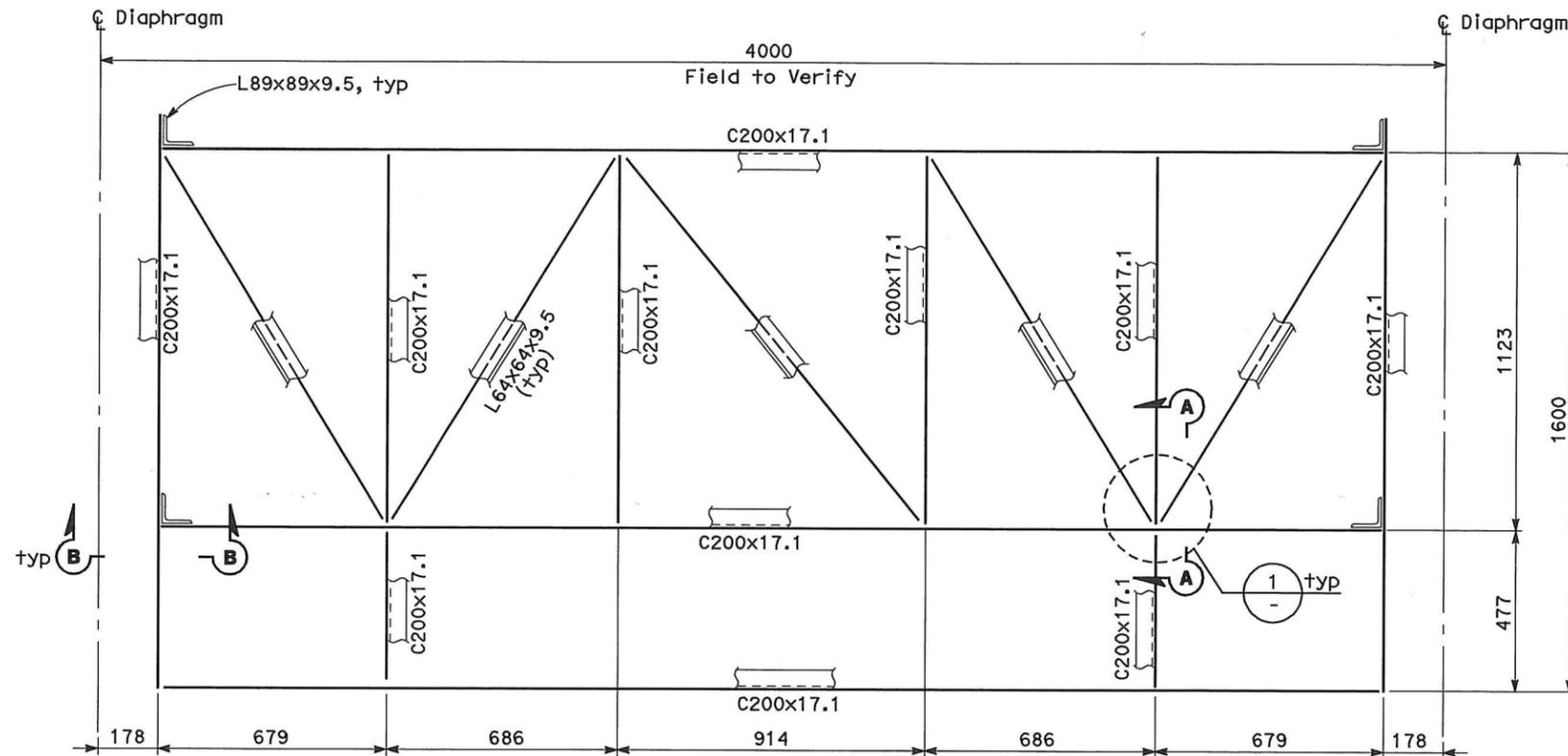




DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER			DATE	03/08/10	
05-06-2010			PLANS APPROVAL DATE		
PB AMERICAS, Inc.			No. 24960		
A Parsons Brinckerhoff Company			Exp. 12/31/11		
303 Second St., Suite 700N			CIVIL		
San Francisco, CA 94107-1317			STATE OF CALIFORNIA		
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NOTES:

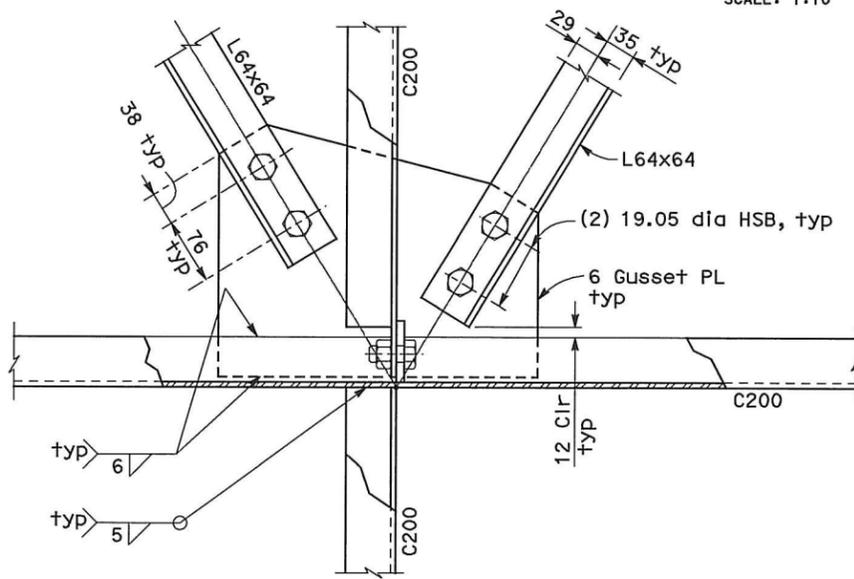
1. Structural steel - ASTM A36.
2. High strength steel bolts - ASTM A325.
3. Concrete anchors - anchor bodies shall be zinc plated in accordance w/ ASTM B633, SC1, Type 1. The expansion clip is fabricated from ASTM A240, Grade 316 stainless steel. The washer conforms to ASTM F844. The hex nut conforms to ASTM A563, Grade A.
4. Electrodes - AWS A5.1, E70XX.
5. All structural steel shall be Hot-dip galvanized after fabrication.



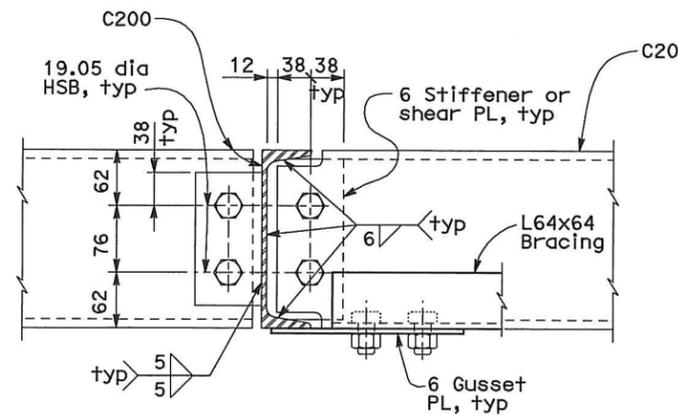
TYPE *
PLAN
SCALE: 1:10

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
△	03/08/10	MEP INTEGRATION	RG	MSO	110
REVISIONS					

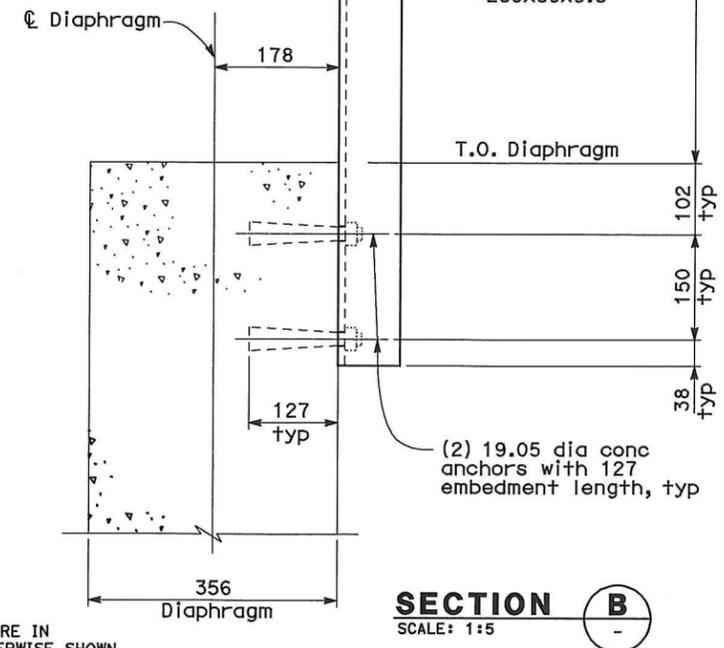
CONTRACT CHANGE ORDER NO. 110
SHEET 33 OF 290



TYP BRACING CONNECTION
DETAIL 1
SCALE: 1:4



TYP CHANNEL TO CHANNEL CONNECTION
SECTION A
SCALE: 1:4



SECTION B
SCALE: 1:5

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

Bob Zandipour DESIGN OVERSIGHT SIGN OFF DATE DESIGN DETAIL SHEET (METRIC) (REV. 3/1/98)	DESIGN BY M. S. OWYANG CHECKED R. Garcia	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 34-0006 PROJECT ENGINEER Brady Nadell	SKYWAY STRUCTURE	
	DETAILS BY E. CANTILLER CHECKED QUANTITIES BY CHECKED		KILOMETER POST SF 12.2/ALA 4.0	SPLICE CABLE TRAY SUPPORT-TYPE I AS-20	
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS: 0 10 20 30 40 50 60 70 80 90 100		CU 04251 EA 0120F1 FILE => 04-0120F1_086S22.dgn	DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET OF

USERNAME => 1107160 DATE PLOTTED => 06-MAY-2010 TIME PLOTTED => 19:48



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	86 S23	1204

03/08/10
 REGISTERED CIVIL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

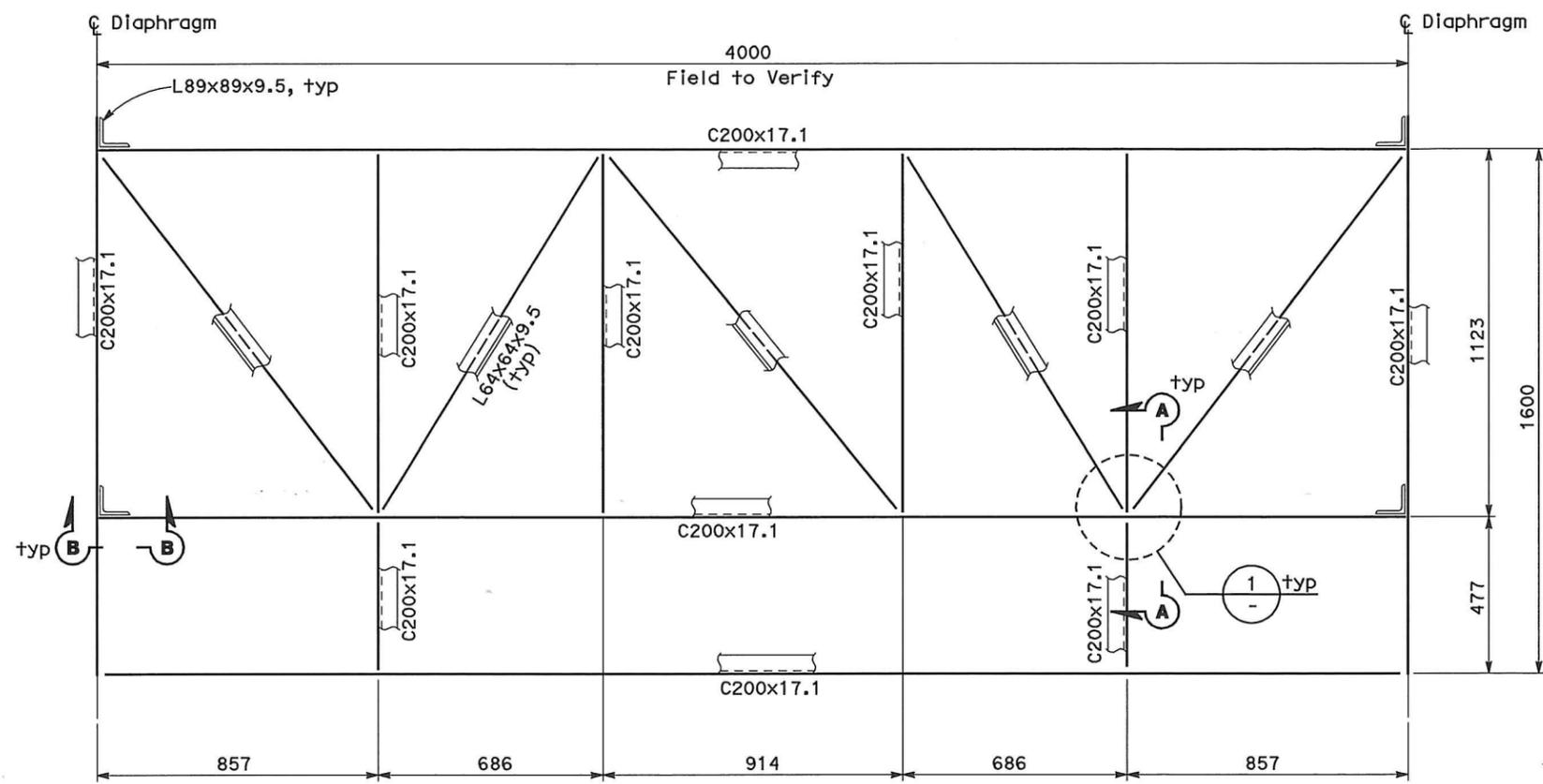


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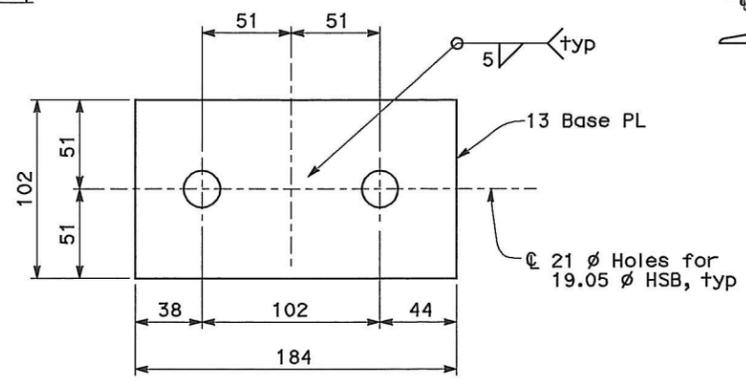
- NOTES:**
1. Structural steel - ASTM A36.
 2. High strength steel bolts - ASTM A325.
 3. Concrete anchors - anchor bodies shall be zinc plated in accordance w/ ASTM B633, SC1, Type 1. The expansion clip is fabricated from ASTM A240, Grade 316 stainless steel. The washer conforms to ASTM F844. The hex nut conforms to ASTM A563, Grade A.
 4. Electrodes - AWS A5.1, E70XX.
 5. All structural steel shall be Hot-dip galvanized after fabrication.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	RG	MSO	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

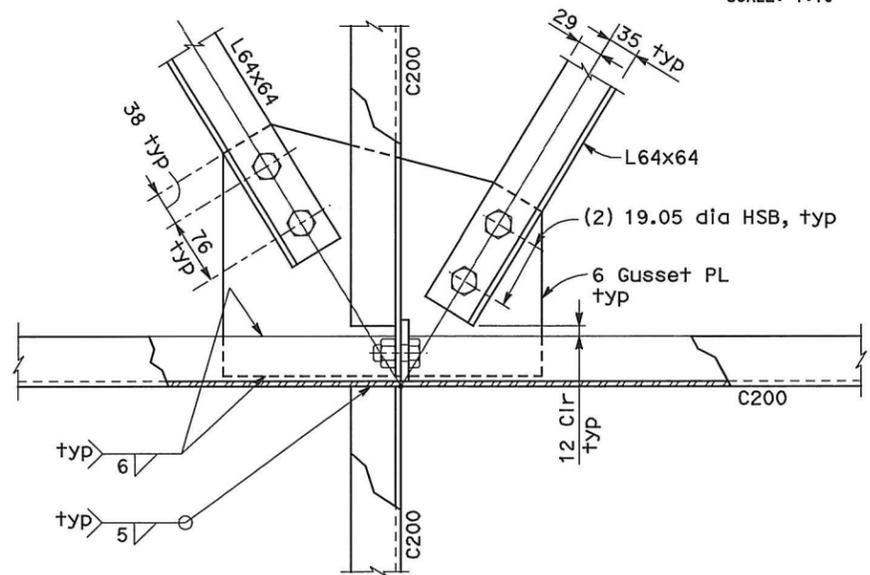
CONTRACT CHANGE ORDER NO. 110
 SHEET 34 OF 290



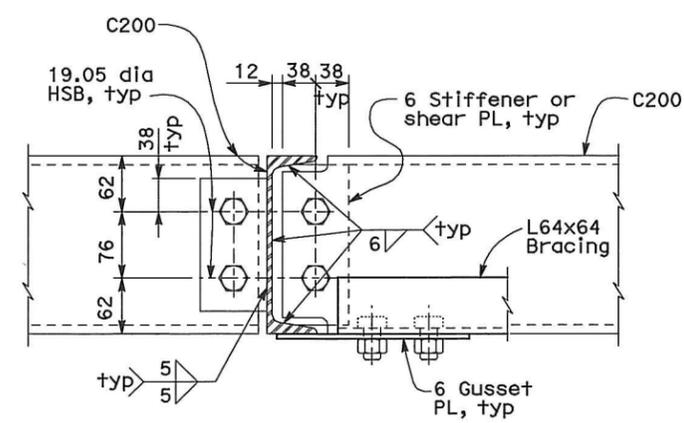
TYPE **
PLAN
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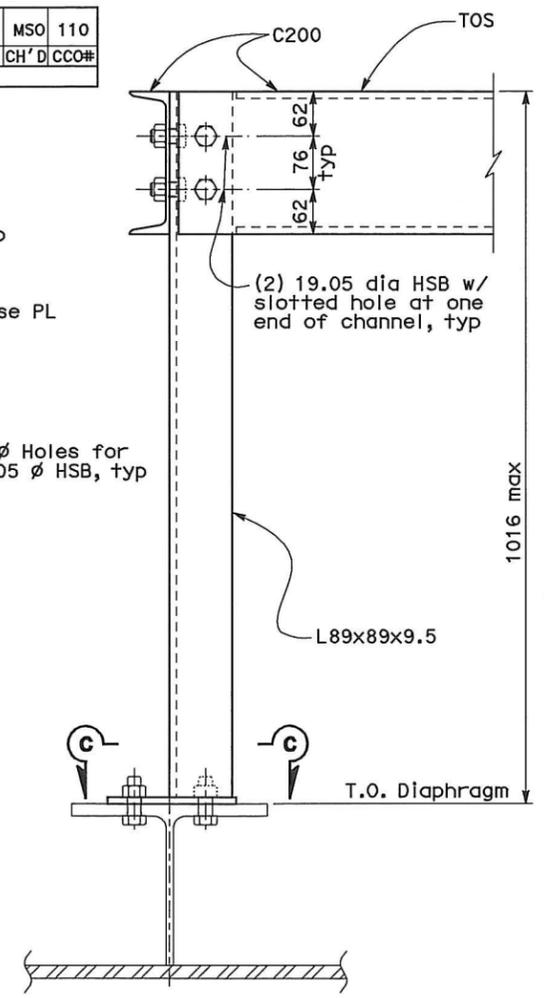
SECTION C
 SCALE: 1:2



TYP BRACING CONNECTION
DETAIL 1
 SCALE: 1:4



TYP CHANNEL TO CHANNEL CONNECTION
SECTION A
 SCALE: 1:4



SECTION B
 SCALE: 1:5

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

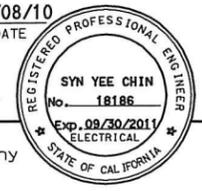
Bob Zandipour DESIGN OVERSIGHT	DESIGN	BY M. S. OWYANG	CHECKED R. Garcia	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	Brady Nadell PROJECT ENGINEER	BRIDGE NO.	34-0006	SKYWAY STRUCTURE
	DETAILS	BY E. CANTILLER	CHECKED			KILOMETER POST	SF 12.2/ ALA 4.0	
SIGN OFF DATE	QUANTITIES	BY	CHECKED	CU 04251 EA 0120F1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET OF



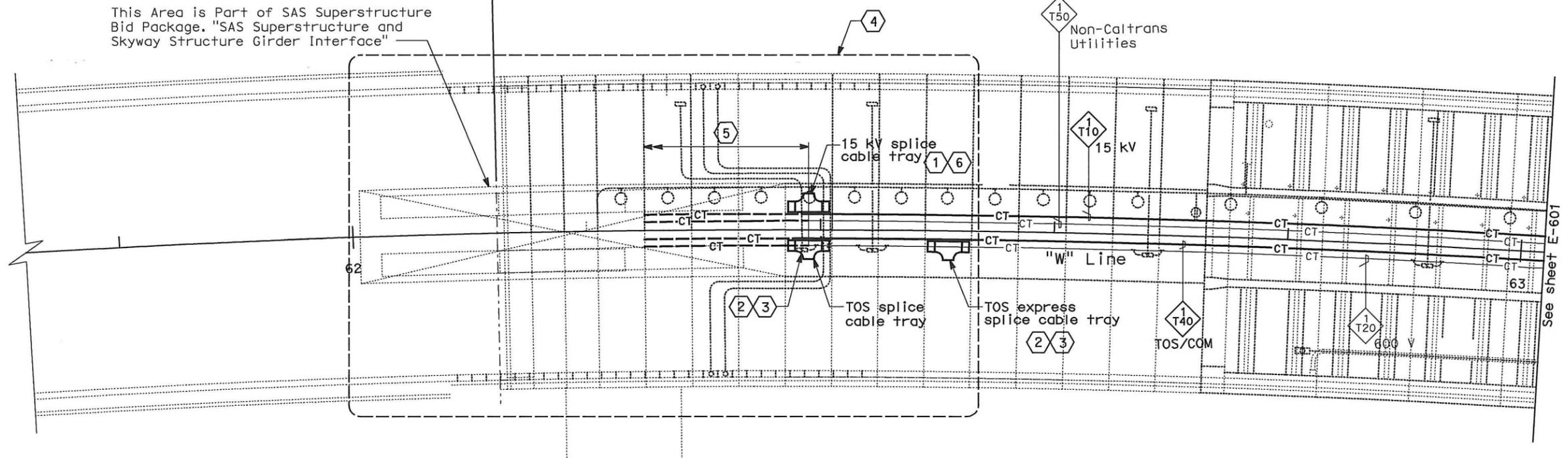
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Syn Yee Chin REGISTERED ELECTRICAL ENGINEER		03/08/10 DATE			
05-06-2010 PLANS APPROVAL DATE					
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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SAS Superstructure Contract 04-0120F4 ← Hinge AW → Skyway Structures Contract 04-012024



This Area is Part of SAS Superstructure Bid Package. "SAS Superstructure and Skyway Structure Girder Interface"

CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-61 of Skyway Structures, contract No. 04-012024.
- The Installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays shown on this drawing are existing, unless otherwise noted. Bold ones are to be used for pulling cable. See sheet note 5.

SHEET NOTES:

- Furnish and install splice cable tray as shown on sheet E-663, plan detail 1.
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
- Contractor to evaluate possibility of eliminating this TOS splice at this location to meet overall design intent. Refer to TOS drawings for further details.
- For Hinge AW area details, see sheet E-637.
- Contractor to complete the installation of 15kV, Non-Caltrans Utilities, TOS, and 600V cable trays to facilitate installation of cables.
- Contractor to splice 15 kV cables for tie-in with 15 kV cables from SAS Superstructure.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE			
△	03/08/10	MEP INTEGRATION	SYC FW 110
MARK	DATE	DESCRIPTIONS	BY CH'D CCO#
REVISIONS			

CONTRACT CHANGE ORDER NO. 110
SHEET 35 OF 290

BRIDGE STRUCTURES GIRDER WESTBOUND SKYWAY STRUCTURES

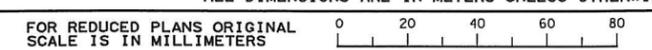
SCALE: 1:200

E-600

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 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI
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 CHECKED BY
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USERNAME => iliorico

CU 04251

EA 0120F1

LAST REVISION
 00-00-00
 DATE PLOTTED => 25-MAY-2010
 TIME PLOTTED => 11:16

DATE	REVISED BY
01/10	
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
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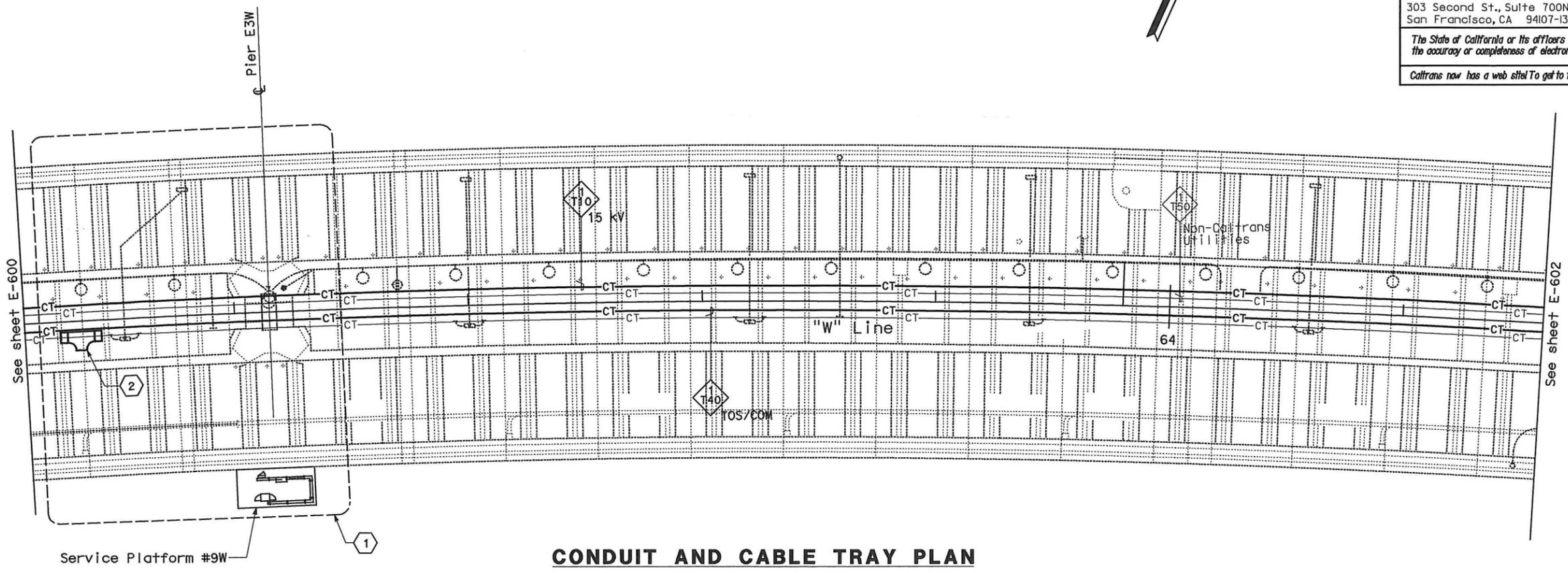
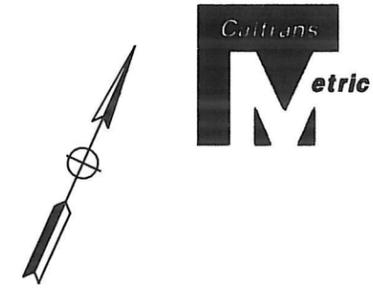
Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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CONDUIT AND CABLE TRAY PLAN

NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-62 of Skyway Structures, contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
3. All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For Service Platform #9W details, see sheet E-638.
- 2 Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.

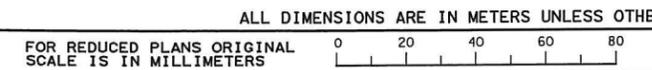
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△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
SHEET 36 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES**
SCALE: 1:200

E-601

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

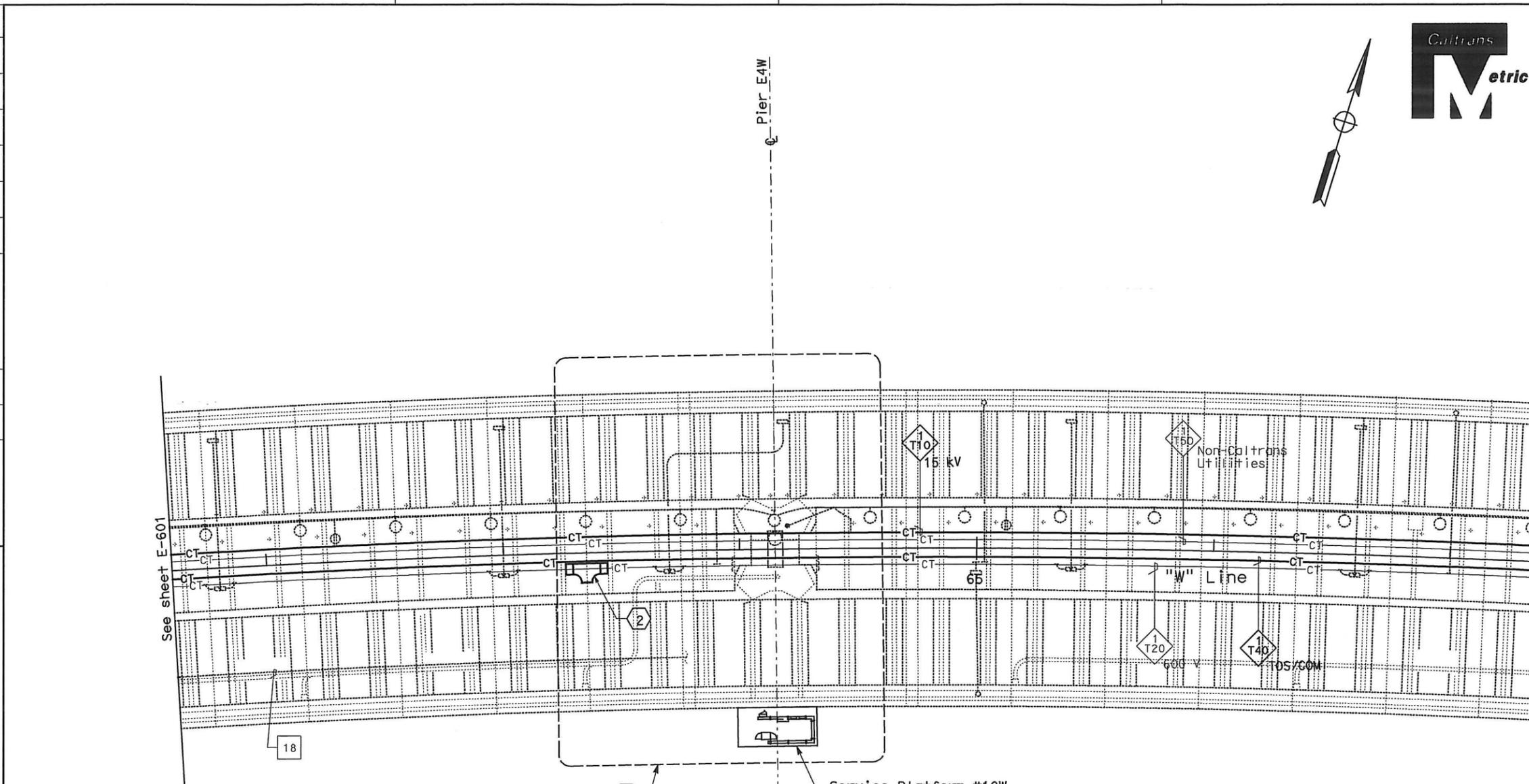


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USERNAME => llorico

CU 04251

EA 0120F1

DATE PLOTTED => 25-MAY-2010
TIME PLOTTED => 11:16
LAST REVISION
00-00-00



CONDUIT AND CABLE TRAY PLAN

NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-63 of Skyway Structures, contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
3. All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For Service Platform #10W details, see sheet E-639.
- 2 Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 37 OF 290

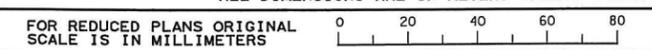
**BRIDGE STRUCTURES GIRDER WESTBOUND
 SKYWAY STRUCTURES**

SCALE: 1:200

E-602

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 USERNAME => ilorico

CU 04251

EA 0120F1

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Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

Syn Yee Chin
 REGISTERED PROFESSIONAL ENGINEER
 No. 18186
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA

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 BEHZAD GOLEMHAMMADI
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 CHECKED BY
 DATE 01/10
 DATE 01/10
 SYC FW
 DATE REVISED BY
 DATE REVISED

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 06504	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

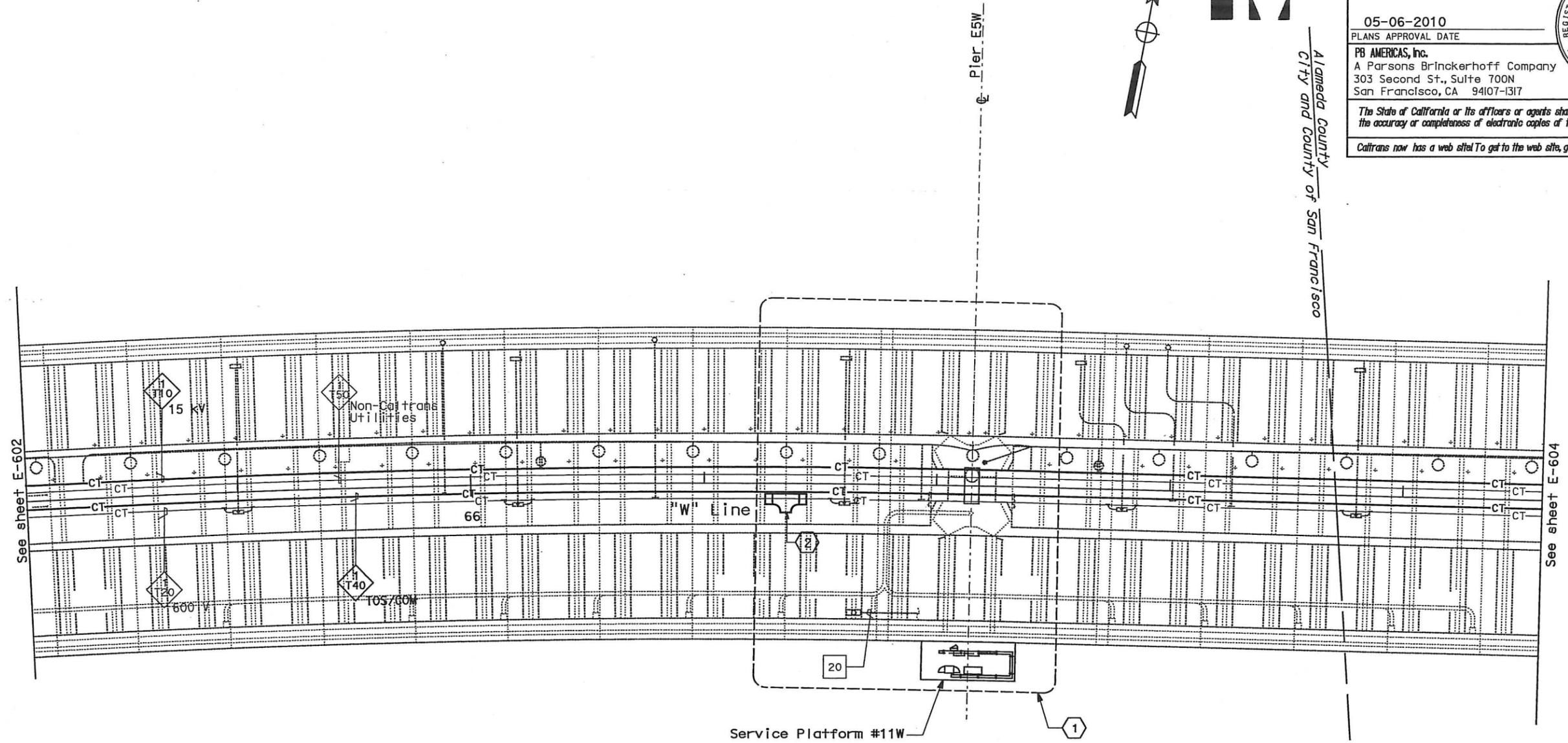
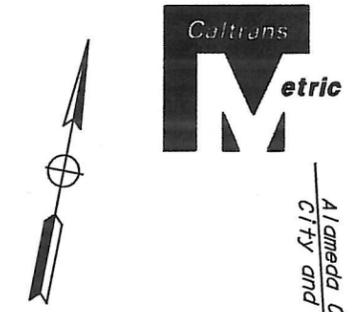
03/08/10
 DATE

05-06-2010
 PLANS APPROVAL DATE

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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-64 of Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #11W details, See sheet E-640.
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
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CONTRACT CHANGE ORDER NO. 110
 SHEET 38 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 SKYWAY STRUCTURES**

SCALE: 1:200

E-603

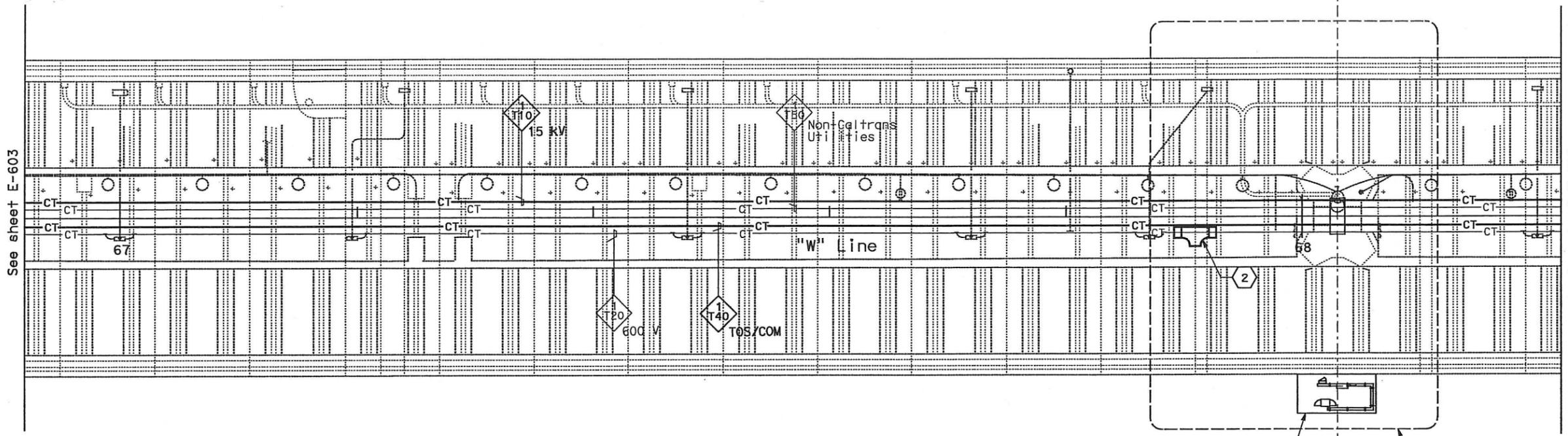
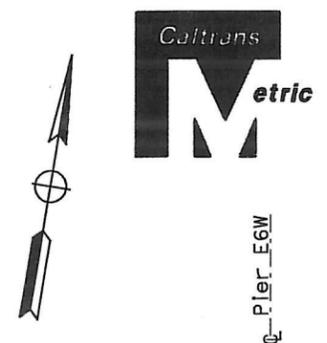
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DATE PLOTTED => 25-MAY-2010
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 CHECKED BY
 DATE 01/10
 DATE 01/10
 REVISED BY
 DATE REVISED

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 06S05	1204
REGISTERED ELECTRICAL ENGINEER <i>Syn Yee Chin</i> DATE 03/08/10			REGISTERED PROFESSIONAL ENGINEER SYN YEE CHIN No. 18186 Exp. 09/30/2011 ELECTRICAL STATE OF CALIFORNIA		
PLANS APPROVAL DATE 05-06-2010 PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-65 of Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #12W details, See sheet E-641.
- Furnish and install splice cable tray as shown on E-663, plan detail 2.

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△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 39 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

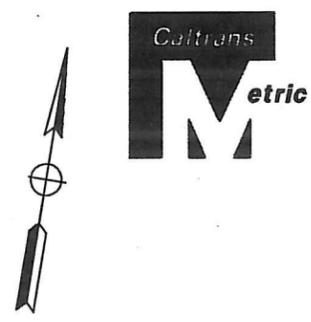
THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

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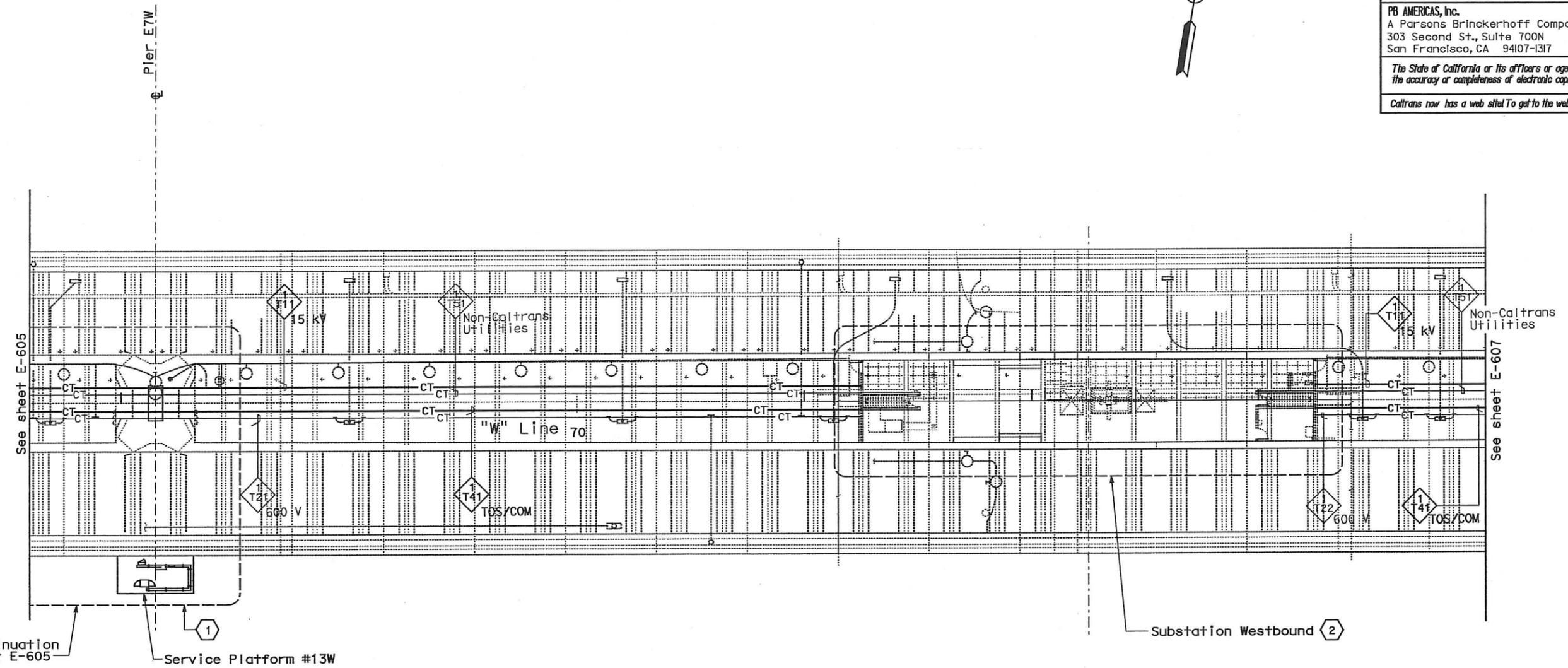
E-604

LAST REVISION DATE PLOTTED 03/09/10 09:25:00

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 CHECKED BY
 DATE 01/10
 SYC
 DATE 01/10
 FW
 DATE 01/10
 DATE REVISED BY
 DATE 01/10
 DATE REVISED



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
				REGISTERED ELECTRICAL ENGINEER	DATE	
				SYN YEE CHIN	03/08/10	
				PLANS APPROVAL DATE		
				05-06-2010		
				PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317		
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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-67 of Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-664 to E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #13W details, see sheet E-643.
- For Substation Westbound details, see sheet E-644.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
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CONTRACT CHANGE ORDER NO. 110
 SHEET 41 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

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E-606

DATE PLOTTED => 25-MAY-2010 LAST REVISION

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alq	80	12.2/14.3 0.0/4.0	407d 06S08	1204

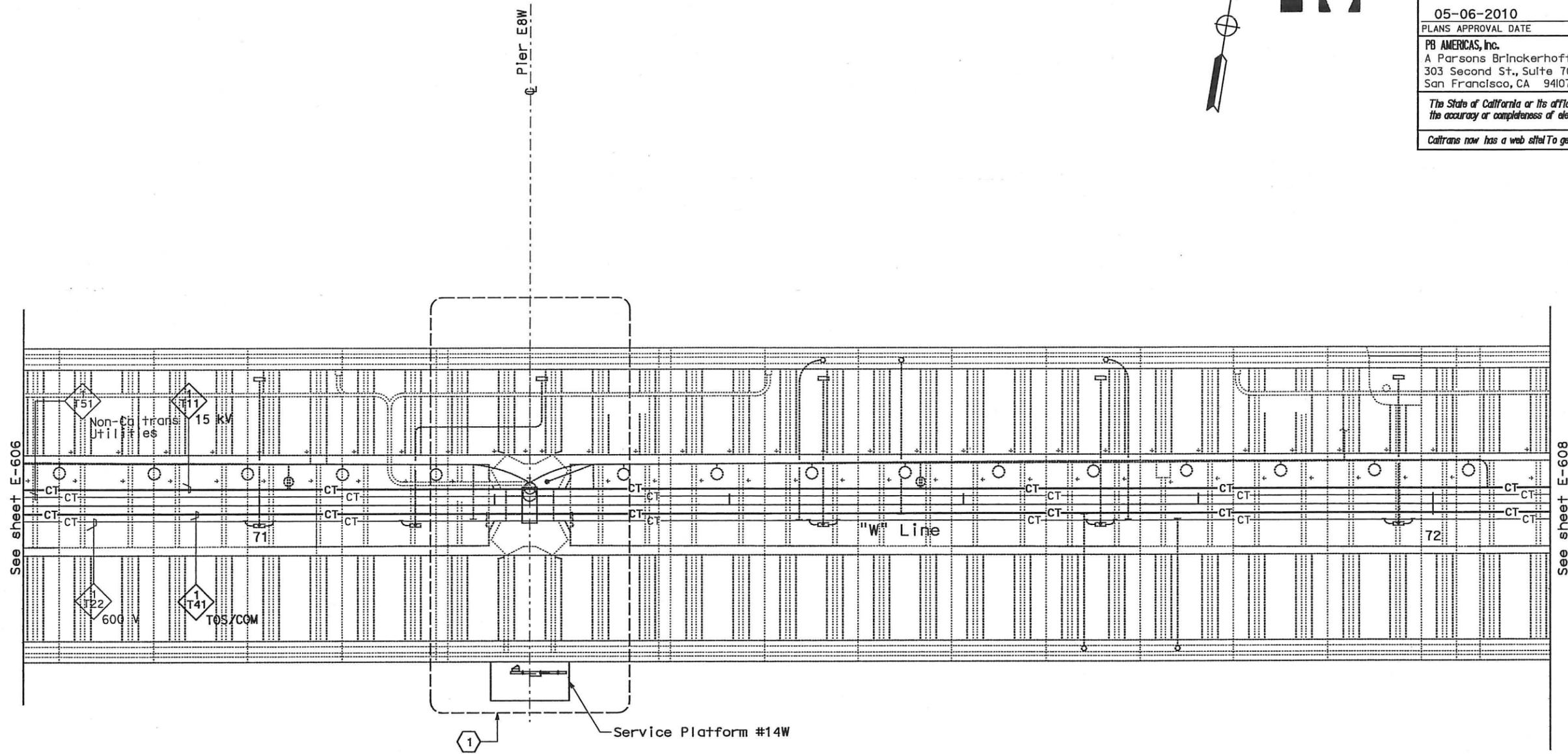
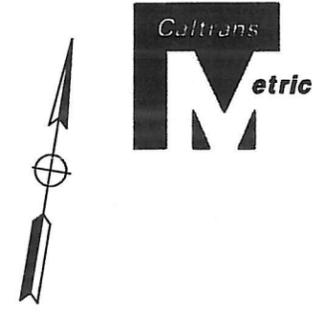
Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-68 of Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #14W details, see sheet E-645.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
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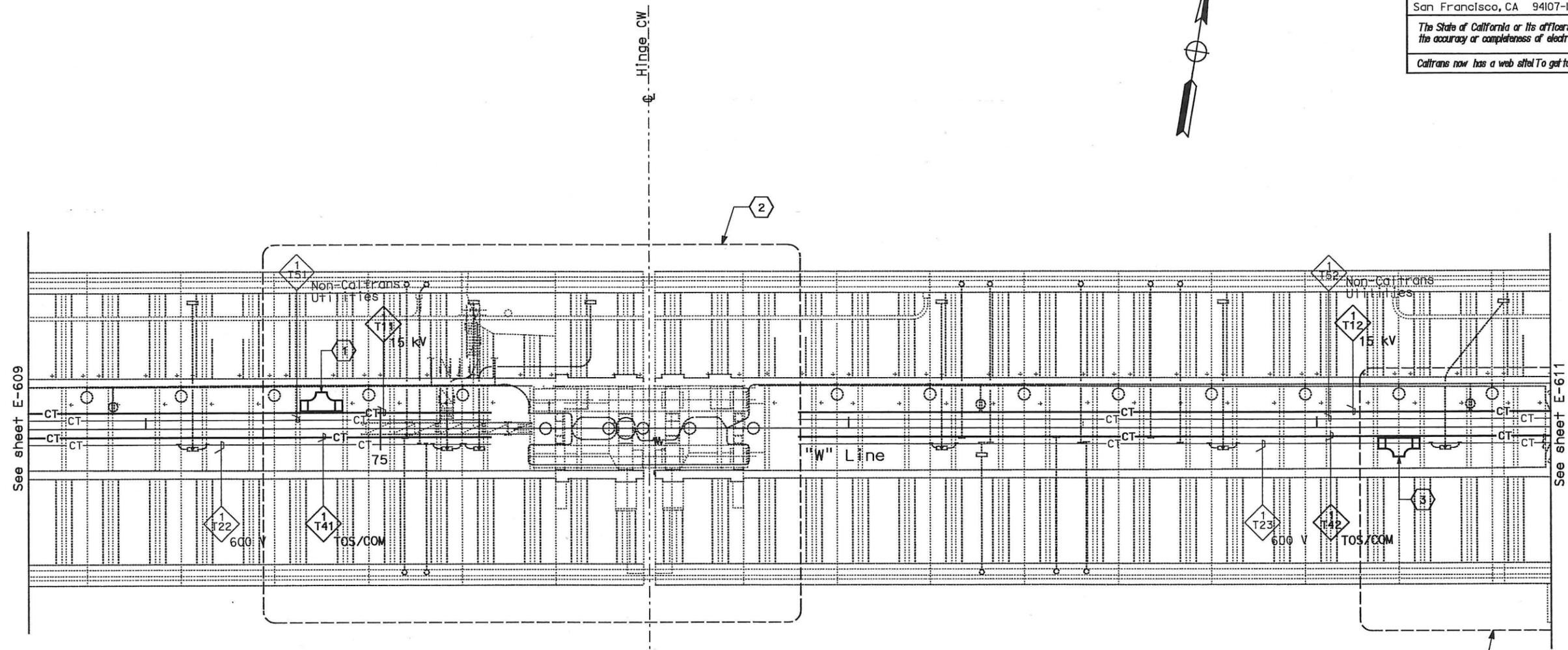
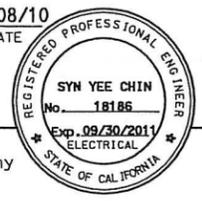
CONTRACT CHANGE ORDER NO. 110
 SHEET 42 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

E-607



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
			03/08/10			
REGISTERED ELECTRICAL ENGINEER			DATE			
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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-71 from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15kV cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Furnish and install splice cable tray as shown on sheet E-663, plan detail 1.
- For Hinge CW area details, see sheet E-648.
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.

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CONTRACT CHANGE ORDER NO. 110
SHEET 45 OF 290

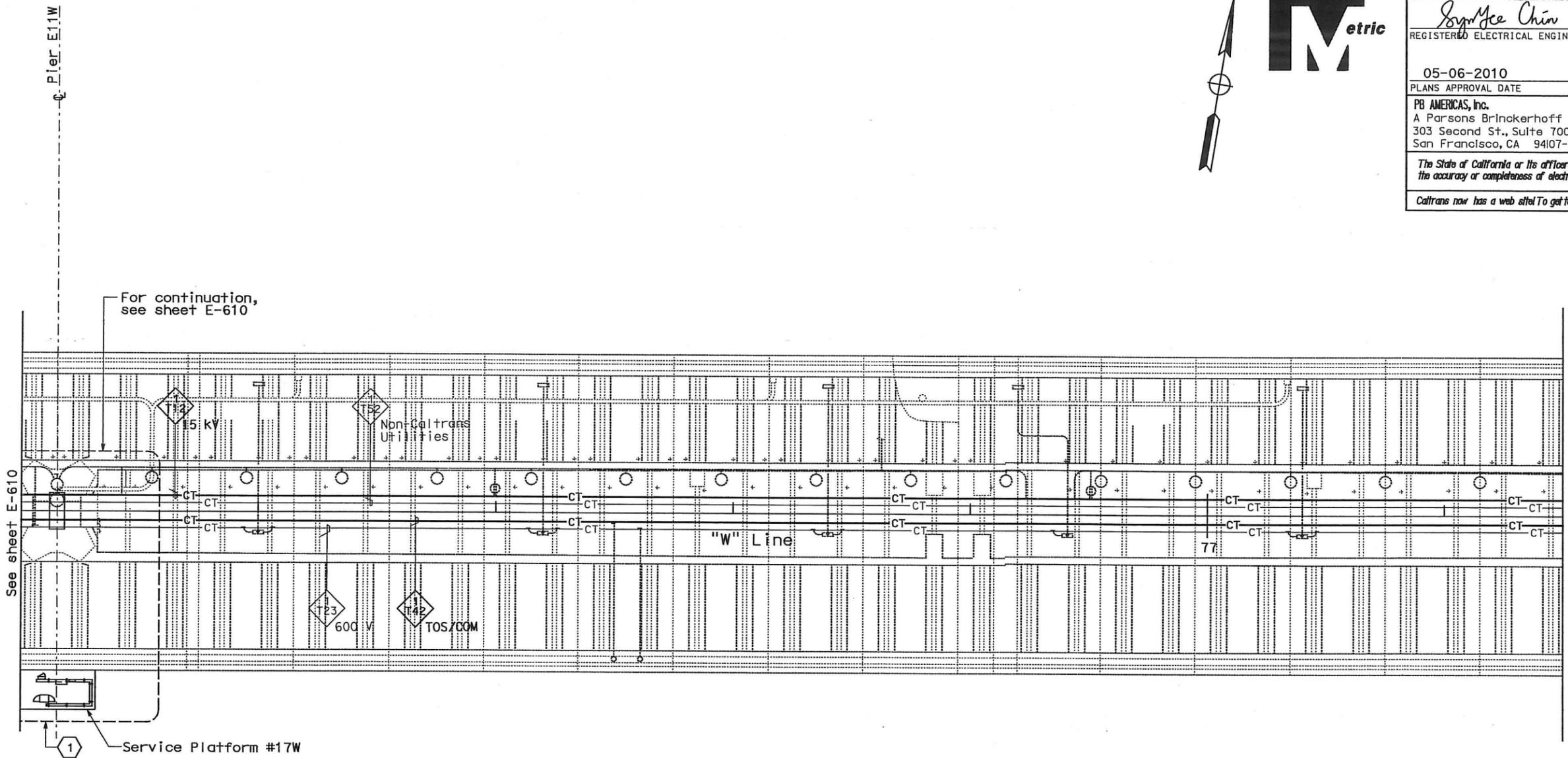
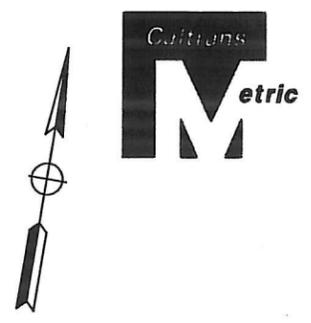
**BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES**
SCALE: 1:200

E-610

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DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a 06S12	1204
REGISTERED ELECTRICAL ENGINEER		DATE				
SYN YEE CHIN		03/08/10				
PLANS APPROVAL DATE		05-06-2010				
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CONDUIT AND CABLE TRAY PLAN

NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-72 from Skyway Structures, contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15kV cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
3. All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- ① For Service Platform #17W details, see sheet E-649.

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△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
SHEET 46 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES**

SCALE: 1:200

E-611

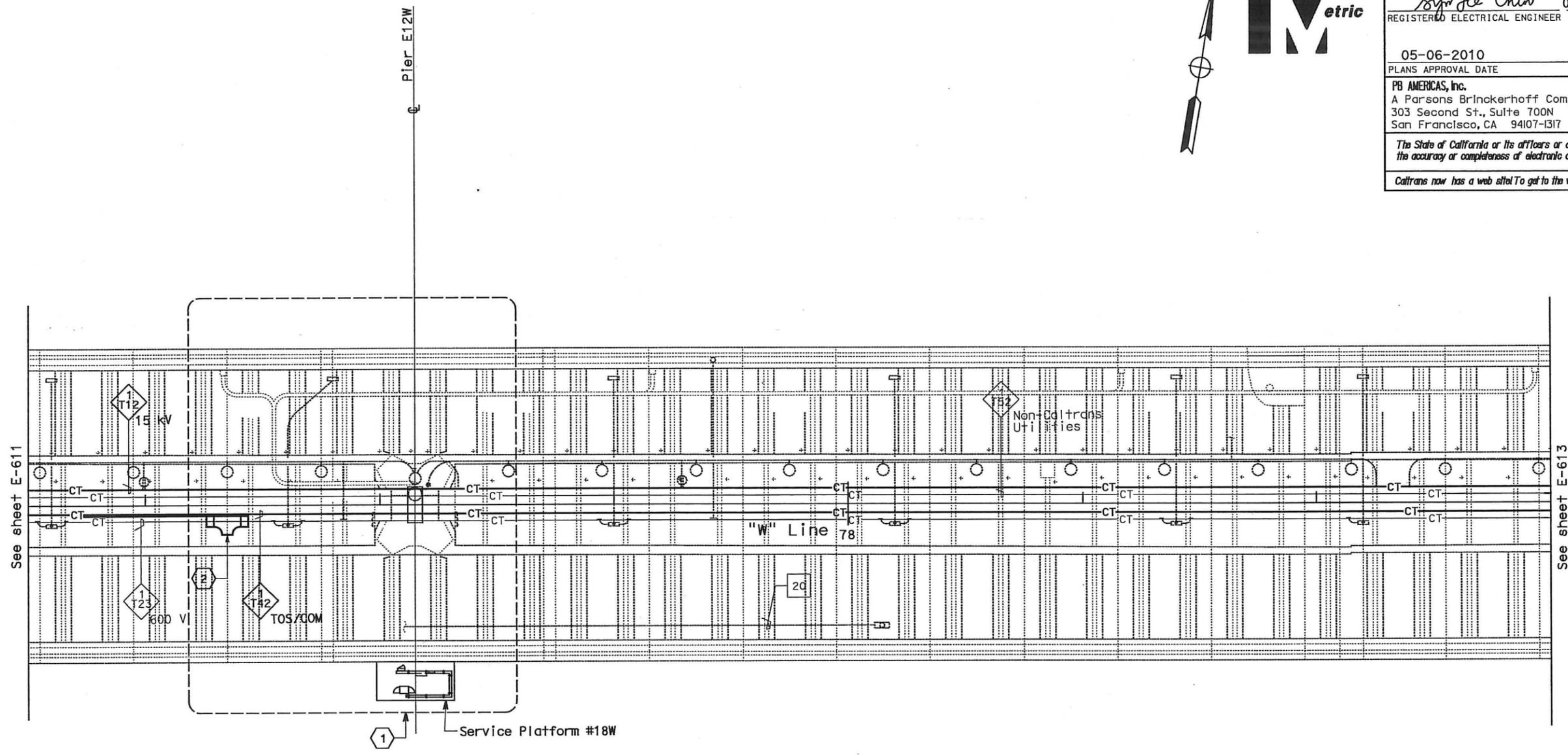
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DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407d	1204
			06S13			
SYN YEE CHIN				03/08/10		
REGISTERED ELECTRICAL ENGINEER				DATE		
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CONDUIT AND CABLE TRAY PLAN

NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-73 from Skyway Structures, contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15kV cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
3. All cable trays shown on this drawing are existing. Bolds ones are to be used for pulling cable.

SHEET NOTES:

- 1 For Service Platform #18W details, see sheet E-650.
- 2 Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.

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CONTRACT CHANGE ORDER NO. 110
SHEET 47 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES**
SCALE: 1:200

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E-612

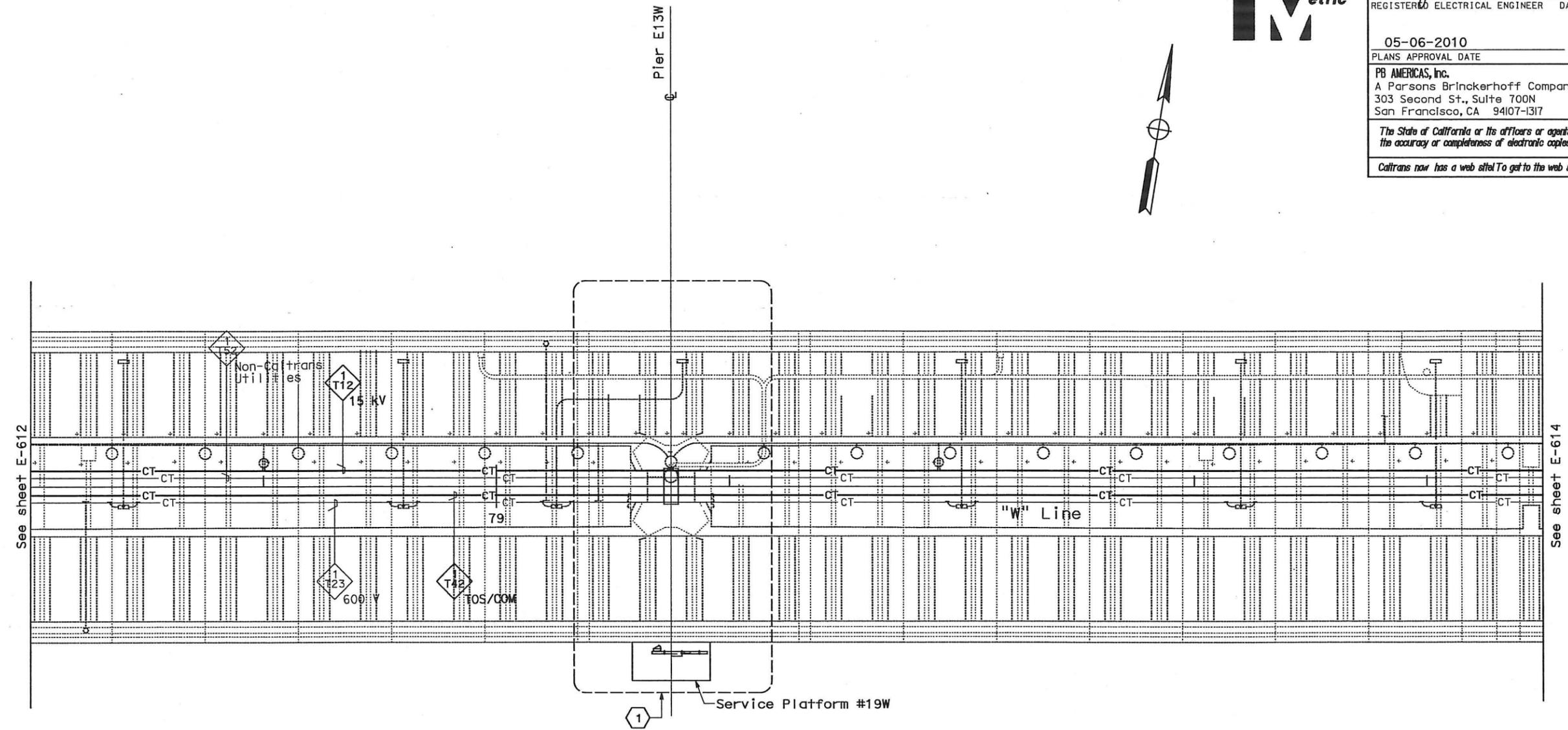
LAST REVISION DATE PLOTTED 03-MAY-2010

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 06S14	1204

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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-74 from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15kV cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For Service Platform #19W details, see sheet E-651.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
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CONTRACT CHANGE ORDER NO. 110
 SHEET 48 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

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E-613

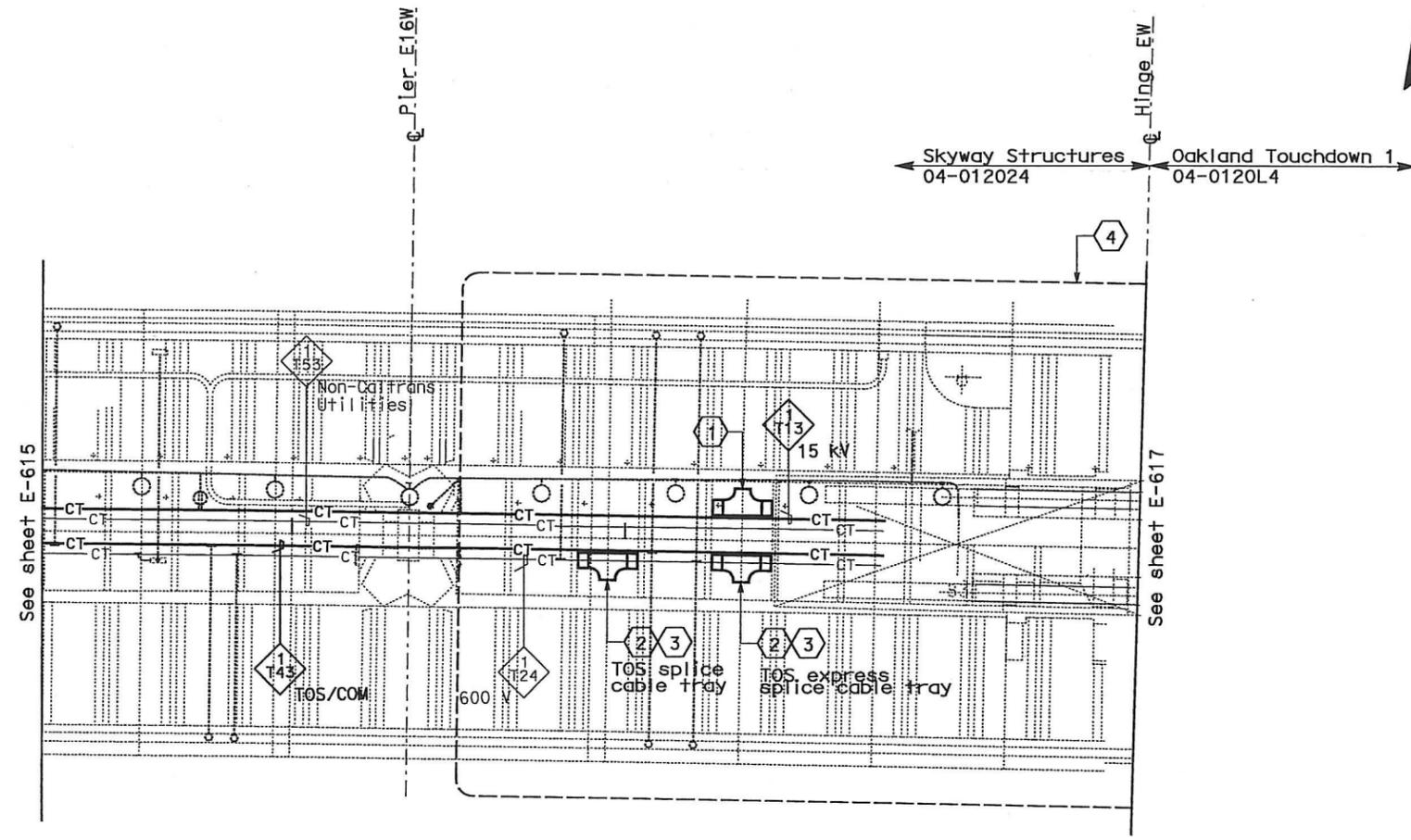
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	4079 06S17	1204

Registered Electrical Engineer: **Syn Yee Chin**, No. 18186, Exp. 09/30/2011
 Date: 03/08/10
 Plans Approval Date: 05-06-2010
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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-77 from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15kV cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Furnish and install splice cable tray as shown on sheet E-663, plan detail 1.
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
- Contractor to evaluate possibility of eliminating this TOS splice at this location to meet overall design intent. Refer to TOS drawings.
- For Hinge EW area details, see sheet E-655.

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03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 51 OF 290

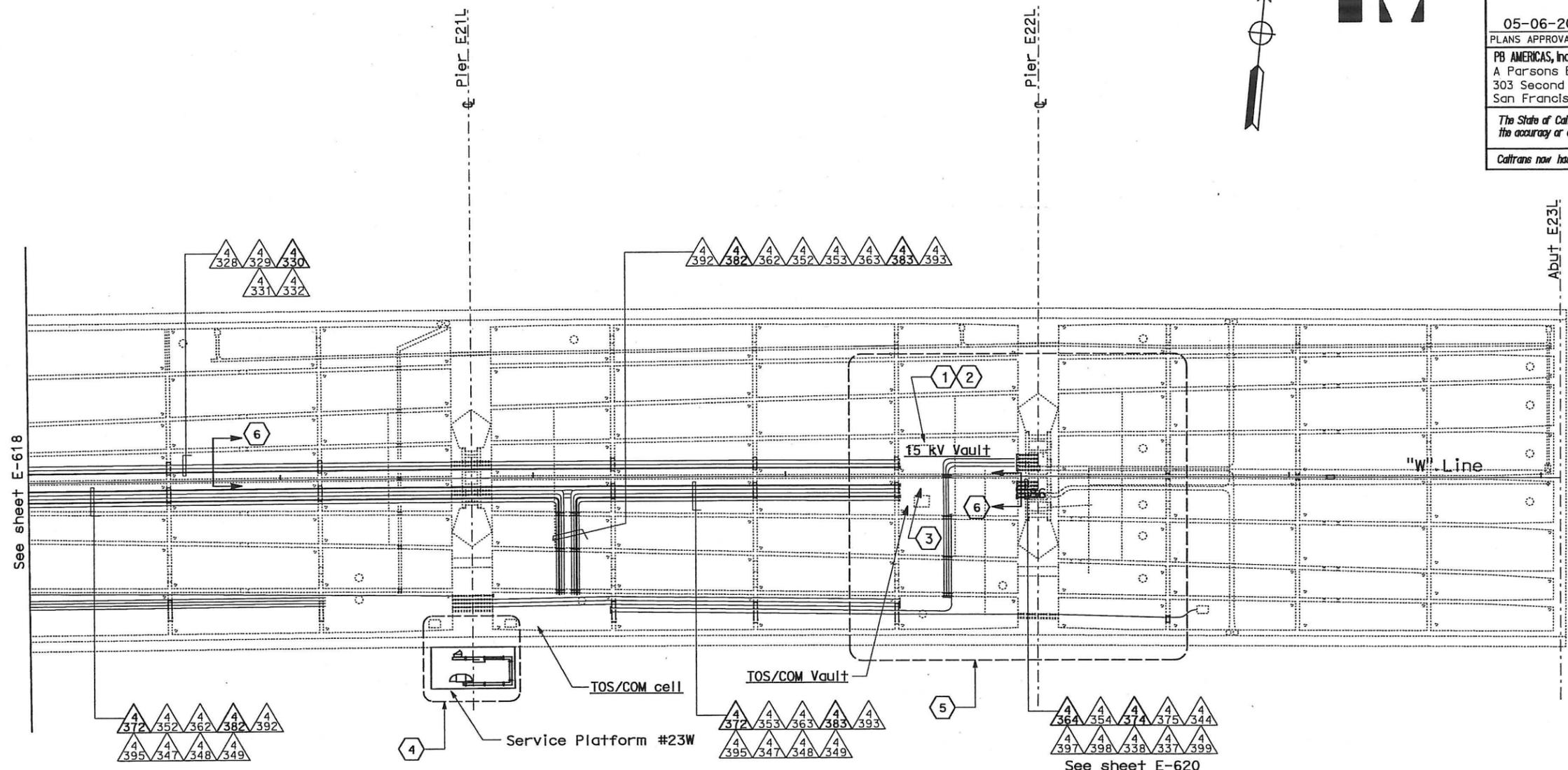
**BRIDGE STRUCTURES GIRDER WESTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

LAST REVISION DATE PLOTTED 03-08-MAY-2010

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 06S20	1204
			REGISTERED ELECTRICAL ENGINEER	DATE	
			05-06-2010	03/08/10	
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CONDUIT PLAN

NOTES:

- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-15 of Oakland Touchdown 1, contract No. 04-0120L4.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 KV cables into existing conduit shown on this drawing. Refer to riser diagram on sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing conduits shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
 - Inspect for system ground continuity.
- All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Contractor shall loop 50 m of additional 15 KV cable in a coil in the vault for future splice.
- For details on racking 15 KV cables inside vault, see E-663A, Detail 3A.
- For details on racking TOS fiber inside vault, see E-663A, Detail 3A.
- For Service Platform #23W details, see sheet E-661.
- See sheet E-662 for details.
- Cross section reference for conduit configuration.

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 54 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND APPROACH STRUCTURES**

SCALE: 1:200

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ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

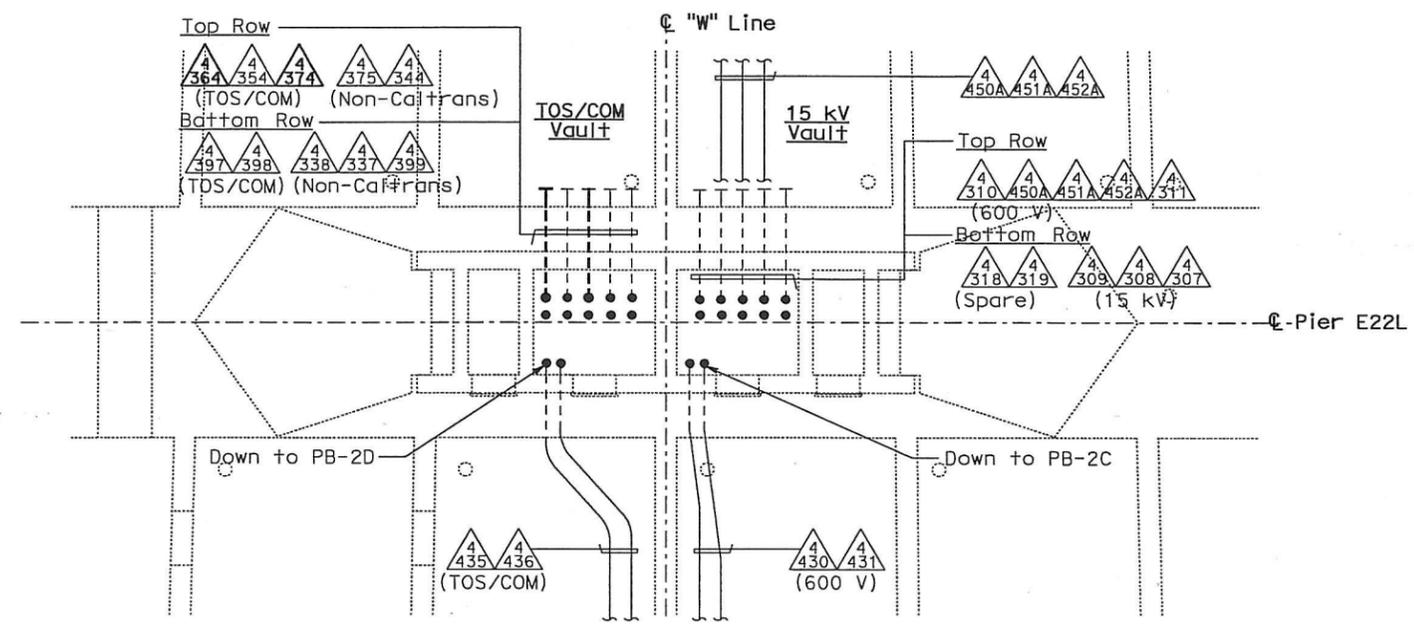
E-619

DATE PLOTTED => 06-MAY-2010 LAST REVISION

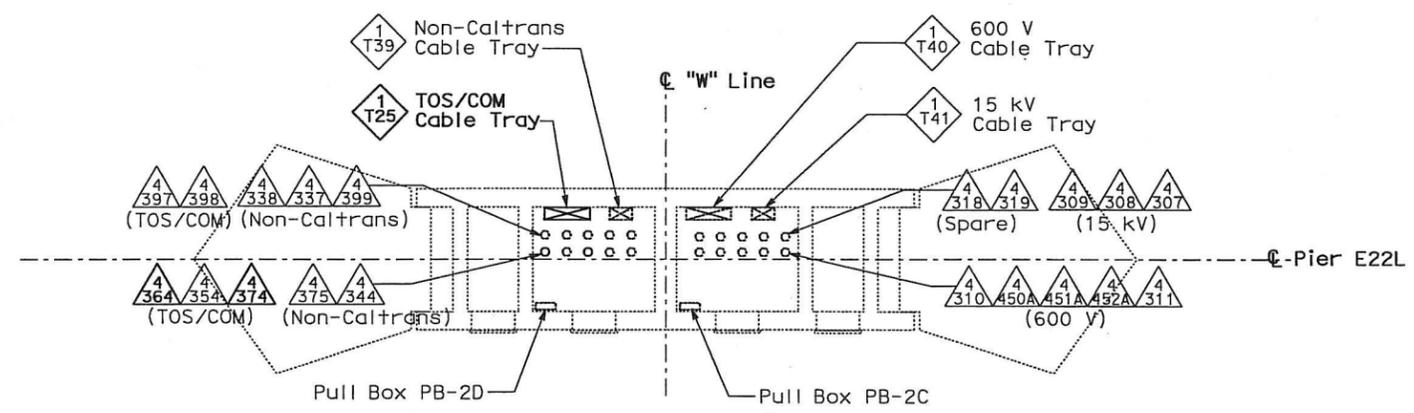
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE 01/10
 DATE 01/10
 REVISED BY
 DATE REVISED



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 06S21	1204
			REGISTERED ELECTRICAL ENGINEER	DATE	
			SYN YEE CHIN	03/08/10	
PLANS APPROVAL DATE					
05-06-2010					
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PIER E22L - GIRDER CONDUIT PLAN



PIER E22L - INSIDE PIER CONDUIT AND CABLE TRAY PLAN

NOTES:

1. This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-30 of Oakland Touchdown 1, contract No. 04-0120L4.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Detail sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
 - Inspect for system ground continuity.
3. All cable trays and conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

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△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 55 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND APPROACH STRUCTURES**
 SCALE 1:50

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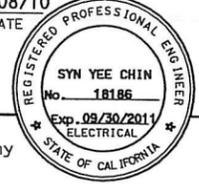
E-620

DATE PLOTTED => 06-MAY-2010 LAST REVISION



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 06522	1204

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE



05-06-2010
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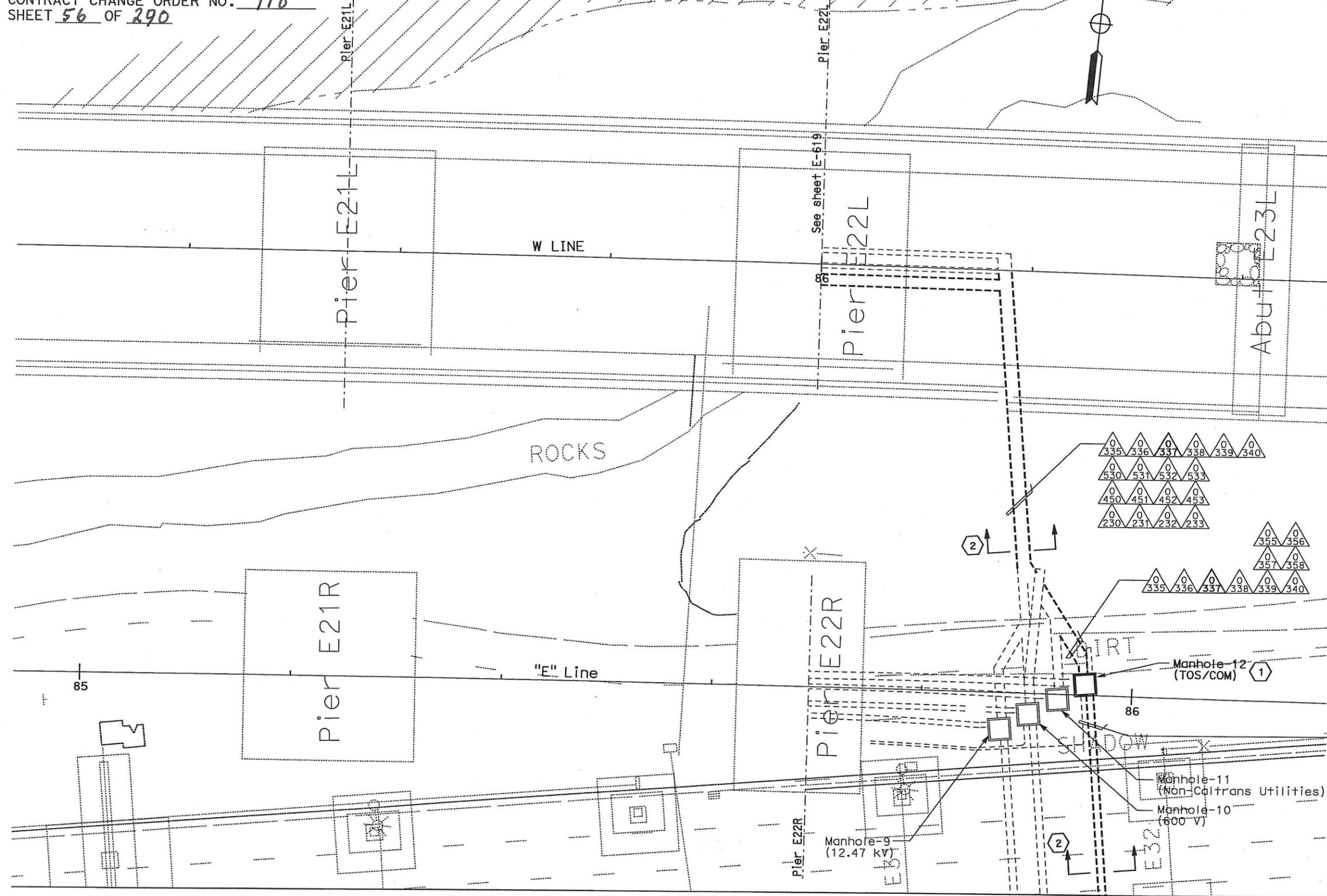
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03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
		REVISIONS		

CONTRACT CHANGE ORDER NO. 110
 SHEET 56 OF 290



NOTES:

1. This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-81 of Oakland Touchdown 1, contract No. 04-0120L4.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
3. All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
- 2 Cross section reference for conduit configuration.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI

See sheet E-622

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND APPROACH STRUCTURES
 UNDERGROUND**

SCALE: 1:200

PLAN

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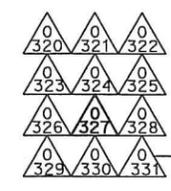
E-621

DATE PLOTTED => 06-MAY-2010
 LAST REVISION

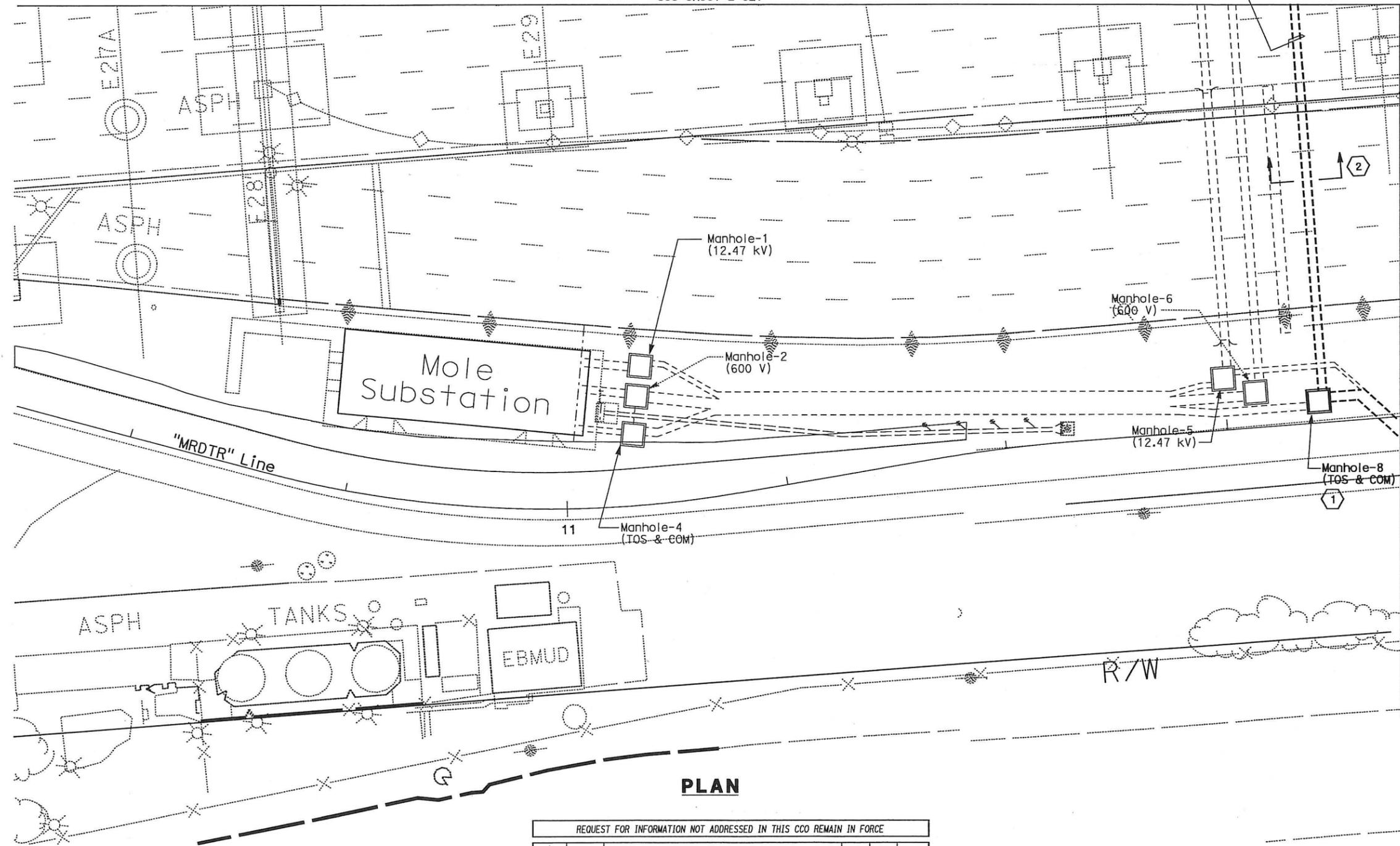
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 06S23	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
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See sheet E-621



See sheet E-623

- NOTES:**
- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-80 of Oakland Touchdown 1, contract No. 04-0120L4.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
 - All conduits shown on this drawing are existing. Bold ones are to be use for pulling cable.

- SHEET NOTES:**
- For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
 - Cross section reference for conduit configuration.

PLAN

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△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 57 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND APPROACH STRUCTURES
 UNDERGROUND**

SCALE: 1:200

E-622

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

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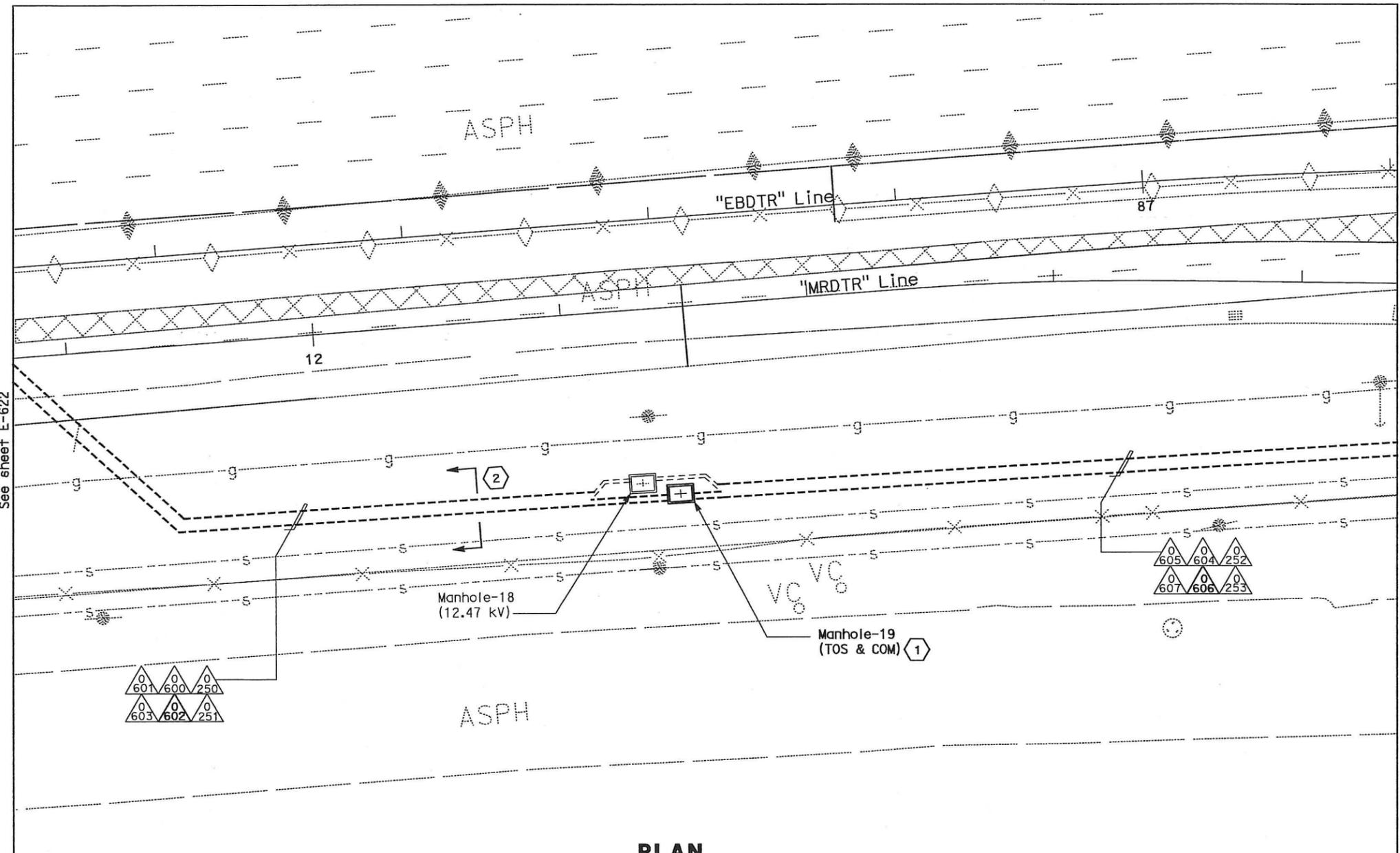
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 DATE: [blank]
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LAST REVISION DATE PLOTTED = 03-06-MAY-2010

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 06S24	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
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PLAN

NOTES:

1. This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-82 of Oakland Touchdown 1, contract No. 04-0120L4.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
3. All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- ① For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
- ② Cross section reference for conduit configuration.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
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REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 58 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND APPROACH STRUCTURES
 UNDERGROUND**

SCALE: 1:200

E-623

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REVISOR	DATE	REVISION

DESIGNED BY	DATE	SYC	FW
BEHZAD GOLEHAMMADI			
CHECKED BY			

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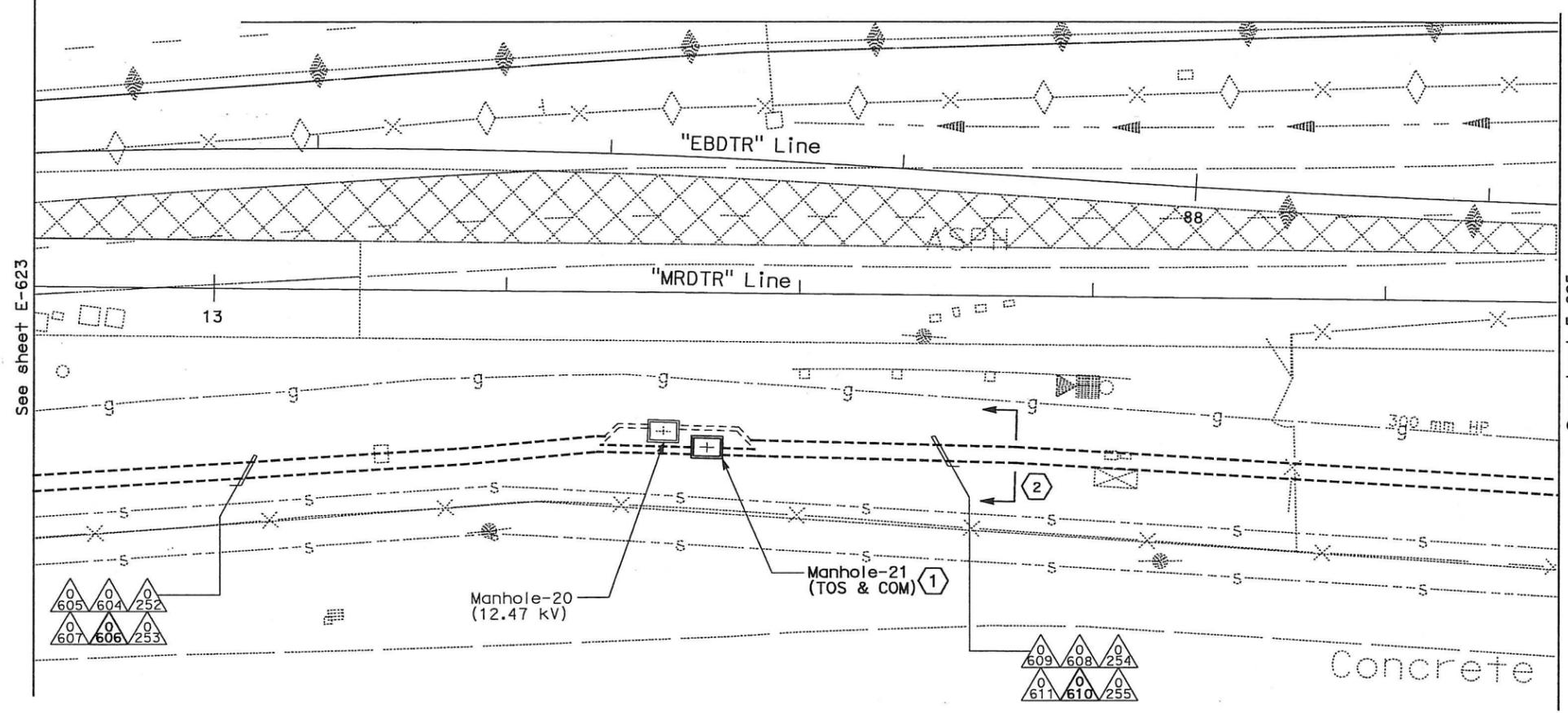
LAST REVISION DATE PLOTTED = 03-06-MAY-2010

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 06S25	1204

REGISTERED ELECTRICAL ENGINEER: **Syn Yee Chin**, DATE: 03/08/10
 PLANS APPROVAL DATE: 05-06-2010
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NOTES:

1. This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-83 of Oakland Touchdown 1, contract No. 04-0120L4.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
3. All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
- 2 Cross section reference for conduit configuration.

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△	03/08/10	MEP INTEGRATION	SYC	FW	110
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REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 59 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND APPROACH STRUCTURES
 UNDERGROUND**
 SCALE: 1:200

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E-624

LAST REVISION DATE PLOTTED => 06-MAY-2010

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 06S26	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

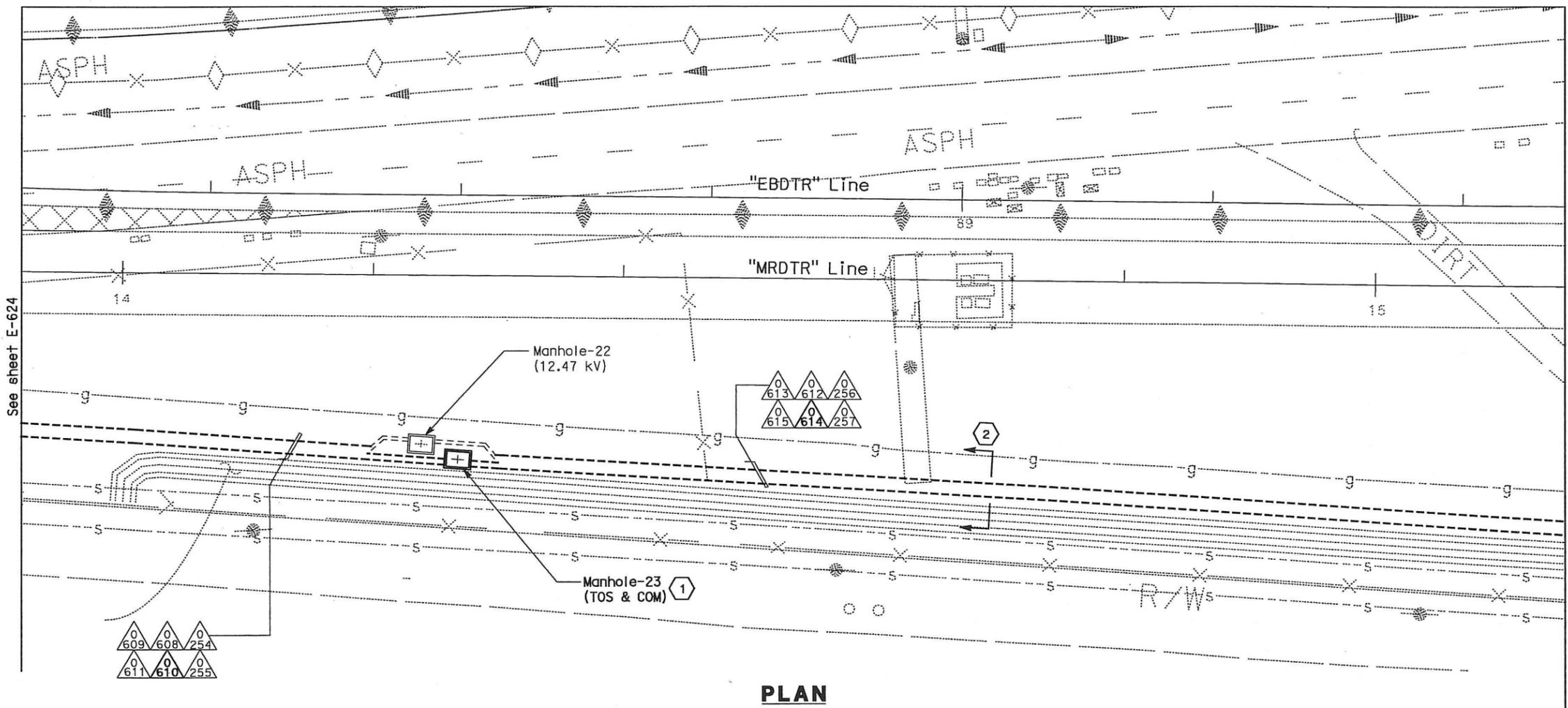
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 REVISIONS: DATE 01/10 REVISED BY DATE 01/10 DATE REVISED BY
 CALCULATED/DESIGNED BY CHECKED BY
 DATE 01/10 DATE 01/10
 SYNC FW
 DESIGN OVERSEER: HT BEHZAD GOLEMOHAMMADI



PLAN

NOTES:

- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-84 of Oakland Touchdown 1, contract No. 04-0120L4.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
 - All conduits shown on this drawings are existing. Bold ones are to be used for pulling cable.
- THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

SHEET NOTES:

- For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
- Cross section reference for conduit configuration.

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MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 60 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND APPROACH STRUCTURES
 UNDERGROUND**
 SCALE: 1:200

E-625

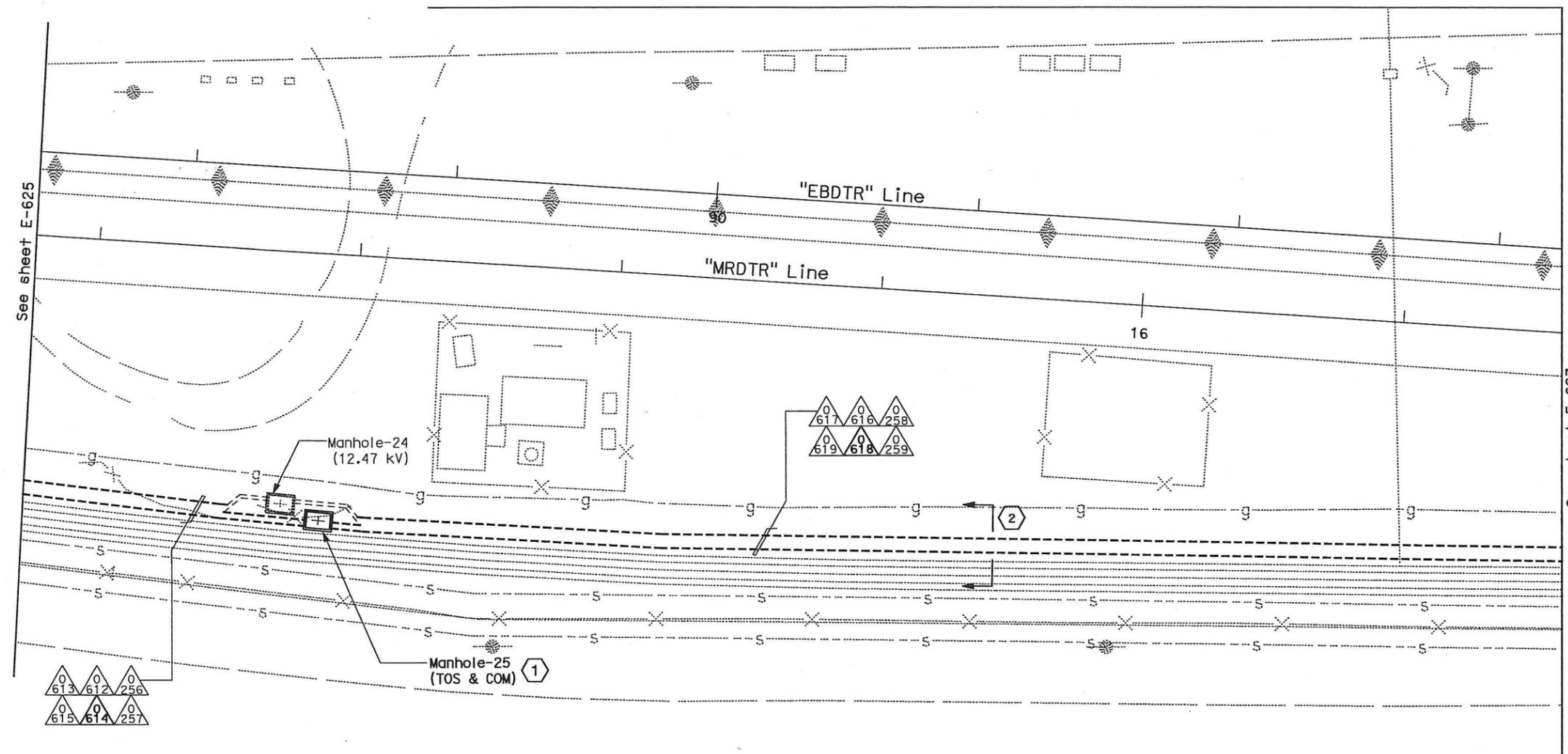
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LAST REVISION DATE PLOTTED => 06-MAY-2010

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 DATE REVISOR BY
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 06S27	1204
REGISTERED ELECTRICAL ENGINEER			DATE		
SYN YEE CHIN			03/08/10		
PLANS APPROVAL DATE			05-06-2010		
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PLAN

NOTES:

- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-85 of Oakland Touchdown 1, contract No. 04-0120L4.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
- All conduits shown on this drawing are existing. Bold ones to be used for pulling cable.

SHEET NOTES:

- For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
- Cross section reference for conduit configuration.

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△	03/08/10	MEP INTEGRATION	SYC	FW	110
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REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 61 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND APPROACH STRUCTURES
 UNDERGROUND**
 SCALE: 1:200

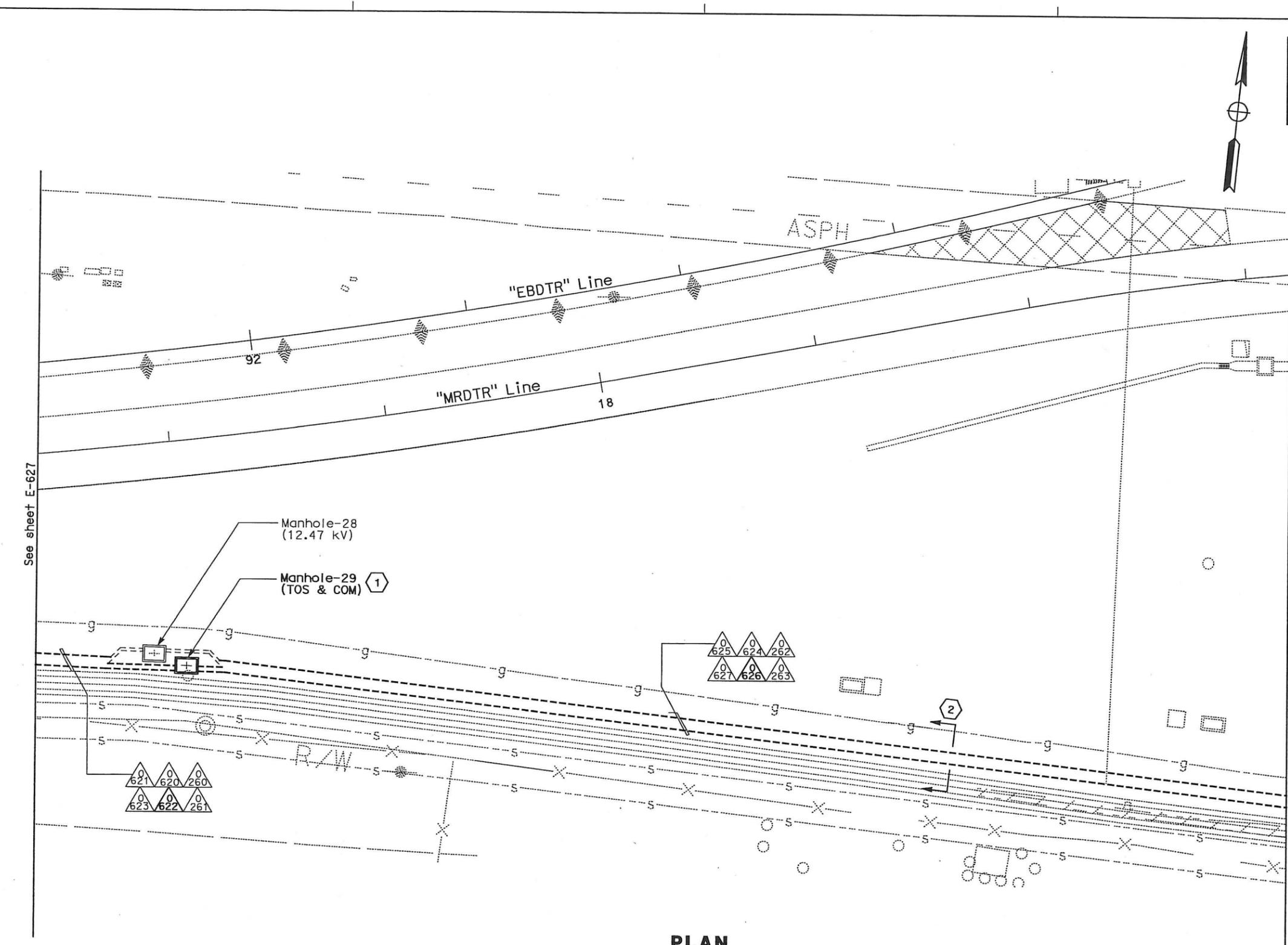
E-626

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 06S29	1204

REGISTERED ELECTRICAL ENGINEER: Syn Yee Chin DATE: 03/08/10

PLANS APPROVAL DATE: 05-06-2010

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NOTES:

1. This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-87 of Oakland Touchdown 1, contract No. 04-0120L4.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
3. All conduits shown on this drawings are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
- 2 Cross section reference for conduit configuration.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 63 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND APPROACH STRUCTURES
 UNDERGROUND**
 SCALE: 1:200

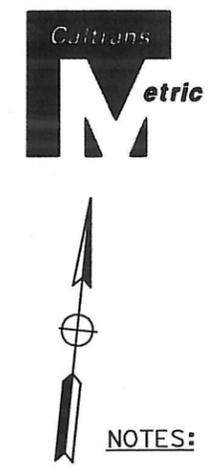
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E-628

DATE PLOTTED = 03-06-MAY-2010
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 06S30	1204
			REGISTERED ELECTRICAL ENGINEER	DATE	
			SYN YEE CHIN	03/08/10	
			PLANS APPROVAL DATE		
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			303 Second St., Suite 700N		
			San Francisco, CA 94107-1317		
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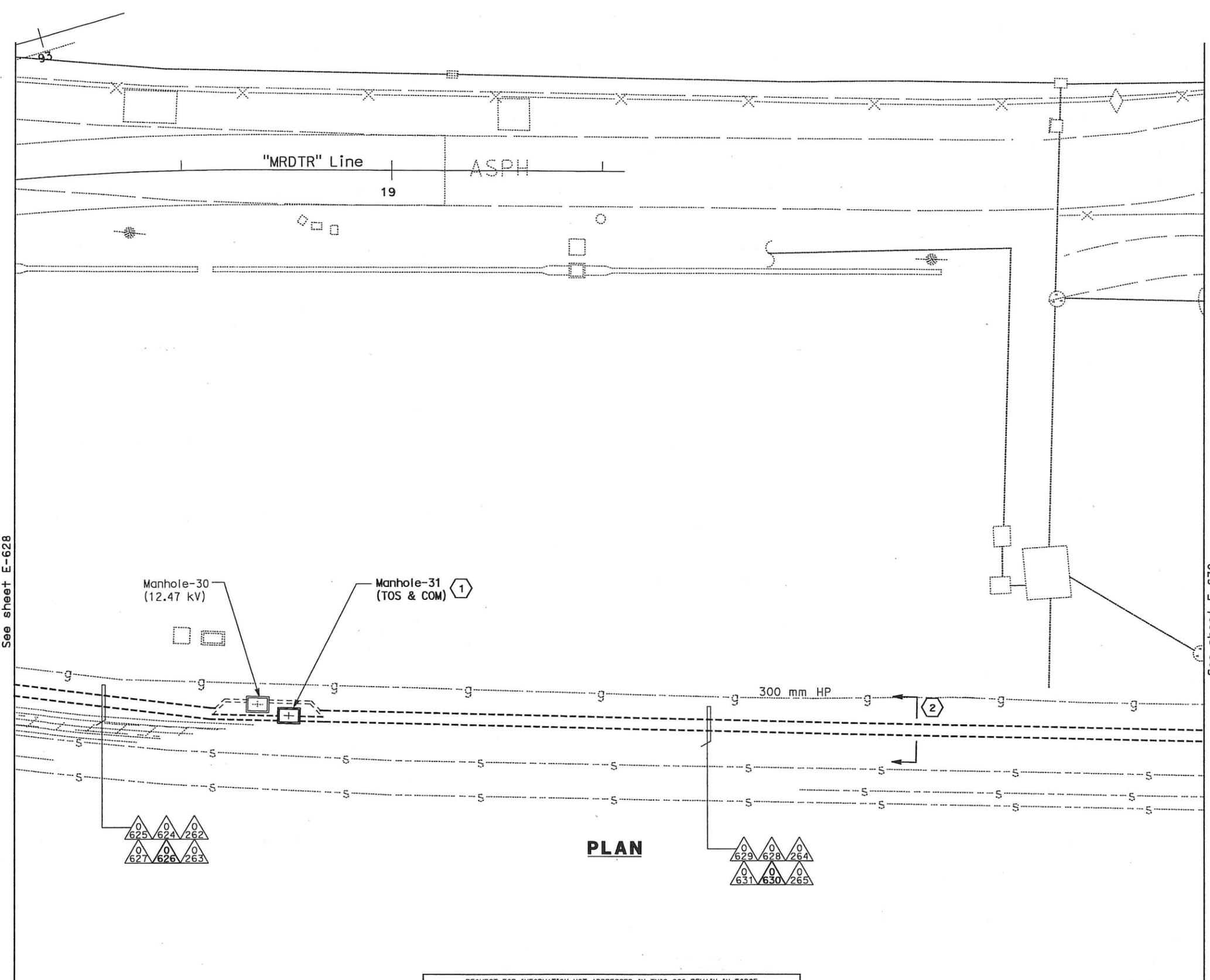


NOTES:

1. This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-88 of Oakland Touchdown 1, contract No. 04-0120L4.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
- Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
3. All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
- 2 Cross section reference for conduit configuration.



PLAN

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△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
SHEET 64 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
OAKLAND APPROACH STRUCTURES
UNDERGROUND**

SCALE: 1:200

E-629

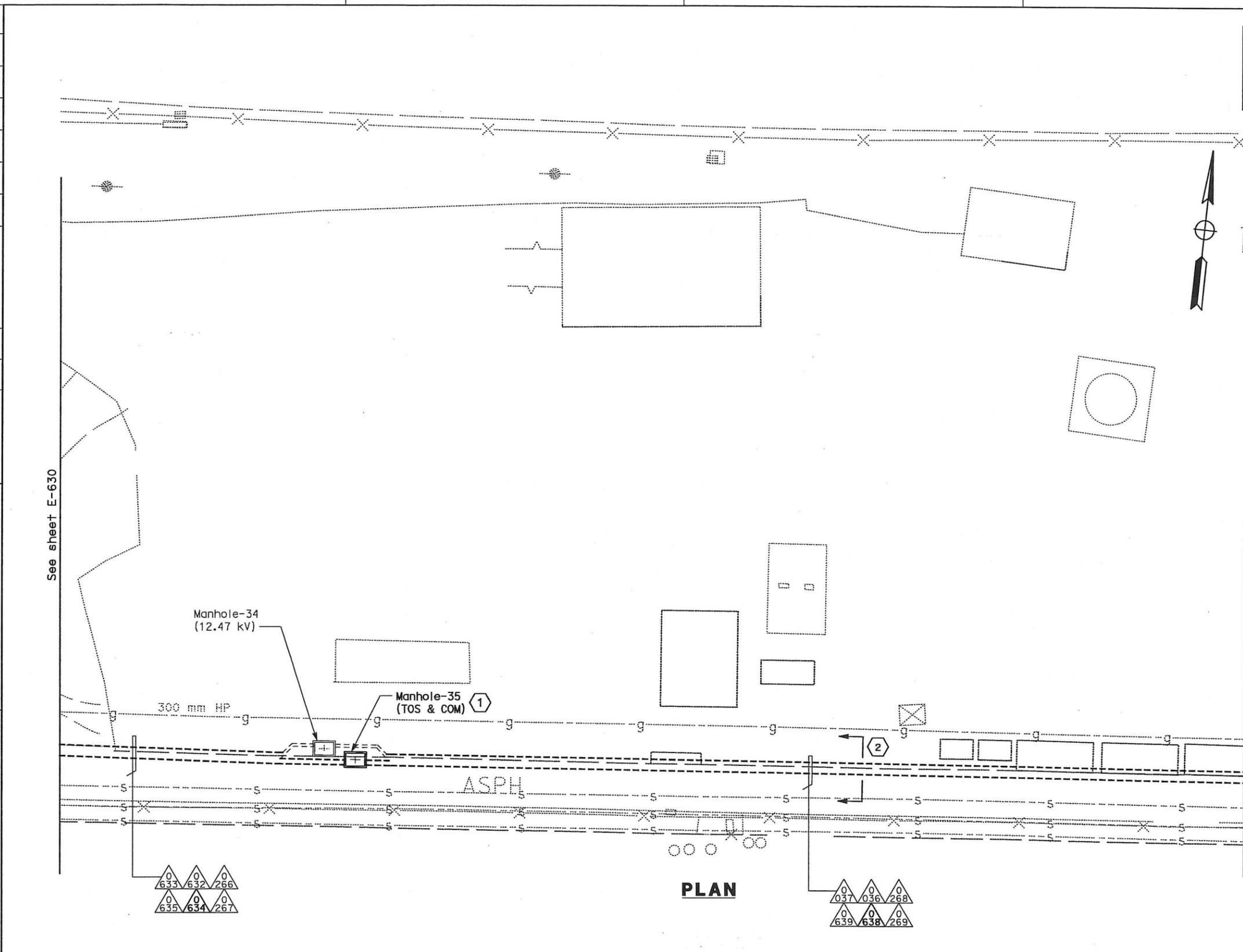
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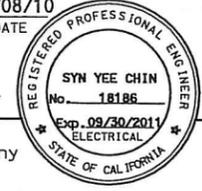
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 06S32	1204
REGISTERED ELECTRICAL ENGINEER			DATE		
05-06-2010			03/08/10		
PLANS APPROVAL DATE					
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NOTES:

1. This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-90 of Oakland Touchdown 1, contract No. 04-0120L4.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
3. All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
- 2 Cross section reference for conduit configuration.

See sheet E-632

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			
CONTRACT CHANGE ORDER NO. <u>110</u>					
SHEET <u>66</u> OF <u>290</u>					

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND APPROACH STRUCTURES
 UNDERGROUND**
 SCALE: 1:200

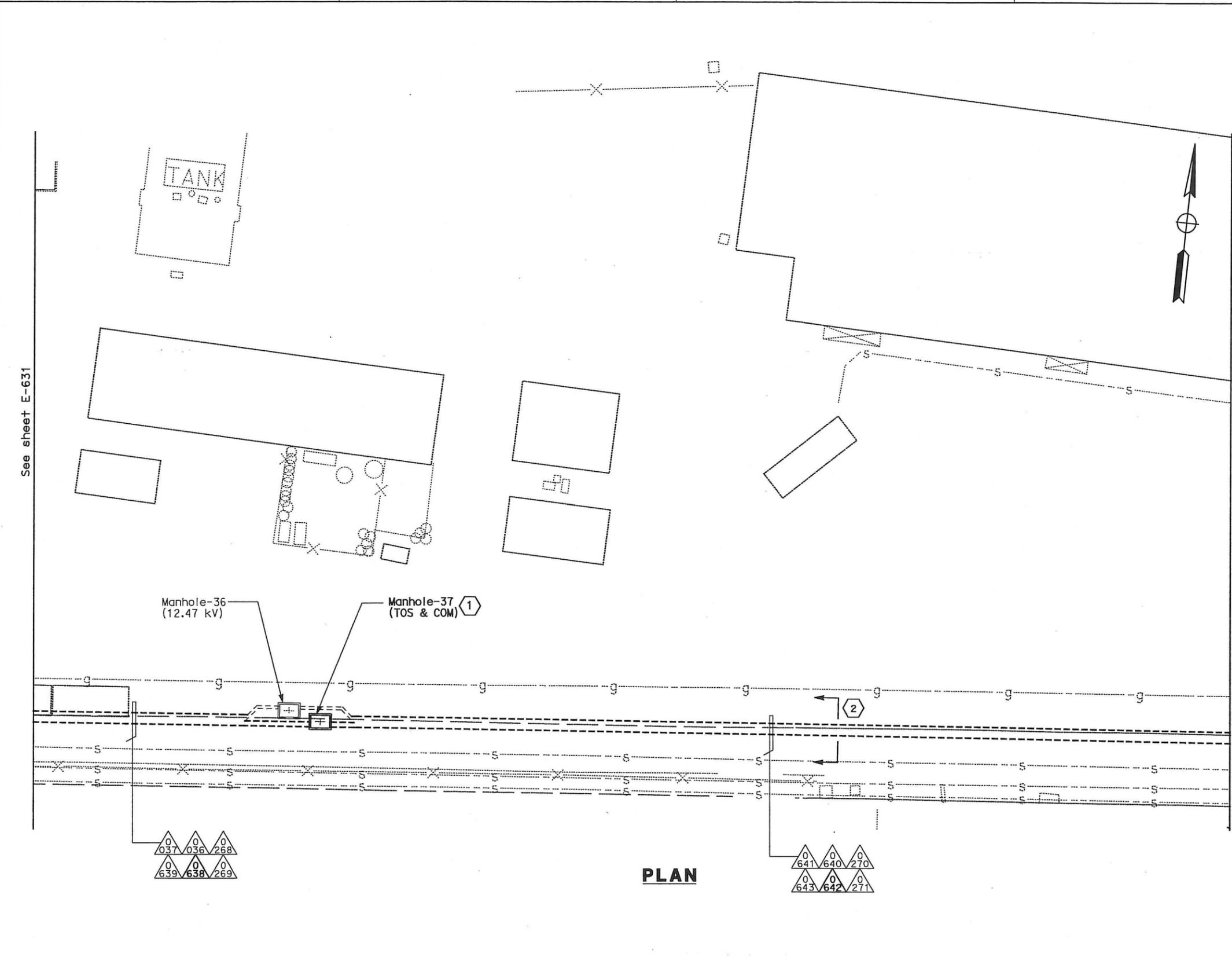
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E-631

LAST REVISION DATE PLOTTED => 06-MAY-2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVERSIGHT
 BEHZAD GOLEHAMMADI



See sheet E-633



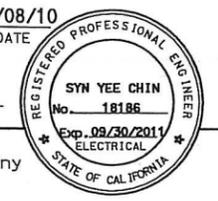
DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a 06S33	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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NOTES:

- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-91 of Oakland Touchdown 1, contract No. 04-0120L4.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
- All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
- Cross section reference for conduit configuration.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 67 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND APPROACH STRUCTURES
 UNDERGROUND**
 SCALE: 1:200

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

E-632

DATE PLOTTED => 06-MAY-2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVERSEER: JHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: []
 CHECKED BY: []
 DATE REVISED BY: []
 DATE: []

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 06S34	1204

REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 SYN YEE CHIN
 No. 18186
 Exp. 08/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
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 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

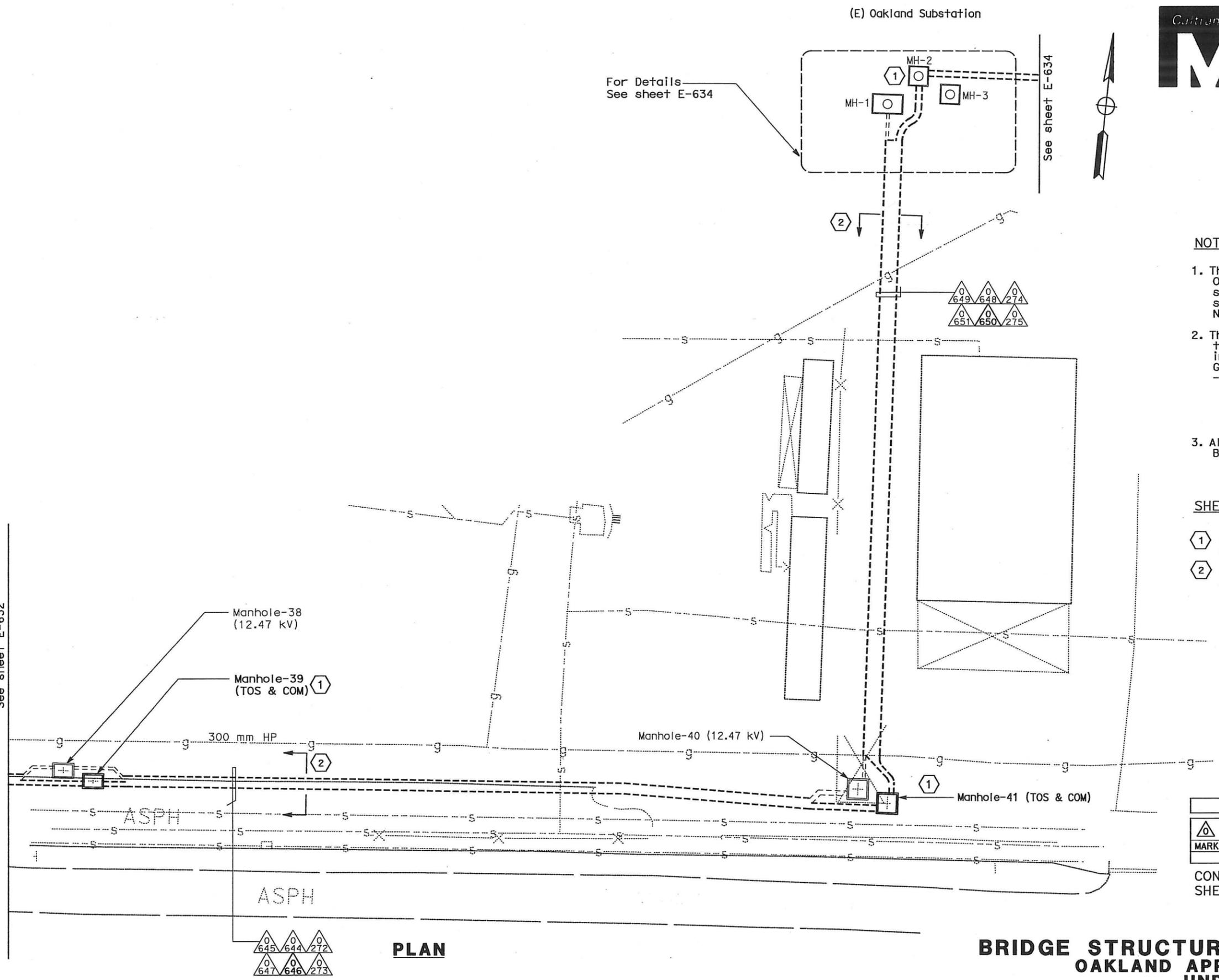
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(E) Oakland Substation

For Details See sheet E-634

See sheet E-634



NOTES:

1. This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-92 of Oakland Touchdown 1, contract No. 04-0120L4.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
3. All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
- 2 Cross section reference for conduit configuration.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
0	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 68 OF 290

PLAN

BRIDGE STRUCTURES GIRDER WESTBOUND OAKLAND APPROACH STRUCTURES UNDERGROUND

SCALE: 1:200

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

E-633

DATE PLOTTED = 03-06-MAY-2010 LAST REVISION

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 06S35	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
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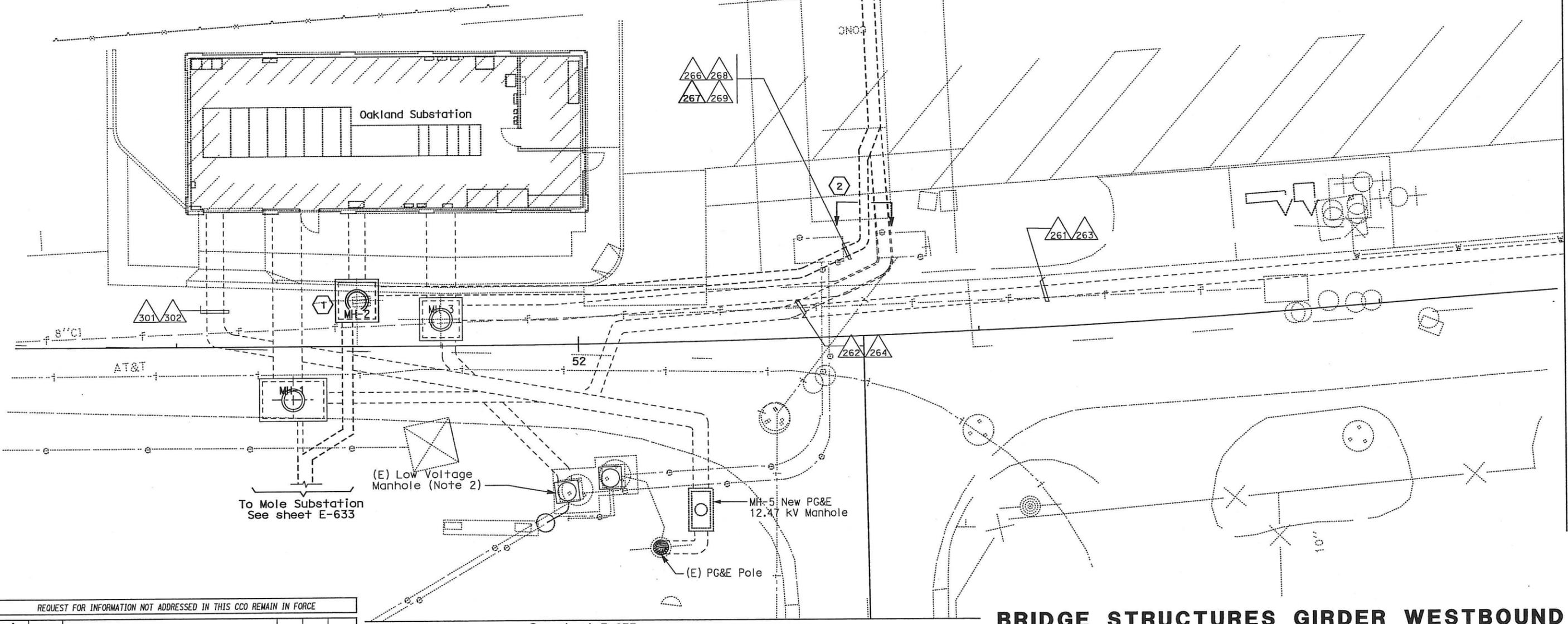
NOTES:

1. This plan sheet is a record drawing from Oakland Substation contract. The Contractor shall verify the existing installation. See sheet E-35 of Oakland Substation, contract No. 04-014034.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install (4) one-inch inner-ducts with TOS fiber optic cables in one inner-duct, into existing conduit shown on this drawing. Refer to riser diagram on sheets E-978 through E-981 and detail on E-973.
3. All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For details on racking TOS fiber inside manhole, see E-663A, Detail 3.
- 2 Cross section reference for conduit configuration.

DESIGNED BY	REVISOR	DATE	DATE
BEHZAD COLEMOHAMMADI		03/08/10	05/06/10
CHECKED BY	DATE	SYC	FW
DESIGN OVER...	JHT		
BEHZAD COLEMOHAMMADI			
DEPARTMENT OF TRANSPORTATION			
STATE OF CALIFORNIA			



REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
△	03/08/10	MEP INTEGRATION	SYC	FW	110
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 69 OF 290

PLAN

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND SUBSTATION
 UNDERGROUND AND TUNNEL CONDUIT PLAN**
 SCALE: 1:100

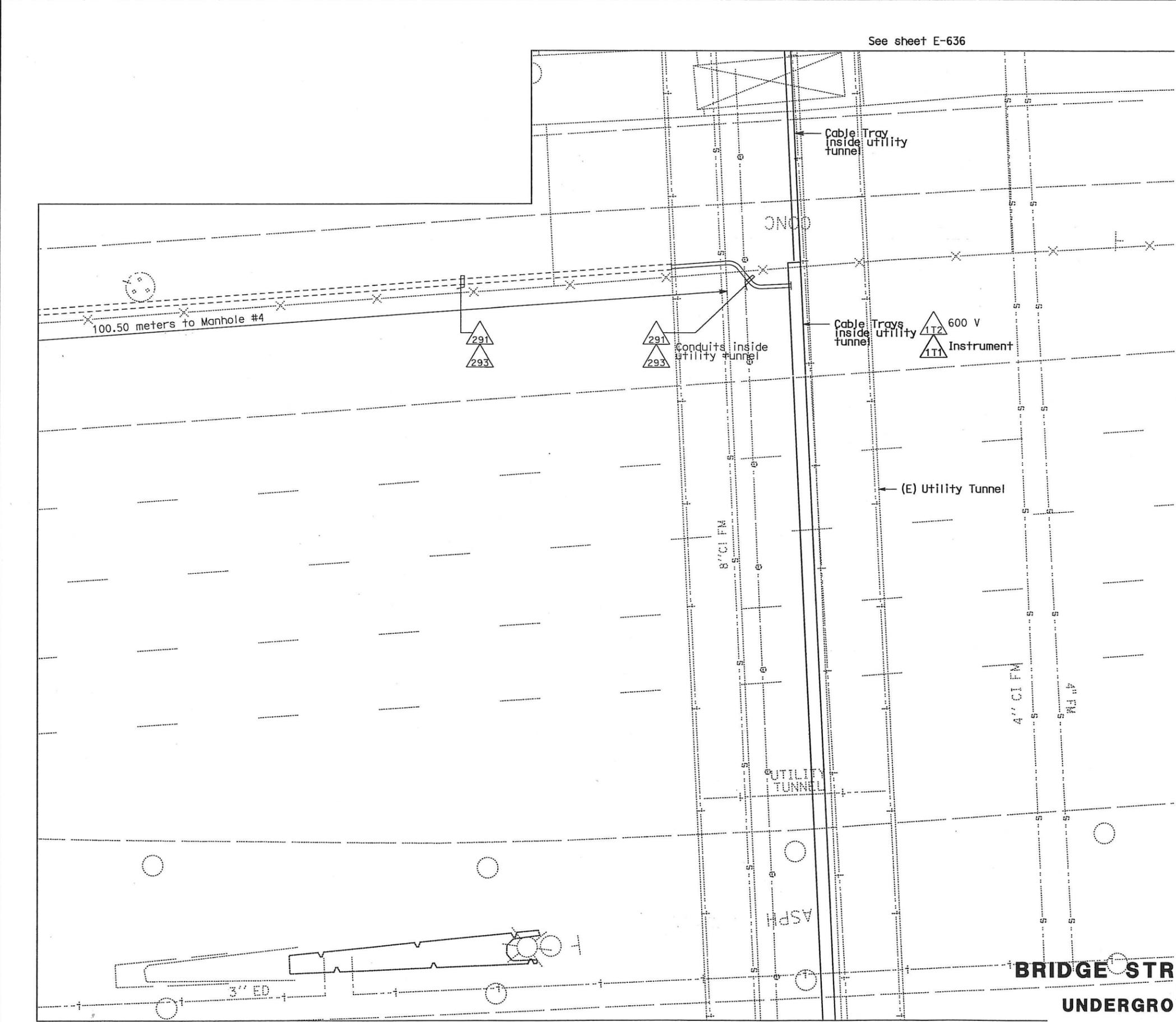
ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

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E-634

DATE PLOTTED = 03-06-MAY-2010 LAST REVISION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVER: JHT
 BEHZAD GOLEMOHAMMADI



See sheet E-636

See sheet E-634



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 06536	1204

Registered Electrical Engineer: **Syn Yee Chin**
 DATE: 03/08/10
 PLANS APPROVAL DATE: 05-06-2010
 REGISTERED PROFESSIONAL ENGINEER: SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
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NOTES:

1. This plan sheet is a record drawing from Oakland Substation contract. The Contractor shall verify the existing installation. See sheet E-34 of Oakland Substation, contract No. 04-014034.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on sheets E-978 through E-981.
3. All cable trays and conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 70 OF 290

**BRIDGE STRUCTURES GIRDER WESTBOUND
 OAKLAND SUBSTATION
 UNDERGROUND AND TUNNEL CONDUIT PLAN**

SCALE: 1:100

PLAN

E-635

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DATE PLOTTED => 06-MAY-2010 LAST REVISION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 BEHZAD GOLEHAMMADI
 DESIGN OVER
 HT
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISOR BY
 DATE REVISOR BY
 DATE REVISOR BY



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alca	80	12.2/14.3 0.0/4.0	407a 06538	1204
SYN YEE CHIN			03/08/10	REGISTERED ELECTRICAL ENGINEER DATE	
05-06-2010			PLANS APPROVAL DATE		
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NOTES:

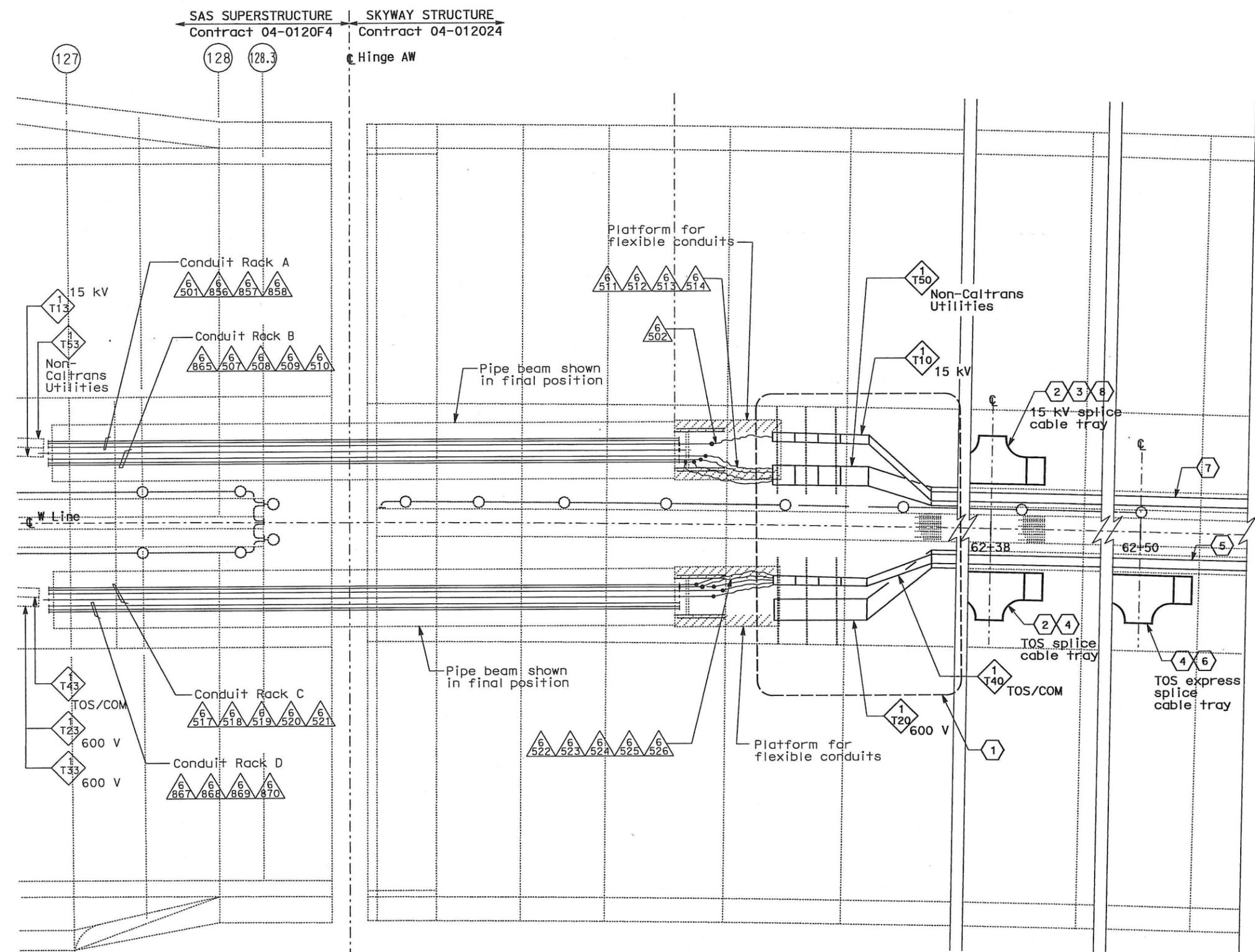
1. This plan sheet is a record drawing from SAS Superstructure contract. The Contractor shall verify the existing installation. See sheet E-101A from the SAS Superstructure Contract No. 04-0120F4.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
- Inspect for system ground continuity. See sheets E-666 and E-667.

SHEET NOTES:

- 1 Contractor to complete the installation of 15 kV, Non-Caltrans Utilities, TOS and 600 V cable trays furnished by Skyway Contract, to facilitate installation of cables.
- 2 Mount and secure splice cable tray between diaphragms at Station 62+38 as shown on E-600. See sheet E-663, section detail 5.
- 3 Furnish and install splice cable tray as shown on sheet E-663, plan detail 1.
- 4 Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
- 5 Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. See sheets E-980, E-981, and E-982.
- 6 Mount and secure splice cable tray at station 62+50 between diaphragms as shown on E-600. See sheet E-663, section detail 5.
- 7 Furnish and install 15 kV cables into existing cable tray shown on this drawing. See sheets E-664 and E-665.
- 8 15 kV splice kit furnished by others.

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0	04/19/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 72 OF 290



PLAN - HINGE AW
 SCALE: 1:75

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
SAS SUPERSTRUCTURE AND
SKYWAY STRUCTURE INTERFACE-HINGE AW
 SCALE: AS NOTED

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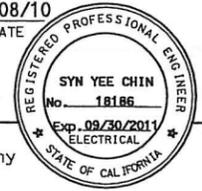
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 06539	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

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 San Francisco, CA 94107-1317

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NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-266 from Skyway Structures, Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

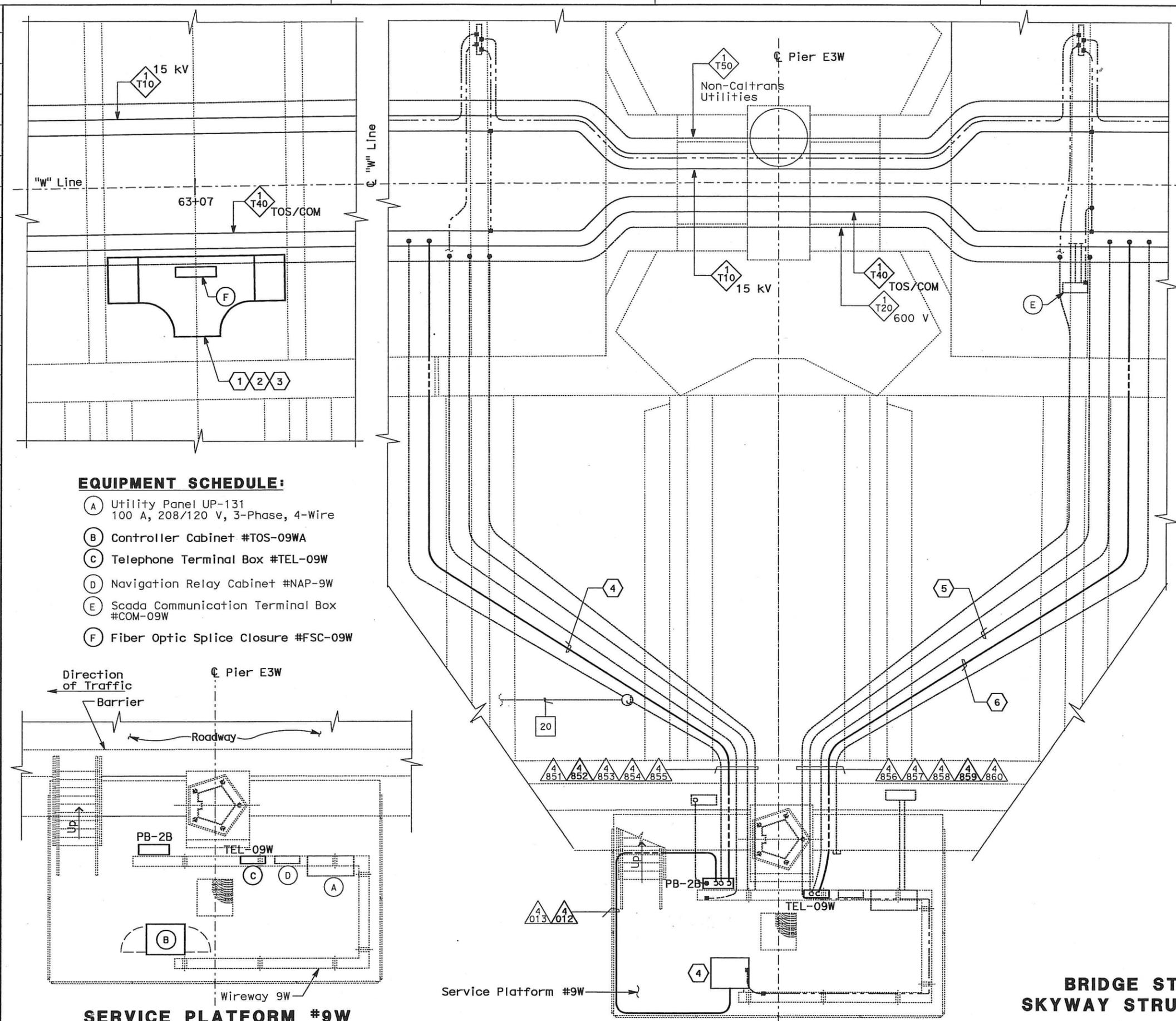
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
- Mount splice cable tray between diaphragms, and secure properly. See sheet E-663, section detail 4.
- Contractor shall locate the splice cable tray at Station 63+07 as shown on E-601.
- Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connectors. See sheets E-972 and E-973.
- Pulling and termination of cables shall be done by Others.
- Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-960, E-962 and E-964.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
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MARK	DATE	DESCRIPTIONS	BY	CH'D/CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 73 OF 290

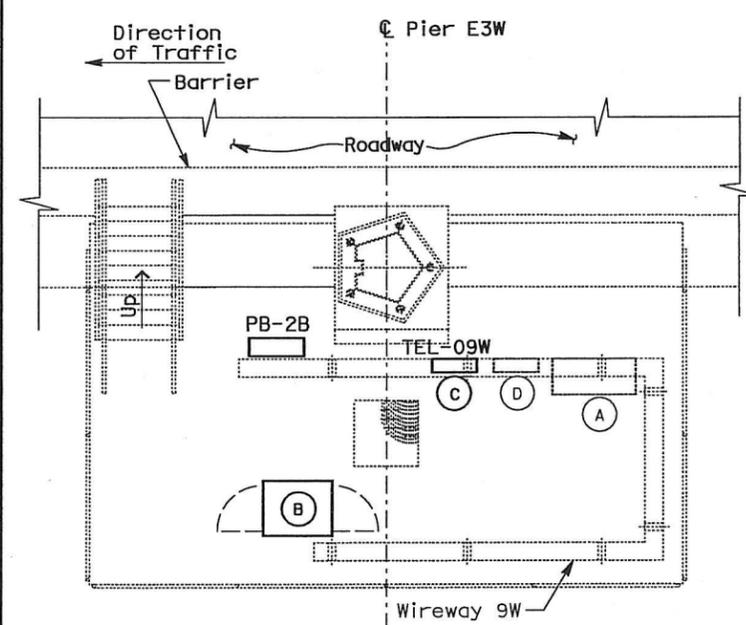
DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES - SERVICE PLATFORM #9W
 SCALE AS NOTED

E-638



EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-131
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Controller Cabinet #TOS-09WA
- (C) Telephone Terminal Box #TEL-09W
- (D) Navigation Relay Cabinet #NAP-9W
- (E) Scada Communication Terminal Box #COM-09W
- (F) Fiber Optic Splice Closure #FSC-09W



SERVICE PLATFORM #9W
EQUIPMENT ARRANGEMENT PLAN
 SCALE: 1:40

CONDUIT AND GROUNDING PLAN - WB
 SCALE: 1:40

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 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI
 DATE REVISIONS BY DATE REVISIONS BY
 01/10 SYC 01/10 FW
 CALCULATED/DESIGNED BY CHECKED BY
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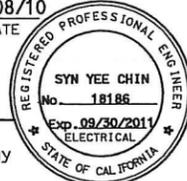
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DATE PLOTTED => 06-MAY-2010

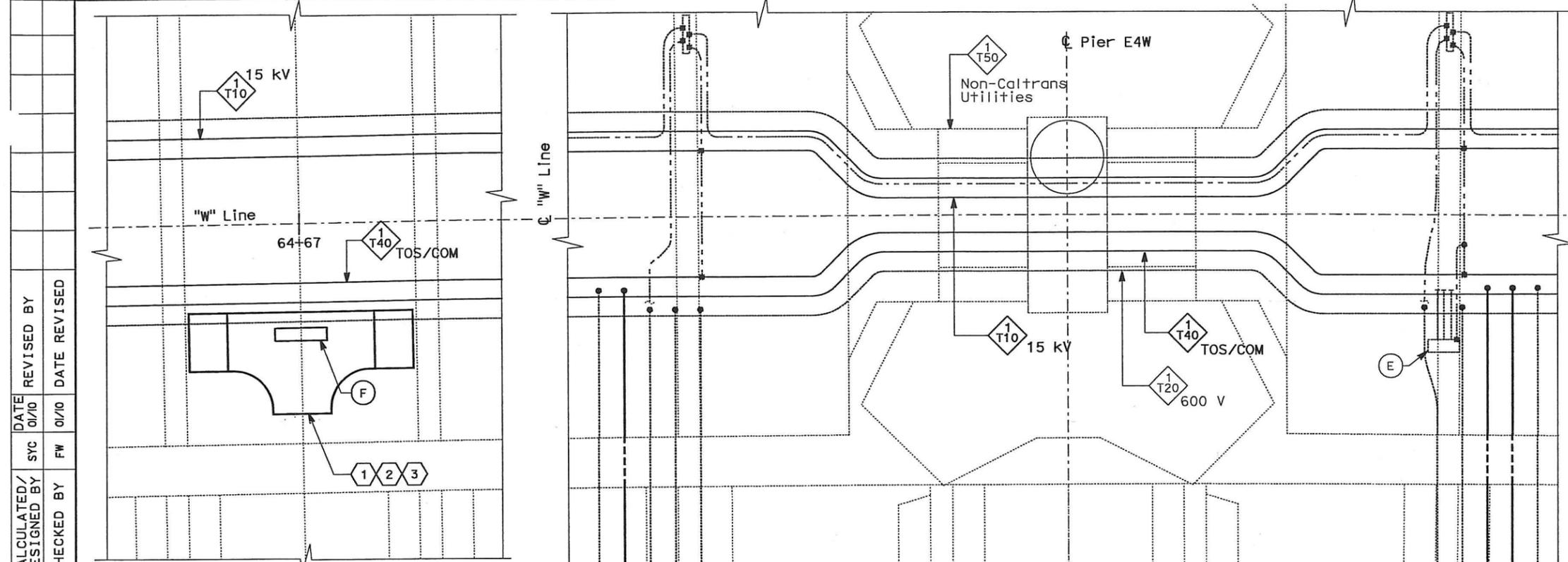


DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317



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NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-267 Skyway Structures, Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
- Mount splice cable tray between diaphragms and secure properly. See sheet E-663, section detail 4.
- Contractor shall locate the splice cable tray at Station 64+67 as shown on E-602.
- Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connectors. See sheets E-972 and E-973.
- Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-960, E-962 and E-964.

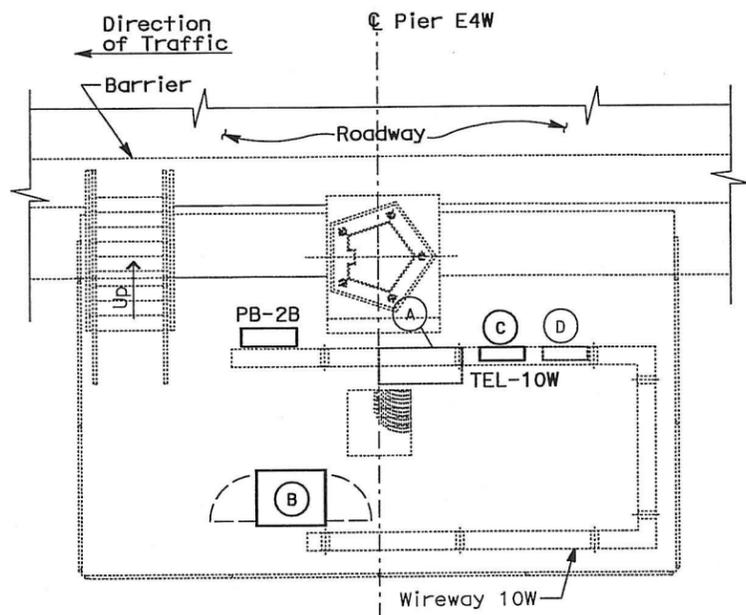
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
Δ	03/08/10	MEP INTEGRATION	SYC	FW	110
REVISIONS					

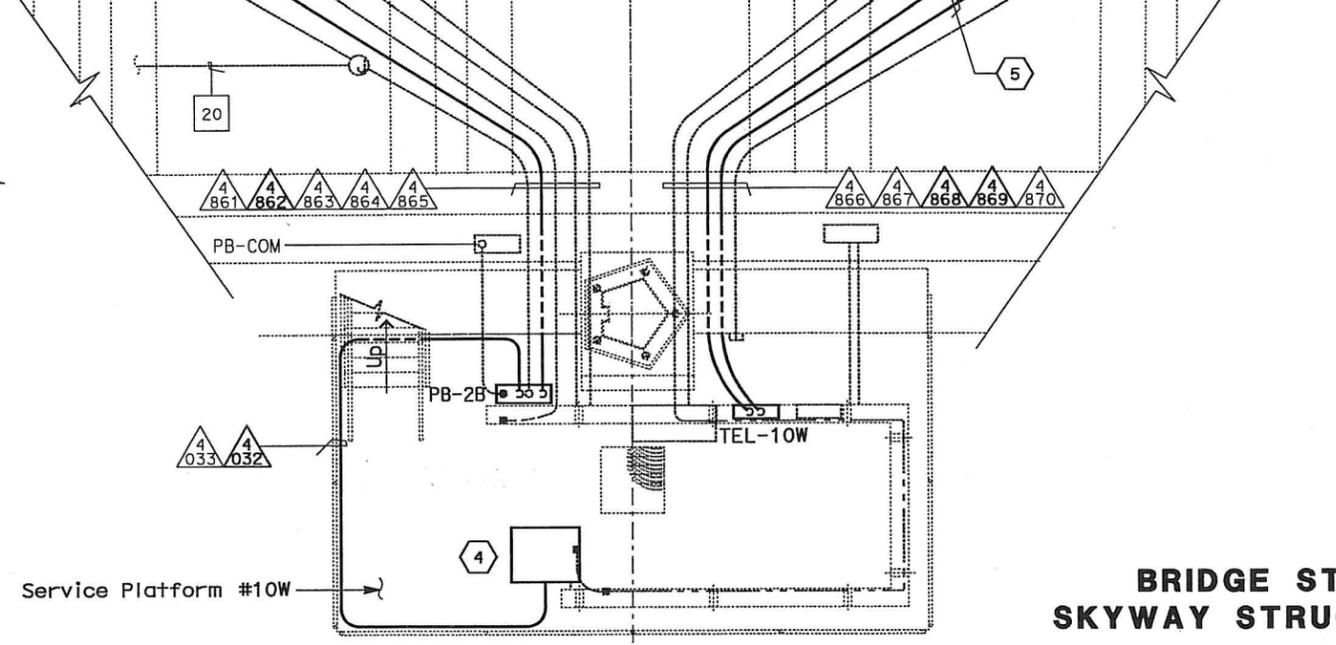
CONTRACT CHANGE ORDER NO. 110
 SHEET 74 OF 290

EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-132
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Controller Cabinet #TOS-10WA
- (C) Telephone Terminal Box #TEL-10W
- (D) Navigation Relay Cabinet #NAP-10W
- (E) Scada Communication Terminal Box #COM-10W
- (F) Fiber Optic Splice Closure #FSC-10W



**SERVICE PLATFORM #10W
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40



CONDUIT AND GROUNDING PLAN - WB
 SCALE: 1:40

**DETAILS
 BRIDGE STRUCTURES GIRDER WESTBOUND
 SKYWAY STRUCTURES - SERVICE PLATFORM #10W**
 SCALE AS NOTED

E-639

DATE	REVISOR	DATE	REVISOR
01/0	SYC	01/0	FW
CALCULATED/DESIGNED BY		CHECKED BY	
BEHZAD GOLEMOHAMMADI			

DESIGN OVER: JHT
 BEHZAD GOLEMOHAMMADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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LAST REVISION DATE PLOTTED = 05-06-MAY-2010

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Caltrans
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 BEHZAD GOLEMOHAMMADI
 REVISIONS: [Table with columns for DATE, REVISED BY, DATE, REVISIONS]



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 06541	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

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NOTES:

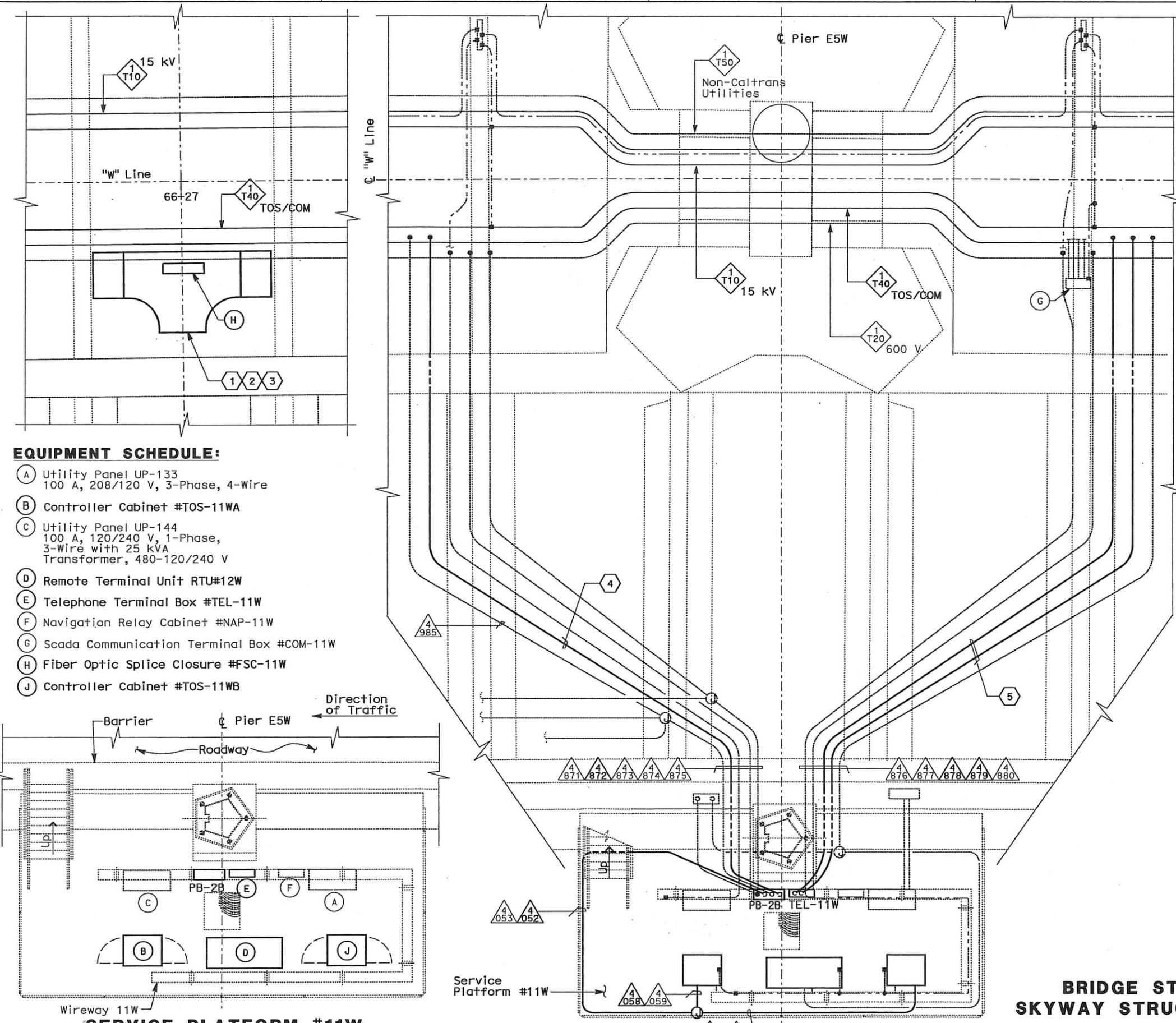
- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-268 from Skyway Structures, Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
 - Remote Terminal Unit #12W. See sheets E-902 through E-906.
- All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

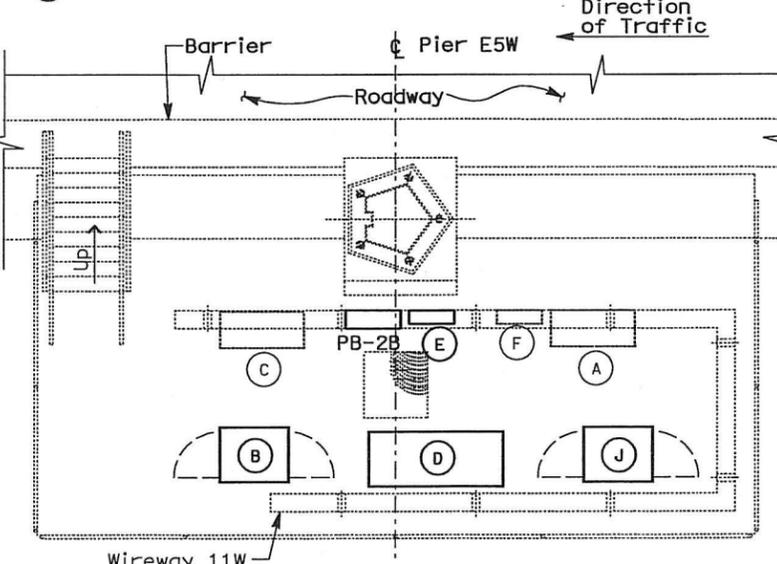
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
- Mount splice cable tray between diaphragms, and secure properly. See sheet E-663, section detail 4.
- Contractor shall locate the splice cable tray at Station 66+27 as shown on E-603.
- Furnish and install two 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connectors. See sheets E-972 and E-973.
- Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-960, E-962 and E-964.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

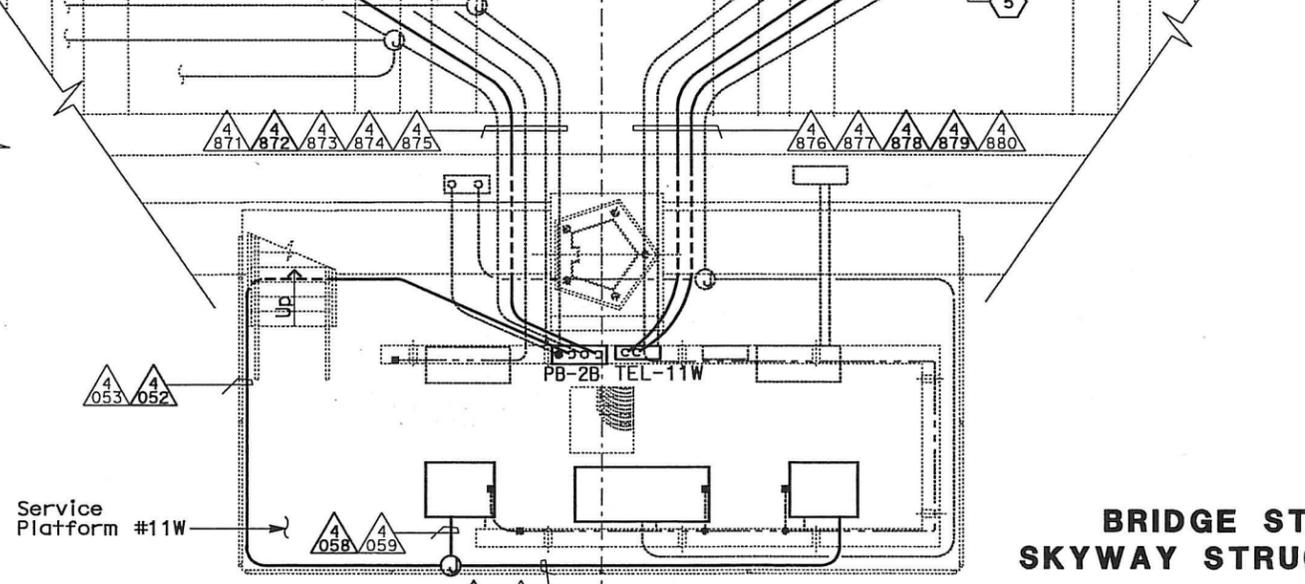
CONTRACT CHANGE ORDER NO. 110
 SHEET 75 OF 290



- EQUIPMENT SCHEDULE:**
- (A) Utility Panel UP-133
100 A, 208/120 V, 3-Phase, 4-Wire
 - (B) Controller Cabinet #TOS-11WA
 - (C) Utility Panel UP-144
100 A, 120/240 V, 1-Phase,
3-Wire with 25 kVA
Transformer, 480-120/240 V
 - (D) Remote Terminal Unit RTU#12W
 - (E) Telephone Terminal Box #TEL-11W
 - (F) Navigation Relay Cabinet #NAP-11W
 - (G) Scada Communication Terminal Box #COM-11W
 - (H) Fiber Optic Splice Closure #FSC-11W
 - (J) Controller Cabinet #TOS-11WB



**SERVICE PLATFORM #11W
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40
 THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.



CONDUIT AND GROUNDING PLAN - WB
 SCALE: 1:40

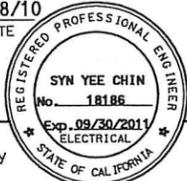
**DETAILS
 BRIDGE STRUCTURES GIRDER WESTBOUND
 SKYWAY STRUCTURES - SERVICE PLATFORM #11W**
 SCALE AS NOTED

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DATE PLOTTED => 06-MAY-2010



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No.	SHEET No.	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
			06S43			
			SYN YEE CHIN		03/08/10	
			REGISTERED ELECTRICAL ENGINEER		DATE	
			05-06-2010		PLANS APPROVAL DATE	
			PB AMERICAS, Inc.		A Parsons Brinckerhoff Company	
			303 Second St., Suite 700N		San Francisco, CA 94107-1317	
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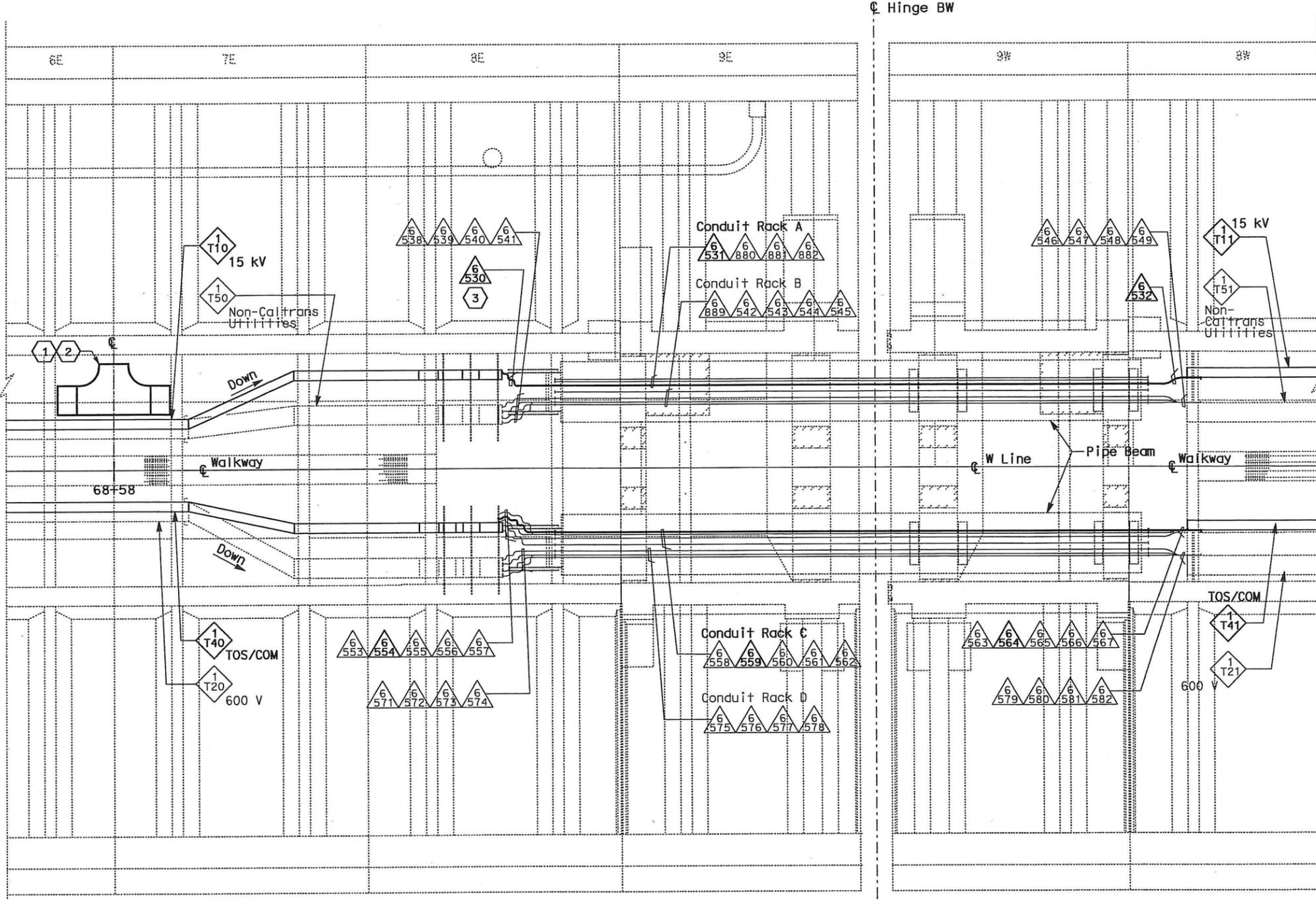


NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-296A from Skyway Structures, contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable trays and conduits shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install fiber optic cables into existing cable trays and conduits shown on this drawing. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
3. All cable trays and conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 Furnish and install splice cable tray as shown on sheet E-663, plan detail 1.
- 2 Mount splice cable tray between diaphragms at Station 68+58 as shown on sheet E-605 and secure properly. See sheet E-663, section detail 4.
- 3 In order to be able to pull the 15kV cable, the Contractor shall disassemble the 15kV flexible conduit installation. The 15kV flexible conduit shall be reinstalled after the 15kV cable has been installed.



PLAN - HINGE BW

SCALE: 1:75

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
0	03/08/10	MEP INTEGRATION	SYC	FW 110
MARK	DATE	DESCRIPTIONS	BY	CH'D/CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
SHEET 77 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES-HINGE BW
SCALE AS NOTED

E-642

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

DESIGNED BY	REVISOR	DATE	DATE
SYC	FW	01/10	01/10
CHECKED BY	DATE	DATE	DATE
FW	01/10	01/10	01/10

DESIGN OVER: JHT
BEHZAD GOLEHAMMADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

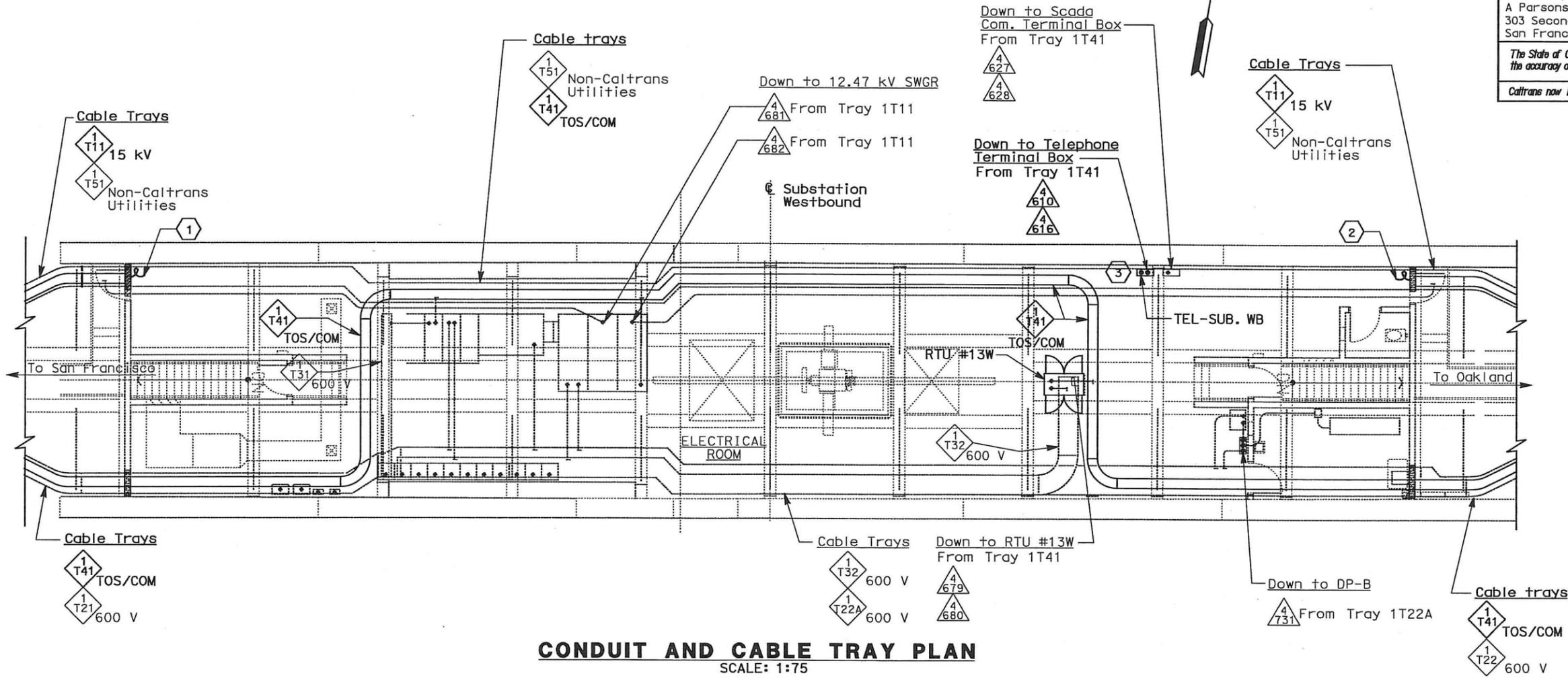
DATE PLOTTED => 06-MAY-2010

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 SYN YEE CHIN
 No. 18186
 Exp. 08/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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CONDUIT AND CABLE TRAY PLAN
SCALE: 1:75

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-12 from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15 kV cables into the existing cable trays shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install the TOS fiber optic cables into the existing cable trays shown on this drawing. Pull TOS fiber optic cables in the main tray. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
 - Remote Terminal Unit #13W. See sheets E-902, and E-910 through E-920.
- All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable. Contractor to ensure that 90° bends on trays are satisfactory to meet the minimum bending radius for cables.

SHEET NOTES:

- Contractor to coil 25 m of 15 kV cable, sufficient to make future terminations to 12.47 kV switchgear.
- Contractor to coil 45 m of 15 kV cable, sufficient to make future terminations to 12.47 kV switchgear.
- Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-960, E-962 and E-964.

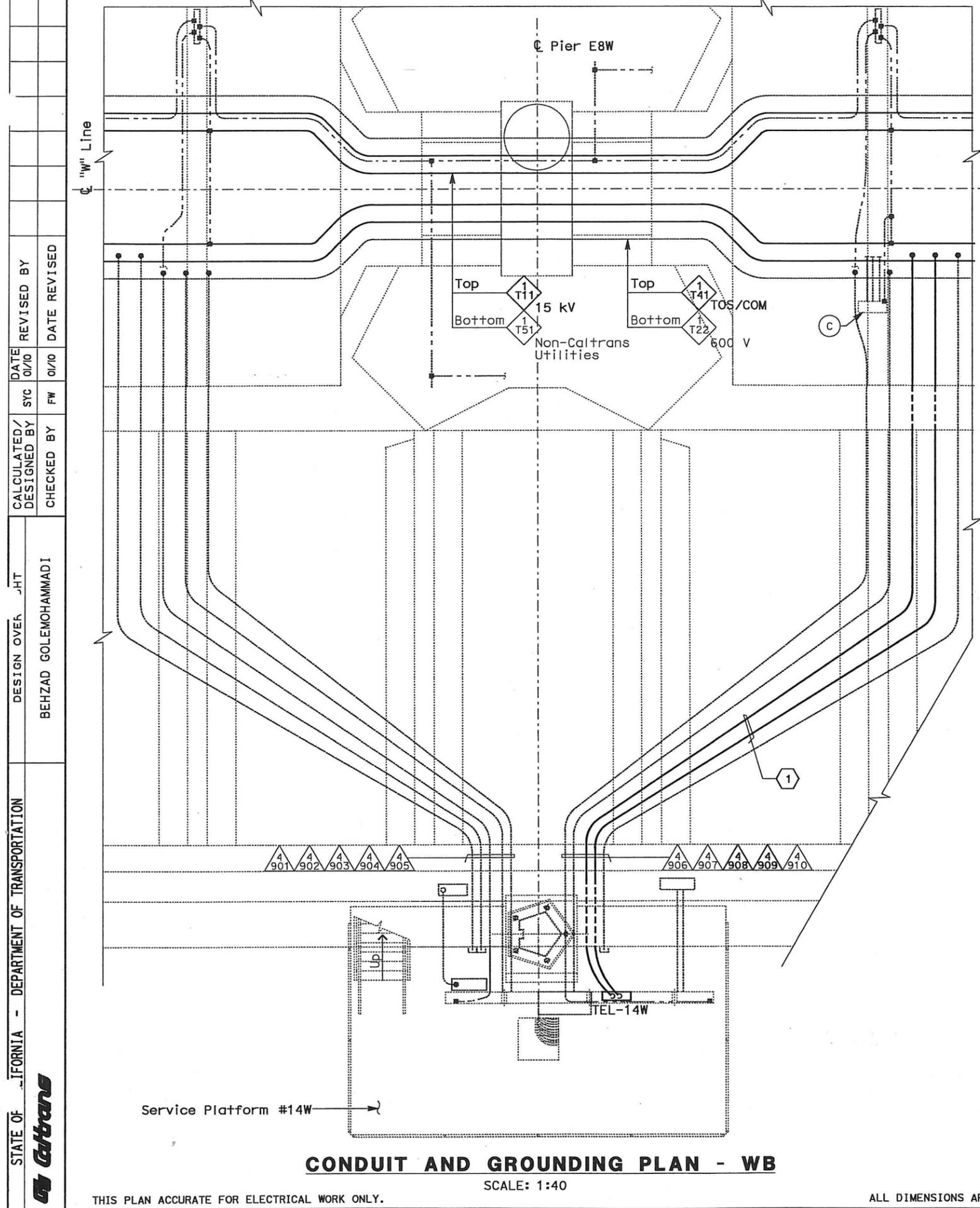
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
SHEET 79 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES-SUBSTATION WESTBOUND
SCALE: AS NOTED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISIONS
 DATE REVISIONS
 DATE REVISIONS

LAST REVISION DATE PLOTTED => 08-MAY-2010



CONDUIT AND GROUNDING PLAN - WB

SCALE: 1:40

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

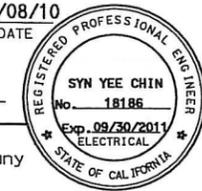
ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-136
100 A, 208/120 V, 3-Phase,
4-Wire
- (B) Telephone Terminal Box
#TEL-14W
- (C) Scada Communication Terminal Box
#COM-14W



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
			03/08/10			
			REGISTERED ELECTRICAL ENGINEER DATE			
			PLANS APPROVAL DATE			
			PB AMERICAS, Inc.			
			A Parsons Brinckerhoff Company			
			303 Second St., Suite 700N			
			San Francisco, CA 94107-1317			
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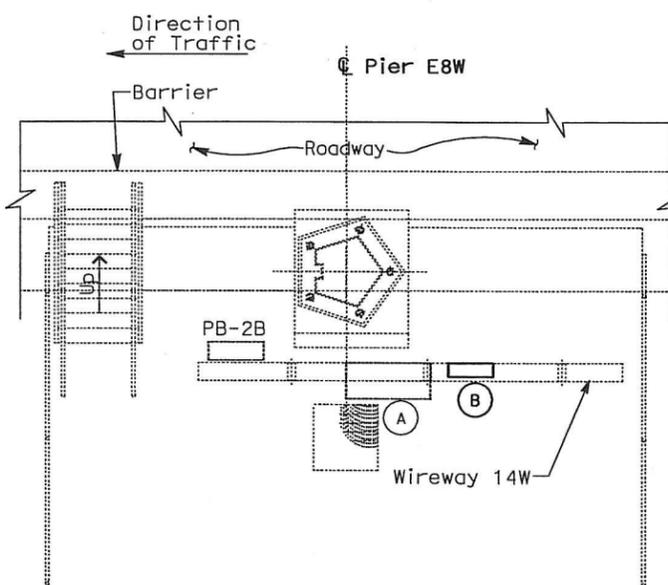


NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-271 from Skyway Structures, contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install the TOS fiber optic cables into existing cable tray shown on this drawing. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
3. All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-960, E-962 and E-964.



**SERVICE PLATFORM #14W
EQUIPMENT ARRANGEMENT PLAN**

SCALE: 1:40

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
SHEET 80 OF 290

**DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES-SERVICE PLATFORM #14W**
SCALE AS NOTED

E-645

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVER JHT
 BEHZAD GOLEHAMMADI
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE 01/10
 REVISED BY
 DATE REVISED

DATE PLOTTED = 06-MAY-2010 LAST REVISION

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alq	80	12.2/14.3 0.0/4.0	407a 06547	1204

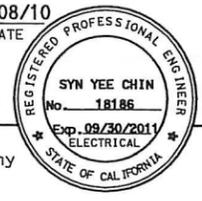
Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-272 from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

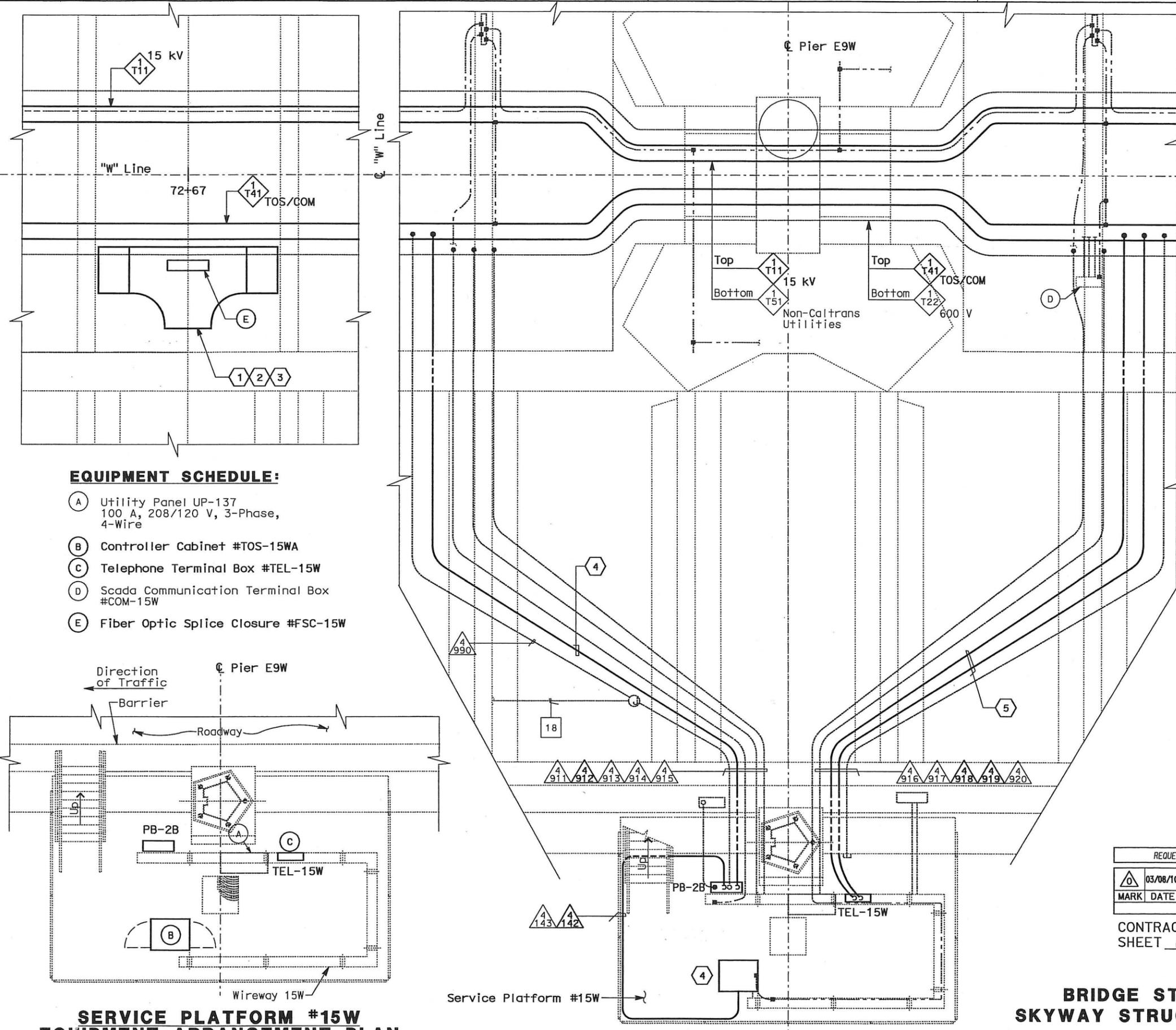
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
- Mount splice cable tray between diaphragms and secure properly. See sheet E-663, section detail 4.
- Contractor shall locate the splice cable tray at Station 72+67 as shown on E-608.
- Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connectors. See sheets E-972 and E-973.
- Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-960, E-962 and E-964.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
SHEET 81 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES - SERVICE PLATFORM #15W
 SCALE AS NOTED

E-646

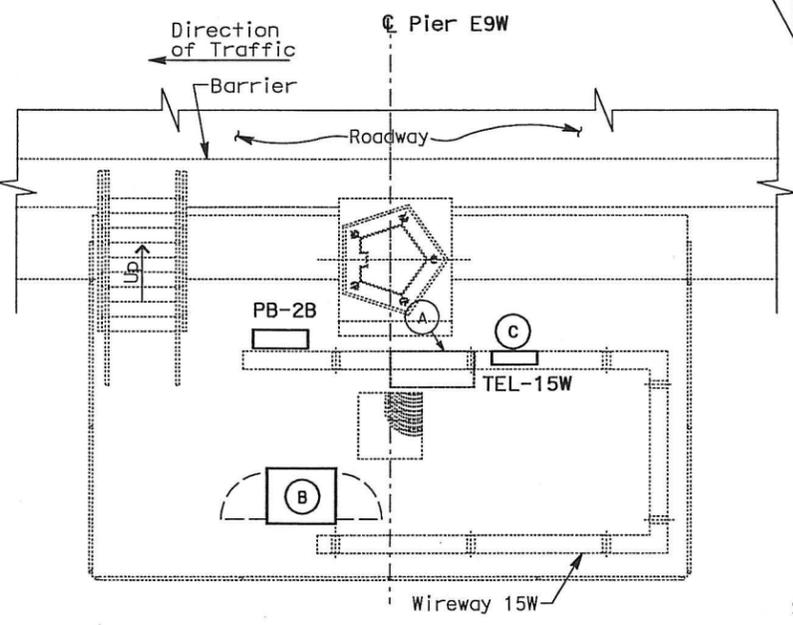


CONDUIT AND GROUNDING PLAN - WB
 SCALE: 1:40

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-137
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Controller Cabinet #TOS-15WA
- (C) Telephone Terminal Box #TEL-15W
- (D) Scada Communication Terminal Box #COM-15W
- (E) Fiber Optic Splice Closure #FSC-15W



SERVICE PLATFORM #15W
EQUIPMENT ARRANGEMENT PLAN
 SCALE: 1:40

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 BEHZAD GOLEMOHAMMADI
 DESIGN OVERSEER
 DATE REVISIONS BY
 DATE REVISIONS BY
 DATE REVISIONS BY

DATE PLOTTED: 06-MAY-2010

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407/06548	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

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 San Francisco, CA 94107-1317

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NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-273 from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
 - Remote Terminal Unit #14W. See sheets E-931 through E-933.
- All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

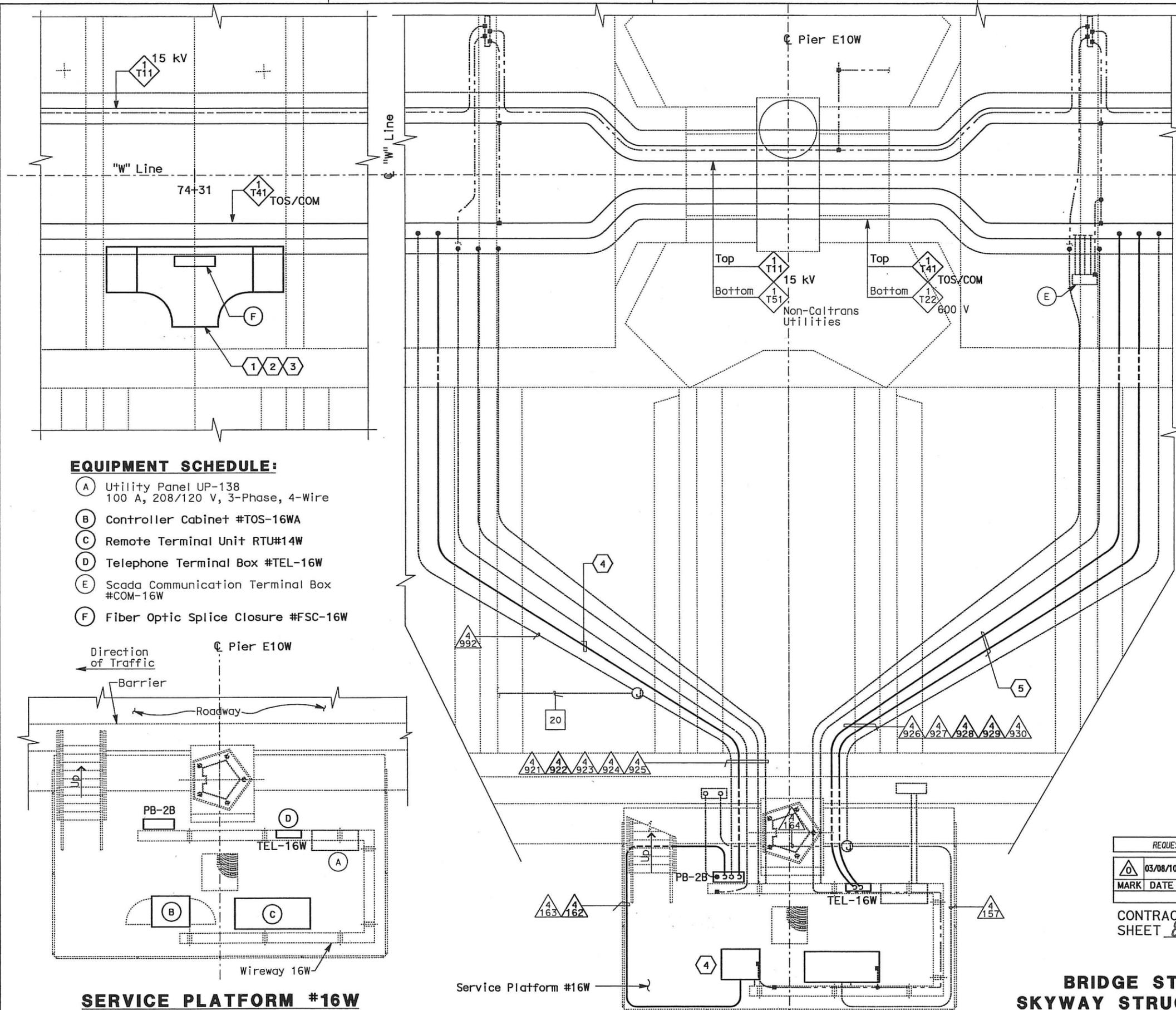
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
- Mount splice cable tray between diaphragms and secure properly. See sheet E-663, section detail 4.
- Contractor shall locate the splice cable tray at Station 74+31 as shown on E-609
- Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connectors. See sheets E-972 and E-973.
- Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-960, E-962 and E-964.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 82 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES - SERVICE PLATFORM #16W
 SCALE AS NOTED

E-647

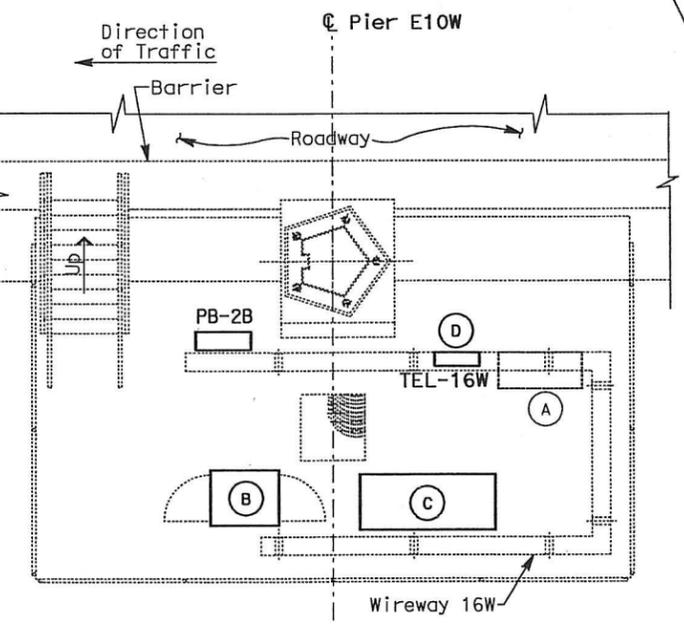


CONDUIT AND GROUNDING PLAN - WB
 SCALE: 1:40

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-138
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Controller Cabinet #TOS-16WA
- (C) Remote Terminal Unit RTU#14W
- (D) Telephone Terminal Box #TEL-16W
- (E) Scada Communication Terminal Box #COM-16W
- (F) Fiber Optic Splice Closure #FSC-16W



SERVICE PLATFORM #16W
EQUIPMENT ARRANGEMENT PLAN
 SCALE: 1:40

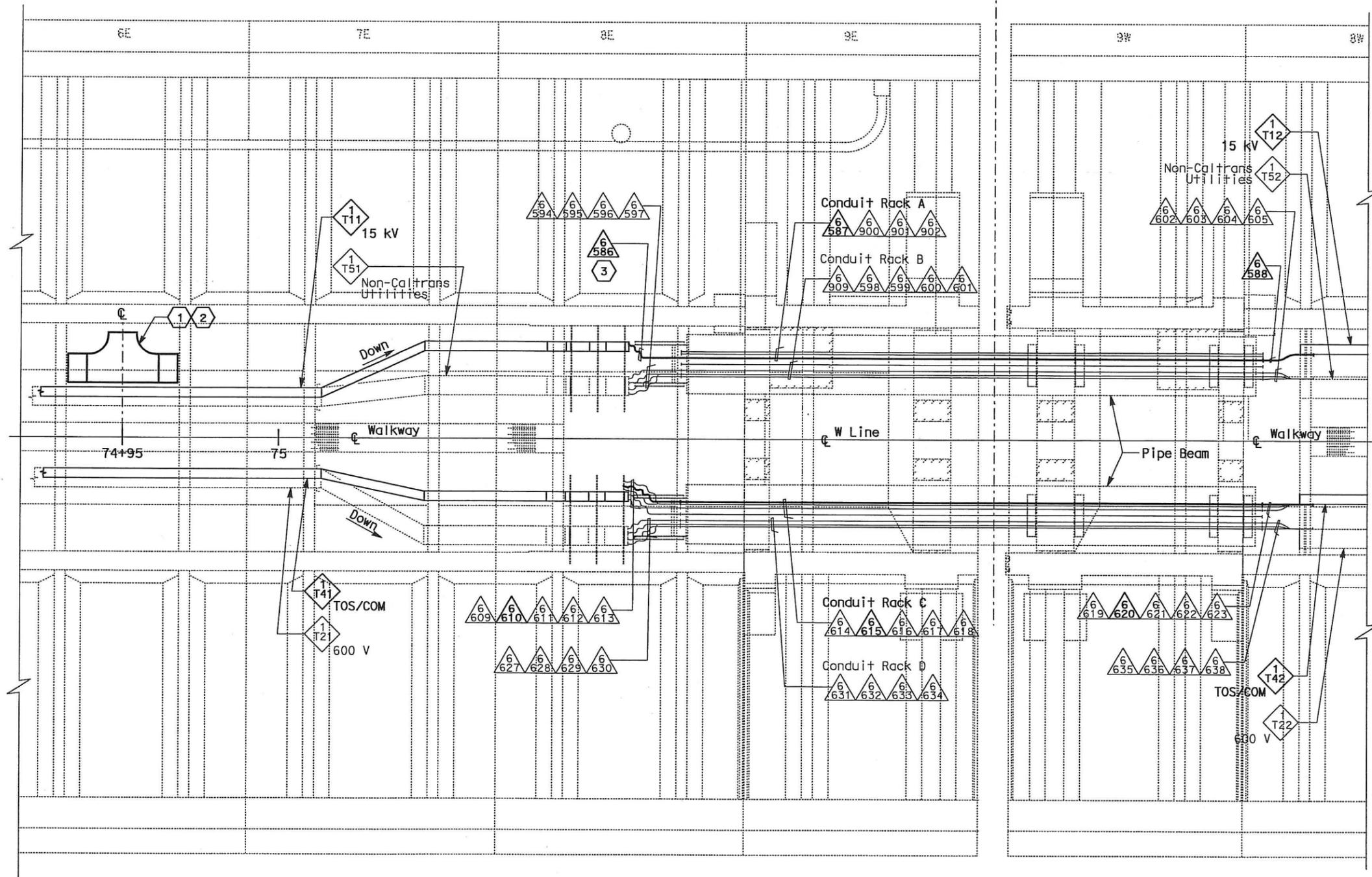
THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

DATE	REVISD BY
01/0	
01/0	

DESIGNED BY	BEHZAD GOLEMOHAMMADI
CHECKED BY	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans

DATE PLOTTED => 06-MAY-2010



PLAN - HINGE CW
SCALE: 1:75

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
△	03/08/10	MEP INTEGRATION	SYC	FW 110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
		REVISIONS		

CONTRACT CHANGE ORDER NO. 110
SHEET 83 OF 190

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES-HINGE CW
SCALE AS NOTED

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 06549	1204

Syn Yee Chin 03/08/10
REGISTERED ELECTRICAL ENGINEER DATE

PLANS APPROVAL DATE

PB AMERICAS, Inc.
A Parsons Brinckerhoff Company
303 Second St., Suite 700N
San Francisco, CA 94107-1317

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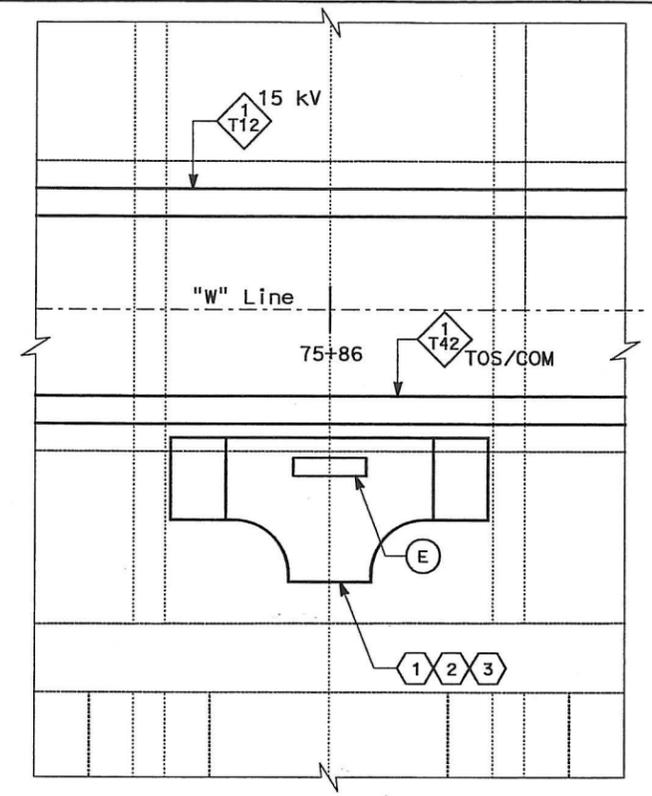
NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-297A from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable trays and conduits shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install fiber optic cables into existing cable trays and conduits shown on this drawing. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays and conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

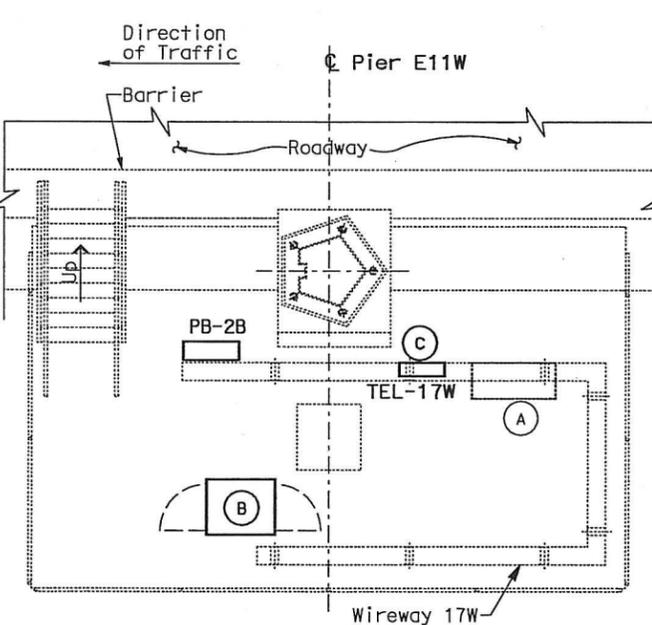
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 1.
- Mount splice cable tray between diaphragms at Station 74+95 as shown on sheet E-610, and secure properly. See sheet E-663, section detail 4.
- In order to be able to pull the 15kV cable, the Contractor shall disassemble the 15kV flexible conduit installation. The 15kV flexible conduit shall be reinstalled after the 15kV cable has been installed.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans
 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI



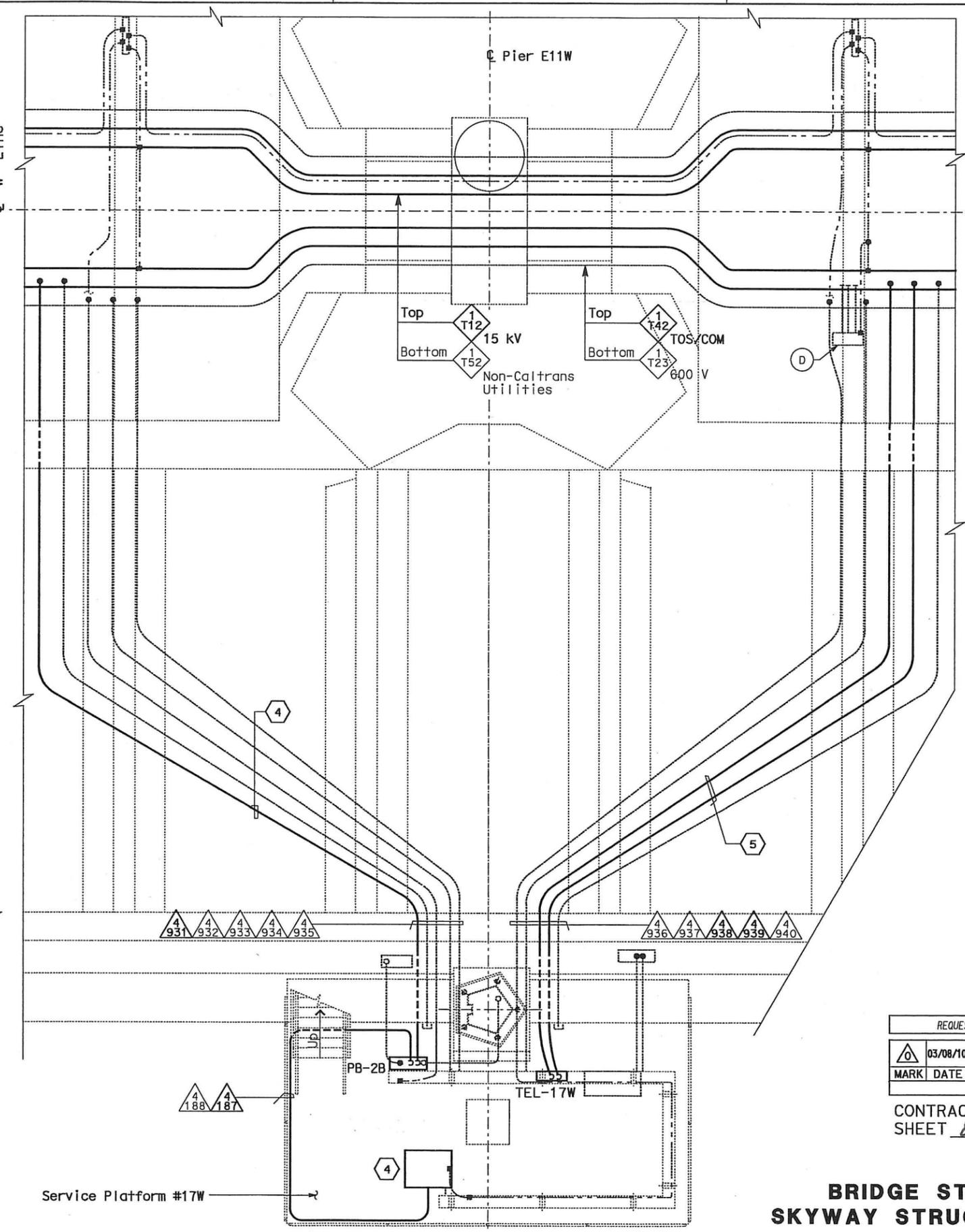
EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-139
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Controller Cabinet #TOS-17WA
- (C) Telephone Terminal Box #TEL-17W
- (D) Scada Communication Terminal Box #COM-17W
- (E) Fiber Optic Splice Closure #FSC-17W



**SERVICE PLATFORM #17W
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.



CONDUIT AND GROUNDING PLAN - WB
 SCALE: 1:40

Caltrans
Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 06S50	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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- NOTES:**
- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-274 from Skyway Structures, contract No. 04-012024.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
 - All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

- SHEET NOTES:**
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
 - Mount splice cable tray between diaphragms and secure properly. See sheet E-663, section detail 4.
 - Contractor shall locate the splice cable tray at Station 75+86 as shown on sheet E-610.
 - Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connectors. See sheets E-972 and E-973.
 - Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-960, E-962 and E-964.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
△	03/08/10	MEP INTEGRATION	SYC	FW	110
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 84 OF 290

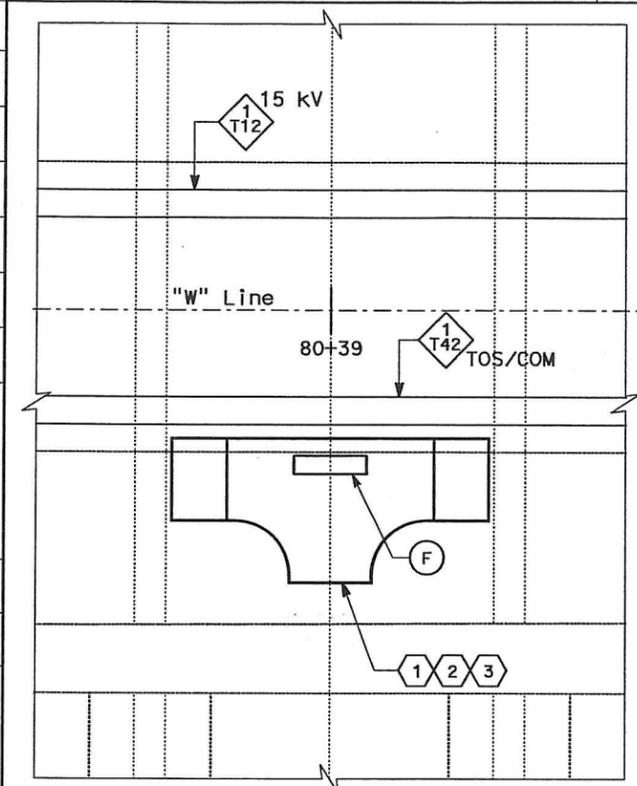
DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES - SERVICE PLATFORM #17W
 SCALE AS NOTED

E-649

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

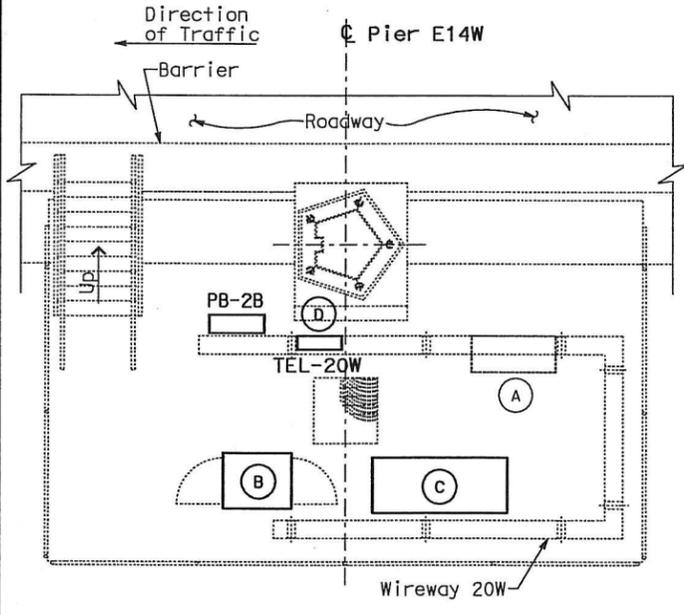
DATE PLOTTED => 06-MAY-2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI



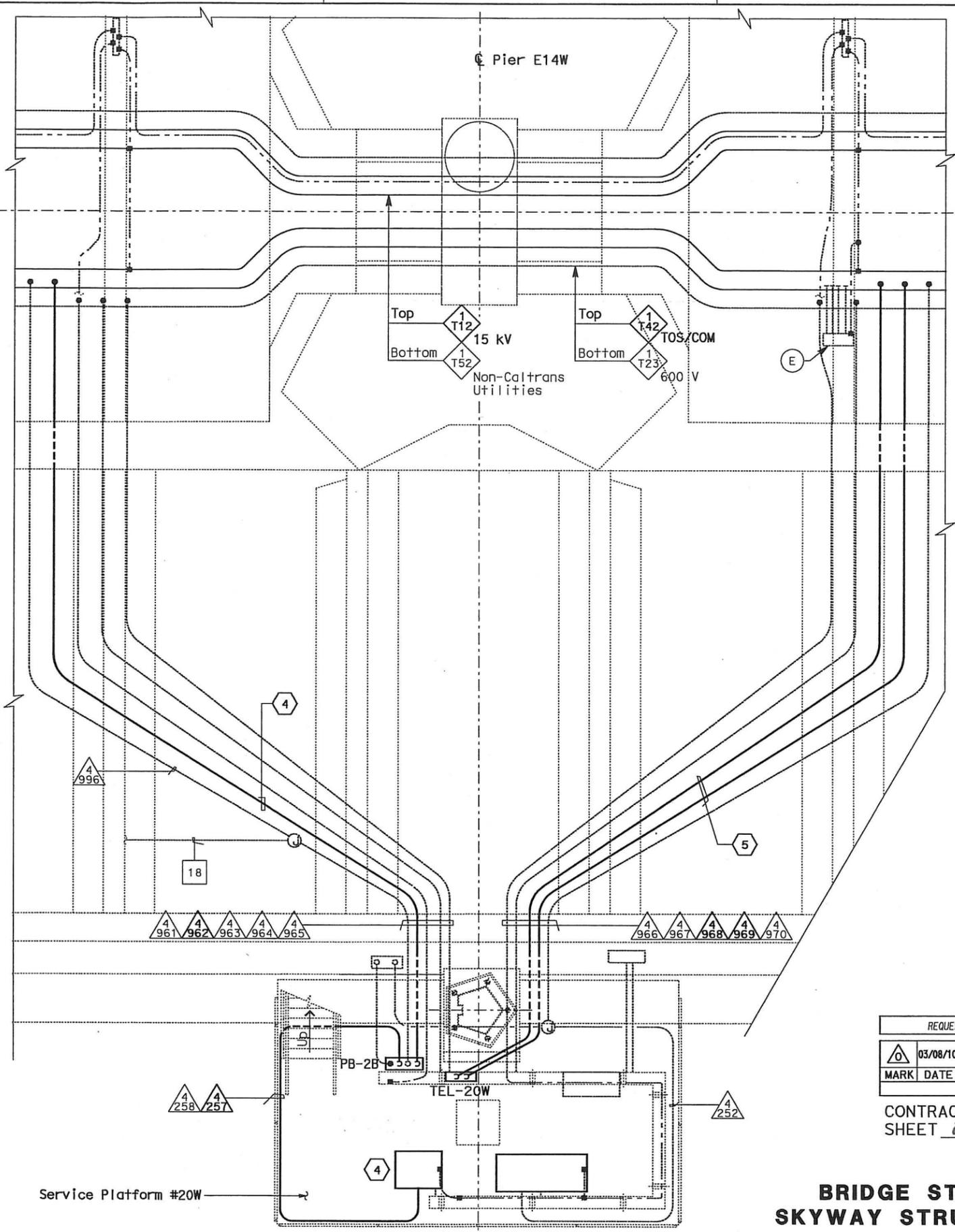
EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-142
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Controller Cabinet #TOS-20WA
- (C) Remote Terminal Unit RTU#15W
- (D) Telephone Terminal Box #TEL-20W
- (E) Scada Communication Terminal Box #COM-20W
- (F) Fiber Optic Splice Closure #FSC-20W



**SERVICE PLATFORM #20W
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40

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CONDUIT AND GROUNDING PLAN - WB
 SCALE: 1:40

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN



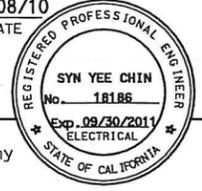
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04	SF, Ala	80	12.2/14.3 0.0/4.0	407d 06S53	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

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NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-277 from Skyway Structures, contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667
 - Remote Terminal Unit #15W. See sheets E-902, E-931, E-936 and E-937.
3. All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- ① Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
- ② Mount splice cable tray between diaphragms and secure properly. See sheet E-663, section detail 4.
- ③ Contractor shall locate the splice cable tray at Station 80+39 as shown on sheet E-614.
- ④ Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connectors. See sheets E-972 and E-973.
- ⑤ Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-960, E-962 and E-964.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
△	03/08/10	MEP INTEGRATION	SYC	FW 110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 87 OF 290

**DETAILS
 BRIDGE STRUCTURES GIRDER WESTBOUND
 SKYWAY STRUCTURES-SERVICE PLATFORM #20W**
 SCALE AS NOTED

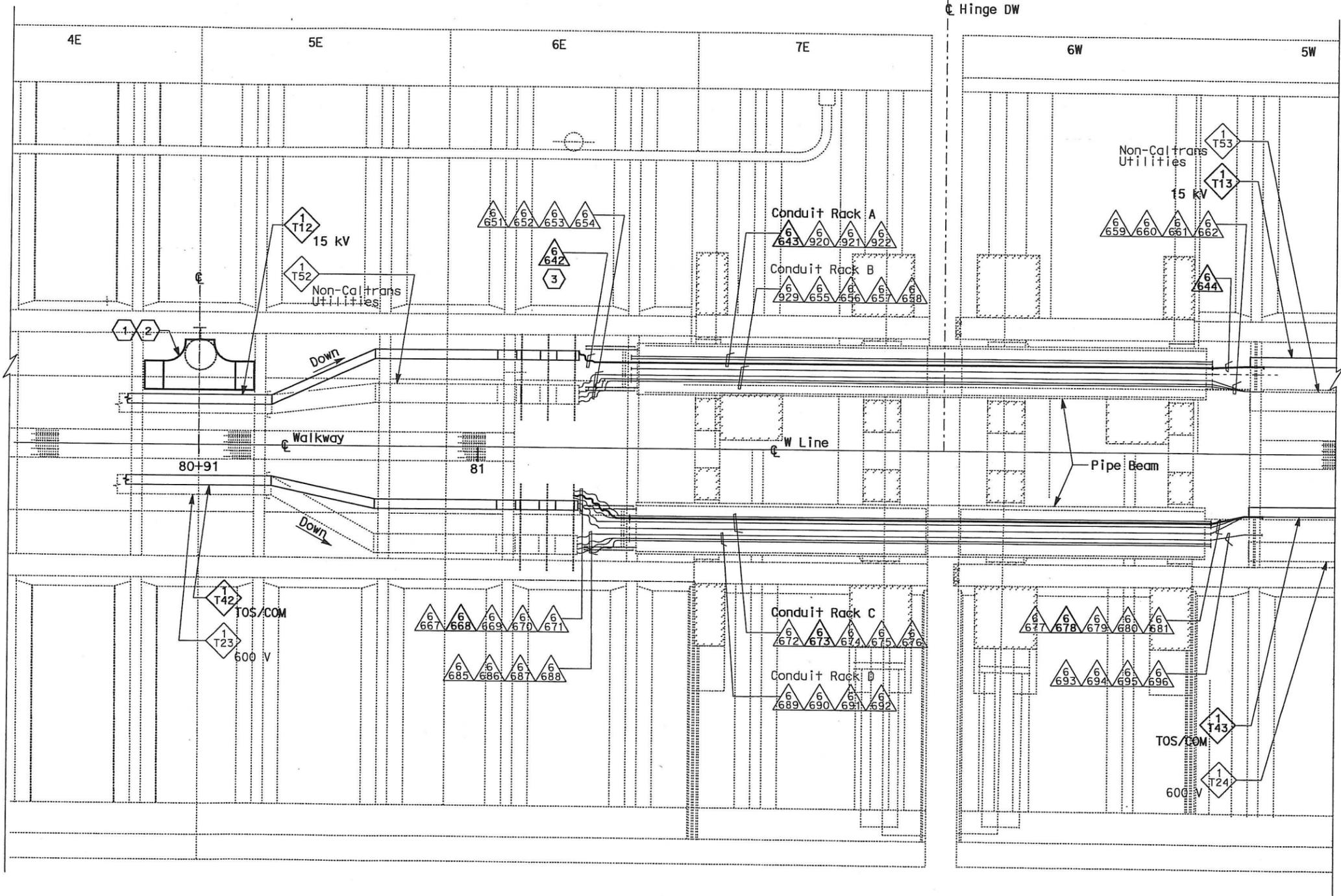
E-652

LAST REVISION DATE PLOTTED => 06-MAY-2010

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 DATE REVISOR



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 06554	1204
			03/08/10		
REGISTERED ELECTRICAL ENGINEER			DATE	REGISTERED PROFESSIONAL ENGINEER	
SYN YEE CHIN				No. 18186	
05-06-2010				Exp. 09/30/2011	
PLANS APPROVAL DATE				ELECTRICAL	
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- NOTES:**
- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-298A from Skyway Structures, contract No. 04-012024.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable trays and conduits shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install fiber optic cables into existing cable trays and conduits shown on this drawing. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
 - All cable trays and conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

- SHEET NOTES:**
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 1.
 - Mount splice cable tray between diaphragms at Station 80+91 as shown on sheet E-614, and secure properly. See sheet E-663, section detail 4.
 - In order to be able to pull the 15kV cable, the Contractor shall disassemble the 15kV flexible conduit installation. The 15kV flexible conduit shall be reinstalled after the 15kV cable has been installed.

PLAN - HINGE DW
 SCALE: 1:75

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 88 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES-HINGE DW
 SCALE AS NOTED

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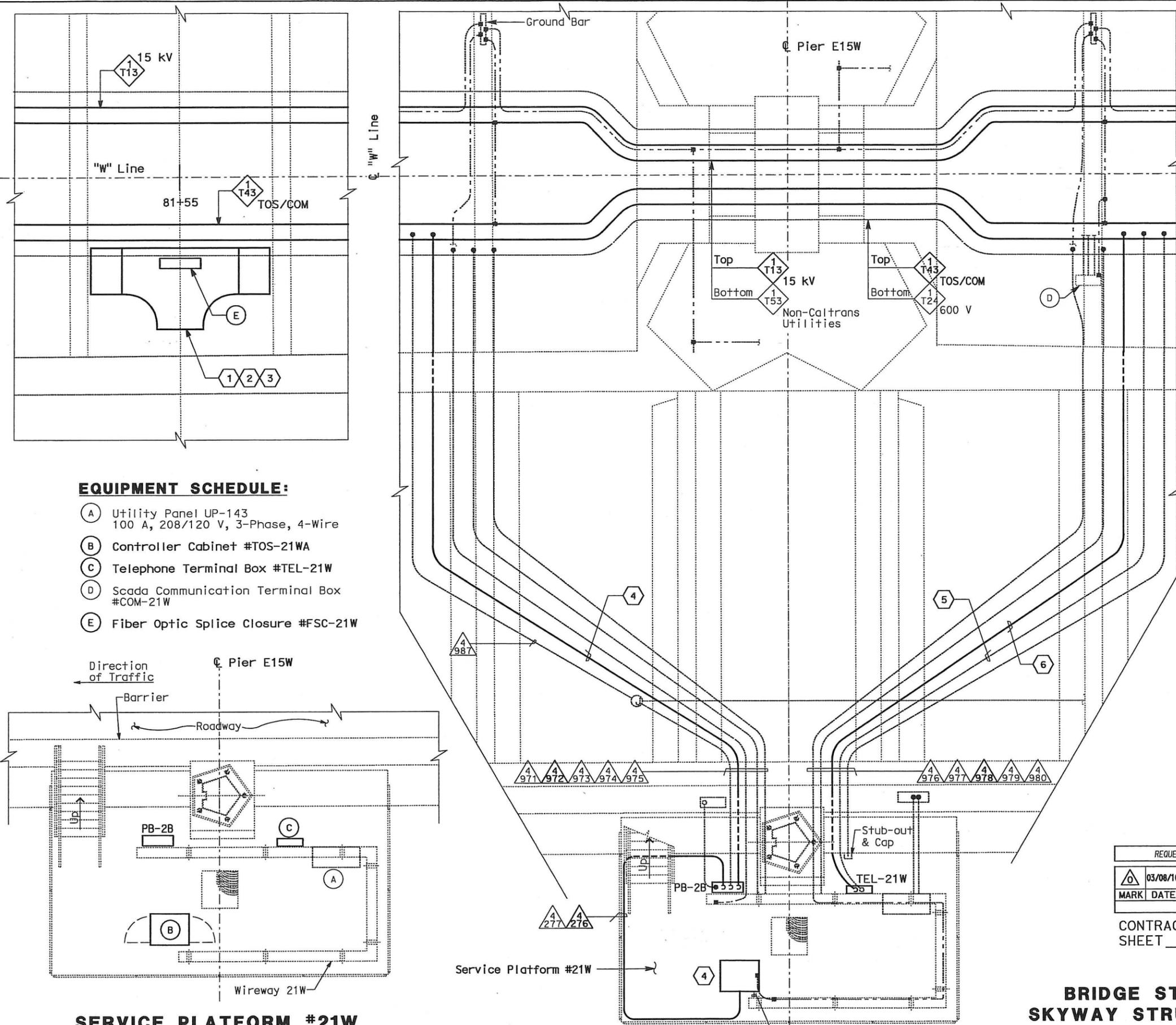
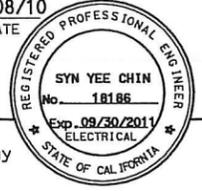
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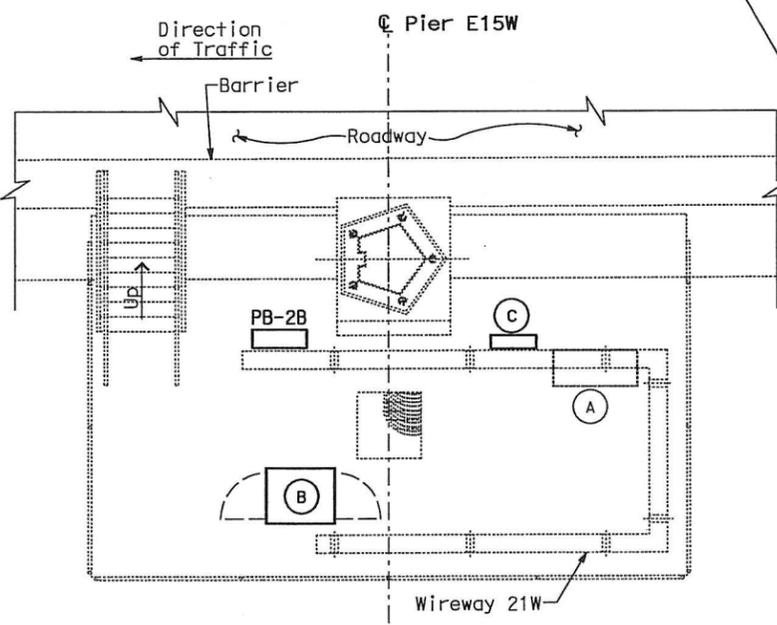


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04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 06S55	1204
Syn Yee Chin REGISTERED ELECTRICAL ENGINEER			03/08/10 DATE		
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EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-143
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Controller Cabinet #TOS-21WA
- (C) Telephone Terminal Box #TEL-21W
- (D) Scada Communication Terminal Box #COM-21W
- (E) Fiber Optic Splice Closure #FSC-21W



**SERVICE PLATFORM #21W
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40

NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-278 from Skyway Structures, contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduit shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
3. All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
- 2 Mount splice cable tray between diaphragms and secure properly. See sheet E-663, section detail 4.
- 3 Contractor shall locate the splice cable tray at Station 81+55 as shown on sheet E-615.
- 4 Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connectors. See sheets E-972 and E-973.
- 5 Pulling and termination of cables by others.
- 6 Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-960, E-962 and E-964.

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 89 OF 290

**DETAILS
 BRIDGE STRUCTURES GIRDER WESTBOUND
 SKYWAY STRUCTURES-SERVICE PLATFORM #21W**
 SCALE AS NOTED

CONDUIT AND GROUNDING PLAN - WB
 SCALE: 1:40

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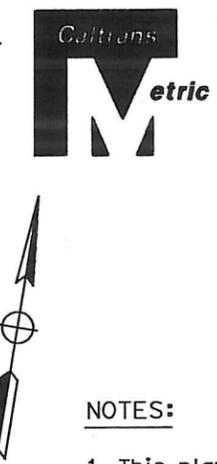
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E-654

LAST REVISION DATE PLOTTED = 3 AG-MAY-2010

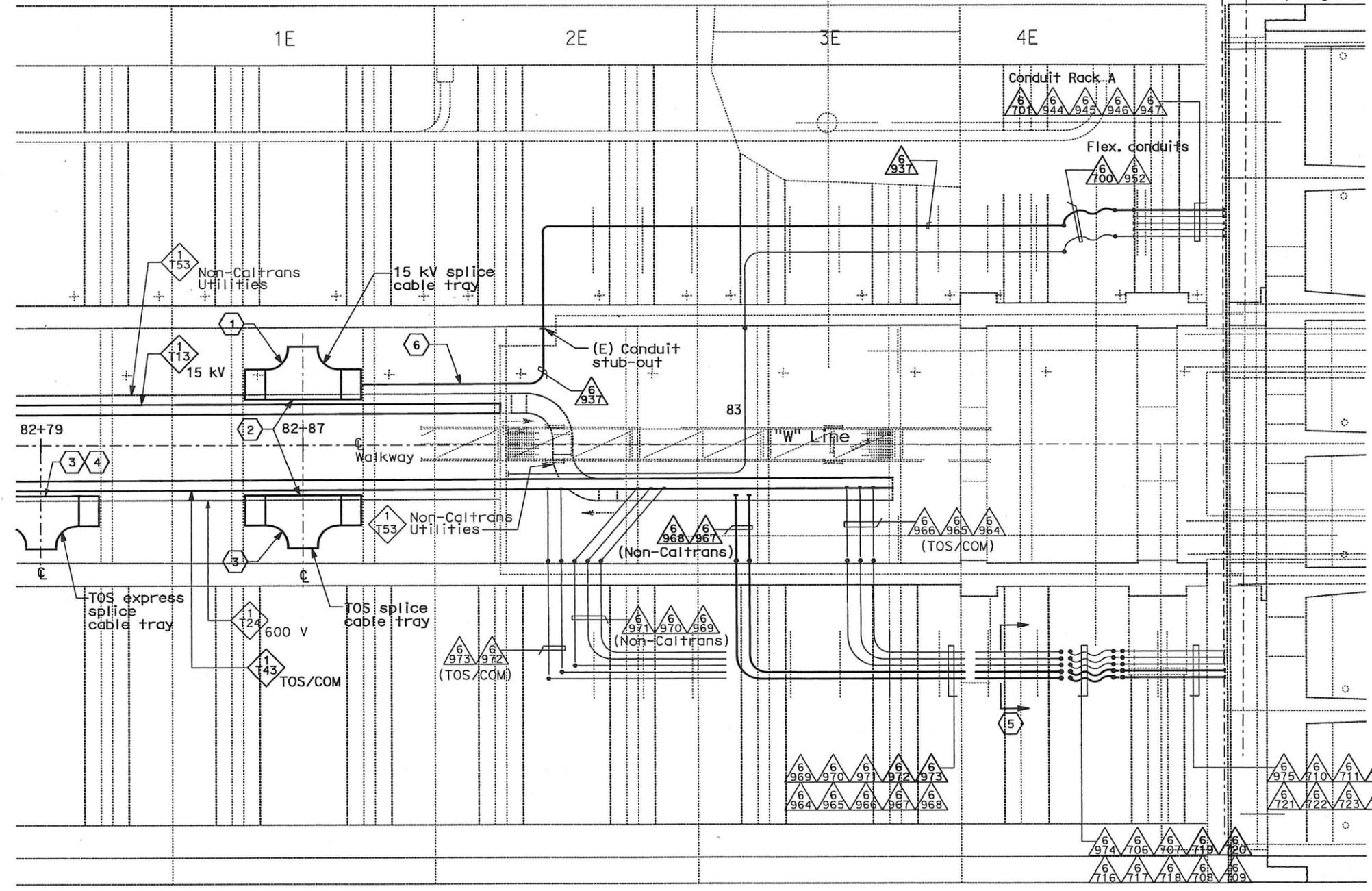
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 06S56	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
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Skyway Structures Contract 04-012024 Oakland Touchdown 1 Contract 04-0120L4

◊ Hinge EW
◊ Diaphragm C



NOTES:

- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-23 from Oakland Touchdown 1, contract No. 04-0120L4.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15kV cables into existing cable trays and conduits shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing cable trays and conduits shown on this drawing. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All cable trays and conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Furnish and install splice cable tray as shown on sheet E-663A, Detail 7.
- Mount splice cable tray between diaphragms at Station 82+87 as shown on E-616 and secure properly. See sheet E-663, section detail 4.
- Furnish and install splice cable tray as shown on sheet E-663, plan detail 2.
- Mount splice cable tray between diaphragms at Station 82+79 as shown on E-616 and secure properly. See sheet E-663, Section detail 4.
- Cross section reference for conduit configuration.
- Extend from stub-out to splice cable tray, see Plan-Detail 7 on Sheet E-663A.

PLAN - HINGE EW
SCALE 1:75

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REVISIONS				

CONTRACT CHANGE ORDER NO. 110
SHEET 90 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
SKYWAY STRUCTURES AND OAKLAND
APPROACH STRUCTURES INTERFACE-HINGE EW
SCALE AS NOTED

E-655

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DGN FILE => 04-0120F1 E-655.dgn

REVISOR	DATE	REVISION

DESIGNED BY	SYC	FW
CHECKED BY		

DESIGN OVER: JHT
BEHZAD GOLEMOHAMMADI
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 06557	1204

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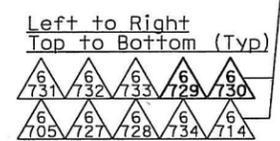
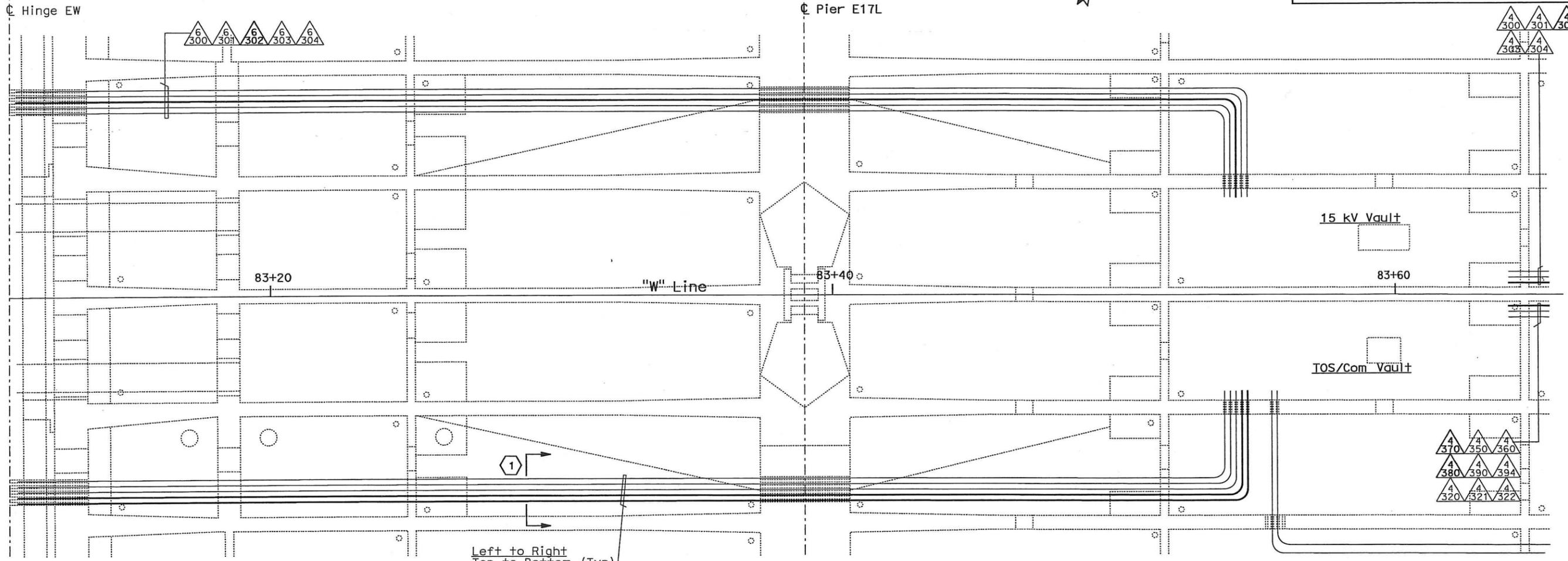
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Skyway Structures
 Contract 04-012024

Oakland Touchdown 1
 Contract 04-0120L4



PLAN - PIER E17L
SCALE 1:75

NOTES:

- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-24 from Oakland Touchdown 1, contract No. 04-0120L4.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing conduit shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing conduits shown on this drawing. See sheets E-978 through E-981.
 - Inspect for system ground continuity. See sheets E-666 and E-667.
- All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- ① Cross section reference for conduit configuration.

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CONTRACT CHANGE ORDER NO. 110
 SHEET 91 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
OAKLAND APPROACH STRUCTURES-PIER E17L
 SCALE AS NOTED

E-656

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DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
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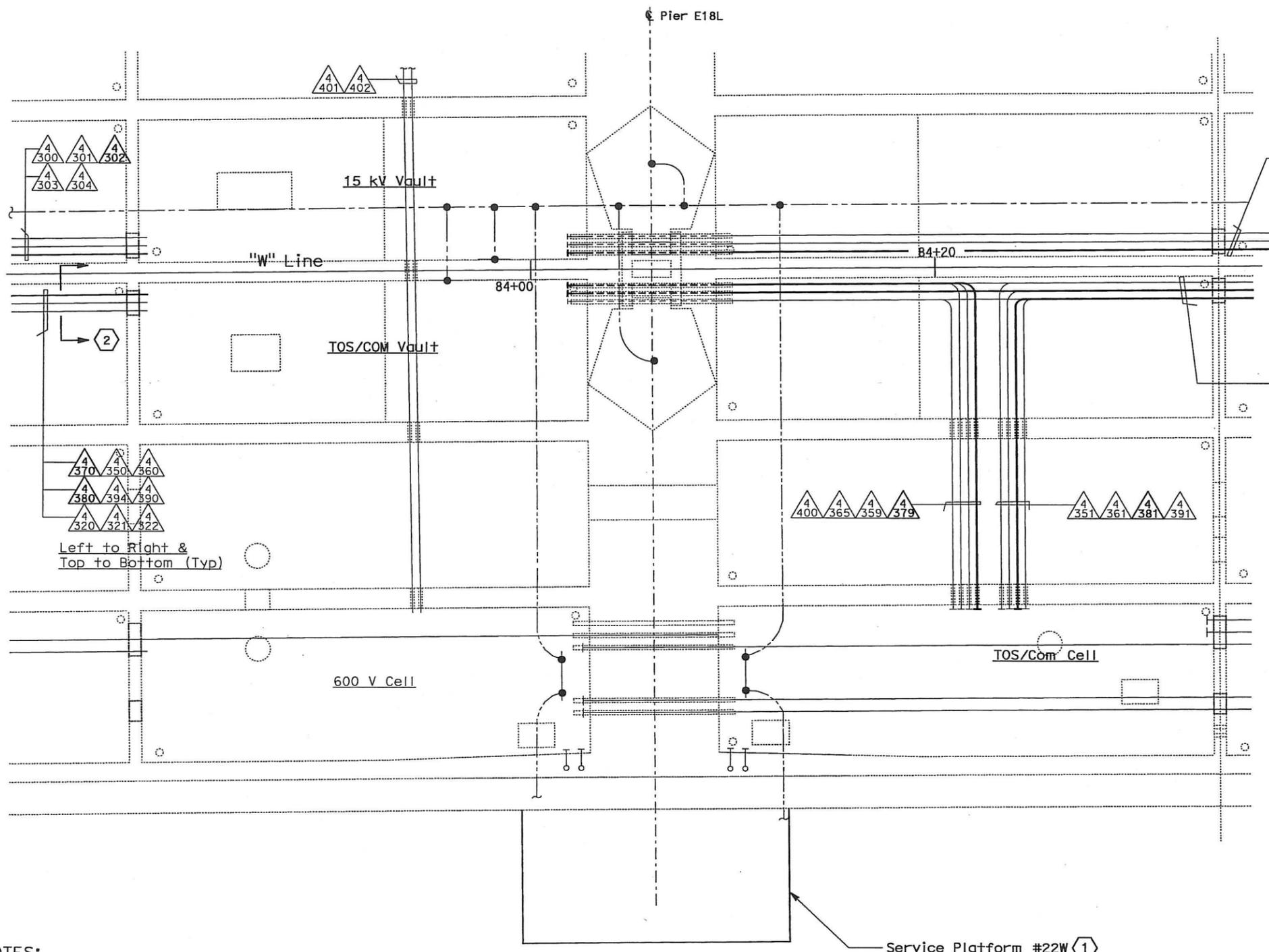
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- NOTES:**
- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-25 of Oakland Touchdown 1, contract No. 04-0120L4.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing conduit shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing conduits shown on this drawing. See sheets E-978 through E-981.
 - Inspect for system ground continuity.
 - All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

PLAN - PIER E18L
 SCALE: 1:60

- SHEET NOTES:**
- For Service Platform #22W details, see sheet E-658.
 - Cross section reference for conduit configuration.

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
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CONTRACT CHANGE ORDER NO. 110
 SHEET 92 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
OAKLAND APPROACH STRUCTURES-PIER E18L
 SCALE AS NOTED

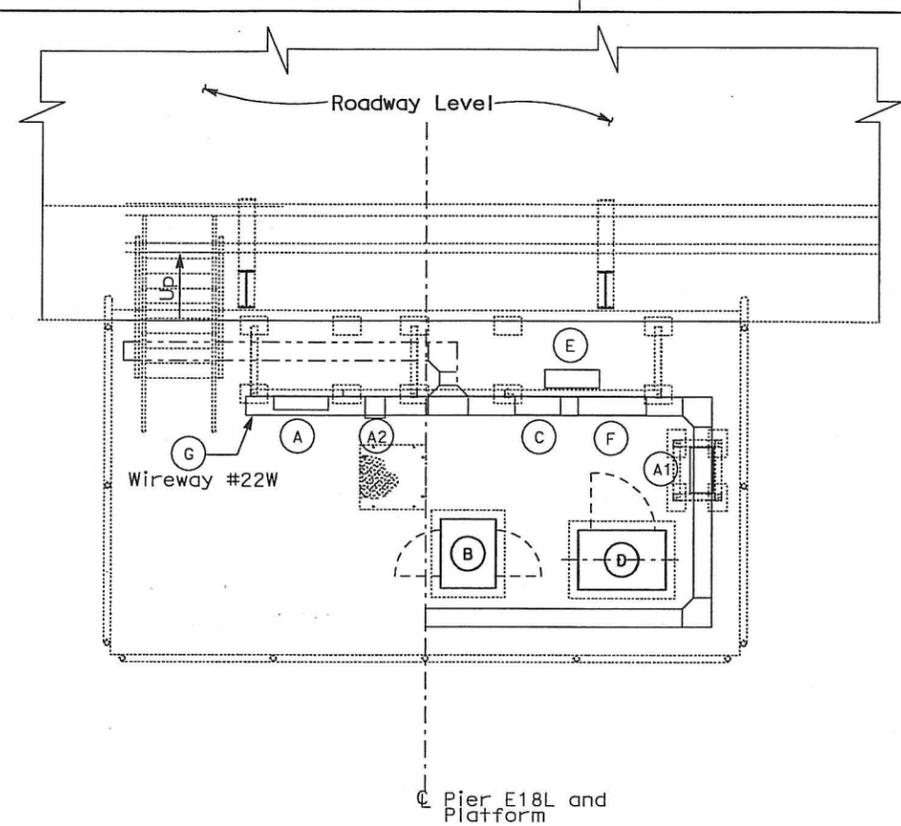
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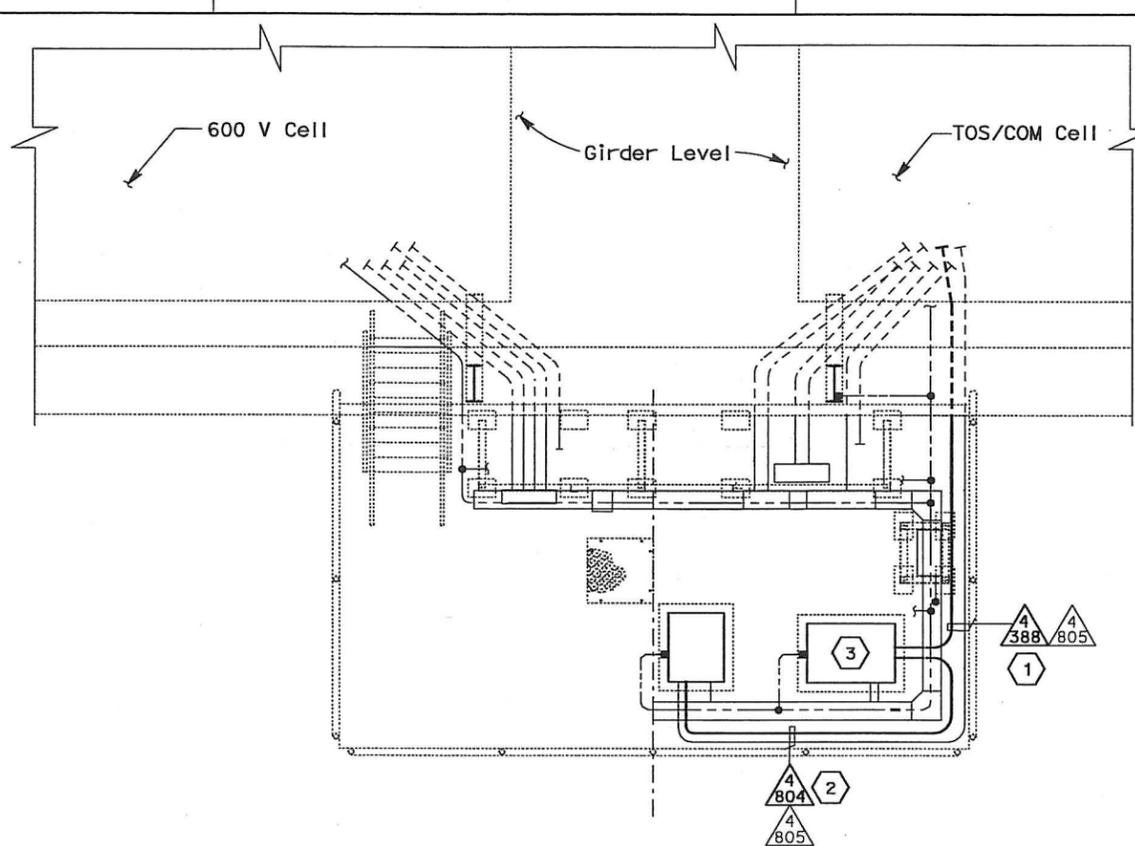
E-657

DATE PLOTTED => 06-MAY-2010 LAST REVISION

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**SERVICE PLATFORM #22W
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE 1:40



CONDUIT AND GROUNDING PLAN
 SCALE 1:40



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407d 06S59	1204

REGISTERED ELECTRICAL ENGINEER
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 05-06-2010

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NOTES:

- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-20 from Oakland Touchdown 1, contract No. 04-0120L4.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install TOS fiber optic cables into existing conduits shown on this drawing. See sheets E-978 through E-981.
- All conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Furnish and install TOS fiber optic cables into existing conduit. Pull a 72 fiber and terminate in the splice closure inside TOS Splice Cabinet. See sheets E-980, E-981, and E-982.
- Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Coil 3m of cable inside Controller Cabinet for connection by others. The coiled end of the fiber optic cables shall be terminated with mated connectors. See sheets E-972 and E-973.
- Furnish and install Fiber Splice Closure in existing TOS Splice Cabinet.

EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-171
208/120 V, 3 Phase, 4 wire (NEMA 4X)
Size: 914 H x 610 W x 152 D. (PB-8A)
- (A1) 15 KVA Transformer, 3 Phase, 4 wire
480V - 208/120 V, 60 Hz, (NEMA) 4X
Size: 762 H x 584 W x 419 D
- (A2) Enclosed molded case circuit breaker, (NEMA 4X)
Size: 506 H x 225 W x 237 D
- (B) Controller Cabinet #TOS-22WA
Size: 1625 H x 615 W x 768 D
- (C) Telephone Terminal Box #TEL-22W (PB-7C)
Size: 762 H x 508 W x 203 D
- (D) TOS splice cabinet #TOS-22WS with Fiber Splice Closure #FSC-22W inside (Refer to TOS sheet E-972)
Size: 1400 H x 980 W x 660 D
- (E) PB-2B for TOS/COM, mounted on panel rack
Size: 762 H x 610 W x 203 D
- (F) SCADA Communication Terminal Box #COM-22W (PB-7B)
Size: 762 H x 762 W x 203 D
- (G) 600 V, Wireway (NEMA 4X)
Size: 203 H x 203 W

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 93 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
OAKLAND APPROACH STRUCTURES-SERVICE PLATFORM #22W
 SCALE AS NOTED

E-658

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 DATE REVISED BY: JHT
 DATE REVISED: JHT

☉ Hinge FW

☉ Pier E20L



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF,Ala	80	12.2/14.3 0.0/4.0	407a 06S60	1204

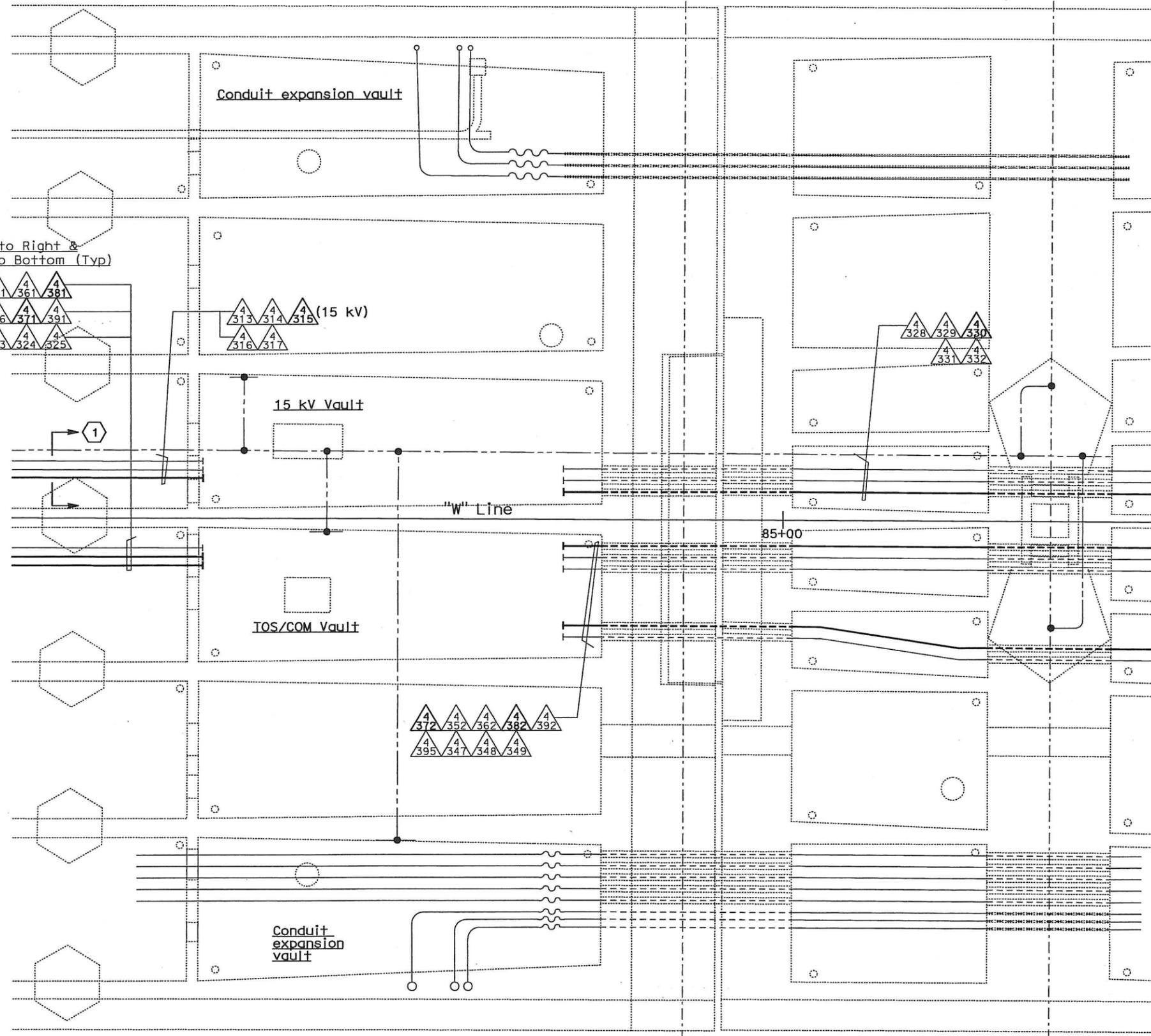
REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 No. 18186
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NOTES:

1. This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-26 from Oakland Touchdown 1, contract No. 04-0120L4.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing conduits shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing conduits shown on this drawing. See sheets E-978 through E-981.
 - Inspect for system ground continuity.
3. All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

① Cross section reference for conduit configuration.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 94 OF 290

PLAN - HINGE FW
 SCALE: 1:60

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
OAKLAND APPROACH STRUCTURES-HINGE FW
 SCALE AS NOTED

E-659

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ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

IGN F11 F = 04-0120F1 E-659.dwg

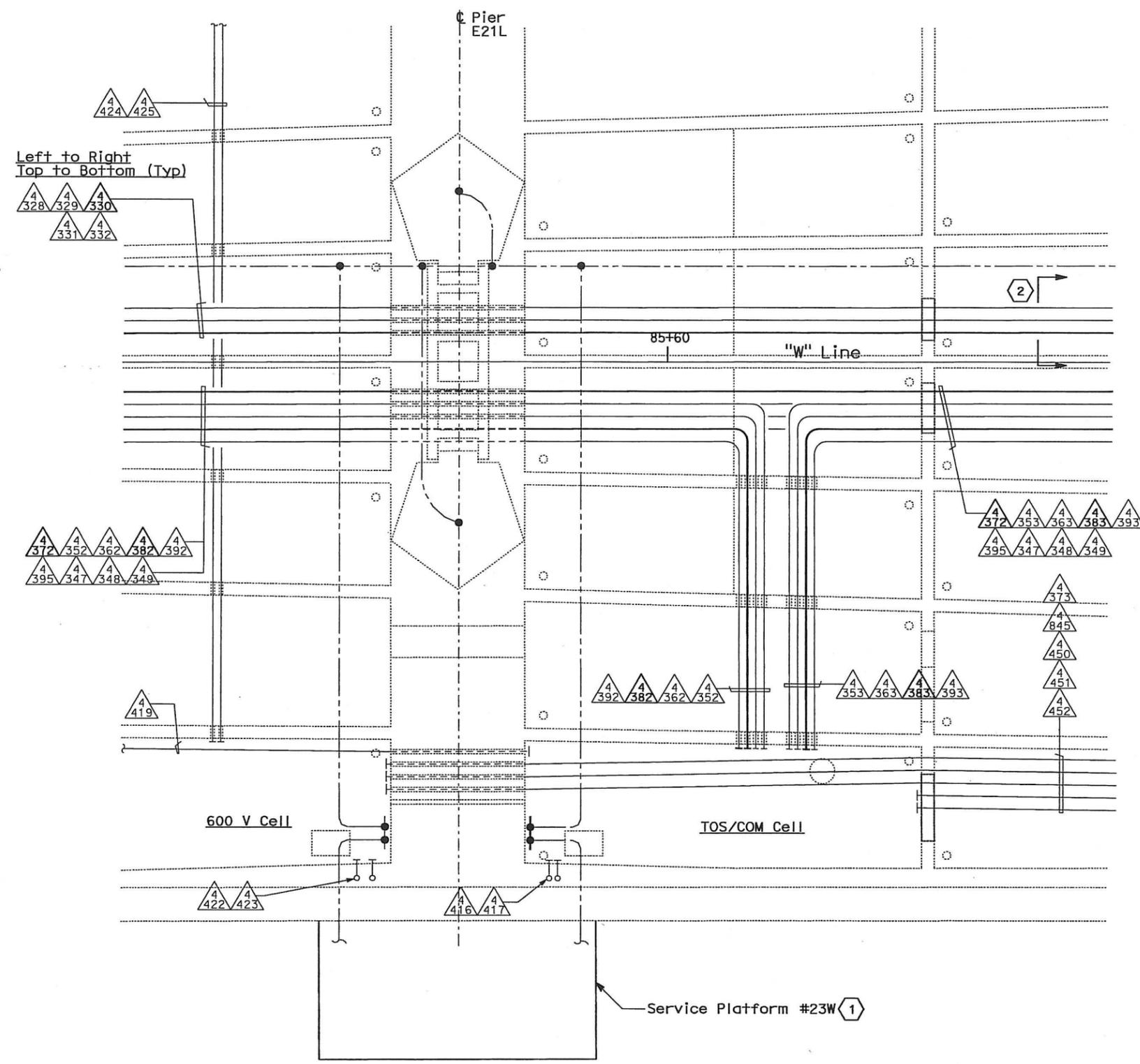
DATE PLOTTED => 06-MAY-2010

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Caltrans
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 BEHZAD GOLEMOHAMMADI
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 DATE 01/10
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 DATE 01/10
 DATE 01/10



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a 06S61	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
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NOTES:

- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-27 from Oakland Touchdown 1, contract No. 04-0120L4.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing conduit shown on this drawing. See sheets E-664 and E-665.
 - Furnish and install TOS fiber optic cables into existing conduits shown on this drawing. See sheets E-978 through E-981.
 - Inspect for system ground continuity.
- All conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #23W Details, see sheet E-661.
- Cross section reference for conduit configuration.

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 95 OF 290

PLAN - PIER E21L
 SCALE: 1:60

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
OAKLAND APPROACH STRUCTURES-PIER E21L
 SCALE AS NOTED

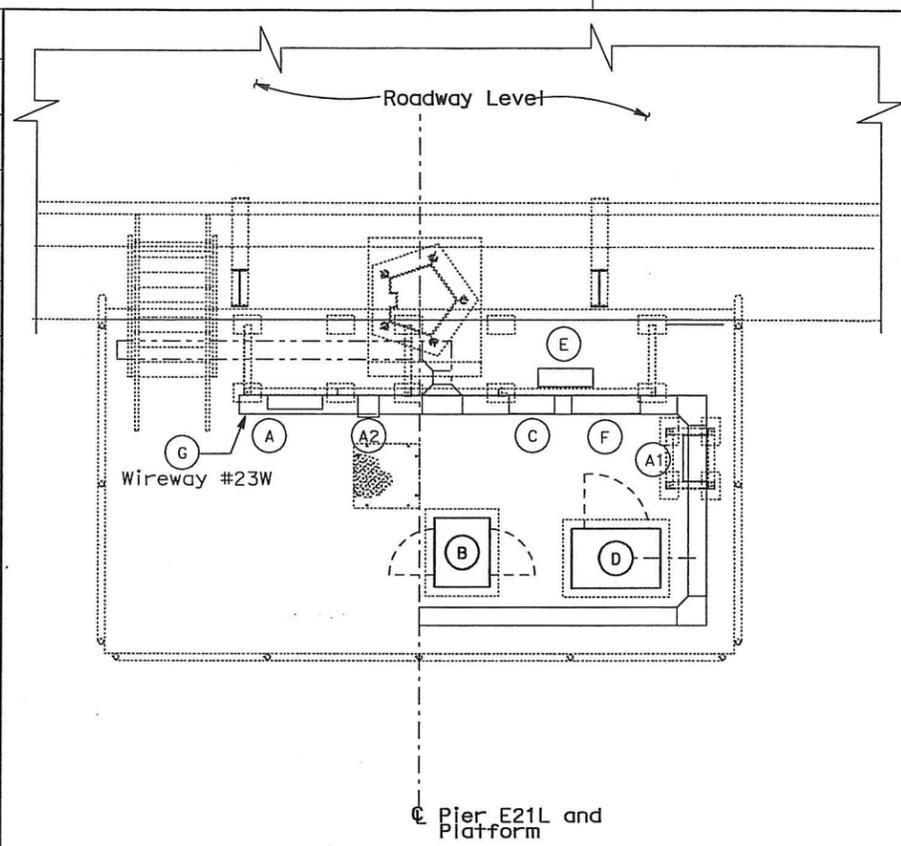
E-660

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

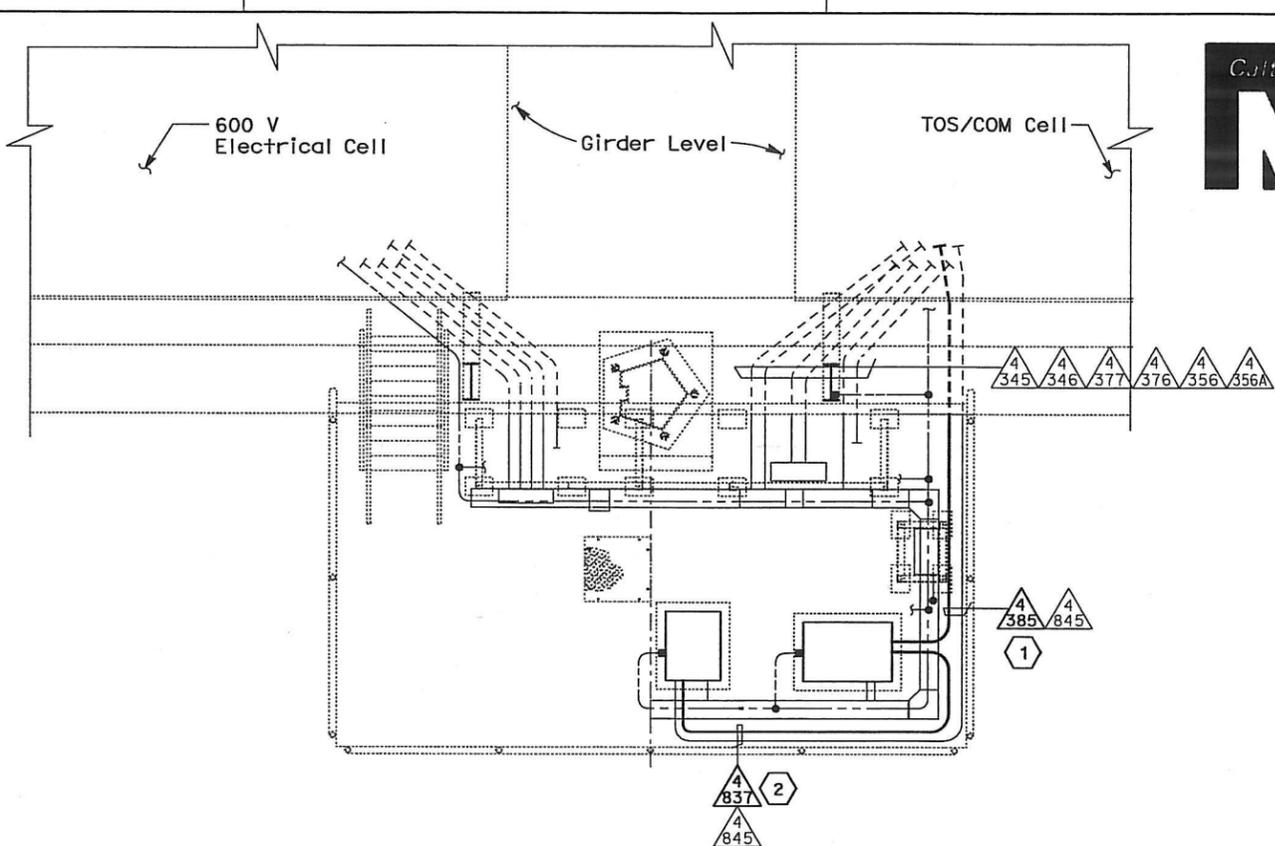
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DATE PLOTTED => 06-MAY-2010

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CHECKED BY	FW	DATE REVISOR	



EQUIPMENT ARRANGEMENT PLAN
SCALE 1:40



CONDUIT AND GROUNDING PLAN
SCALE 1:40



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
			06S62			

REGISTERED ELECTRICAL ENGINEER: **Syn Yee Chin**, DATE: 03/08/10

PLANS APPROVAL DATE: _____

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REGISTERED PROFESSIONAL ENGINEER: **SYN YEE CHIN**, No. 18186, Exp. 09/30/2011, ELECTRICAL, STATE OF CALIFORNIA

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NOTES:

- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-21 from Oakland Touchdown 1, contract No. 04-0120L4.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Westbound, typical Details sheets.
- Furnish and install TOS fiber optic cables into existing conduits shown on this drawing. See sheets E-978 through E-981.
- All conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Furnish and install (3) one inch inner duct in this conduit. Use one inner duct to pull TOS Fiber FTC from TOS/COM Cell into TOS Splice Cabinet and coil 9 m for splicing by others. Furnish and install a 72 fiber by coiling 9m of its end in TOS Splice Cabinet and pulling through another inner duct inside the same conduit heading towards TOS/COM Cell in girder then continue eastwards. The coiled ends of the fiber cable shall be terminated with mated connectors. Refer to sheets E-972 through E-980.
- Furnish and install 12 fiber optic cables from TOS Splice Cabinet to Controller Cabinet. Coil 3m of cable inside Controller Cabinet for connection by others. The coiled end of the fiber optic cables shall be terminated with mated connectors. See sheets E-972 through E-980.

EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-172, 100A
208/120 V, 3 Phase, 4 wire (NEMA 4X)
Size: 914 H x 610 W x 152 D. (PB-8A)
- (A1) 15 KVA Transformer, 3 Phase, 4 wire
480V - 208/120 V, 60 Hz, (NEMA 4X)
Size: 762 H x 584 W x 419 D
- (A2) Enclosed molded case circuit breaker, (NEMA 4X)
Size: 506 H x 225 W x 237 D
- (B) Controller Cabinet #TOS-23WA
Size: 1625 H x 615 W x 768 D
- (C) Telephone Terminal Box #TEL-23W (PB-7C)
Size: 762 H x 508 W x 203 D
- (D) TOS splice cabinet #TOS-23WS
Size: 1400 H x 980 W x 660 D
- (E) PB-2B for TOS/COM, mounted on panel rack
Size: 762 H x 610 W x 203 D
- (F) SCADA Communication Terminal Box #COM-23W (PB-7B)
Size: 762 H x 762 W x 203 D
- (G) 600V, Wireway #23W (NEMA 4X)
Size: 203 H x 203 W

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REVISIONS					

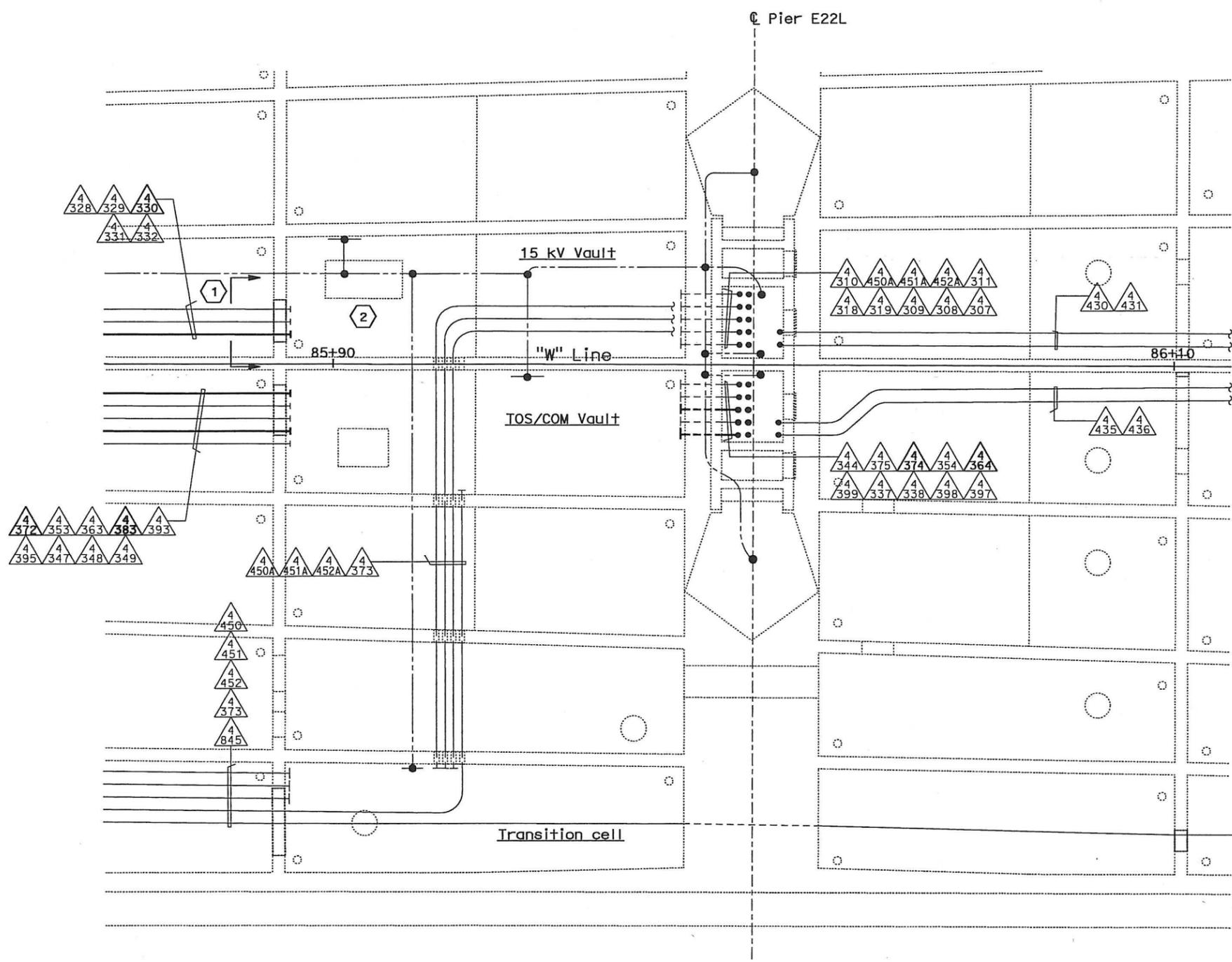
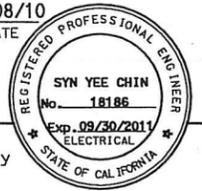
CONTRACT CHANGE ORDER NO. 110
SHEET 96 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
OAKLAND APPROACH STRUCTURES-SERVICE PLATFORM #23W
SCALE AS NOTED

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Caltrans
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 DATE 01/10
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 DATE REVISED: [blank]



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 06S63	1204
SYN YEE CHIN			03/08/10	REGISTERED ELECTRICAL ENGINEER DATE	
PLANS APPROVAL DATE			05-06-2010		
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 06S64	1204

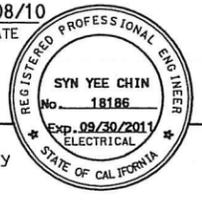
SYN YEE CHIN 03/08/10
REGISTERED ELECTRICAL ENGINEER DATE

PLANS APPROVAL DATE

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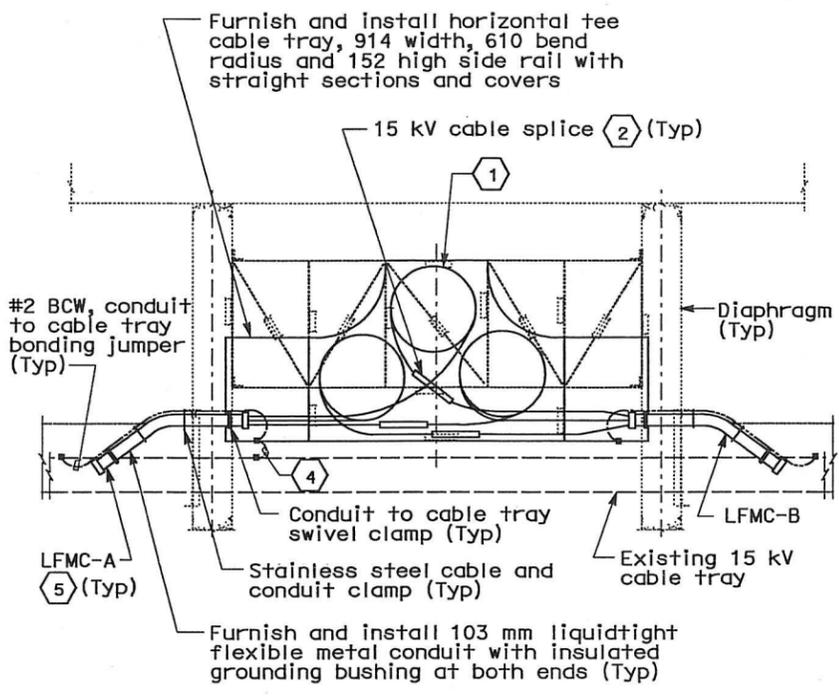
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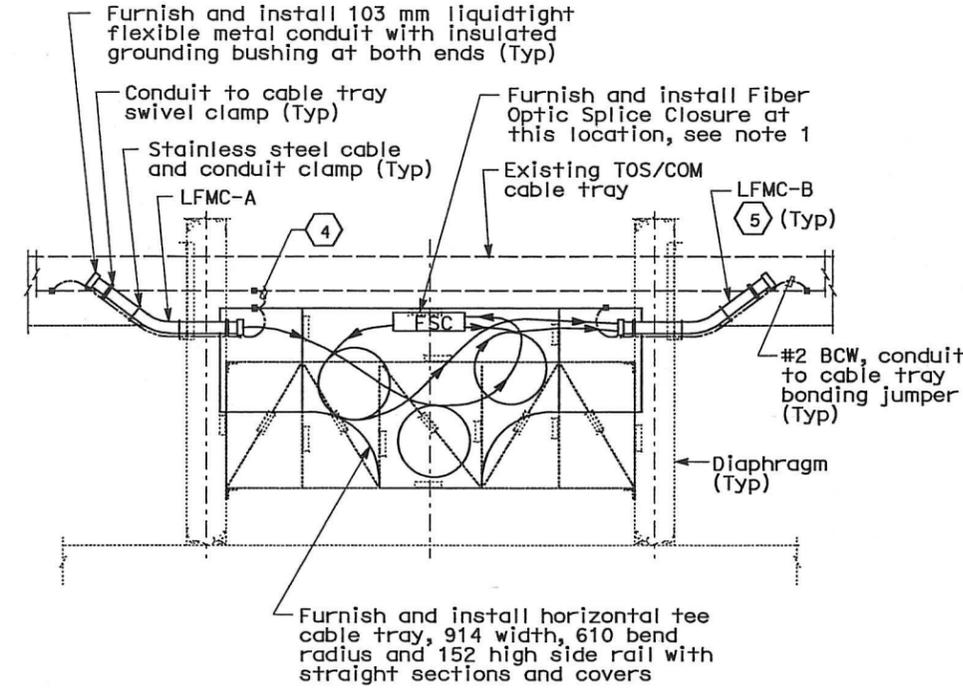


NOTES:
1. For fiber optic splice detail, see sheet E-972.

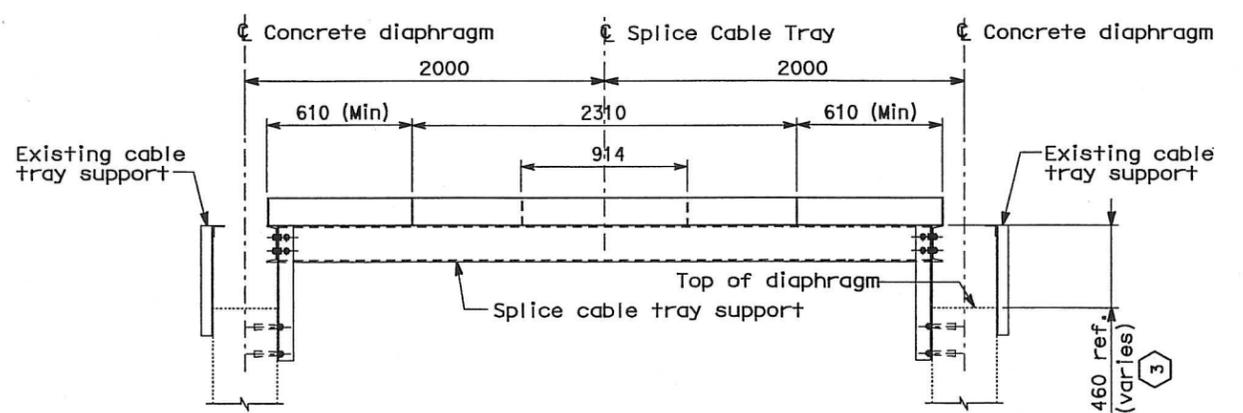
- SHEET NOTES:
- ① Minimum cable bend radius shall be 12 times the diameter of the cable. Provide 6.5 meter cable slack per phase. For shield grounding see sheet E-663A, Detail 6.
 - ② The 15 kV cable splice shall not project above the cable tray side rails. Locate splice at near mid-point of coiled cable.
 - ③ Contractor to verify dimensions and make adjustment to the support to suit field condition as required.
 - ④ Cable tray bonding jumper assembly shall be Cooper B-Line Catalog #99-40 or approved equal. Mounting hardware shall be hot dipped galvanized steel, ribbed neck carriage bolt, serrated flange hex nut, flat and lock washers.
 - ⑤ See Table A for conduit location and designation number.



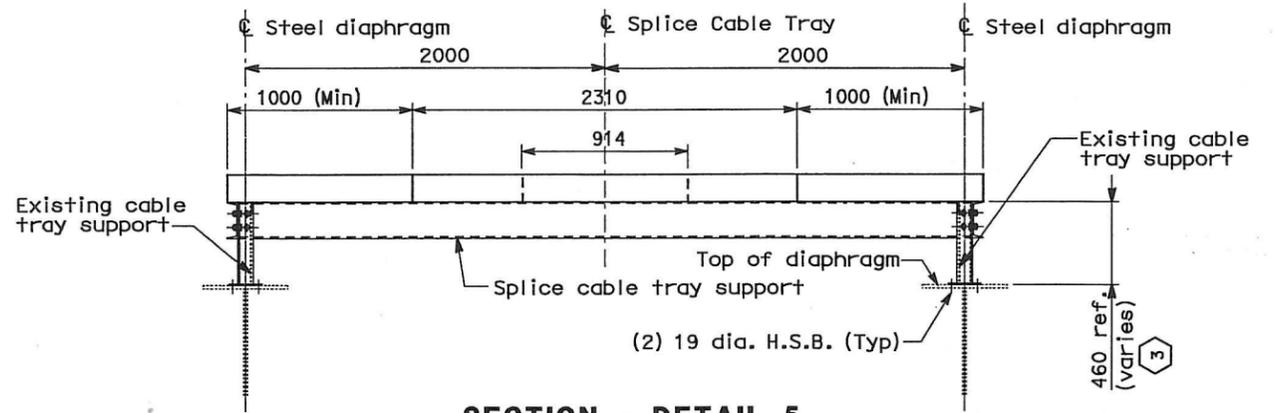
PLAN - DETAIL 1
15 kV Splice Cable Tray installation between diaphragms



PLAN - DETAIL 2
TOS/COM Splice Cable Tray installation between diaphragms



SECTION - DETAIL 4
Splice Cable Tray Support on Concrete Diaphragms
Refer to AS-20 for structural details



SECTION - DETAIL 5
Splice Cable Tray Support on T-Stiffener Diaphragms
Refer to AS-21 for structural details

TABLE A		
15 kV Splice Cable Tray Conduit Schedule		
Location	LFMC-A	LFMC-B
Sta 62 + 38 (Hinge AW)	6502A	6502B
Sta 68 + 58 (Hinge BW)	6530A	6530B
Sta 74 + 95 (Hinge CW)	6586A	6586B
Sta 80 + 91 (Hinge DW)	6642A	6642B
Sta 82 + 87 (Hinge EW)	6936	-
TOS/COM Splice Cable Tray Conduit Schedule		
Location	LFMC-A	LFMC-B
Sta 62 + 38 (Hinge AW)	6523A	6523B
Sta 62 + 50 (Hinge AW)	6523C	6523D
Sta 63 + 07 (Service Platform #9W)	4852A	4852B
Sta 64 + 67 (Service Platform #10W)	4862A	4862B
Sta 66 + 27 (Service Platform #11W)	4872A	4872B
Sta 67 + 91 (Service Platform #12W)	4881A	4881B
Sta 69 + 47 (Service Platform #13W)	4982A	4982B
Sta 72 + 67 (Service Platform #15W)	4912A	4912B
Sta 74 + 31 (Service Platform #16W)	4922A	4922B
Sta 75 + 86 (Service Platform #17W)	4931A	4931B
Sta 77 + 47 (Service Platform #18W)	4942A	4942B
Sta 80 + 39 (Service Platform #20W)	4962A	4962B
Sta 81 + 55 (Service Platform #21W)	4972A	4972B
Sta 82 + 79 (Hinge EW)	6973A	6973B
Sta 82 + 87 (Hinge EW)	6972A	6972B

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		REVISIONS		

CONTRACT CHANGE ORDER NO. 110
SHEET 98 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
GIRDER TYPICAL DETAILS
NO SCALE



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
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REGISTERED ELECTRICAL ENGINEER DATE

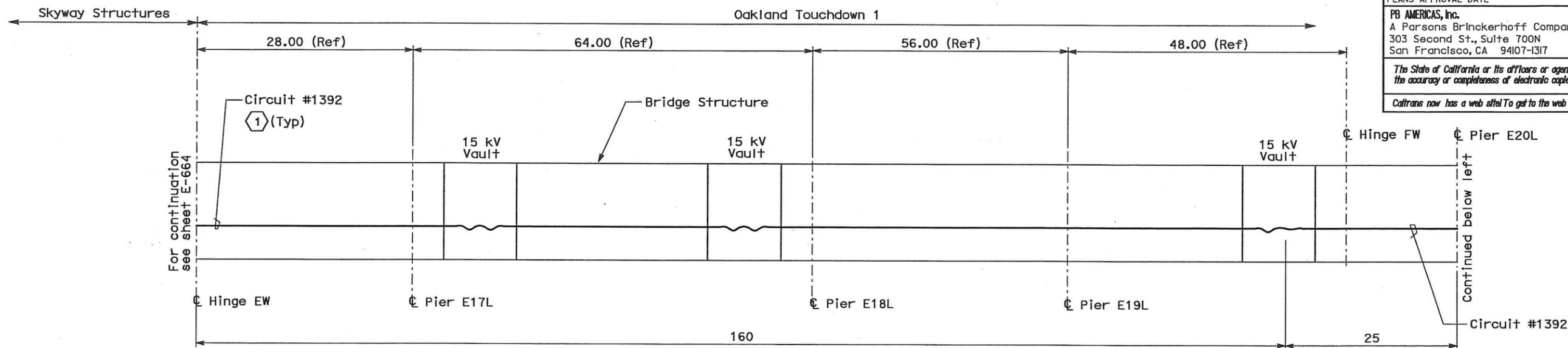
REGISTERED PROFESSIONAL ENGINEER
FADI WALIEDDINE
No. 11465
Exp. 12/31/2009
ELECTRICAL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

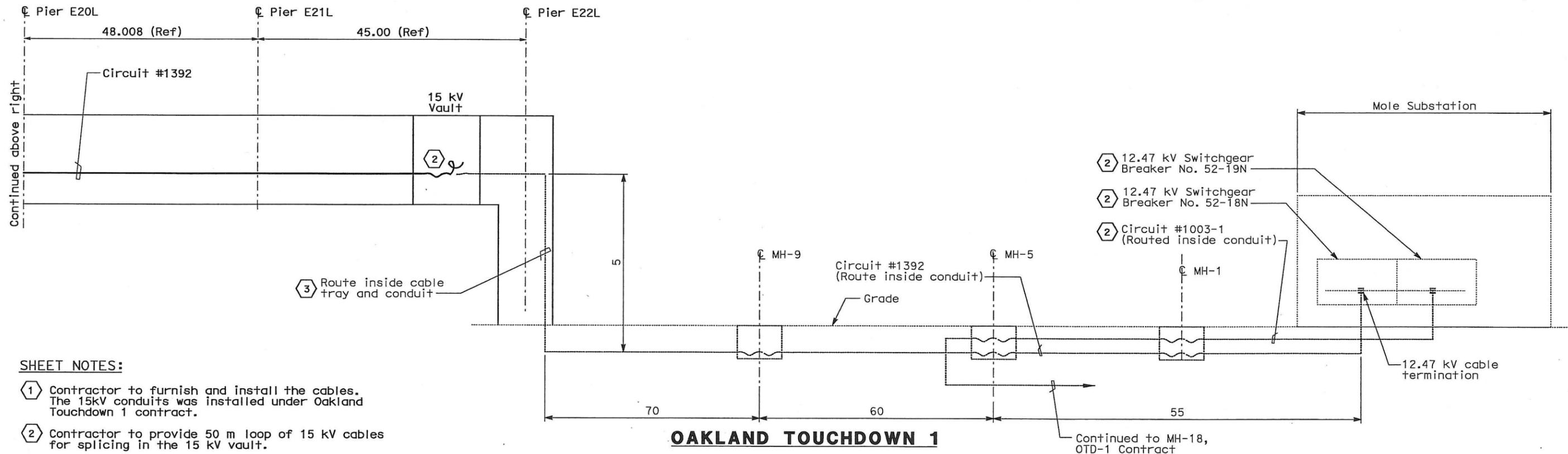
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OAKLAND TOUCHDOWN 1



OAKLAND TOUCHDOWN 1

SHEET NOTES:

- 1 Contractor to furnish and install the cables. The 15kV conduits was installed under Oakland Touchdown 1 contract.
- 2 Contractor to provide 50 m loop of 15 kV cables for splicing in the 15 kV vault.
- 3 Cables to be furnished and installed by others.

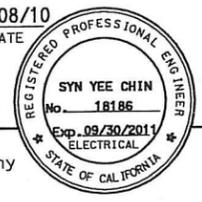
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
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CONTRACT CHANGE ORDER NO. 110
SHEET 101 OF 290

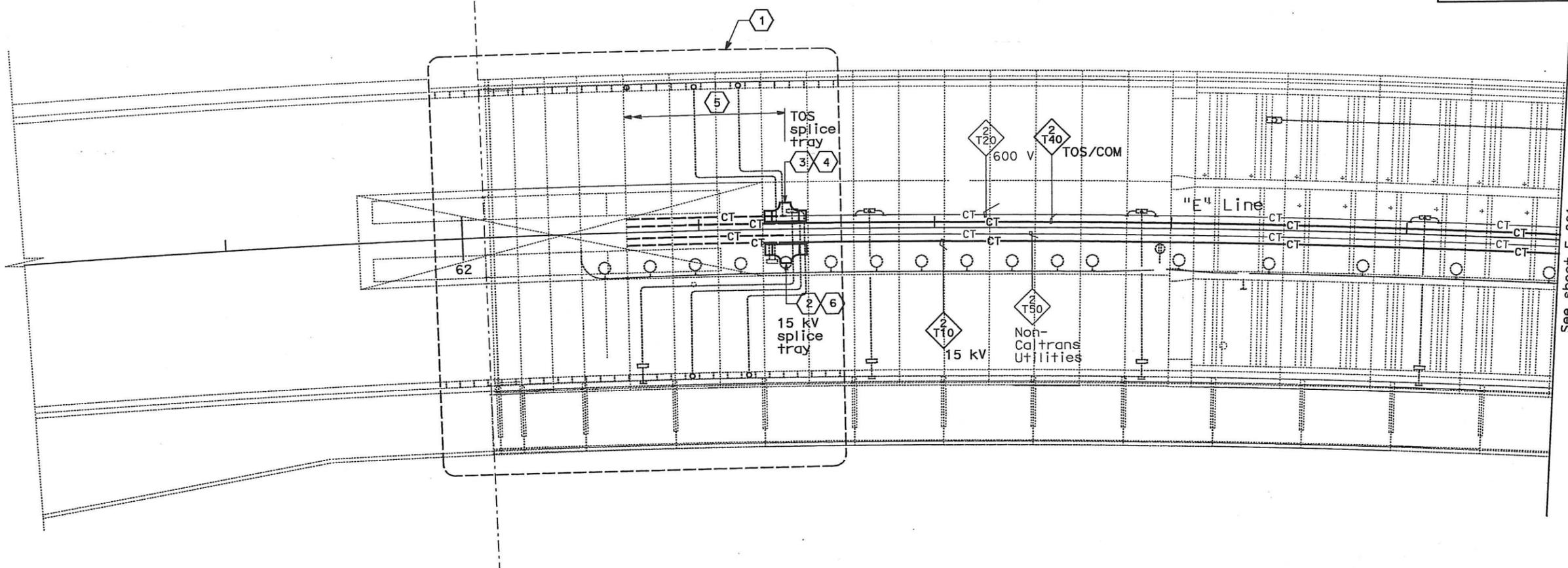
DETAILS
BRIDGE STRUCTURES GIRDER WESTBOUND
OAKLAND APPROACH STRUCTURES WB-15 kV RISER DIAGRAM
NO SCALE



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alq	80	12.2/14.3	0.0/4.0	407a	1204
					03/08/10	
REGISTERED ELECTRICAL ENGINEER					DATE	
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Hinge AE
 ← SAS Superstructure Contract 04-0120F4 →
 ← Skyway Structures Contract 04-012024 →



CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-81 of Skyway Structures Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays shown on this drawing are existing, unless otherwise noted. Bold ones are to be used for pulling cable. See sheet note 5.

SHEET NOTES:

- For Hinge AE area details, see sheet E-819.
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 1.
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.
- Contractor to evaluate possibility of eliminating this TOS splice at this location to meet overall design intent. Refer to TOS drawings for further details.
- Contractor to complete the installation of 15 kV, Non-Caltrans Utilities, TOS, and 600 V cable trays to facilitate installations of cables.
- Contractor shall splice 15 kV cable to make tie-in to 15 kV cable in SAS Superstructure.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
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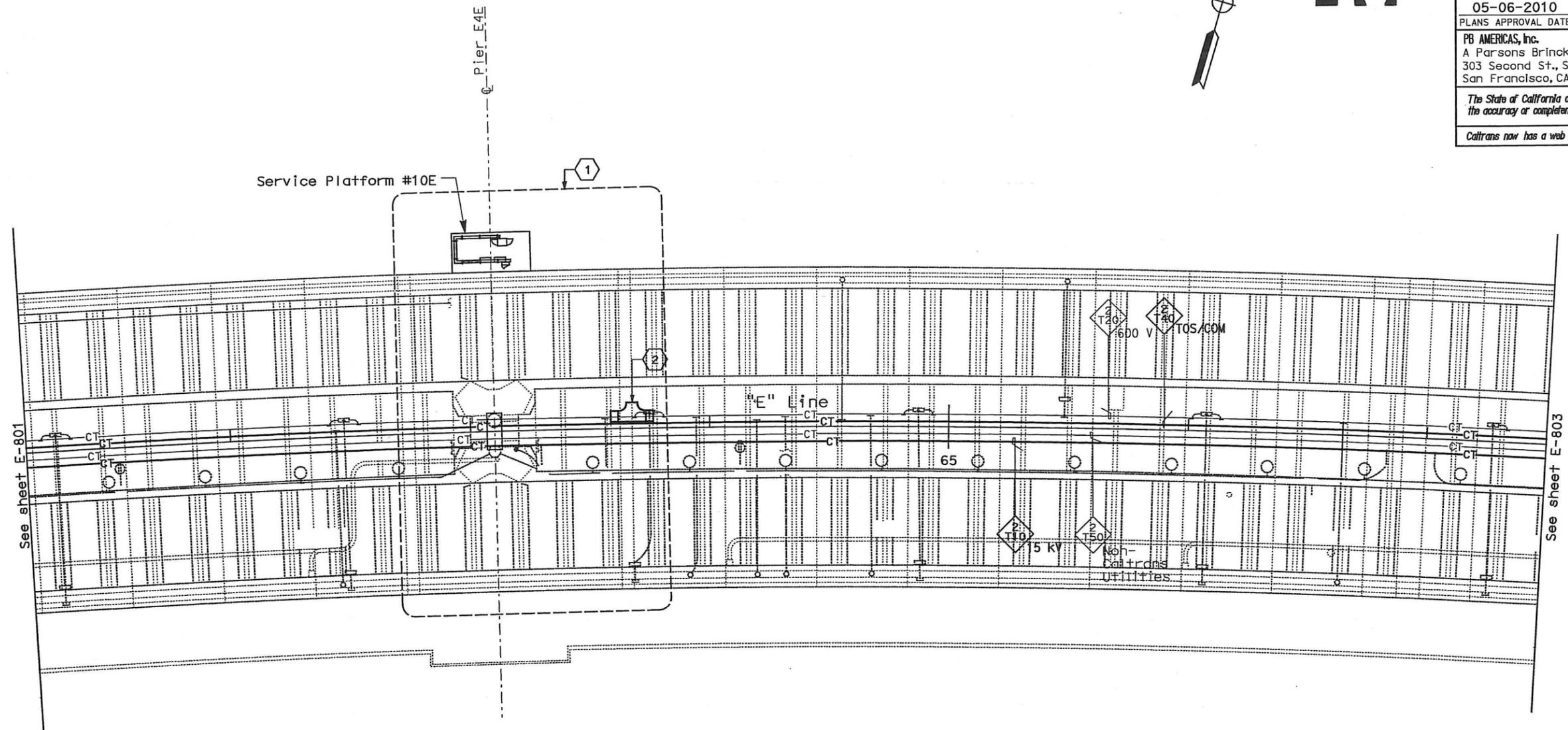
CONTRACT CHANGE ORDER NO. 110
 SHEET 104 OF 290

**BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

E-800



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 08S03	1204
REGISTERED ELECTRICAL ENGINEER SYN YEE CHIN 03/08/10 DATE			REGISTERED PROFESSIONAL ENGINEER SYN YEE CHIN No. 18186 Exp. 09/30/2011 ELECTRICAL STATE OF CALIFORNIA		
PLANS APPROVAL DATE 05-06-2010					
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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-83 of Skyway Structures Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #10E details, see sheet E-821.
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.

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 SHEET 106 OF 290

**BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES**

SCALE: 1:200

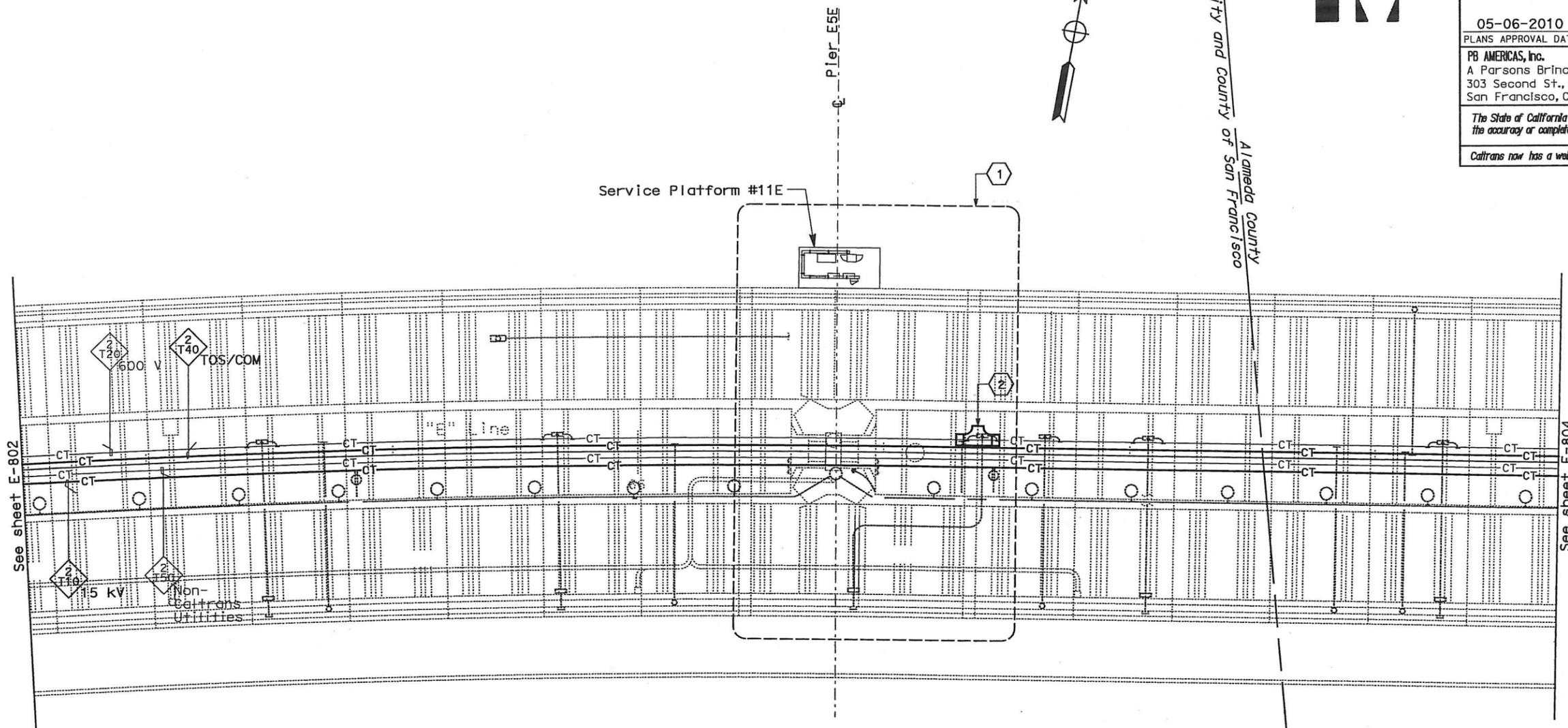
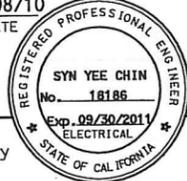
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BEHZAD GOLEHAMMADI		
CHECKED BY	DATE	
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DATE REVISOR DATE
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04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 08504	1204
REGISTERED ELECTRICAL ENGINEER		DATE			
SYN YEE CHIN		03/08/10			
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CONDUIT AND CABLE TRAY PLAN

NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-84 of Skyway Structures Contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
3. All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For Service Platform #11E details, see sheet E-822.
- 2 Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.

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CONTRACT CHANGE ORDER NO. 110
 SHEET 107 OF 290

**BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES**

SCALE: 1:200

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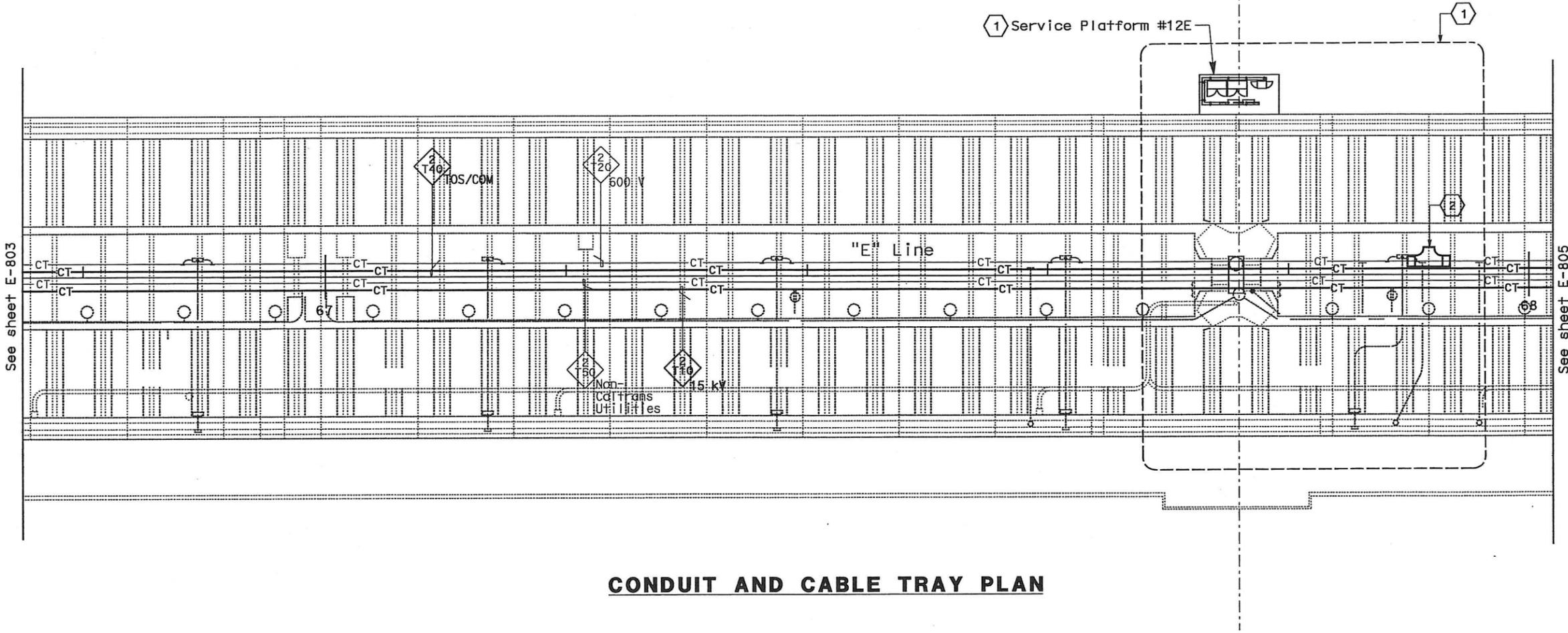
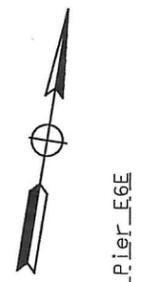
Registered Electrical Engineer
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-85 of Skyway Structures Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #12E details, see sheet E-823.
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
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REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 108 OF 290

**BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES**

SCALE: 1:200

E-804

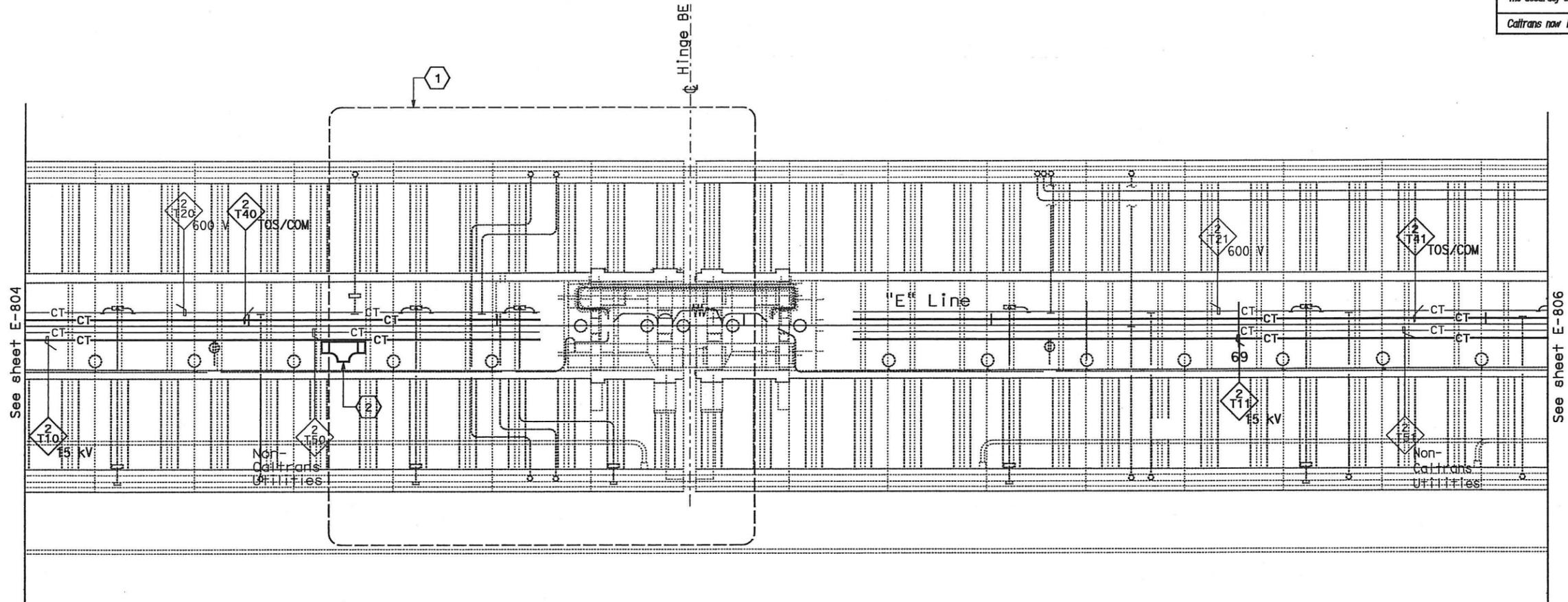
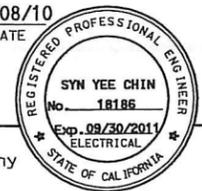
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DATE PLOTTED = 03-MAY-2010 LAST REVISION



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 08S06	1204
REGISTERED ELECTRICAL ENGINEER <i>Syn Yee Chin</i> 03/08/10 DATE					
PLANS APPROVAL DATE 05-06-2010					
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-86 of Skyway Structures Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Hinge BE area details, see sheet E-823A.
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 1.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 109 OF 290

**BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

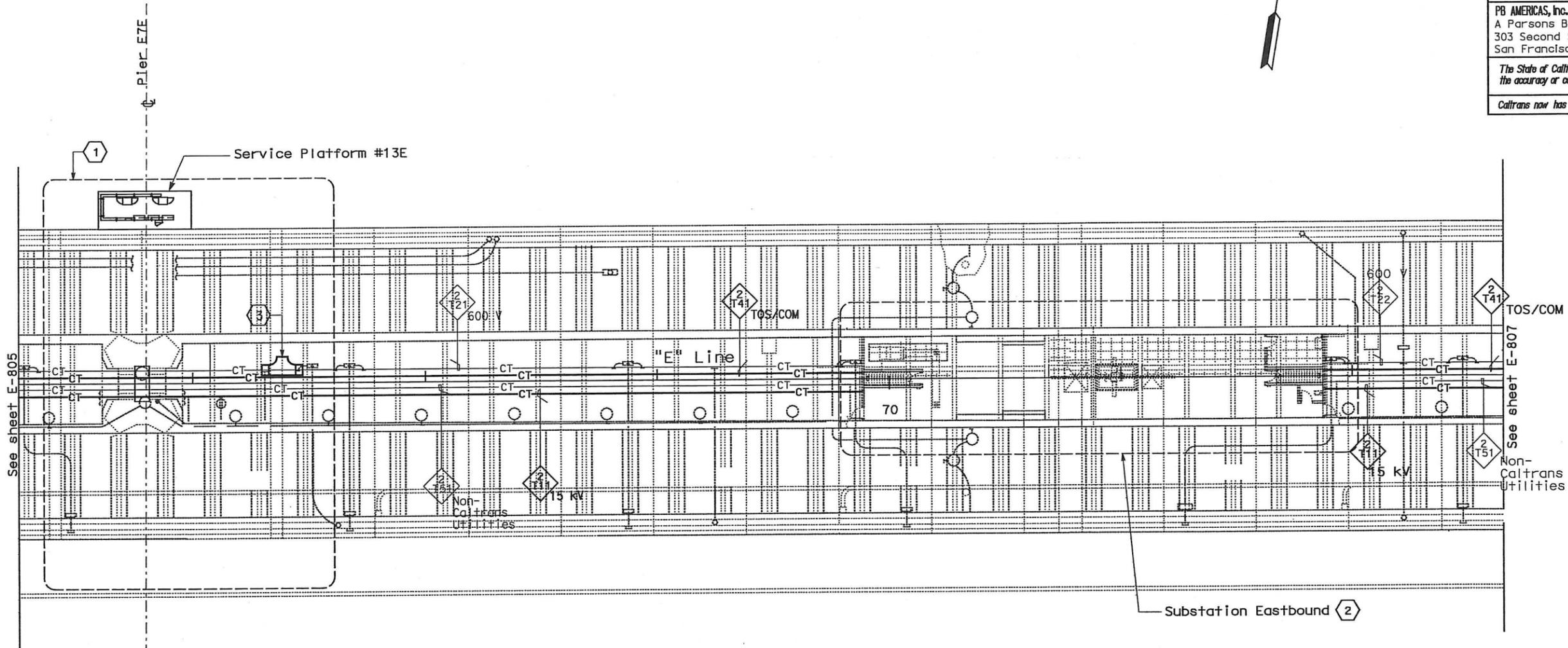
E-805

LAST REVISION DATE BY REASON 05-11-10 09-11-10

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 08507	1204
REGISTERED ELECTRICAL ENGINEER SYN YEE CHIN DATE 03/08/10			REGISTERED PROFESSIONAL ENGINEER SYN YEE CHIN No. 18186 Exp. 09/30/2011 ELECTRICAL STATE OF CALIFORNIA		
PLANS APPROVAL DATE 05-06-2010					
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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DATE REVISION	DATE REVISION	DATE REVISION	DATE REVISION	DATE REVISION	DATE REVISION
0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0
SYC	FW	SYC	FW	SYC	FW
CALCULATED/DESIGNED BY	CHECKED BY	CALCULATED/DESIGNED BY	CHECKED BY	CALCULATED/DESIGNED BY	CHECKED BY
BEHZAD GOLEHAMMADI		BEHZAD GOLEHAMMADI		BEHZAD GOLEHAMMADI	
DESIGN OVERSIGHT					
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION					



CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-87 of Skyway Structures Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #13E details, see sheet E-824.
- For Substation Eastbound details, see sheet E-826.
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
SHEET 110 OF 290

BRIDGE STRUCTURES GIRDER EASTBOUND SKYWAY STRUCTURES

SCALE: 1:200

E-806

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IGN F11F =>04-0120F1 F-806.dwg

DATE PLOTTED => 05-MAY-2010

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 DESIGN OVERSIGHT
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 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISED BY
 DATE REVISED

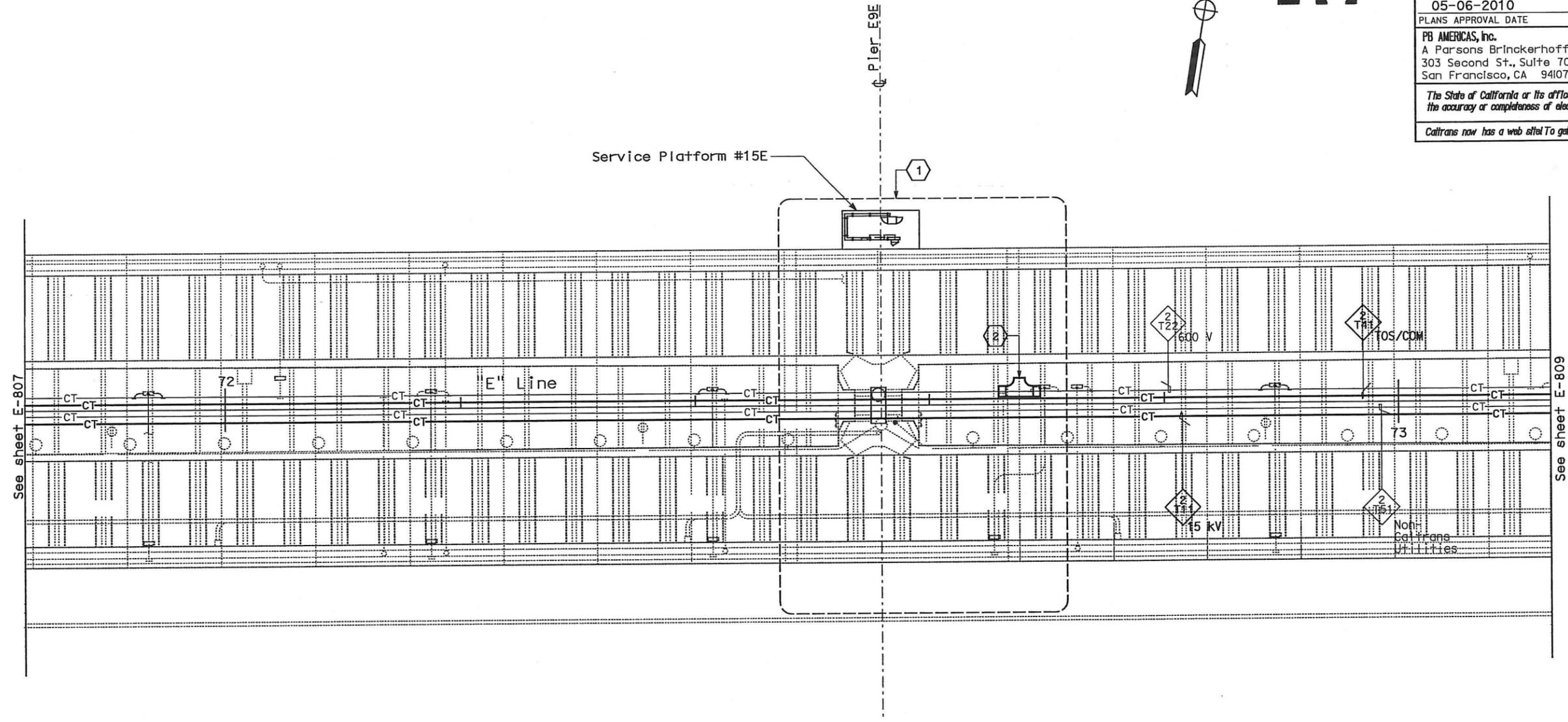
DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407d	1204
			08S09			

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-89 of Skyway Structures Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #15E details, see sheet E-828.
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 112 OF 290

BRIDGE STRUCTURES GIRDER EASTBOUND SKYWAY STRUCTURES

SCALE: 1:200

E-808

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ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DGN FILE =>04-0120F1 E-808.dgn

LAST REVISION DATE PLOTTED BY 09-11-10-09-00

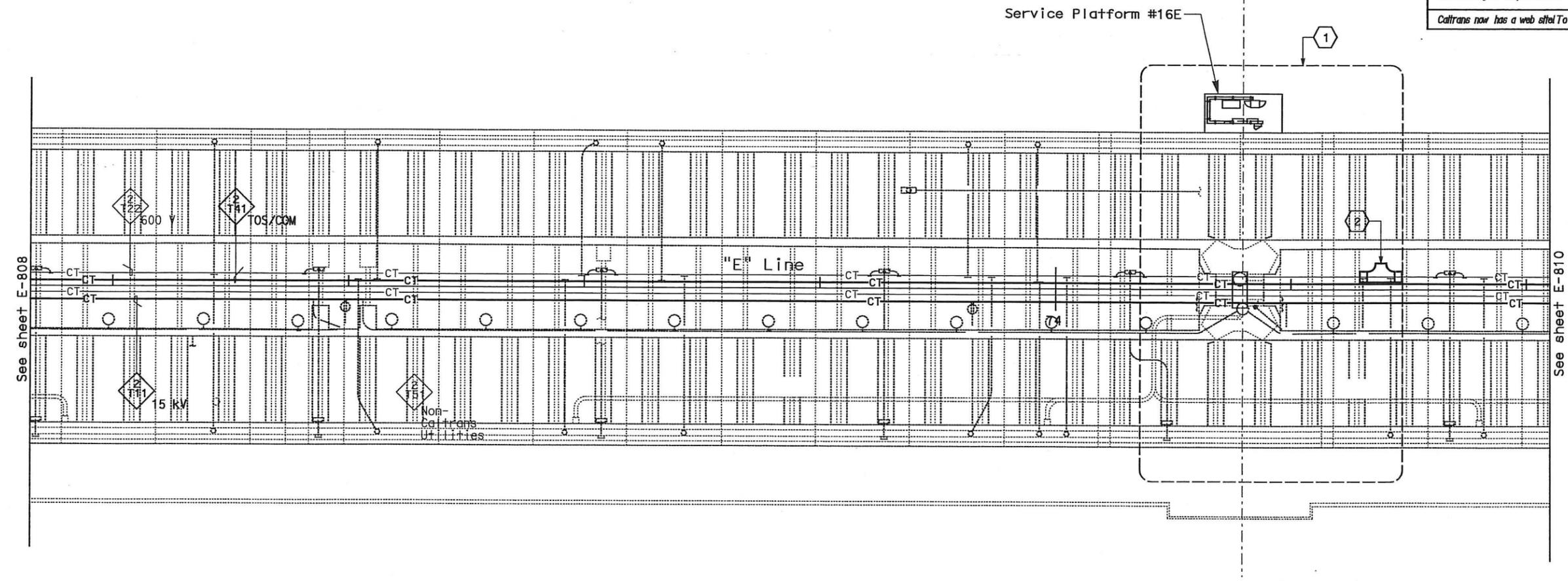
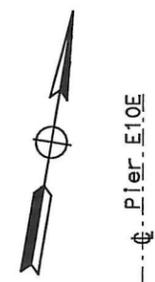
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 08S10	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-90 of Skyway Structures Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #16E details, see sheet E-829.
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE			
△	03/08/10	MEP INTEGRATION	SYC FW 110
MARK	DATE	DESCRIPTIONS	BY CH'D CCO#
REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 113 OF 290

BRIDGE STRUCTURES GIRDER EASTBOUND SKYWAY STRUCTURES

SCALE: 1:200

E-809

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN OVERSIGHT

BEHZAD GOLENOHAMMADI

CALCULATED/DESIGNED BY	DATE	REVISOR
CHECKED BY	DATE	DATE

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LAST REVISION DATE PLOTTED => 06-MAY-2010

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DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 03/08/10
 DATE

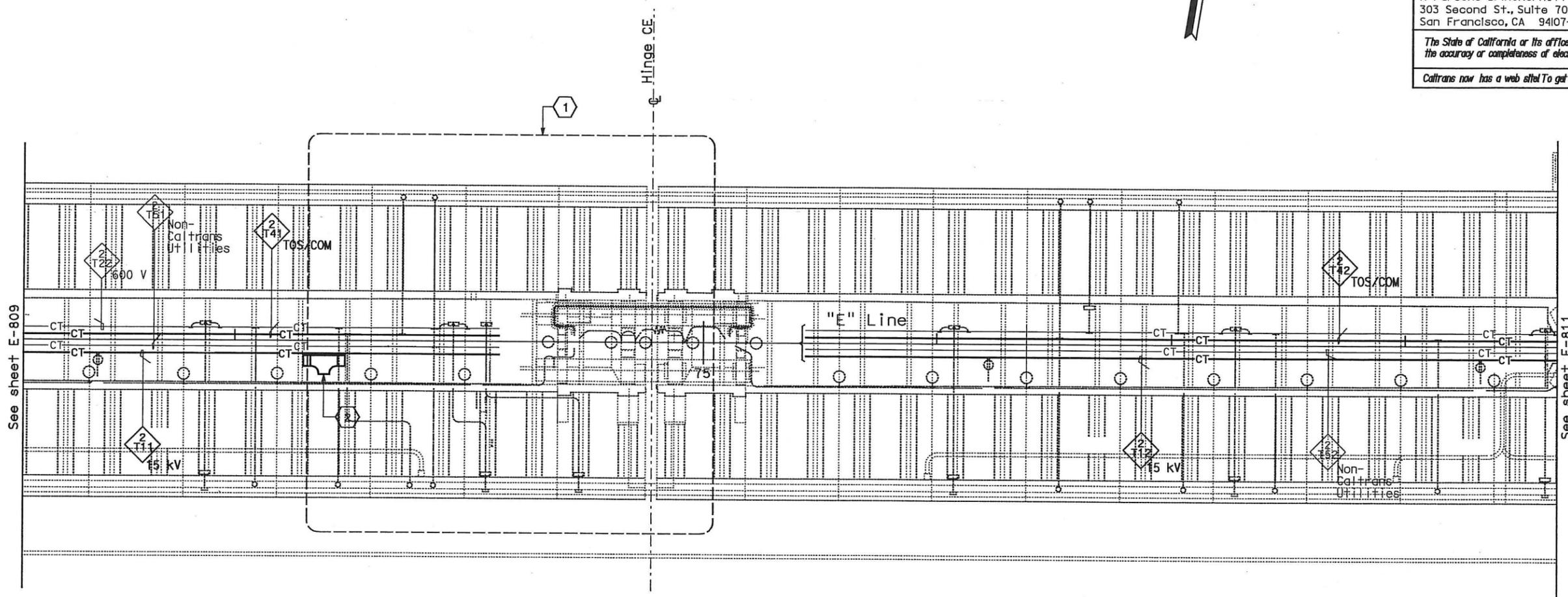
PLANS APPROVAL DATE
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 San Francisco, CA 94107-1317

REGISTERED PROFESSIONAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA

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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-91 of Skyway Structures Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Hinge CE area details, see sheet E-829A.
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 1.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 114 OF 290

**BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

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E-810

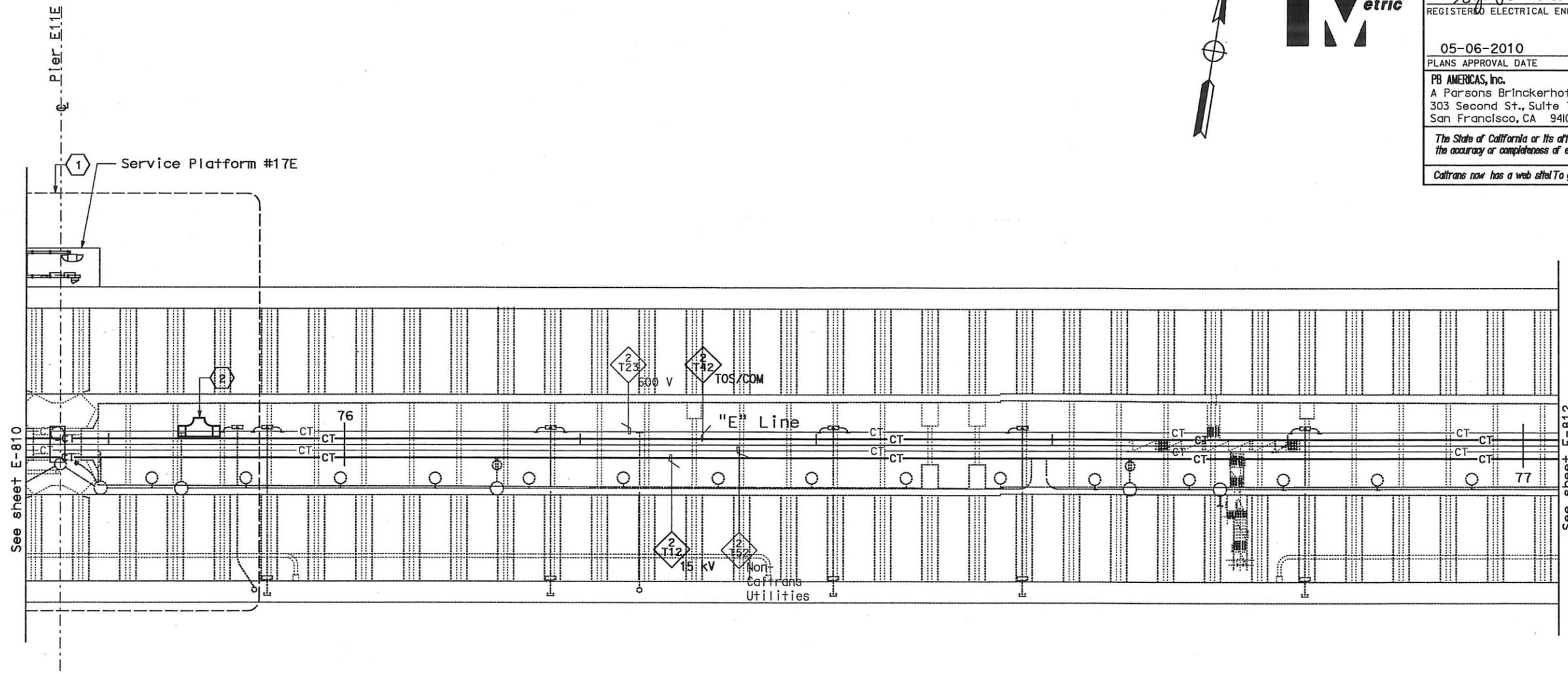
DATE PLOTTED => 06-MAY-2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVE. GHT
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 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISED BY
 DATE REVISED BY



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 08512	1204

Registered Electrical Engineer: *Syn Yee Chin*
 DATE: 03/08/10
 PLANS APPROVAL DATE: 05-06-2010
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 San Francisco, CA 94107-1317
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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-92 of Skyway Structures Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #17E details, see sheet E-830.
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 115 OF 290

**BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

E-811

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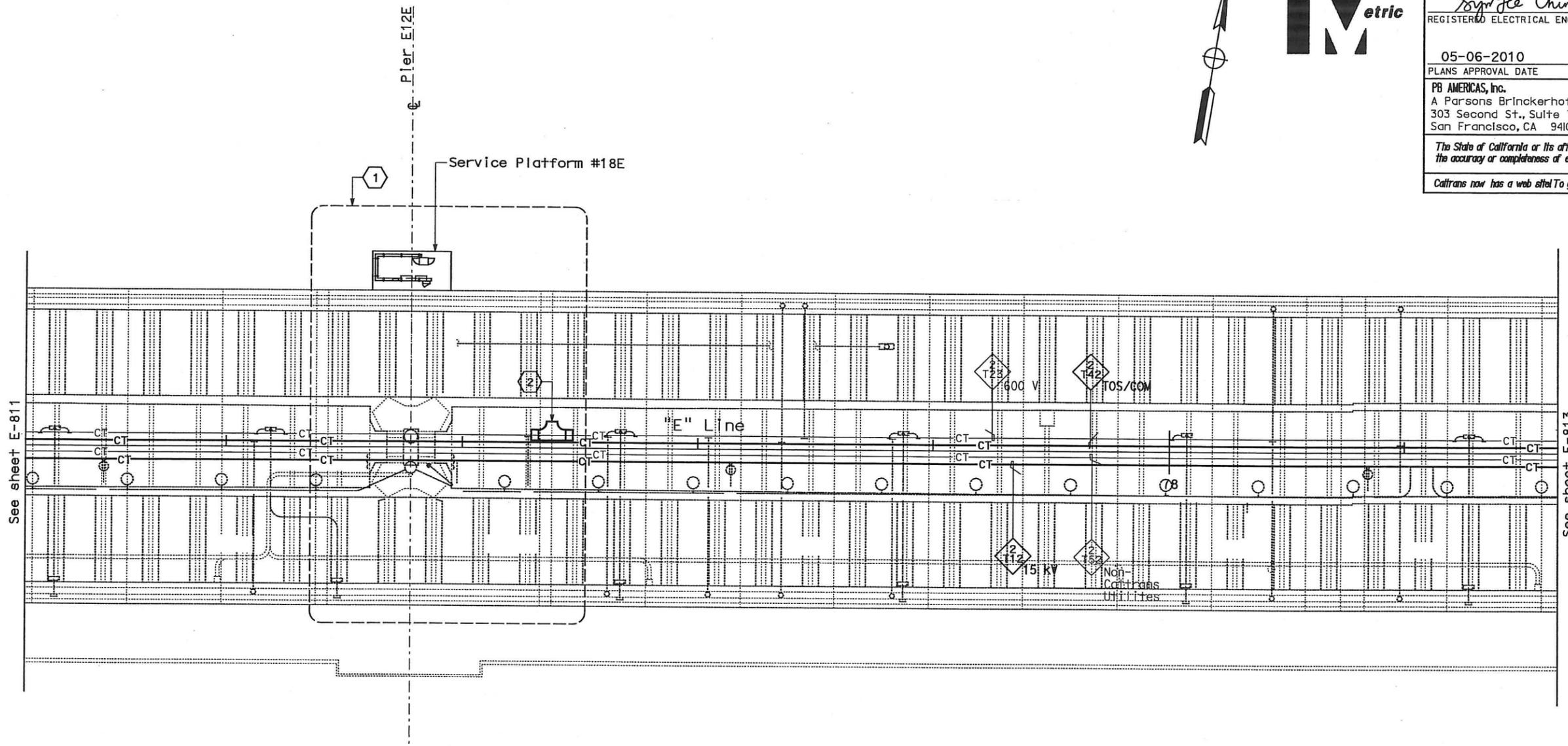
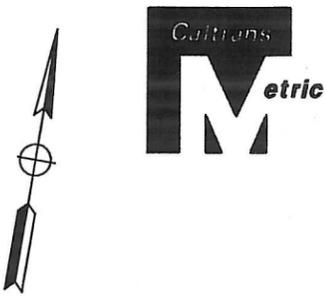
LDGN F11E =>04-0120f1 E-811.dgn

DATE PLOTTED = 05-06-MAY-2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE 01/10
 DATE 01/10
 REVISED BY
 DATE REVISED

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407 of 08513	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
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CONDUIT AND CABLE TRAY PLAN

NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-93 from the Skyway Structures, contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
3. All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- 1 For Service Platform #18E details, see sheet E-831.
- 2 Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
03/08/10	MEP INTEGRATION	SYC	FW	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 116 OF 290

**BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

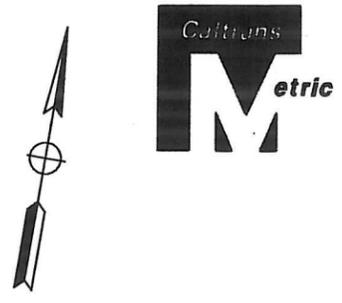
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E-812

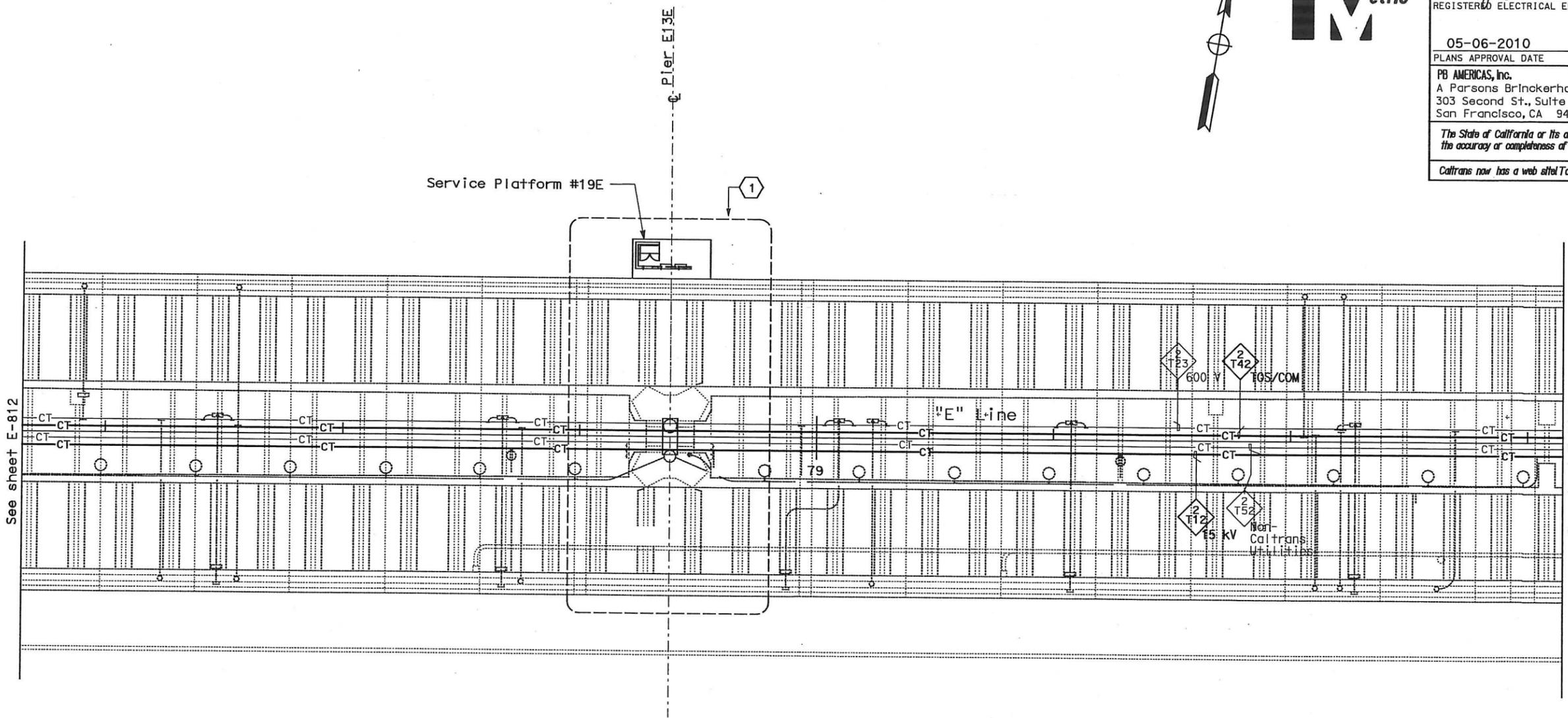
DATE PLOTTED = 13 06-MAY-2010

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 DATE 01/10
 SYNC FW
 REVISOR BY
 DATE REVISOR



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
			08S14			

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
SYN YEE CHIN
 No. 18186
 Exp. 08/30/2011
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER - ELECTRICAL
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CONDUIT AND CABLE TRAY PLAN

NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-94 from the Skyway Structures Contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
3. All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- ① For Service Platform #19E details, see sheet E-832.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 117 OF 290

**BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

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DATE PLOTTED => 06-MAY-2010 LAST REVISION

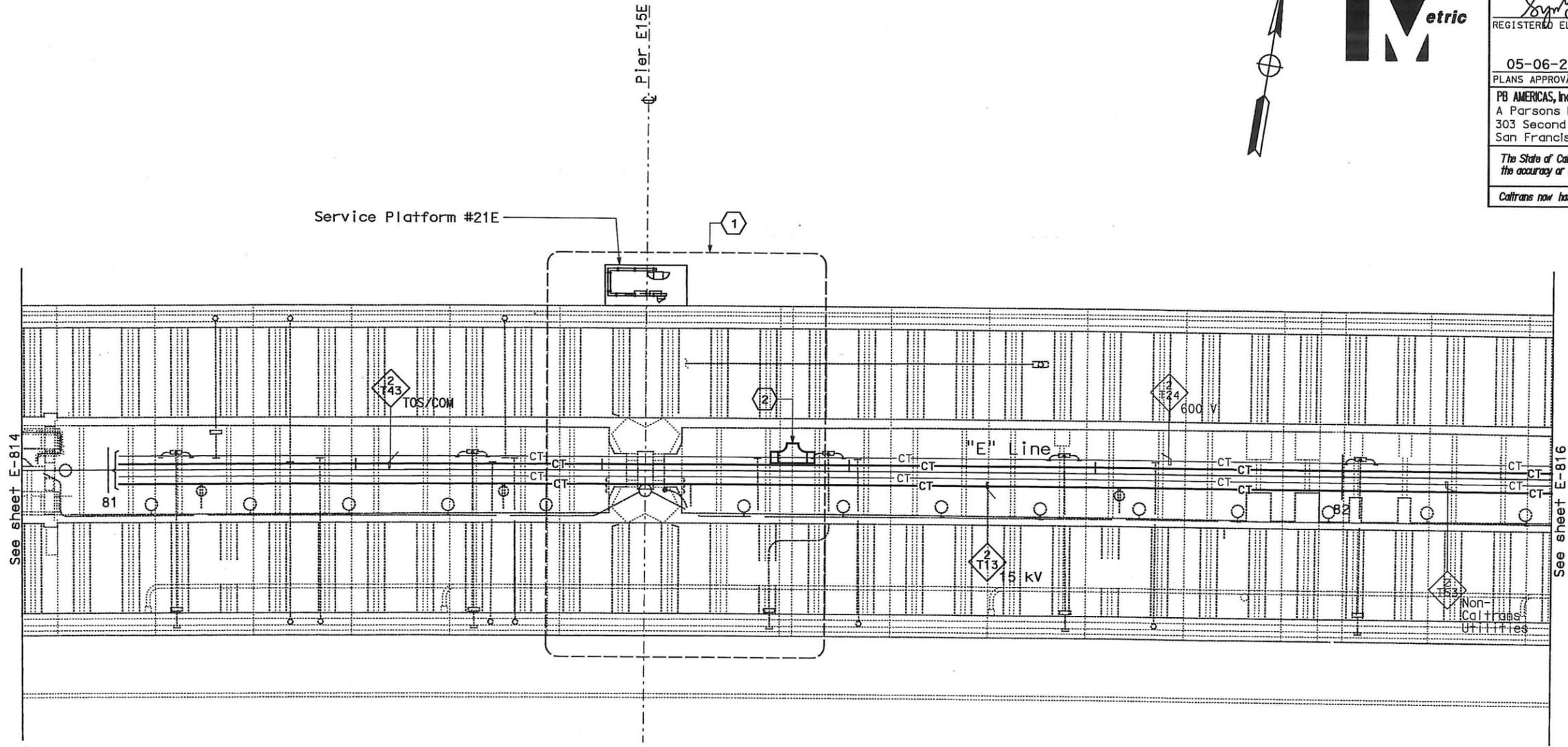
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04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 08516	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-96 from the Skyway Structures Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Service Platform #21E details, see sheet E-834.
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 119 OF 290

**BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

E-815

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DGN FILE => 04-0120f1 E-815.dgn

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DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY	SYC	FW	DATE	REVISOR	DATE
CHECKED BY			01/0		
			01/0		

DATE PLOTTED => 06-MAY-2010

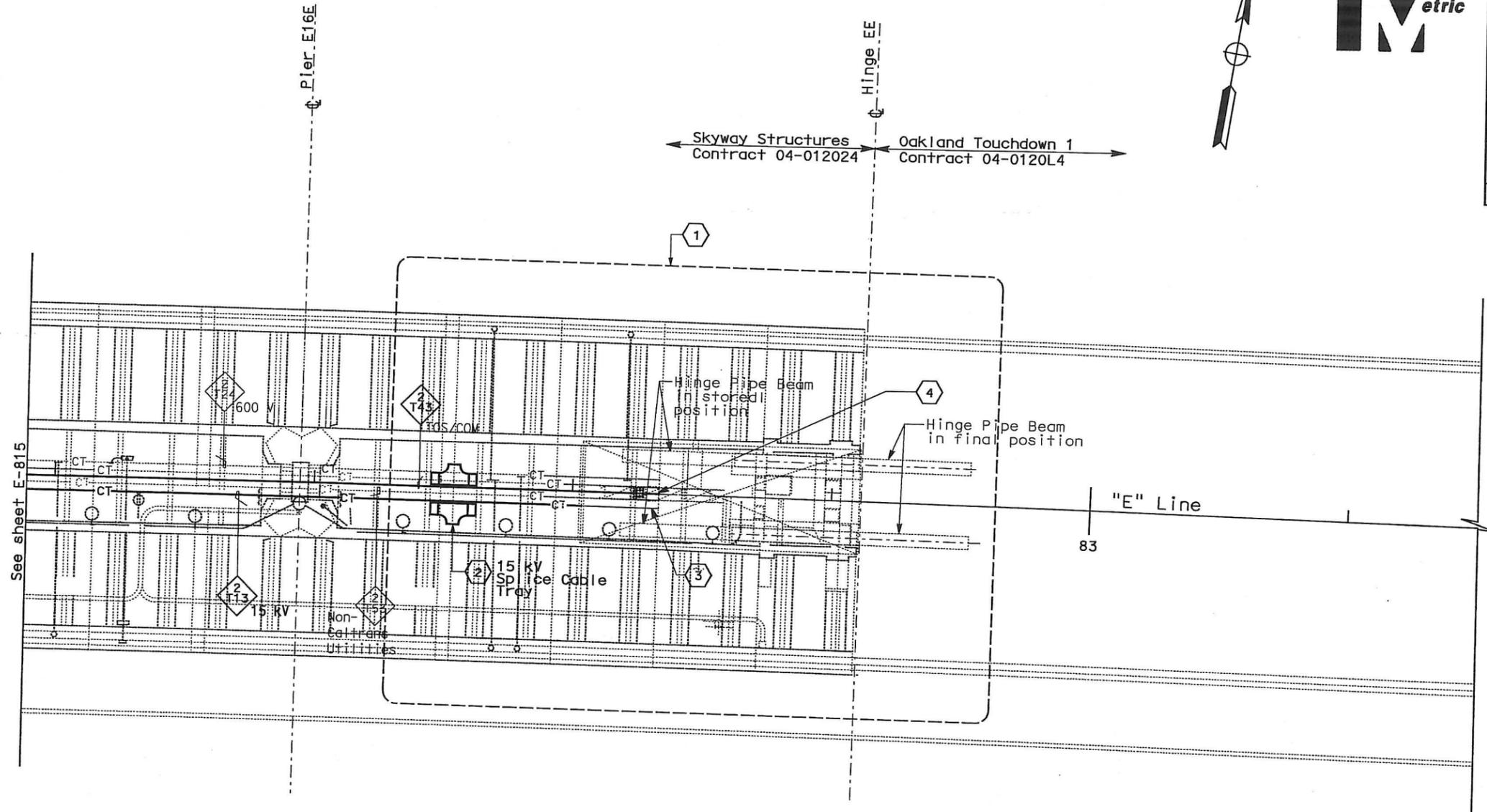
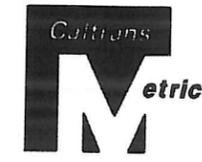
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 08S17	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

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CONDUIT AND CABLE TRAY PLAN

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-97 from the Skyway Structures Contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install 15 kV cables into existing cable tray shown on this drawing. Refer to riser diagram on E-837.
 - Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. Refer to riser diagram on E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- For Hinge EE area details, see sheet E-835.
- Furnish and install splice cable tray as shown on sheet E-836A, plan detail 6.
- Furnish and install 15 kV cable with length up to this point for splicing by others.
- Furnish and install fiber optic cable with length up to this point for splicing by others.

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△	03/08/10	MEP INTEGRATION	SYC	FW	110
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CONTRACT CHANGE ORDER NO. 110
 SHEET 120 OF 290

**BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES**
 SCALE: 1:200

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 DATE 01/10
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E-816

DATE PLOTTED = 06-MAY-2010

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 DESIGNED BY
 CHECKED BY

DATE
 01/10

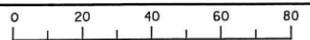
REVISOR
 DATE REVISOR

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CONTRACT CHANGE ORDER NO. 110
 SHEET 121 OF 290

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 SCALE IS IN MILLIMETERS



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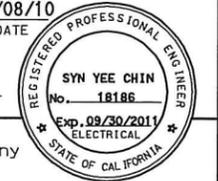
CU 04251

EA 0120F1

E-817



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 08S18	1204
REGISTERED ELECTRICAL ENGINEER		DATE			
SYN YEE CHIN		03/08/10			
PLANS APPROVAL DATE					
05-06-2010					
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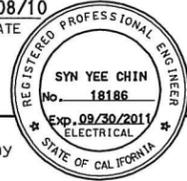


DATE PLOTTED => 06-MAY-2010
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407g 08S19	1204
			REGISTERED ELECTRICAL ENGINEER DATE <i>Syn Yee Chin</i> 03/08/10 05-06-2010 PLANS APPROVAL DATE PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317 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. Caltrans now has a web site! To get to the web site, go to http://www.dot.ca.gov		



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CONTRACT CHANGE ORDER NO. 110
 SHEET 122 OF 290

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E-818

DATE PLOTTED => 06-MAY-2010
 TIME PLOTTED => 18:24
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alq	80	12.2/14.3 0.0/4.0	407a 08S20	1204

Syn Yee Chin 03/08/10
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NOTES:

1. This plan sheet is a record drawing from the SAS Superstructure Contract. The Contractor shall verify the existing installation. See sheet E-186A from the SAS Superstructure contract No. 04-0120F4.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
- Inspect for system ground continuity. See sheets E-839 and E-840.

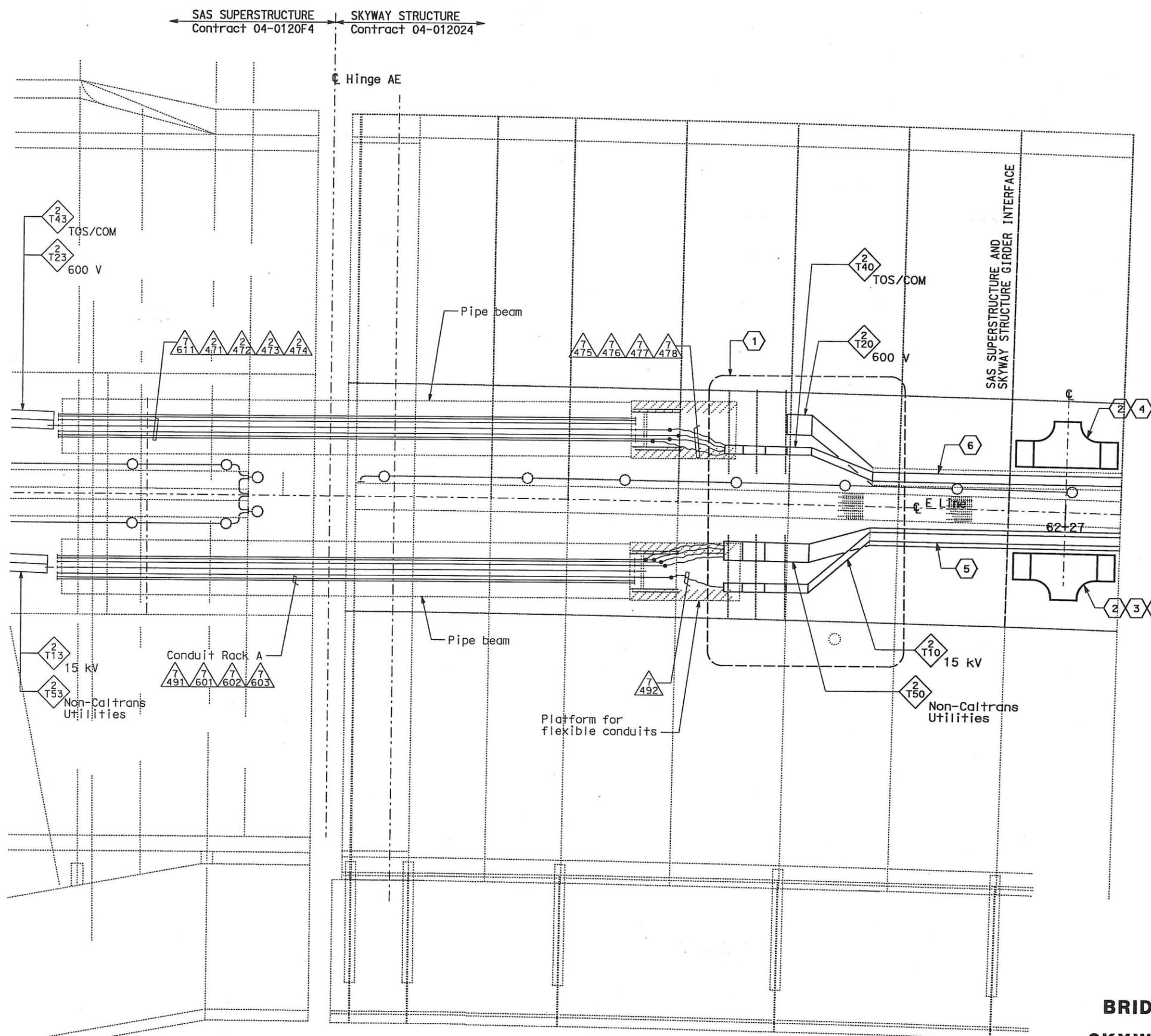
SHEET NOTES:

- 1 Contractor to complete the installation of 15 kV, Non-Caltrans Utilities, TOS and 600 V cable trays furnished by Skyway Contract, to facilitate installation of cables.
- 2 Mount and secure splice cable tray between diaphragms at Station 62+27 as shown on E-800. See sheet E-836, section detail 5.
- 3 Furnish and install splice cable tray as shown on sheet E-836, plan detail 1.
- 4 Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.
- 5 Furnish and install 15 kV cables into existing cable tray shown on this drawing. See sheet E-837.
- 6 Furnish and install TOS fiber optic cables into existing cable tray shown on this drawing. See sheet E-983.
- 7 15 kV splice kit furnished by others.

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0	04/19/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 123 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SAS SUPERSTRUCTURE AND
SKYWAY STRUCTURES INTERFACE-HINGE AE
 SCALE: AS NOTED



PLAN- HINGE AE
 SCALE: 1:75

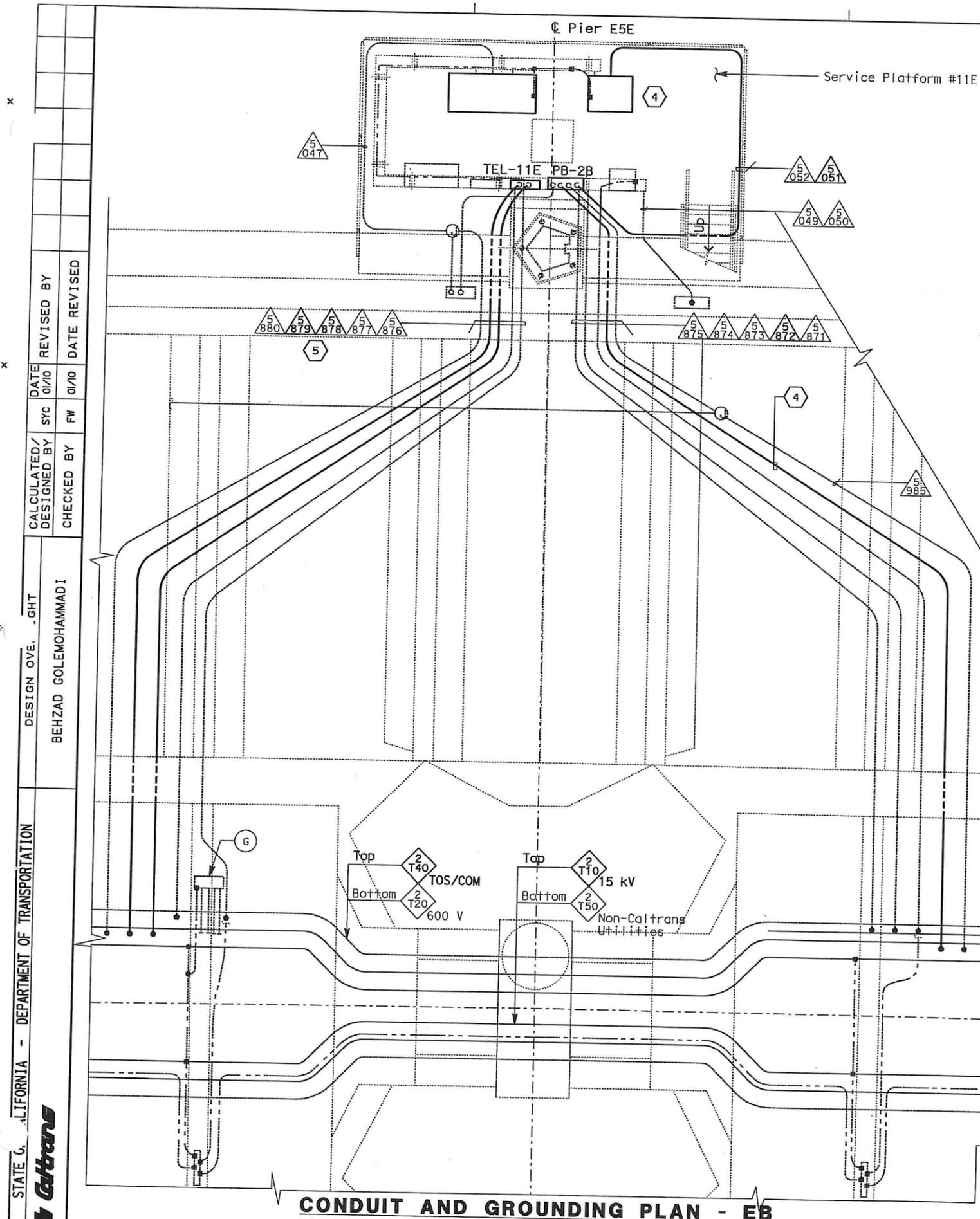
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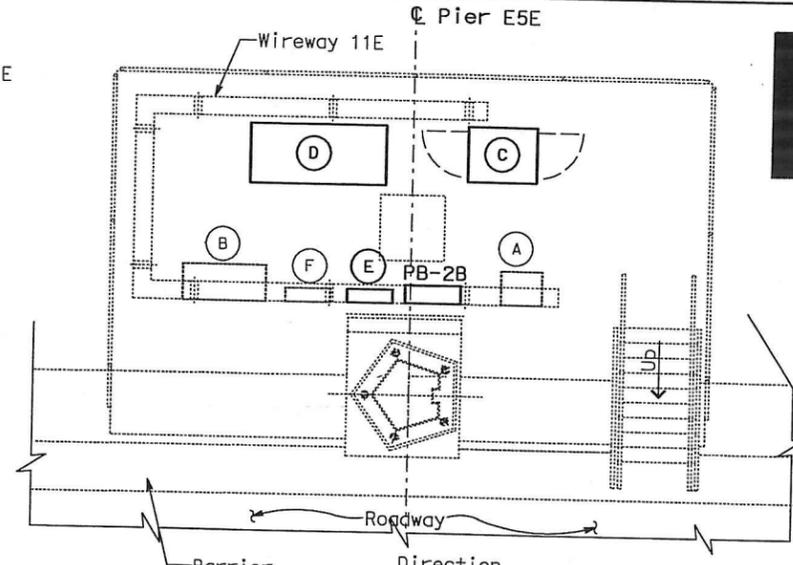
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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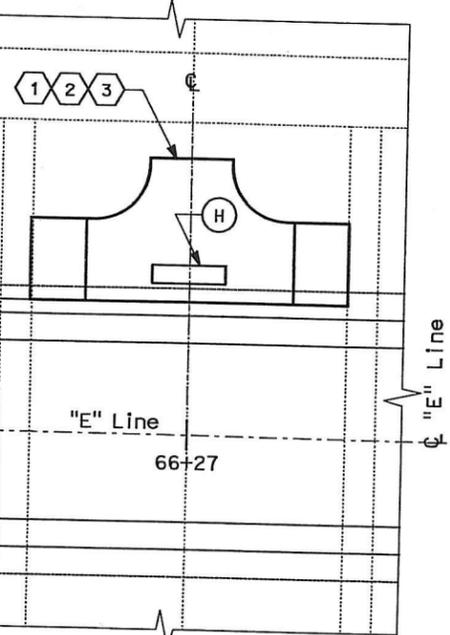
CONDUIT AND GROUNDING PLAN - EB
SCALE: 1:40

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**SERVICE PLATFORM #11E
EQUIPMENT ARRANGEMENT PLAN**
SCALE: 1:40

- EQUIPMENT SCHEDULE:**
- (A) Utility Panel UP-233
100 A, 208/120 V, 3-Phase, 4-Wire
 - (B) Lighting Panel LP-253
100 A, 208/120 V, 3-Phase, 4-Wire
 - (C) Controller Cabinet #TOS-11EA
 - (D) Remote Terminal Unit RTU#12E
 - (E) Telephone Terminal Box #TEL-11E
 - (F) Navigation Relay Cabinet #NAP-11E
 - (G) Scada Communication Terminal Box #COM-11E
 - (H) Fiber Optic Splice Closure #FSC-11E



- NOTES:**
- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-283 from Skyway Structures, contract No. 04-012024.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
 - Remote Terminal Unit #12E. See Sheets E-902, E-903, E-907, E-908 and E-909.
 - All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

- SHEET NOTES:**
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.
 - Mount splice cable tray between diaphragms and secure properly. See sheet E-836, section detail 4.
 - Contractor shall locate the splice cable tray at Station 66+27 as shown on E-803.
 - Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connector. See sheets E-972 and E-973.
 - Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.

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REVISIONS					
			BY	CH'D	CCO#

CONTRACT CHANGE ORDER NO. 110
SHEET 126 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES-SERVICE PLATFORM #11E
SCALE AS NOTED

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 08523	1204

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Syn Yee Chin 03/08/10
REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
PLANS APPROVAL DATE

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San Francisco, CA 94107-1317

REG. PROFESSIONAL ENGINEER
SYN YEE CHIN
No. 18186
Exp. 09/30/2011
ELECTRICAL
STATE OF CALIFORNIA

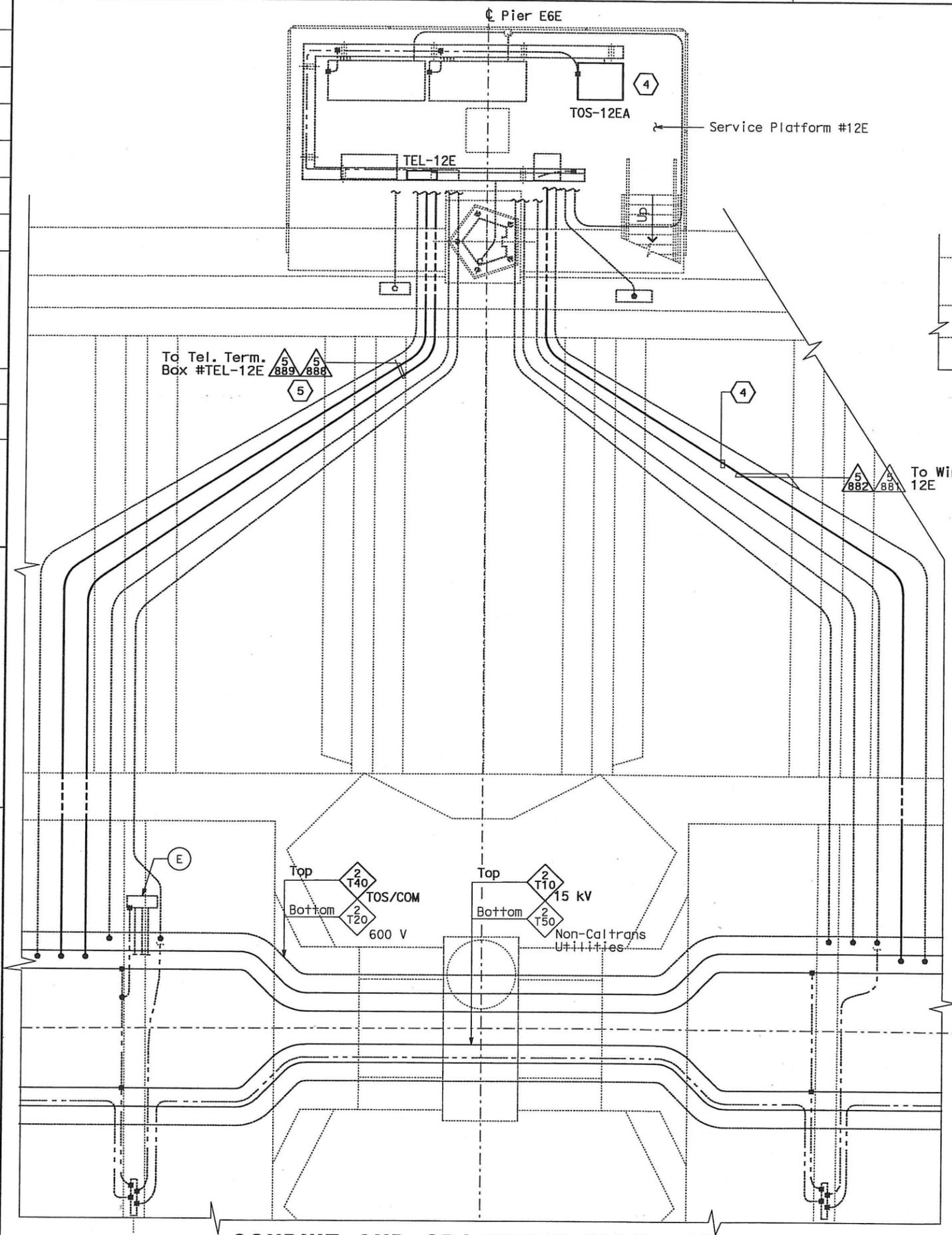
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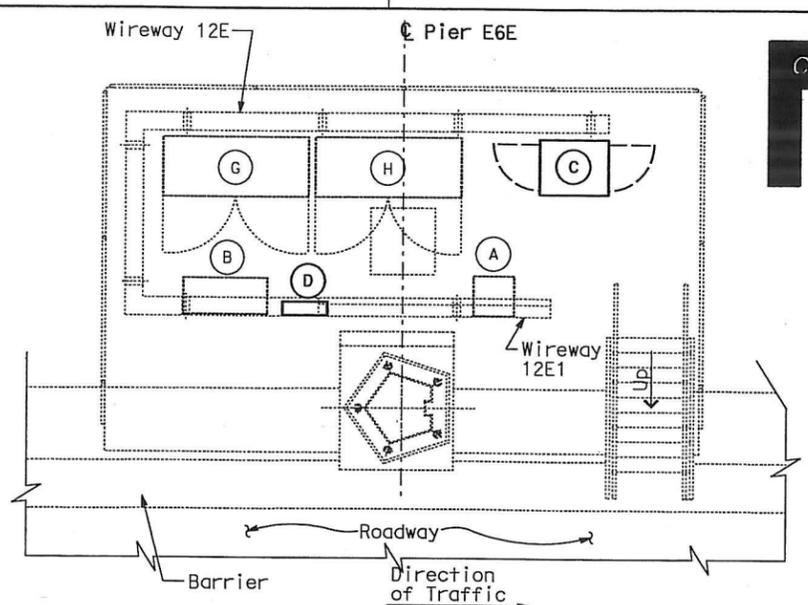
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 DATE 01/10
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 REVISED BY
 DATE 01/10

LAST REVISION DATE PLOTTED => 06-MAY-2010

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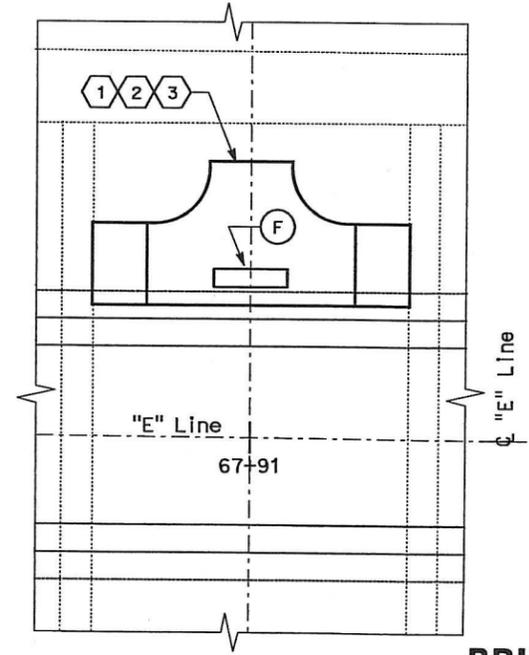
CONDUIT AND GROUNDING PLAN - EB
 SCALE: 1:40



SERVICE PLATFORM #12E EQUIPMENT ARRANGEMENT PLAN
 SCALE: 1:40

EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-234
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Lighting Panel LP-254
100 A, 208/120 V, 3-Phase, 4-Wire
- (C) Controller Cabinet #TOS-12EA
- (D) Telephone Terminal Box #TEL-12E
- (E) Scada Communication Terminal Box #COM-12E
- (F) Fiber Optic Splice Closure #FSC-12E
- (G) Strong Motion Recorder #1 (Box A)
- (H) Strong Motion Recorder #1 (Box B)



DETAILS BRIDGE STRUCTURES GIRDER EASTBOUND SKYWAY STRUCTURES-SERVICE PLATFORM #12E
 SCALE AS NOTED



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407/08524	1204

REGISTERED ELECTRICAL ENGINEER: **Syn Yee Chin**, DATE: 03/08/10

PLANS APPROVAL DATE: 05-06-2010

REGISTERED PROFESSIONAL ENGINEER: **SYN YEE CHIN**, No. 18186, Exp. 09/30/2011

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NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-284 from Skyway Structures, contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install the 15 kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable tray, conduit and wireway shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
3. All cable trays, conduits, wireways and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- ① Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.
- ② Mount splice cable tray between diaphragms and secure properly. See sheet E-836, section detail 4.
- ③ Contractor shall locate the splice cable tray at Station 67+91 as shown on E-804.
- ④ Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connector. See sheets E-972 and E-973.
- ⑤ Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.

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MARK	DATE	DESCRIPTIONS	BY CH'D CCO#
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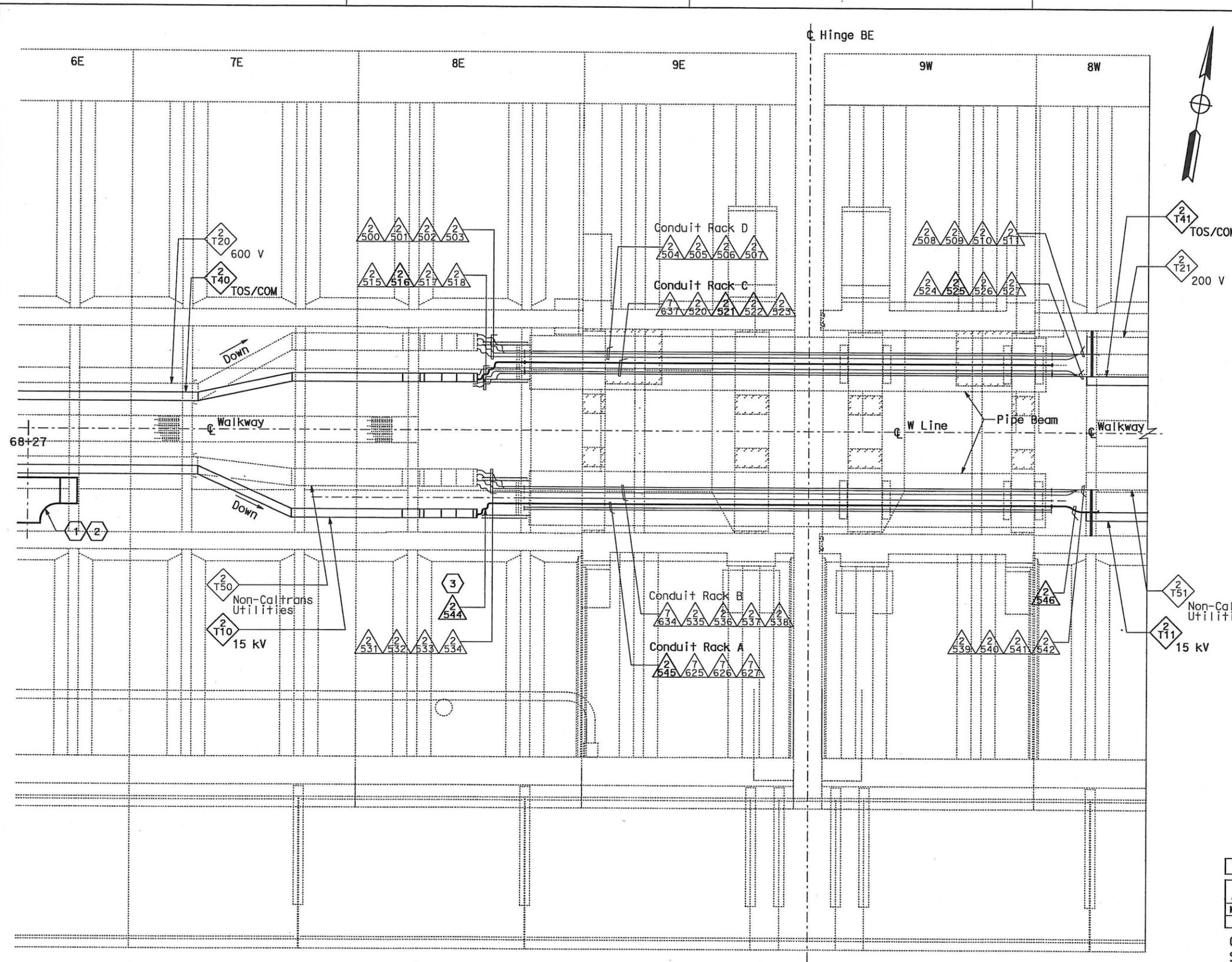
CONTRACT CHANGE ORDER NO. 110
 SHEET 127 OF 290

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E-823

DATE PLOTTED => 06-MAY-2010



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204

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- NOTES:**
- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-301A from Skyway Structures, contract No. 04-012024.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install the 15 kV cables into existing cable trays and conduits shown on this drawing. See sheet E-837.
 - Furnish and install fiber optic cables into existing cable trays and conduits shown on this drawing. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
 - All cable trays and conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

- SHEET NOTES:**
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 1.
 - Mount splice cable tray between diaphragms at Station 68+27 as shown on E-805 and secure properly. See sheet E-836, section detail 4.
 - In order to be able to pull the 15 kV cable, the Contractor shall disassemble the 15 kV flexible conduit installation. The 15 kV flexible conduit shall be reinstalled after the 15 kV cable has been pulled.

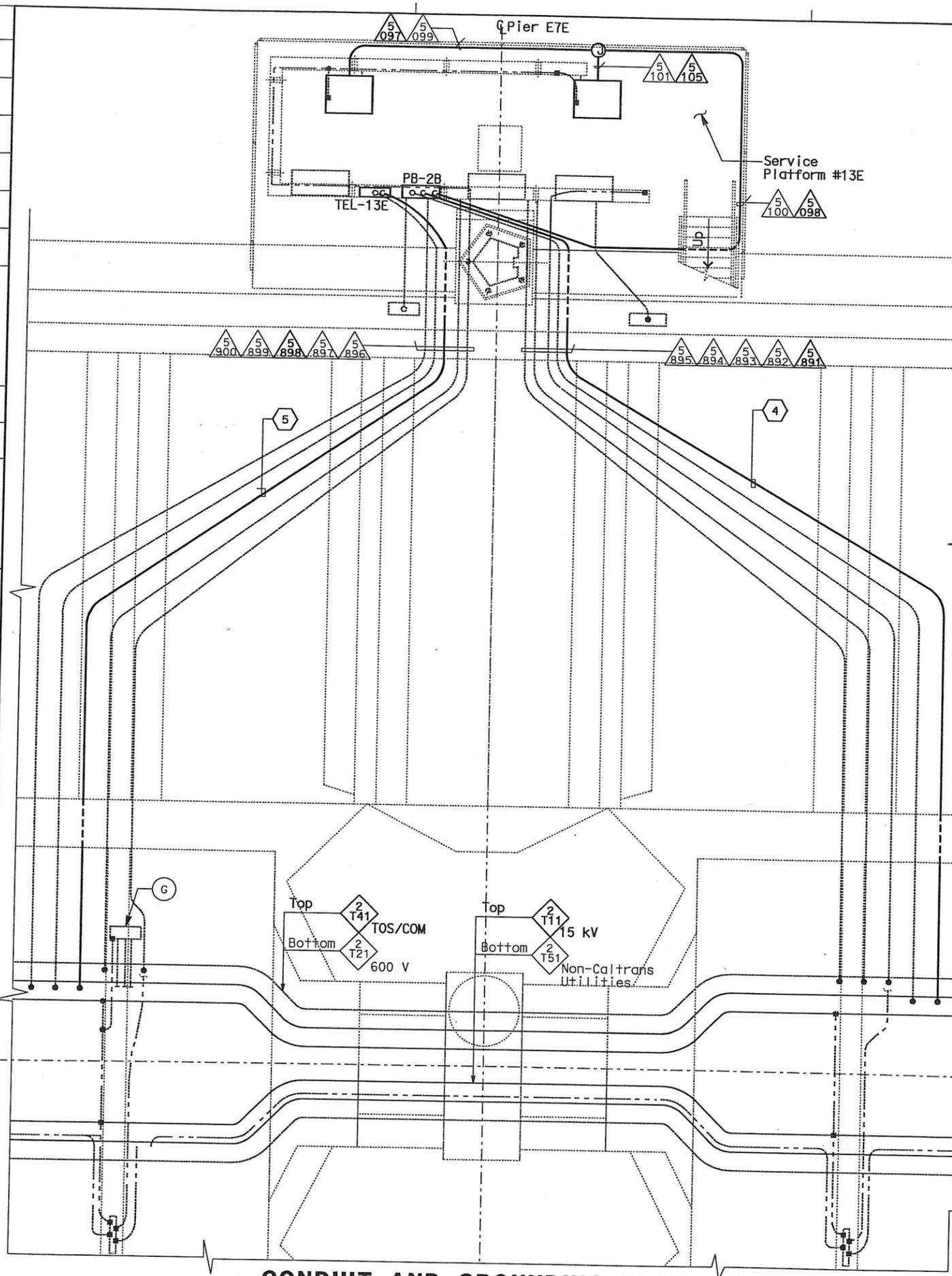
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△	03/08/10 MEP INTEGRATION	SYC	FW 110
MARK	DATE	DESCRIPTIONS	BY CH'D/CCO#
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CONTRACT CHANGE ORDER NO. 110
 SHEET 128 OF 290

PLAN - HINGE BE
SCALE: 1:75

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES - HINGE BE
 SCALE: AS NOTED

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 DATE 01/00



CONDUIT AND GROUNDING PLAN - EB
 SCALE: 1:40

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- EQUIPMENT SCHEDULE:**
- (A) Utility Panel UP-235
100 A, 208/120 V, 3-Phase, 4-Wire
 - (B) Lighting Panel LP-255
100 A, 208/120 V, 3-Phase, 4-Wire
 - (C) Controller Cabinet #TOS-13EA
 - (D) Controller Cabinet #TOS-13EB
 - (E) Utility Panel UP-244 100 A, 120/240 V,
1-Phase 3-Wire, with 25 kVA Transformer,
480-120/240 V
 - (F) Telephone Terminal Box #TEL-13E
 - (G) Scada Communication Terminal Box
#COM-13E
 - (H) Fiber Optic Splice Closure #FSC-13E



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407 08526	1204

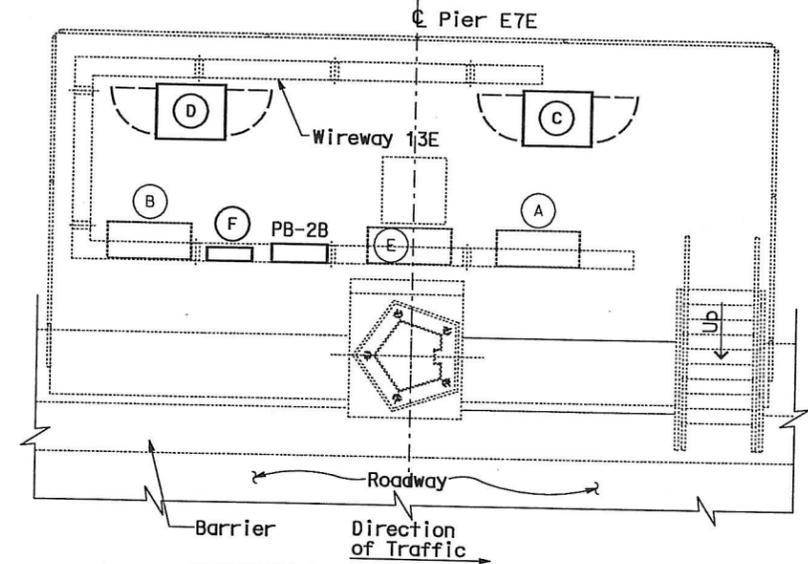
REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

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**SERVICE PLATFORM #13E
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40

- NOTES:**
- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-285 from Skyway Structures, contract No. 04-012024.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install the 15 kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
 - All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

- SHEET NOTES:**
- Furnish and install splice cable tray as shown on sheet E-836, section detail 2.
 - Mount splice cable tray between diaphragms and secure properly. See sheet E-836, section detail 4.
 - Contractor shall locate the splice cable tray at Station 69+47 as shown on E-806.
 - Furnish and install two 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connector. See sheets E-972 and E-973.
 - Pull and terminate 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.

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		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 129 OF 290

**DETAILS
 BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES-SERVICE PLATFORM #13E**
 SCALE AS NOTED

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CHECKED BY

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DATE REVISED

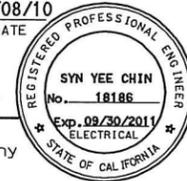
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 SHEET 130 OF 290

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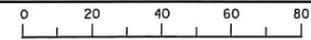


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			REGISTERED ELECTRICAL ENGINEER <u>Syn Yee Chin</u> DATE <u>03/08/10</u>		
			PLANS APPROVAL DATE <u>05-06-2010</u>		
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E-825

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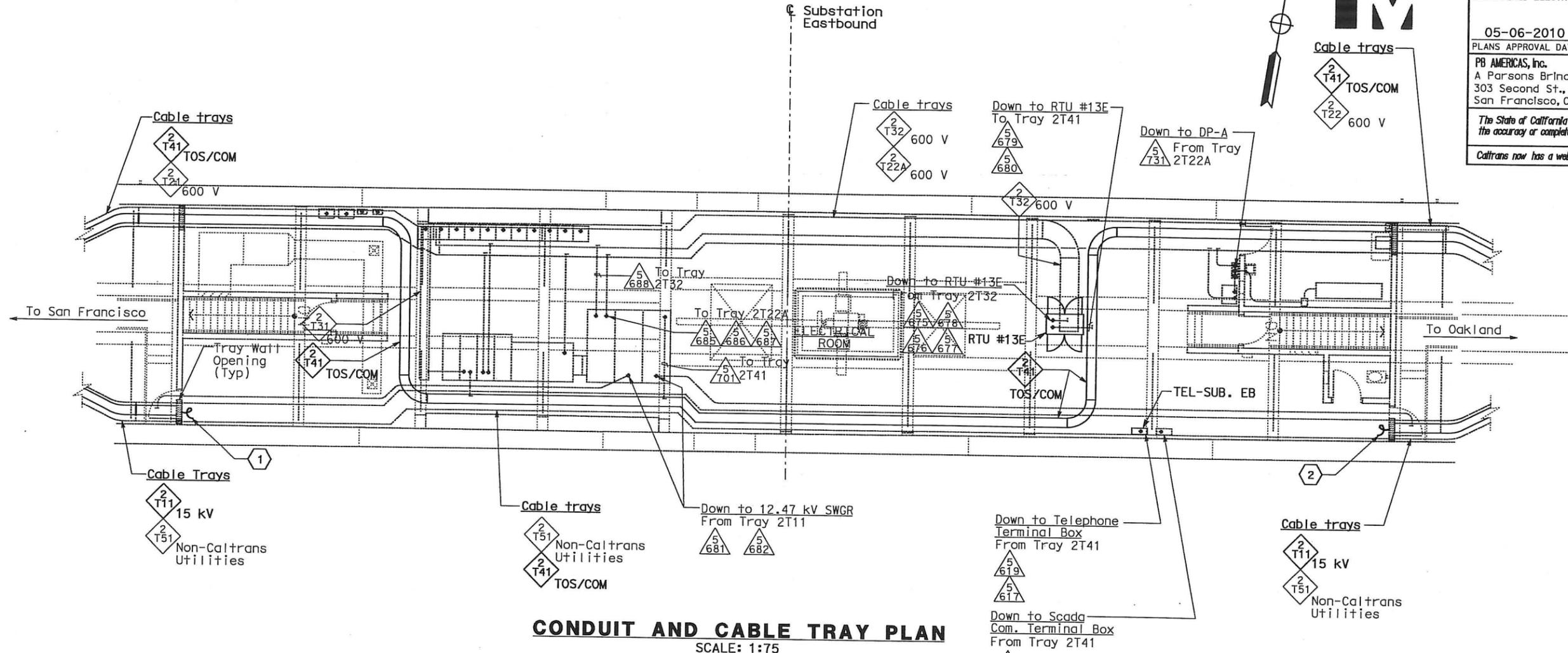
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04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 08528	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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CONDUIT AND CABLE TRAY PLAN
 SCALE: 1:75

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-17 of Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Terminate already installed 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.
 - Furnish and install the 15 kV cables into existing cable trays shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable trays shown on this drawing. Pull a 72 fiber in the main tray. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
 - Remote Terminal Unit #13E. See sheets E-902, E-910 and E-921 thru E-930.
- All cable trays, conduits, and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable. Contractor to ensure that 90° bends on trays are satisfactory to meet the minimum bending radius for cables.

SHEET NOTES:

- Contractor to coil 25 m of 15 kV cable, sufficient to make future terminations to 12.47 kV switchgear.
- Contractor to coil 45 m of 15 kV cable, sufficient to make future terminations to 12.47 kV switchgear.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
0	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 131 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES-SUBSTATION EASTBOUND
 SCALE: AS NOTED

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

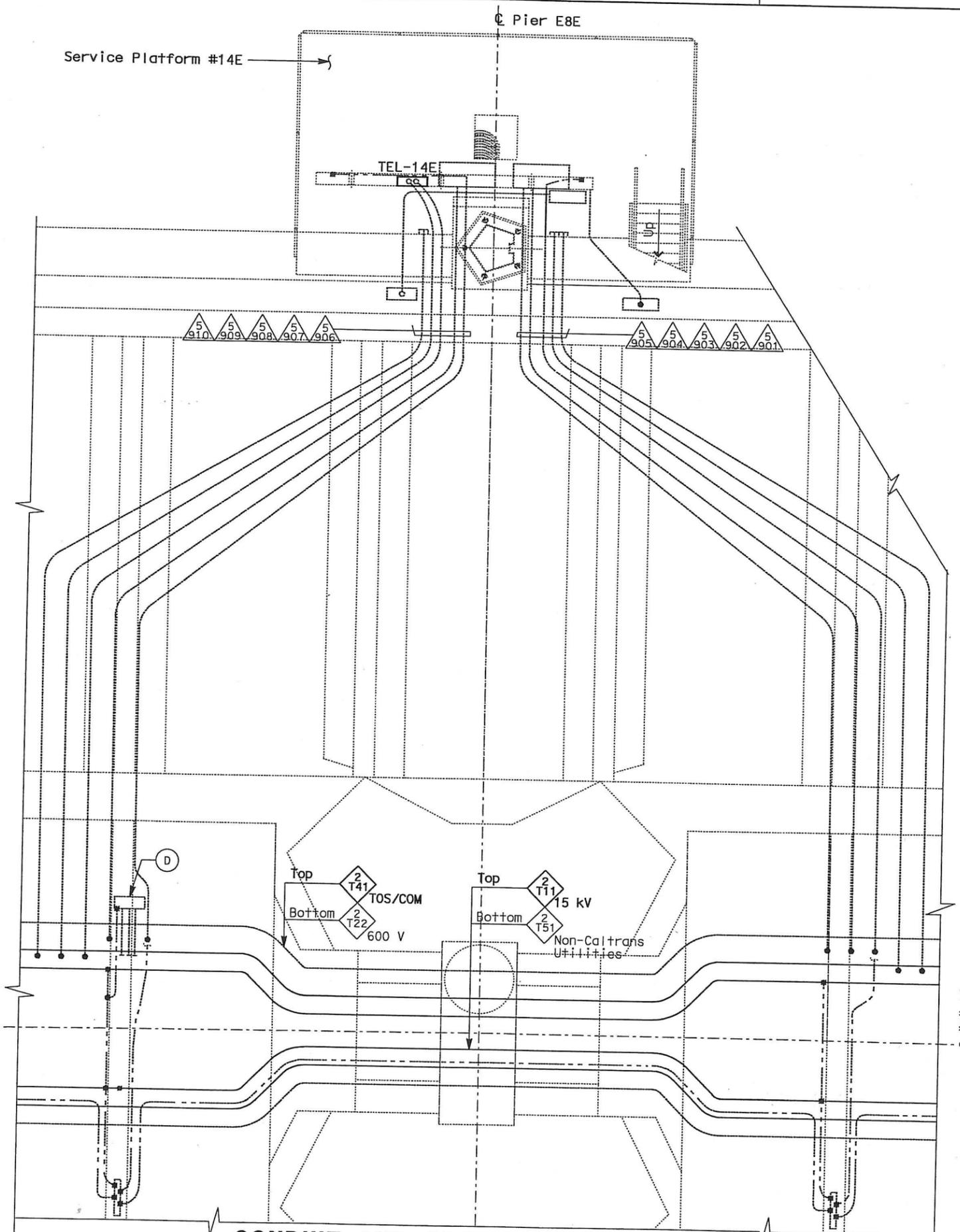
ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

E-826

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISED BY
 DATE REVISED

DATE PLOTTED => 06-MAY-2010
 LAST REVISION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVE. JHT
 BEHZAD GOLEHAMMADI
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISED BY
 DATE 01/10
 DATE 01/10
 DATE 01/10
 DATE 01/10
 DATE 01/10
 DATE 01/10



CONDUIT AND GROUNDING PLAN - EB
 SCALE: 1:40

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-236
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Lighting Panel LP-256
100 A, 208/120 V, 3-Phase, 4-Wire
- (C) Telephone Terminal Box #TEL-14E
- (D) Scada Communication Terminal Box #COM-14E



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407 08529	1204

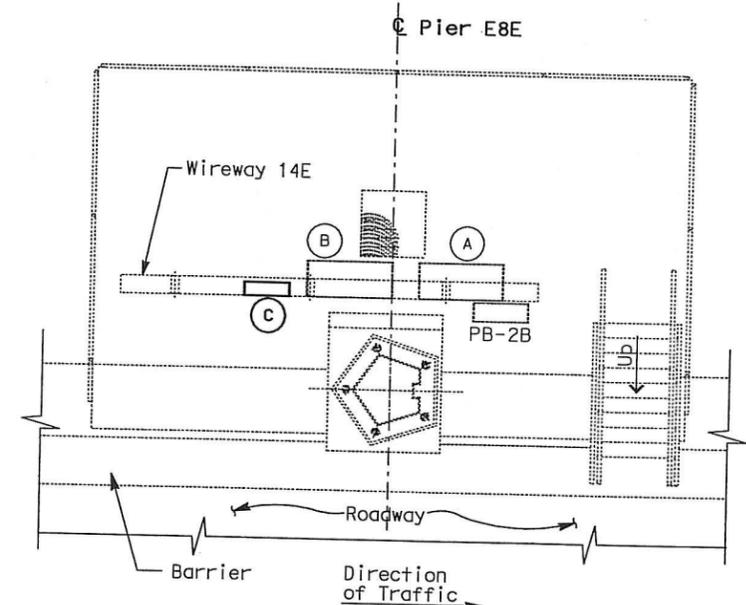
REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA
 DATE 03/08/10

PLANS APPROVAL DATE
 05-06-2010
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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NOTES:

1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-286 from Skyway Structures, contract No. 04-012024.
2. The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Terminate already installed 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.
 - Furnish and install the 15 kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable tray shown on this drawing. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
3. All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.



**SERVICE PLATFORM #14E
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 132 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES- SERVICE PLATFORM #14E
 SCALE AS NOTED

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN
 DGN FILE =>04-012024 E-827.dgn

E-827

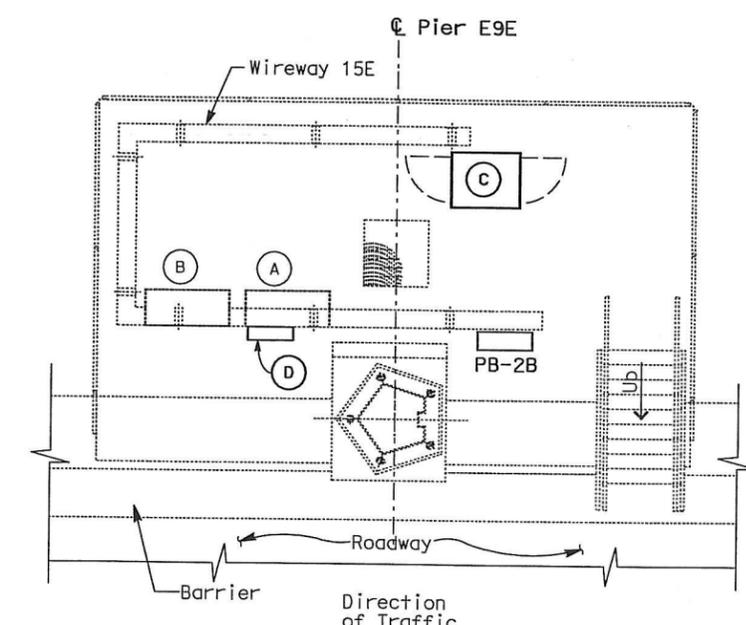
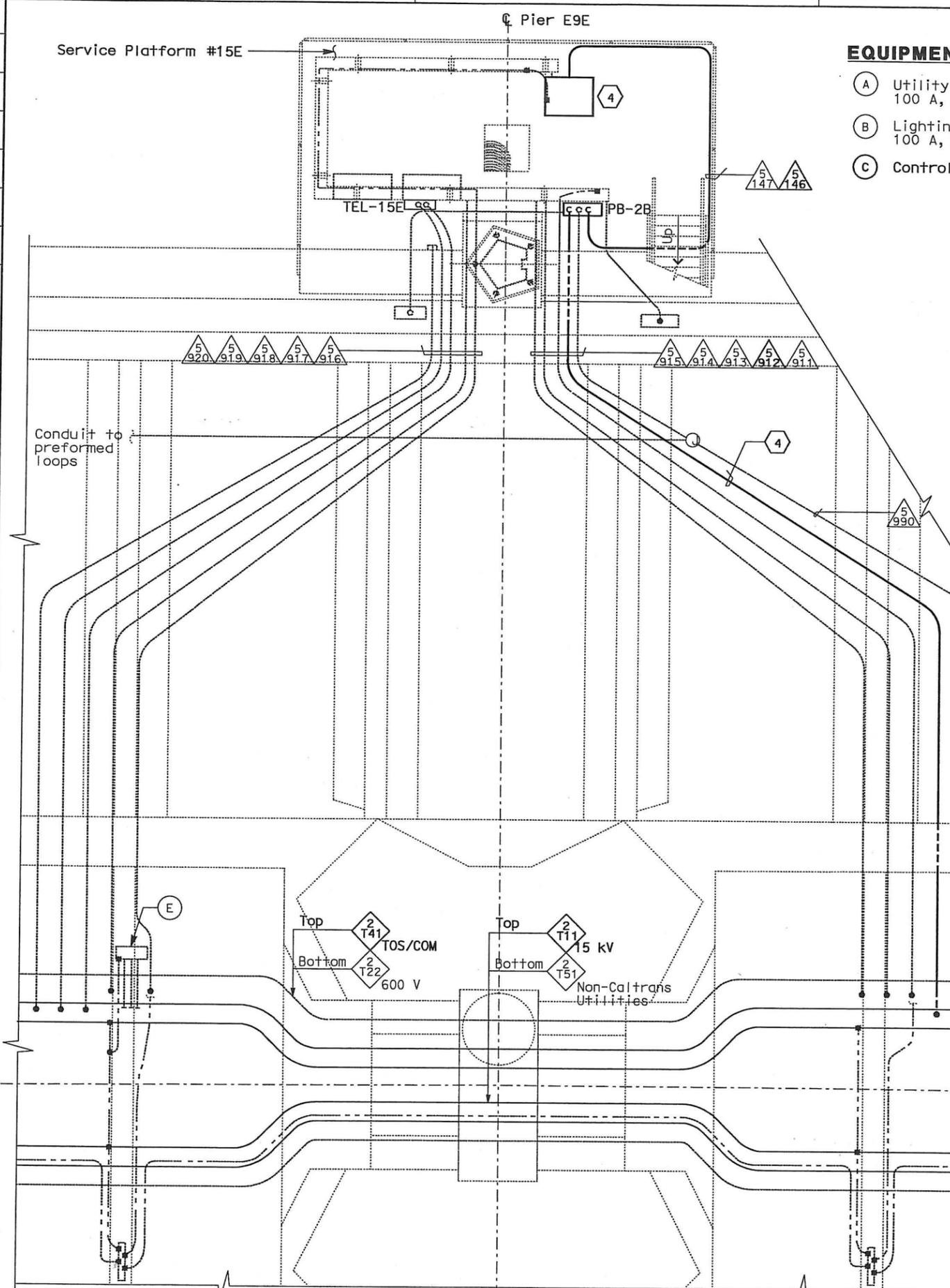
DATE PLOTTED => 06-MAY-2010
 LAST REVISION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVERSEER: BEHZAD GOLEMOHAMMADI
 JHT
 DATE REVISIONS: 03/08/10, 05/06/2010
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 REVISED BY: [Blank]
 DATE REVISED: [Blank]

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST MILE PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
			08S30			

REGISTERED ELECTRICAL ENGINEER: **Syn Yee Chin**, 03/08/10
 DATE: 05-06-2010
 PLANS APPROVAL DATE: 05-06-2010
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
 Exp. 09/30/2011
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER: SYN YEE CHIN, No. 18186
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- EQUIPMENT SCHEDULE:**
- (A) Utility Panel UP-237
100 A, 208/120 V, 3-Phase, 4-Wire
 - (B) Lighting Panel LP-257
100 A, 208/120 V, 3-Phase, 4-Wire
 - (C) Controller Cabinet #TOS-15EA
 - (D) Telephone Terminal Box #TEL-15E
 - (E) Scada Communication Terminal Box #COM-15E
 - (F) Fiber Optic Splice Closure #FSC-15E



**SERVICE PLATFORM #15E
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40

- NOTES:**
- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-287 from Skyway Structures, contract No. 04-012024.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Terminate already installed 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
 - All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

- SHEET NOTES:**
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.
 - Mount splice cable tray between diaphragms, and secure properly. See sheet E-836, section detail 4.
 - Contractor shall locate the splice cable tray at Station 72+68 as shown on E-808.
 - Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connector. See sheets E-972 and E-973.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE			
MARK	DATE	DESCRIPTIONS	BY
△	03/08/10	MEP INTEGRATION	SYC FW 110
		REVISIONS	CH'D/CCO#

CONTRACT CHANGE ORDER NO. 110
 SHEET 133 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES-SERVICE PLATFORM #15E
 SCALE AS NOTED

CONDUIT AND GROUNDING PLAN - EB
 SCALE: 1:40

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DATE PLOTTED => 04-MAY-2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVER: JHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: JHT
 CHECKED BY: JHT
 DATE 01/10
 DATE 01/10
 DATE 01/10
 DATE 01/10
 DATE 01/10
 DATE 01/10

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 08531	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

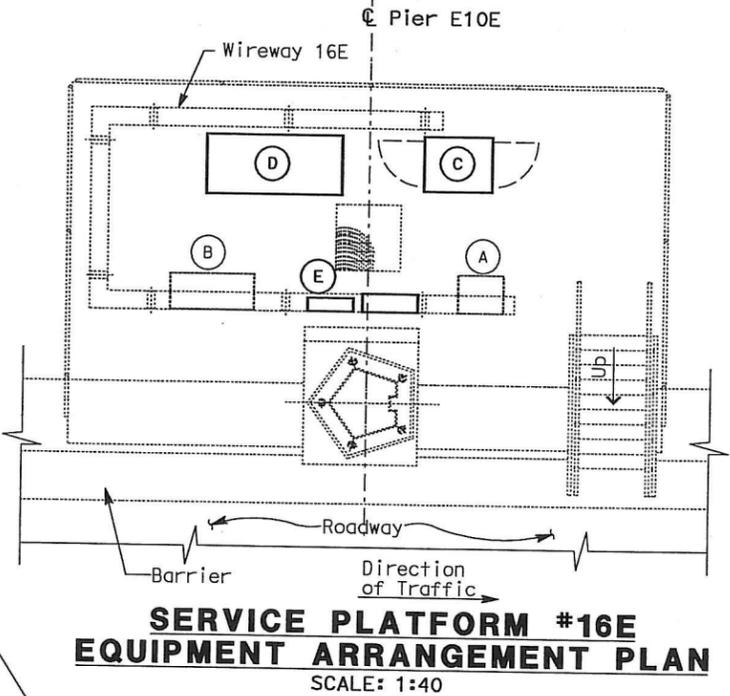
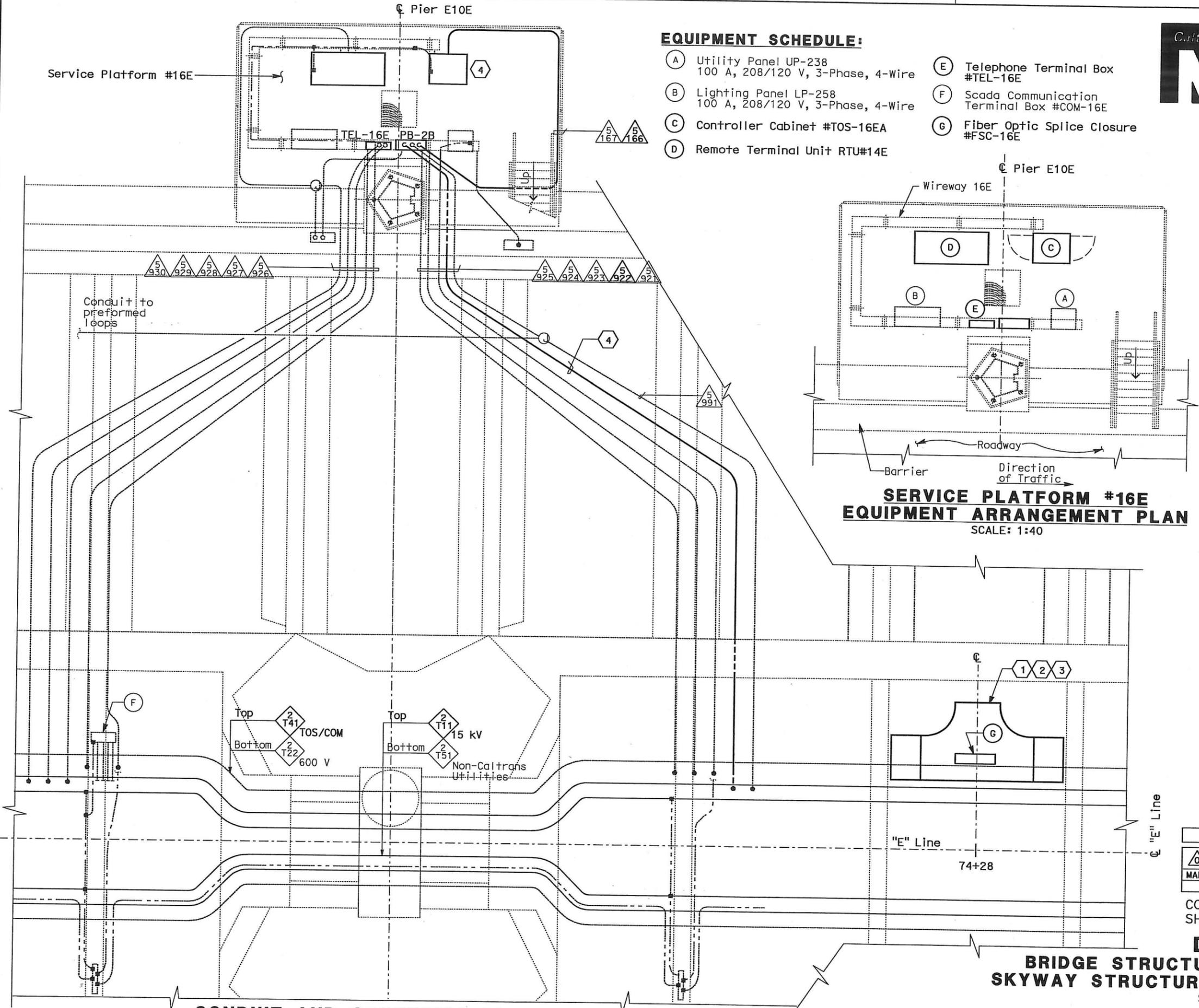
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EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-238
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Lighting Panel LP-258
100 A, 208/120 V, 3-Phase, 4-Wire
- (C) Controller Cabinet #TOS-16EA
- (D) Remote Terminal Unit RTU#14E
- (E) Telephone Terminal Box #TEL-16E
- (F) Scada Communication Terminal Box #COM-16E
- (G) Fiber Optic Splice Closure #FSC-16E



NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-288 from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Terminate already installed 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
 - Remote Terminal Unit #14E. See sheets E-902, E-931, E-934 and E-935.
- All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.
- Mount splice cable tray between diaphragms, and secure properly. See sheet E-836, section detail 4.
- Contractor shall locate the splice cable tray at Station 74+28 as shown on E-809.
- Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connector. See sheets E-972 and E-973.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
△	03/08/10	MEP INTEGRATION	SYC	FW	110

CONTRACT CHANGE ORDER NO. 110
 SHEET 134 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES-SERVICE PLATFORM #16E
 SCALE AS NOTED

CONDUIT AND GROUNDING PLAN - EB
 SCALE: 1:40

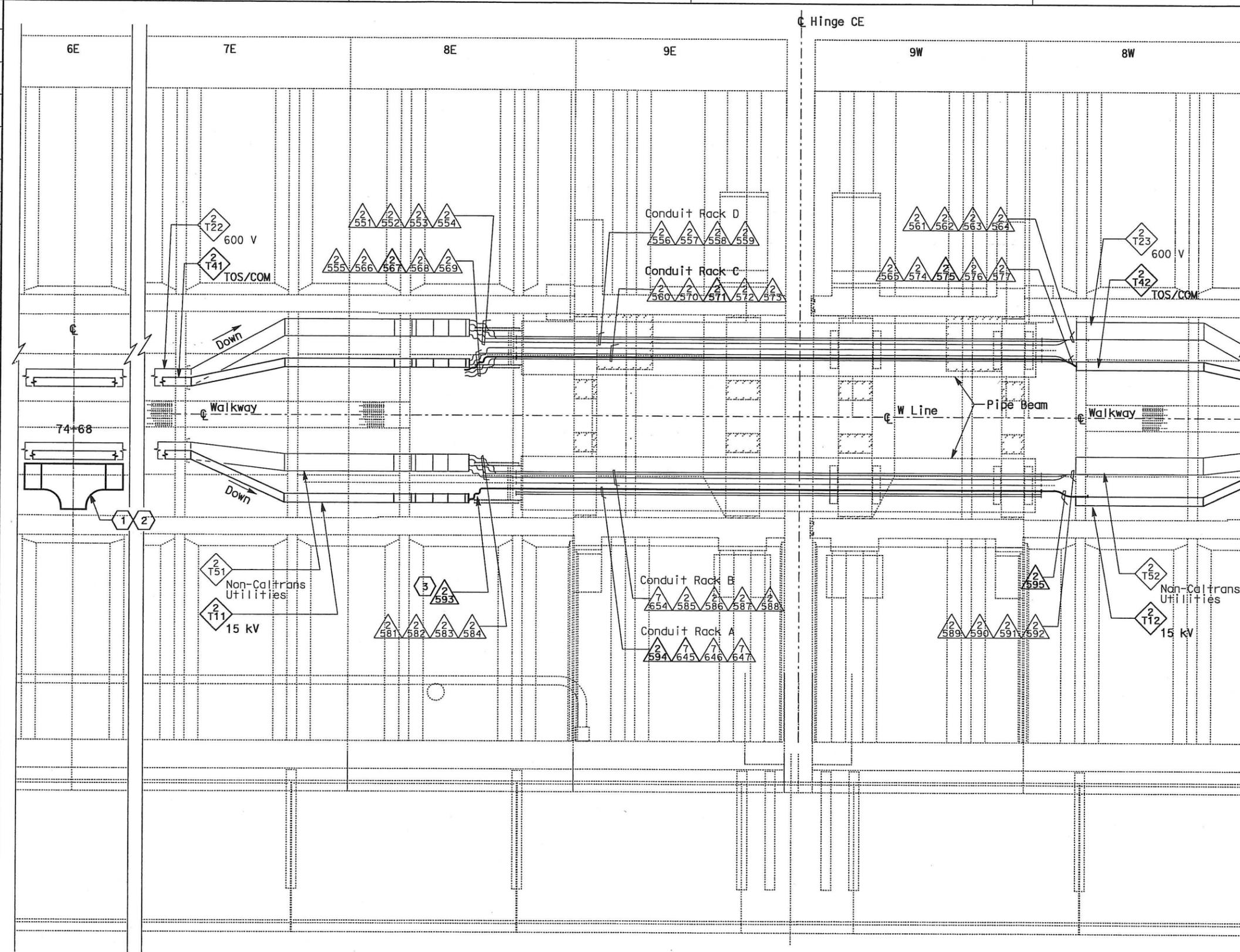
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ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DATE PLOTTED = 06-MAY-2010

DATE	SYC	FW	REVISION
01/10			
01/10			

DATE	SYC	FW	REVISION
01/10			
01/10			



PLAN - HINGE CE
SCALE: 1:75



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	4079	1204

03/08/10
REGISTERED ELECTRICAL ENGINEER DATE

SYN YEE CHIN
No. 18186
Exp. 09/30/2011
ELECTRICAL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

PB AMERICAS, Inc.
A Parsons Brinckerhoff Company
303 Second St., Suite 700N
San Francisco, CA 94107-1317

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- NOTES:**
- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-302A from Skyway Structures, contract No. 04-012024.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable trays and conduits shown on this drawing. See sheet E-837.
 - Furnish and install fiber optic cables into existing cable trays and conduits shown on this drawing. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
 - All cable trays and conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

- SHEET NOTES:**
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 1.
 - Mount splice cable tray between diaphragms at Station 74+68 as shown on E-810 and secure properly. See sheet E-836, section detail 4.
 - In order to be able to pull the 15 kV cable, the Contractor shall disassemble the 15 kV flexible conduit installation. The 15 kV flexible conduit shall be reinstalled after the 15 kV cable has been pulled.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE			
03/08/10	MEP INTEGRATION	SYC	FW 110
MARK	DATE	DESCRIPTIONS	BY CH'D CCO#
		REVISIONS	

CONTRACT CHANGE ORDER NO. 110
SHEET 135 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES - HINGE CE
SCALE AS NOTED

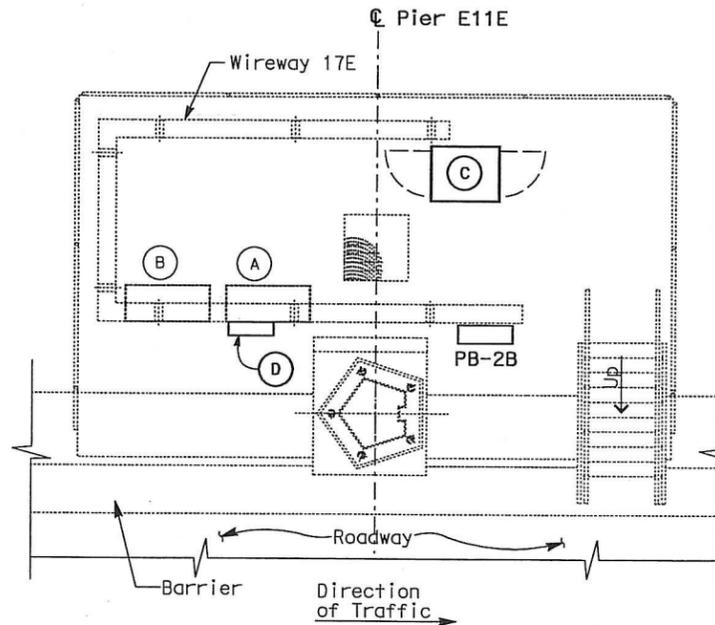
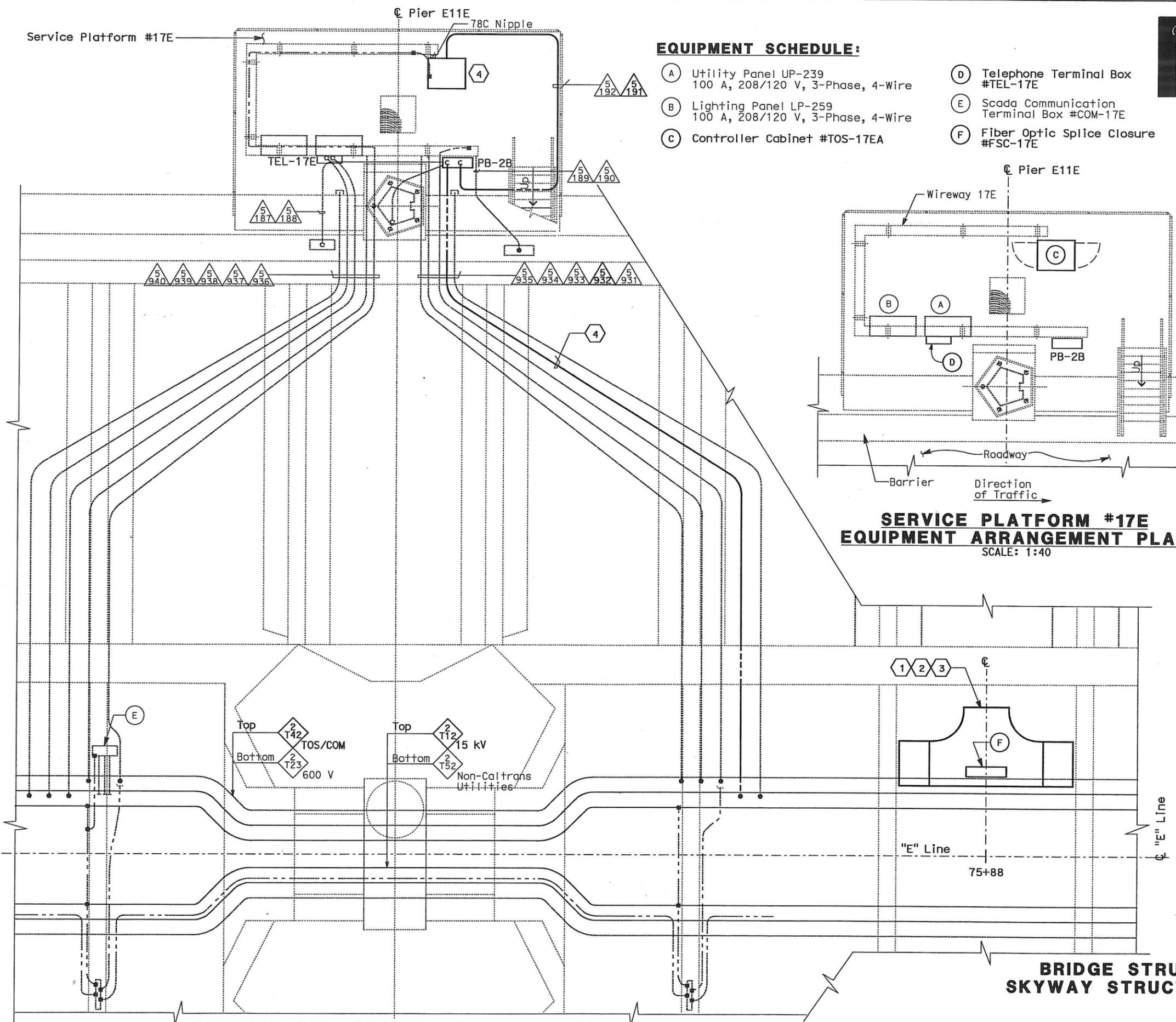
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSIGHT - HT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISION
 DATE REVISION
 DATE REVISION
 DATE REVISION



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 08S33	1204
REGISTERED ELECTRICAL ENGINEER		DATE			
SYN YEE CHIN		03/08/10			
PLANS APPROVAL DATE		05-06-2010			
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-239
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Lighting Panel LP-259
100 A, 208/120 V, 3-Phase, 4-Wire
- (C) Controller Cabinet #TOS-17EA
- (D) Telephone Terminal Box #TEL-17E
- (E) Scada Communication Terminal Box #COM-17E
- (F) Fiber Optic Splice Closure #FSC-17E



**SERVICE PLATFORM #17E
EQUIPMENT ARRANGEMENT PLAN**
SCALE: 1:40

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-289 from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Terminate already installed 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.
- Mount splice cable tray between diaphragms, and secure properly. See sheet E-836, see section detail 4.
- Contractor shall locate the splice cable tray at Station 75+88 as shown on E-811.
- Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connector. See sheets E-972 and E-973.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D/CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 136 OF 290

**DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES-SERVICE PLATFORM #17E**
SCALE AS NOTED

CONDUIT AND GROUNDING PLAN - EB
SCALE: 1:40

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

E-830

DATE PLOTTED => 06-MAY-2010
LAST REVISION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVERSEER: JHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: JHT
 CHECKED BY: JHT
 DATE 01/10/10
 REVISED BY: JHT
 DATE 01/10/10

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 08534	1204

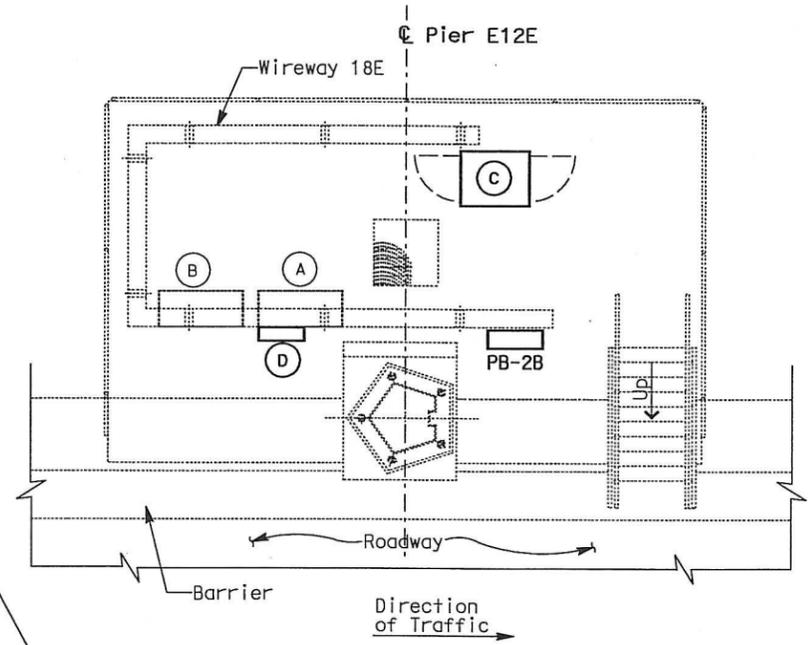
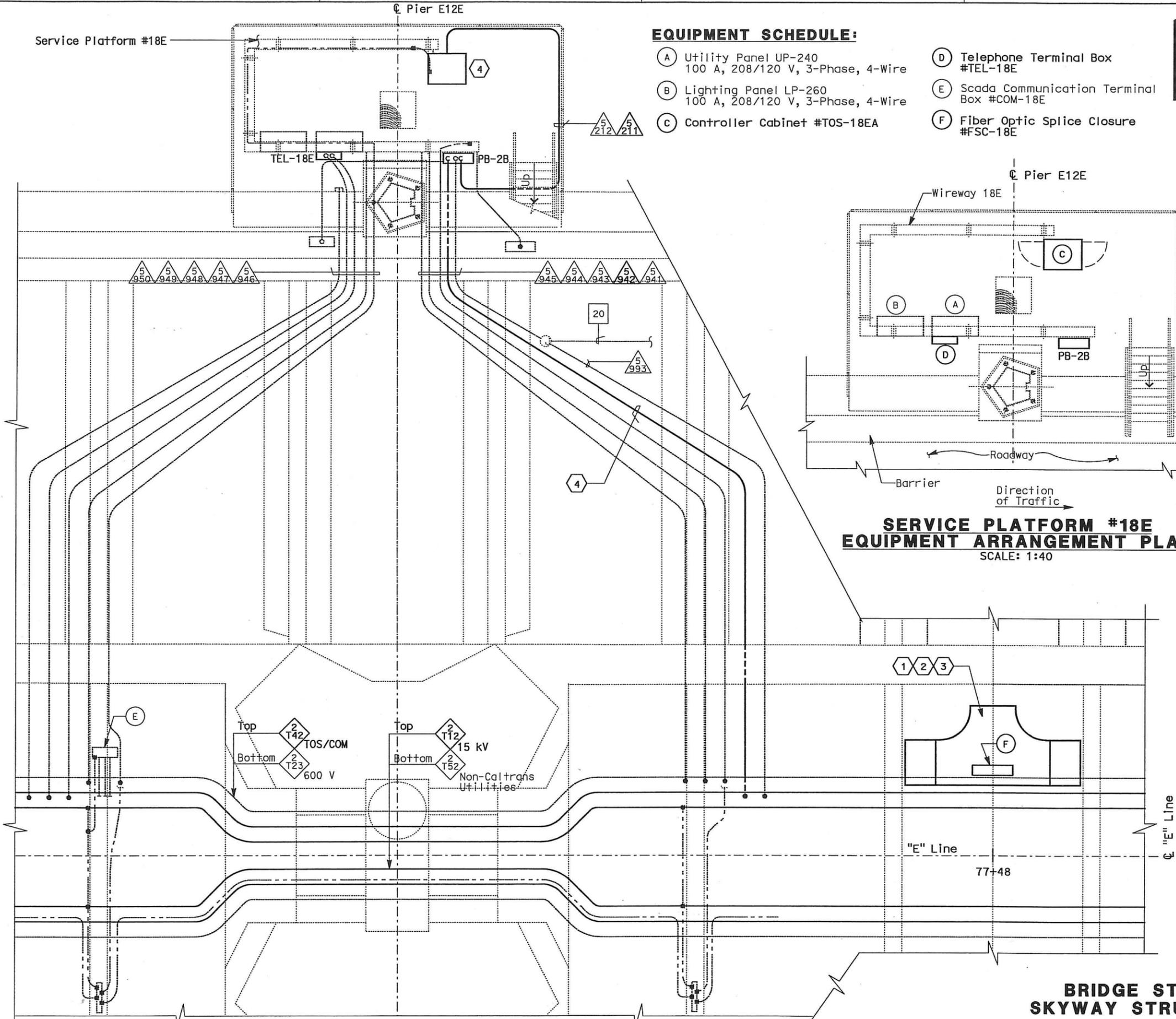
REGISTERED ELECTRICAL ENGINEER: **Syn Yee Chin** 03/08/10
 DATE: 03/08/10
 PLANS APPROVAL DATE: 05-06-2010
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-240
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Lighting Panel LP-260
100 A, 208/120 V, 3-Phase, 4-Wire
- (C) Controller Cabinet #TOS-18EA
- (D) Telephone Terminal Box #TEL-18E
- (E) Scada Communication Terminal Box #COM-18E
- (F) Fiber Optic Splice Closure #FSC-18E



**SERVICE PLATFORM #18E
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-290 from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Terminate already installed 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.
- Mount splice cable tray between diaphragms, and secure properly. See sheet E-836, section detail 4.
- Contractor shall locate the splice cable tray at Station 77+48 as shown on E-812.
- Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connector. See sheets E-972 and E-973.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
03/08/10	MEP INTEGRATION	SYC	FW	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 137 OF 290

**DETAILS
 BRIDGE STRUCTURES GIRDER EASTBOUND
 SKYWAY STRUCTURES-SERVICE PLATFORM #18E**
 SCALE AS NOTED

CONDUIT AND GROUNDING PLAN - EB
 SCALE: 1:40

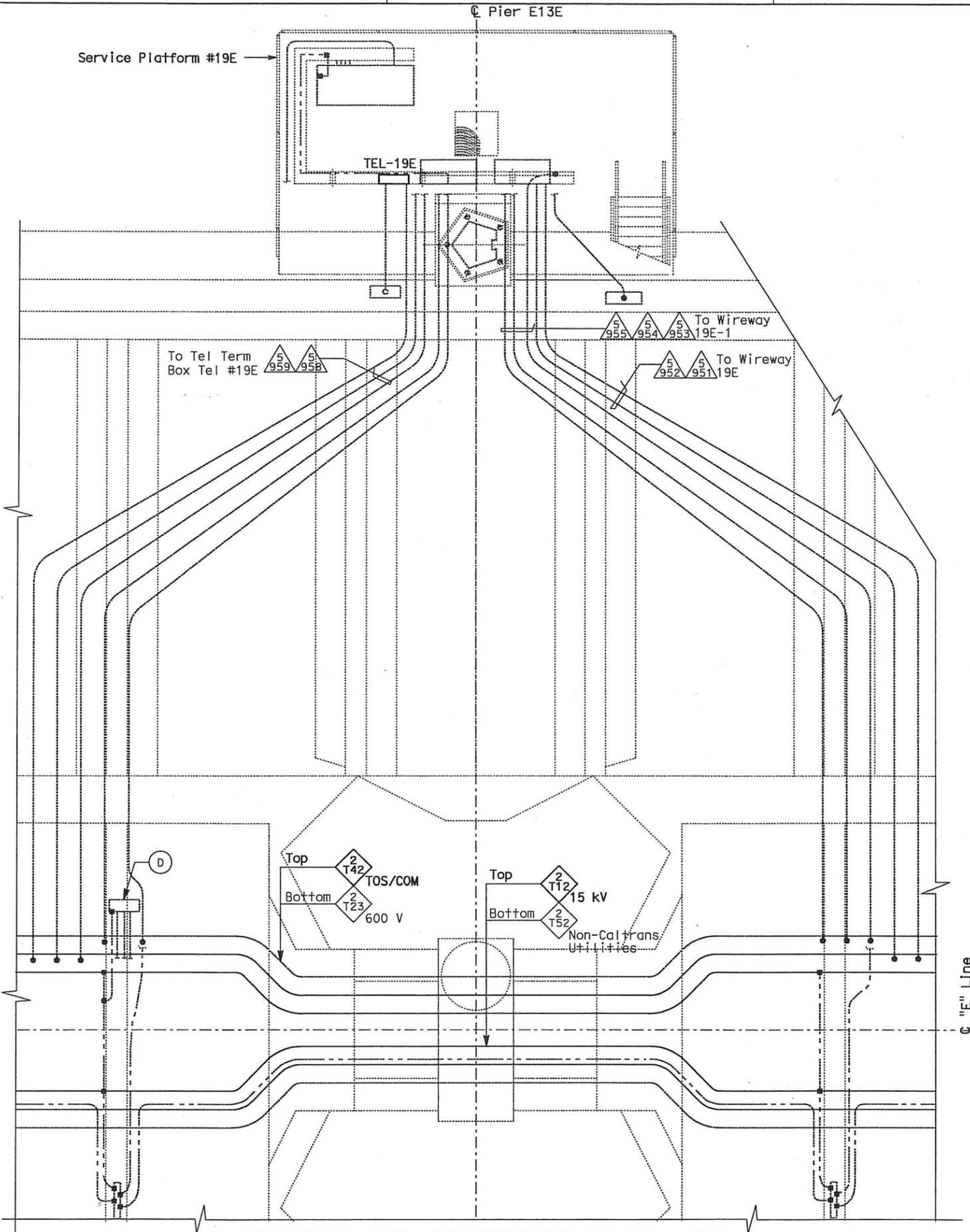
THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

E-831

DATE PLOTTED: 06-MAY-2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVERSEER: JHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: JHT
 CHECKED BY: JHT
 DATE REVISED BY: JHT
 DATE REVISED: JHT



CONDUIT AND GROUNDING PLAN - EB
 SCALE: 1:40

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

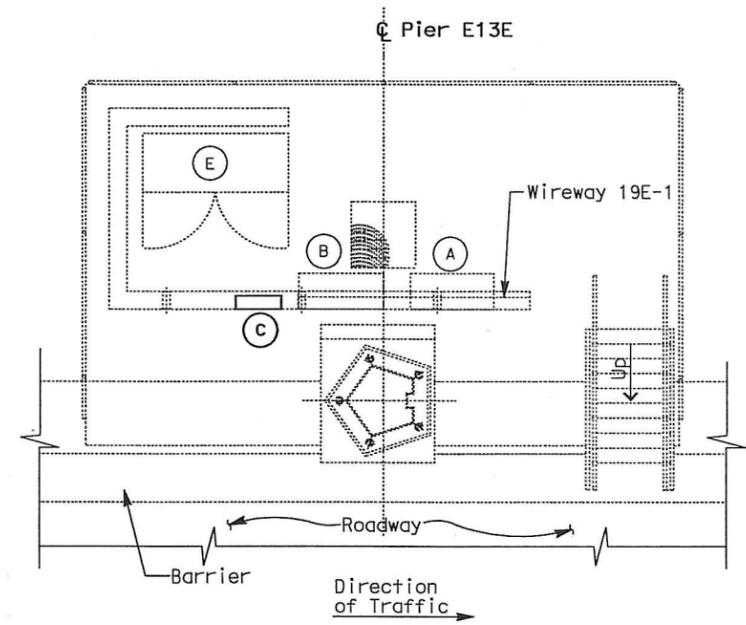
- EQUIPMENT SCHEDULE:**
- (A) Utility Panel UP-241
100 A, 208/120 V, 3-Phase, 4-Wire
 - (B) Lighting Panel LP-261
100 A, 208/120 V, 3-Phase, 4-Wire
 - (C) Telephone Terminal Box #TEL-19E
 - (D) Scada Communication Terminal Box #COM-19E
 - (E) Strong Motion Recorder #2



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 08535	1204

REGISTERED ELECTRICAL ENGINEER: **Syn Yee Chin** 03/08/10
 DATE: 05-06-2010
 PLANS APPROVAL DATE: _____
PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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**SERVICE PLATFORM #19E
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40

- NOTES:**
- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-291 from Skyway Structures, contract No. 04-012024.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Terminate already installed 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable tray shown on this drawing. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
 - All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 138 OF 290

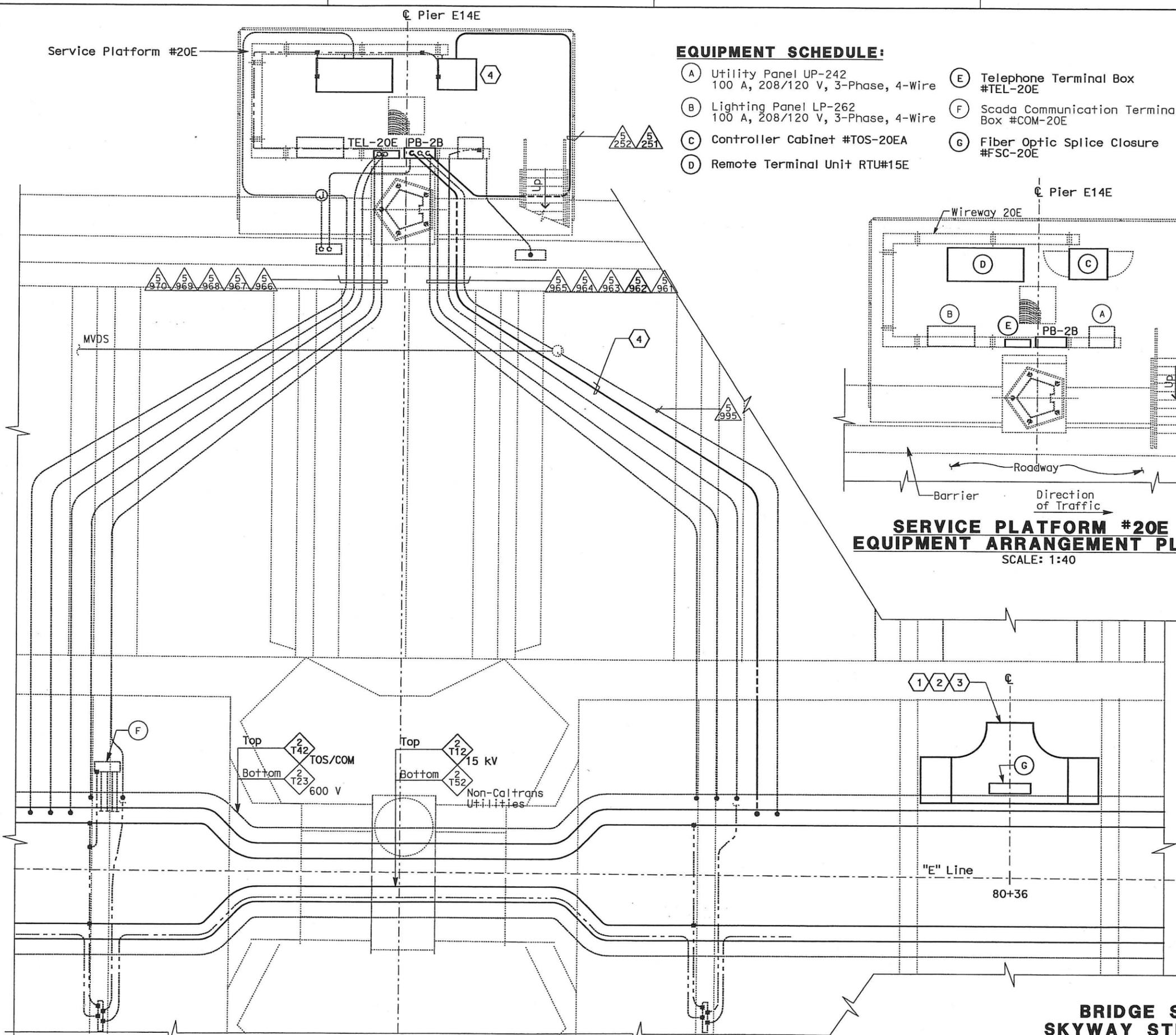
DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES-SERVICE PLATFORM #19E
 SCALE AS NOTED

E-832

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DATE PLOTTED => 06-MAY-2010

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 CHECKED BY
 DATE REVISIONS
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 DATE REVISIONS



CONDUIT AND GROUNDING PLAN - EB
 SCALE: 1:40

EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-242
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Lighting Panel LP-262
100 A, 208/120 V, 3-Phase, 4-Wire
- (C) Controller Cabinet #TOS-20EA
- (D) Remote Terminal Unit RTU#15E
- (E) Telephone Terminal Box #TEL-20E
- (F) Scada Communication Terminal Box #COM-20E
- (G) Fiber Optic Splice Closure #FSC-20E



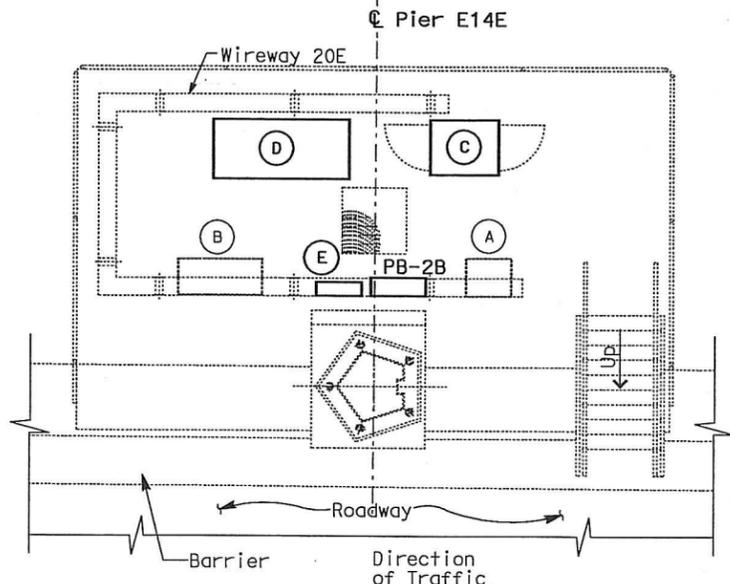
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alca	80	12.2/14.3 0.0/4.0	407a 08536	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 DATE 03/08/10

05-06-2010
 PLANS APPROVAL DATE

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**SERVICE PLATFORM #20E
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-292 from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Terminate already installed 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable tray and conduits shown on this drawing. Pull a 72 fiber in the main tray and terminate in the splice closure. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
 - Remote Terminal Unit #15E. See sheets E-902, E-931, E-938, and E-939.
- All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.
- Mount splice cable tray between diaphragms, and secure properly. See sheet E-836, section detail 4.
- Contractor shall locate the splice cable tray at Station 80+36 as shown on E-814.
- Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connector. See sheets E-972 and E-973.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
MARK	DATE	DESCRIPTIONS	REVISIONS	SYN	FW
△	03/08/10	MEP INTEGRATION			110
				BY	CH'D CCO#

CONTRACT CHANGE ORDER NO. 110
 SHEET 139 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES-SERVICE PLATFORM #20E
 SCALE AS NOTED

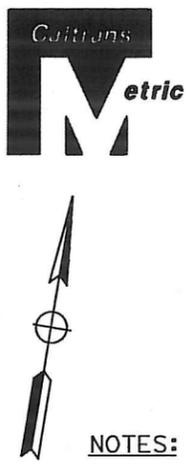
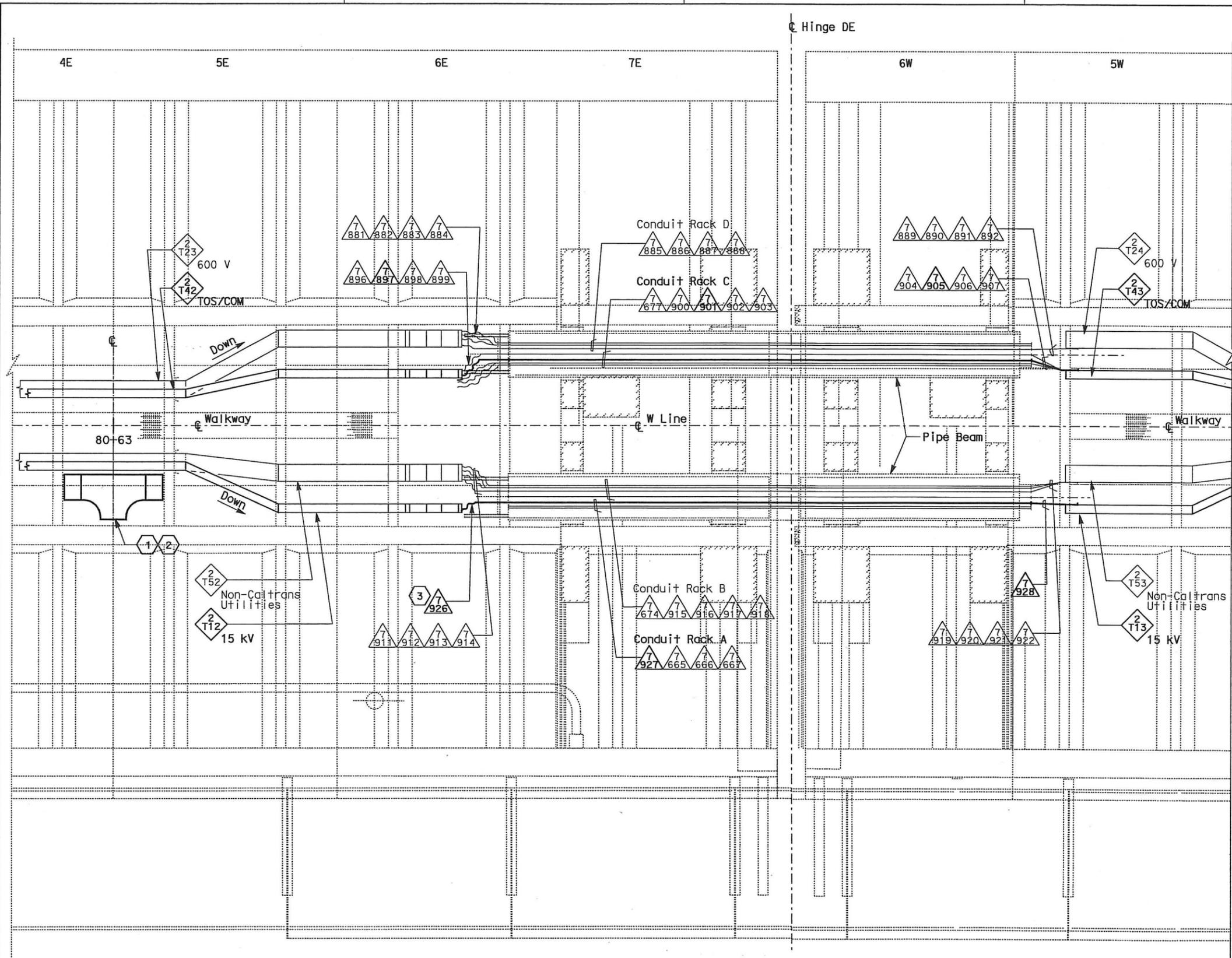
E-833

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DATE PLOTTED => 06-JULY-2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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 DESIGN OVER - JHT
 CALCULATED/DESIGNED BY
 CHECKED BY
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 REVISED BY
 DATE REVISED



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 08537	1204
SYN YEE CHIN		03/08/10		REGISTERED ELECTRICAL ENGINEER DATE	
05-06-2010		PLANS APPROVAL DATE			
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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- NOTES:**
- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-303A from Skyway Structures, contract No. 04-012024.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install the 15KV cables into existing cable trays and conduits shown on this drawing. See sheet E-837.
 - Furnish and install fiber optic cables into existing cable trays and conduits shown on this drawing. See sheet E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
 - All cable trays and conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

- SHEET NOTES:**
- Furnish and install splice cable tray as shown on sheet E-836, plan detail 1.
 - Mount splice cable tray between diaphragms at station 80+63 as shown on E-814, and secure properly. See sheet E-836, section detail 4.
 - In order to be able to pull the 15 kV cable, the Contractor shall disassemble the 15 kV flexible conduit installation. The 15 kV flexible conduit shall be reinstalled after the 15 kV cable has been pulled.

PLAN - HINGE DE
 SCALE: 1:75

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
0	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 140 OF 190

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES - HINGE DE
 SCALE AS NOTED

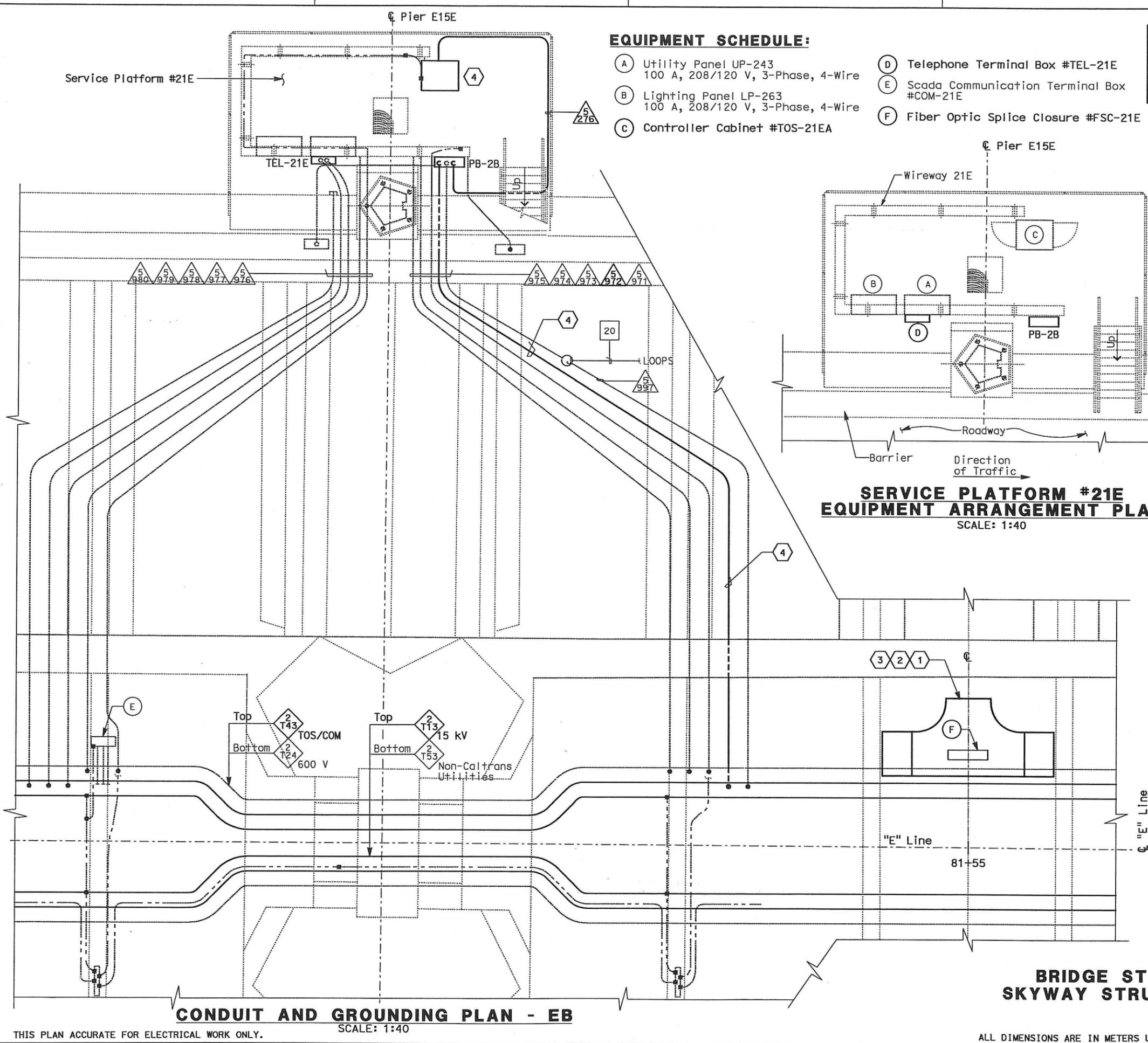
E-833A

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DATE PLOTTED => 06-MAY-2010
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
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 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: JHT
 CHECKED BY: JHT
 DATE REVISED BY: JHT
 DATE REVISED: JHT



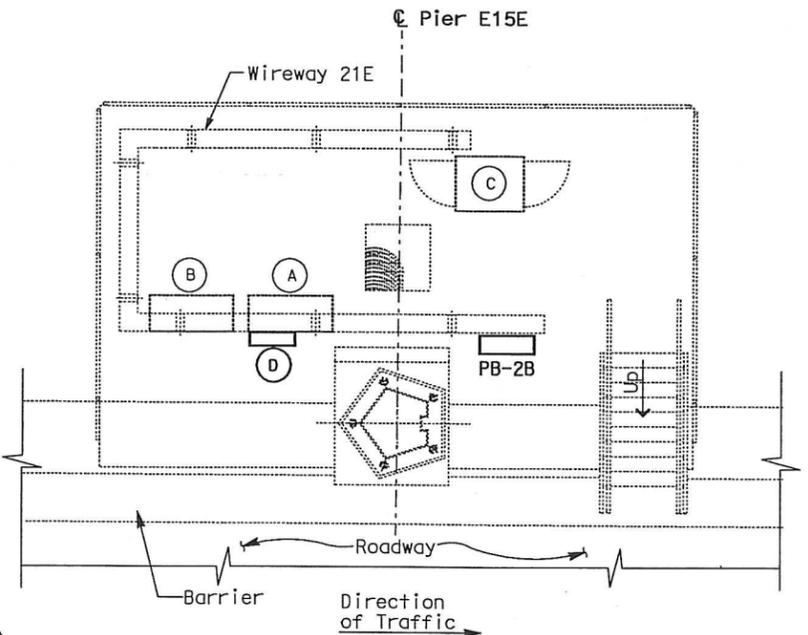
EQUIPMENT SCHEDULE:

- (A) Utility Panel UP-243
100 A, 208/120 V, 3-Phase, 4-Wire
- (B) Lighting Panel LP-263
100 A, 208/120 V, 3-Phase, 4-Wire
- (C) Controller Cabinet #TOS-21EA
- (D) Telephone Terminal Box #TEL-21E
- (E) Scada Communication Terminal Box #COM-21E
- (F) Fiber Optic Splice Closure #FSC-21E



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alca	80	12.2/14.3 0.0/4.0	407a 08538	1204

REGISTERED ELECTRICAL ENGINEER DATE: 03/08/10
 SYN YEE CHIN No. 18186 Exp. 09/30/2011
 STATE OF CALIFORNIA
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**SERVICE PLATFORM #21E
 EQUIPMENT ARRANGEMENT PLAN**
 SCALE: 1:40

NOTES:

- This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-293 from Skyway Structures, contract No. 04-012024.
- The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Terminate already installed 50 pair telephone cable in Telephone Terminal Box. See sheets E-961, E-963 and E-965.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the TOS fiber optic cables into existing cable tray as shown on this drawing. See sheets E-815 and E-983.
 - Inspect for system ground continuity. See sheets E-839 and E-840.
- All cable trays, conduits and equipment shown on this drawing are existing. Bold ones are to be used for pulling cable.

SHEET NOTES:

- Furnish and install splice cable tray as shown on sheet E-836, plan detail 2.
- Mount splice cable tray between diaphragms, and secure properly. See sheet E-836, section detail 4.
- Contractor shall locate the splice cable tray at Station 81+55 as shown on sheet E-815.
- Furnish and install 12 fiber optic cables from Fiber Optic Splice Closure to Controller Cabinet. Route via pull box PB-2B. Coil 3m of cable inside Controller Cabinet for connections by others. The coiled end of the fiber optic cables shall be terminated with mated connector. See sheets E-972 and E-973.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
△	03/08/10	MCP INTEGRATION	SYC	FW	110
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 141 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES-SERVICE PLATFORM #21E
 SCALE AS NOTED

E-834

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

SCALE: 1:40

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DATE PLOTTED => 06-MAY-2010

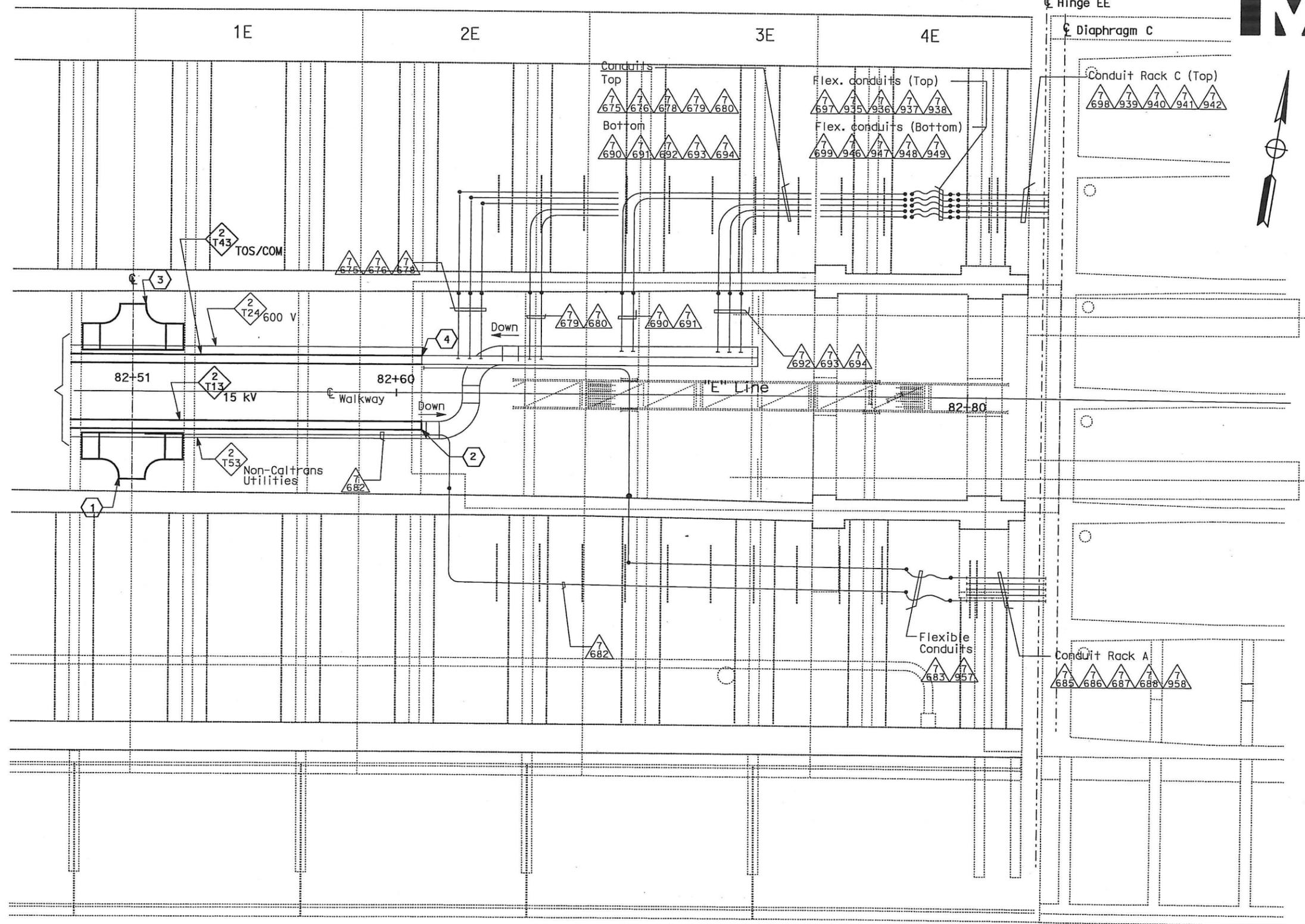
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVER... JHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY SYC
 CHECKED BY FW
 DATE REVISED BY
 DATE REVISED

Skyway Structures Contract No. 04-012024
 Oakland Touchdown 1 Contract No. 04-0120L4



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alca	80	12.2/14.3	0.0/4.0	407a 08S39	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
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 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
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- NOTES:**
- This plan sheet is a record drawing from Oakland Touchdown 1 contract. The Contractor shall verify the existing installation. See sheet E-59 from Oakland Touchdown 1, contract No. 04-0120L4.
 - The installed components shall not be limited to the ones listed below, but shall be a complete installation. For details, see Bridge Structures Girder Eastbound, typical Details sheets.
 - Furnish and install the 15kV cables into existing cable tray shown on this drawing. See sheet E-837.
 - Furnish and install the fiber optic cable into existing cable tray shown on this drawing. See sheet E-983 and E-984.
 - All cable trays and conduits shown on this drawing are existing. Bold ones are to be used for pulling cable.

- SHEET NOTES:**
- Furnish and install splice cable tray as shown on sheet E-836A, Detail 6.
 - Furnish and install 15 kV cables with length up to this point for splicing by others.
 - Furnish and install splice cable tray as shown on sheet E-836A, Detail 7.
 - Furnish and install fiber optic cable with length up to this point for splicing by others.

PLAN - HINGE EE
 SCALE: 1:75

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 142 OF 190

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
SKYWAY STRUCTURES-HINGE EE
 SCALE: AS NOTED

E-835

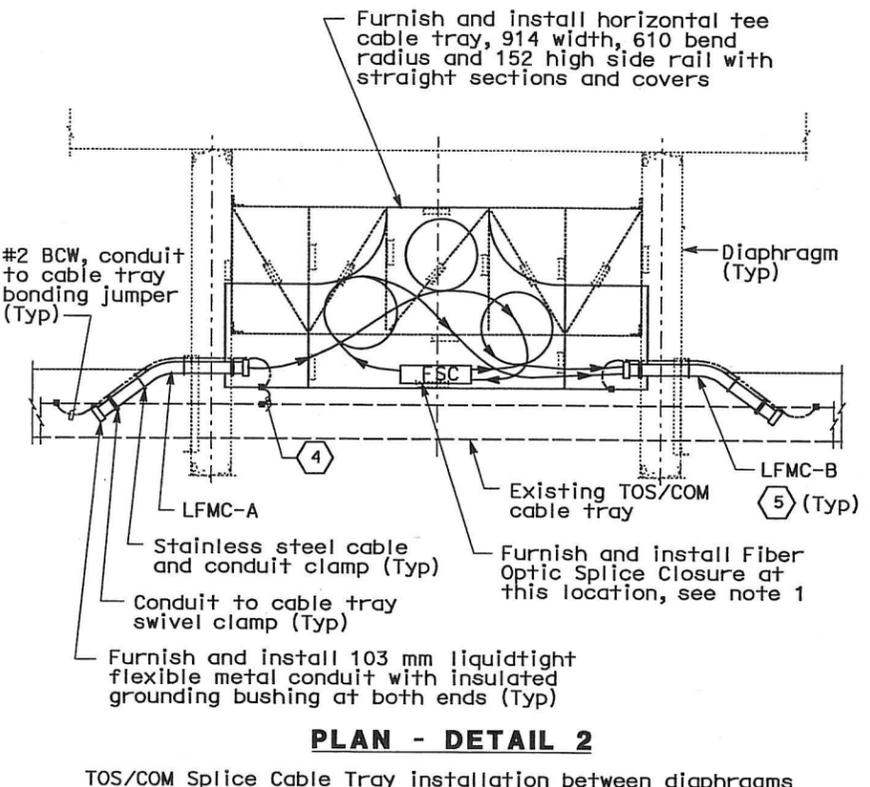
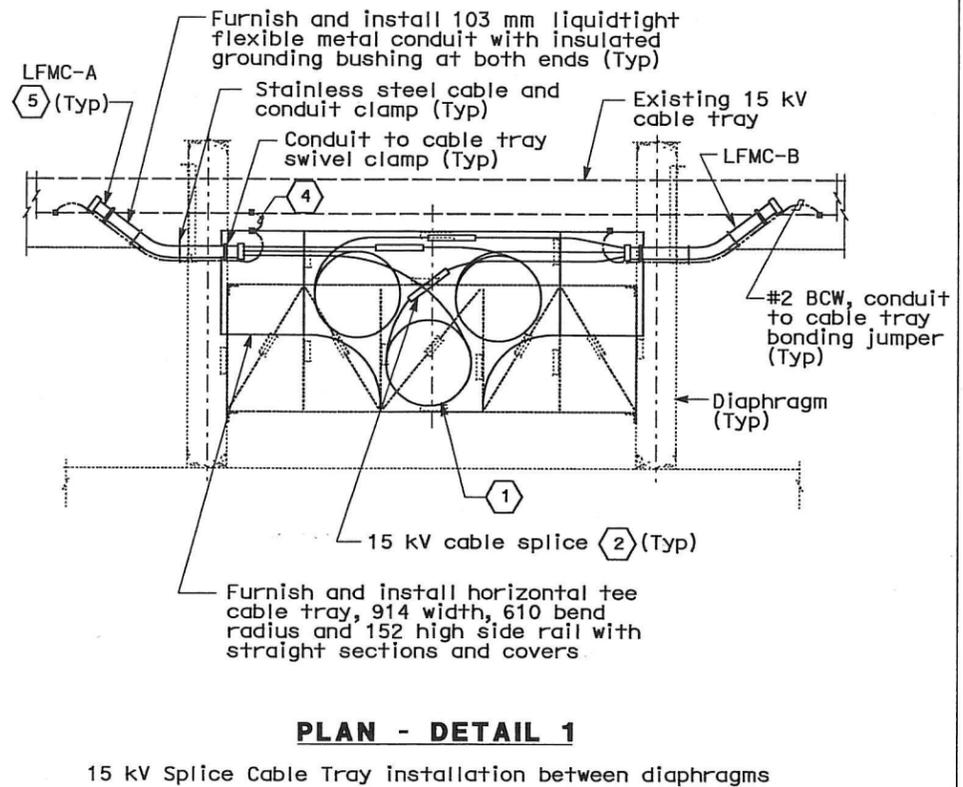
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DATE PLOTTED = 06-MAY-2010



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
SYN YEE CHIN					03/08/10	
REGISTERED ELECTRICAL ENGINEER					DATE	
05-06-2010					PLANS APPROVAL DATE	
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NOTES:
1. For fiber optic splice detail, see sheet E-972.

- SHEET NOTES:**
- ① Minimum cable bend radius shall be 12 times the diameter of the cable. Provide 6.5 meter cable slack per phase. For shield grounding see sheet E-836A, Detail 3.
 - ② The 15 kV cable splice shall not project above the cable tray side rails. Locate splice at near mid-point of coiled cable.
 - ③ Contractor to verify dimensions and make adjustment to the support to suit field condition as required.
 - ④ Cable tray bonding jumper assembly shall be Cooper B-Line Catalog #99-40 or approved equal. Mounting hardware shall be hot dipped galvanized steel, ribbed neck carriage bolt, serrated flange hex nut, flat and lock washers.
 - ⑤ See Table A for conduit location and designation number.

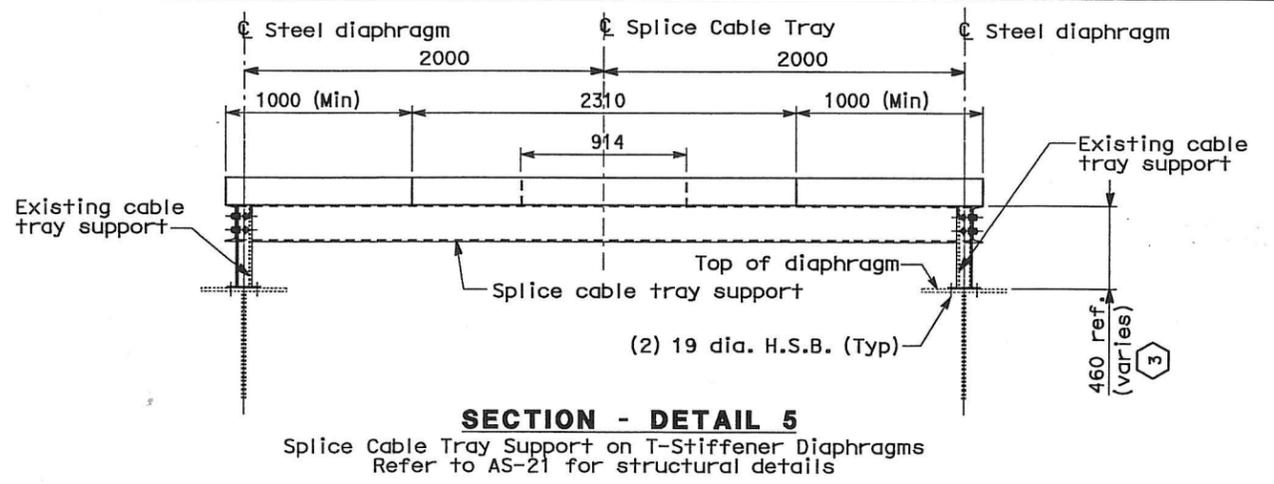
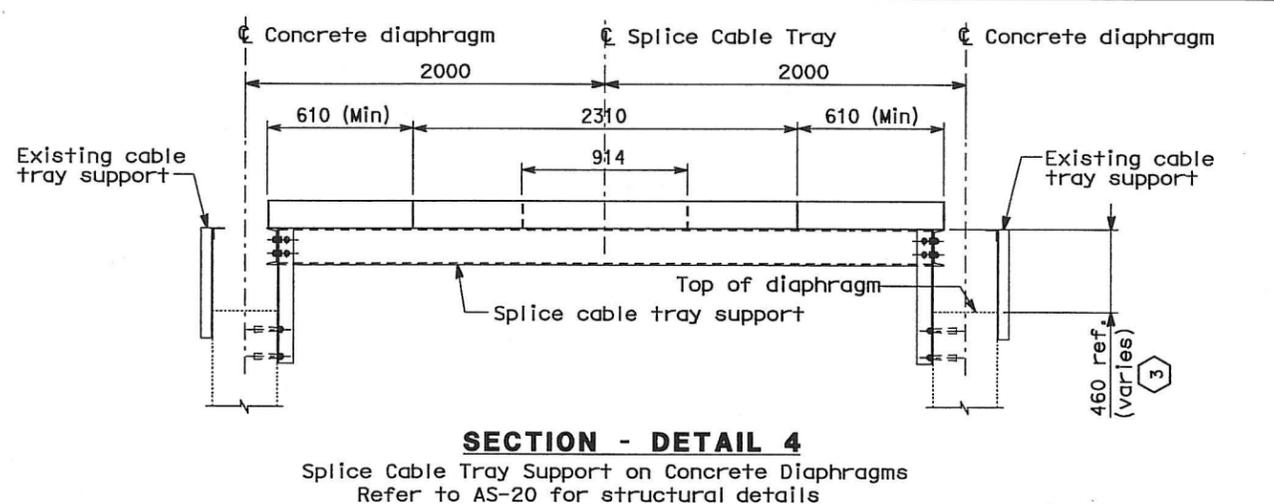


TABLE A		
15 kV Splice Cable Tray Conduit Schedule		
Location	LFMC-A	LFMC-B
Sta 62 + 27 (Hinge AE)	7492A	7492B
Sta 68 + 27 (Hinge BE)	2544A	2544B
Sta 74 + 68 (Hinge CE)	2593A	2593B
Sta 80 + 63 (Hinge DE)	7926A	7926B
Sta 82 + 51 (Hinge EE)	7681	-

TOS/COM Splice Cable Tray Conduit Schedule		
Location	LFMC-A	LFMC-B
Sta 62 + 27 (Hinge AE)	7476A	7476B
Sta 63 + 19 (Service Platform #9E)	5852A	5852B
Sta 64 + 73 (Service Platform #10E)	5862A	5862B
Sta 66 + 27 (Service Platform #11E)	5872A	5872B
Sta 67 + 91 (Service Platform #12E)	5882A	5882B
Sta 69 + 47 (Service Platform #13E)	5891A	5891B
Sta 72 + 68 (Service Platform #15E)	5912A	5912B
Sta 74 + 28 (Service Platform #16E)	5922A	5922B
Sta 75 + 88 (Service Platform #17E)	5932A	5932B
Sta 77 + 48 (Service Platform #18E)	5942A	5942B
Sta 80 + 36 (Service Platform #20E)	5962A	5962B
Sta 81 + 55 (Service Platform #21E)	5972A	5972B
Sta 82 + 51 (Hinge EE)	7676A	7676B

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△	03/08/10	MEP INTEGRATION	RG	FW 110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
SHEET 143 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
GIRDER TYPICAL DETAILS
NO SCALE

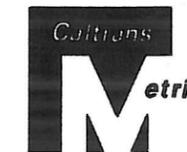
E-836

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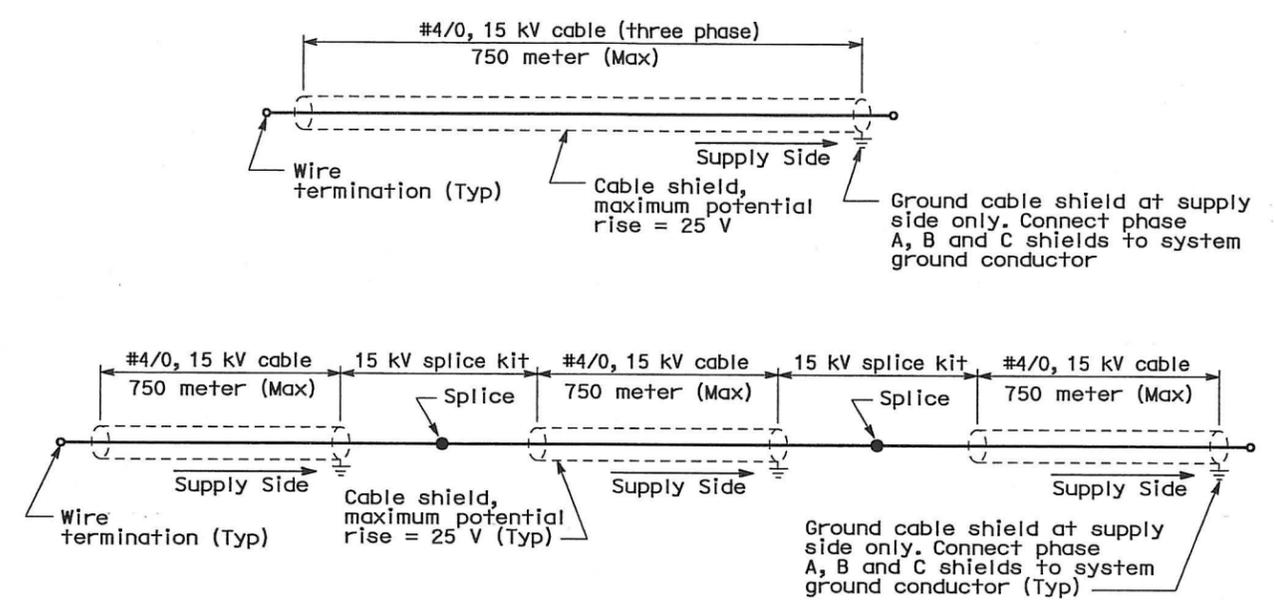
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DATE PLOTTED = 03-06-MAY-2010



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
			03/08/10			
SYN YEE CHIN			REGISTERED ELECTRICAL ENGINEER		DATE	
05-06-2010			PLANS APPROVAL DATE			
PB AMERICAS, Inc.						
A Parsons Brinckerhoff Company						
303 Second St., Suite 700N						
San Francisco, CA 94107-1317						
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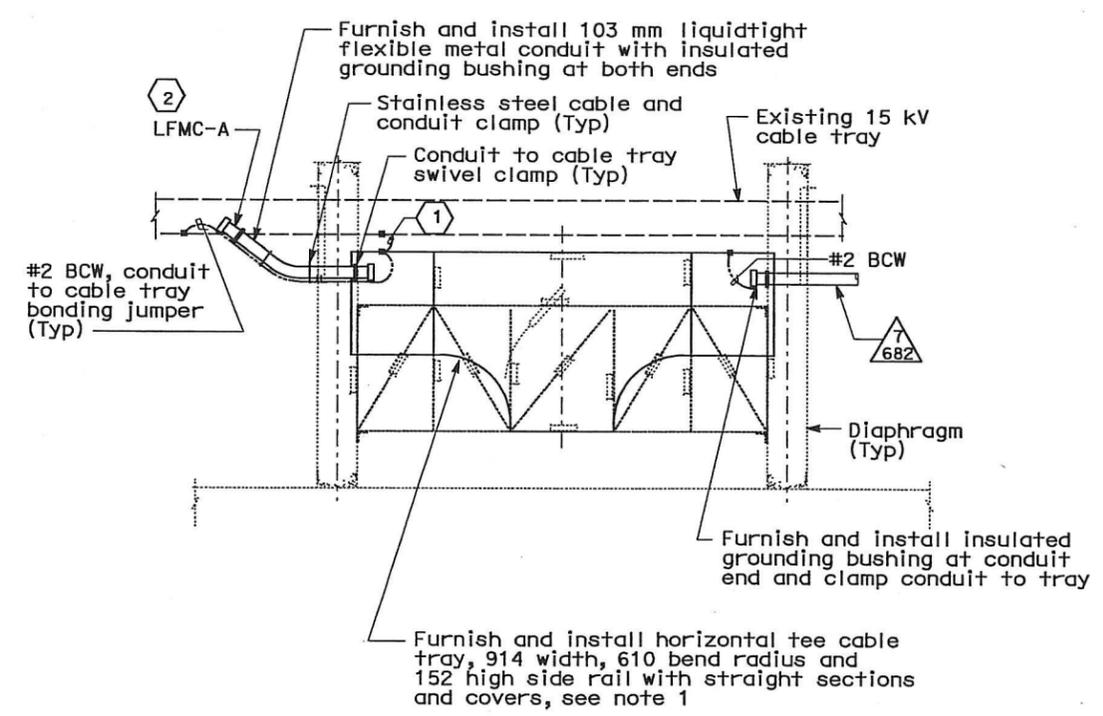
SHIELD GROUNDING - DETAIL 3

NOTES:

- 1. For splice cable tray support details, see sheet E-836.

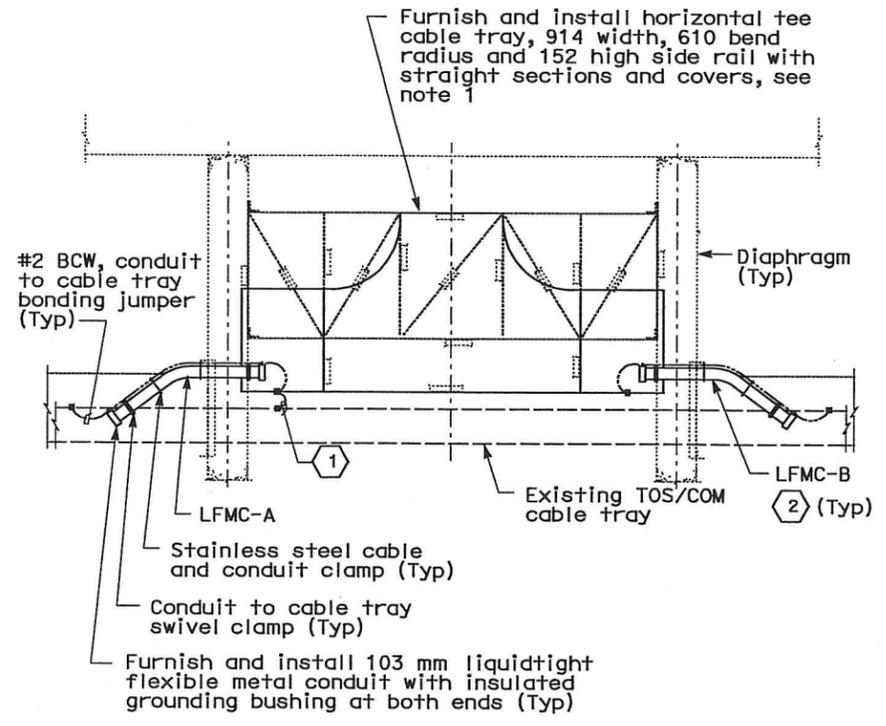
SHEET NOTES:

- 1 Cable tray bonding jumper assembly shall be Cooper B-Line Catalog #99-40 or approved equal. Mounting hardware shall be hot dipped galvanized steel, ribbed neck carriage bolt, serrated flange hex nut, flat and lock washers.
- 2 See sheet E-836, Table A for conduit location and designation number.



PLAN - DETAIL 6

15 kV Splice Cable Tray installation between diaphragms
See E-835 for Splice Cable Tray Location



PLAN - DETAIL 7

TOS/COM Splice Cable Tray installation between diaphragms

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	RG	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
SHEET 144 OF 290

DETAILS
BRIDGE STRUCTURES GIRDER EASTBOUND
GIRDER TYPICAL DETAILS
NO SCALE

E-836A

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN OVERSIGHT
BEHZAD GOLEMOHAMMADI
DATE REVISION

DATE	REVISION	BY
01/10		FW
01/10		FW

CALCULATED/DESIGNED BY	CHECKED BY

DATE	REVISION	BY
01/10		FW
01/10		FW

DATE PLOTTED => 06-MAY-2010
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Caltrans

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01/10

REVISOR
DATE

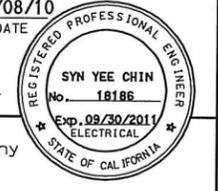
BY
DATE

NO.
DATE

DATE



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	4079 08543	1204
		REGISTERED ELECTRICAL ENGINEER		DATE	
		SYN YEE CHIN		03/08/10	
		PLANS APPROVAL DATE		05-06-2010	
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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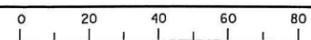


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CONTRACT CHANGE ORDER NO. 110
 SHEET 146 OF 290

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CU 04251

EA 0120F1

E-838

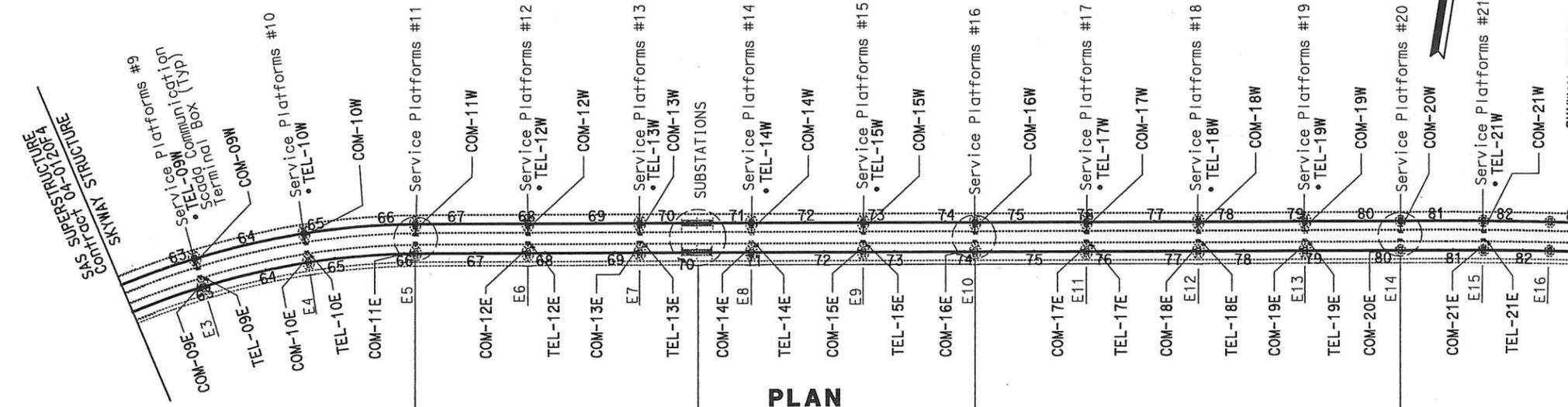
DATE PLOTTED => 06-MAY-2010
 TIME PLOTTED => 18:27
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 00-00-00

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF,Ala	80	12.2/14.3 0.0/4.0	407d 09S01	1204

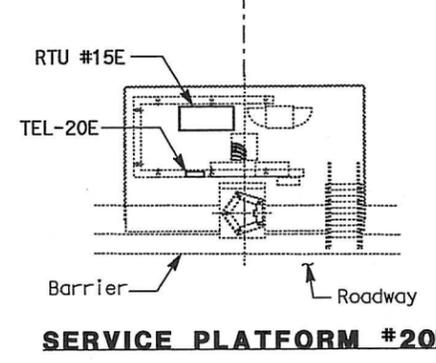
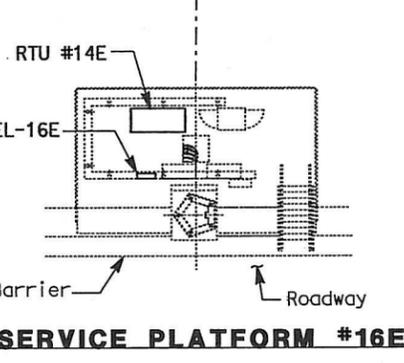
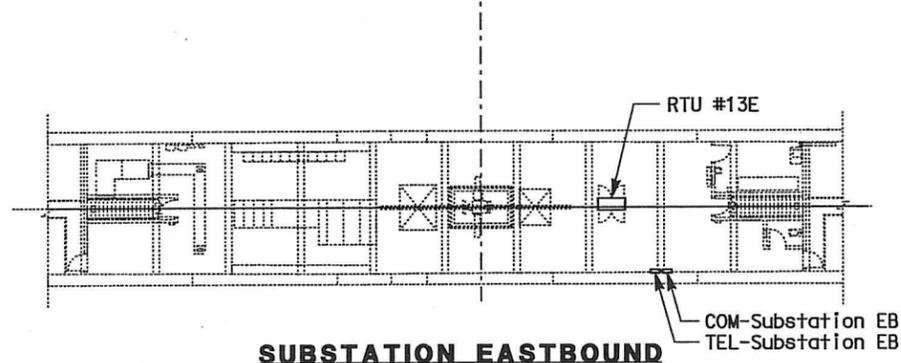
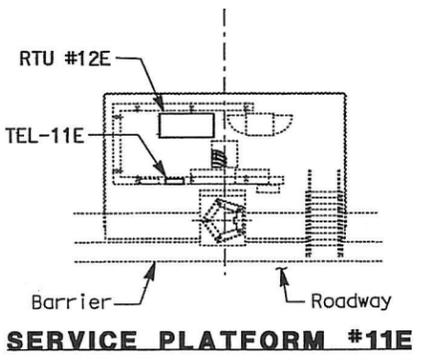
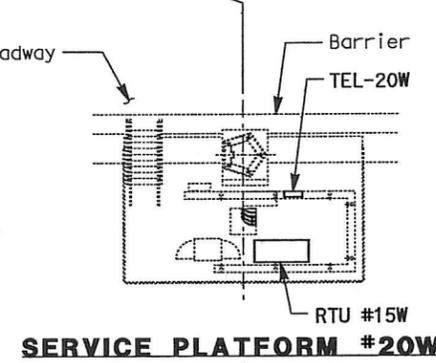
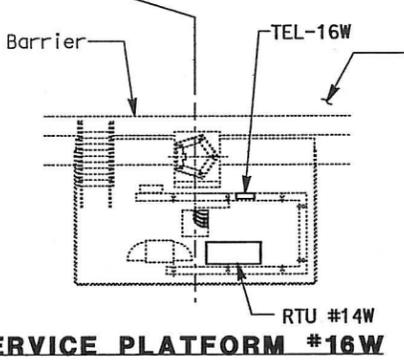
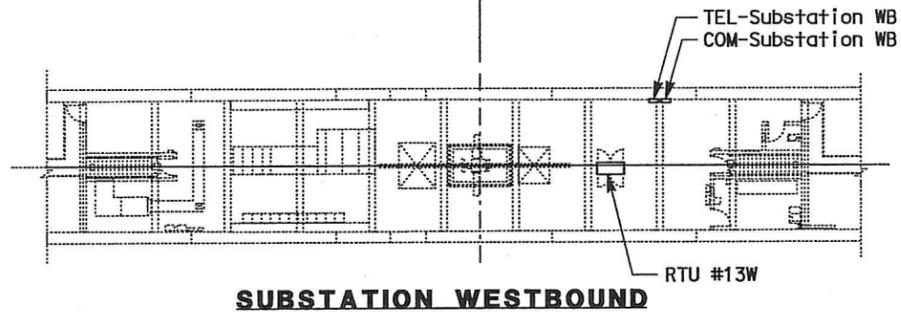
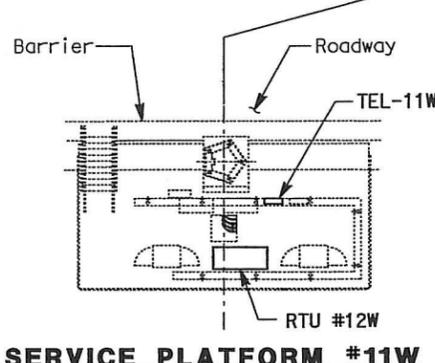
03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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- NOTES:**
1. This plan sheet is a record drawing from Skyway Structures contract. The Contractor shall verify the existing installation. See sheet EE-116 of Skyway Structures, contract No. 04-012024.
 2. Contractor to furnish and install Equipment at the Service Platforms and inside the Substations as shown on the detailed plans.
 3. Contractor to work on the Telephone Terminal Box located at each service platform and inside the Substations as noted on detailed plans.



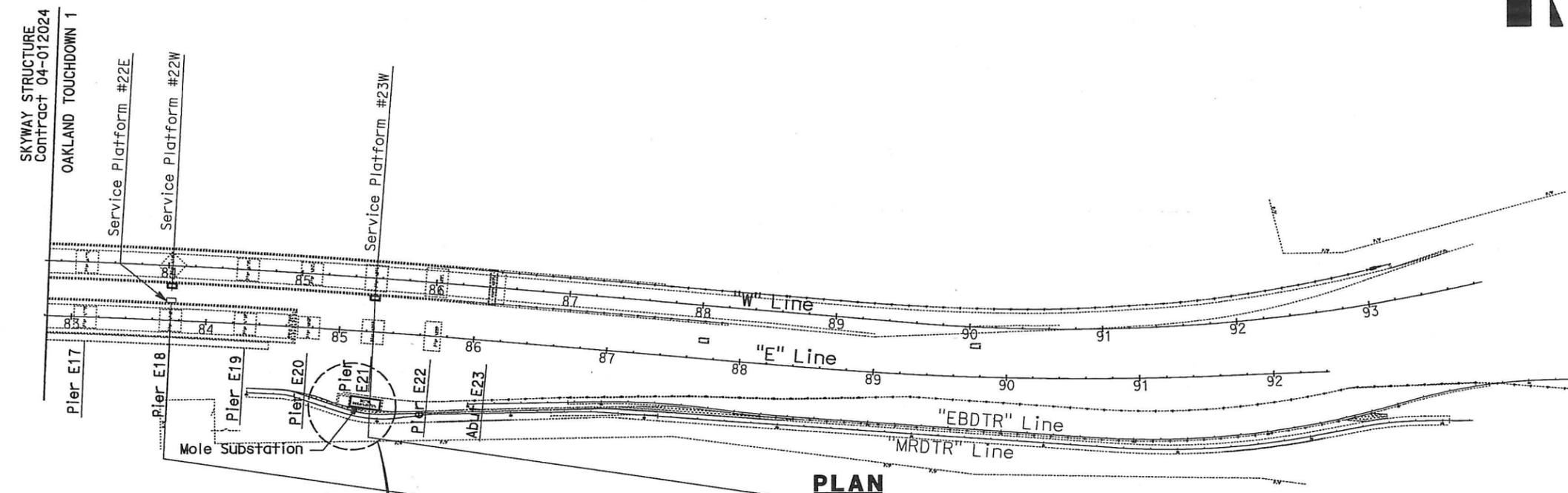
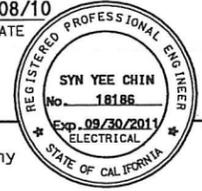
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
△	03/08/10	MEP INTEGRATION	JE	FW 110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 149 OF 290

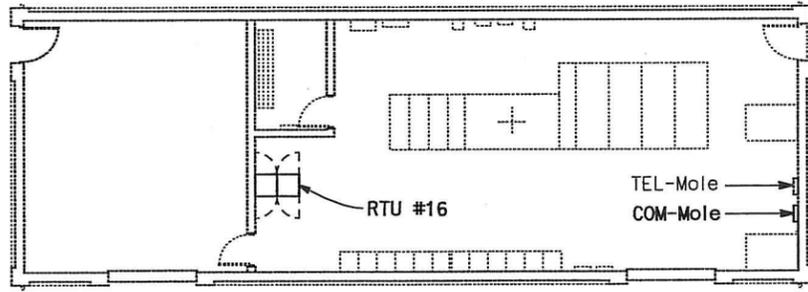
**SCADA REMOTE TERMINAL UNIT SYSTEM
 SKYWAY STRUCTURES
 EQUIPMENT LOCATIONS**
 NO SCALE



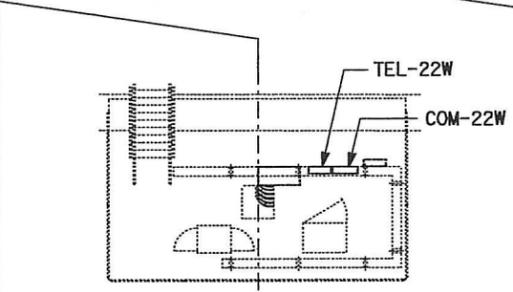
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S02	1204
SYN YEE CHIN REGISTERED ELECTRICAL ENGINEER DATE			03/08/10		
PLANS APPROVAL DATE 05-06-2010					
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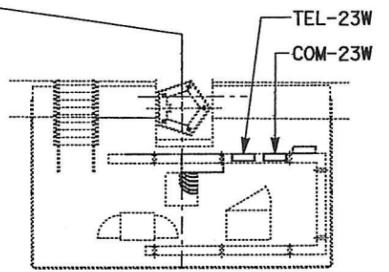
- NOTES:**
1. This plan sheet is a record drawing from Oakland Structures contract. The Contractor shall verify the existing installation. See sheet E-154 of Oakland Touchdown 1, contract No. 04-0120L4.
 2. Contractor to furnish and install equipment at the Service Platforms and inside the Substations as shown on the detailed plans.
 3. Contractor to work on the telephone terminal box located at each Service Platform as noted on detailed plans.



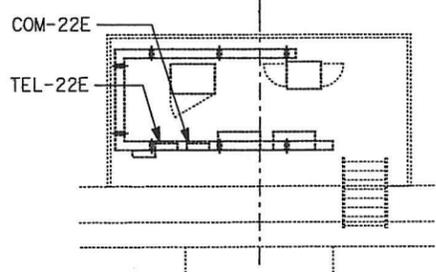
MOLE SUBSTATION



SERVICE PLATFORM #22W



SERVICE PLATFORM #23W



SERVICE PLATFORM #22E

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
△	03/08/10	MEP INTEGRATION	JE	FW 110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
		REVISIONS		

CONTRACT CHANGE ORDER NO. 110
 SHEET 150 OF 290

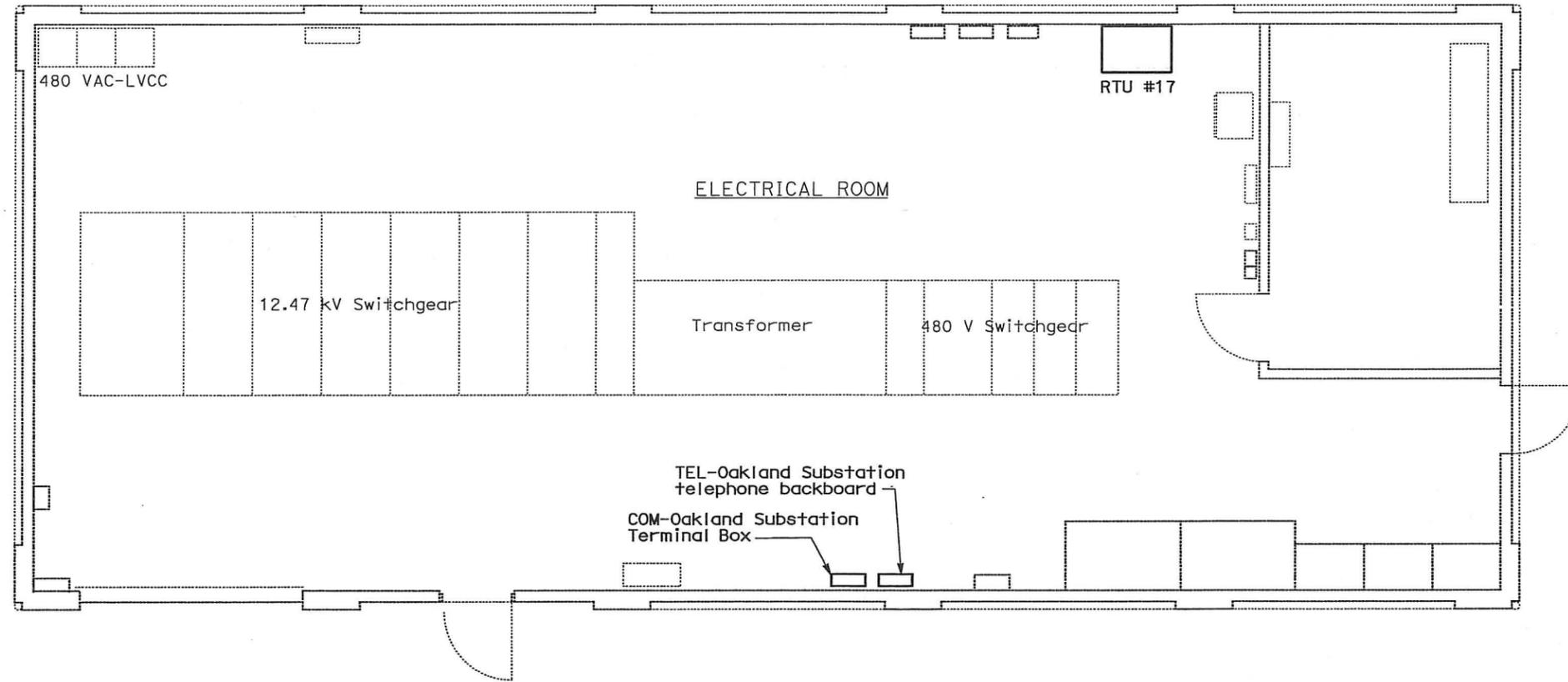
**SCADA REMOTE TERMINAL UNIT SYSTEM
 OAKLAND APPROACH STRUCTURES
 EQUIPMENT LOCATIONS**
 SCALE: 1:200

CALCULATED/ DESIGNED BY	DATE 01/10	REVISOR	DATE 01/10
CHECKED BY	SYC	FW	DATE 01/10

DESIGN OVERSIGHT
 BEHZAD GOLEHAMMADI



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S03	1204
SYN YEE CHIN REGISTERED ELECTRICAL ENGINEER			03/08/10 DATE		
05-06-2010 PLANS APPROVAL DATE					
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FLOOR PLAN
 SCALE: 1:40

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△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 151 OF 290

**SCADA REMOTE TERMINAL UNIT SYSTEM
 OAKLAND SUBSTATION
 EQUIPMENT LOCATIONS**
 SCALE AS SHOWN

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407d	1204
			09/30/2011			

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
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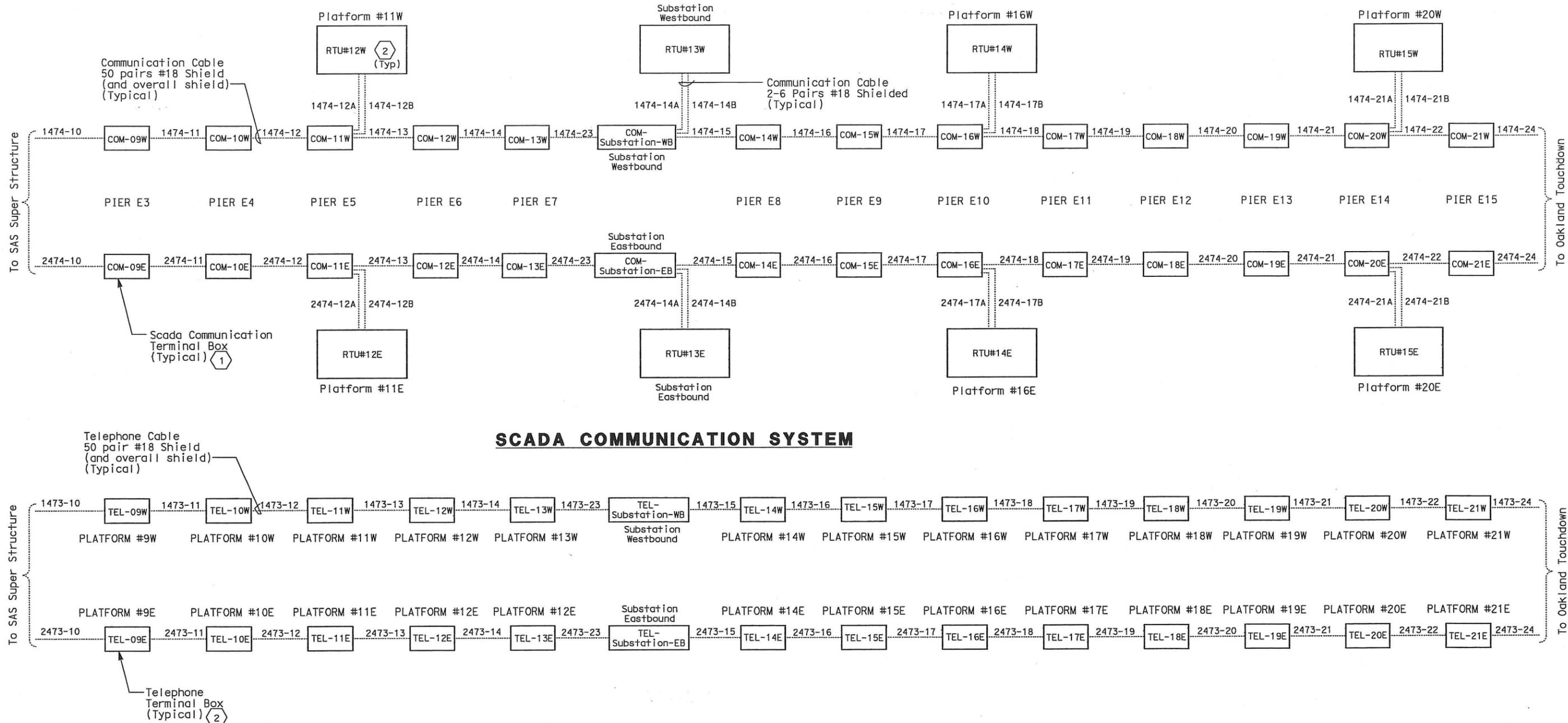


SHEET NOTES:

- ① Located inside bridge Girder Box.
- ② Located at Service Platform.

NOTES:

1. This plan sheet is a record drawing from Skyway Structures Contract. See sheet EE-373 of Skyway Structures, Contract No. 04-012024. The contractor shall verify the existing installation.
2. This plan sheet is included here for overall information on Skyway Structures. Contractor shall work on the equipment per details on other plan in this Contract Change Order.



SCADA COMMUNICATION SYSTEM

TELEPHONE SYSTEM

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
SCADA AND TELEPHONE CABLE BLOCK DIAGRAMS
 NO SCALE

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 152 OF 290

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

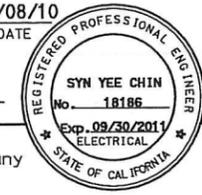
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 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISIED BY
 DATE REVISIED BY
 DATE REVISIED BY





DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	407a	09S05	1204
			0.0/4.0			

SYN YEE CHIN 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE



05-06-2010
 PLANS APPROVAL DATE

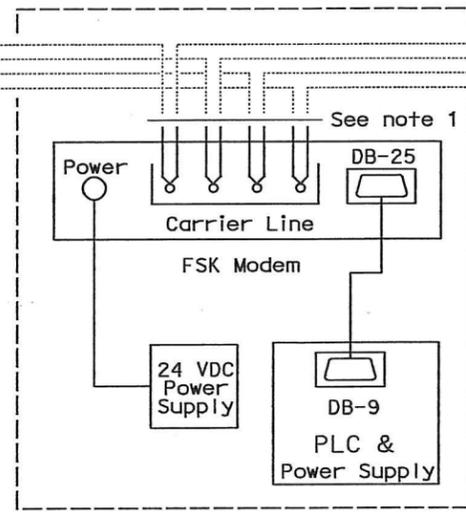
P8 AMERICAS, Inc.
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 San Francisco, CA 94107-1317

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NOTES:

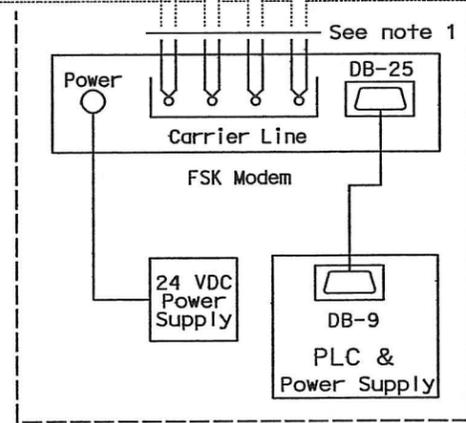
- 50 pr. cables have previously been installed. Contractor shall make the terminations into the FSK modems.

Typical:
 To RTU #14W
 To RTU #13W
 To RTU #12W
 To RTU #11W
 To RTU #10W
 To RTU #9W

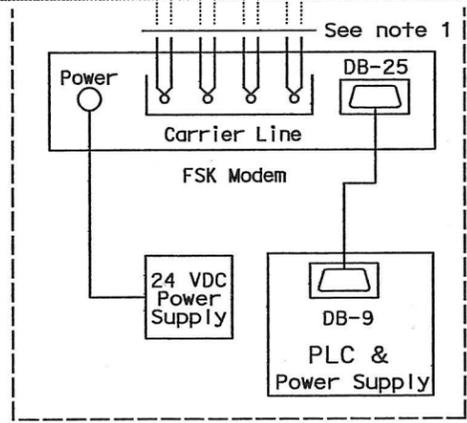


**SKYWAY W.
RTU #15W**

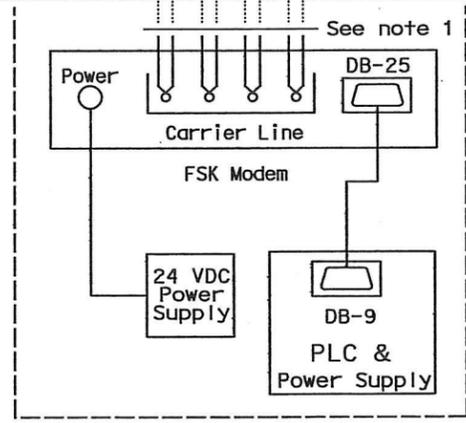
Typical:
 To RTU #14E
 To RTU #13E
 To RTU #12E
 To RTU #11E
 To RTU #10E
 To RTU #9E
 To RTU #7A
 To RTU #8A



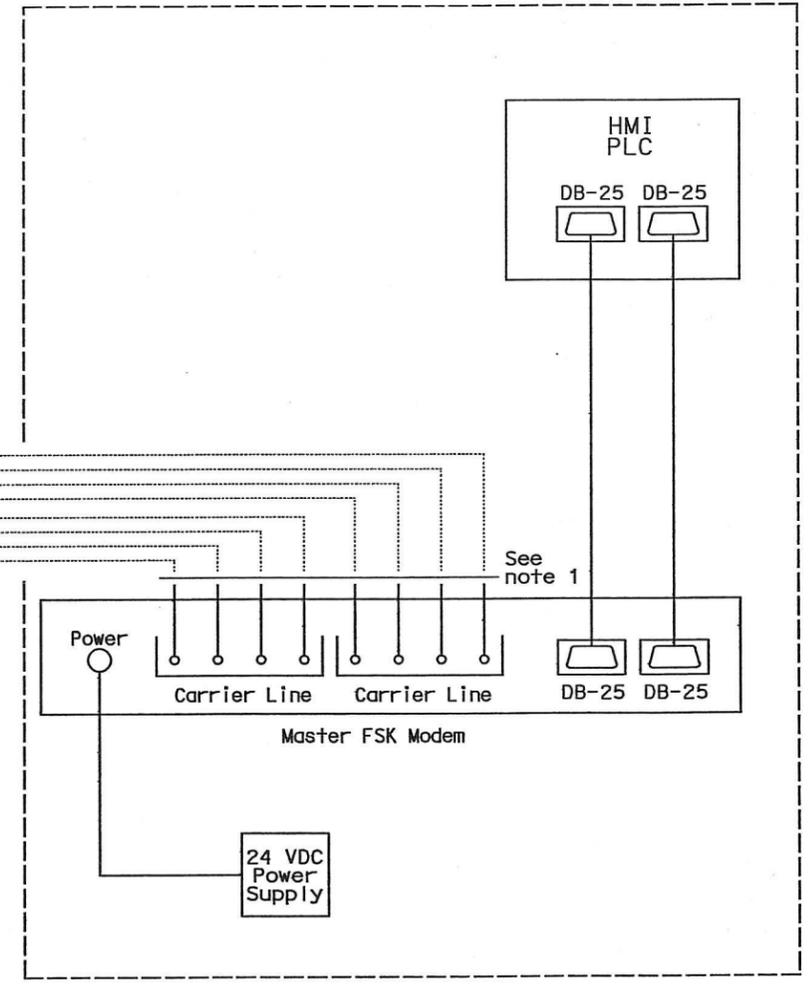
**SKYWAY E.
RTU #15E**



**MOLE SUBSTATION
RTU #16**



**OAKLAND SUBSTATION
RTU #17**



**TOLL PLAZA BLDG.
MASTER STATION**

1-50 prs. #18 shld. (pairs 1 and 2)

1-50 prs. #18 shld. (pairs 1, 2, 7 and 8)

1-50 prs. #18 shld. (pairs 1, 2, 7, and 8)

1-50 prs. #18 shld. (pairs 7 and 8)

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 153 OF 290

**DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU FSK MODEM WIRING DIAGRAM**

NO SCALE

E-902

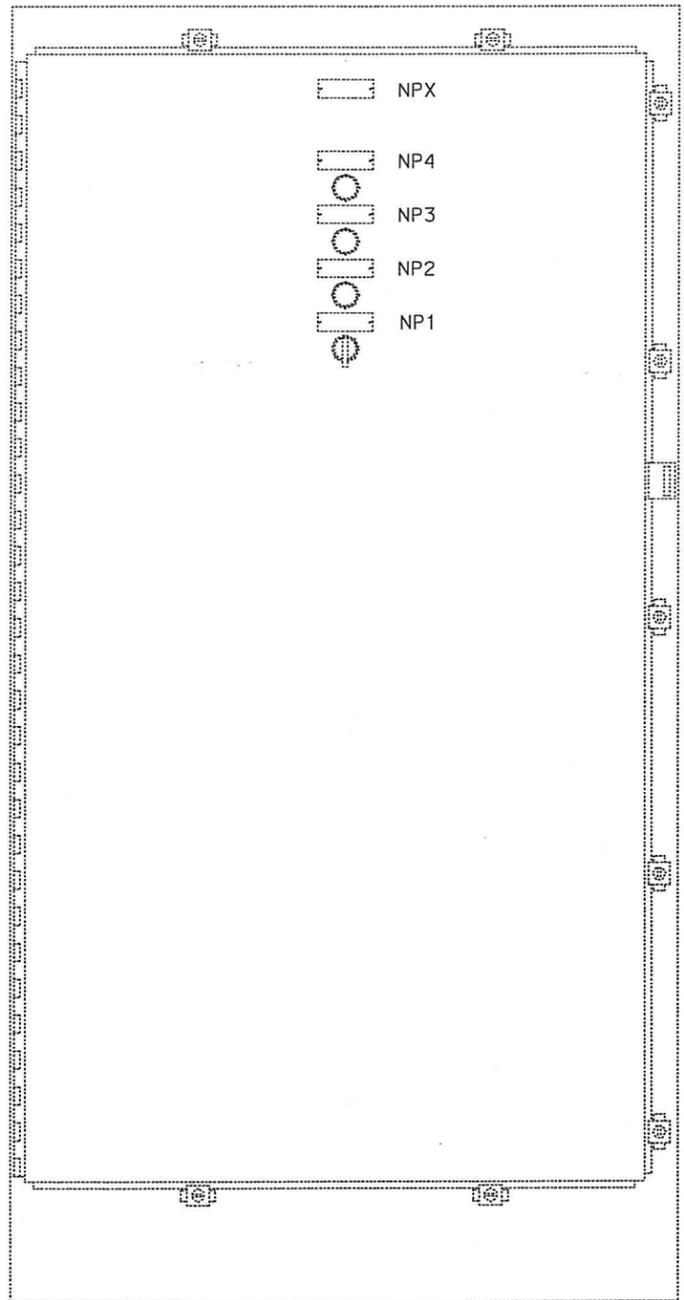
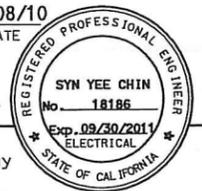
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI
 CALIFORNIA Caltrans

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

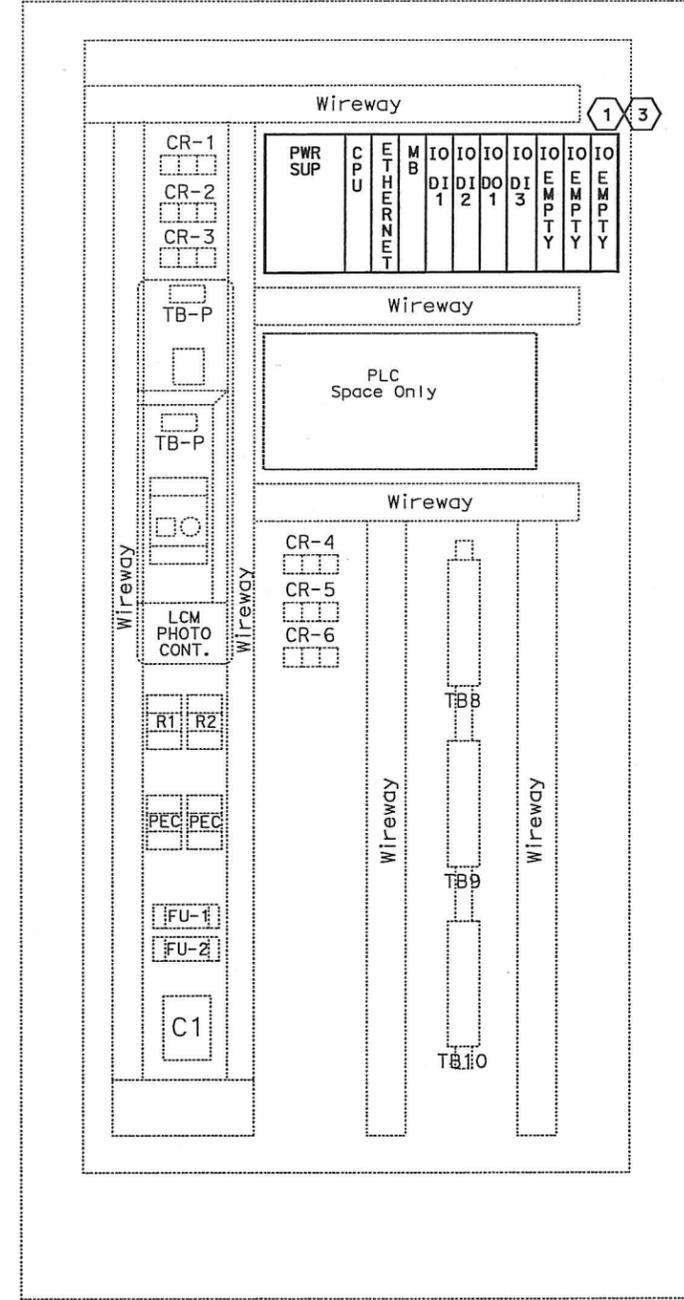
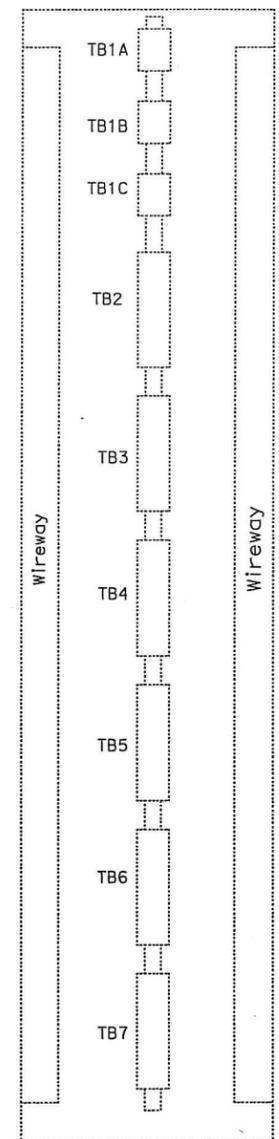
DATE PLOTTED => 25-MAY-2010



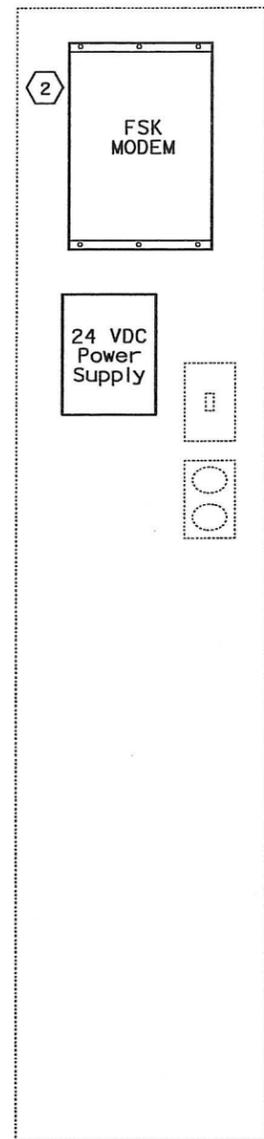
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 09S06	1204
Syn Yee Chin REGISTERED ELECTRICAL ENGINEER			03/08/10 DATE		
05-06-2010 PLANS APPROVAL DATE					
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EXTERIOR



INTERIOR



NOTES:

1. Refer to the special provisions for the PLC and FSK Modem requirements.
2. For RTU wiring refer to the following sheets:
 - RTU #12W - Sheets E-904, 905, 906
 - RTU #12E - Sheets E-907, 908, 909.

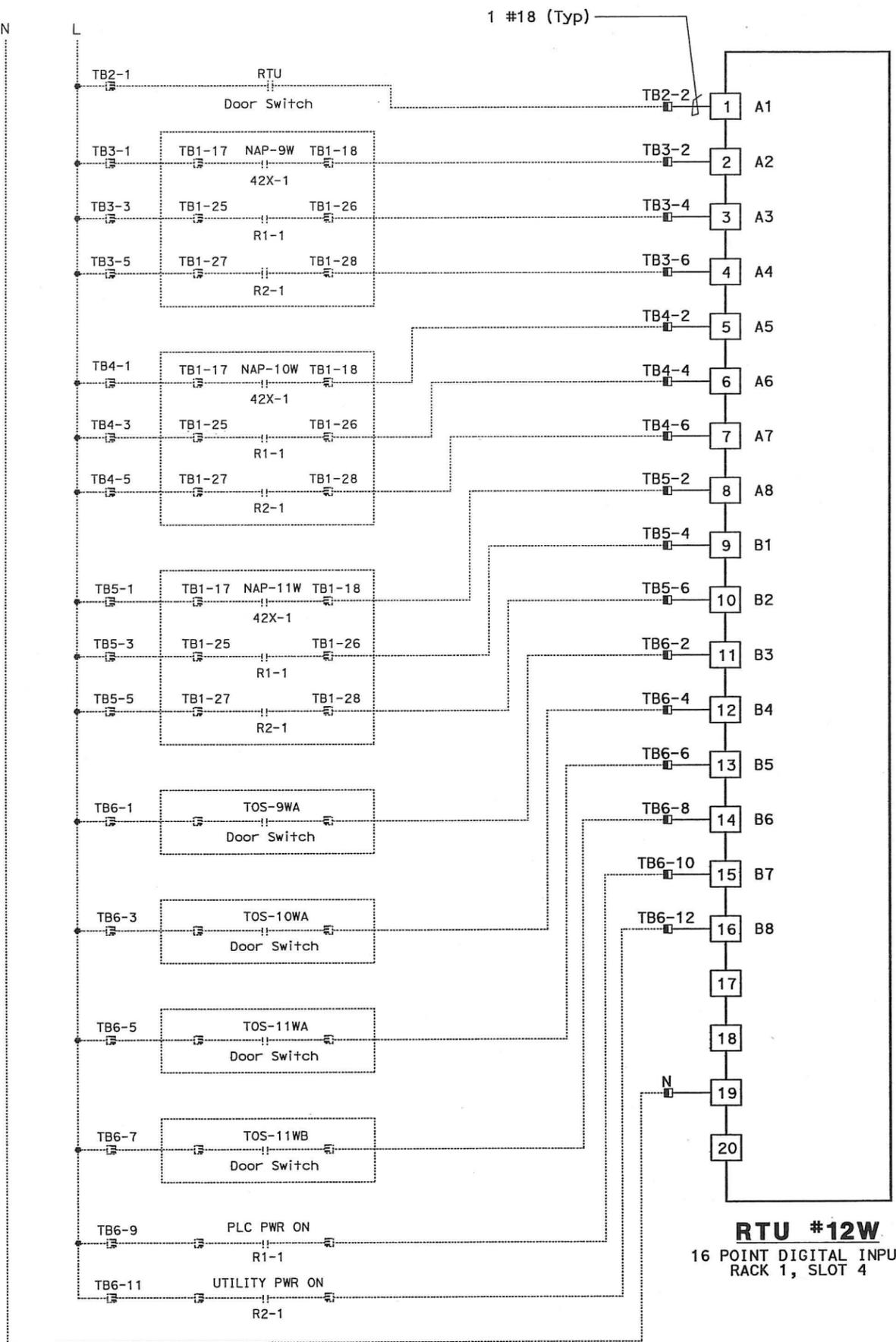
SHEET NOTES:

- 1 Contractor shall furnish and install a new GE Fanuc PAC Systems RX3i PLC in the existing RTU.
- 2 Contractor shall furnish and install a new Frequency Shift Key (FSK) modem and 120v (AC) to 21v-28v (DC) power supply in the existing RTU.
- 3 Contractor shall install the input and output cards.

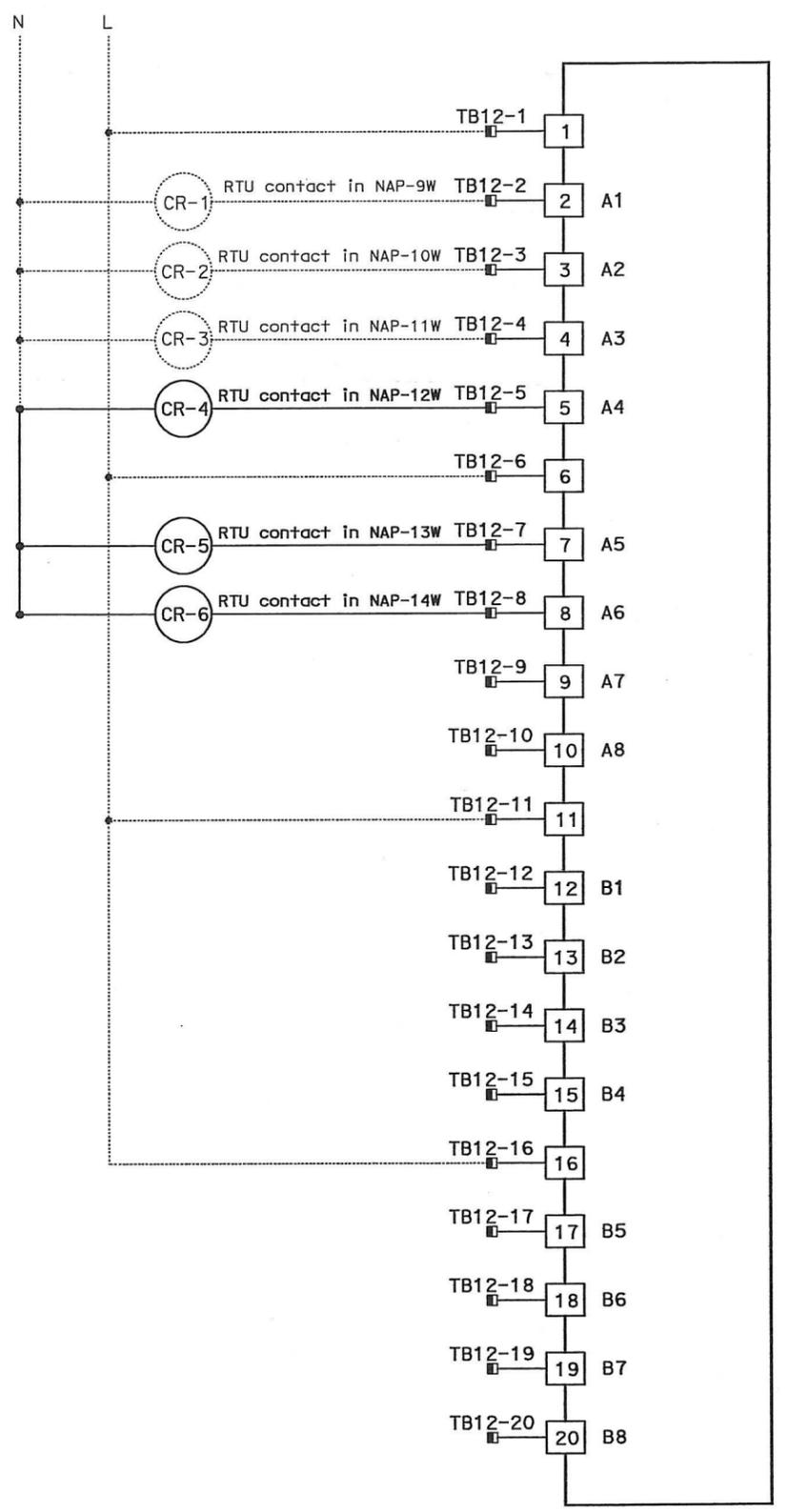
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 154 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #12W AND #12E ASSEMBLY
 NO SCALE



RTU #12W
 16 POINT DIGITAL INPUT
 RACK 1, SLOT 4



RTU #12W
 16 POINT DIGITAL OUTPUT
 RACK 1, SLOT 6



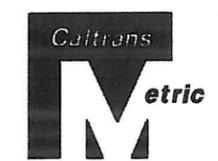
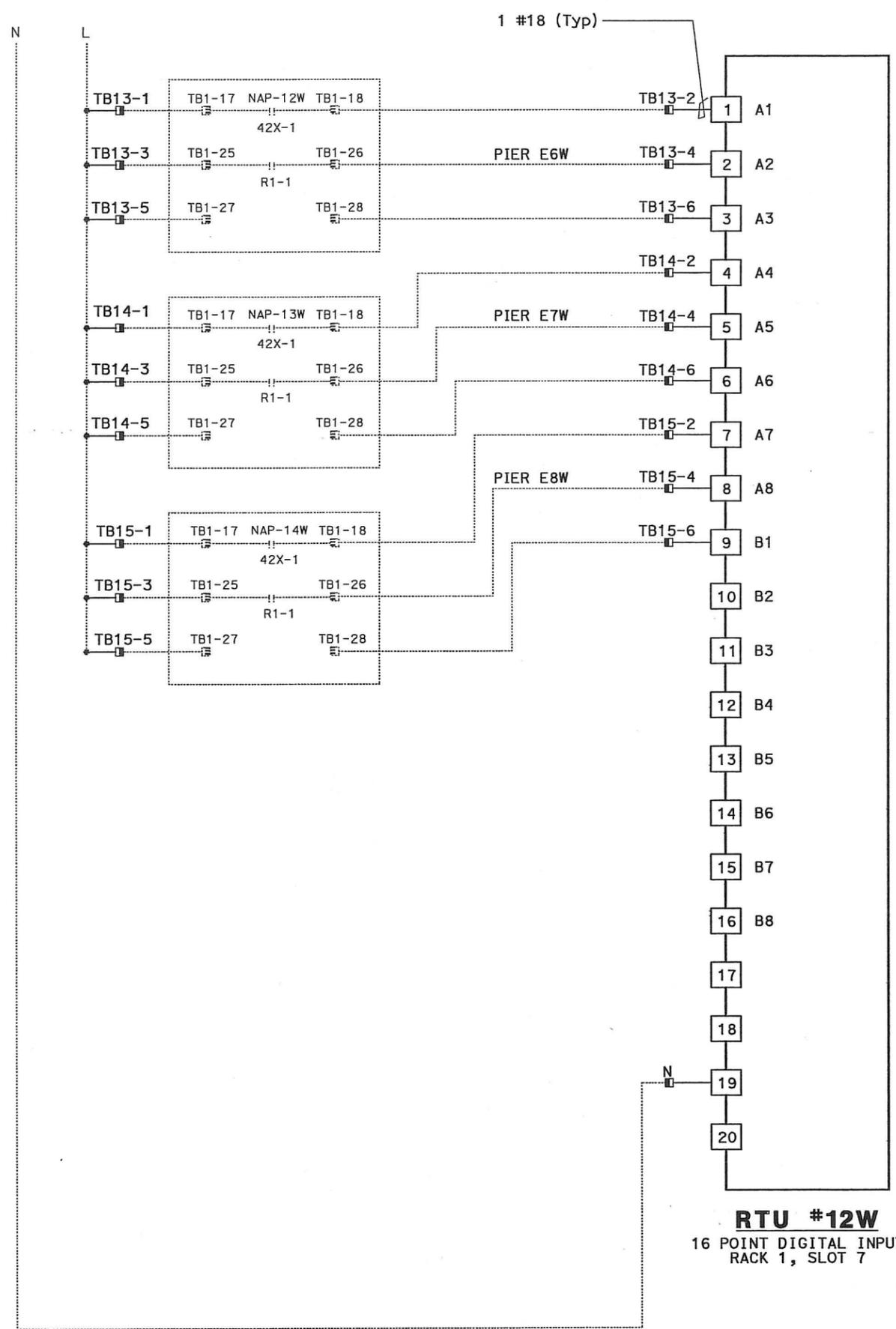
DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
REGISTERED ELECTRICAL ENGINEER		DATE		03/08/10		
SYN YEE CHIN		No. 18186		Exp. 09/30/2011		
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- NOTES:**
- Contractor shall install input and output cards. See sheet E-903 for location.
 - For FSK Modems interconnect wiring, see sheet E-902.
 - Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
MARK	DATE	DESCRIPTIONS	BY	CHK'D	CCO#
△	03/08/10	MEP INTEGRATION	JE	FW	110
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 155 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #12W WIRING DIAGRAM
 NO SCALE



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 09S08	1204

REGISTERED ELECTRICAL ENGINEER
Syn Yee Chin 03/08/10
 DATE

PLANS APPROVAL DATE
 05-06-2010

REGISTERED PROFESSIONAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA

PB AMERICAS, Inc.
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- NOTES:
- Contractor shall install input card. See sheet E-903 for location.
 - For FSK Modems interconnect wiring, see sheet E-902.
 - Contractor shall wire connection shown by bold lines.

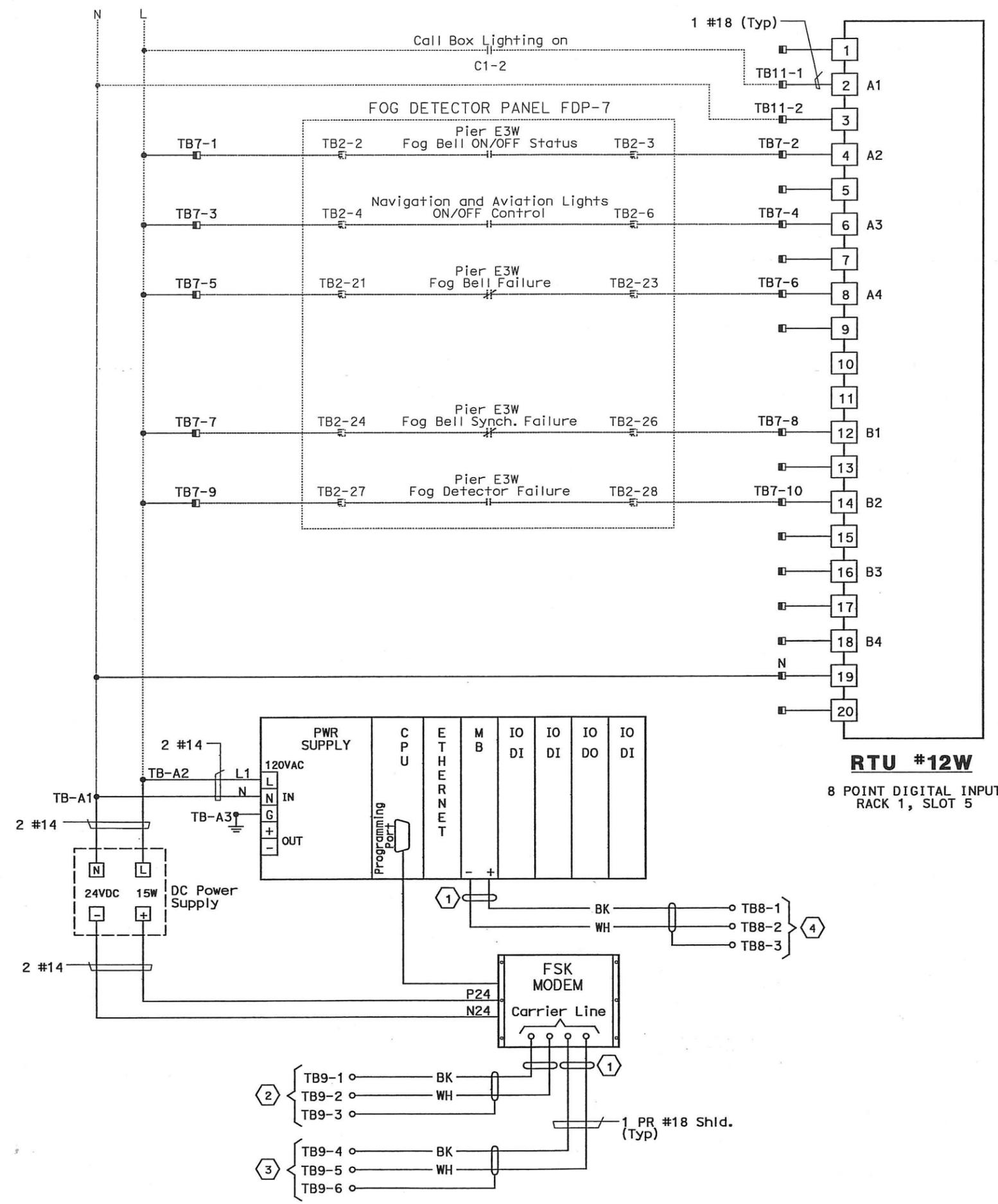
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 156 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #12W WIRING DIAGRAM
 NO SCALE

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 09S09	1204
REGISTERED ELECTRICAL ENGINEER DATE Syn Yee Chin 03/08/10 No. 18186 Exp. 09/30/2011 STATE OF CALIFORNIA					
PLANS APPROVAL DATE 05-06-2010					
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NOTES:

- Contractor shall install input card. Refer to E-903 for location.
- For FSK modems interconnect wiring, see sheet E-902.
- Contractor shall wire connection shown by bold lines.

SHEET NOTES:

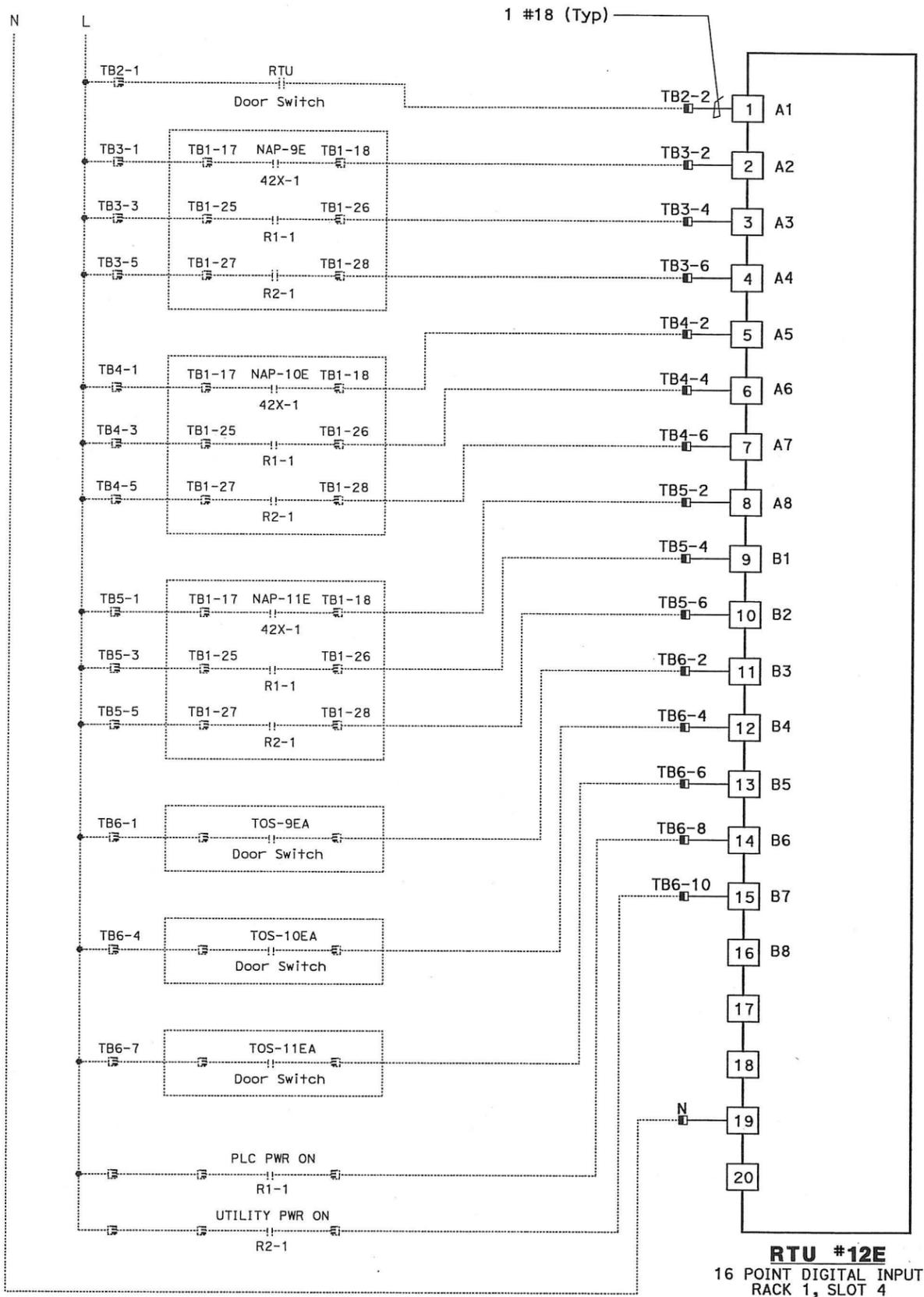
- Contractor to tape shield. This circuit is not to be grounded at this end.
- Pair 1 of 50 pair SCADA cable.
- Pair 2 of 50 pair SCADA cable.
- To Call Box Communications cable RS-485.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

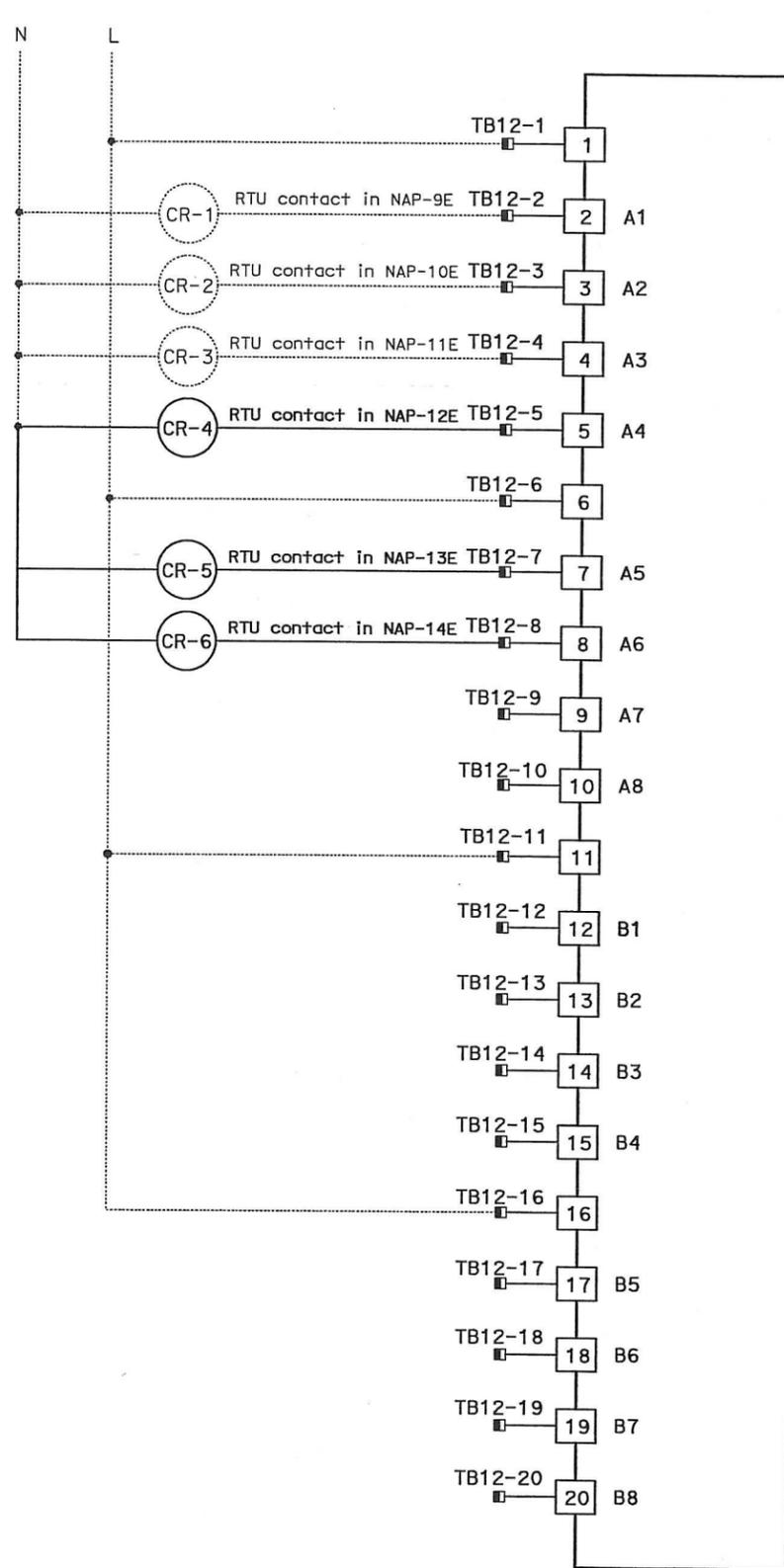
CONTRACT CHANGE ORDER NO. 110
 SHEET 157 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #12W WIRING DIAGRAM
 NO SCALE

E-905



RTU #12E
 16 POINT DIGITAL INPUT
 RACK 1, SLOT 4



RTU #12E
 16 POINT DIGITAL OUTPUT
 RACK 1, SLOT 6



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST NO	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
			09S12			

REGISTERED ELECTRICAL ENGINEER
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 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

PLANS APPROVAL DATE
 05-06-2010
 DATE 03/08/10

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- NOTES:**
- Contractor shall install input and output cards. See sheet E-903 for location.
 - For FSK modems interconnect wiring, see sheet E-902.
 - Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 160 OF 290

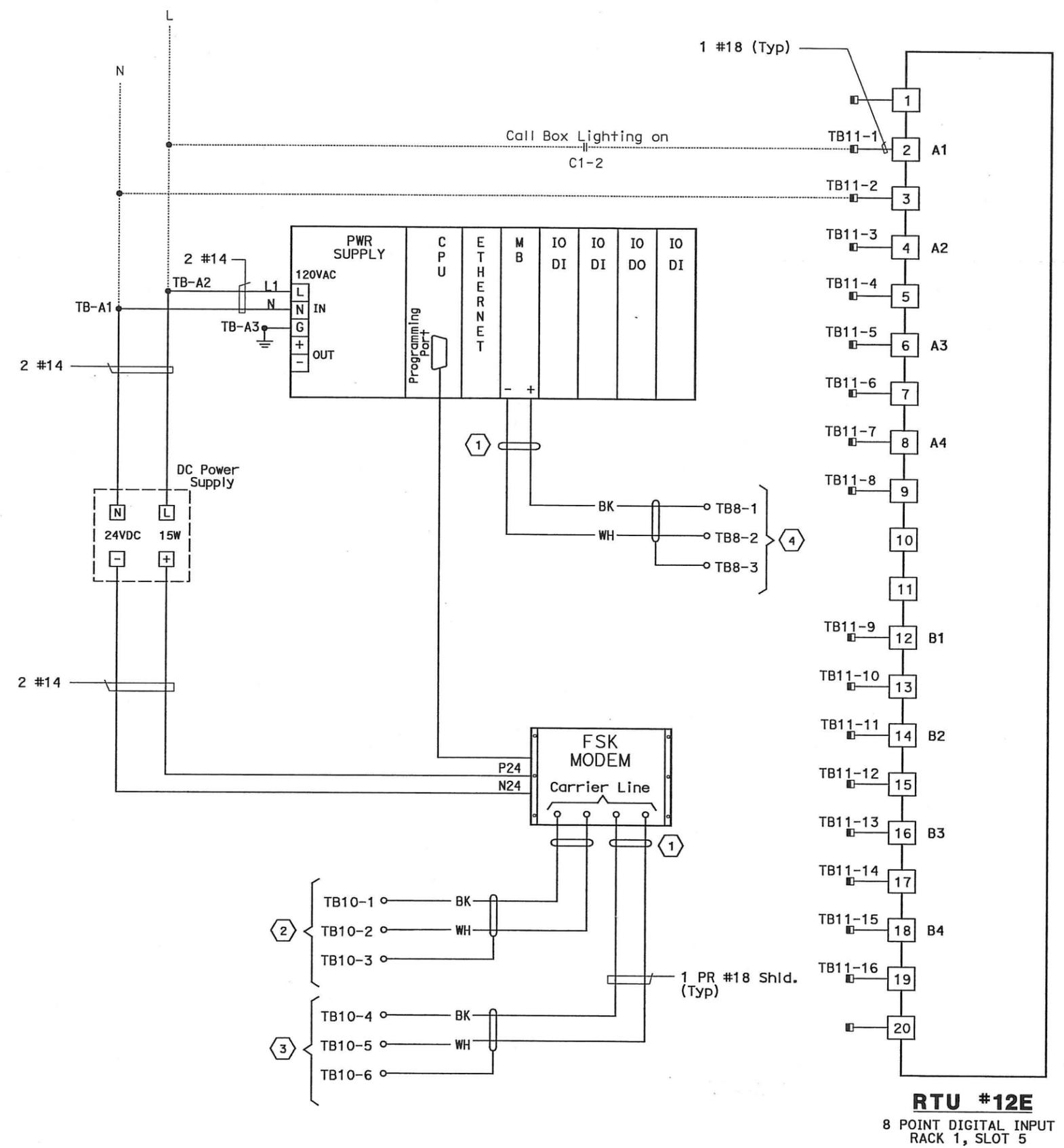
DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #12E WIRING DIAGRAM
 NO SCALE

DATE PLOTTED => 05-MAY-2010
 LAST REVISION

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S13	1204
REGISTERED ELECTRICAL ENGINEER			DATE		
SYN YEE CHIN			03/08/10		
PLANS APPROVAL DATE					
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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SHEET NOTES:

- Contractor shall install input card. See sheet E-903 for location.
- For FSK Modems interconnect wiring, see sheet E-902.
- Contractor shall wire connection shown by bold lines.

SHEET NOTES:

- Contractor to tape shield. This circuit is not to be grounded at this end.
- Pair 7 of 50 pair SCADA cable.
- Pair 8 of 50 pair SCADA cable.
- To Call Box Communications cable RS-485.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

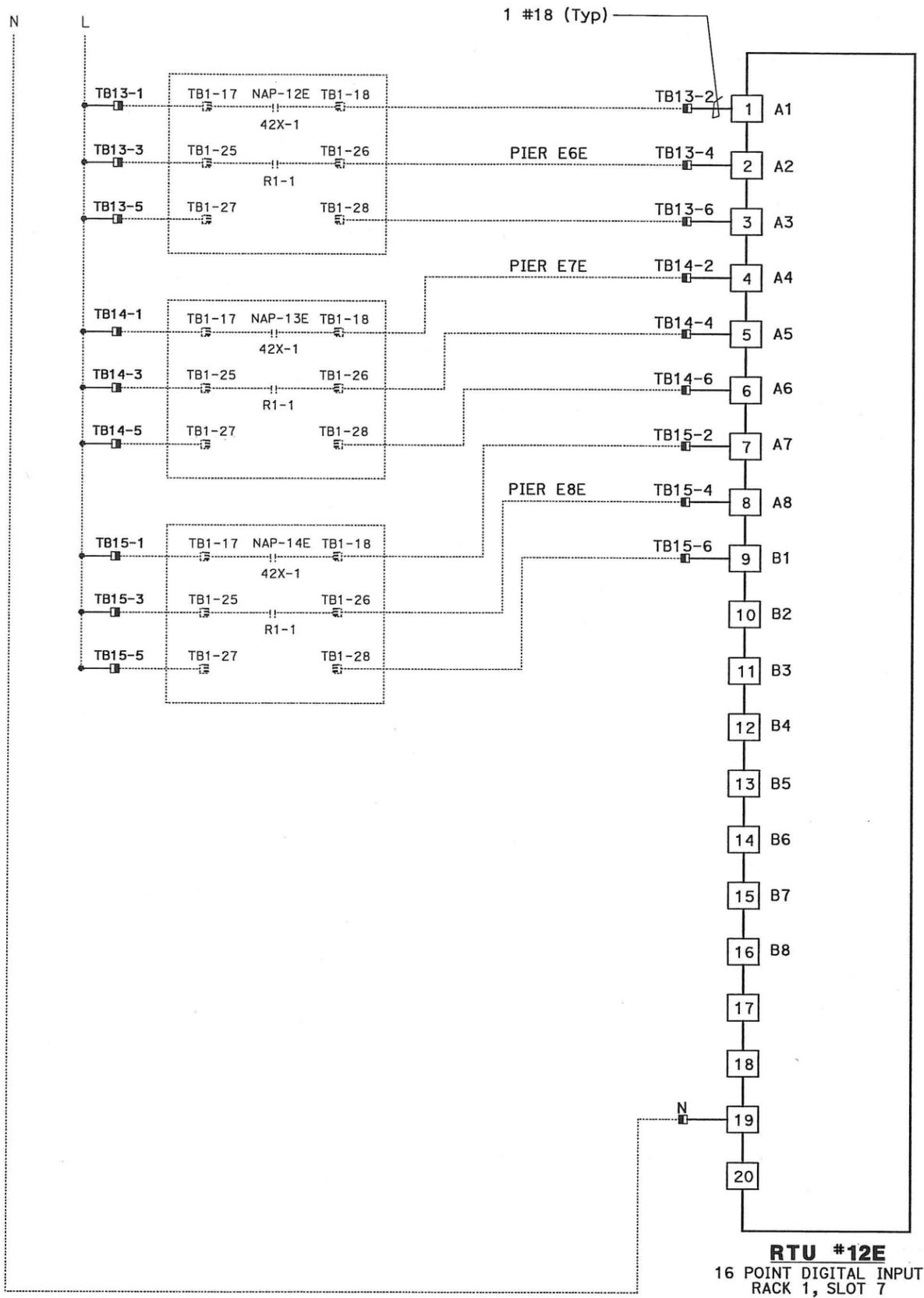
CONTRACT CHANGE ORDER NO. 110
 SHEET 161 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #12E WIRING DIAGRAM
 NO SCALE

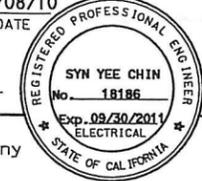
THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

E-908

LAST REVISION DATE PLOTTED => 06-MAY-2010



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
			09S14			
			SYN YEE CHIN		03/08/10	
			REGISTERED ELECTRICAL ENGINEER		DATE	
			05-06-2010		PLANS APPROVAL DATE	
			PB AMERICAS, Inc.		A Parsons Brinckerhoff Company	
			303 Second St., Suite 700N		San Francisco, CA 94107-1317	
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- NOTES:
- Contractor shall install input card. See sheet E-903 for location.
 - For FSK modems interconnect wiring, see sheet E-902.
 - Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 162 OF 290

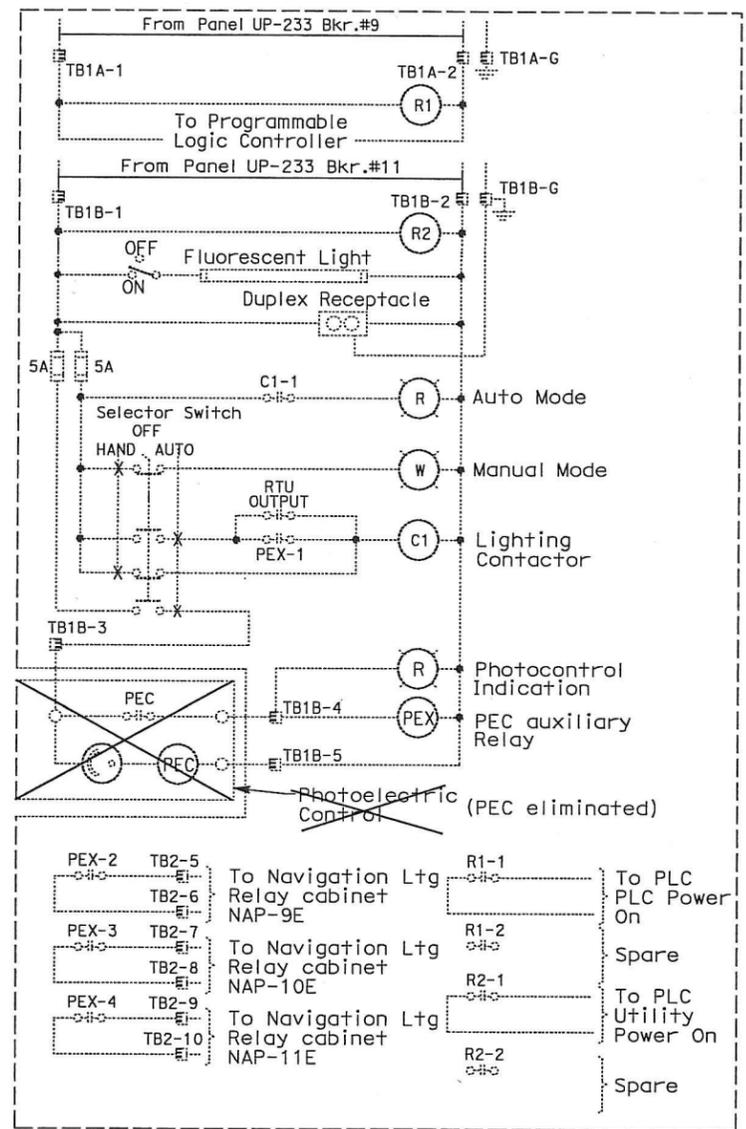
DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #12E WIRING DIAGRAM
 NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVERSEER: GHT
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 CHECKED BY: GHT
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S16	1204

REGISTERED ELECTRICAL ENGINEER: *Syn Yee Chin* DATE: 03/08/10
 PLANS APPROVAL DATE: 05-06-2010
 REGISTERED PROFESSIONAL ENGINEER: SYN YEE CHIN No. 18186 Exp. 09/30/2011 ELECTRICAL STATE OF CALIFORNIA
 PB AMERICAS, Inc.
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NOTES:

- This plan sheet is a record drawing of the Skyway Structures Remote Terminal Unit No. 12E. The Contractor shall verify the existing installation. See sheet EE-356 from the Skyway Structures, contract No. 04-012024.
- References:
Refer to Sheet E-908.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
△	03/08/10	MEP INTEGRATION	JE	FW	110
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 164 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #12E ELEMENTARY DIAGRAM
 NO SCALE

E-909A

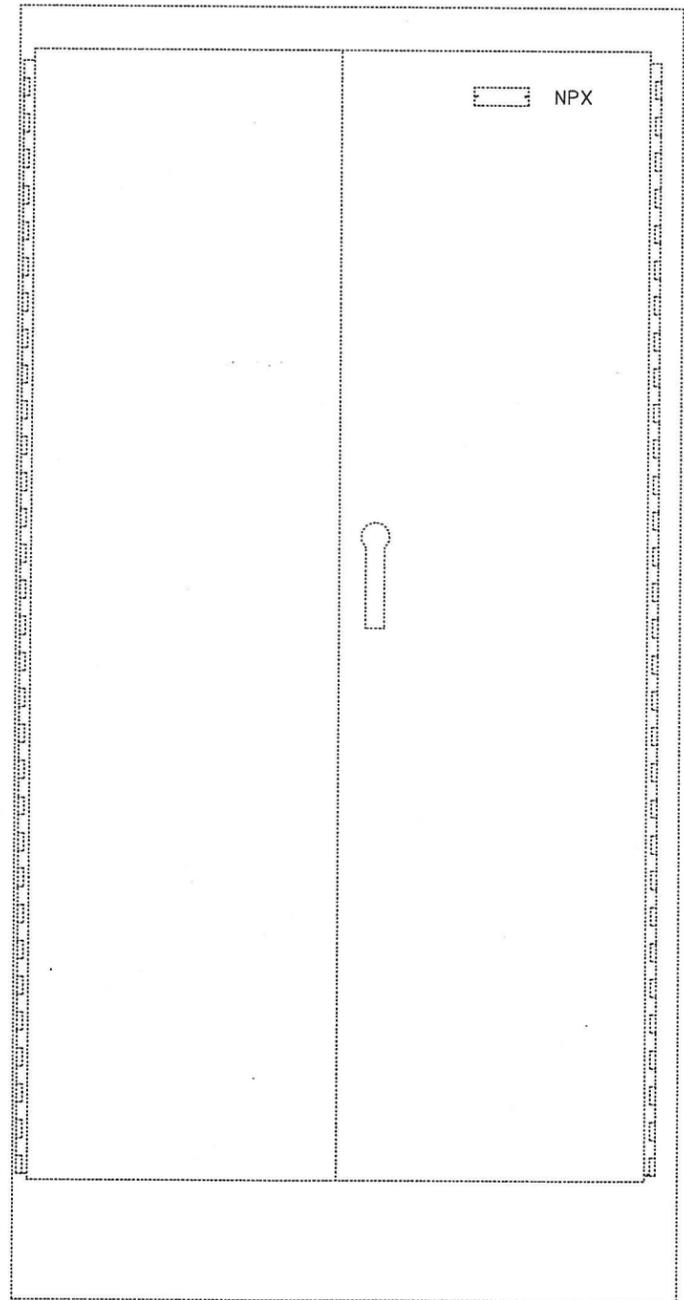
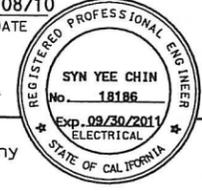
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LAST REVISION DATE PLOTTED = 06-MAY-2010

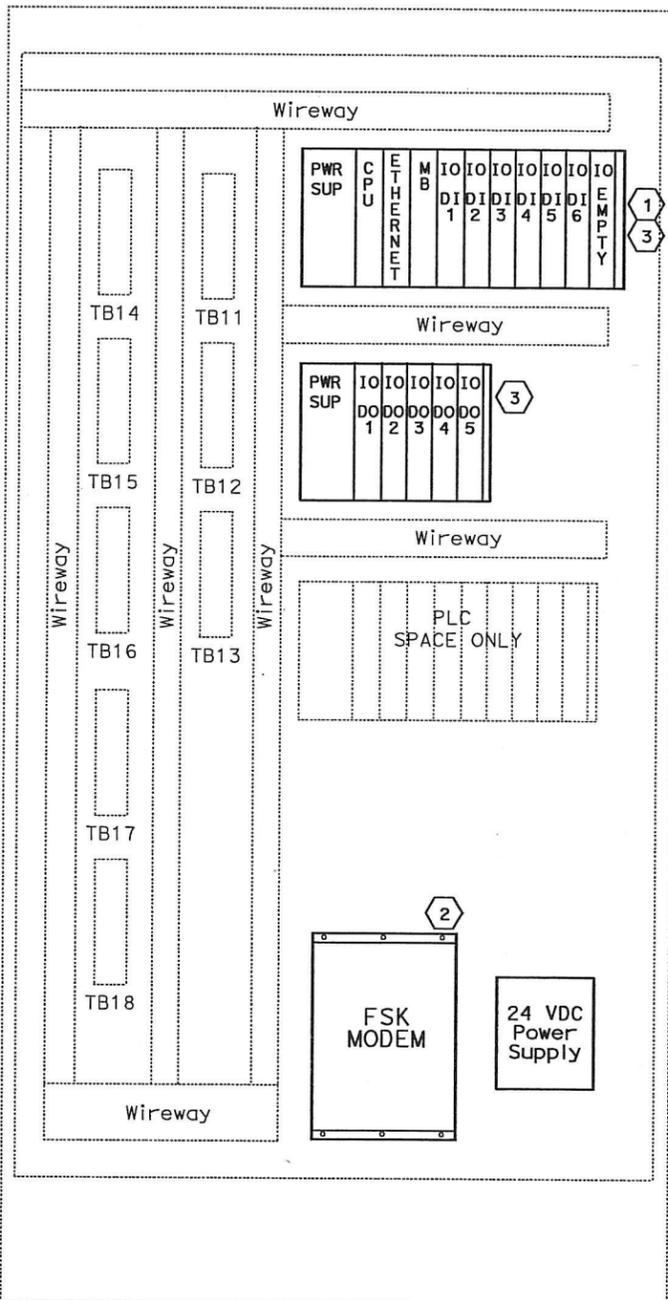
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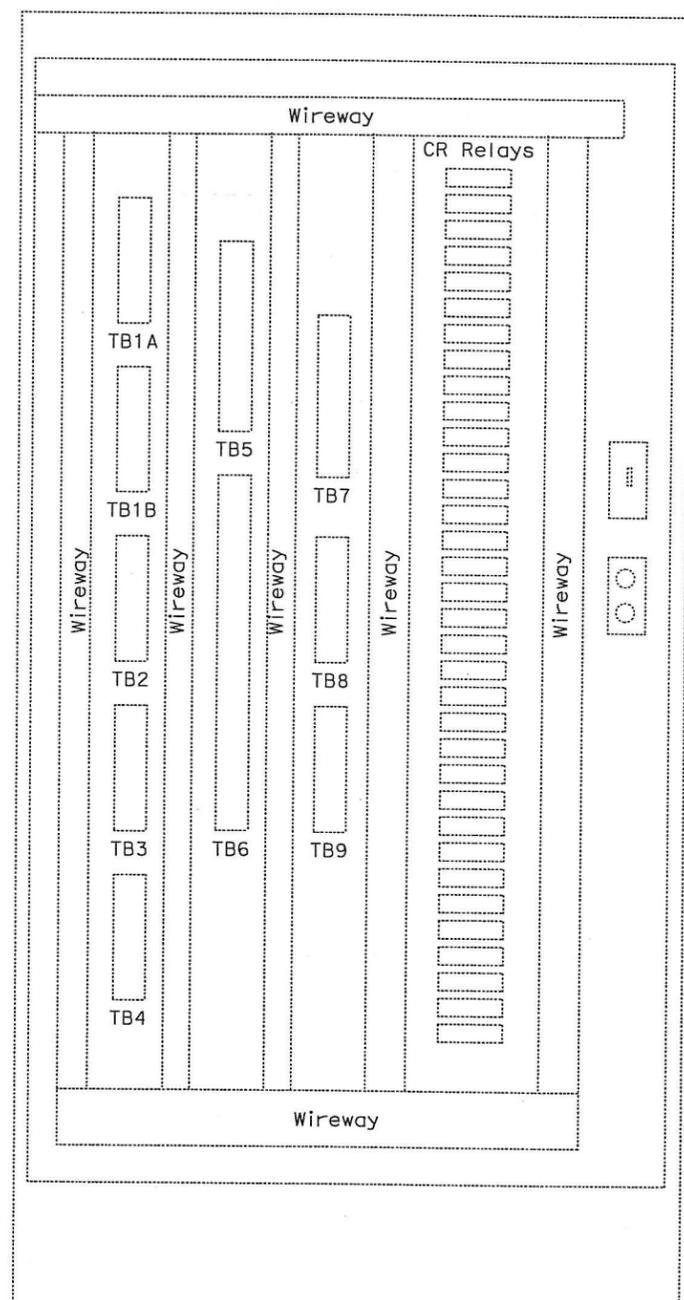
DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
REGISTERED ELECTRICAL ENGINEER					DATE	
SYN YEE CHIN					03/08/10	
PLANS APPROVAL DATE						
PB AMERICAS, Inc.						
A Parsons Brinckerhoff Company						
303 Second St., Suite 700N						
San Francisco, CA 94107-1317						
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REAR EXTERIOR



FRONT INTERIOR



REAR INTERIOR

NOTES:

1. Refer to the special provisions for the PLC and FSK modem requirements.
2. For RTU wiring refer to the following sheets:
 RTU #13W-sheets E-911 through E-920.
 RTU #13E-sheets E-921 through E-930.

SHEET NOTES:

- 1 Contractor shall furnish and install a new GE Fanuc PAC Systems RX3i PLC in the existing RTU.
- 2 Contractor shall furnish and install a new Frequency Shift Key (FSK) modem and 120v (AC) to 21v-28v (DC) power supply in the existing RTU.
- 3 Contractor shall install the input and output cards.

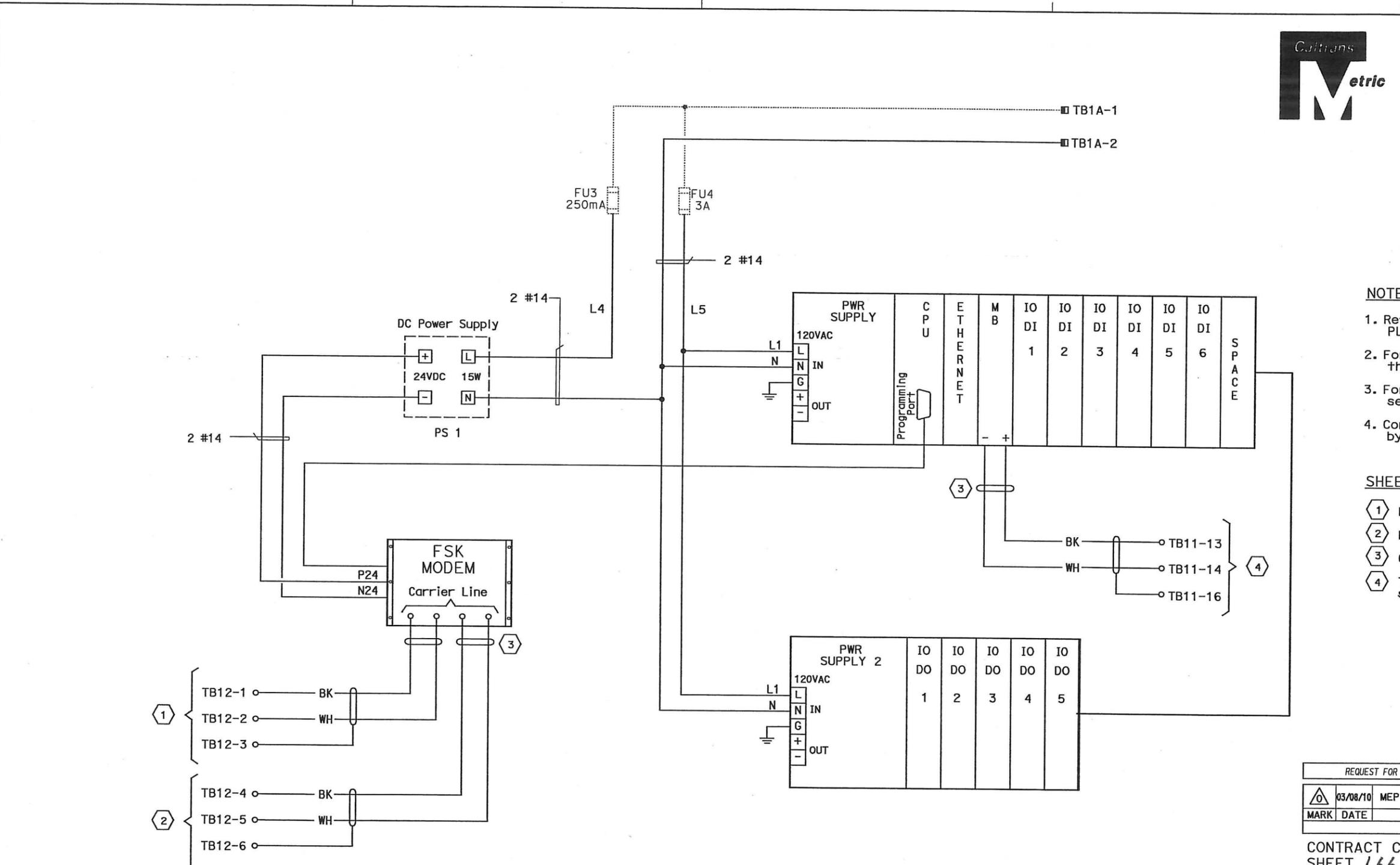
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 165 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13W AND #13E ASSEMBLY
 NO SCALE

LAST REVISION DATE PLOTTED => 06-MAY-2010

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RTU #13W WIRING DIAGRAM



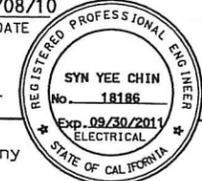
DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
					09S18	

Signed: *Syn Yee Chin* 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

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NOTES:

1. Refer to the special provisions for the PLC and FSK Modem requirements.
2. For RTU wiring refer to sheets E-912 through E-920.
3. For FSK Modems interconnect wiring, see sheet E-902.
4. Contractor shall wire connection shown by bold lines.

SHEET NOTES:

- 1 Pair 1 of 50 pair SCADA cable.
- 2 Pair 2 of 50 pair SCADA cable.
- 3 Contractor to tape shield.
- 4 To management relay communication cable, see sheet E-920.

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03/08/10	MEP INTEGRATION	JE	FW	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 166 OF 290

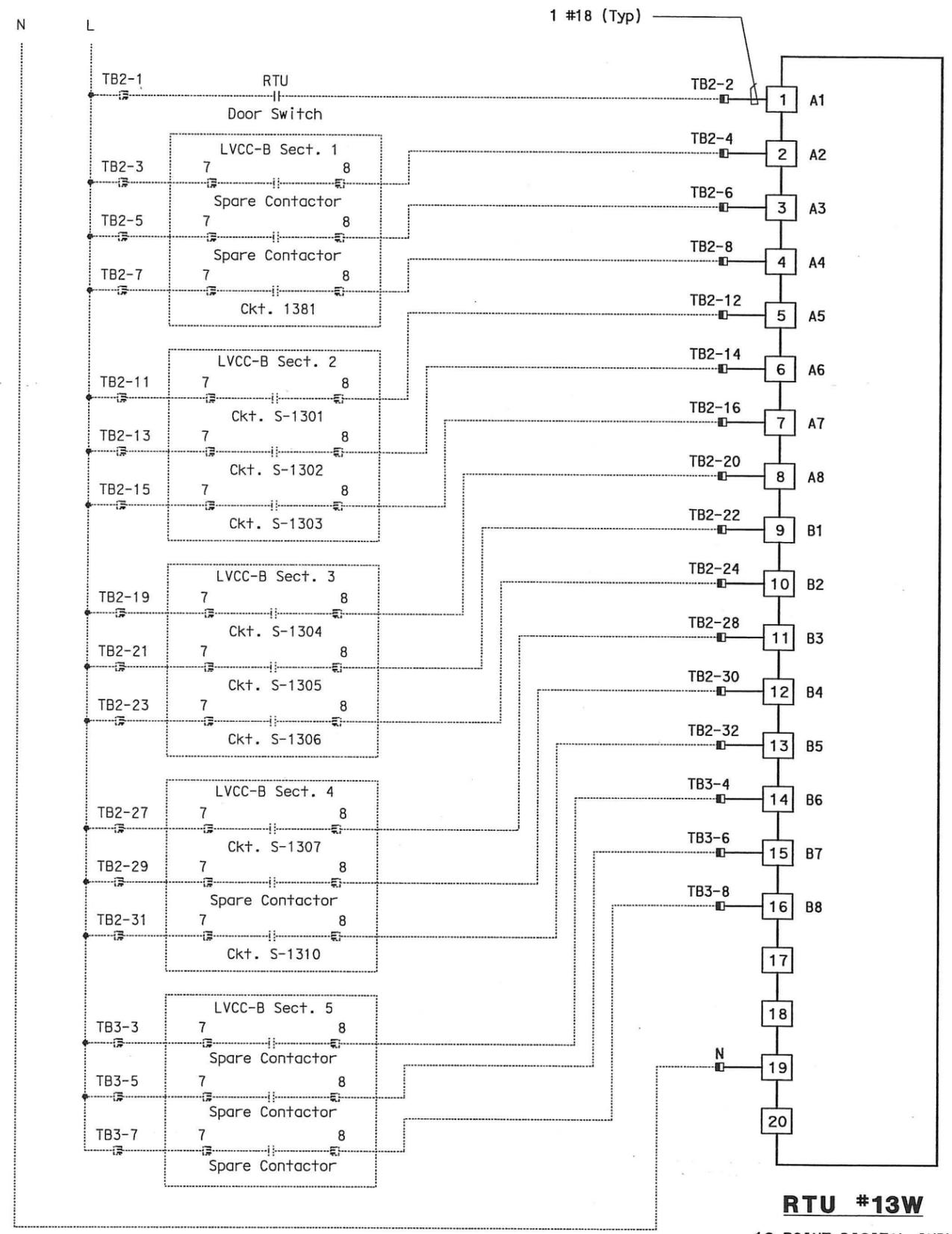
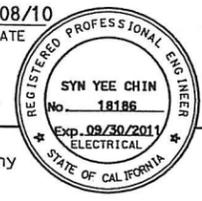
DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13W WIRING DIAGRAM
 NO SCALE

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 CALCULATED/DESIGNED BY: []
 CHECKED BY: []
 DATE REVISION: []
 DATE REVISIED BY: []
 DATE REVISIED: []



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S19	1204
REGISTERED ELECTRICAL ENGINEER			DATE	03/08/10	
SYN YEE CHIN			05-06-2010		
PLANS APPROVAL DATE			03/08/10		
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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RTU #13W
 16 POINT DIGITAL INPUT
 RACK 1, SLOT 4

NOTES:

- Contractor shall install input card. See sheet E-910 for location.
- Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 167 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13W WIRING DIAGRAM
 NO SCALE

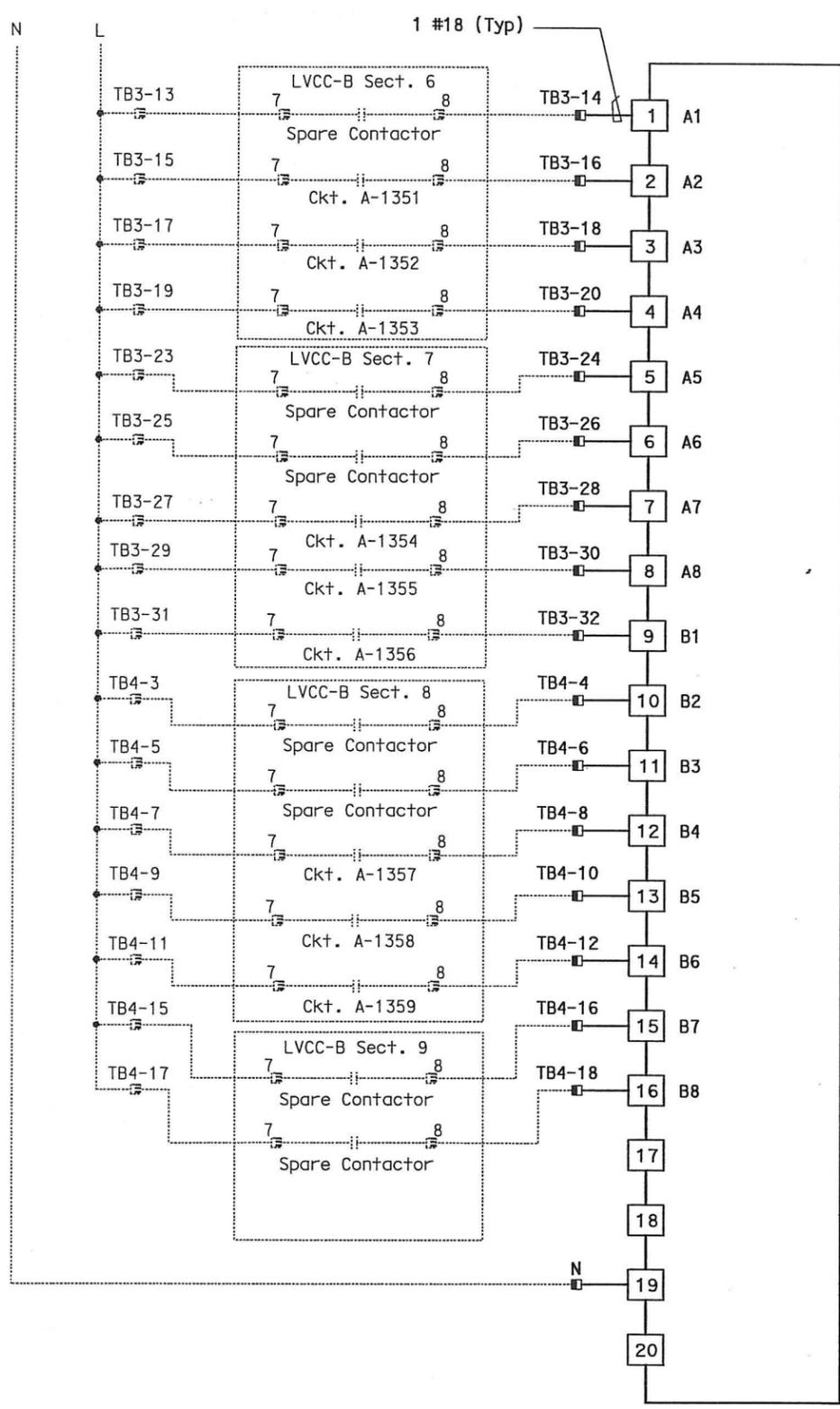
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DATE PLOTTED => 06-MAY-2010

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Caltrans
 DESIGN OVERSIGHT
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 CHECKED BY
 DATE REVISED BY
 DATE REVISED BY
 DATE REVISED BY



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
		03/08/10		DATE		
REGISTERED ELECTRICAL ENGINEER						
SYN YEE CHIN						
PLANS APPROVAL DATE						
05-06-2010						
PB AMERICAS, Inc.						
A Parsons Brinckerhoff Company						
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RTU #13W
 16 POINT DIGITAL INPUT
 RACK 1, SLOT 5

NOTES:

- Contractor shall install input card. See sheet E-910 for location.
- Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 168 OF 290

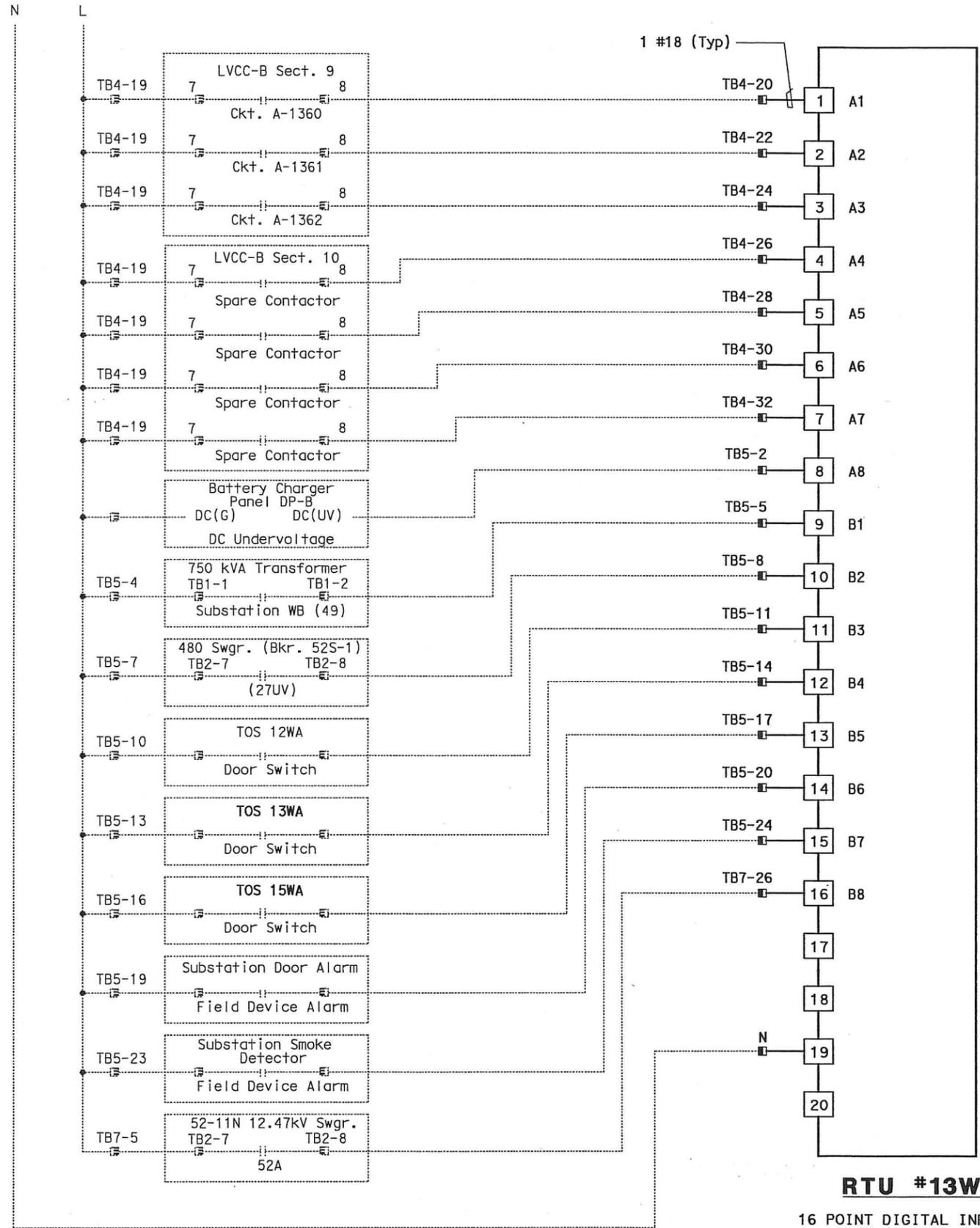
DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13W WIRING DIAGRAM
 NO SCALE

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LAST REVISION DATE PLOTTED => 06-JULY-2010



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S21	1204
			REGISTERED ELECTRICAL ENGINEER DATE <i>Syn Yee Chin</i> 03/08/10		
			PLANS APPROVAL DATE 05-06-2010		
			REGISTERED PROFESSIONAL ENGINEER No. 18186 Exp. 09/30/2011 STATE OF CALIFORNIA		
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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RTU #13W

16 POINT DIGITAL INPUT
RACK 1, SLOT 6

NOTES:

- Contractor shall install input card. See sheet E-910 for location.
- Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

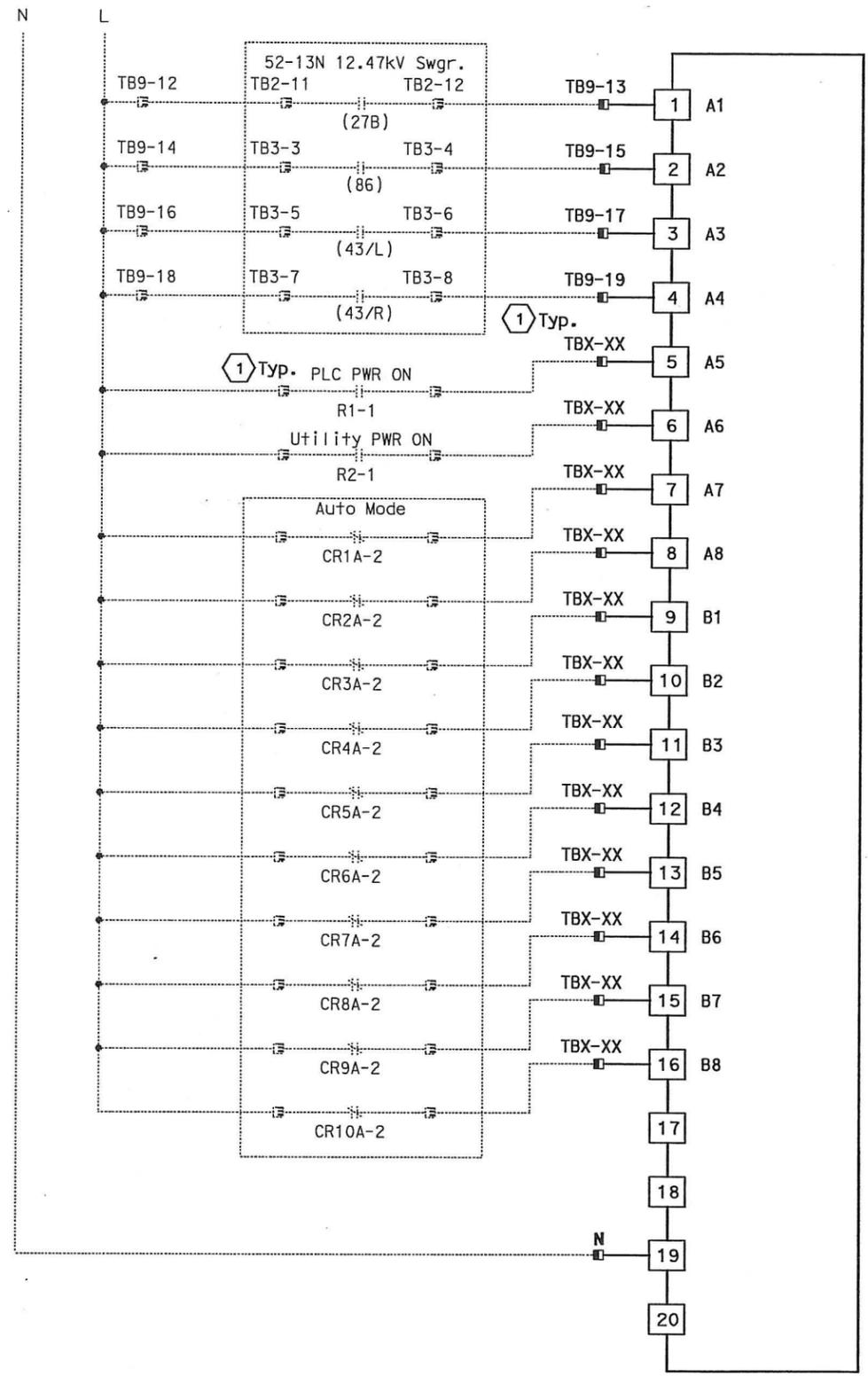
CONTRACT CHANGE ORDER NO. 110
SHEET 169 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13W WIRING DIAGRAM
NO SCALE

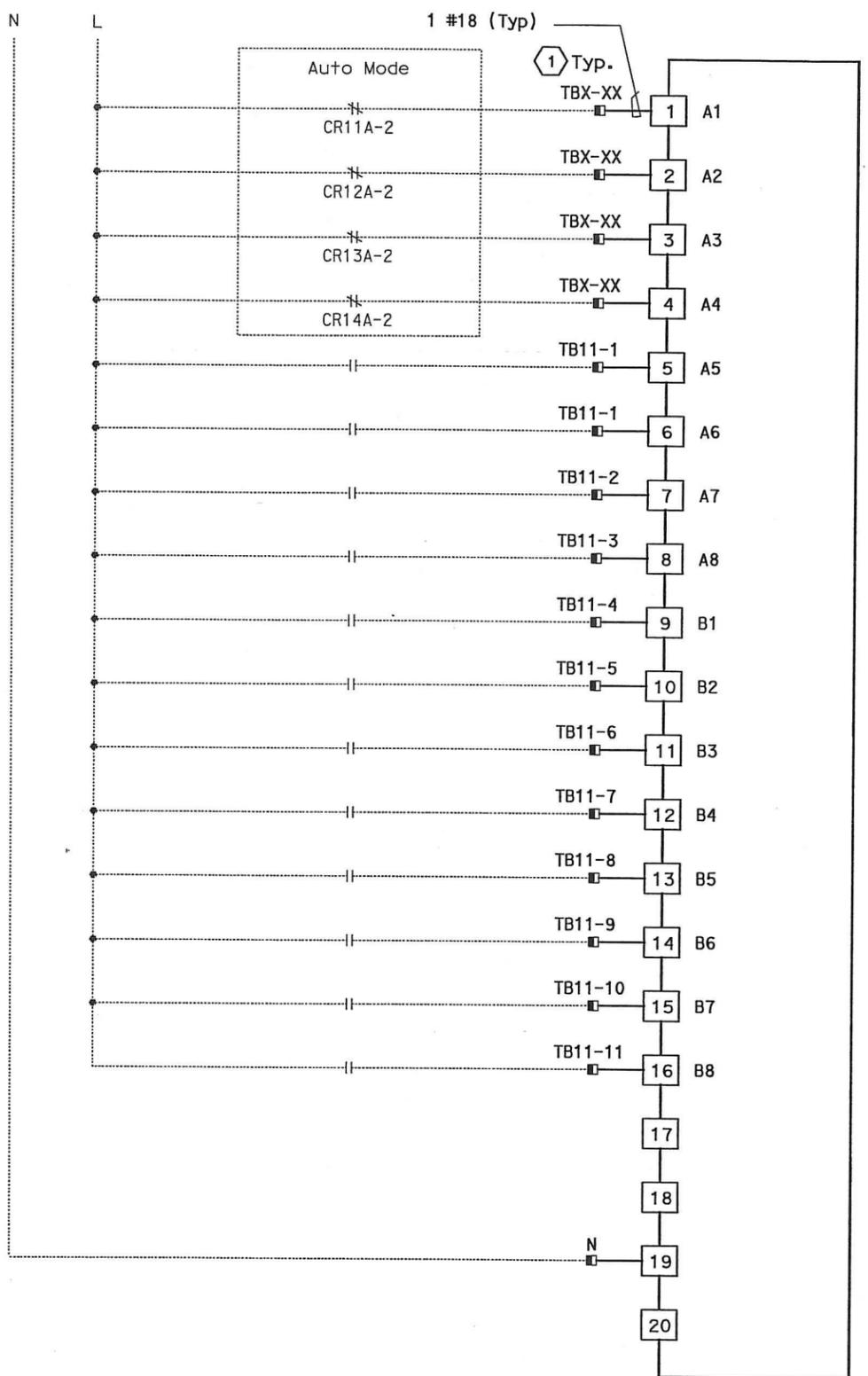
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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LAST REVISION DATE PLOTTED => 06-MAY-2010

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 CALCULATED/DESIGNED BY SYC
 CHECKED BY FW
 DATE REVISED BY
 DATE REVISED



RTU #13W
 16 POINT DIGITAL INPUT
 RACK 1, SLOT 8



RTU #13W
 16 POINT DIGITAL INPUT
 RACK 1, SLOT 9



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407d	1204
			03/08/10		DATE	
REGISTERED ELECTRICAL ENGINEER						
SYN YEE CHIN						
No. 18186						
Exp. 09/30/2011						
ELECTRICAL						
STATE OF CALIFORNIA						
PLANS APPROVAL DATE						
05-06-2010						
PB AMERICAS, Inc.						
A Parsons Brinckerhoff Company						
303 Second St., Suite 700N						
San Francisco, CA 94107-1317						
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- NOTES:**
- Contractor shall install input cards. See sheet E-910 for location.
 - Contractor shall wire connection shown by bold lines.

SHEET NOTES:

1 Contractor to field verify the "TBX-XX" terminal block designations, and equipment contact identification.

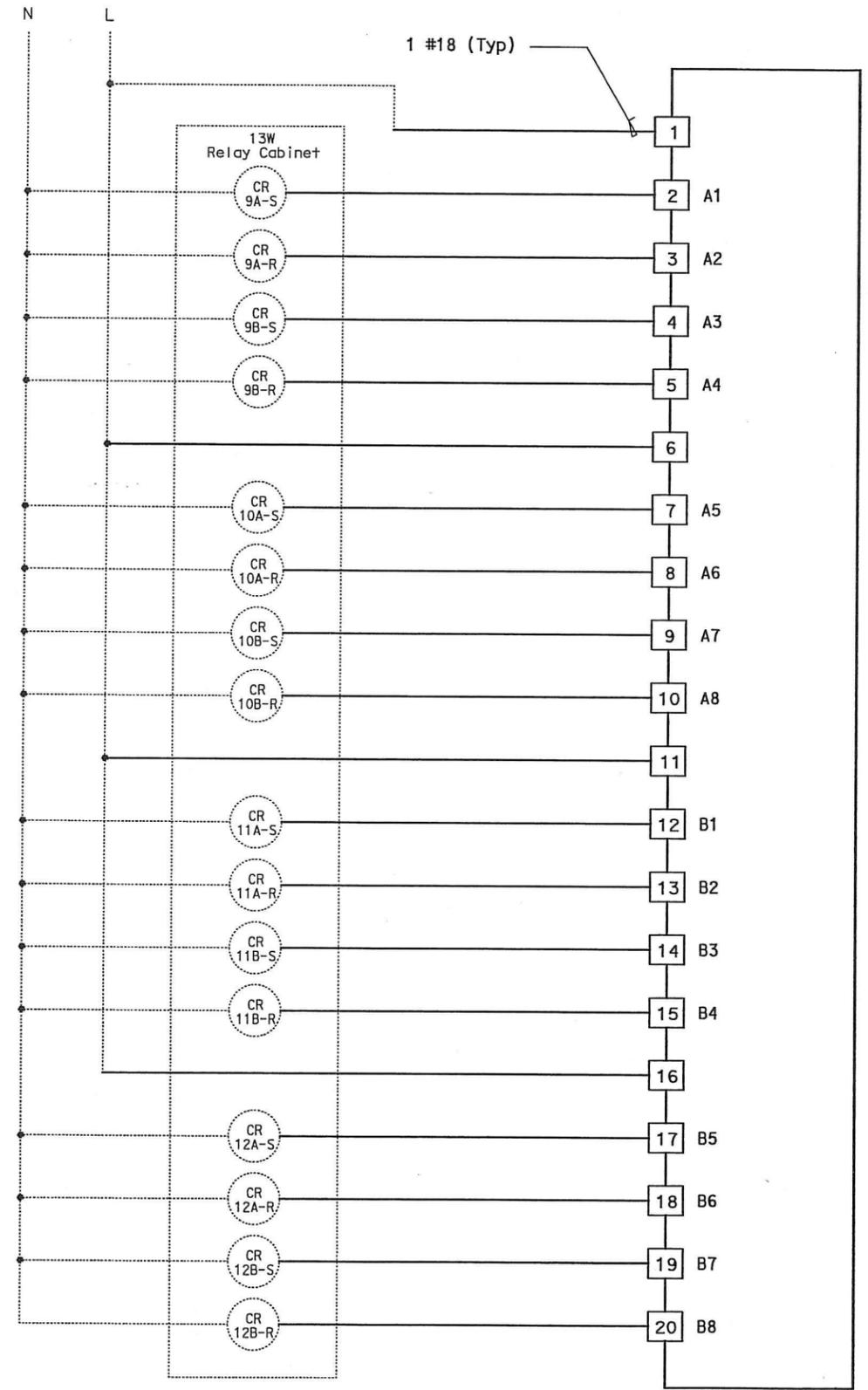
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 171 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13W WIRING DIAGRAM
 NO SCALE

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

DATE PLOTTED = 06-MAY-2010

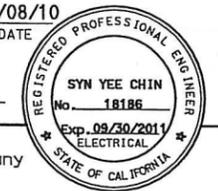


RTU #13W

16 POINT DIGITAL OUTPUT
 RACK 2, SLOT 3



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a	09S25	1204
REGISTERED ELECTRICAL ENGINEER			DATE			
SYN YEE CHIN			03/08/10			
PLANS APPROVAL DATE						
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317						
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NOTES:

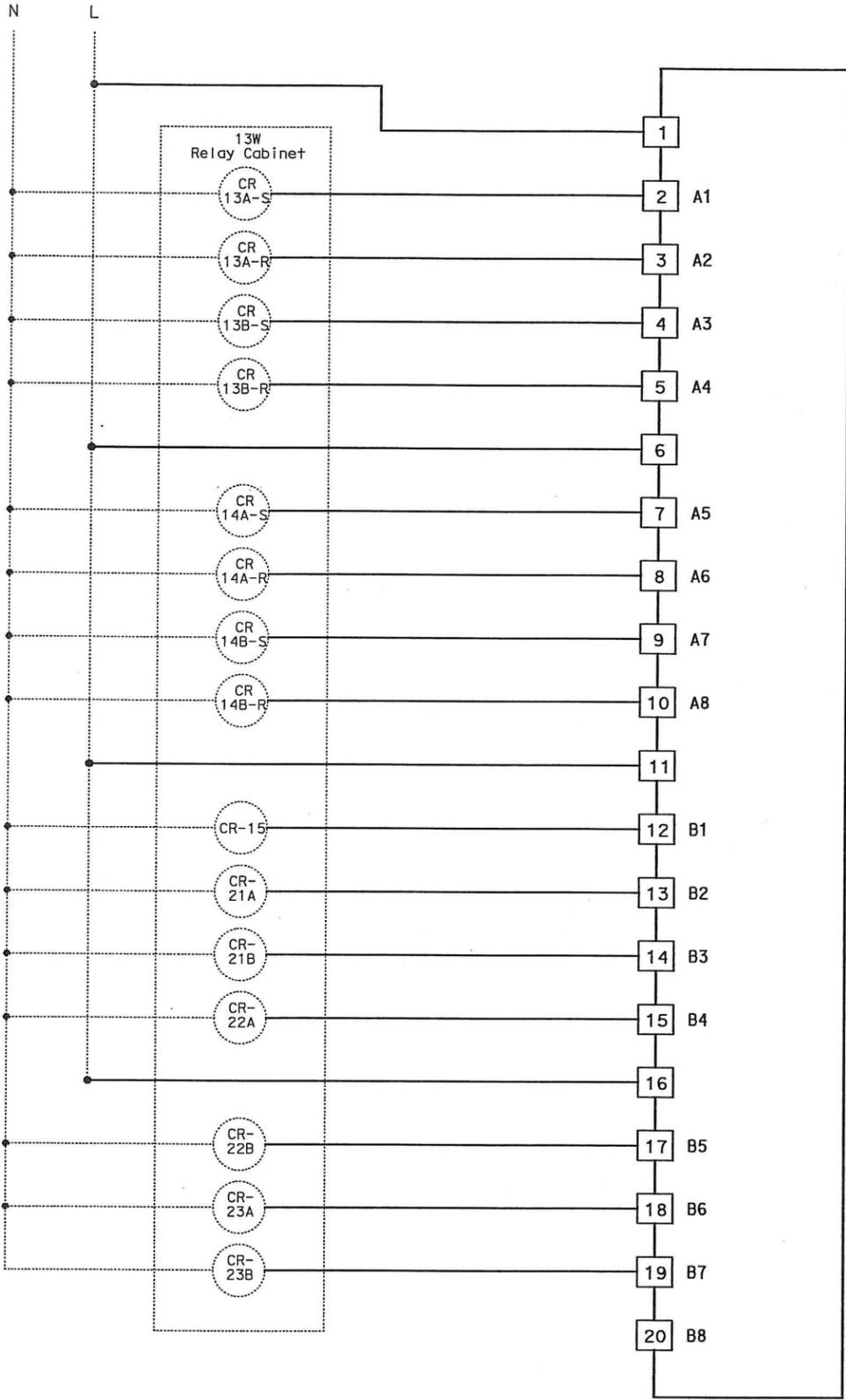
- Contractor shall install output card. See sheet E-910 for location.
- Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 173 OF 290

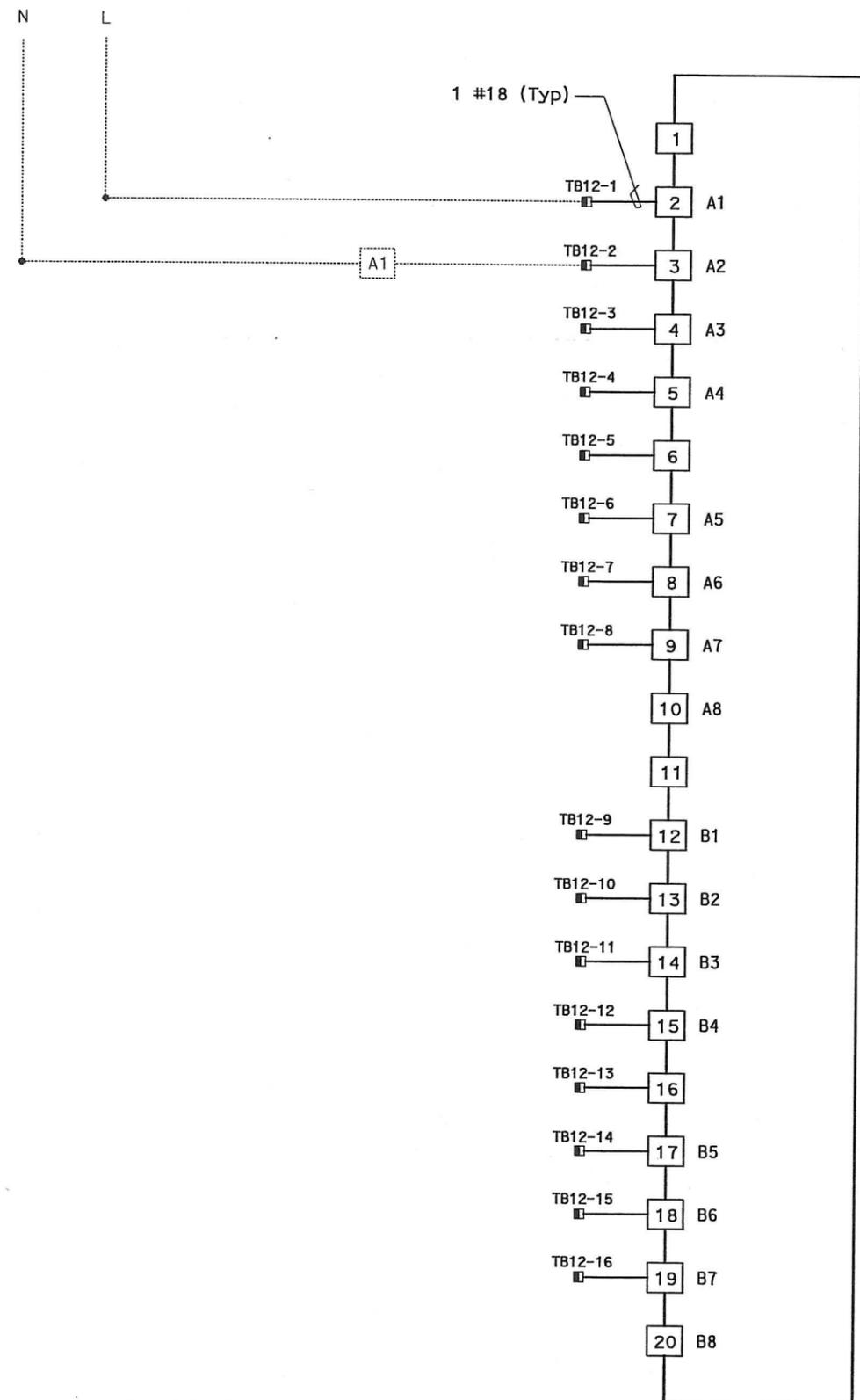
DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13W WIRING DIAGRAM
 NO SCALE

LAST REVISION DATE PLOTTED => 06-MAY-2010



RTU #13W

16 POINT DIGITAL OUTPUT
 RACK 2, SLOT 4

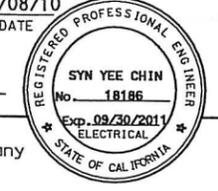


RTU #13W

16 POINT DIGITAL OUTPUT
 RACK 2, SLOT 5



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
			03/08/10		REGISTERED ELECTRICAL ENGINEER DATE	
			05-06-2010		PLANS APPROVAL DATE	
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NOTES:

- Contractor shall install output cards. See sheet E-910 for location.
- Contractor shall wire connection shown by bold lines.

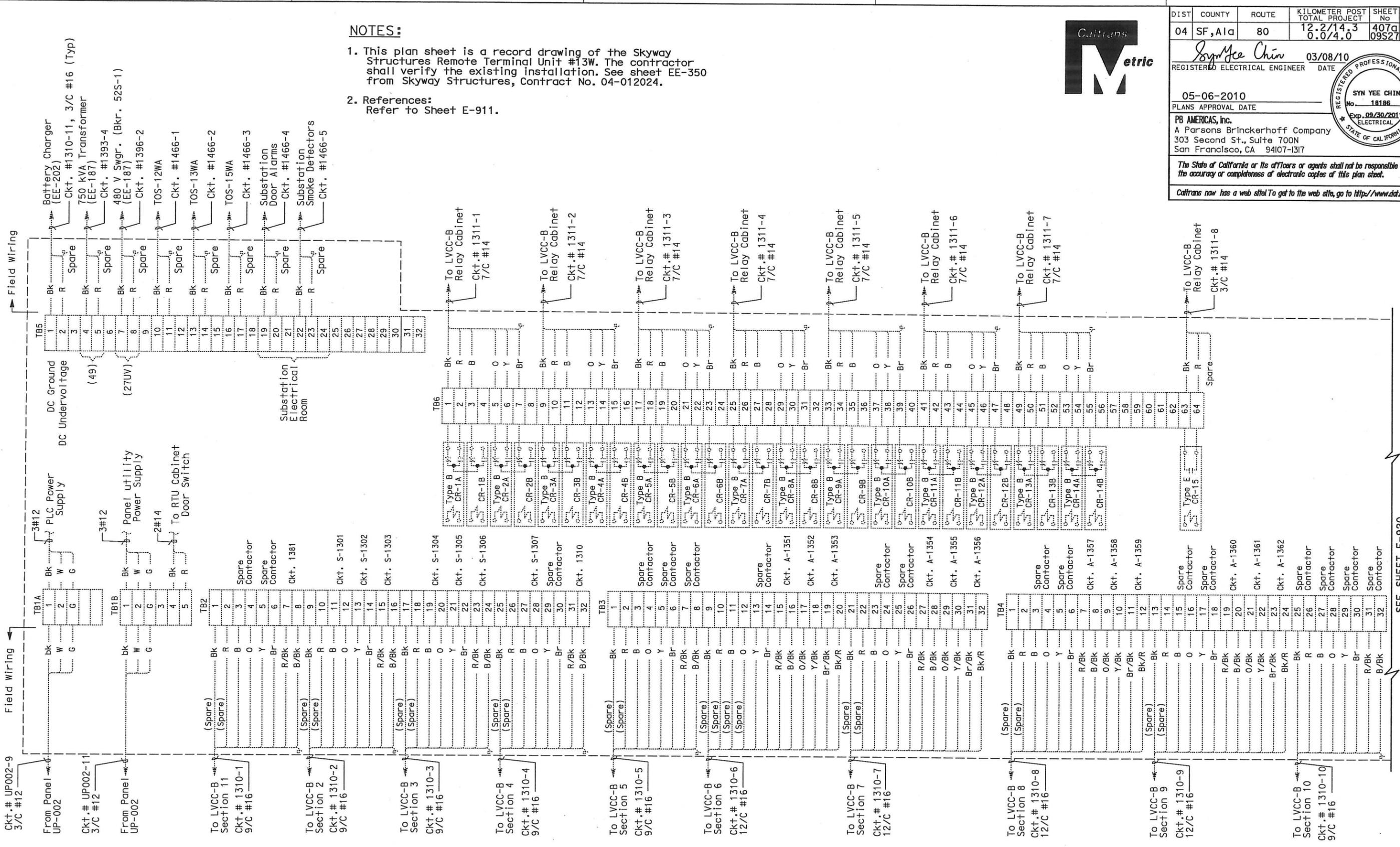
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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 174 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13W WIRING DIAGRAM
 NO SCALE

DATE	REVISED BY
01/0	
DATE	REVISED
01/0	

CALCULATED/DESIGNED BY	SYC
CHECKED BY	FW



NOTES:

1. This plan sheet is a record drawing of the Skyway Structures Remote Terminal Unit #13W. The contractor shall verify the existing installation. See sheet EE-350 from Skyway Structures, Contract No. 04-012024.
2. References:
Refer to Sheet E-911.



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204

REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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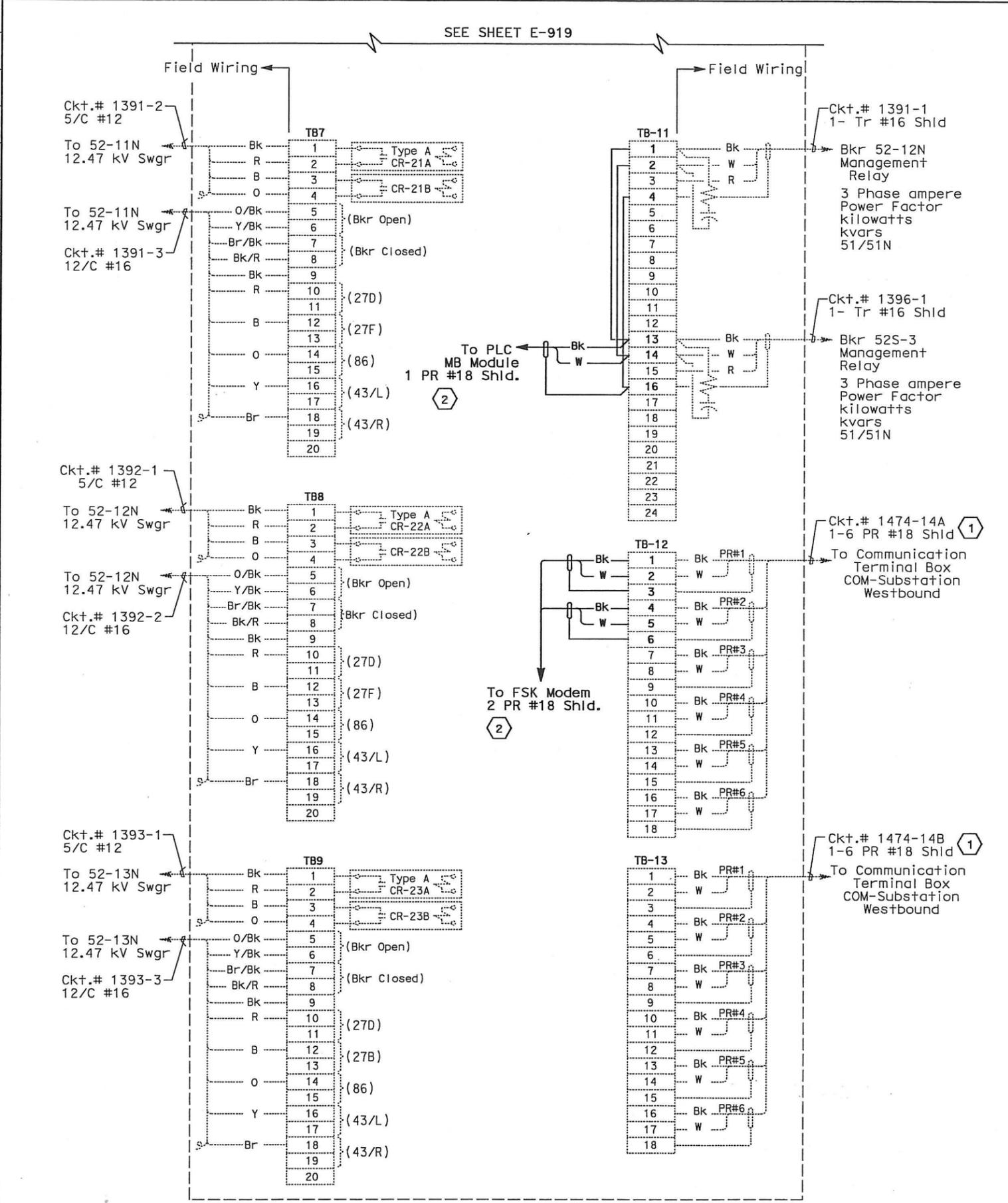
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REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
0	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

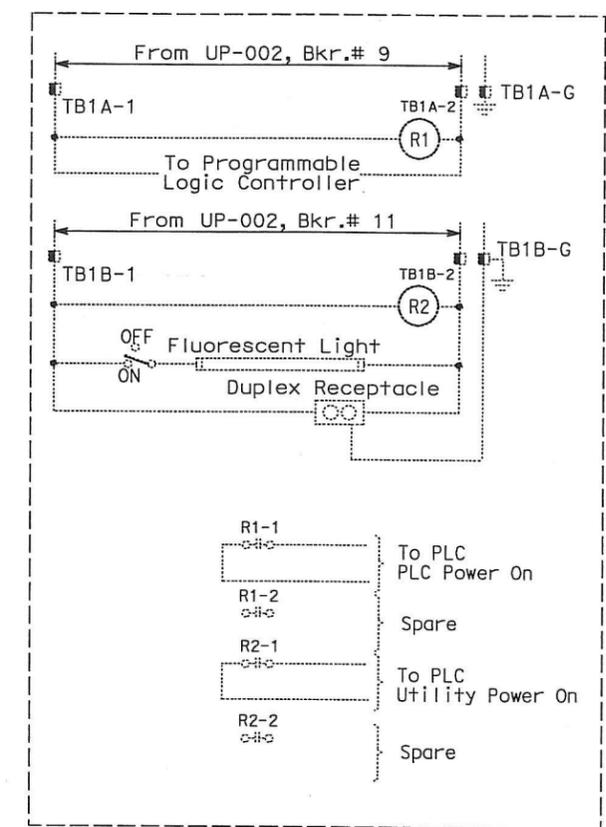
CONTRACT CHANGE ORDER NO. 110
 SHEET 175 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13W CONNECTION DIAGRAM
 NO SCALE

SEE SHEET E-920
CONNECTION DIAGRAM - RTU #13W



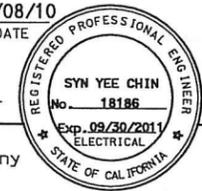
CONNECTION DIAGRAM - RTU #13W



ELEMENTARY DIAGRAM - RTU #13W



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
		SYN YEE CHIN		03/08/10		
		REGISTERED ELECTRICAL ENGINEER		DATE		
		05-06-2010		PLANS APPROVAL DATE		
		PB AMERICAS, Inc.		A Parsons Brinckerhoff Company		
		303 Second St., Suite 700N		San Francisco, CA 94107-1317		
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NOTES:

1. This plan sheet is a record drawing of the Skyway Structures Remote Terminal Unit #13W. The Contractor shall verify the existing installation. See sheet EE-351 from the Skyway Structures, contract No. 04-012024.
2. References:
Refer to Sheet E-911.
3. Contractor shall wire connection shown by bold lines.

SHEET NOTES:

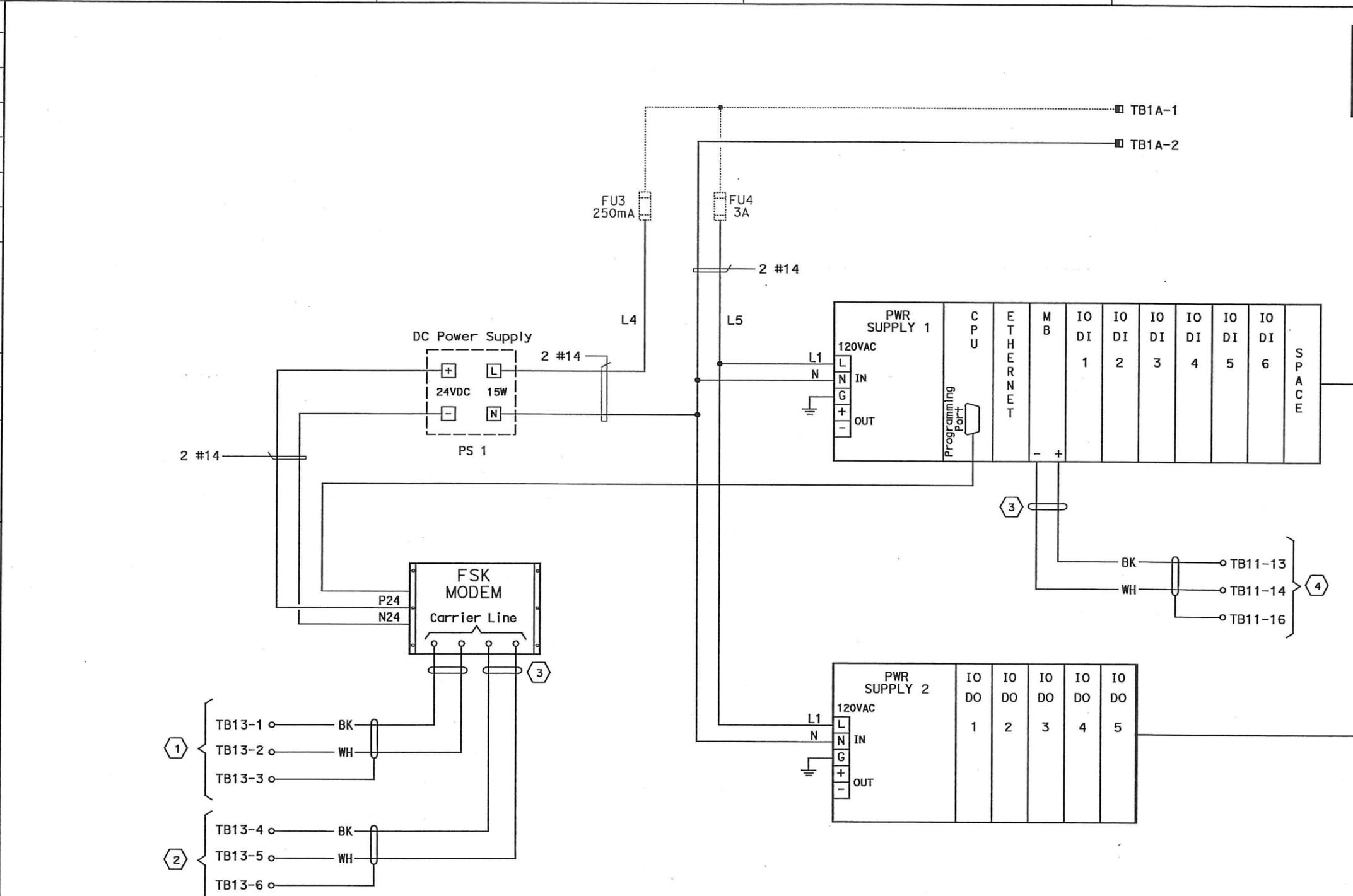
- 1 Verify that the shield is not grounded.
- 2 Do not ground shield.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 176 OF 390

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13W ELEMENTARY AND CONNECTION DIAGRAMS
 NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI



RTU #13E WIRING DIAGRAM



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
		REGISTERED ELECTRICAL ENGINEER		DATE		
		SYN YEE CHIN		03/08/10		
		PLANS APPROVAL DATE				
		PB AMERICAS, Inc.				
		A Parsons Brinckerhoff Company				
		303 Second St., Suite 700N				
		San Francisco, CA 94107-1317				
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- NOTES:**
1. Refer to the special provisions for the PLC and FSK Modem requirements.
 2. For RTU wiring refer to sheets E-922 through E-930.
 3. For FSK Modems interconnect wiring, see sheet E-902.
 4. Contractor shall wire connection shown by bold lines.

- SHEET NOTES:**
- 1 Pair 7 of 50 pair SCADA cable.
 - 2 Pair 8 of 50 pair SCADA cable.
 - 3 Contractor to tape shield.
 - 4 To management relay communication cable, see sheet E-930.

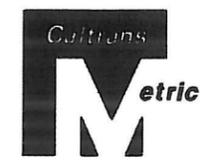
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
03/08/10	MEP INTEGRATION	JE	FW	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 177 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13E WIRING DIAGRAM
 NO SCALE

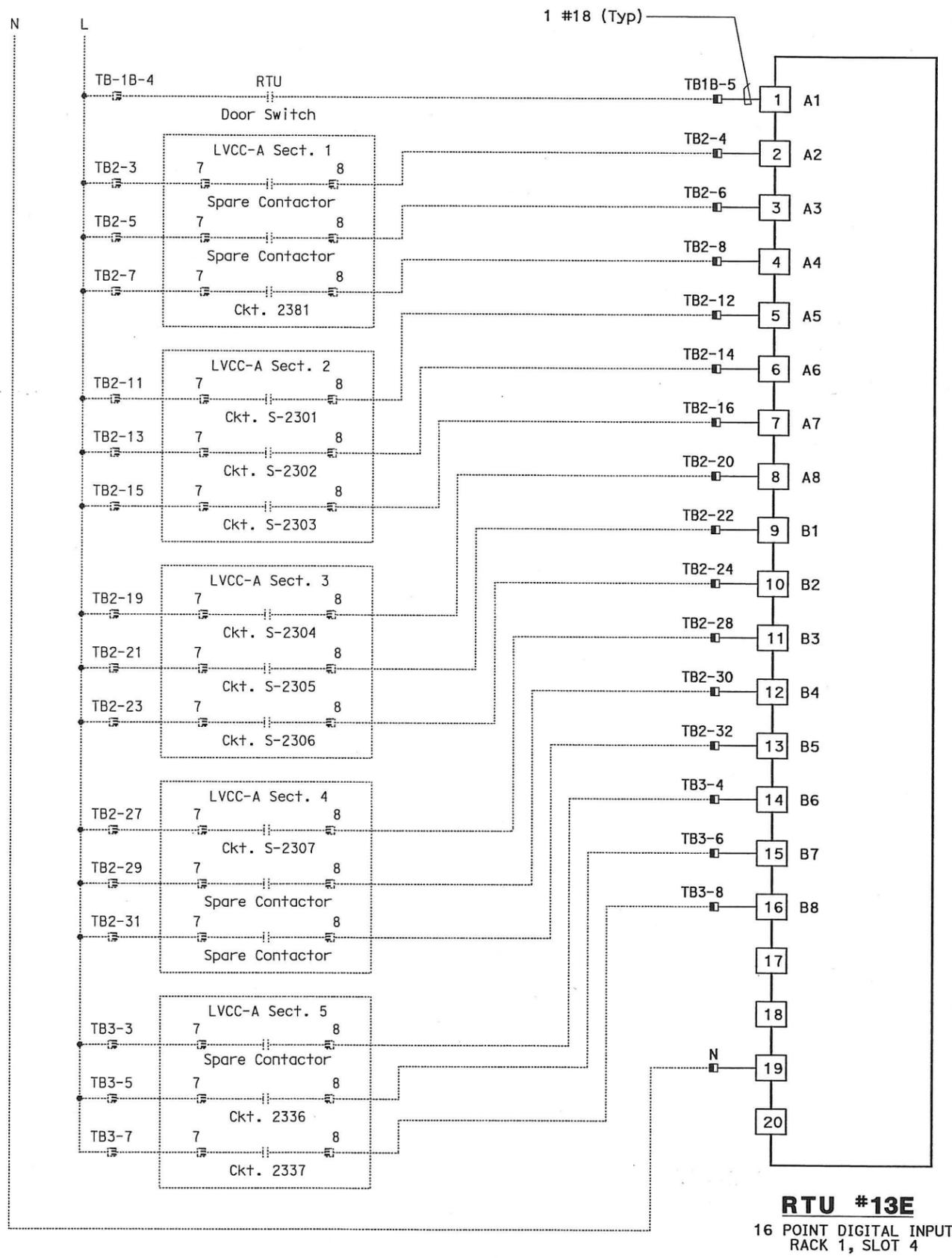
THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

DATE PLOTTED => 06-MAY-2010



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407d 09S30	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA
 03/08/10
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
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NOTES:

- Contractor shall install input card. See sheet E-910 for location.
- Contractor shall wire connection shown by bold lines.

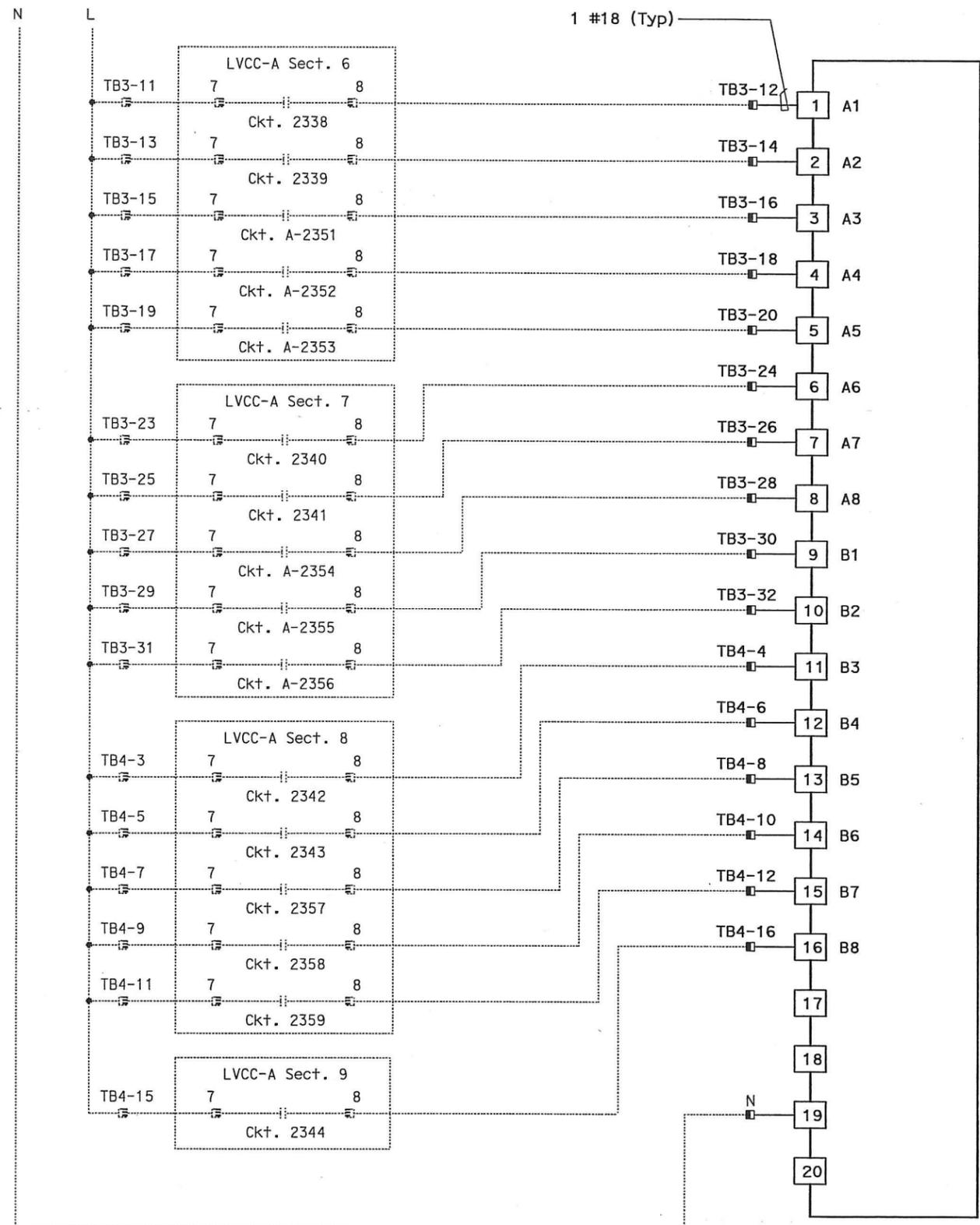
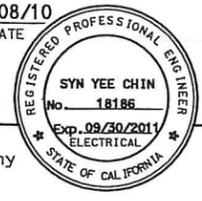
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 178 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13E WIRING DIAGRAM
 NO SCALE



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407 of 09S31	1204
REGISTERED ELECTRICAL ENGINEER		DATE				
SYN YEE CHIN		03/08/10				
PLANS APPROVAL DATE						
05-06-2010						
PB AMERICAS, Inc.						
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303 Second St., Suite 700N						
San Francisco, CA 94107-1317						
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RTU #13E
 16 POINT DIGITAL INPUT
 RACK 1, SLOT 5

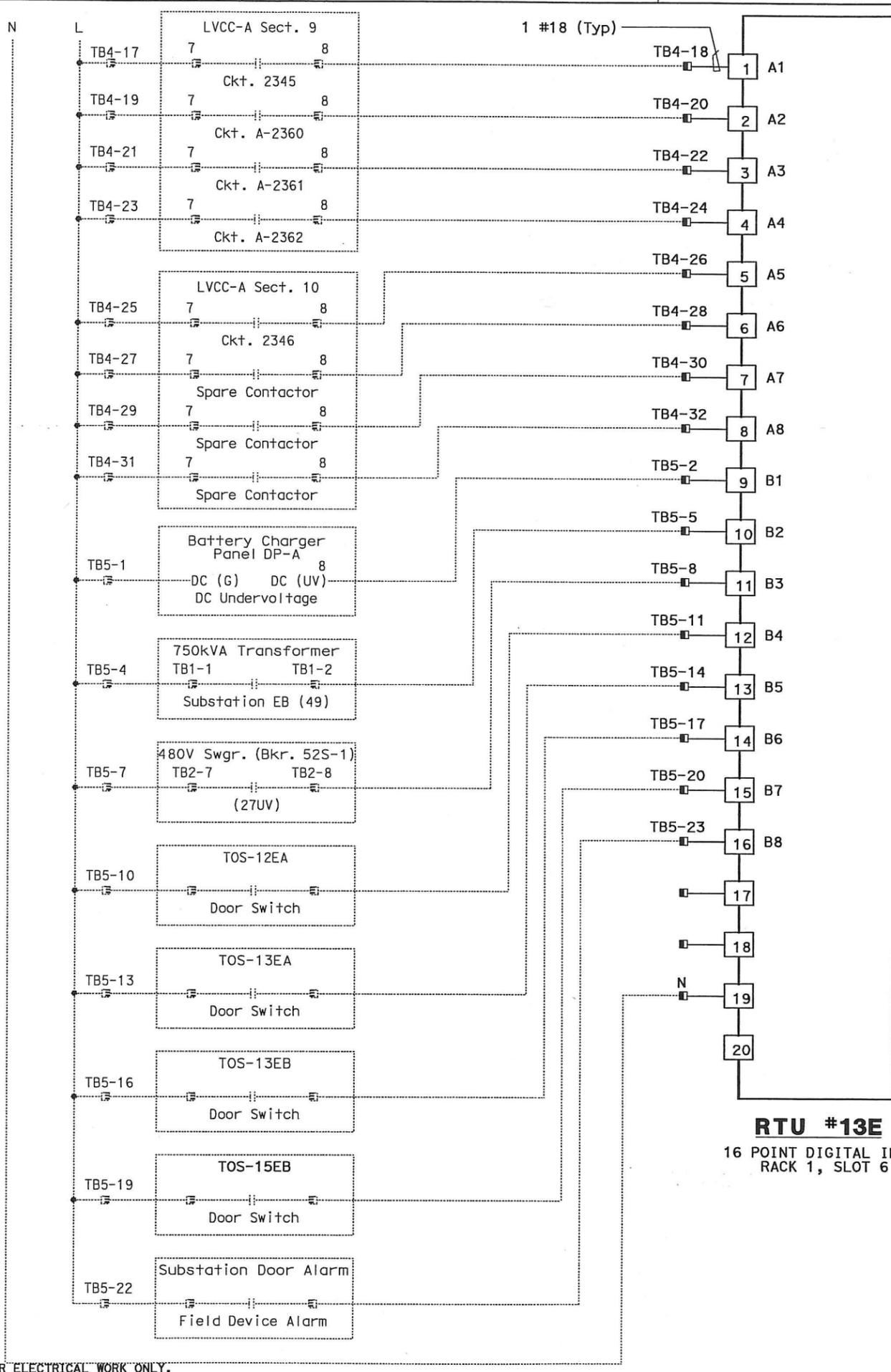
NOTES:

- Contractor shall install input card. See sheet E-910 for location.
- Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 179 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13E WIRING DIAGRAM
 NO SCALE



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
		REGISTERED ELECTRICAL ENGINEER		DATE		
		SYN YEE CHIN		03/08/10		
		PLANS APPROVAL DATE				
		PB AMERICAS, Inc.				
		A Parsons Brinckerhoff Company				
		303 Second St., Suite 700N				
		San Francisco, CA 94107-1317				
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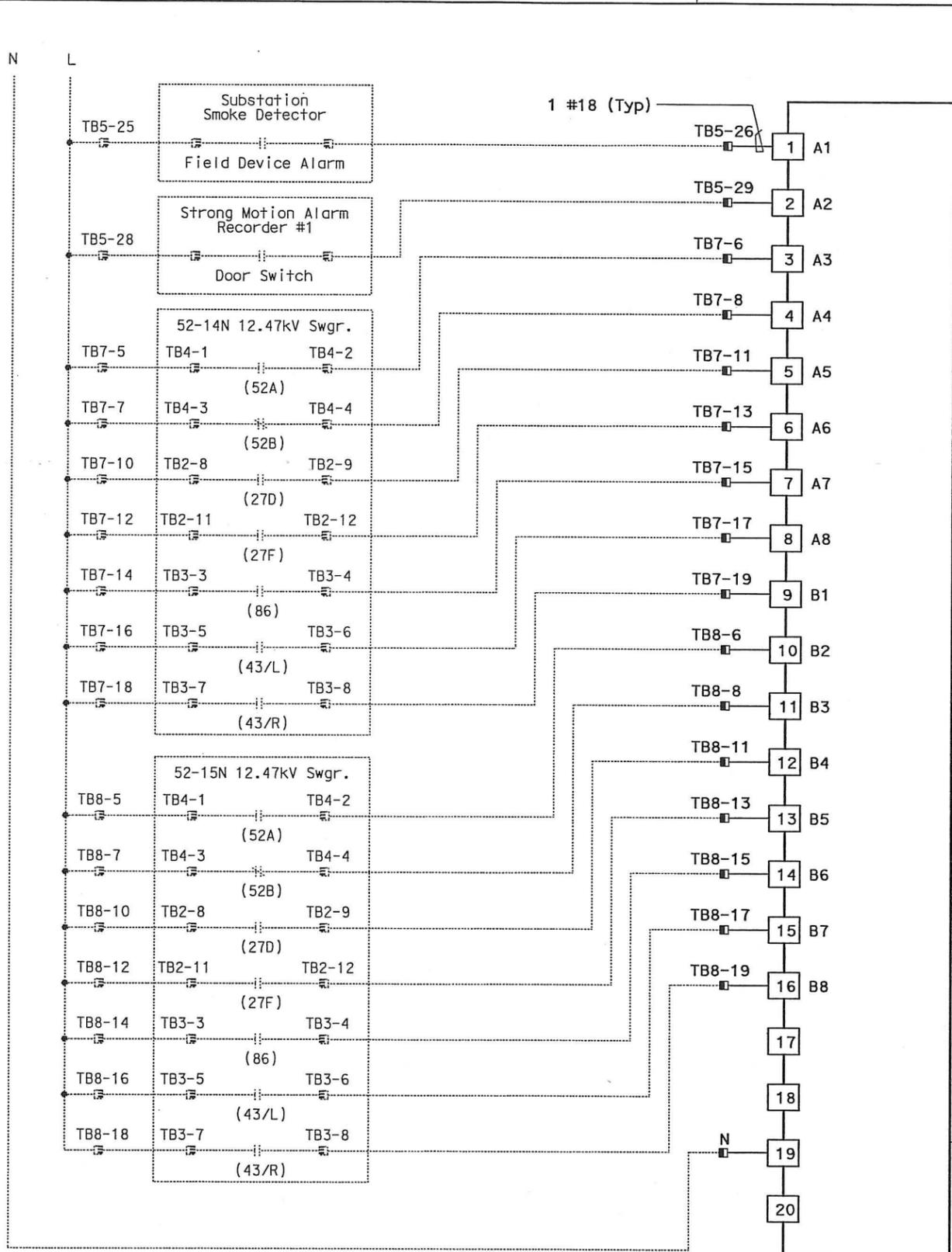
- NOTES:**
- Contractor shall install input card. See sheet E-910 for location.
 - Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 180 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13E WIRING DIAGRAM
 NO SCALE

DATE	REVISOR	REVISION
01/10	SYC	FW
01/10	FW	DATE REVISOR
CALCULATED/DESIGNED BY	CHECKED BY	DATE REVISOR



RTU #13E
 16 POINT DIGITAL INPUT
 RACK 1, SLOT 7



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a 09S33	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

03/08/10
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
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- NOTES:**
- Contractor shall install input card. See sheet E-910 for location.
 - Contractor shall wire connection shown by bold lines.

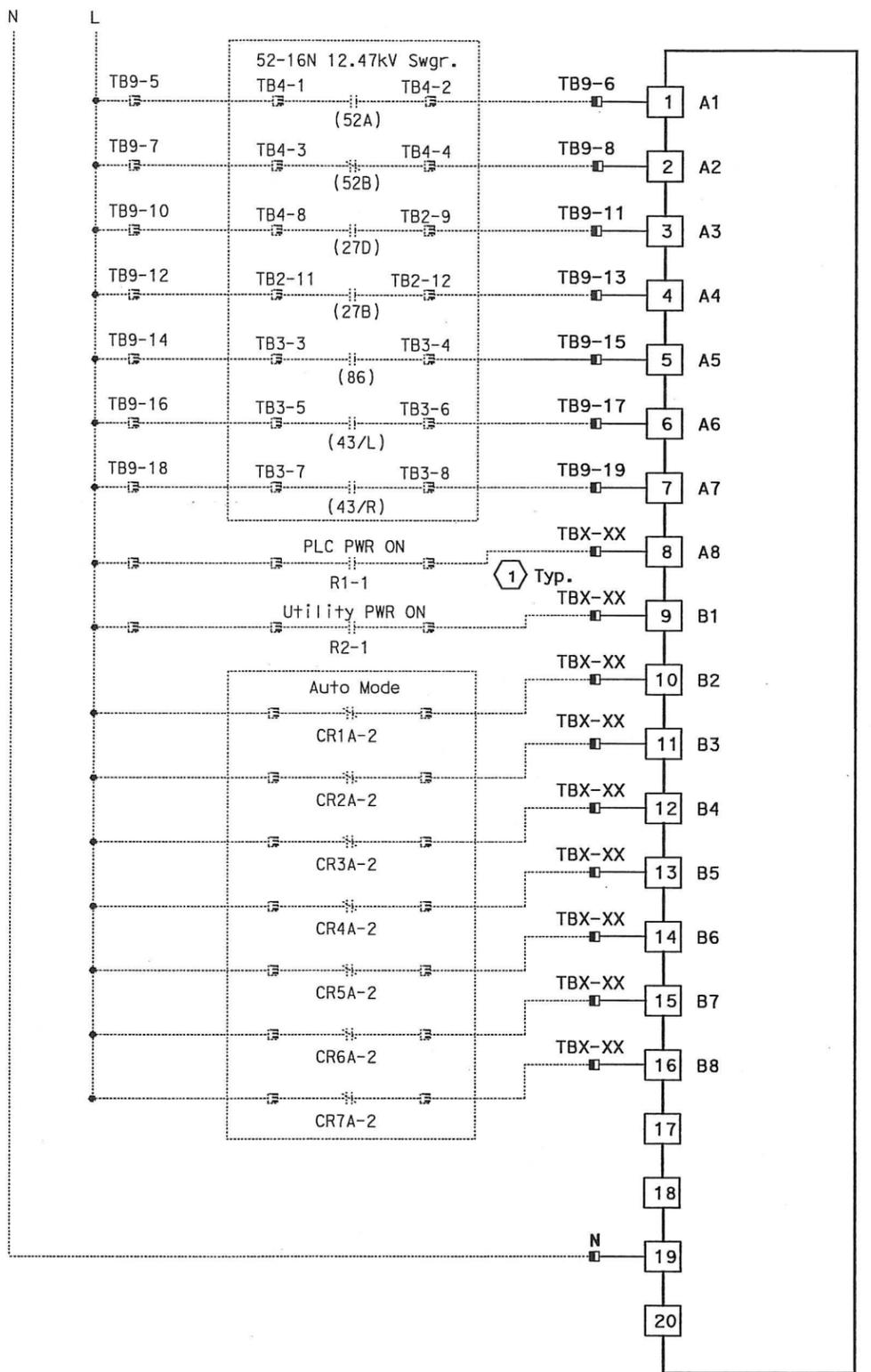
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 181 OF 290

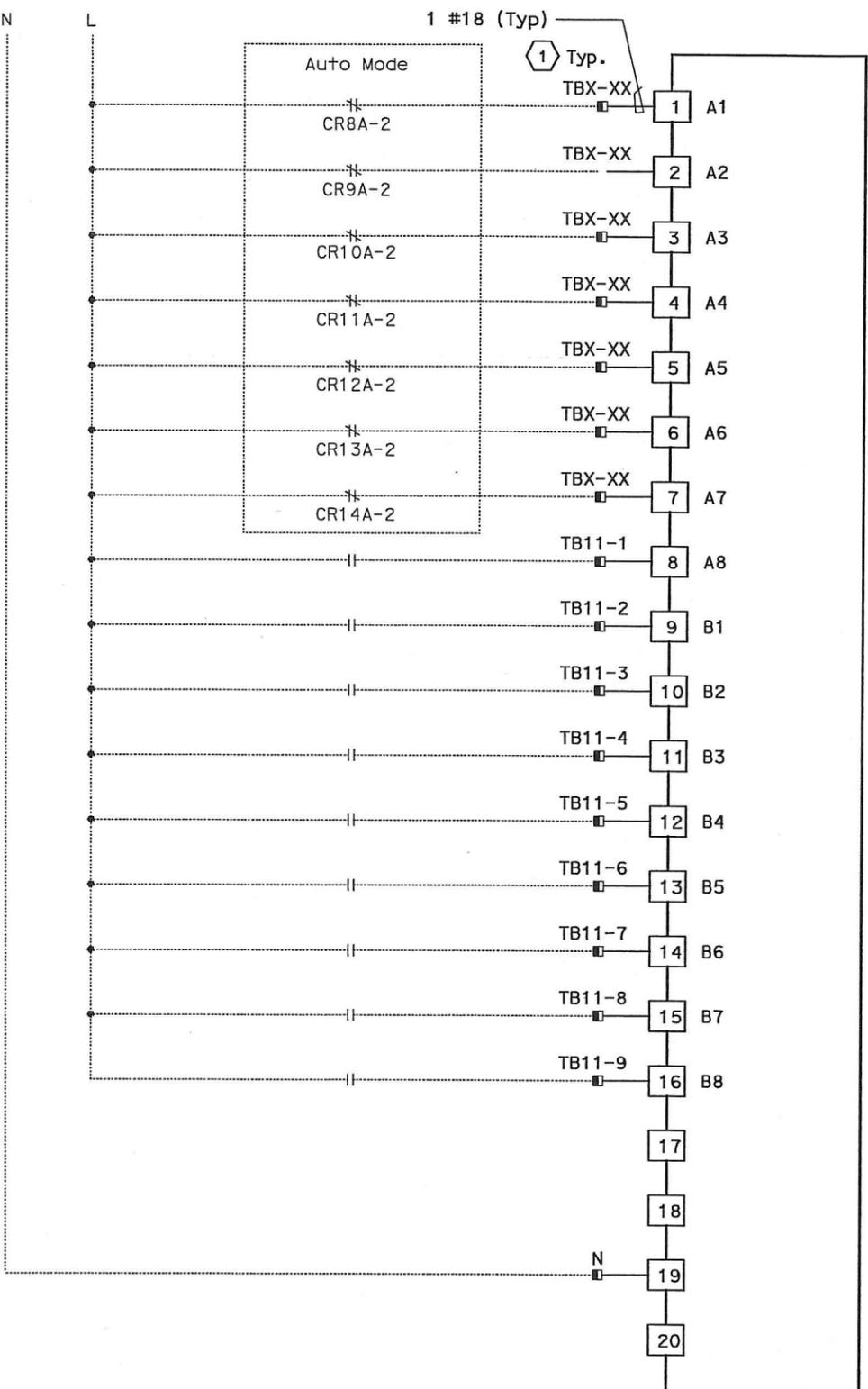
DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13E WIRING DIAGRAM
 NO SCALE

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09534	1204

REGISTERED ELECTRICAL ENGINEER DATE: 03/08/10
 SYN YEE CHIN No. 18186
 Exp. 08/30/2011
 REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA
 PB AMERICAS, Inc.
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RTU #13E
 16 POINT DIGITAL INPUT
 RACK 1, SLOT 8



RTU #13E
 16 POINT DIGITAL INPUT
 RACK 1, SLOT 9

NOTES:

- Contractor shall install input cards. See sheet E-910 for location.
- Contractor shall wire connection shown by bold lines

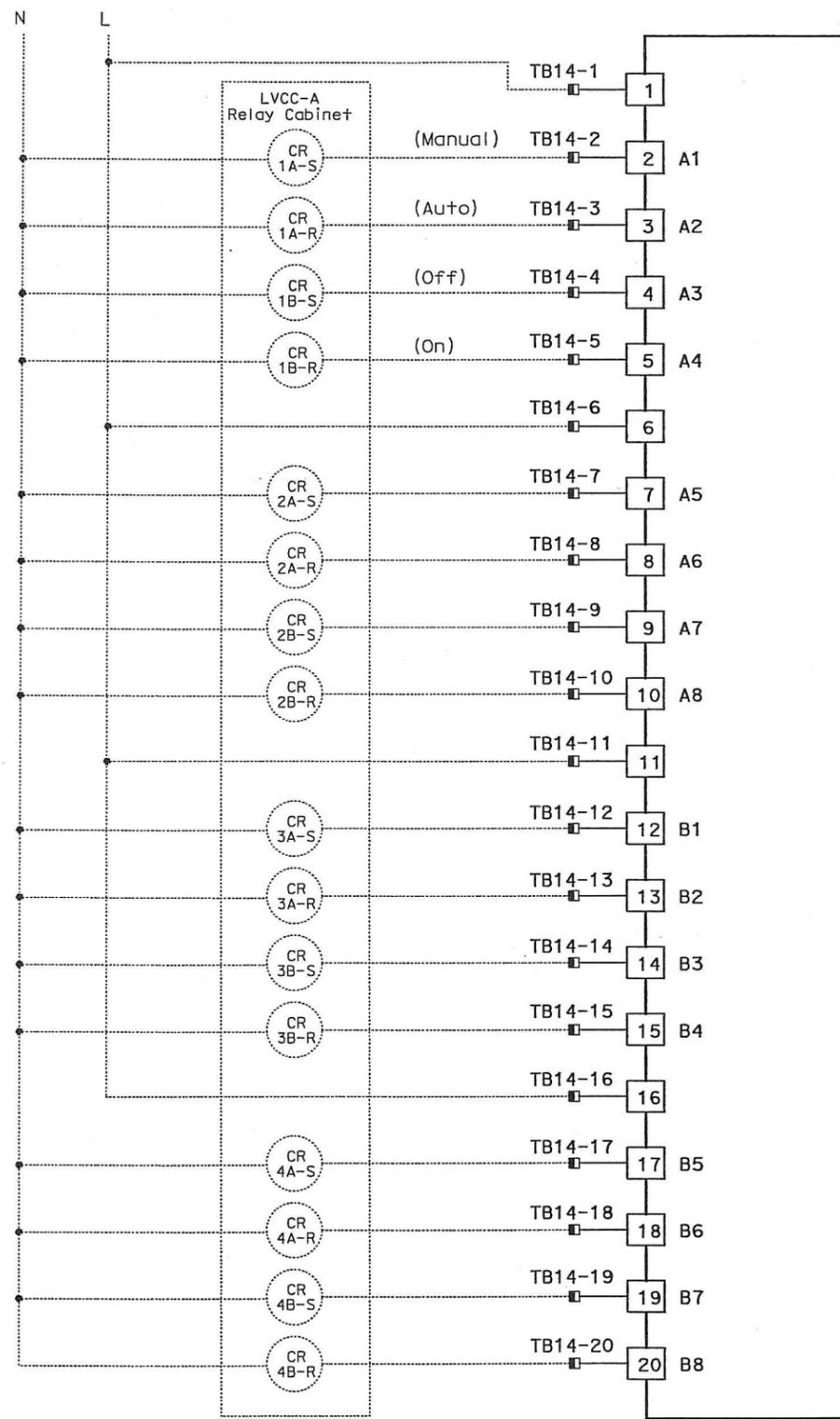
SHEET NOTES:

- Contractor to field verify the "TBX-XX" terminal block designations and equipment contact identification.

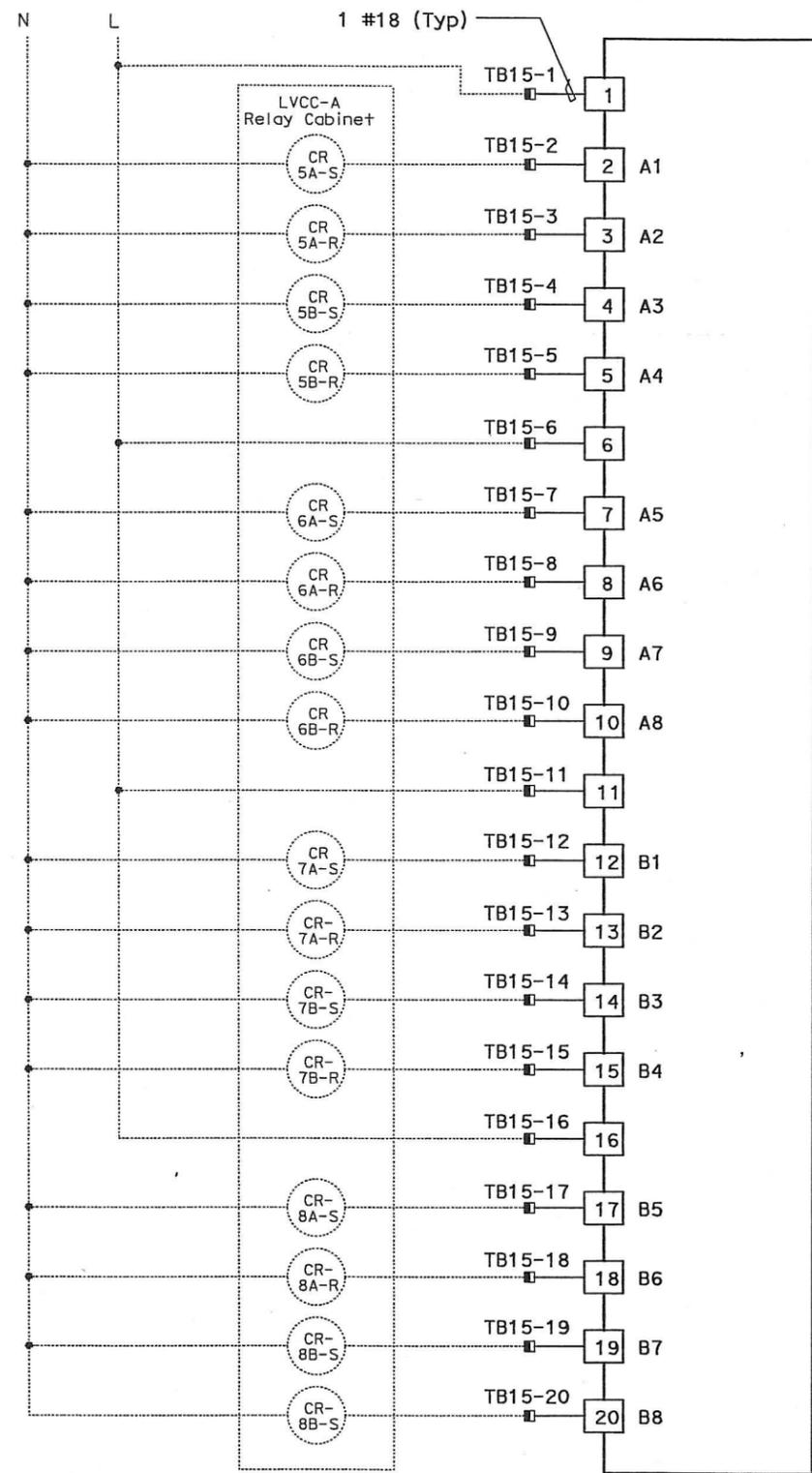
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 182 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13E WIRING DIAGRAM
 NO SCALE



RTU #13E
 16 POINT DIGITAL OUTPUT
 RACK 2, SLOT 1



RTU #13E
 16 POINT DIGITAL OUTPUT
 RACK 2, SLOT 2



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S35	1204
SYN YEE CHIN		03/08/10		REGISTERED ELECTRICAL ENGINEER DATE	
PLANS APPROVAL DATE		05-06-2010		No. 18186	
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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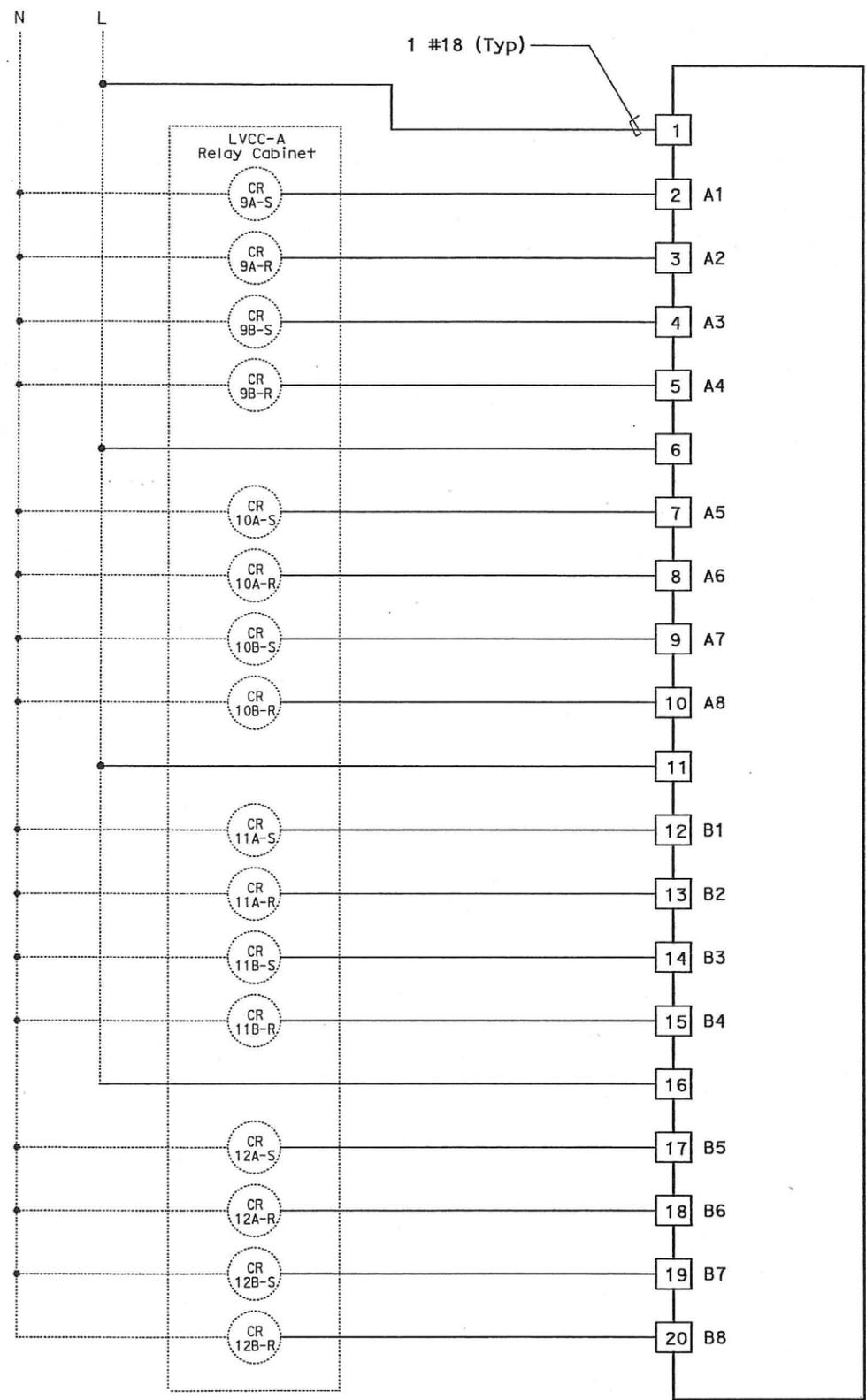
- NOTES:**
- Contractor shall install output cards. See sheet E-910 for location.
 - Contractor shall wire connection shown by bold lines

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 183 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13E WIRING DIAGRAM
 NO SCALE

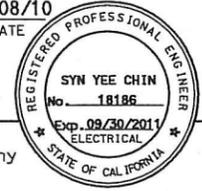
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVEF. - IT
 BEHZAD GOLEMOHAMMADI
 DATE REVISIONS



RTU #13E
 16 POINT DIGITAL OUTPUT
 RACK 2, SLOT 3



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S36	1204
REGISTERED ELECTRICAL ENGINEER		DATE			
SYN YEE CHIN		03/08/10			
PLANS APPROVAL DATE					
05-06-2010					
PB AMERICAS, Inc.					
A Parsons Brinckerhoff Company					
303 Second St., Suite 700N					
San Francisco, CA 94107-1317					
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NOTES:

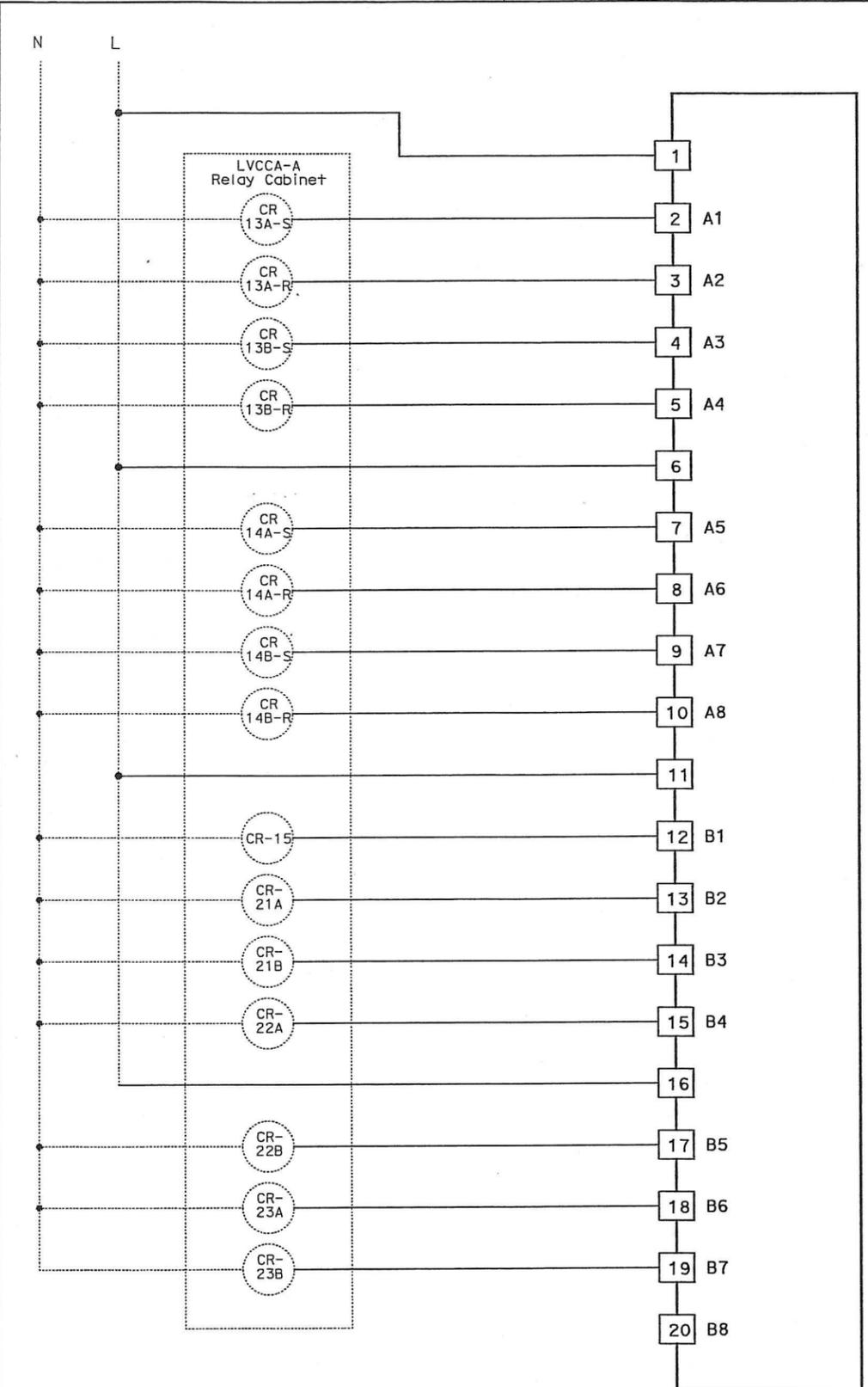
- Contractor shall install output cards. See sheet E-910 for location.
- Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 184 OF 290

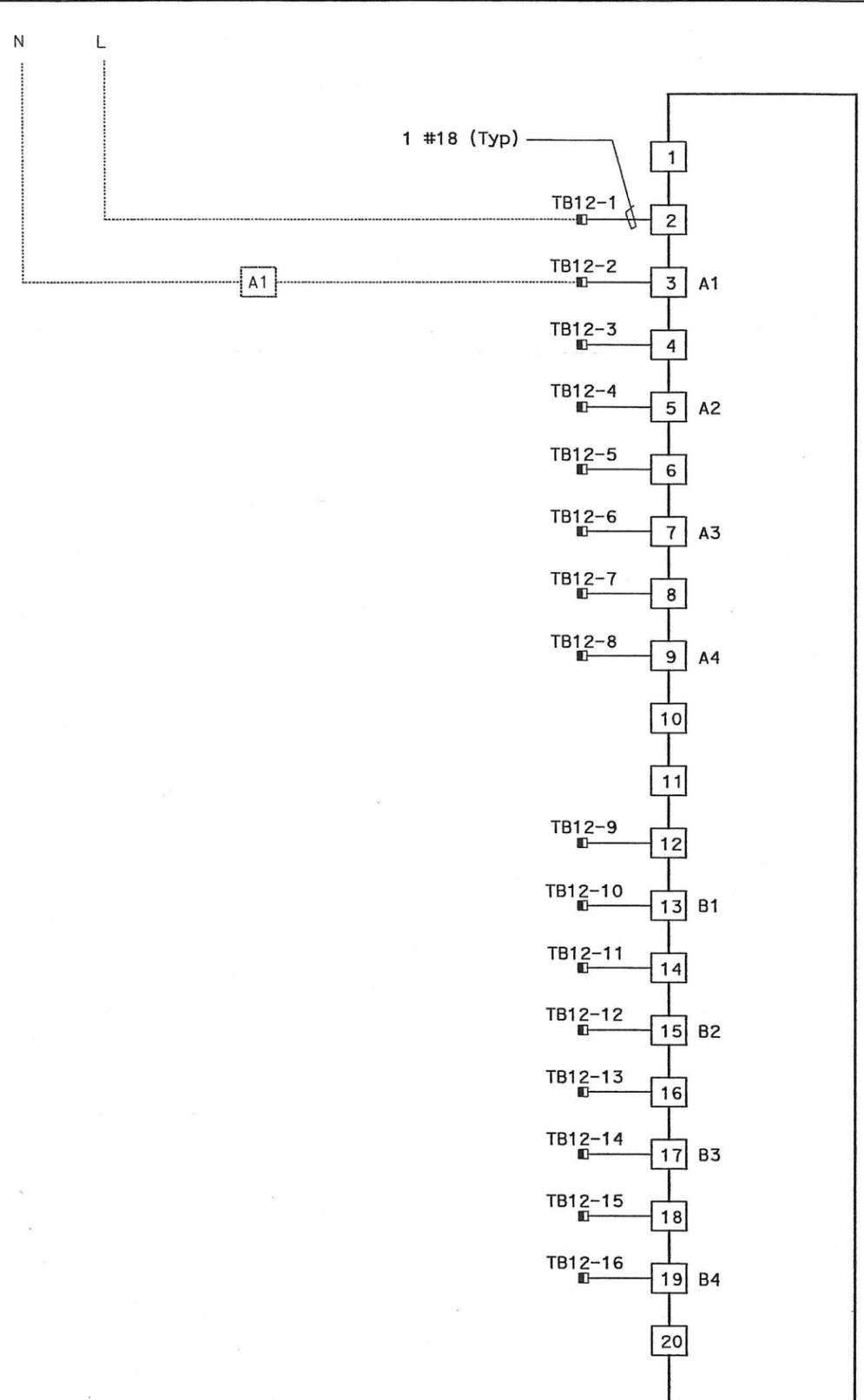
DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13E WIRING DIAGRAM
 NO SCALE

DATE PLOTTED => 06-MAY-2010



RTU #13E

16 POINT DIGITAL OUTPUT
 RACK 2, SLOT 4



RTU #13E

16 POINT DIGITAL OUTPUT
 RACK 2, SLOT 5



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407d	1204
		09S37				

REGISTERED ELECTRICAL ENGINEER: *Syn Yee Chin* DATE: 03/08/10

PLANS APPROVAL DATE: 05-06-2010

REGISTERED PROFESSIONAL ENGINEER: SYN YEE CHIN No. 18186 Exp. 09/30/2011 ELECTRICAL STATE OF CALIFORNIA

PB AMERICAS, Inc.
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- NOTES:**
- Contractor shall install output cards. See sheet E-910 for location.
 - Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 185 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13E WIRING DIAGRAM
 NO SCALE

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

DATE PLOTTED = 03-MAY-2010

NOTES:

- This plan sheet is a record drawing of the Skyway Structures Remote Terminal Unit #13E. The contractor shall verify the existing installation. See sheet EE-357 from the Skyway Structures, Contract No. 04-012024.
- References:
Refer to sheet E-921.



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407/09538	1204

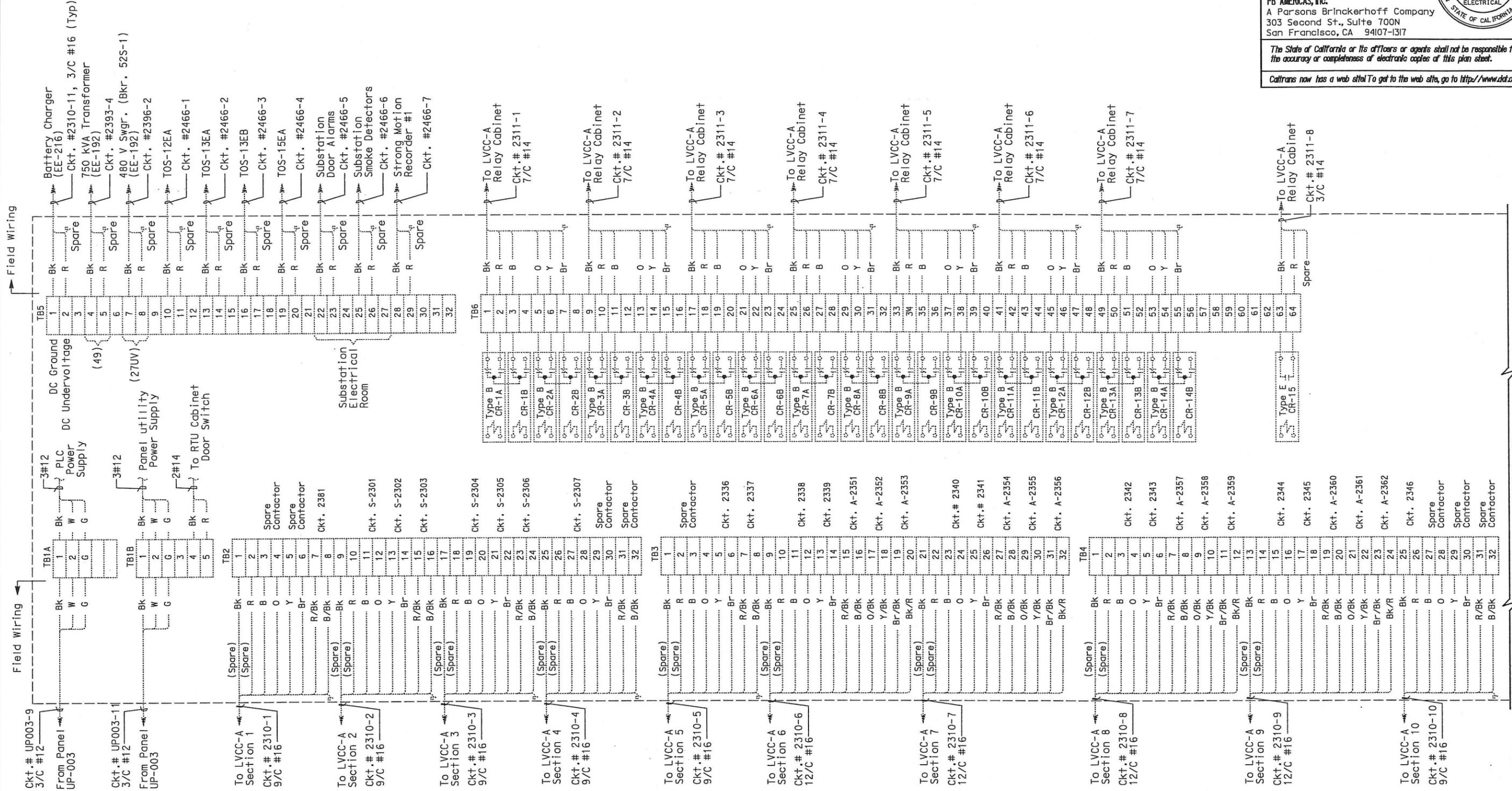
03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
		REVISIONS		

CONTRACT CHANGE ORDER NO. 110
 SHEET 186 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #13E CONNECTION DIAGRAM

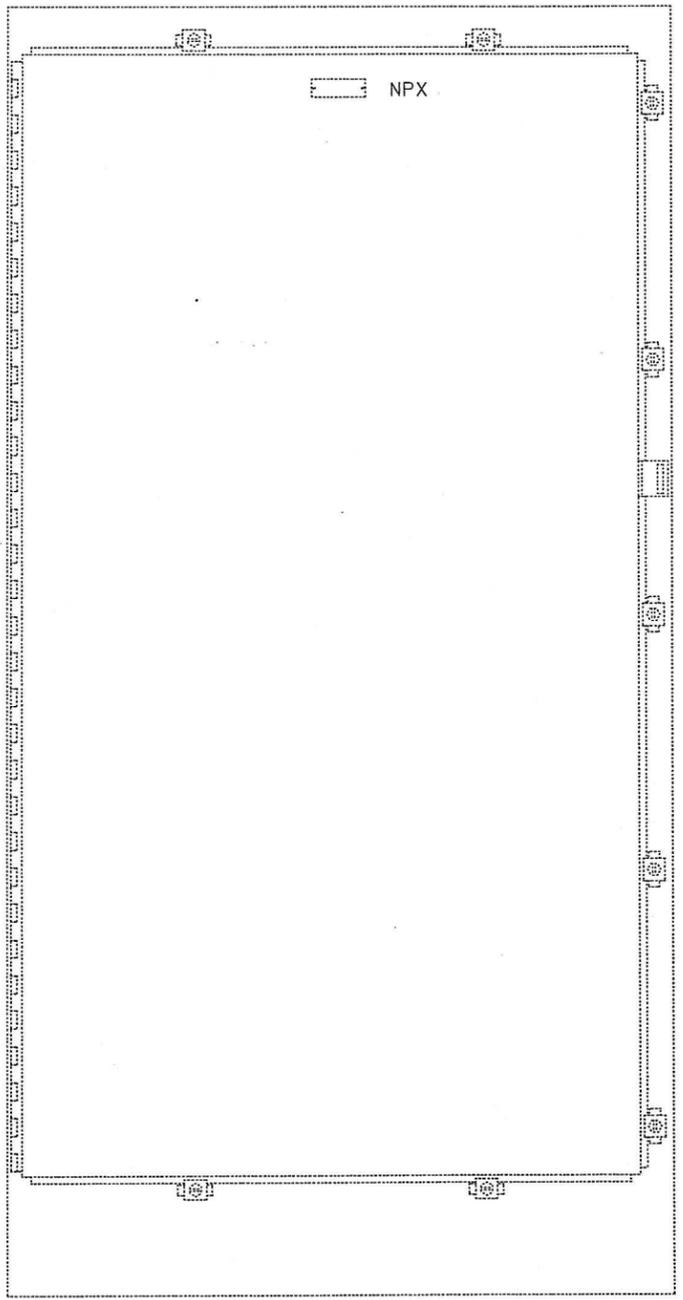
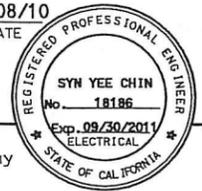
NO SCALE

E-929A

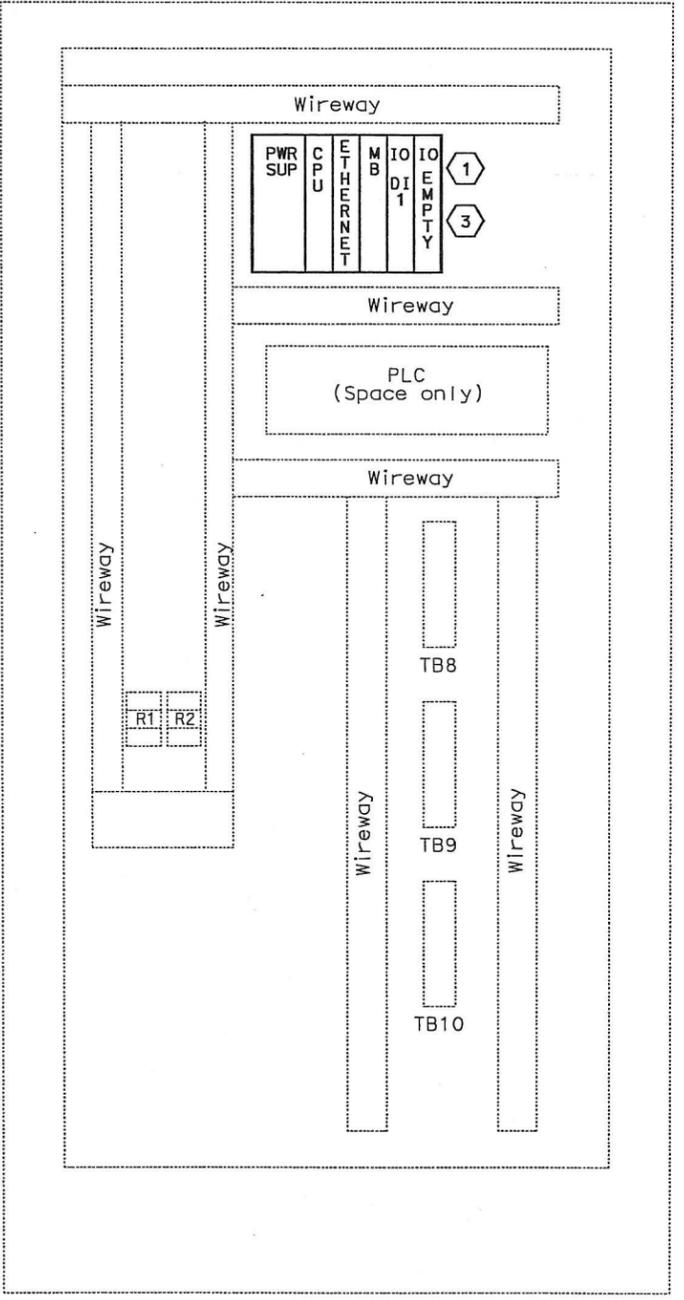
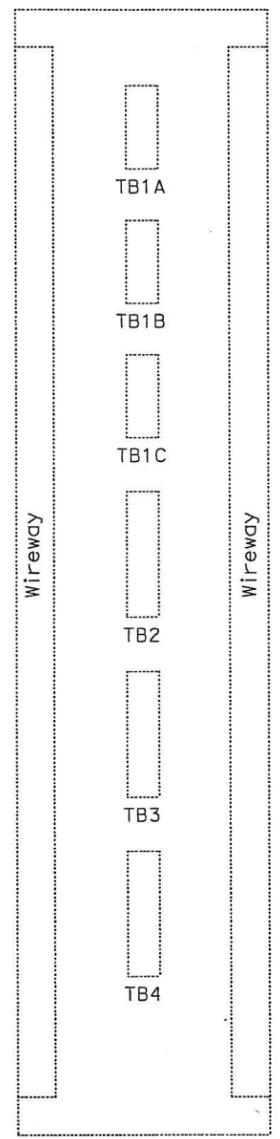
SEE SHEET E-930
CONNECTION DIAGRAM - RTU #13E



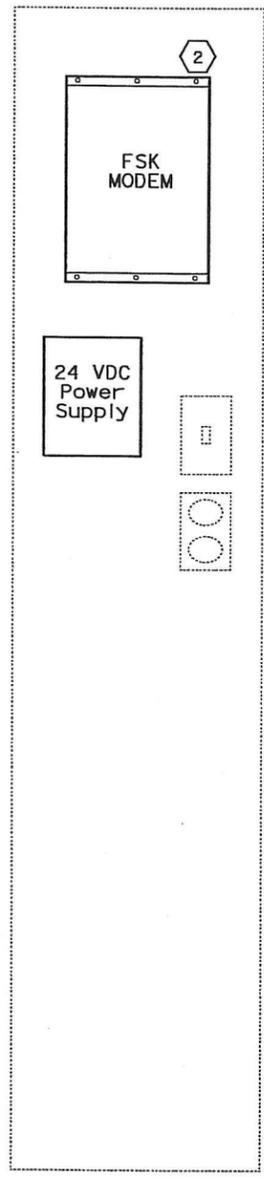
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09540	1204
			SYN YEE CHIN REGISTERED ELECTRICAL ENGINEER DATE 03/08/10		
			05-06-2010 PLANS APPROVAL DATE		
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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EXTERIOR



INTERIOR



NOTES:

1. Refer to the special provisions for the PLC and FSK Modem requirements.
2. For RTU wiring see following sheets:
 - RTU #14W - Sheet E-932,933.
 - RTU #14E - Sheet E-934,935.
 - RTU #15W - Sheet E-936,937.
 - RTU #15E - Sheet E-938,939.

SHEET NOTES:

- 1 Contractor shall furnish and install a new GE Fanuc PAC Systems RX3i PLC in the existing RTU.
- 2 Contractor shall furnish and install a new Frequency Shift Key (FSK) modem and 120v (AC) to 21v-28v (DC) power supply in the existing RTU.
- 3 Contractor shall install the input and output cards.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

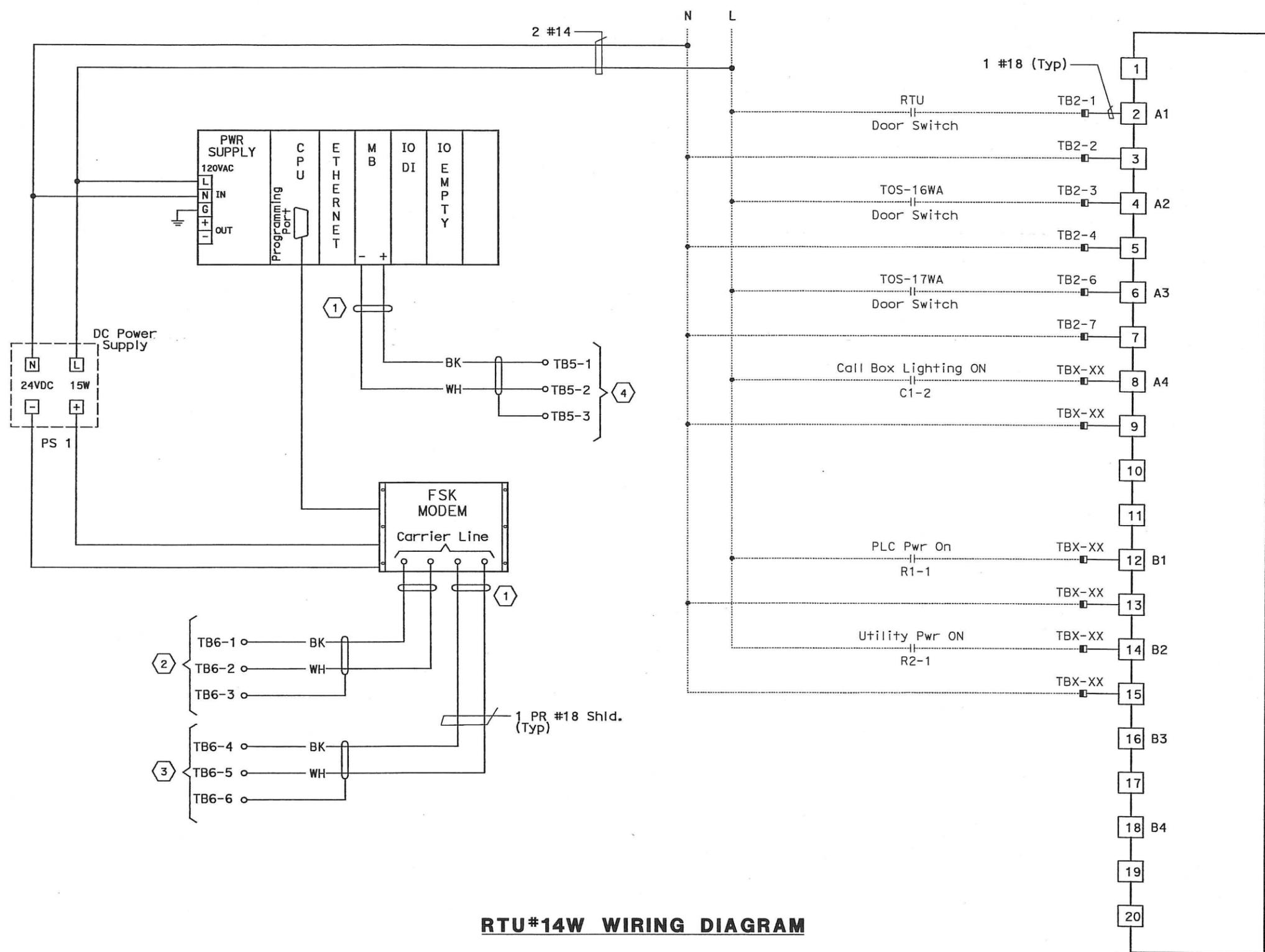
CONTRACT CHANGE ORDER NO. 110
 SHEET 188 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #14W, 14E, 15W, AND 15E ASSEMBLY
 NO SCALE

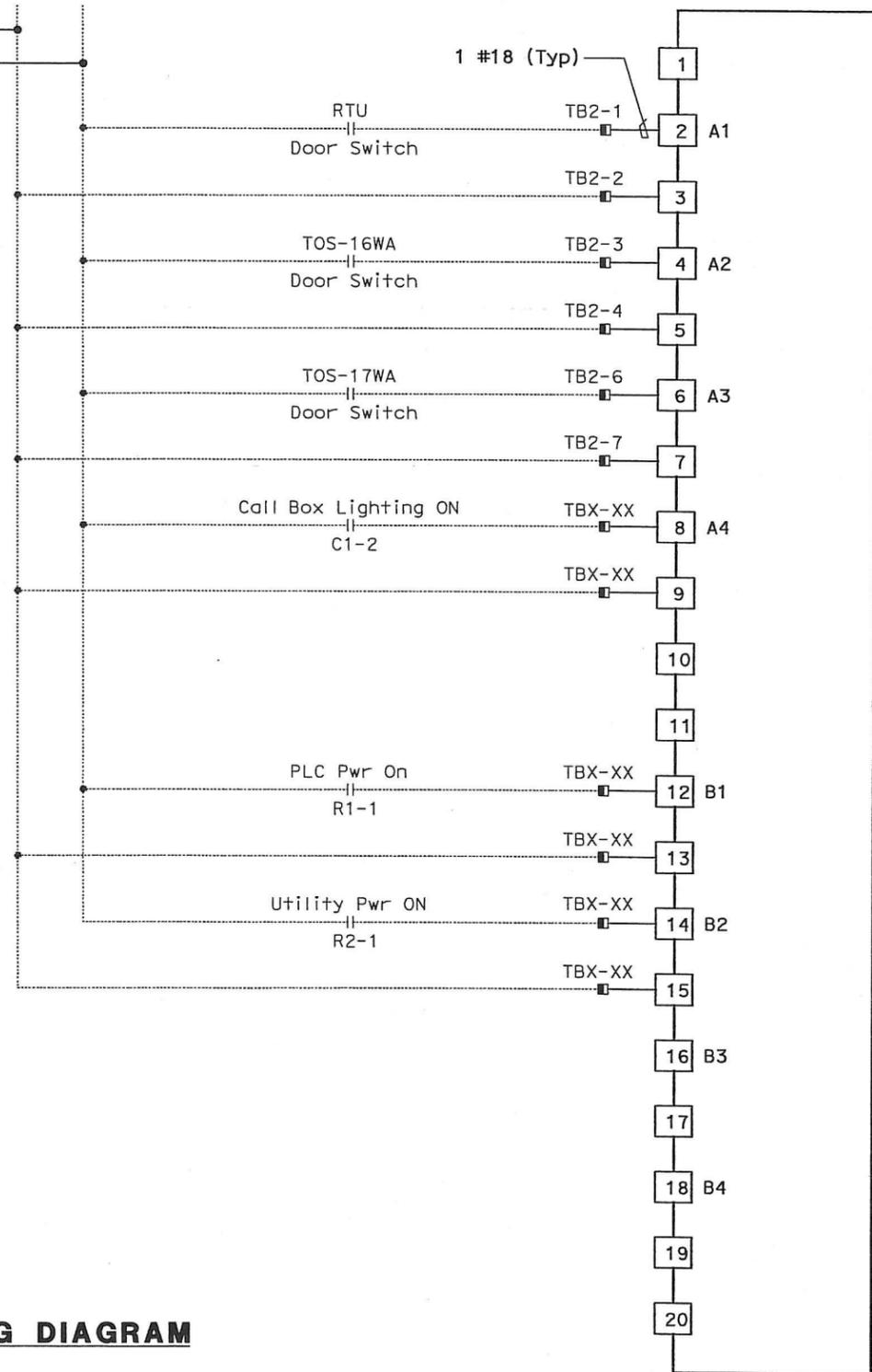
DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
			09S41			

REGISTERED ELECTRICAL ENGINEER: **Syn Yee Chin** 03/08/10
 PLANS APPROVAL DATE: 05-06-2010
PB AMERICAS, Inc.
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 San Francisco, CA 94107-1317

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RTU#14W WIRING DIAGRAM



RTU #14W
 8 POINT DIGITAL INPUT
 RACK 1, SLOT 4

NOTES:

- For FSK Modems interconnect wiring, see sheet E-902.
- References: See sheet E-933.
- Contractor shall install input card. See sheet E-931 for location.
- Contractor shall wire connection shown by bold lines.

SHEET NOTES:

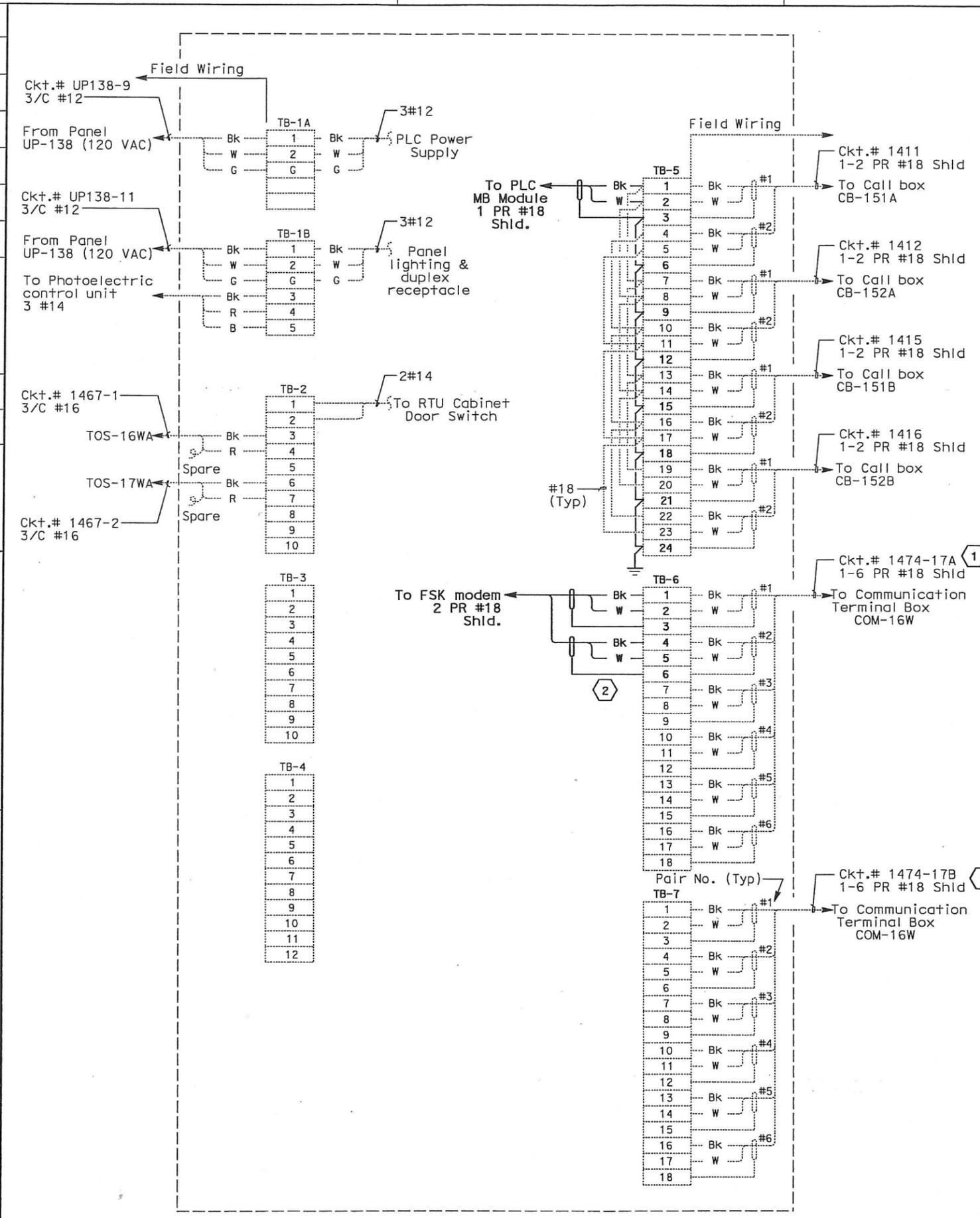
- Contractor to tape shield. This circuit is not to be grounded at this end.
- Pair 1 of 50 pair SCADA cable.
- Pair 2 of 50 pair SCADA cable.
- To Call Box Communications cable RS-485.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 189 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #14W WIRING DIAGRAMS
 NO SCALE



ELEMENTARY DIAGRAM - RTU#14W



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, A1a	80	12.2/14.3 0.0/4.0	407a 09S42	1204

REGISTERED ELECTRICAL ENGINEER: *Syn Yee Chin* 03/08/10
 DATE: 03/08/10
 PLANS APPROVAL DATE: 05-06-2010
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
 Exp. 09/30/2011
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 No. 18186
 ELECTRICAL
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- NOTES:**
- This Plan Sheet is a record drawing of the Skyway Structures Remote Terminal Unit No. 14W. The Contractor shall verify the existing installation. See sheet EE-352 from the Skyway Structures, contract No. 04-012024.
 - References:
See sheet E-932.
 - Contractor shall wire connection shown by bold lines.
- SHEET NOTES:**
- Verify that shield is not grounded.
 - Do not ground the shield.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
03/08/10	MEP INTEGRATION	JE	FW	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 190 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #14W ELEMENTARY AND CONNECTION DIAGRAMS
 NO SCALE

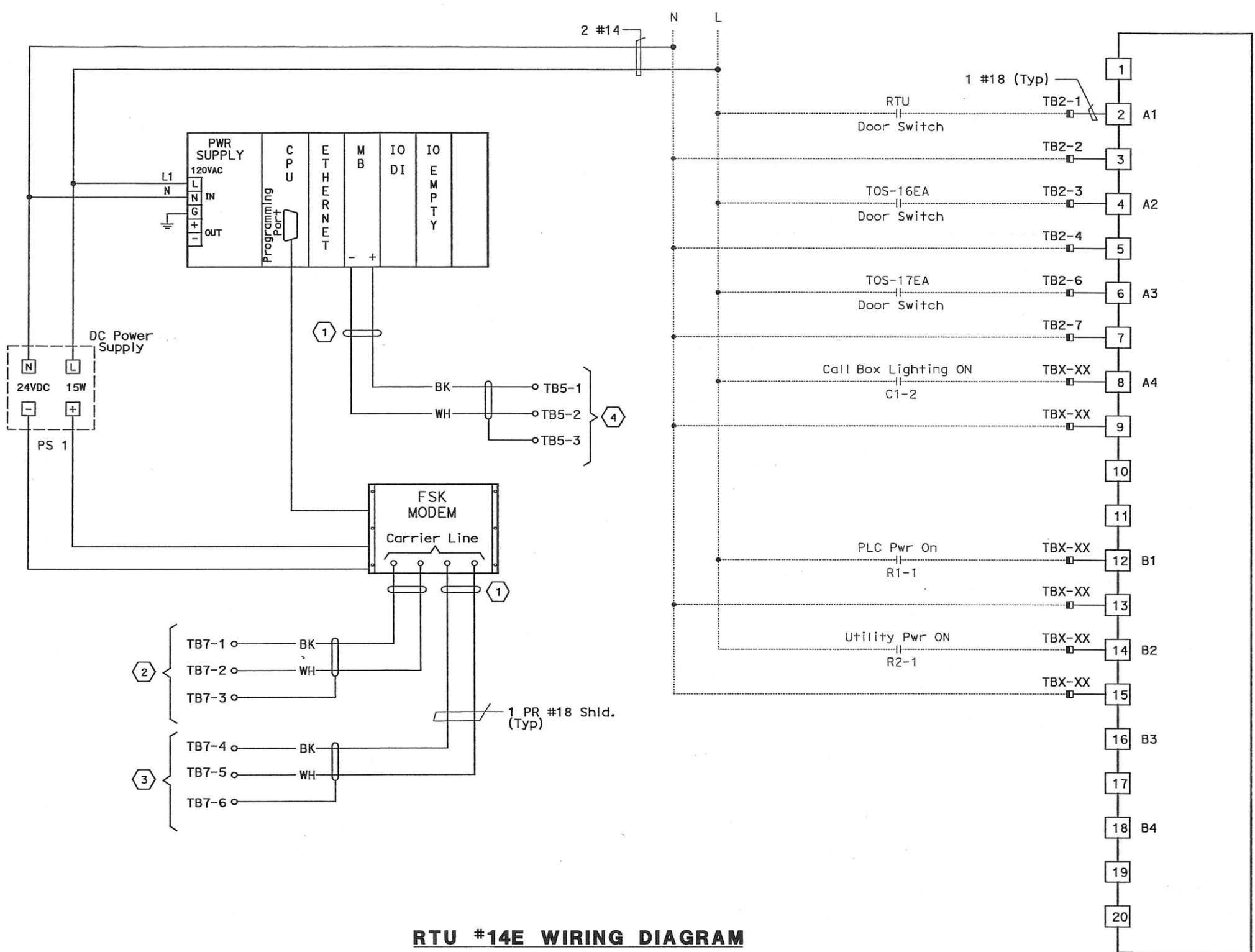
CONNECTION DIAGRAM - RTU #14W

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
		09S43				

REGISTERED ELECTRICAL ENGINEER: *Syn Yee Chin* DATE: 03/08/10
 PLANS APPROVAL DATE: 05-06-2010
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
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RTU #14E WIRING DIAGRAM

RTU #14E

8 POINT DIGITAL INPUT
 RACK 1, SLOT 4

NOTES:

- Contractor shall install input card. See sheet E-931 for location.
- Contractor shall wire connection shown by bold lines.

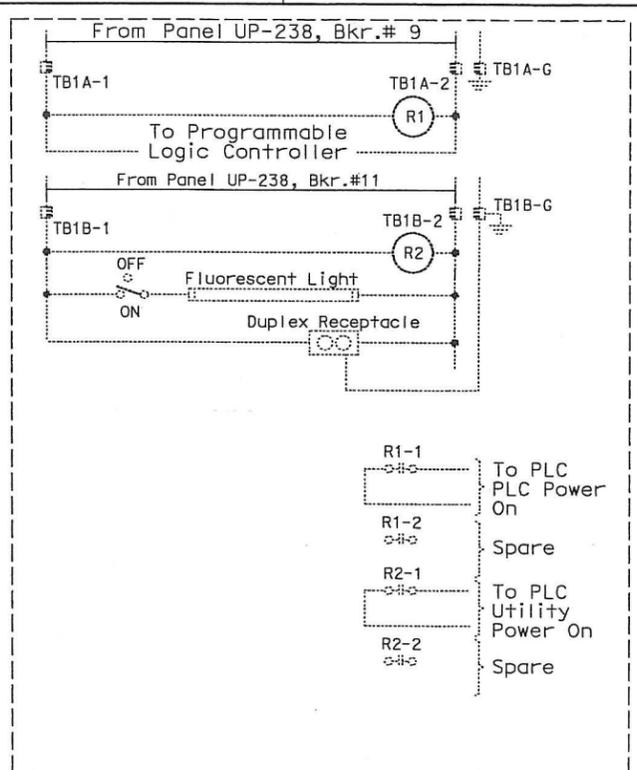
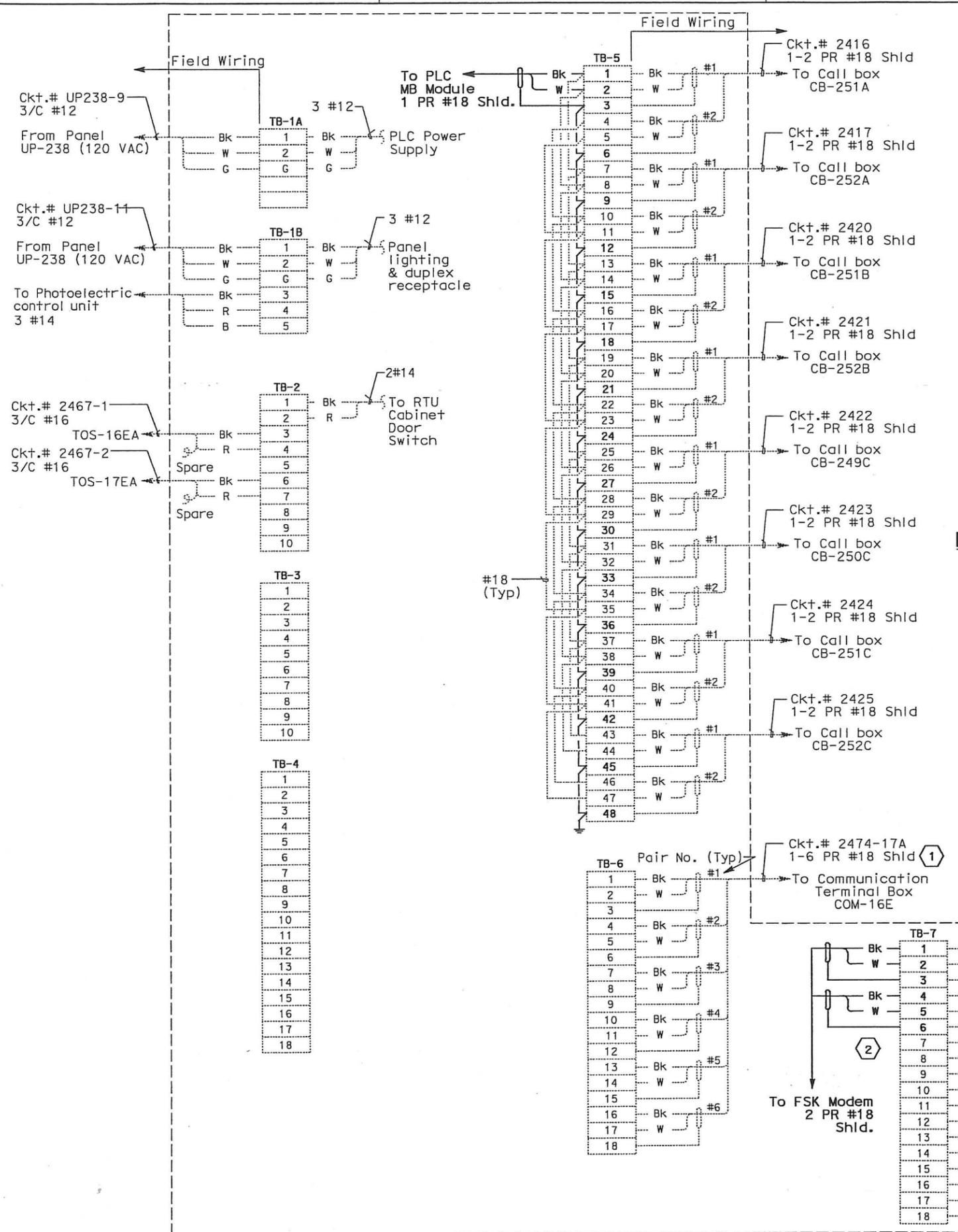
SHEET NOTES:

- Contractor to tape shield. This circuit is not to be grounded at this end.
- Pair 7 of 50 pair SCADA cable.
- Pair 8 of 50 pair SCADA cable.
- To Call Box Communications cable RS-485.

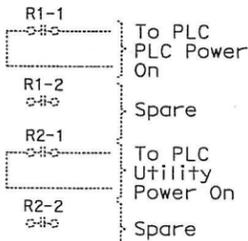
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
03/08/10	MEP INTEGRATION	JE	FW	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 191 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #14E WIRING DIAGRAM
 NO SCALE



ELEMENTARY DIAGRAM - RTU #14E



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF,Ala	80	12.2/14.3	0.0/4.0	407a	1204
			03/08/10		REGISTERED ELECTRICAL ENGINEER DATE	
			05-06-2010		PLANS APPROVAL DATE	
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317						
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- NOTES:**
- This Plan Sheet is a record drawing of the Skyway Structures Remote Terminal Unit No. 14E. The Contractor shall verify the existing installation. See sheet EE-359 from the Skyway Structures, contract No. 04-012024.
 - References:
Refer to sheet E-934.
 - Contractor shall wire connection shown by bold lines.

- SHEET NOTES:**
- Verify that the shield is not grounded.
 - Do not ground shield.

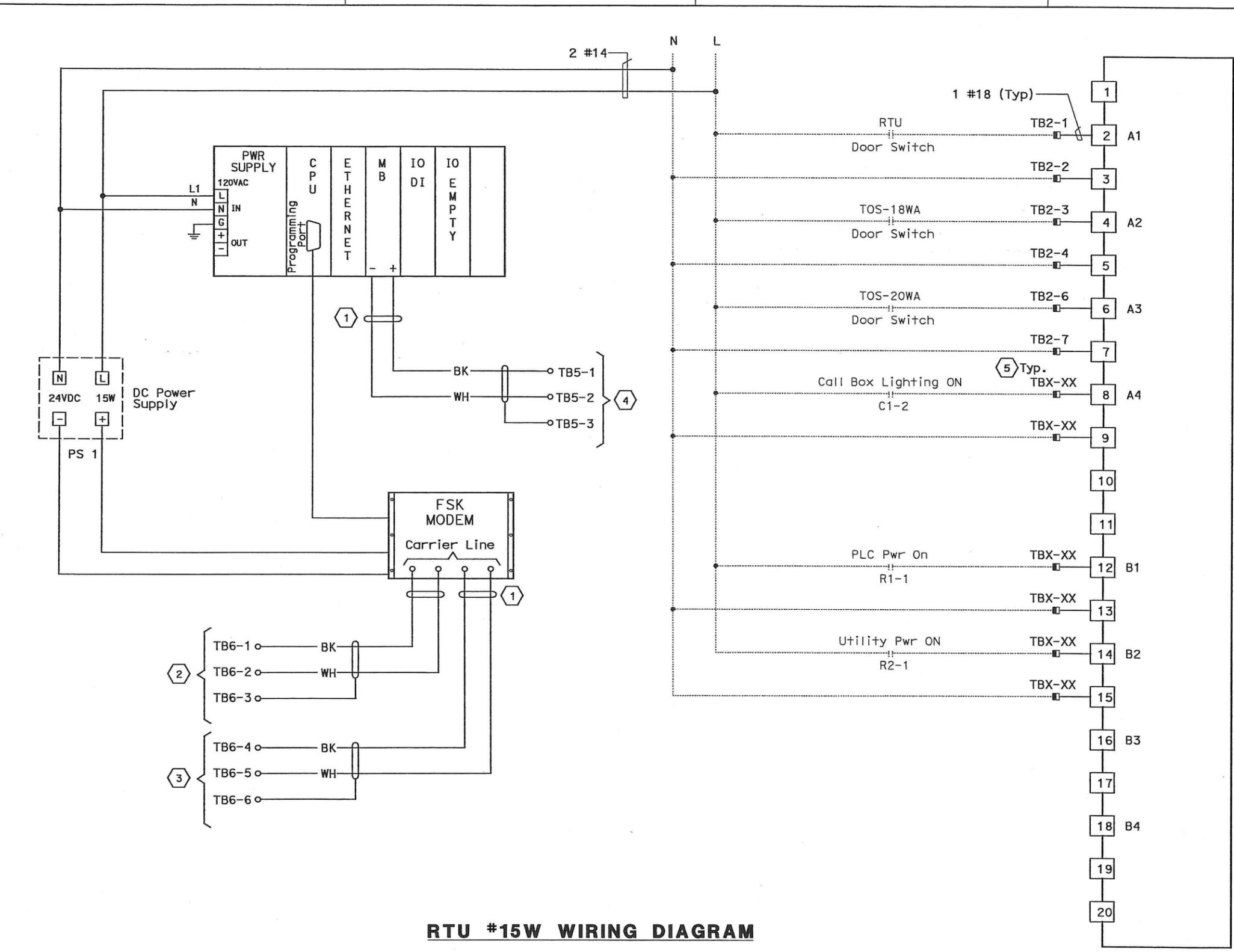
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE						
03/08/10	MEP INTEGRATION	JE	FW	110		
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#	
REVISIONS						

CONTRACT CHANGE ORDER NO. 110
 SHEET 192 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #14E ELEMENTARY AND CONNECTION DIAGRAMS
 NO SCALE

CONNECTION DIAGRAM - RTU #14E

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.



RTU #15W WIRING DIAGRAM

RTU #15W
 8 POINT DIGITAL INPUT
 RACK 1, SLOT 4



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407 09545	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

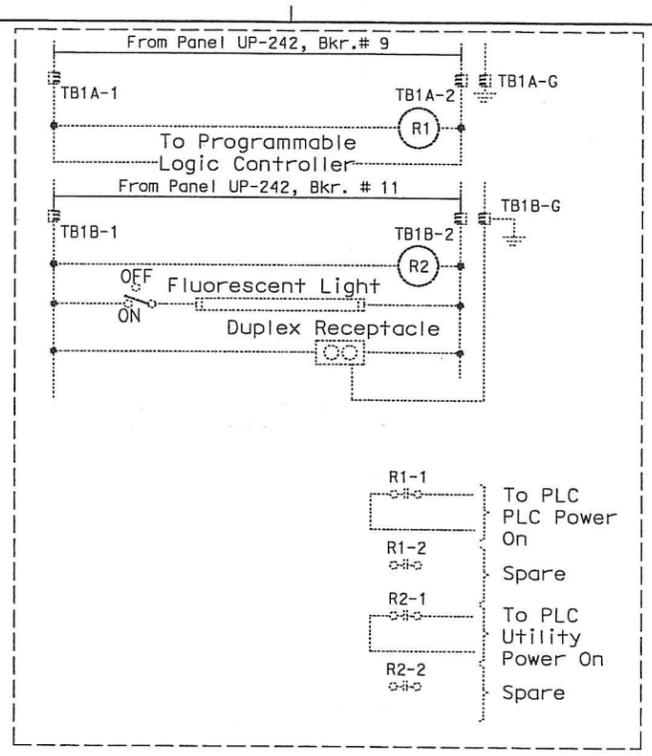
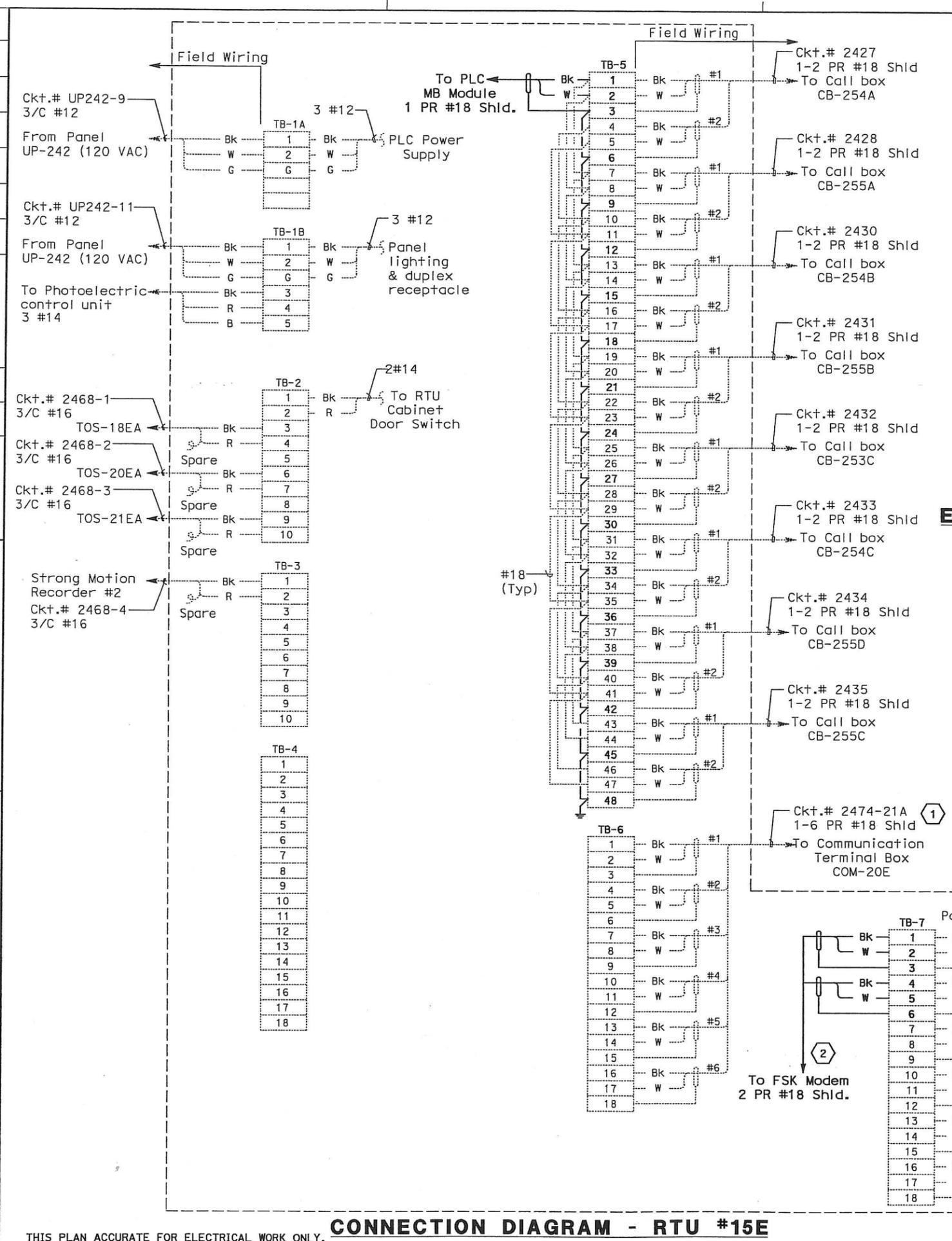
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- NOTES:**
- Contractor shall install input card. See sheet E-931 for location.
 - Contractor shall wire connection shown by bold lines.
- SHEET NOTES:**
- Contractor to tape shield. This circuit is not to be grounded at this end.
 - Pair 1 of 50 pair SCADA cable.
 - Pair 2 of 50 pair SCADA cable.
 - To Call Box Communications cable RS-485.
 - Contractor shall field verify the "TBX-XX" terminal block designations and equipment contact identification.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
03/08/10	MEP INTEGRATION	JE	FW	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 193 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #15W WIRING DIAGRAM
 NO SCALE



ELEMENTARY DIAGRAM - RTU #15E

CONNECTION DIAGRAM - RTU #15E

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S48	1204

REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 SYN YEE CHIN No. 18186
 Exp. 09/30/2011
 ELECTRICAL ENGINEER
 STATE OF CALIFORNIA

PLANS APPROVAL DATE 05-06-2010
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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NOTES:

1. This Plan Sheet is a record drawing of the Skyway Structures Remote Terminal Unit No. 15E. The Contractor shall verify the existing installation. See sheet EE-360 from the Skyway Structures, contract No. 04-012024.
2. References: See sheet E-938.
3. Contractor shall wire connection shown by bold lines.

SHEET NOTES:

- 1 Verify that the shield is not grounded.
- 2 Do not ground shield.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D/CCO#
		REVISIONS		

CONTRACT CHANGE ORDER NO. 110
 SHEET 196 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #15E ELEMENTARY AND CONNECTION DIAGRAMS
 NO SCALE

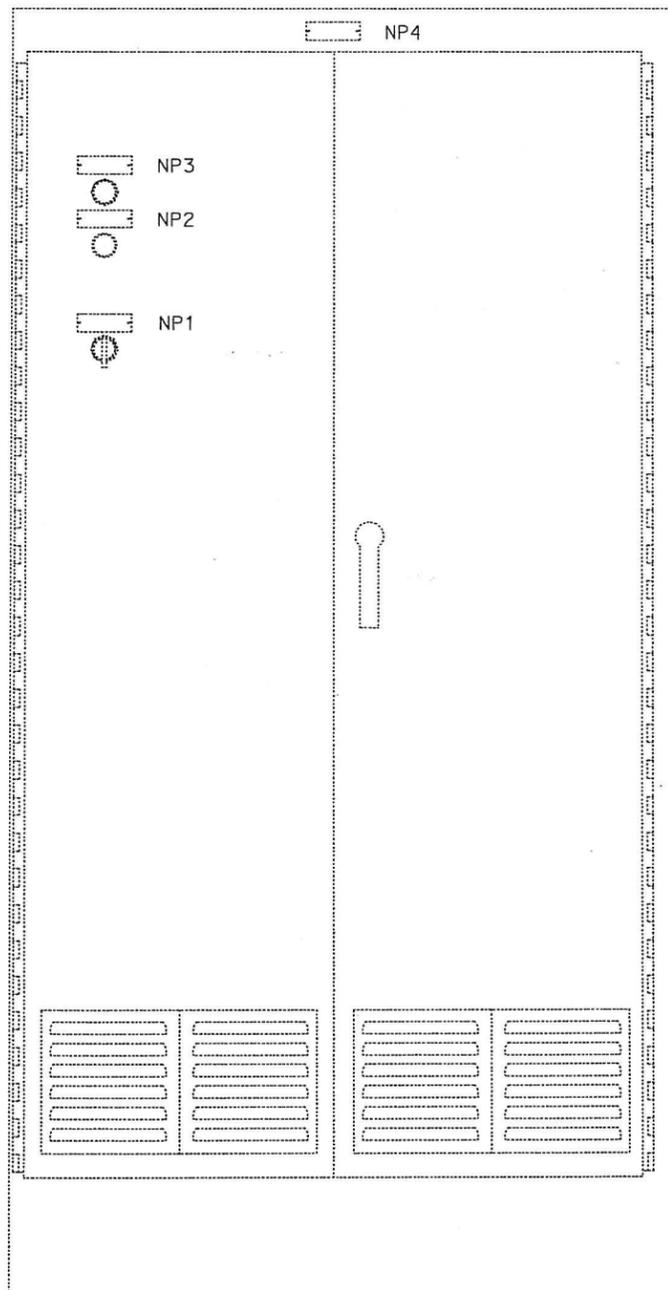
THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

DATE PLOTTED = 03-06-MAY-2010

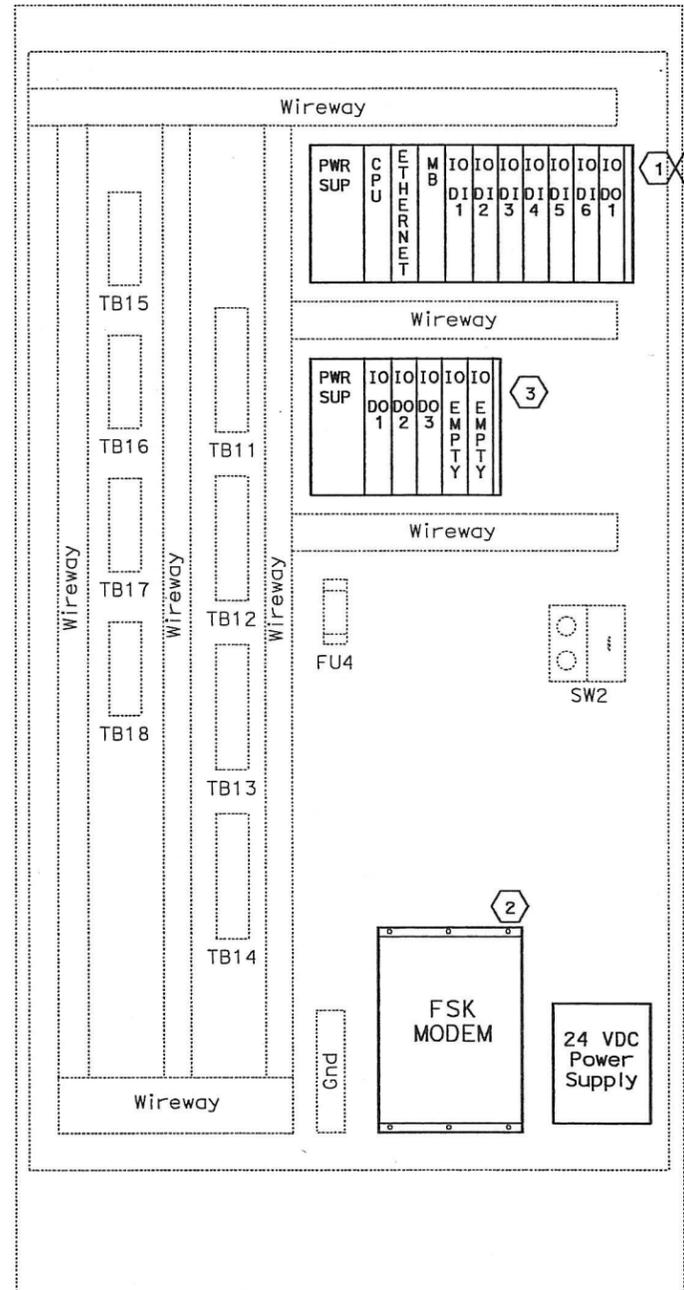


DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
		09S49				

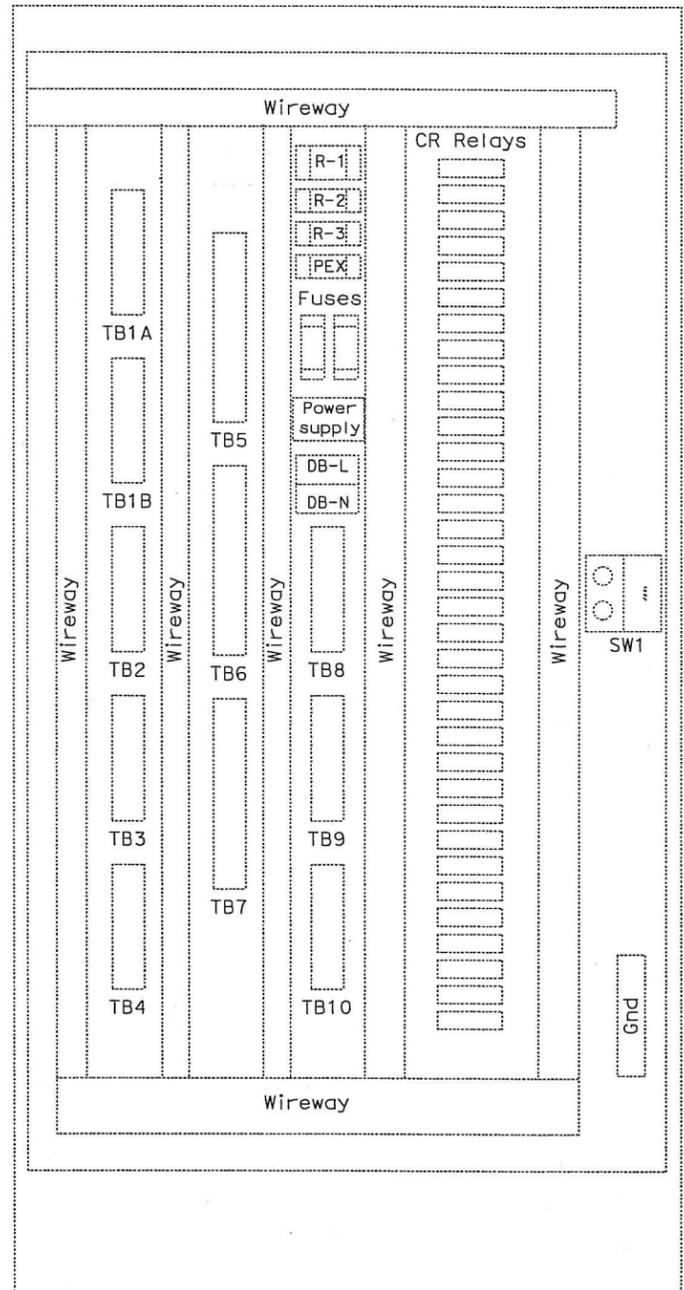
Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
PB AMERICAS, Inc.
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FRONT EXTERIOR



FRONT INTERIOR



REAR INTERIOR

NOTES:

1. Refer to the special provisions for the PLC and FSK Modem requirements.
2. For RTU wiring see the following sheets, E-941 through E-951.

SHEET NOTES:

- ① Contractor shall furnish and install a new GE Fanuc PAC Systems RX31 PLC in the existing RTU.
- ② Contractor shall furnish and install a new Frequency Shift Key (FSK) modem and 120v (AC) to 21v-28v (DC) power supply in the existing RTU.
- ③ Contractor shall install the input and output cards.

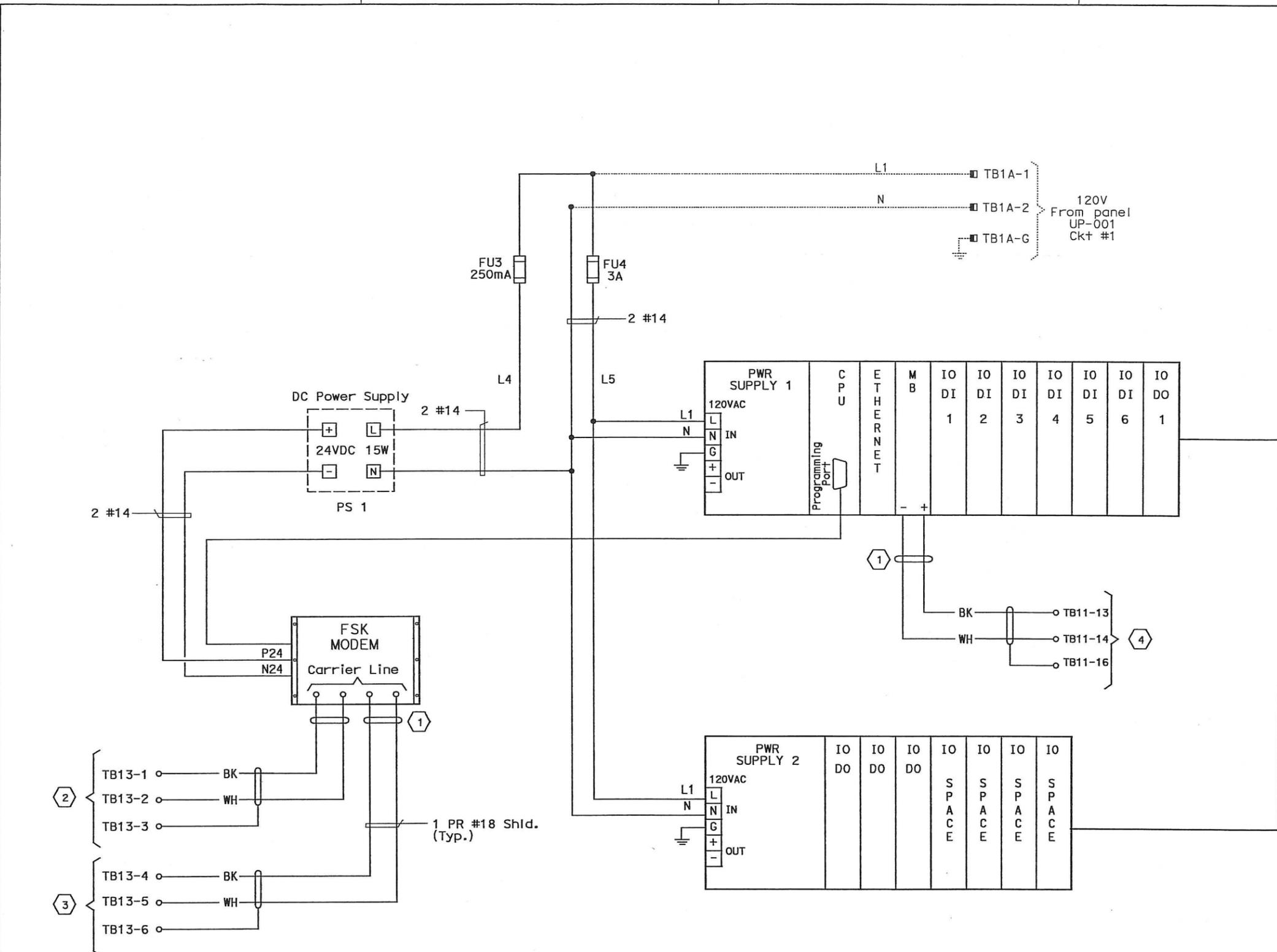
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 197 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #16 ASSEMBLY
 NO SCALE

LAST REVISION DATE PLOTTED => 06-MAY-2010

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVERSEER: BEHZAD GOLEMOHAMMADI



RTU #16 WIRING DIAGRAM



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF,Ala	80	12.2/14.3	0.0/4.0	407d	1204
				09550		

REGISTERED ELECTRICAL ENGINEER: **Syn Yee Chin** 03/08/10
 DATE: 03/08/10
 PLANS APPROVAL DATE: 05-06-2010
REGISTERED PROFESSIONAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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NOTES:

1. For RTU wiring see sheets E-942 through E-949.
2. For FSK to Modems interconnect wiring, see sheet E-902.
3. Contractor shall wire connection shown by bold lines.

SHEET NOTES:

- 1 Contractor to tape shield. This circuit is not grounded at this end.
- 2 Pair 7 of 50 pair SCADA cable
- 3 Pair 8 of 50 pair SCADA cable.
- 4 To management relay communication cable and Call Box Communications cable RS-485, see sheets E-950 and E-951.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE						
0	03/08/10	MEP INTEGRATION	JE	FW	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#	
		REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 198 OF 290

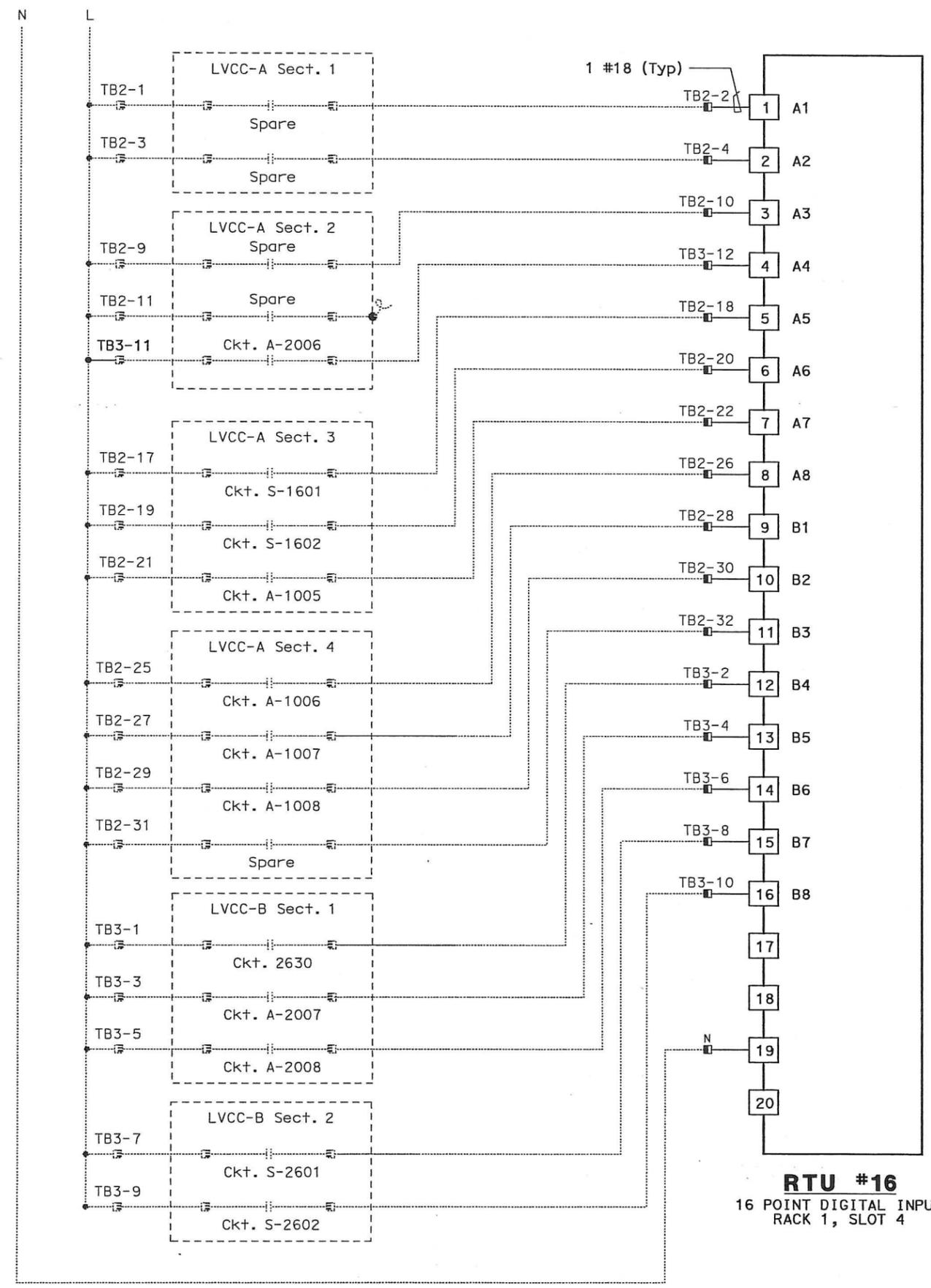
DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #16 WIRING DIAGRAM
 NO SCALE

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION DATE PLOTTED 03-MAY-2010



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S51	1204
REGISTERED ELECTRICAL ENGINEER			DATE		
Syn Yee Chin			03/08/10		
PLANS APPROVAL DATE			05-06-2010		
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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- NOTES:**
- Contractor shall install input card. See sheet E-940 for location.
 - Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

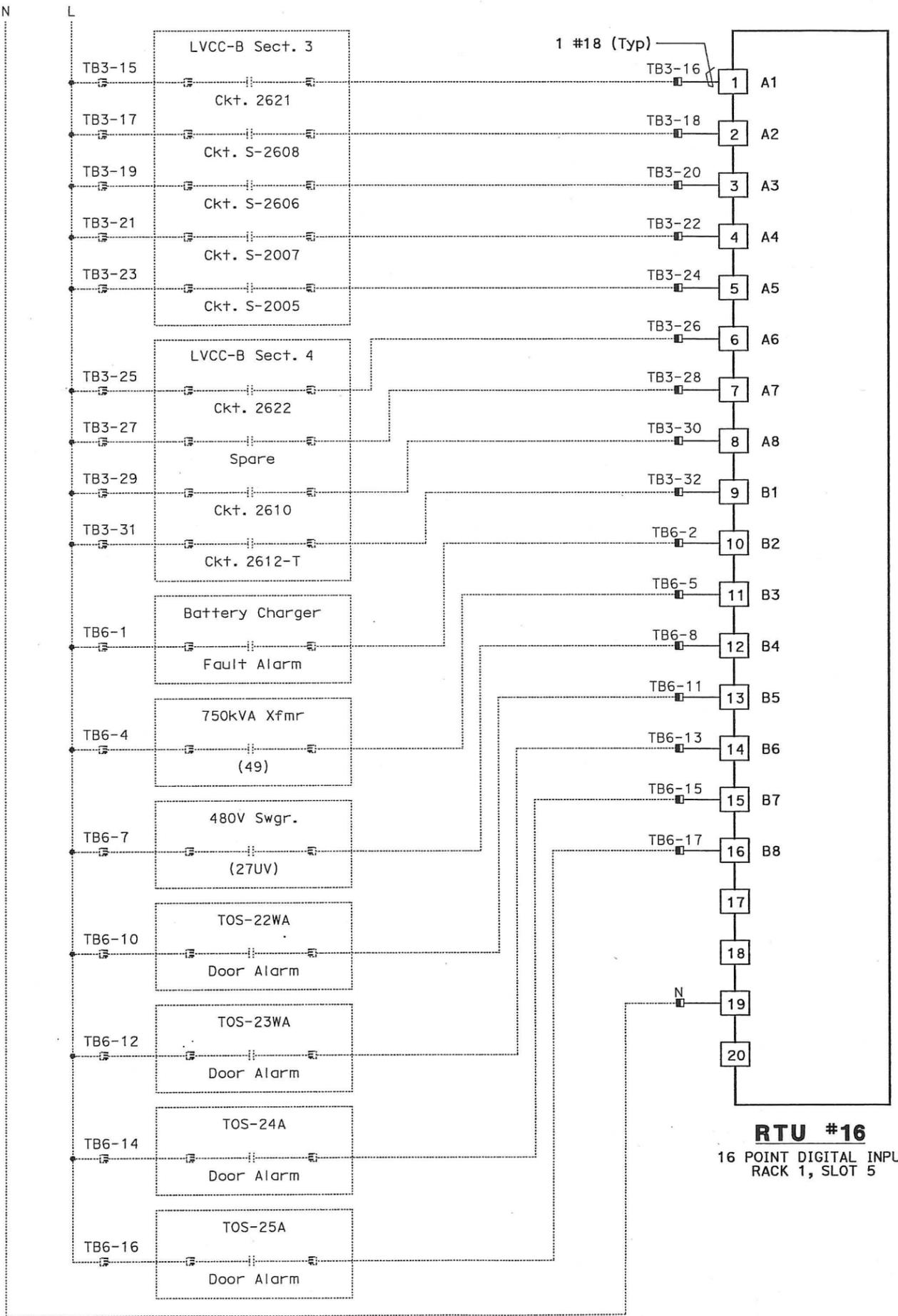
CONTRACT CHANGE ORDER NO. 110
 SHEET 199 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #16 WIRING DIAGRAM
 NO SCALE

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
		03/08/10		DATE		
		05-06-2010		PLANS APPROVAL DATE		
REGISTERED ELECTRICAL ENGINEER: Syn Yee Chin No. 18186 Exp. 09/30/2011 STATE OF CALIFORNIA						
REGISTERED PROFESSIONAL ENGINEER: Syn Yee Chin No. 18186 Exp. 09/30/2011 STATE OF CALIFORNIA						
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317						
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NOTES:

- Contractor shall install input card. See sheet E-940 for location.
- Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	SYC	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

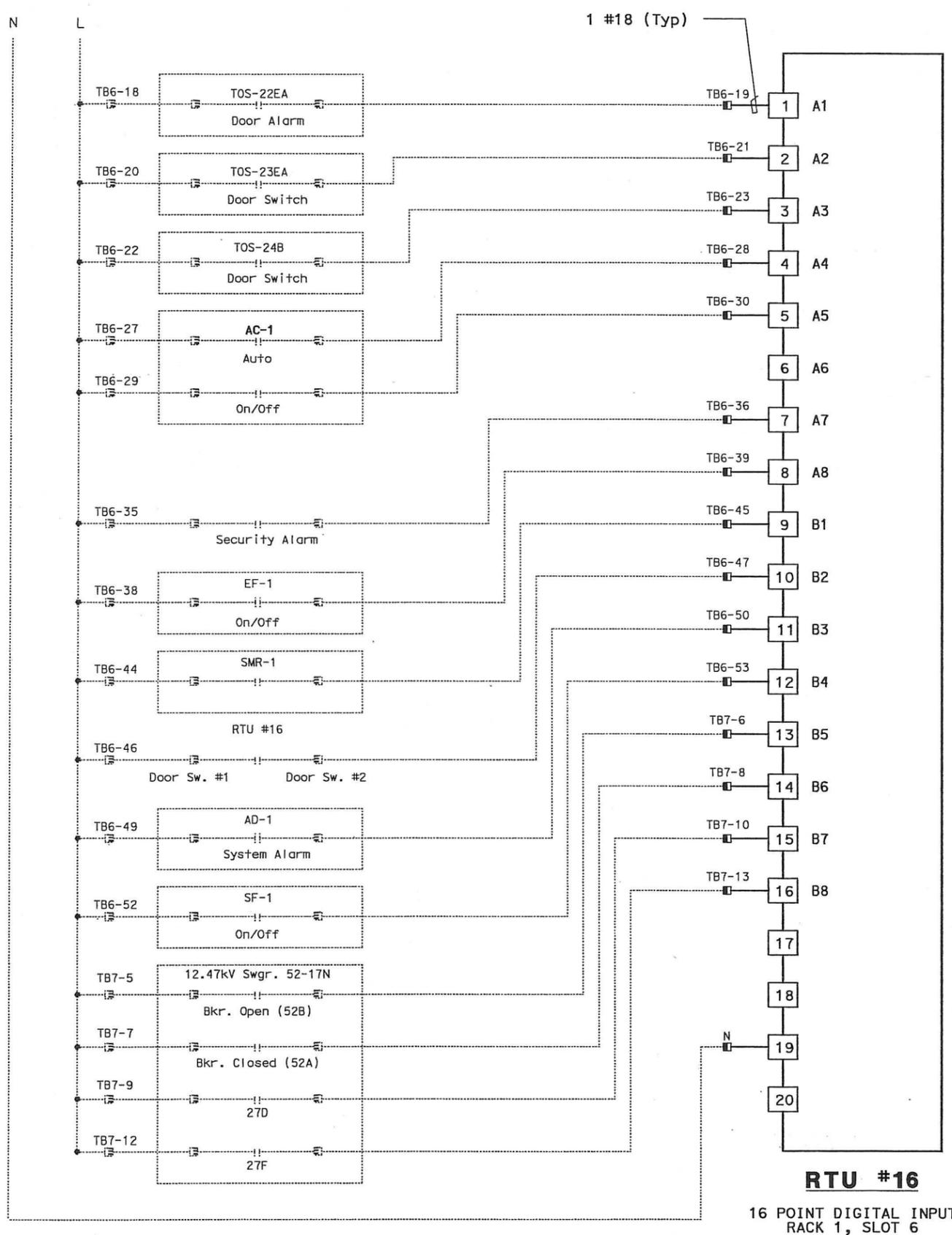
CONTRACT CHANGE ORDER NO. 110
 SHEET 200 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #16 WIRING DIAGRAM
 NO SCALE

LAST REVISION DATE PLOTTED => 06-MAY-2010



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
		SYN YEE CHIN		03/08/10		
		REGISTERED ELECTRICAL ENGINEER		DATE		
		PLANS APPROVAL DATE				
		PB AMERICAS, Inc.				
		A Parsons Brinckerhoff Company				
		303 Second St., Suite 700N				
		San Francisco, CA 94107-1317				
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- NOTES:**
- Contractor shall install input card. See sheet E-940 for location.
 - Contractor shall wire connection shown by bold lines.

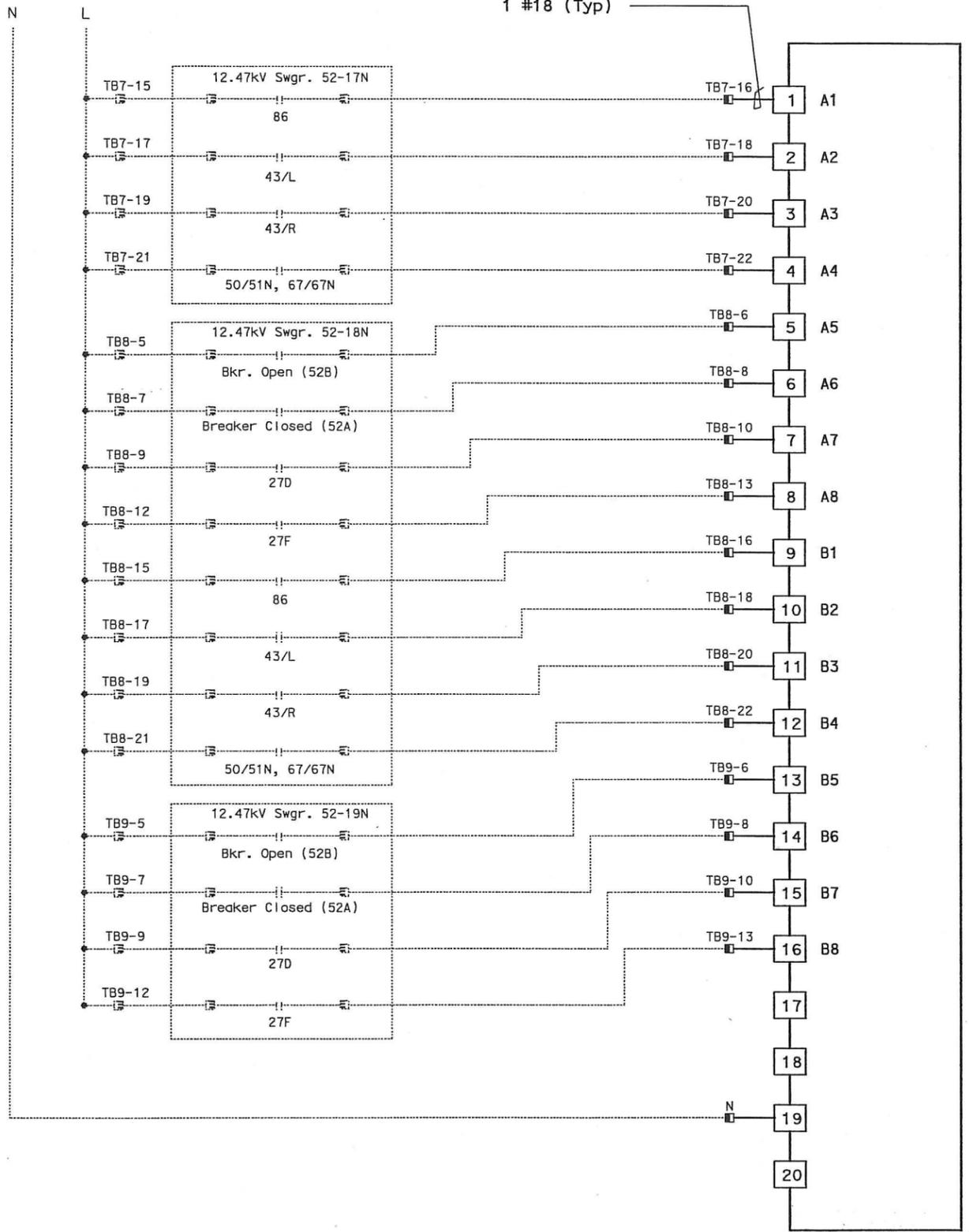
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
03/08/10	MEP INTEGRATION	JE	SYC	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 201 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #16 WIRING DIAGRAM
 NO SCALE



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407 of 09554	1204
REGISTERED ELECTRICAL ENGINEER		DATE		03/08/10		
SYN YEE CHIN						
PLANS APPROVAL DATE						
05-06-2010						
PB AMERICAS, Inc.						
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303 Second St., Suite 700N						
San Francisco, CA 94107-1317						
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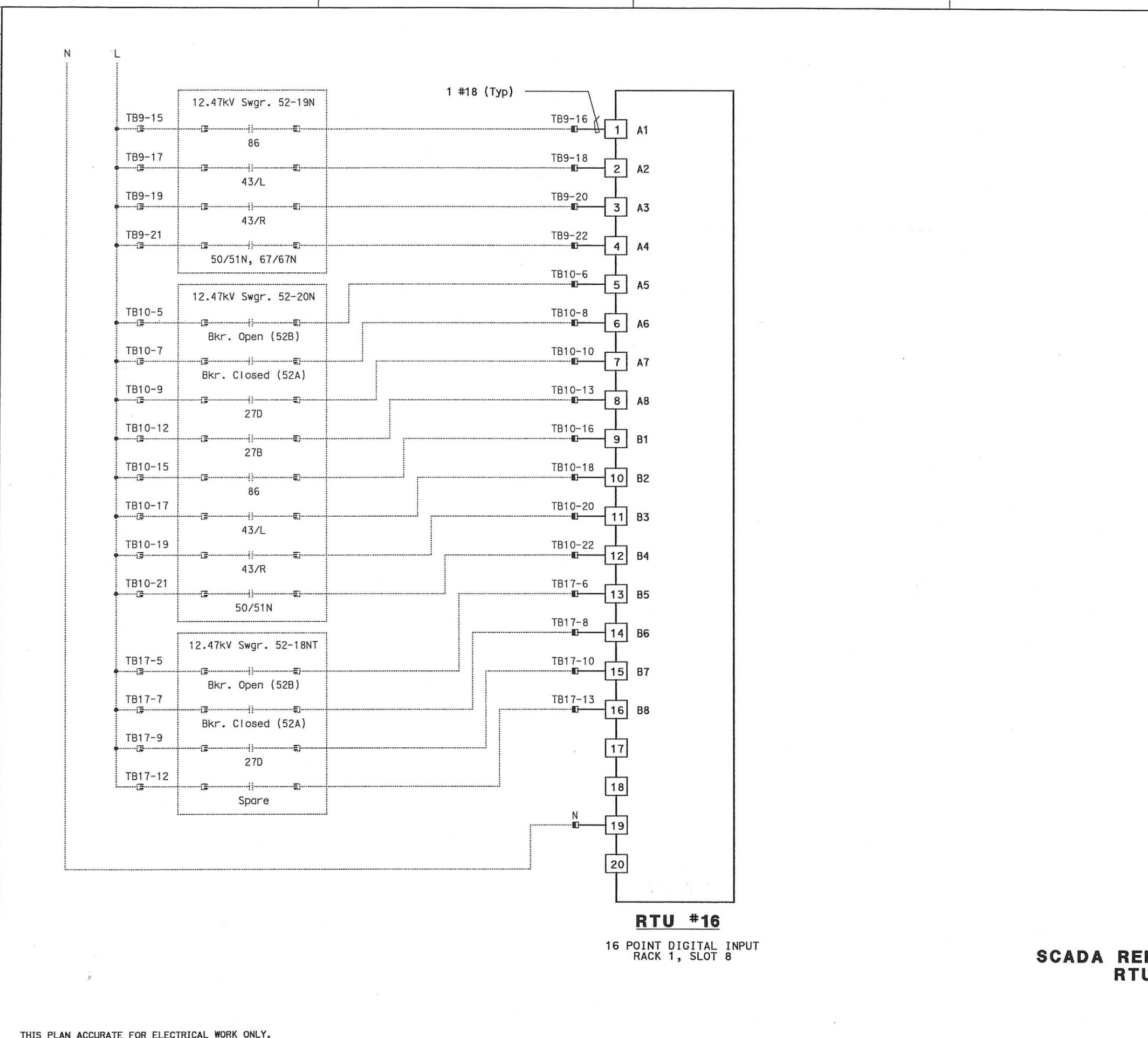
NOTES:

- Contractor shall install input card. See sheet E-940 for location.
- Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE						
△	03/08/10	MEP INTEGRATION	JE	SYC	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#	
REVISIONS						

CONTRACT CHANGE ORDER NO. 110
 SHEET 202 OF 290

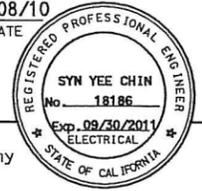
DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #16 WIRING DIAGRAM
 NO SCALE



RTU #16
 16 POINT DIGITAL INPUT
 RACK 1, SLOT 8



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
			03/08/10			
			REGISTERED ELECTRICAL ENGINEER		DATE	
			05-06-2010		PLANS APPROVAL DATE	
			PB AMERICAS, Inc.		A Parsons Brinckerhoff Company	
			303 Second St., Suite 700N		San Francisco, CA 94107-1317	
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- NOTES:**
- Contractor shall install input card. See sheet E-940 for location.
 - Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	SYC	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

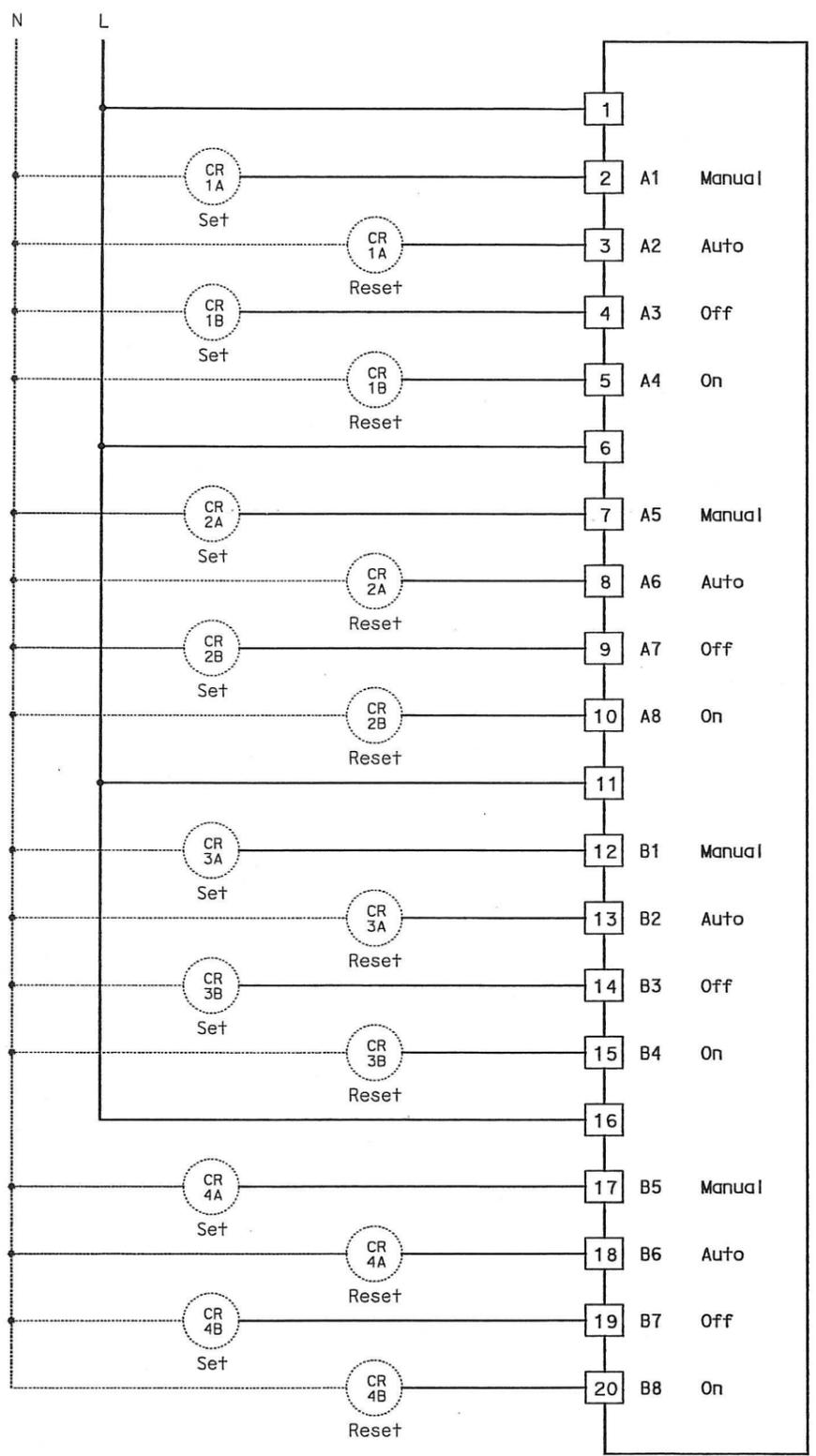
CONTRACT CHANGE ORDER NO. 110
 SHEET 203 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #16 WIRING DIAGRAM
 NO SCALE

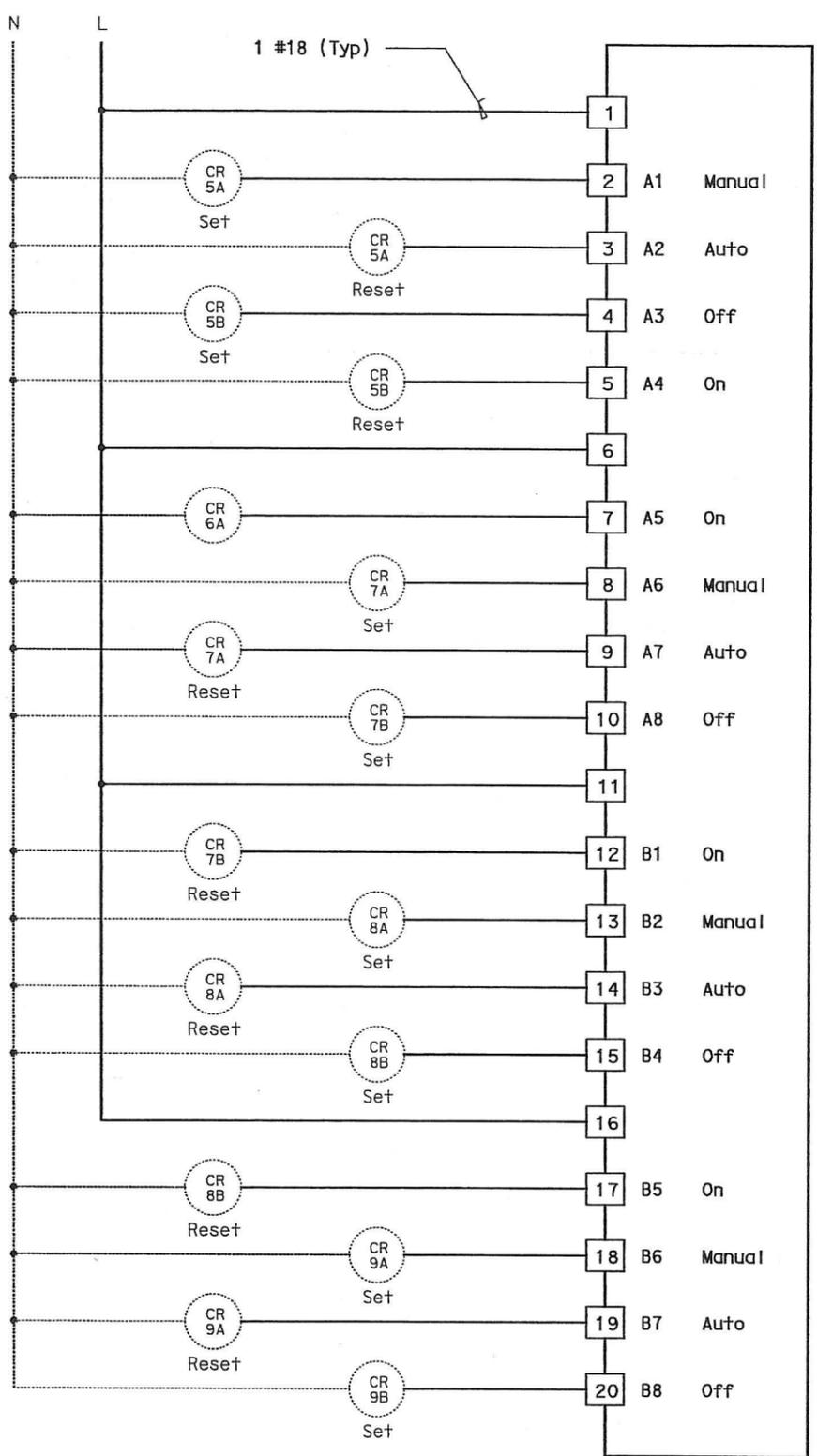
DATE PLOTTED => 06-MAY-2010



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
			03/08/10		407a	
			DATE		09S57	
REGISTERED ELECTRICAL ENGINEER SYN YEE CHIN No. 18186 Exp. 09/30/2011 ELECTRICAL STATE OF CALIFORNIA						
PLANS APPROVAL DATE: 05-06-2010 PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317						
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RTU #16
 16 POINT DIGITAL OUTPUT
 RACK 1, SLOT 10



RTU #16
 16 POINT DIGITAL OUTPUT
 RACK 2, SLOT 1

NOTES:

- Contractor shall install output cards. See sheet E-940 for location.
- Contractor shall wire connection shown by bold lines.

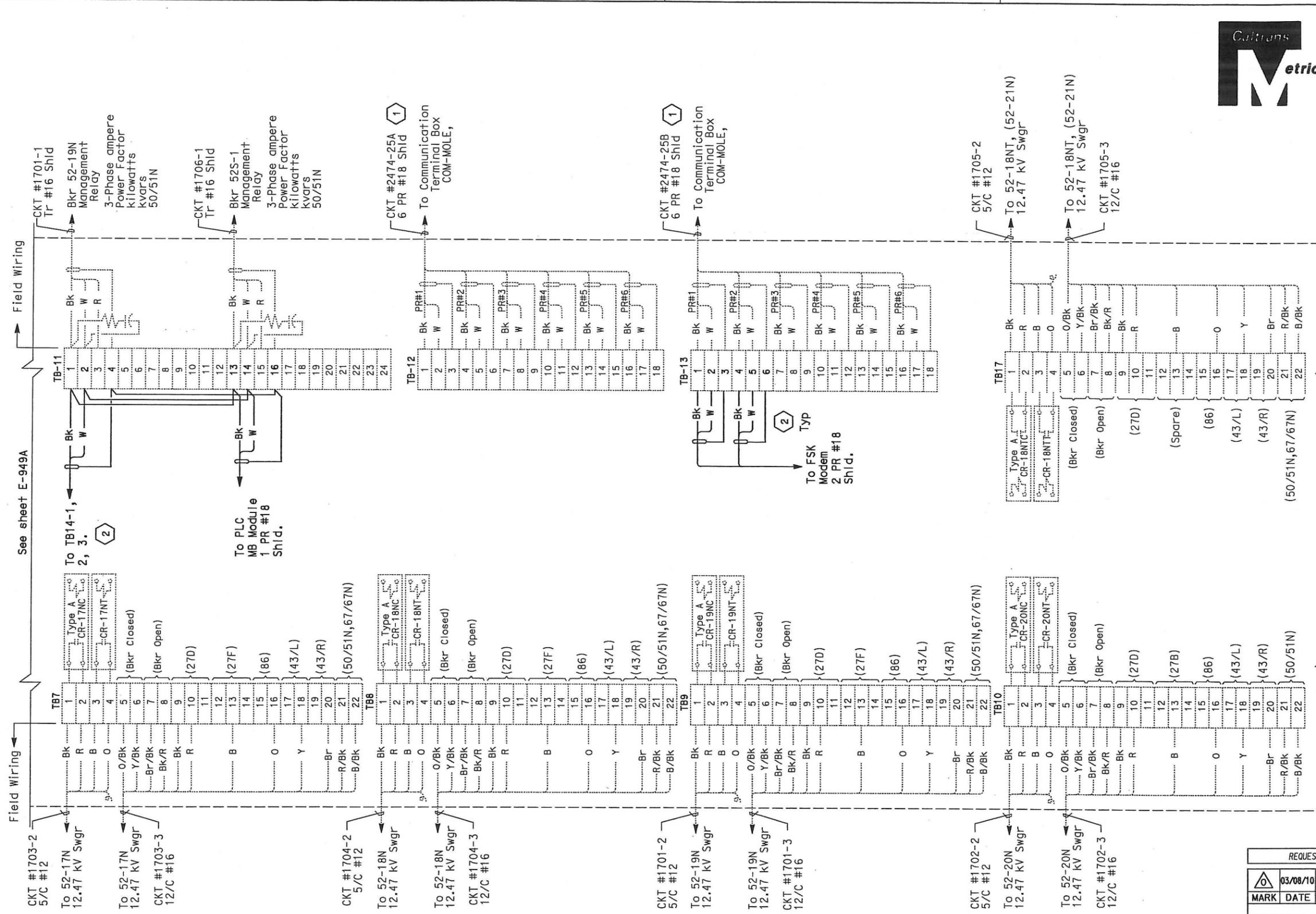
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
△	03/08/10	MEP INTEGRATION	JE	FW	110
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 205 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #16 WIRING DIAGRAM
 NO SCALE

DATE	REVISOR	DATE	REVISOR
01/10	FW	01/10	FW

DATE	REVISOR	DATE	REVISOR
01/10	FW	01/10	FW



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204

03/08/10
REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
PLANS APPROVAL DATE

PB AMERICAS, Inc.
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303 Second St., Suite 700N
San Francisco, CA 94107-1317

REG. NO. 18186
Exp. 09/30/2011
ELECTRICAL
STATE OF CALIFORNIA

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- NOTES:
- This plan sheet is a record drawing of the Oakland Touchdown 1 Remote Terminal Unit #16. The Contractor shall verify the existing installation. See sheet E-157 from the Oakland Touchdown 1 contract No. 04-0120L4.
 - References:
See sheets E-941.
 - Contractor shall wire connection shown by bold lines.

- SHEET NOTES:
- Verify that the shield is not grounded.
 - Do not ground shield.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
03/08/10	MEP INTEGRATION	JE	FW	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

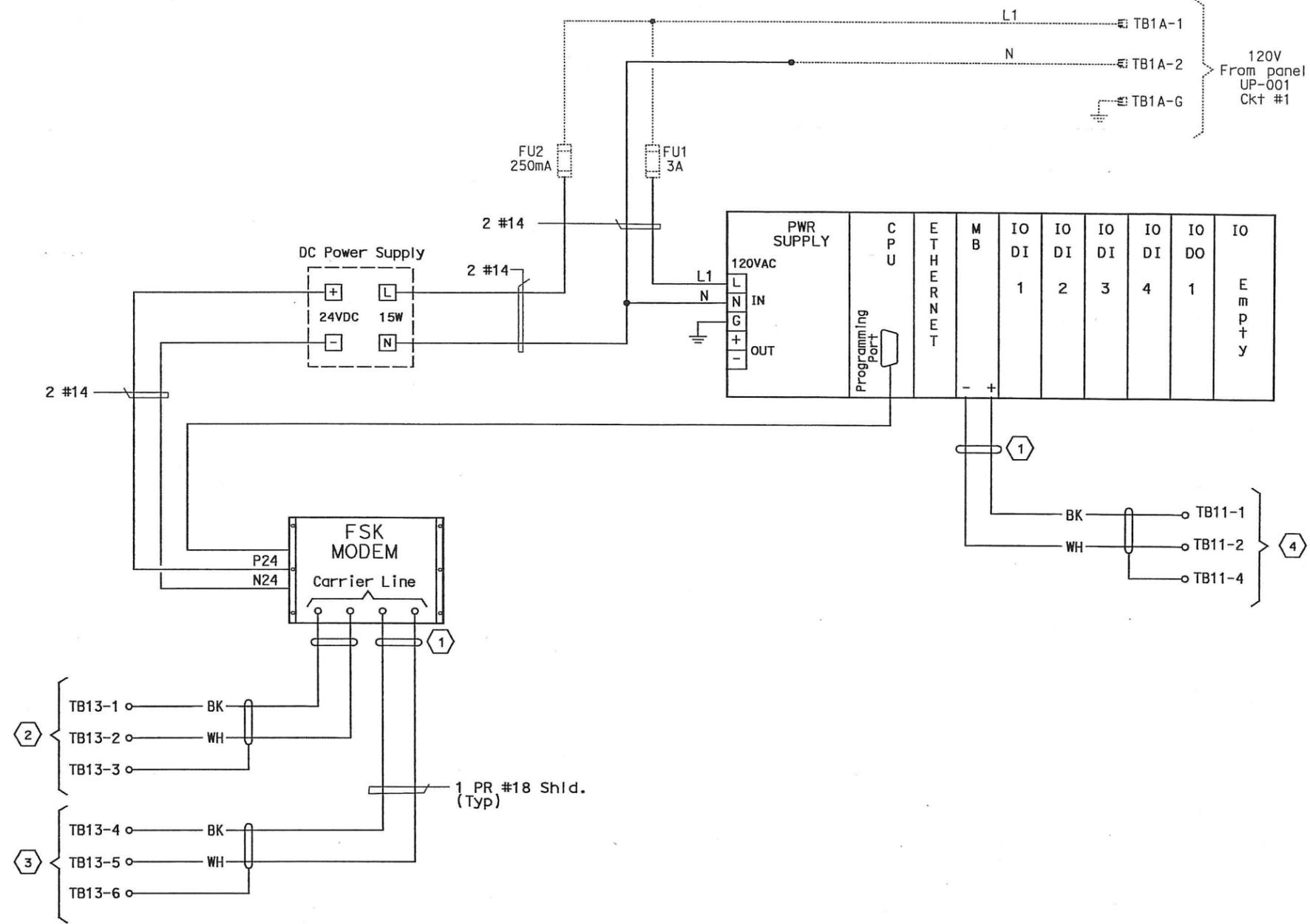
CONTRACT CHANGE ORDER NO. 110
SHEET 208 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #16 CONNECTION DIAGRAM
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVER: JHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: SYC
 CHECKED BY: FW
 DATE: 01/10
 DATE: 01/10
 DATE: 01/10
 DATE: 01/10



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 09S63	1204
REGISTERED ELECTRICAL ENGINEER: <i>Syn Yee Chin</i> DATE: 03/08/10			PLANS APPROVAL DATE: 05-06-2010 No: 18186 Exp: 09/30/2011 ELECTRICAL STATE OF CALIFORNIA		
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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RTU #17 WIRING DIAGRAM

NOTES:

1. For RTU wiring see sheets E-954 through E-958.
2. For FSK Modems interconnect wiring, see sheet E-902.
3. Contractor shall wire connection shown by bold lines.

SHEET NOTES:

- 1 Contractor to tape shield. This circuit is not to be grounded at this end.
- 2 Pair 7 of 50 pair SCADA cable.
- 3 Pair 8 of 50 pair SCADA cable.
- 4 To management relay communication cable, see sheet E-958A.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
04/19/10	MEP INTEGRATION	JE	FW	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 210 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #17 WIRING DIAGRAM
 NO SCALE

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI

CALCULATED/
 DESIGNED BY
 CHECKED BY

DATE
 01/10

REVISOR
 DATE

SYN
 PW

REVISOR
 DATE



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 09S64	1204
			REGISTERED ELECTRICAL ENGINEER DATE		
			03/08/10		
			PLANS APPROVAL DATE		
			05-06-2010		
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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THIS SHEET IS INTENTIONALLY LEFT BLANK

CONTRACT CHANGE ORDER NO. 110
 SHEET 212 OF 290

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FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS

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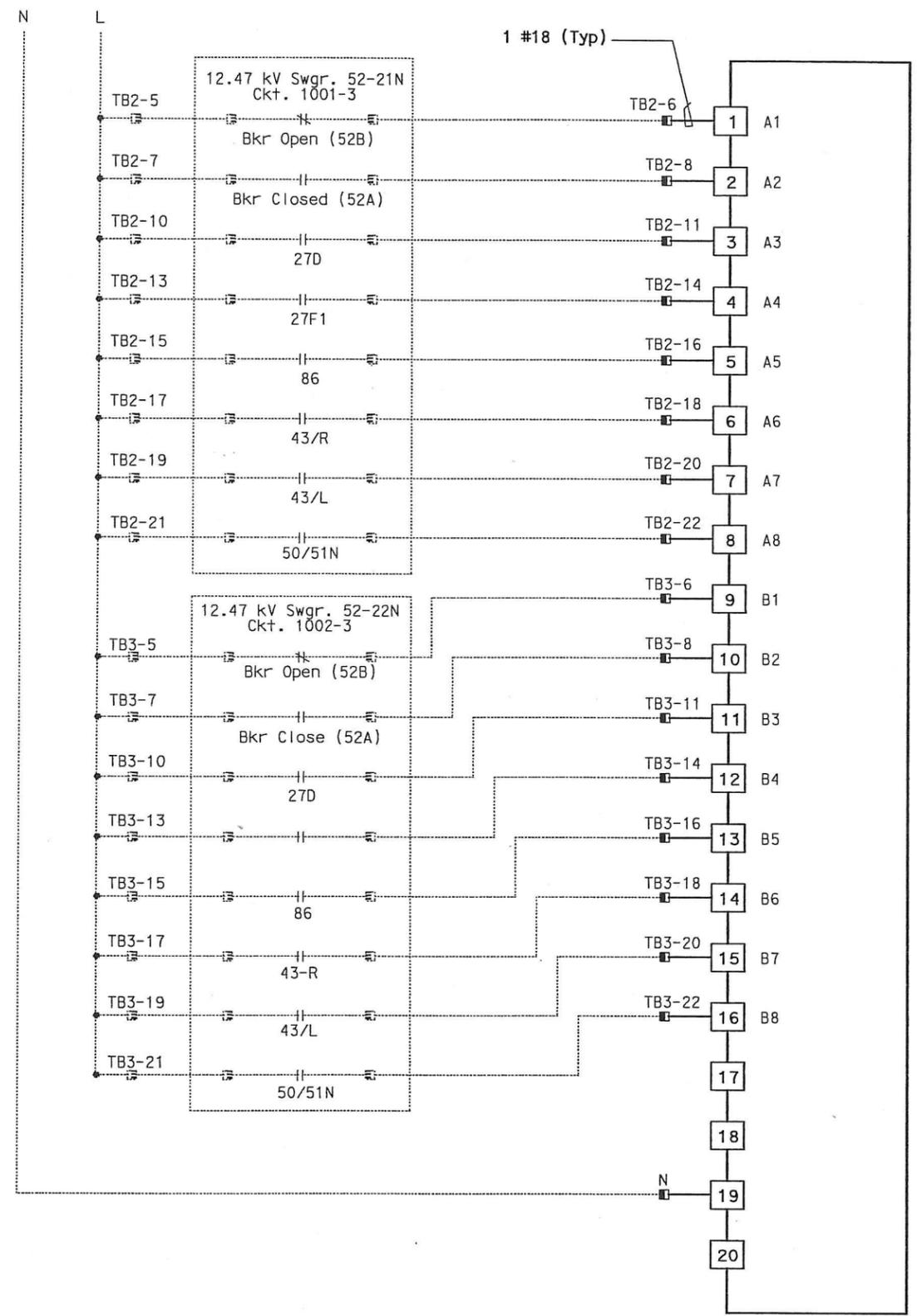
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E-954

LAST REVISION 00-00-00
 DATE PLOTTED => 06-MAY-2010
 TIME PLOTTED => 19:11



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
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REGISTERED ELECTRICAL ENGINEER			DATE	SYN YEE CHIN	
05-06-2010			03/08/10	No. 18186	
PLANS APPROVAL DATE					
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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RTU #17

16 POINT DIGITAL INPUT
 RACK 1, SLOT 4

NOTES:

- Contractor shall install input card. See sheet E-952 for location.
- Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

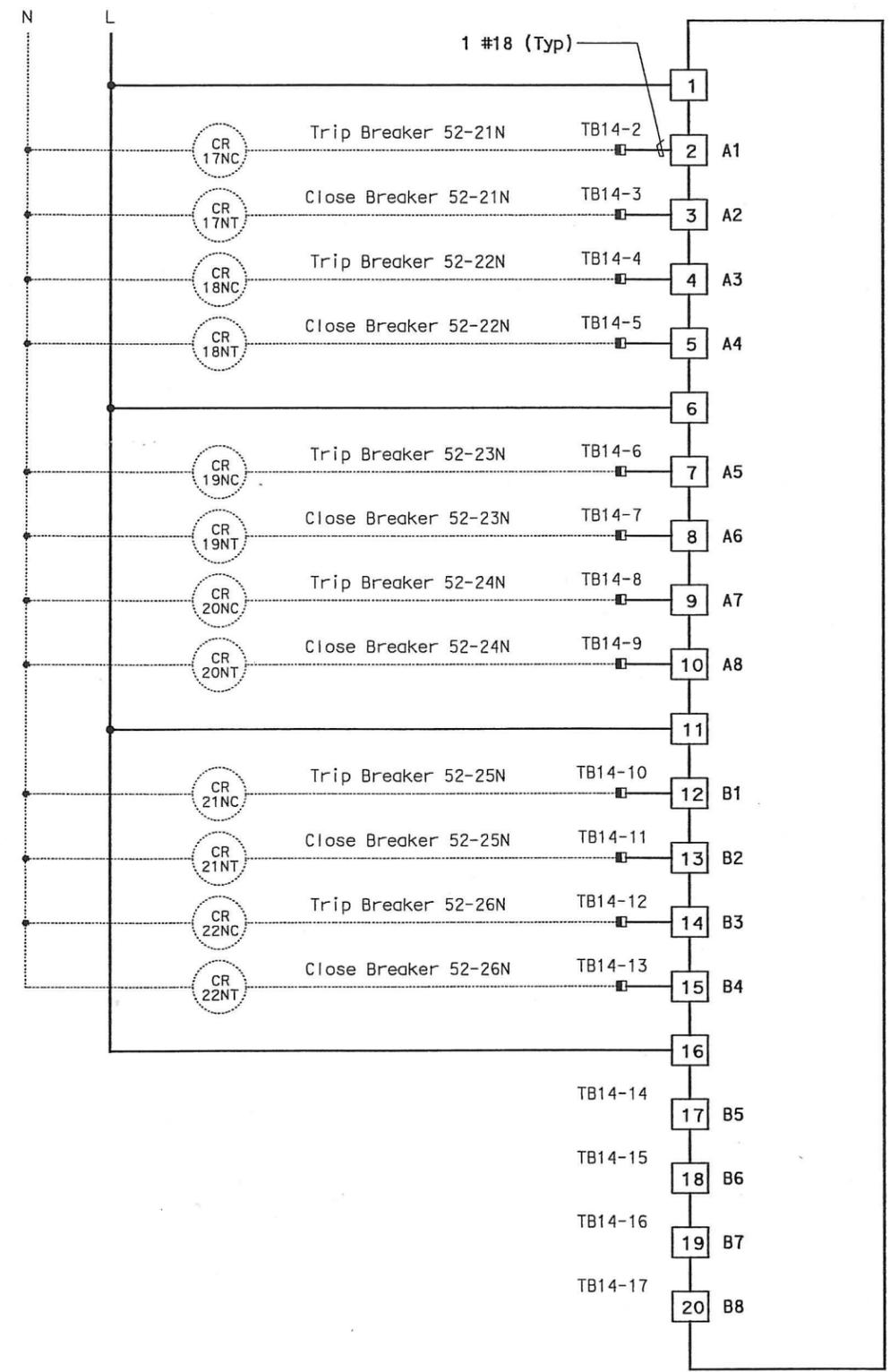
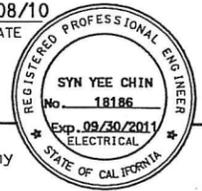
CONTRACT CHANGE ORDER NO. 110
 SHEET 213 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #17 WIRING DIAGRAM
 NO SCALE

LAST REVISION DATE PLOTTED => 06-MAY-2010



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
			09S68			
REGISTERED ELECTRICAL ENGINEER				DATE		
SYN YEE CHIN				03/08/10		
PLANS APPROVAL DATE						
PB AMERICAS, Inc.						
A Parsons Brinckerhoff Company						
303 Second St., Suite 700N						
San Francisco, CA 94107-1317						
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RTU #17

16 POINT DIGITAL OUTPUT
 RACK 1, SLOT 8

NOTES:

- Contractor shall install output card. See sheet E-952 for location.
- Contractor shall wire connection shown by bold lines.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	SYC	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 216 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
RTU #17 WIRING DIAGRAM
 NO SCALE

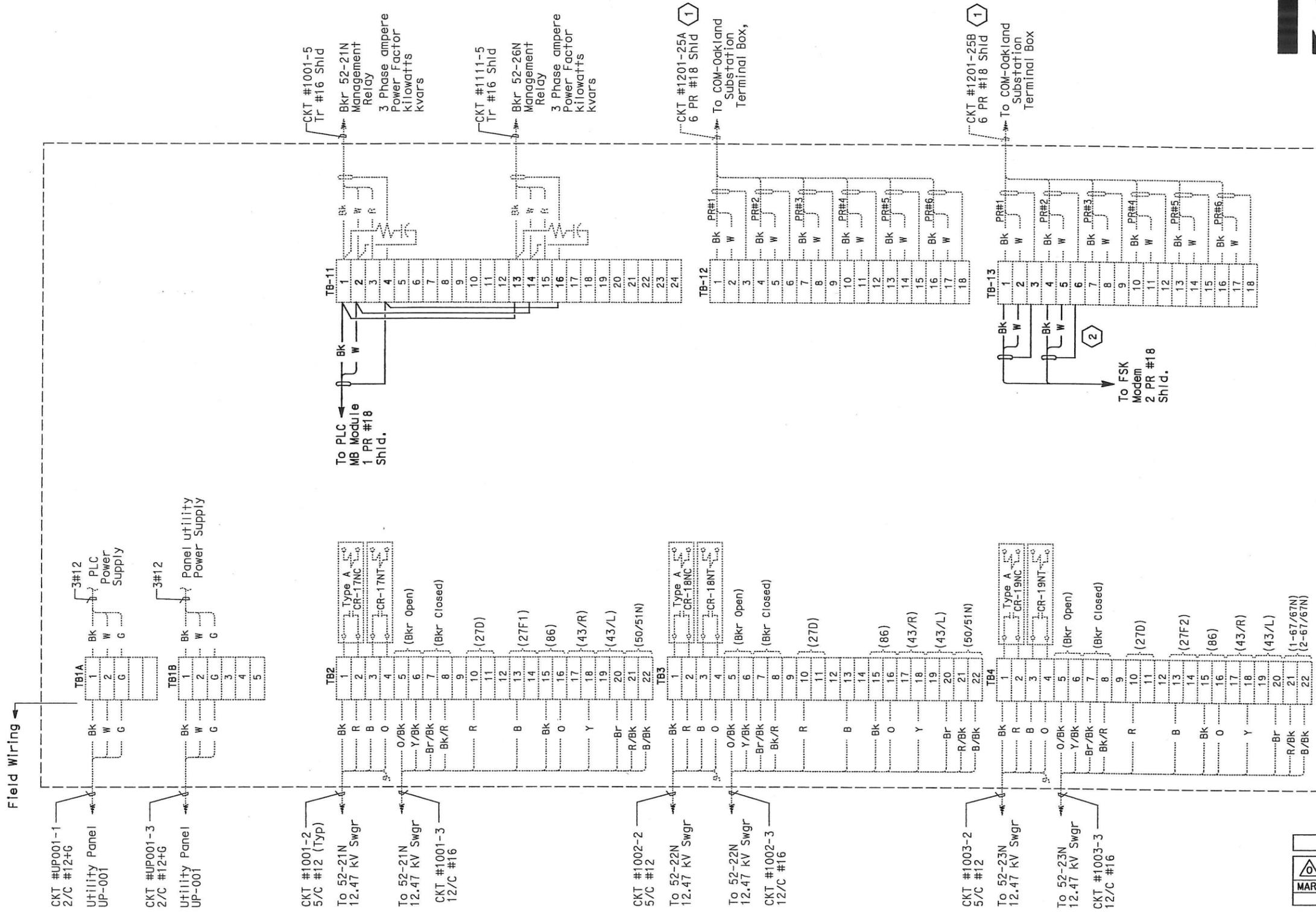
DATE PLOTTED => 06-MAY-2010

DATE	REVISION	BY

DATE	REVISION	BY

DATE	REVISION	BY

DATE	REVISION	BY



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S69	1204

REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 SYN YEE CHIN No. 18186 Exp. 09/30/2011
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
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 San Francisco, CA 94107-1317

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NOTES:

- This plan sheet is a record drawing of the Oakland Substation Remote Terminal Unit #17. The Contractor shall verify the existing installation. See sheet E-47 from the Oakland Substation, contract No. 04-014034.
- References:
See sheet E-953.
- Contractor shall wire connection shown by bold lines.

SHEET NOTES:

- 1 Verify that the shield is not grounded.
- 2 Do not ground shield.

See sheet E-958B

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
03/08/10	MEP INTEGRATION	JE	SYC	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 217 OF 290

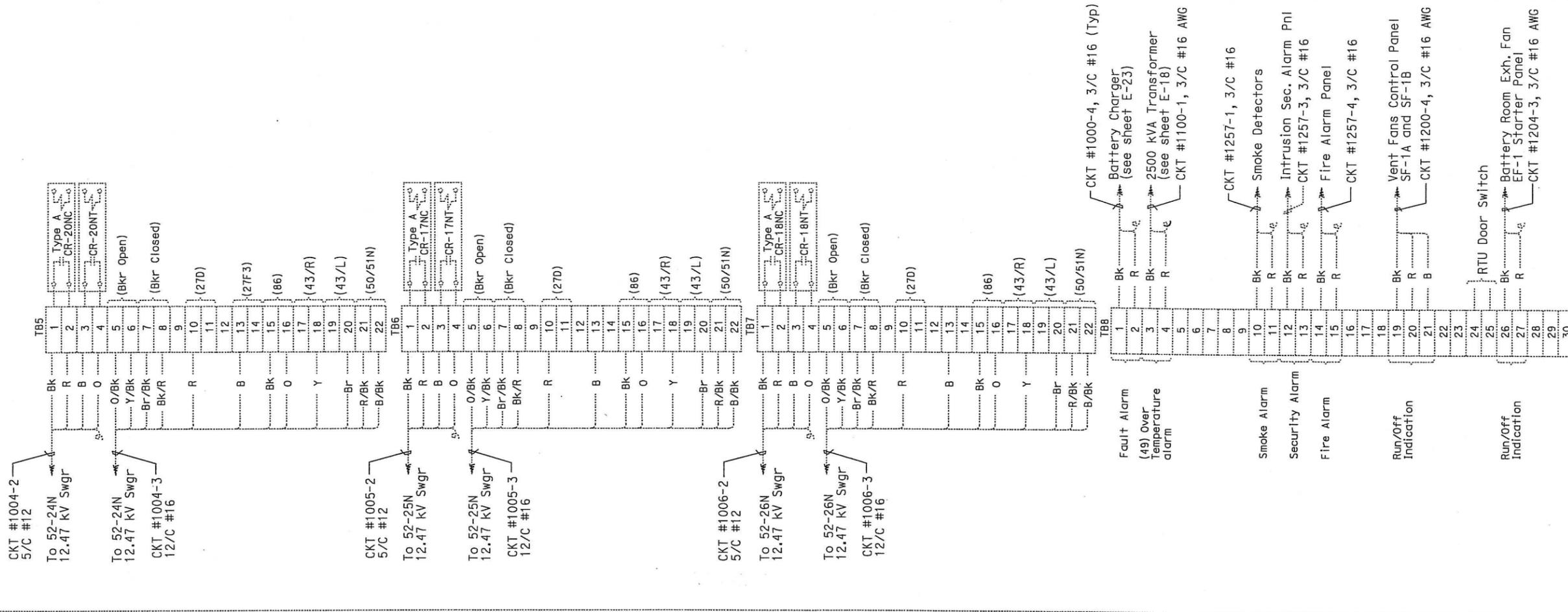
DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
OAKLAND SUBSTATION
RTU #17 CONNECTION DIAGRAM
 NO SCALE



DATE	REVISOR	REVISION
SYC	FW	DATE

DATE	REVISOR	REVISION
SYC	FW	DATE

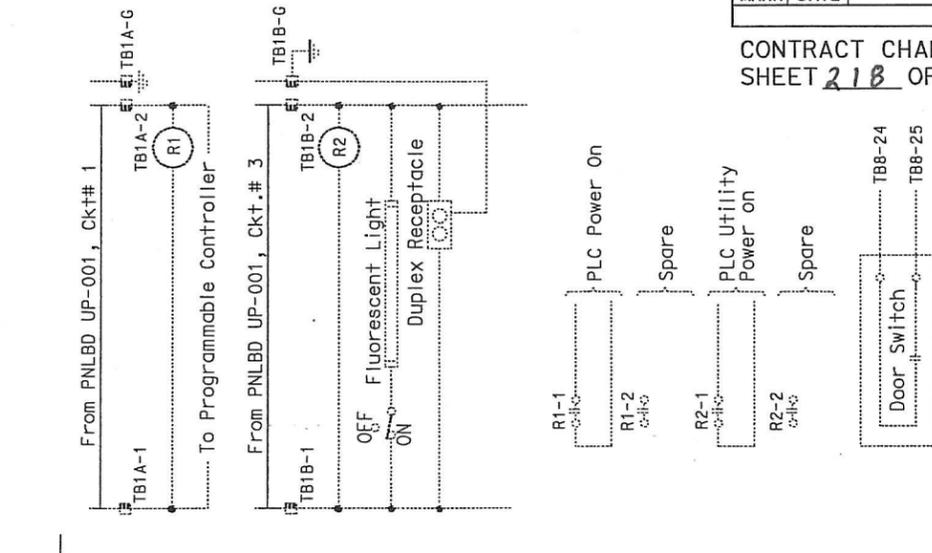
See sheet E-958A



CONNECTION DIAGRAM

**DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
OAKLAND SUBSTATION
RTU #17 ELEMENTARY AND CONNECTION DIAGRAMS**
NO SCALE

E-958B



ELEMENTARY DIAGRAM

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
03/08/10	MEP INTEGRATION	JE	SYC	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
SHEET 218 OF 290

NOTES:

- This plan sheet is a record drawing of the Oakland Substation Remote Terminal Unit #17. See sheet E-48 of the Oakland Substation, contract No. 04-014034. The Contractor shall verify the existing installation.
- References:
See sheet E-953.



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alq	80	12.2/14.3	0.0/4.0	407a	1204
					09S70	

REGISTERED ELECTRICAL ENGINEER: Syn Yee Chin DATE: 03/08/10

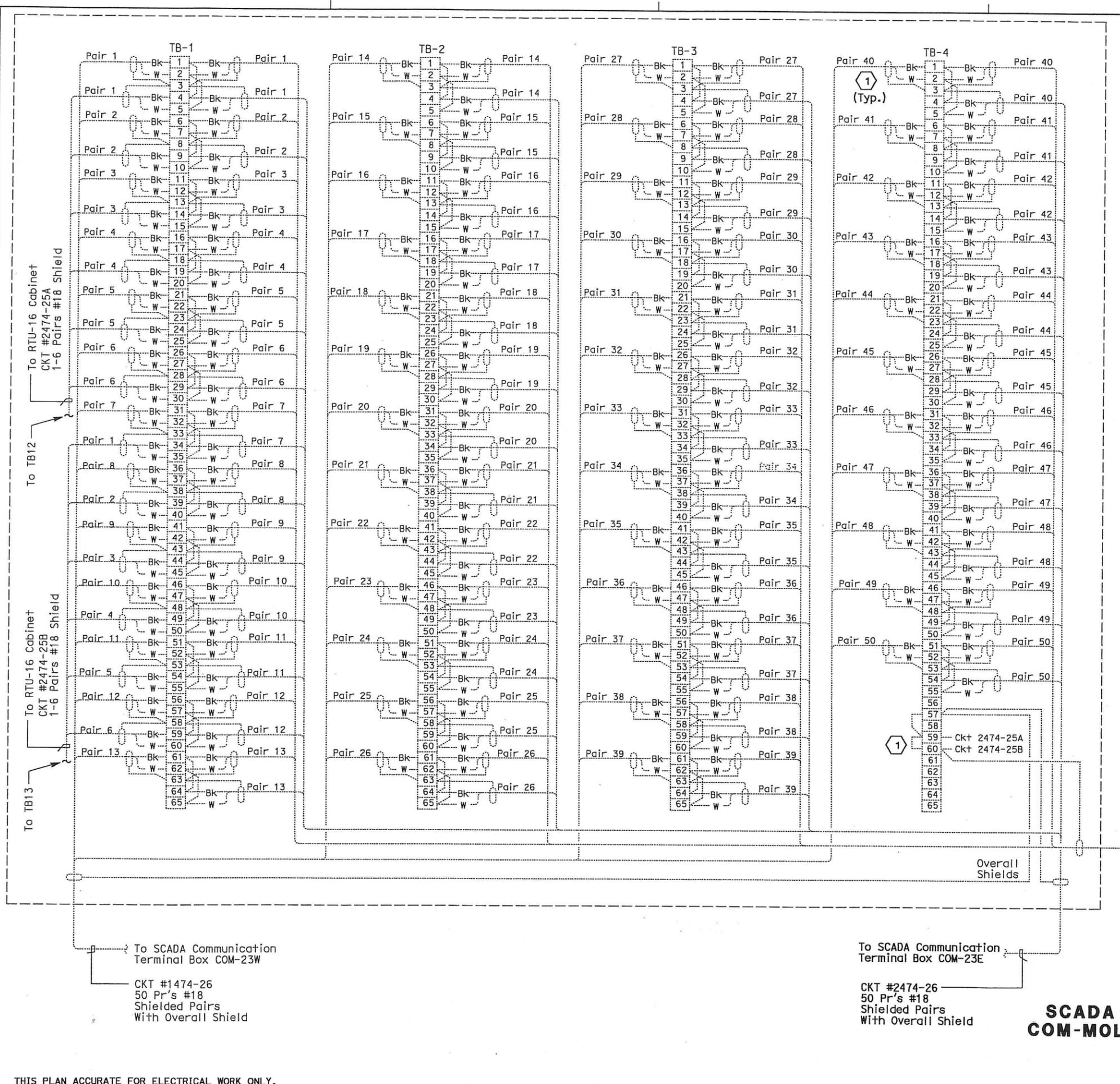
PLANS APPROVAL DATE: 05-06-2010

PB AMERICAS, Inc.
A Parsons Brinckerhoff Company
303 Second St., Suite 700N
San Francisco, CA 94107-1317

REGISTERED PROFESSIONAL ENGINEER: SYN YEE CHIN
No. 18186
Exp. 09/30/2011
ELECTRICAL
STATE OF CALIFORNIA

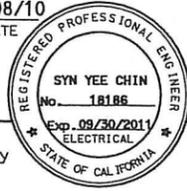
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S72	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
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 San Francisco, CA 94107-1317
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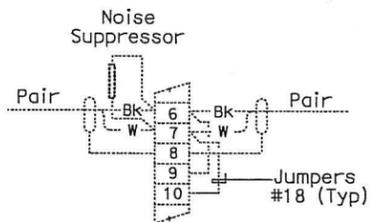
NOTES:
 1. This plan sheet is a record drawing of the Oakland Approach Structures SCADA Communications Terminal Box COM-MOLE and RTU #16. The Contractor shall verify the existing installation. See sheet E-161 from the Oakland Touchdown-1, contract No. 04-0120L4.

SHEET NOTES:
 ① Verify that the shield is not grounded.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	SYC	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 220 OF 290

To Oakland Substation Building terminal box.
 CKT #2474-27
 50 Pr's #18
 Shielded Pairs
 With Overall Shield



TYPICAL WIRING EACH PAIR

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
COM-MOLE TERMINAL BOX WIRING DIAGRAM
 NO SCALE

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVER - BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY - DATE 01/10
 CHECKED BY - DATE 01/10
 REVISED BY - DATE 01/10



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S73	1204

SYN YEE CHIN 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

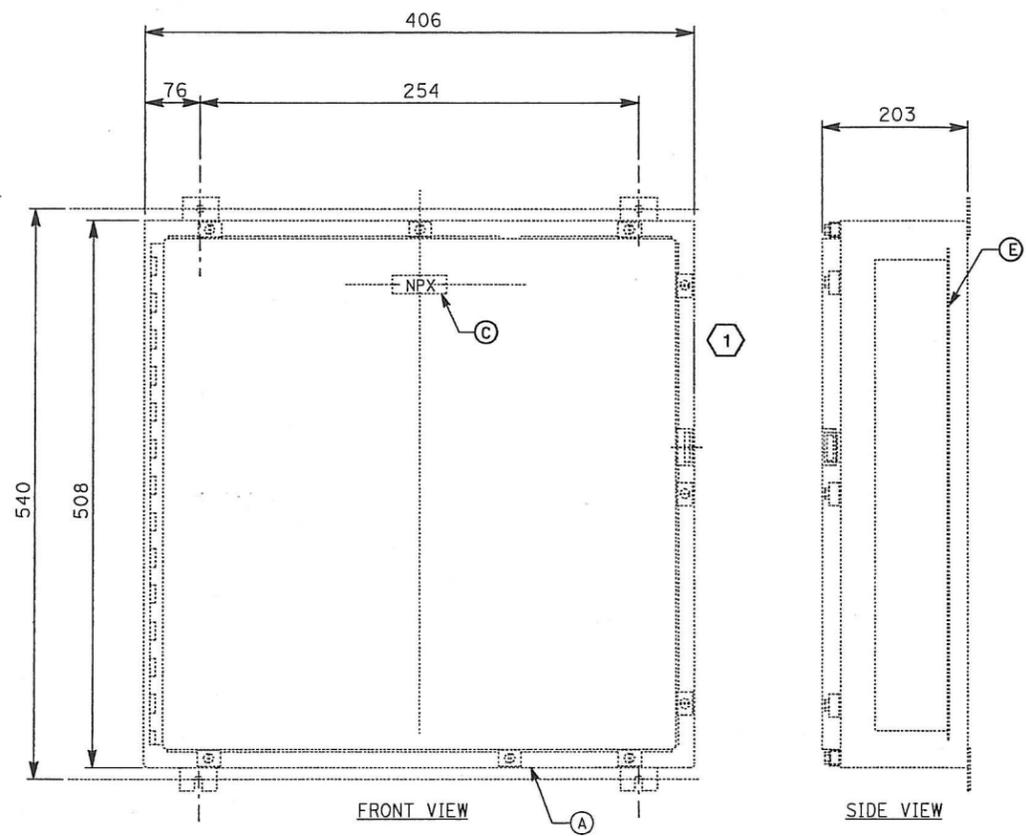
05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
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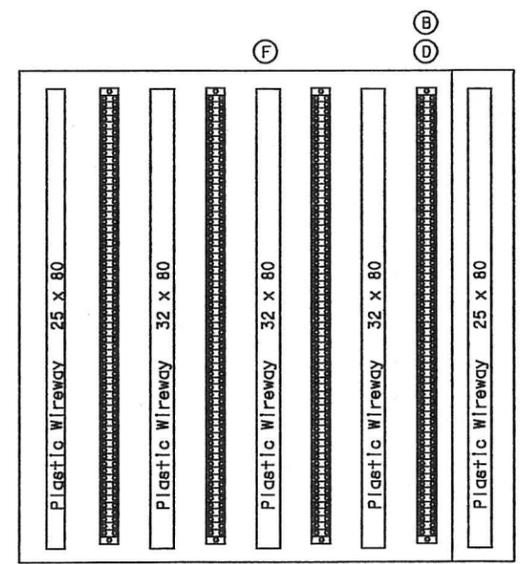
REGISTERED PROFESSIONAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA

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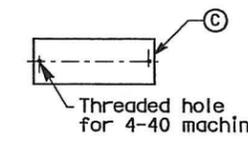
FRONT PANEL



INSIDE PANEL LAYOUT

MATERIAL LIST		
ITEM	DESCRIPTION	QTY.
(A)	Enclosure, galvanized steel, NEMA 12, with interior panel 375 x 327	1 ①
(B)	65 Point Terminal blocks, rated 300 V, feed-through modular terminal block with screw connection, cross section 0.2-4 mm ² , width 5.2 mm, on DIN rail with (2) end clamps	4
(C)	Nameplate to be white lamicaid with black core, size 19 x 80, lettering to be 3 mm condensed gothic. (See nameplate Schedule below for engravings).	-
(D)	Noise suppressor, termination resistor	50
(E)	Back Panel, metal, bond to enclosure ground lug	1
(F)	Plastic Wireway	5

ITEM NO.	NAMEPLATE SCHEDULE		QTY.
	LINE 1	② LINE 2	
NP1	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-09W	
NP2	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-10W	
NP3	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-11W	
NP4	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-12W	
NP5	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-13W	
NP6	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-SUB. WB	
NP7	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-14W	
NP8	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-15W	
NP9	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-16W	
NP10	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-17W	
NP11	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-18W	
NP12	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-19W	
NP13	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-20W	
NP14	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-21W	



NOTE: Nameplates shall be mounted to the enclosure front panel with 4-40 stainless steel machine screws. The control panel to be drilled and tapped (no self-tapping screws).

NOTES:

- Contractor shall furnish and install a Back Panel in each telephone terminal box. (See Material List Item #E). Bond back panel to ground lug.
- Contractor shall furnish and install four -65 point terminal blocks and 5 plastic wireways in each telephone terminal box (See Material List Item #B and #F).
- Contractor shall furnish and install a nameplate on each telephone terminal box. (See nameplate schedule listed on this drawing).
- Contractor shall furnish and install 50 telephone circuit noise suppressors in each telephone terminal box.
- See plan sheet E-964 for telephone terminal box terminations.

SHEET NOTES:

- Existing Enclosure.
- Contractor to provide and install a name plate to be mounted below the existing one, with Line 2 engraved.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	SYC	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 221 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
TELEPHONE TERMINAL BOX ASSEMBLY
WESTBOUND
 NO SCALE

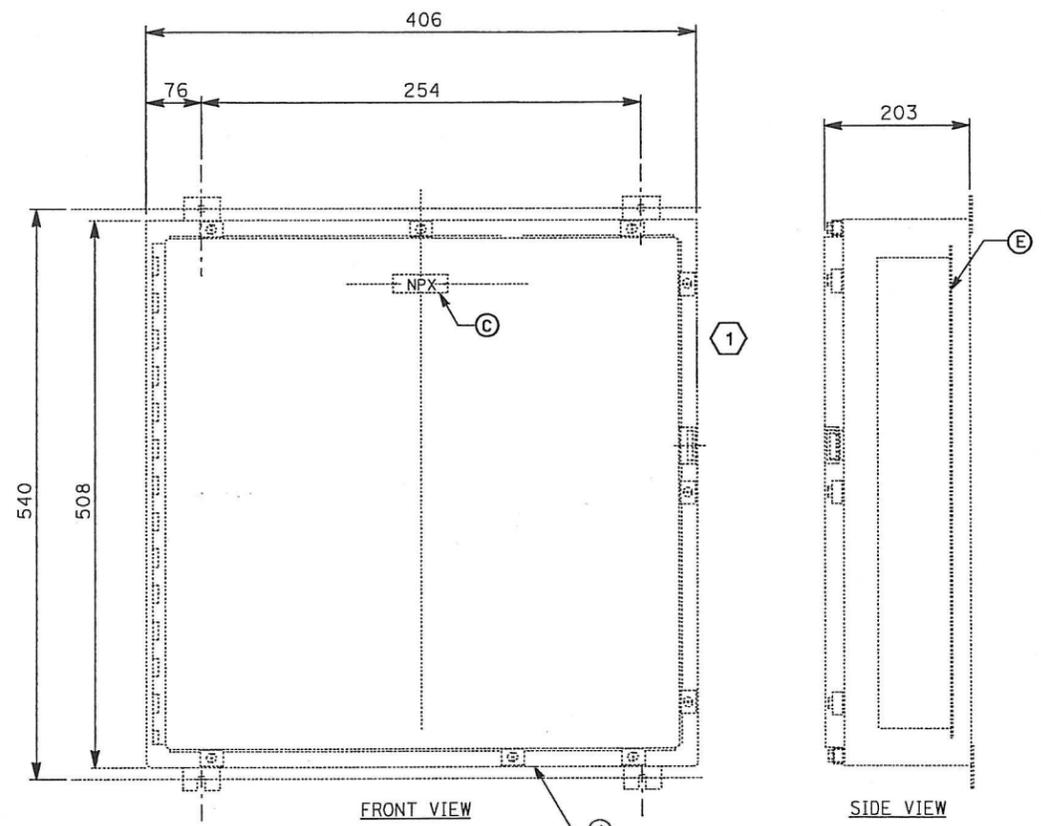
THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.



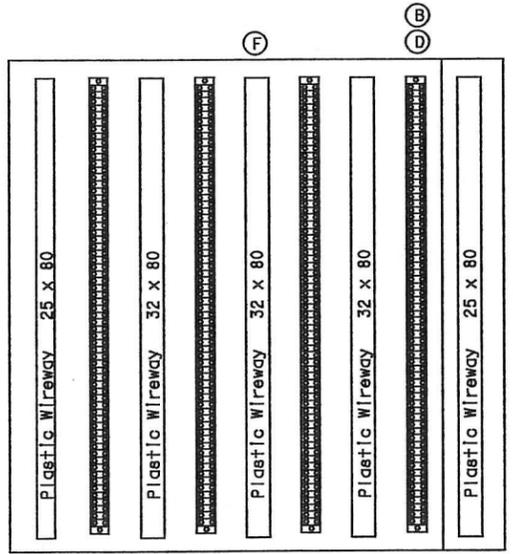
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04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S74	1204

REGISTERED ELECTRICAL ENGINEER: **Syn Yee Chin**
 DATE: 03/08/10
 PLANS APPROVAL DATE: 05-06-2010
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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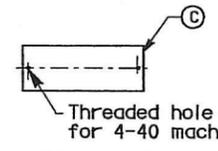
FRONT PANEL



INSIDE PANEL LAYOUT

MATERIAL LIST		
ITEM	DESCRIPTION	QTY.
(A)	Enclosure, galvanized steel, NEMA 12, with interior panel 375 x 327	1 ①
(B)	65 Point Terminal blocks, rated 300 V, feed-through modular terminal block with screw connection, cross section 0.2-4 mm ² , width 5.2 mm, on DIN rail with (2) end clamps	4
(C)	Nameplate to be white lamicaid with black core, size 19 x 80, lettering to be 3 mm condensed gothic. (See nameplate Schedule below for engravings).	-
(D)	Noise suppressor, termination resistor	50
(E)	Back Panel, metal, bond to enclosure ground lug	1
(F)	Plastic Wireway	5

ITEM NO.	NAMEPLATE SCHEDULE		QTY.
	LINE 1	② LINE 2	
NP1	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-09E	
NP2	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-10E	
NP3	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-11E	
NP4	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-12E	
NP5	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-13E	
NP6	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-SUB. EB	
NP7	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-14E	
NP8	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-15E	
NP9	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-16E	
NP10	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-17E	
NP11	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-18E	
NP12	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-19E	
NP13	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-20E	
NP14	TELEPHONE COMMUNICATIONS	TERM. BOX. TEL-21E	



NOTE: Nameplates shall be mounted to the enclosure front panel with 4-40 stainless steel machine screws. The control panel to be drilled and tapped (no self-tapping screws).

NOTES:

- Contractor shall furnish and install a Back Panel in each telephone terminal box. (See Material List Item #E). Bond back panel to ground lug.
- Contractor shall furnish and install four -65 point terminal blocks and 5 plastic wireways in each telephone terminal box (See Material List Item #B and #F).
- Contractor shall furnish and install a nameplate on each telephone terminal box. (See nameplate schedule listed on this drawing).
- Contractor shall furnish and install 50 telephone circuit noise suppressors in each telephone terminal box.
- See plan sheet E-965 for telephone terminal box terminations.

SHEET NOTES:

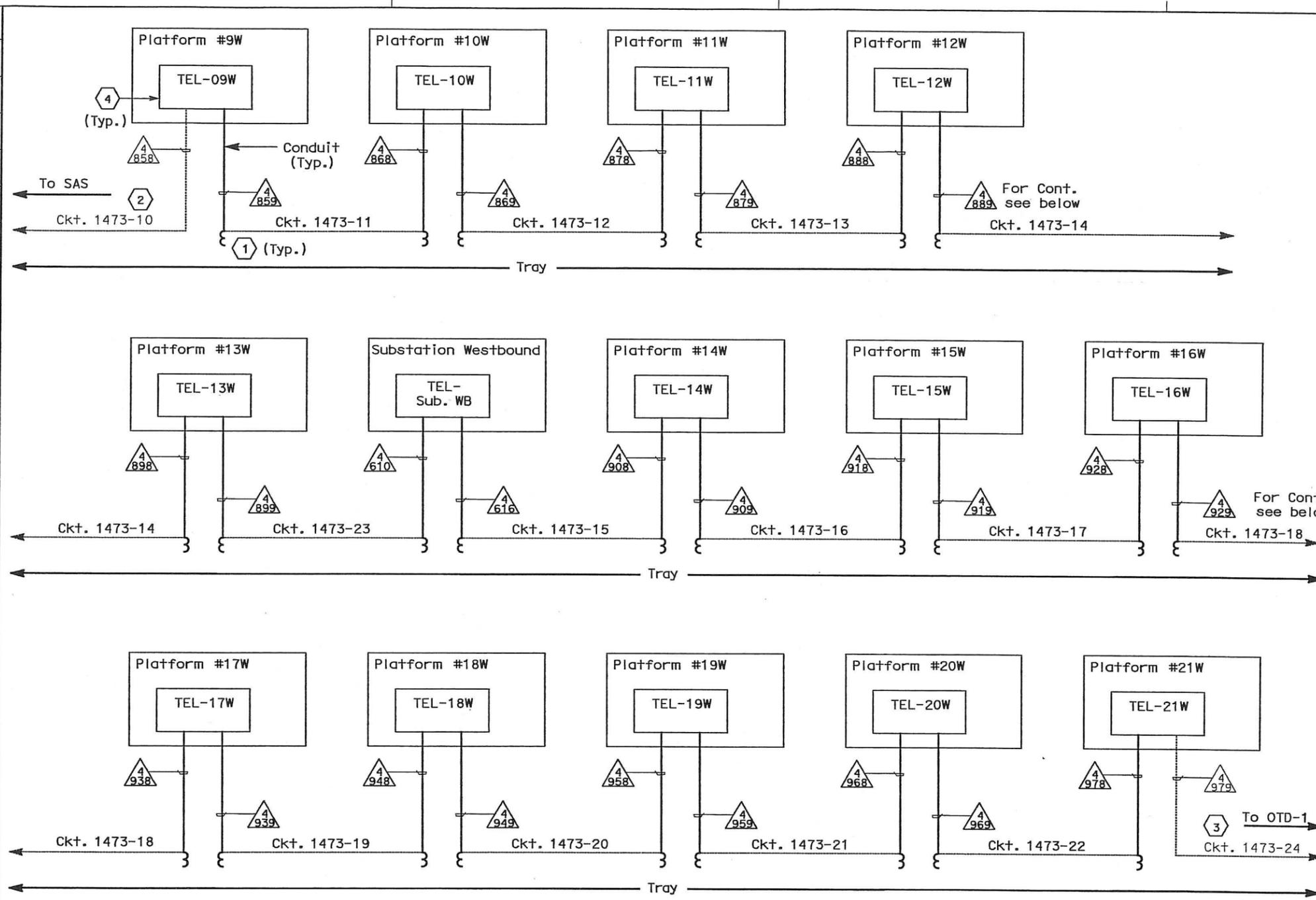
- Existing Enclosure.
- Contractor to provide and install a name plate to be mounted below the existing one, with Line 2 engraved.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
△	03/08/10	MEP INTEGRATION	JE	SYC 110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
		REVISIONS		

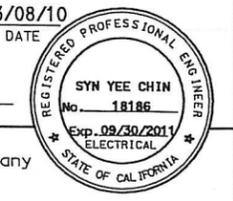
CONTRACT CHANGE ORDER NO. 110
 SHEET 222 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
TELEPHONE TERMINAL BOX ASSEMBLY
EASTBOUND
 NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 BEHZAD GOLEMHAMMADI
 DESIGN OVER - HT
 CHECKED BY
 CALCULATED/DESIGNED BY
 DATE 01/10
 REVISIONS
 REVISIONS
 DATE 01/10
 REVISIONS
 DATE 01/10



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
			03/08/10			
			DATE			
REGISTERED ELECTRICAL ENGINEER						
SYN YEE CHIN						
PLANS APPROVAL DATE						
05-06-2010						
PB AMERICAS, Inc.						
A Parsons Brinckerhoff Company						
303 Second St., Suite 700N						
San Francisco, CA 94107-1317						
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NOTES:

- All circuits (50 pair #18) shown on this drawing have been installed in the TOS/COM trays spanning the entire Skyway. At each platform the circuits have been coiled in the trays. Contractor shall pull the 50 pair #18 Telephone Cables from the trays into the Telephone Terminal Boxes as follows:
 At platform 09W: Pull ckt #1473-10 in conduit # 4858 to TEL-09W.
 At platform 09W: Pull ckt #1473-11 in conduit # 4859 to TEL-09W.
 At platform 10W: Pull ckt #1473-11 in conduit # 4868 to TEL-10W.
 At platform 10W: Pull ckt #1473-12 in conduit # 4869 to TEL-10W.
 At platform 11W: Pull ckt #1473-12 in conduit # 4878 to TEL-11W.
 At platform 11W: Pull ckt #1473-13 in conduit # 4879 to TEL-11W.
 At platform 12W: Pull ckt #1473-13 in conduit # 4888 to TEL-12W.
 At platform 12W: Pull ckt #1473-14 in conduit # 4889 to TEL-12W.
 At platform 13W: Pull ckt #1473-14 in conduit # 4898 to TEL-13W.
 At platform 13W: Pull ckt #1473-23 in conduit # 4899 to TEL-13W.
 At Substation W: Pull ckt #1473-23 in conduit # 4610 to TEL-Sub. WB.
 At Substation W: Pull ckt #1473-15 in conduit # 4616 to TEL-Sub. WB.
 At platform 14W: Pull ckt #1473-15 in conduit # 4908 to TEL-14W.
 At platform 14W: Pull ckt #1473-16 in conduit # 4909 to TEL-14W.
 At platform 15W: Pull ckt #1473-16 in conduit # 4918 to TEL-15W.
 At platform 15W: Pull ckt #1473-17 in conduit # 4919 to TEL-15W.
 At platform 16W: Pull ckt #1473-17 in conduit # 4928 to TEL-16W.
 At platform 16W: Pull ckt #1473-18 in conduit # 4929 to TEL-16W.
 At platform 17W: Pull ckt #1473-18 in conduit # 4938 to TEL-17W.
 At platform 17W: Pull ckt #1473-19 in conduit # 4939 to TEL-17W.
 At platform 18W: Pull ckt #1473-19 in conduit # 4948 to TEL-18W.
 At platform 18W: Pull ckt #1473-20 in conduit # 4949 to TEL-18W.
 At platform 19W: Pull ckt #1473-20 in conduit # 4958 to TEL-19W.
 At platform 19W: Pull ckt #1473-21 in conduit # 4959 to TEL-19W.
 At platform 20W: Pull ckt #1473-21 in conduit # 4968 to TEL-20W.
 At platform 20W: Pull ckt #1473-22 in conduit # 4969 to TEL-20W.
 At platform 21W: Pull ckt #1473-22 in conduit # 4978 to TEL-21W.
 At platform 21W: Pull ckt #1473-24 in conduit # 4979 to TEL-21W.
- For arrangement of conduits routing to the service platforms see sheets E-623 through E-637.
- All conduits shown on this drawing are existing and are to be used to pull in cable.

SHEET NOTES:

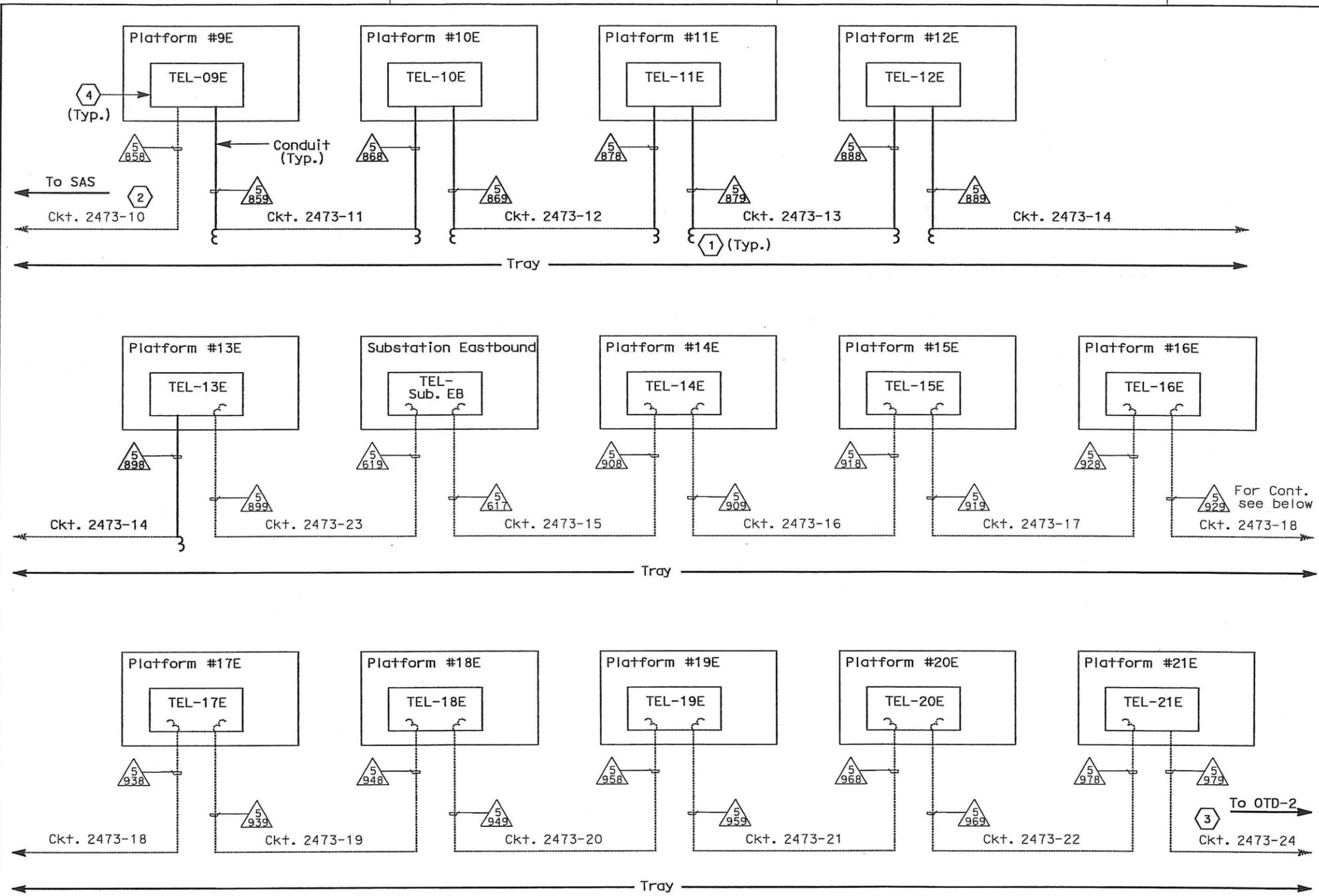
- All 50 pair #18 telephone cables are coiled in the trays in the girder at the platform locations.
- The SAS Contractor is responsible for pulling and terminating Ckt #1473-10.
- The OTD-1 Contractor is responsible for pulling and terminating Ckt #1473-24.
- Contractor shall terminate all 50 pair #18 cables in the Telephone Terminal Boxes, unless otherwise noted.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
0	03/08/10	MEP INTEGRATION	JE	SYC	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 223 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
TELEPHONE CABLE BLOCK DIAGRAM
WESTBOUND
 NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVER: JHT
 BEHZAD GOLEHAMMADI
 CALCULATED/DESIGNED BY: JHT
 CHECKED BY: JHT
 DATE: 01/10/10
 REVISED BY: JHT
 DATE: 01/10/10



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET NO	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407d	1204
			09S76			
SYN YEE CHIN			03/08/10		REGISTERED ELECTRICAL ENGINEER DATE	
05-06-2010			PLANS APPROVAL DATE			
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317						
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NOTES:

- All circuits (50 pair #18) shown on this drawing have been installed in the TOS/COM trays spanning the entire Skyway. In the girder at the following platforms the circuits have been coiled in the trays. Contractor shall pull the 50 pair #18 Telephone Cables from the trays into the Telephone Terminal Boxes as follows:
 At platform 09E: Pull ckt #2473-10 in conduit # 5858 to TEL-09E.
 At platform 09E: Pull ckt #2473-11 in conduit # 5859 to TEL-09E.
 At platform 10E: Pull ckt #2473-11 in conduit # 5868 to TEL-10E.
 At platform 10E: Pull ckt #2473-12 in conduit # 5869 to TEL-10E.
 At platform 11E: Pull ckt #2473-12 in conduit # 5878 to TEL-11E.
 At platform 11E: Pull ckt #2473-13 in conduit # 5879 to TEL-11E.
 At platform 12E: Pull ckt #2473-13 in conduit # 5888 to TEL-12E.
 At platform 12E: Pull ckt #2473-14 in conduit # 5889 to TEL-12E.
 At platform 13E: Pull ckt #2473-14 in conduit # 5898 to TEL-13E.
- All circuits not shown in Note 1 above have been pulled by others to their respective Telephone Terminal Box.
- For arrangement of conduits routing to the service platforms see sheets E-820 through E-834.
- All conduits shown on this drawing are existing.

SHEET NOTES:

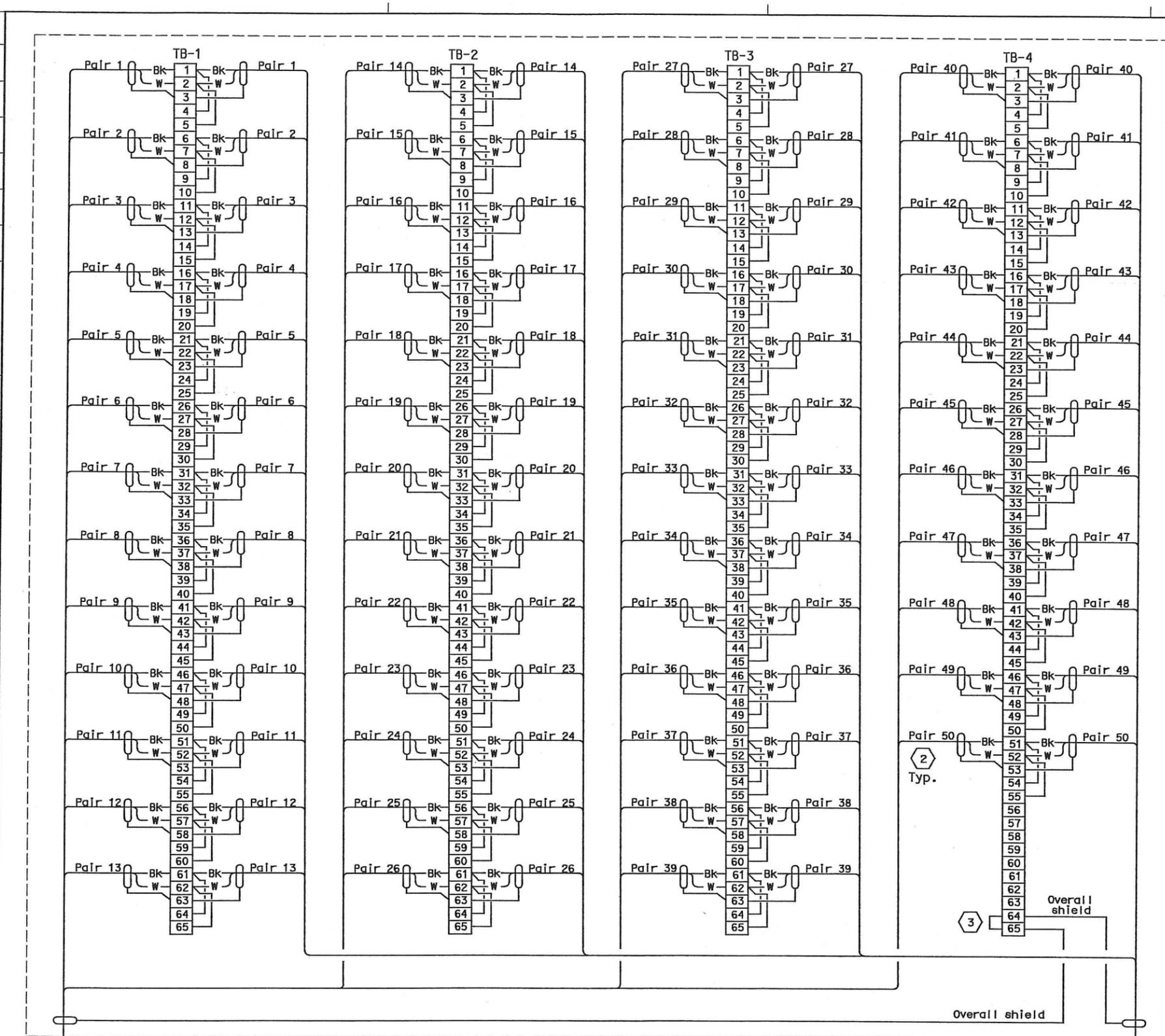
- The 50 pair #18 telephone cables are coiled in the trays in the girder at the platform locations shown.
- The SAS Contractor is responsible for pulling and terminating Ckt. #2473-10.
- The OTD-2 contractor is responsible for pulling and terminating Ckt. #2473-24.
- Contractor shall terminate all 50 pair #18 cables in the Telephone Terminal Boxes, unless otherwise noted.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	JE	SYC	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 224 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
TELEPHONE CABLE BLOCK DIAGRAM
EASTBOUND
 NO SCALE

DATE PLOTTED => 06-MAY-2010



TELEPHONE COMMUNICATION TERMINAL BOX
 Shown for TEL-09W, See Table A

To Telephone Communications Terminal Box Tel-08W (SAS Contract) Contract 04-0120F4
 Ckt. #1473-10

To Telephone Communications Terminal Box Tel-10W
 Ckt. #1473-11



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09577	1204

REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE

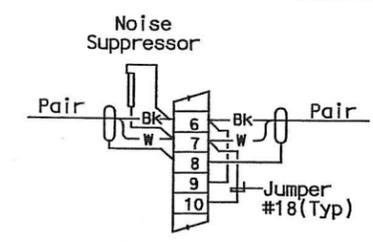
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 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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TABLE A
 Westbound

Circuit No.	Routed To
1473-10	Telephone Term. Box Tel-09W
1473-11	Telephone Term. Box Tel-09W
1473-11	Telephone Term. Box Tel-10W
1473-12	Telephone Term. Box Tel-10W
1473-12	Telephone Term. Box Tel-11W
1473-13	Telephone Term. Box Tel-11W
1473-13	Telephone Term. Box Tel-12W
1473-14	Telephone Term. Box Tel-12W
1473-14	Telephone Term. Box Tel-13W
1473-123	Telephone Term. Box Tel-13W
1473-123	Telephone Term. Box Tel-Sub. WB
1473-15	Telephone Term. Box Tel-Sub. WB
1473-15	Telephone Term. Box Tel-14W
1473-16	Telephone Term. Box Tel-14W
1473-16	Telephone Term. Box Tel-15W
1473-17	Telephone Term. Box Tel-15W
1473-17	Telephone Term. Box Tel-16W
1473-18	Telephone Term. Box Tel-16W
1473-18	Telephone Term. Box Tel-17W
1473-19	Telephone Term. Box Tel-17W
1473-19	Telephone Term. Box Tel-18W
1473-20	Telephone Term. Box Tel-18W
1473-20	Telephone Term. Box Tel-19W
1473-21	Telephone Term. Box Tel-19W
1473-21	Telephone Term. Box Tel-20W
1473-22	Telephone Term. Box Tel-20W
1473-22	Telephone Term. Box Tel-21W
1473-24	Telephone Term. Box Tel-21W



TYPICAL WIRING EACH PAIR

- SHEET NOTES:**
- ① For cable/circuit numbers, see Table A.
 - ② Contractor shall terminate the 50 pair #18 telephone communication cable on the terminal blocks.
 - ③ Do not ground shield.

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03/08/10	MEP INTEGRATION	JE	SYC	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
		REVISIONS		

CONTRACT CHANGE ORDER NO. 110
 SHEET 225 OF 290

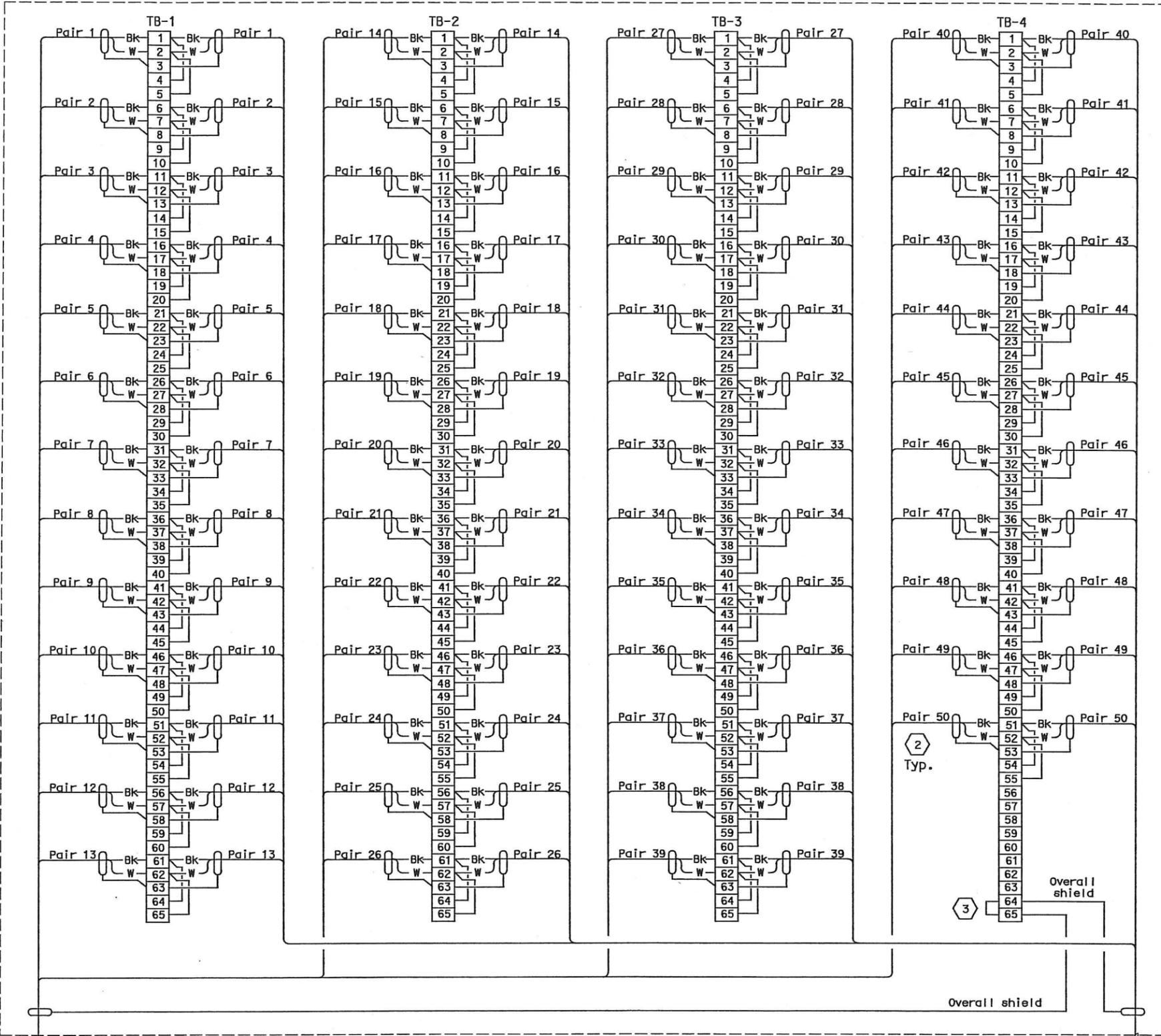
DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
TELEPHONE TERMINAL BOX
WIRING DIAGRAM - WESTBOUND

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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To Telephone Communications Terminal Box Tel-09E (SAS Contract) Contract 04-012014

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TELEPHONE COMMUNICATION TERMINAL BOX

Shown for TEL-09E, See Table A

Ckt. #2473-10

Ckt. #2473-11

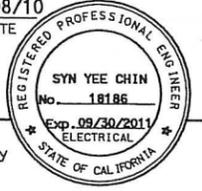
To Telephone Communications Terminal Box Tel-10E



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	4079	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE
PB AMERICAS, Inc.
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 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

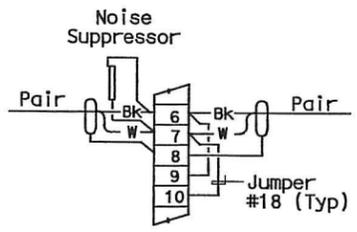


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TABLE A

Eastbound

Circuit No.	Routed To (Termination Location)
2473-10	Telephone Term. Box Tel-09E
2473-11	Telephone Term. Box Tel-09E
2473-11	Telephone Term. Box Tel-10E
2473-12	Telephone Term. Box Tel-10E
2473-12	Telephone Term. Box Tel-11E
2473-13	Telephone Term. Box Tel-11E
2473-13	Telephone Term. Box Tel-12E
2473-14	Telephone Term. Box Tel-12E
2473-14	Telephone Term. Box Tel-13E
2473-23	Telephone Term. Box Tel-13E
2473-23	Telephone Term. Box Tel-Sub. EB
2473-15	Telephone Term. Box Tel-Sub. EB
2473-15	Telephone Term. Box Tel-14E
2473-16	Telephone Term. Box Tel-14E
2473-16	Telephone Term. Box Tel-15E
2473-17	Telephone Term. Box Tel-15E
2473-17	Telephone Term. Box Tel-16E
2473-18	Telephone Term. Box Tel-16E
2473-18	Telephone Term. Box Tel-17E
2473-19	Telephone Term. Box Tel-17E
2473-19	Telephone Term. Box Tel-18E
2473-20	Telephone Term. Box Tel-18E
2473-20	Telephone Term. Box Tel-19E
2473-21	Telephone Term. Box Tel-19E
2473-21	Telephone Term. Box Tel-20E
2473-22	Telephone Term. Box Tel-20E
2473-22	Telephone Term. Box Tel-21E
2473-24	Telephone Term. Box Tel-21E



TYPICAL WIRING EACH PAIR

- SHEET NOTES:**
- ① For cable/circuit numbers, see Table A.
 - ② Contractor shall terminate the 50 pair #18 telephone communication cable on the terminal blocks.
 - ③ Do not ground shield.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
△	03/08/10	MEP INTEGRATION	JE	SYC	110
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 226 OF 290

DETAILS
SCADA REMOTE TERMINAL UNIT SYSTEM
TELEPHONE TERMINAL BOX
WIRING DIAGRAM - EASTBOUND
 NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI

CALCULATED/
 DESIGNED BY
 CHECKED BY

DATE
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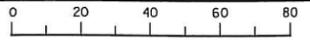
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 DATE REVISED

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CONTRACT CHANGE ORDER NO. 110
 SHEET 227 OF 290

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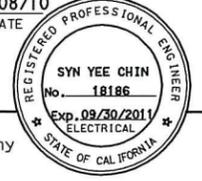
CU 04251

EA 0120F1

E-966



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S79	1204
			REGISTERED ELECTRICAL ENGINEER	DATE	
			<i>Syn Yee Chin</i>	03/08/10	
			PLANS APPROVAL DATE		
			05-06-2010		
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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Caltrans

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DATE
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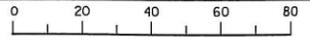
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 DATE REVISED

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CONTRACT CHANGE ORDER NO. 110
 SHEET 228 OF 290

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CU 04251

EA 0120F1



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			REGISTERED ELECTRICAL ENGINEER	DATE	
			<i>Syn Yee Chin</i>	03/08/10	
			PLANS APPROVAL DATE		
			05-06-2010		
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E-967

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Caltrans

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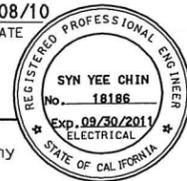
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 DATE REVISED

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CONTRACT CHANGE ORDER NO. 110
 SHEET 229 OF 290

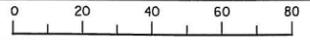


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			REGISTERED ELECTRICAL ENGINEER	DATE	
			<i>Syn Yee Chin</i>	03/08/10	
			PLANS APPROVAL DATE		
			05-06-2010		
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EA 0120F1

E-968

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Caltrans

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CALCULATED/
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 CHECKED BY

DATE
 01/10
 01/10

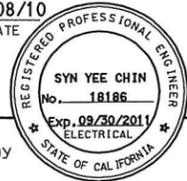
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 DATE REVISED

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CONTRACT CHANGE ORDER NO. 110
 SHEET 230 OF 290

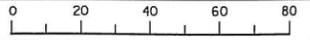


DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
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			REGISTERED ELECTRICAL ENGINEER <u>Syn Yee Chin</u> DATE <u>03/08/10</u>		
			PLANS APPROVAL DATE <u>05-06-2010</u>		
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317					
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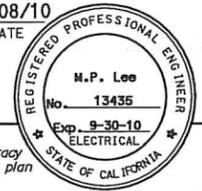
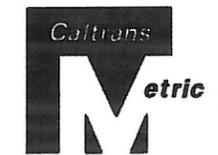
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DATE PLOTTED => 06-MAY-2010
 TIME PLOTTED => 19:13
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alca	80	12.2/14.3 0.0/4.0	407a 09S83	1204
			03/08/10		
REGISTERED ELECTRICAL ENGINEER			DATE		
M.P. Lee			05-06-2010		
PLANS APPROVAL DATE					
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GENERAL NOTES:

1. This plan sheet is a record drawing of the Skyway Structures Contract. The Contractor shall verify the existing installation. See sheet EE-111 from the Skyway Structures contract no. 04-012024.
2. For more platform details, see Bridge Structures Girder Westbound and Eastbound, typical Details sheets.
3. All fiber optic cable shall be terminated in fiber distribution unit (FDU). All fiber strands shall have a TC connector on FDU.
4. FDU-W, FDU-E, and FDU-EX shall have the termination capacity of 72 fibers. FDU in each TOS cabinet shall have the termination capacity of 12 fibers.
5. Contractor shall supply the same number of fiber patch cords to match the termination capacity of each FDU.
6. Cable slack at each fiber splice closure shall be 9 meters minimum. Cable slack in each of TOS cabinet shall be 3 meters.
7. Contractor shall provide 72 fiber strand of fiber trunkline cable (FTC), 12 fiber strand of fiber pigtail cable (FPC) and fiber splice closures (FSC).
8. When fiber cables pass through a manhole, a minimum of 15 meter cable slack shall be coiled and placed on the side of of the manhole wall.

9. Each fiber cable sections shall be labeled per special provisions. In addition, each fiber link circuit number as shown on the plans shall be labeled at each end of fiber sections.
10. Ladder-type splice cable tray is acceptable to be used for TOS fiber splicing.

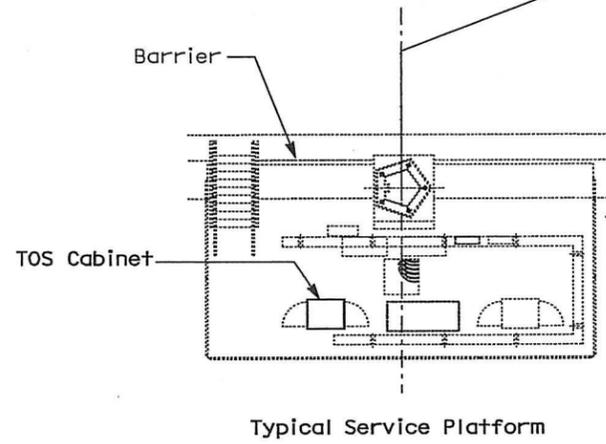
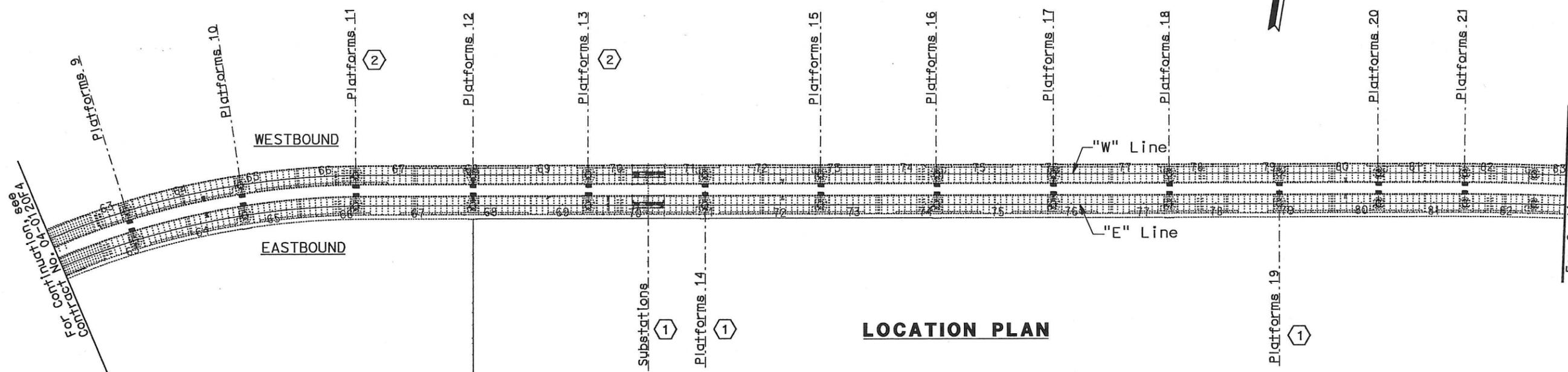
SHEET NOTES:

- ① Substations, and Service Platforms #14W, 14E, 19W, and 19E do not have TOS cabinets.
- ② Service Platforms 11W and 13E each have two TOS cabinets:
#TOS-11WA, #TOS-11WB,
#TOS-13EA, #TOS-13EB

DATE	REVISOR	DATE	REVISOR
09/09	FW	12/09	FW

DESIGN OVERSIGHT
MICHAEL P. LEE

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ABBREVIATIONS:

- FOTS Fiber Optic Transmitters
- FORS Fiber Optic Receivers
- MDCS Multiple Duct Conduit System

LEGEND:

- Fiber Splice Closure (FSC)
- Service Platform
- TOS Controller Cabinet

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
△	03/08/10	MEP INTEGRATION	SYC	ML 110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
SHEET 231 OF 290

**TRAFFIC OPERATIONS SYSTEM
SKYWAY STRUCTURES
SERVICE PLATFORM LOCATION PLAN
SHEET 1 OF 2**

SCALE: 1:3000

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

E-970

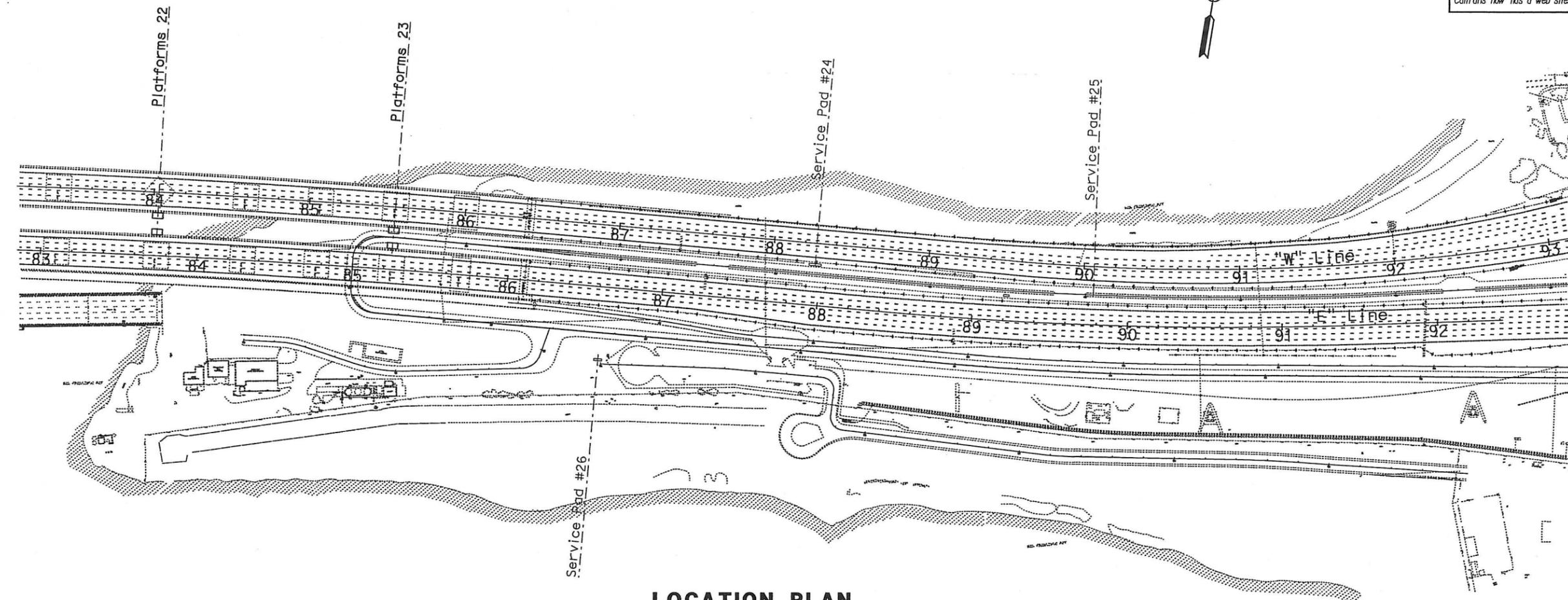
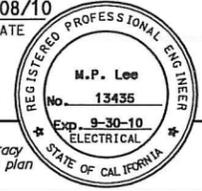
LAST REVISION DATE BY REVISION NO. 04-0120M4

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 DATE REVISIONS



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09584	1204

M.P. Lee
 REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 PLANS APPROVAL DATE 05-06-2010
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LOCATION PLAN

NOTES:

1. This plan sheet is a record drawing from Oakland Touchdown 1 contract. This drawing is not "As-built"; the Contractor shall verify the existing installation. See sheet E-202 from the Oakland Touchdown 1, contract No. 04-0120L4.
2. For more platform details, see Bridge Structures Girder typical Details sheets.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	03/08/10	MEP INTEGRATION	SYC	ML	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 232 OF 290

**TRAFFIC OPERATIONS SYSTEM
 OAKLAND TOUCHDOWN
 SERVICE PLATFORM LOCATION PLAN
 SHEET 2 OF 2
 NO SCALE**

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

E-971

LAST REVISION DATE BY OTHER - 25-MAY-2010

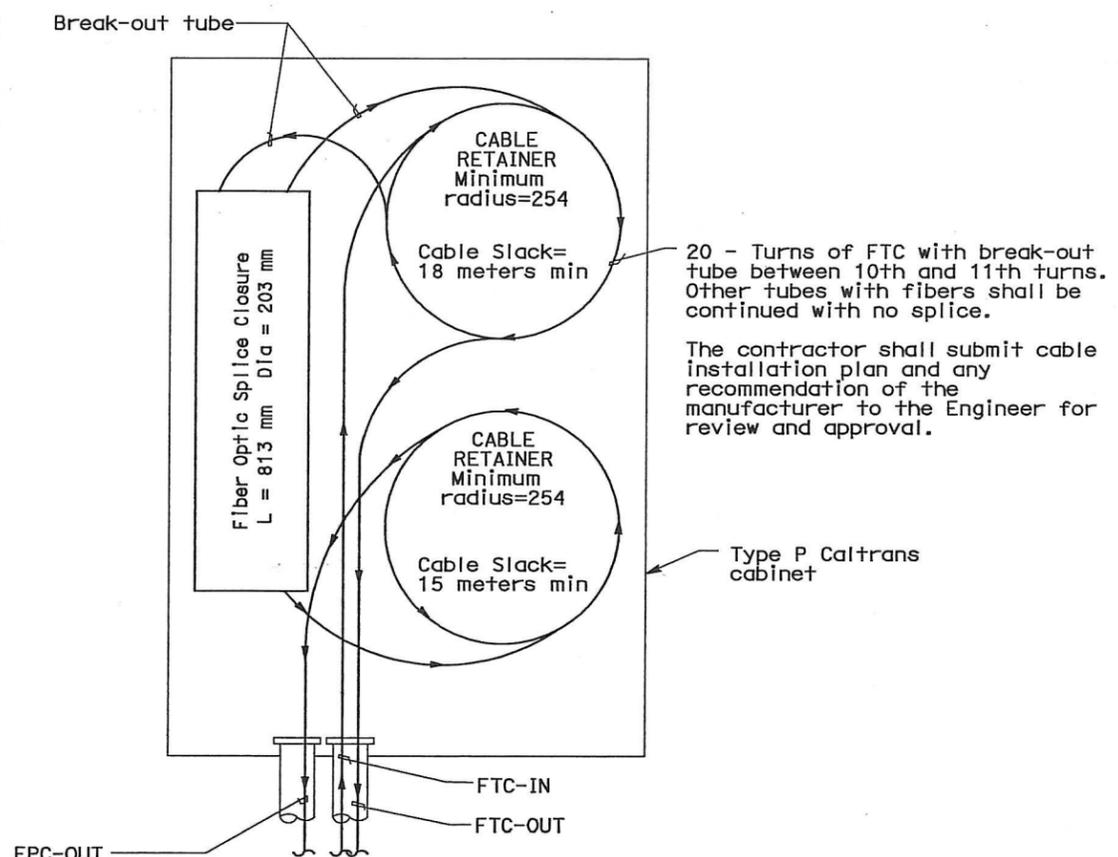
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04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 09S85	1204

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 M.P. Lee
 No. 13435
 Exp. 9-30-10
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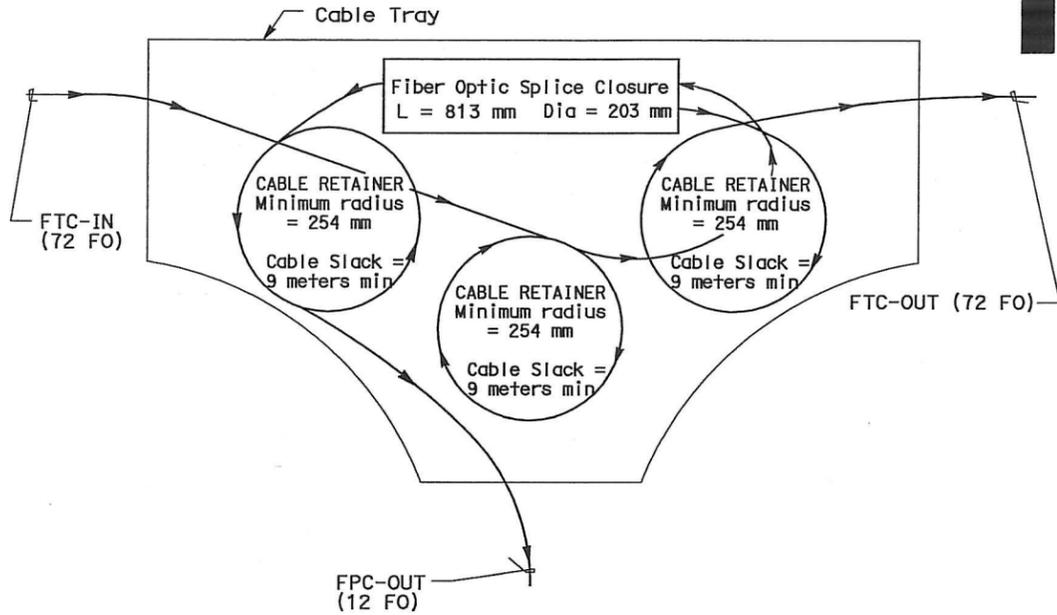
05-06-2010
 PLANS APPROVAL DATE

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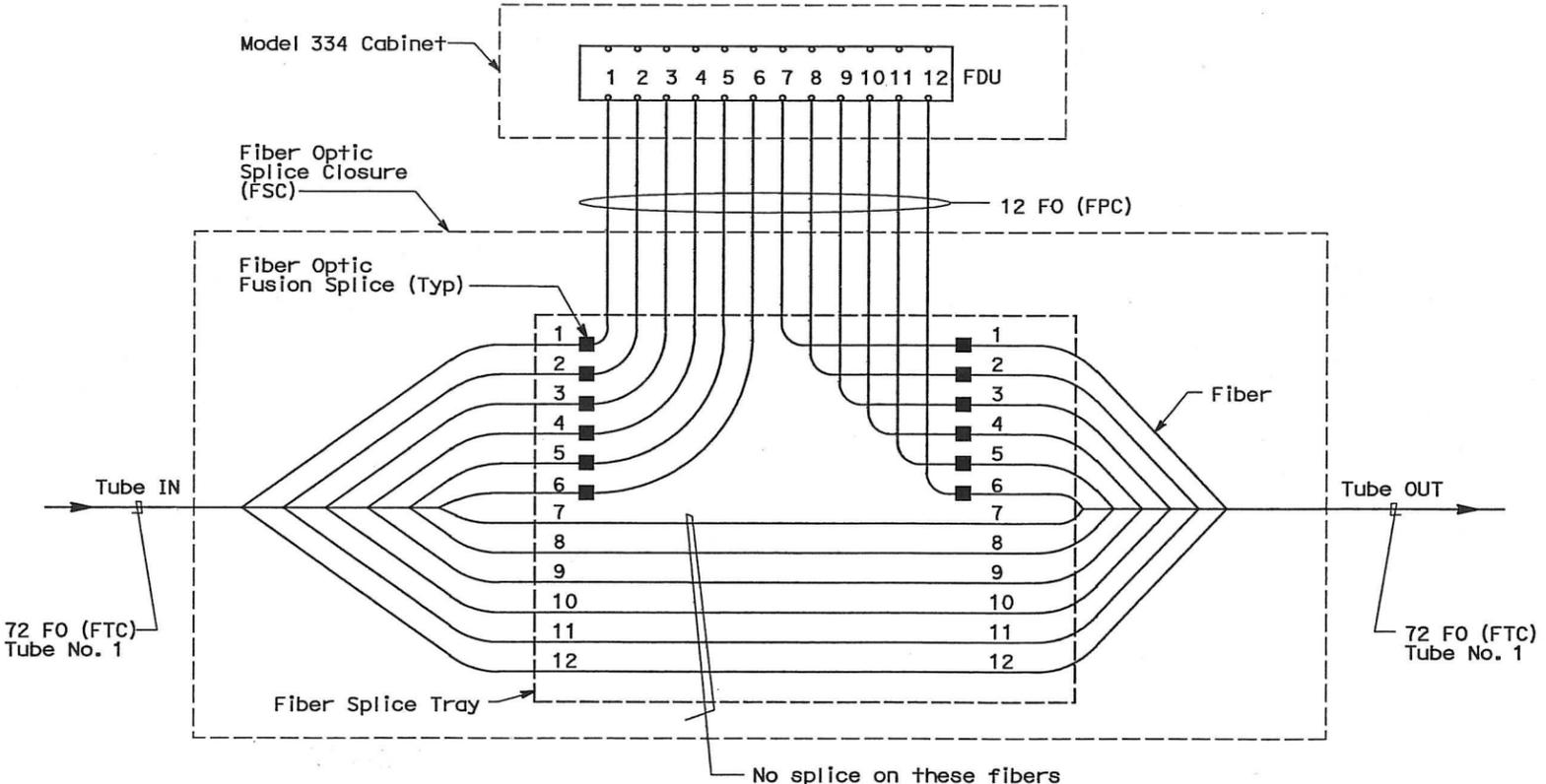
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FIBER SPlice DETAIL IN CABINET
TYPICAL AT SERVICE PLATFORM



FIBER SPlice DETAIL IN SPlice CABLE TRAY
TYPICAL IN SKYWAY STRUCTURES



FIBER OPTIC SPlice CLOSURE TYPICAL DETAIL
(SHOWN FOR TUBE No. 1)

DETAILS
TRAFFIC OPERATIONS SYSTEM
FIBER OPTIC SPlice DETAIL
NO SCALE

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

01/29/10	MEP INTEGRATION	SYC	ML	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
SHEET 233 OF 290

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSEER: MICHAEL P. LEE
 DATE REVISIONS: 09/09, 12/09
 CALCULATED/DESIGNED BY: ML, FW
 CHECKED BY: FW

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
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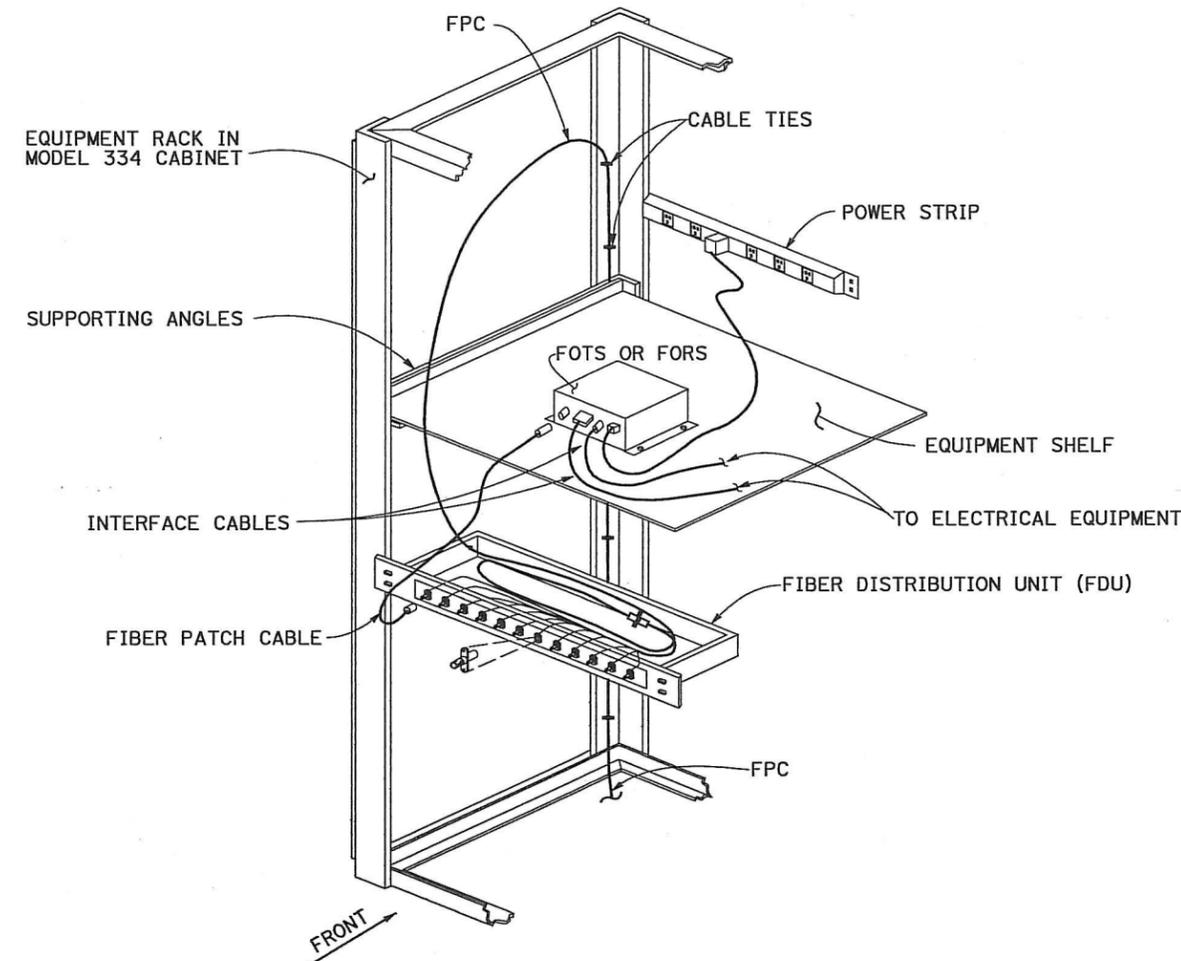
03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
 M.P. Lee
 No. 13435
 Exp. 9-30-10
 ELECTRICAL
 STATE OF CALIFORNIA
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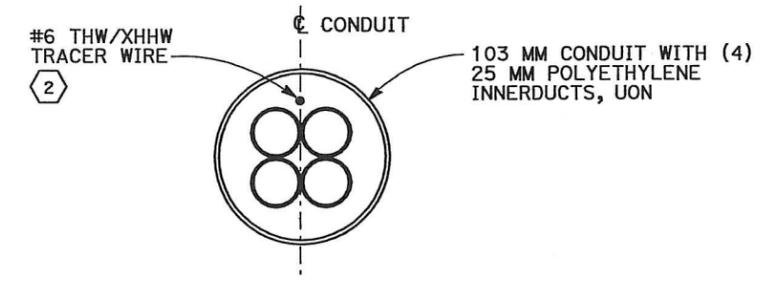
REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

03/08/10	MEP INTEGRATION	SYC	ML	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 234 OF 290

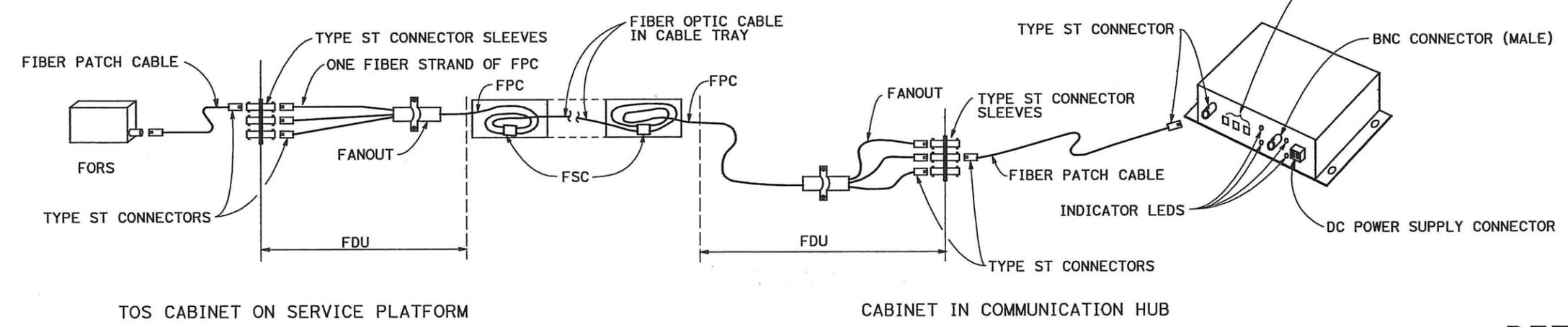


PARTIAL TOS CABINET EQUIPMENT LAYOUT



MDCS DETAIL 1

- SHEET NOTES:**
- 1 Innerducts shall be longitudinally grooved on both the inside and outside to facilitate pulling the innerducts into the conduit and pulling fiber optic cable into the innerduct. One innerduct shall be provided in each of the following colors: brown, blue, white, and black. Secure innerducts with clamps at appropriate spacing inside conduit.
 - 2 The tracer wire shall be pulled inside of the fiber optic conduit in the voids outside of the innerducts.



TYPICAL FIBER OPTIC LINK CIRCUIT

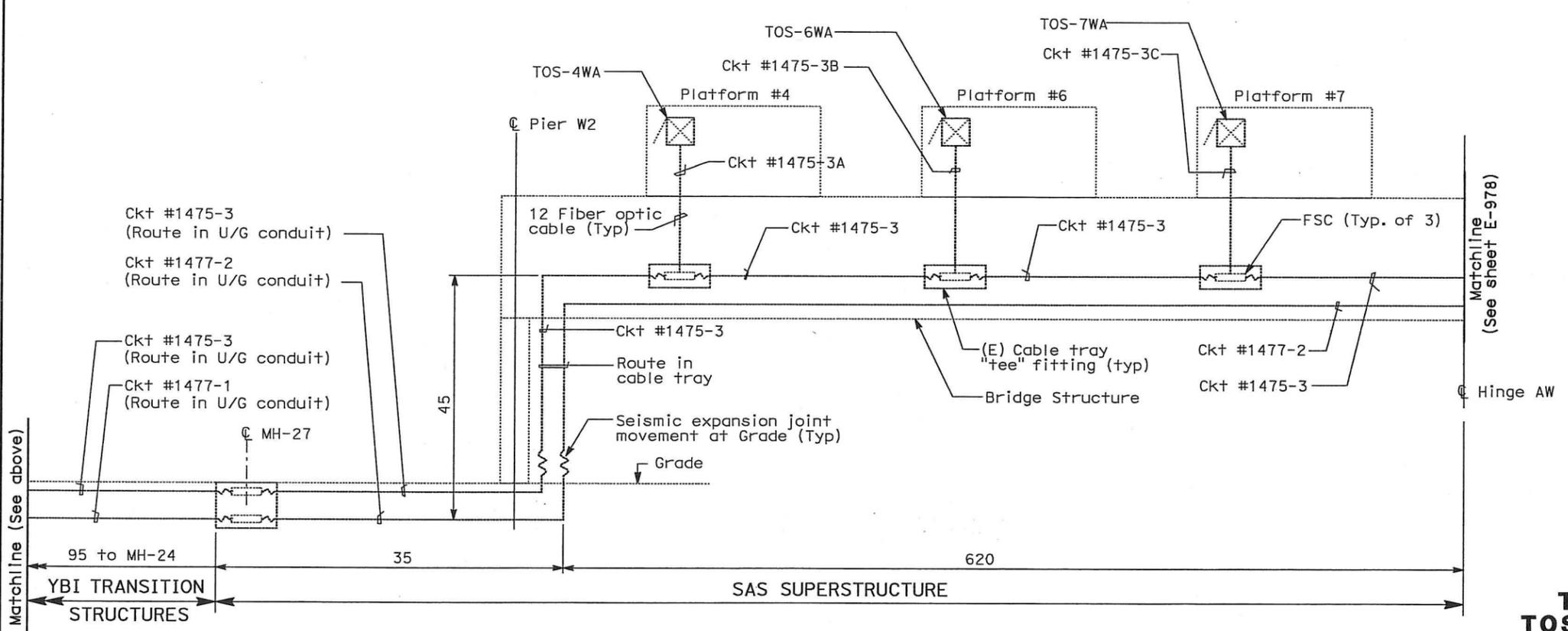
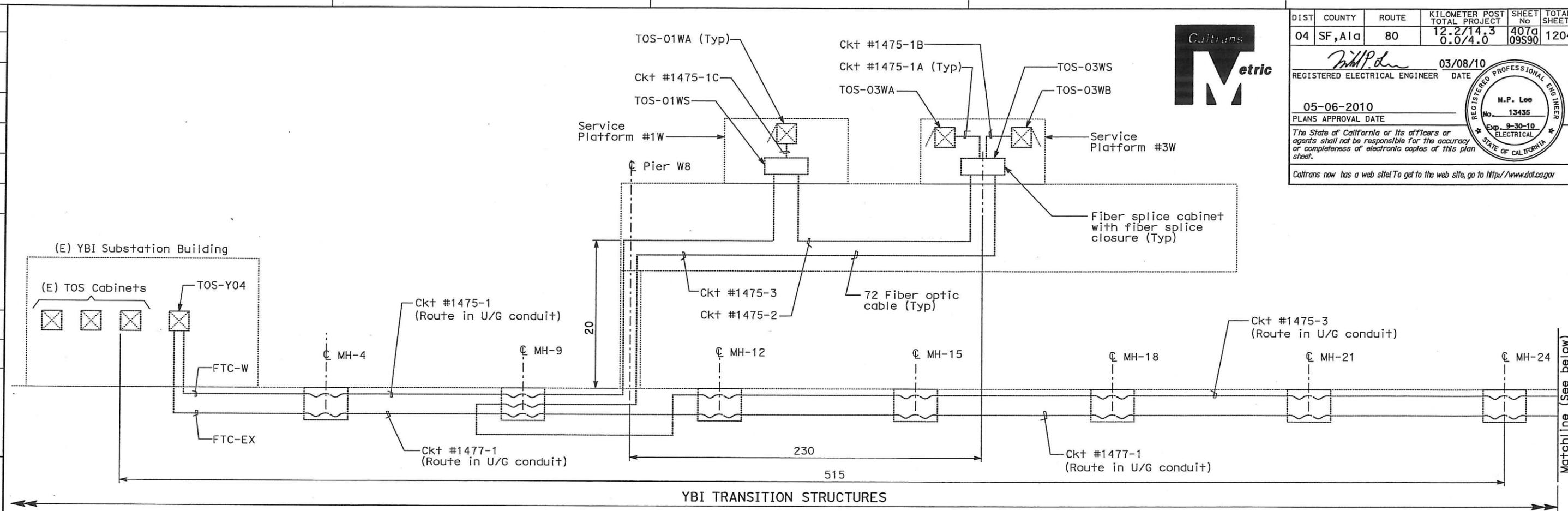
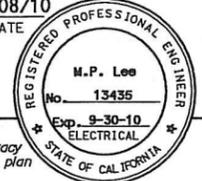
DETAILS
TRAFFIC OPERATIONS SYSTEM
TYPICAL FIBER OPTIC LINK CIRCUIT AND MDCS DETAIL
 NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSIGHT
 MICHAEL P. LEE
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE 09/09
 ML
 FW 12/09
 DATE REVISED BY
 DATE REVISED

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 09590	1204
					
<i>Michael P. Lee</i> 03/08/10 REGISTERED ELECTRICAL ENGINEER DATE					
05-06-2010 PLANS APPROVAL DATE					
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03/08/10	MEP INTEGRATION	SYC	ML	110
MARK	DATE	DESCRIPTIONS	BY	CH'D/CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 238 OF 290

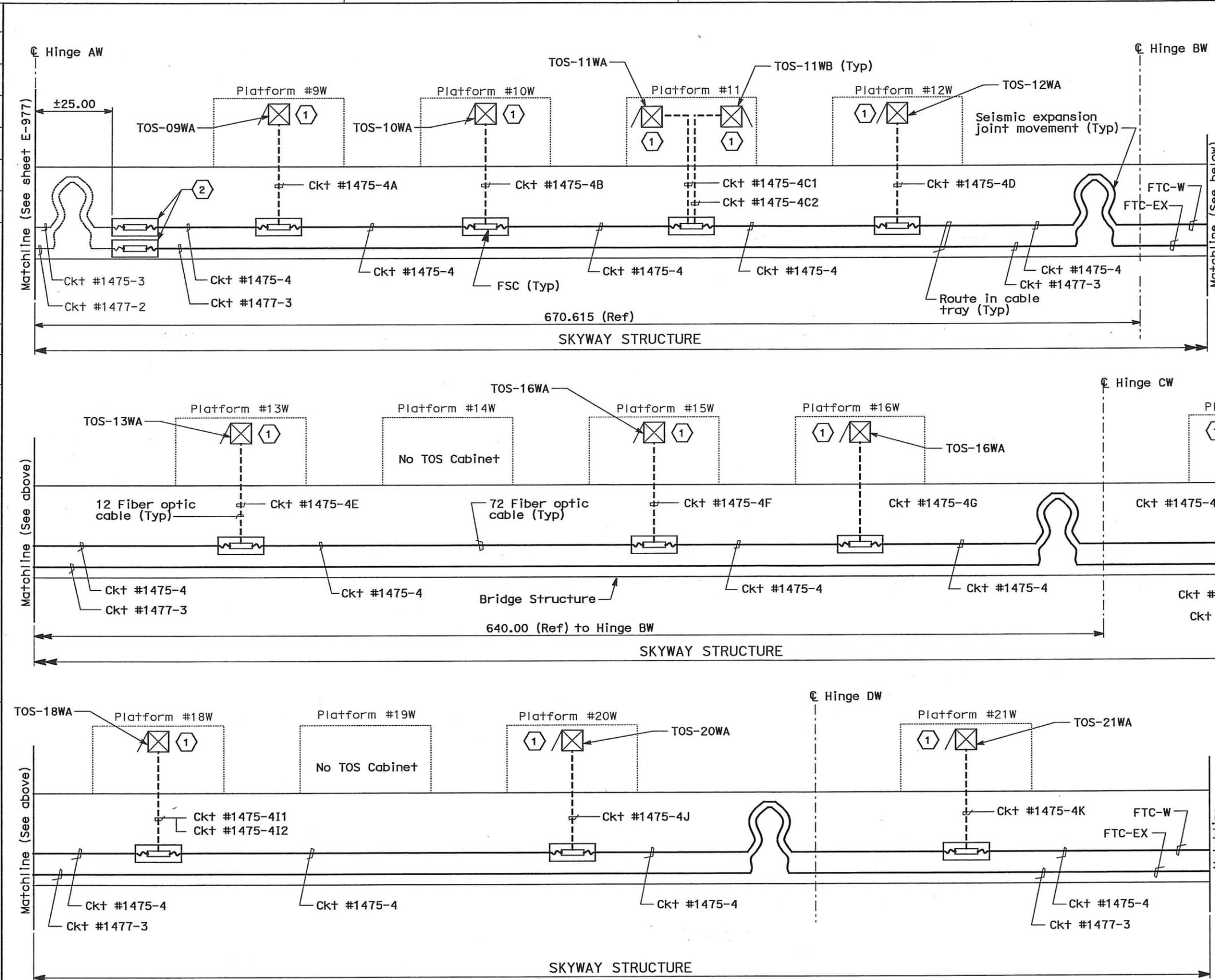
- NOTES:**
1. For General Notes, see sheet E-970.
 2. This sheet is shown for information only. No work shown for this Contract Change Order.

DETAILS
TRAFFIC OPERATIONS SYSTEM
TOS FIBER OPTICS RISER DIAGRAM
YBI TRANSITION STRUCTURES AND SAS-WB
 NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSIGHT
 MICHAEL P. LEE
 DATE REVISIONS BY DATE REVISIONS BY
 09/09 ML 12/09 FW
 CALCULATED/DESIGNED BY CHECKED BY
 DATE REVISIONS BY DATE REVISIONS BY



Caltrans
Metric

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 09S91	1204

REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 M.P. Lee
 No. 13435
 Exp. 9-30-10
 ELECTRICAL
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE

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REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

03/08/10	MEP INTEGRATION	SYC	ML	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 239 OF 290

- NOTES:**
- For General Notes, see sheet E-970.
- SHEET NOTES:**
- Contractor shall terminate FPC in TOS cabinet.
 - The fiber optic splice at this location is based from the existing contract interface. However, the design intent of the fiber optic cable shall be continuous in the entire cable/circuit length. If cable needs to be spliced, use FSC and place FSC in splice cable tray.

DETAILS
TRAFFIC OPERATIONS SYSTEM
TOS FIBER OPTICS RISER DIAGRAM
SKYWAY STRUCTURES-WB
 NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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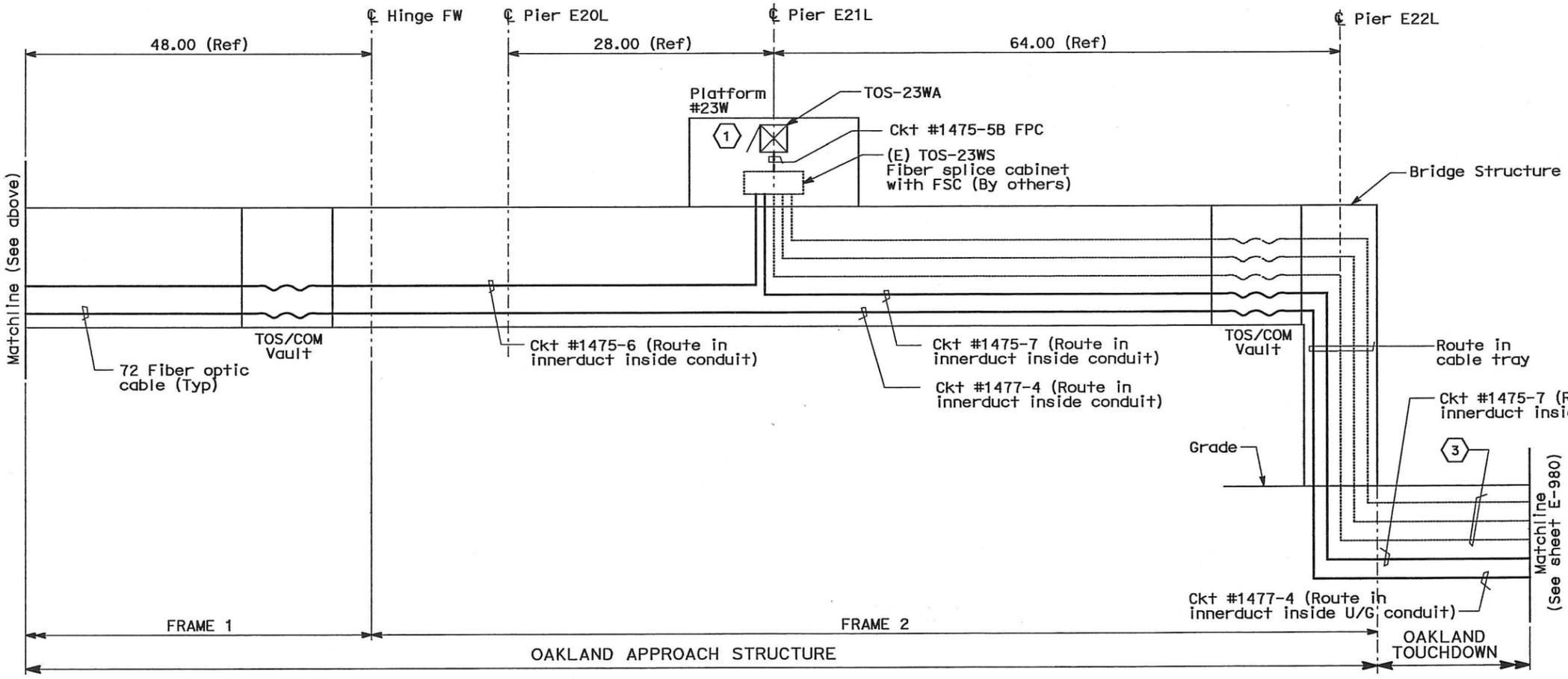
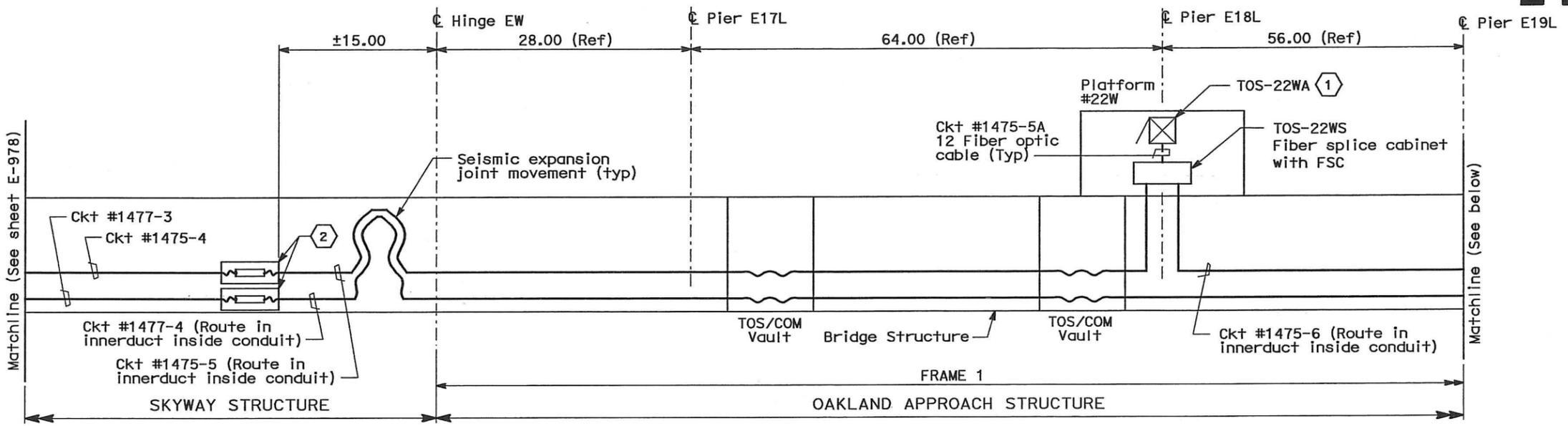
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04	SF, Alameda	80	12.27/14.3 0.0/4.0	407d 09S92	1204

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 M.P. Lee
 No. 13435
 Exp. 9-30-10
 ELECTRICAL
 STATE OF CALIFORNIA

05-06-2010
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- NOTES:**
- For General Notes, see sheet E-970.
- SHEET NOTES:**
- Contractor shall terminate FPC in TOS cabinet.
 - The fiber optic splice at this location is based from the existing contract interface. However, the design intent of the fiber optic cable shall be continuous in the entire cable/circuit length. If cable needs to be spliced, use FSC and place FSC in splice cable tray.
 - Cable installation by others.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
△	03/08/10	MEP INTEGRATION	SYC	ML 110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 240 OF 290

DETAILS
TRAFFIC OPERATIONS SYSTEM
TOS FIBER OPTICS RISER DIAGRAM
SKYWAY AND OAKLAND TOUCHDOWN-WB
 NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

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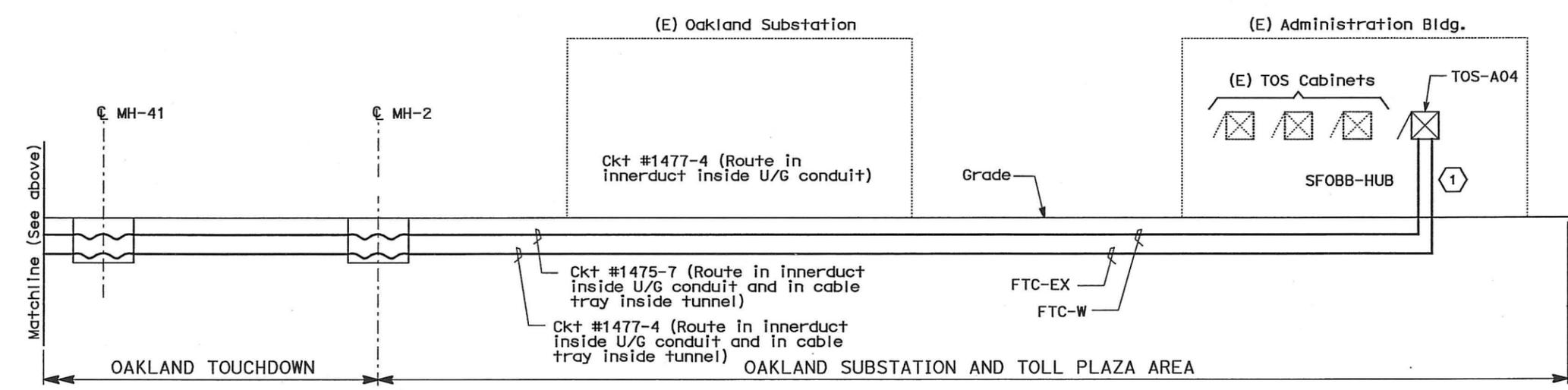
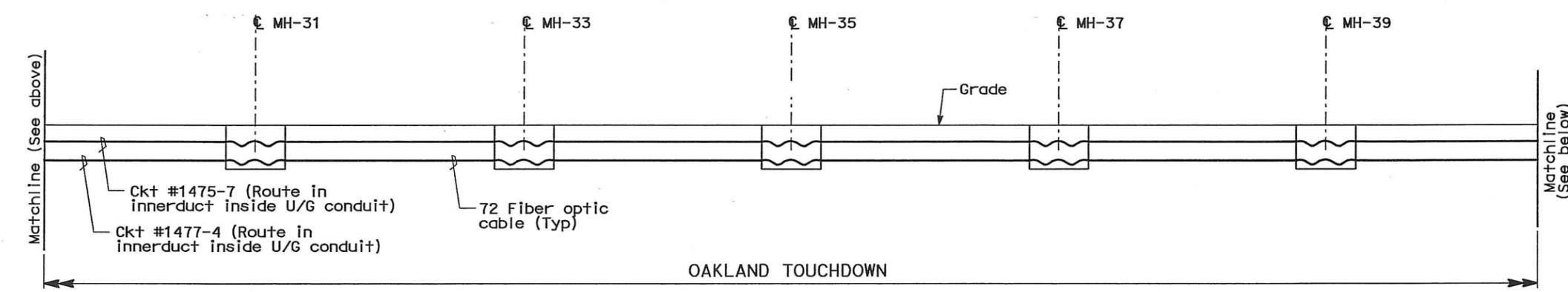
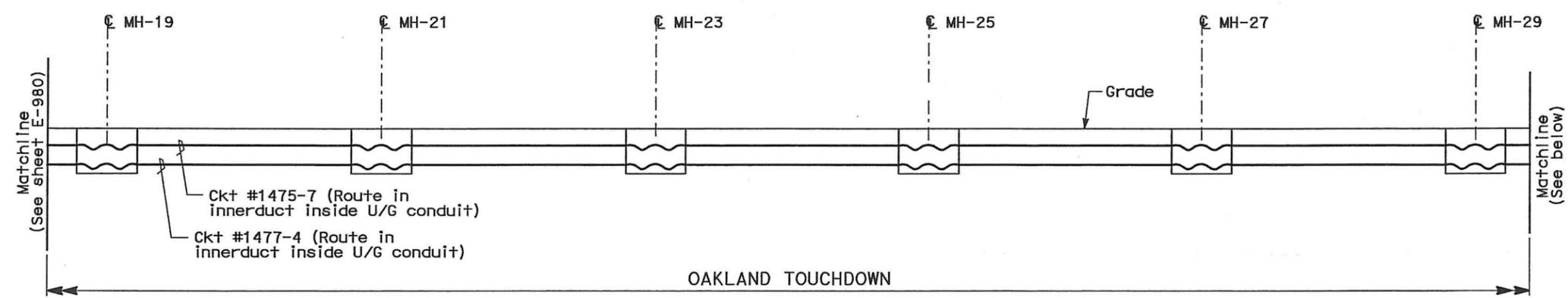
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04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 09S94	1204

REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 M.P. Lee
 No. 13435
 Exp. 9-30-10
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PLANS APPROVAL DATE 05-06-2010

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NOTES:
 1. For General Notes, see sheet E-970.

SHEET NOTES:
 ① Contractor to terminate the fiber optic cable in FDU-W AND FDU-EX respectively in Cabinet TOS-A04 at SFOBB HUB.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE					
△	05/08/10	MEP INTEGRATION	SYC	ML	110
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 242 OF 290

DETAILS
TRAFFIC OPERATIONS SYSTEM
TOS FIBER OPTICS RISER DIAGRAM
OAKLAND TOUCHDOWN-WB AND OAKLAND SUBSTATION
 NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

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E-981

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
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 ML 12/09
 FW
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISION: 09/09
 ML 12/09
 FW
 DATE REVISION: 09/09
 ML 12/09
 FW

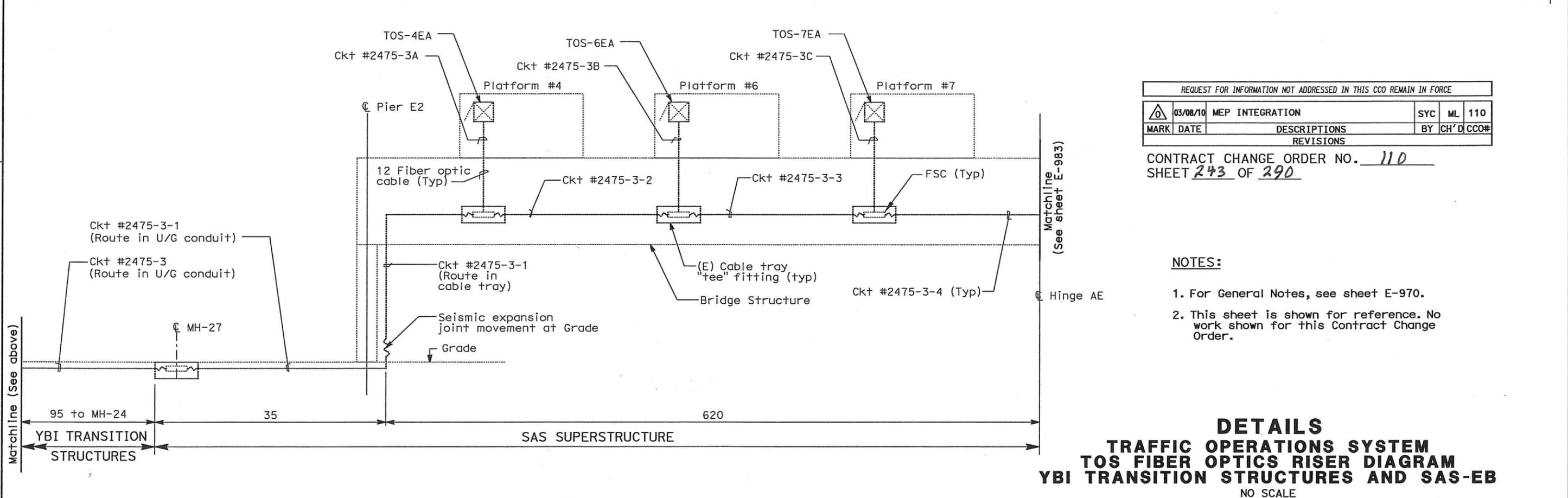
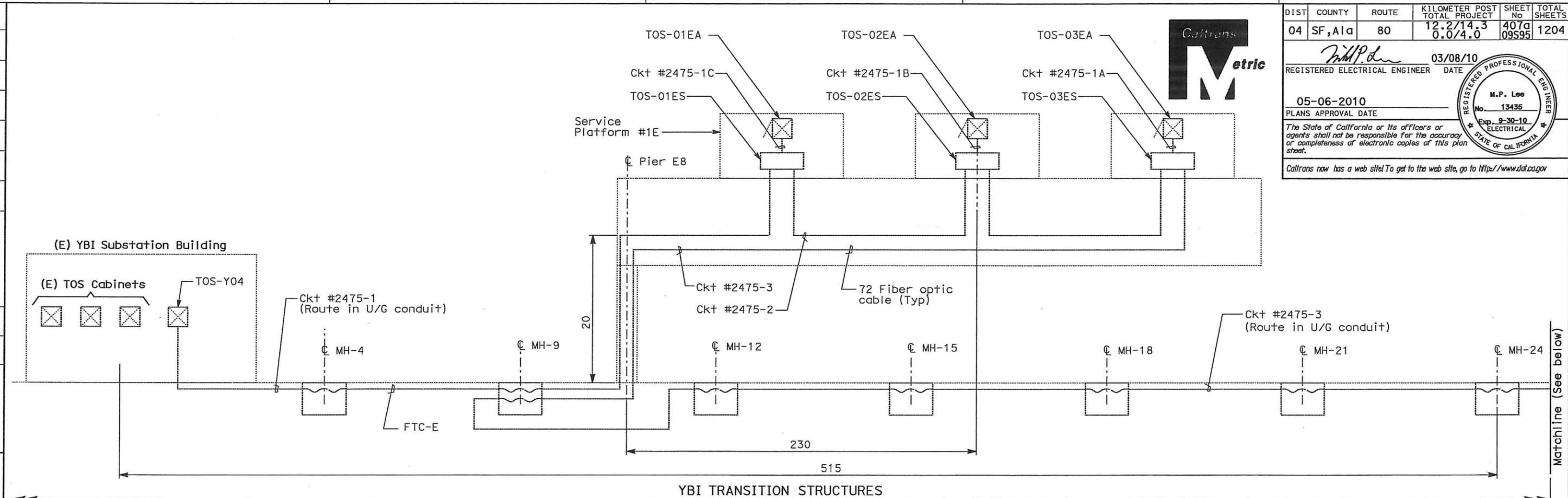
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407d 09595	1204

REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 M.P. Lee
 No. 13435
 Exp. 9-30-10
 ELECTRICAL
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05-06-2010
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03/08/10	MEP INTEGRATION	SYC	ML	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
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CONTRACT CHANGE ORDER NO. 110
 SHEET 243 OF 290

- NOTES:
1. For General Notes, see sheet E-970.
 2. This sheet is shown for reference. No work shown for this Contract Change Order.

DETAILS
TRAFFIC OPERATIONS SYSTEM
TOS FIBER OPTICS RISER DIAGRAM
YBI TRANSITION STRUCTURES AND SAS-EB
 NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

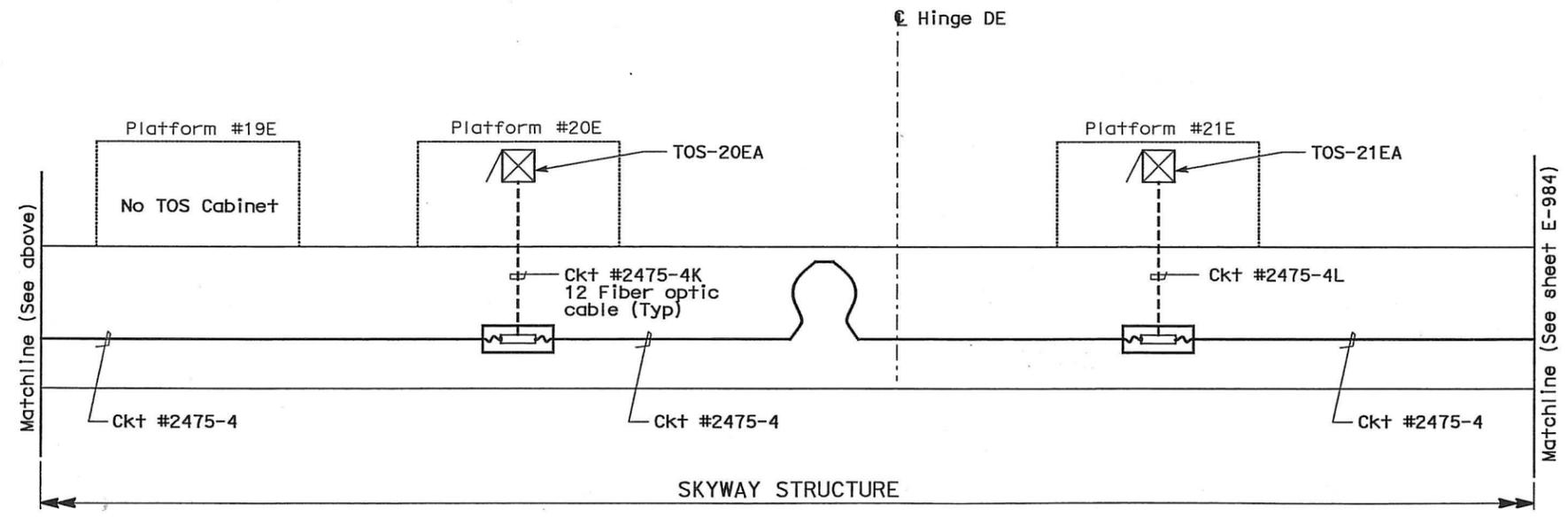
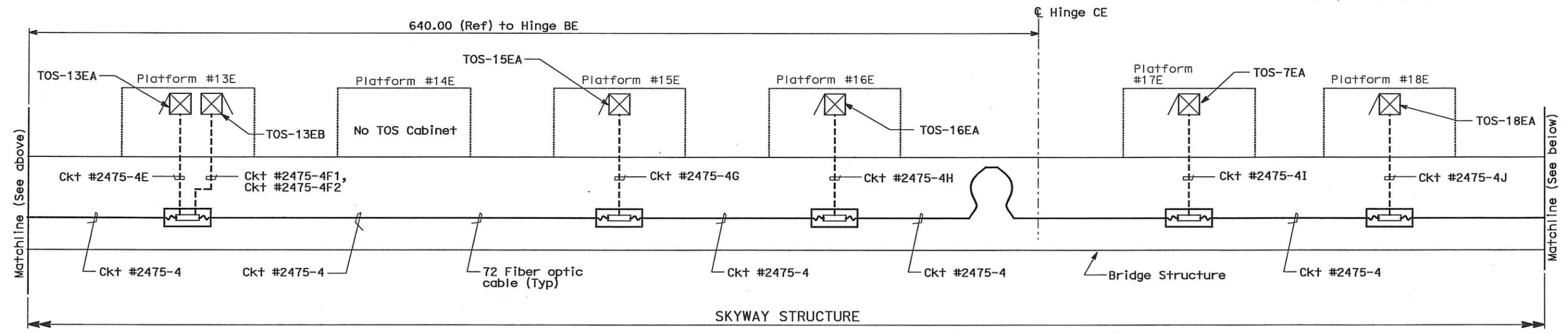
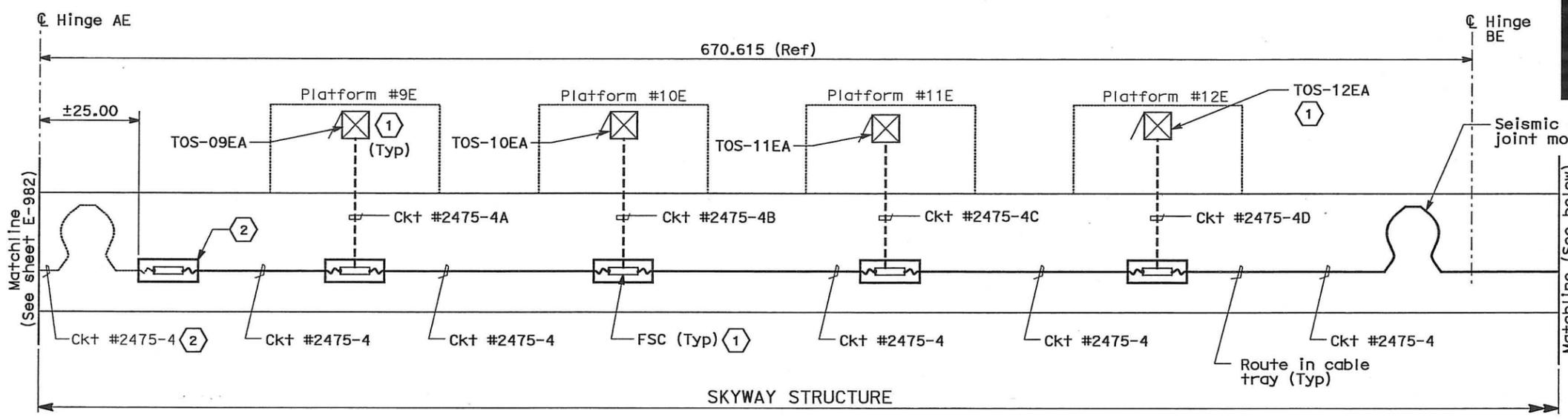
All dimensions are in meters unless otherwise shown.

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Caltrans
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 MICHAEL P. LEE
 DATE REVISIONS
 09/09
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 DATE REVISIONS
 REVISOR
 DATE REVISIONS



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407	1204
			03/08/10			
REGISTERED ELECTRICAL ENGINEER			DATE			
M.P. Lee			No. 13435			
PLANS APPROVAL DATE			Exp. 9-30-10			
ELECTRICAL						
STATE OF CALIFORNIA						

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03/08/10	MEP INTEGRATION	SYC	ML	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 244 OF 290

NOTES:

1. For General Notes, see sheet E-970.

SHEET NOTES:

- ① Contractor shall terminate FPC in TOS cabinet.
- ② The fiber optic splice at this location is based from the existing contract interface. However, the design intent of the fiber optic cable shall be continuous in the entire cable/circuit length. If cable needs to be spliced, use FSC and place FSC in splice cable tray.

DETAILS
TRAFFIC OPERATIONS SYSTEM
TOS FIBER OPTICS RISER DIAGRAM
SKYWAY STRUCTURES-EB
 NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

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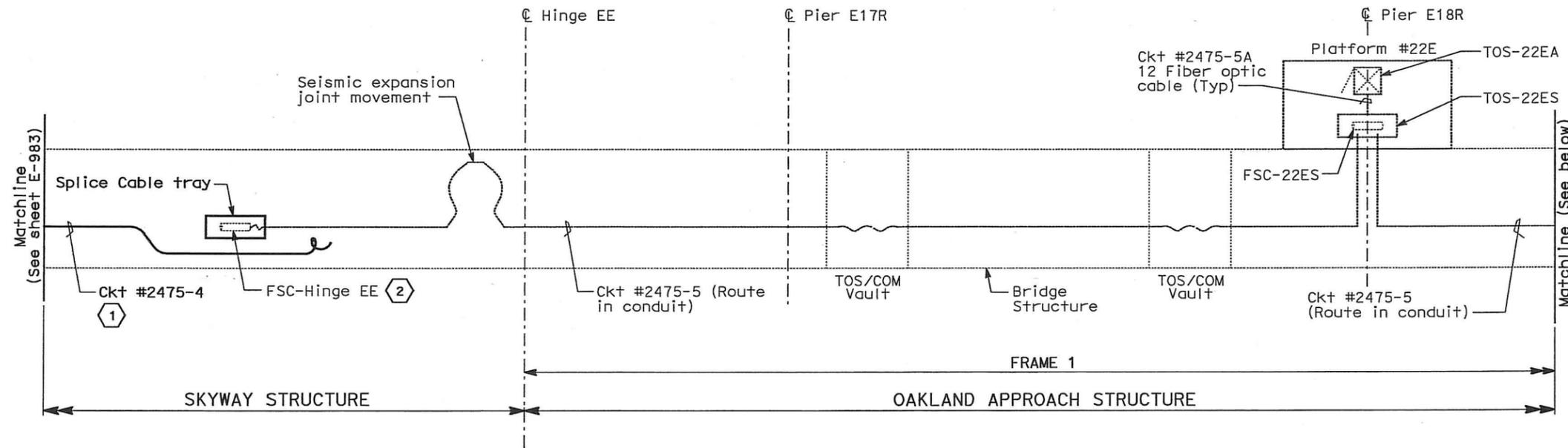
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
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 MICHAEL P. LEE
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISIONS
 ML FW DATE REVISIONS



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST MILE TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
		03/08/10		REGISTERED ELECTRICAL ENGINEER DATE		
		05-06-2010		PLANS APPROVAL DATE		
		M.P. Lee		REGISTERED PROFESSIONAL ENGINEER		
		No. 13435		No. 13435		
		Exp. 9-30-10		ELECTRICAL		
				STATE OF CALIFORNIA		

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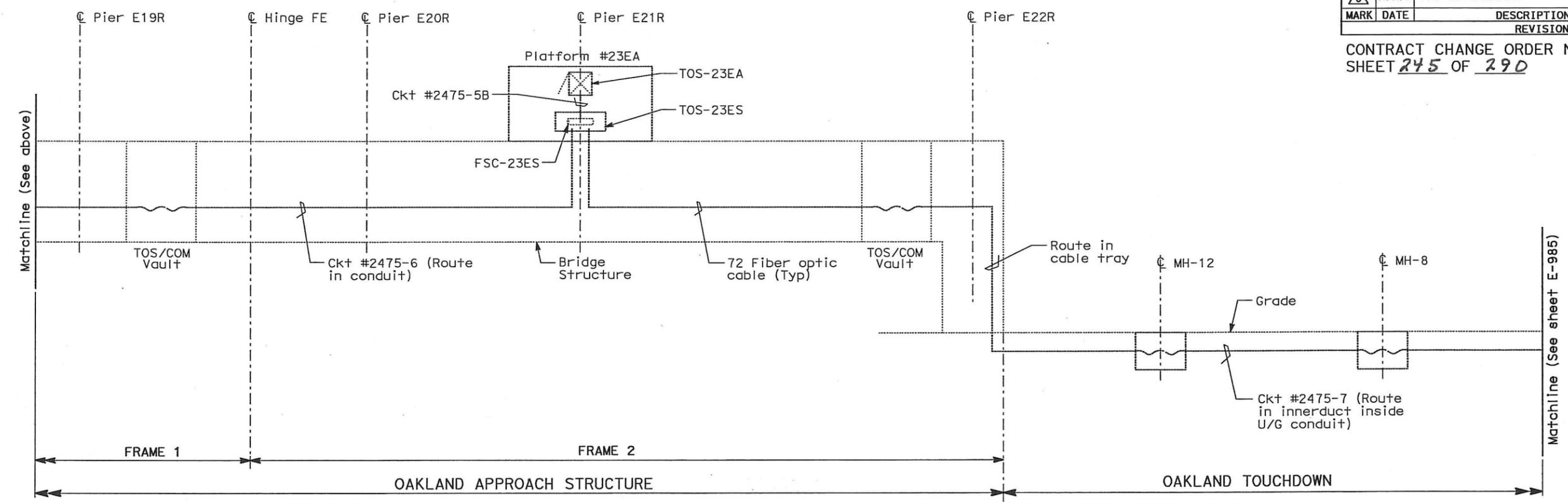


- NOTES:**
- For General Notes, see sheet E-970.
- SHEET NOTES:**
- ① Fiber optic cable in cable tray.
 - ② FSC by others.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
△	03/08/10	MEP INTEGRATION	SYC	ML	110
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 245 OF 290

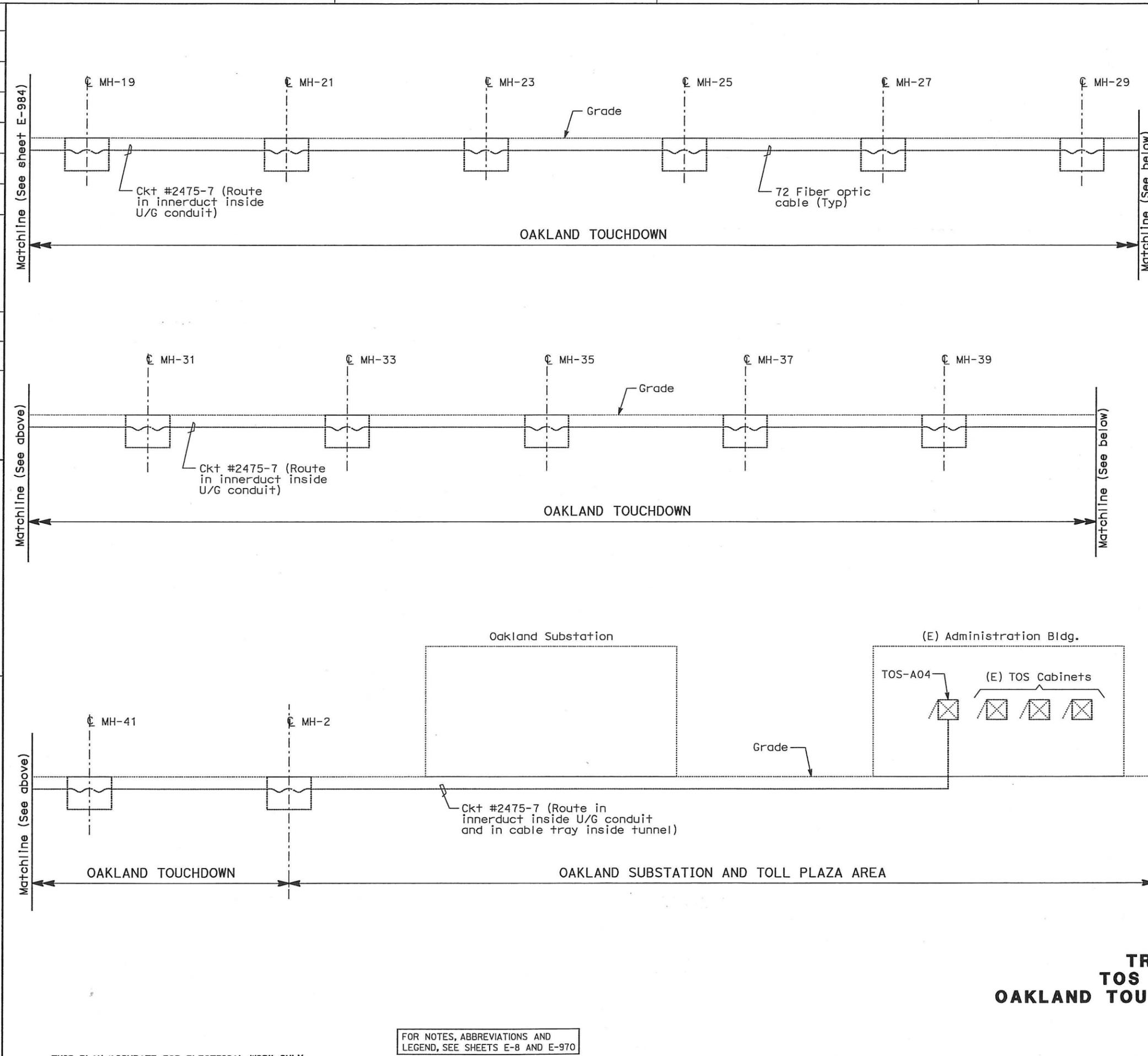


DETAILS
TRAFFIC OPERATIONS SYSTEM
TOS FIBER OPTICS RISER DIAGRAM
SKYWAY AND OAKLAND TOUCHDOWN-EB
 NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

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Caltrans



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407d 09S98	1204

REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 M.P. Lee
 No. 13435
 Exp. 9-30-10
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 ELECTRICAL

05-06-2010
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DESIGNED BY	DATE	REVISOR	DATE
MICHAEL P. LEE	09/09		
CHECKED BY	DATE	REVISOR	DATE
	12/09		

DESIGN OVERSIGHT
 MICHAEL P. LEE

- NOTES:**
- For general notes, see sheet E-970.
 - This sheet is shown for information only. No work shown for this Contract Change Order.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
MARK	DATE	DESCRIPTIONS	BY	CH'D/CCO#
△	03/08/10	MEP INTEGRATION	SYC	ML 110
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 246 OF 290

DETAILS
TRAFFIC OPERATIONS SYSTEM
TOS FIBER OPTICS RISER DIAGRAM
OAKLAND TOUCHDOWN-EB AND OAKLAND SUBSTATION
 NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-8 AND E-970

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans
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 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE 01/10
 REVISOR 01/10
 DATE REVISOR 01/10

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-7	72 Fiber, single mode fiber optic riser cable	323.65
1477-4	72 Fiber, single mode fiber optic riser cable	323.65

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
△	03/08/10	MEP INTEGRATION	SYC	FW	110
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 250 OF 290

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-7	72 Fiber, single mode fiber optic riser cable	323.65
1477-4	72 Fiber, single mode fiber optic riser cable	323.65



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204

Registered Electrical Engineer
 SYN YEE CHIN
 No. 18185
 Exp. 09/30/2011
 STATE OF CALIFORNIA

03/08/10
 PLANS APPROVAL DATE
 05-06-2010

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
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 San Francisco, CA 94107-1317

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EXISTING CONDUIT AND TRAY SCHEDULE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans
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 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE 01/10
 REVISOR BY
 DATE REVISOR



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407d	1204

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
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REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 253 OF 290

Conduit/Tray No: 2545 Reference: E-823A
 Size: 103 Type: RGS conduit
 From: 2544 To: 2546
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System Ground cable is existing.
 Allowable Fill (mm2): 3324.51
 Description of Changes: _____

Included Cable No.	Conductor Type	Area (mm2)
2391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 2546 Reference: E-823A
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2545 To: 2T11
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System Ground cable is existing.
 Allowable Fill (mm2): 3275.44
 Description of Changes: _____

Included Cable No.	Conductor Type	Area (mm2)
2391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 2567 Reference: E-829A
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T41 (on Skyway) To: 2571
 Total Fill (mm2): 323.65 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 3275.44
 Description of Changes: _____

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 2571 Reference: E-829A
 Size: 103 Type: RGS conduit
 From: 2567 To: 2575
 Total Fill (mm2): 323.65 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 3324.51
 Description of Changes: _____

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 2575 Reference: E-829A
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2571 To: 2T42
 Total Fill (mm2): 323.65 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 3275.44
 Description of Changes: _____

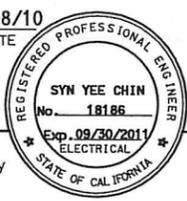
Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

DATE PLOTTED => 05-MAY-2010 LAST REVISION



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
03/08/10 REGISTERED ELECTRICAL ENGINEER DATE					05-06-2010 PLANS APPROVAL DATE	
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317						
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REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE						
03/08/10	MEP INTEGRATION	SYC	FW	110		
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#	
REVISIONS						

CONTRACT CHANGE ORDER NO. 110
SHEET 254 OF 290

Conduit/Tray No: 2593 Reference: E-829A
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T11 To: 2594
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System Ground cable is existing.
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 2594 Reference: E-829A
 Size: 103 Type: RGS conduit
 From: 2593 To: 2595
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System Ground cable is existing.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 2595 Reference: E-829A
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2594 To: 2T12
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System Ground cable is existing.
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 267 Reference: E-634
 Size: 103 Type: RGS conduit
 From: Manhole-2 To: 1T1
 Total Fill (mm2): 647.30 Remarks:
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-7	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1477-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 2T10 Reference: E-800, E-801, E-802, E-803, E-804, E-805, E-823A
 Size: 305 Type: 152 mm siderail ladder tray
 From: Contract Interface @ Hinge AE To: Hinge BE
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System Ground cable is existing.
 Allowable Fill (mm2): 8387.08

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91

**EXISTING
CONDUIT AND TRAY SCHEDULE**

E-1007

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSIGHT
 BEHZAD GOLEHAMMADI
 CALCULATED/DESIGNED BY SYC
 CHECKED BY FW
 DATE 01/10
 REVISOR DATE 01/10
 REVISOR DATE

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION DATE PLOTTED => 25-MAY-2010



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	4070 10509	1204	

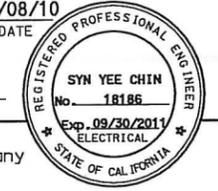
Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 255 OF 290

Conduit/Tray No: 2T11 Reference: E-805 TO E-810, E-823A, E-829A

Size: 305 Type: 152 mm siderail ladder tray

From: Hinge BE To: Hinge CE

Total Fill (mm2): 5896.89 Remarks: Installed in Skyway contract. System Ground cable is existing.

Allowable Fill (mm2): 8387.08

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
2392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91

Conduit/Tray No: 2T12 Reference: E-810 TO E-814, E-829A, E-833A

Size: 305 Type: 152 mm siderail ladder tray

From: Hinge CE To: Hinge DE

Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System Ground cable is existing.

Allowable Fill (mm2): 8387.08

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91

Conduit/Tray No: 2T13 Reference: E-815, E-816, E-833A

Size: 305 Type: 152 mm siderail ladder tray

From: Hinge DE To: Hinge EE Girder Interface

Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System Ground cable is existing.

Allowable Fill (mm2): 8387.08

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91

Conduit/Tray No: 2T40 Reference: E-800, E-801, E-802, E-803, E-804, E-805, E-823A

Size: 305 Type: 152 mm siderail solid bottom tray

From: Contract Interface @ Hinge AE To: Hinge BE

Total Fill (mm2): 5251.25 Remarks: Installed in Skyway and SAS contract. All cables are existing except 72 and 12 Fiber.

Allowable Fill (mm2): 19354.80

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-11	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-12	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-13	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-14	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
2475-4A	12 Fiber, single mode fiber optic cable	30.19
2475-4B	12 Fiber, single mode fiber optic cable	30.19
2475-4C	12 Fiber, single mode fiber optic cable	30.19
2475-4D	12 Fiber, single mode fiber optic cable	30.19

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

E-1008

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSEER: GHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: SYC
 CHECKED BY: FW
 DATE: 03/08/10
 REVISIONS: 03/08/10
 DATE: 03/08/10

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 BEHZAD GOLEMOHAMMADI
 JHT
 DESIGN OVE.
 DATE 01/10/10
 REVISIONS



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 10S10	407a 10S10	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

03/08/10
 DATE

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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03/08/10	MEP INTEGRATION	SYC	FW	110	
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 256 OF 290

Conduit/Tray No: 2T41 Reference: E-805 to E-810, E-823A, E-829A
 Size: 305 Type: 152 mm siderail solid bottom tray
 From: Hinge BE To: Hinge CE
 Total Fill (mm2): 7684.86 Remarks: Installed in Skyway contract. All cables are existing except 72 and 12 Fiber.
 Allowable Fill (mm2): 19354.80

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-14	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-15	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-16	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-17	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-18	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-23	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
2475-4E	12 Fiber, single mode fiber optic cable	30.19
2475-4F1	12 Fiber, single mode fiber optic cable	30.19
2475-4F2	12 Fiber, single mode fiber optic cable	30.19
2475-4G	12 Fiber, single mode fiber optic cable	30.19
2475-4H	12 Fiber, single mode fiber optic cable	30.19

Conduit/Tray No: 2T43 Reference: E-815, E-816
 Size: 305 Type: 152 mm siderail solid bottom tray
 From: Hinge DE To: Hinge EE Girder Interface
 Total Fill (mm2): 1879.20 Remarks: Installed in Skyway contract. All cables are existing except 72 and 12 Fiber.
 Allowable Fill (mm2): 19354.80

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-22	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
2475-4L	12 Fiber, single mode fiber optic cable	30.19

Conduit/Tray No: 2T42 Reference: E-810 to E-814, E-829A, E-833A
 Size: 305 Type: 152 mm siderail solid bottom tray
 From: Hinge CE To: Hinge DE
 Total Fill (mm2): 6422.77 Remarks: Installed in Skyway contract. All cables are existing except 72 and 12 Fiber.
 Allowable Fill (mm2): 19354.80

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-18	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-19	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-20	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-21	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2473-22	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
2475-4I	12 Fiber, single mode fiber optic cable	30.19
2475-4J	12 Fiber, single mode fiber optic cable	30.19
2475-4K	12 Fiber, single mode fiber optic cable	30.19

Conduit/Tray No: 4012 Reference: E-638
 Size: 41 Type: RGS-PVC coated conduit
 From: PB-2B To: Controller Cabinet #TOS-09WA
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 702.80

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4A	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4032 Reference: E-639
 Size: 41 Type: RGS-PVC coated conduit
 From: PB-2B To: Controller Cabinet #TOS-10WA
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 702.80

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4B	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

E-1009

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 BEHZAD GOLEMOHAMMADI
 DESIGN OVE. JHT
 CALCULATED/DESIGNED BY SYC CHECKED BY FW
 DATE 01/10 REVISED BY DATE 01/10
 DATE 01/10 REVISED BY DATE 01/10

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4C1	12 Fiber, single mode fiber optic cable	30.19
1475-4C2	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4C1	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4C2	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4D	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
		REVISIONS		



CONTRACT CHANGE ORDER NO. 110
SHEET 257 OF 290

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET NO	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204

REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 SYN YEE CHIN No. 18186
 PLANS APPROVAL DATE 05-06-2010
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
 Exp. 09/30/2011
 STATE OF CALIFORNIA
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Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4E	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4F	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4G	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

EXISTING CONDUIT AND TRAY SCHEDULE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVE - JHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY SYC
 CHECKED BY FW
 DATE REVISIONS BY DATE REVISIONS

Conduit/Tray No: 4187 Reference: E-649
 Size: 41 Type: RGS-PVC coated conduit
 From: PB-2B To: Controller Cabinet #TOS-17WA
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 702.80
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4H	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4213 Reference: E-650
 Size: 41 Type: RGS-PVC coated conduit
 From: PB-2B To: Controller Cabinet #TOS-18WA
 Total Fill (mm2): 60.38 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 414.28
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4I1	12 Fiber, single mode fiber optic cable	30.19
1475-4I2	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4257 Reference: E-652
 Size: 41 Type: RGS-PVC coated conduit
 From: PB-2B To: Controller Cabinet #TOS-20WA
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 702.80
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4J	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4276 Reference: E-654
 Size: 41 Type: RGS-PVC coated conduit
 From: PB-2B To: Controller Cabinet #TOS-21WA
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 702.80
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4K	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
	03/08/10	MEP INTEGRATION	SYC	FW	110



CONTRACT CHANGE ORDER NO. 110
 SHEET 258 OF 290

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 SYN YEE CHIN
 No. 18188
 Exp. 09/30/2011
 STATE OF CALIFORNIA
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
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Conduit/Tray No: 4302 Reference: E-617, E-656, E-657
 Size: 103 Type: RGS conduit
 From: 15kV Vault @ Pier E17L To: 15kV Vault @ Pier E18L
 Total Fill (mm2): 2780.99 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4315 Reference: E-618, E-657, E-659
 Size: 103 Type: RGS conduit
 From: 15kV Vault @ Pier E18L To: 15kV Vault @ Hinge FW
 Total Fill (mm2): 2780.99 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
Pull Rope	Soft-Fiber Polyester	0.00

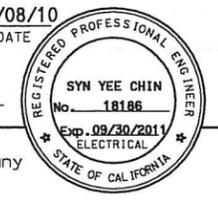
**EXISTING
 CONDUIT AND TRAY SCHEDULE**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY SYC
 CHECKED BY FW
 DATE REVISION 01/10
 DATE REVISION 01/10
 DATE REVISION 01/10



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 10S13	1204

Syn Yee Chin 03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
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03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D/CCO#
		REVISIONS		

CONTRACT CHANGE ORDER NO. 110
 SHEET 259 OF 290

Conduit/Tray No: 4330 Reference: E-618, E-619, E-659, E-660, E-662
 Size: 103 Type: RGS conduit
 From: 15kV Vault @ Hinge FW To: 15kV Vault @ Pier E22L
 Total Fill (mm2): 2780.99 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4364 Reference: E-619, E-620, E-662
 Size: 103 Type: RGS conduit
 From: TOS/COM Vault @ Pier E22L To: 1T25
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-7	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 4370 Reference: E-617, E-656, E-657
 Size: 103 Type: RGS conduit
 From: TOS/COM Vault @ Pier E17L To: TOS/COM Vault @ Pier E18L
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1477-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 4371 Reference: E-618, E-657, E-659
 Size: 103 Type: RGS conduit
 From: TOS/COM Vault @ Pier E18L To: TOS/COM Vault @ Hinge FW
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1477-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 4372 Reference: E-618, E-619, E-659, E-660, E-662
 Size: 103 Type: RGS conduit
 From: TOS/COM Vault @ Hinge FW To: TOS/COM Vault @ Pier E22L
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1477-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

E-1012



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 10S14	1204

Registered Electrical Engineer
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
		REVISIONS		

CONTRACT CHANGE ORDER NO. 110
 SHEET 260 OF 290

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1477-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-6	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-5	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-6	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-5	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

E-1013

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 BEHZAD GOLEMOHAMMADI
 DESIGN OVE. .GHT
 CHECKED BY
 CALCULATED/DESIGNED BY
 DATE 01/10
 REVISOR BY
 DATE 01/10
 REVISOR BY
 DATE 01/10



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSEER: GHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: SYC
 CHECKED BY: FW
 DATE 01/10
 REVISIONS BY: DATE 01/10
 DATE REVISIONS BY: DATE 01/10



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204

Registered Electrical Engineer
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
	03/08/10	MEP INTEGRATION	SYC	FW	110
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 261 OF 290

Conduit/Tray No: 4383 Reference: E-619, E-660, E-662
 Size: 103 Type: RGS conduit
 From: TOS/COM cell @ Pier E21L To: TOS/COM Vault @ Pier E22L
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-7	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 4385 Reference: E-661
 Size: 78 Type: RGS-PVC coated conduit
 From: TOS/COM cell @ Pier E21L To: Splice Cabinet #TOS- 23WS
 Total Fill (mm2): 647.30 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 1935.24
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-6	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1475-7	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 4388 Reference: E-658
 Size: 78 Type: RGS-PVC coated conduit
 From: TOS/COM cell @ Pier E18L To: Splice Cabinet #TOS- 22WS
 Total Fill (mm2): 647.30 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 1935.24
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-5	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1475-6	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 4610 Reference: E-644
 Size: 78 Type: RGS conduit
 From: Stub-up below 1T41 (on Skyway) To: Tel. Terminal Box #TEL-Sub. WB
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-23	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4616 Reference: E-644
 Size: 78 Type: RGS conduit
 From: Stub-up below 1T41 (on Skyway) To: Tel. Terminal Box #TEL-Sub. WB
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-15	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

EXISTING CONDUIT AND TRAY SCHEDULE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVER: JHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: SYC
 CHECKED BY: FW
 DATE REVISION: 0/0/0
 REVISION BY: DATE REVISION: 0/0/0



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204

REGISTERED ELECTRICAL ENGINEER: *Syn Yee Chin*
 DATE: 03/08/10
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 263 OF 290

Conduit/Tray No: 4869 Reference: E-639
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T40 To: Tel. Terminal Box #TEL-10W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-12	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4872 Reference: E-640
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T40 To: PB-2B
 Total Fill (mm2): 60.38 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 1499.81
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4C1	12 Fiber, single mode fiber optic cable	30.19
1475-4C2	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4881 Reference: E-641
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T40 To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4D	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4878 Reference: E-640
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T40 To: Tel. Terminal Box #TEL-11W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-12	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4888 Reference: E-641
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T40 To: Tel. Terminal Box #TEL-12W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-13	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4879 Reference: E-640
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T40 To: Tel. Terminal Box #TEL-11W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-13	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

EXISTING CONDUIT AND TRAY SCHEDULE

E-1016

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVER: JHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: SYC
 CHECKED BY: FW
 DATE REVISION: 0/0/0
 DATE REVIS: 0/0/0



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a 10518	1204

Registered Electrical Engineer: *Syn Yee Chin*
 DATE: 03/08/10
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

05-06-2010
 PLANS APPROVAL DATE

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03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
		REVISIONS		

CONTRACT CHANGE ORDER NO. 110
 SHEET 264 OF 290

Conduit/Tray No: 4889 Reference: E-641
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T40 To: Tel. Terminal Box #TEL-12W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-14	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4892 Reference: E-643
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T41 (on Skyway) To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4E	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4898 Reference: E-643
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T41 (on Skyway) To: Tel. Terminal Box #TEL-13W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-14	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4899 Reference: E-643
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T41 To: Tel. Terminal Box #TEL-13W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-23	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4908 Reference: E-645
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T41 (on Skyway) To: Tel. Terminal Box #TEL-14W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-15	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4909 Reference: E-645
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T41 (on Skyway) To: Tel. Terminal Box #TEL-14W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-16	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

E-1017

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVERSIGHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY SYC
 CHECKED BY FW
 DATE REVISOR BY DATE REVISOR BY DATE REVISOR BY



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a 10S19	1204

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
 05-06-2010
 PLANS APPROVAL DATE
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
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REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
		REVISIONS		

CONTRACT CHANGE ORDER NO. 110
 SHEET 265 OF 290

Conduit/Tray No: 4912 Reference: E-646
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T41 (on Skyway) To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4F	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4918 Reference: E-646
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T41 (on Skyway) To: Tel. Terminal Box #TEL-15W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-16	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4928 Reference: E-647
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T41 (on Skyway) To: Tel. Terminal Box #TEL-16W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-17	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4919 Reference: E-646
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T41 (on Skyway) To: Tel. Terminal Box #TEL-15W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-17	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4929 Reference: E-647
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T41 (on Skyway) To: Tel. Terminal Box #TEL-16W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-18	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4922 Reference: E-647
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T41 (on Skyway) To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4G	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

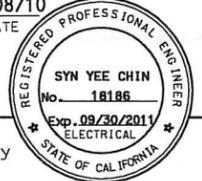
E-1018

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN OVER: JHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: SYC
 CHECKED BY: FW
 DATE 01/10
 REVISIONS BY: DATE
 REVISED BY: DATE
 REVISED BY: DATE



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 10S20	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 03/08/10
 DATE



PLANS APPROVAL DATE: 05-06-2010
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 266 OF 290

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4H	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-18	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-19	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4I1	12 Fiber, single mode fiber optic cable	30.19
1475-4I2	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-19	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-20	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

E-1019

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3 0.0/4.0	407a 10S21	1204



Registered Electrical Engineer
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE

05-06-2010
 PLANS APPROVAL DATE

PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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CONTRACT CHANGE ORDER NO. 110
 SHEET 267 OF 290

Conduit/Tray No: 4958 Reference: E-651
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T42 To: Tel. Terminal Box #TEL-19W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-20	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4959 Reference: E-651
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T42 To: Tel. Terminal Box #TEL-19W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-21	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4962 Reference: E-652
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T42 To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4J	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4968 Reference: E-652
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T42 To: Tel. Terminal Box #TEL-20W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-21	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4969 Reference: E-652
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T42 To: Tel. Terminal Box #TEL-20W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-22	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4972 Reference: E-654
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T43 (on Skyway) To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4K	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE REVISOR BY
 DATE REVISOR BY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN OVER: JHT
 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY SYC
 CHECKED BY FW
 DATE REVISIONS BY DATE REVISIONS BY DATE REVISIONS BY



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST MILE NO.	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407d	1204
					10S22	
					03/08/10	
REGISTERED ELECTRICAL ENGINEER DATE SYN YEE CHIN No. 18186 Exp. 09/30/2011 ELECTRICAL ENGINEER STATE OF CALIFORNIA						
PLANS APPROVAL DATE 05-06-2010 PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317						
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CONTRACT CHANGE ORDER NO. 110
 SHEET 268 OF 290

Conduit/Tray No: 4978 Reference: E-654
 Size: 78 Type: RGS-PVC coated conduit
 From: 1T43 (on Skyway) To: Tel. Terminal Box #TEL-21W
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1473-22	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5011 Reference: E-820
 Size: 41 Type: RGS-PVC coated conduit
 From: PB-2B To: Controller Cabinet #TOS-09EA
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 702.80

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4A	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5031 Reference: E-821
 Size: 41 Type: RGS-PVC coated conduit
 From: PB-2B To: Controller Cabinet #TOS-10EA
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 702.80

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4B	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5051 Reference: E-822
 Size: 41 Type: RGS-PVC coated conduit
 From: PB-2B To: Controller Cabinet #TOS-11EA
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 702.80

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4C	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5097 Reference: E-824
 Size: 27 Type: RGS-PVC coated conduit
 From: Junction Box To: Controller Cabinet #TOS-13EB
 Total Fill (mm2): 60.38 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 177.49

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4F1	12 Fiber, single mode fiber optic cable	30.19
2475-4F2	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5098 Reference: E-824
 Size: 41 Type: RGS-PVC coated conduit
 From: PB-2B To: Junction Box
 Total Fill (mm2): 90.57 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 534.55

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4E	12 Fiber, single mode fiber optic cable	30.19
2475-4F1	12 Fiber, single mode fiber optic cable	30.19
2475-4F2	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

E-1021

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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 CALCULATED/DESIGNED BY SYC
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 DATE REVISIONS
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 10S24	1204

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
Syn Yee Chin
 05-06-2010
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 No. 18186
 SYN YEE CHIN
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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
		REVISIONS			

CONTRACT CHANGE ORDER NO. 110
 SHEET 170 OF 290

Conduit/Tray No: 5852 Reference: E-820
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T40 To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4A	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5859 Reference: E-820
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T40 To: Tel. Terminal Box #TEL-09E
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-11	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5869 Reference: E-821
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T40 To: Tel. Terminal Box #TEL-10E
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-12	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5862 Reference: E-821
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T40 To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4B	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5872 Reference: E-822
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T40 To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4C	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5868 Reference: E-821
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T40 To: Tel. Terminal Box #TEL-10E
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-11	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

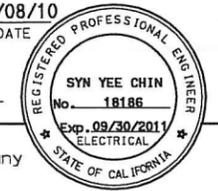
**EXISTING
 CONDUIT AND TRAY SCHEDULE**

E-1023

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 BEHZAD GOLEMOHAMMADI
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 CHECKED BY FW
 CALCULATED/DESIGNED BY SYC
 DATE 03/08/10
 REVISIONS BY DATE



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
SYN YEE CHIN					03/08/10	
REGISTERED ELECTRICAL ENGINEER					DATE	
05-06-2010						
PLANS APPROVAL DATE						
PB AMERICAS, Inc.						
A Parsons Brinckerhoff Company						
303 Second St., Suite 700N						
San Francisco, CA 94107-1317						
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CONTRACT CHANGE ORDER NO. 110
 SHEET 271 OF 290

Conduit/Tray No: 5878 Reference: E-822
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T40 To: Tel. Terminal Box #TEL-11E
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-12	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5879 Reference: E-822
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T40 To: Tel. Terminal Box #TEL-11E
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-13	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5882 Reference: E-823
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T40 To: Wireway #12E
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4D	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5888 Reference: E-823
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T40 To: Tel. Terminal Box #TEL-12E
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-13	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5889 Reference: E-823
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T40 To: Tel. Terminal Box #TEL-12E
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-14	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5891 Reference: E-824
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T41 (on Skyway) To: PB-2B
 Total Fill (mm2): 90.57 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 1935.24

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4E	12 Fiber, single mode fiber optic cable	30.19
2475-4F1	12 Fiber, single mode fiber optic cable	30.19
2475-4F2	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

E-1024

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 BEHZAD GOLEMOHAMMADI
 DESIGN OVER. JHT
 CALCULATED/DESIGNED BY SYC
 CHECKED BY FW
 DATE 01/10
 REVISIONS BY DATE
 DATE 01/10
 REVISIONS BY DATE



THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

Conduit/Tray No: 5898 Reference: E-824
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T41 (on Skyway) To: Tel. Terminal Box #TEL-13E
 Total Fill (mm2): 1201.71 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2473-14	50 pair #18, shielded pairs, IS/OS shield 600 V, XLPE insul., PVC jacket	1201.71
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5912 Reference: E-828
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T41 (on Skyway) To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4G	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5922 Reference: E-829
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T41 (on Skyway) To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4H	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5932 Reference: E-830
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T42 To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4I	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

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CONTRACT CHANGE ORDER NO. 110
 SHEET 272 OF 290



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 10S26	1204

REGISTERED ELECTRICAL ENGINEER DATE 03/08/10
 SYN YEE CHIN No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER

05-06-2010
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

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Conduit/Tray No: 5942 Reference: E-831
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T42 To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4J	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5962 Reference: E-833
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T42 To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4K	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5972 Reference: E-834
 Size: 78 Type: RGS-PVC coated conduit
 From: 2T43 (on Skyway) To: PB-2B
 Total Fill (mm2): 30.19 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 2564.19
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4L	12 Fiber, single mode fiber optic cable	30.19
Pull Rope	Soft-Fiber Polyester	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 10S27	1204
			REGISTERED ELECTRICAL ENGINEER DATE 03/08/10 SYN YEE CHIN No. 18186 Exp. 09/30/2011 STATE OF CALIFORNIA		
05-06-2010 PLANS APPROVAL DATE PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317 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. Caltrans now has a web site! To get to the web site, go to http://www.dot.ca.gov					

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03/08/10	MEP INTEGRATION	SYC	FW	110	
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CONTRACT CHANGE ORDER NO. 110
 SHEET 273 OF 290

Conduit/Tray No: 6302 Reference: E-617, E-656
 Size: 103 Type: RGS conduit
 From: Hinge EW Girder Interface To: 12.47 kV Vault
 Total Fill (mm2): 3115.90 Remarks: Installed in OTD-1 contract. System Ground cable is existing.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
Pull Rope	Soft-Fiber Polyester	0.00
System Ground	500 kcmil, bare copper wire, stranded	334.91

Conduit/Tray No: 6530 Reference: E-642
 Size: 103 Type: Liquidtight flex metal conduit
 From: 1T10 To: 6531
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System Ground cable is existing.
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 6531 Reference: E-642
 Size: 103 Type: RGS conduit
 From: 6530 To: 6532
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System Ground cable is existing.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 6532 Reference: E-642
 Size: 103 Type: Liquidtight flex metal conduit
 From: 6531 To: 1T11
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System Ground cable is existing.
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 6554 Reference: E-642
 Size: 103 Type: Liquidtight flex metal conduit
 From: 1T40 To: 6559
 Total Fill (mm2): 647.30 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1477-3	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 6559 Reference: E-642
 Size: 103 Type: RGS conduit
 From: 6554 To: 6564
 Total Fill (mm2): 647.30 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1477-3	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

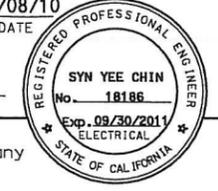
EXISTING CONDUIT AND TRAY SCHEDULE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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DIST	COUNTY	ROUTE	KILOMETER PROJECT TOTAL	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	3	407g 10528	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 03/08/10
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PLANS APPROVAL DATE
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REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 274 OF 290

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1477-3	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1477-3	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

E-1027

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 DATE 01/0
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DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	4070	10S29	1204
			0.0/4.0			

REGISTERED ELECTRICAL ENGINEER: *Syn Yee Chin*
 DATE: 03/08/10
 PLANS APPROVAL DATE: 05-06-2010
 No. 18186
 Exp. 09/30/2011
 ELECTRICAL
 STATE OF CALIFORNIA
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△	03/08/10	MEP INTEGRATION	SYC	FW	110
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 275 OF 290

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1477-3	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1477-3	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: Reference:
 Size: Type:
 From: To:
 Total Fill (mm2): Remarks:
 Allowable Fill (mm2):
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

EXISTING CONDUIT AND TRAY SCHEDULE

E-1028

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DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
			03/08/10			
			REGISTERED ELECTRICAL ENGINEER			
			PLANS APPROVAL DATE			
			05-06-2010			
			No. 18186			
			Exp. 09/30/2011			
			ELECTRICAL			
			STATE OF CALIFORNIA			
SYN YEE CHIN REGISTERED ELECTRICAL ENGINEER No. 18186 Exp. 09/30/2011 STATE OF CALIFORNIA						
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CONTRACT CHANGE ORDER NO. 110
 SHEET 276 OF 290

Conduit/Tray No: 6668 Reference: E-653
 Size: 103 Type: Liquidtight flex metal conduit
 From: 1T42 To: 6673
 Total Fill (mm2): 647.30 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1477-3	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 6673 Reference: E-653
 Size: 103 Type: RGS conduit
 From: 6668 To: 6678
 Total Fill (mm2): 647.30 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1477-3	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 6678 Reference: E-653
 Size: 103 Type: Liquidtight flex metal conduit
 From: 6673 To: 1T43 (on Skyway)
 Total Fill (mm2): 647.30 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
1477-3	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 6700 Reference: E-655
 Size: 103 Type: Liquidtight flex metal conduit
 From: 6937 To: 6701
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System ground cable is existing.
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
Pull Rope	Soft-Fiber Polyester	0.00
System Ground	500 kcmil, bare copper wire, stranded	334.91

Conduit/Tray No: 6701 Reference: E-655
 Size: 103 Type: RGS conduit
 From: 6700 To: Contract Interface @ Hinge EW
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System ground cable is existing.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
Pull Rope	Soft-Fiber Polyester	0.00
System Ground	500 kcmil, bare copper wire, stranded	334.91

EXISTING CONDUIT AND TRAY SCHEDULE

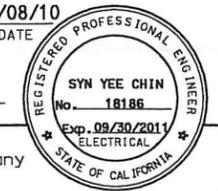
E-1029

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DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 03/08/10
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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
REVISIONS					

CONTRACT CHANGE ORDER NO. 110
 SHEET 277 OF 290

Conduit/Tray No: 6719 Reference: E-655
 Size: 103 Type: RGS conduit
 From: 6972 To: 6724
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-5	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 6720 Reference: E-655
 Size: 103 Type: RGS conduit
 From: 6973 To: 6725
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1477-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 6724 Reference: E-655
 Size: 103 Type: RGS conduit
 From: 6719 To: 6729
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-5	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 6725 Reference: E-655
 Size: 103 Type: RGS conduit
 From: 6720 To: 6730
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1477-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 6729 Reference: E-617, E-656
 Size: 103 Type: RGS conduit
 From: Hinge EW Girder Interface To: TOS/COM Vault
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-5	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

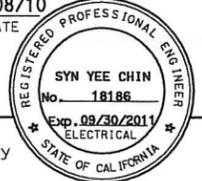
EXISTING CONDUIT AND TRAY SCHEDULE

E-1030

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DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	407a	10332	1204
			0.0/4.0			
			REGISTERED ELECTRICAL ENGINEER SYN YEE CHIN DATE 03/08/10			
			PLANS APPROVAL DATE 05-06-2010			
			PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317			
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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#	
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CONTRACT CHANGE ORDER NO. 110
 SHEET 278 OF 290

Conduit/Tray No: 6730 Reference: E-617, E-656
 Size: 103 Type: RGS conduit
 From: Hinge EW Girder Interface To: TOS/COM Vault
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1477-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 6937 Reference: E-655
 Size: 103 Type: RGS conduit
 From: 15 kV Splice Cable Tray (Hinge EW) To: 6700
 Total Fill (mm2): 3115.90 Remarks: Installed in Skyway contract. System ground cable is existing.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
System Ground	500 kcmil, bare copper wire, stranded	334.91
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 6972 Reference: E-655
 Size: 103 Type: RGS conduit
 From: 1T43 (on Skyway) To: 6719
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-5	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 6973 Reference: E-655
 Size: 103 Type: RGS conduit
 From: 1T43 (on Skyway) To: 6720
 Total Fill (mm2): 323.65 Remarks: Installed in OTD-1 contract.
 Allowable Fill (mm2): 3324.51

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1477-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

Conduit/Tray No: 7897 Reference: E-833A
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T42 To: 7901
 Total Fill (mm2): 323.65 Remarks: Installed in Skyway contract.
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable inside innerduct	323.65
Pull Rope	Soft-Fiber Polyester	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00
Spare Innerduct	25.4mm Smoothwall Innerduct	0.00

**EXISTING
 CONDUIT AND TRAY SCHEDULE**

E-1031

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY SYC
 CHECKED BY FW
 DATE REVISED BY DATE REVISED



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204

03/08/10
 REGISTERED ELECTRICAL ENGINEER DATE
Syn Yee Chin
 05-06-2010
 PLANS APPROVAL DATE
PB AMERICAS, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
 Exp. 09/30/2011
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 No. 18186
 ELECTRICAL
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03/08/10	MEP INTEGRATION	SYC	FW	110
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 280 OF 290

Conduit/Tray No: 2544A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T10 To: 15 KV Splice Cable Tray (Hinge BE)
 Total Fill (mm2): 2780.99 Remarks:
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 2544B Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 15 KV Splice Cable Tray (Hinge BE) To: 2T10
 Total Fill (mm2): 2780.99 Remarks:
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 2593A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T11 To: 15 KV Splice Cable Tray (Hinge CE)
 Total Fill (mm2): 2780.99 Remarks:
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 2593B Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 15 KV Splice Cable Tray (Hinge CE) To: 2T11
 Total Fill (mm2): 2780.99 Remarks:
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2392	3-1/C #4/0, 15 KV, EPR insulation	2780.99
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4852A Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: 1T40 To: TOS Splice Cable Tray (SP#09W)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4852B Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Splice Cable Tray (SP#09W) To: 1T40
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4862A Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: 1T40 To: TOS Splice Cable Tray (SP#10W)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

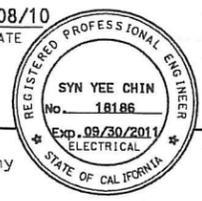
Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

**NEW
 CONDUIT AND TRAY SCHEDULE**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
					03/08/10	
					REGISTERED ELECTRICAL ENGINEER	DATE
					05-06-2010	
					PLANS APPROVAL DATE	
PB AMERICAS, Inc. A Parsons Brinckerhoff Company 303 Second St., Suite 700N San Francisco, CA 94107-1317						
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REVISIONS						

CONTRACT CHANGE ORDER NO. 110
 SHEET 282 OF 290

Conduit/Tray No: 4922A Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: 1T41 To: TOS Splice Cable Tray (SP#16W)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4922B Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Splice Cable Tray (SP#16W) To: 1T41
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4942A Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: 1T42 To: TOS Splice Cable Tray (SP#18W)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4931A Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: 1T42 To: TOS Splice Cable Tray (SP#17W)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4942B Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Splice Cable Tray (SP#18W) To: 1T42
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4931B Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Splice Cable Tray (SP#17W) To: 1T42
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 4962A Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: 1T42 To: TOS Splice Cable Tray (SP#20W)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

NEW CONDUIT AND TRAY SCHEDULE

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION DATE BY COTTER - 3 AC-MAY-2010

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 CHECKED BY
 DATE REVISION
 DATE REVISION
 DATE REVISION



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3	0.0/4.0	407a	1204
					10538	

Registered Electrical Engineer
 Syn Yee Chin
 03/08/10
 DATE
 05-06-2010
 PLANS APPROVAL DATE
 PB AMERICAS, Inc.
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 303 Second St., Suite 700N
 San Francisco, CA 94107-1317
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CONTRACT CHANGE ORDER NO. 110
 SHEET 284 OF 290

Conduit/Tray No: 5862A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T40 To: TOS Splice Cable Tray (SP#10E)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5862B Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Splice Cable Tray (SP#10E) To: 2T40
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5882A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T40 To: TOS Splice Cable Tray (SP#12E)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5872A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T40 To: TOS Splice Cable Tray (SP#11E)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5882B Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Splice Cable Tray (SP#12E) To: 2T40
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5872B Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Splice Cable Tray (SP#11E) To: 2T40
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5891A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T41 To: TOS Splice Cable Tray (SP#13E)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

NEW CONDUIT AND TRAY SCHEDULE

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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 BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY
 CHECKED BY
 DATE 01/10
 REVISED BY
 DATE 01/10
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DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Alameda	80	12.2/14.3	0.0/4.0	407a	1204
					03/08/10	
					REGISTRATION No. 18186	
					PLANS APPROVAL DATE	
					05-06-2010	
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REVISIONS				

CONTRACT CHANGE ORDER NO. 110
 SHEET 286 OF 290

Conduit/Tray No: 5942A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T42 To: TOS Splice Cable Tray (SP#18E)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5942B Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Splice Cable Tray (SP#18E) To: 2T42
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5972A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T43 To: TOS Splice Cable Tray (SP#21E)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5962A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T42 To: TOS Splice Cable Tray (SP#20E)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5972B Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Splice Cable Tray (SP#21E) To: 2T43
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 5962B Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Splice Cable Tray (SP#20E) To: 2T42
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 6502A Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: 1T10 To: 15 kV Splice Cable Tray (Hinge AW)
 Total Fill (mm2): 0.00 Remarks:
 Allowable Fill (mm2): 3275.44

Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
Pull Rope	Soft-Fiber Polyester	0.00

NEW CONDUIT AND TRAY SCHEDULE

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 CALCULATED/DESIGNED BY: DATE 01/10
 CHECKED BY: FW DATE REVISED

Conduit/Tray No: 6973A Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: 1T43 To: TOS Express Splice Cable Tray (Hinge EW)
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1477-3	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 6973B Reference: E-663
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Express Splice Cable Tray (Hinge EW) To: 1T43
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
1477-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 7476A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T40 To: TOS Splice Cable Tray (Hinge AE)
 Total Fill (mm2): 0.00 Remarks:
 Allowable Fill (mm2): 3275.44
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 7476B Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: TOS Splice Cable Tray (Hinge AE) To: 2T40
 Total Fill (mm2): 323.65 Remarks:
 Allowable Fill (mm2): 4339.96
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2475-4	72 Fiber, single mode fiber optic riser cable	323.65
Pull Rope	Soft-Fiber Polyester	0.00

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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
△	03/08/10	MEP INTEGRATION	SYC	FW	110
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CONTRACT CHANGE ORDER NO. 110
 SHEET 289 OF 290



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, Ala	80	12.2/14.3 0.0/4.0	407a 10543	1204

REGISTERED ELECTRICAL ENGINEER
 SYN YEE CHIN
 No. 18186
 Exp. 09/30/2011
 STATE OF CALIFORNIA
 03/08/10
 PLANS APPROVAL DATE
 05-06-2010
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Conduit/Tray No: 7492A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T10 To: 15 kV Splice Cable Tray (Hinge AE)
 Total Fill (mm2): 0.00 Remarks:
 Allowable Fill (mm2): 3275.44
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 7492B Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 15 kV Splice Cable Tray (Hinge AE) To: 2T10
 Total Fill (mm2): 2780.99 Remarks:
 Allowable Fill (mm2): 3275.44
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
2391	3-1/C #4/0, 15 KV, EPR insulation	2780.99
Pull Rope	Soft-Fiber Polyester	0.00

Conduit/Tray No: 7676A Reference: E-836
 Size: 103 Type: Liquidtight flex metal conduit
 From: 2T43 To: TOS Splice Cable Tray (Hinge EE)
 Total Fill (mm2): 0.00 Remarks:
 Allowable Fill (mm2): 3275.44
 Description of Changes:

Included Cable No.	Conductor Type	Area (mm2)
Pull Rope	Soft-Fiber Polyester	0.00

NEW CONDUIT AND TRAY SCHEDULE

