For Contract No. 07-3P7204
At 07-LA-60-0.5

Identified by
Project ID 0712000426

MATERIALS INFORMATION

CCTV AND COMMUNICATION SYSTEM AS-BUILTS

07-LA-60-PM 0.5

0760-3P7201

EFIS# 0712000426

BY

OFFICE OF INTELLIGENT TRANSPORTATION SYSTEMS

State of California Business, Transportation and Housing Agency

Memorandum

To: John Zaki. Acting STE
Maintenance Engineering, North

Date: May 20, 2013

File: 07-LA-60-PM 0.5
0760-3P7201
EFIS# 0712000426

From: **DEPARTMENT OF TRANSPORTATION**
Jacqueline Tan / STEE
Office of ITS

Subject: **Request for Communication/Fiber Optics Design (PS&E)**

Thank you for routing to our office the PS&E Draft package for the above-referenced project which proposed to construct lane and replace the approach slab of the bridge at EB 60 / SB 5 separation (Br No. 53-1462R). After reviewing the cross sections and construction details of the proposed work, **we found that there is fiber optic line crossing near the proposed work location. Attached please find the as- built plans with highlight showing the potential of impact at this location. Our office request that the fiber optic line be identified and protect it in place during construction**. Also, please include SSP 86-1.06B in the specifications and reserve an estimate amount $2000 to pay for this item.

Should the project scope be altered, a new evaluation will be required.

If you have any questions, please contact Tuyen Ngo at 213-897-0270 or myself at 213-897-4698.

Sincerely,

Jacqueline Tan

JACQUELINE TAN
Senior Transportation Electrical Engineer
Office of ITS

Cc: T.Ngo

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	60	0.1/11.7	87	183

Alebachew Bekele
REGISTERED ELECTRICAL ENGINEER

5-18-98
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ALEBACHEW BEKELE No. E 18331 Exp. 06/30/01 ELECTRICAL 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.

ABBREVIATIONS

IP	—	I-POLE
2SMFO	—	FIBER OPTIC CABLE, 2 SINGLE-MODE FIBERS
2SMFO B/O	—	FIBER OPTIC BREAKOUT CABLE, 2 SINGLE-MODE FIBERS
12SMFO	—	FIBER OPTIC CABLE, 12 SINGLE-MODE FIBERS
48SMFO	—	FIBER OPTIC CABLE, 48 SINGLE-MODE FIBERS
50PR22	—	TWISTED PAIR CABLE, 50 PAIR 22AWG CONDUCTORS
6PR22	—	TWISTED PAIR CABLE, 6 PAIR 22AWG CONDUCTORS
B/O	—	BREAKOUT
AVC	—	AUTOMATIC VEHICLE CLASSIFICATION STATION
CB	—	CIRCUIT BREAKER
CCR	—	CAMERA CONTROL RECEIVER
CCTV	—	CLOSED CIRCUIT TELEVISION
CIA	—	CONTROLLER INTERFACE ASSEMBLY
CMS	—	CHANGEABLE MESSAGE SIGN
COMM	—	COMMUNICATION
DACCS	—	DIGITAL ACCESS AND CROSS CONNECTION SYSTEM
DEMUX	—	DEMULTIPLEX
(E)	—	EXISTING
EXIST	—	EXISTING
FDF	—	FIBER DISTRIBUTION FRAME
FDU	—	FIBER DISTRIBUTION UNIT
F/O	—	FIBER OPTIC
GRS	—	GALVANIZED RIGID STEEL
ELA	—	EAST LOS ANGELES
JKFD	—	JACKFIELD
MUX	—	MULTIPLEX
OHS	—	OVERHEAD SIGN
OW	—	ORDER WIRE (MULTIPLE VOICE CIRCUIT)
PDA	—	POWER DISTRIBUTION ASSEMBLY
RCVR	—	RECEIVER
RMS	—	RAMP METERING SYSTEM OR STATION
RX	—	RECEIVE
SCE	—	SOUTHERN CALIFORNIA EDISON
SMFO	—	SINGLEMODE FIBER OPTIC
SO CAL EDISON	—	SOUTHERN CALIFORNIA EDISON
TMS	—	TRAFFIC MONITORING STATION
TWP	—	TWISTED WIRE PAIR
TX	—	TRSNSMIT
VMX	—	VIDEO MULTIPLEXER
XMTR	—	TRANSMITTER

GENERAL NOTES

1. THE LOCATIONS OF EXISTING CONTROLLER CABINETS, EXISTING SERVICE ENCLOSURES, POWER POLES AND EXISTING DEMARCATION BOXES ARE APPROXIMATE. THE LOCATIONS OF PROPOSED PULL BOXES AND SPLICE VAULTS CABINETS AND POSITIONING OF DETECTORS ARE APPROXIMATE AND MAY BE CHANGED TO SUIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
2. BEFORE REMOVING OR MODIFYING ANY EXISTING ELECTRICAL FACILITIES, THE CONTRACTOR SHALL PROVIDE 72 HOUR ADVANCE WRITTEN NOTICE TO ALL AGENCIES CONCERNED.
3. UNLESS OTHERWISE NOTED, ALL CONDUIT BENDS SHALL BE 4 FOOT RADIUS FACTORY BENDS.
4. COMMUNICATION CONDUIT SHALL BE CENTERED IN THE PAVED SHOULDER OR AS SHOWN ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.
5. TWISTED PAIR CABLES SHALL BE SPLICED IN A COMMUNICATION PULL BOX, SPLICE VAULT OR CABINET.
6. TRENCHING IN PAVEMENT ALLOWED ONLY WHERE SHOWN ON PLANS.
7. FOR NOTES PERTAINING TO UTILITIES, SEE SHEET U-1.
8. ALL PULL BOXES AND SPLICE VAULTS SHALL BE INSTALLED IN UNPAVED AREA UNLESS NOTED OTHERWISE.
9. ALL IRRIGATION CONTROLLERS ARE EXISTING UNLESS OTHERWISE NOTED ON THE PLANS.
10. PULL BOXES SHALL NOT BE USED TO CHANGE THE ALIGNMENT OF CONDUIT.
11. ALL NEW SERVICE EQUIPMENT ENCLOSURES SHALL ALSO HAVE:
    (1) 1P, 20 A BREAKER (SPARE)
    (1) 1P, 30 A BREAKER (SPARE)
    (1) 2P, (SPACE FOR FUTURE)
12. SIZE 4" CONDUITS TO BE INSTALLED IN PAVEMENT SHALL MAINTAIN 4 FEET MINIMUM DISTANCE FROM EDGE OF TRAVELED WAY UNLESS OTHERWISE NOTED.
13. SERVICE EQUIPMENT ENCLOSURE SHALL BE LOCATED 10 FEET MINIMUM FROM THE POWER POLE OR VAULT.
14. ELECTRICAL SERVICE INSTALLATION SHALL MEET THE REQUIREMENTS OF EITHER SOUTHERN CALIFORNIA EDISON (SCE) OR LOS ANGELES DEPARTMENT OF WATER AND POWER (DWP).
15. CONDUCTOR FROM POWER (OR VAULT) TO SERVICE ENCLOSURE WILL BE INSTALLED BY UTILITY COMPANY.
16. TRENCH FOR CONDUIT INSTALLATION BETWEEN POWER POLE (OR VAULT) AND SERVICE ENCLOSURE SHALL BE LEFT OPEN FOR INSPECTION AND APPROVAL BY SCE OR DWP INSPECTOR BEFORE IT IS BACKFILLED.

LEGEND

T	BUCK-BOOST TRANSFORMER
	LOCATION OF PROPOSED CCTV CAMERA AND POLE
	CMS
	SPLICE VAULT
	COMMUNICATION PULL BOX
	COMMUNICATION TRUNKLINE
	TYPE 334-TV CABINET
	EXISTING CCTV CAMERA AND POLE

EQUIPMENT IDENTIFICATION

P0123
- POST MILE ACCURATE TO 1/10 MILE (WITHOUT DECIMAL)
- FREEWAY ROUTE

AS-BUILT
Contract No. 07- 1209C4
Resident Engineer: Paul Wang
Completion Date: 01/28/02

CCTV AND COMMUNICATION SYSTEM
(LEGEND AND NOTES)

NO SCALE

E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

DESIGN OVERSIGHT: PAT SULLIVAN

CALCULATED/DESIGNED BY | CHECKED BY | DATE REVISED BY | DATE REVISED

FORM DE-DE-92 (REV. 3/88)

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

USERNAME = RCHUZ
DGN FILE = s:\1209c4u01.dgn

CU 07396 | EA 1209C1

DATE PLOTTED = 13-JUL-2001
TIME PLOTTED = 11:03

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	60	0.1/11.7	88	183

REGISTERED ELECTRICAL ENGINEER

5-18-98
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ALEBACHEW BEKELE No. E 15321 Exp. 06/30/01 ELECTRICAL 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.

CONSTRUCTION NOTES (SHEETS E-3 TO E-24)

1. ADD 6PR22 CABLE IN EXISTING CONDUIT.
2. ADD (2) 6PR22 CABLES IN EXISTING CONDUIT.
3. TERMINATE 6PR22 CABLE IN CABINET AND INSTALL TELEPHONE BRIDGE AND 12 PAIR TERMINAL BLOCK PER SHEET E-67. USE EXISTING CONDUIT FROM PULL BOX INTO CABINET.
4. COIL 25' (UNLESS OTHERWISE INDICATED ON PLAN) OF 6PR22 CABLE FOR FUTURE CONNECTION TO TRAFFIC SIGNAL CONTROLLER.
5. COIL 25' OF 6PR22 CABLE FOR FUTURE CONNECTION TO IRRIGATION CONTROLLER.
6. INSTALL SPARE 4" C. SHARE TRENCH WITH COMMUNICATION CONDUIT.
7. JACK SPARE 4" C ADJACENT TO COMMUNICATION CONDUIT.
8. TRENCH AND INSTALL CONDUIT IN SOIL.
9. TRENCH AND INSTALL CONDUIT IN ASPHALT.
10. JACK CONDUIT BENEATH ROADWAY.
11. ATTACH CONDUIT TO STRUCTURE. SEE SHEET C-6 TO C-9 FOR BRIDGE ATTACHMENT TYPE AND DETAIL.
12. INSTALL CONDUITS IN SAME TRENCH.
13. SHOWN FOR REFERENCE ONLY. FOR INSTALLATION, REFER TO ELECTRICAL SITE DESIGN ON SHEET E-25 THRU E-49.

TABLE 1 -CCTV WIRING

CONDUCTOR TYPE	FUNCTION	QUANTITY
RG-6A/U	CAMERA VIDEO INTERFACE CABLE	1
9 PR #18 CABLE	PAN/TILT CONTROL CABLE	1
12 PR #18 CABLE	LENS CONTROL CABLE	1

AS-BUILT
Contract No. 07- 1209C4
Resident Engineer: Paul Wang
Completion Date: 01/28/02

CCTV AND COMMUNICATION SYSTEM
(NOTES)
NO SCALE

E-2

DATE | REVISED BY | DATE REVISED
CALCULATED/DESIGNED BY | CHECKED BY
DESIGN OVERSIGHT
PAT SULLIVAN
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

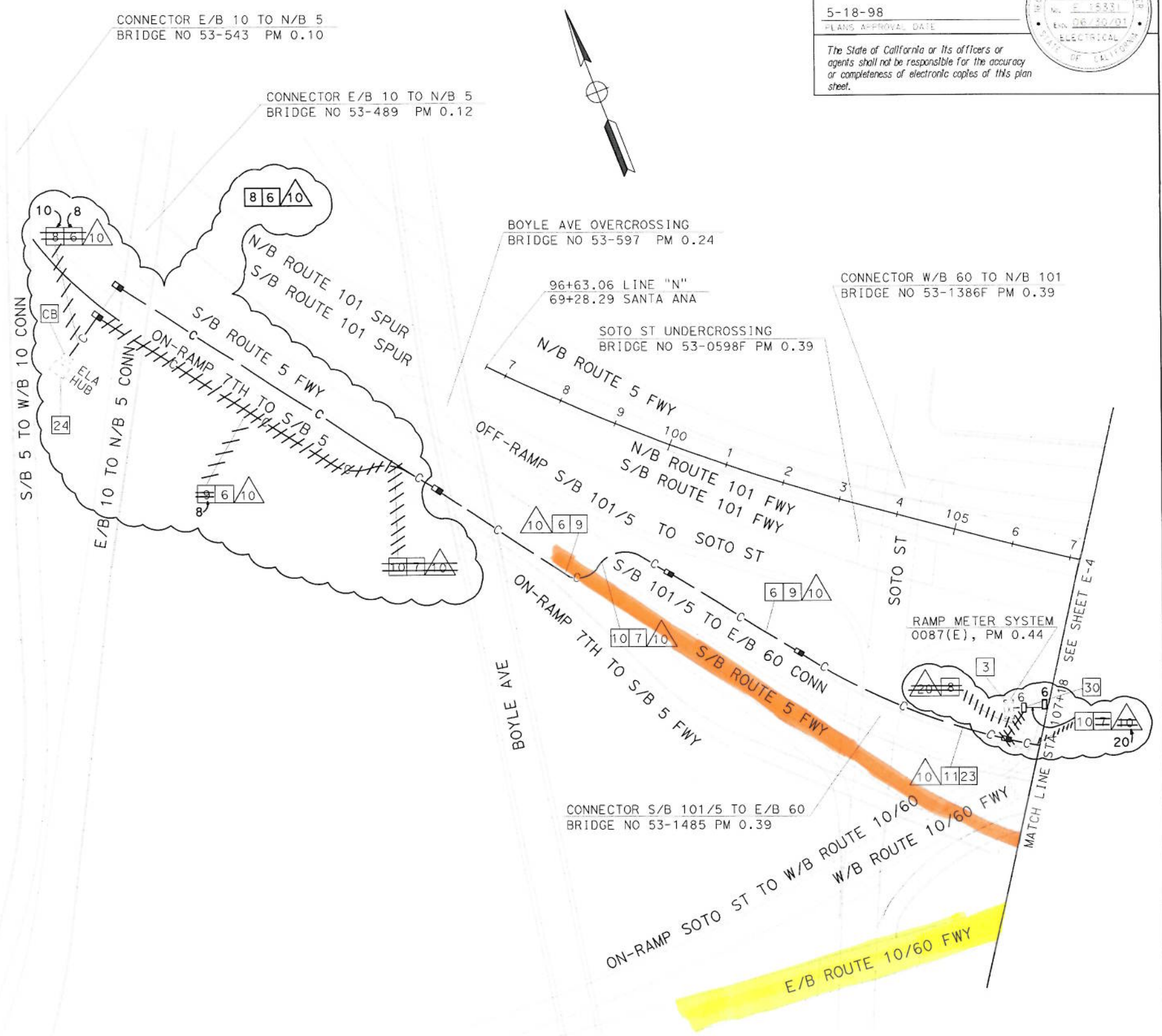
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3
USERNAME = DGOLDE
DGN FILE = T1209C02.dgn
CU 07396
EA 1209C1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	60	0.1/11.7	89	183

REGISTERED ELECTRICAL ENGINEER

5-18-98
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.



CONDUIT AND CONDUCTOR SCHEDULE (THIS SHEET ONLY)

CONDUCTOR TYPE	FUNCTION	RUN 10			RUN 20
50PR22 CABLE	COMMUNICATION DATA/VOICE	1			
48SMFO	MULTIPLEXED DATA/VIDEO		1		
12SMFO	CCTV CAMERA TO VIDEO DISTRIBUTION			1	
6PR22 CABLE	DISTRIBUTION DATA/VOICE				1
	INNERDUCT		1¼"	1¼"	
	CONDUIT SIZE	4"			2"

CONSTRUCTION NOTES THIS SHEET:

23 INSTALL 4" SPARE CONDUIT(FIBERGLASS).

24 TERMINATE 50PR22 AND 48SMFO CABLES INTO EAST LOS ANGELES HUB BUILDING. SEE SHEETS E-89 AND E-90 FOR DETAILS.

30 RC EXISTING PULL BOX. INSTALL NEW PULL BOX.

AS-BUILT
Contract No. 07- 1209C4
Resident Engineer: Paul Wang
Completion Date: 01/28/02

NOTE: THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.
SEE SHEET E-1 AND E-2 FOR LEGEND AND PROJECT NOTES.

COMMUNICATION SYSTEM ROUTING

SCALE: 1" = 100'

E-3

DATE	REVISED BY	DATE	REVISED BY

CALCULATED/DESIGNED BY
CHECKED BY

DESIGN OVERSIGHT
PAT SULLIVAN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

CU 07396 EA 1209C1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	60	0.1/11.7	90	183

REGISTERED ELECTRICAL ENGINEER

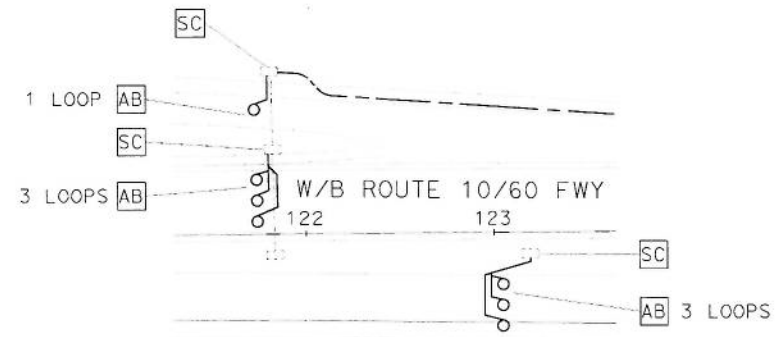
5-18-98
PLANS APPROVAL DATE

ALEBACHEW BEKELE No. E 15331 Exp. 06/30/01 ELECTRICAL STATE OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEER

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.

CONDUIT AND CONDUCTOR SCHEDULE (THIS SHEET ONLY)

CONDUCTOR TYPE	FUNCTION	RUN 10	RUN 12	RUN 20
50PR22 CABLE	COMMUNICATION DATA/VOICE	1		
48SMFO	MULTIPLAXED DATA/VIDEO	1		
12SMFO	CCTV CAMREA TO VIDEO DISTRIBUTION	1		
6PR22 CABLE	DISTRIBUTION DATA/VOICE		1	1
	INNERDUCT	1¼" 1¼"		
	CONDUIT SIZE	4"	3"	2"

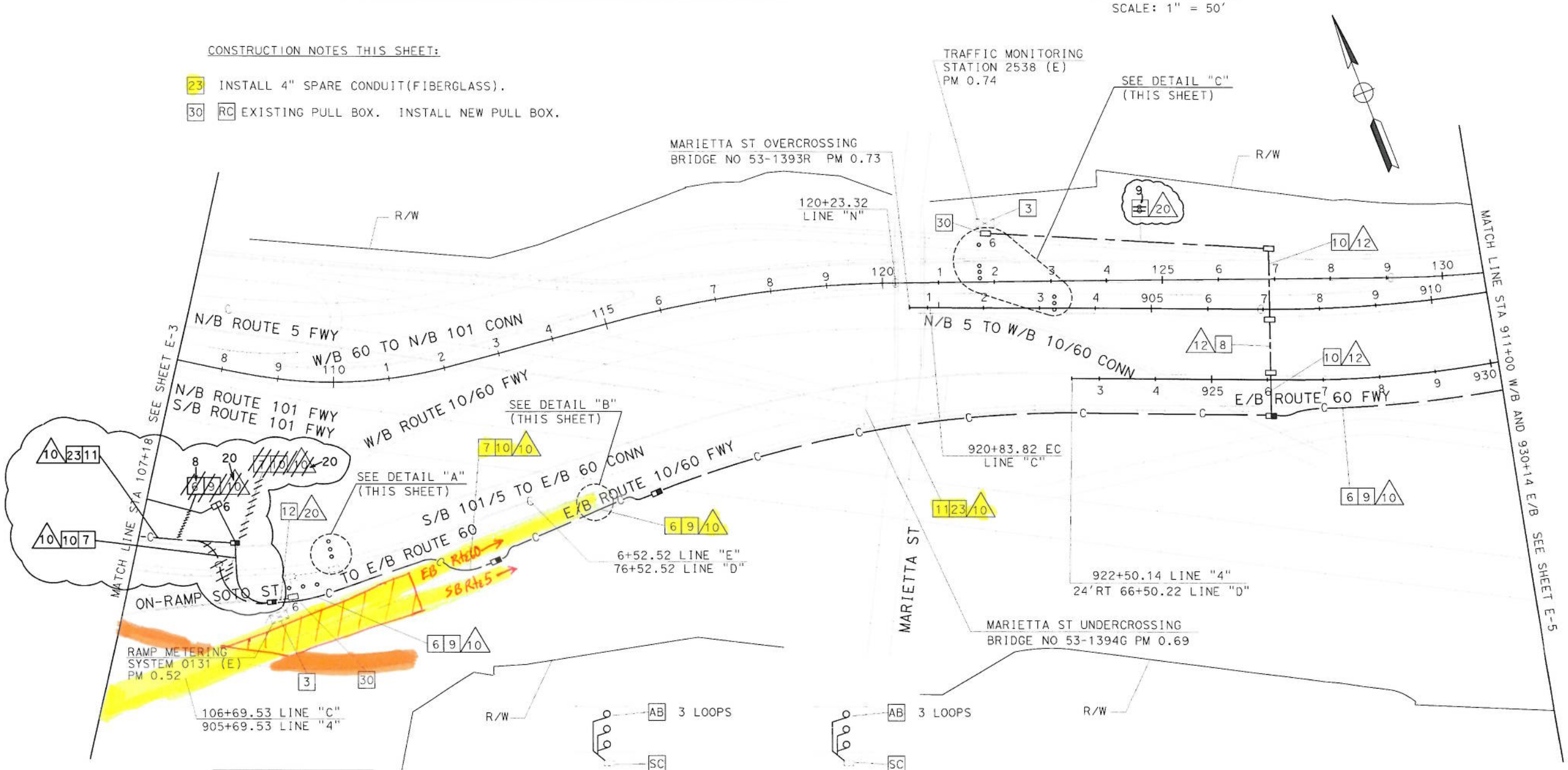


DETAIL "C"
SCALE: 1" = 50'

CONSTRUCTION NOTES THIS SHEET:

23 INSTALL 4" SPARE CONDUIT(FIBERGLASS).

30 RC EXISTING PULL BOX. INSTALL NEW PULL BOX.



DETAIL "A"
SCALE: 1" = 50'

DETAIL "B"
SCALE: 1" = 50'

AS-BUILT
Contract No. 07- 1209C4
Resident Engineer: Paul Wang
Completion Date: 01/28/02

NOTE: THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.
SEE SHEET E-1 AND E-2 FOR LEGEND AND PROJECT NOTES.

COMMUNICATION SYSTEM ROUTING AND LOOP DETECTOR

SCALE: 1" = 100'

E-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

DESIGN OVERSIGHT: PAT SULLIVAN

CALCULATED/DESIGNED BY | CHECKED BY | DATE REVISED BY | DATE REVISED

FORM OF-OF-30-P1 (REV. 5/98) | FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 | USERNAME PAUTRUE | FILE 07396 | EA 1209C1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	60	0.1/11.7	139	183

Alebachew Bekele
REGISTERED ELECTRICAL ENGINEER

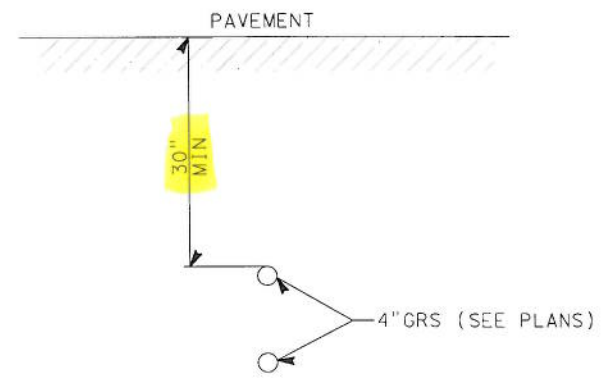
5-18-98
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
ALEBACHEW BEKELE
No. E 15331
Exp. 6-30-01
ELECTRICAL
STATE OF CALIFORNIA

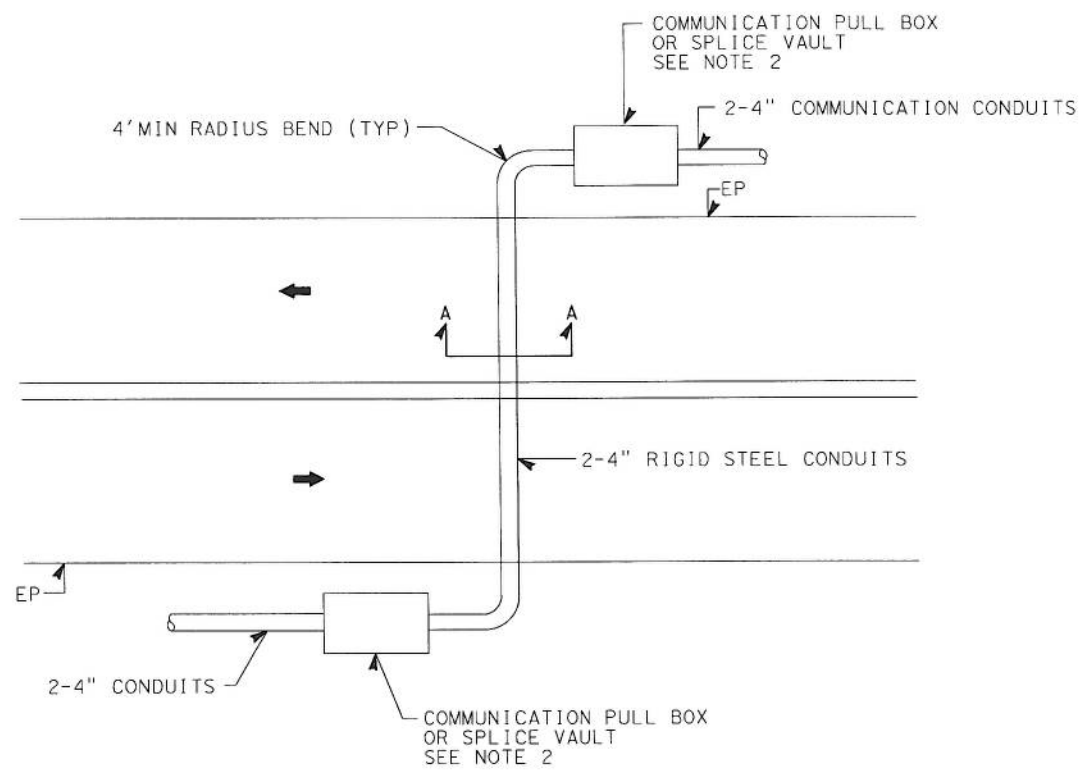
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

NOTES: (THIS SHEET ONLY)

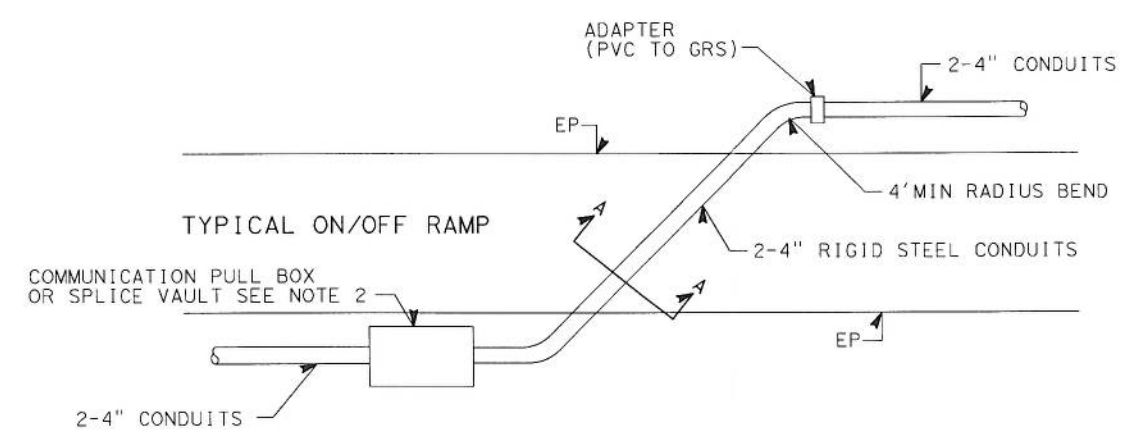
1. ALL JACKED CONDUITS SHALL BE 30 INCHES MINIMUM BELOW FINISHED GRADE.
2. PLACE PULL BOXES AND SPLICE VAULTS AS SHOWN PER PLANS.
3. ALL BENDS SHALL BE FACTORY BENDS.
4. BEND ANGLES AND CONDUIT DIRECTION VARY AS SHOWN PER PLANS.



SECTION A-A



TYPICAL MAINLINE CROSSING (4 OR MORE LANES)



TYPICAL ON/OFF RAMP CROSSING

AS-BUILT
Contract No. 07- 1209C4
Resident Engineer: Paul Wang
Completion Date: 01/28/02

JACKING DETAILS

NO SCALE

E-53

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

DESIGN OVERSIGHT: PAT SULLIVAN
CALCULATED/DESIGNED BY
CHECKED BY
DATE
REVISED BY
DATE REVISED

FORM DC-OE-92-PF (REV. 3/88)
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES
CU 07396
EA 1209C1