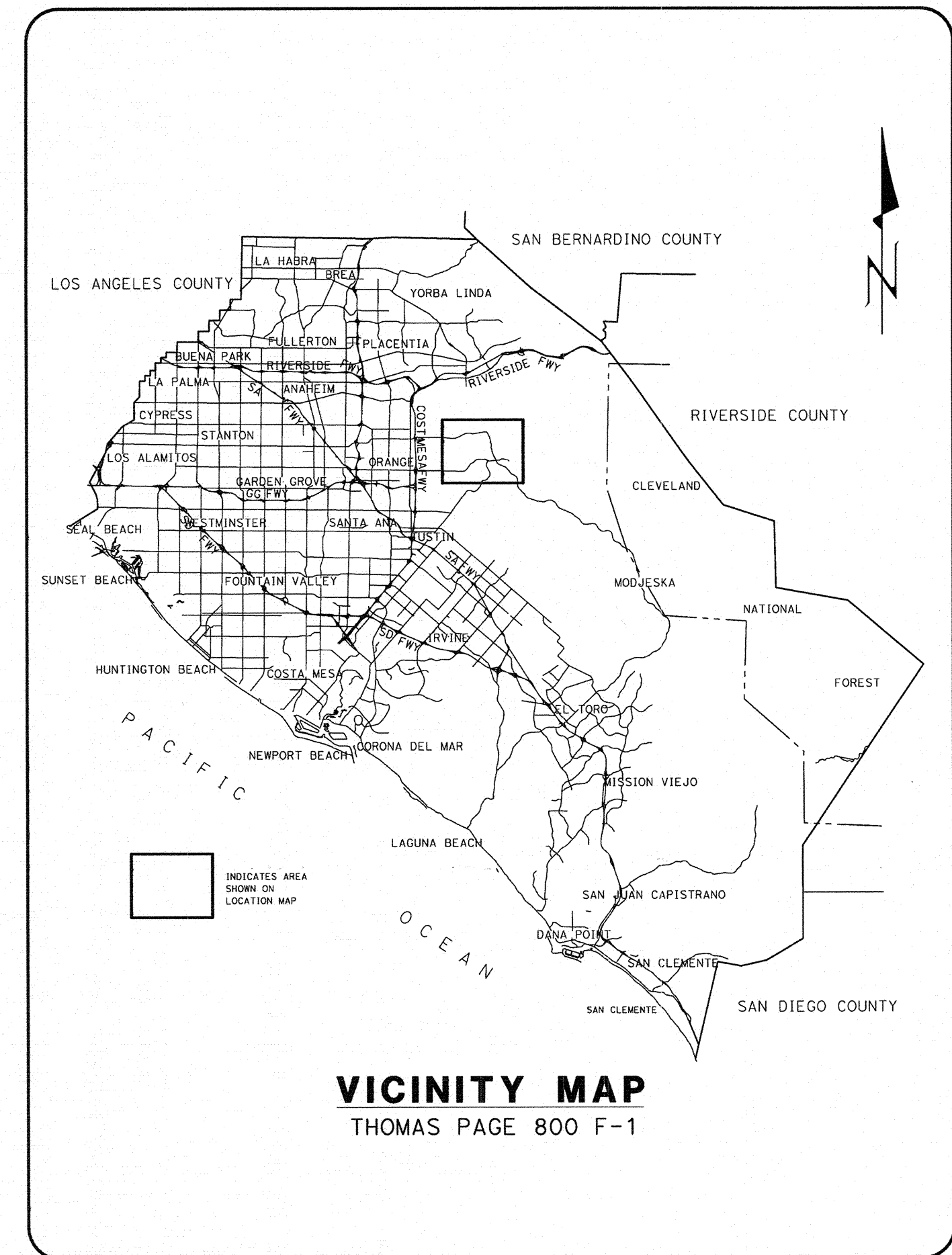
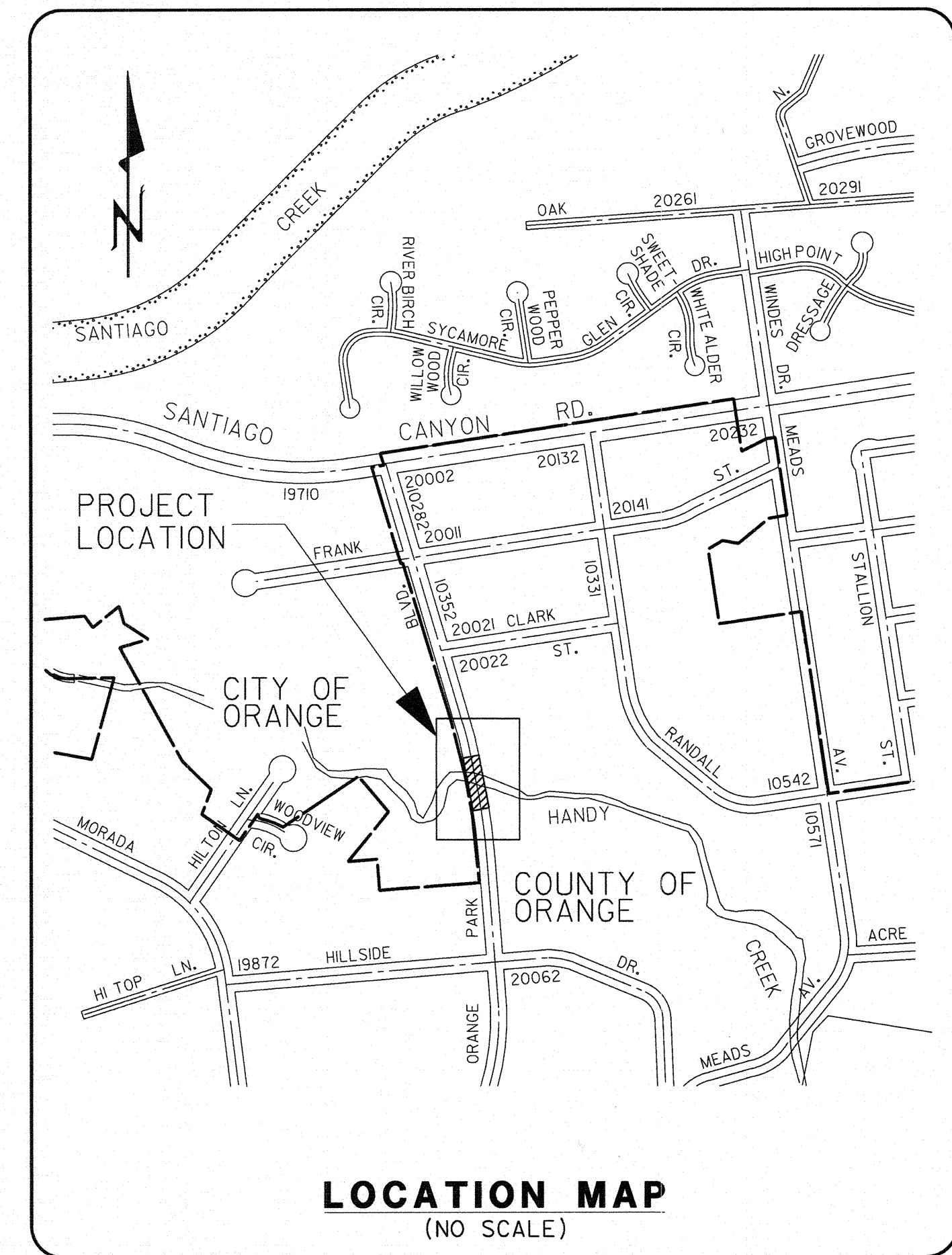




VICINITY MAP
THOMAS PAGE 800 F-1



LOCATION MAP
(NO SCALE)

OC PUBLIC WORKS
SANTA ANA, CALIFORNIA
JESS A. CARBAJAL, DIRECTOR
PLANS FOR CONSTRUCTION OF
Bridge No. 55C0690
**REPLACEMENT OF ORANGE
PARK BOULEVARD BRIDGE
AT HANDY CREEK**

Caltrans Bridge Number 55C-0690

W.O. NO ER20479

APRIL 2011

FUNDED BY: PROPOSITION 1B AND COUNTY OF ORANGE ROAD FUNDS
POST-PROJECT OWNERSHIP AND MAINTENANCE: COUNTY OF ORANGE

CITY OF ORANGE

APPROVED: *[Signature]* 2/24/11
Frank Sun, P.E.
DEPUTY PUBLIC WORKS DIRECTOR/CITY ENGINEER

OC PUBLIC WORKS

SUBMITTED: *[Signature]* 3/3/11
JAVIER SOTO, P.E.
MANAGER, ROAD/CAPITAL PROJECTS

RECOMMENDED: *[Signature]* 3/3/11
TED RIGONI, P.E., P.M.P.
MANAGER, ROAD SECTION

APPROVED: *[Signature]* 3/2/11
IGNACIO G. OCHOA, P.E.
DIRECTOR/CHIEF ENGINEER, OC ENGINEERING

DEVIATIONS FROM STANDARDS:

- Highway Design Manual, Chapter 200:
 - Topic 204.4, vertical curve length less than standard for 45mph design speed due to existing vertical curve.
- Orange County Ordinance Sec. 6-3-69 (1961 Sec. 63.0322):
 - RCP coverage less than 30" due to existing conditions.
- ADA & California Government Code 4450 et Seq:
 - Bridge rail opening more than 4".
- OC Standard Plan 1109:
 - Roadway shoulder less than 11' (8' paved) to match existing condition.

APPROVED: *[Signature]* 3/9/11
IGNACIO G. OCHOA, P.E.
DIRECTOR/CHIEF ENGINEER, OC ENGINEERING

AS BUILT
CORRECTION BY: HAMID ABEDZADEH
CONTRACT NO.: ER20479
DATE: 04/04/2013

INDEX OF SHEETS	
Sheet	Description
1	Title Sheet
2	Typical Cross Sections
3	Plan and Profile
4	Roadway Cross Sections
5	Storm Drain & Utilities
6	Storm Drain Details
7	Retaining Wall 1
8	Retaining Wall 2
9	Retaining Wall Details
10	Handy Creek Riprap Lining
11	Channel Cross Sections
12	Guard Rails & Striping
13-19	Bridge Structure Plans
20	Traffic Detour Plan

UTILITY OWNER	PHONE NO.	CONTACT
Southern California Gas	714-634-3235	Bob Trenton
Irvine Ranch Water District	949-453-5551	Randy Sundberg
Southern California Edison	714-973-5728	Daniel Di Maio
AT&T	714-237-6019	Steve Ciolek
Time Warner Cable	714-903-8307 714-231-8789(c)	Chris Donnelly
City of Orange Water Department	714-288-2475	Ramona Takahashi
Metropolitan Water District	213-217-7474	Kierman Callanan
Orange County Sanitation District	714-593-7693	Jimmy Quintana
Underground Service Alert	800-422-4133	

BASIS OF BEARINGS:
The bearing shown hereon are based on the bearing between O.C.S. horizontal control station GPS No. 3192 and station GPS No. 3219, being N81°31'41"E, per records on file in the office of the OC Surveyor.

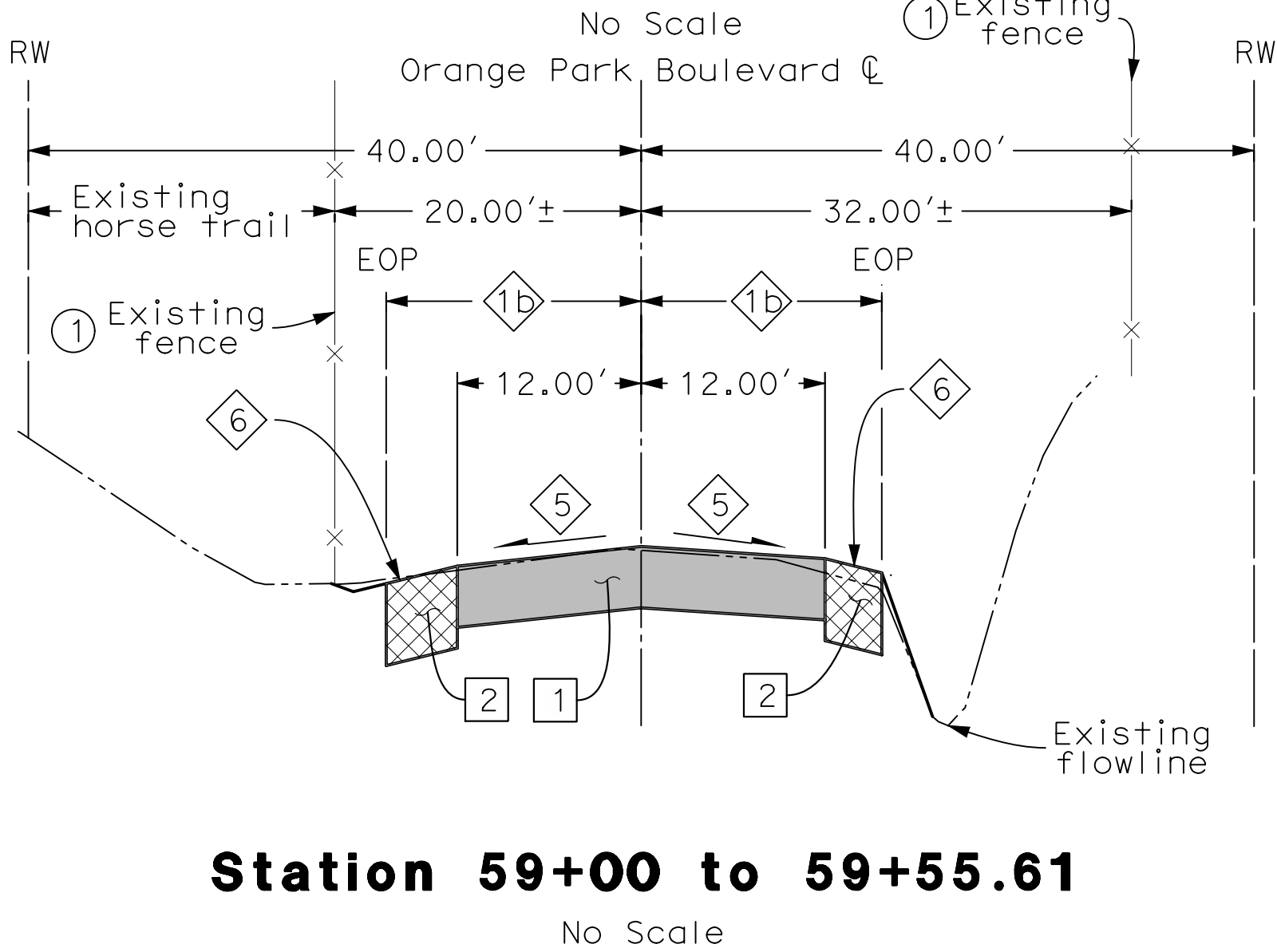
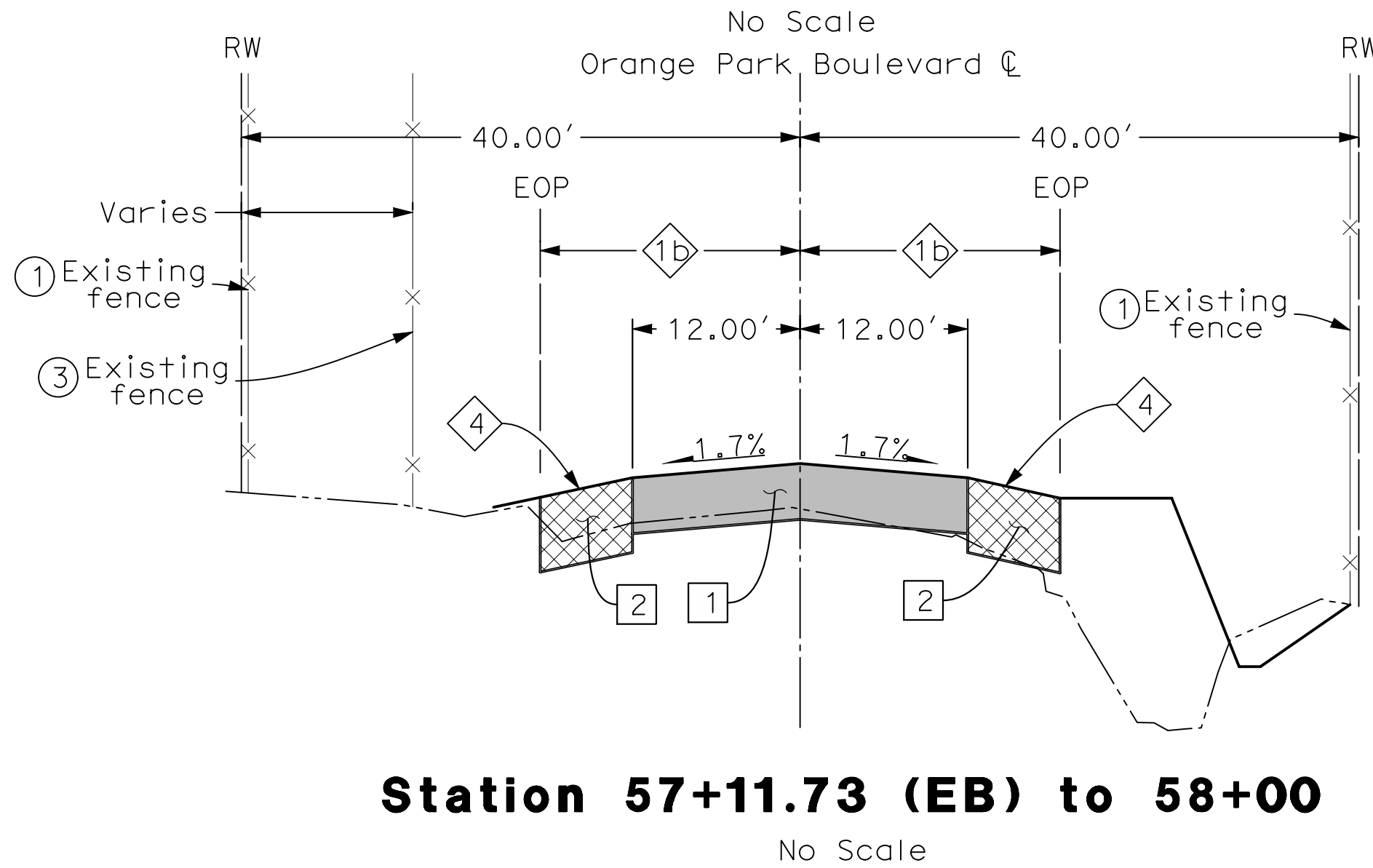
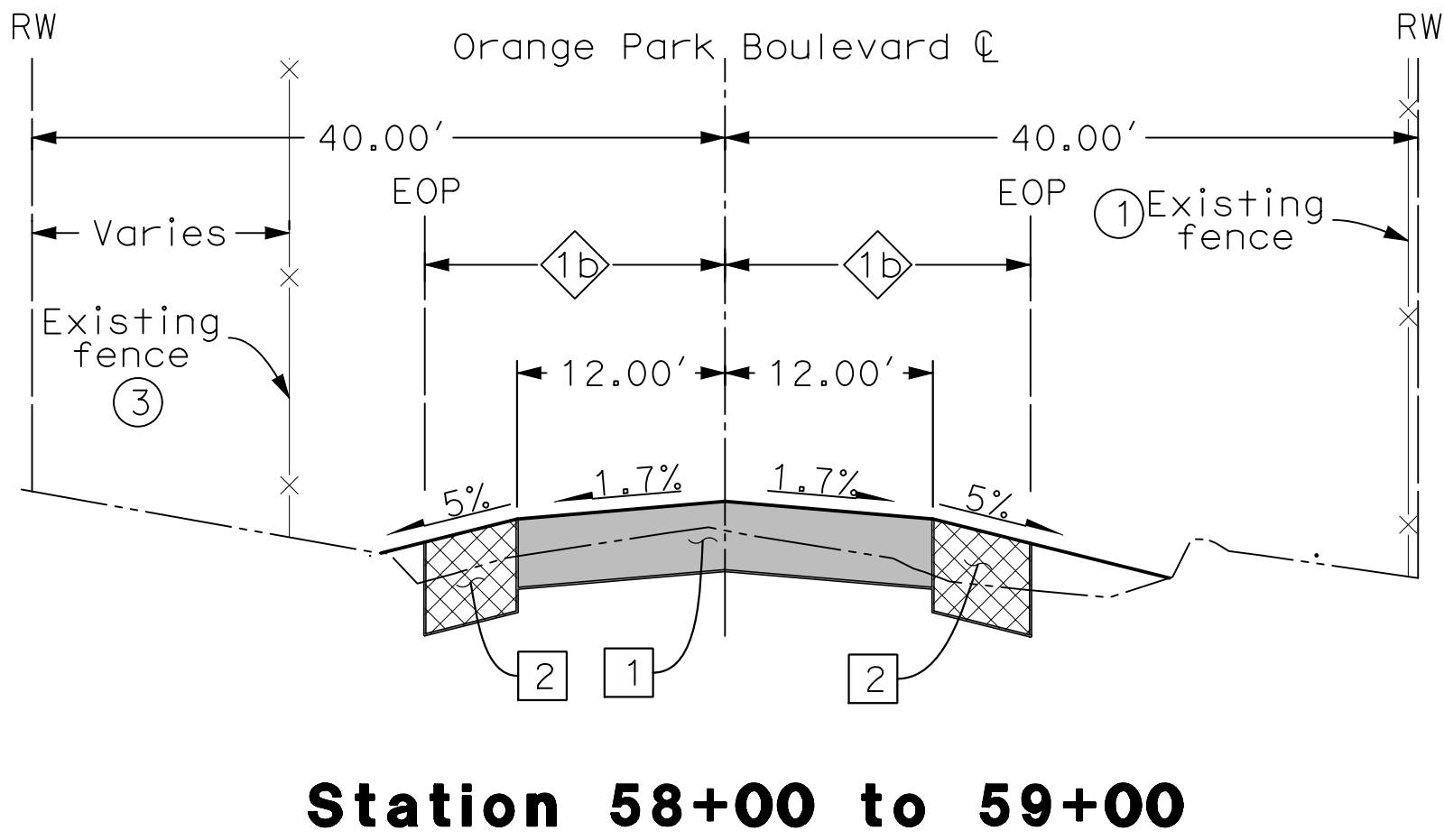
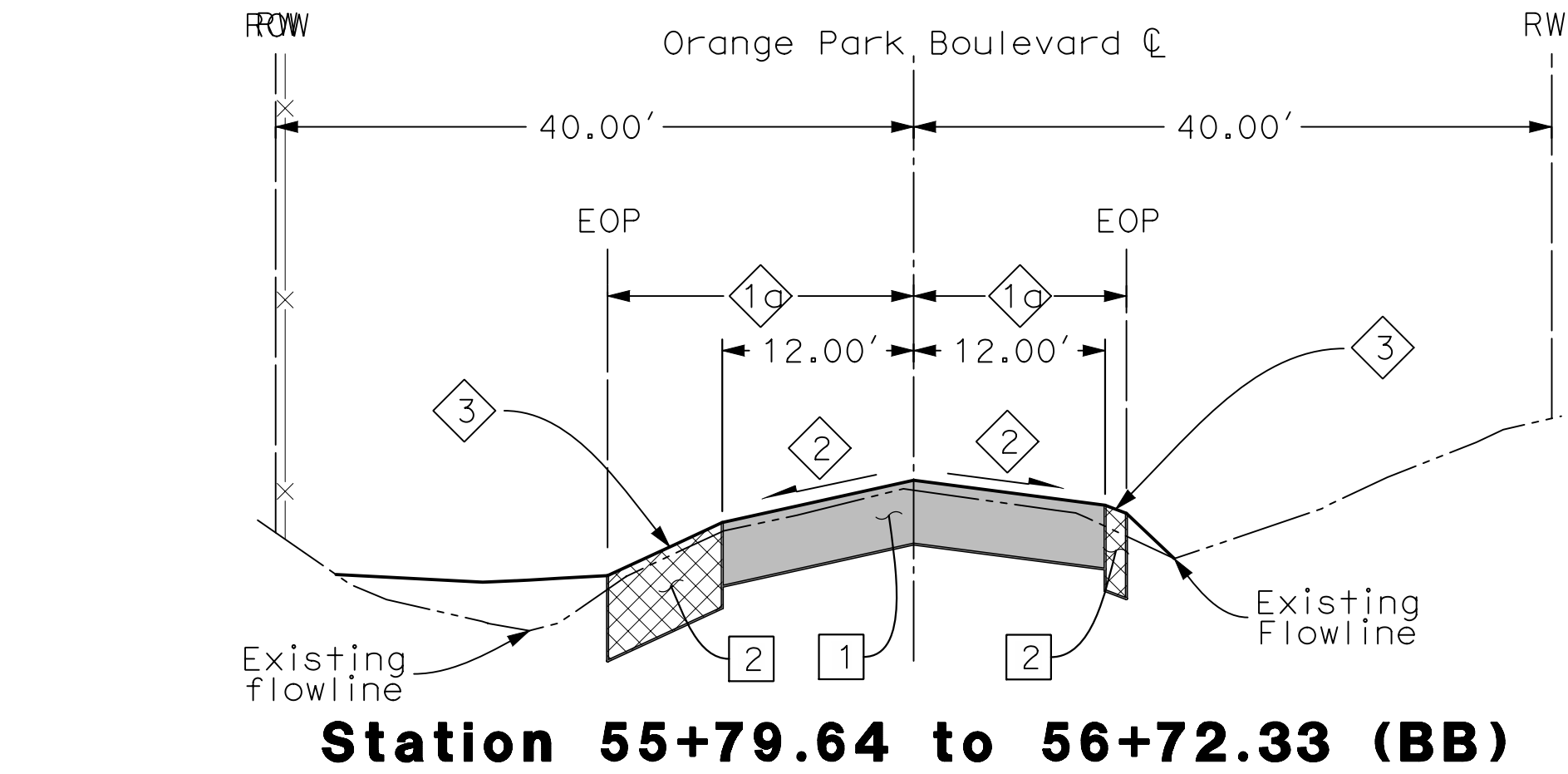
HORIZONTAL DATUM:
Coordinates shown hereon are based on the California Coordinate system (CCS83), Zone VI, 1983 North American Datum (1991.35 epoch G.P.S. Adjustment). Distances shown are ground. Multiply ground distances by 0.99997210 to obtain grid distances.

BENCH MARK:
O.C.S. BM. #3L-48-92, Elevation = 499.373'
NGVD 1929 (1995 O.C.S. Adjustment) leveled 1992

NO.	DESCRIPTION	SHT.	APPROVED	DATE
REVISIONS				

W. O. NO. ER20479
DWG. NO. _____

SHEET 1 OF 19



NO AS BUILT CHANGES

NOTE:

- 1a) EOP varies from existing EOP at 55+79.64 to Bridge Wingwall at BB (see EOP Table on Sheet PP).
- 1b) EOP varies from bridge wingwall at EB to existing EOP at 59+55.61 (see EOP Table on Sht PP).
- 2) Roadway cross slope varies from existing slopes 5.2%± and 3.7%± at 55+79.64 to 1.7% at BB.
- 3) Shoulder cross slope varies from existing slopes 11.9%± and 8.2%± at 55+79.64 to 1.7% at BB.
- 4) Shoulder cross slope varies from 1.7% at EB to 5% 58+00.
- 5) Roadway cross slope varies from 1.7% at 59+00 to existing slopes 3.1%± and 0.4%± at 59+55.61.
- 6) Shoulder cross slope varies from 5% at 59+00 to existing slopes 4.5%± and 3.5%± at 59+55.61.

Construction Notes:

- 1 Remove existing pavement and reconstruct full depth pavement using a structural section of 0.80' AC/NS.
- 2 Remove existing AC shoulder and reconstruct porous asphalt pavement per Special Provisions.
- 3 Remove and reconstruct new bridge per bridge plans.
- 4 Construct retaining wall per retaining wall plans.
- 5 Remove and reconstruct driveway approach.
- 6 Construct slope and riprap protection per plans.
- 7 Remove existing broken stacked concrete.
- 8 Construct riprap apron per plans.
- 9 Reset mailbox per Special Provisions.
- 10 Replace existing water valve box and cover per Irvine Ranch Water District Standard Plan W-22.
- 11 Hydroseed per Special Provisions.
- 21 Furnish and place 18" RCP per plan, profile, typical section and OCPW Std Plan 1319.
- 22 Furnish and place 24" RCP per plan, profile, typical section and OCPW Std Plan 1319.
- 23 Furnish and place 30" RCP per plan, profile, typical section and OCPW Std Plan 1319.
- 24 Furnish and place 36" RCP per plan, profile, typical section and OCPW Std Plan 1319.
- 25 Construct reinforced concrete collar per OCPW Std Plan 1317.
- 26 Construct Junction Structure Type I per OCPW Std Plan 1310.
- 27 Construct inlet type G1 per Caltrans Std Plan D73, frame and grate 24-12X per D77A & D77B. Wall rebar shall be #4@18" O.C. vertical & horizontal.
- 28 Construct headwall inlet per sheet SD-2.
- 29 Construction junction structure type V per OCPW Std Plan 1314.
- 30 Construct pipe entrance to earth channel per OCPW Std Plan 1326.
- 31 Construct pressure manhole shaft and frame cover per APWA Std Plans 328-1 and 211-1.
- XX) Install striping per Caltrans Standard Plan A20A, A20B, A20C and A20D detail XX.
- 41 Construct transition rail type WB per Caltrans Standard Plan A77J4 with blackout attachment.
- 42 Construct terminal system type ET per Caltrans Standard Plan A77L3.
- 43 Construct crash cushion type REACT 9SCBS per Caltrans Standard Plan A82D1 - 4 cylinders.
- 44 Relocate existing fence as indicated.
- 45 Construct 6' chain link fence or gate per OCPW Std Plans 600-1.

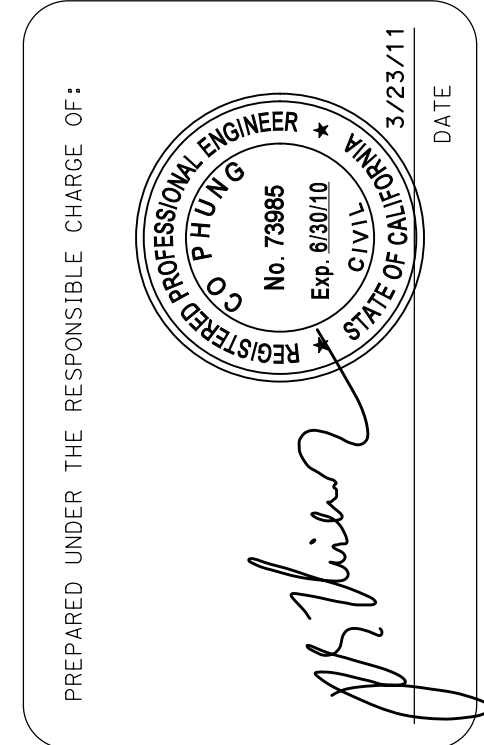
Legend:

- Existing
- Proposed
- Temporary construction easement (TCE)
- Retaining wall easement (RWE)
- Parcel line
- Right of way (RW)
- Plastic fence
- Chain link fence
- Wood fence
- Iron fence
- Double gate
- Single gate
- Existing block wall /Retaining wall
- New retaining wall
- Brush
- Top/toe of slope
- Existing Edge of pavement (EOP)
- Water line
- Gas line
- Overhead cable & electric line
- Storm drain line
- Pilaster
- Mail box
- Sign/Roadway marker
- Tree
- Fire hydrant
- Utilities pole
- Pole guywire
- Gas valve
- Water valve
- Water meter
- grate inlet
- Post
- Pipe inlet/outlet

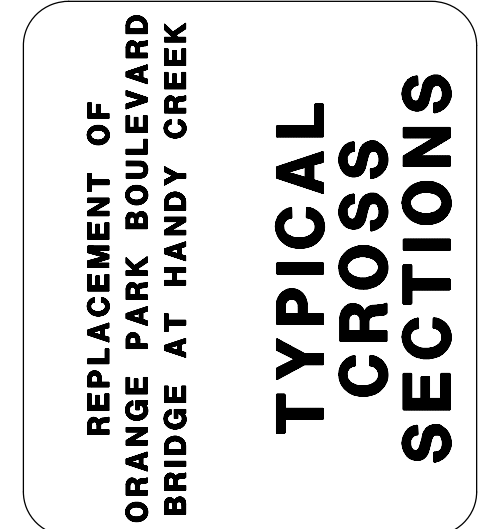
- 1 Protect in place
- 2 Remove
- 2X Remove as necessary
- 3 Relocate
- 3X To be relocated by others
- 4 Remove and replace
- 5 Sawcut and join existing
- 6 Adjust to grade
- 7 To be abandoned by others
- 8 Paint "Bridge No. #####"
- 9 Paint "Orange Park Blvd Bridge over Handy Creek"



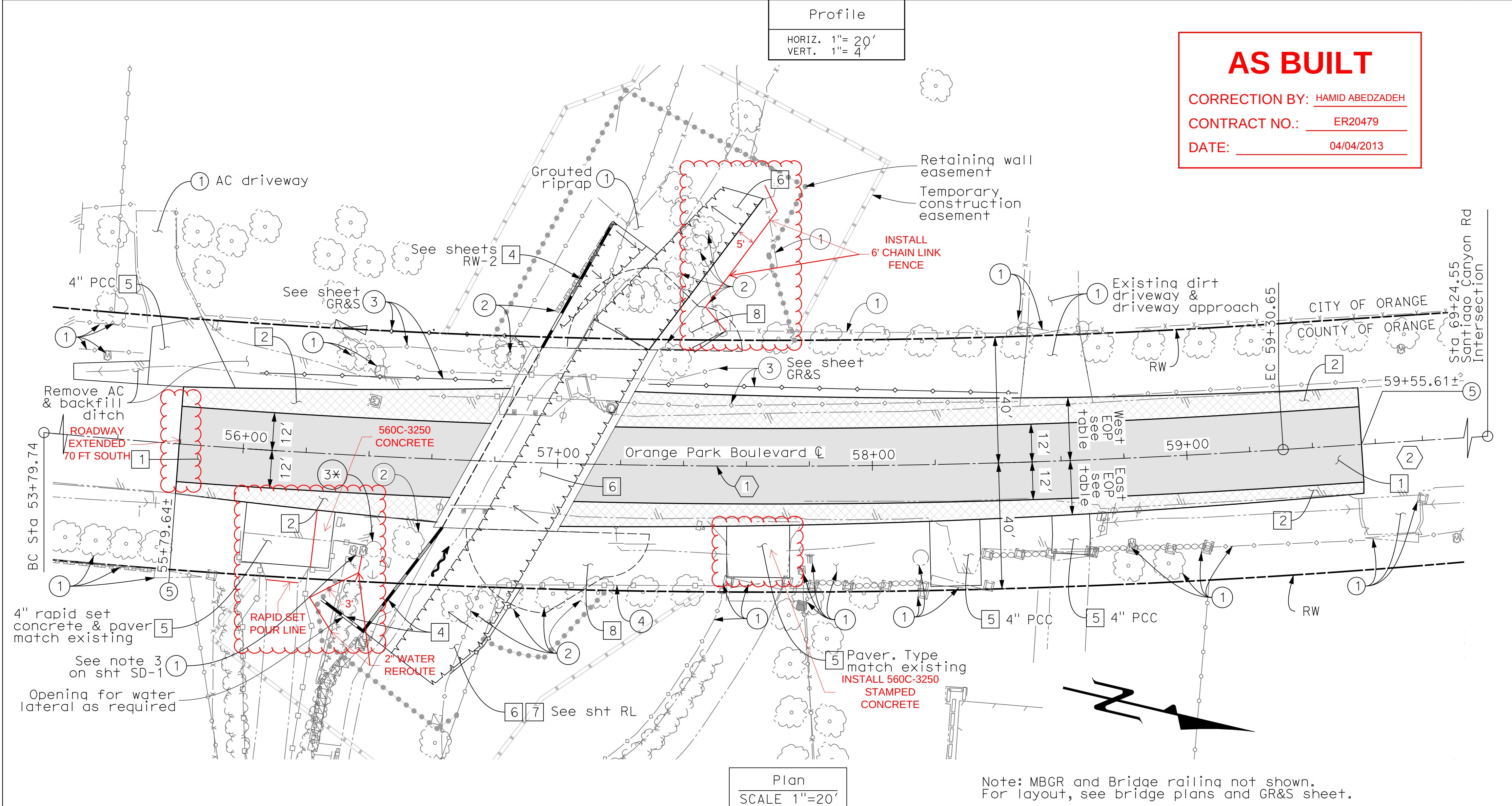
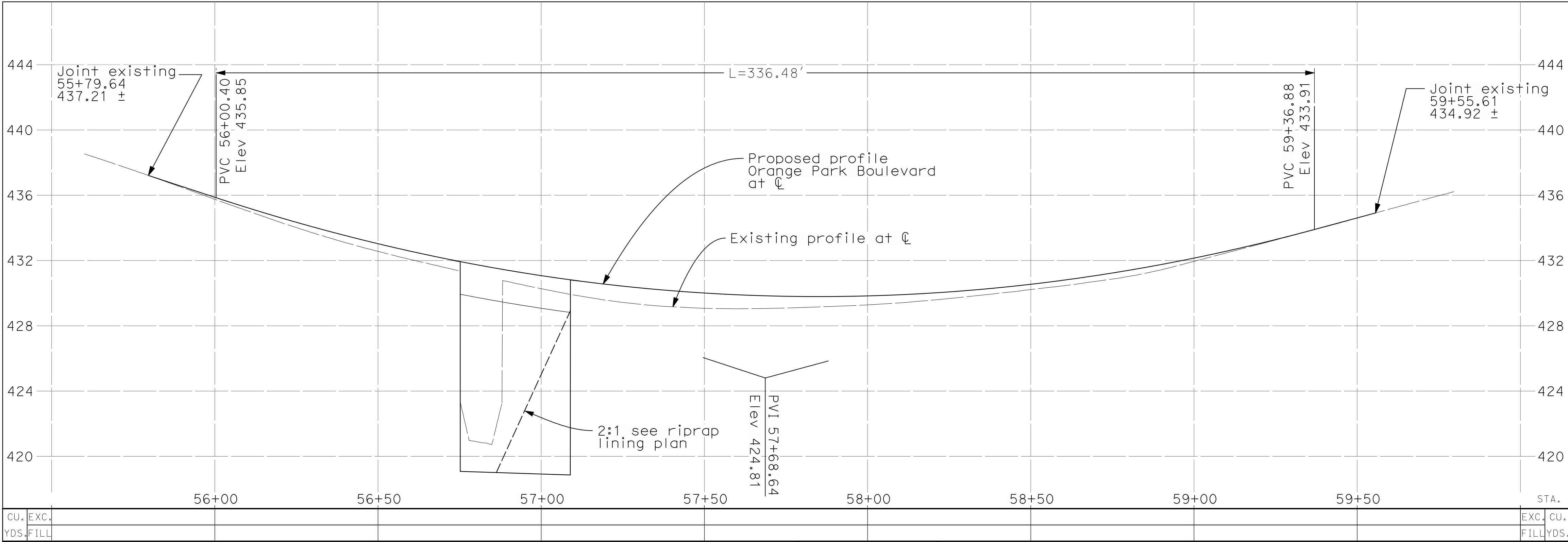
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DESIGNED BY: C. PHUNG	CHECKED BY: R. HOUSTON	DRAWING CODE:	FILE NAME:	SCALE: AS SHOWN
C. PHUNG	C. PHUNG			
COUNTY OF ORANGE	OC PUBLIC WORKS	PREPARED BY: ROAD / CAPITAL PROJECTS		



Sheet Reference Number
TS
Sheet 2 of 20



Construction Notes:

- Remove existing pavement and reconstruct full depth pavement using a structural section of 0.80' AC/NS
- Remove existing AC shoulder and reconstruct porous asphalt pavement per Special Provisions.
- Remove and reconstruct new bridge per bridge plans
- Construct retaining wall per retaining wall plans
- Remove and reconstruct driveway approach
- Construct slope and riprap protection per plans.
- Remove existing broken stacked concrete.
- Construct riprap apron per plans.
- Reset mailbox per Special Provisions.

Legend:

- Protect in place
- Remove
- Relocate
- To be relocate by others
- Remove & replace
- Sawcut AC & join existing

Curve Data

	Radius	Δ
①	2500'	12°37'35"

Line Data

	Length	Bearing
②	993.91'	N17°1'24"W

EOP Offset Table

Station	East EOP	West EOP
55+79.64	15.81±	18.21±
56+00	16.83	19.19
56+20	17.85	20.17
56+40	18.87	21.15
56+60	19.89	22.14
56+80	Bridge	23.12
57+00	Bridge	Bridge
57+20	19.68	Bridge
57+40	19.34	22.96
57+60	19.00	22.50
57+80	18.66	22.03
58+00	18.32	21.56
58+20	17.97	21.09
58+40	17.63	20.62
58+60	17.29	20.15
58+80	16.95	19.69
59+00	16.61	19.22
59+20	16.27	18.75
59+40	15.93	18.28
59+55.61	15.66±	17.92±

COUNTY OF ORANGE

OC PUBLIC WORKS

DESIGNED BY:
C. PHUNG

DRAWN BY:
C. PHUNG

CHECKED BY:
R. HOLSTINGTON

DRAWING CODE:

FILE NAME:

PLOT DATE:
4/13/2011

PREPARED BY:
ROAD / CAPITAL PROJECTS

REPLACEMENT OF
ORANGE PARK BOULEVARD
BRIDGE AT HANDY CREEK

PLAN
AND
PROFILE

Sheet
Reference
Number

PP

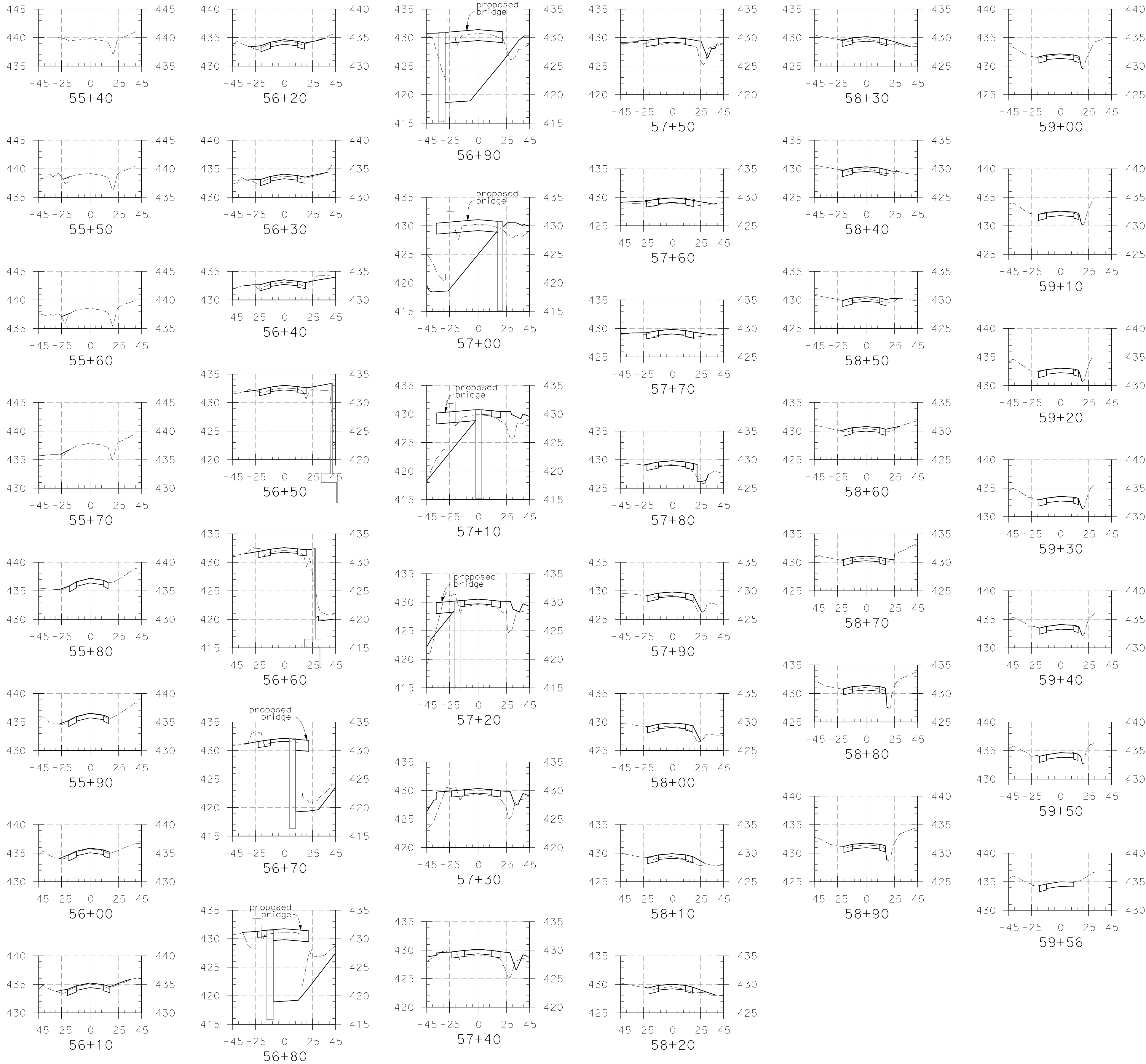
Sheet 3 of 20

COUNTY OF ORANGE
CALIFORNIA

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
C. PHUNG
REGISTERED PROFESSIONAL ENGINEER
No. 73985
Exp. 6/30/10
STATE OF CALIF.
DATE: 3/23/11

DATE: 4/13/2011 1:06:57 PM

FILE NAME : B:\HandyCreek\CAD\03-Rw_PlanProfile.dgn



NO AS BUILT CHANGES



MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
C. PHUNG
No. 73985
Exp. 6/30/10
CIVIL
STATE OF CALIF.

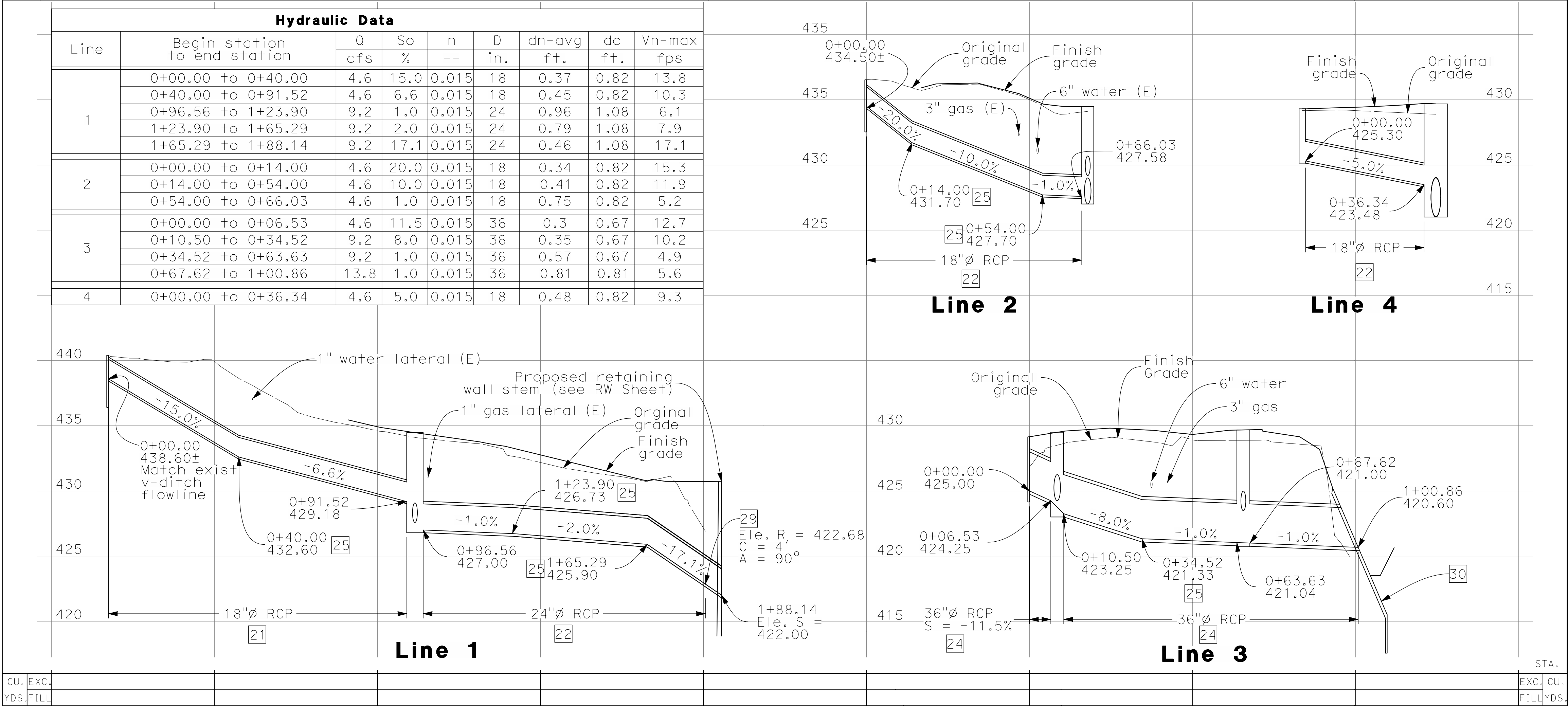
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DATE: 3/23/11

DESIGNED BY: C. PHUNG	CHECKED BY: R. HOLSTINGTON	DRAWING CODE: FILE NAME: PLOT DATE: 4/13/2011
DRAWN BY: C. PHUNG	SCALE: AS SHOWN	
COUNTY OF ORANGE OC PUBLIC WORKS		PREPARED BY: ROAD / CAPITAL PROJECTS

REPLACEMENT OF
ORANGE PARK BOULEVARD
BRIDGE AT HANDY CREEK

**ROADWAY
CROSS
SECTIONS**



Construction Notes:

- [9] Reset mailbox per Special Provisions.
- [10] Replace existing water valve box and cover per Irvine Ranch Water District Standard Plan W-22.
- [21] Furnish and place 18" RCP per plan, profile, typical section and OCPW Std Plan 1319.
- [22] Furnish and place 24" RCP per plan, profile, typical section and OCPW Std Plan 1319.
- [24] Furnish and place 36" RCP per plan, profile, typical section and OCPW Std Plan 1319.
- [25] Construct reinforced concrete collar per OCPW Std Plan 1317.
- [26] Construct Junction Structure Type I per OCWP Std Plan 1310.
- [27] Construct inlet type G1 per Caltrans Std Plan D73, frame and grate 24-12X per D77A & D77B. Wall rebar shall be #4@18"O.C. vertical & horizontal.
- [28] Construct headwall inlet per sht SD-2.
- [29] Construct junction structure Type V per OCWP Std Plan 1314.
- [30] Construct pipe entrance to earth channel per OCPW Std Plan 1326.
- [31] Construct pressure mahole shaft and frame cover per American Public Works Association Standard Plans 328-1 and 211-1.

Legend:

- ① Protect in place
- ② Remove
- ②× Remove as necessary
- ③× To be relocated by others
- ④ Remove and replace
- ⑥ Adjust to grade
- ⑦ To be abandoned by others

Utilities

- [A] Southern California Gas Company
- [B] Irvine Ranch Water District
- [b1] 6" water main in 16" steel casing 2.5± LT OPB Q. Inv Ele 414±.
- [C] Southern California Edision, Time Warner Cable, and AT&T.

Notes:

1. Place storm drain pipes between MBGR posts. See Sheet GR&S.
2. D-Loading for all RCP shall be 1250.
3. Protect-in-place. Provide temporary supports as required for excavation for retaining wall construction.



APPR.	DATE	DESCRIPTION	MARK

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
C. PHUNG
No. 73985
Exp. 6/30/10
STATE OF CALIF.

DATE: 3/23/11

DESIGNED BY: C. PHUNG	CHECKED BY: R. HOLSTINGTON	DRAWING CODE:	FILE NAME:
DRAWN BY: C. PHUNG			
COUNTY OF ORANGE OC PUBLIC WORKS	PREPARED BY: ROAD / CAPITAL PROJECTS	SCALE: AS SHOWN	PLOT DATE: 4/13/2011

REPLACEMENT OF
ORANGE PARK BOULEVARD
BRIDGE AT HARKY CREEK

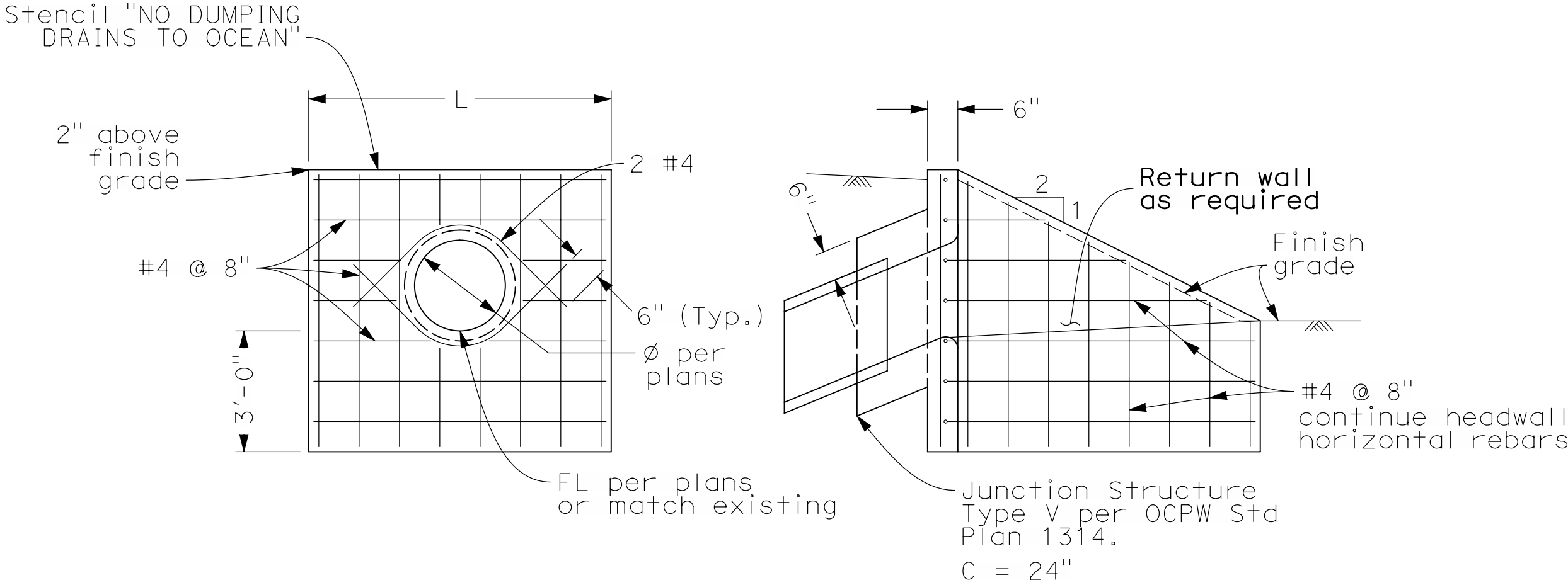
STORM
DRAIN &
UTILITIES

Sheet
Reference
Number

SD - 1

Sheet 5 of 20

FILE NAME : B:\HandyCreek\CAD\05-Rw_StormDrain.dgn



Headwall Inlet
Not to scale

NO AS BUILT CHANGES



MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER

C. PHUNG

No. 73985

Exp. 6/30/10

CIVIL

STATE OF CALIF.

3/23/11

DATE

DESIGNED BY: C. PHUNG	CHECKED BY: R. HOUSTON
DRAWN BY: C. PHUNG	DRAWING CODE:
FILE NAME:	SCALE: AS SHOWN
PLOT DATE: 4/13/2011	

COUNTY OF ORANGE

OC PUBLIC WORKS

PREPARED BY:

ROAD / CAPITAL PROJECTS

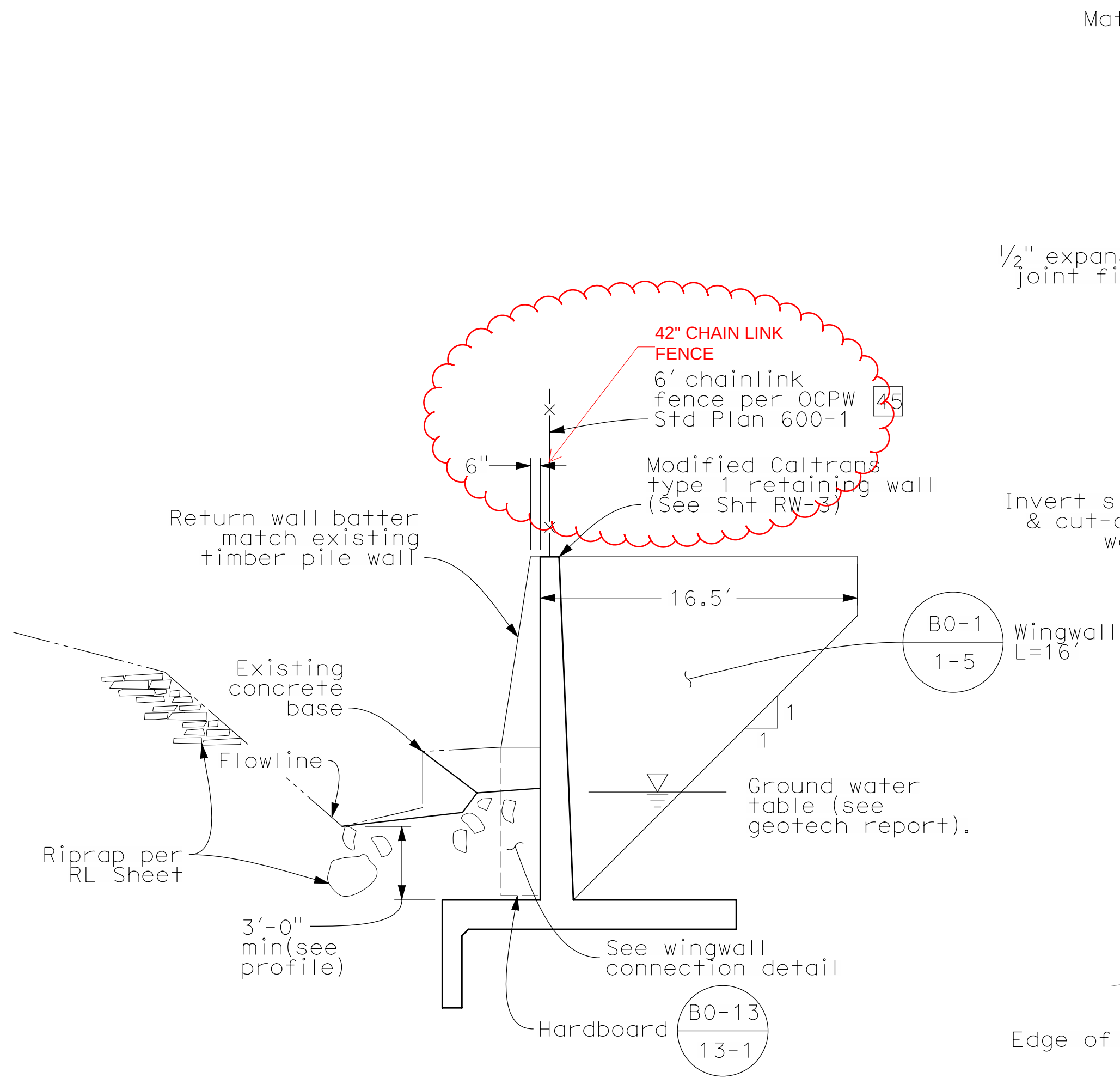
REPLACEMENT OF
ORANGE PARK BOULEVARD
BRIDGE AT HANDY CREEK

STORM
DRAIN
DETAILS

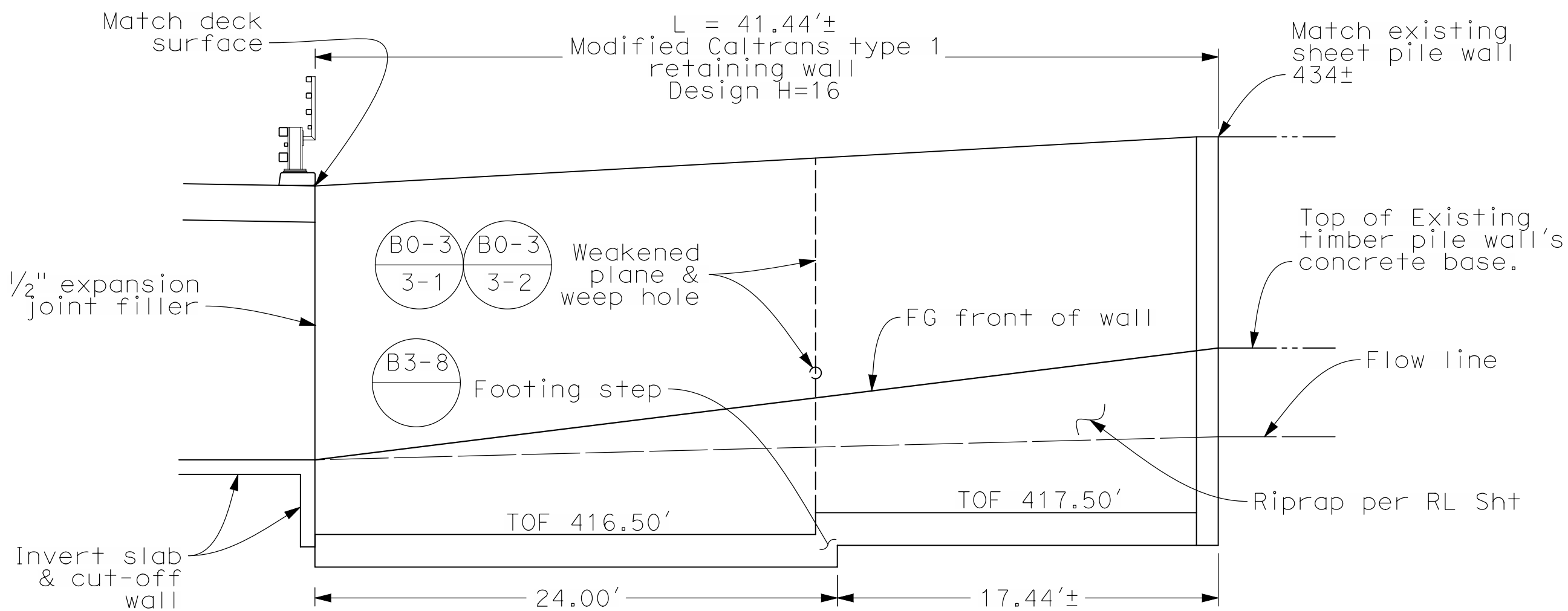
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Number

SD - 2

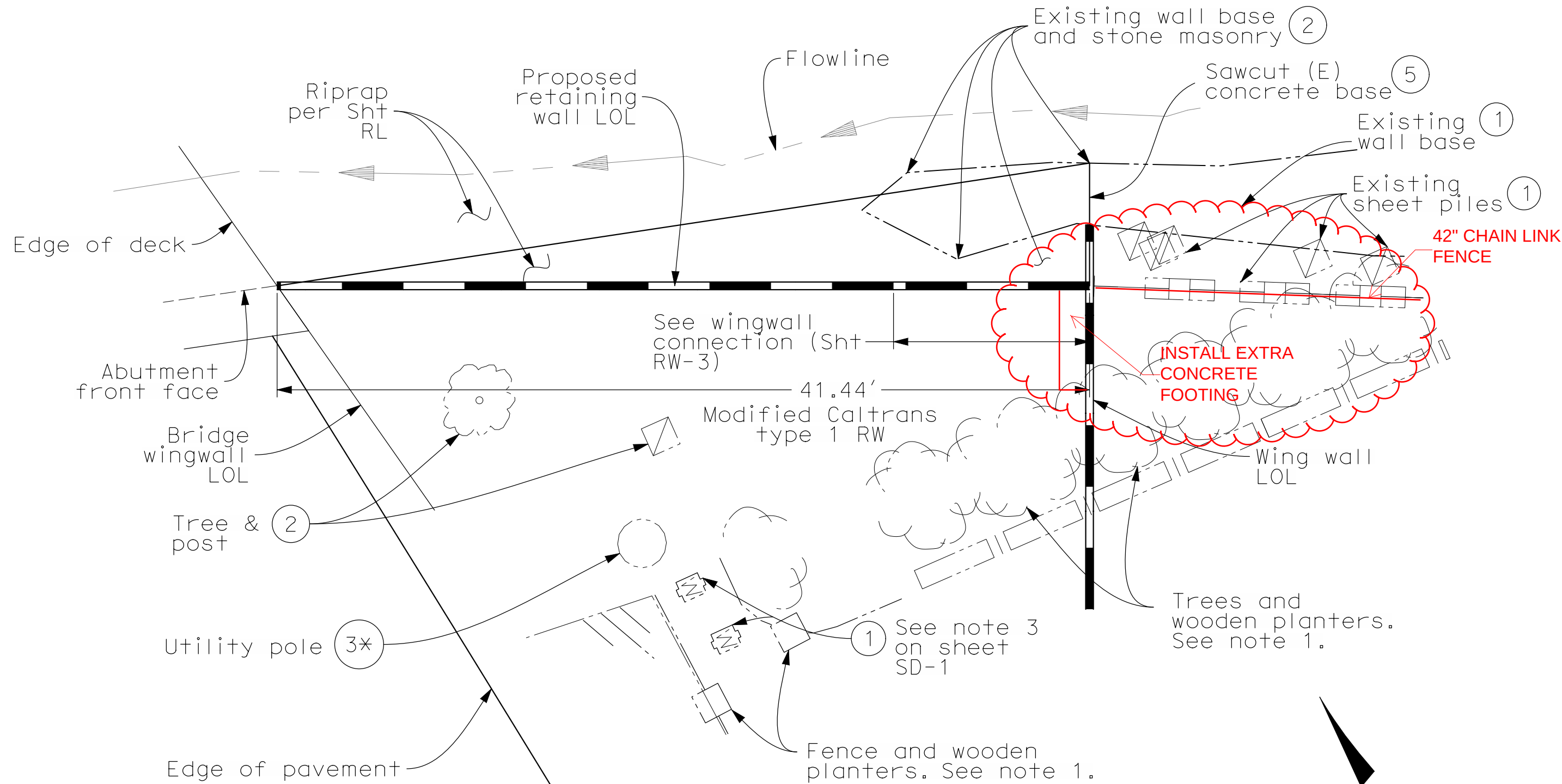
Sheet 6 of 20



Retaining wall #1 - Section
Scale 3/16"=1'



Retaining wall #1 - Mirrored Elevation
Scale 3/16"=1'



Retaining wall #1 - Plan
Scale 3/16"=1'

Legend:

- ① Protect in place
- ② Remove
- ②* Remove as necessary
- ③ Relocate
- ③* Relocated by others
- ⑤ Sawcut and join existing



Retainig wall LOL

AS BUILT

CORRECTION BY: HAMID ABEDZADEH
CONTRACT NO.: ER20479
DATE: 04/04/2013

Note 1:
Contractor may remove up to a maximum of 10 oleanders. Remainder shall be protected in place. Wooden planters and fence shall be protected and restored to original location upon completion of wall by Contractor.



APPR.	DATE	DESCRIPTION	MARK

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
C. PHUNG
No. 73985
Exp. 6/30/10
CIVIL
STATE OF CALIF.
3/23/11
DATE

DESIGNED BY: C. PHUNG	CHECKED BY: R. HOLSTINGTON	DRAWING CODE:	FILE NAME:	SCALE: AS SHOWN
DRAWN BY: C. PHUNG				
COUNTY OF ORANGE OC PUBLIC WORKS			PREPARED BY: ROAD / CAPITAL PROJECTS	

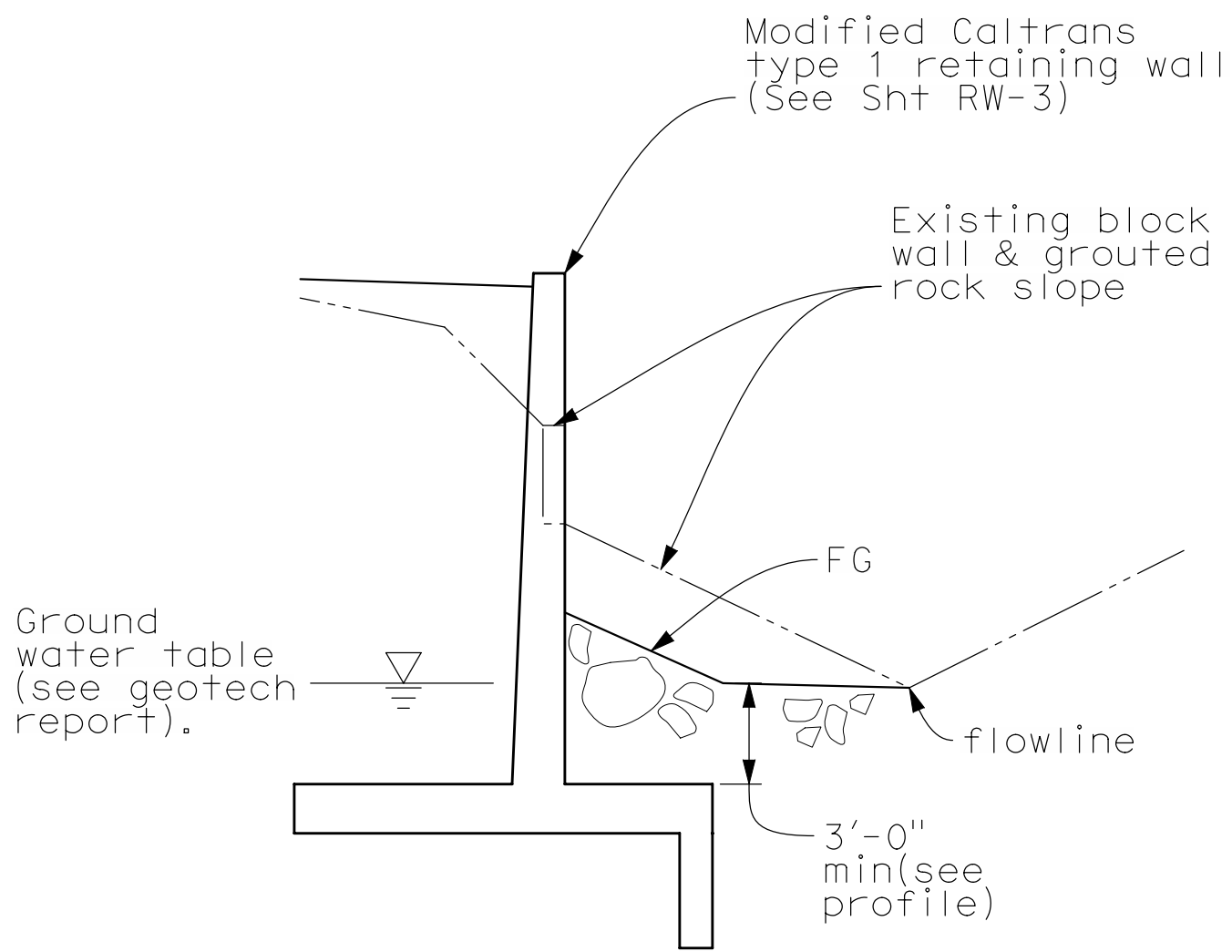
REPLACEMENT OF
ORANGE PARK BOULEVARD
BRIDGE AT HANDY CREEK

**RETAINING
WALL 1**

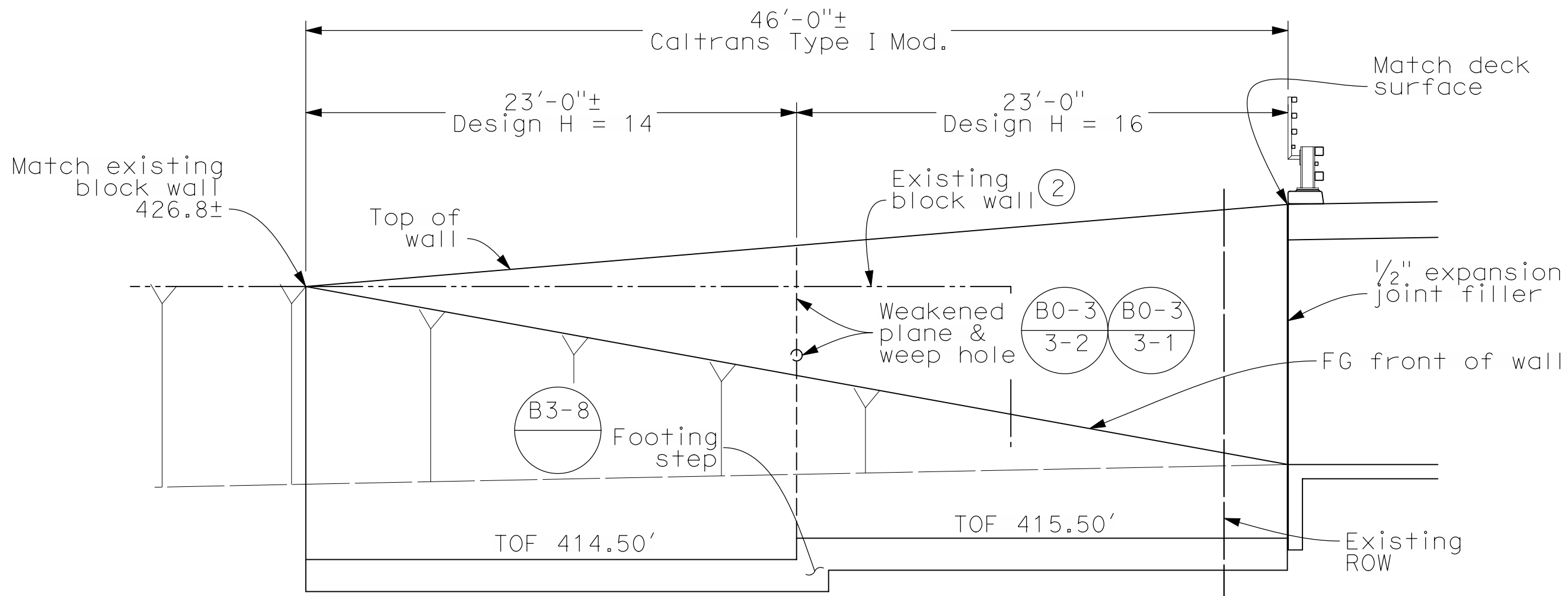
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Reference
Number

RW-1

Sheet 7 of 20

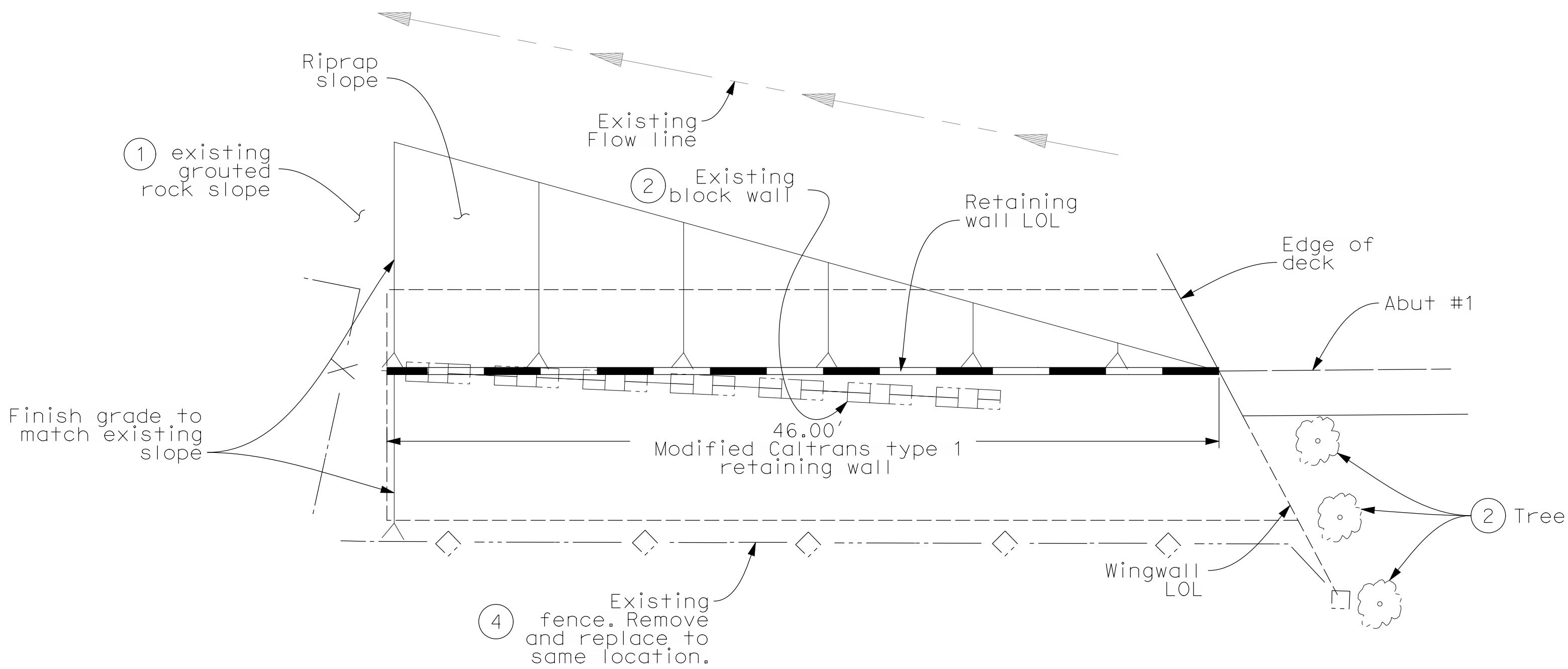


Retaining wall #2 - Section
 Scale $\frac{3}{16}"=1'$



Retaining wall #2 - Mirrored Elevation
 Scale $\frac{3}{16}"=1'$

NO AS BUILT CHANGES



Retaining wall #2 - Plan
 Scale $\frac{3}{16}"=1'$

Legend:

- ① Protect in place
- ② Remove
- ②× Remove as necessary
- ③ Relocated
- ④ Removed and replaced



MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

C. Phung

REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 No. 73985
 Exp. 6/30/10
 STATE OF CALIF.

DATE: 3/23/11

DESIGNED BY: C. PHUNG	CHECKED BY: R. HOUSTON	FILE NAME:
DRAWN BY: C. PHUNG	DRAWING CODE:	PLOT DATE: 4/13/2011
COUNTY OF ORANGE OC PUBLIC WORKS		PREPARED BY: ROAD / CAPITAL PROJECTS

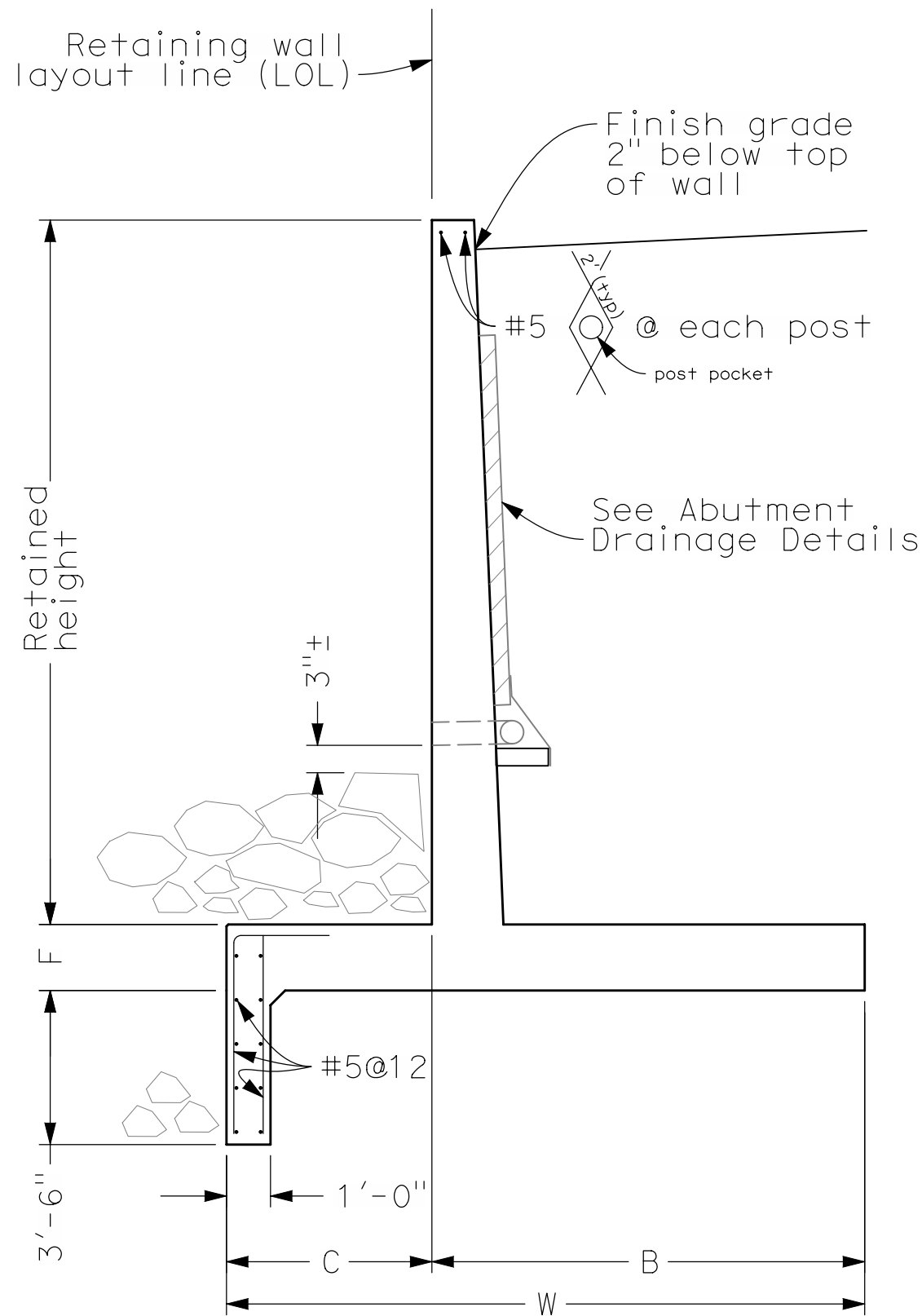
REPLACEMENT OF ORANGE PARK BOULEVARD BRIDGE AT HANDY CREEK

RETAINING WALL 2

Sheet Reference Number

RW-2

Sheet 8 of 20



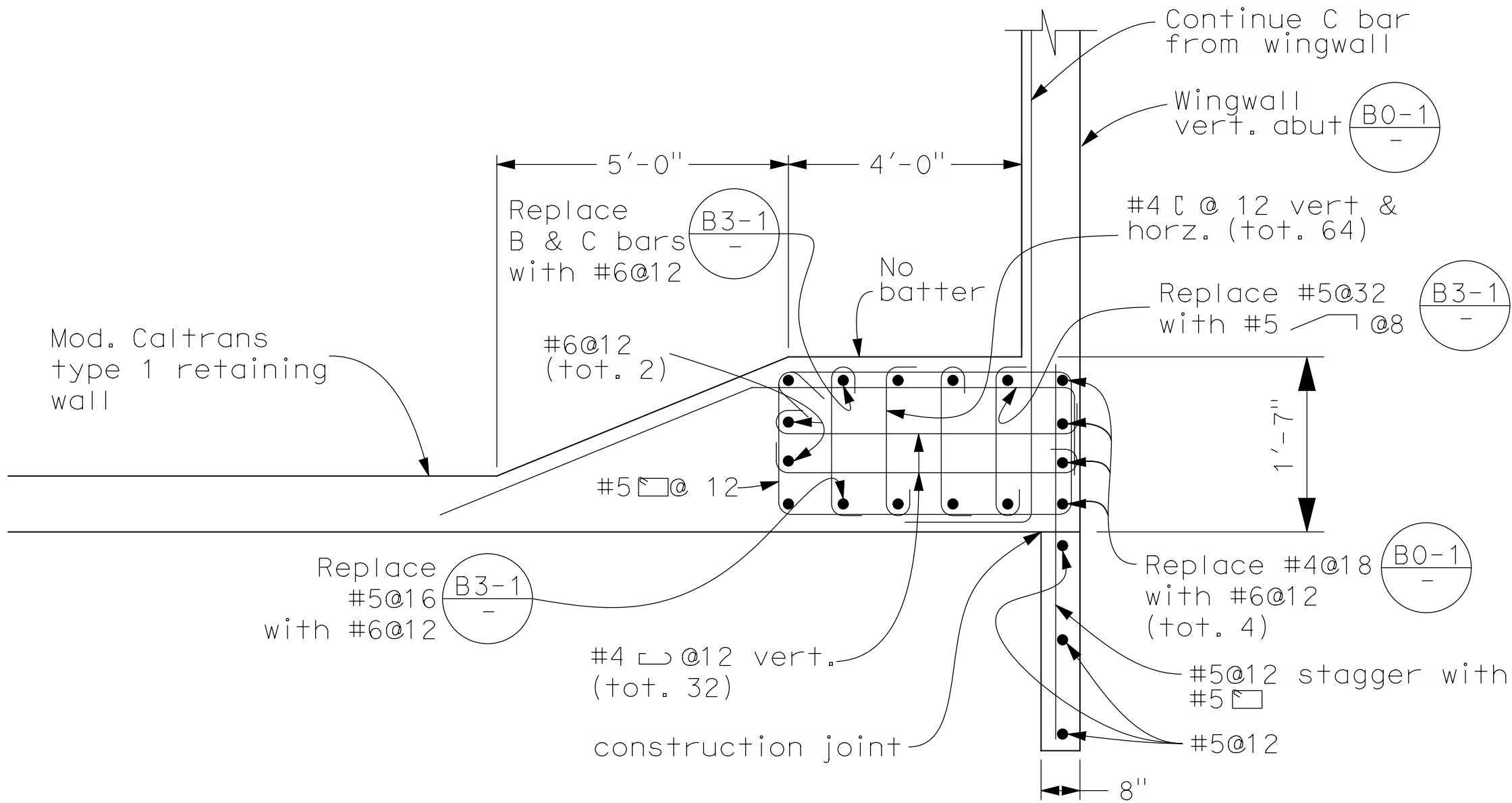
Design H	16	14
W	14'-6"	12'-9"
C	4'-8"	4'-6"
B	9'-10"	8'-3"

All reinforcement shown is in addition to reinforcement of Caltrans Std Plan B3-1. Construct retaining wall per Caltrans Std Plan B3-1, except as noted above and return wall connection detail.

Modified Caltrans Type 1 Retaining wall

NTS

NO AS BUILT CHANGES



Reinforcement shown is in addition to reinforcement of Caltrans Std plan B3-1 & B0-1 except as noted.

Wingwall Connection

NTS

Legend:



MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
C. PHUNG
No. 73985
Exp. 6/30/10
CIVIL
STATE OF CALIF.

3/23/11
DATE

DESIGNED BY: C. PHUNG	CHECKED BY: R. HOUSTON	DRAWING CODE:	FILE NAME:	PLOT DATE: 4/13/2011	SCALE: AS SHOWN
COUNTY OF ORANGE OC PUBLIC WORKS	PREPARED BY: ROAD / CAPITAL PROJECTS				

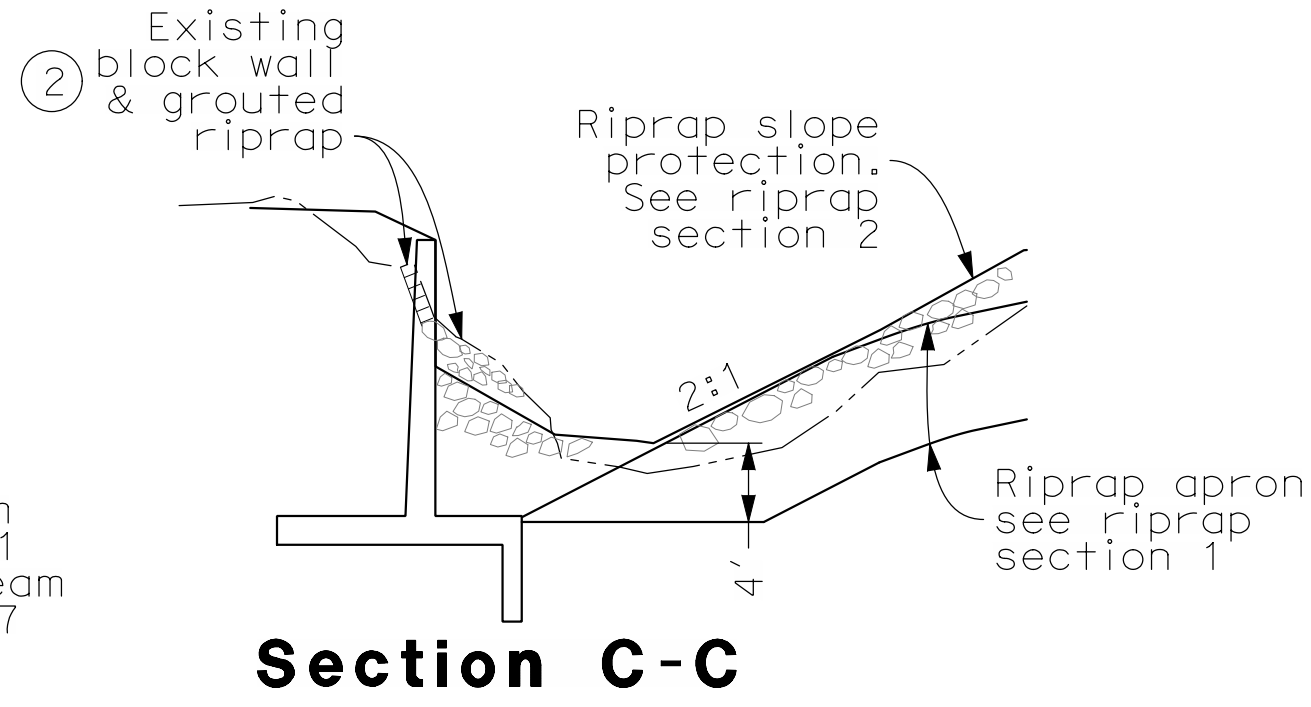
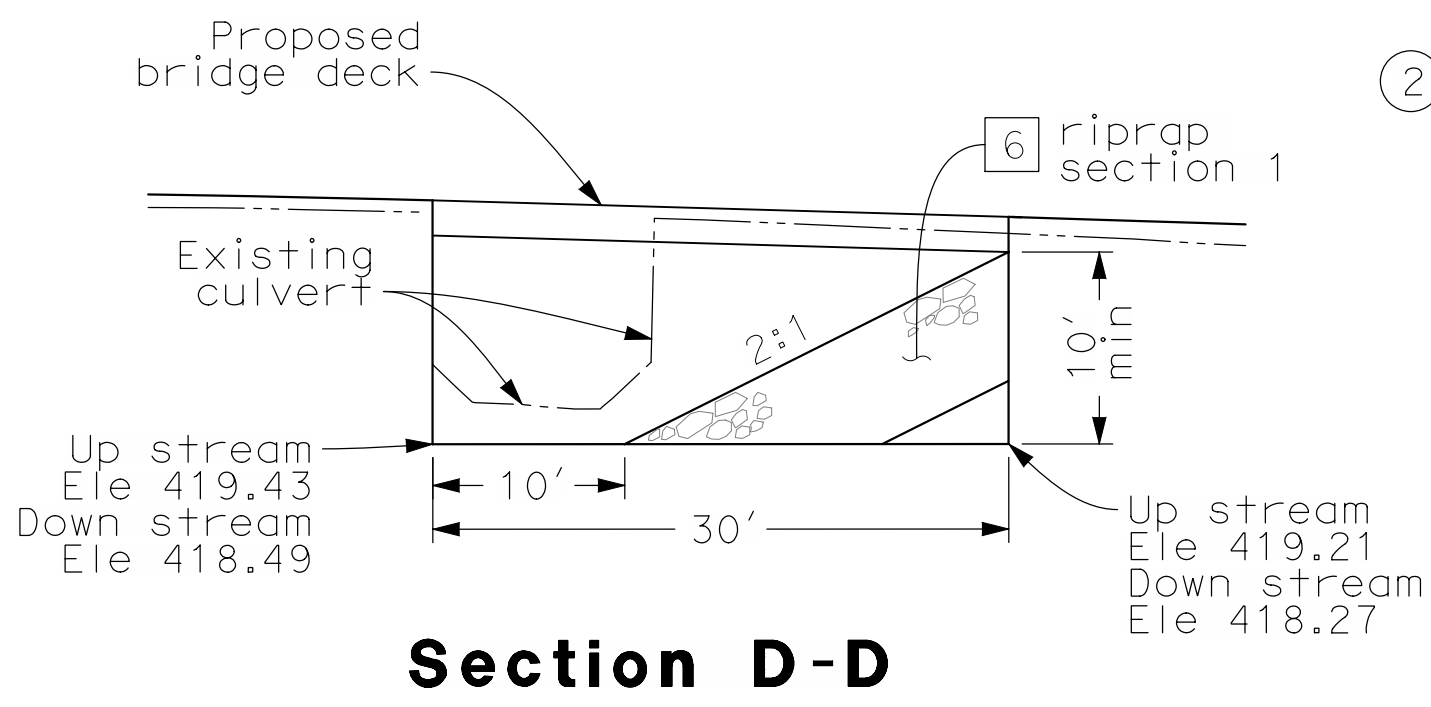
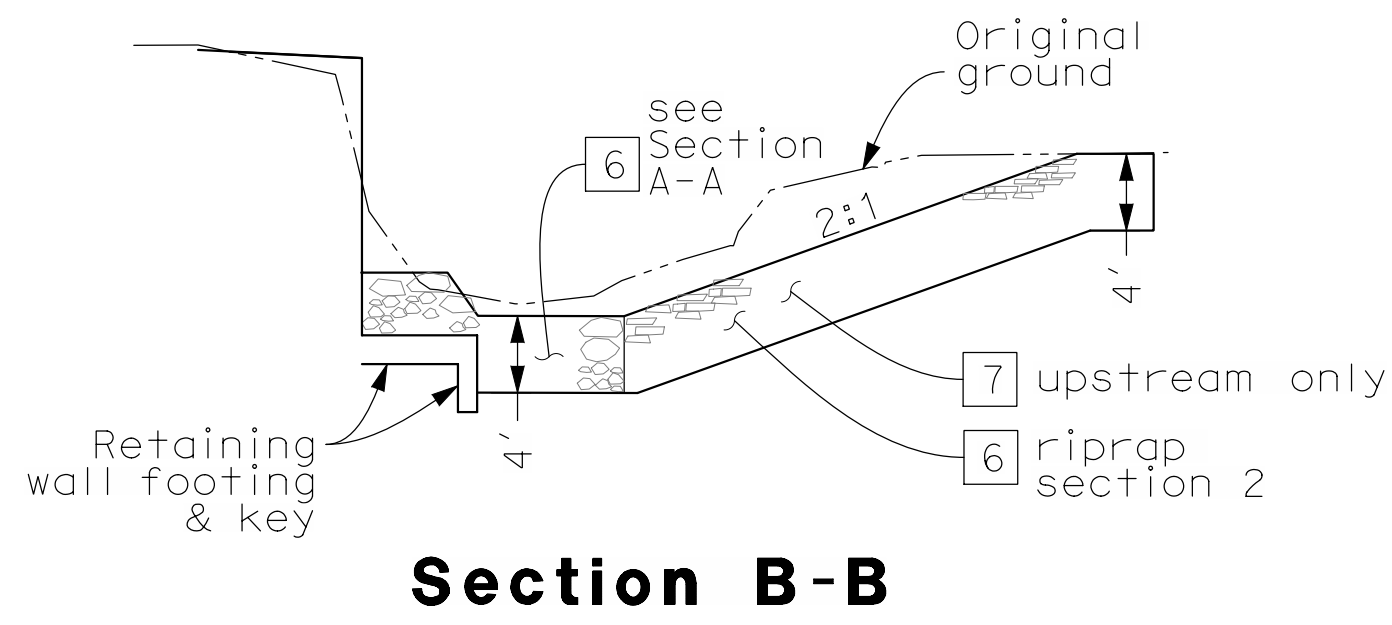
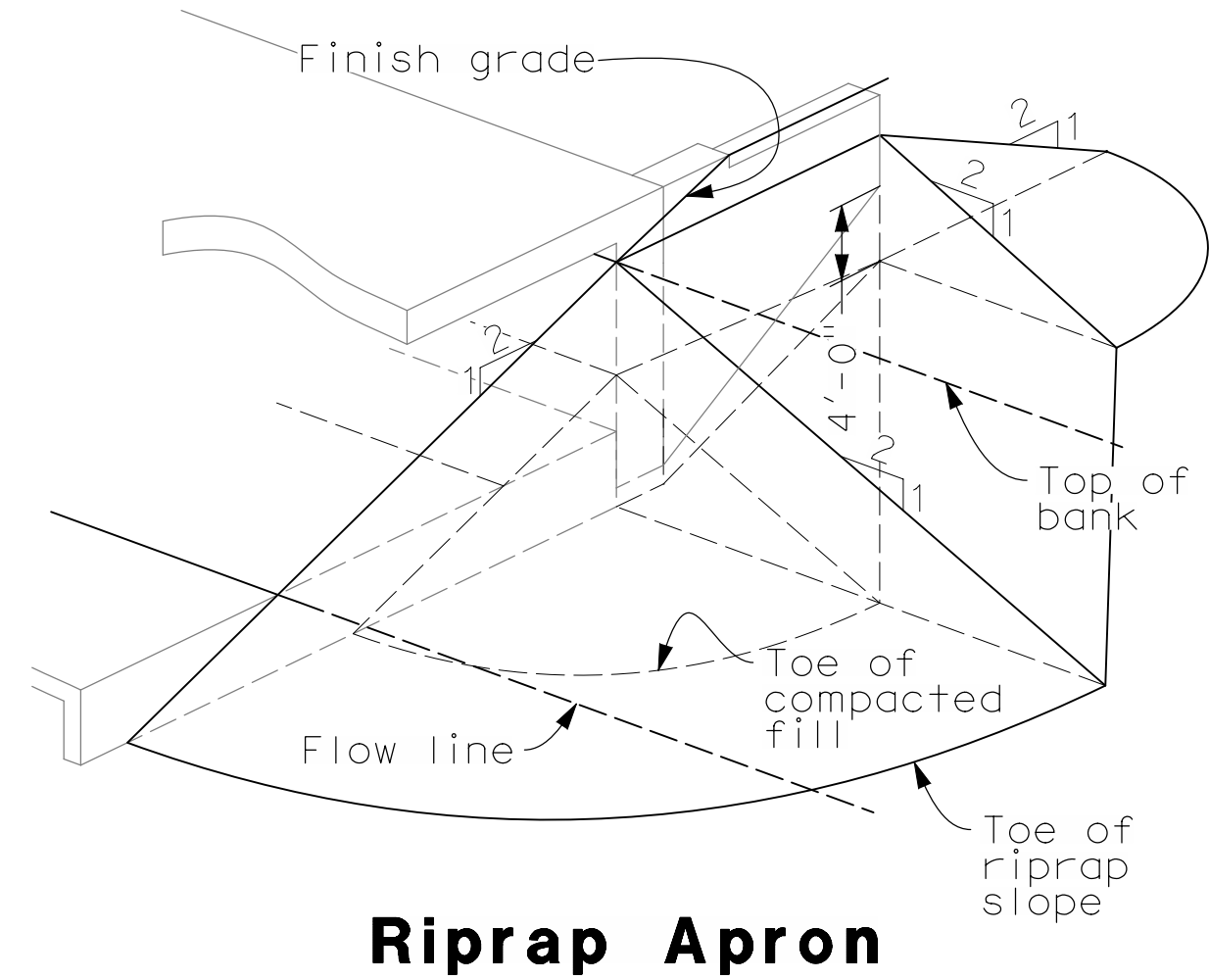
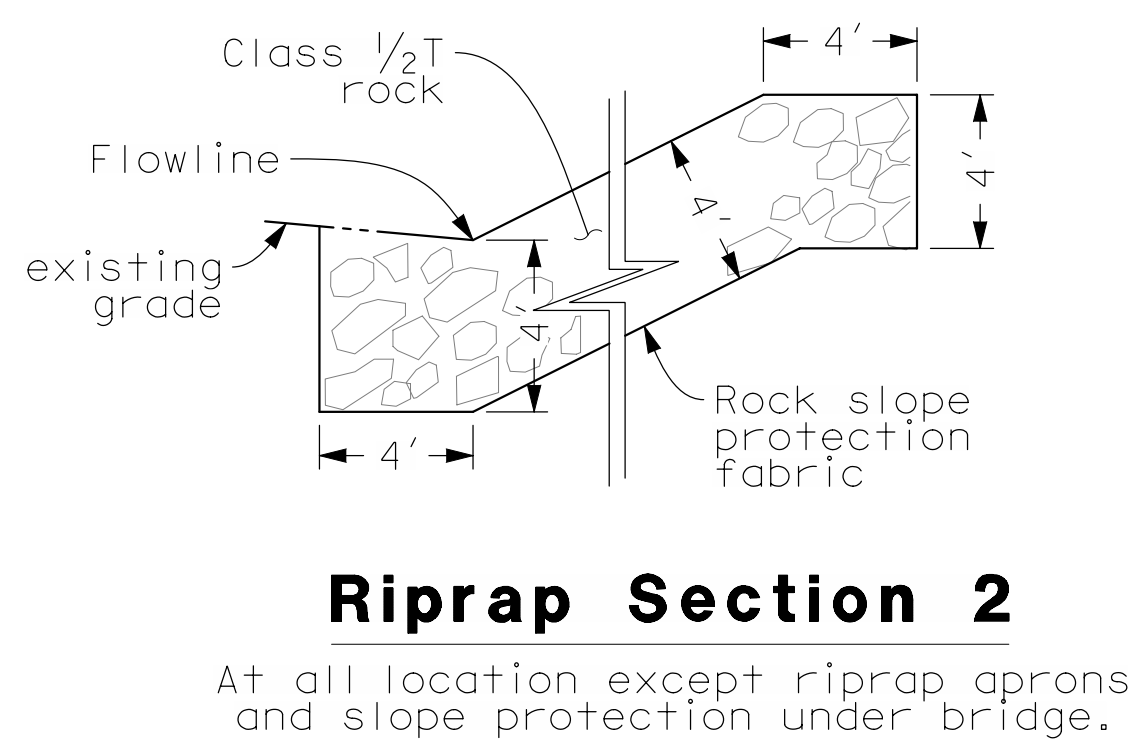
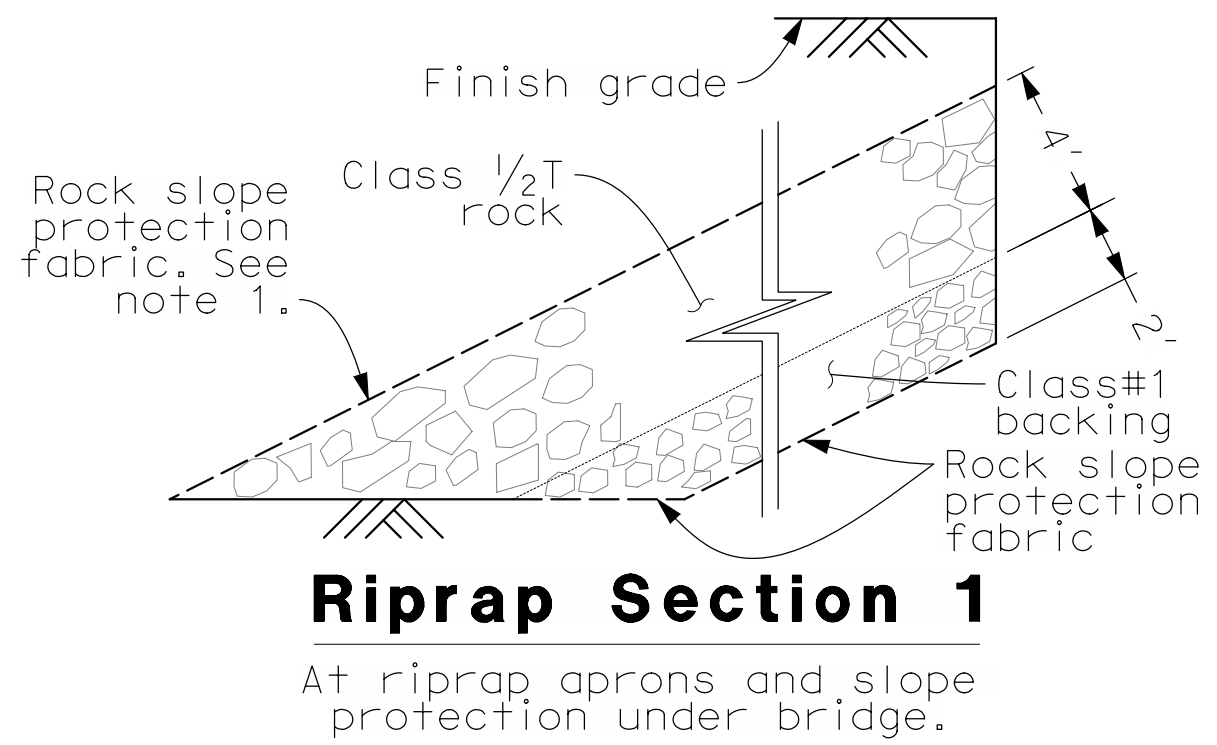
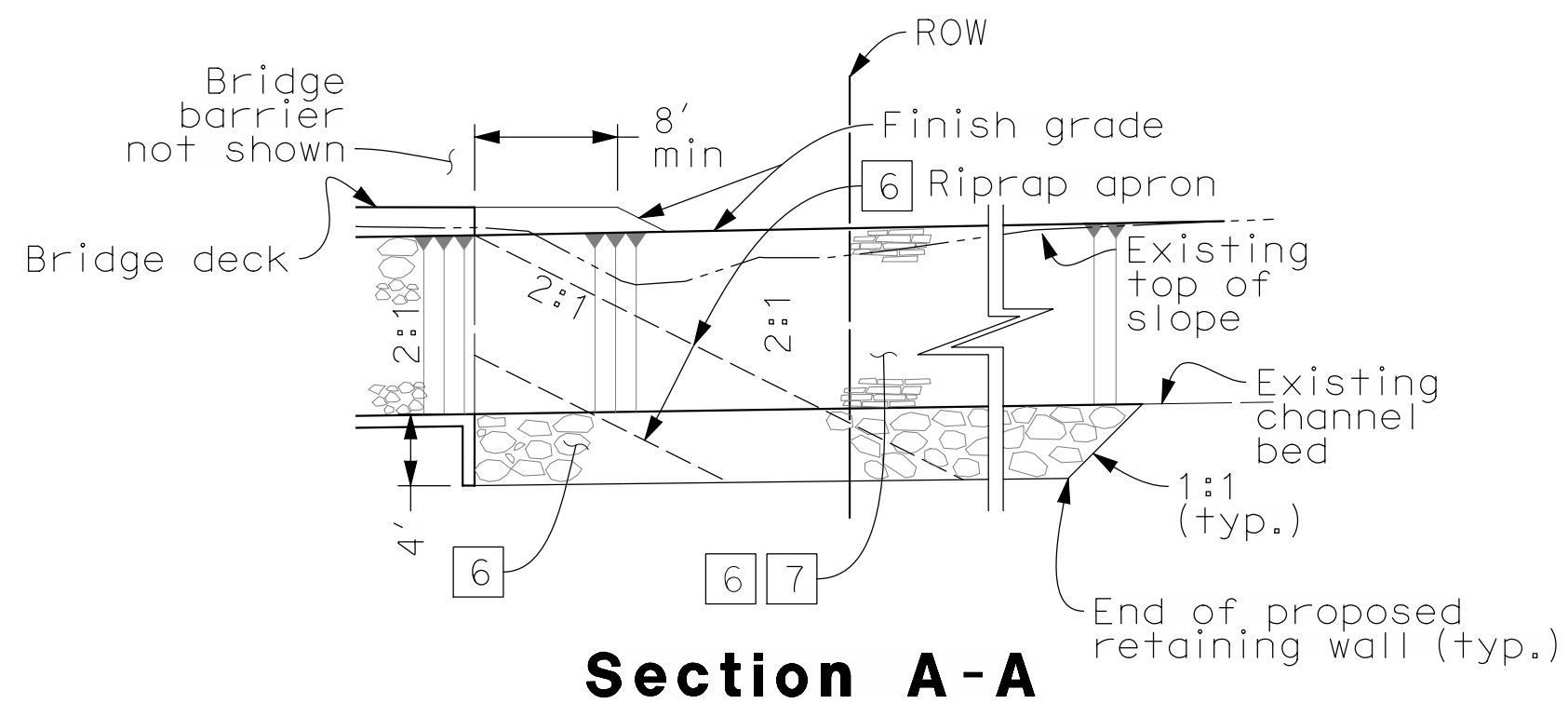
REPLACEMENT OF
ORANGE PARK BOULEVARD
BRIDGE AT HANDY CREEK

RETAINING
WALL
DETAILS

Sheet
Reference
Number

RW -3

Sheet 9 of 20



Construction Notes:

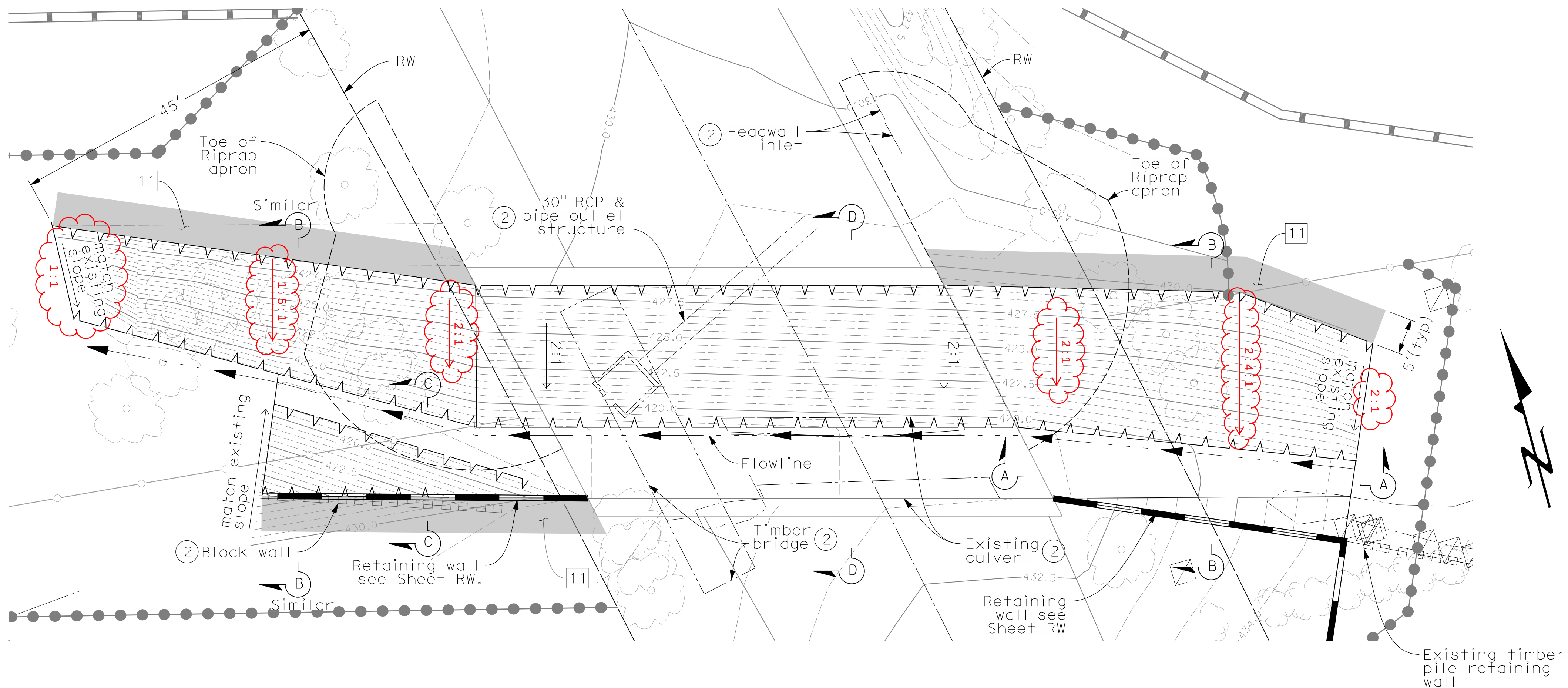
- 6 Construct slope and riprap protection per plan.
- 7 Remove existing broken stacked concrete.
- 8 Construct riprap apron per plans.
- 11 Hydroseed per Special Provisions.

Legend:

- 1 Protect in place
- 2 Remove
- Flow line

AS BUILT

CORRECTION BY: HAMID ABEDZADEH
CONTRACT NO.: ER20479
DATE: 04/04/2013



Plan

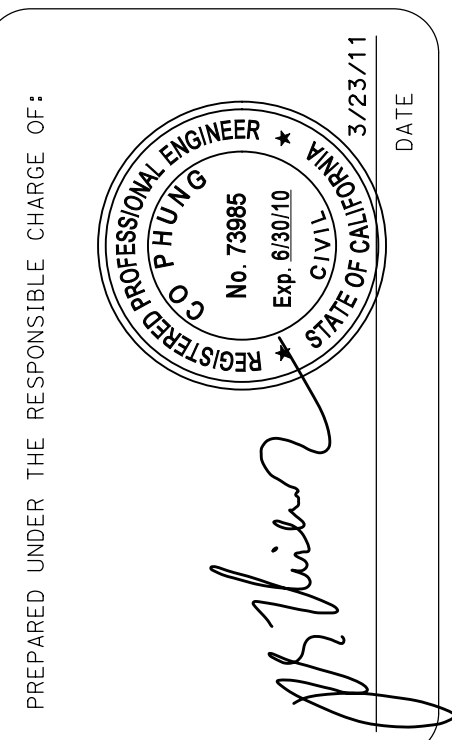
Scale 1"=10'

Note:

- 1. Provide fabric where fill required above Riprap apron or slope protection.



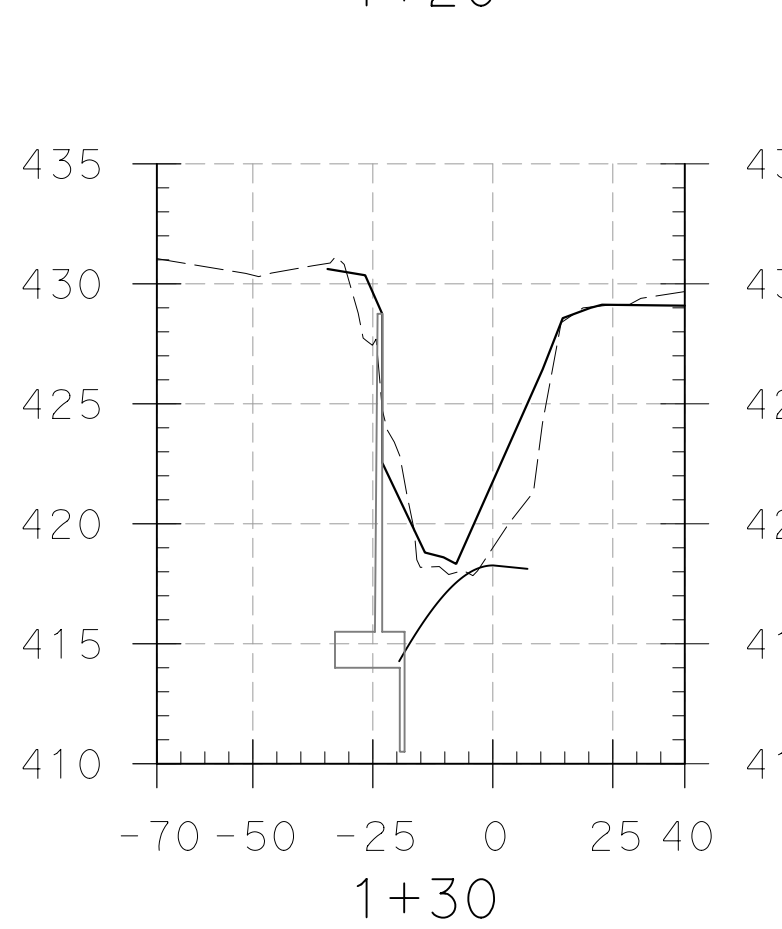
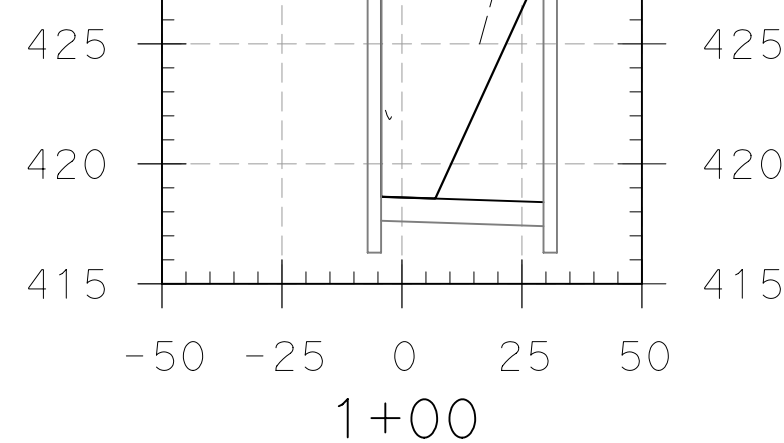
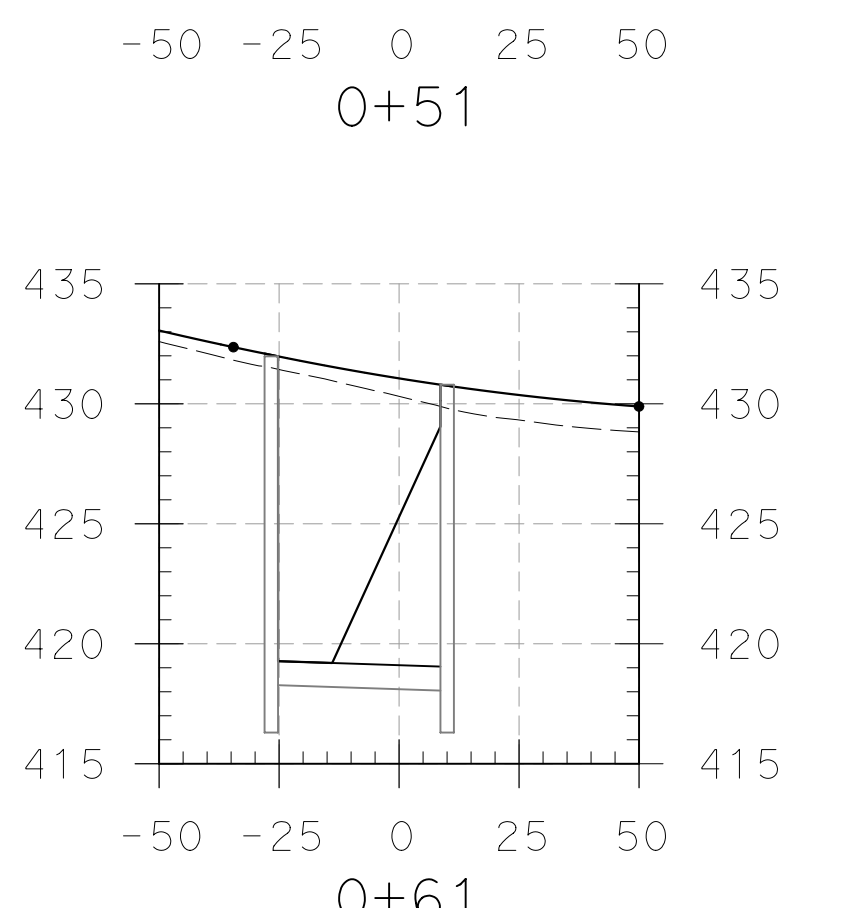
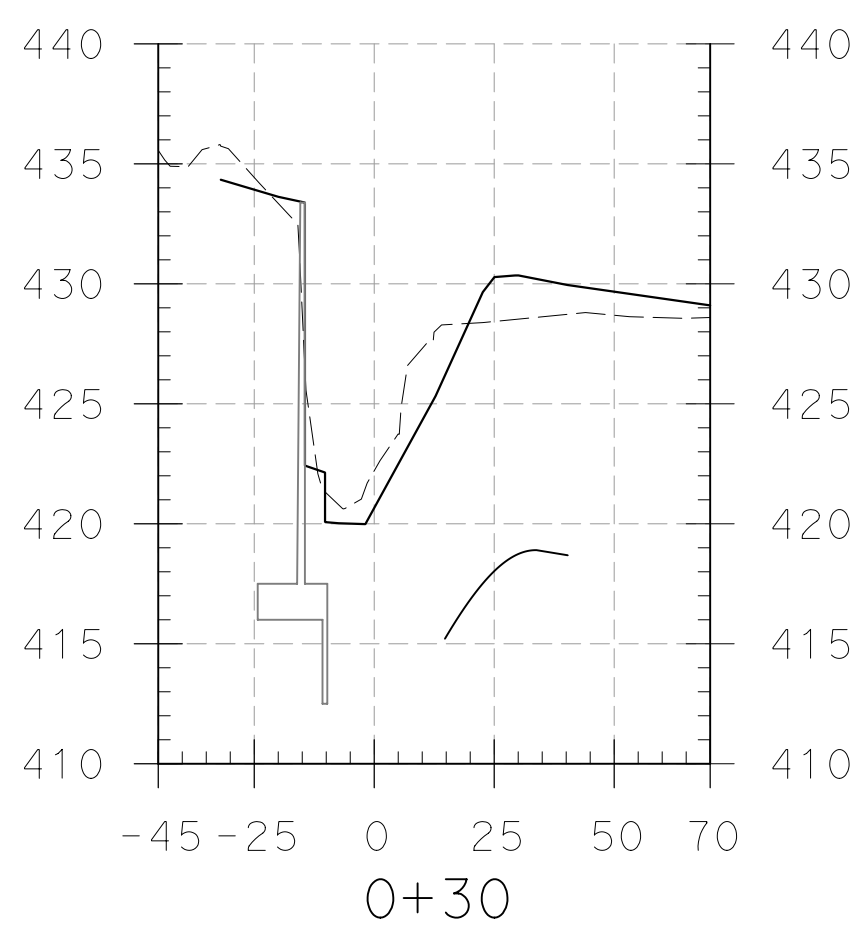
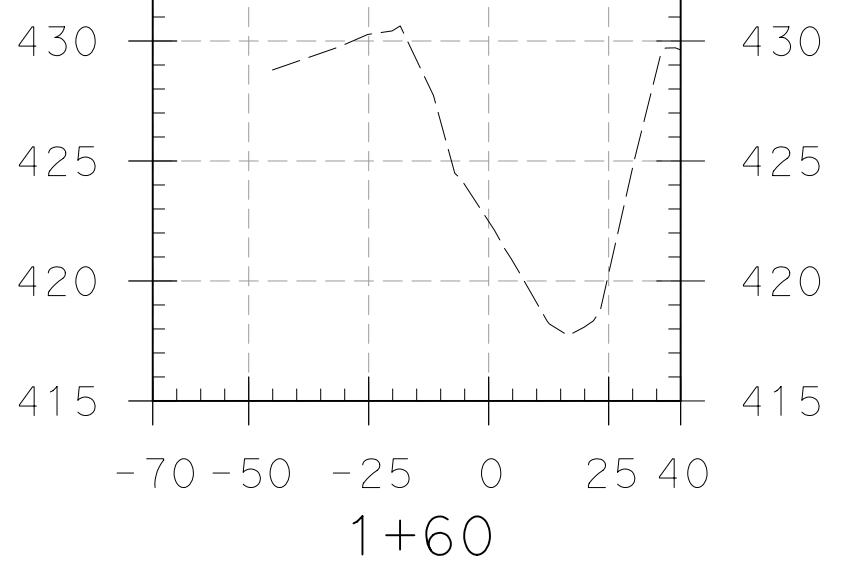
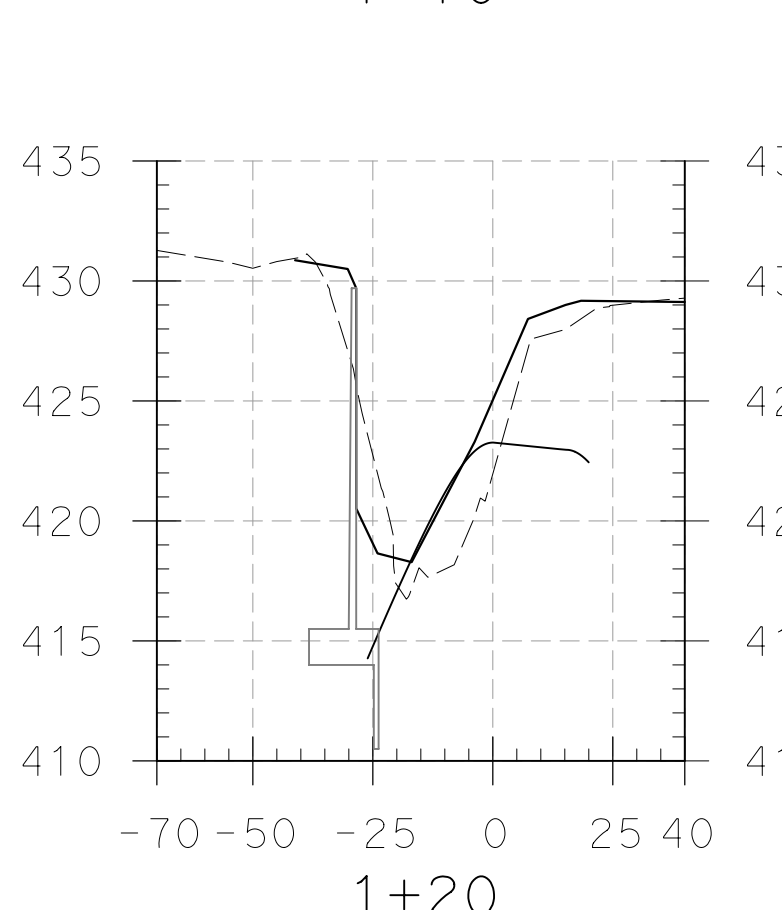
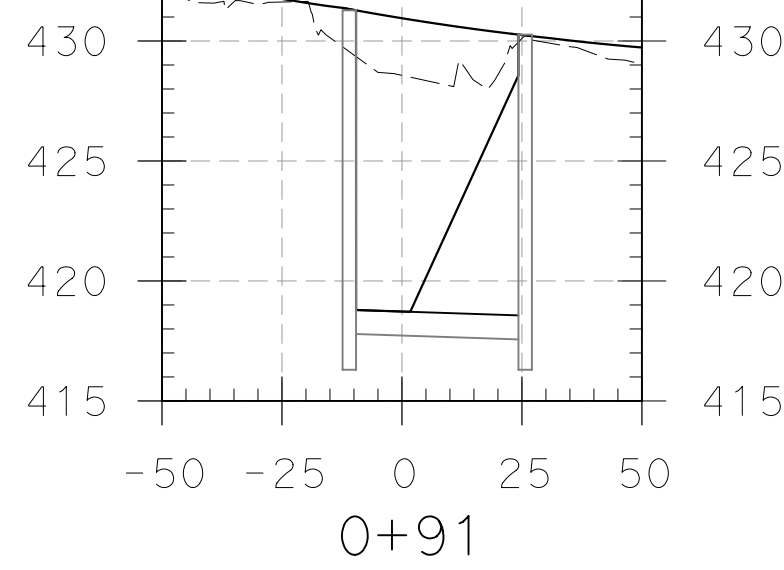
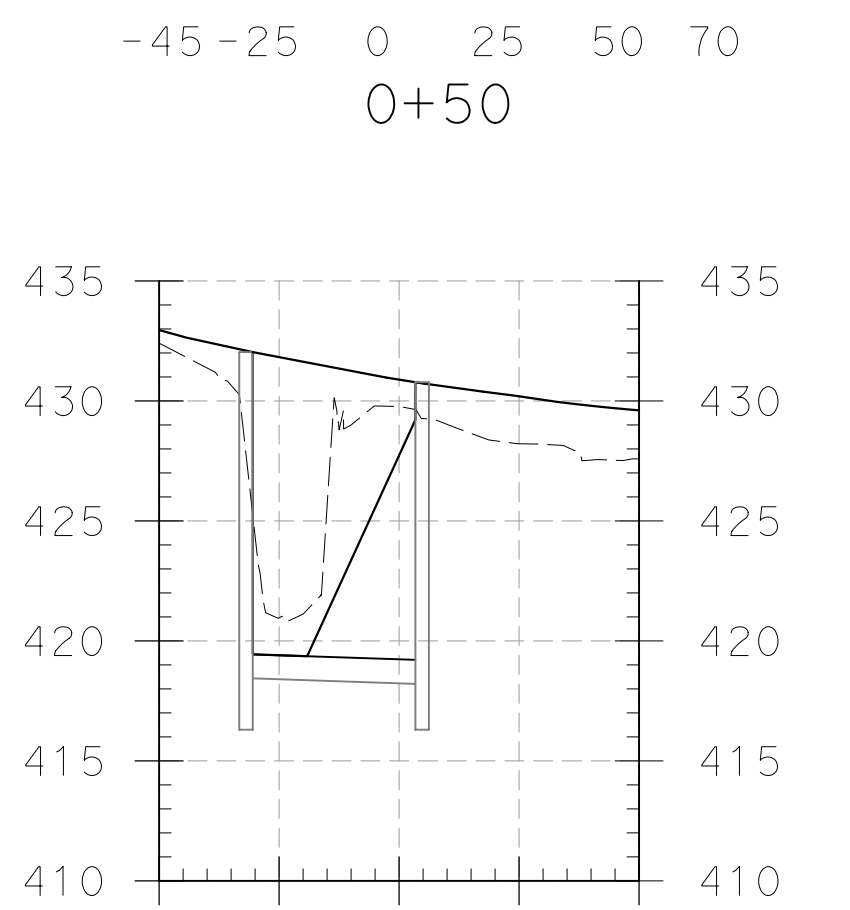
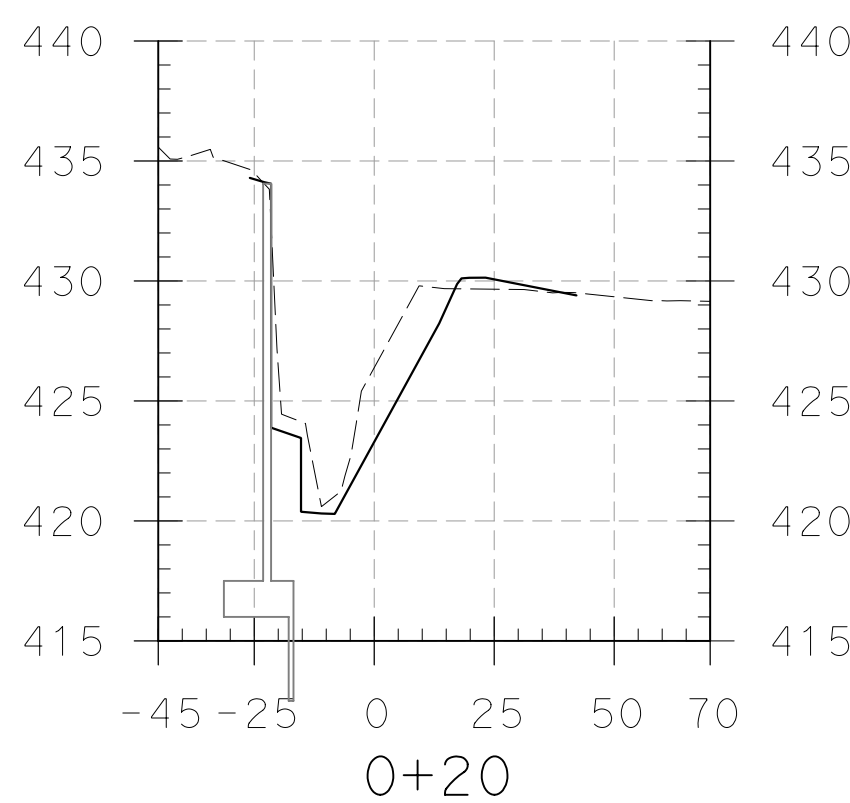
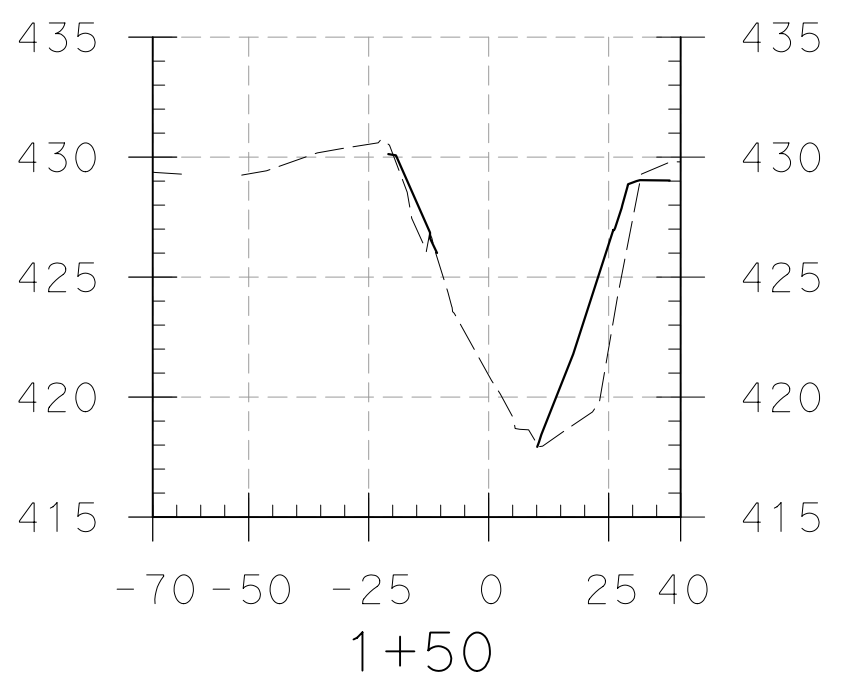
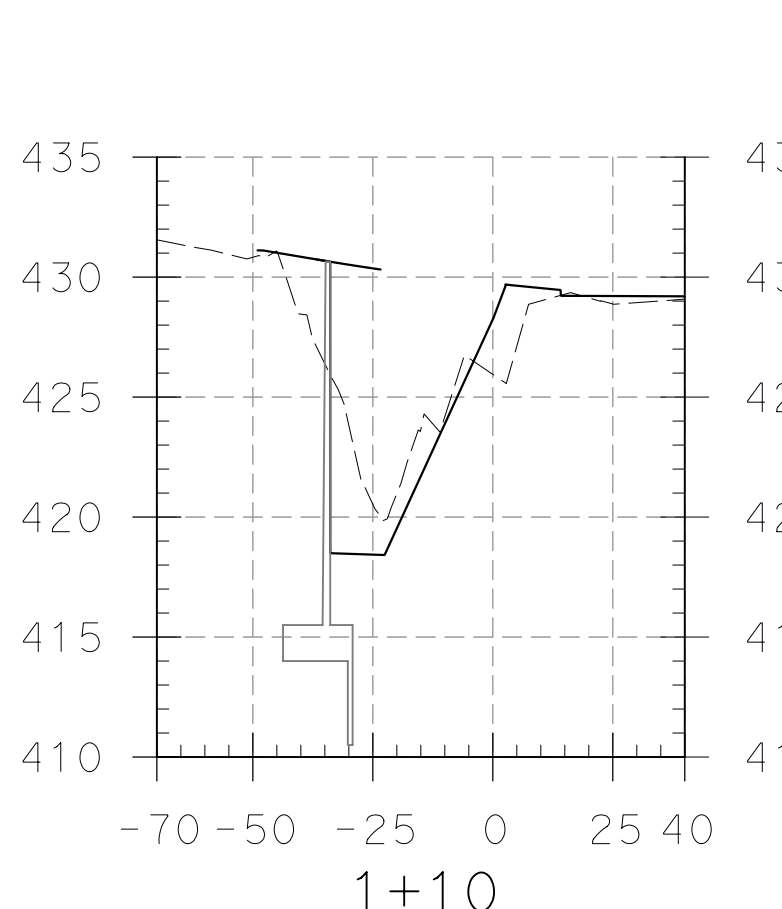
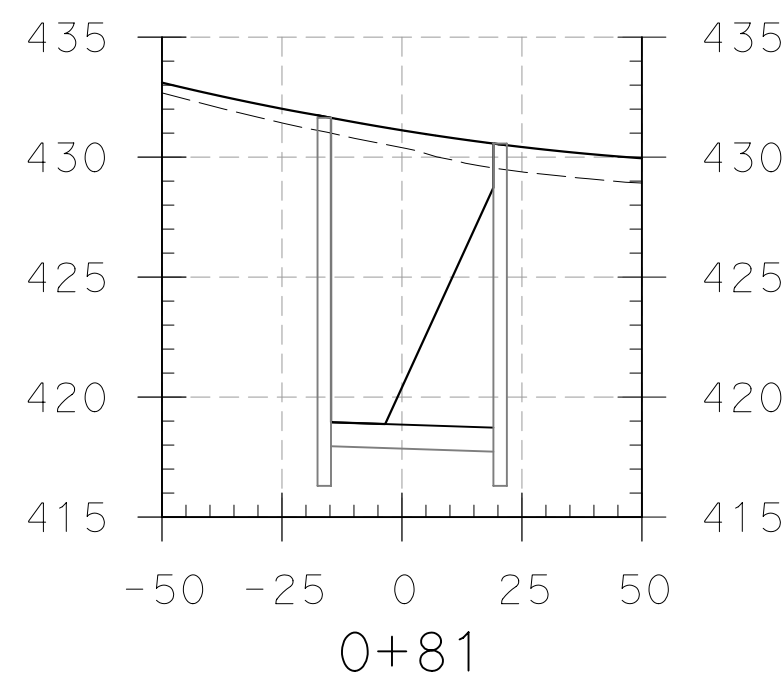
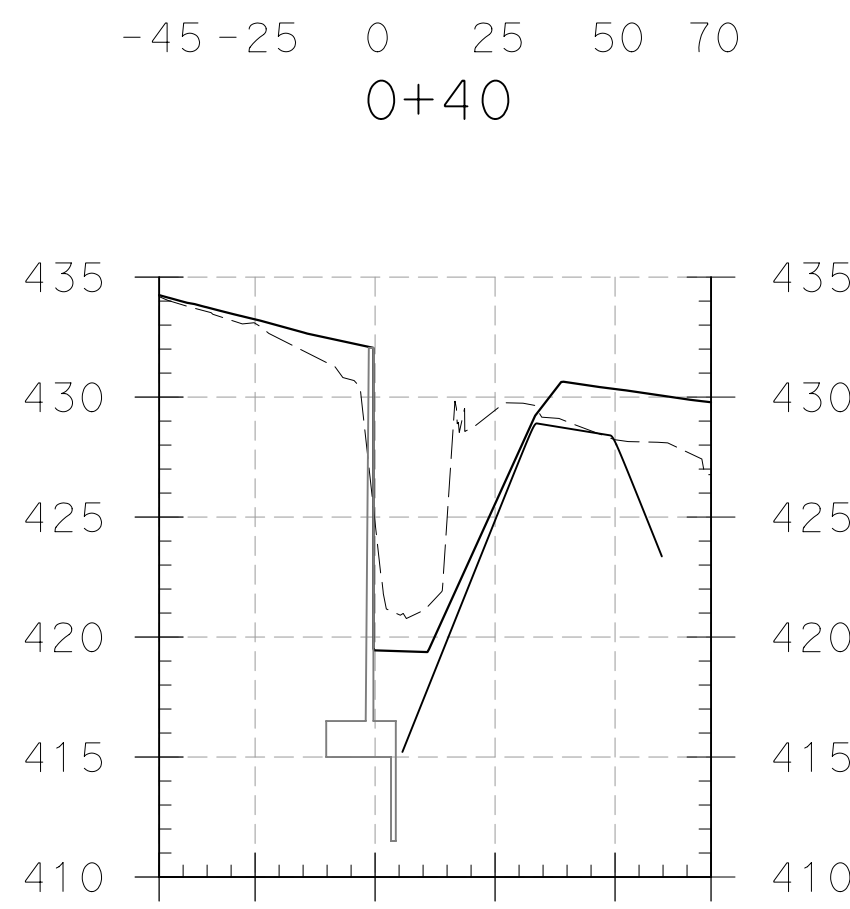
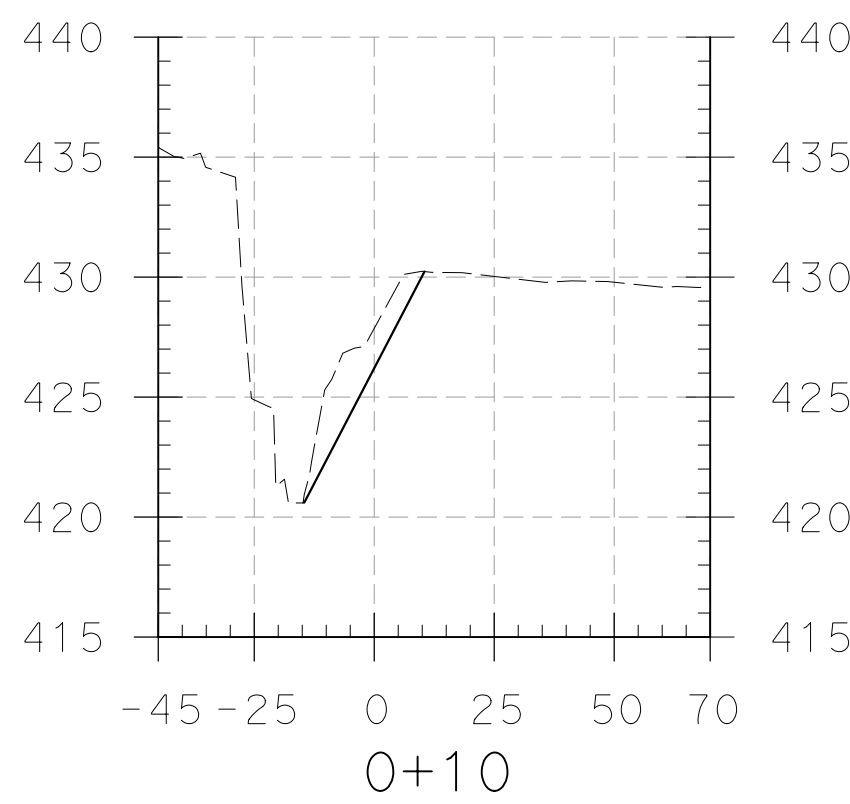
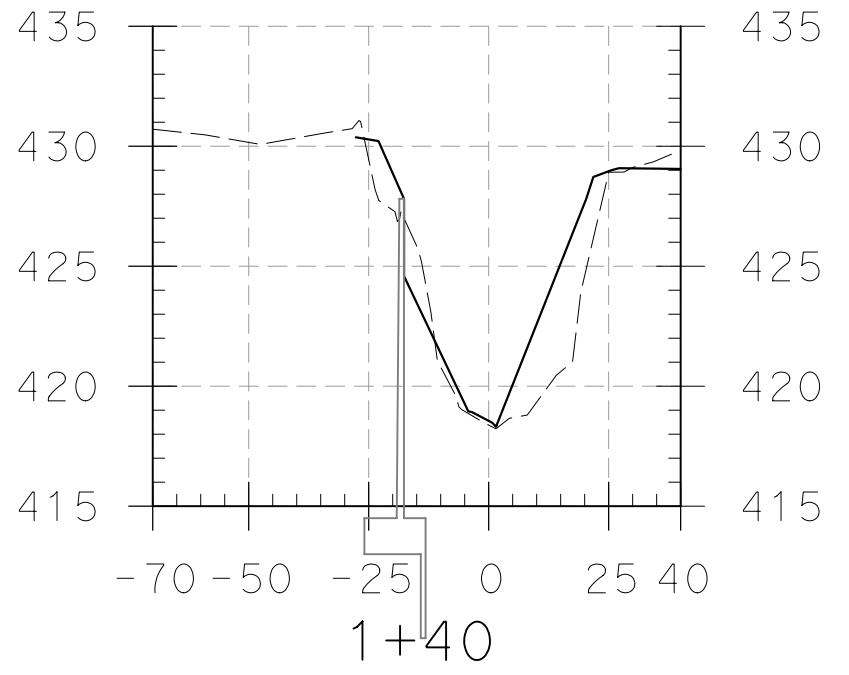
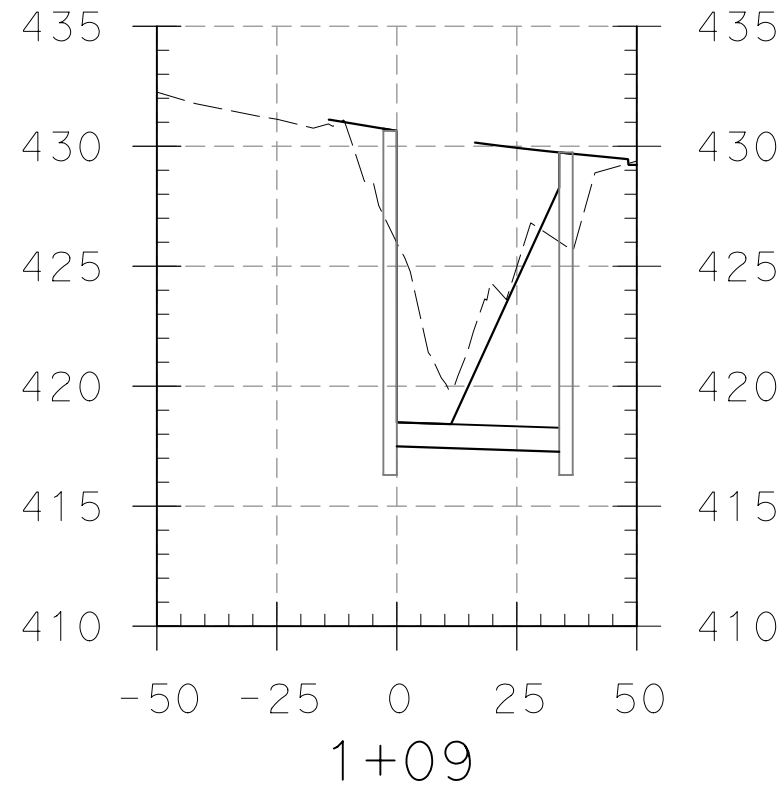
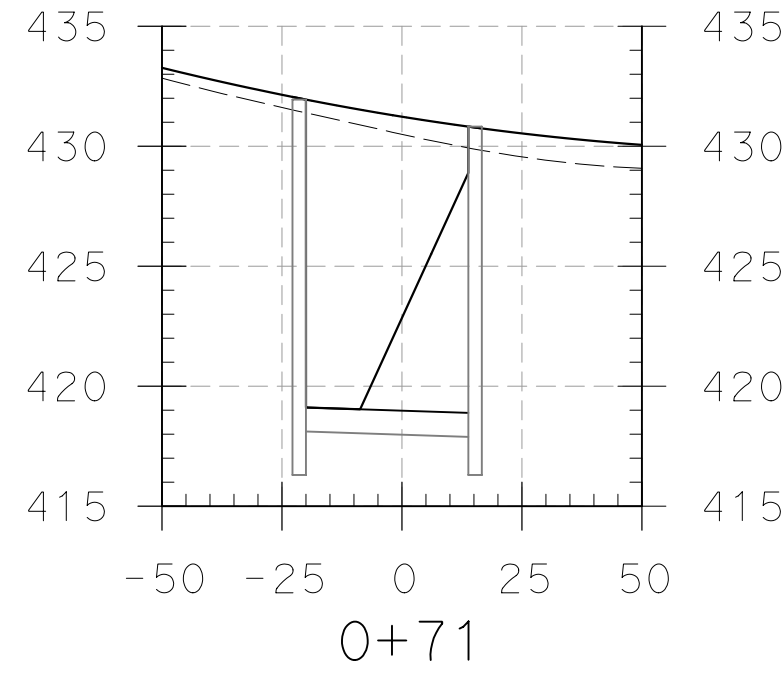
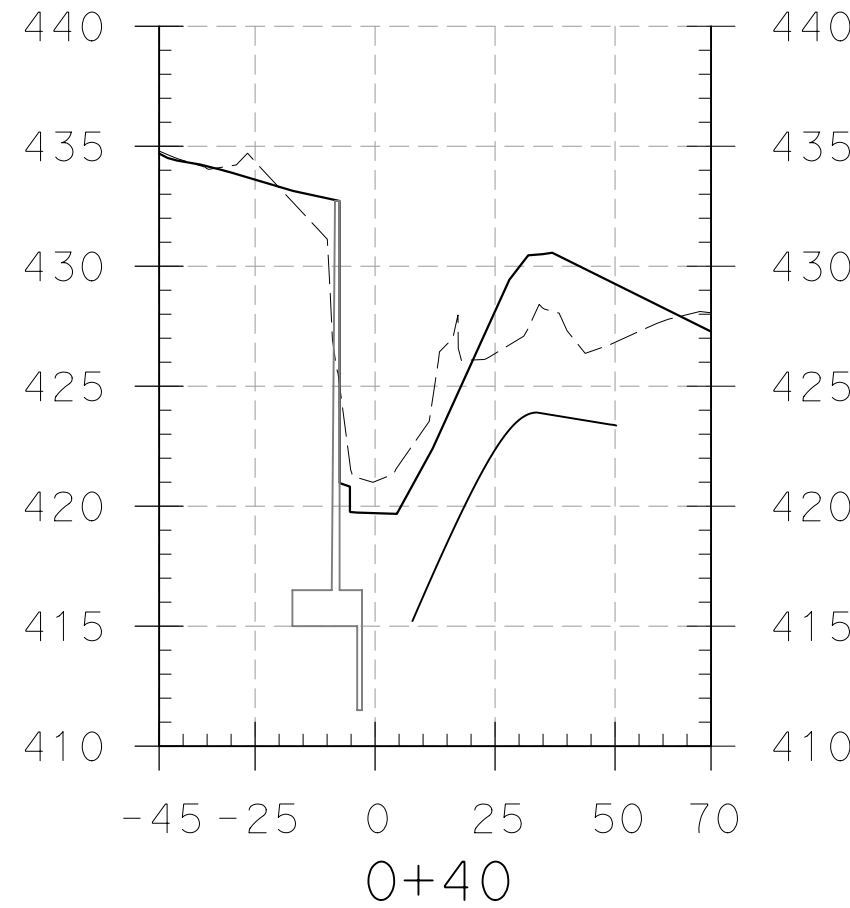
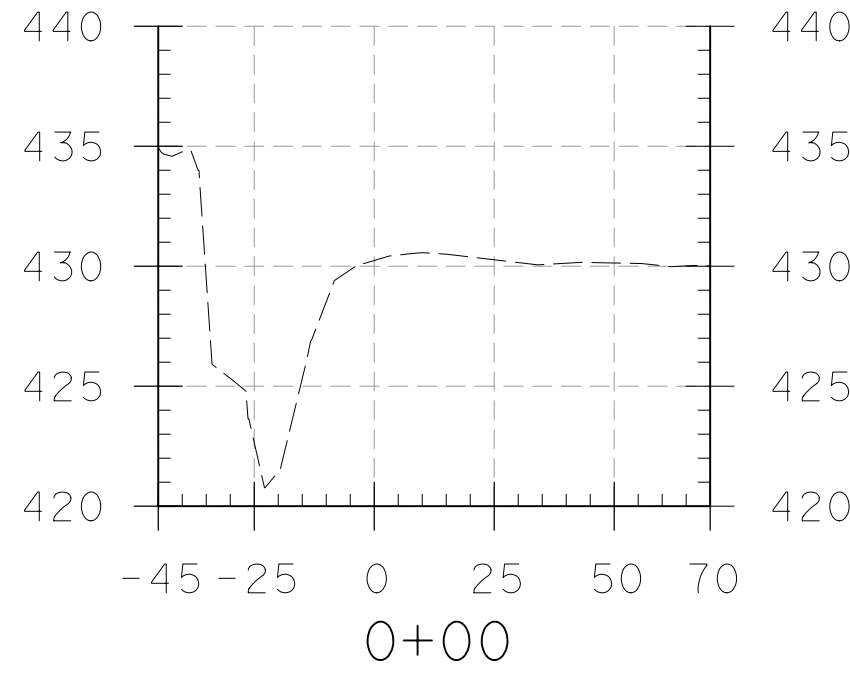
MARK	DESCRIPTION	DATE	APPR.



DESIGNED BY: C. PHUNG	CHECKED BY: R. HOLSTINGTON	DRAWING CODE:	FILE NAME:	PLOT DATE: 4/13/2011	SCALE: AS SHOWN
COUNTY OF ORANGE OC PUBLIC WORKS			PREPARED BY: ROAD / CAPITAL PROJECTS		

REPLACEMENT OF ORANGE PARK BOULEVARD BRIDGE AT HANDY CREEK	RIPRAP LINING
--	------------------

Sheet Reference Number	RL
Sheet 10 of 20	



NO AS BUILT CHANGES



MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

C. PHUNG
REGISTERED PROFESSIONAL ENGINEER
No. 73985
Exp. 6/30/10
CIVIL
STATE OF CALIF.

C. Phung

DATE: 3/23/11

DESIGNED BY: C. PHUNG
DRAWN BY: C. PHUNG
CHECKED BY: R. HOUSTON

DRAWING CODE: ROAD / CAPITAL PROJECTS

FILE NAME: ROAD / CAPITAL PROJECTS

PLOT DATE: 4/13/2011

SCALE: AS SHOWN

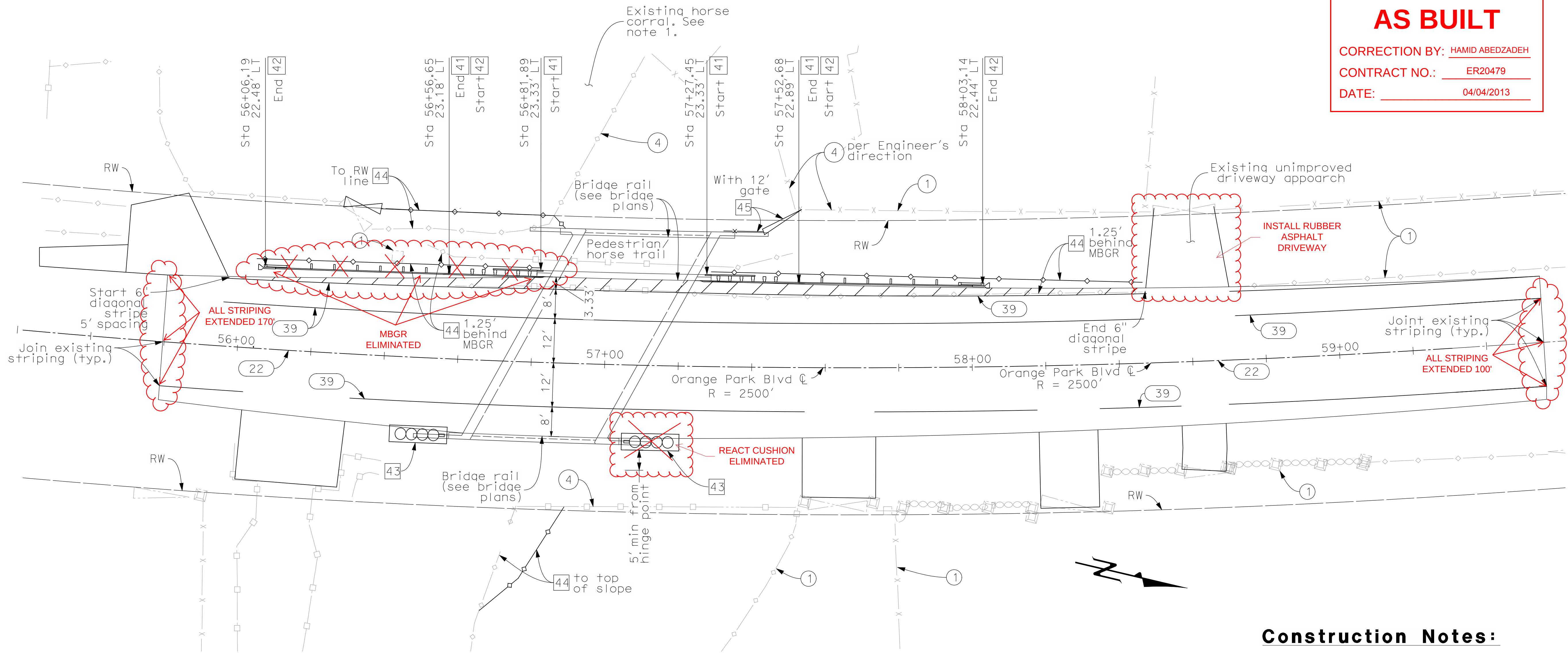
REPLACEMENT OF
ORANGE PARK BOULEVARD
BRIDGE AT HANDY CREEK

**CHANNEL
CROSS
SECTIONS**

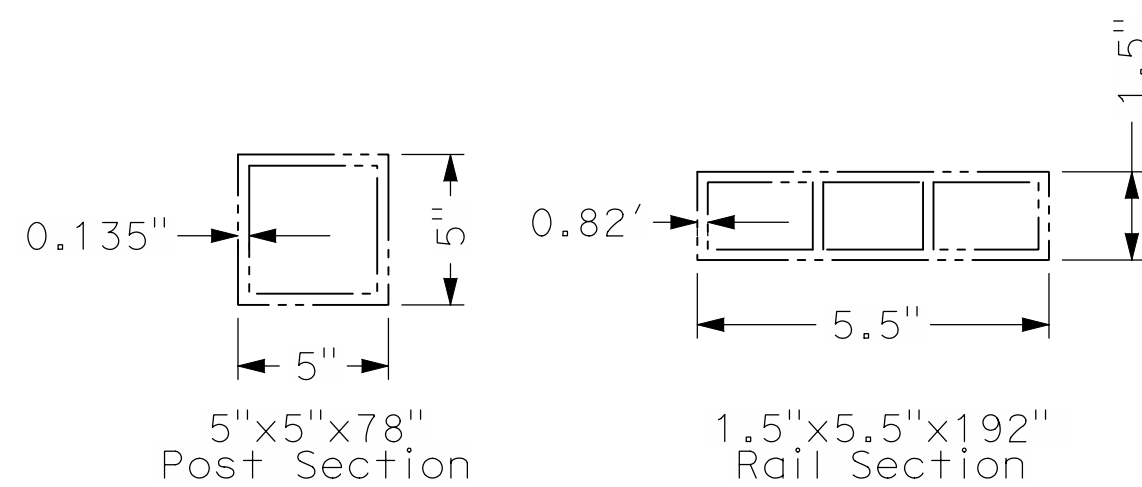
Sheet
Reference
Number

CXS

Sheet 11 of 20

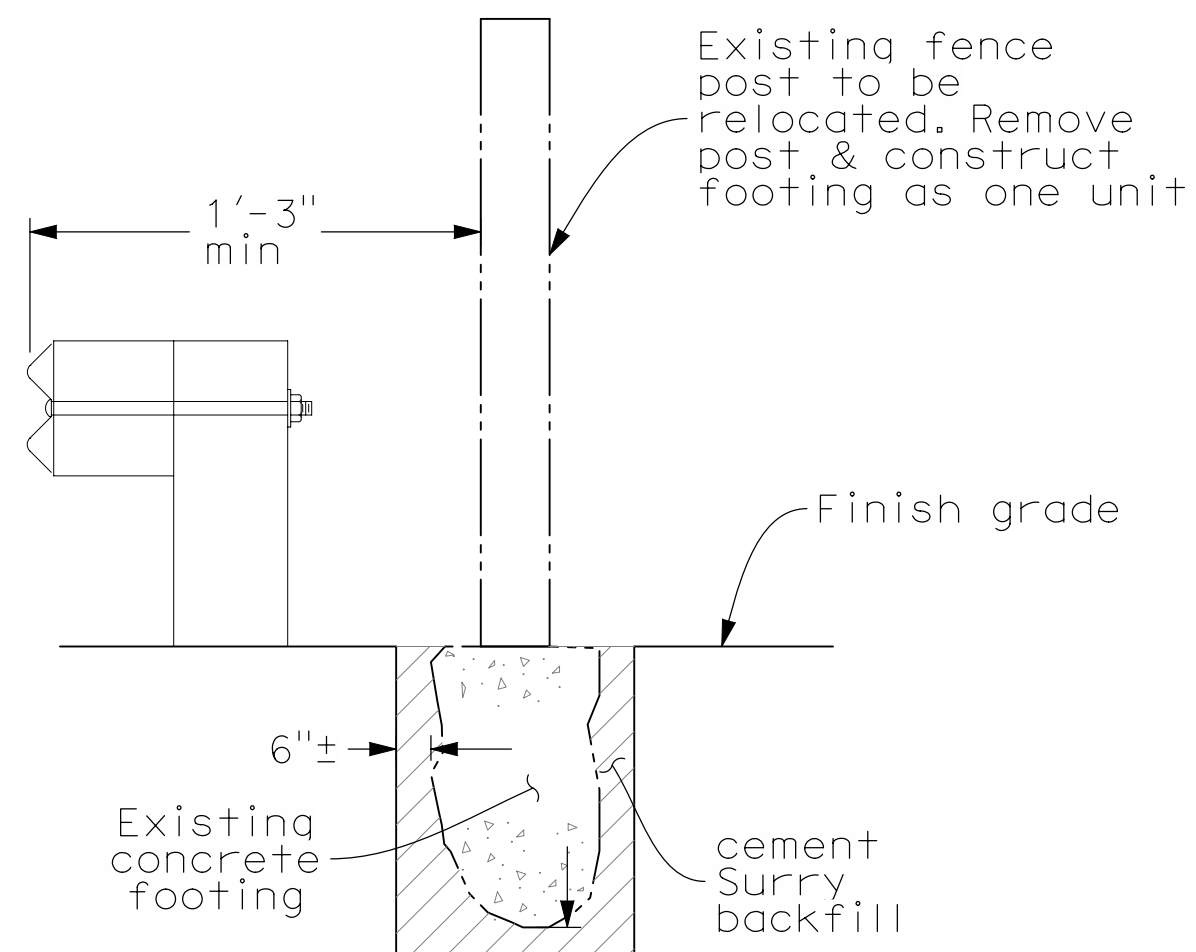


Traffic Striping, Fence, Metal Beam Guard Rail, and Crash Curshion Plan



Existing Fence Post & Rail

NTS



Fence Post Relocation Detail

NTS

Construction Notes:

- XX Install striping per Caltrans Standard Plan A20A, A20B, A20C and A20D detail XX.
- 41 Construct transition rail type WB per Caltrans Standard Plan A77J4 with blackout attachment.
- 42 Construct terminal system type ET per Caltrans Standard Plan A77L3.
- 43 Construct crash cushion type REACT 9SCBS per Caltrans Standard Plan A82D1 - 4 cylinders.
- 44 Relocate existing fence as indicated.
- 45 Construct 6' chain link fence or gate per OCPW Std Plans 600-1.

Legend:

- ① Protect in place
- ② Remove
- ④ Remove & replace

Notes:

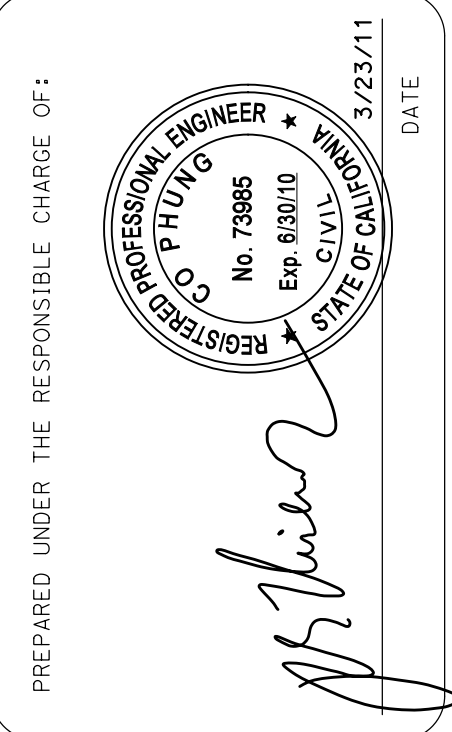
- Relocate existing horse steel corral per Engineer's direction and restore to the original location upon project completion.

AS BUILT

CORRECTION BY: HAMID ABEDZADEH
CONTRACT NO.: ER20479
DATE: 04/04/2013



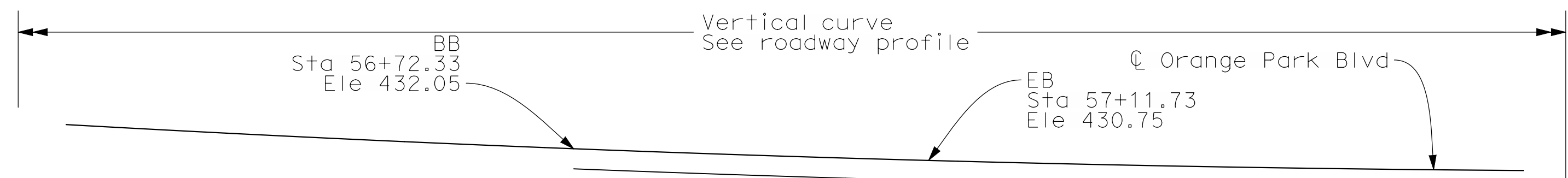
MARK	DESCRIPTION	DATE	APPR.



DESIGNED BY: C. PHUNG	CHECKED BY: R. HOUSTON	DRAWING CODE: FILE NAME: PLOT DATE: 4/13/2011
COUNTY OF ORANGE OC PUBLIC WORKS	PREPARED BY: ROAD / CAPITAL PROJECTS	SCALE: AS SHOWN



Sheet Reference Number
GR&S
Sheet 12 of 20



Profile Grade

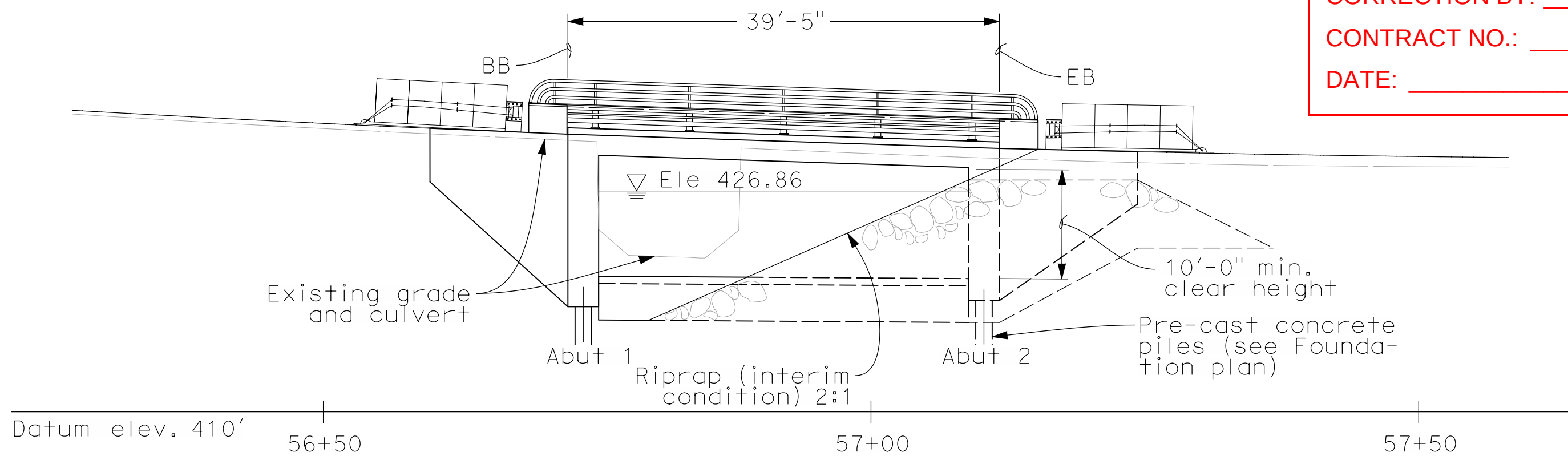
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AS BUILT

CORRECTION BY: HAMID ABEDZADEH

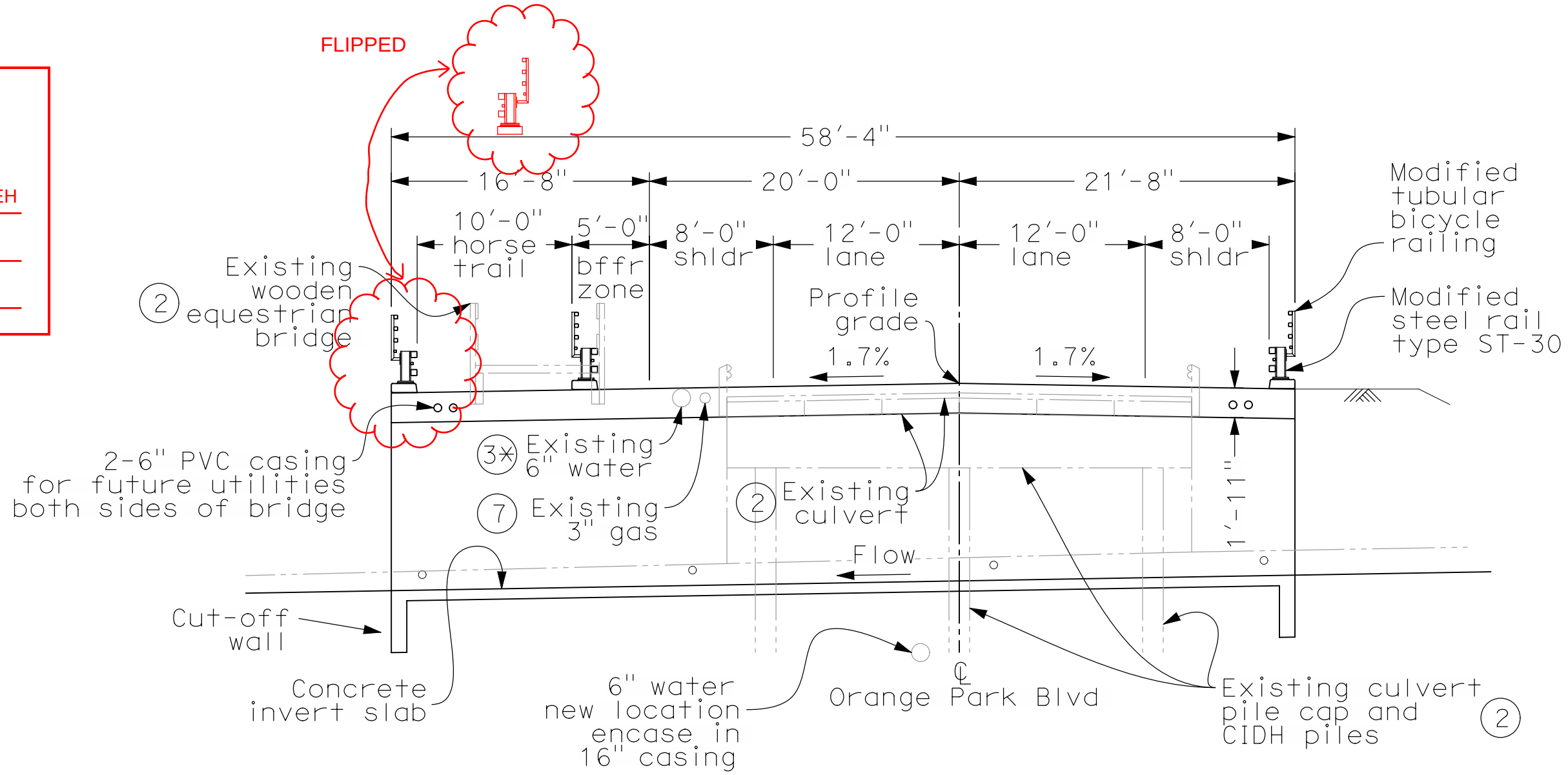
CONTRACT NO.: ER20479

DATE: 04/04/2013



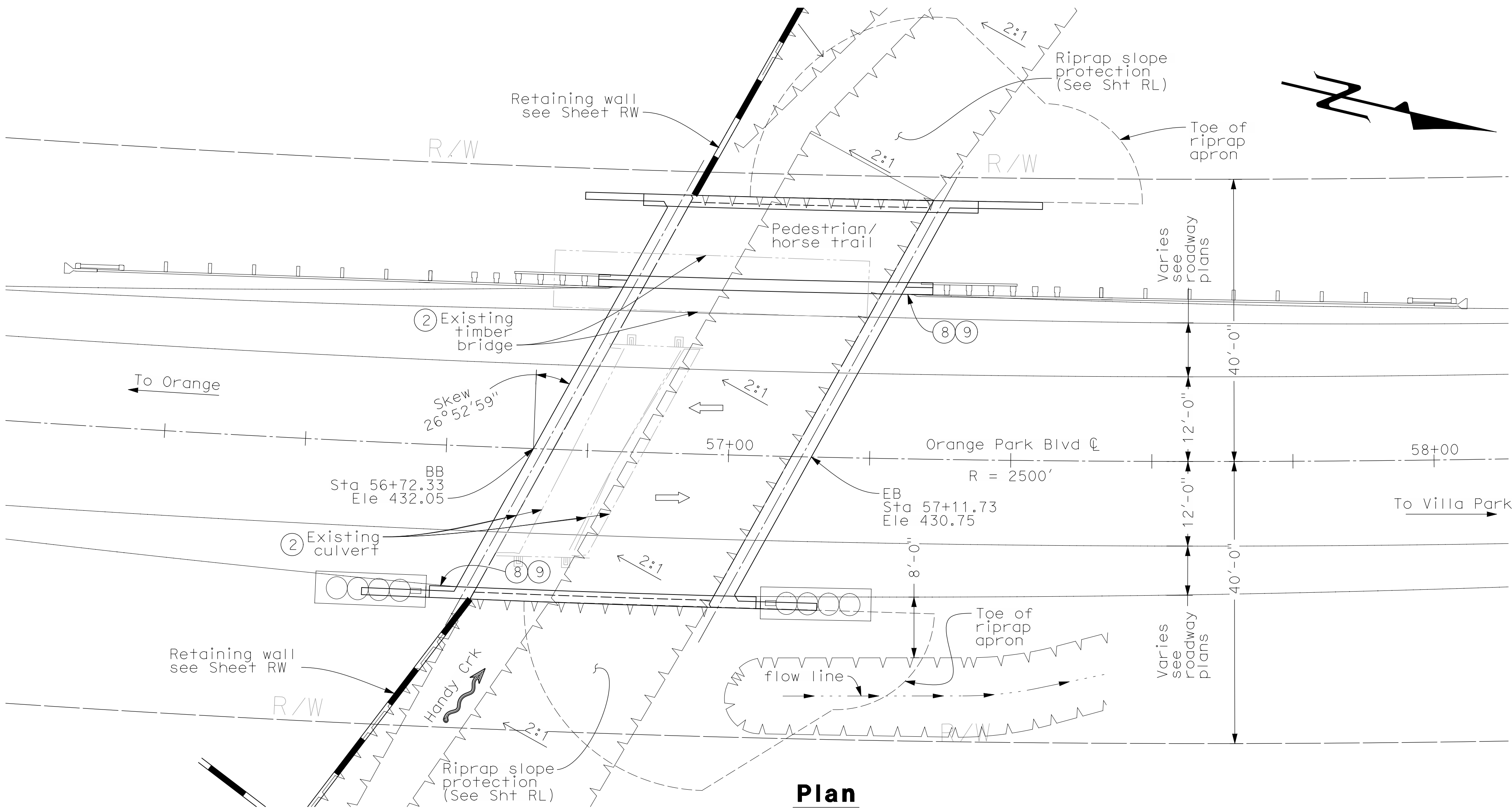
Elevation

1" = 10'



Typical Section

1" = 8'



Plan

1" = 10'

Legend:

- ① Protect in place
- ② Remove
- ③ Relocate
- ③* To be relocated by others
- ⑦ To be abandoned by others
- ⑧ Paint "Bridge Number #####"
- ⑨ Paint "Orange Park Blvd Bridge Over Handy Creek"

- Existing structure
- Proposed structure
- Direction of traffic
- Direction of flow
- Slope indicator
- Caltrans standard plan sheet no.
- Detail no.

Note:
For general notes, see Deck Contours sheet.



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C. PHUNG
No. 73985
Exp. 6/30/10
STATE OF CALIF.

DATE: 3/23/11

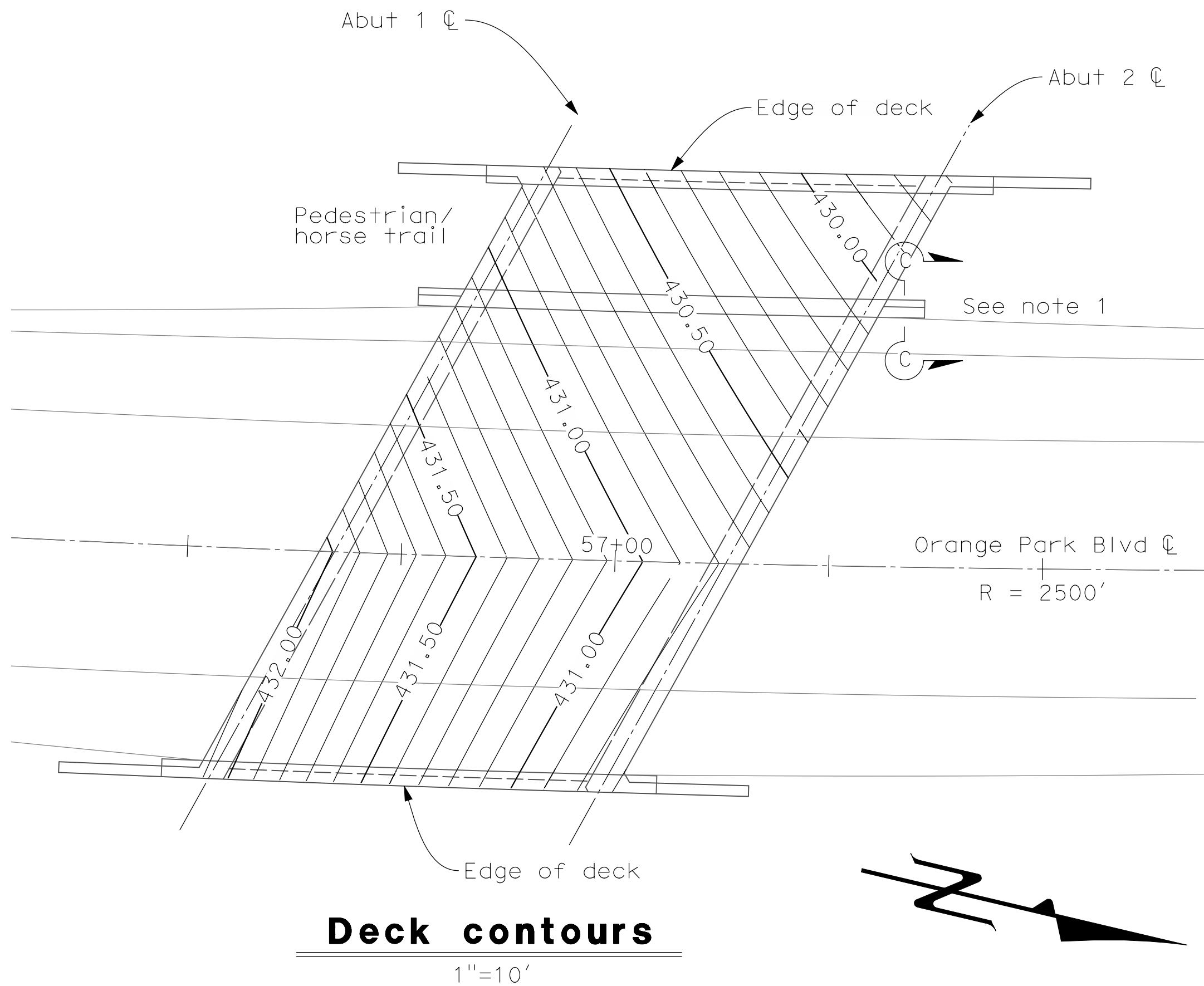
DESIGNED BY: C. PHUNG	CHECKED BY: R. HOUSTON	DRAWING CODE:	FILE NAME:	SCALE: AS SHOWN
OC PUBLIC WORKS	OC PUBLIC WORKS			
COUNTY OF ORANGE		PREPARED BY: ROAD / CAPITAL PROJECTS		

REPLACEMENT OF
ORANGE PARK BOULEVARD
BRIDGE AT HANDY CREEK

**BRIDGE
GENERAL
PLAN**

Sheet
Reference
Number

Sheet 13 of 20



General Notes

Load and Resistance Factor Design

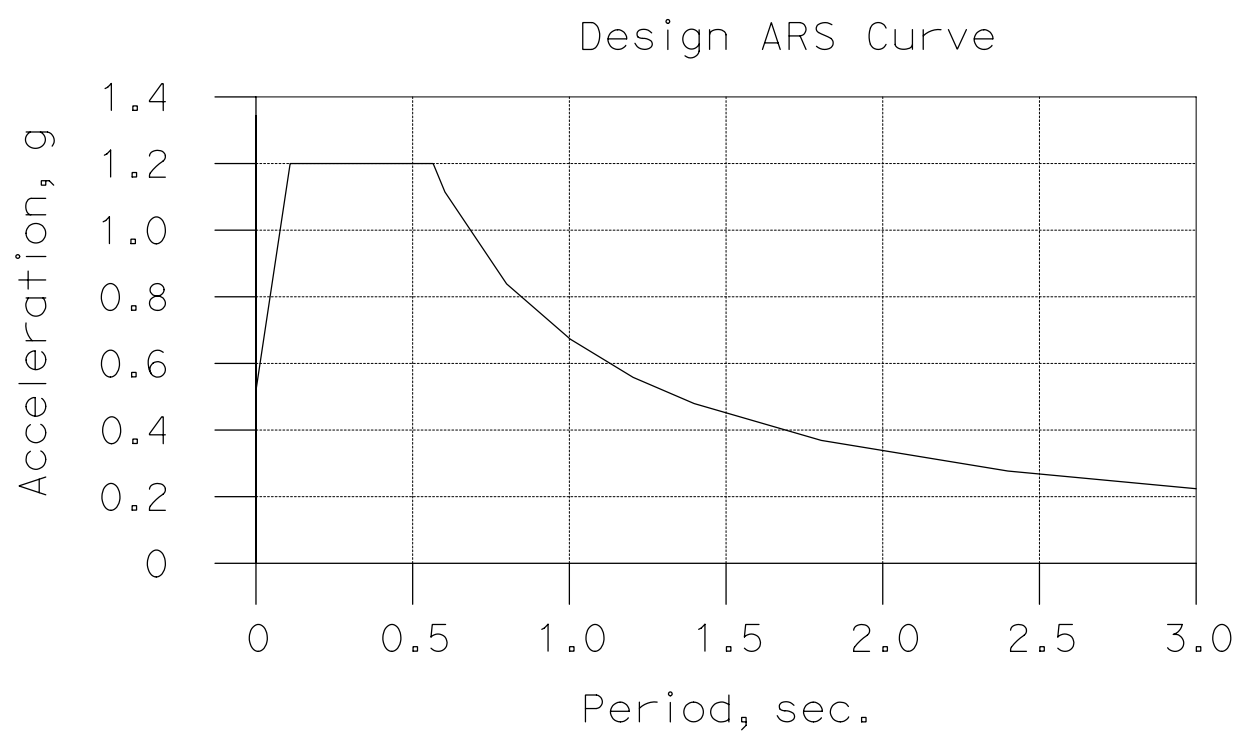
DESIGN:
AASHTO LRFD Bridge Design Specifications,
4th Edition with California Amendments.

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC),
version 1.4 dated June 2006.

DEAD LOAD:
Includes 35 PSF for future wearing surface.

LIVE LOADING:
HL93 with low-boy and permit design load.

SEISMIC LOAD:
Site Specific Acceleration Response Spectra Curve



REINFORCED CONCRETE:
fy = 60 ksi
f'c = 3,6 ksi
n = 8

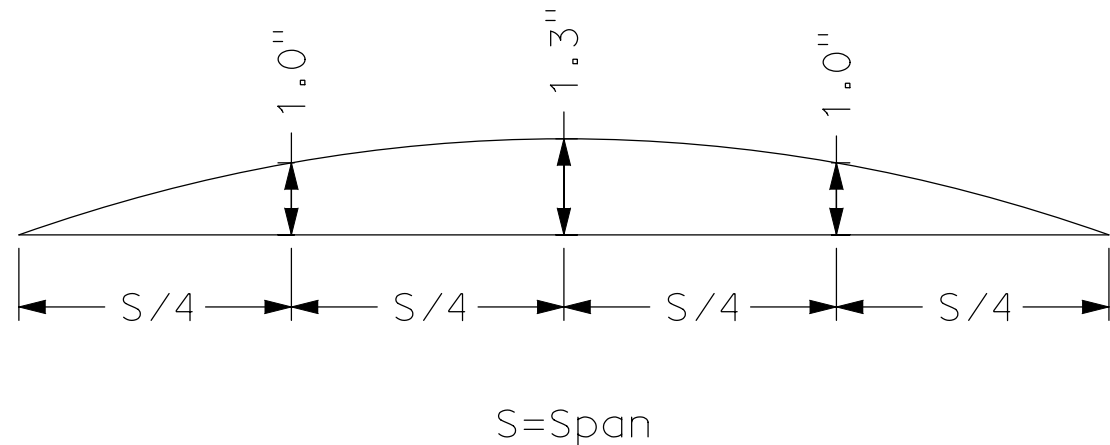
Index to Plans

- 12 Bridge General Plan
- 13 Deck Contours
- 14 Foundation Plan
- 15 Abutment Details
- 16 Deck Reinforcement
- 17 Modified Steel Railing
- ST-30 & Bicycle Rail
- 18 Log of Test Borings

Caltrans Standard Plan Dated May 2006

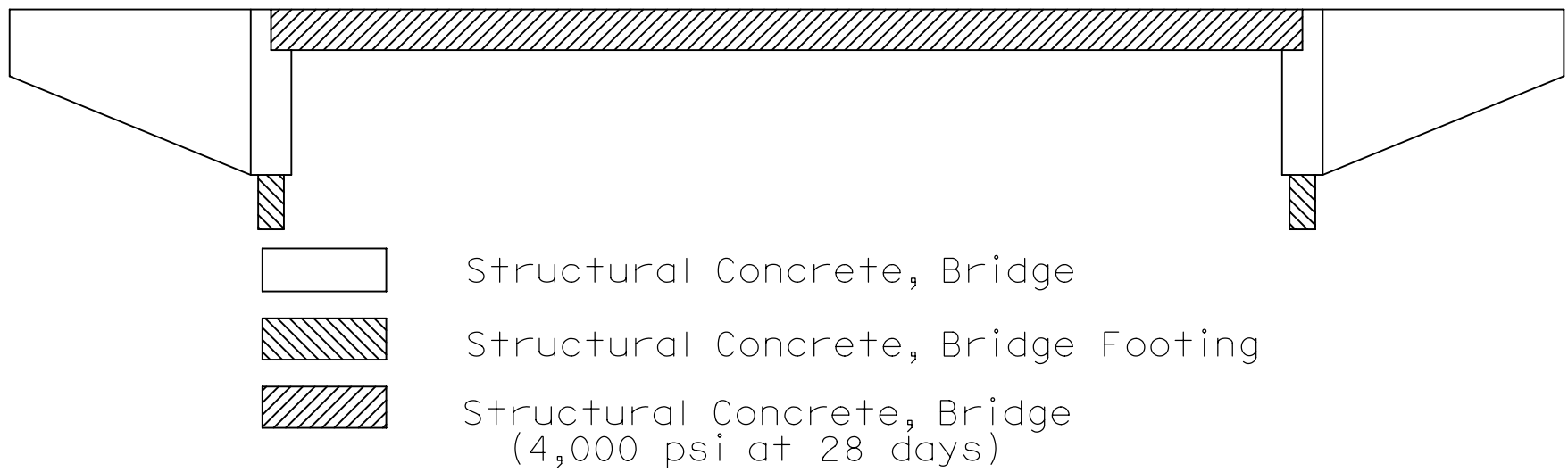
- A10A Abbreviations
- A10B Abbreviations
- A10C Symbols
- A10D Symbols
- A-62C Limits of Pavement for
excavation & Backfill - Bridge
- B0-1 Bridge Details
- B0-3 Bridge Details
- B2-5 Pile Details
- B11-65 California ST-30 Bridge Rail

NO AS BUILT CHANGES



Bridge Camber Diagram

No Scale



Concrete Strength and Type Limits

No Scale

- Note:
- For section C-C, see "Abutment Details" Sheet.
 - The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.



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REGISTERED PROFESSIONAL ENGINEER
C. PHUNG
No. 73985
Exp. 6/30/10
CIVIL
STATE OF CALIF.
3/23/11
DATE

DESIGNED BY: C. PHUNG	CHECKED BY: R. HOUSTON	FILE NAME:	SCALE: AS SHOWN
DRAWN BY: C. PHUNG	DRAWING CODE:	PLOT DATE: 4/13/2011	
COUNTY OF ORANGE OC PUBLIC WORKS	PREPARED BY: ROAD / CAPITAL PROJECTS		

REPLACEMENT OF
ORANGE PARK BOULEVARD
BRIDGE AT HANDY CREEK

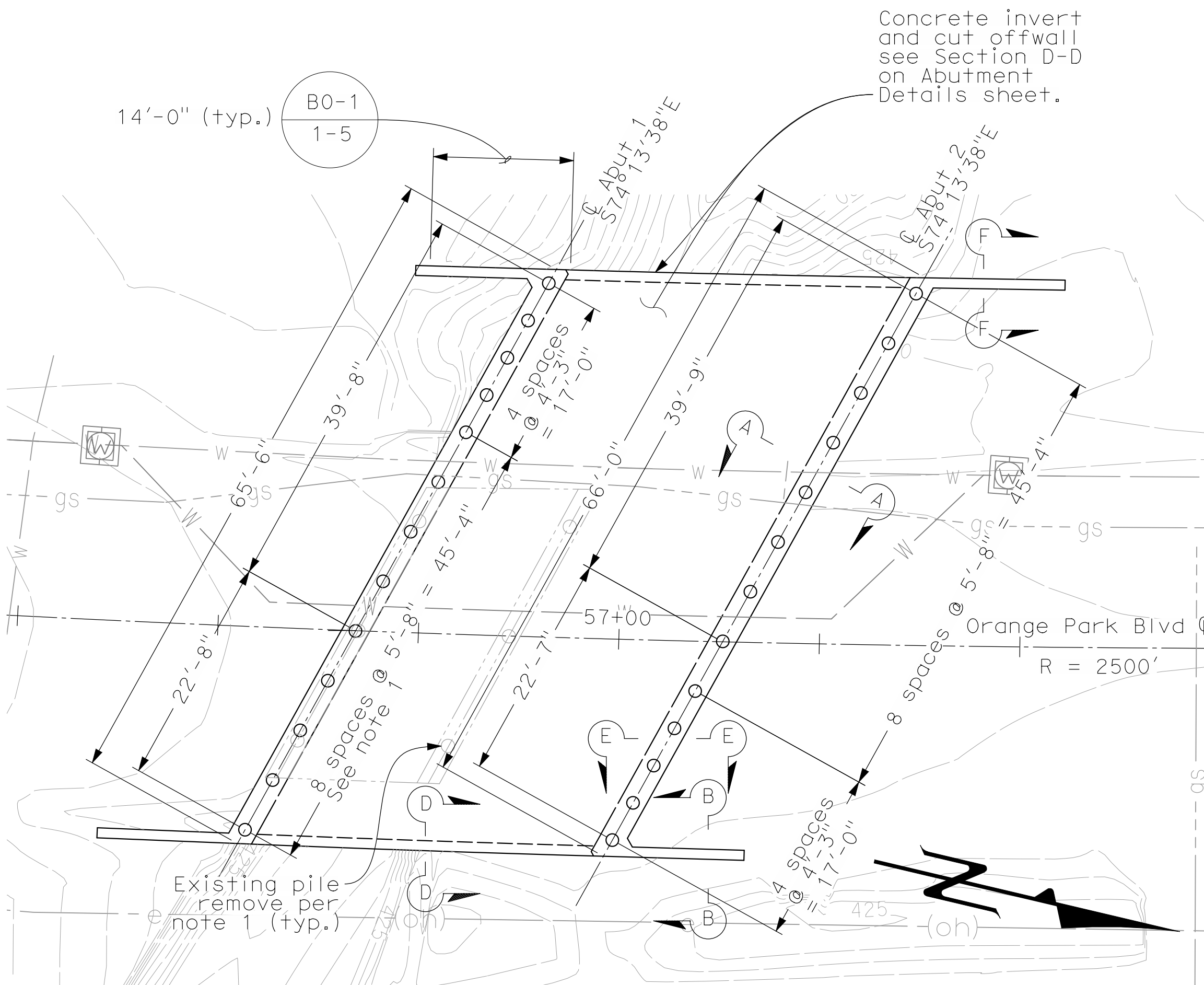
**DECK
CONTOURS**

Sheet
Reference
Number

Sheet 14 of 20

	Design Flood	
Frequency	100 years	
Discharge (high confidence)	3500 (CFS)	
Water Surface Elevation at Bridge	Interim	Overtop 434.6'
	Ultimate	426.9'

NO AS BUILT CHANGES



Pile Layout

1":10'
See Sheet Abutment Details
for sections details.

Pile Data Table

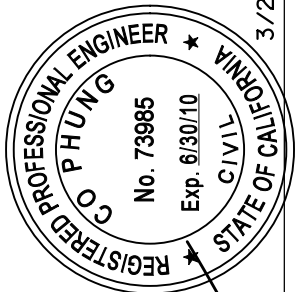
Location	Pile Type	Design Loading	Nominal Resistance (Compression)	Design Tip Elevations	Specified Tip Elevations
Abutment 1	Caltrans Class 90	90 kips	180 kips	390 ft+ (compression)	390 ft
Abutment 2	Caltrans Class 90	90 kips	180 kips	390 ft+ (compression)	390 ft

Note:

1. Existing 16" CIDH piles. Cut and remove to 3' below invert. If in conflict, adjust the new pile location $\pm 1'$ max.
2. For sections A-A, B-B, D-D, E-E and F-F, see "Abutment Details" sheet.

[illegible]

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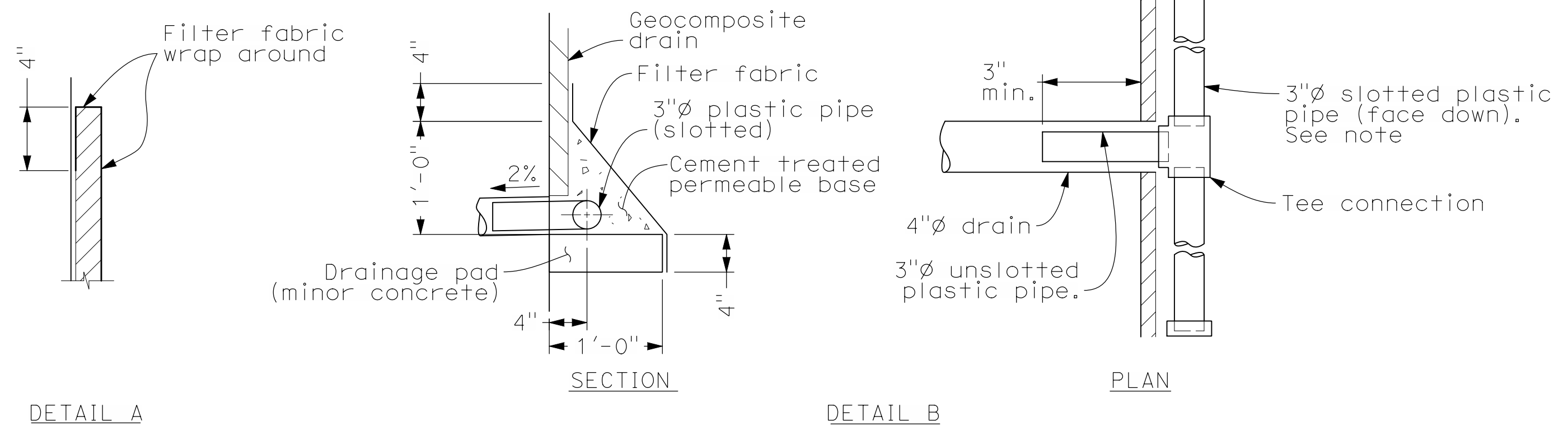
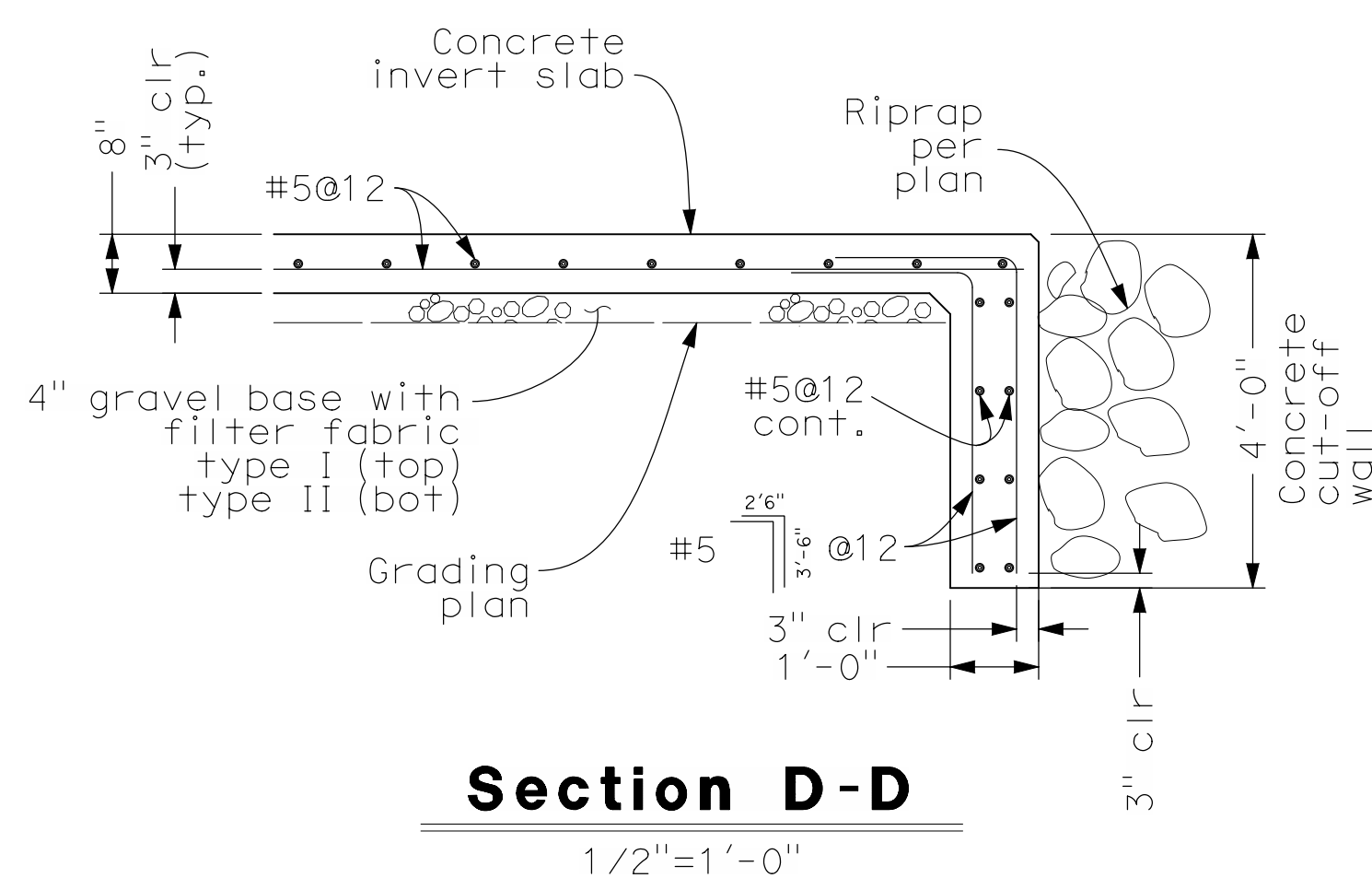
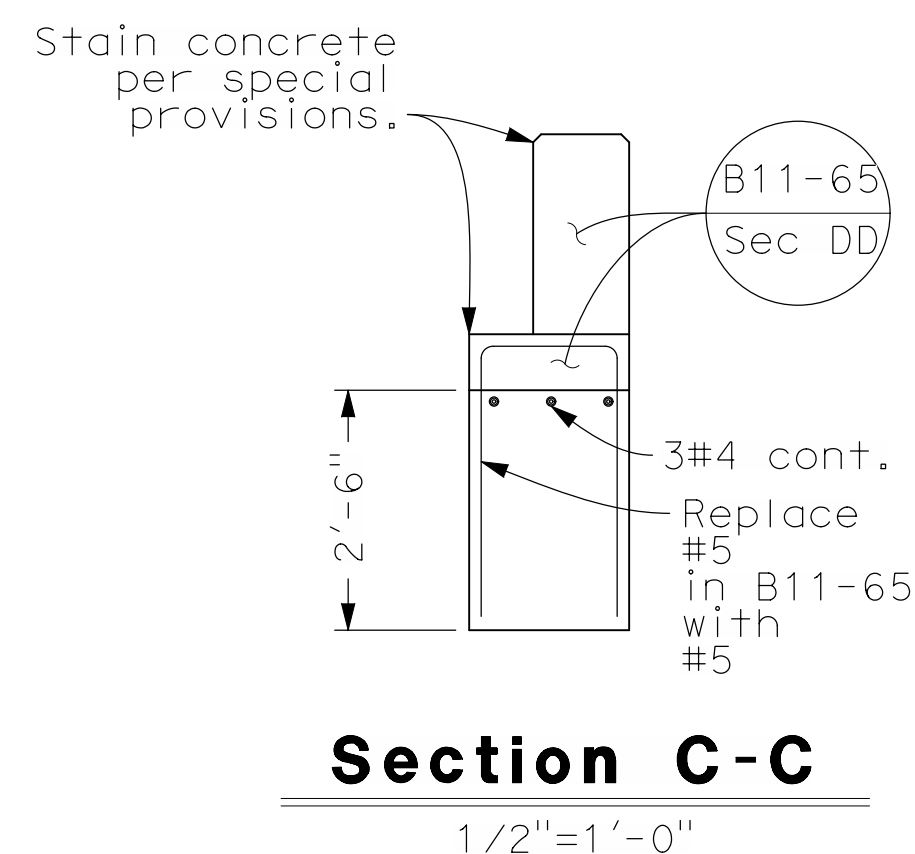
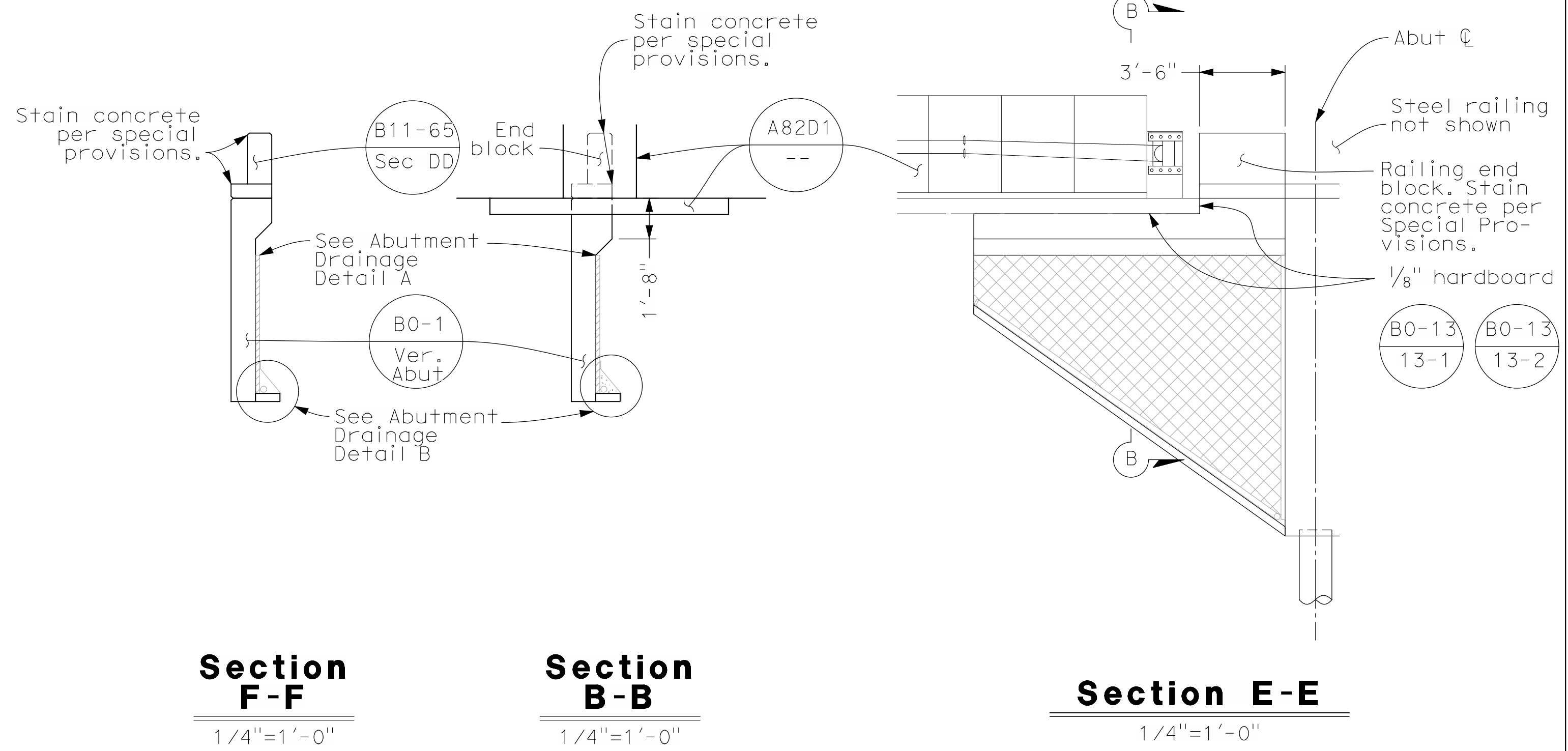
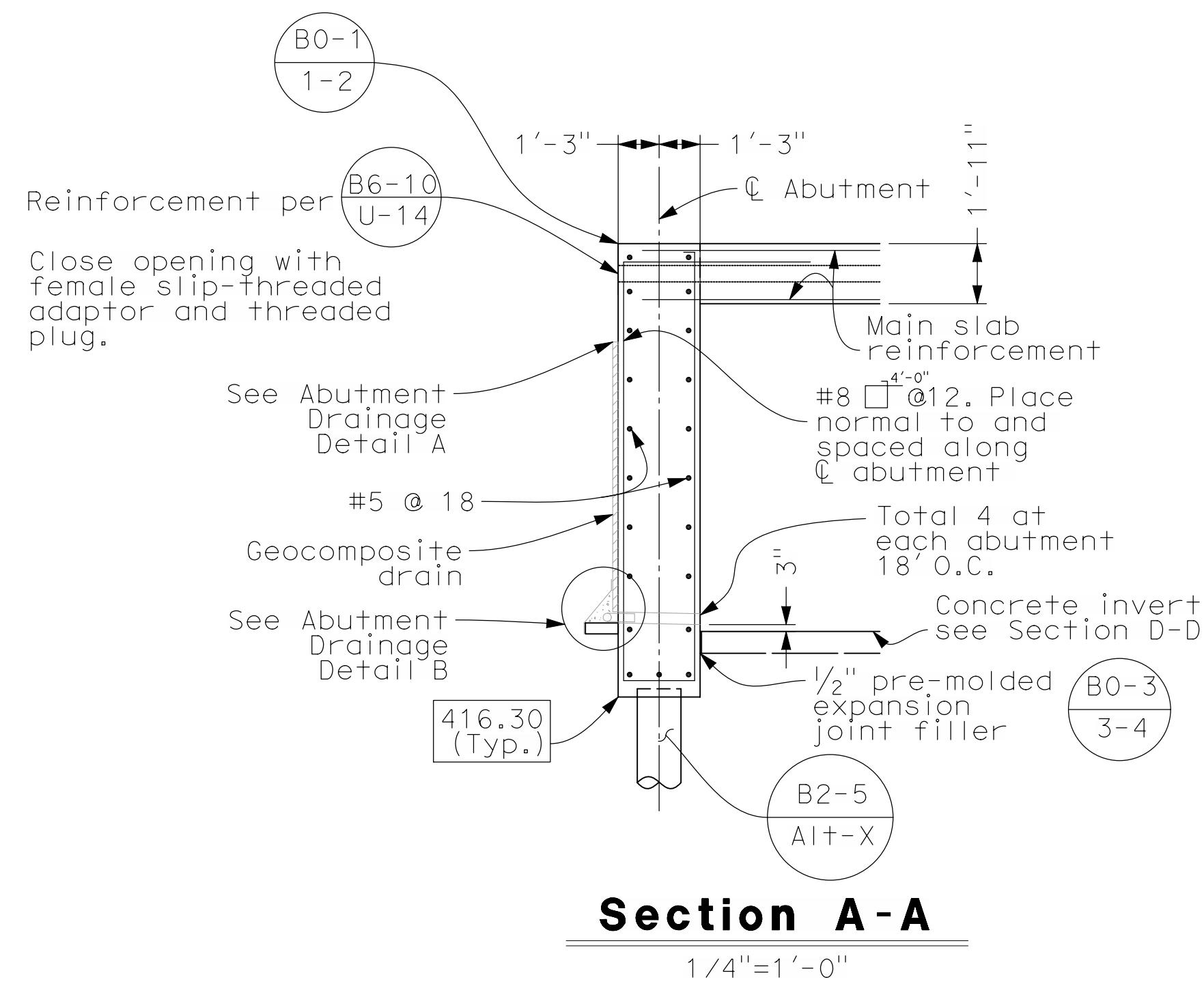
DATE _____

COUNTY OF ORANGE OC PUBLIC WORKS	DESIGNED BY: C. PHUNG	
	DRAWN BY: C. PHUNG	CHECKED BY: R. HOLSTING
PREPARED BY: ROAD / CAPITAL PROJECTS	DRAWING CODE:	
	FILE NAME:	
	PLOT DATE: 4/13/2011	SCALE: AS SHOWN

REPLACEMENT OF ORANGE PARK BOULEVARD BRIDGE AT HANDY CREEK

Sheet
Reference
Number

Sheet 15 of 20



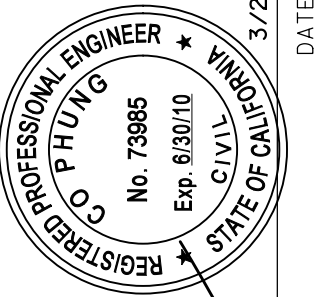
Note: Geocomposite drain, cement treated permeable base, and 3'Ø slotted pastic pipe continuous behind wingwall and abutment. Cap ends of pipe. Provide "Tee" connection at each 4'Ø drain.

Note:

1. The Contractor shall verify all controlling field dimensions before ordering of fabricating any material.
2. Reinforcement shown is addition to Caltrans Standard plans. Except as noted.

[illegible]

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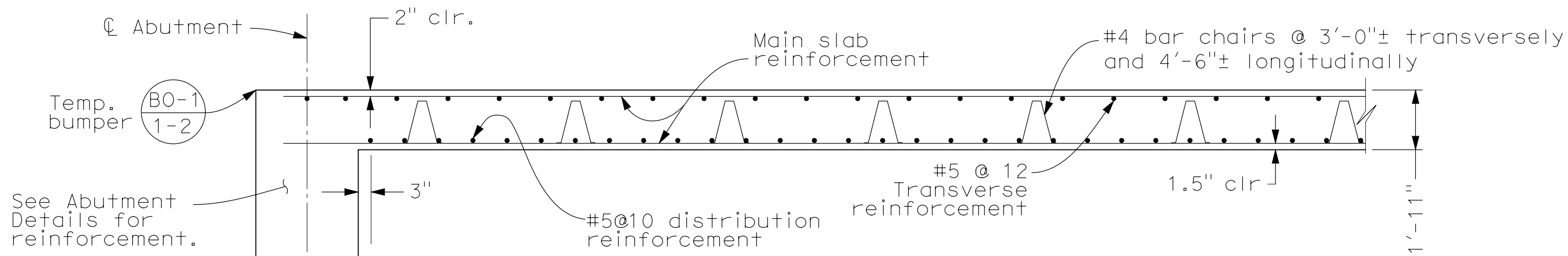
1

COUNTY OF ORANGE	DESIGNED BY:		C. PHUNG
	DRAWN BY:	CHECKED BY:	R. HOUSINGTON
	C. PHUNG		
OC PUBLIC WORKS	DRAWING CODE:		
	FILE NAME:		
	PREPARED BY:		
	ROAD / CAPITAL PROJECTS		
	PLOT DATE:	SCALE:	
	4/13/2011	AS SHOWN	

ABUTMENT DETAILS

Sheet
Reference
Number

Sheet 16 of 20

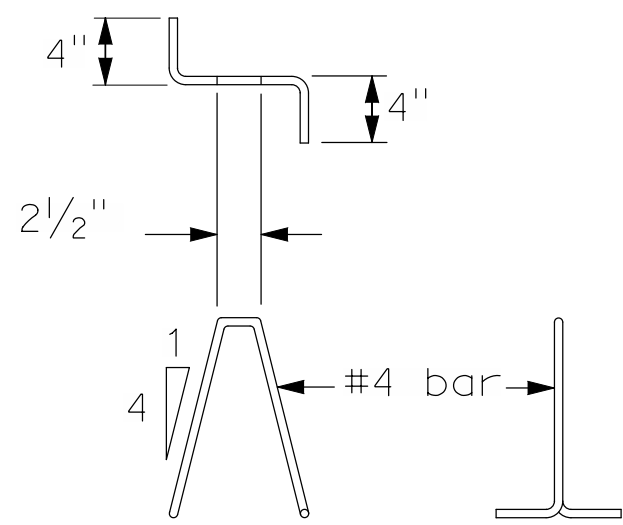


Longitudinal Section
Not to scale

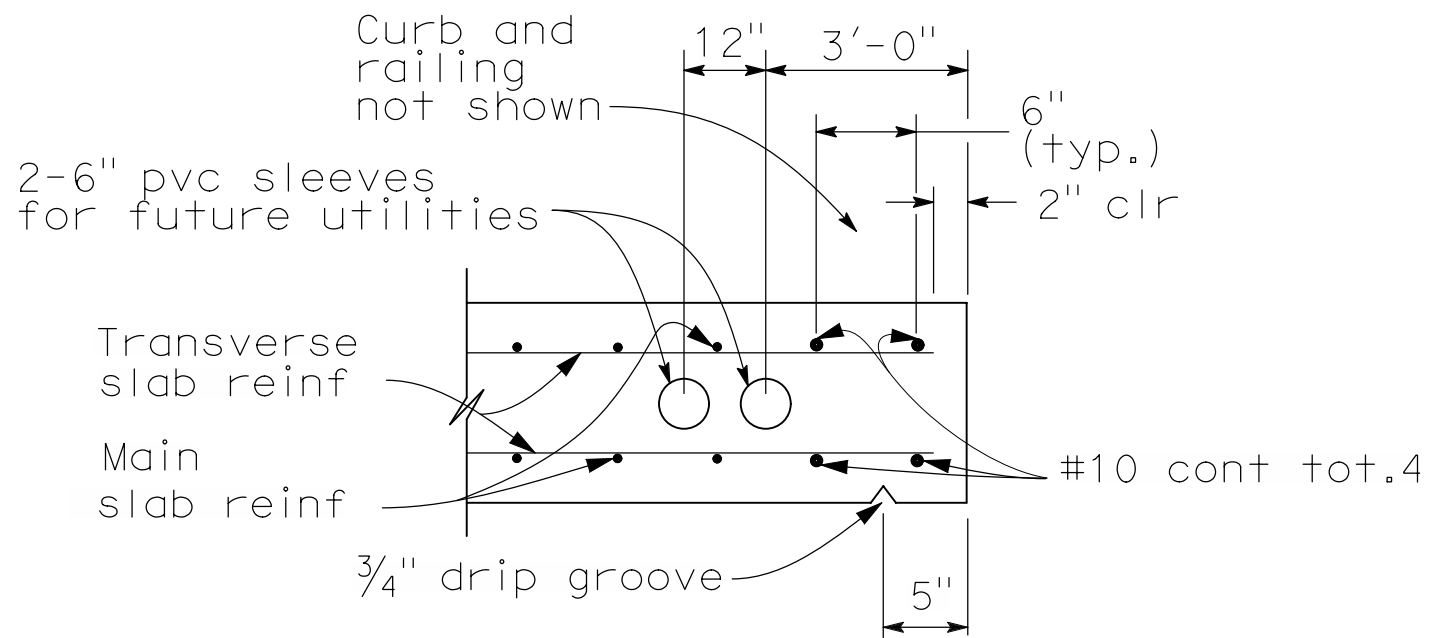
Bar Splice Length (inches)								
Bar size	#4	#5	#6	#7	#8	#9	#10	#11
All bars, except top bars.	23	28	34	53	60	68	97	106
Top bars.	23	28	34	53	60	77	97	120

REINFORCEMENT NOTES:

Splices in main bars not permitted.
Spacing of all transverse bars is measured along centerline of roadway.
Place transverse slab bars perpendicular to centerline of bridge.

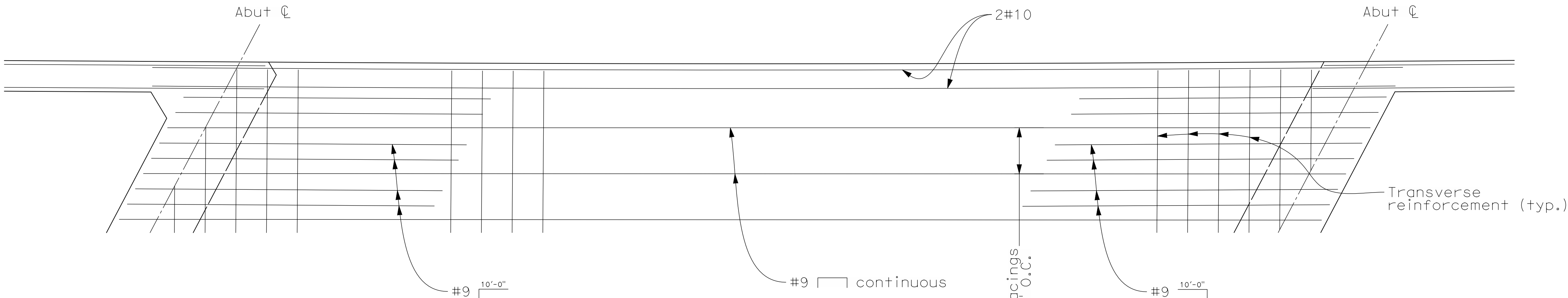


Bar Chair Detail
Not to scale

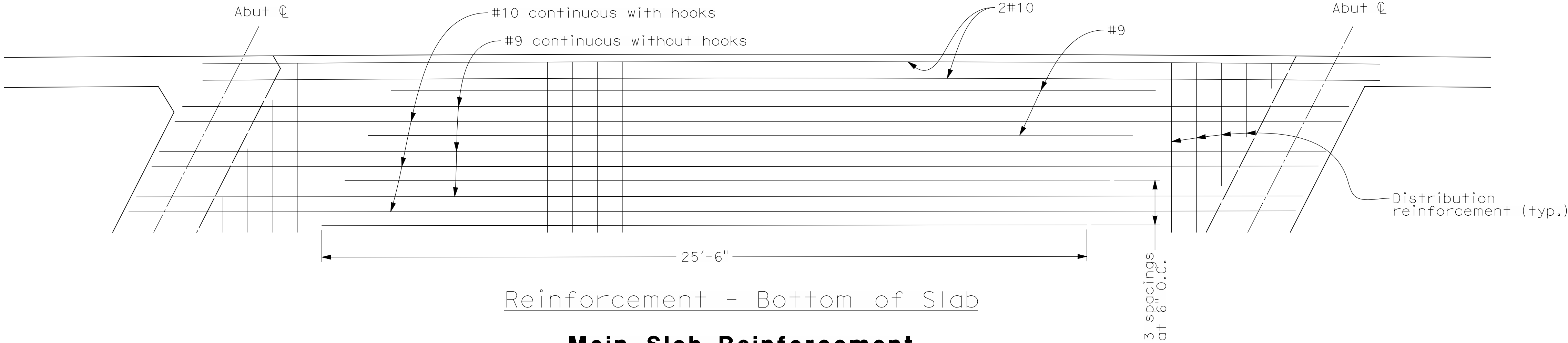


Edge of Slab Detail
Not to scale

NO AS BUILT CHANGES



Reinforcement-Top of Slab



Reinforcement - Bottom of Slab

Main Slab Reinforcement
Not to scale



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No. 73985
Exp. 6/30/10
CIVIL
STATE OF CALIF.

DATE: 3/23/11

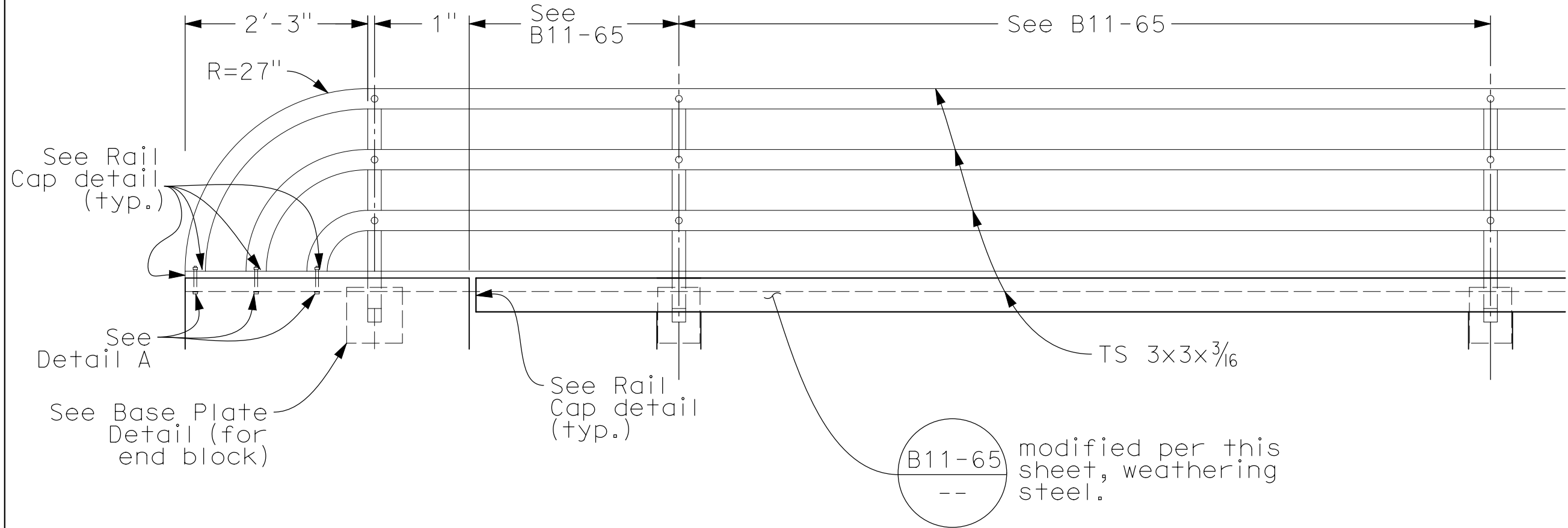
DESIGNED BY: C. PHUNG	CHECKED BY: R. HOUSTON	DRAWING CODE:	FILE NAME:
DRAWN BY: C. PHUNG			
PLOT DATE: 4/13/2011		SCALE: AS SHOWN	
COUNTY OF ORANGE OC PUBLIC WORKS		PREPARED BY: ROAD / CAPITAL PROJECTS	

REPLACEMENT OF
ORANGE PARK BOULEVARD
BRIDGE AT HANDY CREEK

**SLAB
REINFORCE-
MENT**

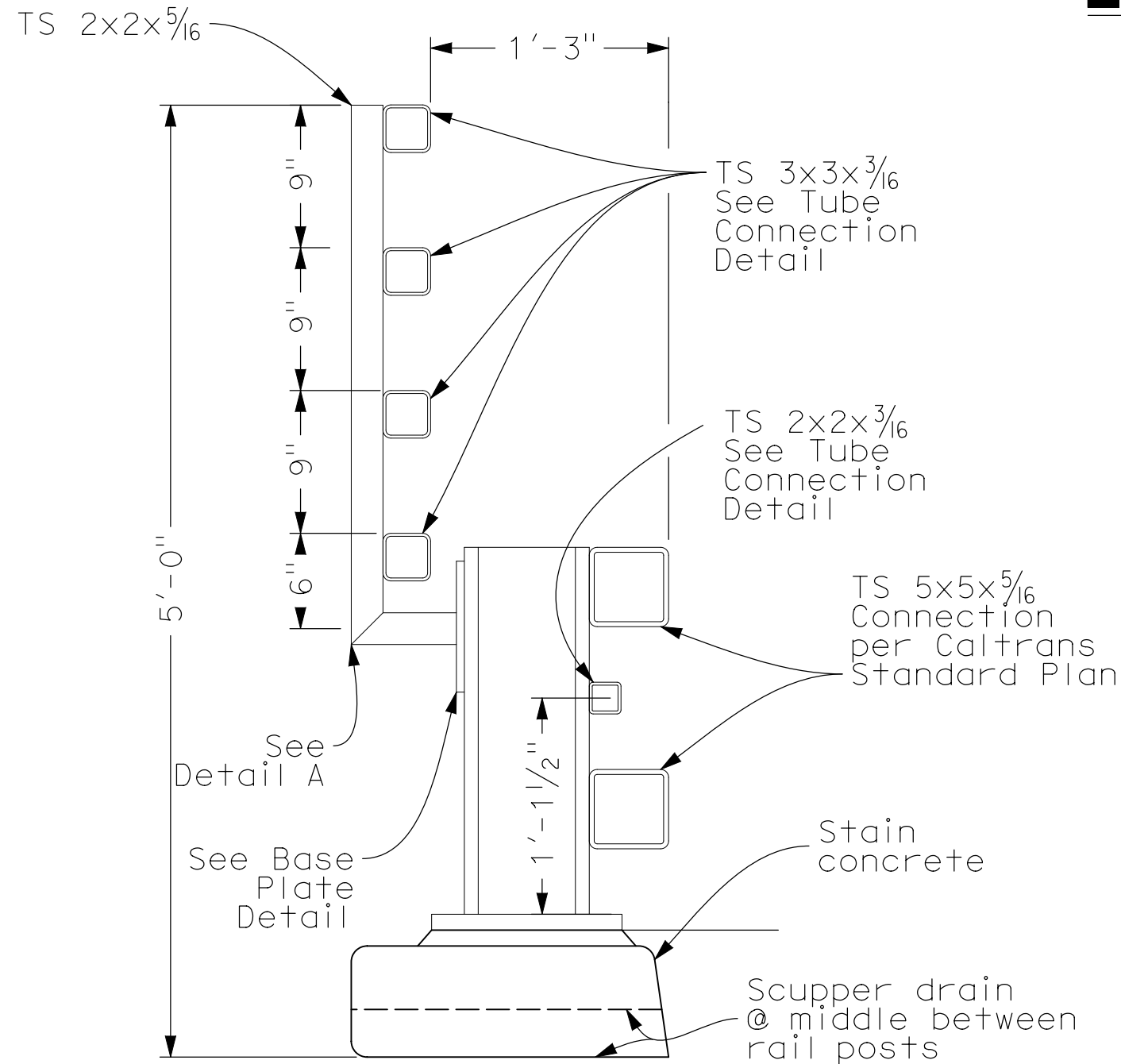
Sheet
Reference
Number

Sheet 17 of 20



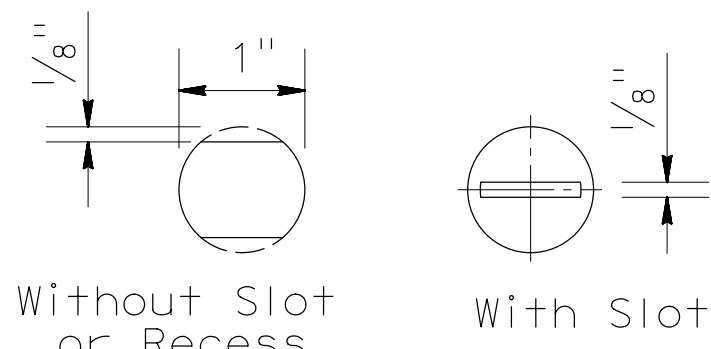
ELEVATION

No Scale

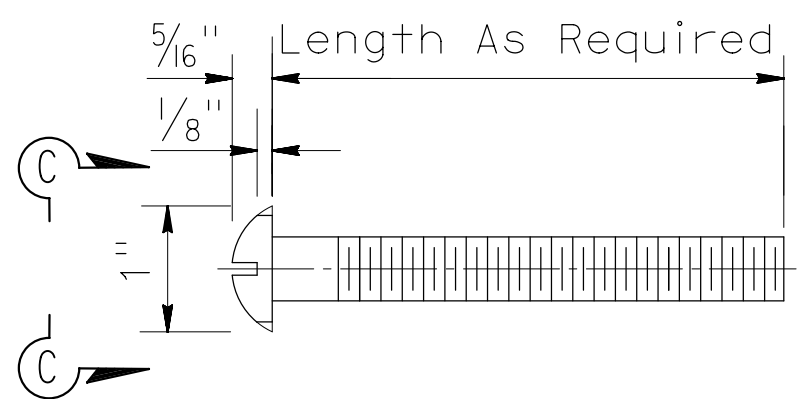


TYPICAL SECTION

See Caltrans Standard Plan B11-65
No Scale

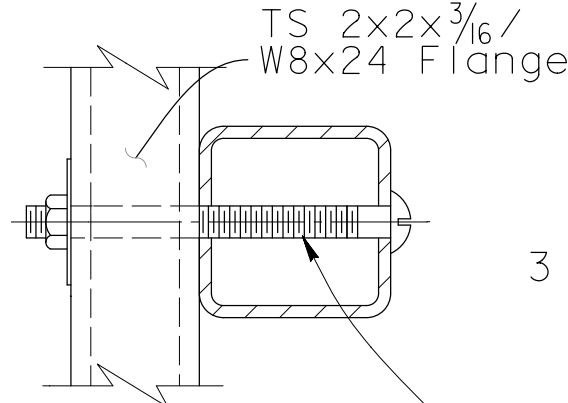


View C-C
No Scale



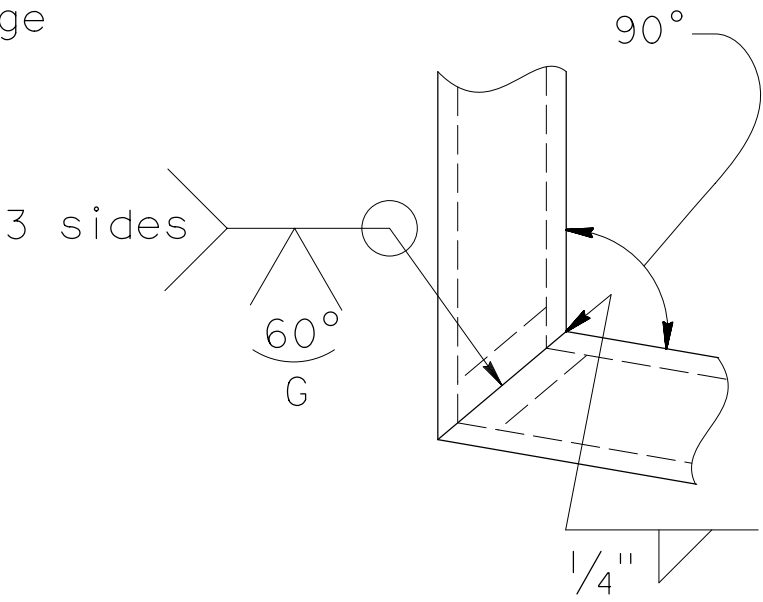
Round Head Bolt Detail

No Scale



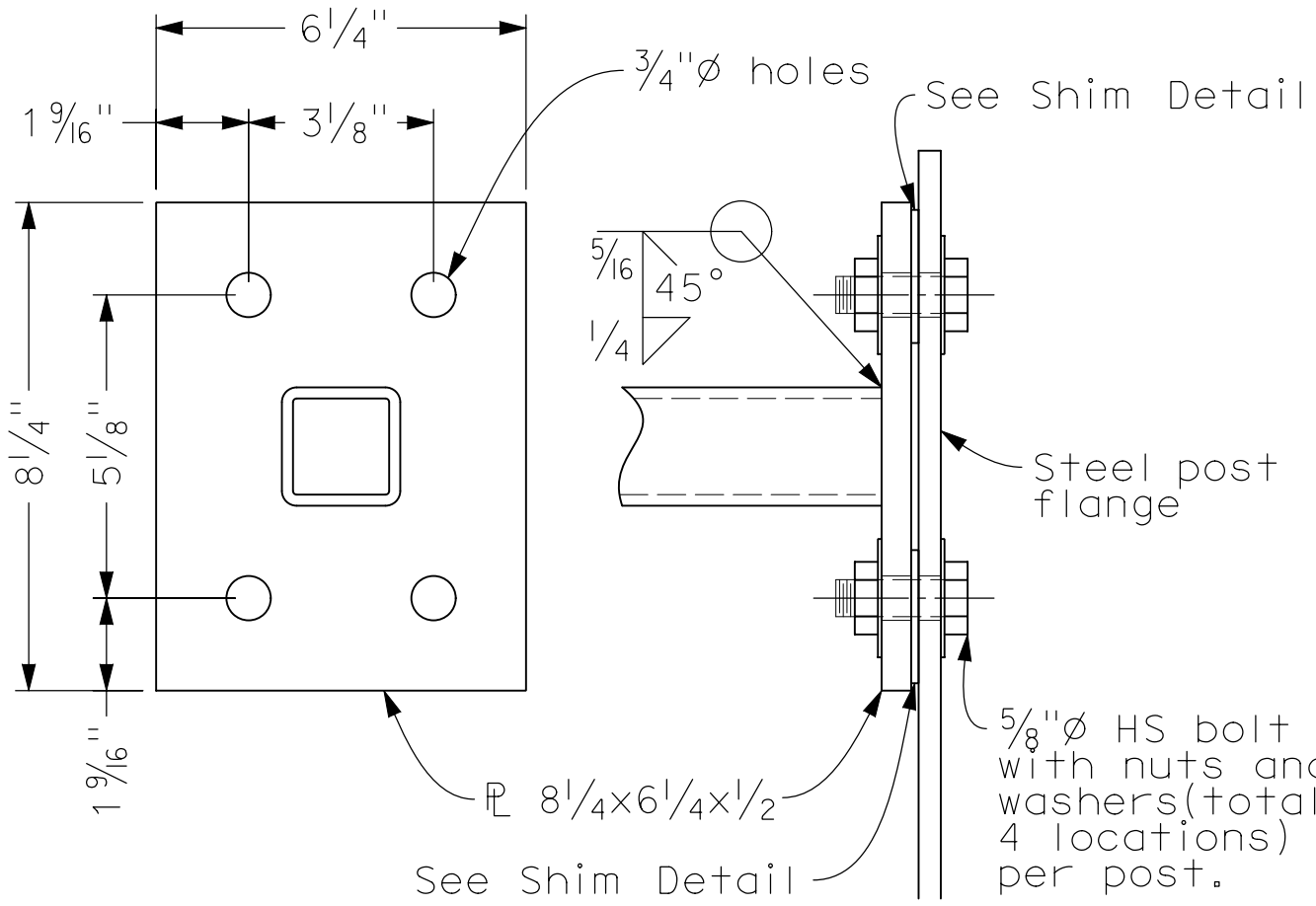
Tube Connection Detail

No Scale

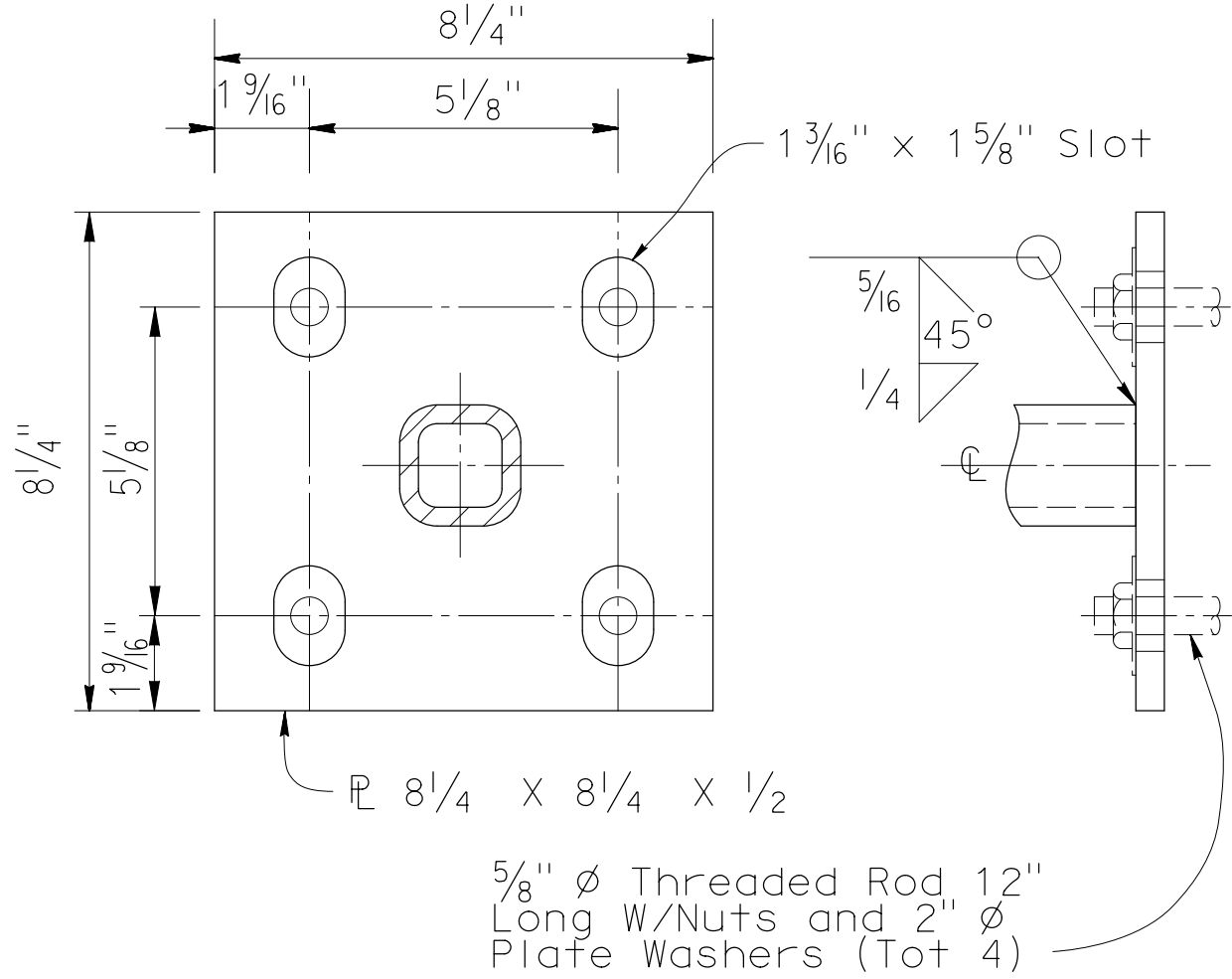


Detail A

No Scale



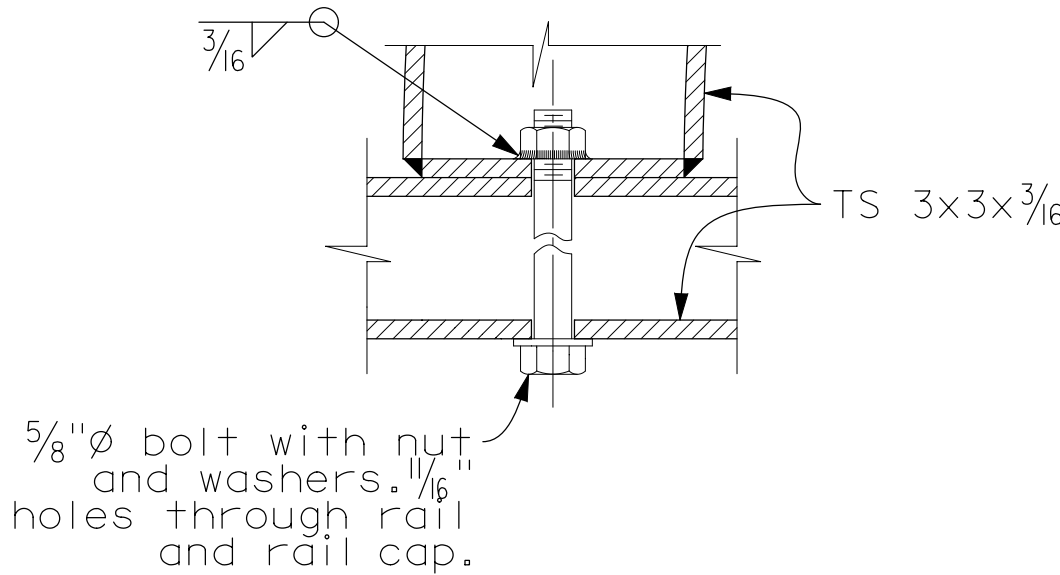
FOR STEEL POST



FOR END BLOCK (CONCRETE)

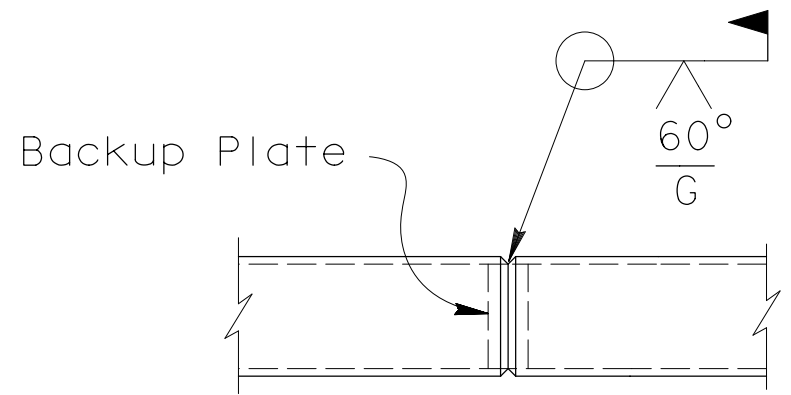
BASE PLATE DETAIL

No Scale



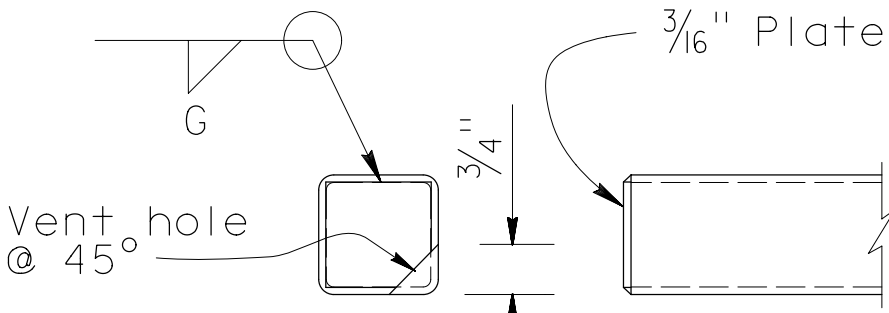
Detail A

No Scale



Welded Splice Detail

No Scale

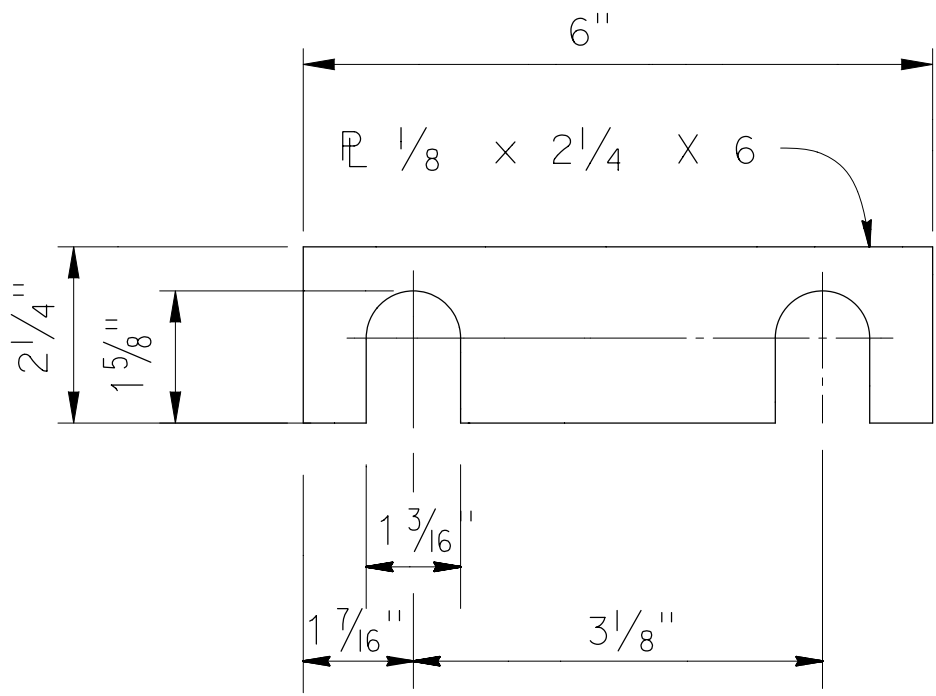


Rail Cap Detail

No Scale

Notes:

- ALL ST-30 BRIDGE RAIL COMPONENTS EXCEPT HARDWARE SHALL BE WEATHERING STEEL. ALL HARDWARE SHALL BE GALVANIZED AFTER FABRICATION.
- Weathering be normal to railing.
- Rail tubes shall be shop bent or fabricated to fit horizontal curve when radius is less than 1000 feet.
- Tube splices shall be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly.
- Top rail tube shall be continuous over not less than two posts except a short post spacing is permitted near deck or wall joints, electroliers, or other rail discontinuities as noted.
- For details and reinforcement not shown see Standard Plan B11-65.
- See project plans for limits of tubular hand railing.
- Tube rails shall be capped at the ends.
- Details shown are modification/addition to Caltrans Standard Plan B11-65.
- Shim is OPTIONAL, as needed for post plumbness & fitting rail to post/end block alignment.



Shim Details

No Scale



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STATE OF CALIF.
DATE: 3/23/11

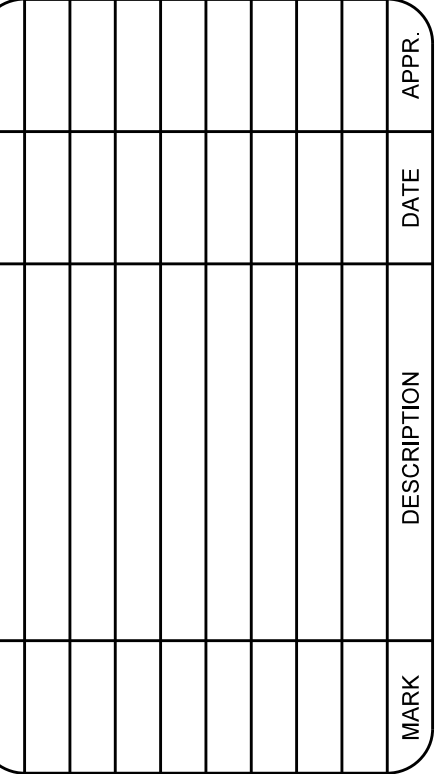
DESIGNED BY: C. PHUNG	CHECKED BY: R. HOUSINGTON	DRAWING CODE:	FILE NAME:	PLOT DATE: 4/13/2011	SCALE: AS SHOWN
COUNTY OF ORANGE OC PUBLIC WORKS			PREPARED BY: ROAD / CAPITAL PROJECTS		

REPLACEMENT OF
ORANGE PARK BOULEVARD
BRIDGE AT HANDY CREEK

MODIFIED
ST-30
BRIDGE
RAIL

Sheet
Reference
Number

Sheet 18 of 20

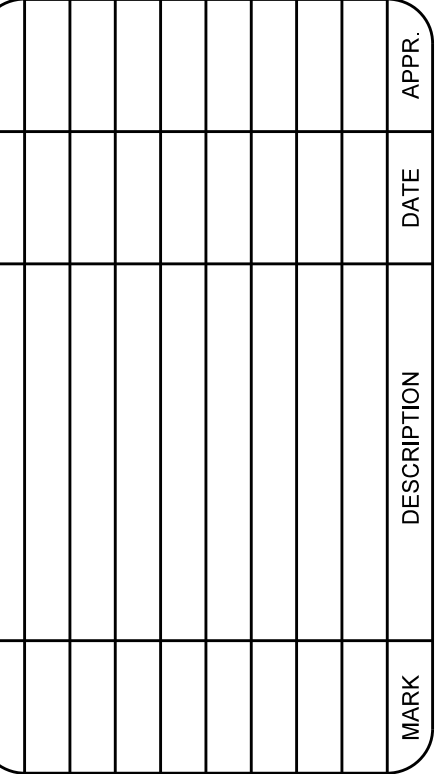


DATE _____

ROAD / CAPITAL PROJECTS

Sheet 04 of 04

DRAWING # 2



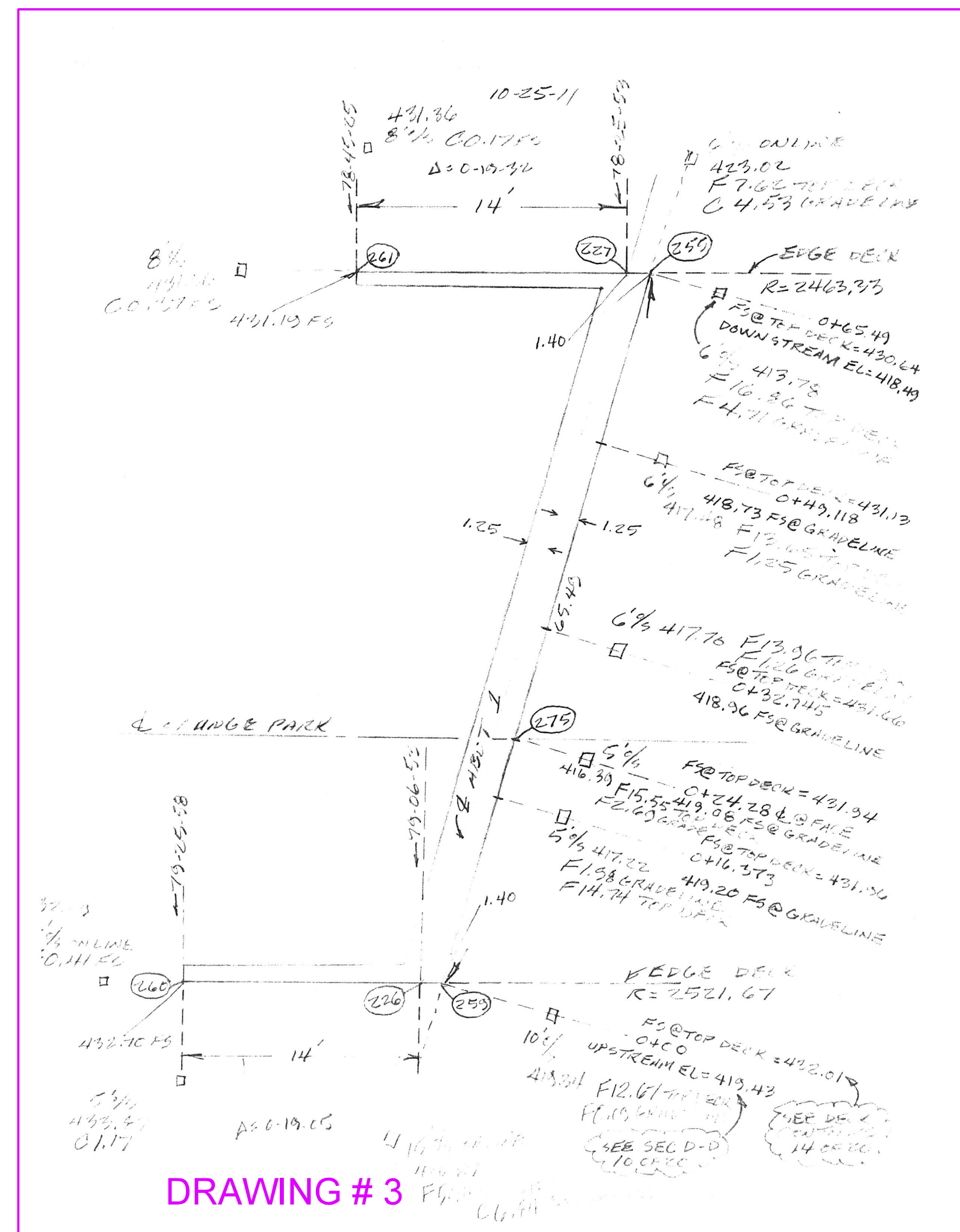
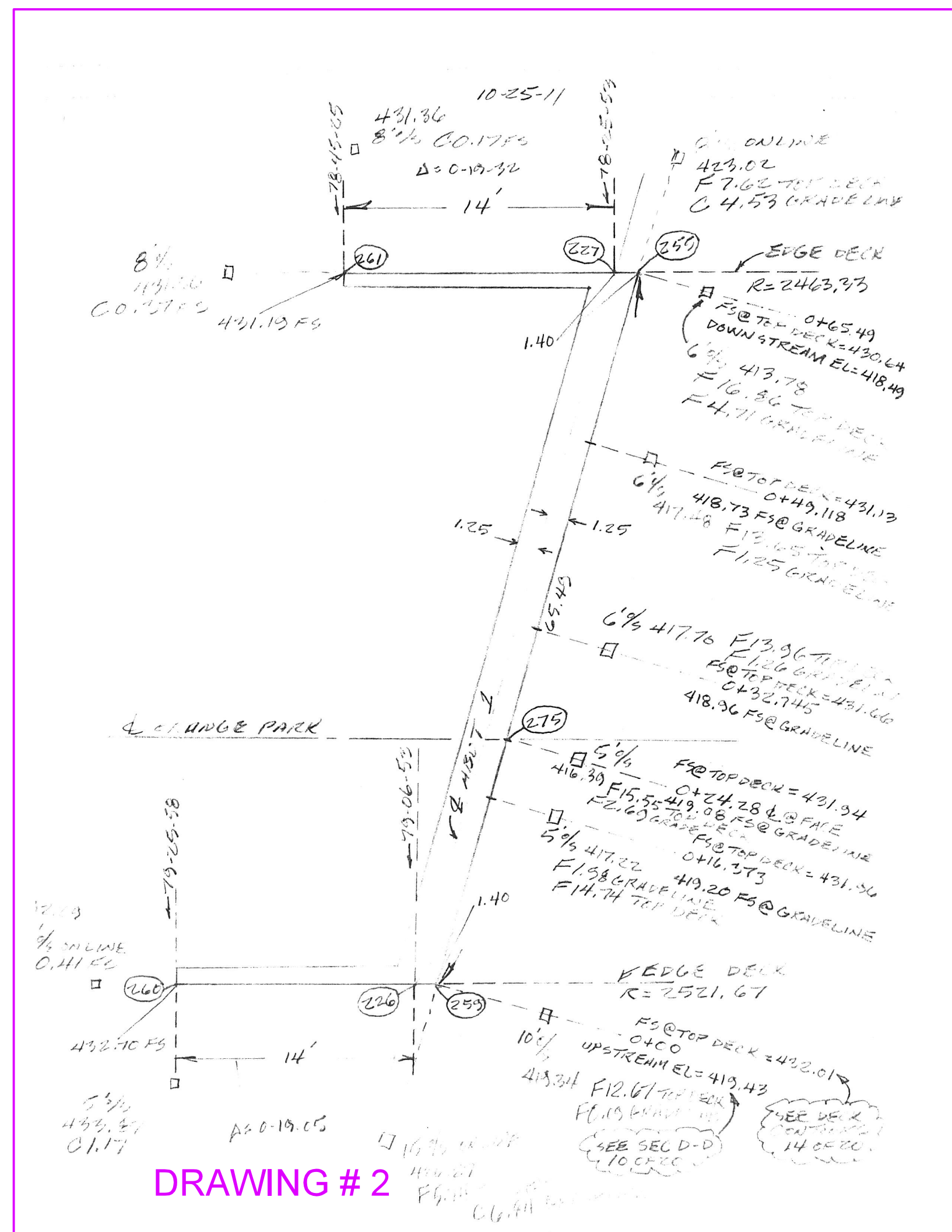
DATE _____

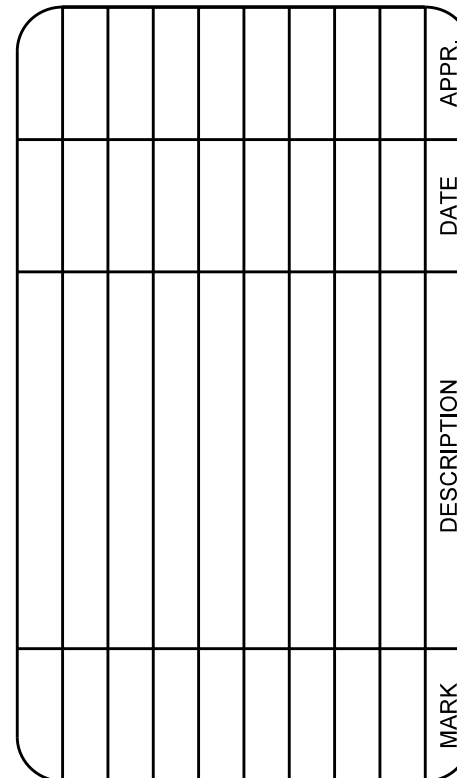
ROAD / CAPITAL PROJECTS

AS-BUILT

Sheet 03 of 04

SURVEY OF	INDEX	11-9-11	PAGE
SURVEYED BY	DATE	ABOUT Z FILES	ORANGE COUNTY SURVEYOR
PLAN	EXIST	PLAN=0.00	TOP FILE 416.55
N19 290 0+62.35	(0+62.71)	LT 0.13 = 1.6"	416.49
N12 289 0+56.66	(0+56.78)	LTO.02	416.56
N11 288 0+51.00	(0+51.44)	RT 0.02	416.54
N10 287 0+45.33	(0+45.62)	LTO.12	416.73
N9 286 0+39.66	(0+39.59)	LT 0.23 = 2.3"	416.66
N8 285 0+34.00	(0+33.98)	RT 0.06	416.55
N7 284 0+28.33	(0+28.21)	LTO.23	416.48
N6 283 0+22.67	(0+22.64)	LT 0.47 = 5.5"	416.47
N5 282 0+17.00	(0+16.87)	LT 0.10	416.60
N4 281 0+12.75	(0+12.19)	RT 0.33 = 4.7"	416.55
N3 280 0+08.50	(0+08.62)	RT 0.08	-1.40 417.73 (416.32)
N2 279 0+04.25	(0+04.31)	RT 0.02	-1.30 417.51 (416.21)
N1 278 0+00	(0+0.57)	RT 0.01	-0.80 417.30 (416.50)





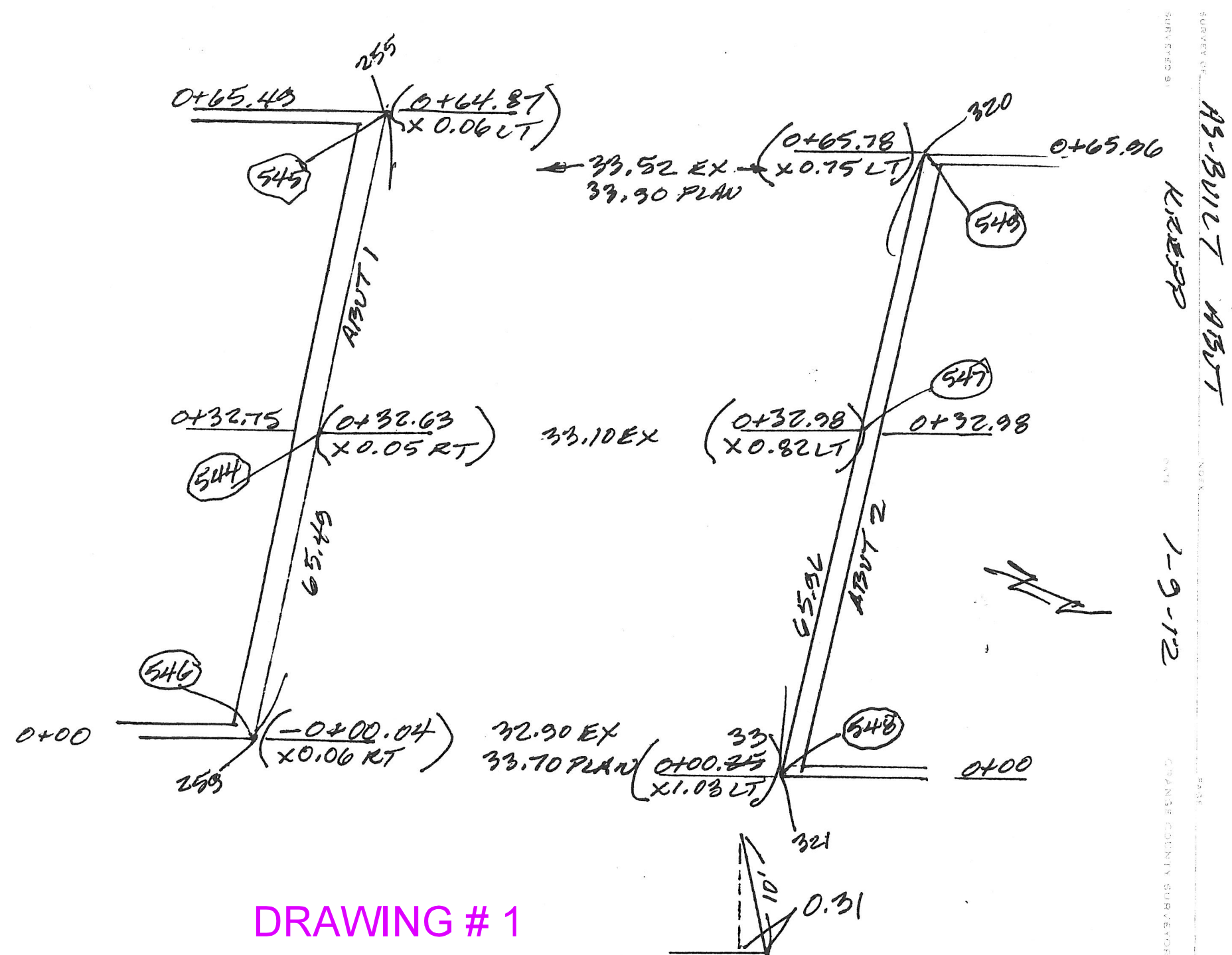
ATF

COUNTY OF ORANGE OC PUBLIC WORKS	DESIGNED BY:		
	DRAWN BY:	CHECKED BY:	
	DRAWING CODE		
	FILE NAME:		
PREPARED BY: ROAD / CAPITAL PROJECTS	PILOT DATE:	SCALE:	AS SHOWN

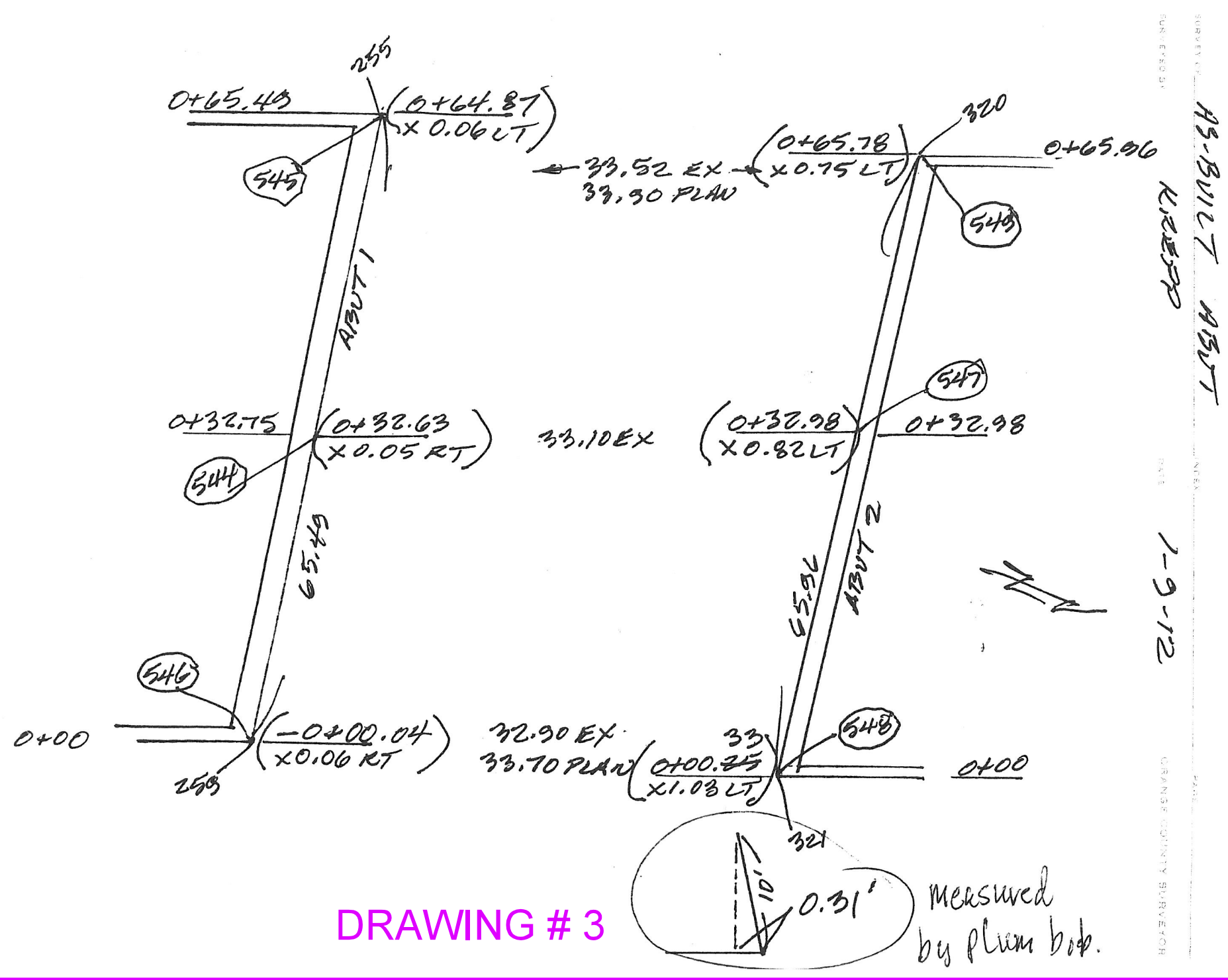
AS-BUILT

Sheet 02 of 04

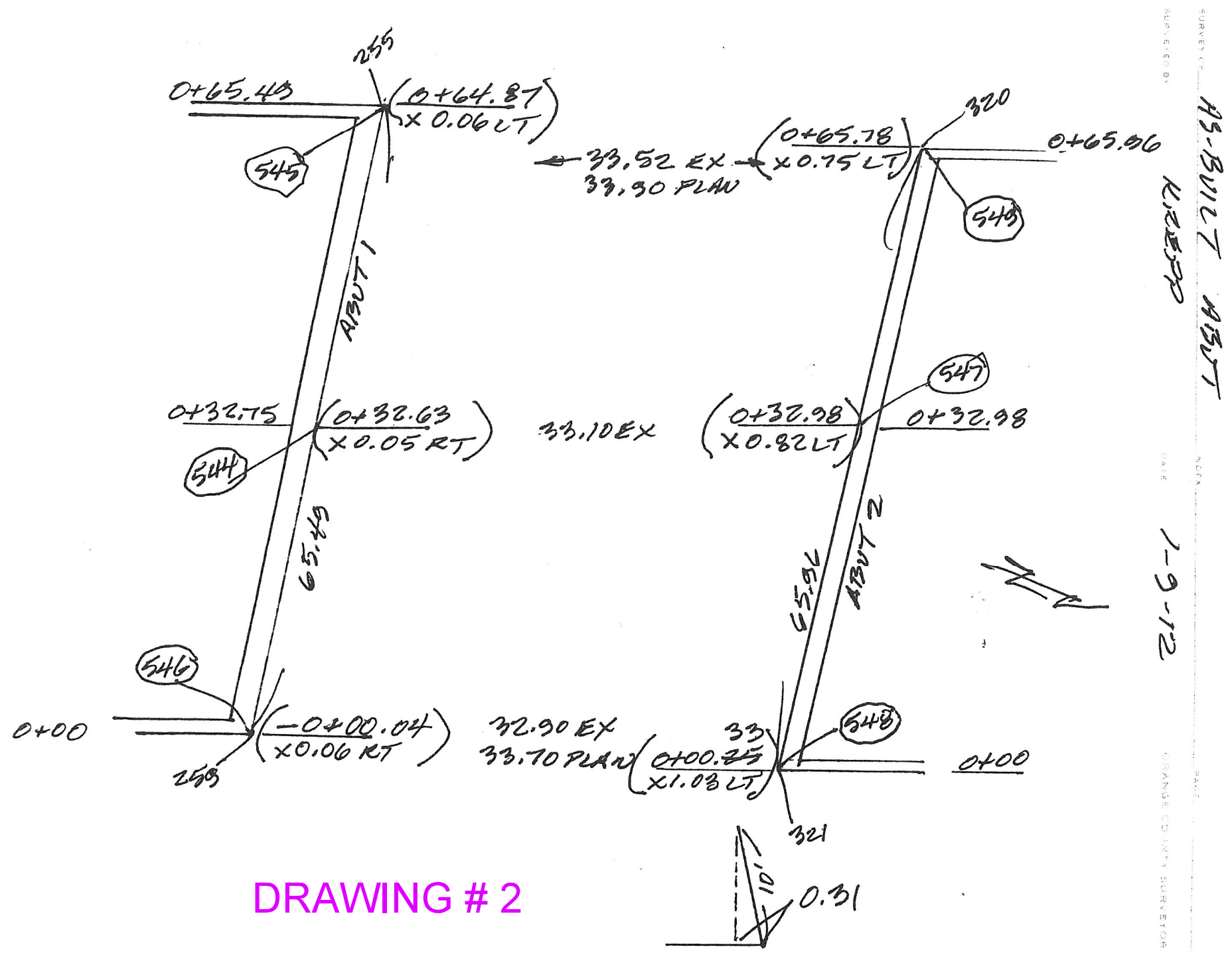




DRAWING # 1



DRAWING # 3



DRAWING # 2

BY: Jarek DATE: 7 Jan 12 SUBJECT: OC PUBLIC WORKS
CHKD. BY: Saturday DATE: Distance between the Abutment Walls H+2 SHEET NO. 1 OF 1
JOB NO.

Distance between the two abutment walls:
Plan P# 16 Abut Wall = 2'-6" wide @ 1'-3" on center of pile
16 Section E-E, Railing end block is 3'-6" long and from inside face of the Abutment wall.
13 Elevation, Distance from inside face of Railing block is 39'-5"
∴ Distance between @ of Abut 1+2 = 39'-5" - 2(1'-3")
= 37'-11"
Distance between inside face of Abut walls H+2 =
37'-11" - 2(1'-3") = 35'-5"

DRAWING # 4



APPR.	DATE	DESCRIPTION	MARK

PREPARED UNDER THE RESPONSIBLE CHARGE OF: _____
DATE: _____

DESIGNED BY:	CHECKED BY:	DRAWING CODE	FILE NAME:	PLOT DATE:	SCALE:
					AS SHOWN
COUNTY OF ORANGE OC PUBLIC WORKS			PREPARED BY: ROAD / CAPITAL PROJECTS		

REPLACEMENT OF ORANGE PARK
BOULEVARD BRIDGE
AT HANDY CREEK
AS-BUILT

Sheet
Reference
Number
AB-01
Sheet 01 of 04