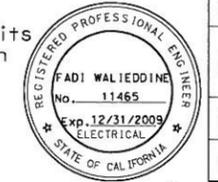
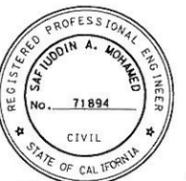
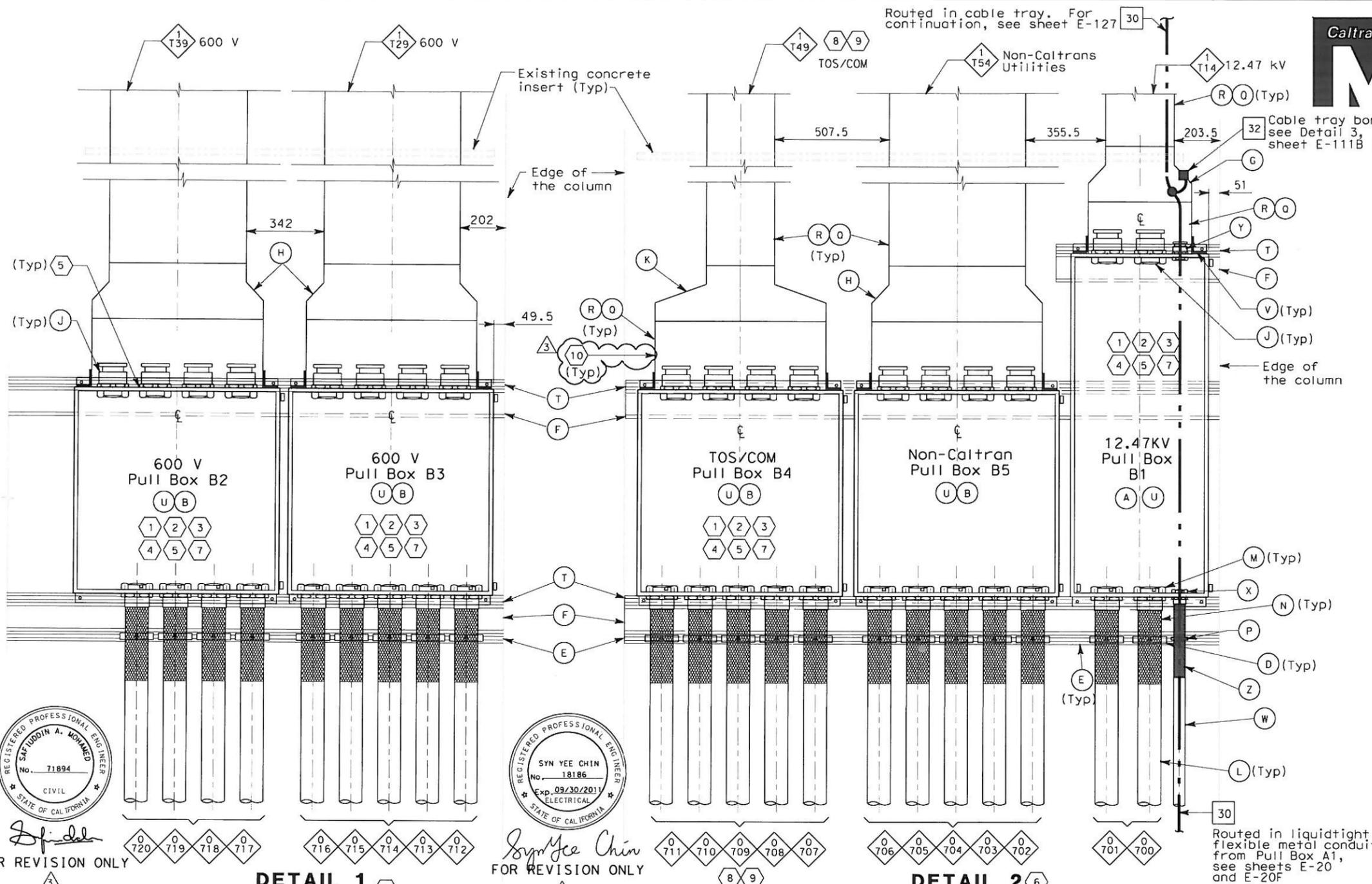


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Caltrans
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 DATE REVISION BY
 7/07 7/07 DATE REVISION
 TW EUL
 CALCULATED/DESIGNED BY
 CHECKED BY



- SHEET NOTES:**
- 1 For Pull Boxes location see E-20.
 - 2 For Pull Box sizes and opening see E-20C.
 - 3 For Pull Box mounting and support see E-20A.
 - 4 Contractor shall verify all the dimensions prior to start the work.
 - 5 To prevent moisture and water from entering enclosures, Contractor to provide sealant after all cables are pulled. Conduits and nipples without cables shall be capped for future use.
 - 6 Detail 1 & Detail 2 see sheet E-20.

- 7 All liquidtight flexible metal conduit (LFMC) shall have #2 AWG bare copper wire inside that bonded to the grounding bushing whether shown on the drawings or not. Bond conduit bushings together and to the metallic enclosures. For similar bonding jumpers, see Details 6 and 7, sheet E-111B.
- 8 Furnish and install 4-25.4 mm innerducts inside TOS/COM conduit (0709) and 1-25.4 mm innerduct per BASE fiber optic cable in TOS/COM cable tray.
- 9 Furnish and install BASE fiber optic cable in innerduct inside TOS/COM conduit and cable tray. See sheet E-1100.
- 10 For vertical cable tray not flush with the pier column wall, Contractor shall provide solid flanged cover on top and bottom of cable tray with approved heavy duty cover clamps.

NOTE:
 1. All cable/cables entering the liquidtight conduits from the pull box shall be provided with strain relief cable/cables grips attached from the vertical cable tray rungs.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
3	02/17/12	CABLE TRAY COVER AT W2	RSB RG	234
2	03/01/11	BASE INTEGRATION	RSB WB	150
1	11/20/09	ELECTRICAL GROUNDING	RR AW RG FW	75
0	02/25/08	CABLE TRAY CHANGES	TW RG SE	4251

CONTRACT CHANGE ORDER NO. **234**
 SHEET **2** OF **7**

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FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS

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 CU 04251 EA 0120F1

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	13.2/13.9		103 S2R3	1204

REGISTERED ELECTRICAL ENGINEER DATE 2/22/08
 S. A. ESTOILE, JR.
 No. E-10151
 Exp. 12/31/2008
 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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MATERIAL LIST	
Item No.	Description
A	Pull Box, Nema 4X 1524 mm x 610 mm x 406 mm
B	Pull Box, Nema 4X 914 mm x 914 mm x 305 mm
C	Not used
D	Strut channel conduit clamp for 103 mm
E	Double strut channel 41 mm x 124 mm
F	Channel C130x10
G	Cable tray straight reducer (547 mm to 305 mm)
H	Cable tray straight reducer (762 mm to 610 mm)
J	103 mm conduit hub, 53 mm long nipple and insulated bushing
K	Cable tray straight reducer (762 mm to 305 mm)
L	Liquidtight flexible metal conduit, 103 mm
M	Liquidtight Insulated flexible metal conduit connector with insulated grounding bushing for 103 mm conduit
N	Strain relief grips for flexible conduit, 103 mm
P	Strut channel conduit clamp for 53 mm
Q	Cable tray, ladder type
R	Cable tray solid flanged cover and cover clamp
T	Strut channel 41 mm x 41 mm
U	Breather and Drain Hole
V	Tray to box connector plates
W	Liquidtight flexible metal conduit, 53 mm
X	Liquidtight Insulated flexible metal conduit connector with insulated grounding bushing for 53 mm conduit
Y	53 mm conduit hub, 53 mm long nipple and insulated bushing
Z	Strain relief grips for flexible conduit, 53 mm

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DETAILS UNDERGROUND PIER W2W PLANS AND SECTIONS
 SCALE AS NOTED

E-20B

DATE PLOTTED => 2/16/2012
 TIME PLOTTED => 10:52:19 AM
 LAST REVISION



DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	13.2/13.9		104 S2R2	1204

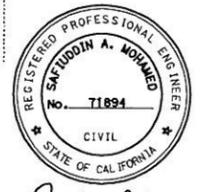
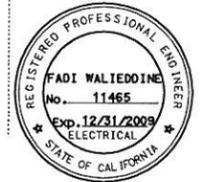
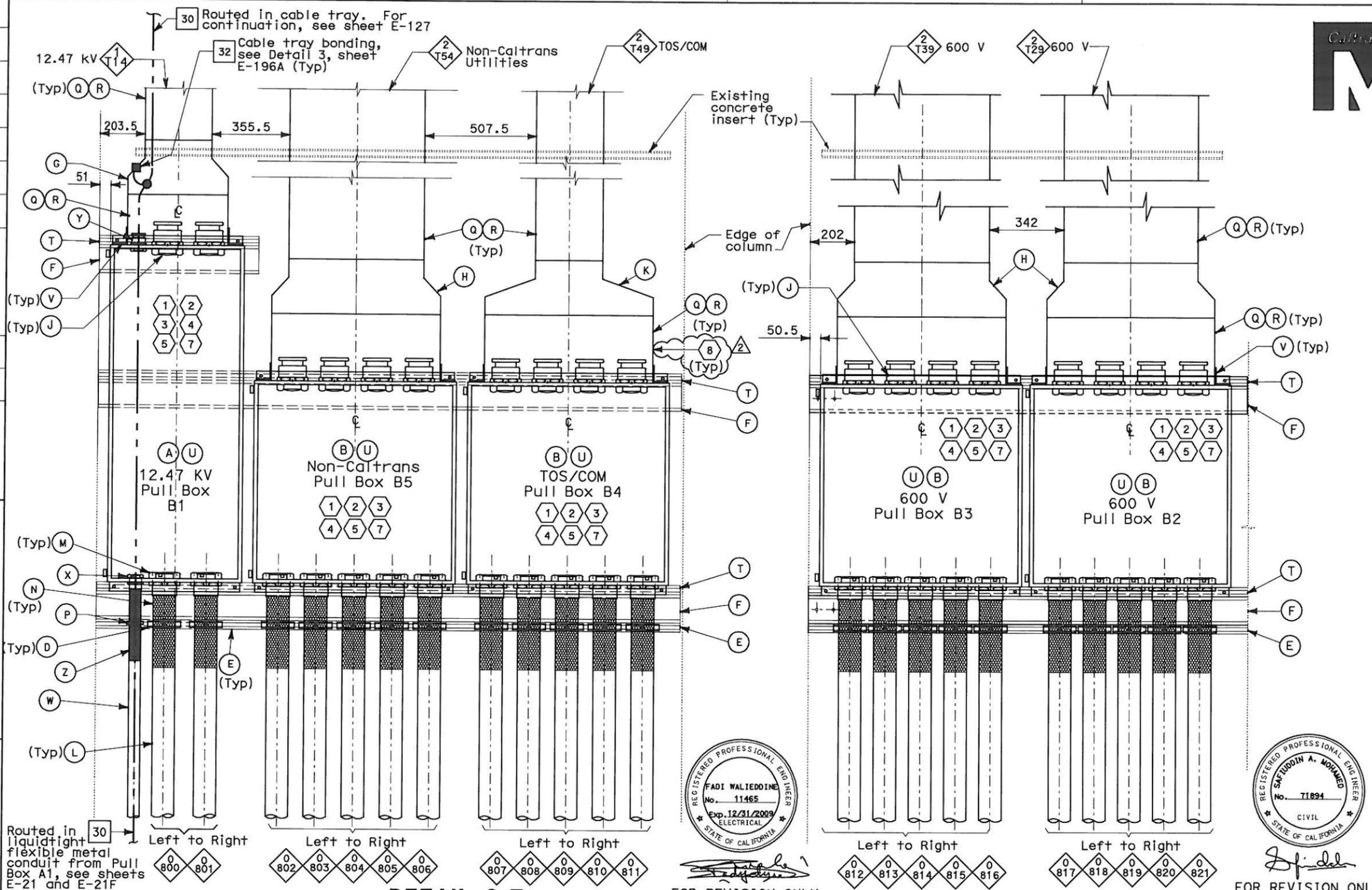
REGISTERED ELECTRICAL ENGINEER DATE 2/22/08



PLANS APPROVAL DATE
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MATERIAL LIST	
Item No.	Description
A	Pull Box, Nema 4X 1524 mm x 610 mm x 406 mm
B	Pull Box, Nema 4X 914 mm x 914 mm x 305 mm
C	Not used
D	Strut channel conduit clamp for 103 mm
E	Double strut channel 41 mm x 124 mm
F	Channel C130x10
G	Cable tray straight reducer (547 mm to 305 mm)
H	Cable tray straight reducer (762 mm to 610 mm)
J	103 mm conduit hub, 53 mm long nipple and insulated bushing
K	Cable tray straight reducer (762 mm to 305 mm)
L	Liquidtight flexible metal conduit, 103 mm
M	Liquidtight Insulated flexible metal conduit connector with insulated grounding bushing for 103 mm conduit
N	Strain relief grips for flexible conduit, 103 mm
P	Strut channel conduit clamp for 53 mm
Q	Cable tray, ladder type
R	Cable tray solid flanged cover and cover clamp
T	Strut channel 41 mm x 41 mm
U	Breather and Drain Hole
V	Tray to box connector plates
W	Liquidtight flexible metal conduit, 53 mm
X	Liquidtight Insulated flexible metal conduit connector with insulated grounding bushing for 53 mm conduit
Y	53 mm conduit hub, 53 mm long nipple and insulated bushing
Z	Strain relief grips for flexible conduit, 53 mm



DETAIL 2
NO SCALE

DETAIL 1
NO SCALE

NOTE:

1. All cable/cables entering the liquidtight conduits from the pull box shall be provided with strain relief cable/cables grips attached from inside the pull box.

SHEET NOTES:

- ① For Pull Boxes location see E-21.
- ② For Pull Box sizes and opening see E-21C.
- ③ For Pull Box mounting and support see E-21A.
- ④ Contractor shall verify all the dimensions prior to start the work.

- ⑤ To prevent moisture and water from entering enclosures, Contractor to provide sealant after all cables are pulled. Conduit and nipples without cables shall be capped for future use.
- ⑥ Detail 1 and Detail 2 see sheet E-21.
- ⑦ All liquidtight flexible metal conduit (LFMC) shall have #2 AWG bare copper wire inside that bonded to the grounding bushing whether shown on the drawings or not. Bond conduit bushings together and to the metallic enclosures. For similar bonding jumpers, see Details 6 and 7, sheet E-196A.

⑧ For vertical cable tray not flush with the pier column wall, Contractor shall provide solid flanged cover on top and bottom of cable tray with approved heavy duty cover clamps.

REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
△	02/17/12	CABLE TRAY COVER AT W2	RSB	RG 234
△	11/20/09	ELECTRICAL GROUNDING	RR AWG	RG FW 75
△	02/25/08	CABLE TRAY CHANGES	TW	RG SE 42S1

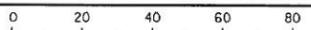
CONTRACT CHANGE ORDER NO. **234**
 SHEET **3** OF **7**

DETAILS UNDERGROUND PIER W2E PLANS AND SECTIONS
SCALE AS NOTED

E-21B

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CU 04251

EA 0120F1

DATE PLOTTED => 15-FEB-2012
TIME PLOTTED => 15:50
LAST REVISION 00-00-00

DRAFT 1 (03/01/11)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

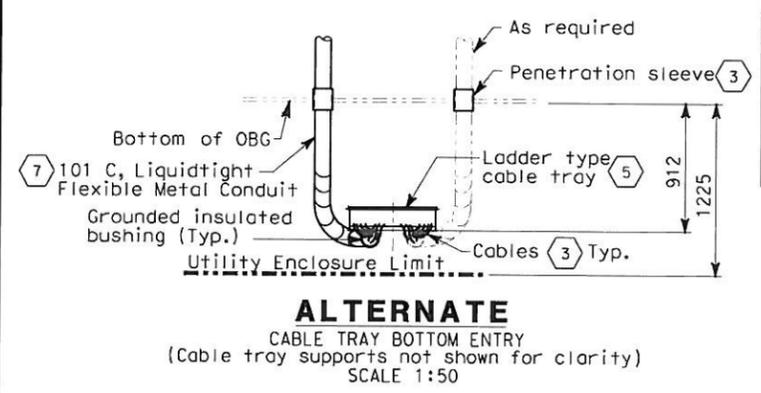
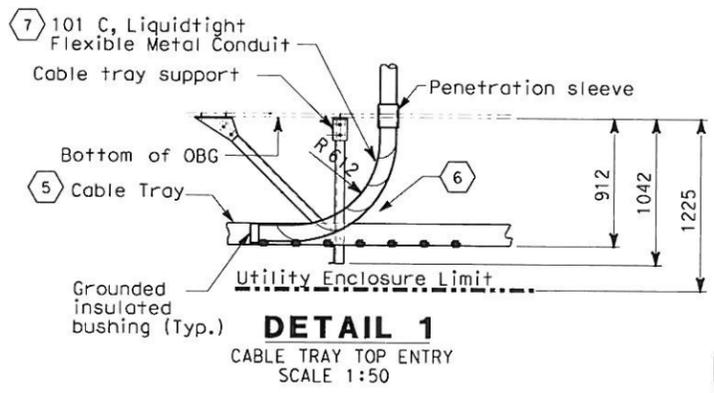
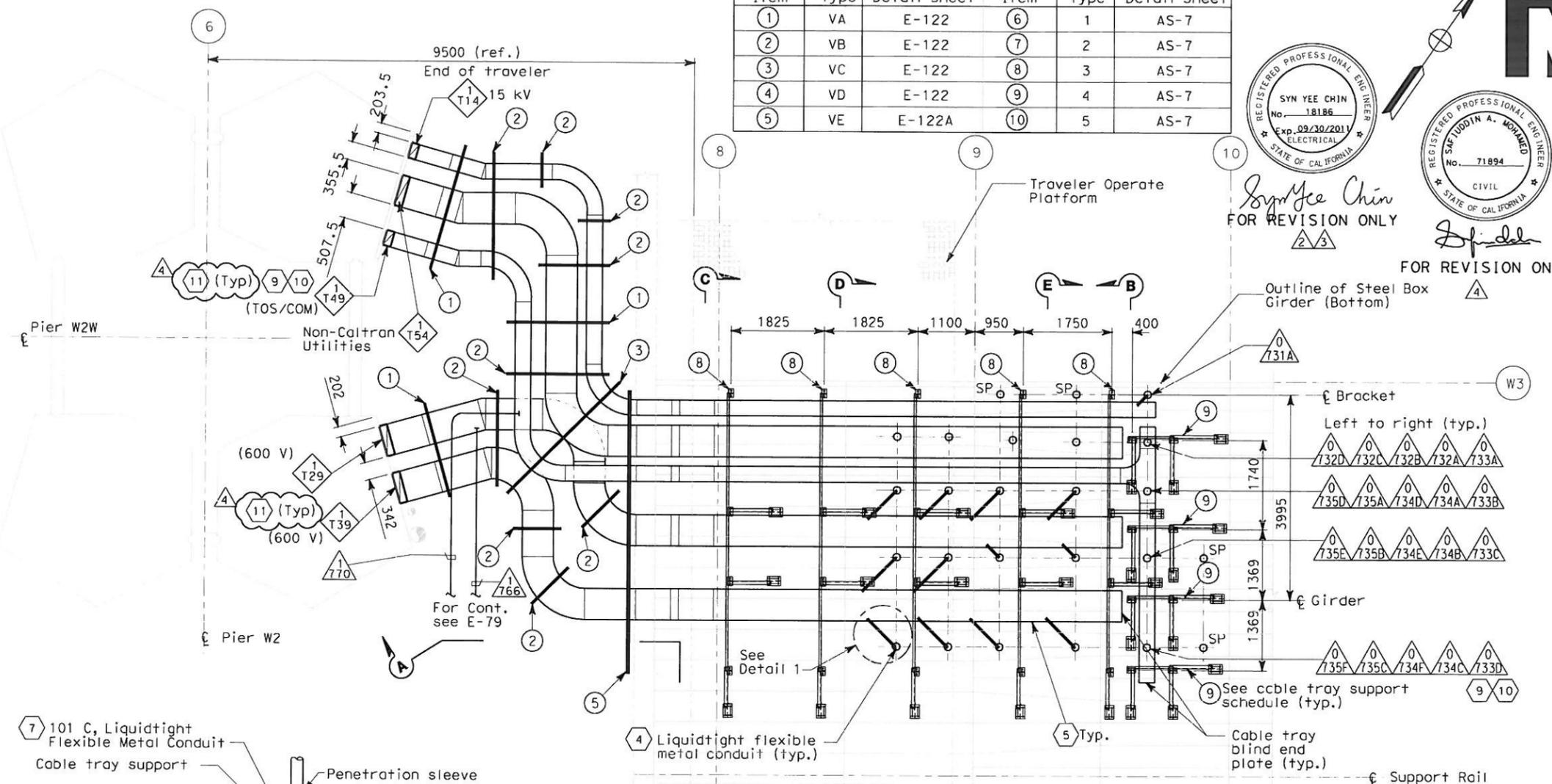


DESIGN OVERSIGHT

BEHZAD GOLEMOHAMMADI

REVISOR: DATE, REVISION, CHECKED BY, DESIGNED BY, CALCULATED BY

CABLE TRAY SUPPORT SCHEDULE					
Item	Type	Detail Sheet	Item	Type	Detail Sheet
1	VA	E-122	6	1	AS-7
2	VB	E-122	7	2	AS-7
3	VC	E-122	8	3	AS-7
4	VD	E-122	9	4	AS-7
5	VE	E-122A	10	5	AS-7



REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE				
MARK	DATE	DESCRIPTIONS	BY	CH'D CCO#
4	02/17/12	CABLE TRAY COVER AT W2	RSB	RG 234
3	03/01/11	BASE INTEGRATION	RSB	WB 150
2	03/26/10	DEHUMIDIFIER SCADA INTERFACE	RR	RG FW 130
1	02/25/08	CABLE TRAY CHANGES	RG	SE 42S1

CONTRACT CHANGE ORDER NO. **234**
SHEET **4** OF **7**

**PARTIAL GIRDER PLAN
CABLE TRAY LAYOUT**
SCALE 1:50

**DETAILS
SAS SUPERSTRUCTURE GIRDER WESTBOUND
TYPICAL TRAY AND CONDUIT INSTALLATION AT PIER W2W**
SCALE AS NOTED

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	13.2/13.9	178	R4	1204

REGISTERED ELECTRICAL ENGINEER DATE 12/19/02
12-6-04
PLANS APPROVAL DATE
PB POWER, Inc.
A Parsons Brinckerhoff Company
303 Second St., Suite 700N
San Francisco, CA 94107-1317

REGISTERED PROFESSIONAL ENGINEER
JENS ERLINGSSON
No. 8249
Exp. 9/30/06
ELECTRICAL
STATE OF CALIFORNIA

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- SHEET NOTES:**
- For cable tray supports details, see Cable Tray Support Schedule table.
 - Cable trays shall be as specified per specification unless noted otherwise.
 - Cable and location of penetrations thru girder plate, see Utility Detail No. 1 and Utility Layout respectively of Superstructure and Tower Drawings. To prevent moisture from entering girder, contractor to seal the space between sleeves and conduit. Spare pipe sleeves shall be provided with threaded cap at exterior end.
 - For continuation of conduit to cable trays inside OBG see E-126A.
 - Cable trays shall be anchored to supports and shall have solid cover with heavy duty cover clamps.
 - Install neoprene rubber around cable tray cover opening for protection to liquidtight flexible metal conduits as it enter the cable tray. Seal opening as needed.
 - Liquidtight flexible metal conduits shall be anchored to supports or cable trays.
 - Contractor may adjust the location of cable tray supports below W2 Pier Cap Beam to suit field condition and provide additional seismic bracing as required.
 - Furnish and install 4-25.4 mm innerducts inside TOS/COM conduit (0733D) and 1-25.4 mm innerduct per BASE fiber optic cable in TOS/COM cable tray.
 - Furnish and install BASE fiber optic cable in innerduct inside TOS/COM conduit and cable tray. See sheet E-1100.

11 All cable tray under the girder shall have peaked flanged cover on top and solid flanged cover at the bottom. Vertical cable tray on the column shall have solid flanged cover on top and no cover at the bottom except when cable tray is not flush with the pier column. Contractor shall provide solid flanged cover on top and bottom of cable tray. Approved heavy duty cover clamps shall be used as required.

- NOTES:**
- References:
- For circuit and conduit/cable tray schedules, see sheets starting at E-401.
- For locations of cable tray support embeds, see AS sheets.
 - For other related work, not shown on this sheet, see Electrical Special Provisions.
 - For actual conduit locations, see girder level, cable tray and conduits plans. See sheets E-96 thru E-101.
 - For cable tray support, embedded unistrut, and cable tray locations are shown in scaled locations.

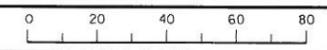
REGISTERED PROFESSIONAL ENGINEER
MUSKEL FUMIO TAKKI
No. E 8651
Exp. 9/30/2010
ELECTRICAL
STATE OF CALIFORNIA

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CU 04251
EA 0120F1

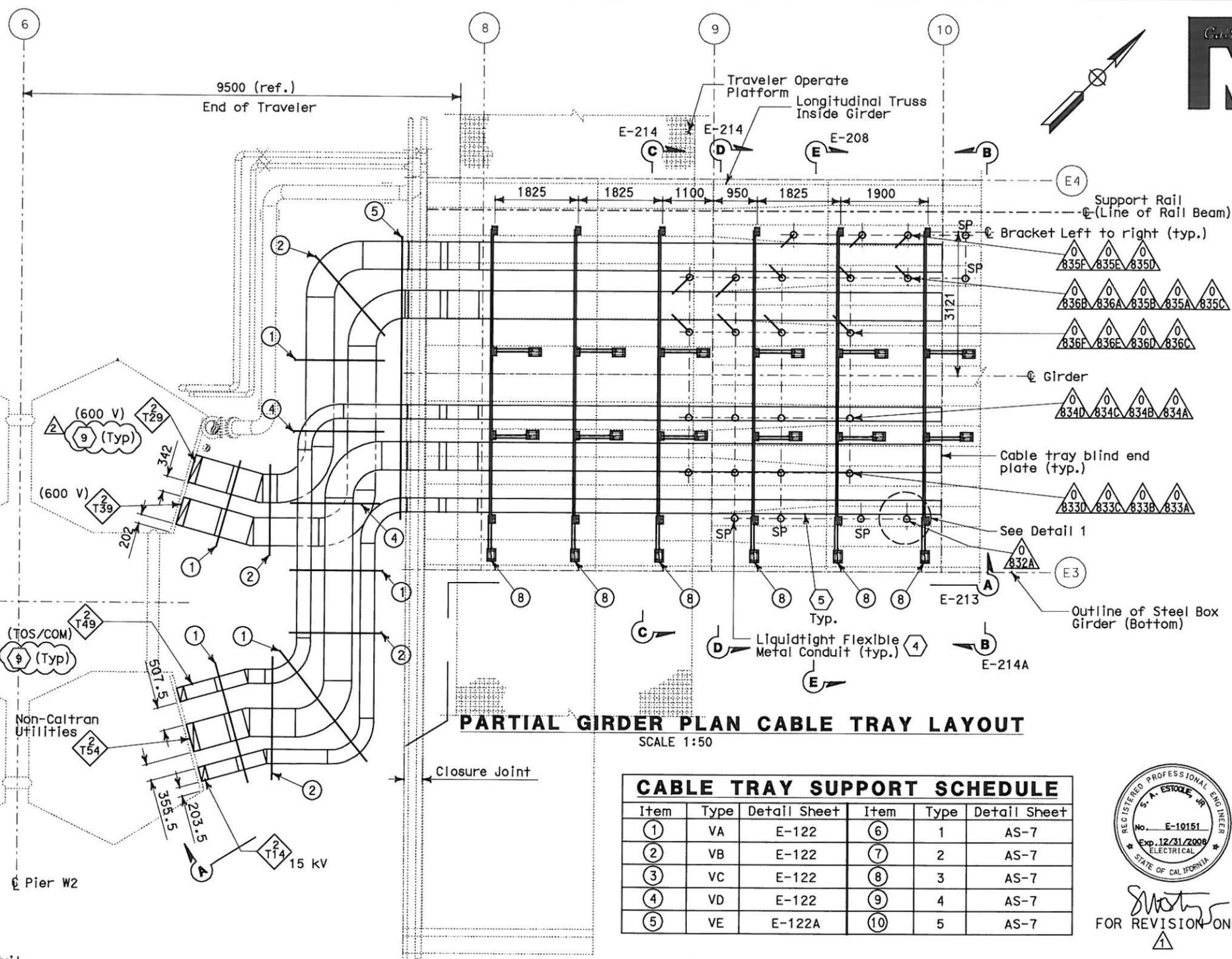
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LAST REVISION 00-00-00

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	13.2/13.9	235 R2	1204

12/19/02
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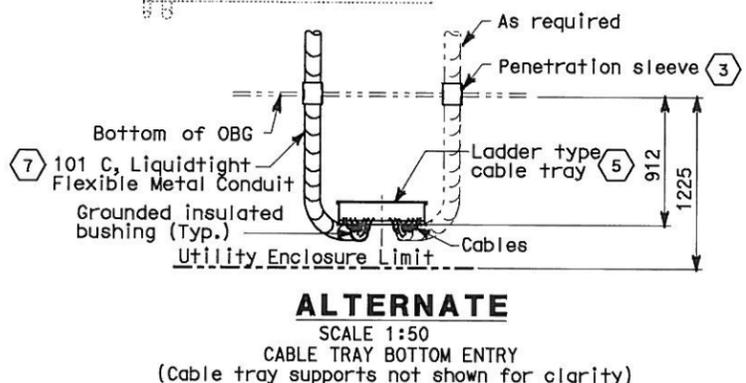
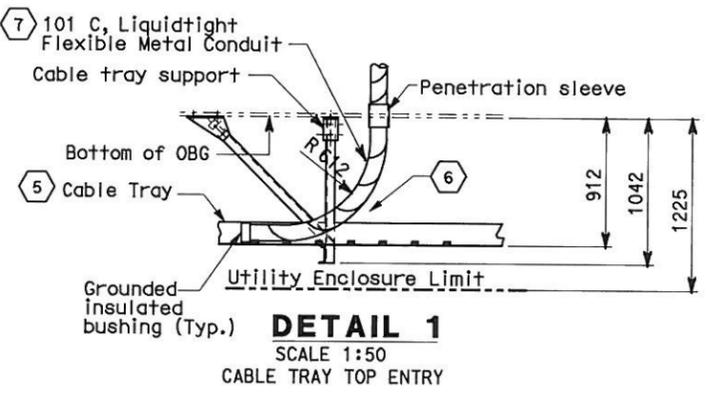
- SHEET NOTES:**
- For cable tray supports details, see Cable Tray Support Schedule table.
 - Cable trays shall be as specified per specification unless noted otherwise.
 - Cable and location of penetrations thru girder plate, see Utility Detail No. 1 and Utility Layout respectively of Superstructure and Tower Drawings. To prevent moisture from entering girder, contractor to seal the space between sleeves and conduits. Spare pipe sleeves shall be provided with threaded cap at exterior end.
 - For continuation of conduit to cable trays inside OBG see E-212A.
 - Cable trays shall be anchored to supports and shall have solid cover with heavy duty cover clamps.
 - Install neoprene rubber around cable tray cover opening for protection to liquidtight flexible metal conduits as it enter the cable tray. Seal opening as needed.
 - Liquidtight flexible metal conduits shall be anchored to supports or cable trays.
 - Contractor may adjust the location of cable tray supports below W2 Pier Cap Beam to suit field condition and provide additional seismic bracing as required.
 - All cable tray under the girder shall have peaked flanged cover on top and solid flanged cover at the bottom. Vertical cable tray on the column shall have solid flanged cover on top and no cover at the bottom, except when cable tray is not flush with the pier column, Contractor shall provide solid flanged cover on top and bottom of cable tray. Approved heavy duty cover clamps shall be used as required.

CABLE TRAY SUPPORT SCHEDULE

Item	Type	Detail Sheet	Item	Type	Detail Sheet
1	VA	E-122	6	1	AS-7
2	VB	E-122	7	2	AS-7
3	VC	E-122	8	3	AS-7
4	VD	E-122	9	4	AS-7
5	VE	E-122A	10	5	AS-7



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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
2	02/17/12	CABLE TRAY COVER AT W2	RSB	RG	234
1	02/25/08	CABLE TRAY CHANGES	RG	SE	4251

CONTRACT CHANGE ORDER NO. 234
SHEET 6 OF 7

DETAILS
SAS SUPERSTRUCTURE GIRDER EASTBOUND
TYPICAL CABLE TRAY AND CONDUIT INSTALLATION AT PIER W2E
SCALE AS NOTED

E-212

DATE PLOTTED => 15-FEB-2012
TIME PLOTTED => 15:50
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 CALCULATED/DESIGNED BY EDC
 CHECKED BY CYF
 DATE REVISION 08/02
 DATE REVISION 08/02

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Caltrans
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 BEHZAD GOLEMOHAMMADI
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 CHECKED BY
 DATE REVISED BY
 DATE REVISED
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 3/04

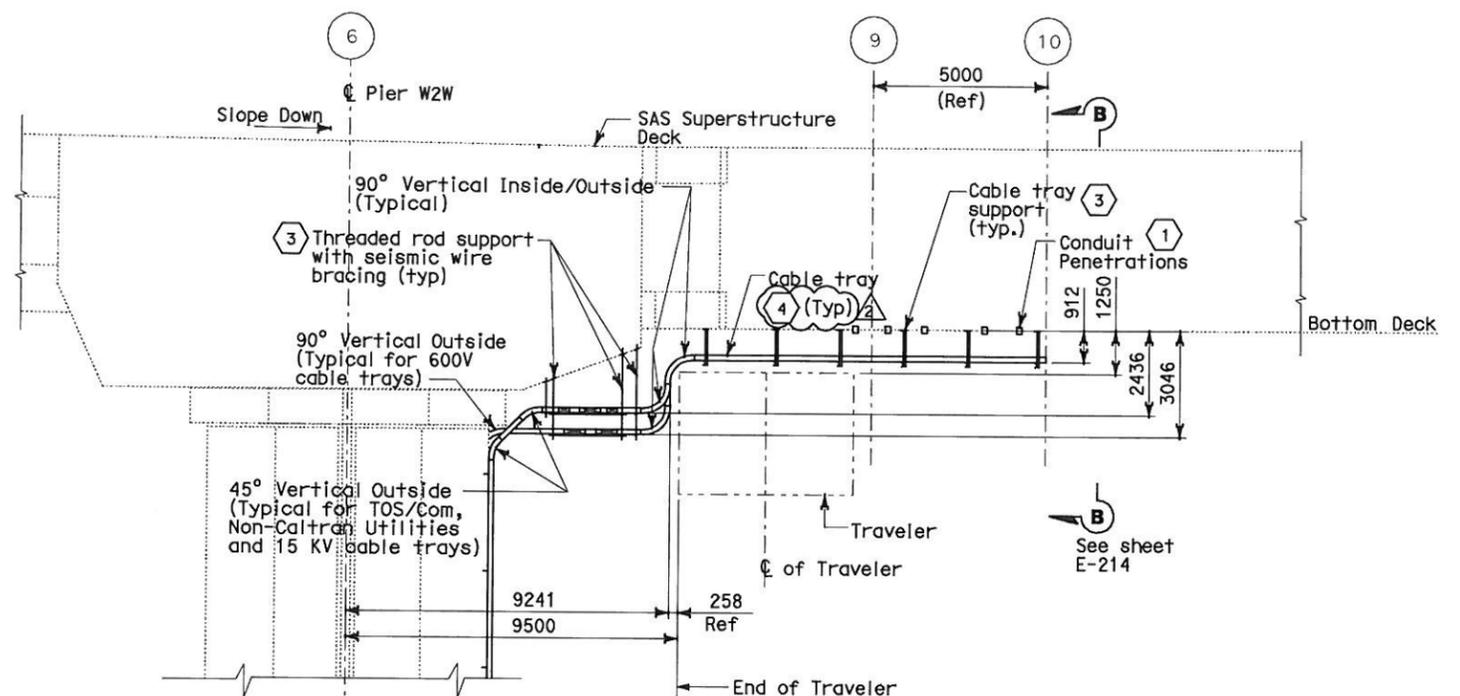


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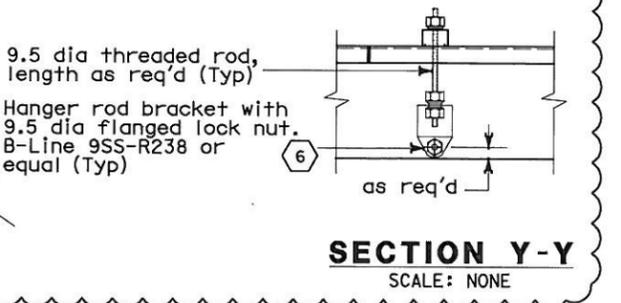
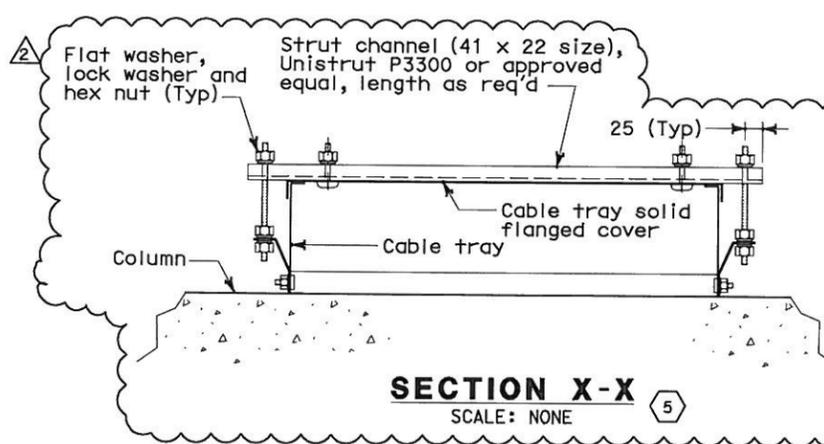
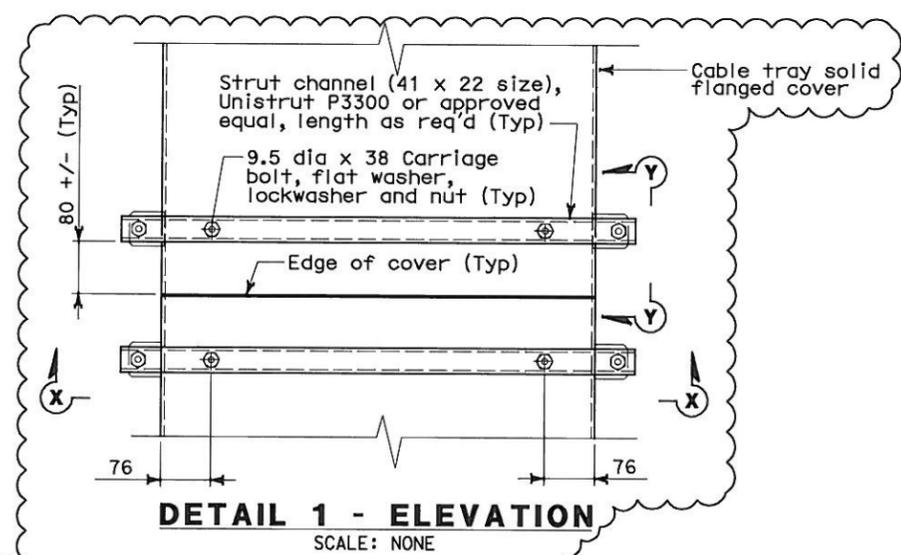
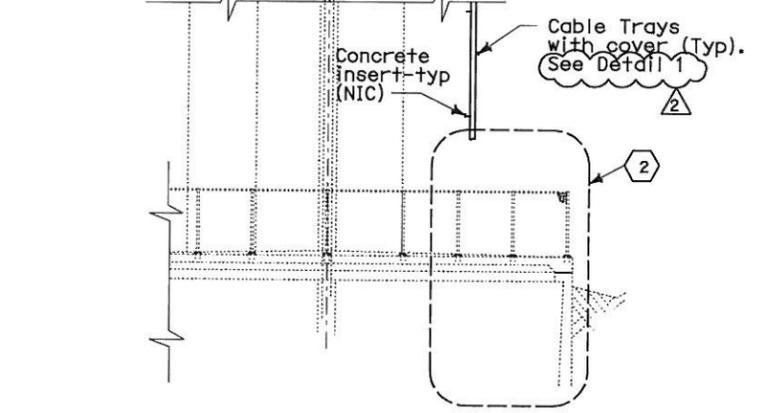
12/19/02
 REGISTERED ELECTRICAL ENGINEER DATE
Jens Erlingsson
 REGISTERED PROFESSIONAL ENGINEER
 JENS ERLINGSSON
 No. 8249
 Exp. 9/30/06
 ELECTRICAL
 STATE OF CALIFORNIA

12-6-04
 PLANS APPROVAL DATE
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- SHEET NOTES:**
- ① See sheet E-212 for location.
 - ② For Pier W2E details, see sheet E-21, E-21E and E-21F.
 - ③ For cable tray support type and location, see sheet E-212.
 - ④ All cable tray under the girder shall have peaked flanged cover on top and solid flanged cover at the bottom with approved heavy duty cover clamps. Vertical cable tray run on the column shall have solid flanged cover on top and no cover at the bottom except where cable tray is not flush with the columns.
 - ⑤ All hardware shall be 316 stainless steel.
 - ⑥ Contractor shall install the hanger rod bracket clear from the existing cable tray supports and concrete inserts.



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MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
②	02/17/12	CABLE TRAY COVER AT W2	RSB	RG	234
①	02/25/08	CABLE TRAY CHANGES	RG	SE	4251

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

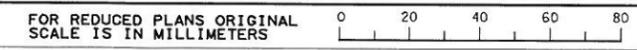
CONTRACT CHANGE ORDER NO. **234**
 SHEET **7** OF **7**

DETAILS
SAS SUPERSTRUCTURE GIRDER EASTBOUND
PIER W2E SECTION AND PLANS
 SCALE AS NOTED

E-213

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 USERNAME => jlorico

CU 04251

EA 0120F1

DATE PLOTTED => 15-FEB-2012
 TIME PLOTTED => 15:50
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