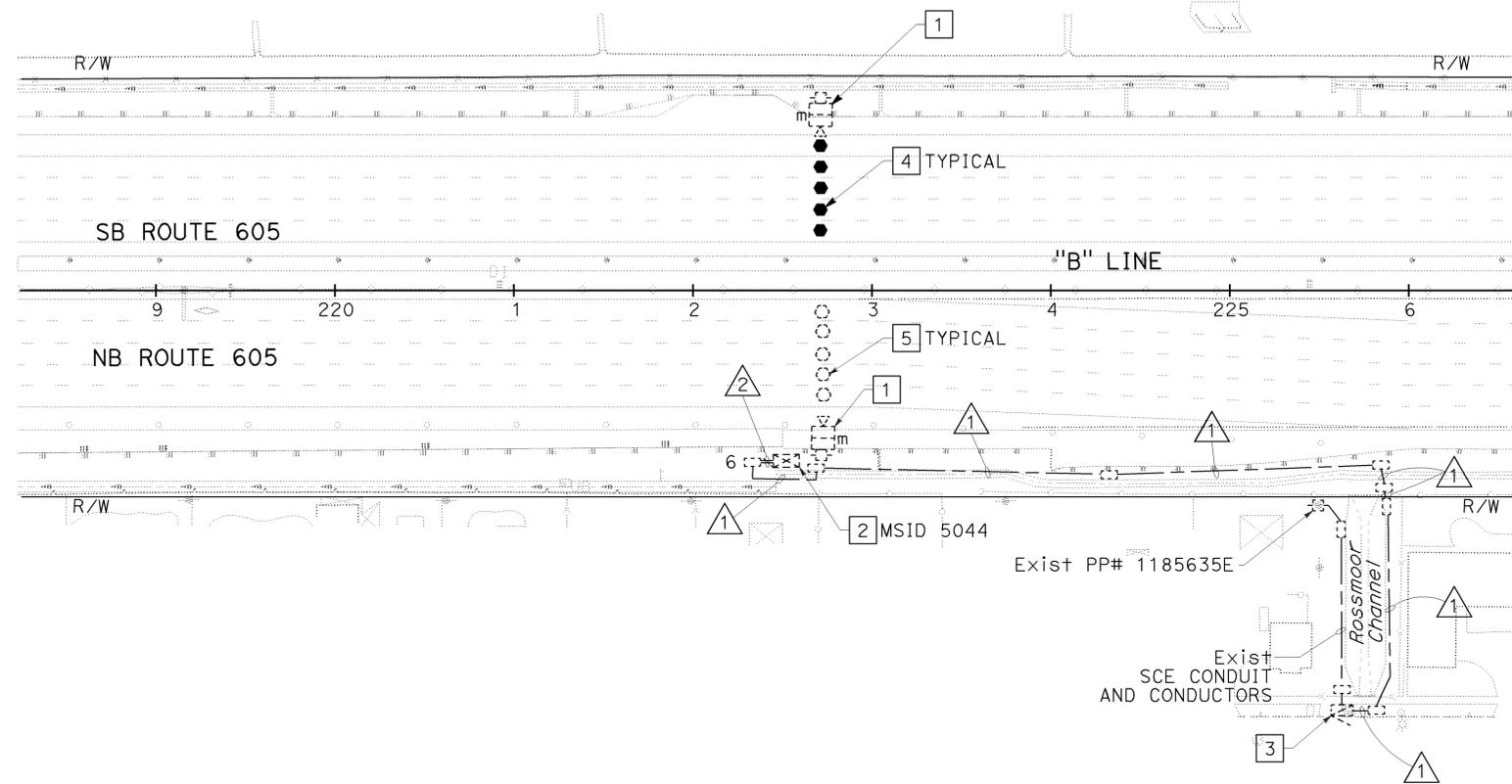
REGISTERED CIVIL ENGINEER DATE 8/10/09

2-1-10
PLANS APPROVAL DATE

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



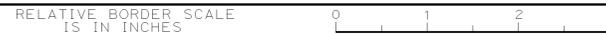
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN
CALCULATED/DESIGNED BY: [blank]
CHECKED BY: [blank]
VICENTE ENCARNACION CHARLOTTE WU
TIMMY TO

REVISOR: HK
DATE REVISED: 8/10/09

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 8) (STAGE 2A)
SCALE: 1" = 50'
E-170

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
DGN FILE => c07163ua170.dgn

CU 12235 EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 09-FEB-2010
08-10-09 | TIME PLOTTED => 09:50

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING MVDS AND PHOTOVOLTAIC POWER SUPPLY ON TEMPORARY 40' WOOD POLE.
- 2 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM.
- 3 EXISTING TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- 4 ADJUST DETECTION ZONE AS NEEDED FOR THIS STAGE.
- 5 EXISTING MVDS ZONE TO REMAIN UNLESS OTHERWISE NOTED.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVEL WAY OF FREEWAY MAINLINE OR RAMPS.

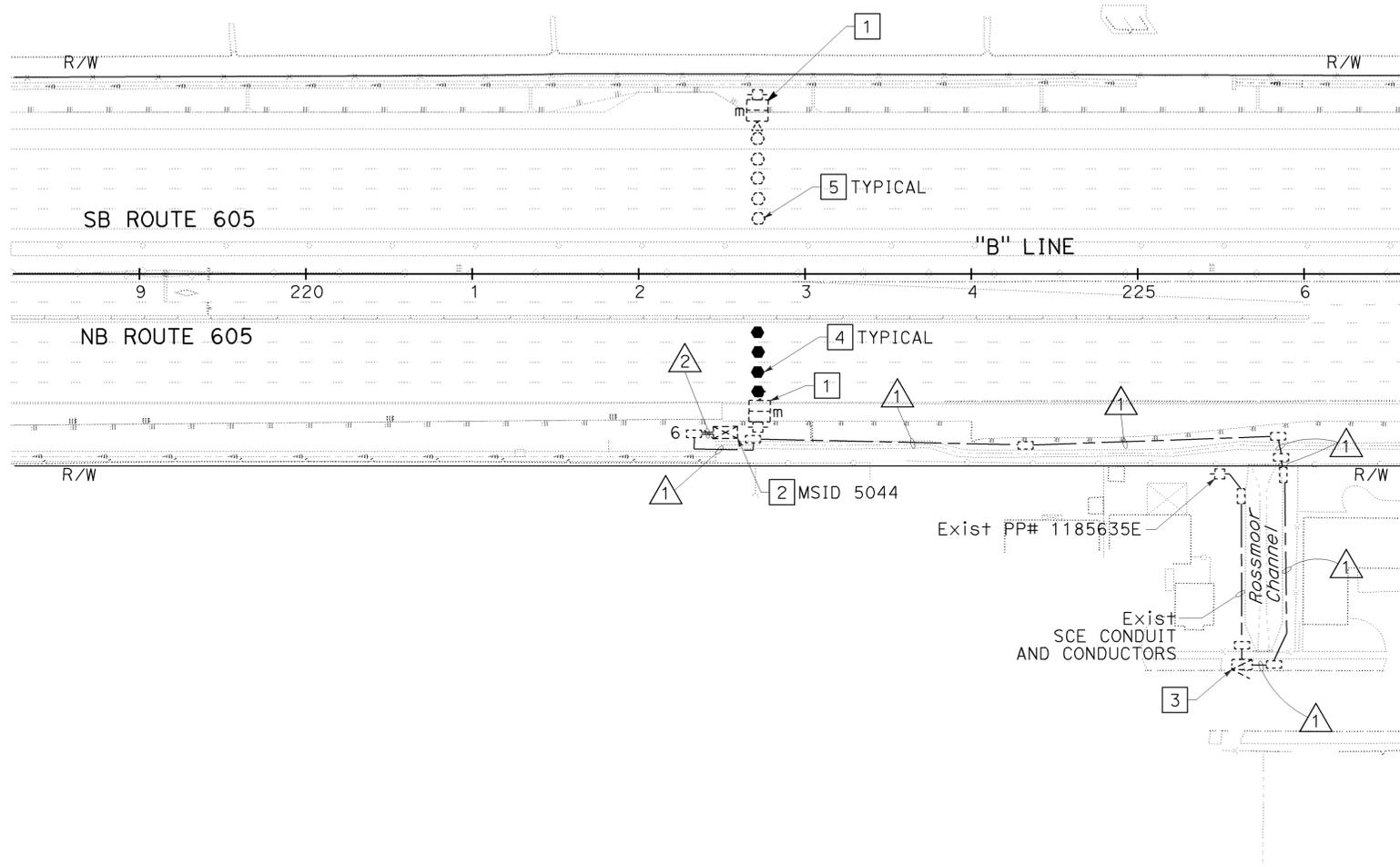
NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONDUCTOR AND CONDUIT SCHEDULE: (FOR THIS SHEET ONLY)

AWG	CONDUCTOR RUN	①	②
#8	TMS SERVICE MSID 5044	2(E)	2(E)
	CONDUIT SIZE	2"(E)	2-3"(E)

ALL CONDUITS AND CONDUCTORS ARE TEMPORARY UNLESS OTHERWISE NOTED.
(E) = EXISTING



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1357	1929

 8/10/09
 REGISTERED CIVIL ENGINEER DATE

2-1-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780	ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584
--	---

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: [blank] CHECKED BY: [blank]
 VICENTE ENCARNACION CHARLOTTE WU
 TIMMY TO
 REVISED BY: HK DATE REVISED: 8/10/09

TEMPORARY TRAFFIC MONITORING STATION (LOCATION 8) (STAGE 3A)
 SCALE: 1" = 50'

E-171

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
DGN FILE => c07163ua171.dgn

CU 12235 EA 071631

BORDER LAST REVISED 8/1/2008

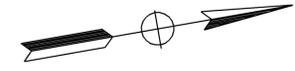
LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 | TIME PLOTTED => 09:50

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: [] CHECKED BY: []
 VICENTE ENCARNACION CHARLOTTE WU
 REVISOR: [] DATE: []
 HK: [] DATE: 8/10/09

CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

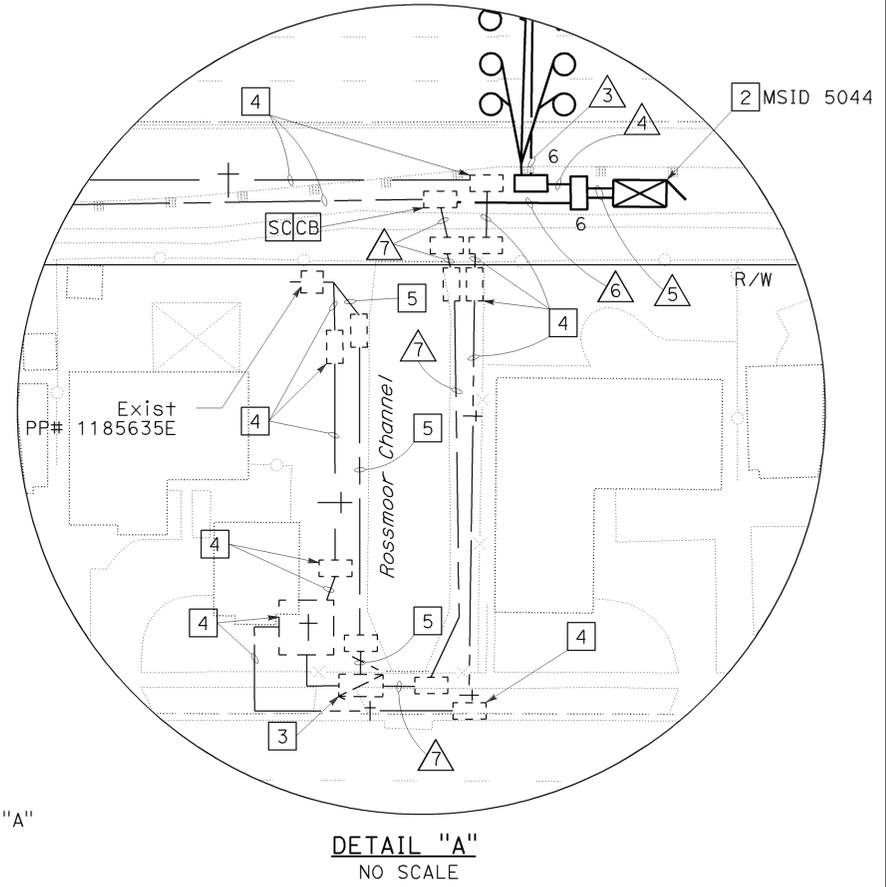
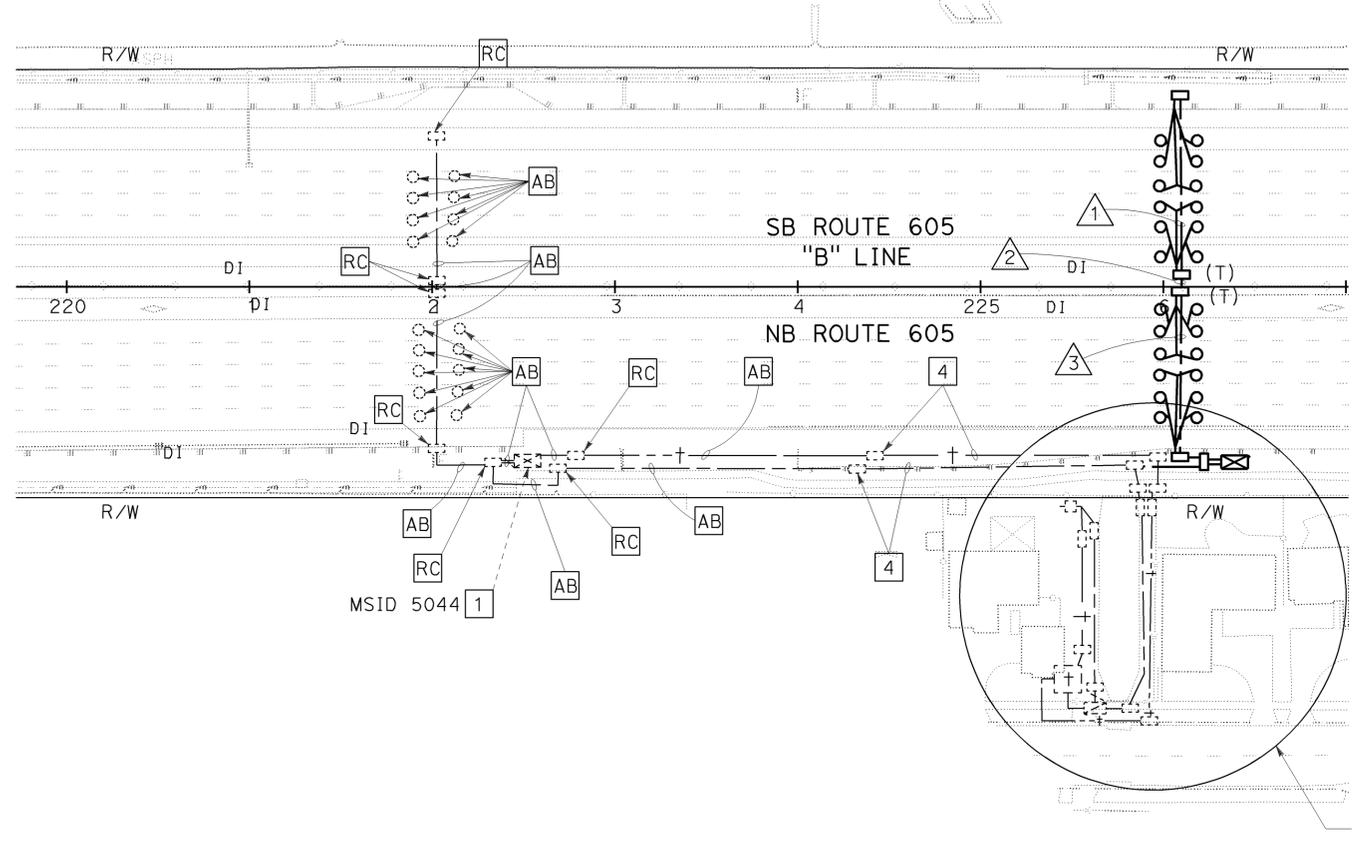
- 1 RELOCATE EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM TO Sta 226+38. REMOVE EXISTING FOUNDATION.
- 2 INSTALL RELOCATED EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 334 CABINET AND GSM BASED GPRS/EDGE MODEM FROM Sta 222+52, ON NEW FOUNDATION.
- 3 EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- 4 FOR REFERENCE ONLY, SEE SHEET E-195 FOR DETAILS.
- 5 EXISTING SCE CONDUIT AND CONDUCTORS.
6. ALL DOUBLE DETECTOR LOOPS SHALL BE TYPE E, SPACING 20' FROM LEADING EDGE TO LEADING EDGE AND CENTERED IN LANE.

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0, 3.0/R1.6	1358	1929

REGISTERED CIVIL ENGINEER: [Signature] DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.
 LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



CONDUIT AND CONDUCTOR SCHEDULE

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5	6	7
#8	SERVICE TO CONTROLLER CABINET MSID 5044 (LOCATION 8)	-	-	-	-	2	2	2(E)
#14	LOOP WIRES	12	-	12	-	-	-	-
DLC	SURVEILLANCE	12	12	12	24	24	-	-
	COUNT	-	-	-	-	-	-	-
	CONDUIT SIZE	3"	3"	3"	4"	2-3"	2"	2"(E)

ALL CONDUCTORS, CONDUITS AND DLC ARE NEW UNLESS OTHERWISE NOTED.
 (E)= EXISTING

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



MODIFY TRAFFIC MONITORING STATION (LOCATION 8)
 SCALE: 1" = 50'

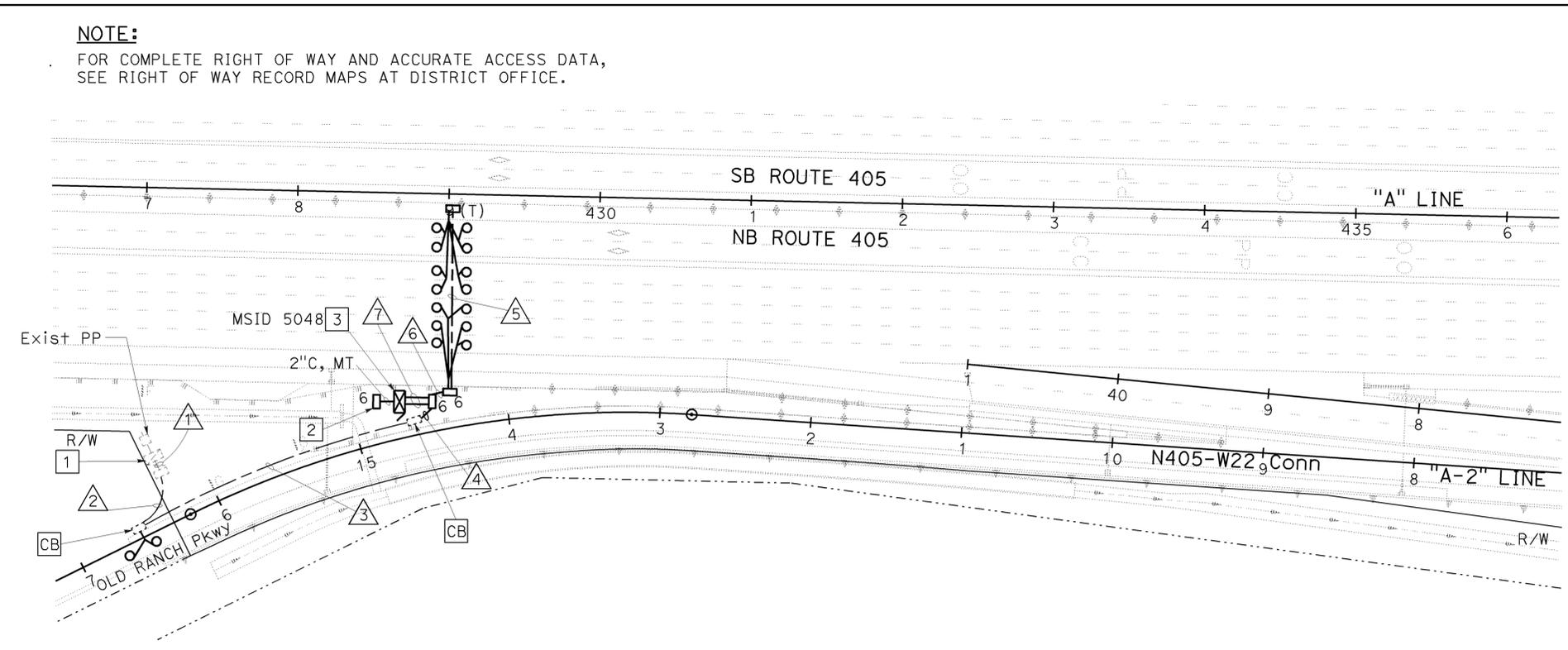
E-172

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1359	1929

REGISTERED CIVIL ENGINEER **Denwun Lin** DATE 8/10/09
 PLANS APPROVAL DATE 2-1-10
 No. C46719 Exp. 6/30/11
 CIVIL ENGINEER STATE OF CALIFORNIA

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)

- 1 EXISTING 120/240 V METERED SERVICE IN TYPE III-CF EQUIPMENT ENCLOSURE WITH TYPE V PHOTOELECTRIC CONTROL. SEE SHEET E-1 FOR CIRCUIT BREAKER.
- 2 INSTALL #6 PULL BOX, FOR FUTURE COMMUNICATION SYSTEM.
- 3 INSTALL MODEL 170 CONTROLLER ASSEMBLY IN NEW MODEL 334 CABINET ON FOUNDATION.
4. ALL DOUBLE DETECTOR LOOPS SHALL BE TYPE E, SPACING 20' FROM LEADING EDGE TO LEADING EDGE AND CENTERED IN LANE.

CONDUIT AND CONDUCTOR SCHEDULE

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5	6	7
#6	SERVICE TO CONTROLLER CABINET MSID 5048	2	2	2	2	-	-	2
#14	LOOP WIRES	-	-	-	-	16	-	-
DLC	SURVEILLANCE	-	-	-	-	-	14	14
	COUNT	-	-	2	2	-	-	2
	TOTAL	-	-	2	2	-	14	16
CONDUIT SIZE		2"(E)	2"(E)	2"(E)	2"	3"	3"	2-3"

ALL CONDUITS, CONDUCTORS AND DLC ARE NEW UNLESS OTHERWISE NOTED.
(E)= EXISTING

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 VicENTE ENCARNACION - CHARLOTTE WU
 DENWUN LIN
 08-10-09 09:50

TRAFFIC MONITORING STATION

SCALE: 1" = 50'

E-173

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 REUSE EXISTING TELEPHONE DEMARCATION CABINET FOR CCTV CAMERA.
- 2 INSTALL TYPE H RISER.
- 3 INSTALL MODEL 334-TV CABINET ON NEW FOUNDATION IN PERMANENT LOCATION. INSTALL WAN ACCESS ROUTER AND VIDEO SERVER FOR TEMPORARY CONDITION. ALSO, PROVIDE WAN ACCESS ROUTER AND VIDEO SERVER AT TMC.
- 4 INSTALL NEW CCTV 45 POLE WITH CCTV ASSEMBLY ON NEW FOUNDATION IN PERMANENT LOCATION. FOR DETAILS, SEE SHEET E-209 FOR MOUNTING AND LAYOUT OF POLE RELATIVE TO MVP.
- 5 EXISTING 120/240 V TYPE III-CF SERVICE EQUIPMENT ENCLOSURE. INSTALL ADDITIONAL 1-30 A, 120 V, 1P, CB FOR CCTV IN METER #2 (ID# 12-55-405-0-022.681).
6. TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
7. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM ROADWAY SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.
8. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVELED WAY.

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CABLE AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUCTOR TYPE	1	2	3**	4	5	6	7
#6	CCTV SERVICE	2(E)	2	2	2	-	-	-
#10	TELEPHONE SERVICE	2(E)	-	-	-	-	-	-
	MULTI-CONDUCTOR CABLE	-	-	-	-	1	1	-
4#18	TELEPHONE CABLE	-	1	1	1	-	-	-
	PULL ROPE	-	-	-	-	-	-	1
	CONDUIT SIZE	2"(E)	2"	-	1 1/2"*	3"*	3"*	3"*

ALL CONDUITS, CONDUCTORS AND CABLES ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 * = INSTALL NEW CONDUIT FOR PERMANENT CONDITION
 ** = OVERHEAD LINE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1360	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

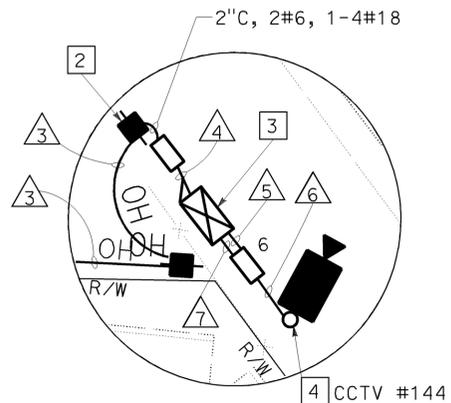
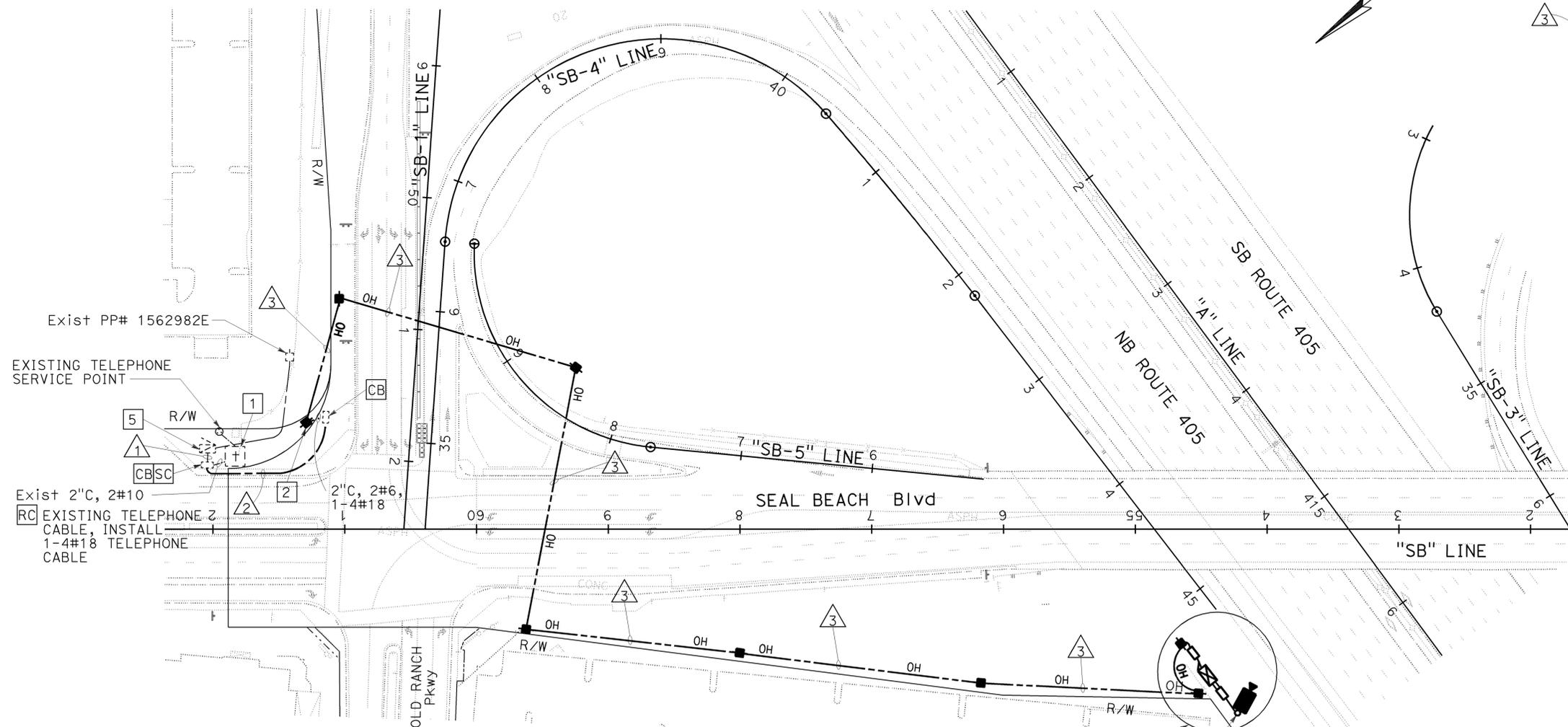
2-1-10 PLANS APPROVAL DATE

DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL

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LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



DETAIL "A"
NO SCALE

LEGEND AND ABBREVIATIONS:

- TEMPORARY 40' WOOD POLE
- ⊞ EXISTING TEMPORARY 40' WOOD POLE
- WAN = WIDE AREA NETWORK

TEMPORARY CLOSED CIRCUIT TELEVISION SYSTEM (STAGE 1A)
SCALE: 1" = 50'

E-174

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trstrk
DGN FILE => c07163ua174.dgn

CU 12235

EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT - DENWUN LIN
 CALCULATED/DESIGNED BY - CHARLOTTE WU
 CHECKED BY - TIMMY TO
 REVISOR - VVE
 DATE REVISED - 8/10/09
 VICENTE ENCARNACION

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
12	Oran	22,405, 605	TOTAL PROJECT R0.3/R0.9, 22.3/24.0,3.0/R1.6	No. 1361	SHEETS 1929

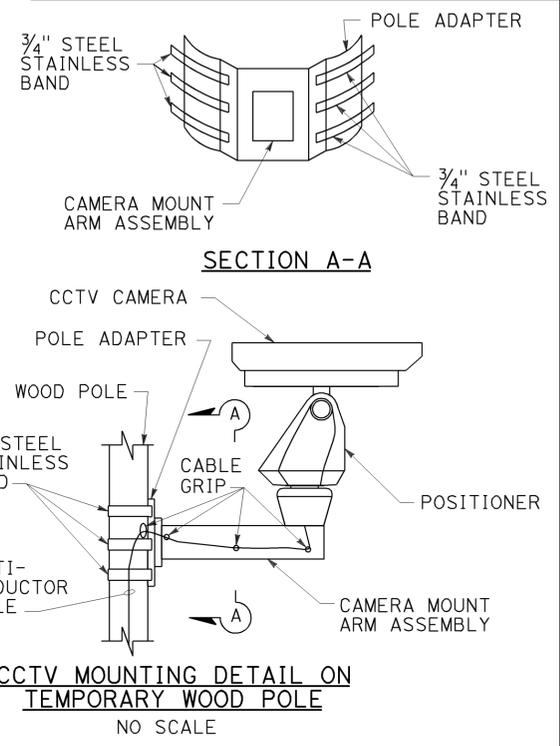
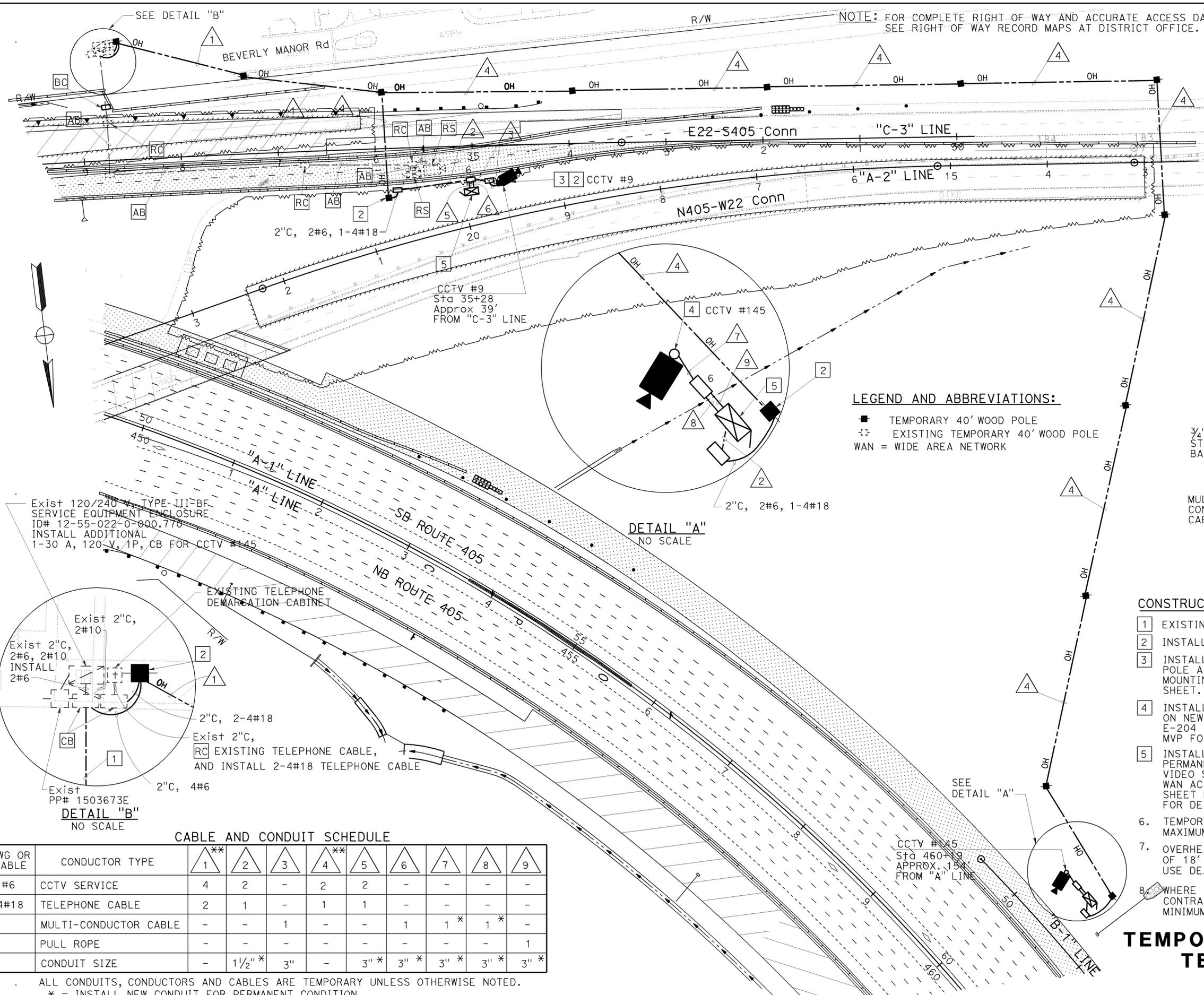
REGISTERED CIVIL ENGINEER
DATE 8/10/09
PLANS APPROVAL DATE 2-1-10

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

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LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584



LEGEND AND ABBREVIATIONS:

- TEMPORARY 40' WOOD POLE
- ◻ EXISTING TEMPORARY 40' WOOD POLE
- WAN = WIDE AREA NETWORK

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 EXISTING 1/2" CONDUIT.
- 2 INSTALL TYPE H RISER.
- 3 INSTALL CCTV CAMERA ASSEMBLY ON TEMPORARY 45' WOOD POLE AS INDICATED FOR TEMPORARY CONDITION. SEE CCTV MOUNTING DETAIL ON TEMPORARY WOOD POLE ON THIS SHEET.
- 4 INSTALL NEW CCTV 30 POLE WITH CCTV CAMERA ASSEMBLY ON NEW FOUNDATION IN PERMANENT LOCATION. SEE SHEET E-204 FOR MOUNTING AND LAYOUT OF POLE RELATIVE TO MVP FOR DETAILS.
- 5 INSTALL MODEL 334-TV CABINET ON NEW FOUNDATION IN PERMANENT LOCATION. INSTALL WAN ACCESS ROUTER AND VIDEO SERVER FOR TEMPORARY CONDITION. ALSO, PROVIDE WAN ACCESS ROUTER AND VIDEO SERVER AT TMC. SEE SHEET E-209 FOR LAYOUT OF CABINET RELATIVE TO MVP FOR DETAILS.
6. TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
7. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM ROADWAY SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.
8. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVELED WAY.

TEMPORARY CLOSED CIRCUIT TELEVISION SYSTEM (STAGE 1A.1)
SCALE: 1" = 50'
E-175

CABLE AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUCTOR TYPE	1**	2	3	4**	5	6	7	8	9
#6	CCTV SERVICE	4	2	-	2	2	-	-	-	-
4#18	TELEPHONE CABLE	2	1	-	1	1	-	-	-	-
	MULTI-CONDUCTOR CABLE	-	-	1	-	-	1	1*	1*	-
	PULL ROPE	-	-	-	-	-	-	-	-	1
	CONDUIT SIZE	-	1 1/2"*	3"	-	3"*	3"*	3"*	3"*	3"*

ALL CONDUITS, CONDUCTORS AND CABLES ARE TEMPORARY UNLESS OTHERWISE NOTED.
* = INSTALL NEW CONDUIT FOR PERMANENT CONDITION
** = OVERHEAD LINE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Vicente Encarnacion - Charlotte Wu
Denwun Lin
8/10/09



USERNAME => trimguye
DGN FILE => c07163ua175.dgn

CU 12235

EA 071631

LAST REVISION DATE PLOTTED => 09-FEB-2010 08-10-09 TIME PLOTTED => 09:33

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: [blank] CHECKED BY: [blank]
 VICENTE ENCARNACION CHARLOTTE WU
 REVISED BY: [blank] DATE REVISED: 8/10/09
 VVE: 8/10/09

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

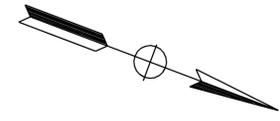
CABLE AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUCTOR TYPE	1	2
#2/0	CCTV SERVICE	2	2
#2/0	LOWERING DEVICE	2	2
	CONDUIT SIZE	-	2-3"(E)

ALL CONDUITS, CONDUCTORS AND CABLES ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** = OVERHEAD LINE

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- EXISTING TEMPORARY POLE LOCATIONS ARE FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-146.
- OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM ROADWAY SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVELED WAY.

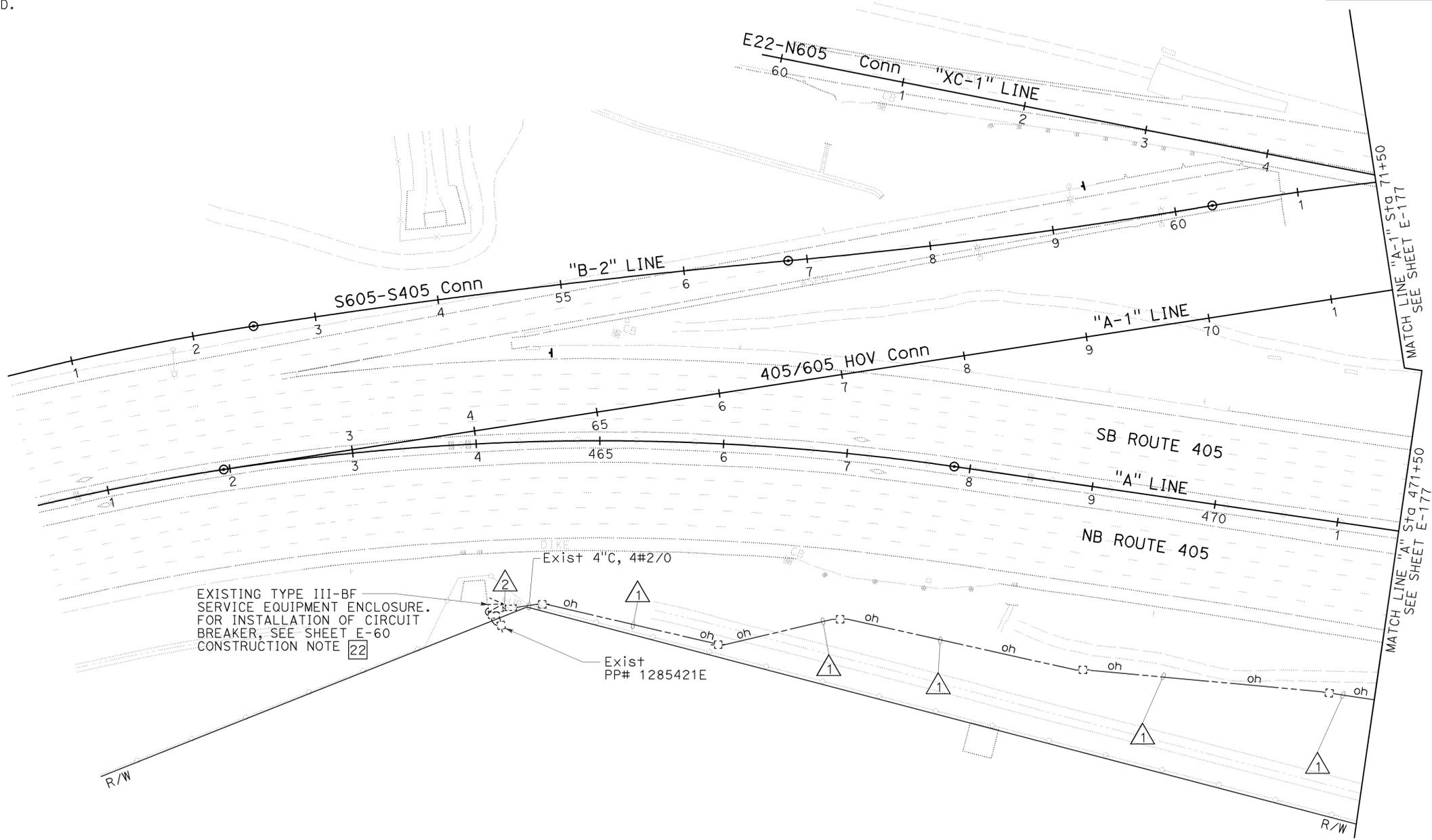


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1362	1929

REGISTERED CIVIL ENGINEER: DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



TEMPORARY CLOSED CIRCUIT TELEVISION SYSTEM (STAGE 1A)
 SCALE 1"=50'

E-176

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trimguye
 DGN FILE => c07163ua176.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 | TIME PLOTTED => 09:34

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CABLE AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUCTOR TYPE	△ ^{**}
#2/0	CCTV SERVICE	2
#2/0	LOWERING DEVICE	2
	CONDUIT SIZE	-

ALL CONDUITS, CONDUCTORS AND CABLES ARE TEMPORARY UNLESS OTHERWISE NOTED.
 ** = OVERHEAD LINE

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM ROADWAY SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.
- EXISTING TEMPORARY POLE LOCATIONS ARE FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-151.
- WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVELED WAY.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1363	1929

8/10/09
 REGISTERED CIVIL ENGINEER DATE

2-1-10
 PLANS APPROVAL DATE

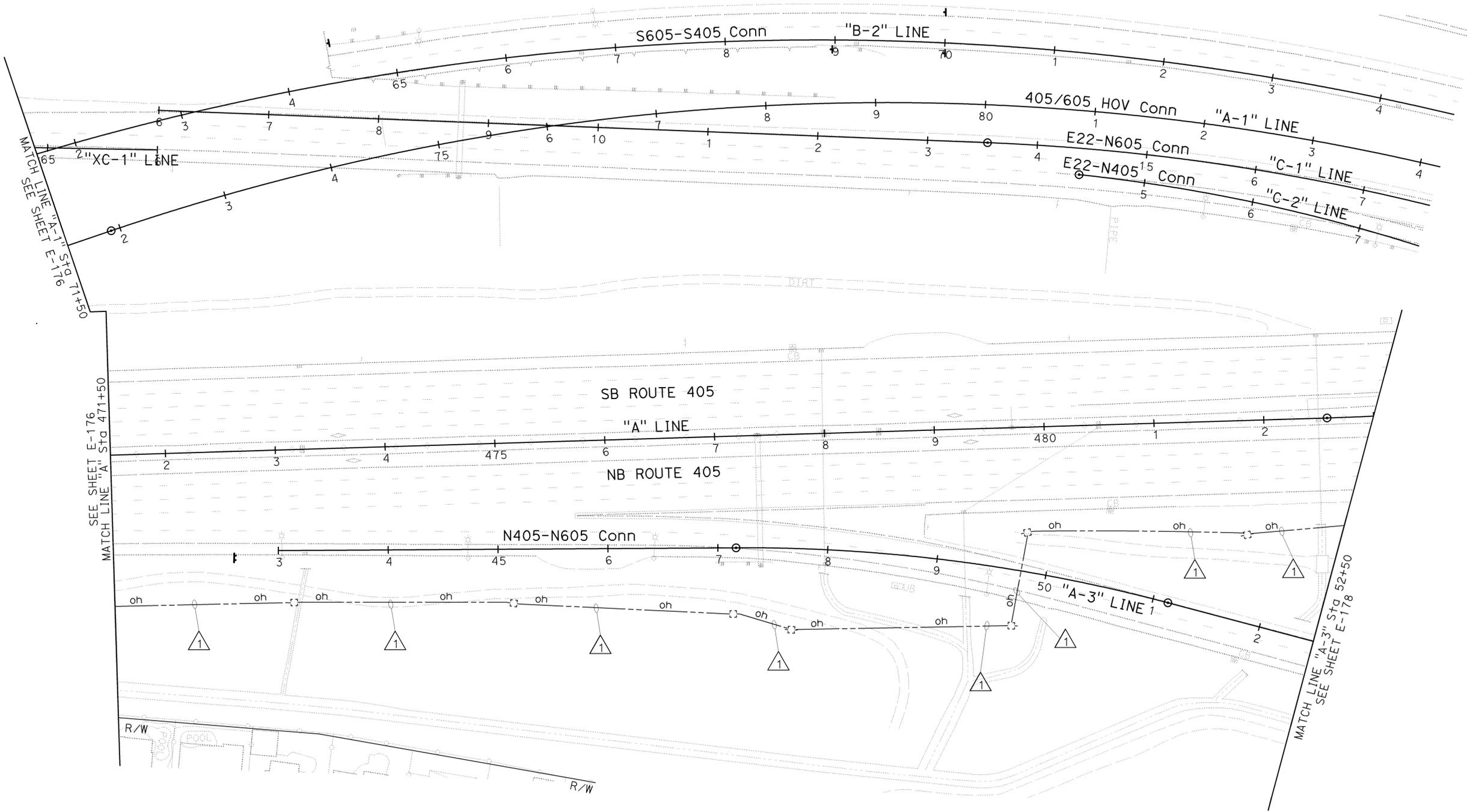
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: [blank]
 CHECKED BY: [blank]
 VICENTE ENCARNACION - CHARLOTTE WU
 TIMMY TO
 REVISED BY: [blank]
 DATE REVISED: 8/10/09
 VVE



TEMPORARY CLOSED CIRCUIT TELEVISION SYSTEM (STAGE 1A)
 SCALE 1"=50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trimguye
 DGN FILE => c07163ua177.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION: DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:34

E-177

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1364	1929

8/10/09
REGISTERED CIVIL ENGINEER DATE

2-1-10
PLANS APPROVAL DATE

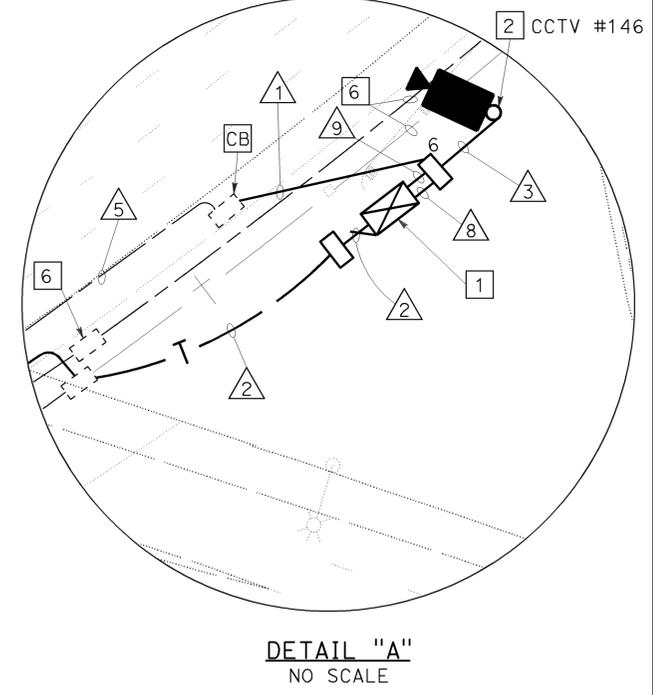
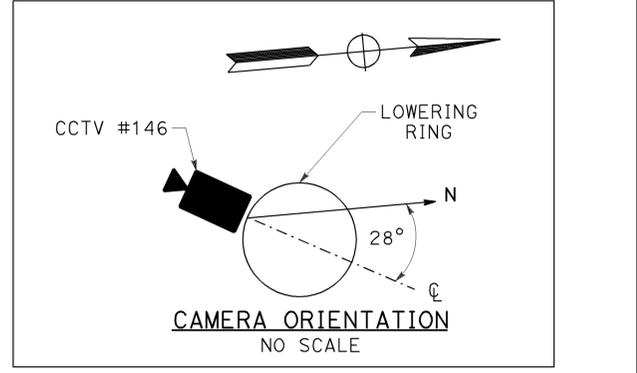
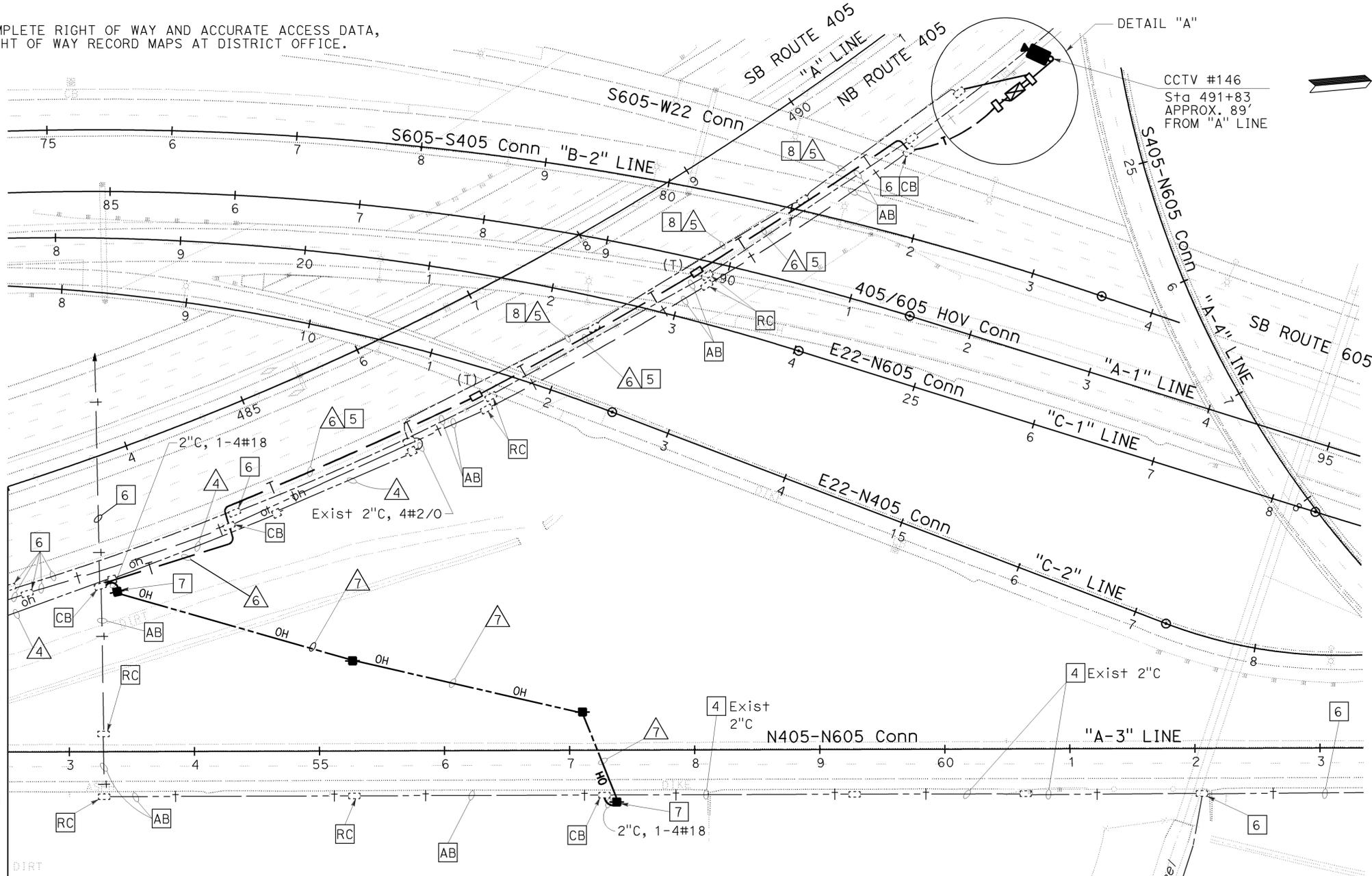
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



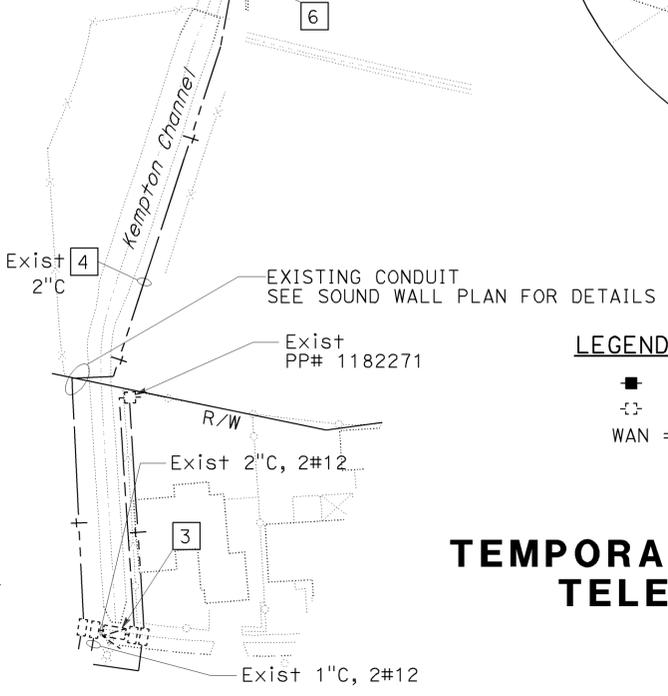
CONSTRUCTION NOTES: (THIS SHEET ONLY)

- INSTALL MODEL 334-TV CABINET ON NEW FOUNDATION IN PERMANENT LOCATION. INSTALL WAN ACCESS ROUTER AND VIDEO SERVER FOR TEMPORARY CONDITION. ALSO, PROVIDE WAN ACCESS ROUTER AND VIDEO SERVER AT TMC.
- INSTALL NEW CCTV 90 POLE WITH CCTV CAMERA ASSEMBLY ON NEW FOUNDATION IN PERMANENT LOCATION. SEE SHEET E-209 FOR MOUNTING AND LAYOUT OF POLE RELATIVE TO MVP FOR DETAILS.
- EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- REMOVE EXISTING TELEPHONE CABLE FROM EXISTING CONDUIT. INSTALL NEW TEMPORARY 4#18 TELEPHONE CABLE FOR CCTV.
- INSTALL TEMPORARY CONDUIT IN PAVEMENT SHOULDER AS INDICATED ON PLAN.
- RC, RS, AB PER PERMANENT TMS PLAN.
- INSTALL TYPE H RISER.
- CONDUITS AND PULLBOXES SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-157 FOR TMS PLAN AT LOCATION 5.
- OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM ROADWAY SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.

CABLE AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUCTOR TYPE	1	2	3	4	5	6	7	8	9
#2/0	#2/0 CCTV SERVICE	2	-	-	2	2	-	-	-	2
#2/0	#2/0 LOWERING DEVICE	2	-	2	2	2	-	-	-	-
#418	4#18 TELEPHONE CABLE	-	1	-	-	-	1	1	-	-
	MULTI-CONDUCTOR CABLE	-	-	1*	-	-	-	-	-	1
	PULL ROPE	-	-	-	-	-	-	-	1	-
	CONDUIT SIZE	3"*	4"*	3"*	-	3"(E)	2"	-	3"*	3"*

ALL CONDUITS, CONDUCTORS AND CABLES ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 * = INSTALL NEW CONDUIT FOR PERMANENT CONDITION
 ** = OVERHEAD LINE
 10. TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
 11. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVELED WAY.



- LEGEND AND ABBREVIATIONS:
- TEMPORARY 40' WOOD POLE
 - ⊠ EXISTING TEMPORARY 40' WOOD POLE
 - WAN = WIDE AREA NETWORK

TEMPORARY CLOSED CIRCUIT TELEVISION SYSTEM (STAGE 1A)
SCALE 1"=50'
E-178

STATE OF CALIFORNIA
CALTRANS

CONSULTANT SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: VICENTE ENCARNACION-CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISIONS: VVE 8/10/09
 DATE REVISED: 8/10/09

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISED BY: VVE
 DATE REVISED: 8/10/09

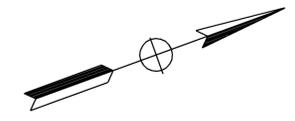
NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

- CONSTRUCTION NOTES: (THIS SHEET ONLY)**
- INSTALL MODEL 334-TV CABINET ON NEW FOUNDATION IN PERMANENT LOCATION. INSTALL WAN ACCESS ROUTER AND VIDEO SERVER FOR TEMPORARY CONDITION. ALSO, PROVIDE WAN ACCESS ROUTER AND VIDEO SERVER AT TMC.
 - INSTALL NEW CCTV 45 POLE WITH CCTV CAMERA ASSEMBLY ON NEW FOUNDATION IN PERMANENT LOCATION. SEE SHEET E-209 FOR MOUNTING AND LAYOUT OF POLE RELATIVE TO MVP FOR DETAILS.
 - EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE AND INSTALL ADDITIONAL 1-30 A, 120 V, 1P, CB FOR CCTV. ID: #12-55-605-0-000.477
 - REMOVE EXISTING TELEPHONE CABLE FROM EXISTING CONDUIT. INSTALL NEW TEMPORARY 1-4#18 TELEPHONE CABLE FOR CCTV.
 - INSTALL ADDITIONAL 2#6 POWER CONDUCTOR FOR CCTV CAMERA.

CABLE AND CONDUIT SCHEDULE

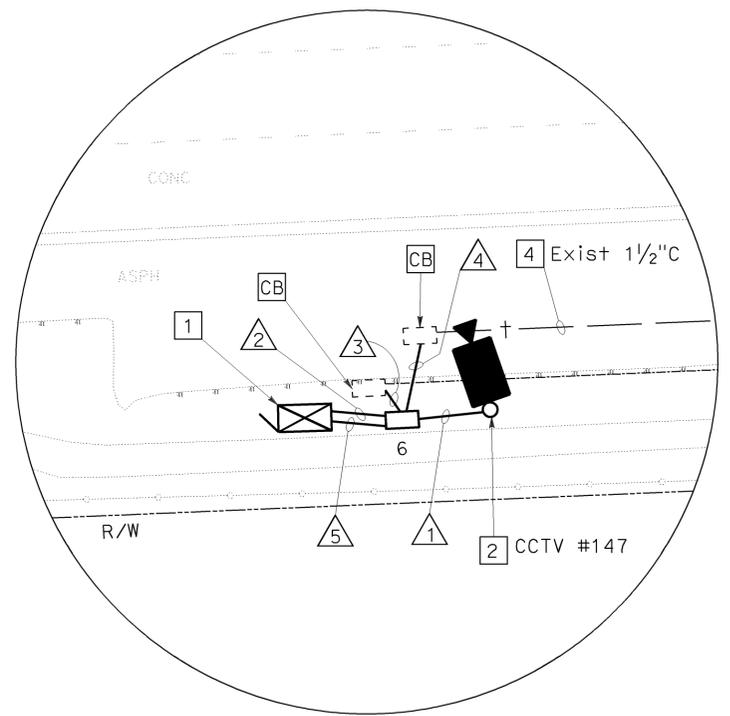
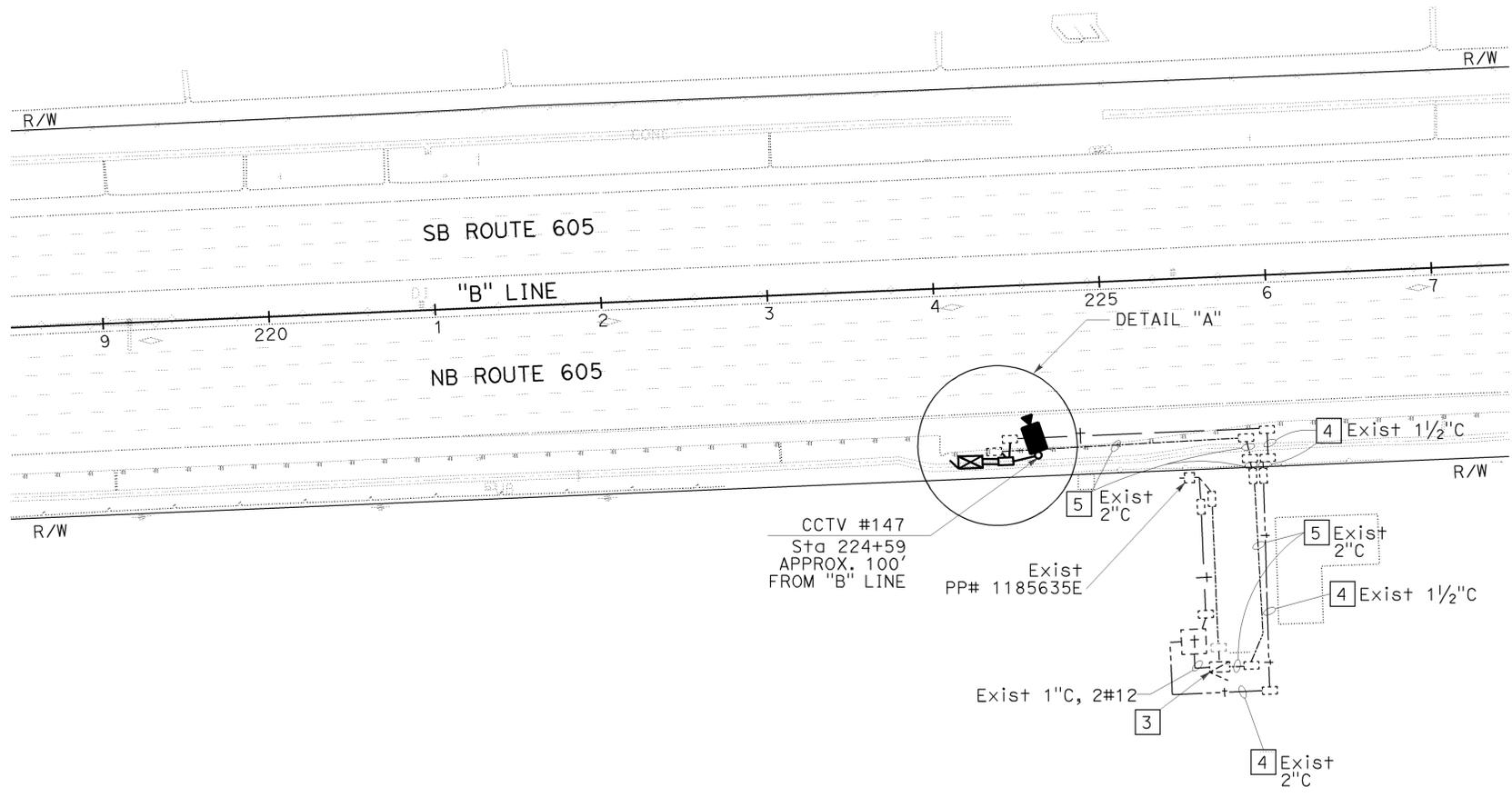
AWG OR CABLE	CONDUCTOR TYPE	1	2	3	4	5
#6	CCTV SERVICE	-	2*	2*	-	-
	MULTI-CONDUCTOR CABLE	1*	-	-	-	-
4#18	TELEPHONE CABLE	-	1	-	1	-
	PULL ROPE	-	-	-	-	1
	CONDUIT SIZE	3"*	3"*	2"*	2"	3"*

ALL CONDUITS, CONDUCTORS AND CABLES ARE TEMPORARY UNLESS OTHERWISE NOTED.
 * = INSTALL NEW CONDUIT FOR PERMANENT CONDITION



LEGEND AND ABBREVIATIONS:

- TEMPORARY 40' WOOD POLE
- ⊕ EXISTING TEMPORARY 40' WOOD POLE
- WAN = WIDE AREA NETWORK



TEMPORARY CLOSED CIRCUIT TELEVISION SYSTEM (STAGE 1A)
 SCALE 1"=50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	RO.3/RO.9, 22.3/24.0,3.0/R1.6	1366	1929

REGISTERED CIVIL ENGINEER
 12/22/09 DATE
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

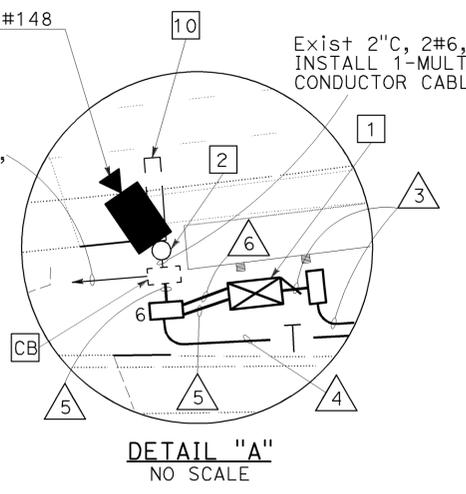
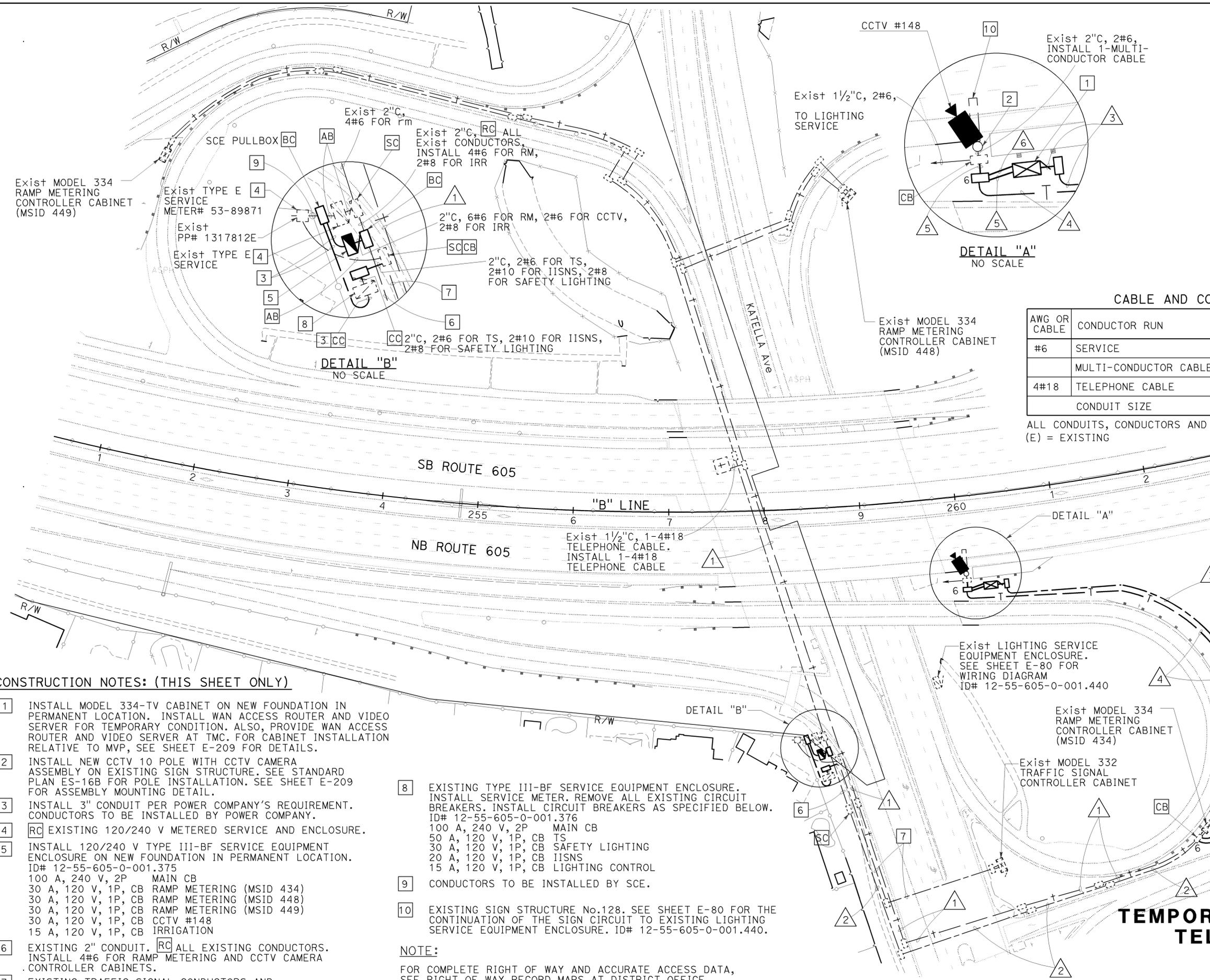
2-1-10
 PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

VICENTE ENCARNACION - CHARLOTTE WU
 REVISOR
 12/22/09
 DATE REVISOR
 DENWUN LIN
 CONSULTANT FUNCTIONAL SUPERVISOR
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Et Caltrans



CABLE AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5	6
#6	SERVICE	-	2(E)+2	2	-	-	-
	MULTI-CONDUCTOR CABLE	-	-	-	-	1	-
4#18	TELEPHONE CABLE	3(E)+1	-	-	1	-	1
	CONDUIT SIZE	2"(E)	2"(E)	2"	2"	3"	3"

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.
 (E) = EXISTING

LEGEND AND ABBREVIATIONS:
 WAN = WIDE AREA NETWORK
 TS = TRAFFIC SIGNAL

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- INSTALL MODEL 334-TV CABINET ON NEW FOUNDATION IN PERMANENT LOCATION. INSTALL WAN ACCESS ROUTER AND VIDEO SERVER FOR TEMPORARY CONDITION. ALSO, PROVIDE WAN ACCESS ROUTER AND VIDEO SERVER AT TMC. FOR CABINET INSTALLATION RELATIVE TO MVP, SEE SHEET E-209 FOR DETAILS.
- INSTALL NEW CCTV 10 POLE WITH CCTV CAMERA ASSEMBLY ON EXISTING SIGN STRUCTURE. SEE STANDARD PLAN ES-16B FOR POLE INSTALLATION. SEE SHEET E-209 FOR ASSEMBLY MOUNTING DETAIL.
- INSTALL 3" CONDUIT PER POWER COMPANY'S REQUIREMENT. CONDUCTORS TO BE INSTALLED BY POWER COMPANY.
- RC EXISTING 120/240 V METERED SERVICE AND ENCLOSURE.
- INSTALL 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE ON NEW FOUNDATION IN PERMANENT LOCATION. ID# 12-55-605-0-001.375
 100 A, 240 V, 2P MAIN CB
 30 A, 120 V, 1P, CB RAMP METERING (MSID 434)
 30 A, 120 V, 1P, CB RAMP METERING (MSID 448)
 30 A, 120 V, 1P, CB RAMP METERING (MSID 449)
 30 A, 120 V, 1P, CB CCTV #148
 15 A, 120 V, 1P, CB IRRIGATION
- EXISTING 2" CONDUIT. RC ALL EXISTING CONDUCTORS. INSTALL 4#6 FOR RAMP METERING AND CCTV CAMERA CONTROLLER CABINETS.
- EXISTING TRAFFIC SIGNAL CONDUCTORS AND CONDUITS.
- EXISTING TYPE III-BF SERVICE EQUIPMENT ENCLOSURE. INSTALL SERVICE METER. REMOVE ALL EXISTING CIRCUIT BREAKERS. INSTALL CIRCUIT BREAKERS AS SPECIFIED BELOW. ID# 12-55-605-0-001.376
 100 A, 240 V, 2P MAIN CB
 50 A, 120 V, 1P, CB TS
 30 A, 120 V, 1P, CB SAFETY LIGHTING
 20 A, 120 V, 1P, CB IISNS
 15 A, 120 V, 1P, CB LIGHTING CONTROL
- CONDUCTORS TO BE INSTALLED BY SCE.
- EXISTING SIGN STRUCTURE No.128. SEE SHEET E-80 FOR THE CONTINUATION OF THE SIGN CIRCUIT TO EXISTING LIGHTING SERVICE EQUIPMENT ENCLOSURE. ID# 12-55-605-0-001.440.

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

TEMPORARY CLOSED CIRCUIT TELEVISION SYSTEM (STAGE 1A)
 SCALE 1"=50'
E-180

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1367	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

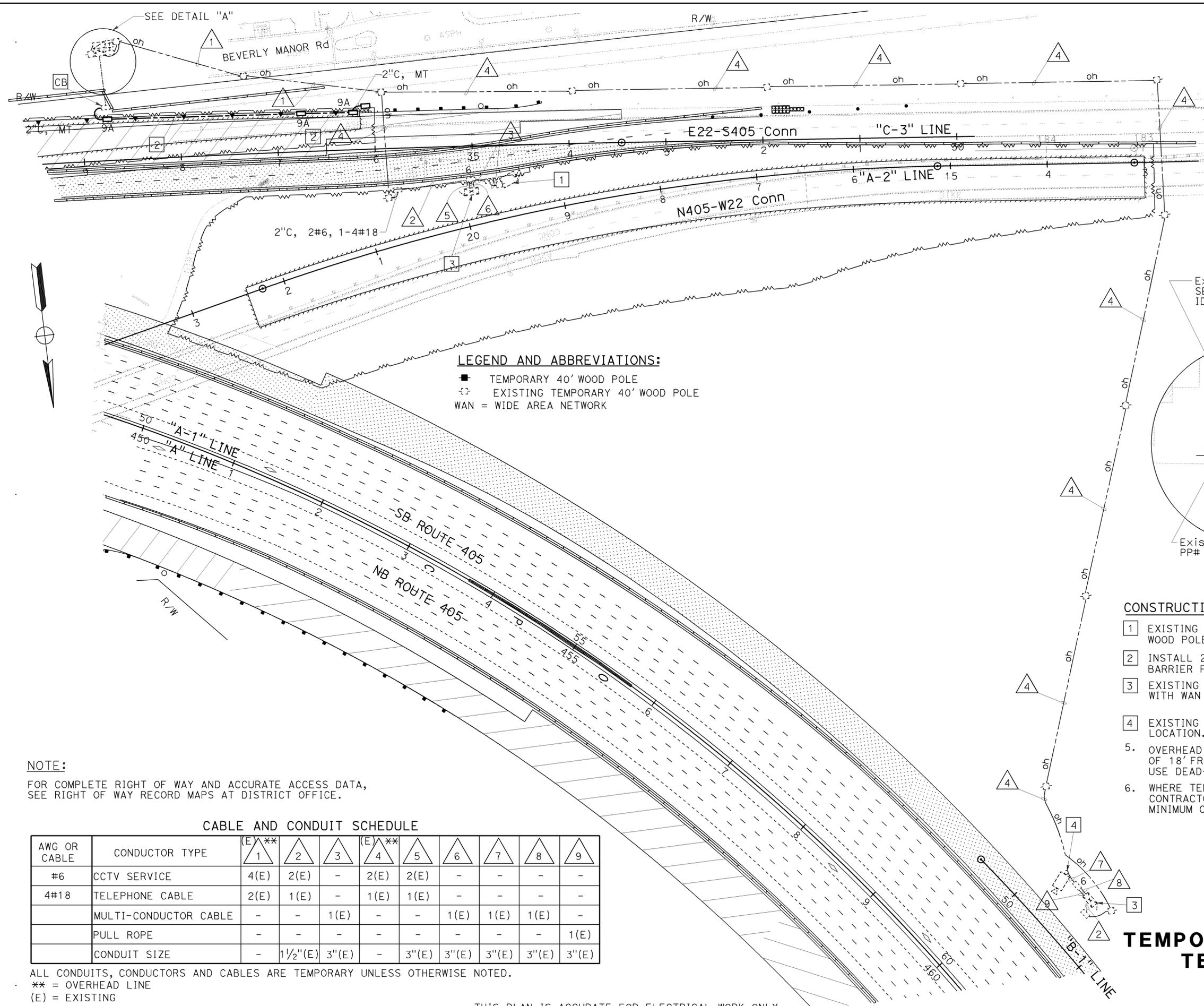
2-1-10 PLANS APPROVAL DATE

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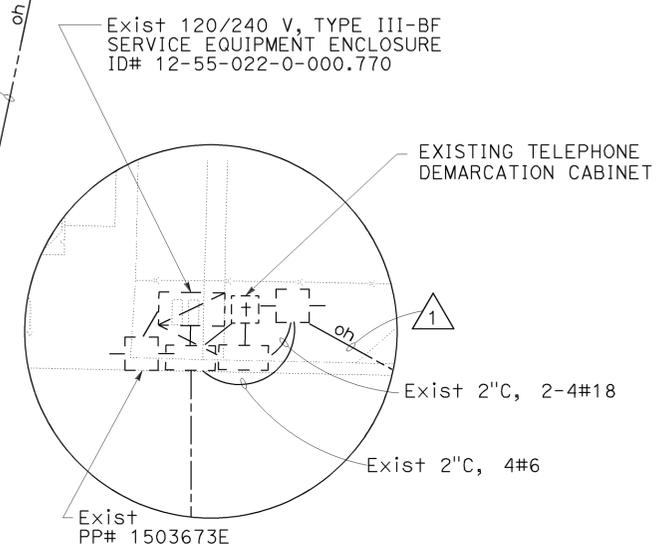
ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL



LEGEND AND ABBREVIATIONS:

- TEMPORARY 40' WOOD POLE
- ⊠ EXISTING TEMPORARY 40' WOOD POLE
- WAN = WIDE AREA NETWORK



DETAIL "A"
NO SCALE

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 EXISTING CCTV ASSEMBLY ON TEMPORARY WOOD POLE THROUGHOUT STAGE CONSTRUCTION.
- 2 INSTALL 2"C, MT AND 9A PULL BOX IN THE CONCRETE BARRIER FOR FUTURE COMMUNICATION SYSTEM.
- 3 EXISTING MODEL 334-TV CABINET IN PERMANENT LOCATION WITH WAN ACCESS ROUTER AND VIDEO SERVER.
- 4 EXISTING CCTV 30 POLE WITH CCTV ASSEMBLY IN PERMANENT LOCATION.
5. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM ROADWAY SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.
6. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM THE ACTIVE EDGE OF TRAVELED WAY.

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CABLE AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUCTOR TYPE	1	2	3	4	5	6	7	8	9
#6	CCTV SERVICE	4(E)	2(E)	-	2(E)	2(E)	-	-	-	-
4#18	TELEPHONE CABLE	2(E)	1(E)	-	1(E)	1(E)	-	-	-	-
	MULTI-CONDUCTOR CABLE	-	-	1(E)	-	-	1(E)	1(E)	1(E)	-
	PULL ROPE	-	-	-	-	-	-	-	-	1(E)
	CONDUIT SIZE	-	1/2"(E)	3"(E)	-	3"(E)	3"(E)	3"(E)	3"(E)	3"(E)

ALL CONDUITS, CONDUCTORS AND CABLES ARE TEMPORARY UNLESS OTHERWISE NOTED.
 ** = OVERHEAD LINE
 (E) = EXISTING

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

TEMPORARY CLOSED CIRCUIT TELEVISION SYSTEM (STAGE 1A.2)
SCALE 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT - FUNCTIONAL SUPERVISOR DENWUN LIN
 CALCULATED/DESIGNED BY CHARLOTTE WU
 CHECKED BY TIMMY TO
 REVISED BY VVE 8/10/09
 VICENTE ENCARNACION



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISED BY: VVE
 DATE REVISED: 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 RELOCATE EXISTING TELEPHONE DEMARCATION CABINET FOR CCTV CAMERA TO NEW FOUNDATION AS INDICATED.
- 2 INSTALL TYPE H RISER.
- 3 EXISTING 40' WOOD POLE WITH TYPE H RISER.
- 4 EXISTING MODEL 334-TV CABINET WITH WAN ACCESS ROUTER AND VIDEO SERVER.
- 5 EXISTING CCTV 45 POLE WITH CCTV CAMERA ASSEMBLY.
- 6 EXISTING 120/240 V TYPE III-CF SERVICE EQUIPMENT ENCLOSURE.
7. TEMPORARY WOOD POLE SHOWN ON PLAN SHALL BE 200' MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
8. OVERHEAD LINES MUST MAINTAIN A MINIMUM CLEARANCE OF 18' FROM ROADWAY SURFACE FOR VEHICULAR CLEARANCE. USE DEAD-END ASSEMBLIES AS NEEDED.
9. WHERE TEMPORARY RAILING (TYPE K) IS NOT PROVIDED, CONTRACTOR SHALL PLACE TEMPORARY WOOD POLES A MINIMUM OF 30' FROM ACTIVE EDGE OF TRAVELED WAY.

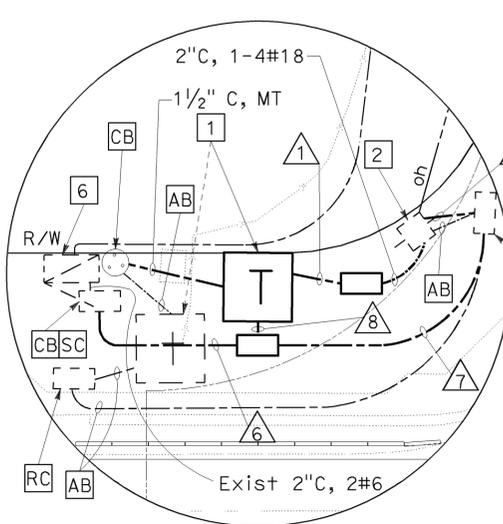
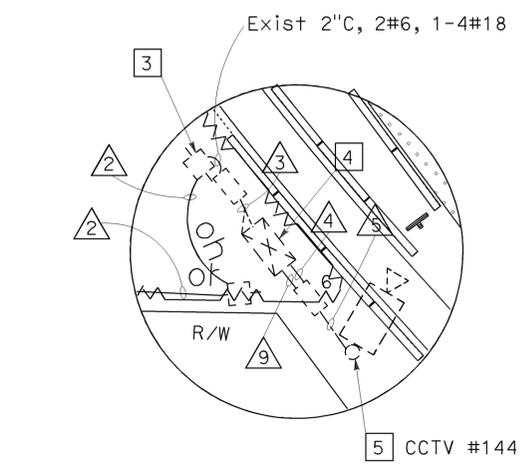
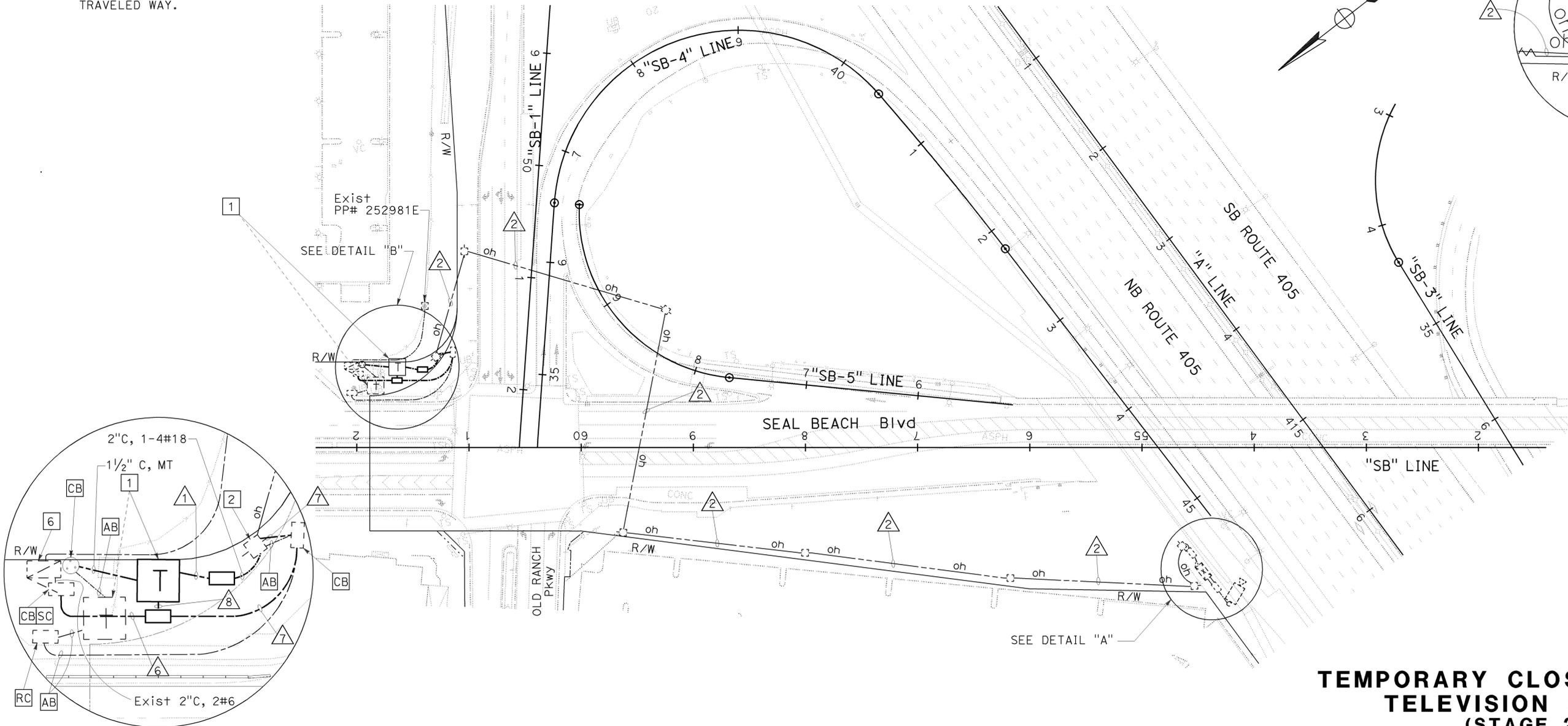
CABLE AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUCTOR TYPE	1	2 (E)**	3	4	5	6	7	8	9
#6	CCTV SERVICE	-	2	2	-	-	2	2	-	-
#10	TELEPHONE SERVICE	-	-	-	-	-	2	-	2	-
	MULTI-CONDUCTOR CABLE	-	-	-	1	1	-	-	-	-
4#18	TELEPHONE CABLE	1	1	1	-	-	-	-	-	-
	PULL ROPE	-	-	-	-	-	-	-	-	1
	CONDUIT SIZE	2"	-	1 1/2"(E)	3"(E)	3"(E)	3"	2"	1 1/2"	3"(E)

ALL CONDUITS, CONDUCTORS AND CABLES ARE TEMPORARY UNLESS OTHERWISE NOTED.
 (E) = EXISTING
 ** = OVERHEAD LINE

LEGEND AND ABBREVIATIONS:

- TEMPORARY 40' WOOD POLE
- ⊕ EXISTING TEMPORARY 40' WOOD POLE
- WAN = WIDE AREA NETWORK



TEMPORARY CLOSED CIRCUIT TELEVISION SYSTEM (STAGE 2B)
 SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

E-182

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR DENWUN LIN
 CALCULATED - DESIGNED BY
 CHECKED BY
 VICENTE ENCARNACION CHARLOTTE WU
 TIMMY TO
 REVISED BY VVE 8/10/09
 DATE REVISED

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

GENERAL NOTES: (E-183 TO E-202)

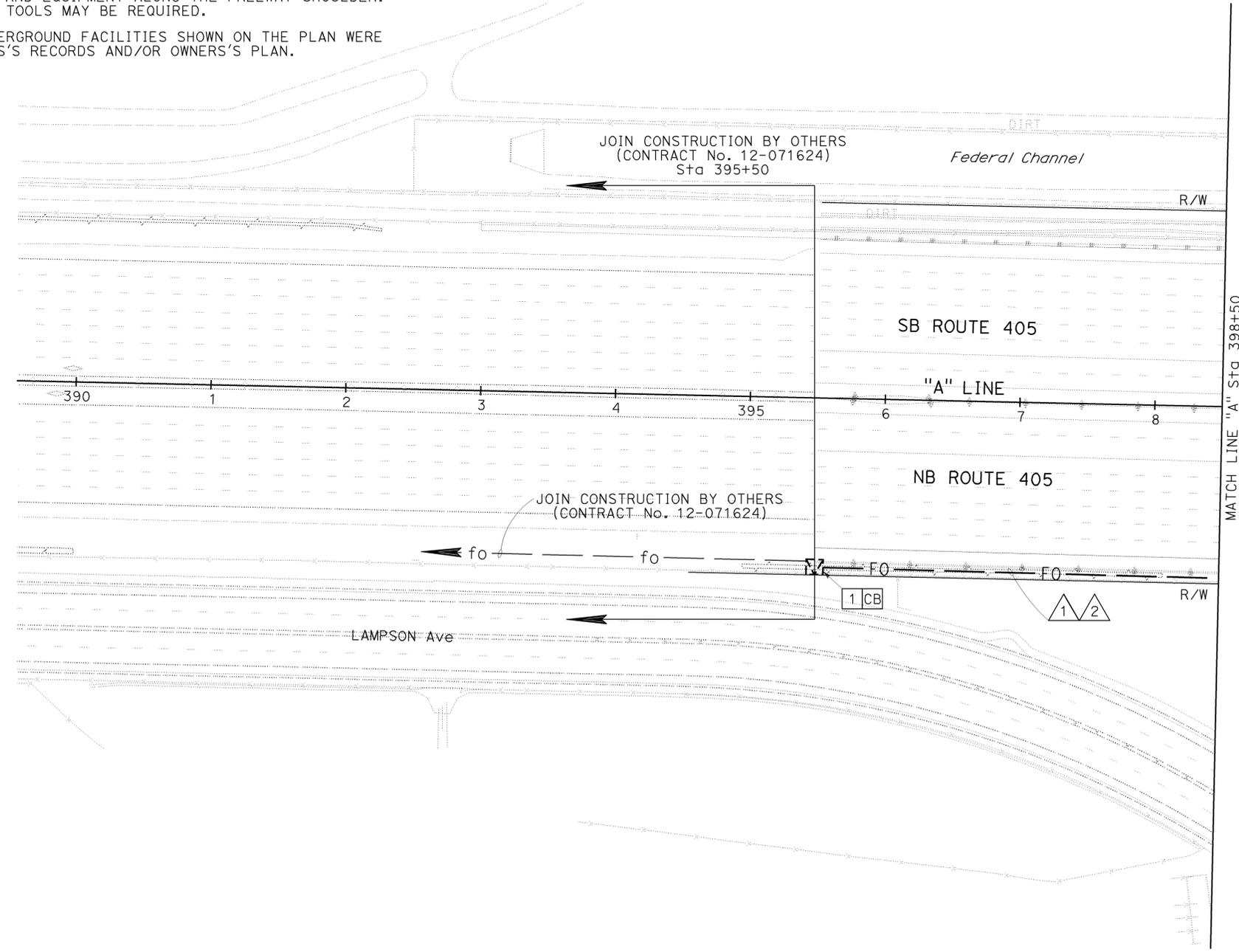
1. CONTRACTORS SHALL NOTIFY 1-800-277-2600, UNDERGROUND SERVICE ALERT (U.S.A), A MINIMUM OF 2 WORKING DAYS PRIOR TO EXCAVATION.
2. SPLICE VAULTS AND PULL BOXES SHALL BE INSTALLED OFF SHOULDER UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. THE CONTRACTOR SHALL PROVIDE 72 HOURS (3 WORKING DAYS) ADVANCED WRITTEN NOTICE TO THE ENGINEER AND ALL CONCERNED AGENCIES, PRIOR TO REMOVING AND MODIFYING ANY EXISTING ELECTRICAL FACILITIES.
4. THE LOCATIONS OF EXISTING ELECTRICAL FACILITIES SUCH AS UNDERGROUND CONDUITS, PULL BOXES, SPLICE VAULTS AND CONTROLLER CABINETS ARE APPROXIMATE.
5. ALL FIBER OPTIC CONDUIT BENDS SHALL BE 4 FEET RADIUS MINIMUM AND SHALL BE FACTORY BENDS. ALL OTHER CONDUITS SHALL HAVE A MINIMUM BEND RADIUS OF NO LESS THAN 6 TIMES THE CONDUIT DIAMETER.
6. THE LOCATION OF PROPOSED CABINETS, PULL BOXES AND SPLICE VAULTS ARE APPROXIMATE AND MAY BE CHANGED TO SUIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. CONTRACTOR SHALL EXERCISE CARE TO AVOID DAMAGE TO ANY EXISTING ELECTRICAL CONDUITS AND EQUIPMENT ALONG THE FREEWAY SHOULDER. TRENCHING WITH HAND TOOLS MAY BE REQUIRED.
8. THE LOCATION OF UNDERGROUND FACILITIES SHOWN ON THE PLAN WERE OBTAINED FROM OWNERS'S RECORDS AND/OR OWNERS'S PLAN.

ABBREVIATIONS: (E-183 TO E-202)

- TYPE A = 36 SINGLE MODE FIBER OPTIC CABLE
 TYPE B = 72 SINGLE MODE FIBER OPTIC CABLE
 TYPE C = 72 SINGLE MODE FIBER OPTIC CABLE
 TYPE D = 12 SINGLE MODE FIBER OPTIC CABLE
 EES = EDGE ETHERNET SWITCH
 FDU = FIBER DISTRIBUTION UNIT
 FOC = FIBER OPTIC CABLE
 IP = INTERNET PROTOCOL
 RMS = RAMP METER SYSTEM
 RX = RECEIVE
 TX = TRANSMIT
 TS = TRAFFIC SIGNAL
 VE = VIDEO ENCODER
 WAN = WIDE AREA NETWORK

LEGEND: (E-183 TO E-202)

- ☒ = NEW SPLICE VAULT, SEE SHEET E-204 FOR DETAILS
 ■ = NEW COMMUNICATION PULL BOX, SEE SHEET E-203 FOR DETAILS
 —FO— = 2-4" C, SEE SHEETS E-205, E-206 AND E-207 FOR DETAILS
 ☒ = Exist. SPLICE VAULT



CONSTRUCTION NOTES: (THIS SHEET ONLY)

1. INSTALL NEW TYPE A, TYPE B, TYPE C FOC. SPLICE NEW TYPE A, TYPE B AND TYPE C FOC TO EXISTING TYPE A, TYPE B AND TYPE C FOC.
2. ALL TEMPORARY POLE, CONDUIT, PULLBOX AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.

CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2
TYPE A FO CABLE	1	-
TYPE B FO CABLE	1	-
TYPE C FO CABLE	1	-
TYPE D FO CABLE	-	-
INNERDUCT SIZE 1"	4	4
PULL ROPE	1	4
CONDUIT SIZE	4"	4"

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.

COMMUNICATION TABLE OF CONTENTS (DETAIL)

SHEET	DESCRIPTION
E-203	PULL BOX DETAILS
E-204	SPLICE VAULT DETAILS
E-205	TRENCH IN DIRT DETAILS
E-206	TRENCH IN PAVEMENT DETAILS
E-207	JACKED CONDUIT DETAILS
E-208	COMMUNICATION PULL BOX DETAIL
E-209	CLOSED CIRCUIT TELEVISION
E-210	CCTV WIRING SCHEDULE AND PIN-OUT
E-211	170/2070 CONTROLLER INTERFACE
E-212	CCTV INTERFACE
E-213	FIBER OPTIC SPLICING FOR TYPE D TO TYPE B AND TYPE C DETAILS
E-214	CABLE DETAILS
E-215	CABLE DETAILS
E-216	CABLE DETAILS
E-217	SCHEMATICS DETAIL
E-218	SCHEMATICS DETAIL
E-219	CONDUIT STRAPPING DETAILS

COMMUNICATION SYSTEM

SCALE: 1" = 50'

E-183

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikes1
 DGN FILE => c07163ua182.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:43

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISED BY: VVE
 DATE REVISED: 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (THIS SHEET ONLY)

1. ALL TEMPORARY POLE, CONDUIT, PULLBOX AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
2. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183

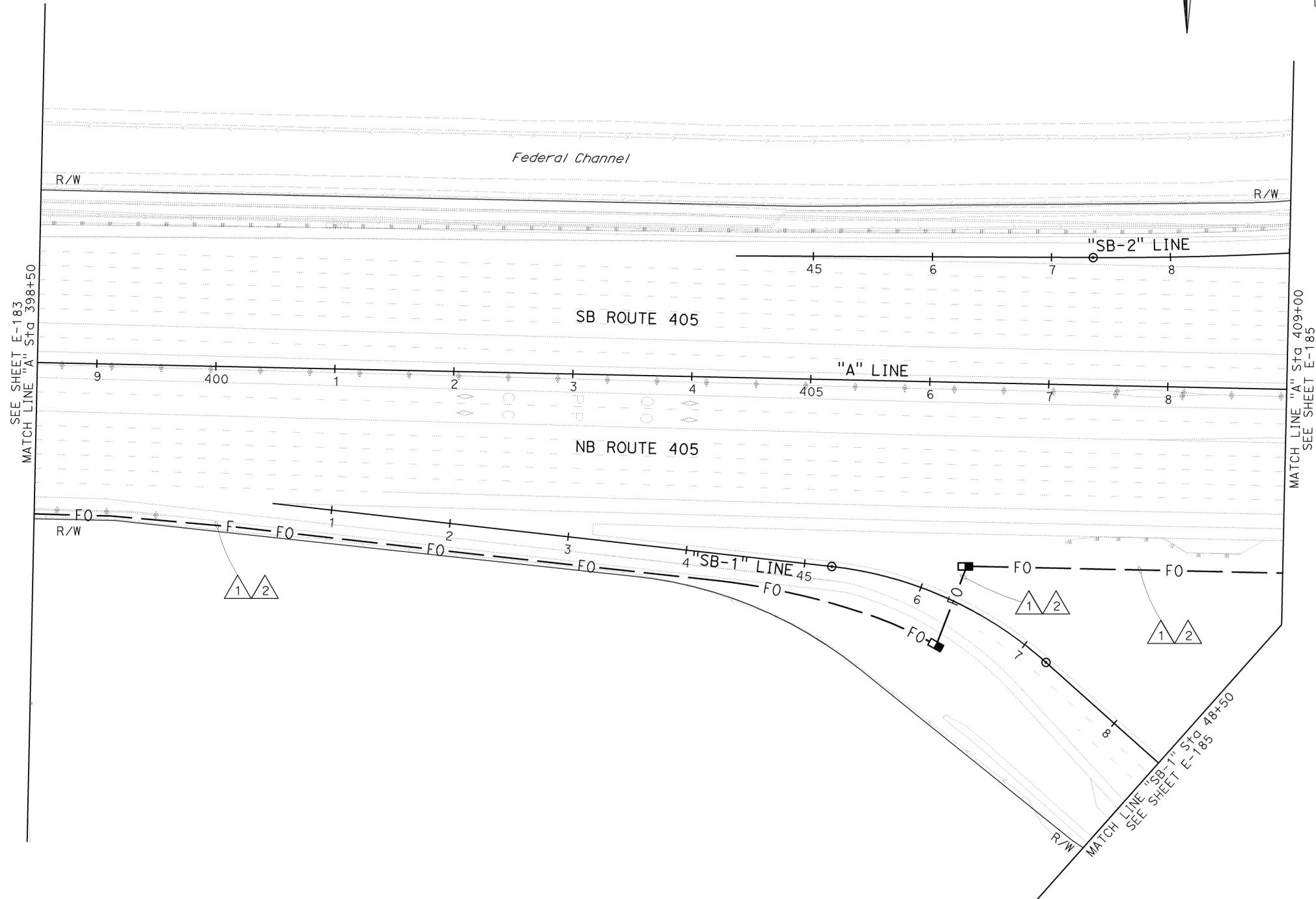
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0, 3.0/R1.6	1370	1929

REGISTERED CIVIL ENGINEER: *[Signature]* DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2
TYPE A FO CABLE	1	-
TYPE B FO CABLE	1	-
TYPE C FO CABLE	1	-
TYPE D FO CABLE	-	-
INNERDUCT SIZE 1"	4	4
PULL ROPE	1	4
CONDUIT SIZE	4"	4"

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.

COMMUNICATION SYSTEM
 SCALE: 1" = 50'

E-184

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2	3	4	5	7	8	9	10	11	12	21	22
TYPE A FO CABLE	1	-	-	-	-	1	1	-	-	-	-	-	-
TYPE B FO CABLE	1	-	-	-	-	1	1	-	-	-	-	-	-
TYPE C FO CABLE	1	-	-	-	-	1	1	-	-	-	-	-	-
TYPE D FO CABLE	-	-	1	1	-	1	2	1	-	-	1	-	-
#6 CCTV SERVICE	-	-	-	-	-	-	-	-	2	2	-	2	2
MULTI-CONDUCTOR CABLE	-	-	-	-	1(E)	-	-	-	-	-	-	-	-
INNERDUCT SIZE 1"	4	4	-	-	-	4	4	-	-	-	-	-	-
PULL ROPE	1	4	-	-	-	-	-	-	-	-	-	-	-
CONDUIT SIZE	4"	4"	2"	2"	3"(E)	4"	4"	2"	3"(E)	1 1/2"	3"(E)	2"(E)	1 1/2"(E)

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.
(E) = EXISTING

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- REMOVE EXISTING WAN ACCESS ROUTER AND VIDEO SERVER. INSTALL EES, VE AND FDU IN EXISTING MODEL 334-TV CABINET. TERMINATE ENDS OF FOC TO FDU. ALSO, REMOVE TEMPORARY WAN ACCESS ROUTER AND VIDEO SERVER AT TMC.
- REMOVE ALL EXISTING WIRELESS EQUIPMENT USED TO COMMUNICATE WITH TMC. INSTALL FIELD IP DATA ENCODER, EES AND FDU IN EXISTING MODEL 334 CABINET. TERMINATE ENDS OF FOC TO FDU.
- FOR REFERENCE ONLY. SEE RMS PLAN SHEETS E-121 (LOCATION 1) AND E-129 (LOCATION 2) FOR DETAILS.
- INSTALL SPLICE CLOSURES FOR FIBER OPTIC SPLICING.
- INSTALL ADDITIONAL POWER CONDUCTORS FOR CCTV CAMERA AS SPECIFIED IN CABLE AND CONDUIT SCHEDULE.
- CONDUITS AND PULLBOXES SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY. SEE SHEET E-129 FOR RMS PLAN AT LOCATION 2 FOR DETAILS.
- FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-103 FOR TS PLAN AT LOCATION 1.
- INSTALL FIELD IP DATA ENCODER, EES AND FDU IN EXISTING MODEL 332 CABINET. TERMINATE ENDS OF FOC TO FDU.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	RO.3/RO.9, 22.3/24.0,3.0/R1.6	1371	1929

8/10/09
REGISTERED CIVIL ENGINEER DATE

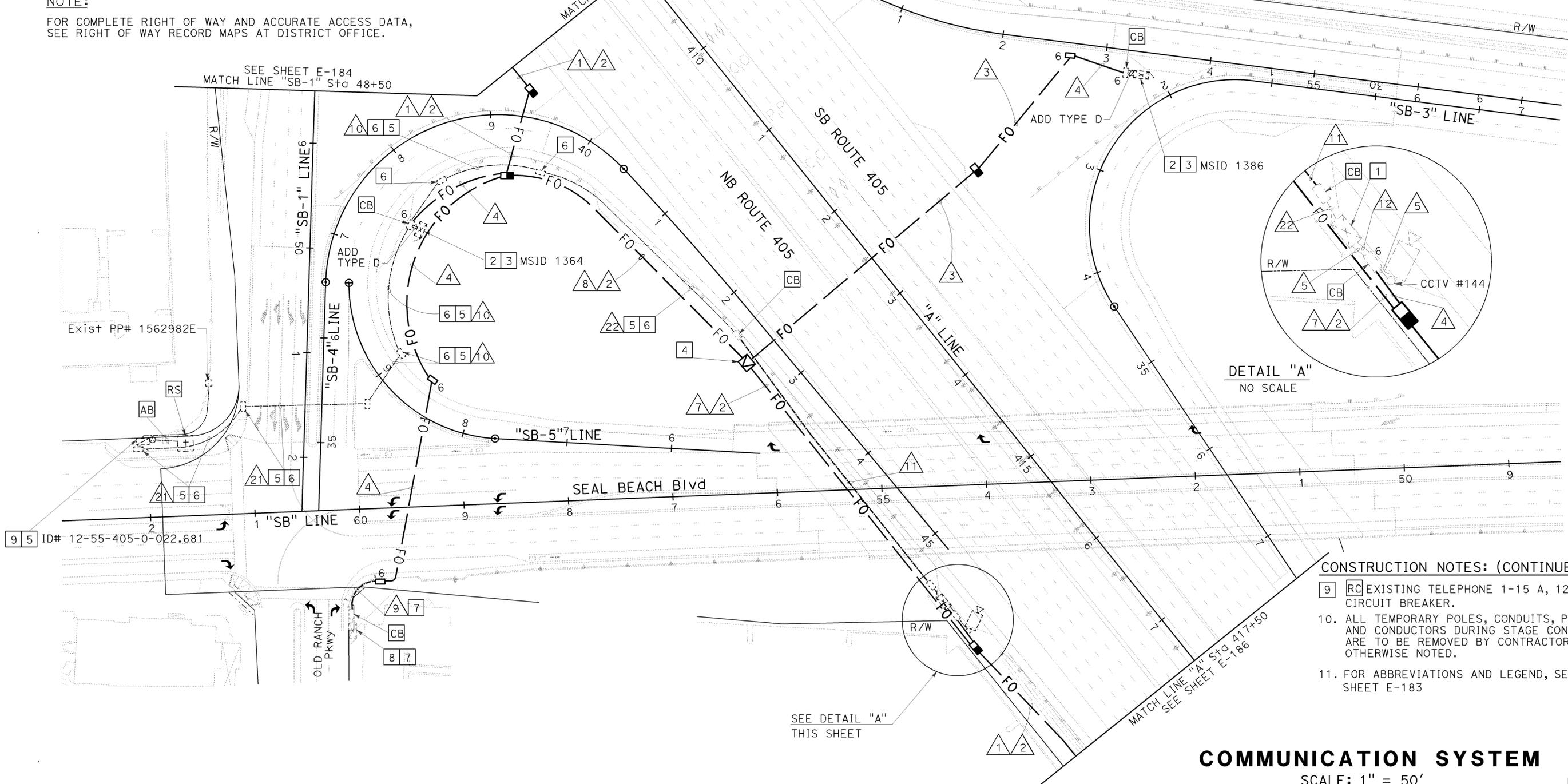
2-1-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL



CONSTRUCTION NOTES: (CONTINUE)

- EXISTING TELEPHONE 1-15 A, 120 V, 1P, CIRCUIT BREAKER.
- ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
- FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183

COMMUNICATION SYSTEM
SCALE: 1" = 50'
E-185

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Vicente Encarnacion - Charlotte Wu
Caltrans

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DENWUN LIN
 VICENTE ENCARNACION - CHARLOTTE WU
 TIMMY TO
 VVE: 8/10/09
 REVISOR: 8/10/09
 DATE: 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (THIS SHEET ONLY)

1. ALL TEMPORARY POLE, CONDUIT, PULLBOX AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
2. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183.

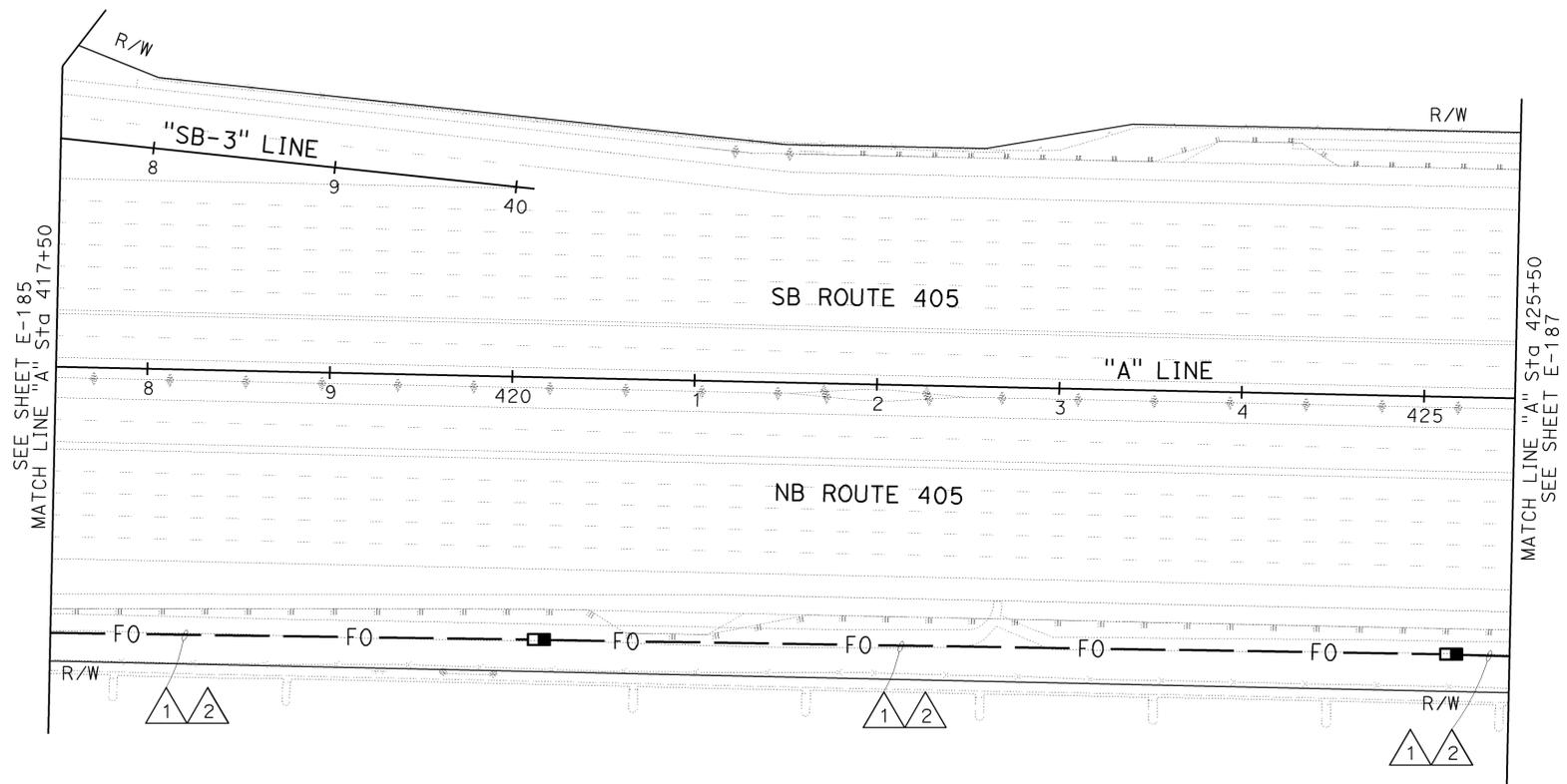
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1372	1929

REGISTERED CIVIL ENGINEER: *[Signature]* DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2
TYPE A FO CABLE	1	-
TYPE B FO CABLE	1	-
TYPE C FO CABLE	1	-
TYPE D FO CABLE	-	-
INNERDUCT SIZE 1"	4	4
PULL ROPE	1	4
CONDUIT SIZE	4"	4"

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.

COMMUNICATION SYSTEM
 SCALE: 1" = 50'

E-186

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikesl
 DGN FILE => c07163ua185.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:43

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: DENWUN LIN
 SUPERVISOR: DENWUN LIN
 DESIGNED BY: DENWUN LIN
 CHECKED BY: DENWUN LIN
 REVISIONS:
 1. VICENTE ENCARNACION - CHARLOTTE WU
 2. TIMMY TO
 3. VVE
 4. 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-173 FOR TMS PLAN.
- 2 INSTALL FIELD IP DATA ENCODER, EES AND FDU IN NEW MODEL 334 CABINET. TERMINATE ENDS OF FOC TO FDU.
- 3 INSTALL SPLICE CLOSURES FOR FIBER OPTIC SPLICING.
- 4 INSTALL CONDUIT IN PAVEMENT SHOULDER AS INDICATED ON PLAN.
5. ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
6. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183

CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2	4
TYPE A FO CABLE	1	-	-
TYPE B FO CABLE	1	-	-
TYPE C FO CABLE	1	-	-
TYPE D FO CABLE	-	-	1
INNERDUCT SIZE 1"	4	4	-
PULL ROPE	1	4	-
CONDUIT SIZE	4"	4"	2"

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.

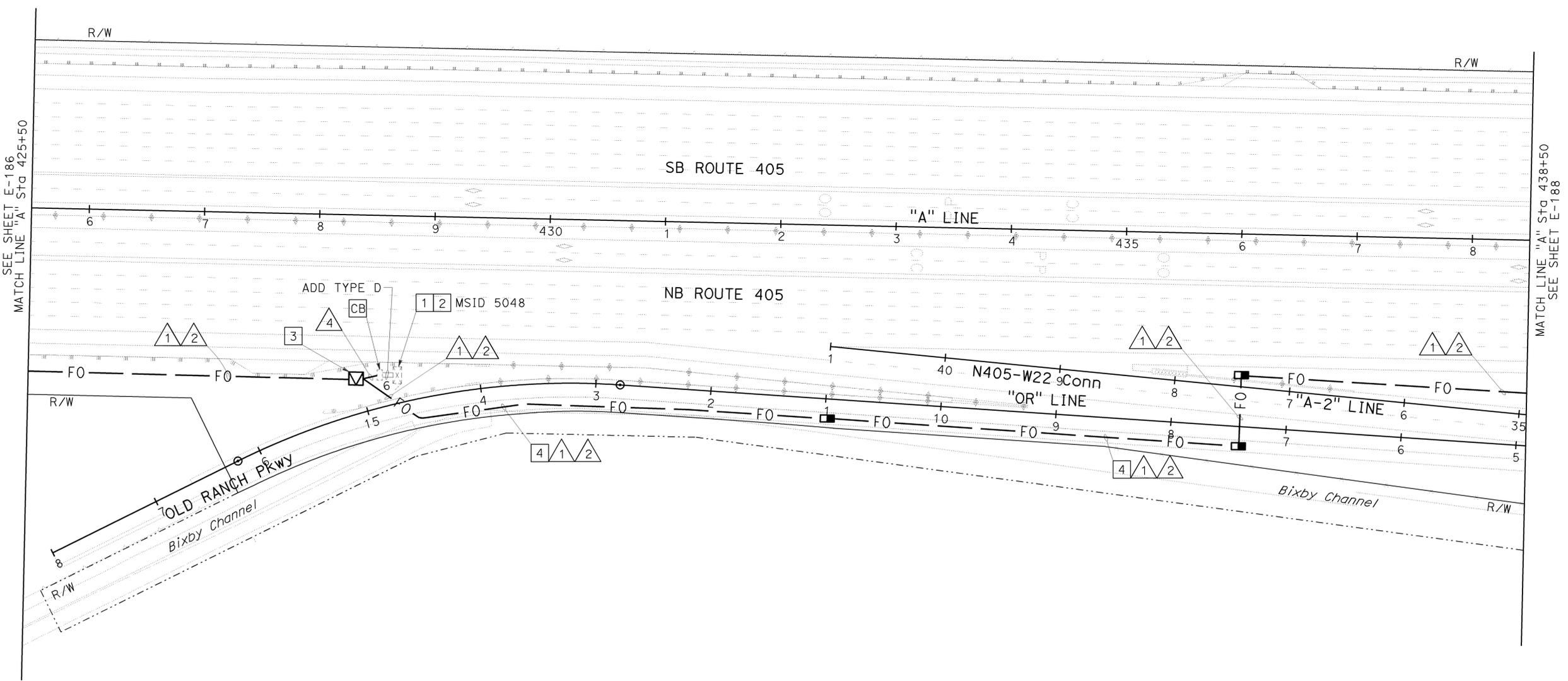


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1373	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09
 2-1-10 PLANS APPROVAL DATE
DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



COMMUNICATION SYSTEM
 SCALE: 1" = 50'

E-187

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikes1
 DGN FILE => c07163ua186.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:43

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: FUNCTIONAL SUPERVISOR DENWUN LIN
 CALCULATED/DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISED BY: VVE
 DATE REVISED: 8/10/09

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 FOR REFERENCE ONLY. FOR DETAILS, SEE TMS PLAN SHEETS E-140 (LOCATION 1) AND E-145 (LOCATION 2).
- 2 INSTALL SPLICE CLOSURES FOR FIBER OPTIC SPLICING.
- 3 EXISTING TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- 4 REMOVE EXISTING GSM BASED GPRS/EDGE MODEM. INSTALL FIELD IP DATA ENCODER, EES AND FDU IN EXISTING MODEL 334 CABINET. TERMINATE ENDS OF FOC TO FDU.
- 5 CONDUIT AND PULL BOX SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY. FOR DETAILS, SEE TEMPORARY CLOSED CIRCUIT TELEVISION SYSTEM PLAN SHEET E-180.
- 6 **RC** EXISTING CONDUCTORS FROM THE EXISTING CONDUIT. INSTALL NEW CONDUCTORS AS SPECIFIED IN CABLE AND CONDUIT SCHEDULE.
- 7 INSTALL POWER CONDUCTORS FOR CCTV CAMERA AS SPECIFIED IN CABLE AND CONDUIT SCHEDULE.
- 8 SPLICE ADDITIONAL TYPE D CABLE TO THE FIRST 12 STRAND OF TYPE A CABLE. CONTINUE TYPE D CABLE PER CONDUIT RUN ²⁴ FOR FUTURE USE.
9. ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
10. FOR ABBREVIATIONS AND LEGENDS, SEE SHEET E-182.

CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2	3	4	7	15	16	17	23	24
TYPE A FO CABLE	1	-	-	-	1	-	-	-	-	-
TYPE B FO CABLE	1	-	-	-	1	-	-	-	-	-
TYPE C FO CABLE	1	-	-	-	1	-	-	-	-	-
TYPE D FO CABLE	-	-	2	1	1	3	-	-	-	1
#6 CCTV SERVICE	-	-	-	-	-	-	4	2	4	-
INNERDUCT SIZE 1"	4	4	-	-	4	-	-	-	-	-
PULL ROPE	1	4	-	-	-	-	-	-	-	-
CONDUIT SIZE	4"	4"	2"	2"	4"	2"	1 1/2"(E)	1 1/2"	2"(E)	2"

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.
 (E) = EXISTING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1374	1929

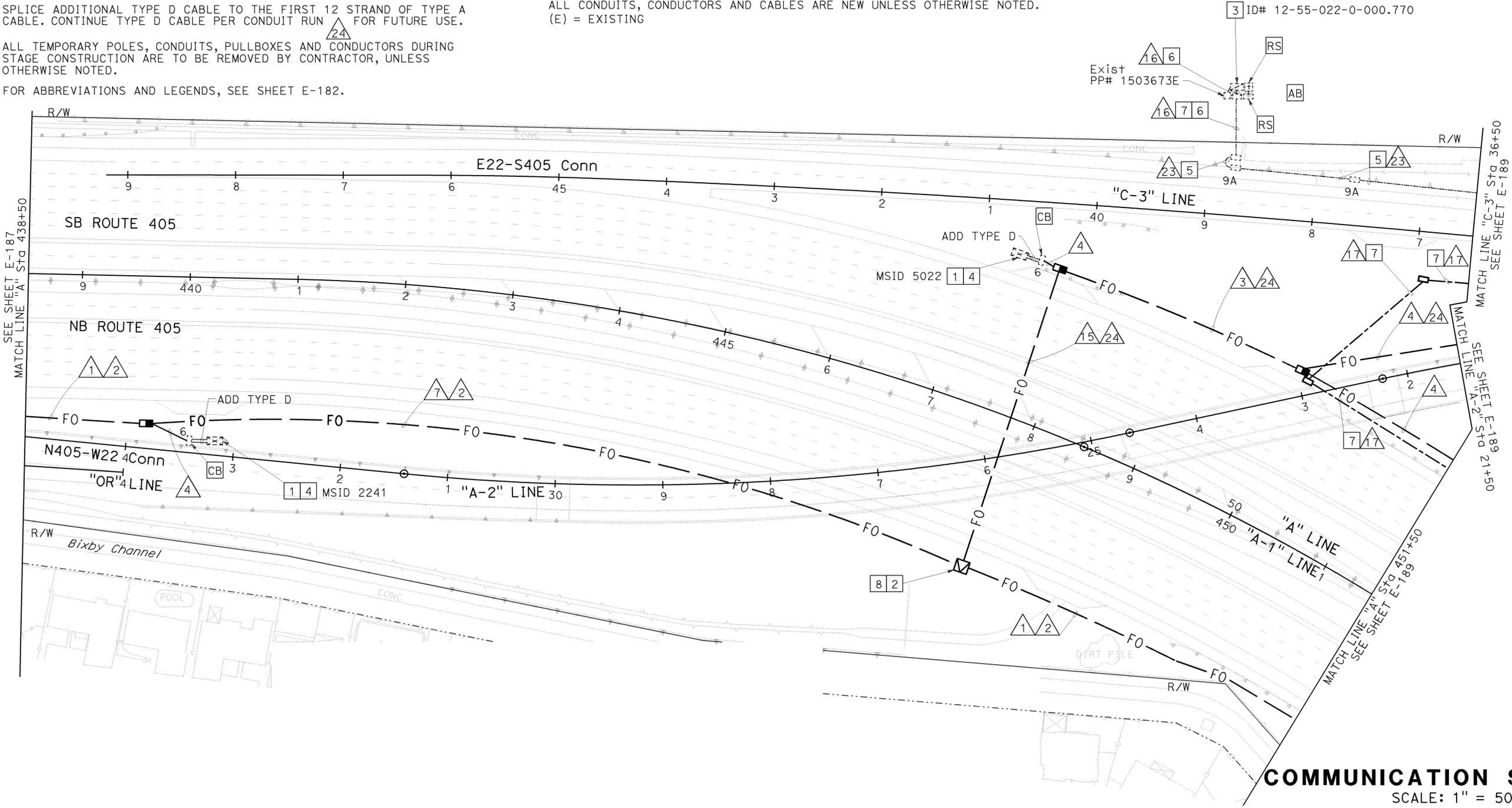
8/10/09
 REGISTERED CIVIL ENGINEER DATE
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

2-1-10
 PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780

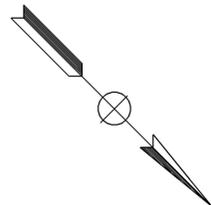
ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584



COMMUNICATION SYSTEM
 SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 RELOCATE EXISTING CCTV CAMERA ASSEMBLY ON TEMPORARY WOOD POLE TO OVERHEAD SIGN STRUCTURE. SEE STANDARD PLAN ES-16B FOR INSTALLATION OF CCTV 15 POLE.
- 2 INSTALL SPLICE VAULT AS INDICATED. COIL 50' TYPE D FOR FUTURE USE.
- 3 REMOVE EXISTING WAN ACCESS ROUTER AND VIDEO SERVER. INSTALL EES, VE AND FDU IN EXISTING MODEL 334-TV CABINET. TERMINATE ENDS OF FOC TO FDU. ALSO, REMOVE TEMPORARY WAN ACCESS ROUTER AND VIDEO SERVER AT TMC.
- 4 CONDUIT AND PULL BOX SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY. FOR DETAILS, SEE LIGHTING AND SIGN ILLUMINATION PLAN SHEET E-67.
- 5 INSTALL POWER CONDUCTORS FOR CCTV CAMERA AS SPECIFIED IN CABLE AND CONDUIT SCHEDULE.
- 6 CONDUIT AND PULL BOX SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY. FOR DETAILS, SEE TEMPORARY CLOSED CIRCUIT TELEVISION PLAN SHEET E-180.
- 7 INSTALL 4"C, MT FOR FUTURE COMMUNICATION USE.
8. ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
9. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1375	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09

2-1-10 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT: DENWUN LIN

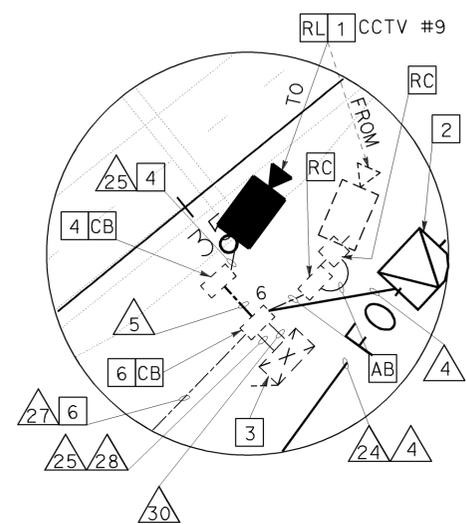
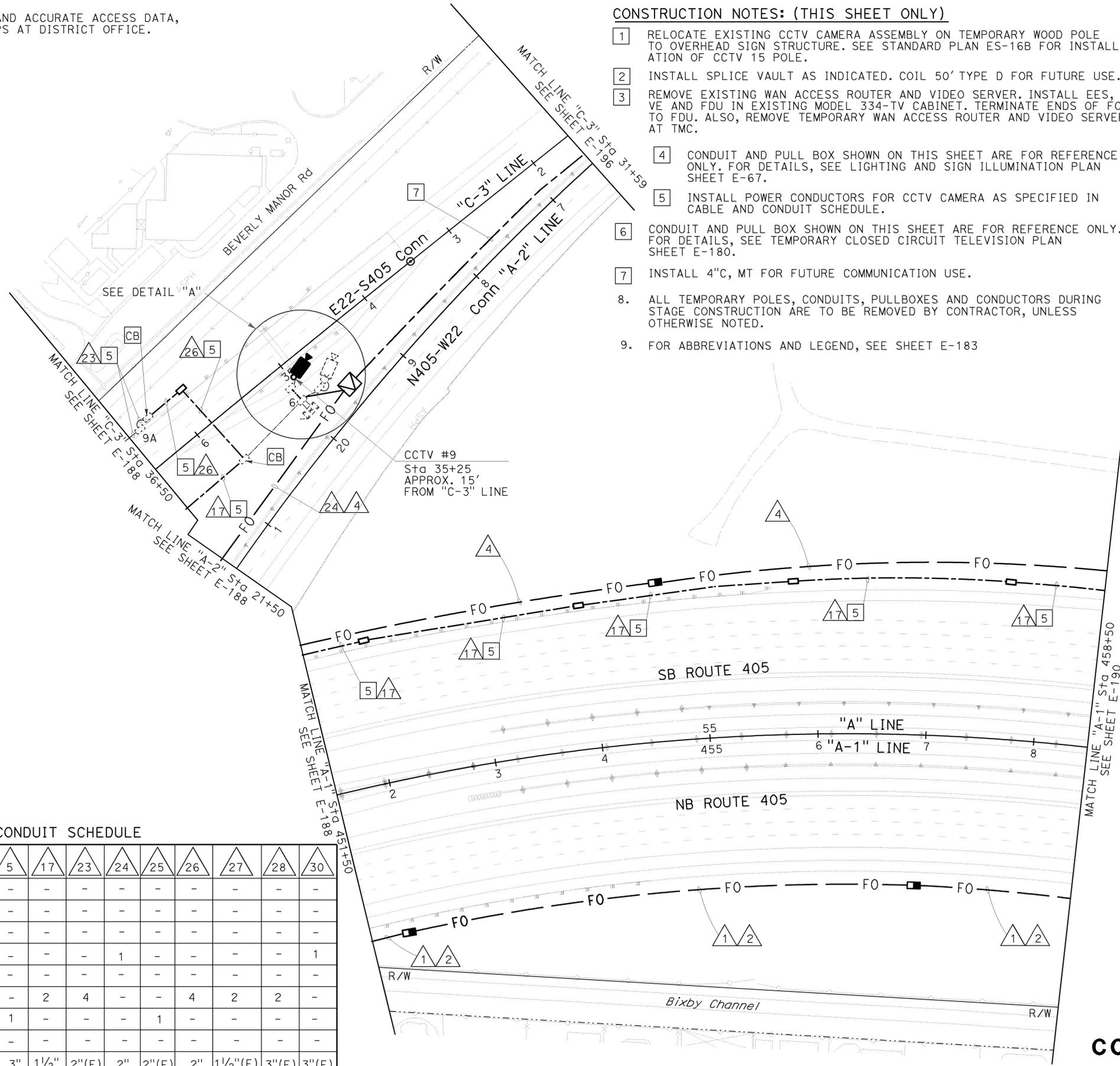
FUNCTIONAL SUPERVISOR: DENWUN LIN

DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU

CHECKED BY: TIMMY TO

REVISOR: VVE

DATE REVISED: 8/10/09



DETAIL "A"
NO SCALE

CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2	4	5	17	23	24	25	26	27	28	30
TYPE A FO CABLE	1	-	-	-	-	-	-	-	-	-	-	-
TYPE B FO CABLE	1	-	-	-	-	-	-	-	-	-	-	-
TYPE C FO CABLE	1	-	-	-	-	-	-	-	-	-	-	-
TYPE D FO CABLE	-	-	1	-	-	-	1	-	-	-	-	1
INNERDUCT SIZE 1"	4	4	-	-	-	-	-	-	-	-	-	-
#6 CCTV SERVICE	-	-	-	-	2	4	-	-	4	2	2	-
MULTI-CONDUCTOR CABLE	-	-	-	1	-	-	-	1	-	-	-	-
PULL ROPE	1	4	-	-	-	-	-	-	-	-	-	-
CONDUIT SIZE	4"	4"	2"	3"	1 1/2"	2"(E)	2"	2"(E)	2"	1 1/2"(E)	3"(E)	3"(E)

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.
(E) = EXISTING

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

COMMUNICATION SYSTEM
SCALE: 1" = 50'

E-189

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: DENWUN LIN
 SUPERVISOR: DENWUN LIN
 DESIGNED BY: DENWUN LIN
 CHECKED BY: TIMMY TO
 REVISIONS: VVE 8/10/09
 VICENTE ENCARNACION - CHARLOTTE WU

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-150 FOR TMS PLAN AT LOCATION 3.
- 2 INSTALL CONDUIT IN PAVEMENT SHOULDER AS INDICATED ON PLAN.
- 3 REMOVE EXISTING GSM BASED GPRS/EDGE MODEM. INSTALL FIELD IP DATA ENCODER, EES AND FDU IN EXISTING MODEL 334 CABINET. TERMINATE ENDS OF FOC TO FDU.
- 4 INSTALL SPLICE CLOSURES FOR FIBER OPTIC SPLICING.
- 5 INSTALL ADDITIONAL POWER CONDUCTORS AS SPECIFIED IN THE CABLE AND CONDUIT SCHEDULE.
- 6 CONDUIT AND PULL BOX SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY. FOR DETAILS, SEE TEMPORARY CLOSED CIRCUIT TELEVISION PLAN SHEET E-180.
- 7 EXISTING CCTV 30 POLE WITH CAMERA ASSEMBLY.
- 8 REMOVE EXISTING WAN ACCESS ROUTER AND VIDEO SERVER. INSTALL EES, VE AND FDU IN EXISTING MODEL 334-TV CABINET. TERMINATE ENDS OF FOC TO FDU. ALSO, REMOVE TEMPORARY WAN ACCESS ROUTER AND VIDEO SERVER AT TMC.
9. ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
10. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183.

CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2	4	17	18	19	27
TYPE A FO CABLE	1	-	-	-	-	-	-
TYPE B FO CABLE	1	-	-	-	-	-	-
TYPE C FO CABLE	1	-	-	-	-	-	-
TYPE D FO CABLE	-	-	1	-	-	-	-
INNERDUCT SIZE 1"	4	4	-	-	-	-	-
#2/O CCTV SERVICE	-	-	-	-	-	2	-
#2/O LOWERING DEVICE	-	-	-	-	-	2	-
#6 CCTV SERVICE	-	-	-	2	-	-	2
MULTI-CONDUCTOR CABLE	-	-	-	-	1(E)	-	-
PULL ROPE	1	4	-	-	-	-	-
CONDUIT SIZE	4"	4"	2"	1 1/2"	3"(E)	4"(E)	1 1/2"(E)

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.
 (E) = EXISTING

Dist: 12 COUNTY: Ora ROUTE: 22,405,605 POST MILES TOTAL PROJECT: 22.3/24.0,3.0/R1.6 SHEET No.: 1376 TOTAL SHEETS: 1929

REGISTERED CIVIL ENGINEER: DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL

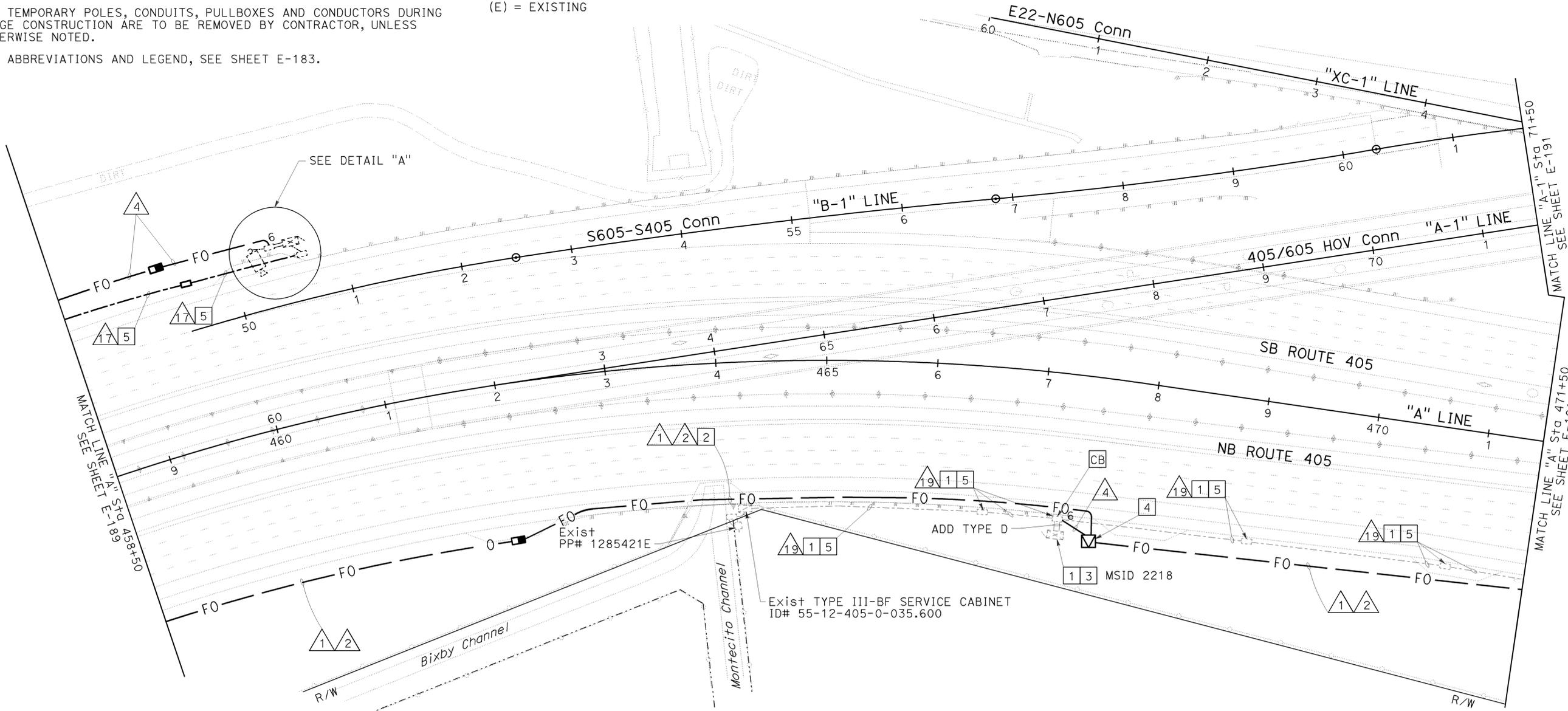
PLANS APPROVAL DATE: 8/10/09

2-1-10

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

DETAIL "A"
NO SCALE



COMMUNICATION SYSTEM
 SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: DENWUN LIN
 SUPERVISOR: DENWUN LIN
 DESIGNED BY: DENWUN LIN
 CHECKED BY: DENWUN LIN
 ENCARNACION: CHARLOTTE WU
 TO: TIMMY TO
 REVISED BY: VVE
 DATE REVISED: 8/10/09

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

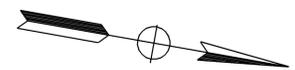
CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-156 FOR TMS PLAN AT LOCATION 4.
- 2 REMOVE EXISTING GSM BASED GPRS/EDGE MODEM. INSTALL FIELD IP DATA ENCODER, EES AND FDU IN EXISTING MODEL 334 CABINET. TERMINATE ENDS OF FOC TO FDU.
- 3 INSTALL SPLICE CLOSURES FOR FIBER OPTIC SPLICING.
- 4 CONDUIT AND PULL BOX SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-156 FOR TMS PLAN AT LOCATION 4.
- 5 SPLICE ADDITIONAL TYPE D CABLE TO THE FIRST 12 STRAND OF TYPE A CABLE. CONTINUE TYPE D CABLE PER CONDUIT RUN $\triangle 24$.
- 6 INSTALL ADDITIONAL POWER CONDUCTORS AS SPECIFIED IN THE CABLE AND CONDUIT SCHEDULE.
7. ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
8. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183.

CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2	3	4	7	15	19	24
TYPE A FO CABLE	1	-	-	-	1	-	-	-
TYPE B FO CABLE	1	-	-	-	1	-	-	-
TYPE C FO CABLE	1	-	-	-	1	-	-	-
TYPE D FO CABLE	-	-	2	1	1	3	-	1
INNERDUCT SIZE 1"	4	4	-	-	4	-	-	-
#2/O CCTV SERVICE	-	-	-	-	-	-	2	-
#2/O LOWERING DEVICE	-	-	-	-	-	-	2	-
PULL ROPE	1	4	-	-	-	-	-	-
CONDUIT SIZE	4"	4"	2"	2"	4"	2"	4"(E)	2"

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.
 (E) = EXISTING

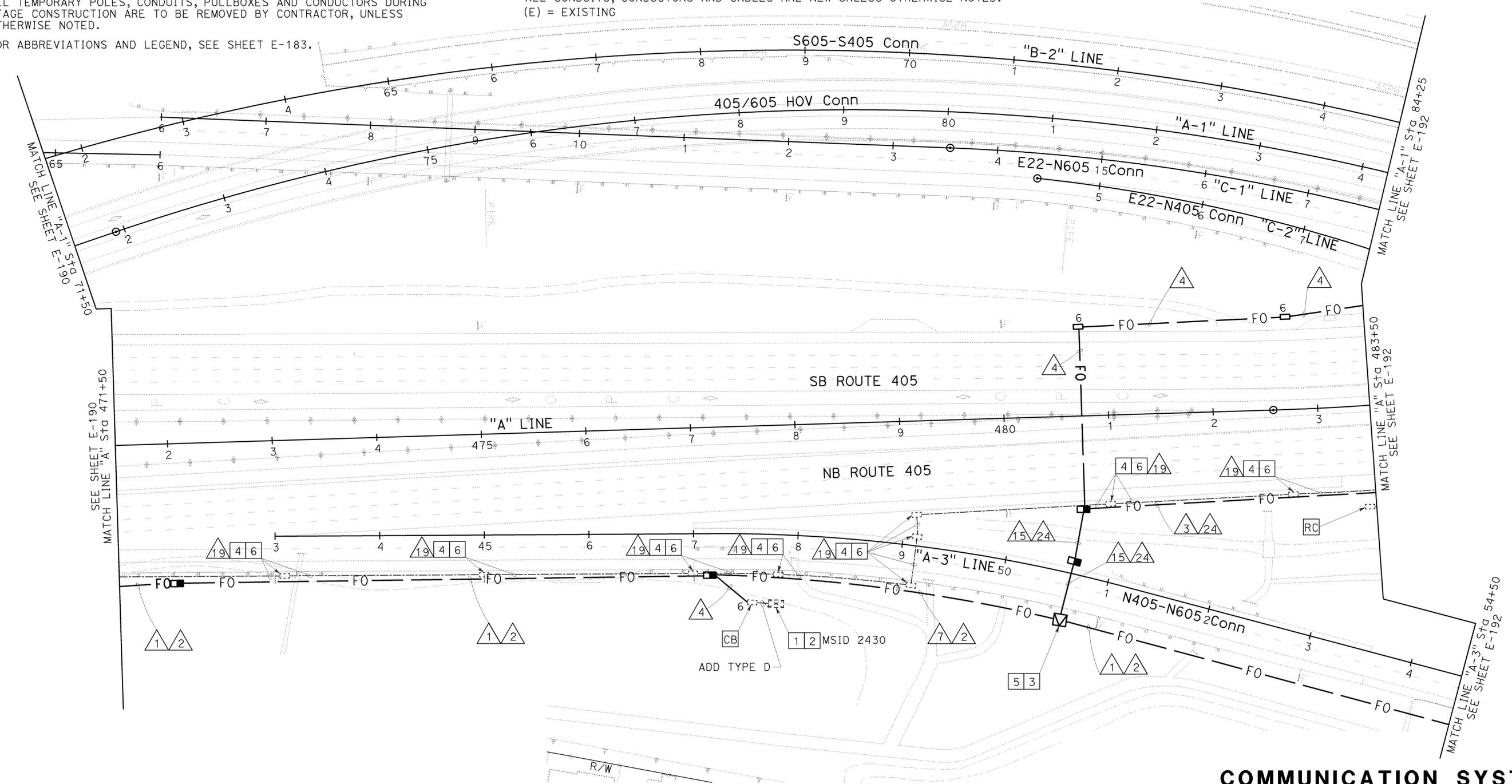


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0, 3.0/R1.6	1377	1929

REGISTERED CIVIL ENGINEER DATE 8/10/09
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584



COMMUNICATION SYSTEM
 SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmikes1
 DGN FILE => c07163ua190.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

E-191

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 TIME PLOTTED => 09:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0, 3.0/R1.6	1378	1929

8/10/09
REGISTERED CIVIL ENGINEER DATE

2-1-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

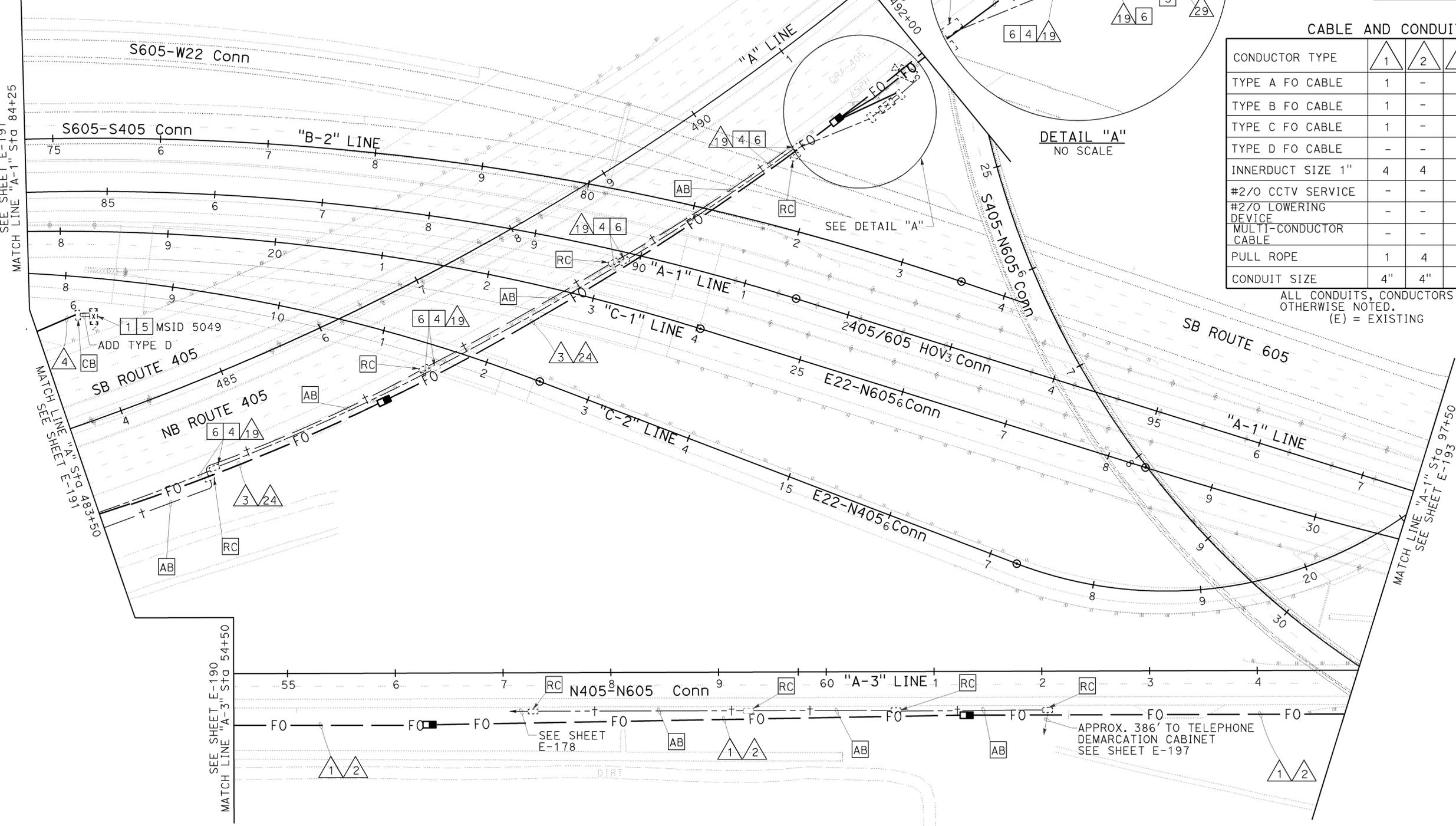
ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

CONSTRUCTION NOTES: (THIS SHEET ONLY)

- FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-162 FOR TMS PLAN AT LOCATION 6.
- EXISTING CCTV CAMERA ASSEMBLY. SEE TEMPORARY CLOSED CIRCUIT TELEVISION PLAN E-178 FOR DETAILS.
- REMOVE EXISTING WAN ACCESS ROUTER AND VIDEO SERVER. INSTALL EES, VE AND FDU IN EXISTING MODEL 334-TV CABINET. TERMINATE ENDS OF FOC TO FDU. ALSO, REMOVE TEMPORARY WAN ACCESS ROUTER AND VIDEO SERVER AT TMC.
- CONDUIT AND PULL BOX SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-158 FOR TMS PLAN AT LOCATION 5.
- REMOVE EXISTING GSM BASED GPRS/EDGE MODEM. INSTALL FIELD IP DATA ENCODER, EES AND FDU IN EXISTING MODEL 334 CABINET. TERMINATE ENDS OF FOC TO FDU.
- INSTALL ADDITIONAL POWER CONDUCTORS AS SPECIFIED IN THE CABLE AND CONDUIT SCHEDULE.

NOTE:
FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2	3	4	19	24	29	30
TYPE A FO CABLE	1	-	-	-	-	-	-	-
TYPE B FO CABLE	1	-	-	-	-	-	-	-
TYPE C FO CABLE	1	-	-	-	-	-	-	-
TYPE D FO CABLE	-	-	2	1	-	1	-	1
INNERDUCT SIZE 1"	4	4	-	-	-	-	-	-
#2/O CCTV SERVICE	-	-	-	-	2	-	-	-
#2/O LOWERING DEVICE	-	-	-	-	2	-	2	-
MULTI-CONDUCTOR CABLE	-	-	-	-	-	-	1(E)	-
PULL ROPE	1	4	-	-	-	-	-	-
CONDUIT SIZE	4"	4"	2"	2"	4"(E)	2"	3"(E)	3"(E)

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.
(E) = EXISTING

CONSTRUCTION NOTES: (CONTINUE)

- ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
- FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183.

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

COMMUNICATION SYSTEM

SCALE: 1" = 50'

E-192

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT: DENWUN LIN

FUNCTIONAL SUPERVISOR: DENWUN LIN

DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU

CHECKED BY: TIMMY TO

REVISOR: VVE

DATE REVISED: 8/10/09

LAST REVISION: DATE PLOTTED => 09-FEB-2010 08-10-09 TIME PLOTTED => 09:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1379	1929

REGISTERED CIVIL ENGINEER	8/10/09	DATE
2-1-10 PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.</small>		
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780	ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584	

NOTE:
FOR ACCURATE RIGHT OF WAY AND ACCESS DATA,
CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

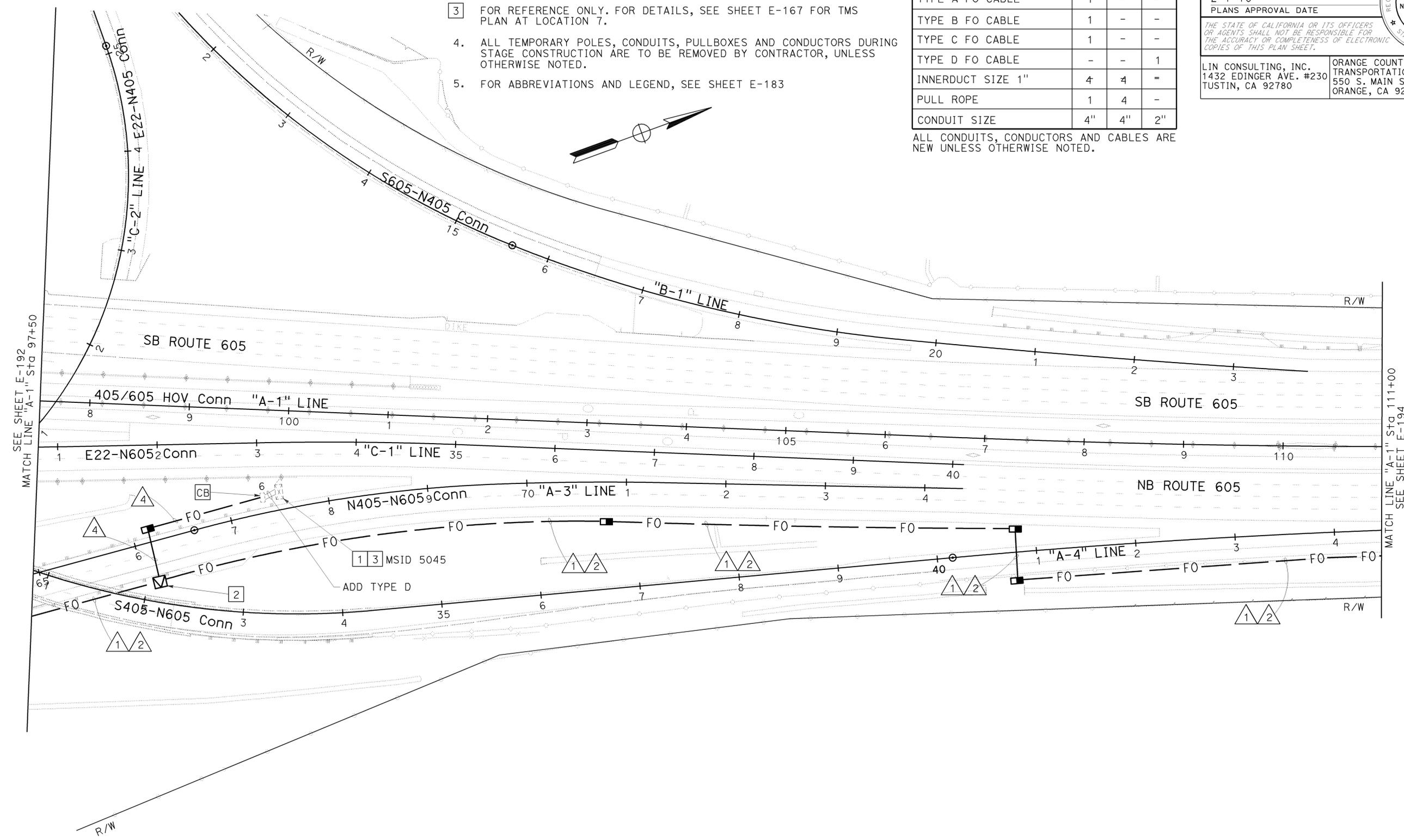
- CONSTRUCTION NOTE: (THIS SHEET ONLY)**
- 1 REMOVE EXISTING GSM BASED GPRS/EDGE MODEM. INSTALL FIELD IP DATA ENCODER, EES AND FDU IN EXISTING MODEL 334 CABINET. TERMINATE ENDS OF FOC TO FDU.
 - 2 INSTALL SPLICE CLOSURES FOR FIBER OPTIC SPLICING.
 - 3 FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-167 FOR TMS PLAN AT LOCATION 7.
 4. ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
 5. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183

CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2	4
TYPE A FO CABLE	1	-	-
TYPE B FO CABLE	1	-	-
TYPE C FO CABLE	1	-	-
TYPE D FO CABLE	-	-	1
INNERDUCT SIZE 1"	4	4	=
PULL ROPE	1	4	-
CONDUIT SIZE	4"	4"	2"

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR
 DENWUN LIN
 CALCULATED/DESIGNED BY
 VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY
 TIMMY TO
 REVISED BY
 VVE
 DATE REVISED
 8/10/09



COMMUNICATION SYSTEM
SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trpierce
DGN FILE => c07163ua192.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 | TIME PLOTTED => 09:41

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: CHECKED BY: TIMMY TO
 VICENTE ENCARNACION CHARLOTTE WU
 REVISED BY: DATE REVISED: 8/10/09
 VVE

NOTE:
 FOR ACCURATE RIGHT OF WAY AND ACCESS DATA,
 CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

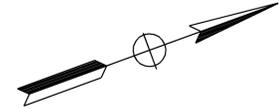
CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2
TYPE A FO CABLE	1	-
TYPE B FO CABLE	1	-
TYPE C FO CABLE	1	-
TYPE D FO CABLE	-	-
INNERDUCT SIZE 1"	4	4
PULL ROPE	1	4
CONDUIT SIZE	4"	4"

ALL CONDUITS, CONDUCTORS AND CABLES
 ARE NEW UNLESS OTHERWISE NOTED.

CONSTRUCTION NOTES: (THIS SHEET ONLY)

1. ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
2. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183.



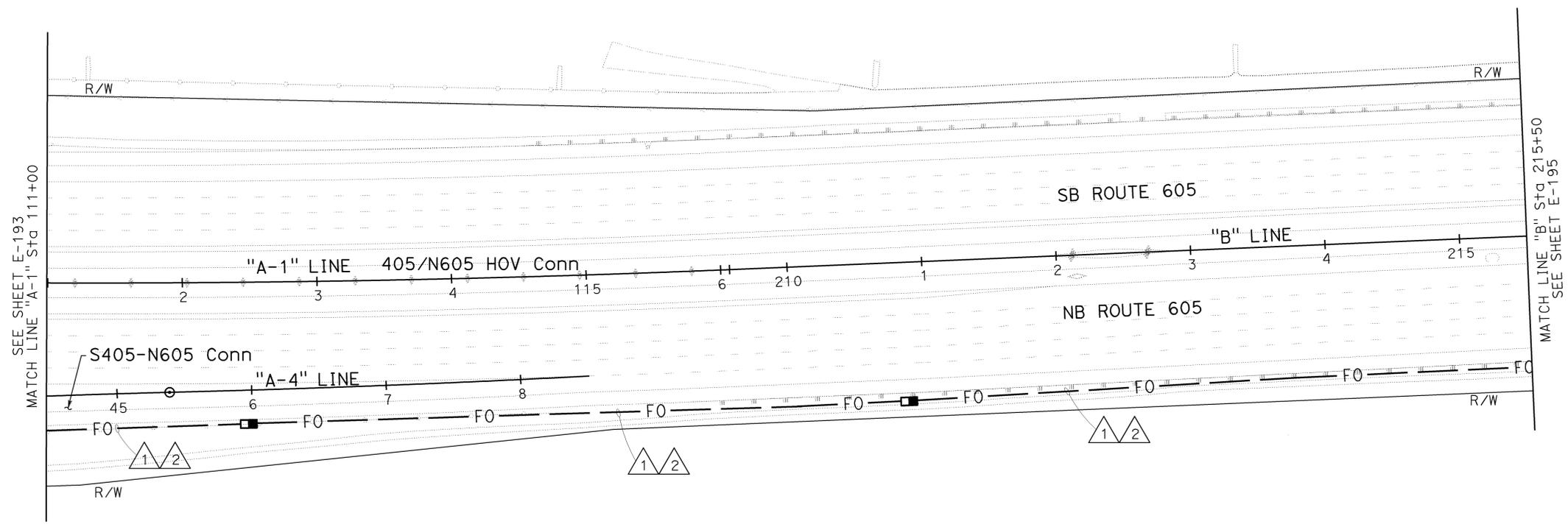
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1380	1929

REGISTERED CIVIL ENGINEER: DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

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

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

ORANGE COUNTY TRANSPORTATION AUTHORITY
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780



COMMUNICATION SYSTEM
 SCALE: 1" = 50'

E-194

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISED BY: VVE
 DATE REVISED: 8/10/09

NOTE:
 FOR ACCURATE RIGHT OF WAY AND ACCESS DATA,
 CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

- CONSTRUCTION NOTE: (THIS SHEET ONLY)**
- FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-172 FOR TMS PLAN AT LOCATION 8.
 - REMOVE EXISTING GSM BASED GPRS/EDGE MODEM. INSTALL FIELD IP DATA ENCODER, EES AND FDU IN EXISTING MODEL 334 CABINET. TERMINATE ENDS OF FOC TO FDU.
 - CONDUIT AND PULL BOX SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-172 FOR TMS PLAN AT LOCATION 8.
 - REMOVE EXISTING WAN ACCESS ROUTER AND VIDEO SERVER. INSTALL EES, VE AND FDU IN EXISTING MODEL 334-TV CABINET. TERMINATE ENDS OF FOC TO FDU. ALSO, REMOVE TEMPORARY WAN ACCESS ROUTER AND VIDEO SERVER AT TMC.
 - INSTALL SPLICE CLOSURE FOR FIBER OPTIC SPLICING.
 - EXISTING CCTV CAMERA ASSEMBLY. SEE TEMPORARY CLOSED CIRCUIT TELEVISION PLAN E-179 FOR DETAILS.
 - PROTECT EXISTING 120/240 V TYPE III-BF SERVICE CABINET ENCLOSURE IN-PLACE.
 - INSTALL CONDUIT IN PAVEMENT SHOULDER AS INDICATED ON PLAN.
 - ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
 - FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183.

CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2	4	25	30
TYPE A FO CABLE	1	-	-	-	-
TYPE B FO CABLE	1	-	-	-	-
TYPE C FO CABLE	1	-	-	-	-
TYPE D FO CABLE	-	-	1	-	1
INNERDUCT SIZE 1"	4	4	-	-	-
PULL ROPE	1	4	-	-	-
CONDUIT SIZE	4"	4"	2"	3"(E)	3"(E)

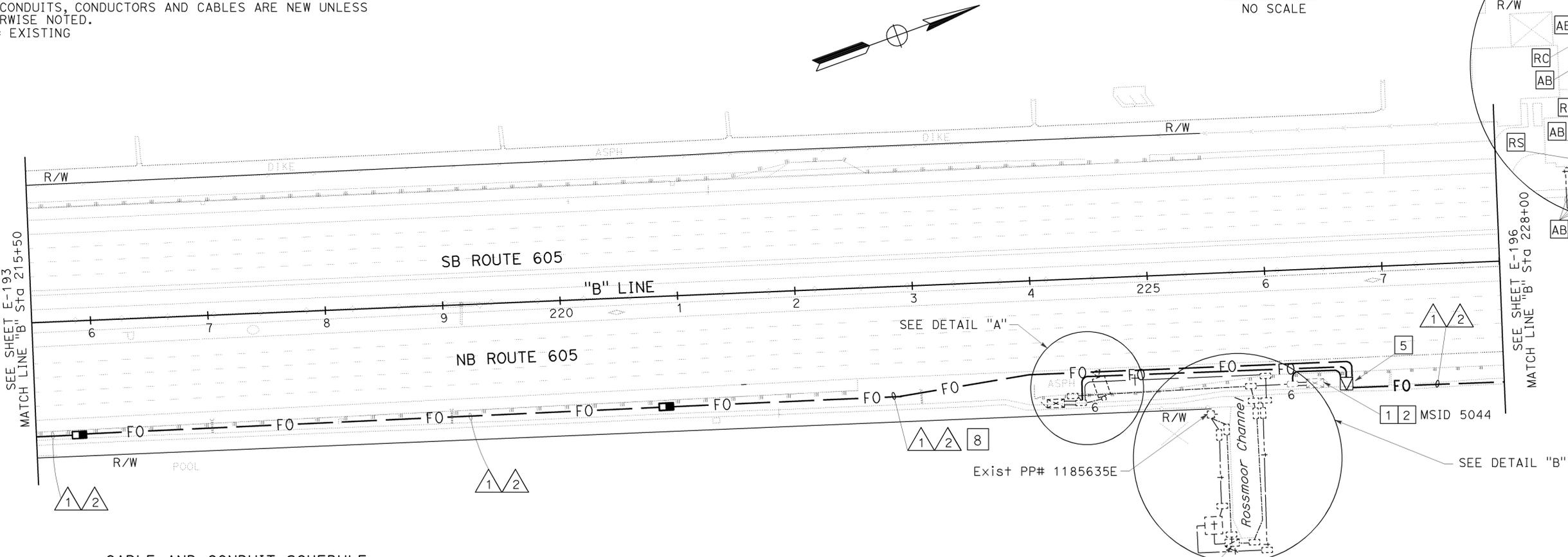
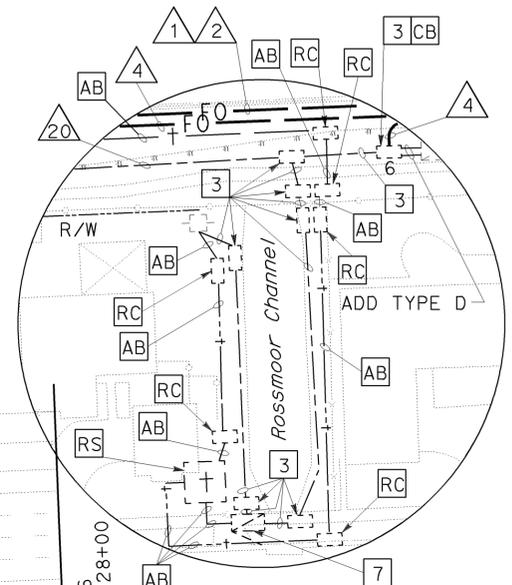
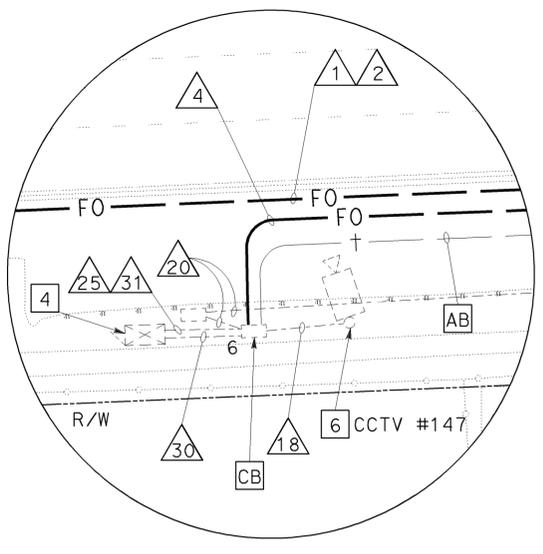
ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.
 (E) = EXISTING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	22.3/24.0, 3.0/R1.6	1381	1929

REGISTERED CIVIL ENGINEER: DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



CABLE AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUCTOR TYPE	18	20	31
#6	CCTV SERVICE	-	2(E)	2(E)
	MULTI-CONDUCTOR CABLE	1(E)	-	-
	CONDUIT SIZE	3"(E)	2"(E)	3"(E)

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.
 (E) = EXISTING

COMMUNICATION SYSTEM
 SCALE: 1" = 50'
E-195

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

NOTE:

FOR ACCURATE RIGHT OF WAY AND ACCESS DATA,
CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

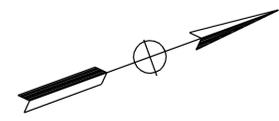
CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2
TYPE A FO CABLE	1	-
TYPE B FO CABLE	1	-
TYPE C FO CABLE	1	-
TYPE D FO CABLE	-	-
INNERDUCT SIZE 1"	4	4
PULL ROPE	1	4
CONDUIT SIZE	4"	4"

ALL CONDUITS, CONDUCTORS AND
CABLES ARE NEW UNLESS
OTHERWISE NOTED.

CONSTRUCTION NOTE: (THIS SHEET ONLY)

1. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1382	1929

REGISTERED CIVIL ENGINEER: *Denwun Lin* DATE: 12/22/09

PLANS APPROVAL DATE: 2-1-10

REGISTERED PROFESSIONAL ENGINEER
No. C46719
Exp. 6/30/11
CIVIL
STATE OF CALIFORNIA

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

LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY
TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

REVISOR: XXX
DATE: 12/22/09

REVISOR: VICENTE ENCARNACION
CHARLOTTE WU

REVISOR: TIMMY TO

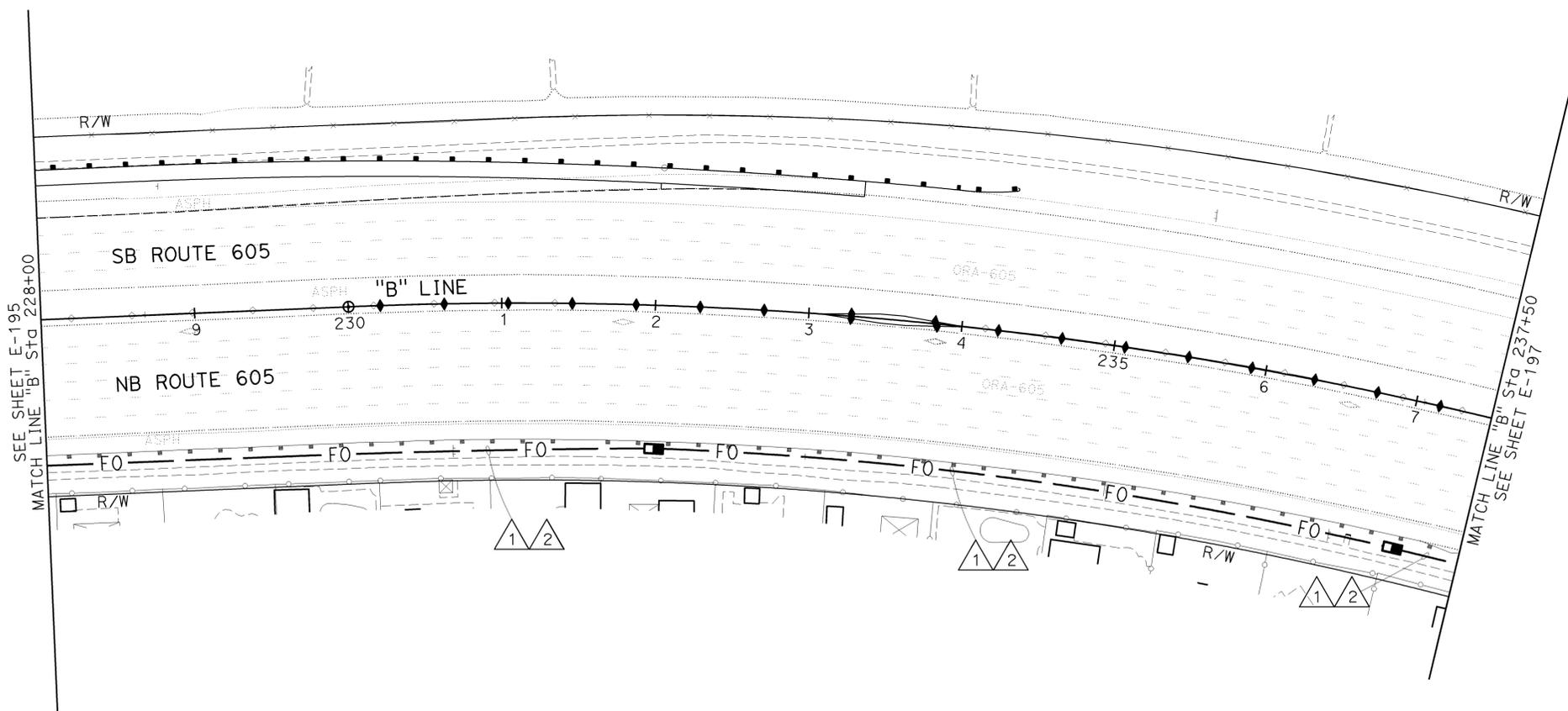
DESIGNED BY: CALCULATED-
DESIGNED BY

CHECKED BY:

CONSULTANT: DENWUN LIN

FUNCTIONAL SUPERVISOR: DENWUN LIN

DEPARTMENT OF TRANSPORTATION



COMMUNICATION SYSTEM

SCALE: 1" = 50'

E-196

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

NOTE:
FOR ACCURATE RIGHT OF WAY AND ACCESS DATA,
CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2
TYPE A FO CABLE	1	-
TYPE B FO CABLE	1	-
TYPE C FO CABLE	1	-
TYPE D FO CABLE	-	-
INNERDUCT SIZE 1"	4	4
PULL ROPE	1	4
CONDUIT SIZE	4"	4"

ALL CONDUITS, CONDUCTORS AND
CABLES ARE NEW UNLESS OTHERWISE
NOTED.

CONSTRUCTION NOTES: (THIS SHEET ONLY)

1. INSTALL CONDUIT IN PAVEMENT SHOULDER AS INDICATED ON PLAN.
2. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1383	1929

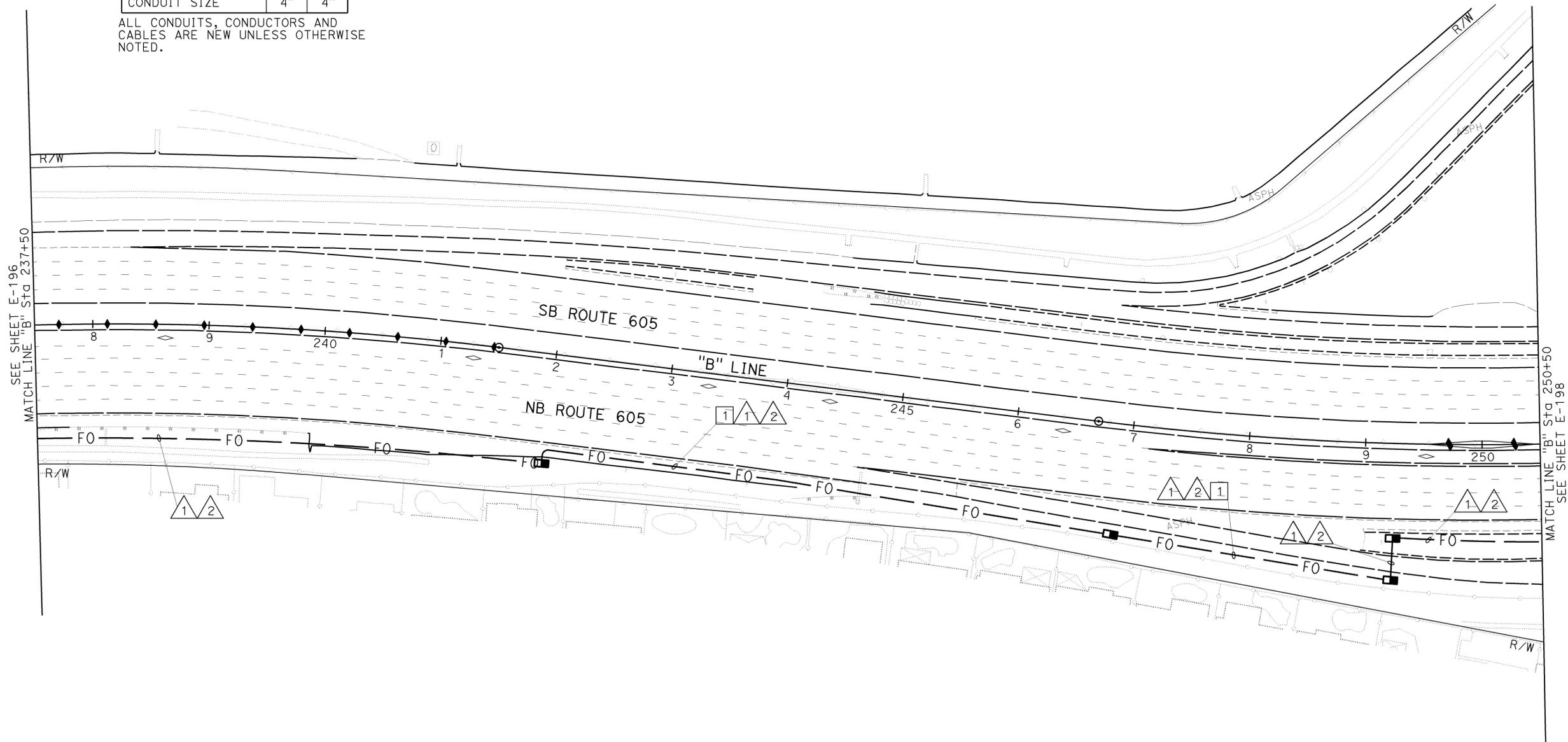
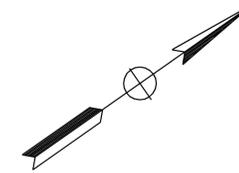
REGISTERED CIVIL ENGINEER DATE 12/22/09

2-1-10
PLANS APPROVAL DATE

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

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

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
ORANGE COUNTY
TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584



SEE SHEET E-196
MATCH LINE "B" Sta 237+50

MATCH LINE "B" Sta 250+50
SEE SHEET E-198

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

COMMUNICATION SYSTEM

SCALE: 1" = 50'

E-197

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISED BY: VVE
 DATE REVISED: 12/22/09

NOTE: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	22.3/24.0, 3.0/R1.6	1384	1929

REGISTERED CIVIL ENGINEER
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 12/22/09
 DATE
 2-1-10
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.
 LIN CONSULTING, INC.
 1432 EDINGER AVE. #230
 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

CABLE AND CONDUIT SCHEDULE

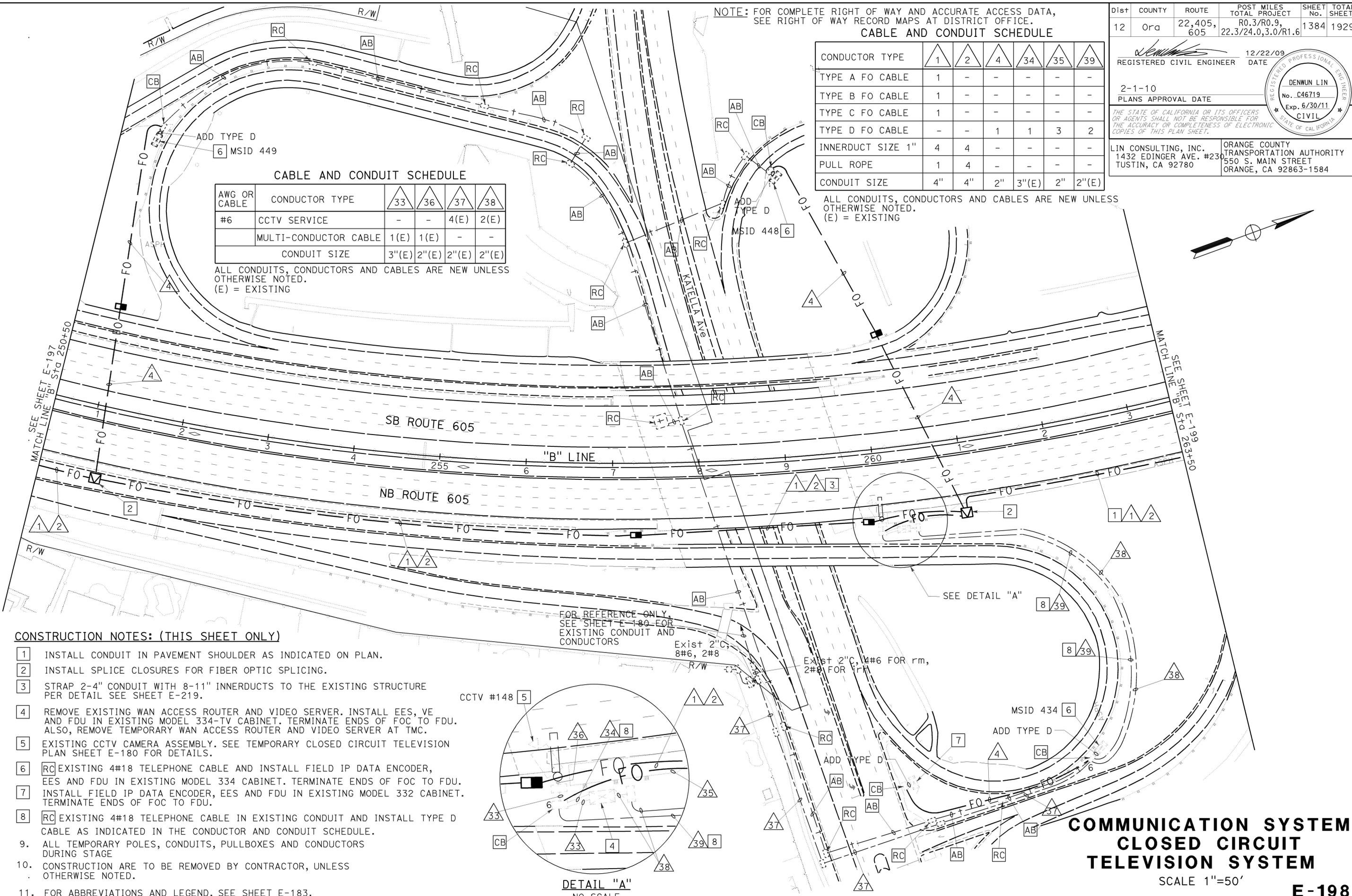
CONDUCTOR TYPE	1	2	4	34	35	39
TYPE A FO CABLE	1	-	-	-	-	-
TYPE B FO CABLE	1	-	-	-	-	-
TYPE C FO CABLE	1	-	-	-	-	-
TYPE D FO CABLE	-	-	1	1	3	2
INNERDUCT SIZE 1"	4	4	-	-	-	-
PULL ROPE	1	4	-	-	-	-
CONDUIT SIZE	4"	4"	2"	3"(E)	2"	2"(E)

CABLE AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUCTOR TYPE	33	36	37	38
#6	CCTV SERVICE	-	-	4(E)	2(E)
	MULTI-CONDUCTOR CABLE	1(E)	1(E)	-	-
	CONDUIT SIZE	3"(E)	2"(E)	2"(E)	2"(E)

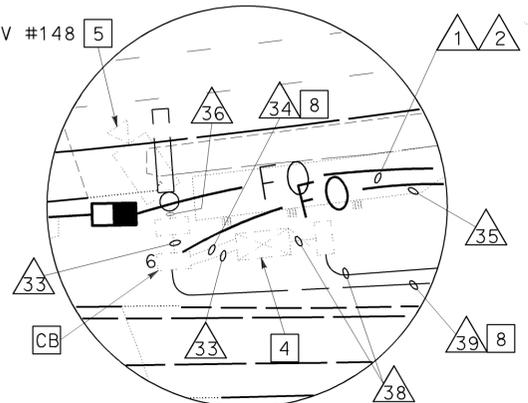
ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.
 (E) = EXISTING

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.
 (E) = EXISTING



CONSTRUCTION NOTES: (THIS SHEET ONLY)

- INSTALL CONDUIT IN PAVEMENT SHOULDER AS INDICATED ON PLAN.
- INSTALL SPLICE CLOSURES FOR FIBER OPTIC SPLICING.
- STRAP 2-4" CONDUIT WITH 8-11" INNERDUCTS TO THE EXISTING STRUCTURE PER DETAIL SEE SHEET E-219.
- REMOVE EXISTING WAN ACCESS ROUTER AND VIDEO SERVER. INSTALL EES, VE AND FDU IN EXISTING MODEL 334-TV CABINET. TERMINATE ENDS OF FOC TO FDU. ALSO, REMOVE TEMPORARY WAN ACCESS ROUTER AND VIDEO SERVER AT TMC.
- EXISTING CCTV CAMERA ASSEMBLY. SEE TEMPORARY CLOSED CIRCUIT TELEVISION PLAN SHEET E-180 FOR DETAILS.
- RC EXISTING 4#18 TELEPHONE CABLE AND INSTALL FIELD IP DATA ENCODER, EES AND FDU IN EXISTING MODEL 334 CABINET. TERMINATE ENDS OF FOC TO FDU.
- INSTALL FIELD IP DATA ENCODER, EES AND FDU IN EXISTING MODEL 332 CABINET. TERMINATE ENDS OF FOC TO FDU.
- RC EXISTING 4#18 TELEPHONE CABLE IN EXISTING CONDUIT AND INSTALL TYPE D CABLE AS INDICATED IN THE CONDUCTOR AND CONDUIT SCHEDULE.
- ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE
- CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
- FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183.



DETAIL "A"
 NO SCALE

**COMMUNICATION SYSTEM
 CLOSED CIRCUIT
 TELEVISION SYSTEM**

SCALE 1"=50'

E-198

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1385	1929

REGISTERED CIVIL ENGINEER	DATE
<i>Denwun Lin</i>	12/22/09

2-1-10	PLANS APPROVAL DATE
--------	---------------------

REGISTERED PROFESSIONAL ENGINEER	STATE OF CALIFORNIA
DENWUN LIN	
No. C46719	
Exp. 6/30/11	
CIVIL	

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780	ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584
--	--

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

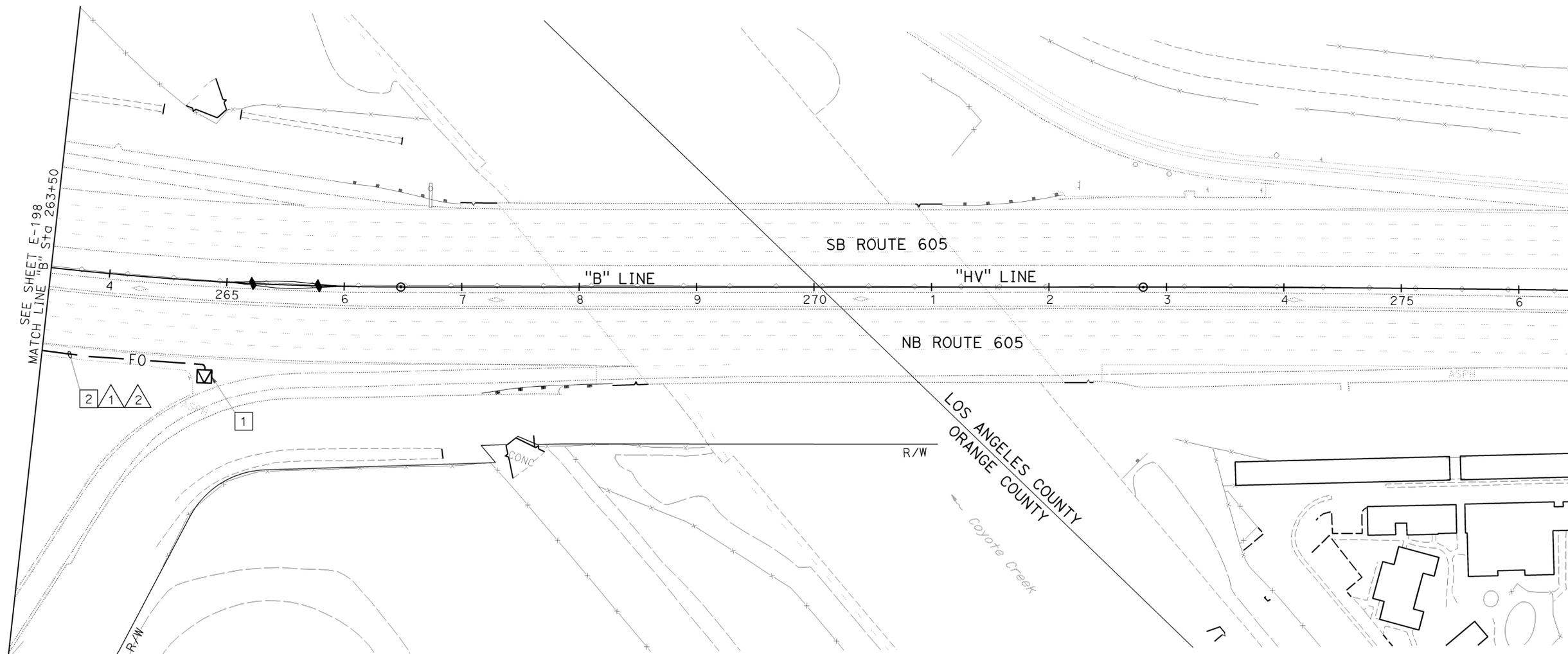
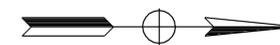
CABLE AND CONDUIT SCHEDULE

CONDUCTOR TYPE	1	2
TYPE A FO CABLE	1	-
TYPE B FO CABLE	1	-
TYPE C FO CABLE	1	-
TYPE D FO CABLE	-	-
INNERDUCT SIZE 1"	4	4
PULL ROPE	1	4
CONDUIT SIZE	4"	4"

ALL CONDUITS, CONDUCTORS AND
CABLES ARE NEW UNLESS
OTHERWISE NOTED.

CONSTRUCTION NOTE: (THIS SHEET ONLY)

- 1 INSTALL SPLICE VAULT AS INDICATED AND TERMINATE FOC.
- 2 INSTALL CONDUIT IN PAVEMENT SHOULDER AS INDICATED ON PLAN.
3. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - DENWUN LIN
 SUPERVISOR - DENWUN LIN
 DESIGNED BY - DENWUN LIN
 CHECKED BY - TIMMY TO
 REVISIONS: VICENTE ENCARNACION CHARLOTTE WU
 REVISIONS: XXX 12/22/09
 REVISIONS: REVISOR DATE

COMMUNICATION SYSTEM

SCALE 1"=50'

E-199

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1386	1929

8/10/09
REGISTERED CIVIL ENGINEER DATE

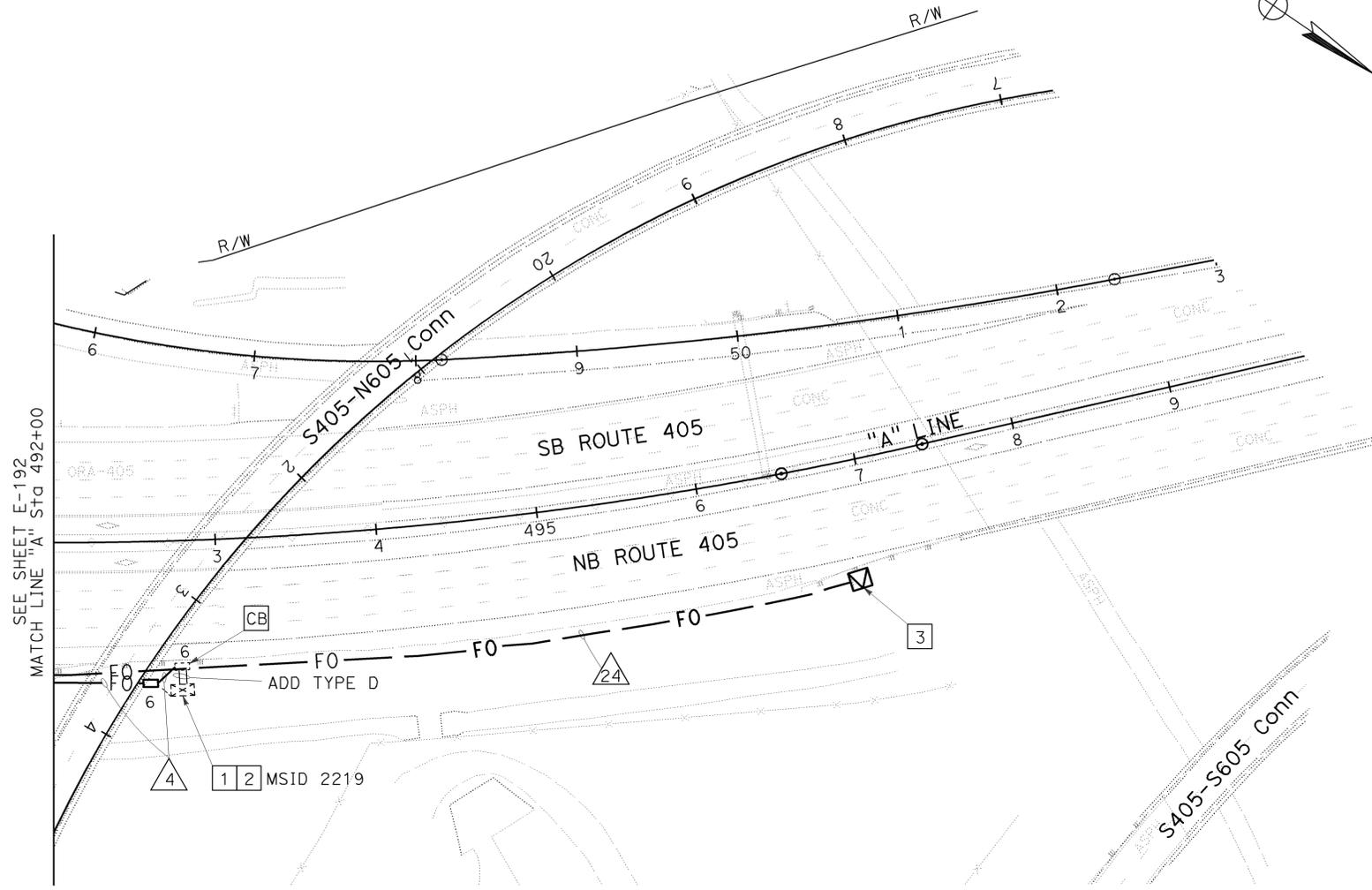
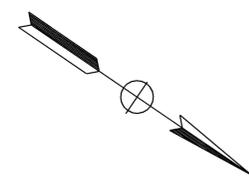
2-1-10
PLANS APPROVAL DATE

DENWUN LIN
No. C46719
Exp. 6/30/11
CIVIL

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

LIN CONSULTING, INC.
1432 EDINGER AVE. #230
TUSTIN, CA 92780

ORANGE COUNTY
TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584



CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 FOR REFERENCE ONLY. FOR DETAILS, SEE SHEET E-158 FOR TMS PLAN AT LOCATION 5.
- 2 REMOVE EXISTING GSM BASED GPRS/EDGE MODEM. INSTALL FIELD IP DATA ENCODER, EES AND FDU IN EXISTING MODEL 334 CABINET. TERMINATE ENDS OF FOC TO FDU.
- 3 INSTALL SPLICE VAULT AS INDICATED. COIL 50' TYPE D CABLE.
4. ALL TEMPORARY POLES, CONDUITS, PULLBOXES AND CONDUCTORS DURING STAGE CONSTRUCTION ARE TO BE REMOVED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
5. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183.

CABLE AND CONDUIT SCHEDULE

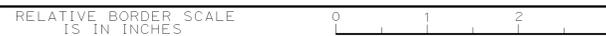
CONDUCTOR TYPE	4	24
TYPE A FO CABLE	-	-
TYPE B FO CABLE	-	-
TYPE C FO CABLE	-	-
TYPE D FO CABLE	1	1
INNERDUCT SIZE 1"	-	-
PULL ROPE	-	-
CONDUIT SIZE	2"	2"

ALL CONDUITS, CONDUCTORS AND CABLES ARE NEW UNLESS OTHERWISE NOTED.

COMMUNICATION SYSTEM
SCALE 1"=50'

E-200

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trmnguye
DGN FILE => c07163ua195.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT - FUNCTIONAL SUPERVISOR
DENWUN LIN

CALCULATED-
DESIGNED BY
CHECKED BY

VICENTE ENCARNACION
CHARLOTTE WU
TIMMY TO

REVISED BY
DATE REVISED

VVE
8/10/09

LAST REVISION | DATE PLOTTED => 09-FEB-2010
08-10-09 | TIME PLOTTED => 09:54

NOTE:

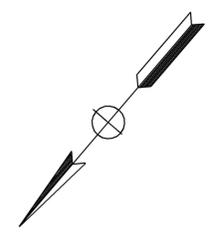
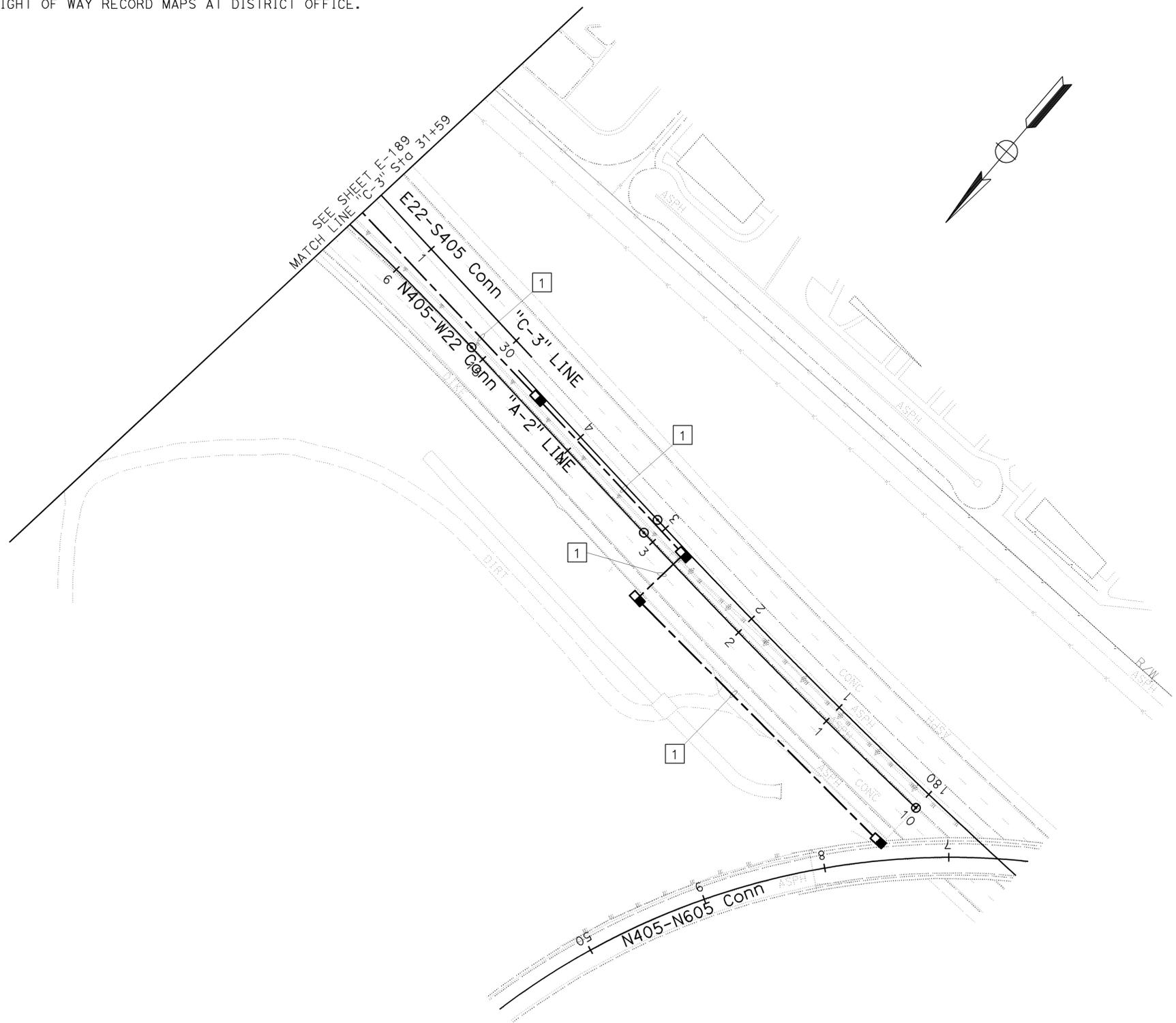
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1387	1929

<i>Denwun Lin</i>	8/10/09
REGISTERED CIVIL ENGINEER	DATE

2-1-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL STATE OF CALIFORNIA	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.	LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584	



CONSTRUCTION NOTES: (THIS SHEET ONLY)

1. INSTALL 4" C, MT FOR FUTURE COMMUNICATION USE.
2. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT - FUNCTIONAL SUPERVISOR	CALCULATED - DESIGNED BY	REVISOR	VVE
Caltrans	DENWUN LIN	CHECKED BY	TIMMY TO	8/10/09
			VICENTE ENCARNACION - CHARLOTTE WU	

COMMUNICATION SYSTEM
SCALE 1"=50'

E-201

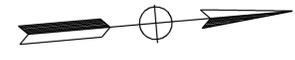
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1388	1929
			8/10/09	DATE	
REGISTERED CIVIL ENGINEER			DATE		
2-1-10			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.					
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780			ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584		

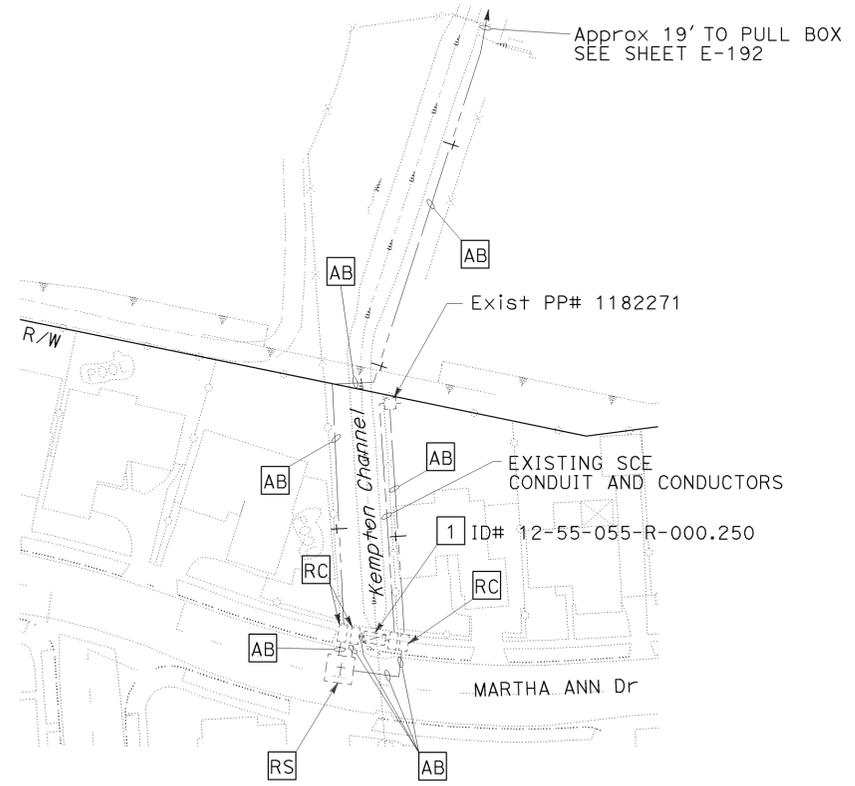
NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



CONSTRUCTION NOTES: (THIS SHEET ONLY)

- 1 EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE
- 2. FOR ABBREVIATIONS AND LEGEND, SEE SHEET E-183



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

BORDER LAST REVISED 8/1/2008

RELATIVE BORDER SCALE IS IN INCHES

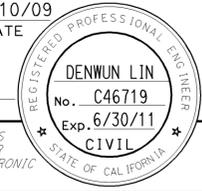
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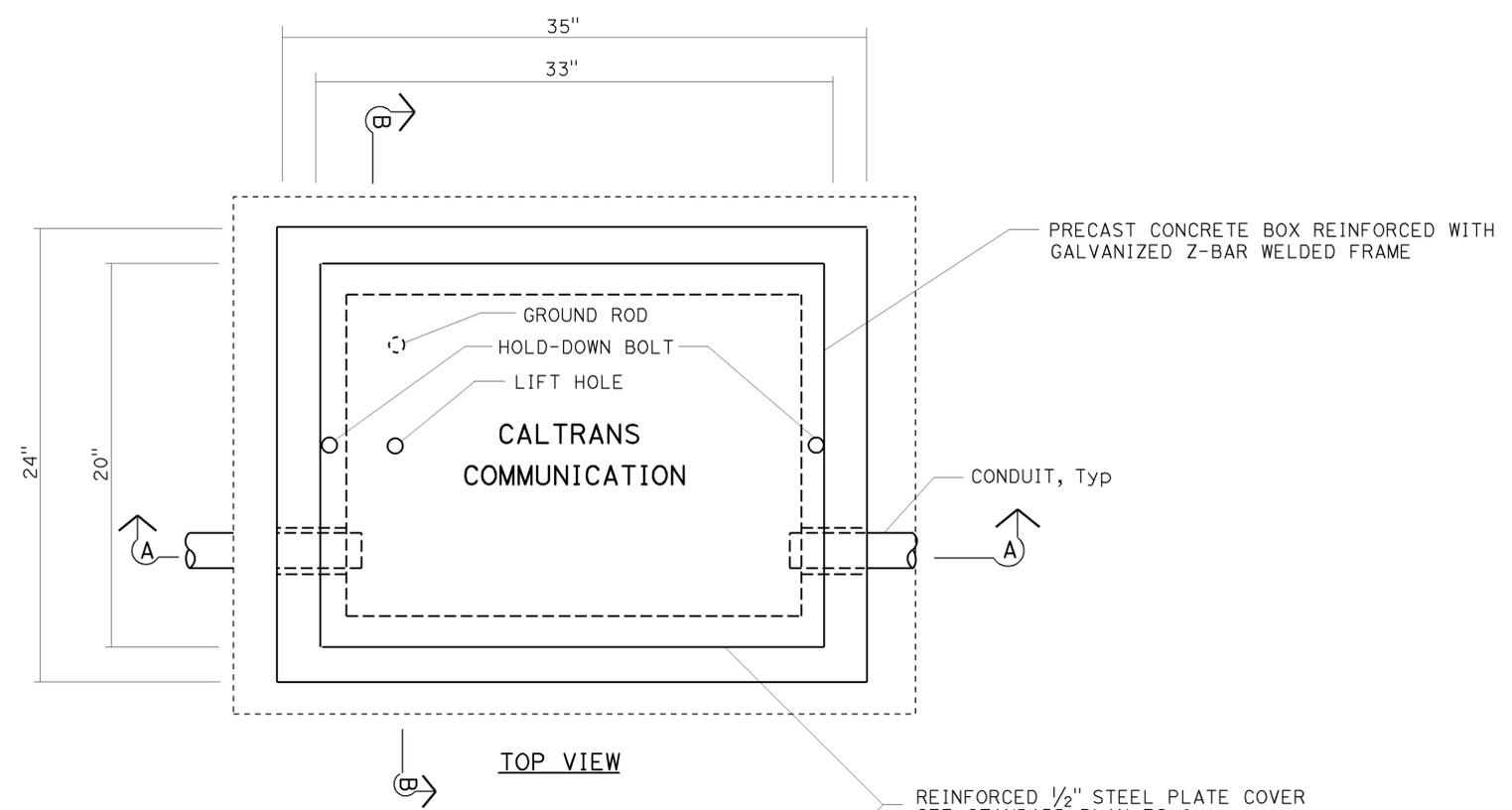
CU 12235

EA 071631

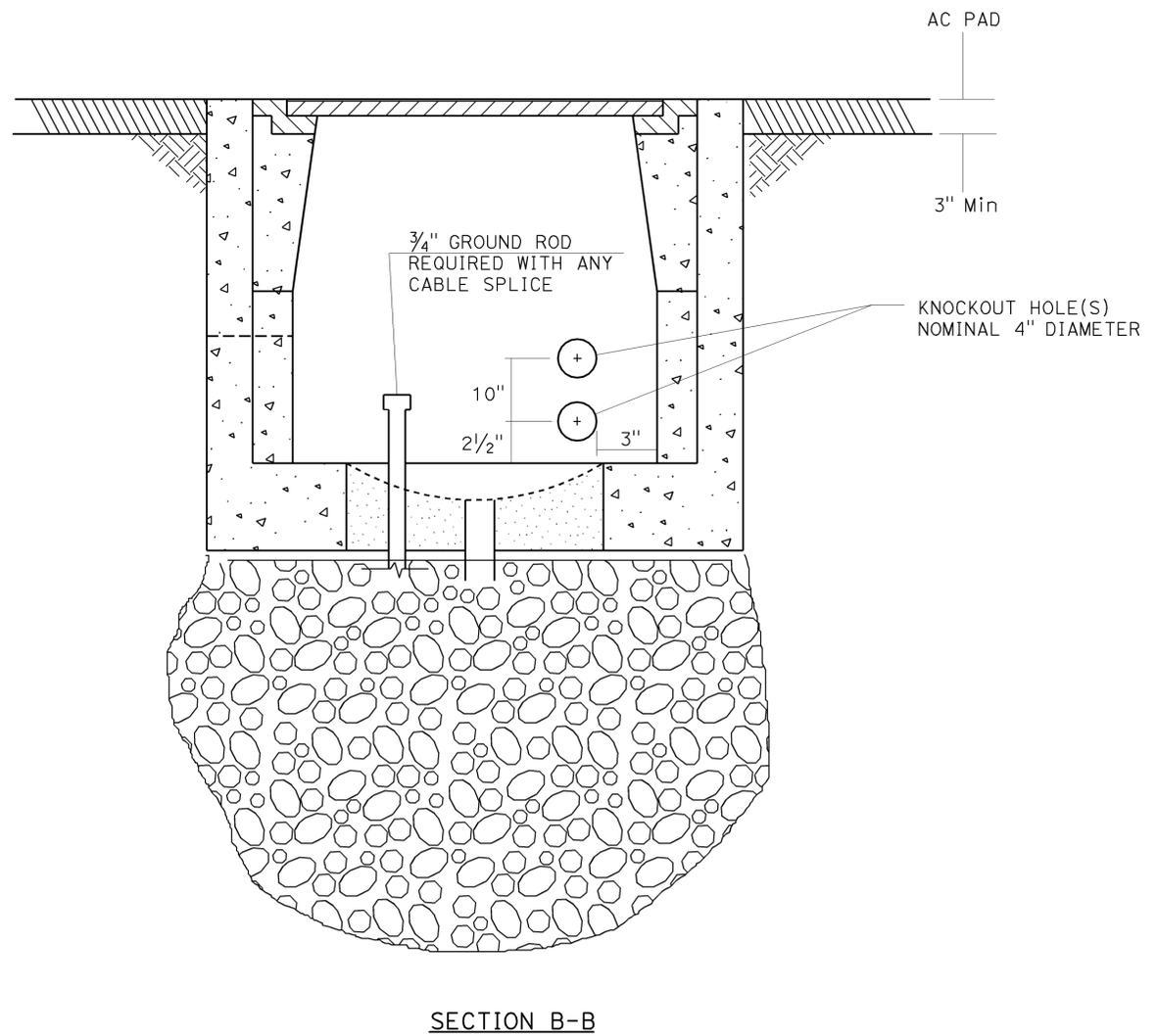
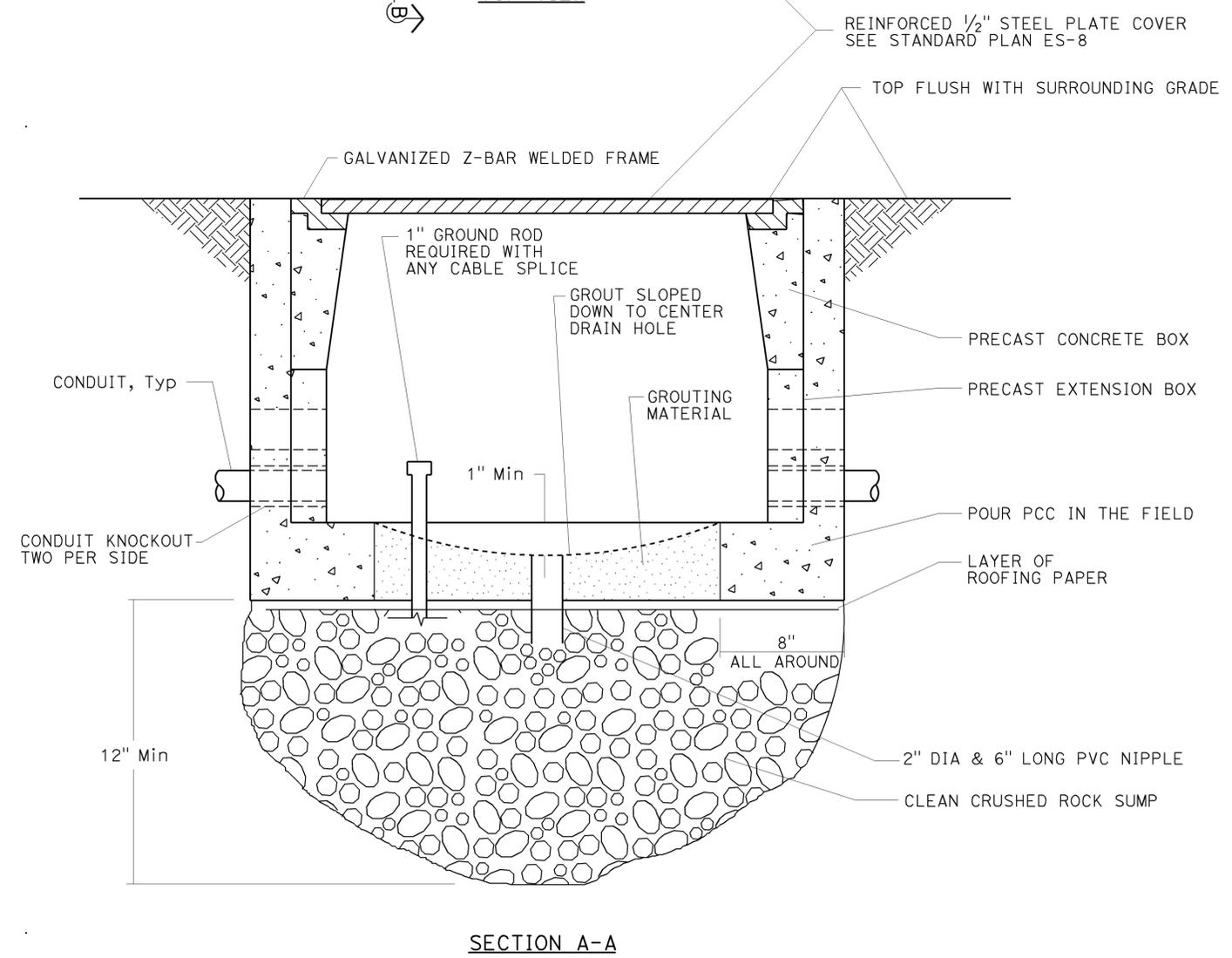
COMMUNICATION SYSTEM
 SCALE 1"=50'
E-202

LAST REVISION | DATE PLOTTED => 14-APR-2010
 08-10-09 | TIME PLOTTED => 13:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1389	1929
 REGISTERED CIVIL ENGINEER			8/10/09	DATE	
2-1-10			PLANS APPROVAL DATE		
					
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780			ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584		



- NOTES: (THIS SHEET ONLY)**
- SERVICE CONDUITS APPEAR IN PULL BOXES AS SHOWN ON PLANS. WHEN SERVICE CONDUITS ARE PRESENT, GROUNDING SHALL BE AS SPECIFIED IN SECTION 86-2.10 OF STANDARD SPECIFICATIONS.
 - ADDITIONAL CONDUIT ENTRANCE AS SHOWN IN THE PLANS.
 - HOLD DOWN BOLTS OR CAP SCREWS AND NUTS MUST BE BRASS, STAINLESS STEEL OR OTHER NON-CORRODING METAL.
 - WHERE PRESENT, TOP CONDUIT TO BE SPARE.



**COMMUNICATION SYSTEM
(PULL BOX DETAILS)
NO SCALE
E-203**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Vicente Encarnacion - Charlotte Wu
 Denwun Lin
 8/10/09
 8/1/2008

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

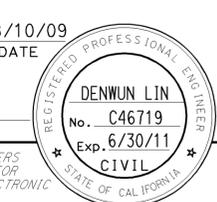


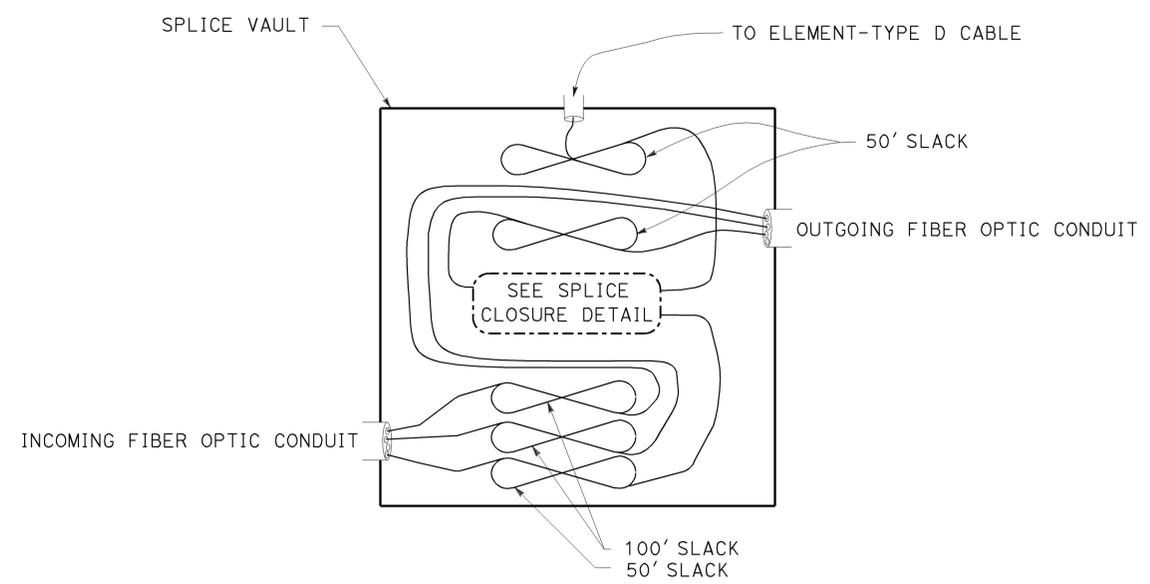
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CU 12235

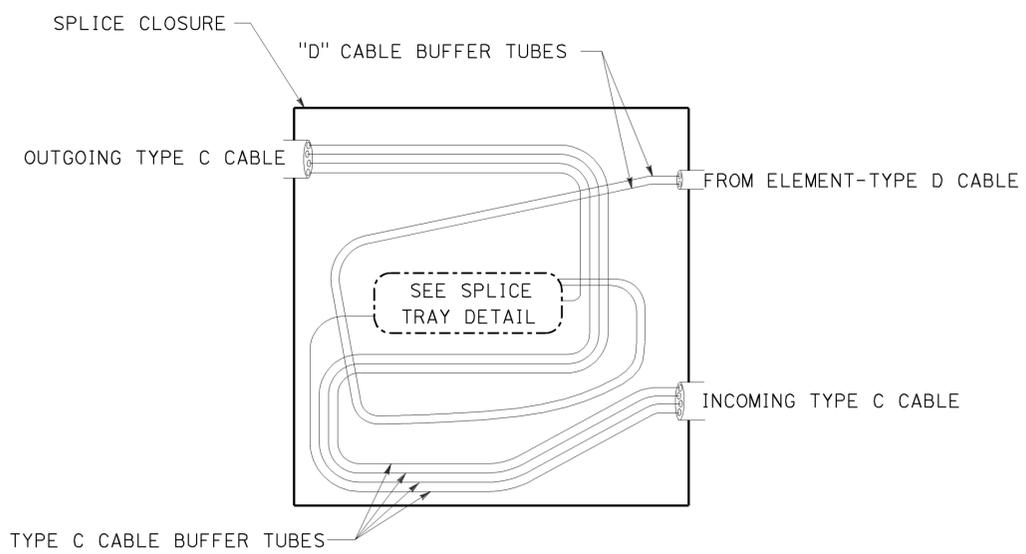
EA 071631

LAST REVISION | DATE PLOTTED => 03-FEB-2010
 08-10-09 | TIME PLOTTED => 11:34

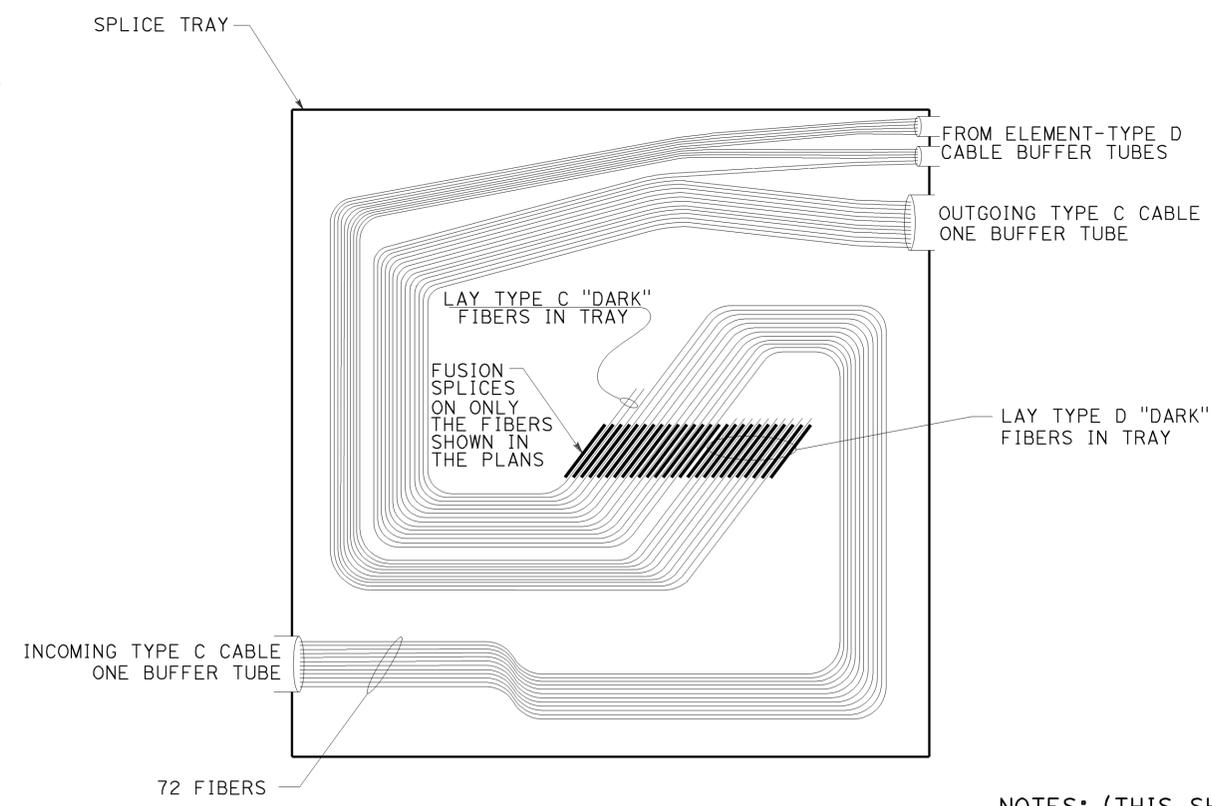
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1390	1929
 REGISTERED CIVIL ENGINEER			8/10/09 DATE		
2-1-10 PLANS APPROVAL DATE			<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.</small>		
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780			ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584		



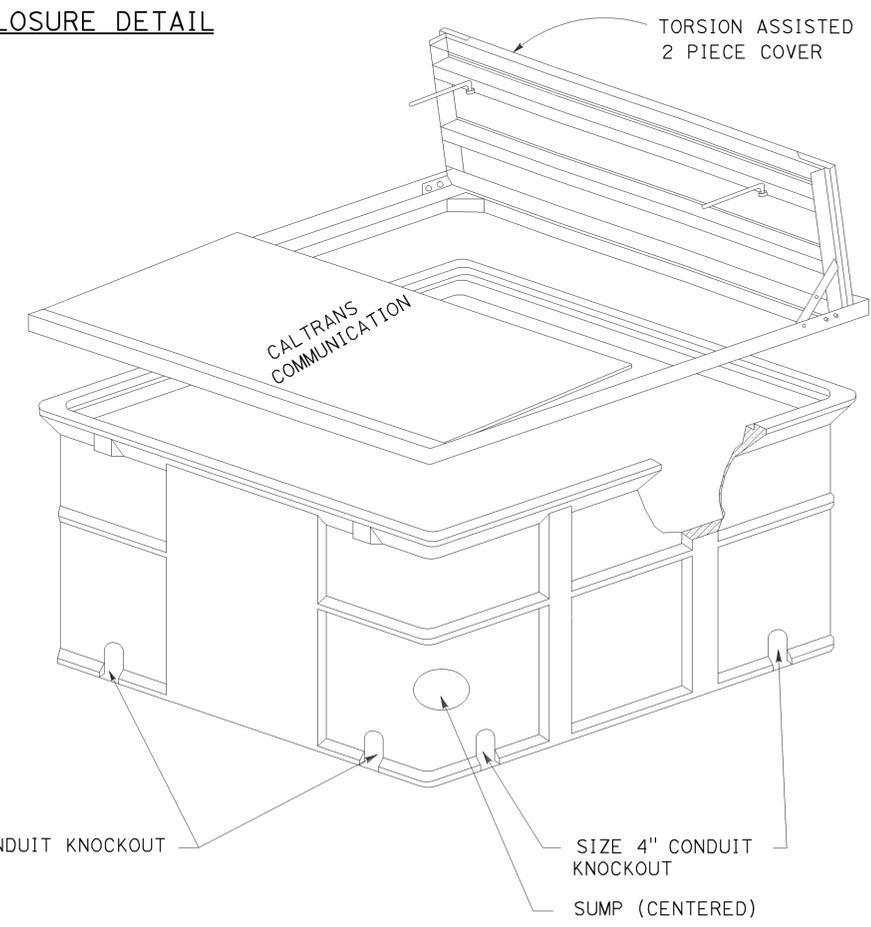
SPLICE VAULT DETAIL



SPLICE CLOSURE DETAIL



SPLICE TRAY DETAIL



SPLICE VAULT

NOTES: (THIS SHEET ONLY)

1. CABLE HANGERS SHALL BE PROVIDED IN THE SPLICE VAULT. THE FO CABLES SHALL THEN BE HUNG IN A "FIGURE 8" FASHION. SEE SPLICING DETAILS ON THIS SHEET.

**COMMUNICATION SYSTEM
(SPLICE VAULT DETAILS)
NO SCALE**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

VICENTE ENCARNACION CHARLOTTE WU
TIMMY TO
DENWUN LIN
VVE
8/10/09

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.
RELATIVE BORDER SCALE IS IN INCHES

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DGN FILE => c07163ua199a.dgn

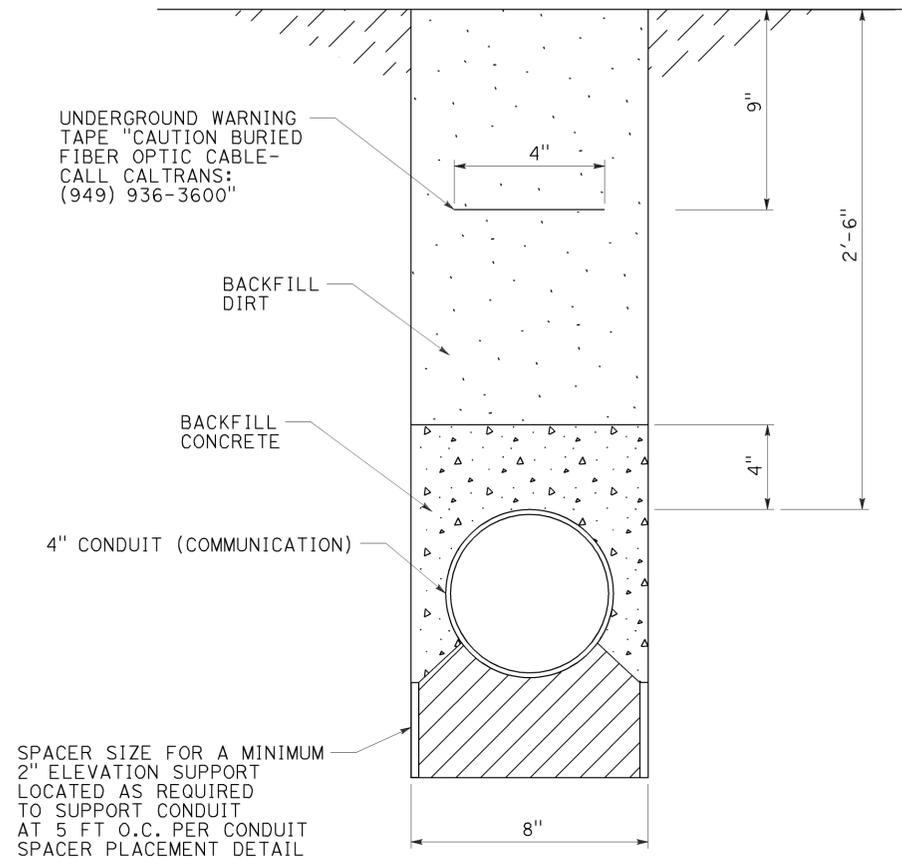
CU 12235

EA 071631

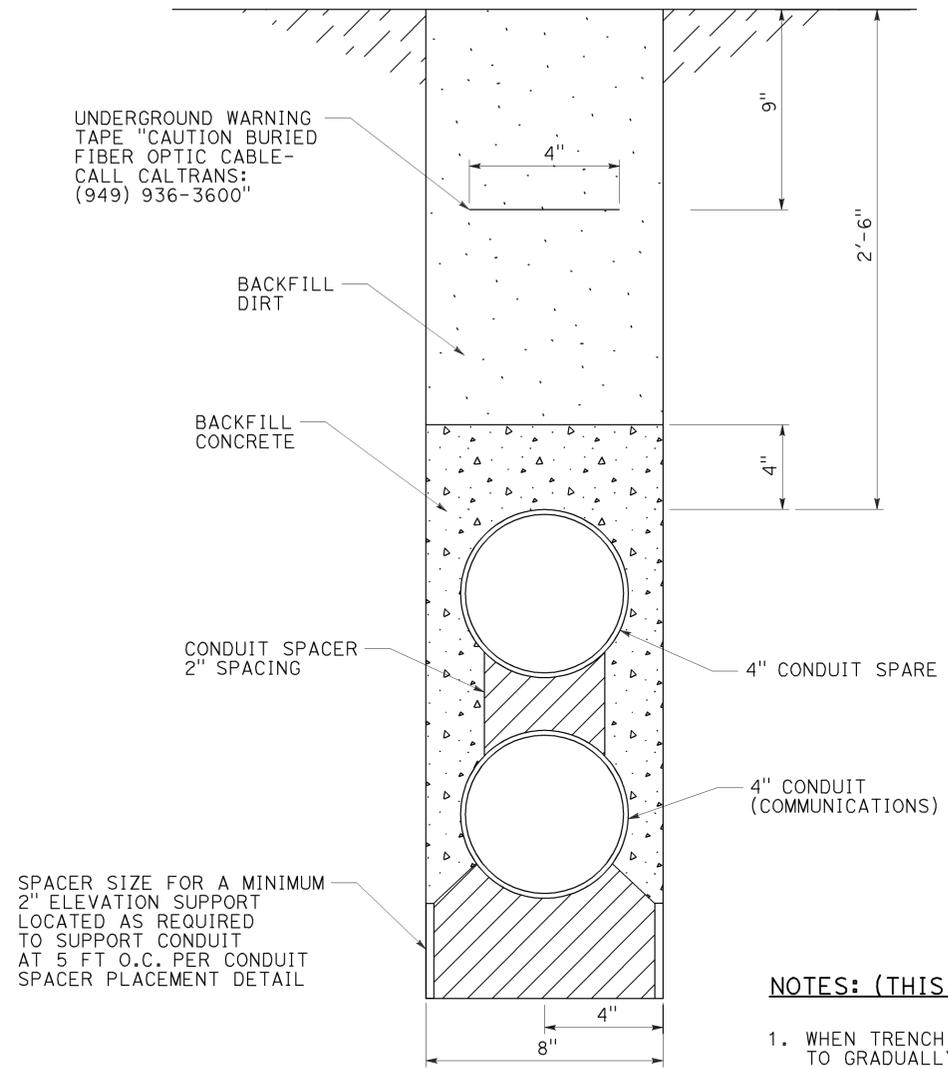
LAST REVISION | DATE PLOTTED => 03-FEB-2010
08-10-09 TIME PLOTTED => 11:34

BORDER LAST REVISED 8/1/2008

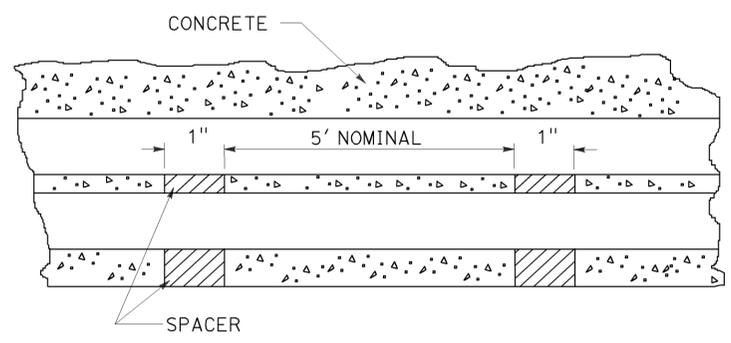
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1391	1929
 REGISTERED CIVIL ENGINEER			12/22/09	DATE	
2-1-10			PLANS APPROVAL DATE		
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.</small>					
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780			ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584		



DETAIL 1



DETAIL 2



CONDUIT SPACER PLACEMENT
SIDE VIEW

NOTES: (THIS SHEET ONLY)

1. WHEN TRENCH TRANSITIONS FROM ASPHALT TO DIRT AREAS, CONDUIT TO GRADUALLY DROP FROM 9" Min DEPTH TO 30" Min DEPTH WITHIN DIRT AREA.
2. FOR ADDITIONAL NOTES AND LEGEND, SEE SHEET E-183.
3. INSTALL A MINIMUM OF 4" THICK OF FINE SOIL OR SAND OVER THE CONDUIT WITH SAND SHADING ON TOP BEFORE ADDITIONAL BACKFILL MATERIAL IS PLACED.
4. CONTRACTOR MAY CONCRETE ENCASE CONDUIT INSTALLING A SPACER ON TOP OF COMMUNICATION CONDUIT, PROVIDING A MINIMUM 30" OVERALL DEPTH AND 4" CONCRETE BACKFILL COVER ON TOP.

**COMMUNICATION SYSTEM
(TRENCH IN DIRT DETAILS)**

NO SCALE

E-205

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Vicente Encarnacion - Charlotte Wu
 Denwun Lin
 Caltrans

VVE 12/22/09
 REVISOR DATE
 TIMMY TO

CALCULATED BY
 CHECKED BY

SUPERVISOR
 CONSULTANT

TRANSPORTATION
 DENWUN LIN

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trlenard
 DGN FILE => c07163ua205.dgn

CU 12235

EA 071631

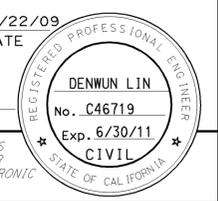
BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 04-FEB-2010
 12-22-09 | TIME PLOTTED => 08:32

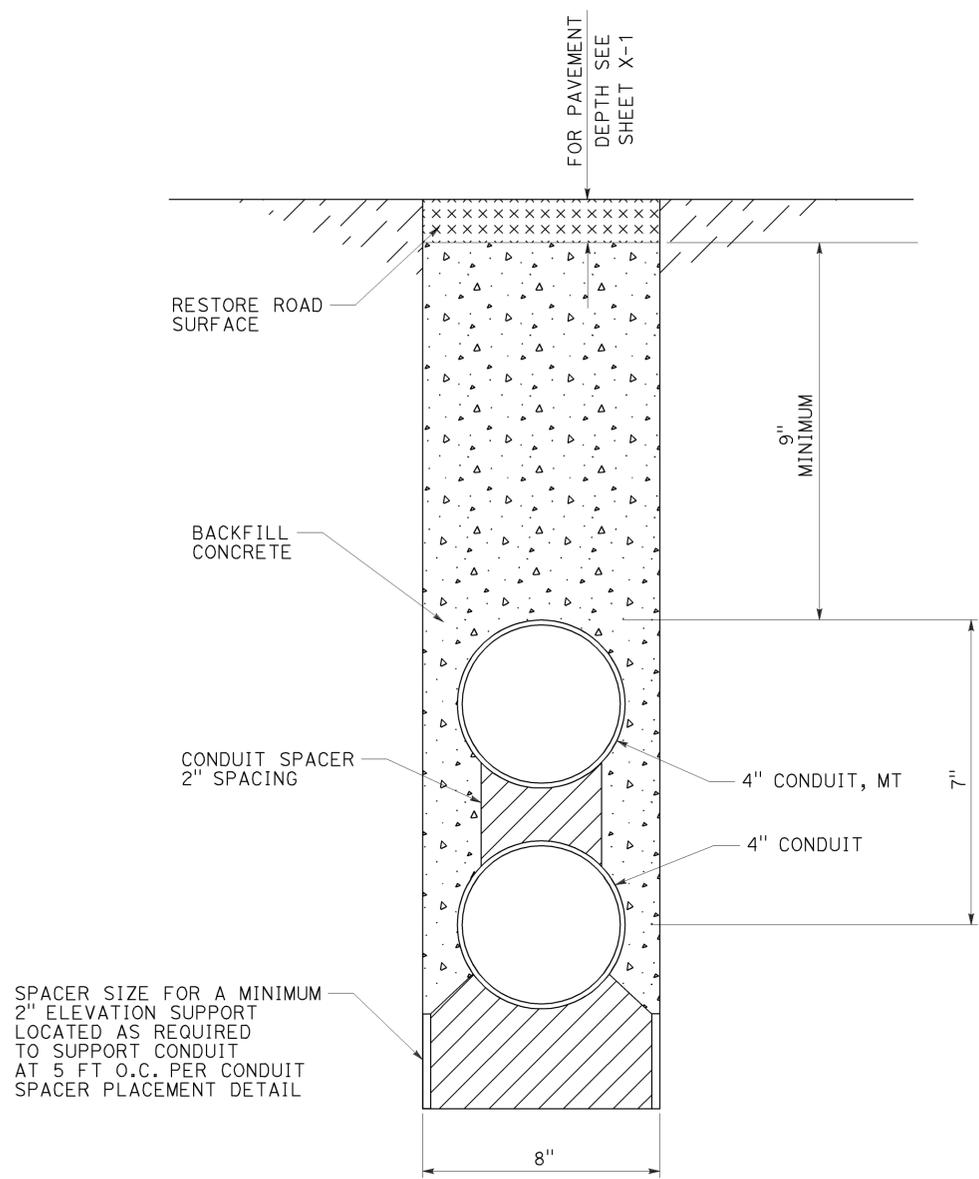
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1392	1929

<i>Denwun Lin</i>	12/22/09
REGISTERED CIVIL ENGINEER	DATE
2-1-10	
PLANS APPROVAL DATE	

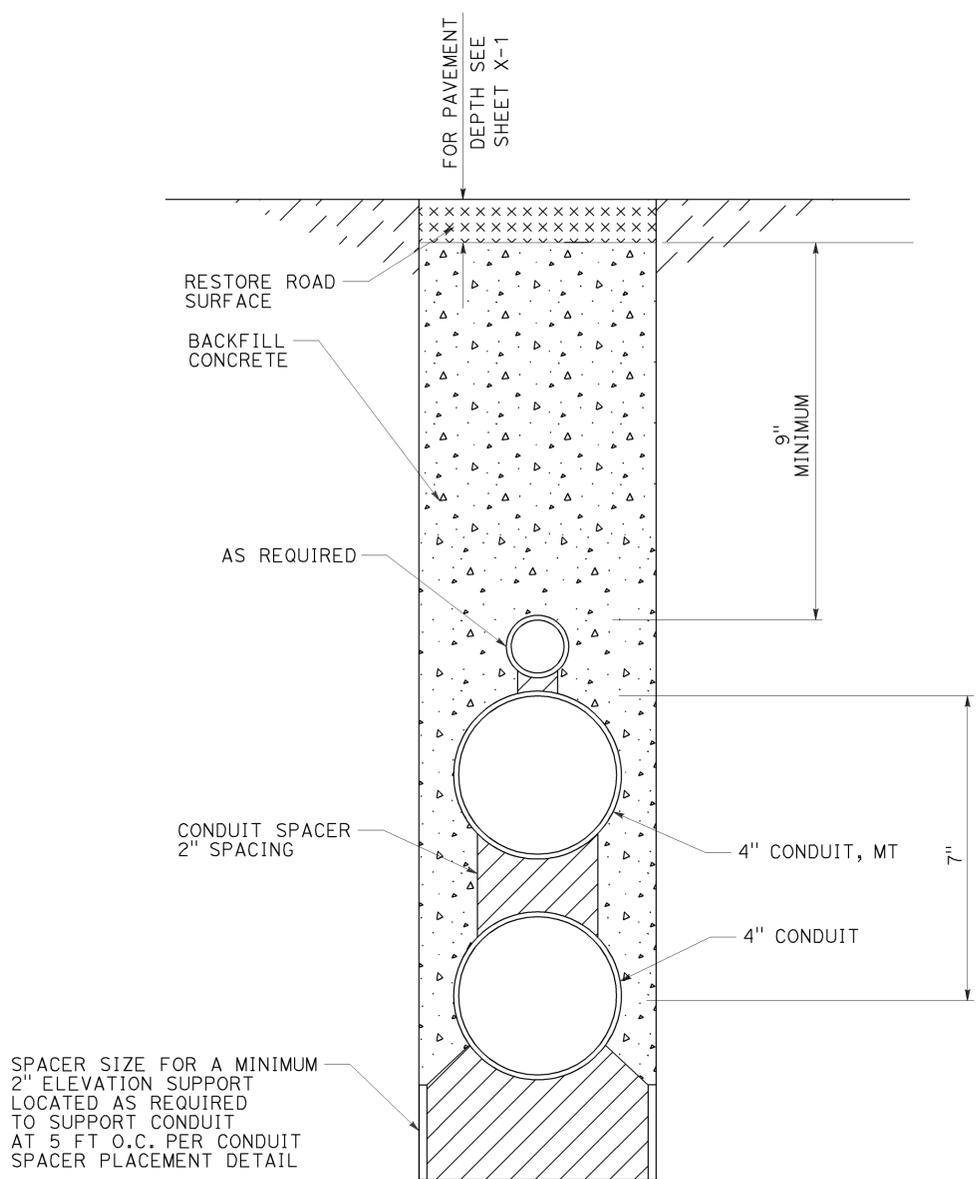
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780	ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584
--	--



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT - FUNCTIONAL SUPERVISOR	CALCULATED - DESIGNED BY	REVISOR	DATE
Denwun Lin	Denwun Lin	Denwun Lin	VVE	12/22/09
			REVISOR	DATE
			CHARLOTTE WU	
			TIMMY TO	



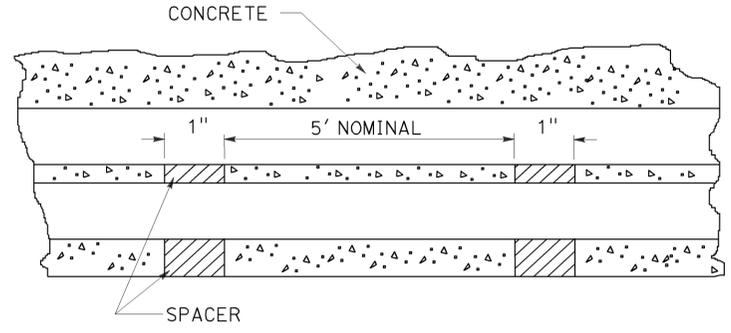
DETAIL 1



DETAIL 2

SPACER SIZE FOR A MINIMUM 2" ELEVATION SUPPORT LOCATED AS REQUIRED TO SUPPORT CONDUIT AT 5 FT O.C. PER CONDUIT SPACER PLACEMENT DETAIL

SPACER SIZE FOR A MINIMUM 2" ELEVATION SUPPORT LOCATED AS REQUIRED TO SUPPORT CONDUIT AT 5 FT O.C. PER CONDUIT SPACER PLACEMENT DETAIL



CONDUIT SPACER PLACEMENT
SIDE VIEW

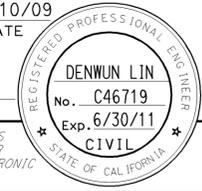
NOTES: (THIS SHEET ONLY)

1. WHEN TRENCH TRANSITIONS FROM ASPHALT TO DIRT AREAS, CONDUIT TO GRADUALLY DROP FROM 9" Min DEPTH TO 30" Min DEPTH WITHIN DIRT AREA.
2. FOR ADDITIONAL NOTES AND LEGEND, SEE SHEET E-183.

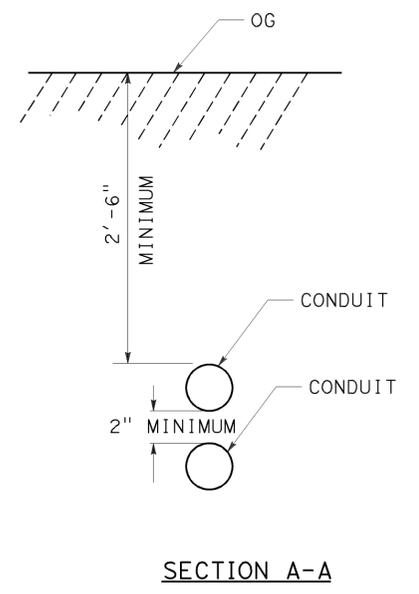
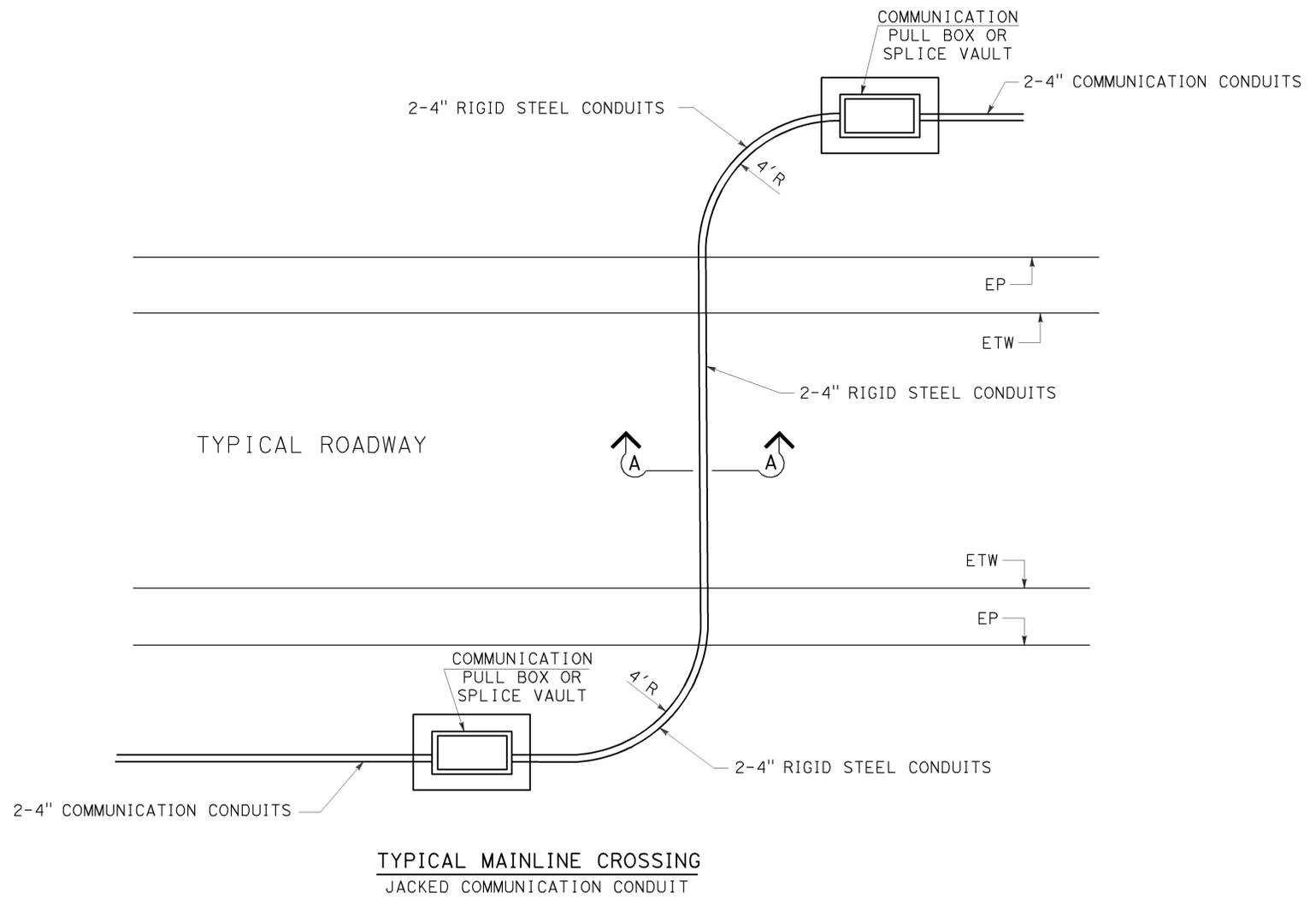
**COMMUNICATION SYSTEM
(TRENCH IN PAVEMENT DETAILS)**

NO SCALE

E-206

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1393	1929
 REGISTERED CIVIL ENGINEER			8/10/09	DATE	
2-1-10			PLANS APPROVAL DATE		
					
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LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780			ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584		

- NOTES:(THIS SHEET ONLY)**
- SEE ELECTRICAL PLAN FOR LOCATIONS WHERE THIS DETAIL APPLY.
 - ALL CONDUITS SHALL BE Min 2'-6" BELOW FINISHED GRADE.
 - ALL CONDUIT BENDS SHALL BE FACTORY BENDS.



**COMMUNICATION SYSTEM
(JACKED CONDUIT DETAILS)**
NO SCALE

E - 207

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

 CONSULTANT: FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: CHECKED BY: TIMMY TO
 VICENTE ENCARNACION CHARLOTTE WU
 REVISED BY: DATE REVISED: 8/10/09
 VVE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trlenard
DGN FILE => c07163ua202.dgn

CU 12235

EA 071631

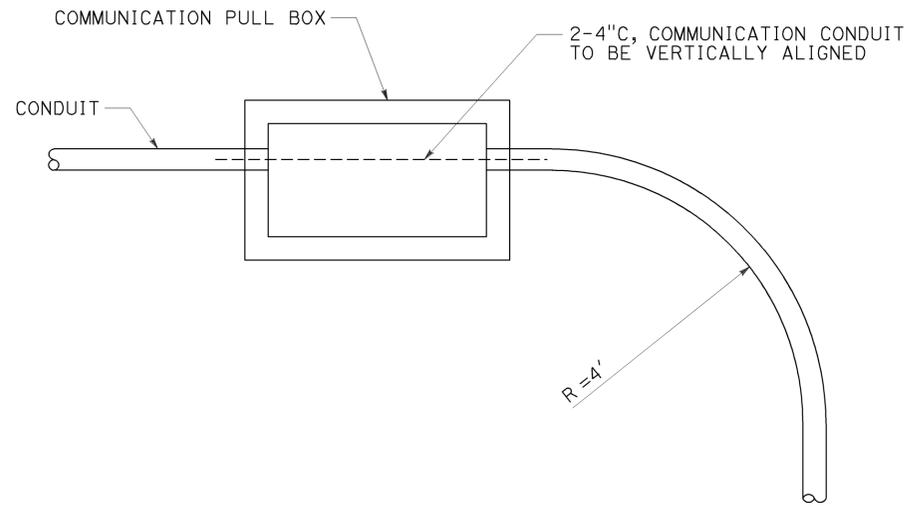
BORDER LAST REVISED 8/1/2008

LAST REVISION | DATE PLOTTED => 04-FEB-2010
 08-10-09 TIME PLOTTED => 08:32

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: CHECKED BY:
 VICENTE ENCARNACION CHARLOTTE WU
 TIMMY TO
 REVISED BY: DATE REVISED: 8/10/09
 VVE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405,605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1394	1929

8/10/09
 REGISTERED CIVIL ENGINEER DATE
 2-1-10
 PLANS APPROVAL DATE
 REGISTERED PROFESSIONAL ENGINEER
 DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.
 LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584



DETAIL A

NOTES: (THIS SHEET ONLY)

1. DIMENSIONS VARY ACCORDING TO SIZE OF CONDUIT. THE MINIMUM BEND RADIUS OF 4' SHALL BE MAINTAINED ON ALL TRUNK CONDUITS CONTAINING FIBER OPTIC CABLE AND SIX TIMES THE CONDUIT DIAMETER FOR ALL OTHER CONDUITS.
2. ALL BENDS SHALL BE FACTORY BENDS.
3. CONTRACTOR SHALL ADAPT CONDUIT STUBOUTS FOR SPECIFIC PROJECT REQUIREMENTS.
4. CONTRACTOR SHALL INSTALL ADDITIONAL CONDUIT AS REQUIRED.
5. TOP 4" CONDUIT TO BE SPARE.

**COMMUNICATION SYSTEM
 (COMMUNICATION
 PULL BOX DETAIL)
 NO SCALE**

E-208

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USERNAME => trlenard
 DGN FILE => c07163ua203.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

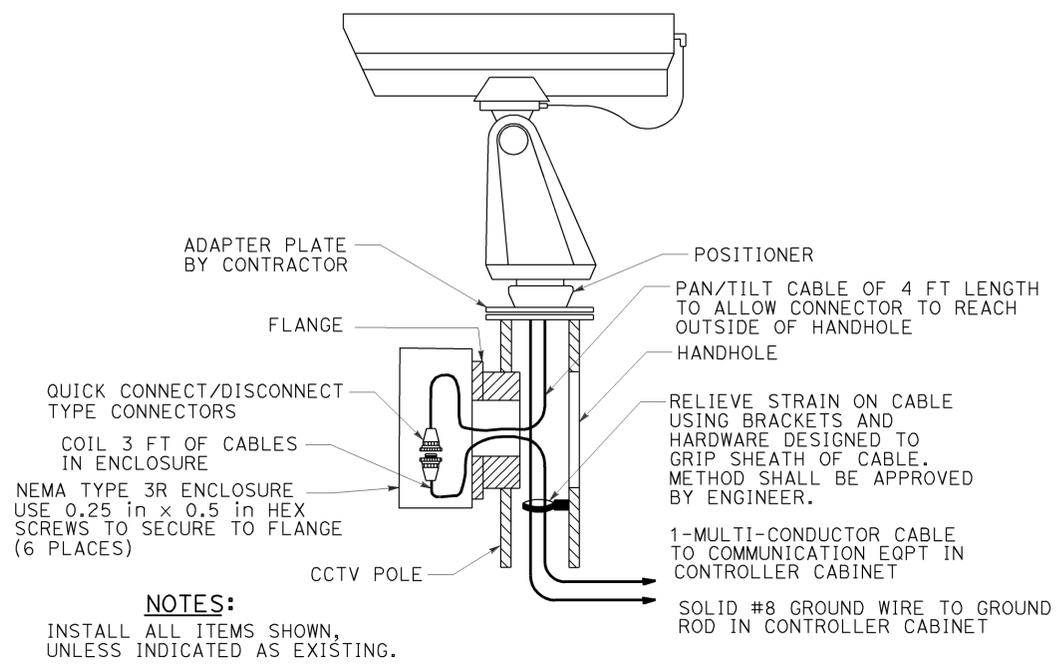
LAST REVISION | DATE PLOTTED => 04-FEB-2010
 08-10-09 | TIME PLOTTED => 08:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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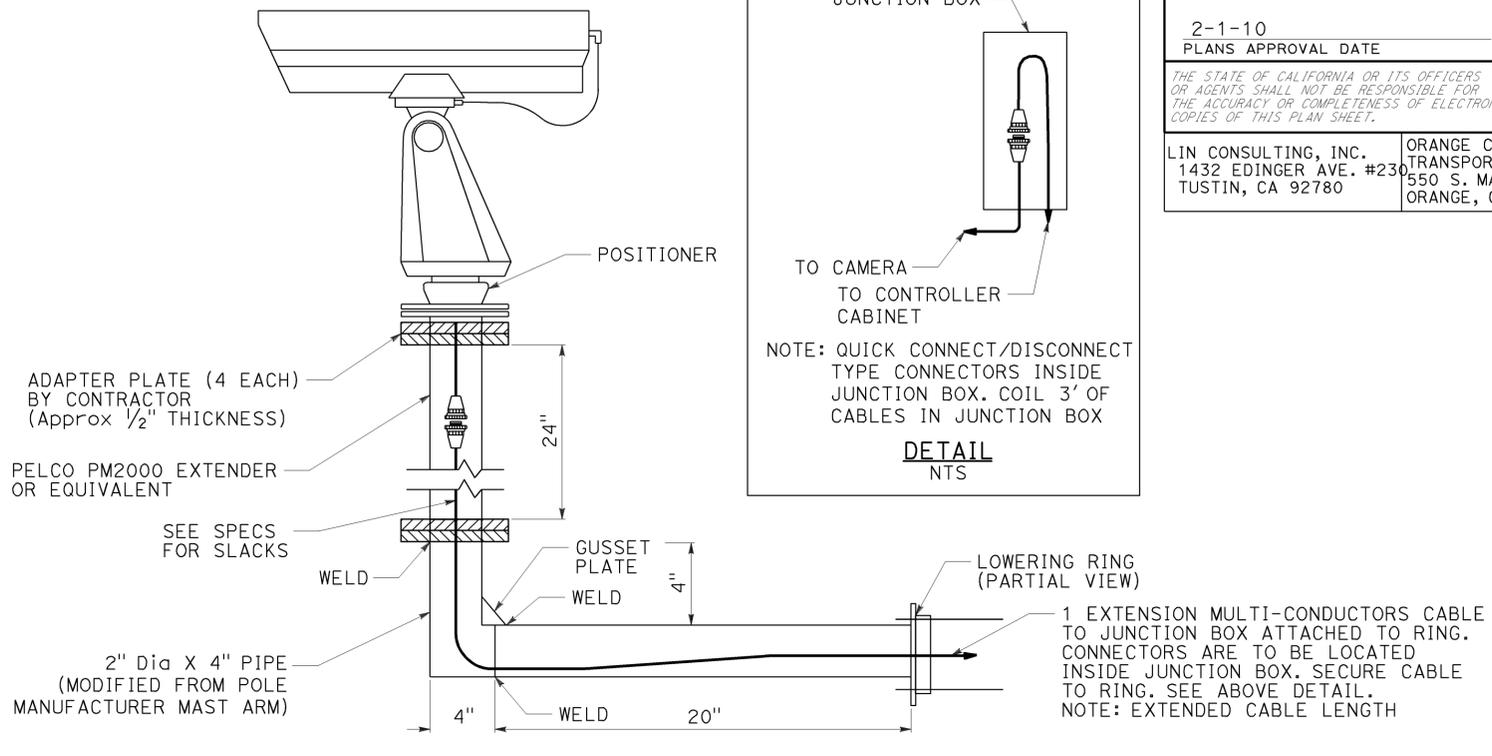
REGISTERED CIVIL ENGINEER	DATE
2-1-10	8/10/09
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER No. C46719 Exp. 6/30/11 CIVIL STATE OF CALIFORNIA	DENWUN LIN No. C46719 Exp. 6/30/11 CIVIL STATE OF CALIFORNIA
--	--

LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780	ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584
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CCTV CAMERA ASSEMBLY MOUNTING DETAIL
FOR CCTV 45, 40, 35, 30, 25, 15, 10 AND 5 POLES

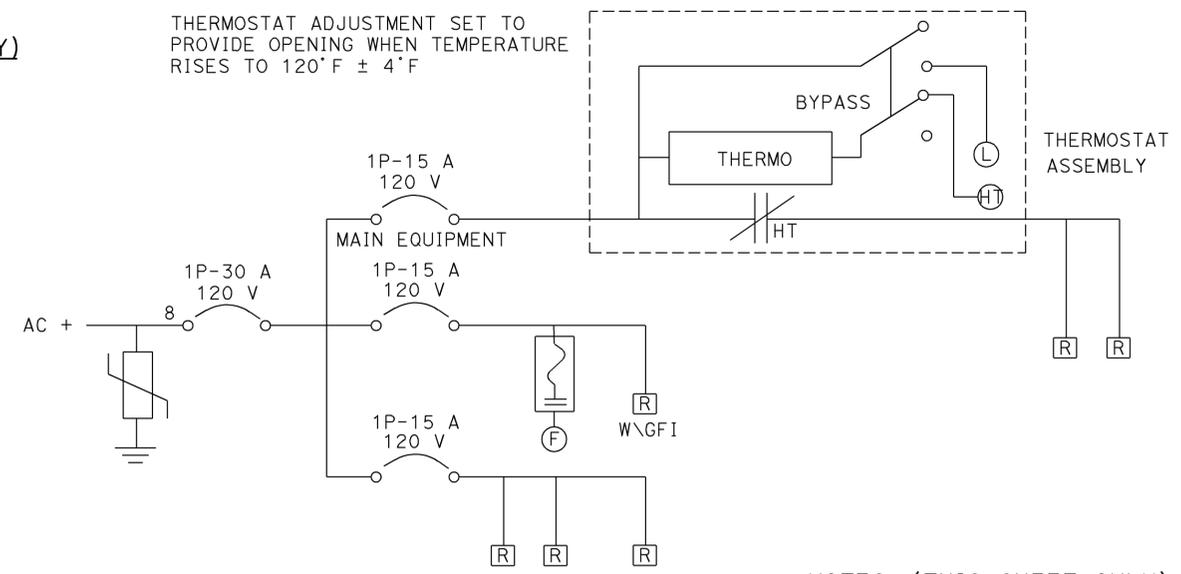


CCTV CAMERA ASSEMBLY MOUNTING DETAIL
FOR CCTV 60, 70, 80 AND 90 POLES

NOTE: USE 1/2" HS STAINLESS STEEL BOLTS AND NUTS TO SECURE MOUNTING ARM AND ADAPTER PLATE TO LOWERING RING

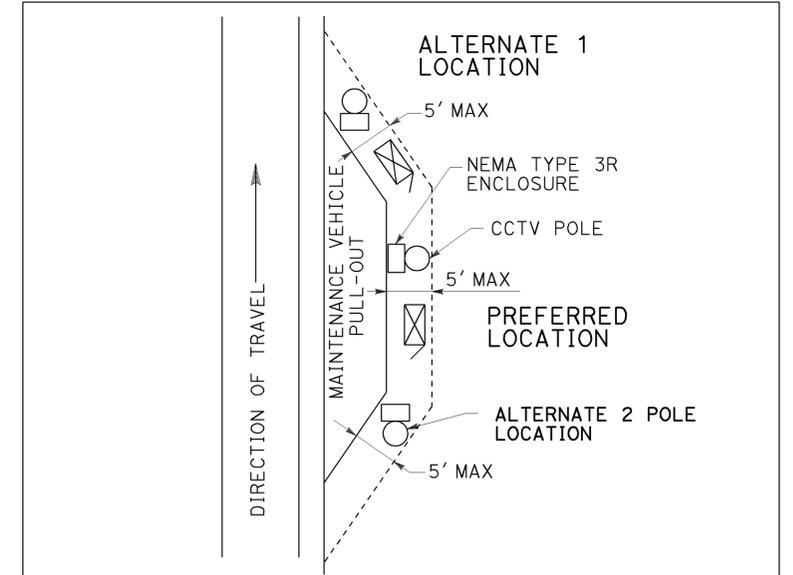
LEGEND AND ABBREVIATIONS: (THIS SHEET ONLY)

- SURGE PROTECTOR
- CIRCUIT BREAKER
- RELAY COIL - * RELAY NAME
- RELAY CONTACT N.C.
- WIRE SIZE, IF NOT INDICATED SHALL BE #14 AWG
- FAN
- INDICATOR LAMP
- THERMOSTATIC CONTROL
- ADJUSTABLE CALIBRATED THERMOSTAT
- DUPLEX RECEPTACLE
- WITH GROUND FAULT INTERRUPTOR
- NOT TO SCALE



POWER DISTRIBUTION ASSEMBLY (PDA)

NOTE: SEE STD PLAN ES-16A FOR CCTV POLE DETAILS.



ORIENTATION OF CAMERA POLE, CABINET AND JUNCTION BOX RELATIVE TO MVP
(NTS)

- NOTES:**
- JUNCTION BOX, CAMERA POLE AND CABINET TO BE PLACED WITHIN 5' OF MVP EDGE.
 - SEE CONSTRUCTION SHEETS FOR MVP LOCATIONS AND DETAILS.

NOTES: (THIS SHEET ONLY)

- USE STAINLESS STEEL BOLTS AND NUTS TO SECURE MOUNTING ARM AND ADAPTER PLATE TO LOWERING RING.

**COMMUNICATION SYSTEM
(CLOSED CIRCUIT TELEVISION)**
NO SCALE

E-209

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT: DENWUN LIN
 SUPERVISOR: DENWUN LIN
 DESIGNED BY: VICENTE ENCARNACION - CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISED BY: VVE
 DATE REVISED: 8/10/09
 BORDER LAST REVISED 8/1/2008

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USERNAME => trlenard
DGN FILE => c07163ua209.dgn

CU 12235

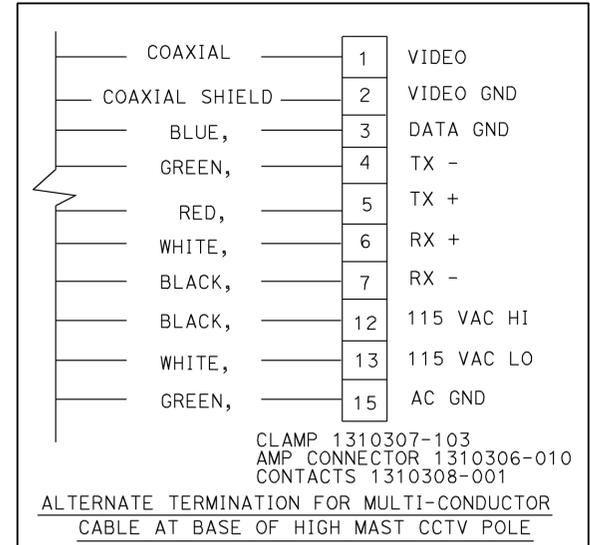
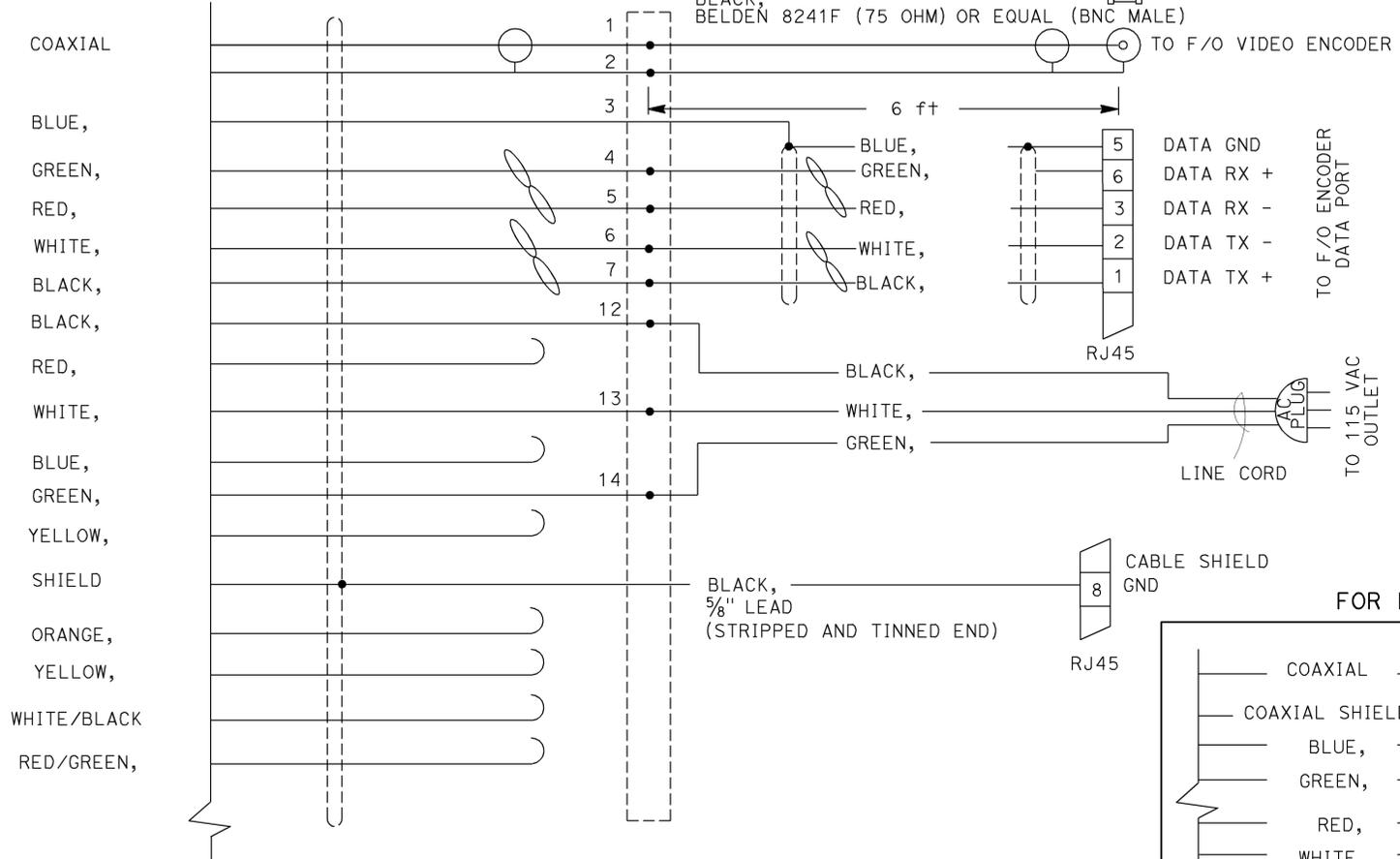
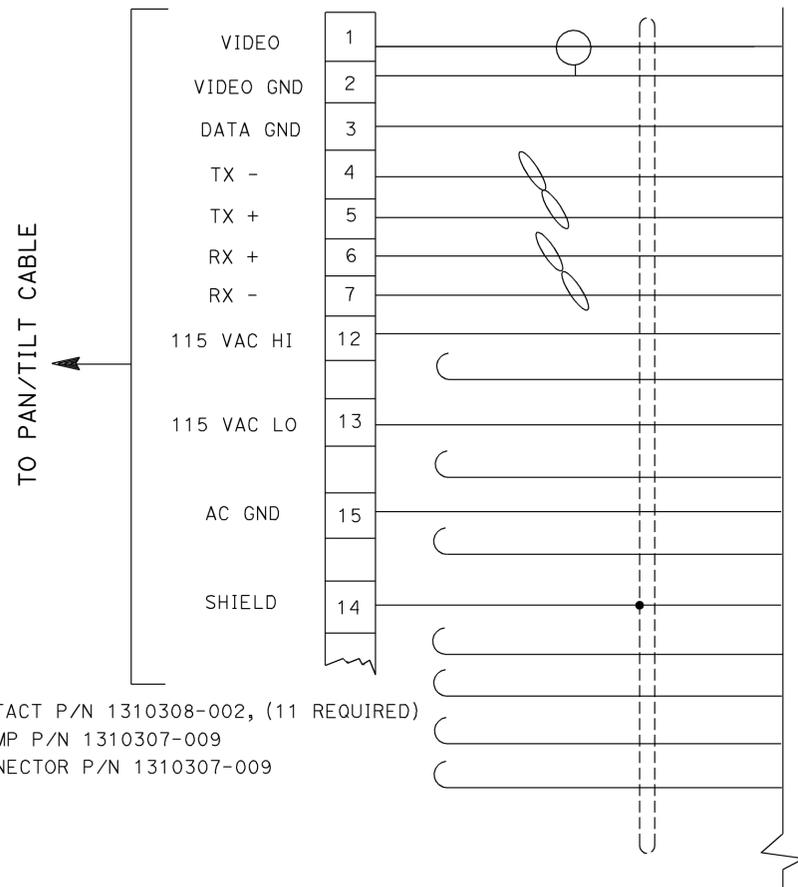
EA 071631

LAST REVISION | DATE PLOTTED => 04-FEB-2010
 08-10-09 | TIME PLOTTED => 08:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1396	1929
			8/10/09		
REGISTERED CIVIL ENGINEER			DATE		
2-1-10			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.					
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780			ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584		

ABBREVIATIONS: (THIS SHEET ONLY)

- AC = ALTERNATING CURRENT
- AWG = AMERICAN WIRE GAUGE
- GND = GROUND
- RX = RECEIVE
- TX = TRANSMIT



NOTES: (THIS SHEET ONLY)

1. THE OVERALL CABLE SHIELD AND DRAIN WIRES SHALL BE PIGTAILED SOLDERED TO A MINIMUM BLACK WIRE ON THE CABINET SIDE.
2. EXPOSED SHIELD/SOLDER INTERFACE SHALL BE TAPED OR PROTECTED BY HEAT SHRINK TUBING.
3. THE GREEN GROUND WIRE SHALL BE TERMINATED TO THE CABINET GROUND BUS.
4. THE SHIELD SHALL ONLY BE GROUNDED AT THE CABINET END. DO NOT GROUND THE SHIELD AT THE CAMERA SIDE TO AVOID GROUND LOOPS.
5. ALL UNUSED CONDUCTORS ARE TO BE FOLDED BACK AND SECURELY TAPED. CONDUCTORS AT THE CABINET SIDE SHALL BE PROPERLY PROTECTED AND DRESSED.
6. THE COAXIAL CABLE FOR VIDEO SHALL BE BELDEN 8241F OR EQUAL (75 OHM).
7. THE DATA CONDUCTORS SHALL BE THE 2 PAIRS, TWISTED WITH OVERALL SHIELD, 26 AWG (FIXED HEIGHT CCTV) OR 22 AWG (HIGH MAST CCTV).
8. THE POWER CONDUCTORS SHALL BE THE 3-CONDUCTOR, 26 AWG (FIXED HEIGHT CCTV) OR 22 AWG (HIGH MAST CCTV).
9. INSTALL CABLE/CONDUCTOR WITHOUT SPLICES OR BREAK UNLESS OTHERWISE SHOWN.

**CLOSED CIRCUIT TELEVISION SYSTEM
(CCTV WIRING SCHEDULE AND PIN-OUT)
NO SCALE**

E-210

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trimguye
DGN FILE => c071630a205a.dgn

CU 12235

EA 071631

BORDER LAST REVISED 8/1/2008

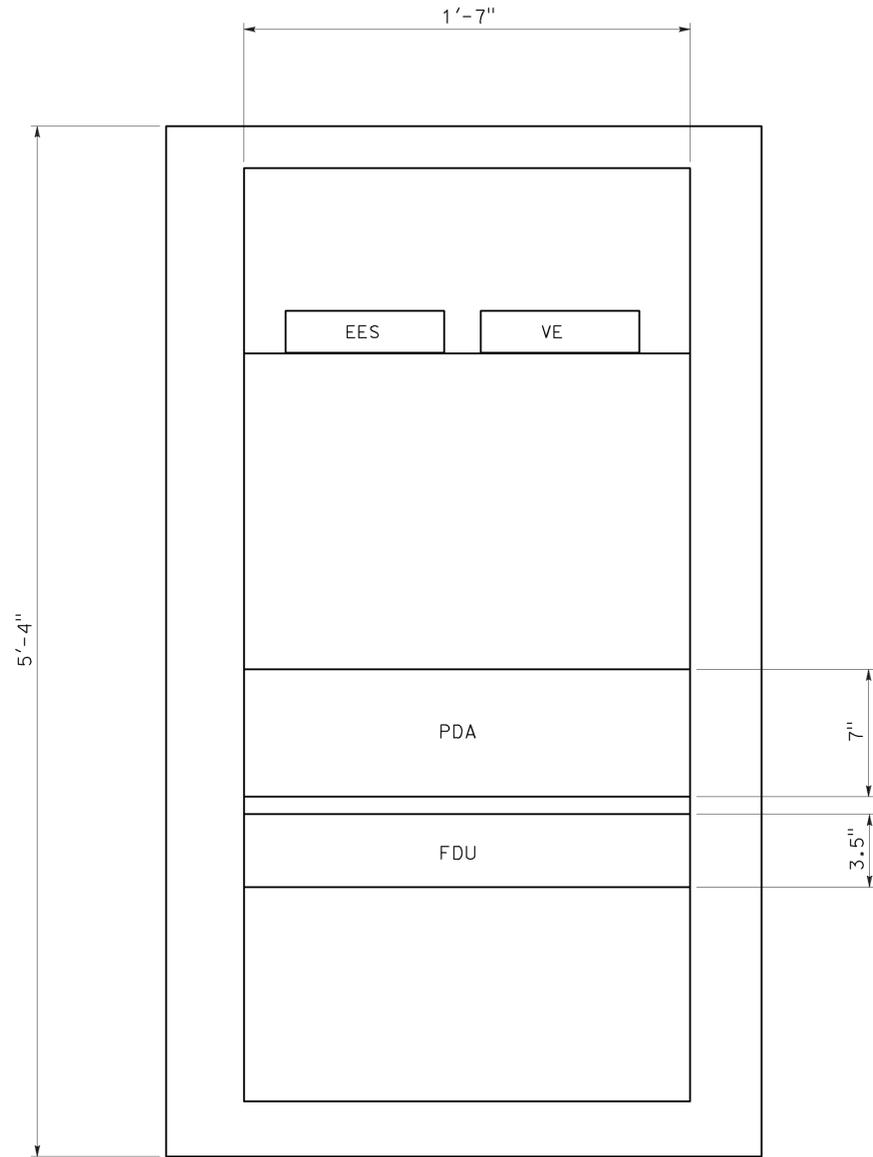
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT - FUNCTIONAL SUPERVISOR
 DENWUN LIN
 CALCULATED/DESIGNED BY
 VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY
 TIMMY TO
 REVISED BY
 VVE
 DATE REVISED
 8/10/09

LAST REVISION | DATE PLOTTED => 09-FEB-2010
 08-10-09 | TIME PLOTTED => 09:55

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: FUNCTIONAL SUPERVISOR: DENWUN LIN
 CALCULATED/DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
 CHECKED BY: TIMMY TO
 REVISED BY: VVE
 DATE REVISED: 8/10/09

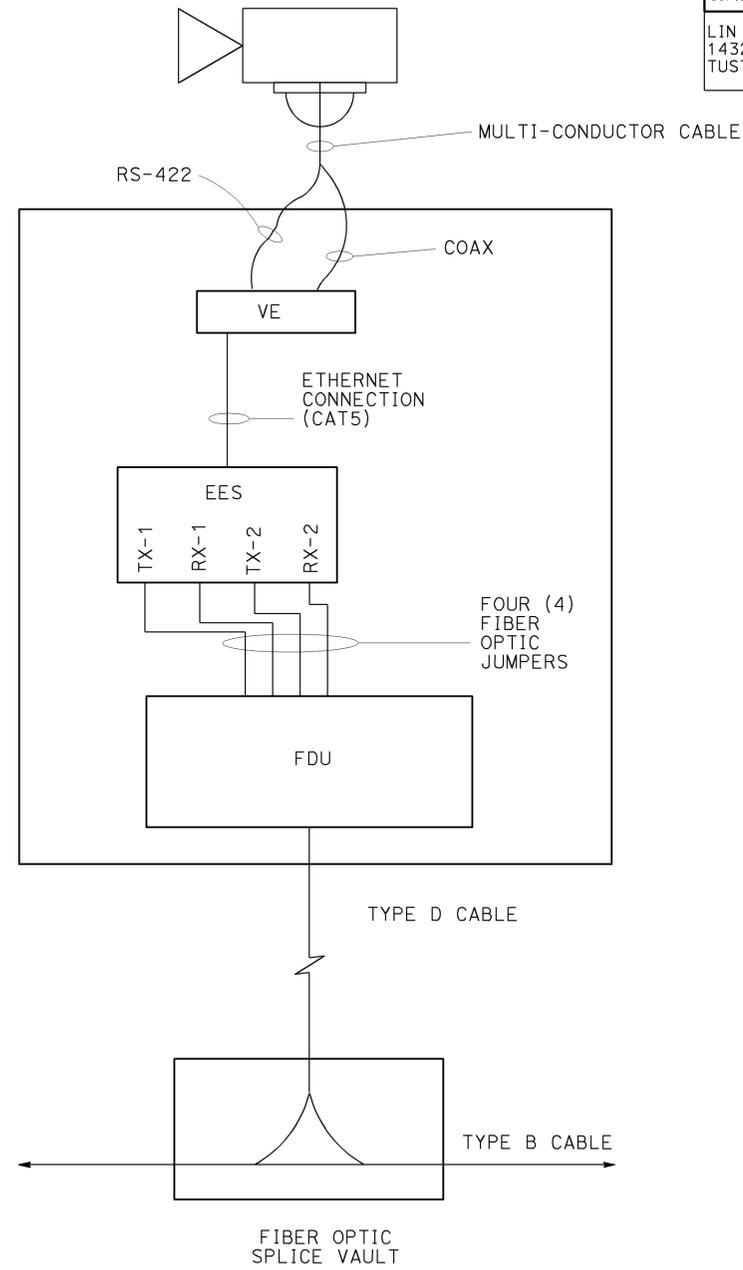
ABBREVIATIONS: (THIS SHEET ONLY)

- EES : EDGE ETHERNET SWITCH
- FDU : FIBER DISTRIBUTION UNIT
- PDA : POWER DISTRIBUTION ASSEMBLY
- TX-1 : TRANSMIT FIBER IN DIRECTION OF ETHERNET SWITCH
- RX-1 : RECEIVE FIBER IN DIRECTION OF ETHERNET SWITCH
- TX-2 : TRANSMIT FIBER IN OPPOSITE DIRECTION OF ETHERNET SWITCH
- RX-2 : RECEIVE FIBER IN OPPOSITE DIRECTION OF ETHERNET SWITCH
- VE : VIDEO ENCODER



MODEL 334-TV CABINET

EQUIPMENT RACK LAYOUT



TYPICAL EQUIPMENT

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1398	1929

REGISTERED CIVIL ENGINEER DATE: 8/10/09
 PLANS APPROVAL DATE: 2-1-10

DENWUN LIN
 No. C46719
 Exp. 6/30/11
 CIVIL

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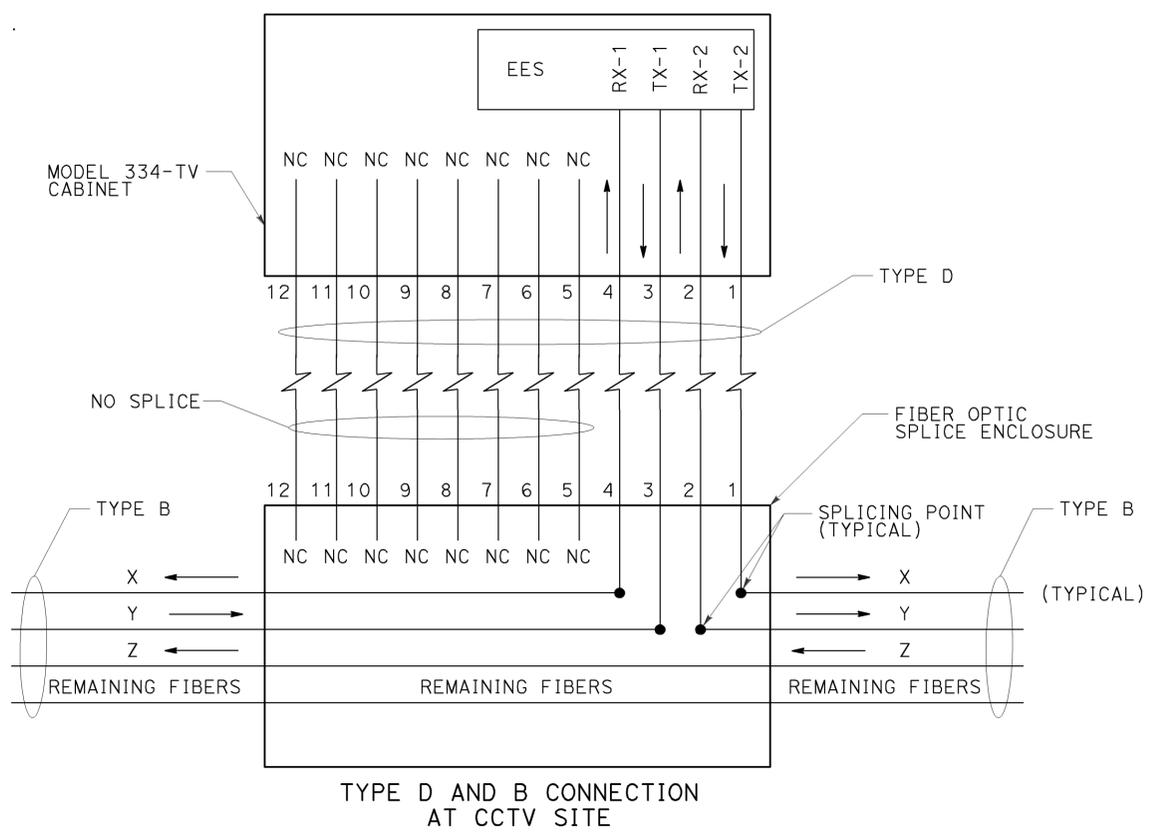
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780
 ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584

**COMMUNICATION SYSTEM
 (CCTV INTERFACE)
 NO SCALE**

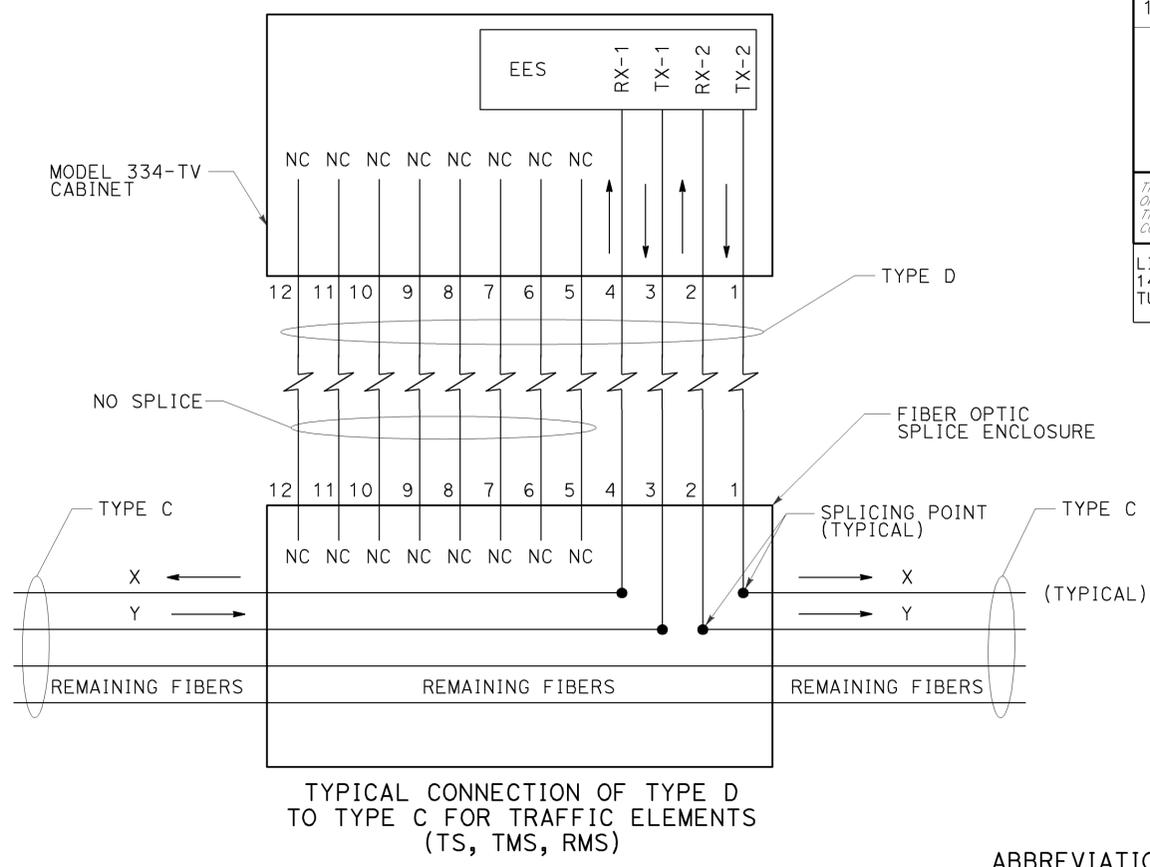
E-212

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
12	Ora	22,405,605	TOTAL PROJECT R0.3/R0.9, 22.3/24.0,3.0/R1.6	No. 1399	SHEETS 1929
REGISTERED CIVIL ENGINEER			8/10/09	DATE	
2-1-10			PLANS APPROVAL DATE		
LIN CONSULTING, INC. 1432 EDINGER AVE. #230 TUSTIN, CA 92780			ORANGE COUNTY TRANSPORTATION AUTHORITY 550 S. MAIN STREET ORANGE, CA 92863-1584		

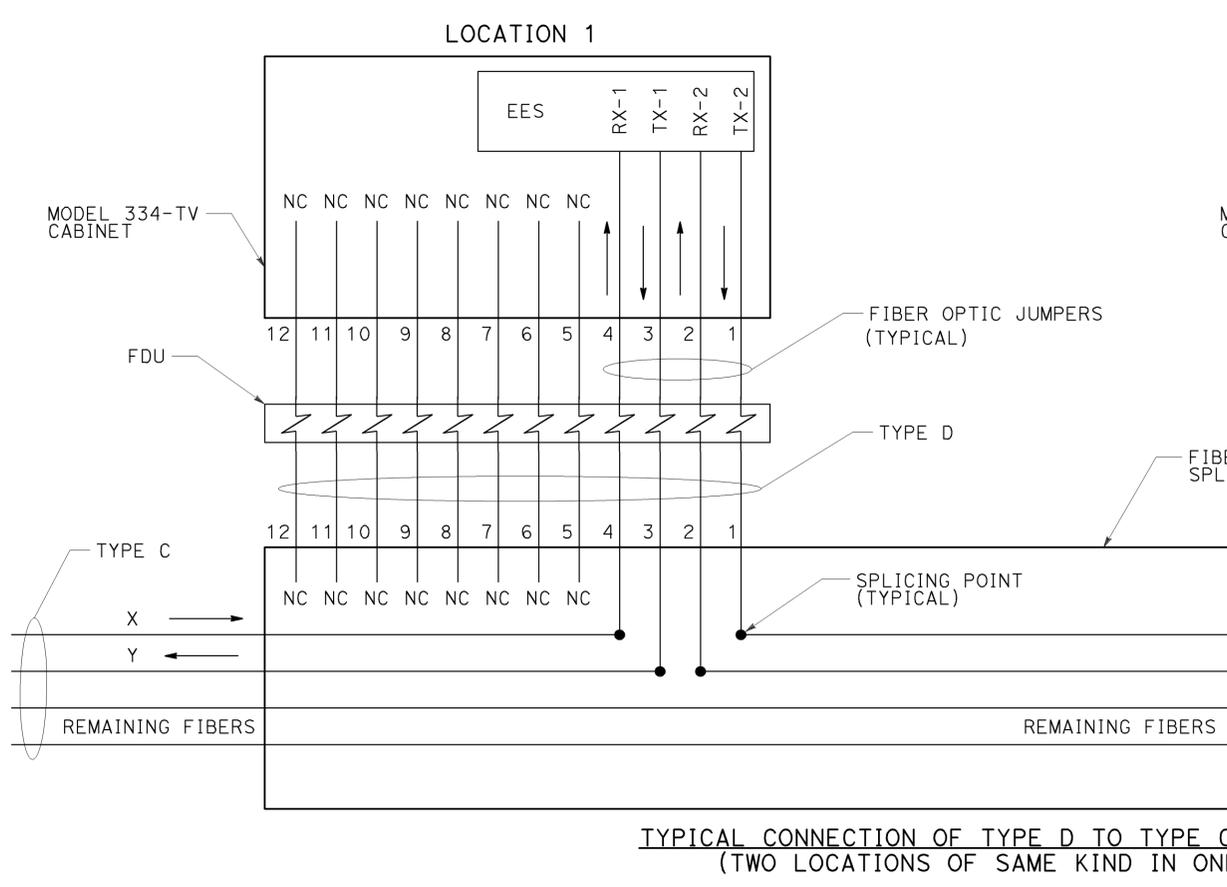


TYPE D AND B CONNECTION
AT CCTV SITE

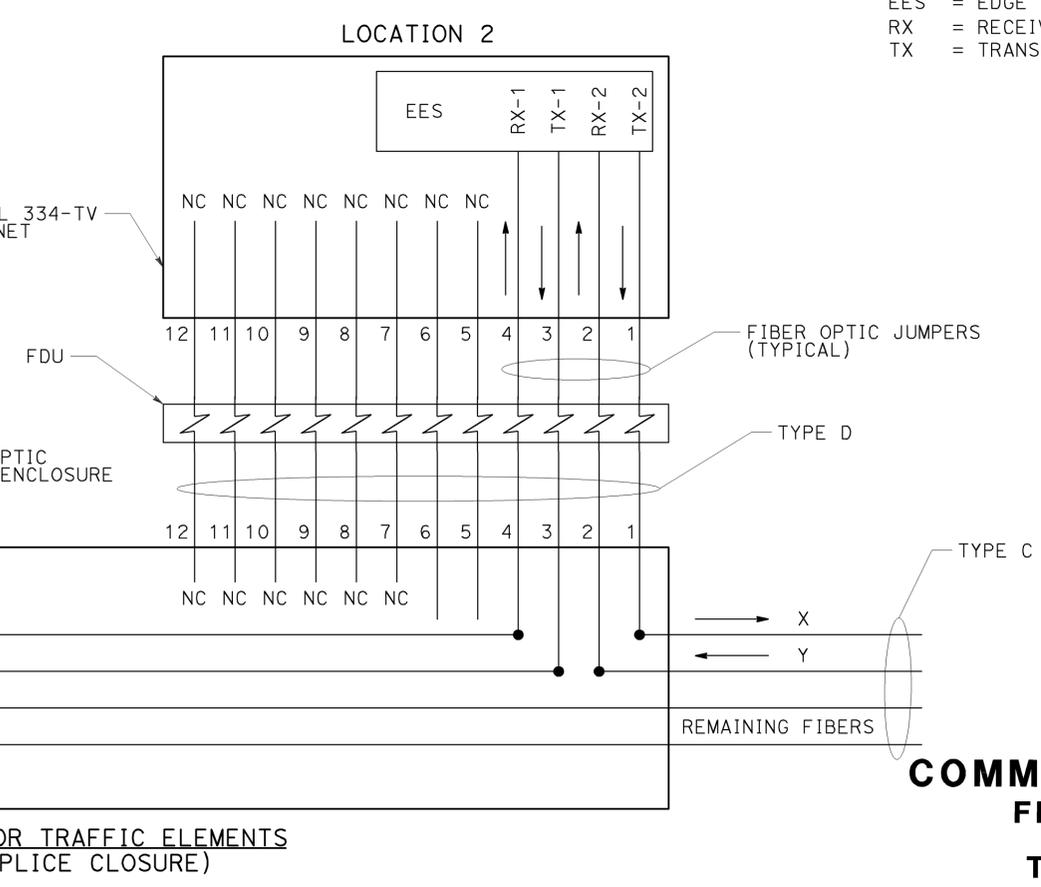


TYPICAL CONNECTION OF TYPE D
TO TYPE C FOR TRAFFIC ELEMENTS
(TS, TMS, RMS)

ABBREVIATIONS: (THIS SHEET ONLY)
 EES = EDGE ETHERNET SWITCH
 RX = RECEIVE
 TX = TRANSMIT



TYPICAL CONNECTION OF TYPE D TO TYPE C FOR TRAFFIC ELEMENTS
(TWO LOCATIONS OF SAME KIND IN ONE SPLICE CLOSURE)



**COMMUNICATION SYSTEM
 FIBER OPTIC SPLICING
 FOR TYPE D TO
 TYPE B AND TYPE C
 DETAILS**

NO SCALE **E-213**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT - FUNCTIONAL SUPERVISOR
 DENWUN LIN
 CALCULATED/DESIGNED BY
 CHECKED BY
 VICENTE ENCARNACION
 CHARLOTTE WU
 TIMMY TO
 REVISED BY
 DATE REVISED
 VVE
 8/10/09

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 DGN FILE => c07163ua208.dgn

CU 12235

EA 071631

LAST REVISION | DATE PLOTTED => 04-FEB-2010
 08-10-09 | TIME PLOTTED => 08:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	22,405, 605	R0.3/R0.9, 22.3/24.0,3.0/R1.6	1400	1929

<i>Denwun Lin</i>	12/22/09
REGISTERED CIVIL ENGINEER	DATE

2-1-10	PLANS APPROVAL DATE
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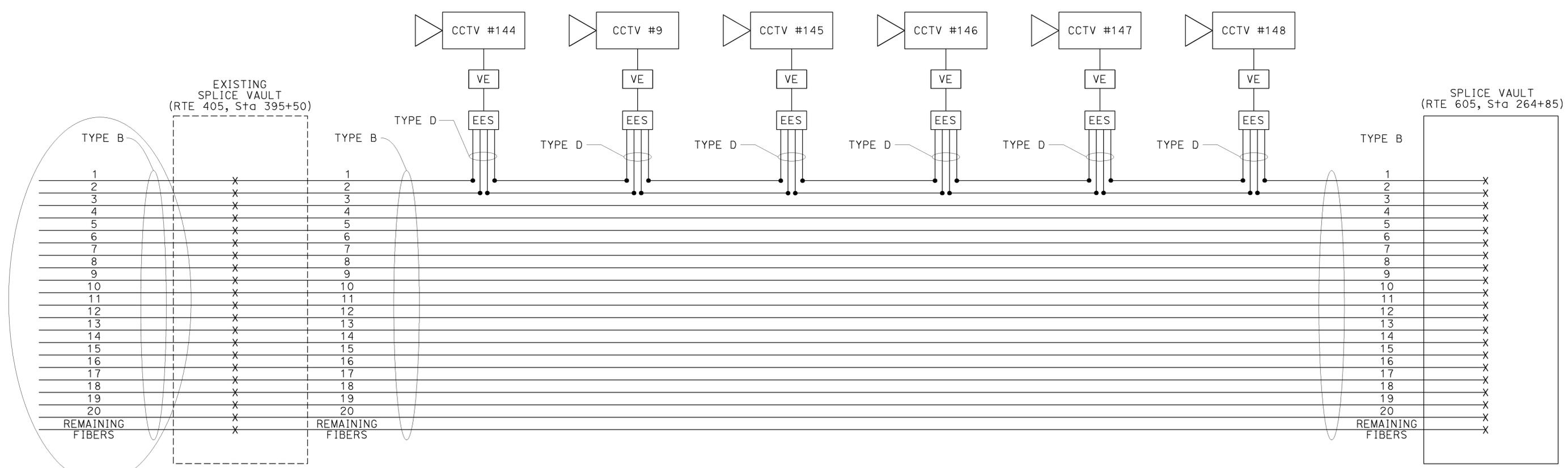
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LEGEND AND ABBREVIATIONS:(THIS SHEET ONLY)

- EES - EDGE ETHERNET SWITCH
- VE - VIDEO ENCODER
- - FO SPLICE
- - PROPOSED CABLE(S)
- X - TERMINATED

**TYPE B CABLE TERMINATIONS
TRUNKLINE No 3 (ROUTE 405)**



JOIN CONSTRUCTION BY OTHERS
(CONTRACT No. 12-071624)

**COMMUNICATION SYSTEM
(TYPE B CABLE
FIBER ASSIGNMENTS
CABLE DETAILS)**

NO SCALE

E-214

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => trlenard
DGN FILE => c07163uq214.dgn

CU 12235

EA 071631

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Vicente Encarnacion Charlotte Wu
 Timmy To
 Denwun Lin
 Et Caltrans

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LAST REVISION | DATE PLOTTED => 04-FEB-2010
 12-22-09 | TIME PLOTTED => 08:32