

TYPICAL SECTION

SCALE: 1" = 10'-0"

GENERAL NOTES:
1. FOR BRIDGE PLAN AND ELEVATION, SEE SHEET 1 OF 2.





NO.	REVISION	BY	DATE		
TOWN OF ADDISON DALLAS COUNTY, TEXAS					
VITRUVIAN PARK BRIDGES BELLA LANE					
TYPICAL SECTION					
HALFF					
<small>1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 738-0095</small>					
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
27379	ESC	AHH	APRIL 2010	-	S2-02

SUMMARY OF ESTIMATED STRUCTURAL QUANTITIES - BELLA LANE BRIDGE											
BRIDGE ELEMENT	BASE BID ITEM NO. TXDOT SPEC NO.	35	36	37	38	39	40	41	42	43	44
	DESCRIPTION	400	403	416	416	416	420	420 (4)	420	420	420 (1)
		STRUCTURAL EXCAVATION AND BACKFILL (2)	TEMPORARY SPECIAL SHORING	DRILL SHAFT (30" DIA)	DRILL SHAFT (42" DIA)	DRILL SHAFT (48" DIA)	CL "C" CONC (ABUT)	CL "C" CONC (MASS PLACEMENT) (ABUT)	CL "C" CONC (BENT)	CL "S" CONC (APRR SLAB)	CL "S" CONC (BRIDGE SIDEWALK)
		CY	SF	LF	LF	LF	CY	CY	CY	CY	CY
2 ~ ABUTMENTS		3,075	1,780	256		88	95.8	145.0		111.0	20.7
2 ~ INTERIOR BENTS					80				108.8		
1 ~ PRESTRESSED CONCRETE BEAM UNITS											
2 ~ STEEL ARCHES											
TOTAL		3,075	1,780	256	80	88	95.8	145.0	108.8	111.0	20.7

SUMMARY OF ESTIMATED STRUCTURAL QUANTITIES CONTINUED- BELLA LANE BRIDGE													
BRIDGE ELEMENT	BASE BID ITEM NO. TXDOT SPEC NO.	45	46	47	48	49	50	51	52	54	55 (2)	56 (3)	57
	DESCRIPTION	422	425	425	428	4332	442	442	442	450		454	454
		REINF CONC SLAB	PRESTR CONC BOX BEAM (4B28)	PRESTR CONC BOX BEAM (5B28)	CONC SURF TREAT (CLASS 1)	RIPRAP CONC (5')	STR STL (MISC)	STR STL (STEEL ARCH)	STR STL (MISC) (18 IN PIPE)	RAIL (T401) (MOD)	RAIL (PED RAIL)	SEALED EXPANSION JOINT (4 IN) (SEJ-A) (MISC)	JOINT SEALANT
		SF	LF	LF	SY	CY	LB	LB	LB	LF	LB	LF	LF
2 ~ ABUTMENTS						84.0			9,450	40	74	75	
2 ~ INTERIOR BENTS													
1 ~ PRESTRESSED CONCRETE BEAM UNITS		8,178	272	1,226	611.0		8,540		29,610	282	282		40
2 ~ STEEL ARCHES								129,200					
TOTAL		8,178	272	1,226	611.0	84.0	8,540	129,200	39,060	322	356	75	40

- ① Quantity only includes sidewalk placed on approach slab.
- ② Quantity includes pipe under bridge approach slab.
- ③ Structural Steel Quantity includes all structural angles and plates used as bridge deck forms and stone ledges.
- ④ Mass Placement Quantity includes wingwalls only.

△ Addendum #3	ESC	05/24/10			
△ Addendum #2	ESC	05/19/10			
NO.	REVISION	BY DATE			
 TOWN OF ADDISON DALLAS COUNTY, TEXAS					
VITRUVIAN PARK BRIDGES BELLA LANE					
ESTIMATED QUANTITIES					
 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 348-8200 FAX (214) 739-0095					
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
27379		AHH	APRIL 2010	-	S2-03

USER: ah2441
 OFFICE: RCH
 PROJECT #: 27379
 FILE: 27379-SC-BELLABL-AB01-01.dgn
 DATE: 5/24/2010
 TIME: 4:08:26 PM

BAR SCHEDULE ~ ONE CAP

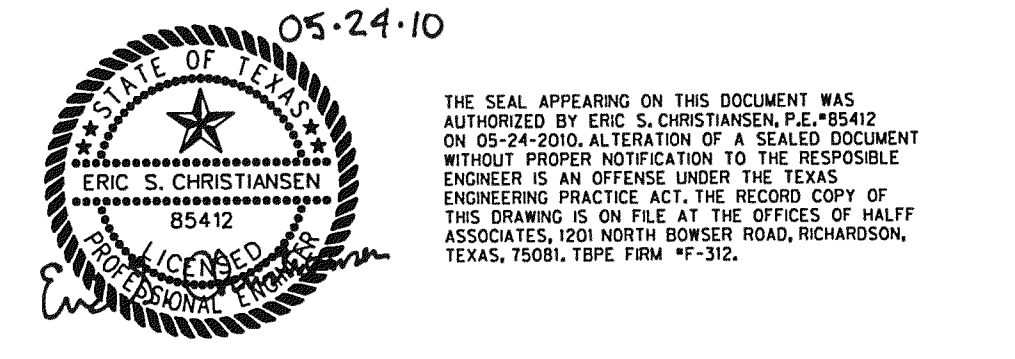
Bar	Type	No.	Size	Length	Weight	
A	S+	28	#11	58'-1"	8,641	
H	S+	8	#6	57'-8"	693	
L1	B+	12	#6	5'-0"	91	
L2	B+	24	#6	12'-6"	451	
S1	B+	55	#5	18'-2"	1,043	
V	B+	59	#5	9'-2 1/2"	567	
wh1	S+	22	#6	21'-2"	700	
wh2	S+	38	#6	10'-2"	581	
wh3	S+	22	#6	10'-8"	353	
wU	B+	26	#8	26'-2 1/2"	1,820	
wV1	S+	24	#8	11'-8 3/4"	752	
wV2	S+	24	#6	9'-8 3/4"	351	
wZ	B+	22	#6	6'-2 1/2"	206	
① Total Reinforcing Steel					LB	16,250
C/C Conc (Abut)					CY	47.9
C/C Conc (Mass Placement)					CY	72.5

ESTIMATED QUANTITIES

Item	Unit	QUANTITY
Drilled Shaft (48 IN)	FT	44
Drilled Shaft (30 IN)	FT	150
① C/C Conc (Abut)	CY	47.9
C/C Conc (Mass Placement)	CY	72.5
Reinf Steel	LB	16,250

① For contractor's information only.

General Notes:
 Designed per AASHTO LRFD Bridge Design Specifications (2007) with interim specifications thereto.
 Concrete strength $f'_c = 3,600$ psi.
 The price bid per foot of Drilled Shaft shall include the reinforcing extending from the shaft into the cap.
 Spiral steel shall have one extra turn at the top, bottom and at splices.
 All cap and wall reinforcing shall be grade 60 steel.
 Drilled shaft reinforcing may be grade 40.
 Calculated drilled shaft foundation load is as follows:
 146 tons per shaft (48")
 104 tons per shaft (30")



NO.	REVISION	BY	DATE
①	Addendum #3	ESC	05/24/10
②	Addendum #2	ESC	05/19/10

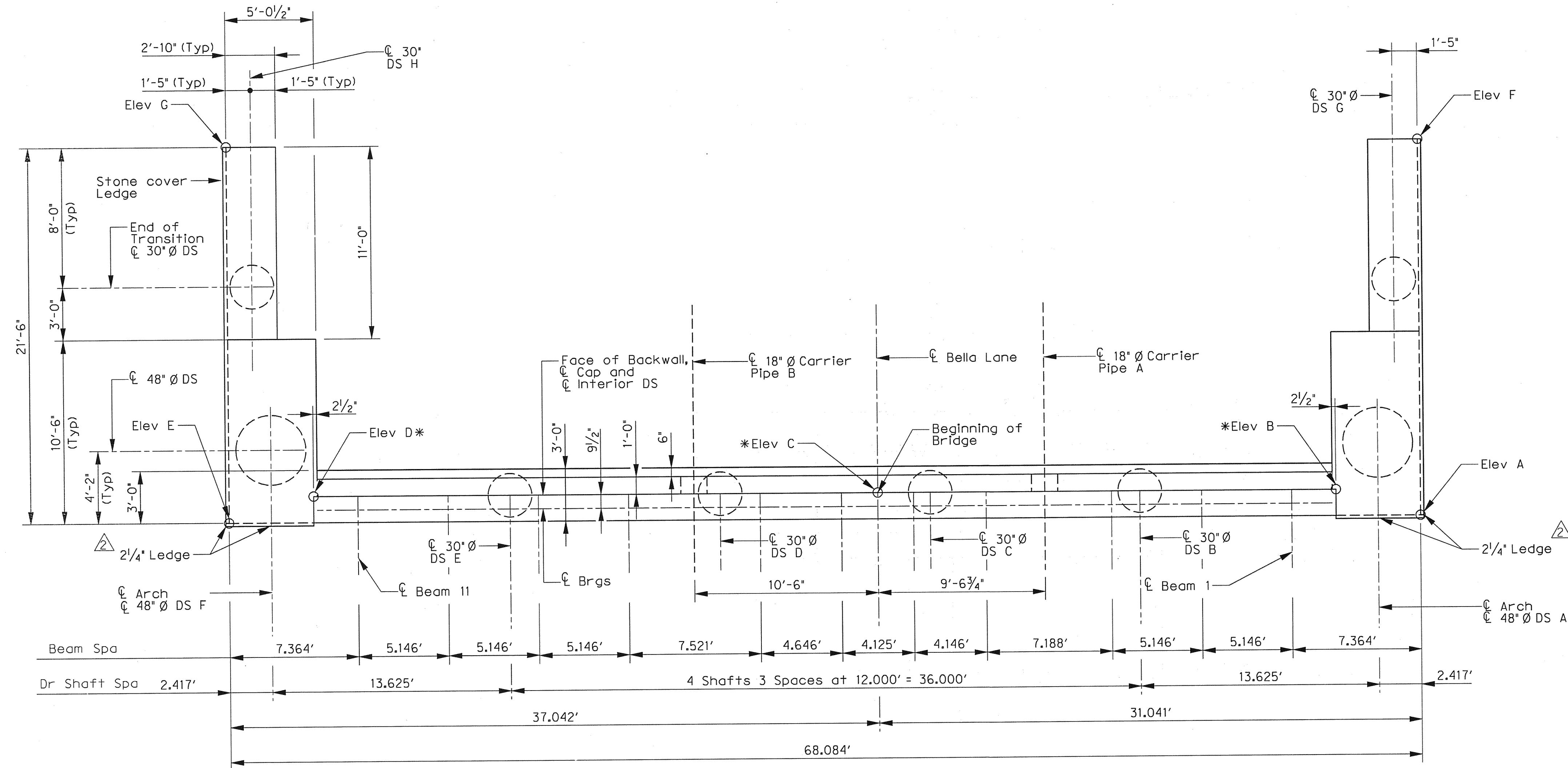
ADDISON TOWN OF ADDISON
 DALLAS COUNTY, TEXAS

VITRUVIAN PARK BRIDGES
 BELLA LANE

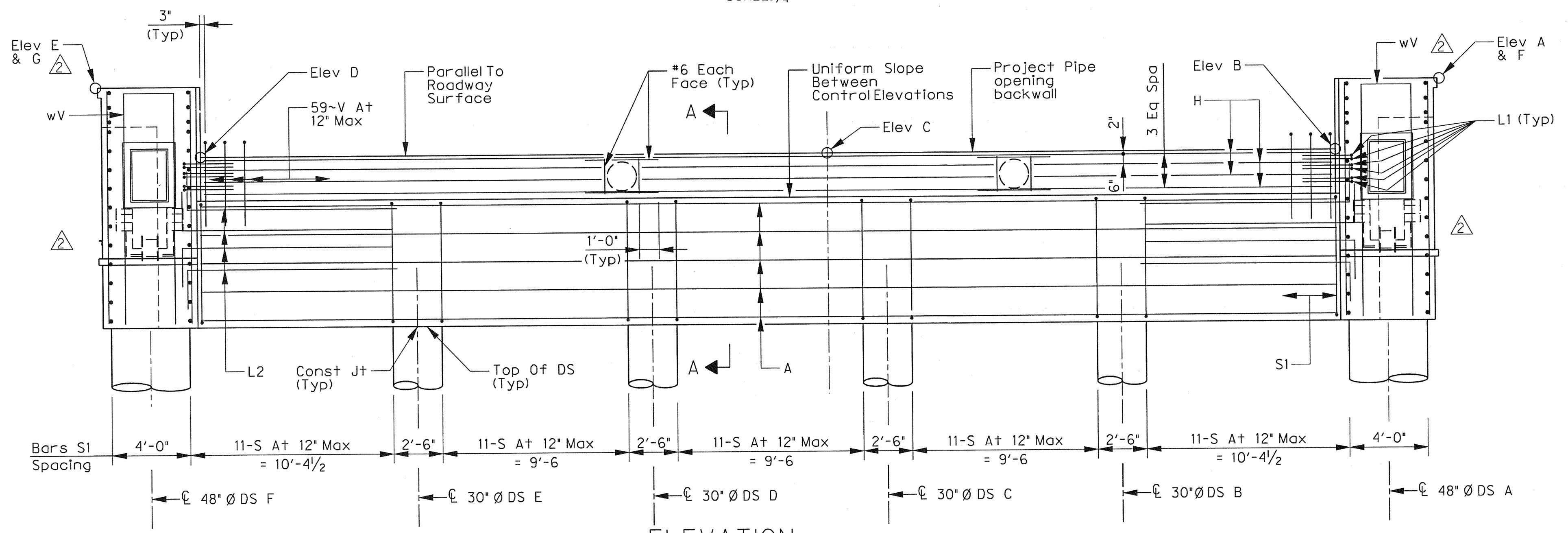
ABUTMENT No. 1
PLAN AND ELEVATION

HALFF 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275
 TEL (214) 346-6200 FAX (214) 739-0095

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
27379	ESC	AHH	APRIL 2010	-	S2-04



PLAN
 SCALE: 1/4" = 1'-0"
 *Denotes elevation taken at top, frontface of backwall along centerline of abutment.



ELEVATION
 SCALE: 1/4" = 1'-0"

Note: For information not shown see Section A-A/S2-07

CONTROL ELEVATIONS

Abutment	Station	Top of Abutment							Top of Drilled Shafts							
		Elev A	Elev B	Elev C	Elev D	Elev E	Elev F	Elev G	DS A	DS B	DS C	DS D	DS E	DS F	DS G	DS H
1	28+58.50	564.84	561.34	561.87	561.34	564.94	563.35	563.45	552.54	552.80	553.04	552.92	552.68	552.42	552.48	552.48

DATE: 5/24/2010 TIME: 4:15:49 PM FILE: 27379-SC-BELLABL-AB01-02.dgn PROJECT # 27379 OFFICE: RCH USER: ch2481

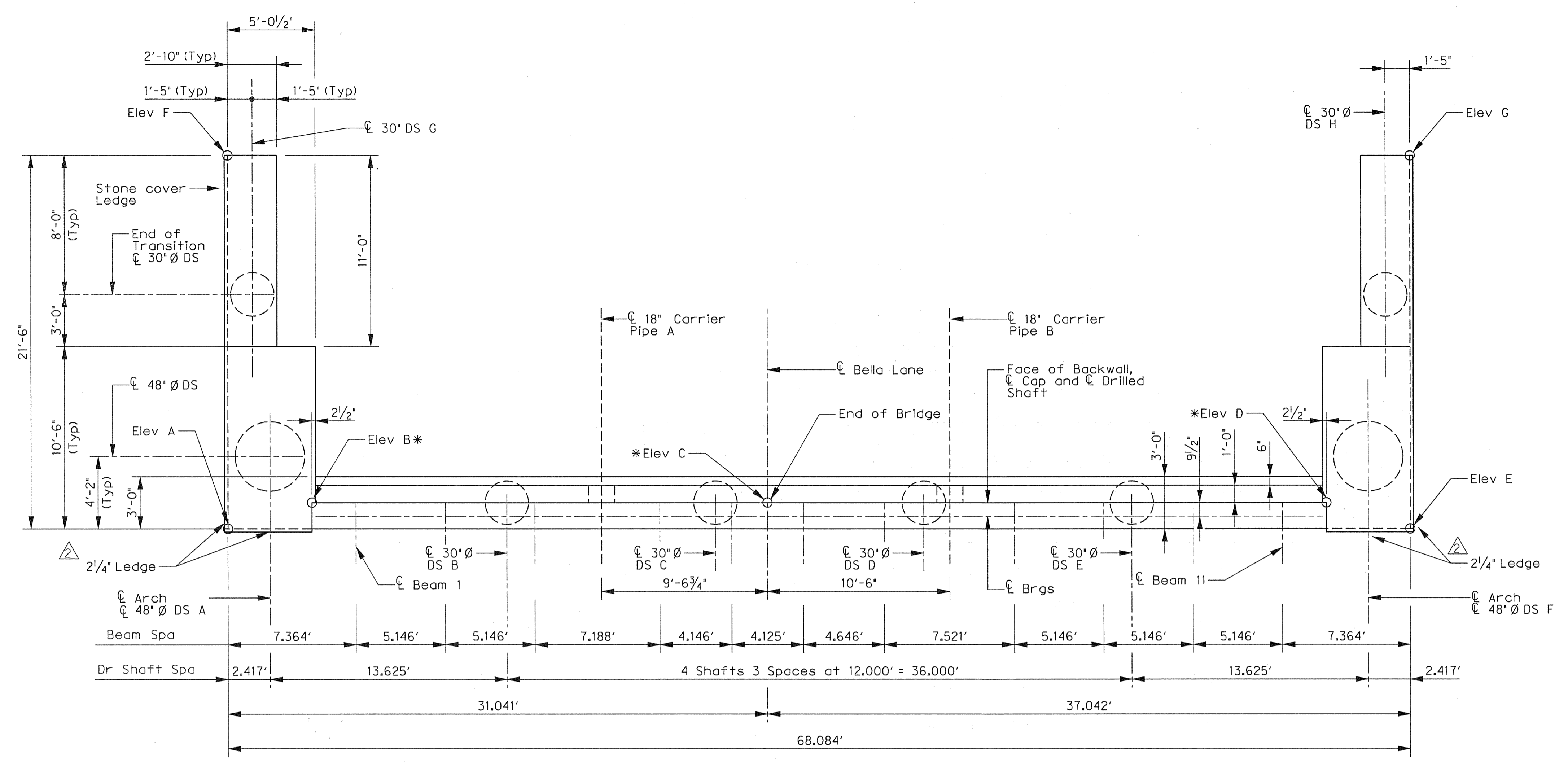
BAR SCHEDULE ~ ONE CAP

Bar	Type	No.	Size	Length	Weight	
A	S+	28	#11	58'-1"	8,641	
H	S+	8	#6	57'-8"	693	
L1	B+	12	#6	5'-0"	91	
L2	B+	24	#6	12'-6"	451	
S1	B+	55	#5	18'-2"	1,043	
V	B+	59	#5	9'-2 1/2"	567	
wH1	S+	22	#6	21'-2"	700	
wH2	S+	38	#6	10'-2"	581	
wH3	S+	22	#6	10'-8"	353	
wU	B+	26	#8	26'-2 1/2"	1,820	
wV1	S+	24	#8	11'-8 3/4"	752	
wV2	S+	24	#6	9'-8 3/4"	351	
wZ	B+	22	#6	6'-2 1/2"	206	
① Total Reinforcing Steel					LB	16,250
② C/C Conc (Abut)					CY	47.9
③ C/C Conc (Mass Placement)					CY	72.5

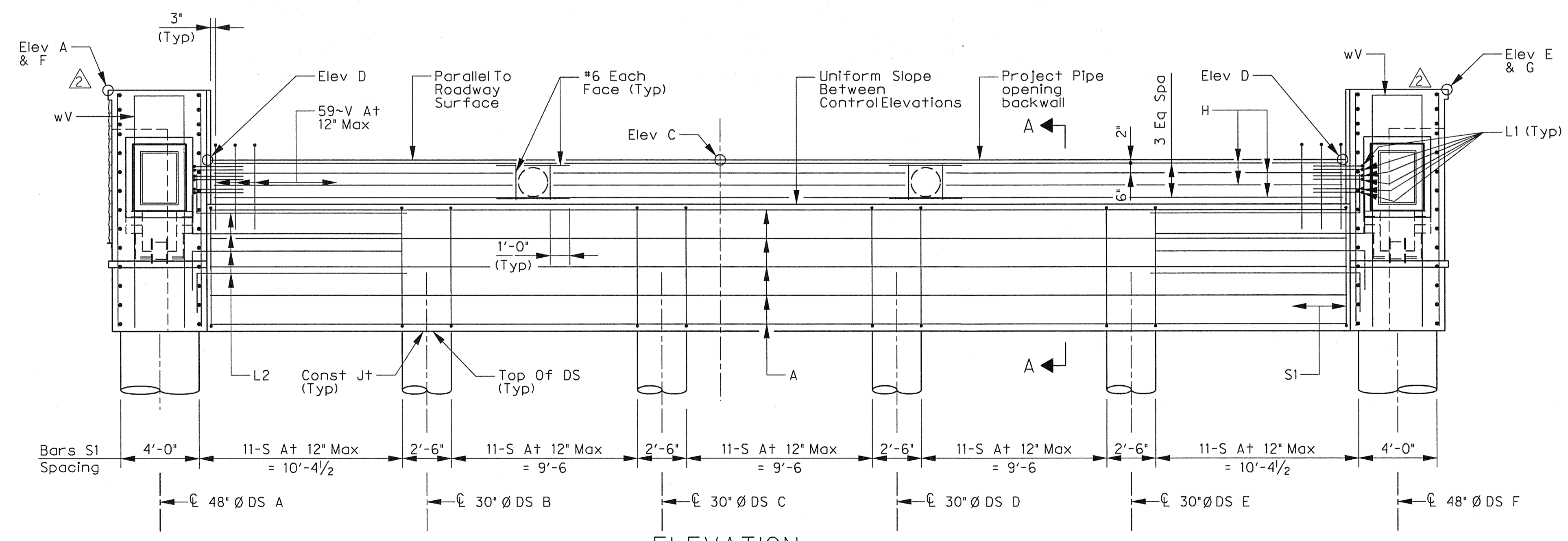
ESTIMATED QUANTITIES

Item	Unit	QUANTITY
Drilled Shaft (48 IN)	FT	44
Drilled Shaft (30 IN)	FT	150
C/C Conc (Abut)	CY	47.9
③ C/C Conc (Mass Placement)	CY	72.5
① Reinf Steel	LB	16,250
② Sidewalk Drain Pipe (4")	LF	70

- ① For contractor's information only.
- ② Sidewalk drains are subsidiary to Item 420.



PLAN SCALE: 1/4" = 1'-0" *Denotes elevation taken at top, frontface of backwall along centerline of abutment.

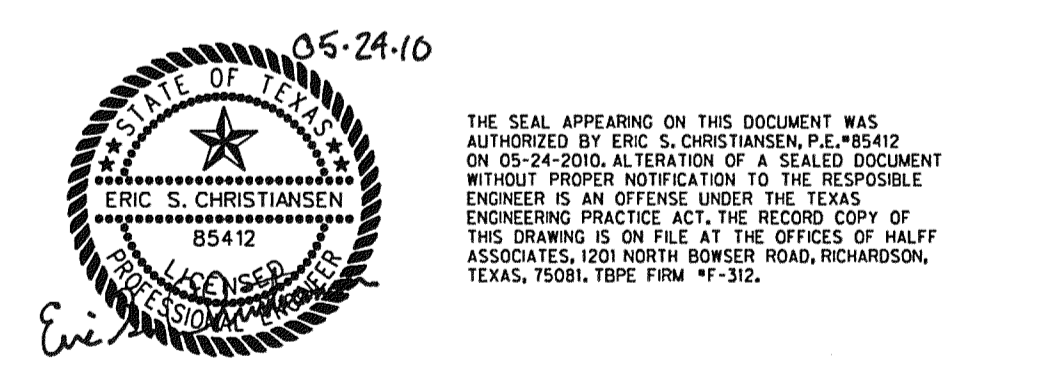


ELEVATION SCALE: 1/4" = 1'-0"

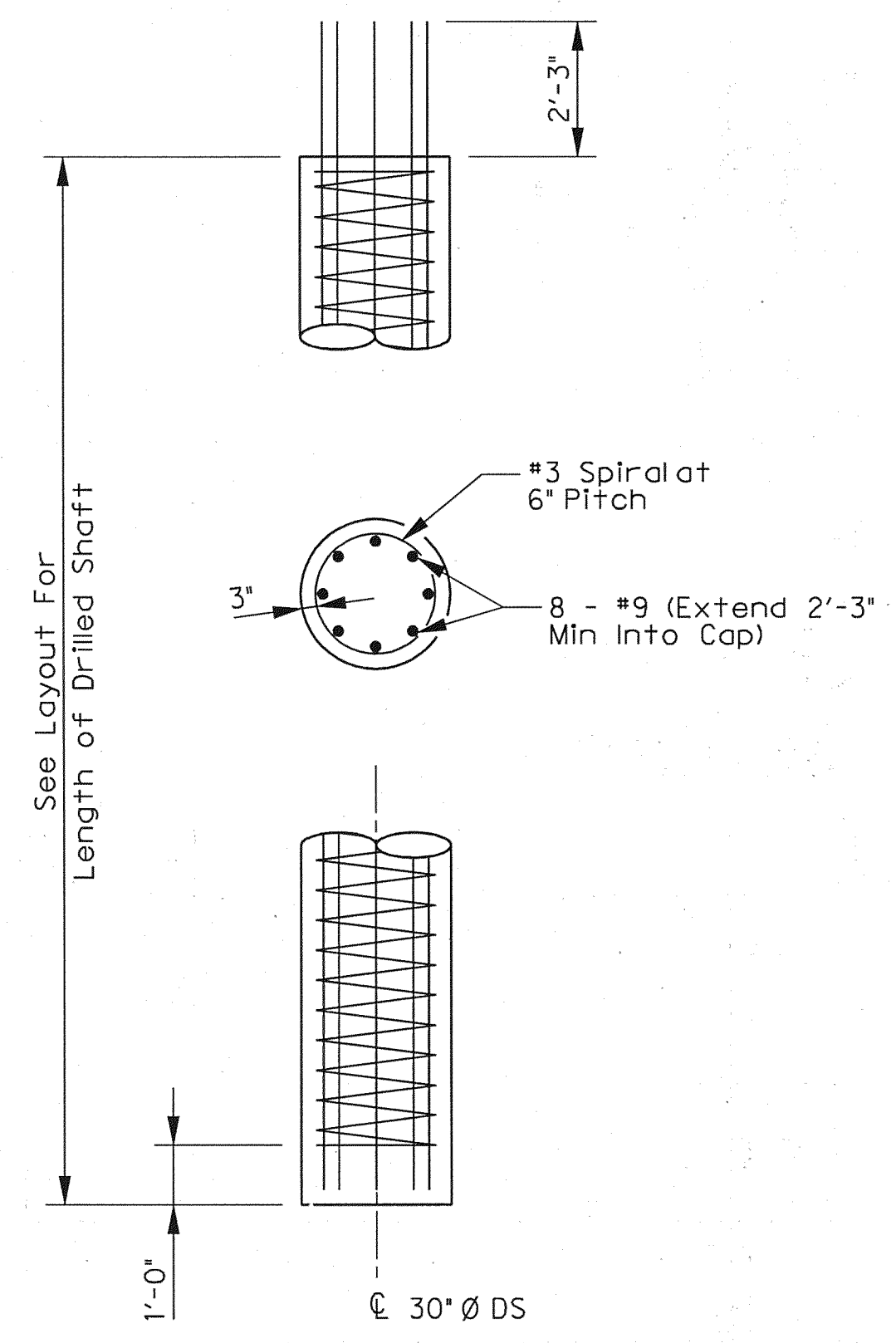
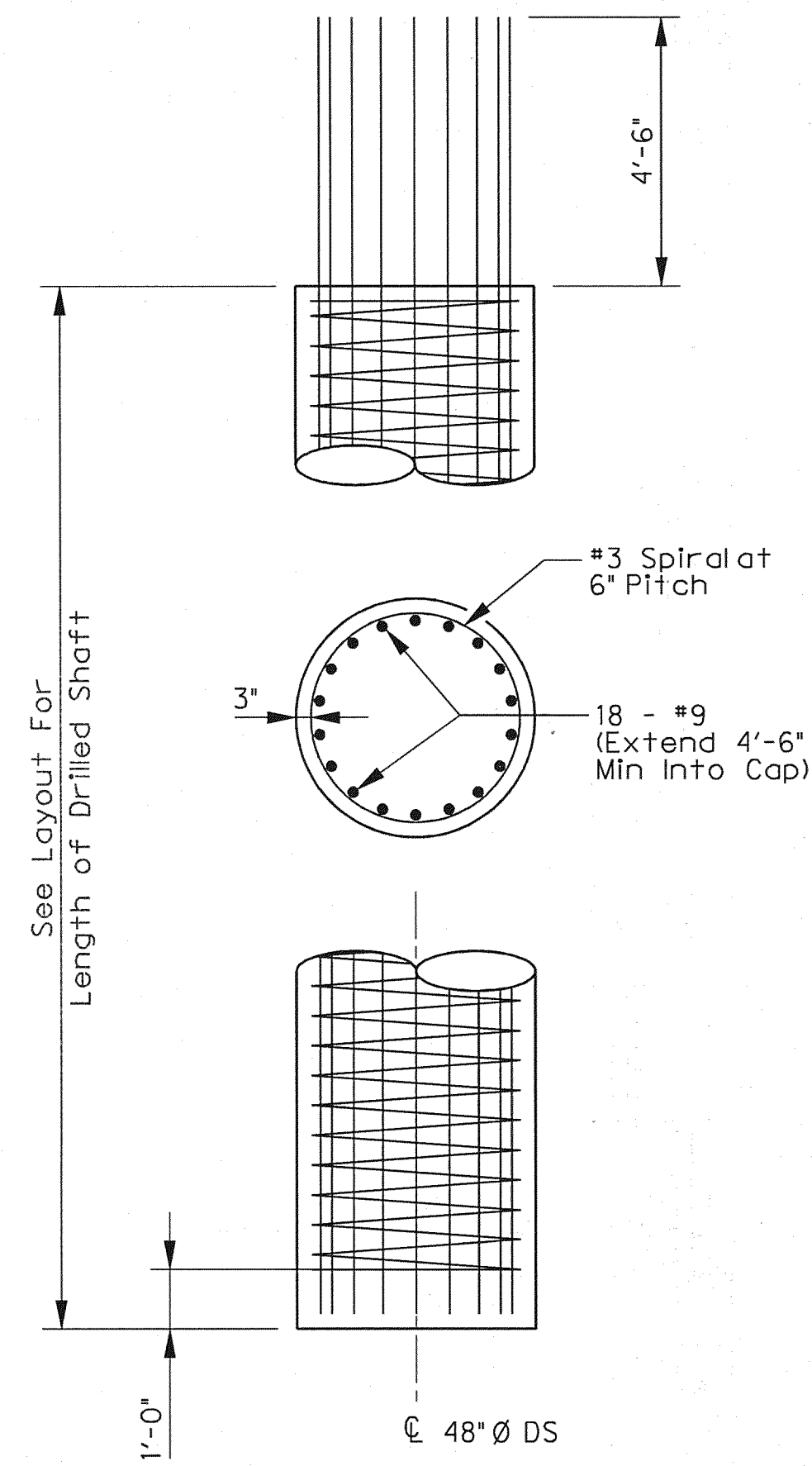
Note: For information not shown see Section A-A/S2-07

CONTROL ELEVATIONS

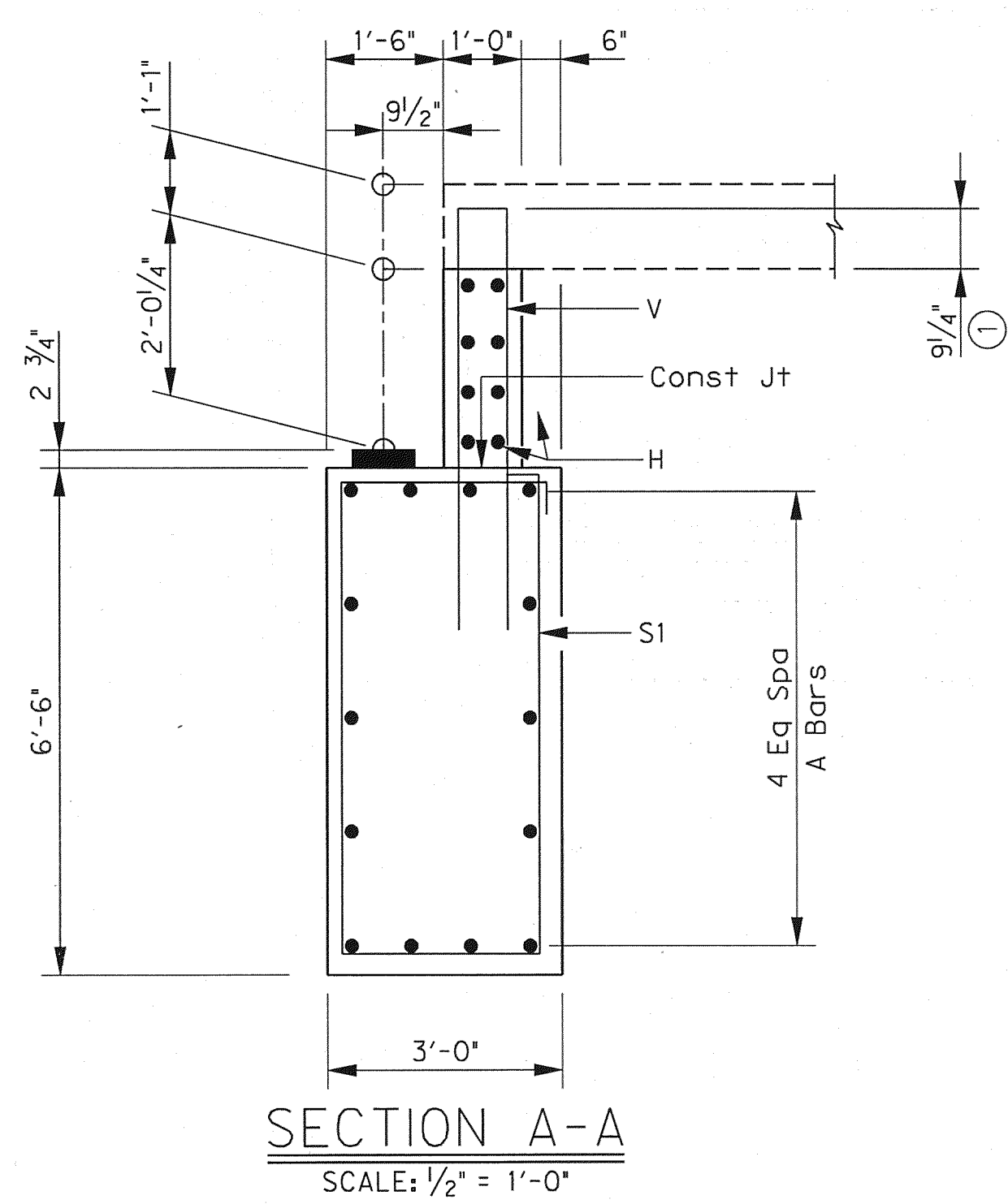
Abutment	Station	Top of Abutment							Top of Drilled Shafts							
		Elev A	Elev B	Elev C	Elev D	Elev E	Elev F	Elev G	DS A	DS B	DS C	DS D	DS E	DS F	DS G	DS H
4	29+99.50	563.74	560.21	560.74	560.21	563.84	561.91	562.00	551.37	551.67	551.91	551.79	551.55	551.25	551.16	551.16



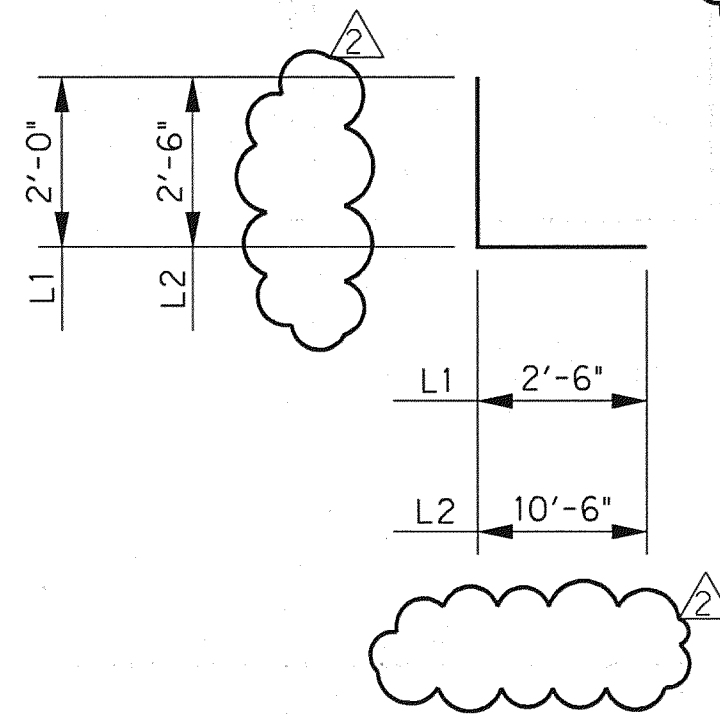
① Addendum #3	ESC	05/24/10			
② Addendum #2	ESC	05/19/10			
NO. REVISION BY DATE					
Addison TOWN OF ADDISON DALLAS COUNTY, TEXAS					
VITRUVIAN PARK BRIDGES BELLA LANE					
ABUTMENT NO. 4 PLAN AND ELEVATION					
HALFF 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 739-0095					
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
27379	ESC	AHH	APRIL 2010	-	S2-05



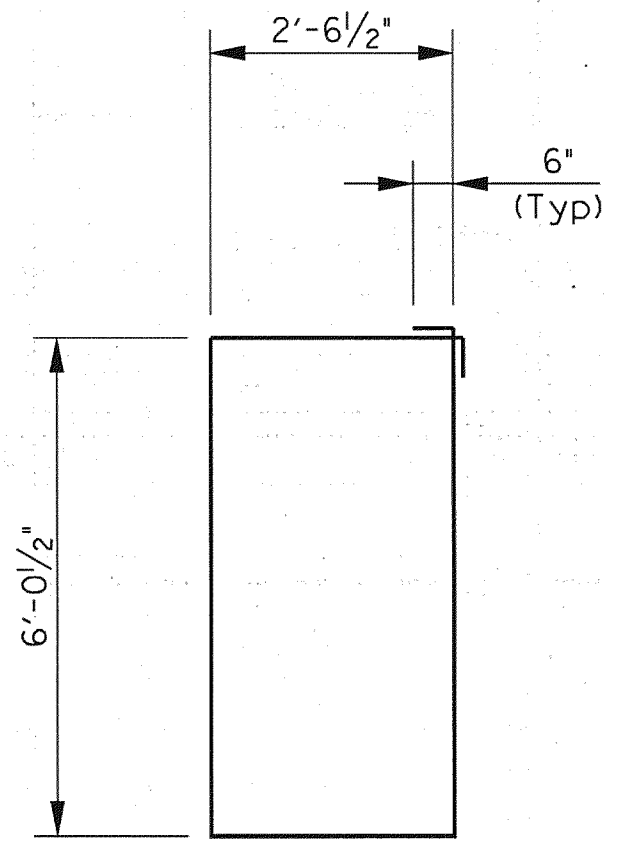
DRILLED SHAFT DETAILS
SCALE: 3/8" = 1'-0"



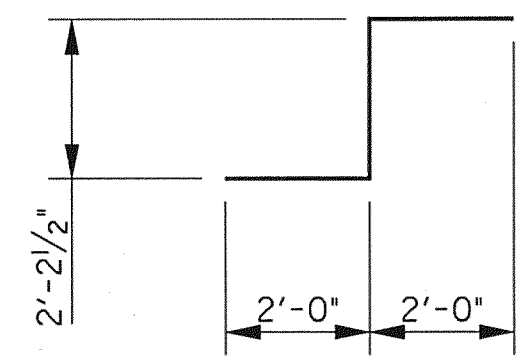
SECTION A-A
SCALE: 1/2" = 1'-0"



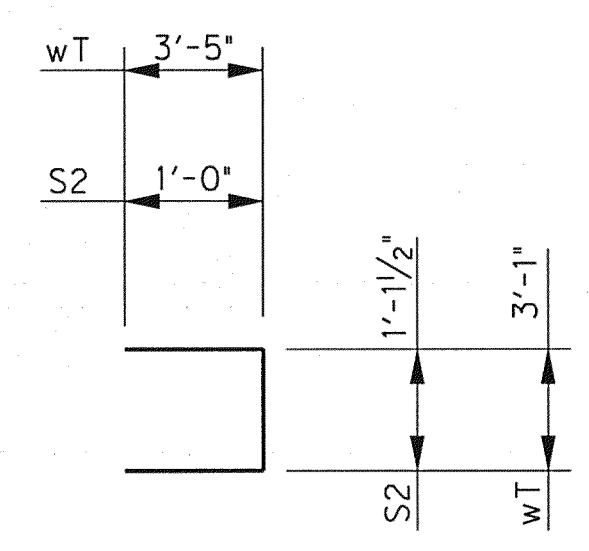
BARS L1, L2, and sL



BARS S1

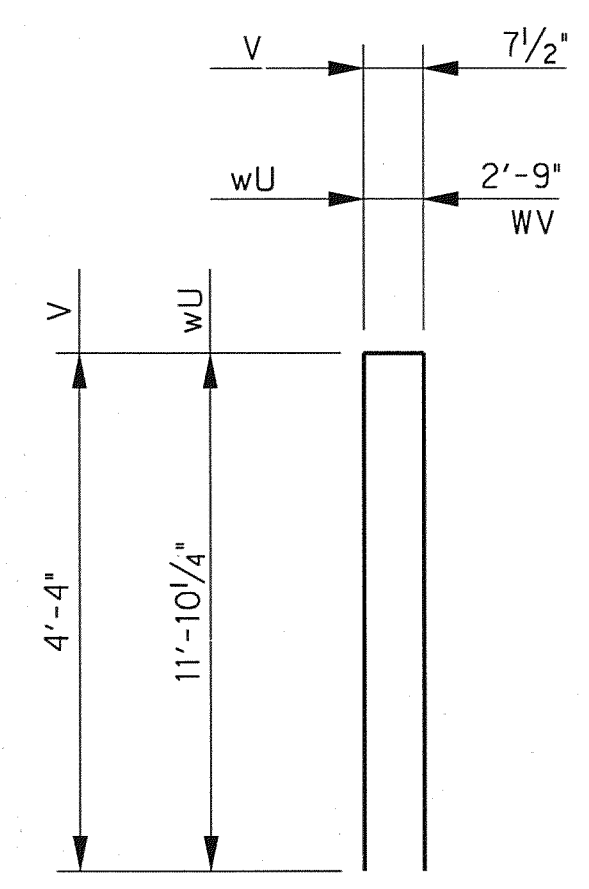


BARS wZ

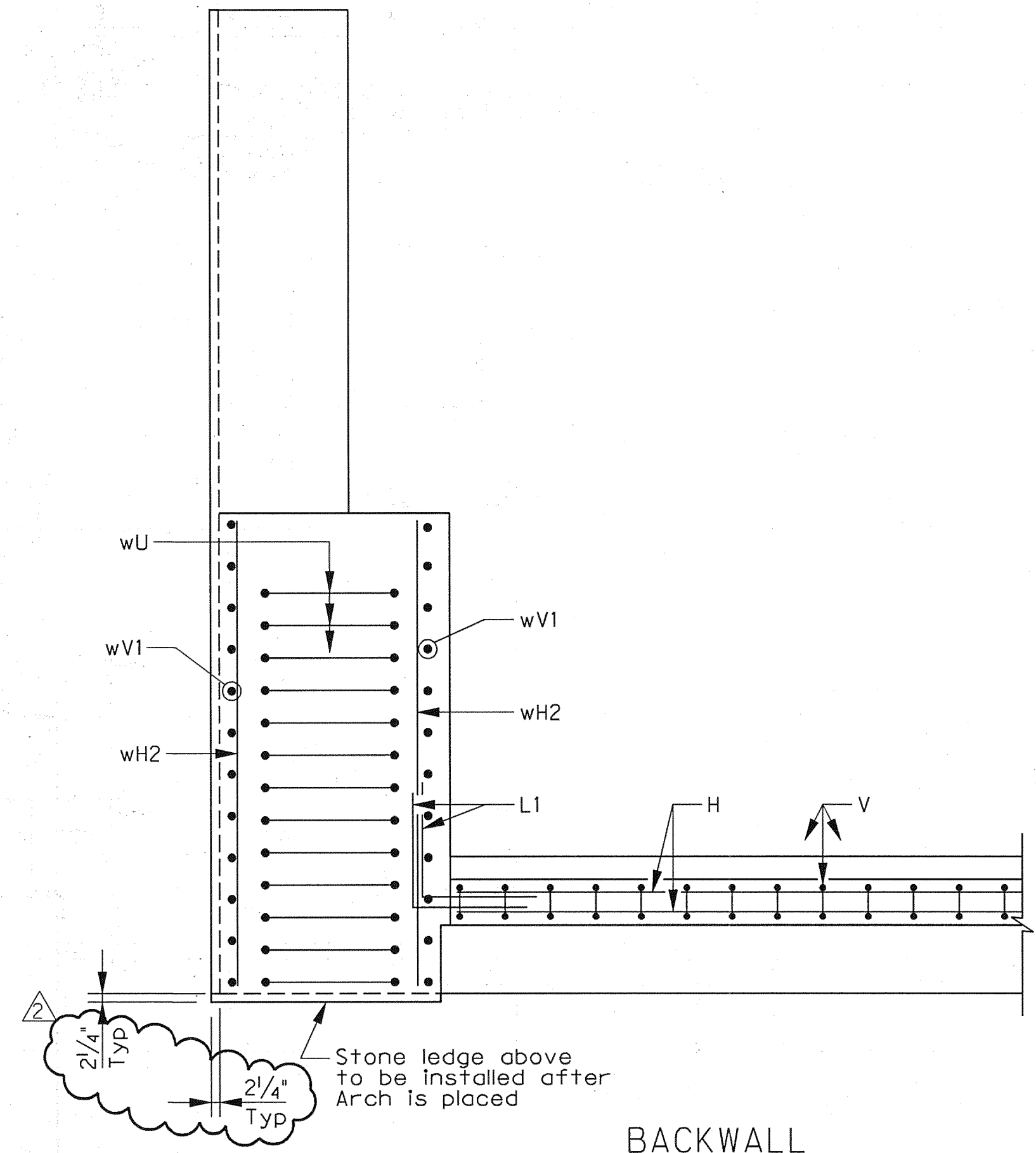


BARS S2 AND wT

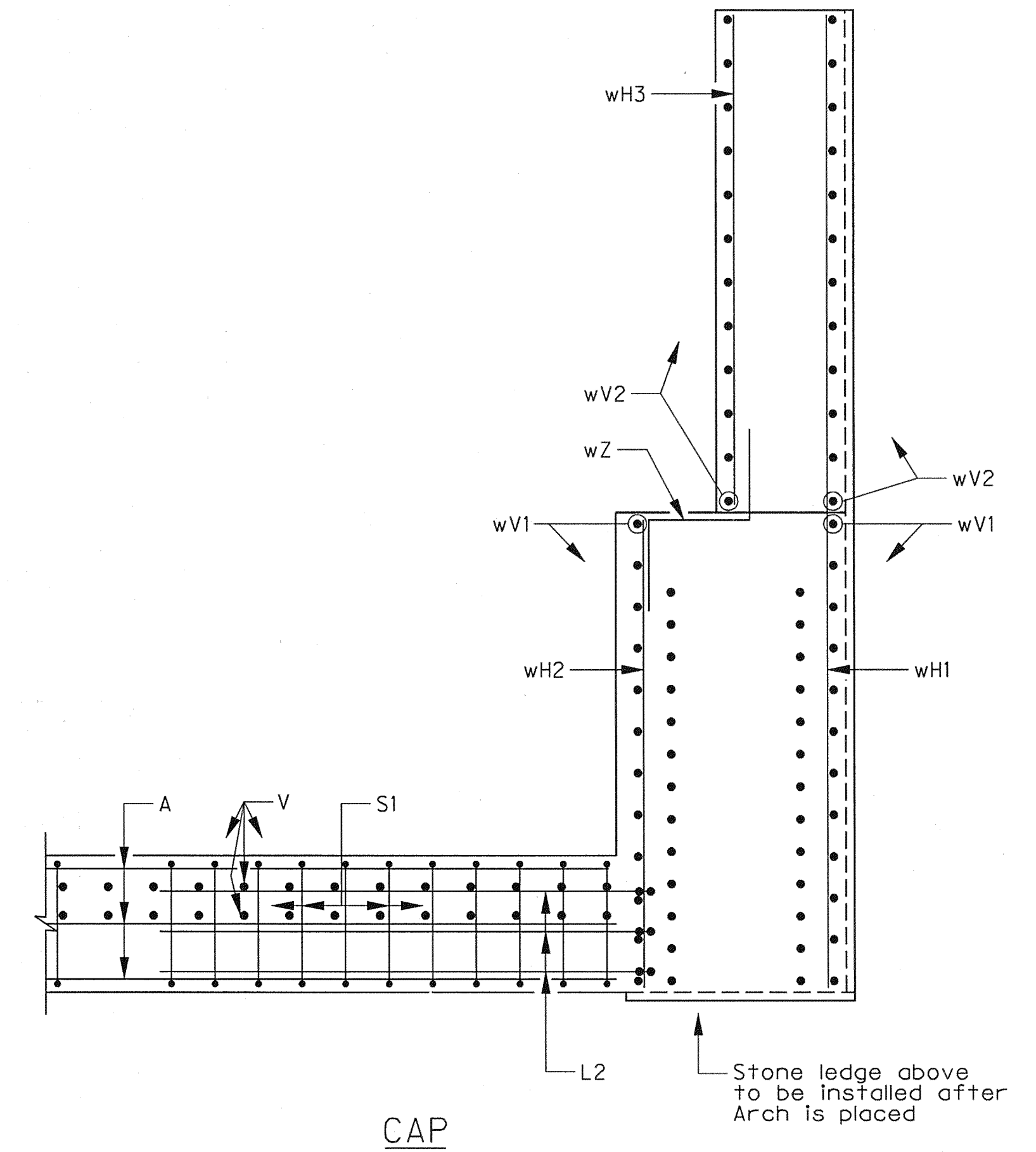
CORNER DETAILS
SCALE: 3/8" = 1'-0"



BARS V AND wU

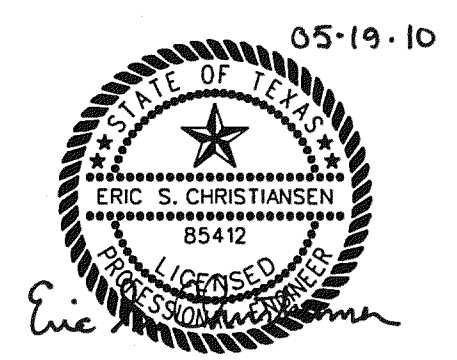


BACKWALL



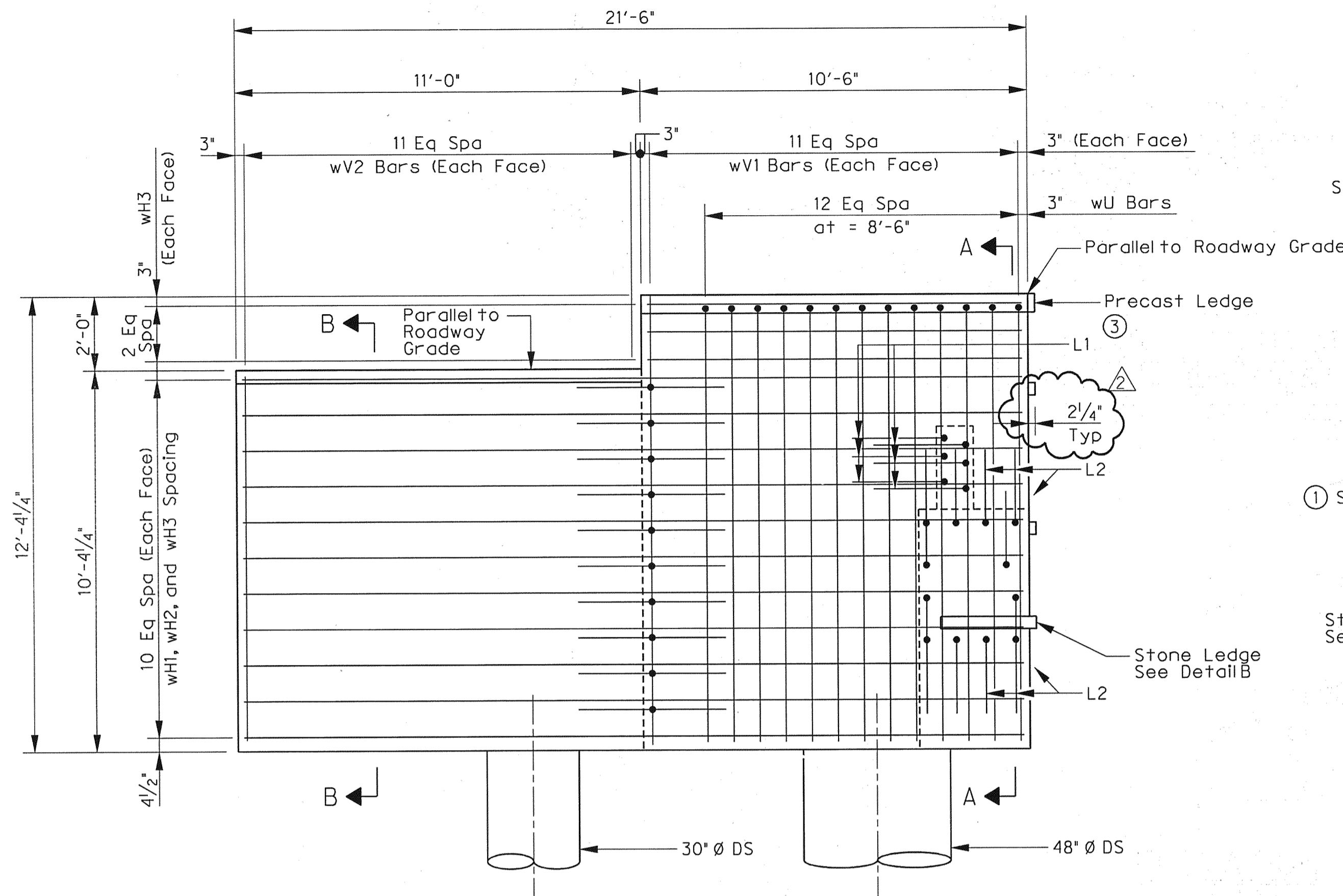
CAP

① Increase as required to maintain 3 3/4" from finished grade.

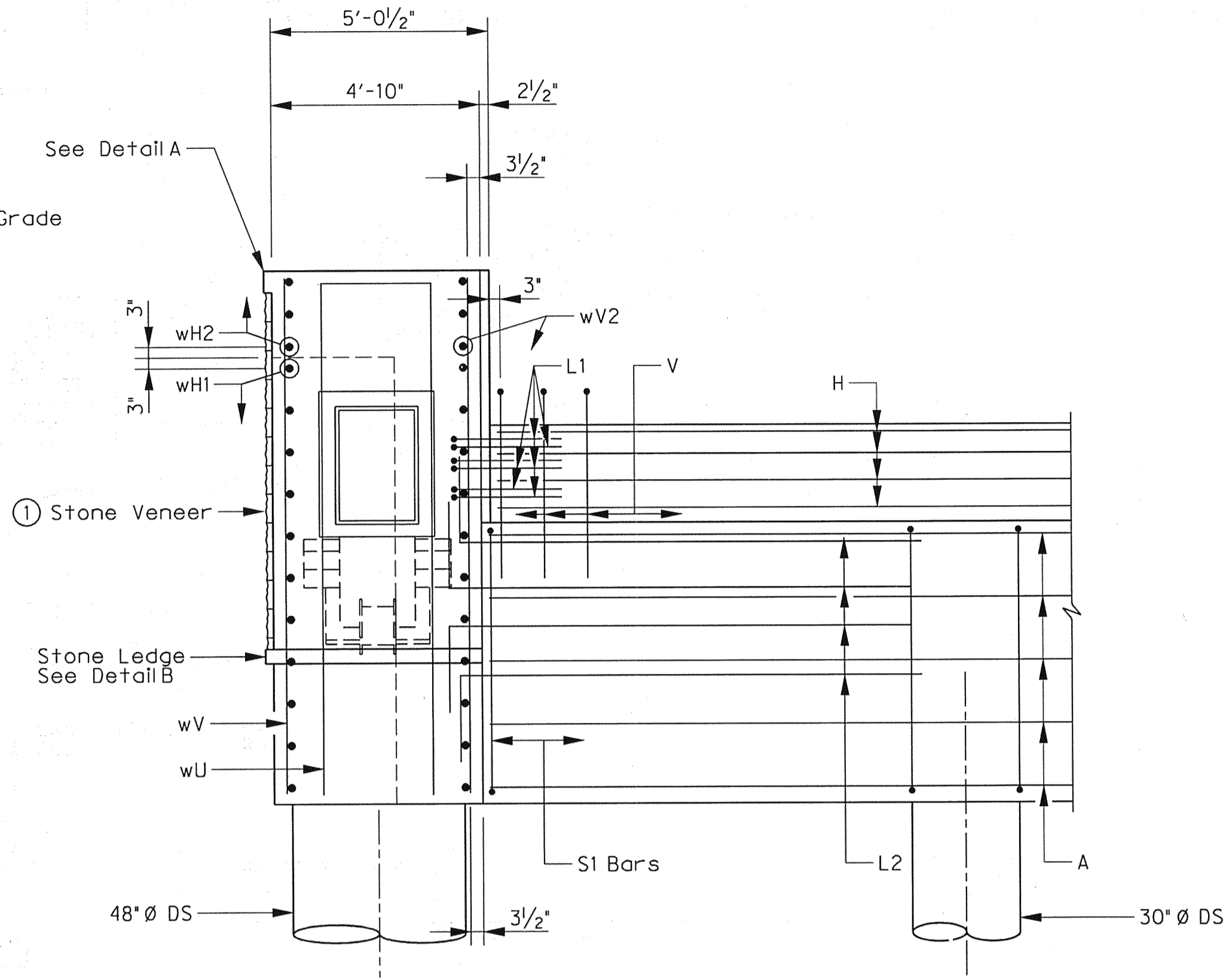


THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTENSEN, P.E. #85412 ON 05-19-2010. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS, 75081, TPE FIRM #F-312.

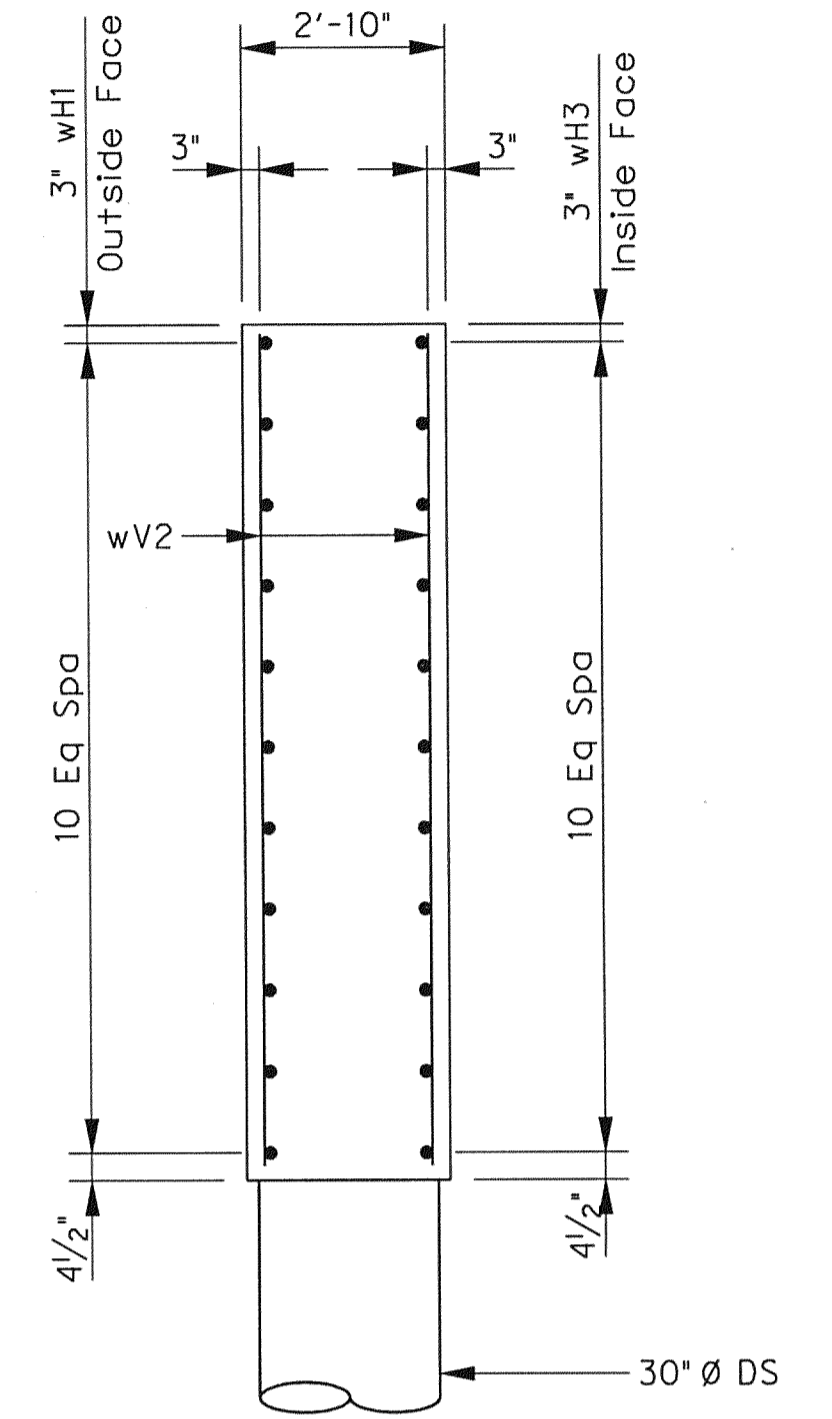
Addendum #2		ESC	05/19/10
NO.	REVISION	BY	DATE
HALFF TOWN OF ADDISON DALLAS COUNTY, TEXAS VITRUVIAN PARK BRIDGES BELLA LANE ABUTMENT DETAILS SECTIONS			
1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 739-0095			
PROJECT	DESIGN	DRAWN	DATE
27379	ESC	AHH	APRIL 2010
FILE	SHEET		
-	S2-06		



WINGWALL ELEVATION
 SCALE: 3/8" = 1'-0"



SECTION A-A
 SCALE: 3/8" = 1'-0"



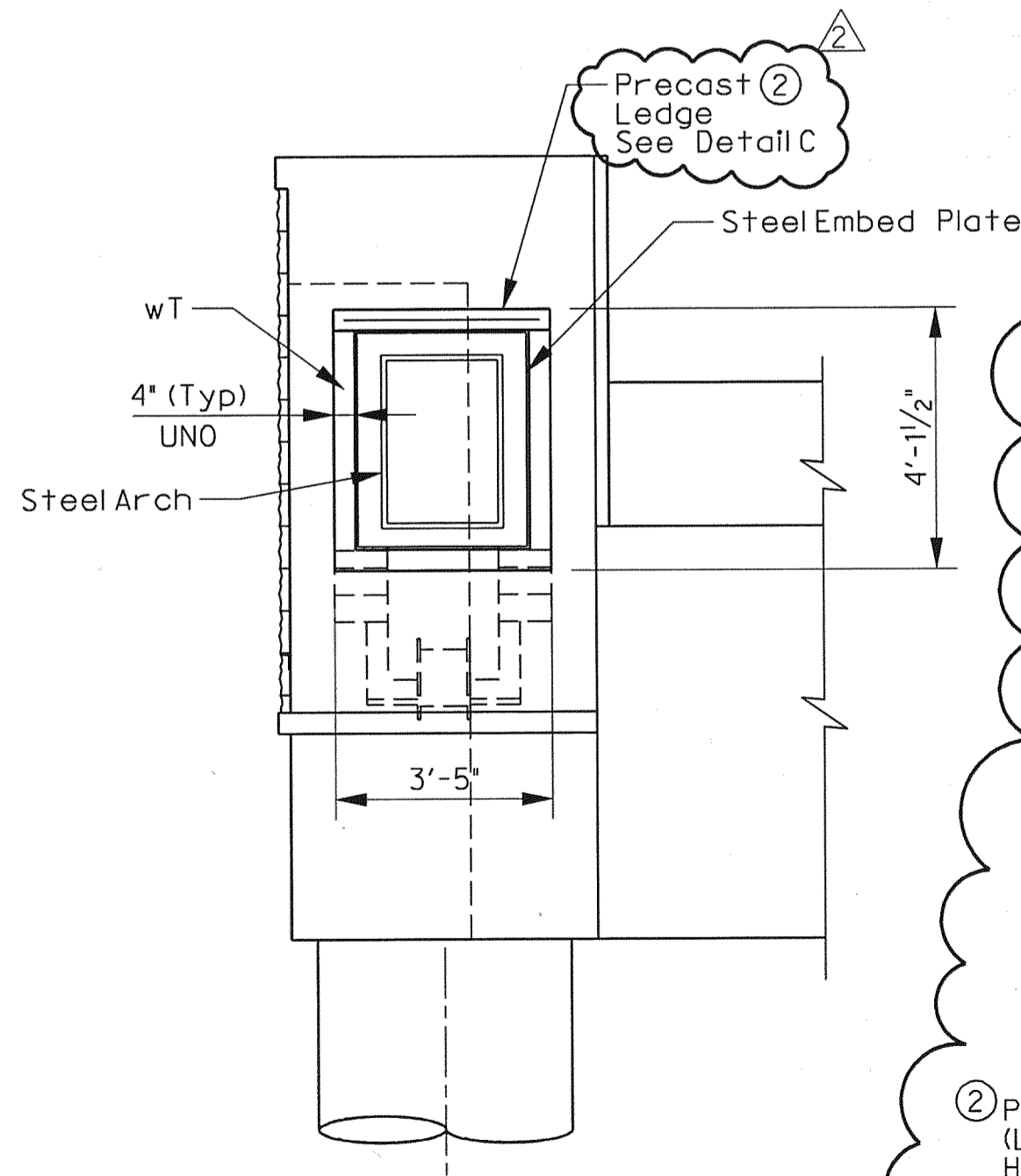
SECTION B-B
 SCALE: 3/8" = 1'-0"

③ Precast ledge to be installed after arch is erected. See Note 2 below for attachment.

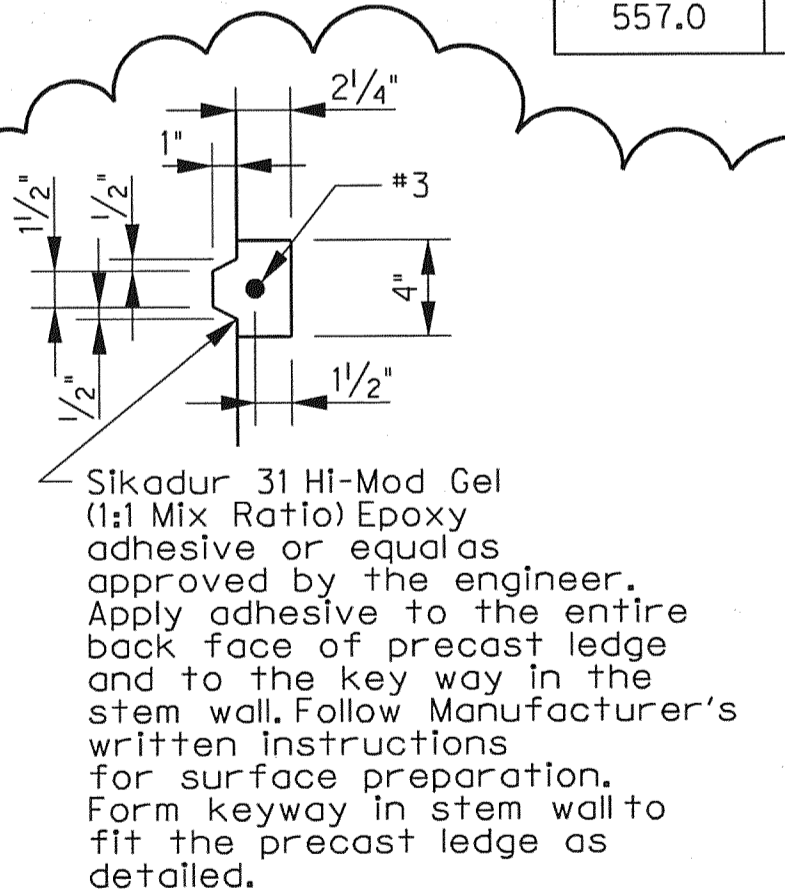
① Stone ledge shall be a (5 x 3 x 1/4) angle with 1/2" Ø HiTi Quik Bolt 3 expansion anchors embedded a minimum of 3 1/2" and spaced at 1'-6" C.C. Refer to landscape architecture sheets for location of stone veneer and stone ledges.

TABLE A - WINGWALL LEDGE ELEVATIONS

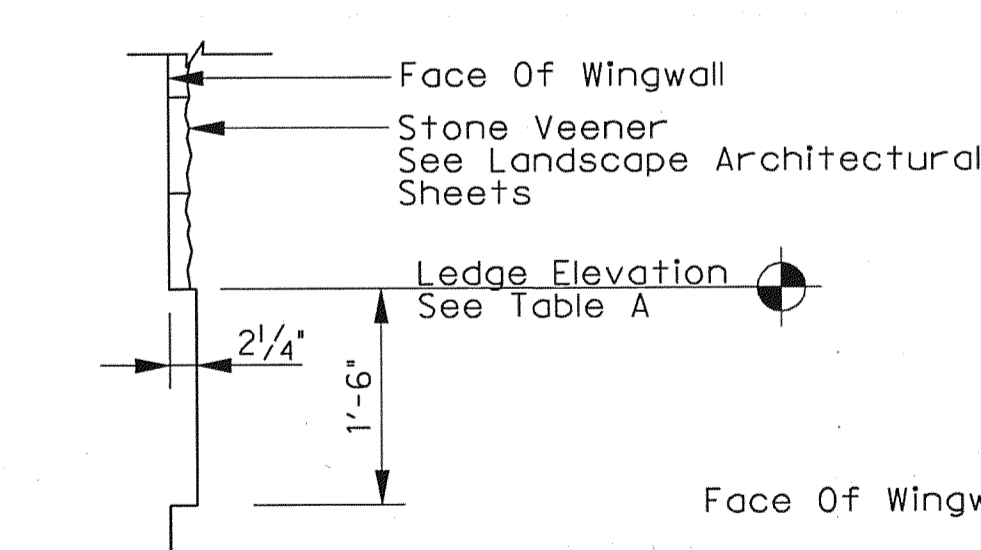
NORTH ABUTMENT		SOUTH ABUTMENT	
EAST WW	WEST WW	EAST WW	WEST WW
557.0	555.0	557.0	555.0



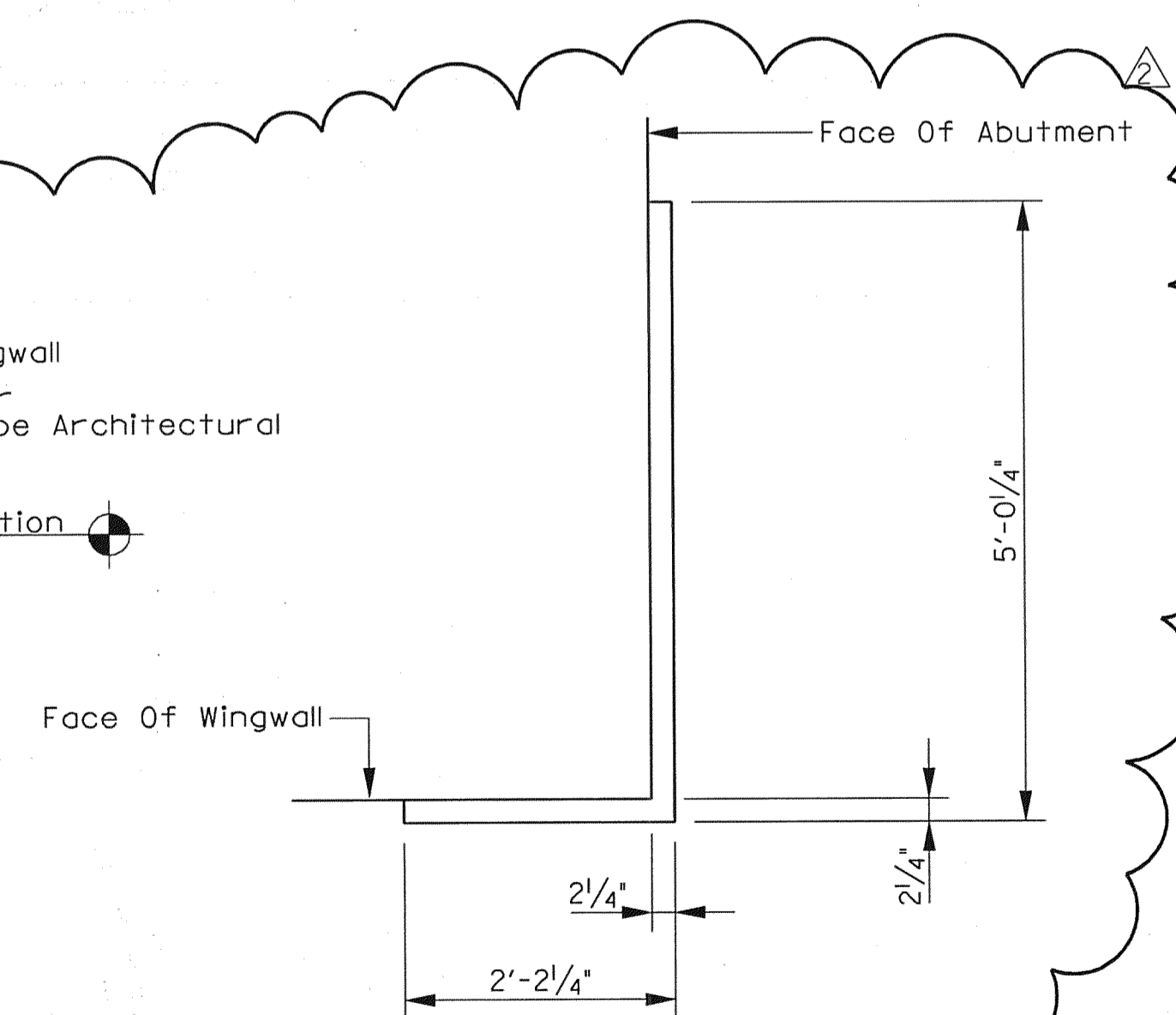
STONE COLLAR DETAILS
 SCALE: 3/8" = 1'-0"



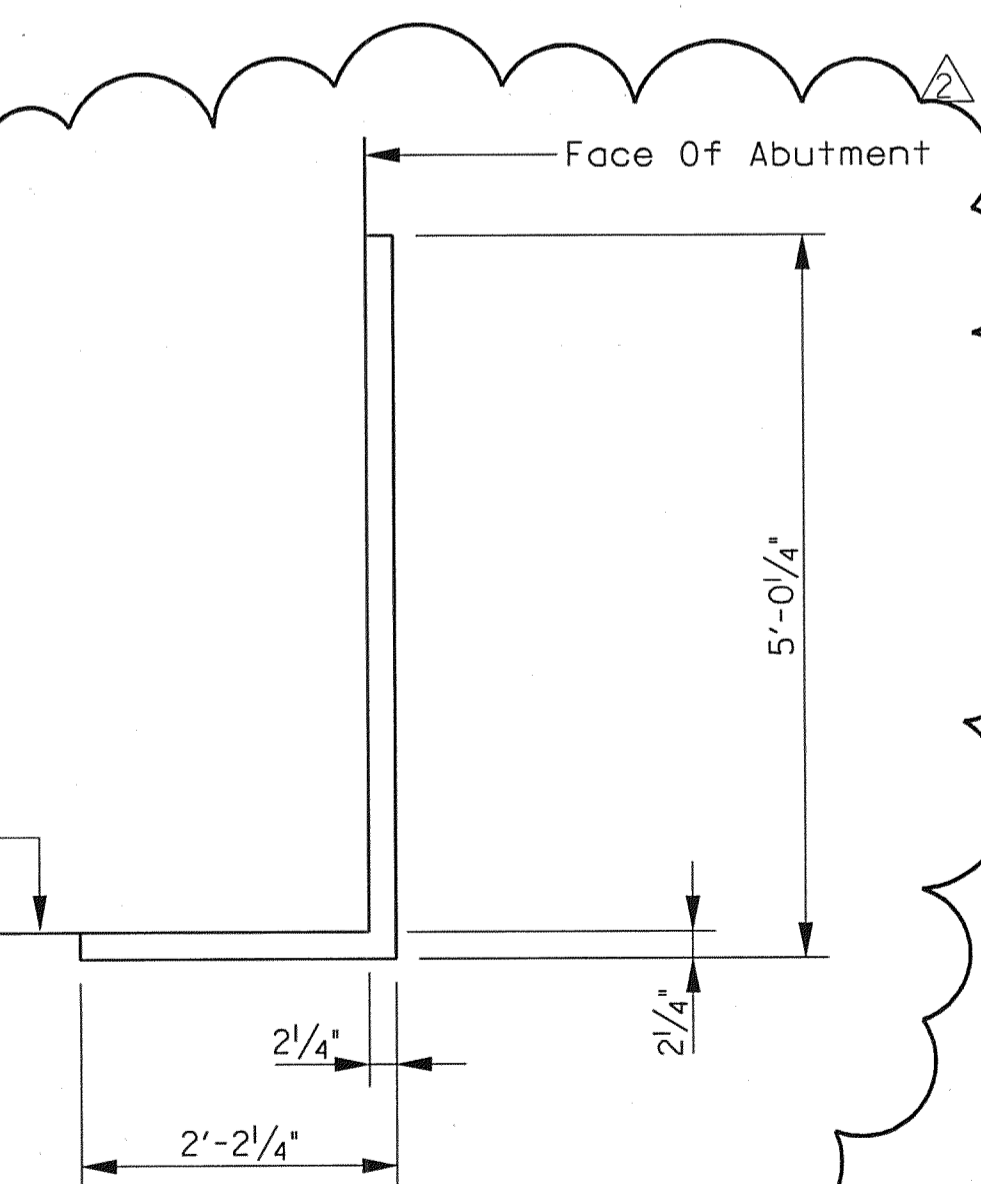
DETAIL C
 SCALE: N.T.S.



ELEVATION
 SCALE: N.T.S.



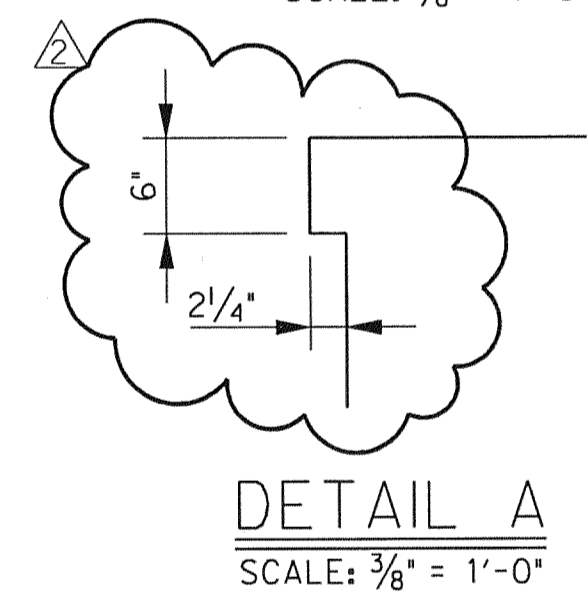
DETAIL B
 SCALE: N.T.S.



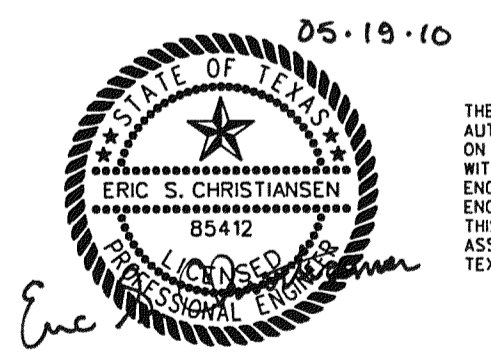
PLAN
 SCALE: N.T.S.

② Prior to Arch Installation a temporary stone support (L5 x 3 x 1/4 (LLV)) shall be used. Installation with three 1/2" Ø HiTi Quik Bolt 3 expansion anchors embedded 3 1/2" min. Coordinate removal of stone veneer and temporary stone support with steel arch erector. Replace the temporary stone ledge with precast ledge after arch has been installed. At the Contractor's option, the stone veneer may be installed after the Arch is fully erected. If this option is used, the temporary stone support (L5x3x1/4) is not needed. For either option, the precast ledge shall be installed only after the Arch is fully erected.

Note: See Wingwall Elevation and Section A-A for abutment details and reinforcing not shown.



DETAIL A
 SCALE: 3/8" = 1'-0"



Addendum #2		ESC	05/19/10
NO.	REVISION	BY	DATE
TOWN OF ADDISON DALLAS COUNTY, TEXAS			
VITRUVIAN PARK BRIDGES BELLA LANE			
ABUTMENT DETAILS WINGWALL DETAILS			
HALFF 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 739-0095			
PROJECT	DESIGN	DRAWN	DATE
27379	ESC	AHH	APRIL 2010
FILE	SHEET		
-	S2-07		

USER: ah2482

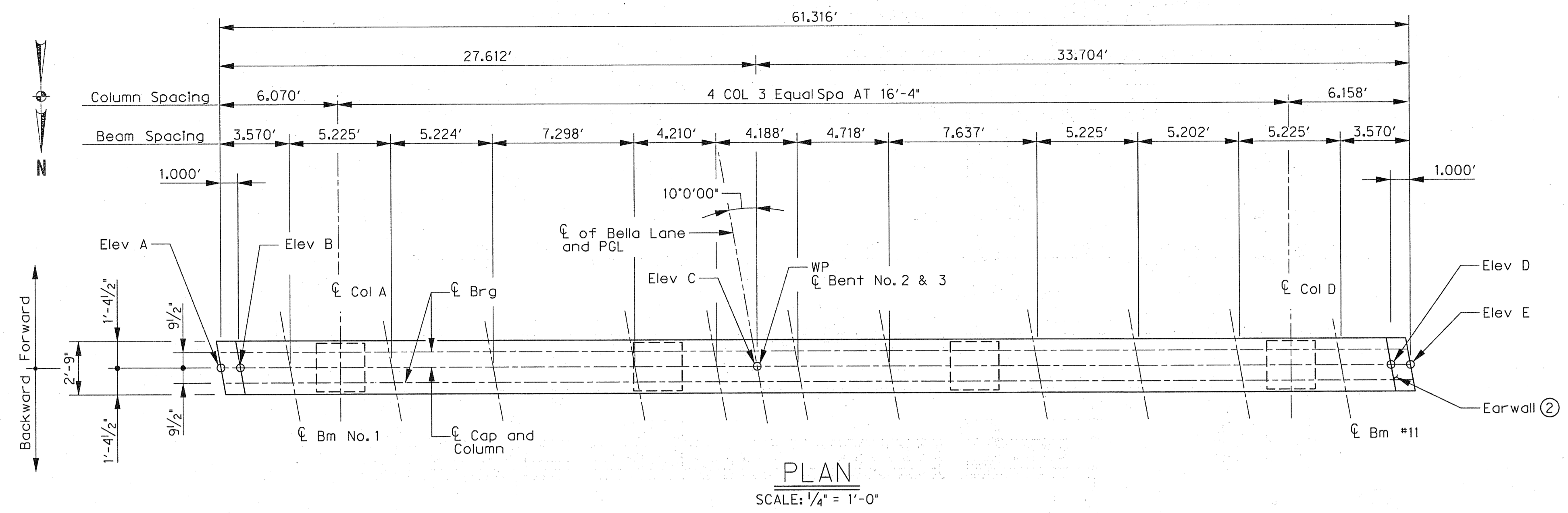
OFFICE: RCH

PROJECT # 27379

FILE: 27379-SC-BELLABL-B02.dgn

TIME: 2:46:51 PM

DATE: 5/19/2010



PLAN
SCALE: 1/4" = 1'-0"

BAR SCHEDULE ~ ONE CAP

Bar	Type	No.	Size	Length	Weight
A	S+	6	#11	70'-10"	2,259
B	S+	5	#11	67'-8"	1,798
E	S+	4	#5	2'-5"	11
F	B+	10	#5	6'-1 1/2"	64
S	B+	109	#5	12'-0"	1,365
T	S+	6	#5	66'-1"	414
wD	S+	36	#5	1'-6"	57
wH	S+	14	#7	51'-2"	1,465
wT	S+	1	#5	51'-2"	54
wV	S+	45	#5	5'-7"	263

①	Total Reinforcing Steel	LB	7,750
⑤	Cl C Conc (Bent)	CY	40.5

Est Quant ~ 4 Col

*H	Bars V1-12-#8	Bars V2-12-#8	Bars Z-#3 Ties	Reinf Steel	Class C Concrete				
FT	Length	Weight	Length	Number	Weight				
13	12'-0"	385	15'-3"	489	9'-8"	17	62	936	12.1
14	12'-0"	385	16'-3"	521	9'-8"	18	66	972	13.0
15	12'-0"	385	17'-3"	553	9'-8"	19	70	1,008	13.9
16	12'-0"	385	18'-3"	585	9'-8"	20	73	1,043	14.9
17	12'-0"	385	19'-3"	617	9'-8"	21	77	1,079	15.8

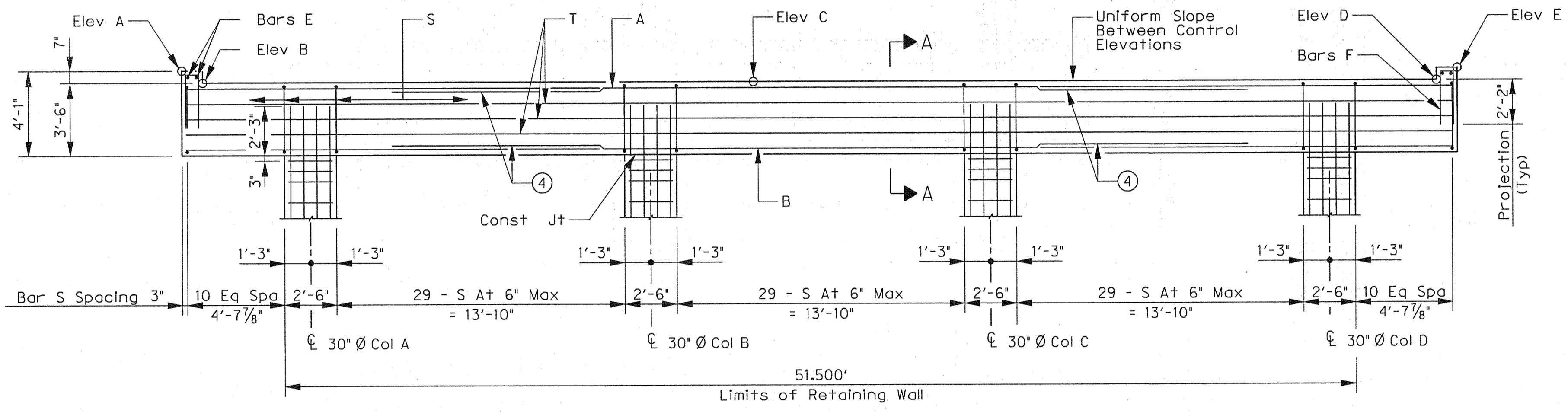
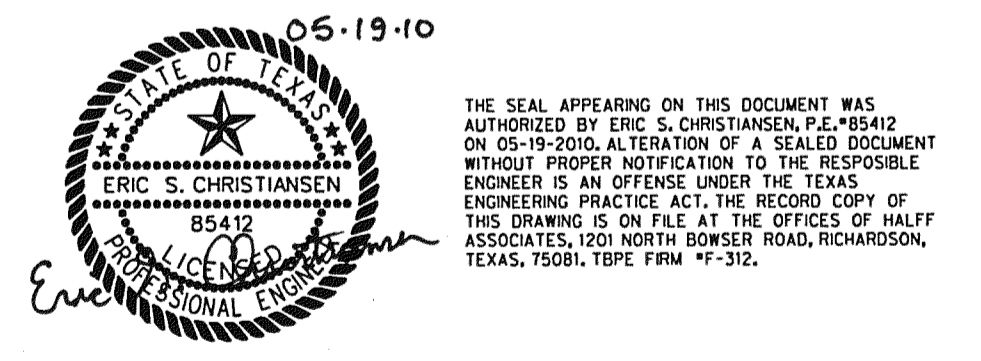
ESTIMATED QUANTITIES

Item	Unit	BENT 2	BENT 3
Drilled Shaft (42 IN)	FT	40	40
Cl C Conc (Bent)	CY	54.4	54.4
Reinf Steel	LB	8,758	8758.0

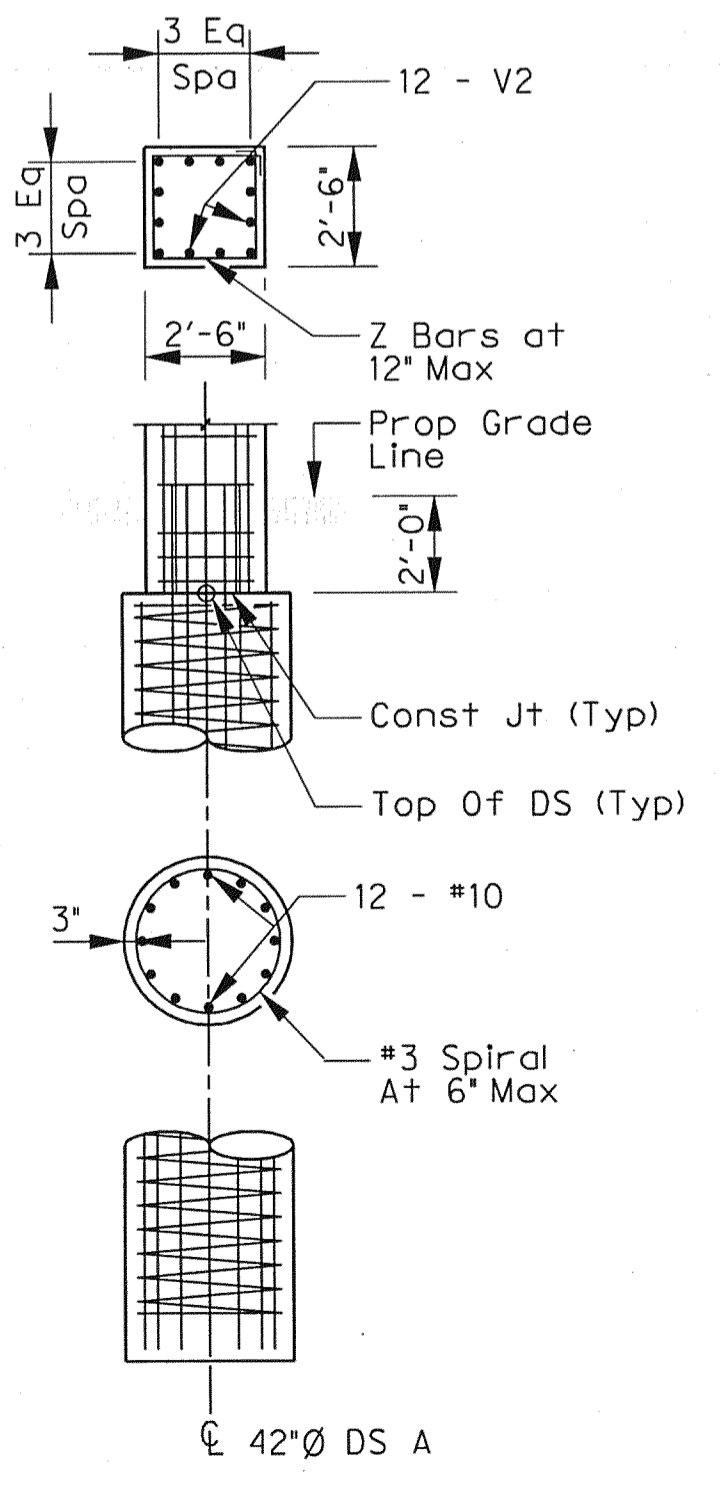
- ① For Contractor's information only.
- ② Do not cast earwalls until beams are erected in their final position.
- ③ Length of bar includes 10'-0" splice length.
- ④ Top splices shall be near midspan and bottom splices near supports. Adjacent bars cannot be spliced at the same location.
- ⑤ Quantity includes retaining wall

General Notes:

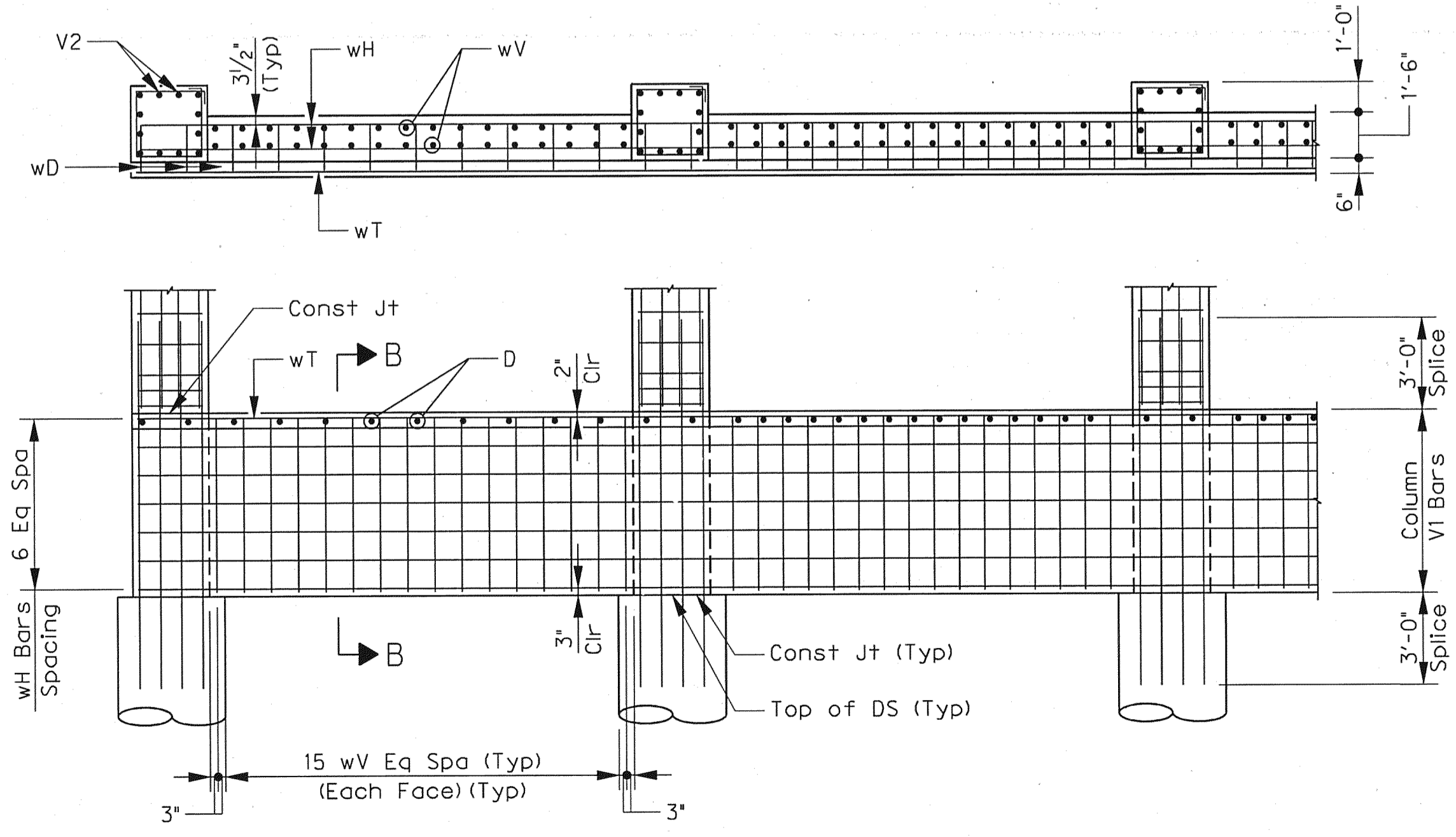
Concrete strength f'c = 3,600 psi.
 The price bid per foot of column shall include the reinforcing extending from the shaft into the cap.
 Spiral steel shall have one extra turn at the top, bottom, and at splices.
 All cap reinforcing shall be grade 60.
 Column and Drilled Shaft reinforcing may be grade 40.
 Cap form supports shall remain in place until the entire cap is ready for form removal.
 Calculated drilled shaft foundation load: 156 Tons per Drilled Shaft



ELEVATION
SCALE: 1/4" = 1'-0"

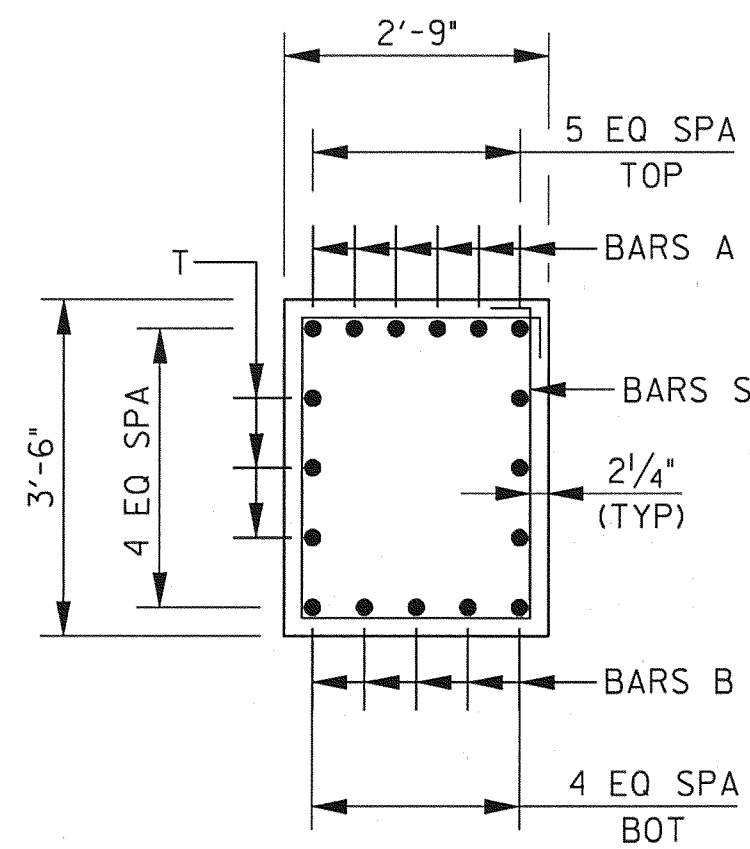


SECTION A-A
SCALE: 1/2" = 1'-0"

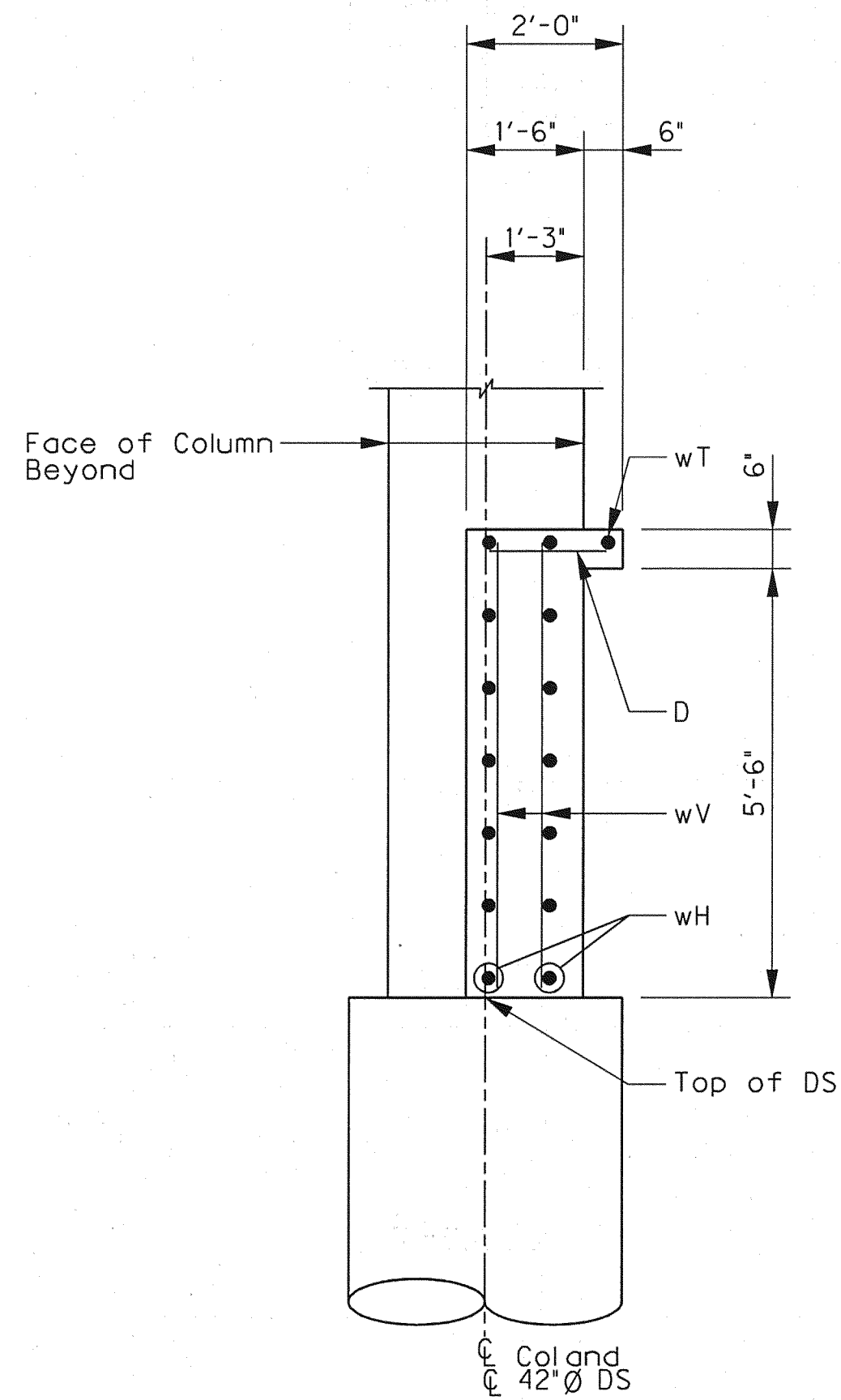


Note: Column tie bars Z not shown in wall for clarity.

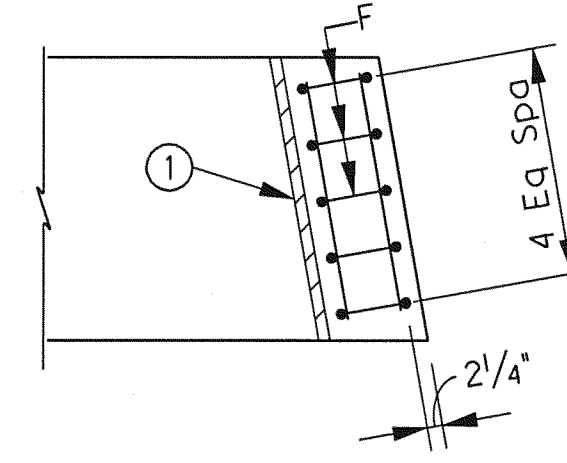
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
27379	ESC	AHH	APRIL 2010	-	S2-08



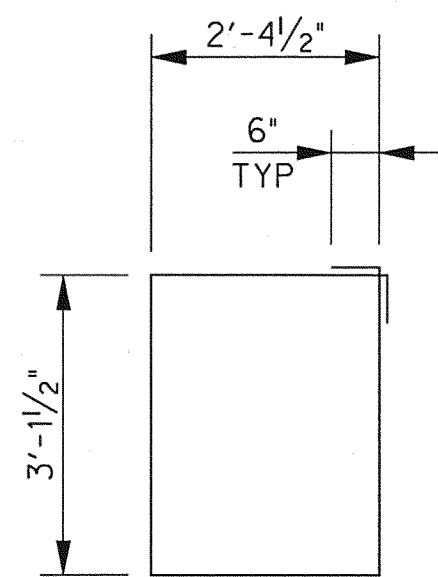
SECTION A-A
SCALE: 1/2" = 1'-0"



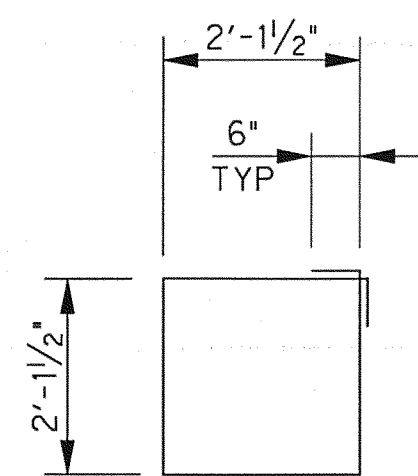
SECTION B-B
SCALE: 1/2" = 1'-0"



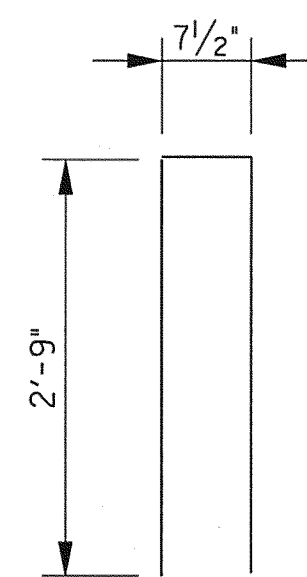
EARWALL PLAN ②



BARS S



BARS Z

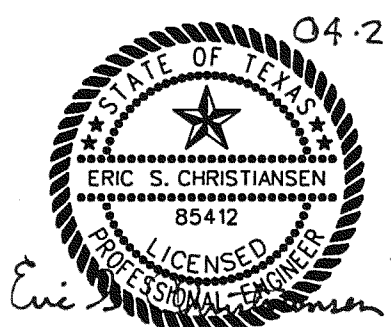


BARS F

- ① 1/2" Preformed Bituminous Fiber material between box beam and earwall. Bond to beam with an approved adhesive. Inside face of earwall to be cast with vertical side of beam
- ② Do not cast earwalls until beams are erected in their final position.

CONTROL ELEVATIONS

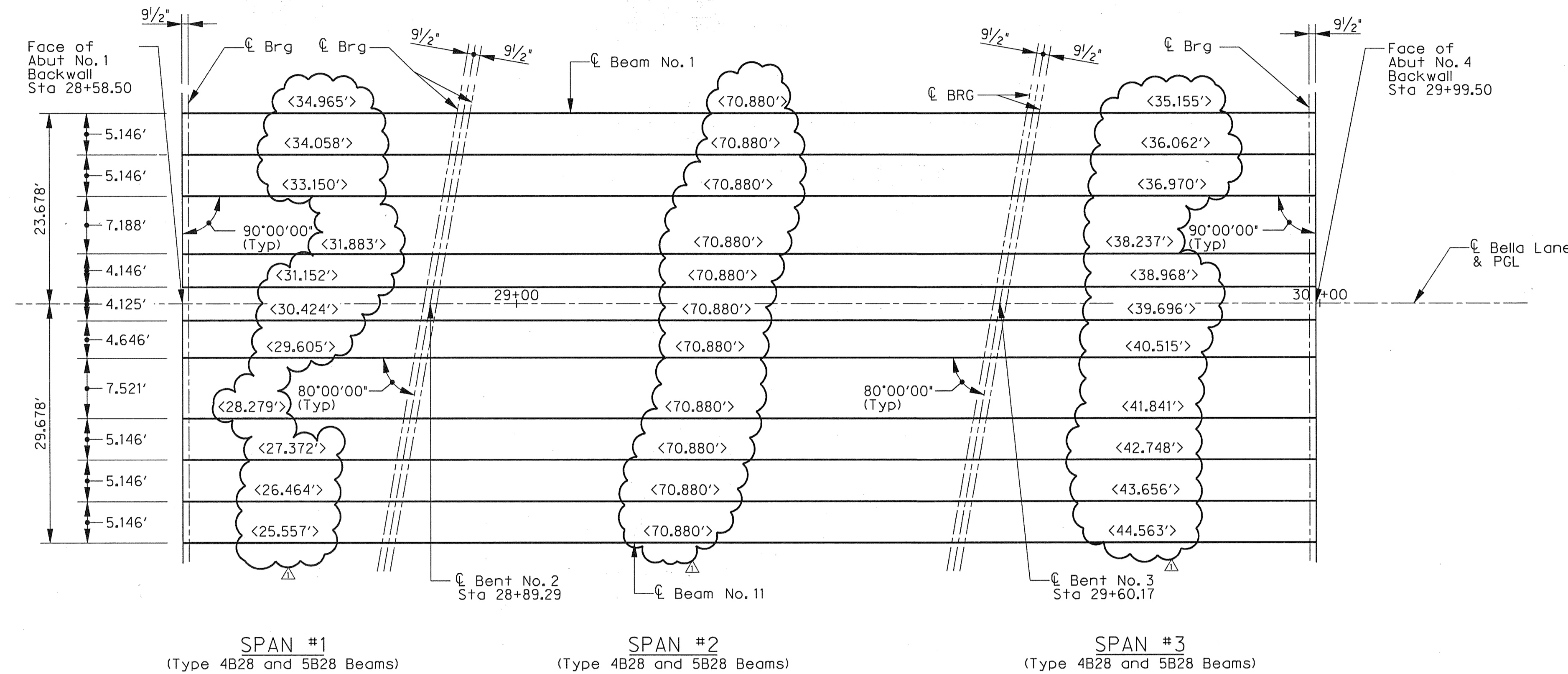
Bent	Station	Top of Cap					Top of Columns			
		Elev A	Elev B	Elev C	Elev D	Elev E	Col A	Col B	Col C	Col D
2	28+89.29	559.23	558.66	559.22	558.75	559.31	555.27	555.62	555.52	555.22
3	29+60.17	558.66	558.10	558.66	558.18	558.74	554.71	555.05	554.95	554.65



04.29.10

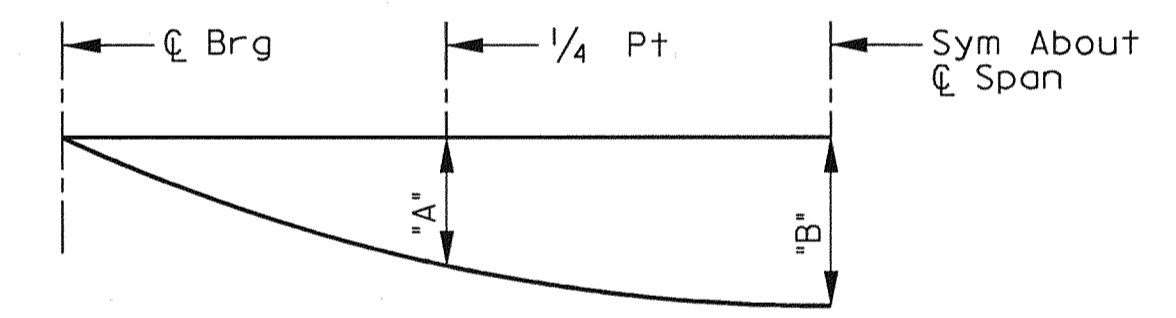
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTIANSEN, P.E. #5412 ON 04-29-2010, ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS, 75081. TBPE FIRM #F-312.

NO.	REVISION	BY	DATE
TOWN OF ADDISON DALLAS COUNTY, TEXAS VITRUVIAN PARK BRIDGES BELLA LANE BENT No. 2 & 3 DETAILS			
1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 738-0095			
PROJECT	DESIGN	DRAWN	DATE
27379	ESC	AHH	APRIL 2010
FILE	SHEET		
-	S2-09		



Span No.	Beam No.	"A"	"B"	Length
		FT	FT	FT
1	1	0.002	0.003	34.465
	2	0.002	0.003	33.558
	3	0.002	0.003	32.650
	4	0.002	0.003	31.383
	5	0.001	0.002	30.652
	6	0.001	0.002	29.924
	7	0.001	0.002	29.105
	8	0.001	0.002	27.779
	9	0.001	0.001	26.872
	10	0.001	0.001	25.964
	11	0.001	0.001	25.057
2	1	0.043	0.061	70.380
	2	0.045	0.064	70.380
	3	0.053	0.074	70.380
	4	0.066	0.092	70.380
	5	0.043	0.061	70.380
	6	0.043	0.061	70.380
	7	0.045	0.064	70.380
	8	0.053	0.074	70.380
	9	0.045	0.064	70.380
	10	0.043	0.061	70.380
	11	0.043	0.060	70.380
3	1	0.002	0.003	34.655
	2	0.003	0.004	35.562
	3	0.004	0.005	36.470
	4	0.004	0.006	37.737
	5	0.004	0.005	38.468
	6	0.001	0.002	39.196
	7	0.005	0.006	40.015
	8	0.006	0.009	41.341
	9	0.006	0.008	42.248
	10	0.006	0.008	43.156
	11	0.006	0.009	44.063

All beam lengths are horizontal lengths measured end to end.



DEAD LOAD DEFLECTION DIAGRAM

Note: Deflections shown are due to concrete slab only (Ec = 5 x 10⁶ psi). Calculated deflections shown are theoretical; actual dimensions may be less.

FRAMING PLAN

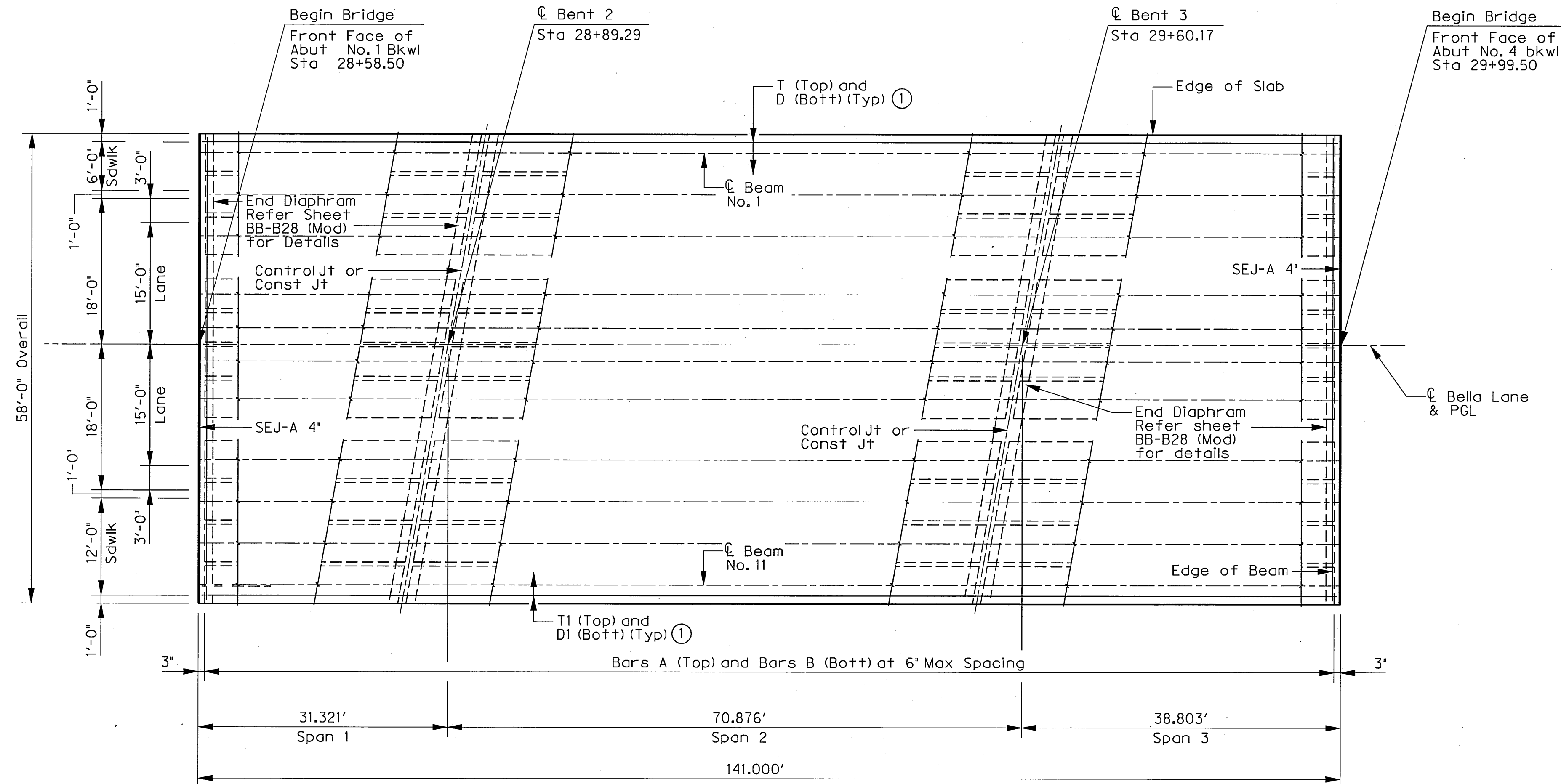
SCALE: 1" = 10'-0"

Dimensions shown thus <XXX.XXX> represents horizontal beam length between cap centerlines.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTIANSEN, P.E., #85412 ON 05-13-2010. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS, 75081, TBPE FIRM #F-312.

ADDENDUM #1	NO.	REVISION	BY	DATE	
			ESC	5/13/10	
TOWN OF ADDISON DALLAS COUNTY, TEXAS VITRUVIAN PARK BRIDGES BELLA LANE FRAMING PLAN					
1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 739-0095					
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
27379	ESC	AHH	APRIL 2010	-	S2-10



PLAN
SCALE: 1" = 10'-0"

General Notes:

All concrete shall be Class S, f'c = 4,000 psi.
 For Sealed Expansion Joint details not shown see SEJ-A.
 For SEJ-A quantities not shown see Estimated Quantities.
 The minimum rate of concrete placing and finishing shall be not less than 30 feet of Bridge Deck per hour. For rail details not shown, see Traffic Rail Type T401 (Mod) and Deck Details on Sheet S2-12.
 For beam layouts, see Framing Plan Sheets. All reinforcing shall be Grade 60 and epoxy coated.
 Bar laps, where required shall be as follows:
 #4 = 2'-1"
 #5 = 2'-7"

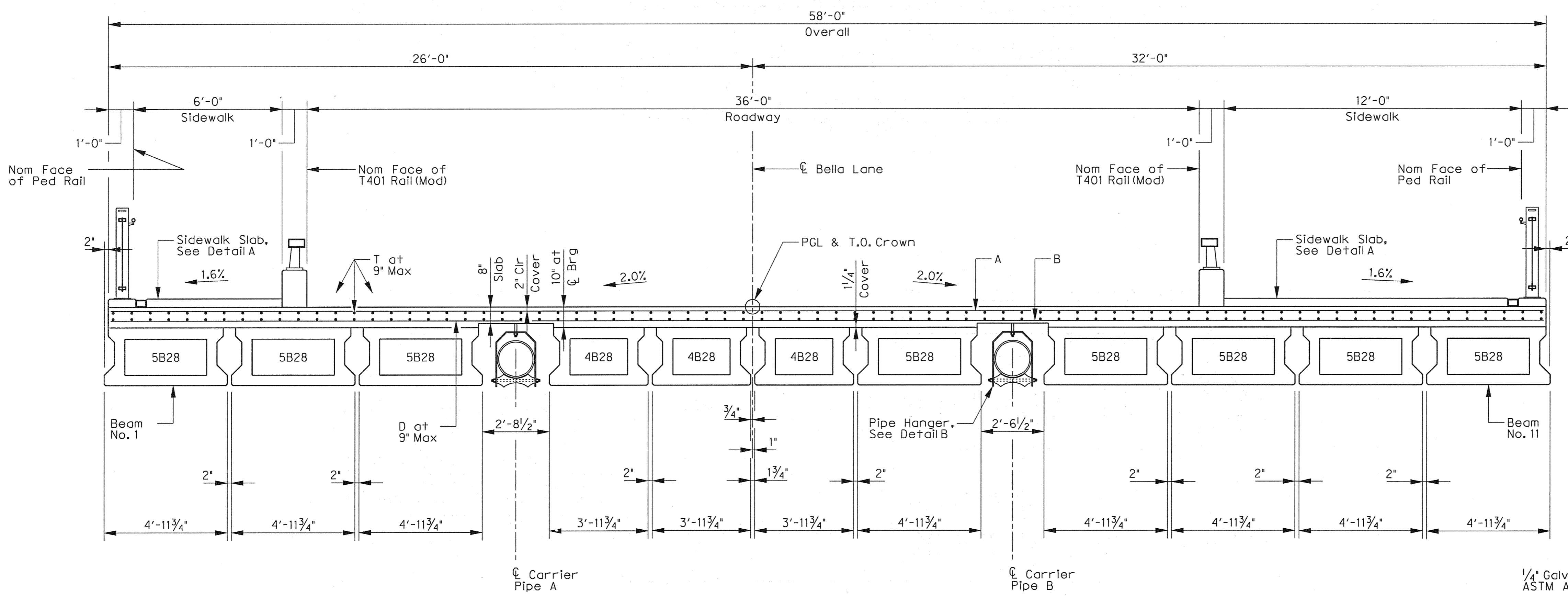
① Where Slab is Continuous at Bents, Bars T and D shall Extend Through Joint.

04-29-10

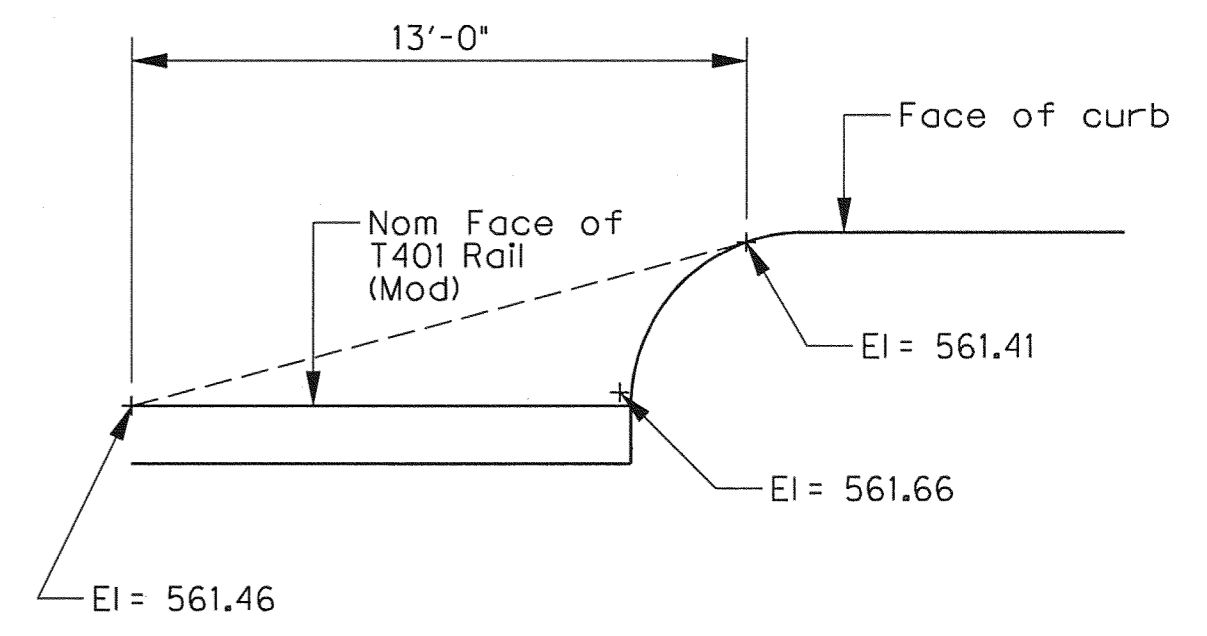


THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTENSEN, P.E. #5412 ON 04-29-2010. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081. TYPE FROM #2-312.

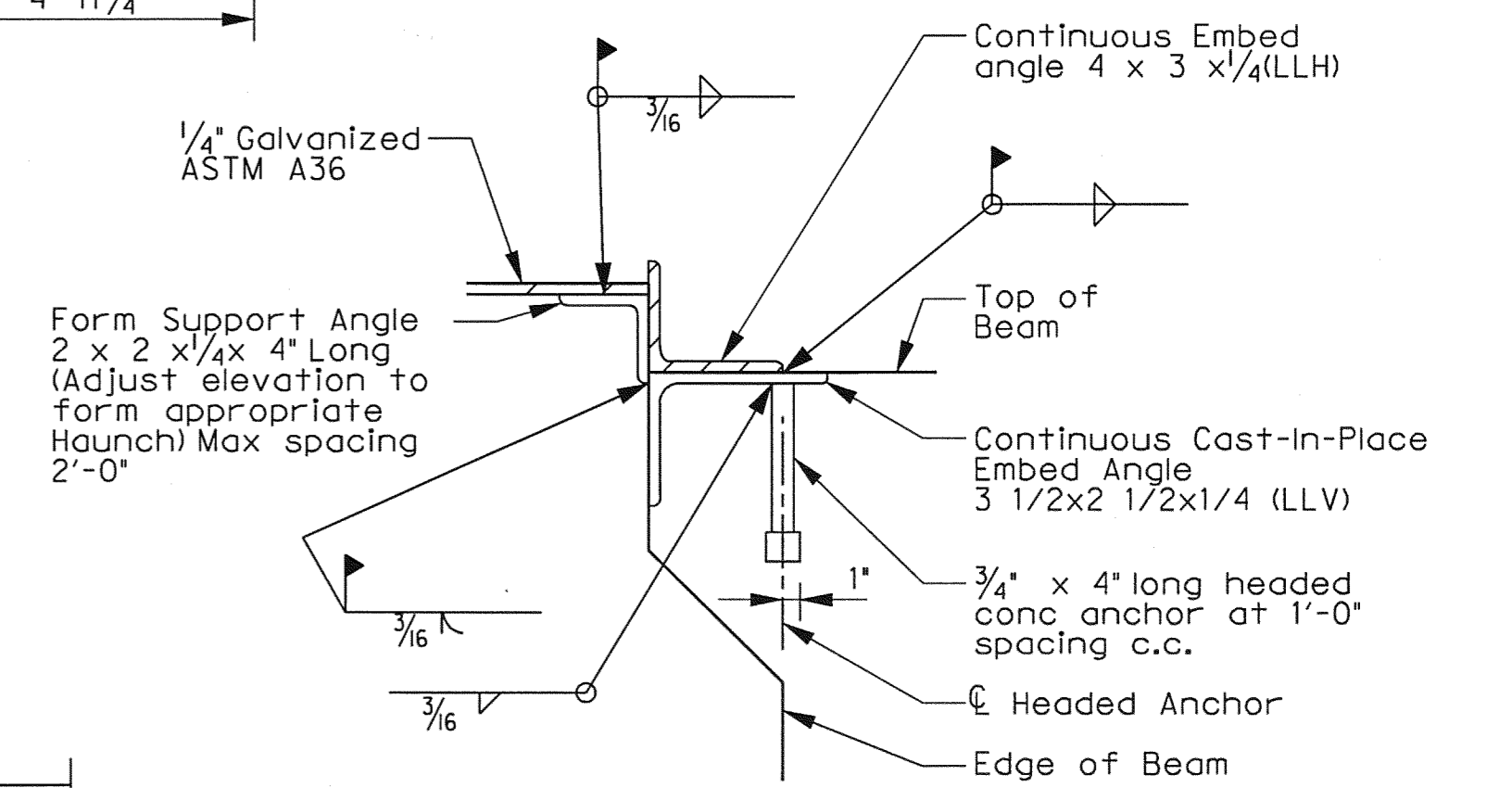
NO.	REVISION	BY	DATE
TOWN OF ADDISON DALLAS COUNTY, TEXAS			
VITRUVIAN PARK BRIDGES BELLA LANE			
141' PRE STR CONC BOX BEAM UNIT			
1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 739-0095			
PROJECT	DESIGN	DRAWN	DATE
27379	ESC	AHH	APRIL 2010
FILE	SHEET		
-	S2-11		



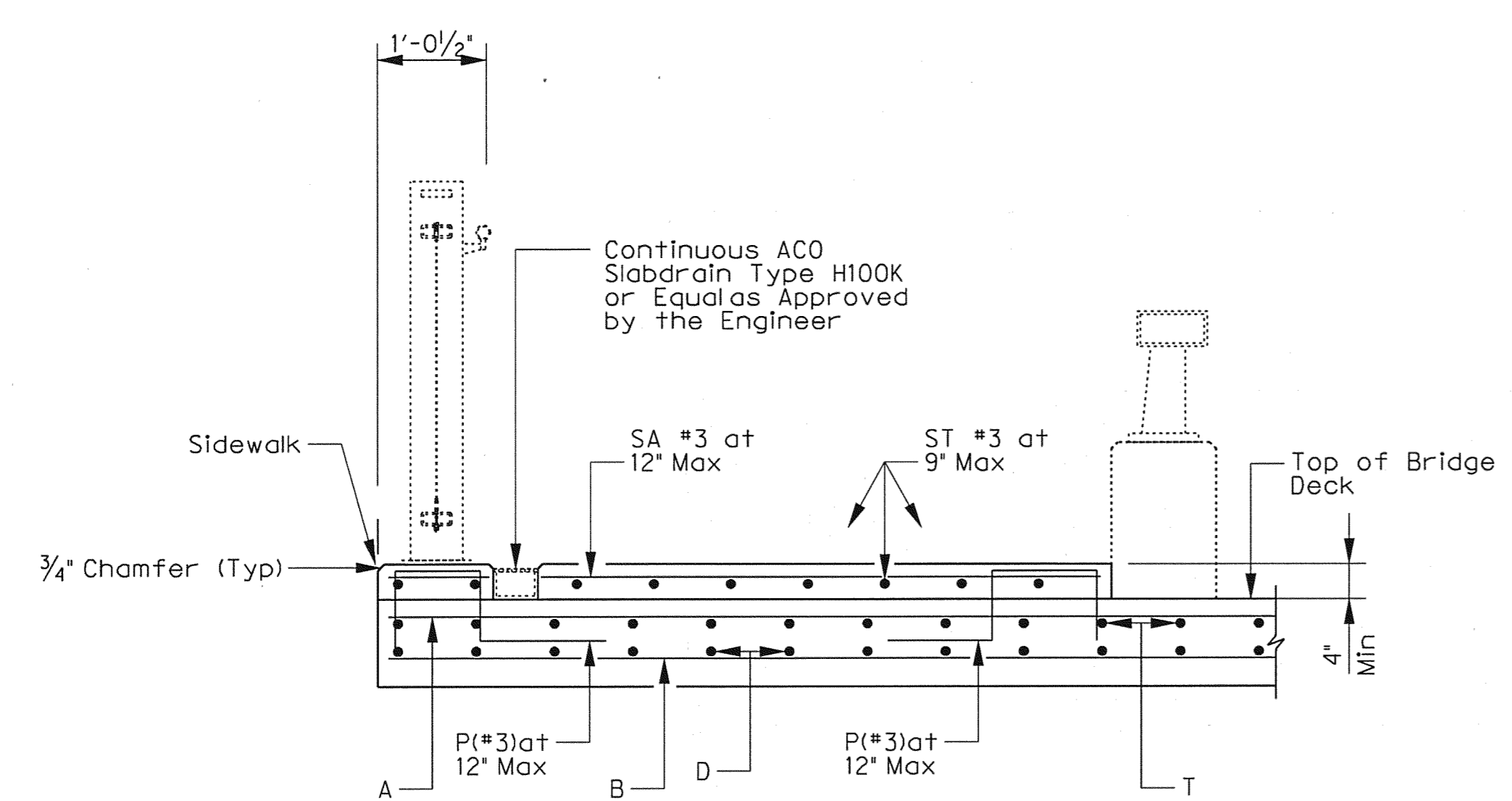
TYPICAL TRANSVERSE SECTION
SCALE: 3/8" = 1'-0"



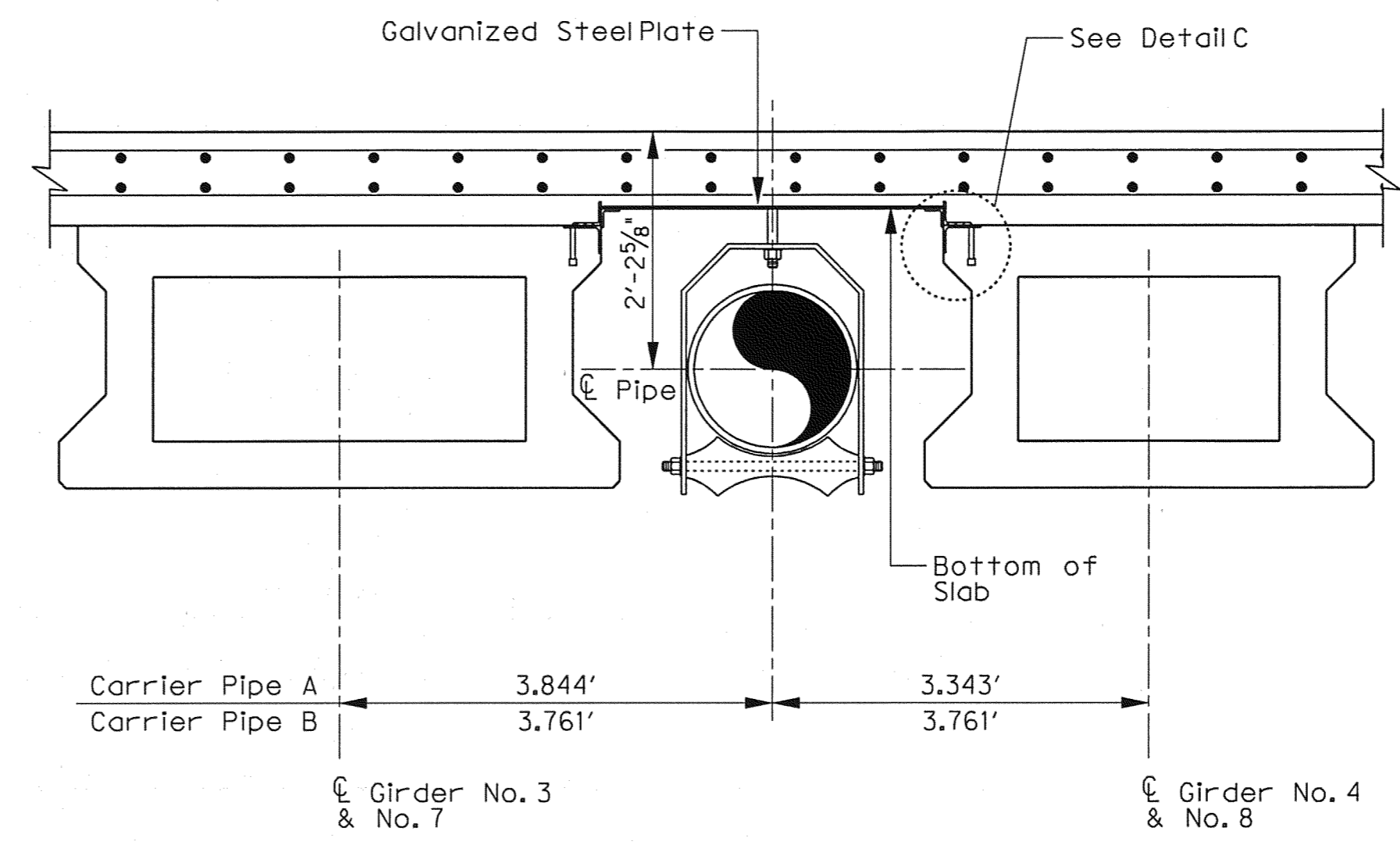
CURB DRAINAGE DETAIL
SCALE: NTS
(DETAIL IS TYPICAL AT ABUTMENT 4)



DETAIL C
SCALE: 3" = 1'-0"

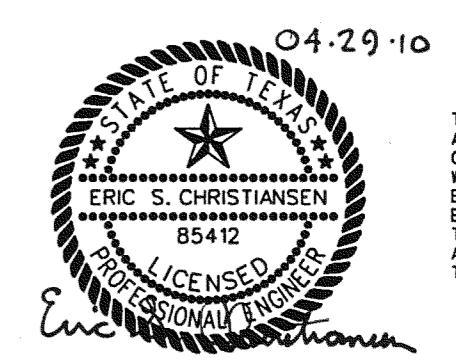


DETAIL A
SCALE: 3/4" = 1'-0"
(Beams not shown for clarity)



DETAIL B
SCALE: 3/4" = 1'-0"

Notes: For information not shown see Pipe Hanger Assembly Typical Section/S2-14
Steel Carrier Pipe shall be 18" diameter shedule 40 pipe.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTIANSEN, P.E. #95412 ON 04-29-2010. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS, 75081. TBPE FIRM #F-312.

NO.	REVISION	BY	DATE
ADDISON TOWN OF ADDISON DALLAS COUNTY, TEXAS VITRUVIAN PARK BRIDGES BELLA LANE DECK DETAILS			
HALFF 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 739-0095			
PROJECT	DESIGN	DRAWN	DATE
27379	ESC	AHH	APRIL 2010
FILE	SHEET		
-	S2-12		

USER: ah2441

OFFICE: RCH

PROJECT #: 27379

FILE: 27379-SC-BELLABEL-DD03.dgn

TIME: 4:26:03 PM

DATE: 6/18/2010

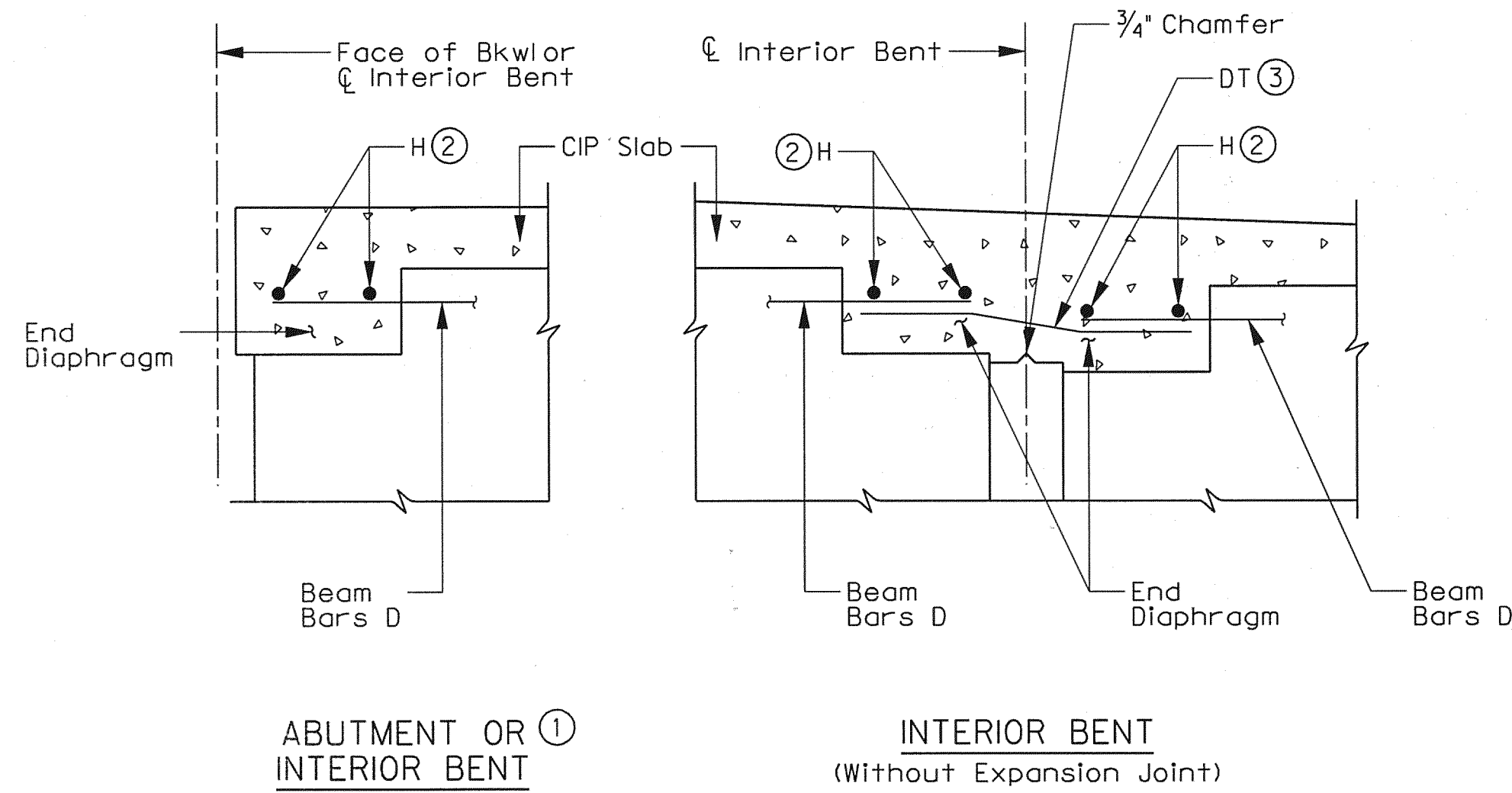
TABLE OF ESTIMATED QUANTITIES - UNIT 1

SPAN NO.	REINF CONCRETE SLAB	PRSTR CONCRETE BEAM (4B28)	PRSTR CONCRETE BEAM (5B28)	CLASS S CONCRETE (SLAB)	CLASS 9 S CONCRETE (SDWLK)	REINF STEEL
	SF	LF	LF	CY	CY	LB
1	1,786	91.96	235.45	47.3	18.0	11,609
2	4,111	211.14	563.04	105.6	17.5	26,720
3	2,281	115.40	317.51	59.7	20.1	14,828
TOTAL	8,178	418.50	1,116.00	212.7	55.5	53,157

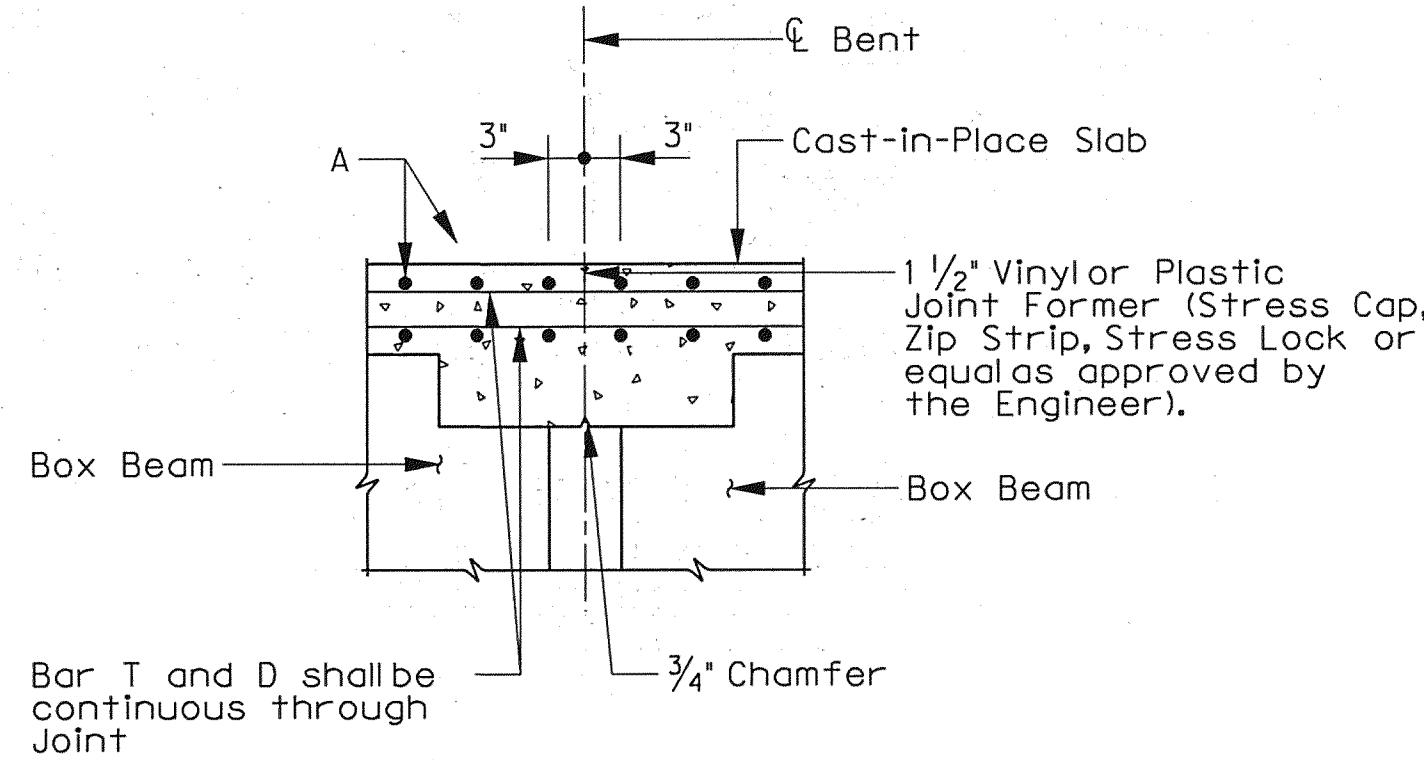
TABLE OF SECTION DEPTHS - UNIT 1

SPAN NO.	BEAM NO.	"X" AT C.L. BRG	"Y" AT C.L. BRG	"Z" AT C.L. SPAN
1	1, 10 & 11	9 1/2"	3'-1 1/2"	9 1/2"
	2-9	9 1/2"	3'-1 1/2"	9 1/4"
2	1, 10 & 11	11"	3'-3"	9 3/4"
	2-9	11"	3'-3"	9 1/2"
3	ALL	9 1/2"	3'-1 1/2"	9 1/4"

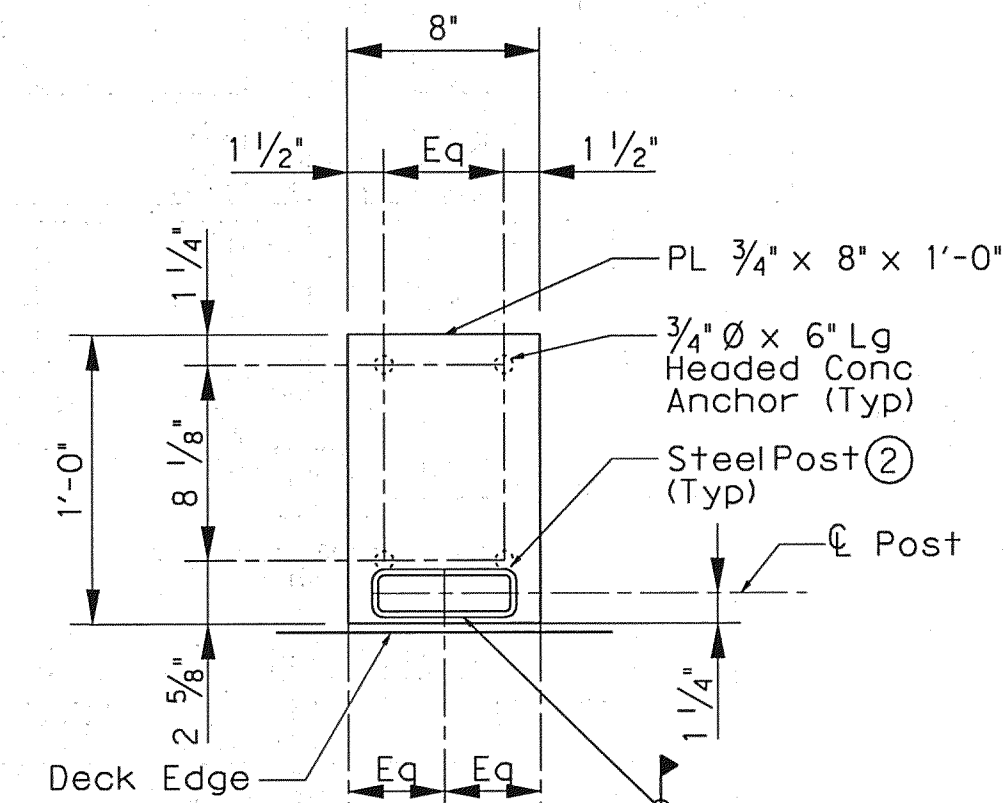
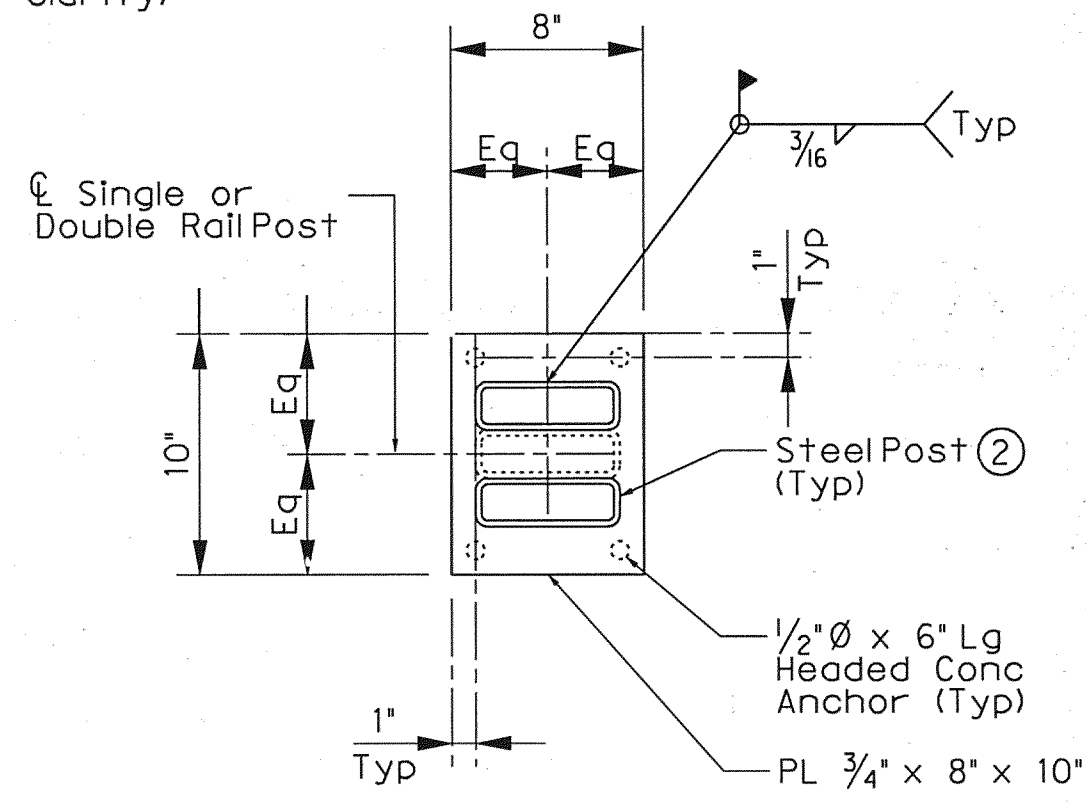
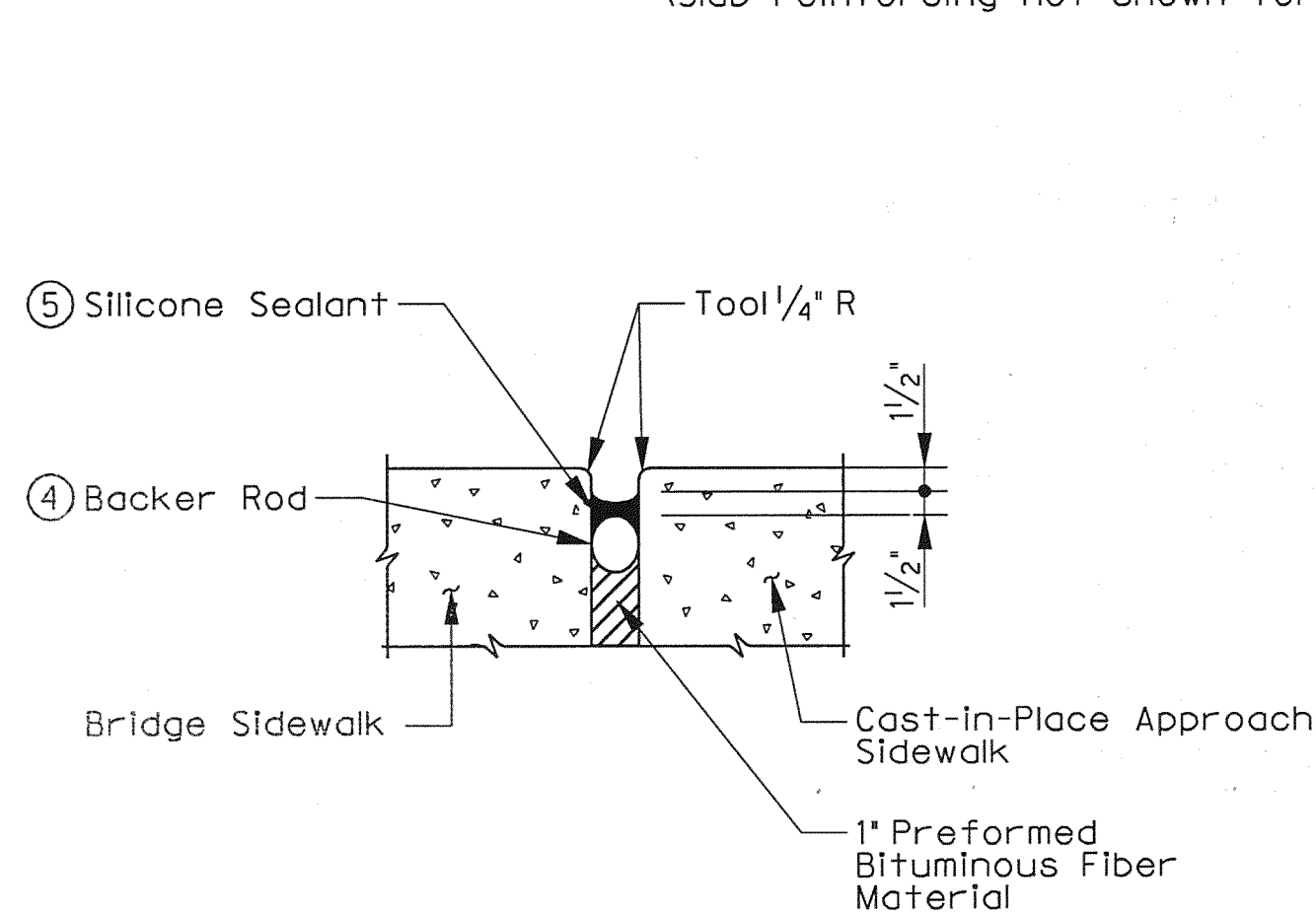
- See Bridge Layout for Joint type.
- Provide 1 1/2" end cover to Bars H. After all beams have been placed, weld one Bar H to two Bars D at each end of all beams.
- Lap Bars DT 9" Min with each Beam Bar D at Interior Bents without Expansion Joints. Bars DT shown bent for clarity only.
- Backer Rod shall be 25% larger than joint opening and shall be compatible with the sealant; no reaction shall occur between the rod and the sealant.
- Sealant shall be Class 7 silicone sealant. Install when ambient temperature is between 55° F and 85° F and rising. Engineer is to determine allowable hours for sealant application.
- Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs/SF.
- Theoretical Dimension.
- Quantity is for contractor's information only. Quantity includes sidewalk on approach slab.



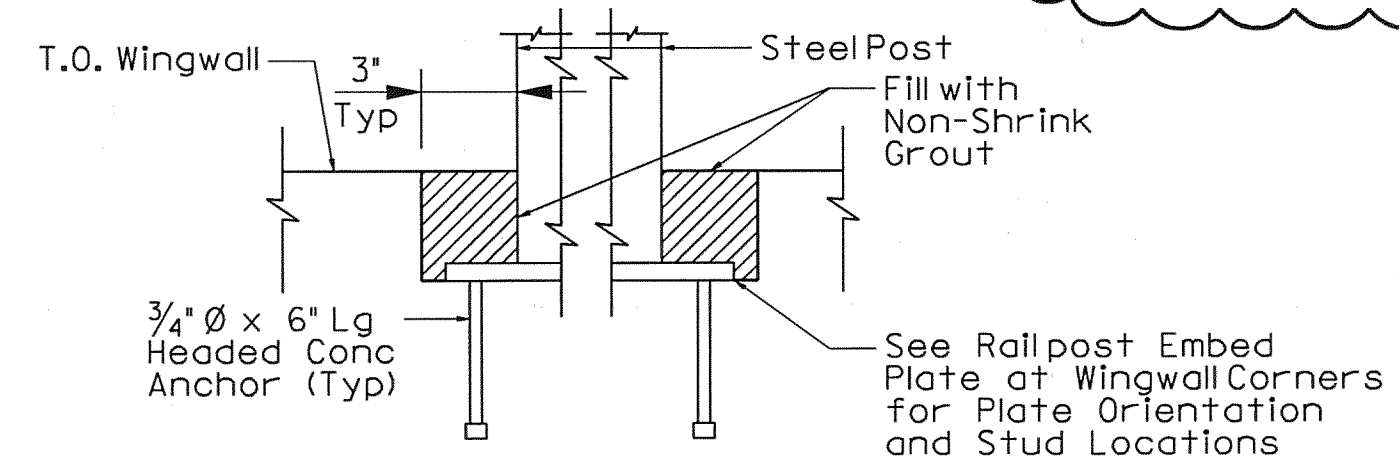
TYPICAL END DIAPHRAGM SECTIONS



CONTINUOUS SLAB DETAIL

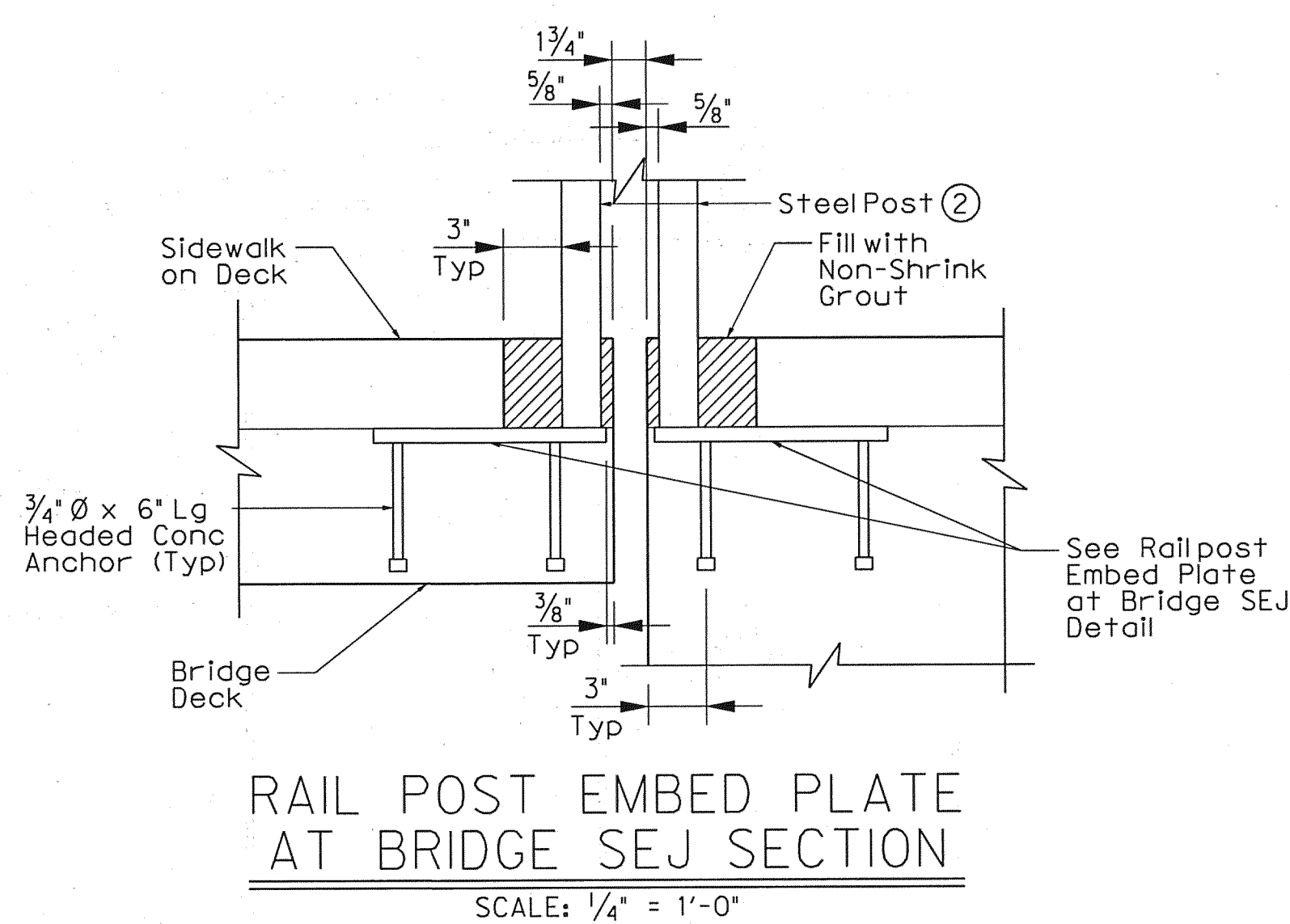
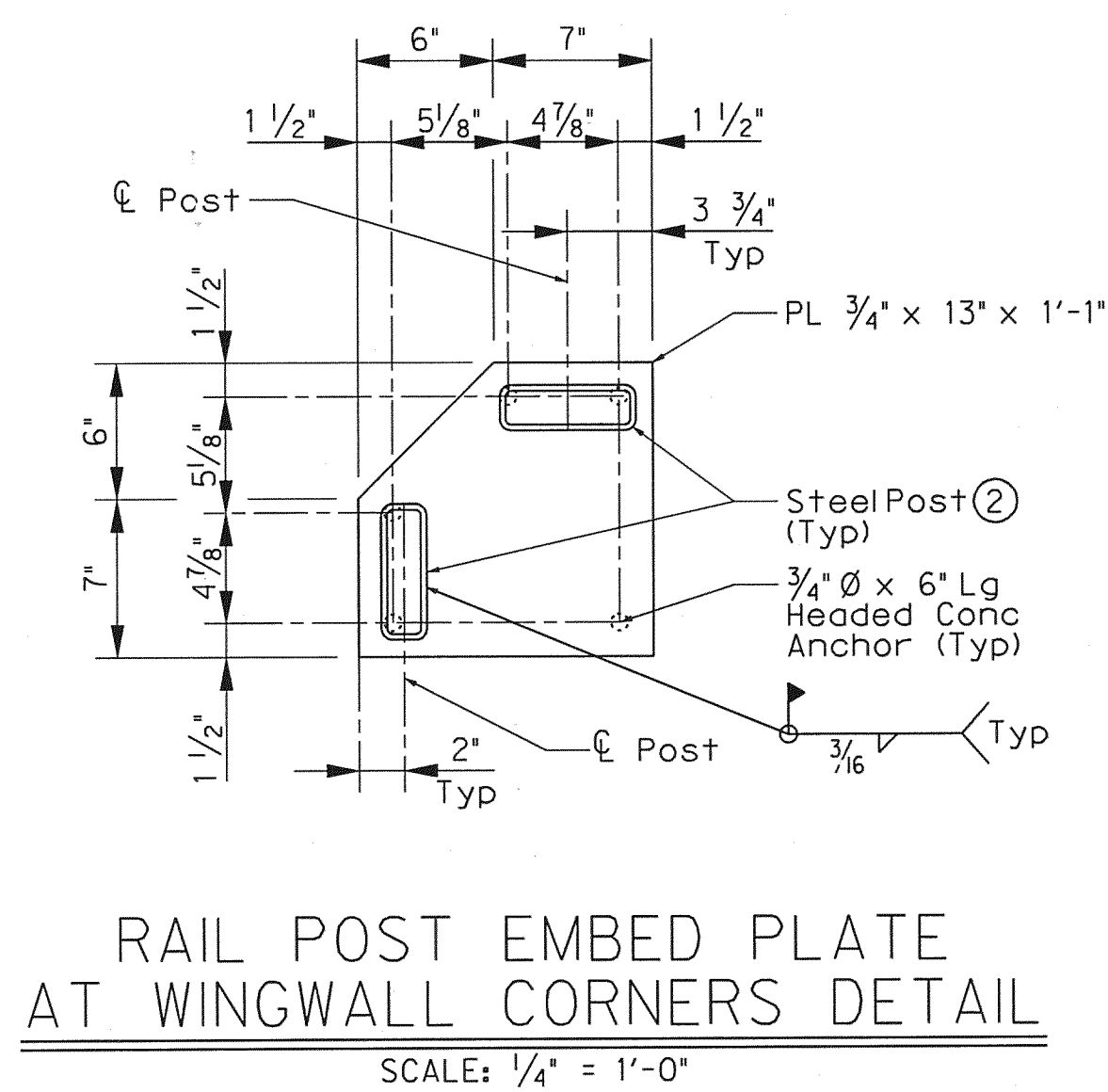


RAIL POST EMBED PLATE AT BRIDGE SEJ DETAIL



RAIL POST EMBED PLATE AT WINGWALL CORNERS SECTION

Bar	Size
A	#5
B	#5
D	#5
DT	#5
H	#5
SA	#3
ST	#3
T	#4



RAIL POST EMBED PLATE AT BRIDGE SEJ SECTION



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTIANSEN, P.E. #5412 ON 05-14-2010. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS, 75081. T&E FORM #7-312.

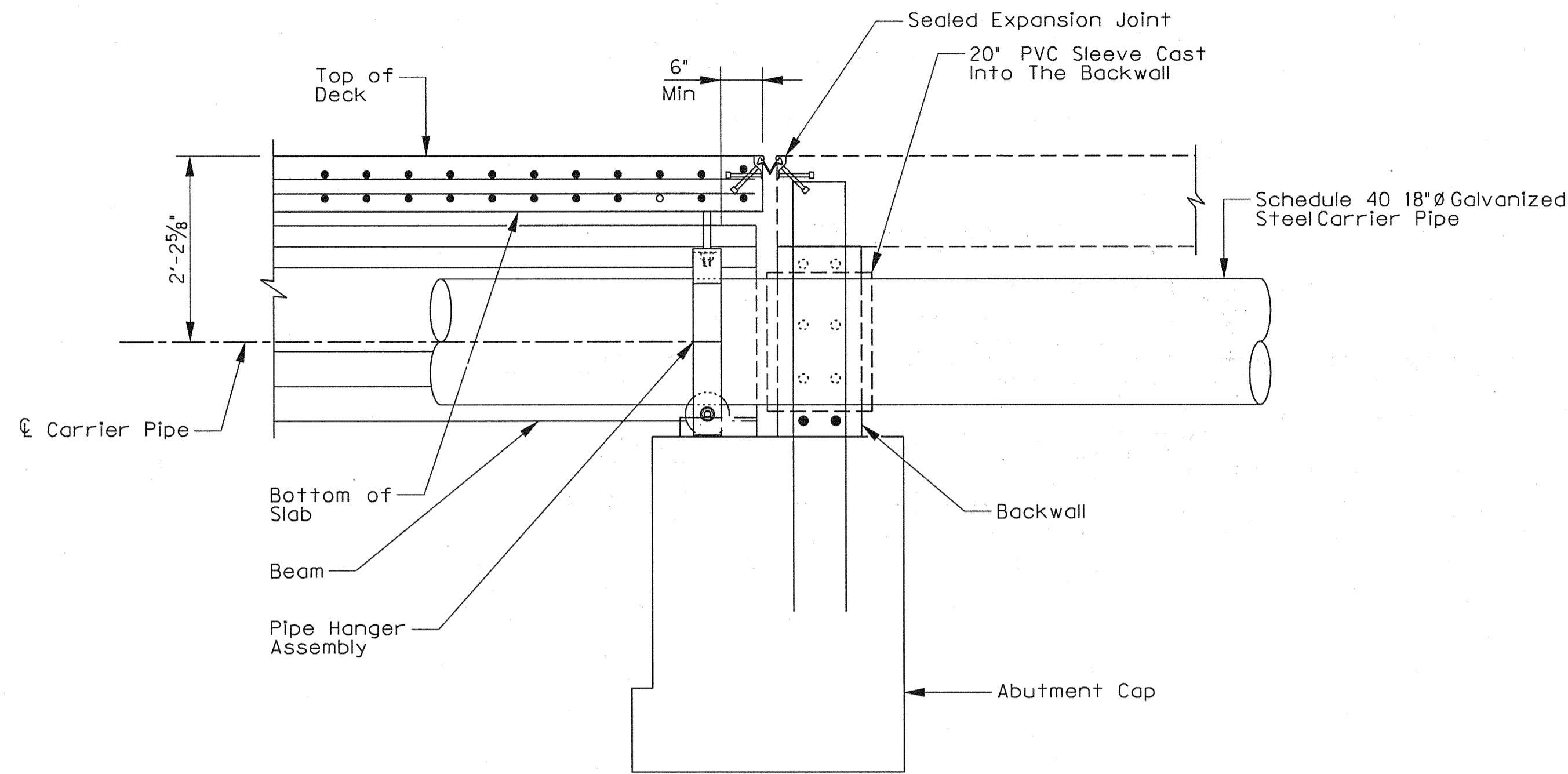
ADDENDUM NO.	REVISION	BY	DATE
ADDENDUM #1		ESC	5/14/10

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

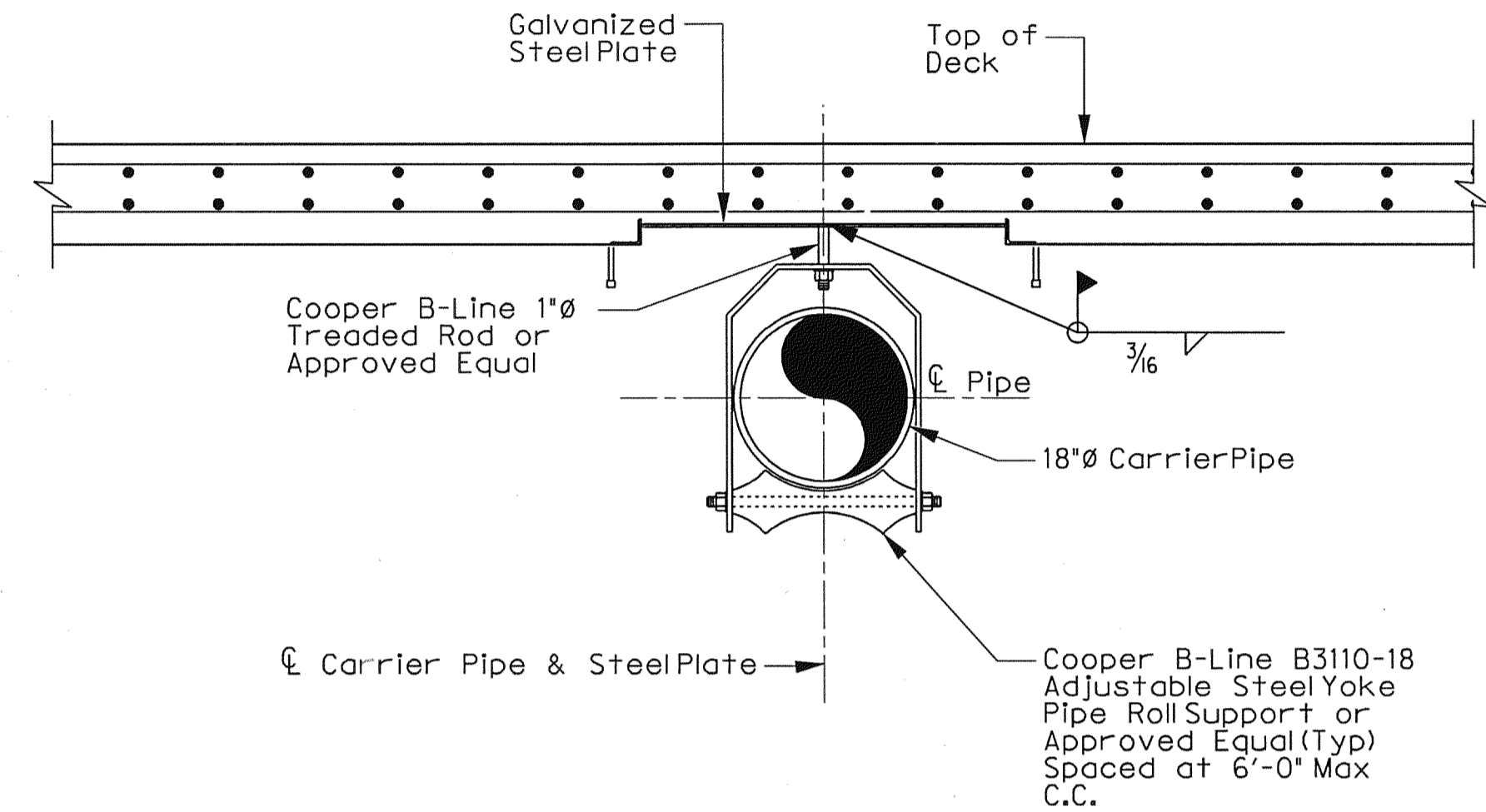
VITRUVIAN PARK BRIDGES
BELLA LANE

DECK DETAILS

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
27379	ESC	AHH	APRIL 2010	-	S2-13

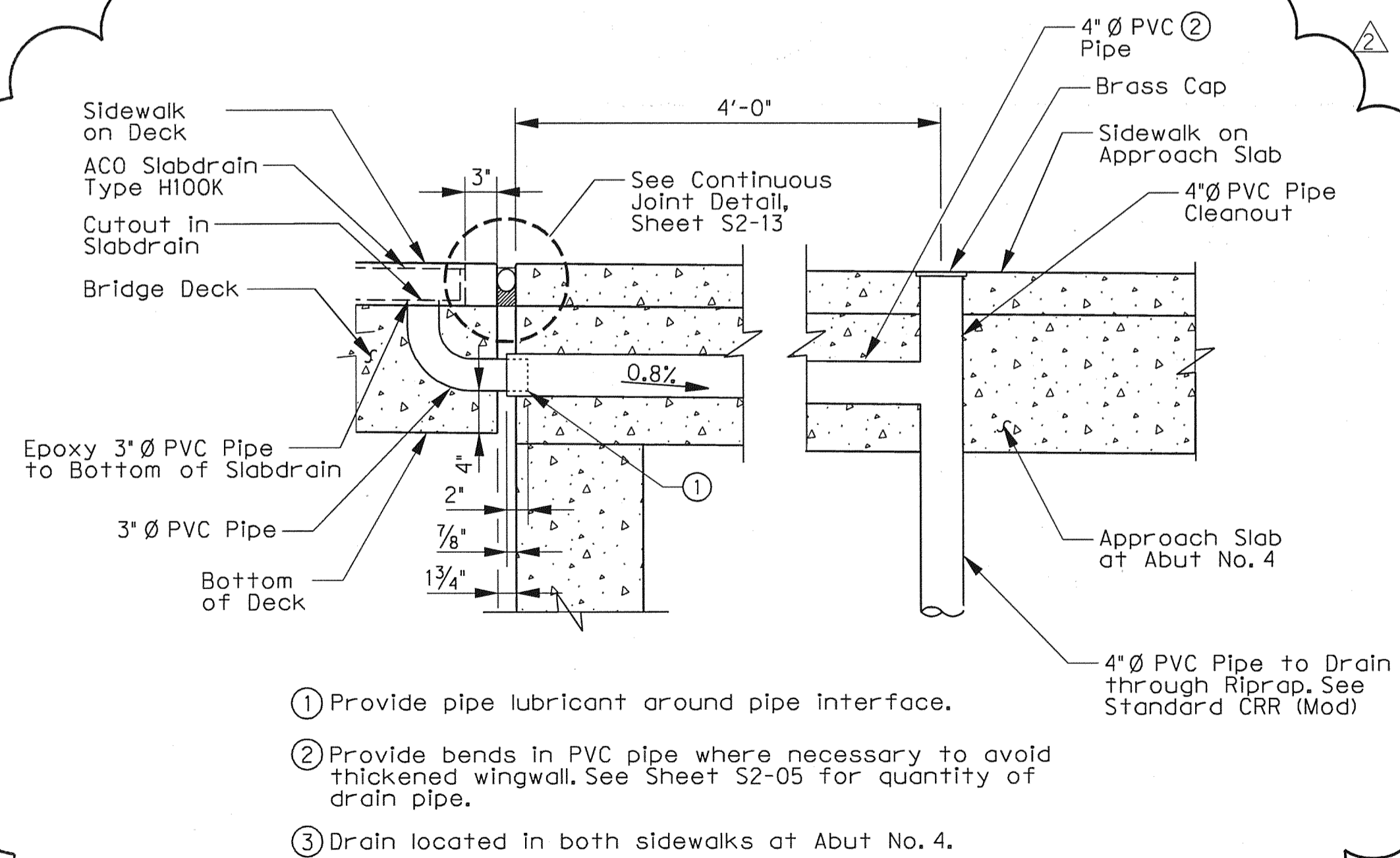


PIPE HANGER ASSEMBLY TYPICAL SECTION
SCALE: 3/4" = 1'-0"



Notes:
For information not shown see Details B/S2-10
Pipe supports are subsidiary to steel pipe
Item 442, misc. steel

PIPE HANGER ASSEMBLY TYPICAL SECTION
SCALE: 3/4" = 1'-0"
(Girders not shown for clarity.)



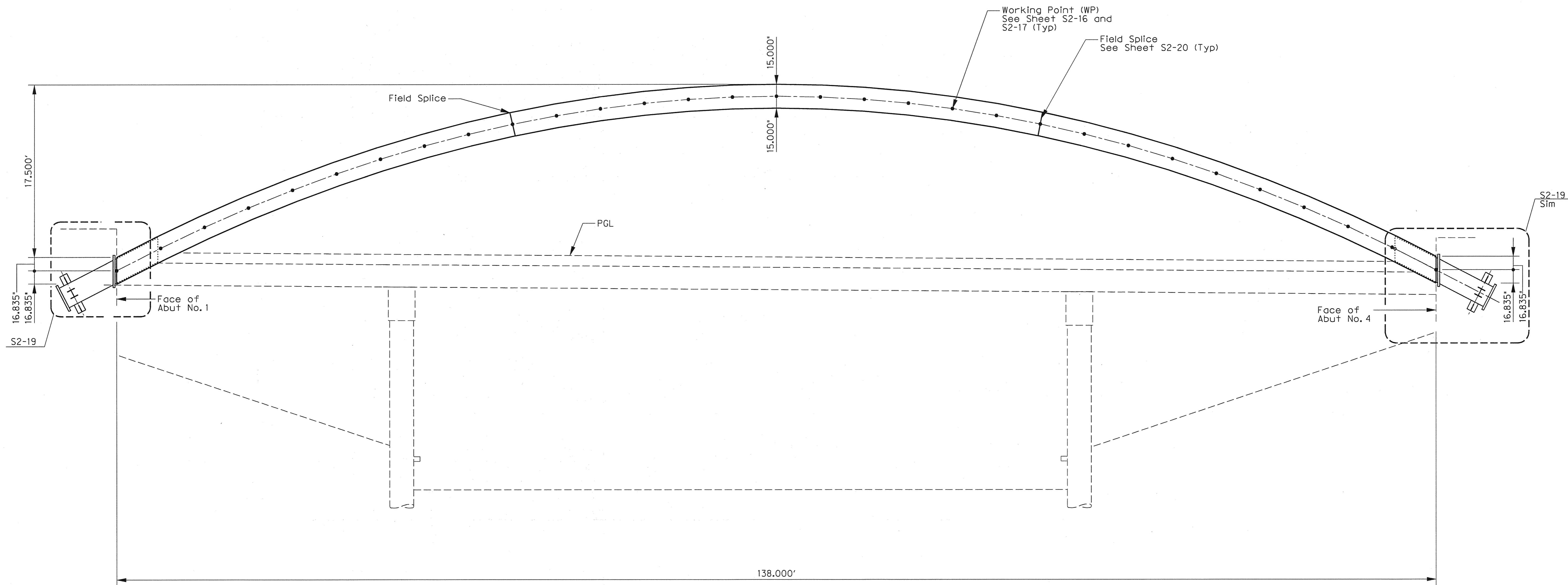
- ① Provide pipe lubricant around pipe interface.
- ② Provide bends in PVC pipe where necessary to avoid thickened wingwall. See Sheet S2-05 for quantity of drain pipe.
- ③ Drain located in both sidewalks at Abut. No. 4.

SIDEWALK DRAIN DETAIL
SCALE: NTS



06-19-10
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTIANSEN, P.E. 85412 ON 05-19-2010, ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS, 75061, TYPE FIRM #2-512.

Addendum #2		ESC	05/19/10
NO.	REVISION	BY	DATE
Addison TOWN OF ADDISON DALLAS COUNTY, TEXAS			
VITRUVIAN PARK BRIDGES BELLA LANE			
WATERLINE SUPPORT DETAILS			
HALFF		1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 739-0095	
PROJECT	DESIGN	DRAWN	DATE
27379	K88	AHH	APRIL 2010
FILE	SHEET		
-	S2-14		

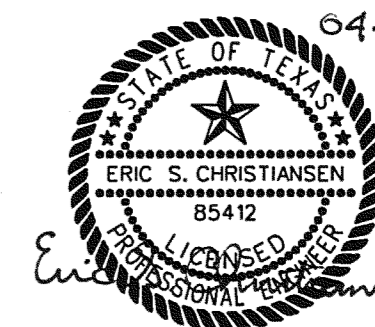


ELEVATION
SCALE: 3/16" = 1'-0"

ESTIMATED QUANTITIES

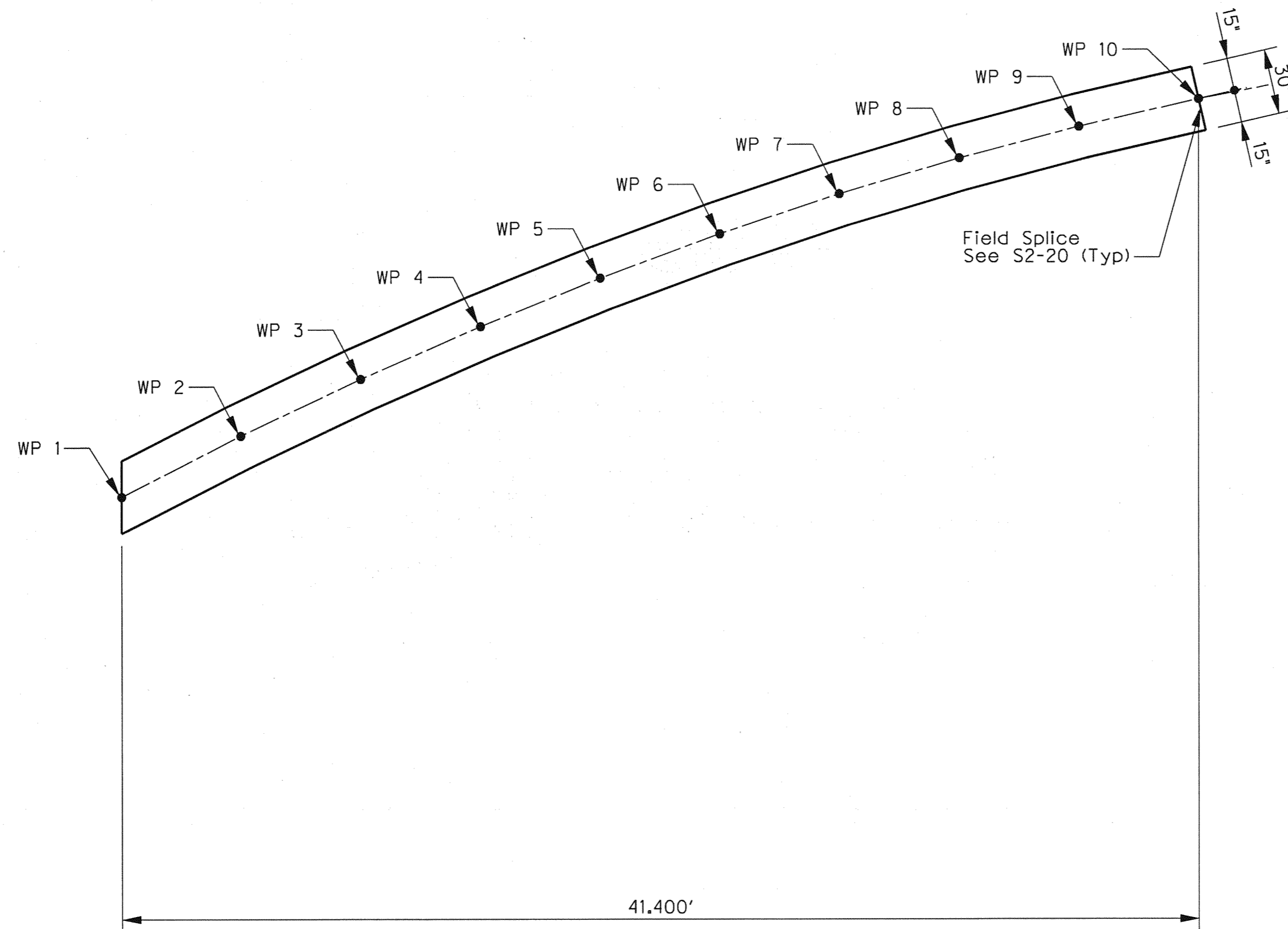
Item	Unit	Quantity
Two Steel Archs	LB	101,900
Four Embed Anchors	LB	27,250
Total	LB	129,150

Note:
Slide bearings are subsidiary
to embed anchors.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTIANSEN, P.E. #95412 ON 04-29-2010. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS, 75081. TYPE FIRM #F-312.

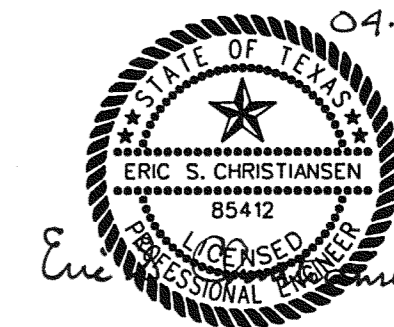
NO.	REVISION	BY	DATE		
TOWN OF ADDISON DALLAS COUNTY, TEXAS					
VITRUVIAN PARK BRIDGES BELLA LANE					
ARCH ELEVATION					
HALFF 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 739-0095					
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
27379	ESC	AHH	APRIL 2010	-	S2-15



ELEVATION
SCALE: 1/4" = 1'-0"

Working Point (WP)	Coordinate	
	X (ft)	Y (ft)
1	0.000	0.000
2	4.600	2.344
3	9.200	4.527
4	13.800	6.547
5	18.400	8.406
6	23.000	10.104
7	27.600	11.640
8	32.200	13.014
9	36.800	14.226
10	41.400	15.277
11	46.000	16.166
12	50.600	16.894
13	55.200	17.460
14	59.800	17.864
15	64.400	18.106
16	69.000	18.187
17	73.600	18.106
18	78.200	17.864
19	82.800	17.460
20	87.400	16.894
21	92.000	16.166
22	96.600	15.277
23	101.200	14.226
24	105.800	13.014
25	110.400	11.640
26	115.000	10.104
27	119.600	8.406
28	124.200	6.547
29	128.800	4.527
30	133.400	2.344
31	138.000	0.000

Note:
Geometry Shown Is That Required For Fabrication And Does Not Represent Changes In Shape Due To Loading.



04-29-10

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTIANSEN, P.E. #85412 ON 04-29-2010. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081. TYPE FROM #2-312.

Fabrication Notes:

All Structural Steel Shall Conform To The Requirements Of ASTM A36, Unless Noted Otherwise.
All Steel Shall Be Painted.
Field Splices Shall Be Made By Full Penetration Groove Welds In Accordance With Item 441, "Steel Structures". Bolted Field Splices Are Not Permitted.
See S2-20 For Field Splice Details.
Arch Curve To Be Fabricated Flat Based On Working Points.
Arch Sections Between WP1 And WP2, And Between WP30 And WP31 Shall Be Linear.

NO.	REVISION	BY	DATE

ADDISON TOWN OF ADDISON
DALLAS COUNTY, TEXAS

VITRUVIAN PARK BRIDGES
BELLA LANE

ARCH RIB PROFILE

HALFF 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275
TEL (214) 346-6200 FAX (214) 739-0095

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
27379	ESC	AHH	APRIL 2010	-	S2-16

USER: ch2441

OFFICE: RCH

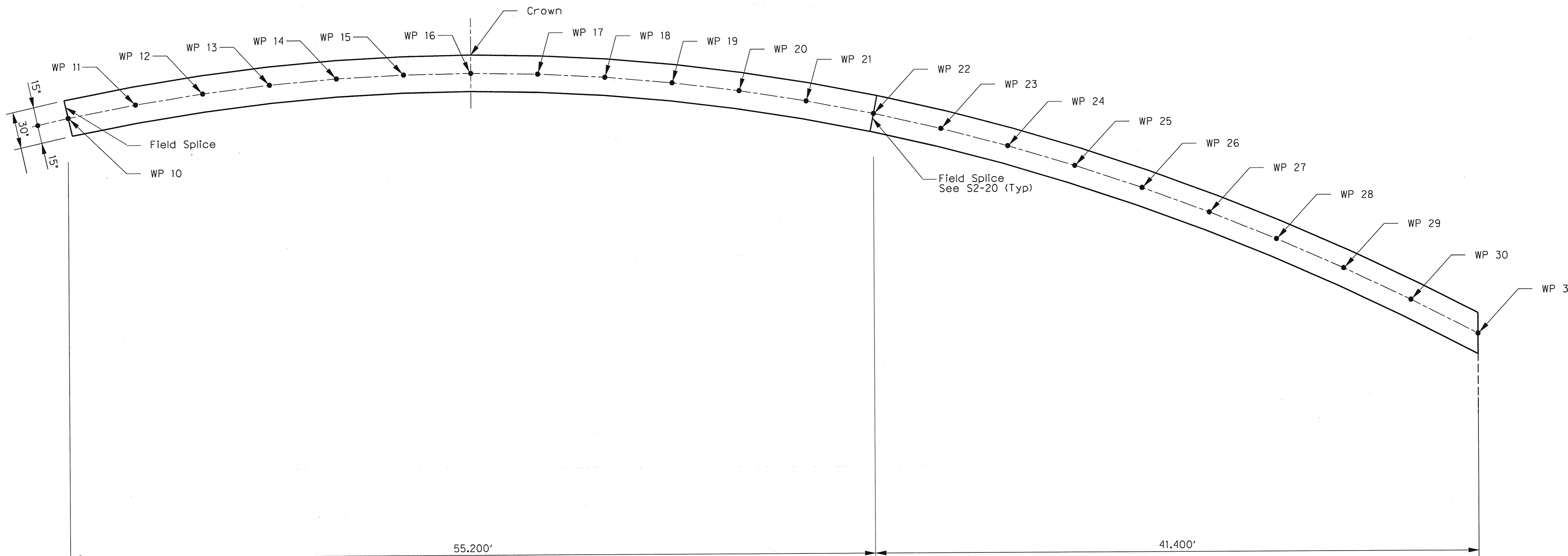
PROJECT # 27379

FILE: 27379-SC-BELLABL-AE03.dgn

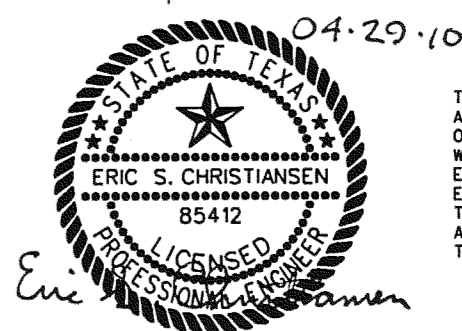
TIME: 9:08:22 AM

DATE: 4/29/2010

See Sheet S2-16 For Working Point Coordinates.



ELEVATION
SCALE: 1/4" = 1'-0"



NO.	REVISION	BY	DATE		
ADDISON TOWN OF ADDISON DALLAS COUNTY, TEXAS VITRUVIAN PARK BRIDGES BELLA LANE ARCH RIB PROFILE					
HALFF 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 739-0095					
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
27379	ESC	AHH	APRIL 2010	-	S2-17

USER: ah2441

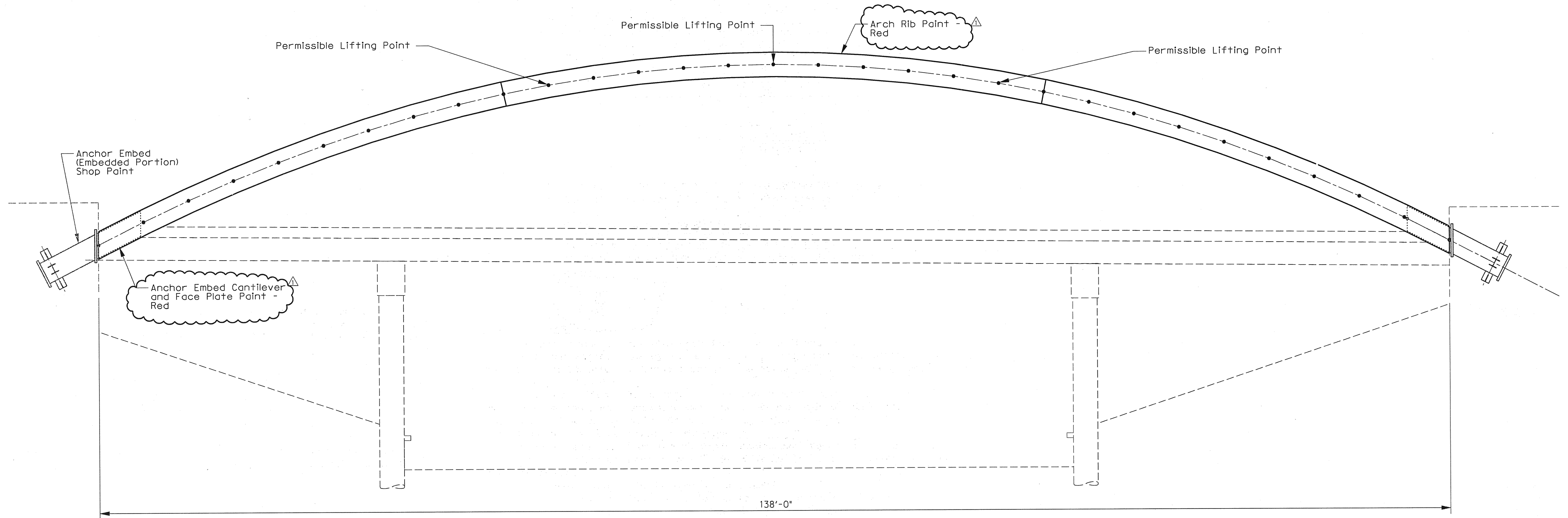
OFFICE: RCH

PROJECT # 27379

FILE: 27379-SC-BELLABL-AE04.dgn

TIME: 4:26:54 PM

DATE: 6/18/2010



ELEVATION

SCALE: 3/16" = 1'-0"

Painting Notes:

Cleaning and painting shall be in accordance with Item 446, "Cleaning and Painting Steel" and Manufacturer's Instructions.

Materials manufactured by the following manufacturers are acceptable:

- Carboline
- Coronado
- Porter
- Sherwin-Williams
- Tnemec

Acceptable Materials:

Primer: Organic zinc-rich primer. Provide factory formulated prime coat material compatible with the substrate and finish coats indicated. Primer shall be a two or three component polyamide epoxy zinc-rich coating. Primers shall contain no lead.

- Carboline: No. 858
- Coronado: Polyamide Epoxy Zinc Rich Primer, 101-152
- Porter: Zinc-Lock No. 308
- Sherwin-Williams: Zinc Clad IV
- Tnemec: 90-97

Intermediate Coat: High build epoxy. Provide factory formulated polyamide epoxy intermediate coat compatible with prime coat and topcoat indicated.

- Carboline: No. 893
- Coronado: Polyamide Epoxy 111-111
- Porter: "M.C.R. High Build Epoxy" No. 4500
- Sherwin-Williams: "Recoatable Epoxy Primer," B67 Series
- Tnemec: Series 66 "Hi-Build Epoxoline"

Topcoat: Polyurethane. Provide factory formulated polyurethane. Material shall be compatible with the intermediate coat indicated. Sheen shall be gloss.

- Carboline: 134 HS
- Coronado: Superthane, 827 Series
- Porter: "Hythane Super" No. 8600
- Sherwin-Williams: "High Solids Polyurethane," B65 Series
- Tnemec: Series 75, "Endura-Shield" High Build Polyurethane

Color of Topcoat:

- Red: 117
- R 117
- G 52
- B 65

Erection Notes:

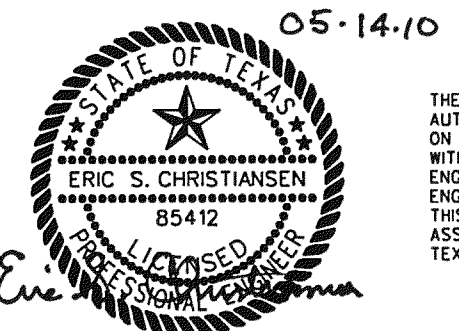
Field splices shall be made with arch flat, prior to lifting arch. Field splices shall be made by full penetration groove welds in accordance with Item 441, "Steel Structures." Nondestructive Examination (NDE) shall be performed as specified in AWS D1.5.

Arch shall be lifted using a spreader bar and shall be lifted, at a minimum, from the points shown to allow for adequate clear distance from the face of the abutment. The Contractor may adjust the location of the lifting points as approved by the Engineer.

Contractor shall submit an erection and bracing plan signed and sealed by a Licensed Professional Engineer in the State of Texas for the Engineer's approval prior to erection.

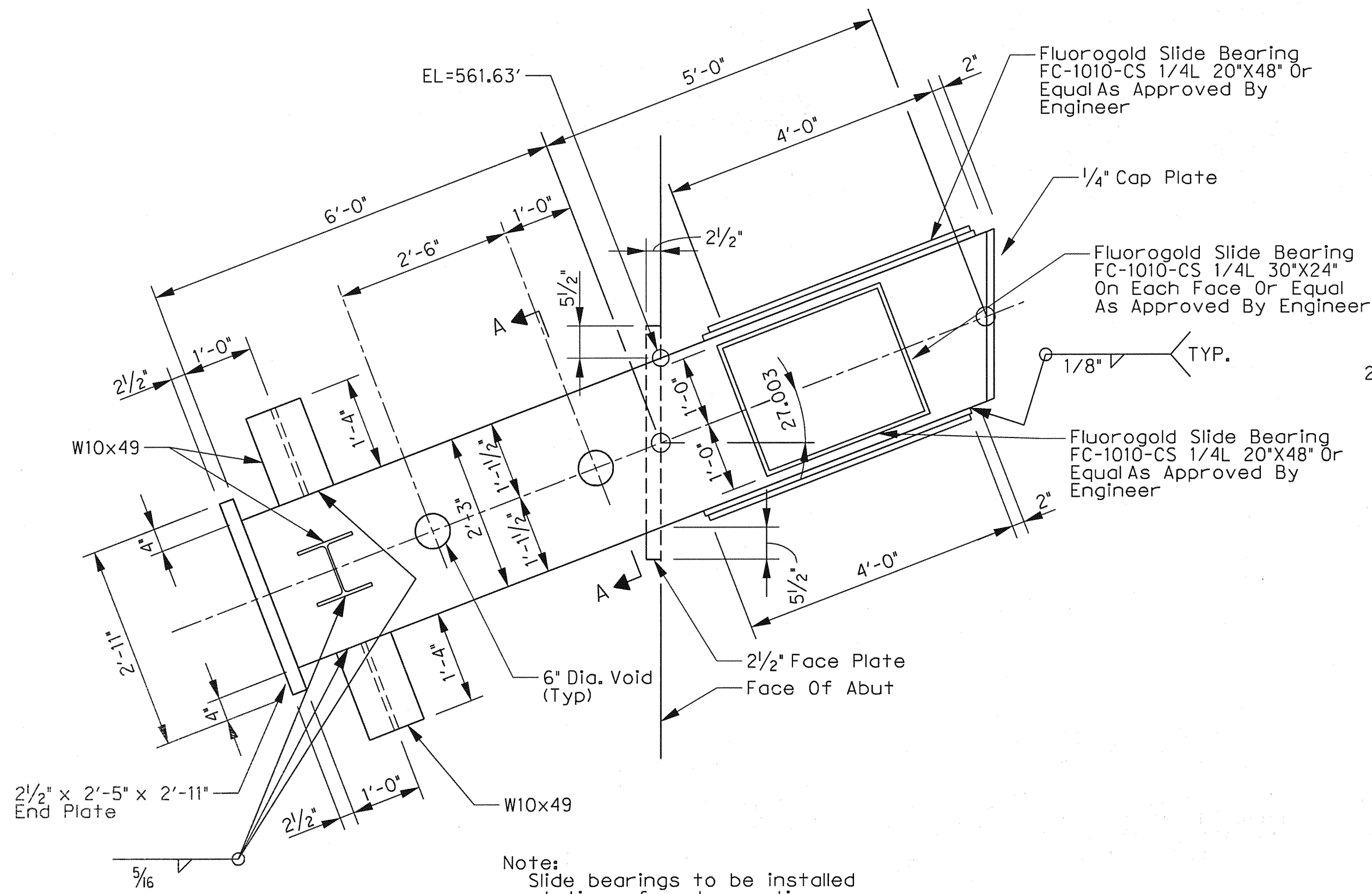
Lifting points shall not be located at field splices. Arch shall be fully braced until bottom plates of arch rib have been installed. The Contractor may modify the method of erection as approved by the Engineer.

Touch up any damaged paint in accordance with Item 446, "Cleaning and Painting Steel" and paint manufacturer's recommendations.



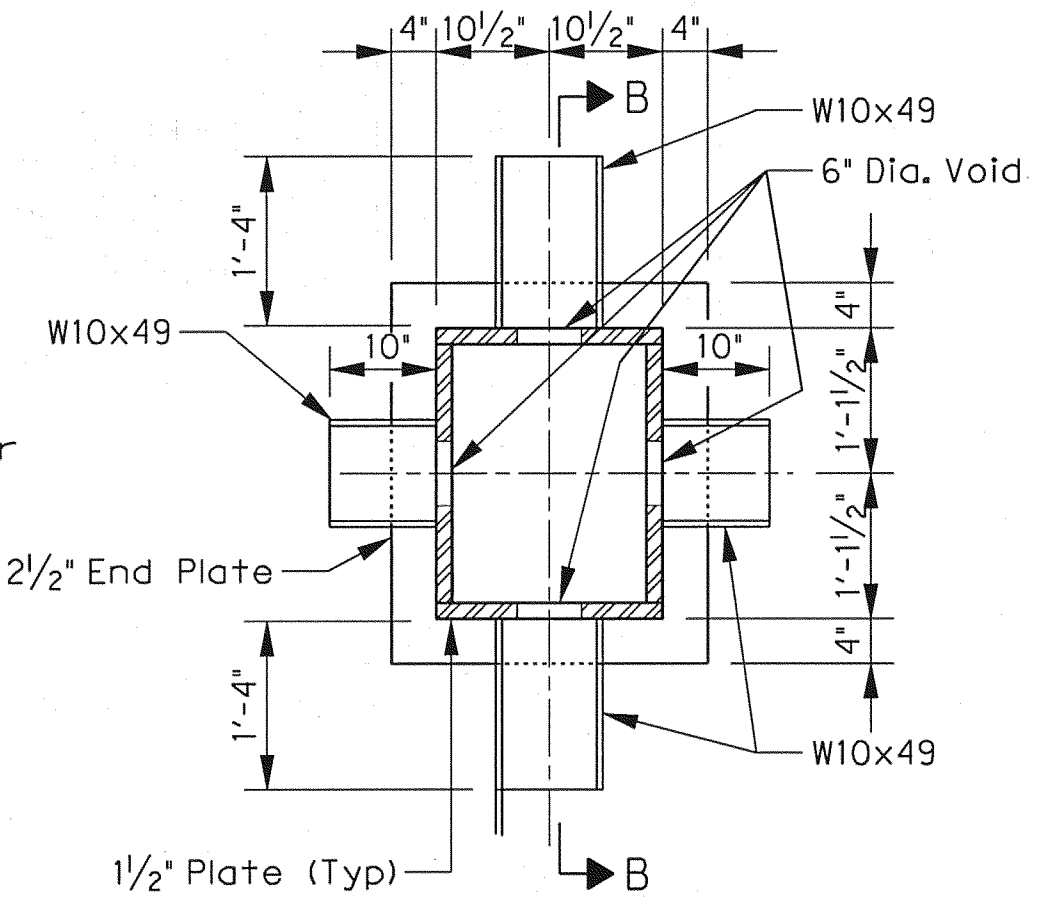
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTENSEN, P.E. #5412 ON 05-14-2010. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS, 75081. TPOE FORM #7-312.

ADDENDUM #1		ESC	5/14/10
NO.	REVISION	BY	DATE
TOWN OF ADDISON DALLAS COUNTY, TEXAS			
VITRUVIAN PARK BRIDGES BELLA LANE			
ARCH ERECTION & PAINTING PLAN			
		1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 739-0065	
PROJECT	DESIGN	DRAWN	DATE
27379	ESC	AHH	APRIL 2010
FILE	SHEET		
-	S2-18		

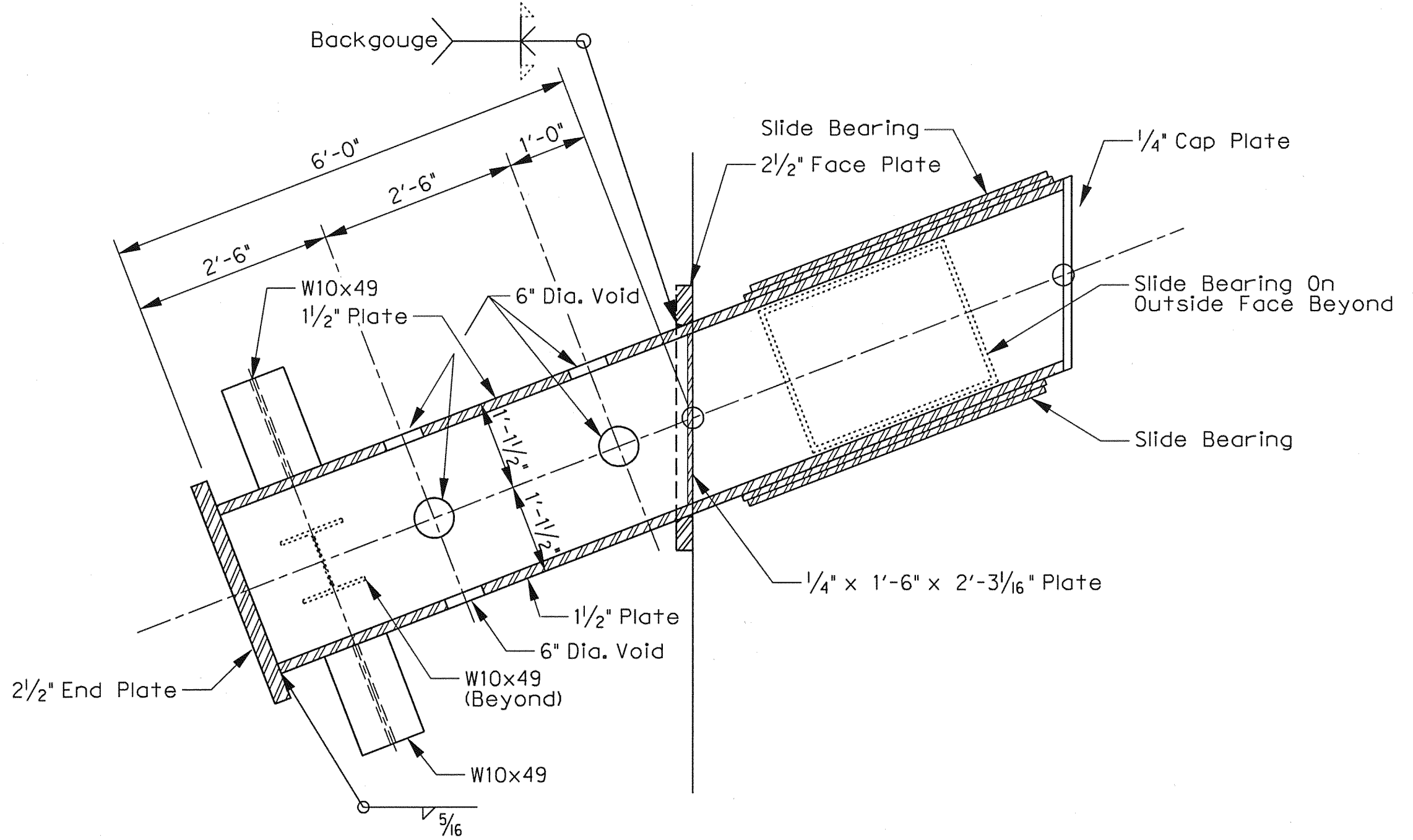


Note:
Slide bearings to be installed
at time of arch erection.

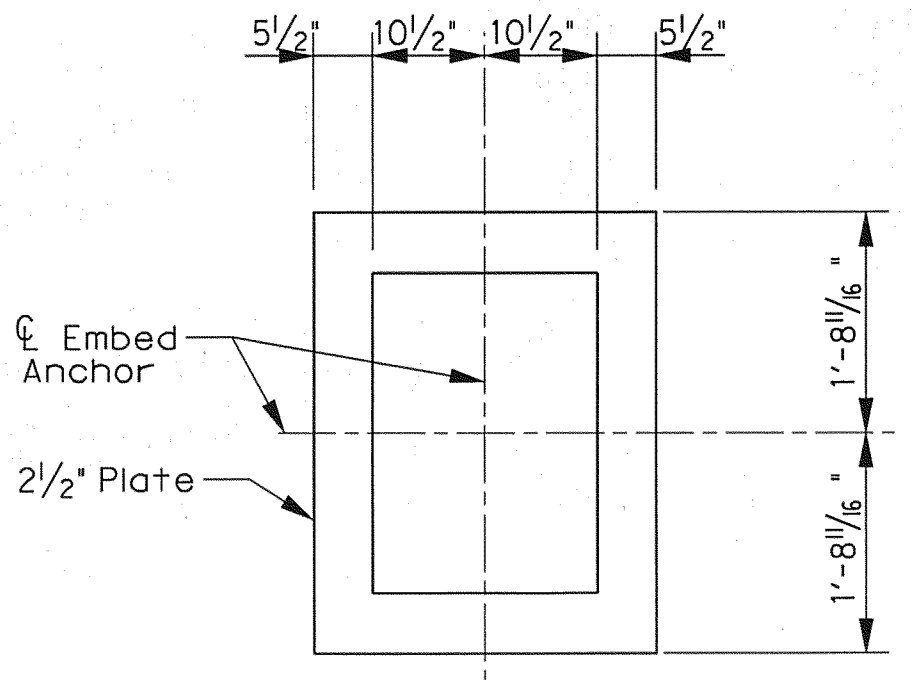
EMBED ANCHOR ELEVATION
SCALE: 3/4" = 1'-0"



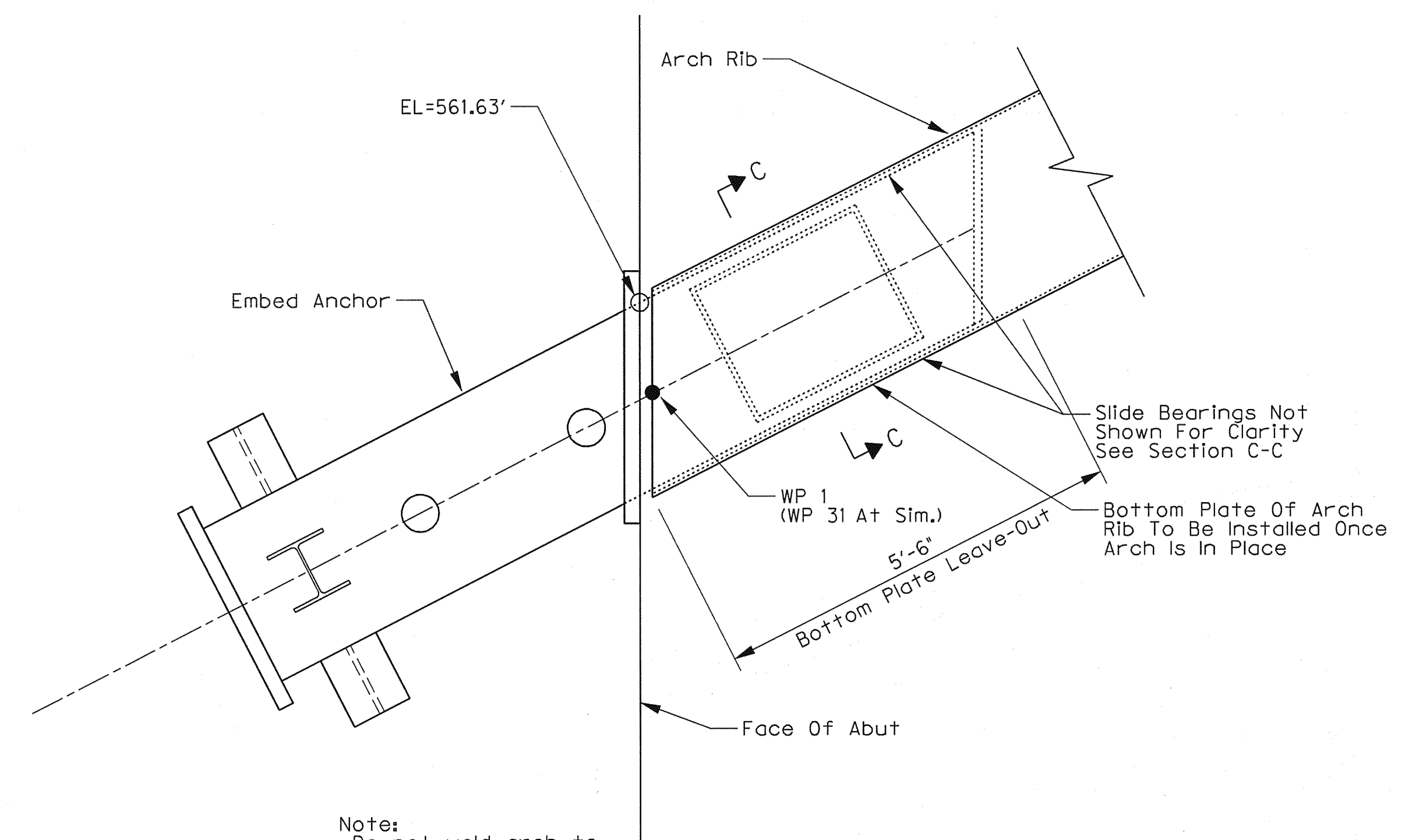
SECTION A-A
SCALE: N.T.S.



SECTION B-B
SCALE: 3/4" = 1'-0"

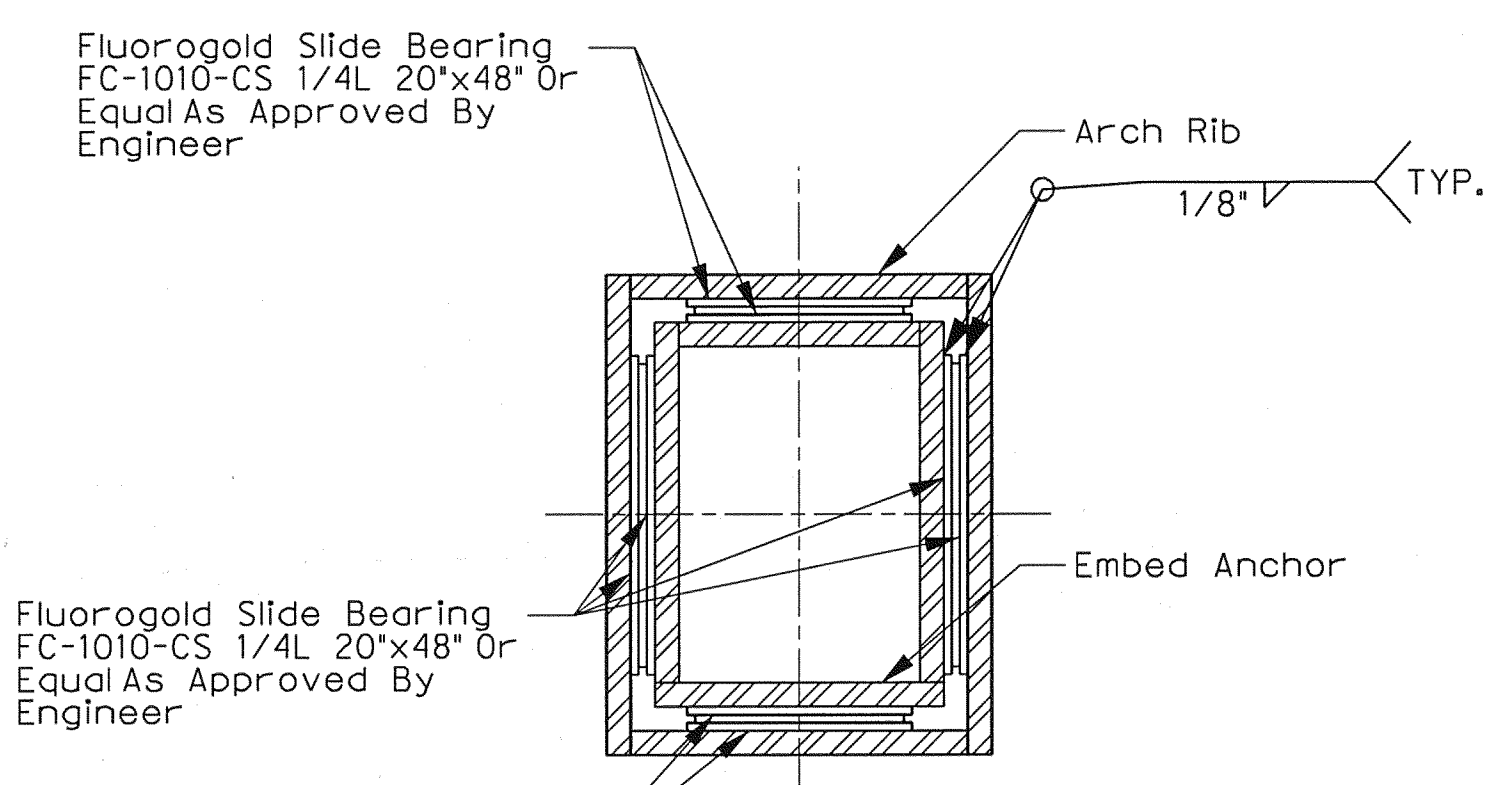


FACE PLATE
SCALE: N.T.S.



Note:
Do not weld arch to
embed anchor.

ARCH / EMBED ANCHOR CONNECTION
SCALE: 3/4" = 1'-0"

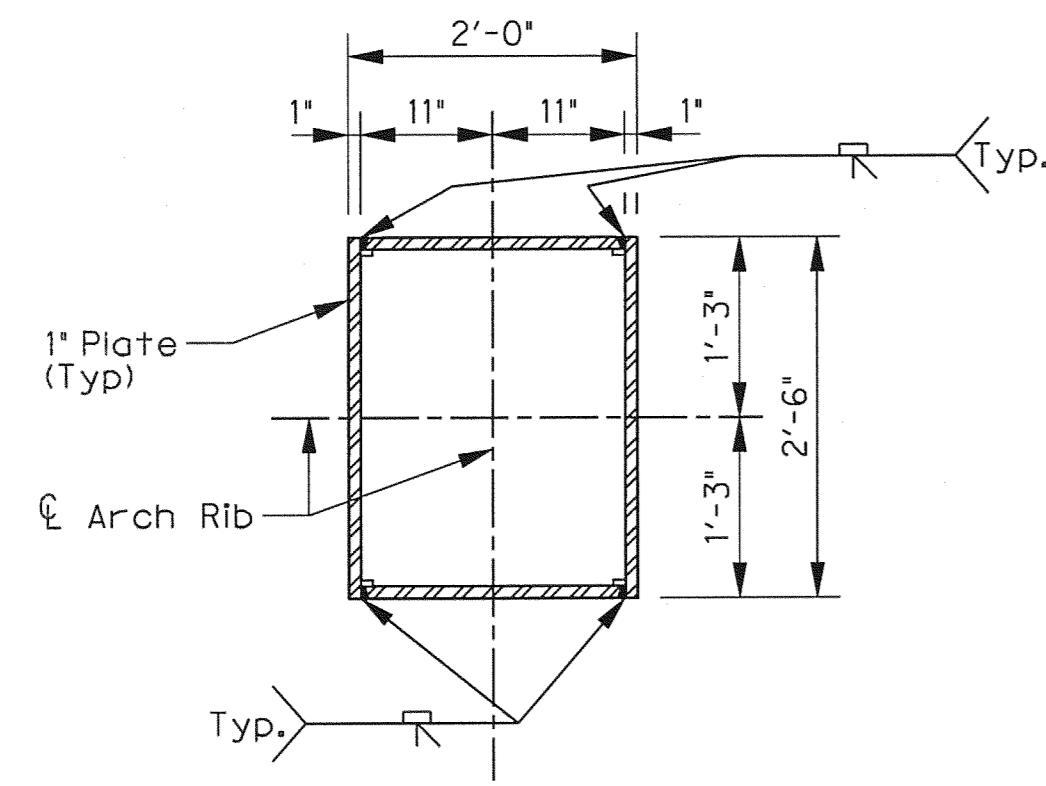


SECTION C-C
SCALE: N.T.S.

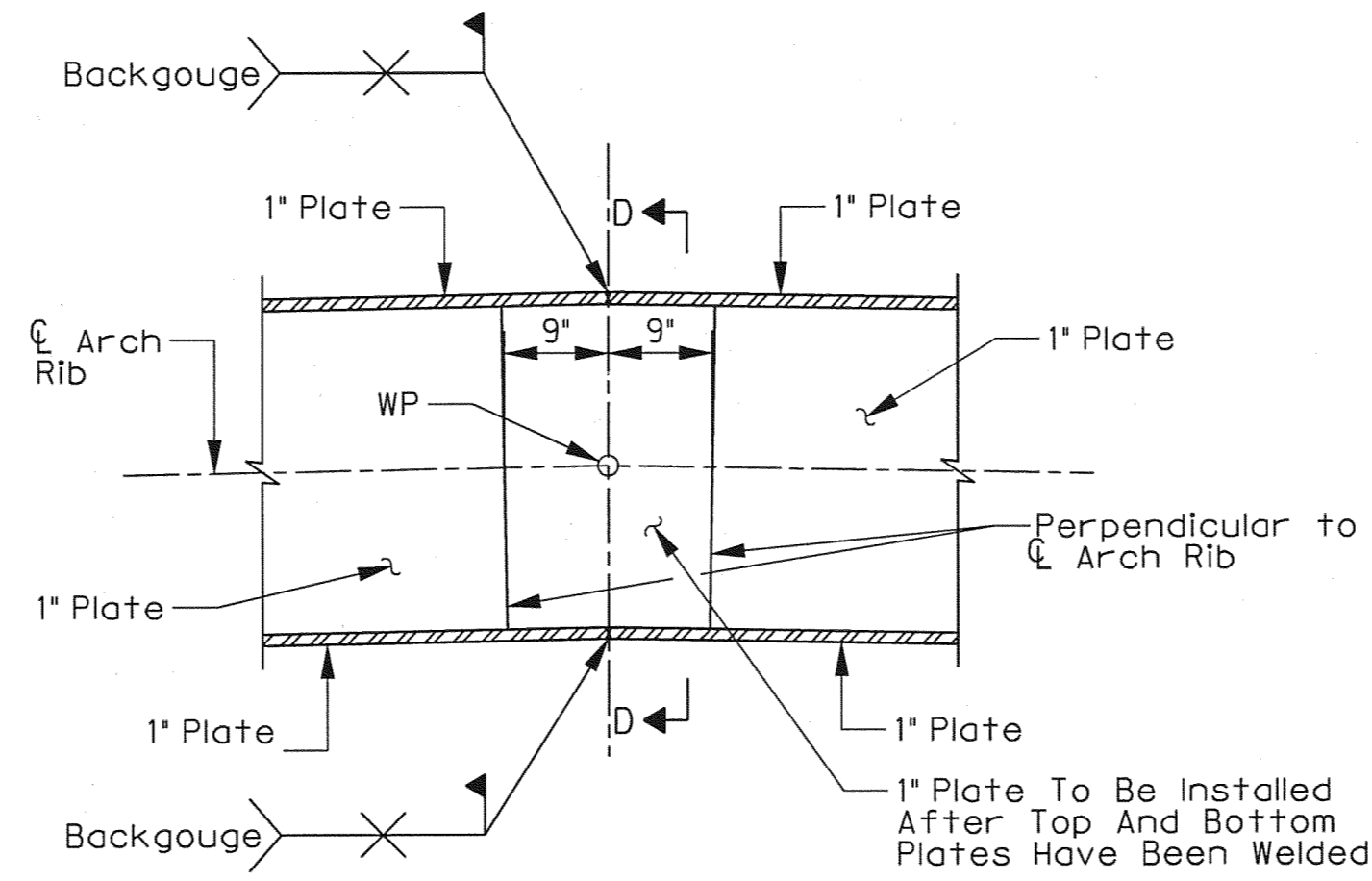


04-29-10
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTIANSEN, P.E. #85412 ON 04-29-2010. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS, 75081, TPBE FIRM #F-312.

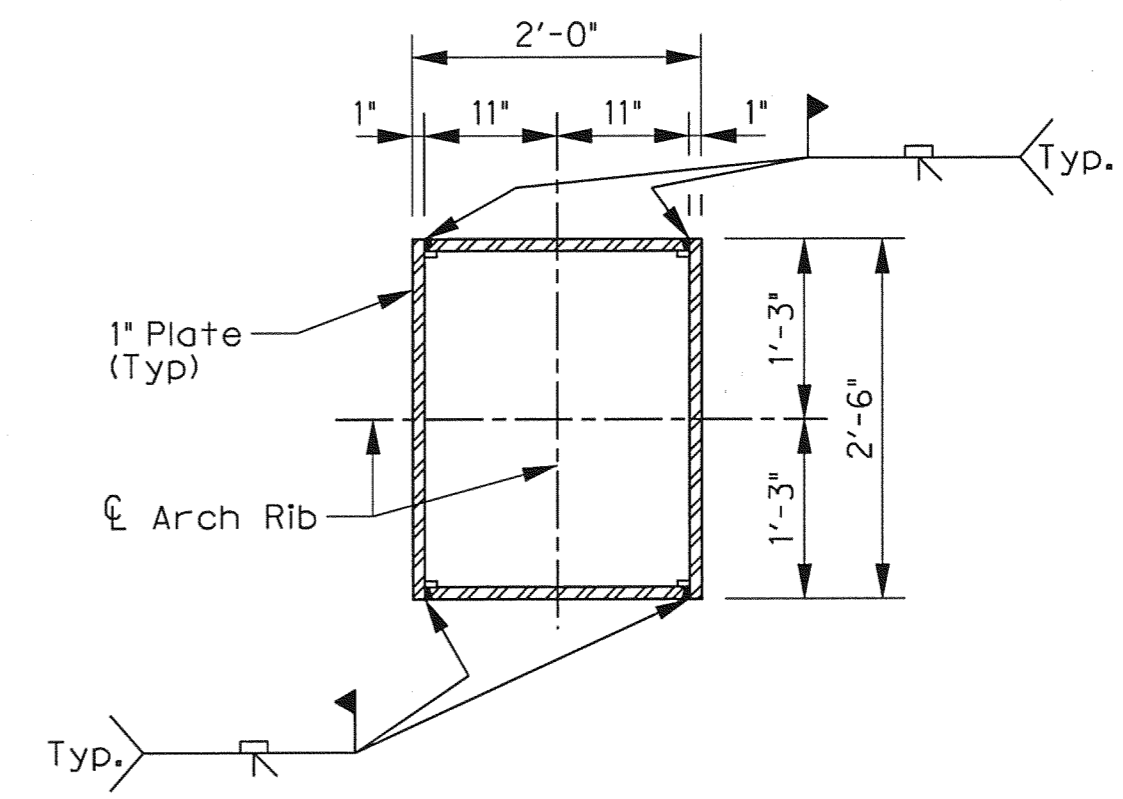
NO.	REVISION	BY	DATE
TOWN OF ADDISON DALLAS COUNTY, TEXAS VITRUVIAN PARK BRIDGES BELLA LANE EMBED DETAILS			
HALFF 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-8200 FAX (214) 739-0095			
PROJECT	DESIGN	DRAWN	DATE
27379	ESC	AHH	APRIL 2010
FILE	SHEET		
-	S2-19		



SECTION THROUGH ARCH RIB
SCALE: 3/4" = 1'-0"



FIELD SPLICE
SCALE: 3/4" = 1'-0"



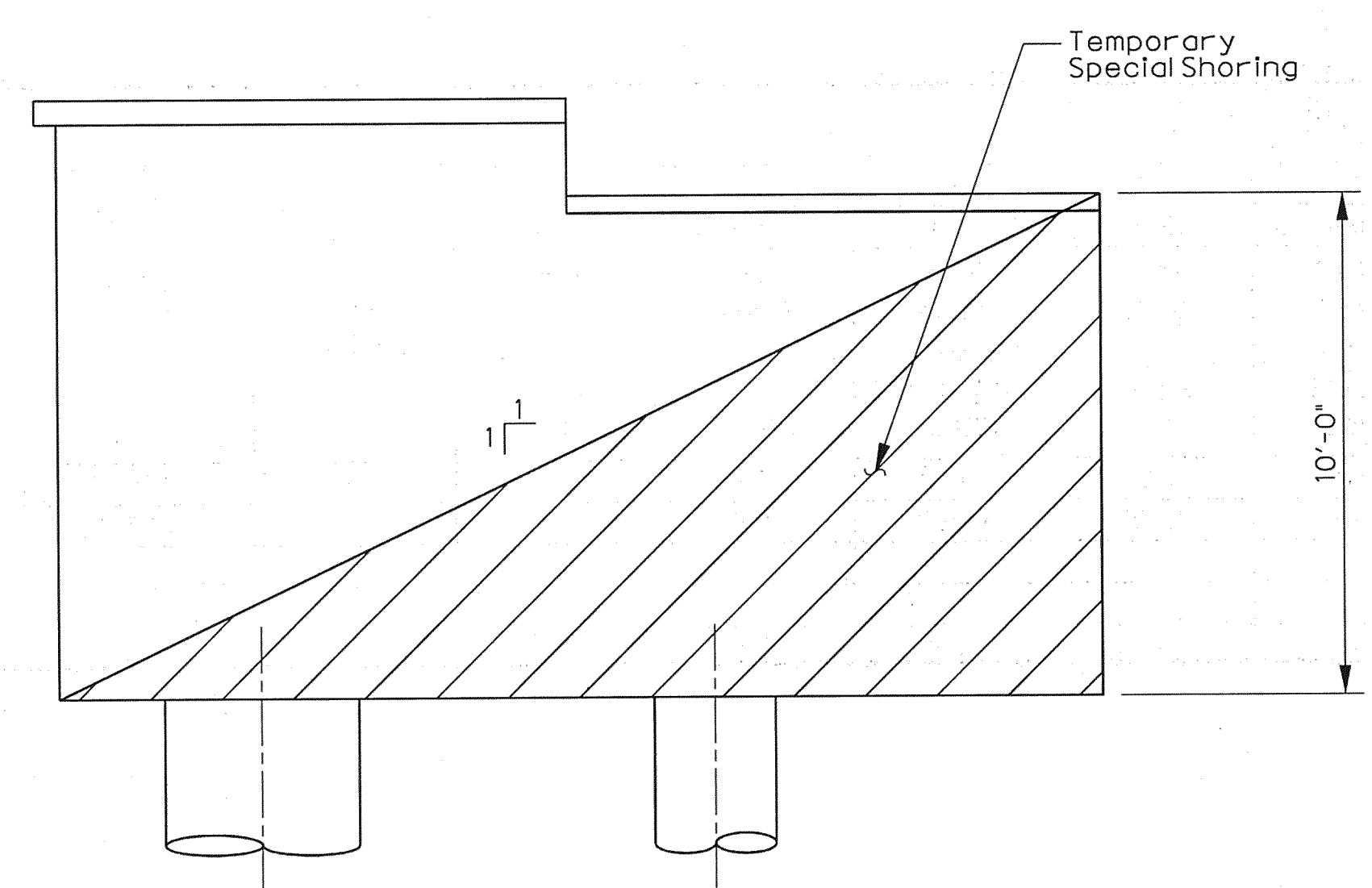
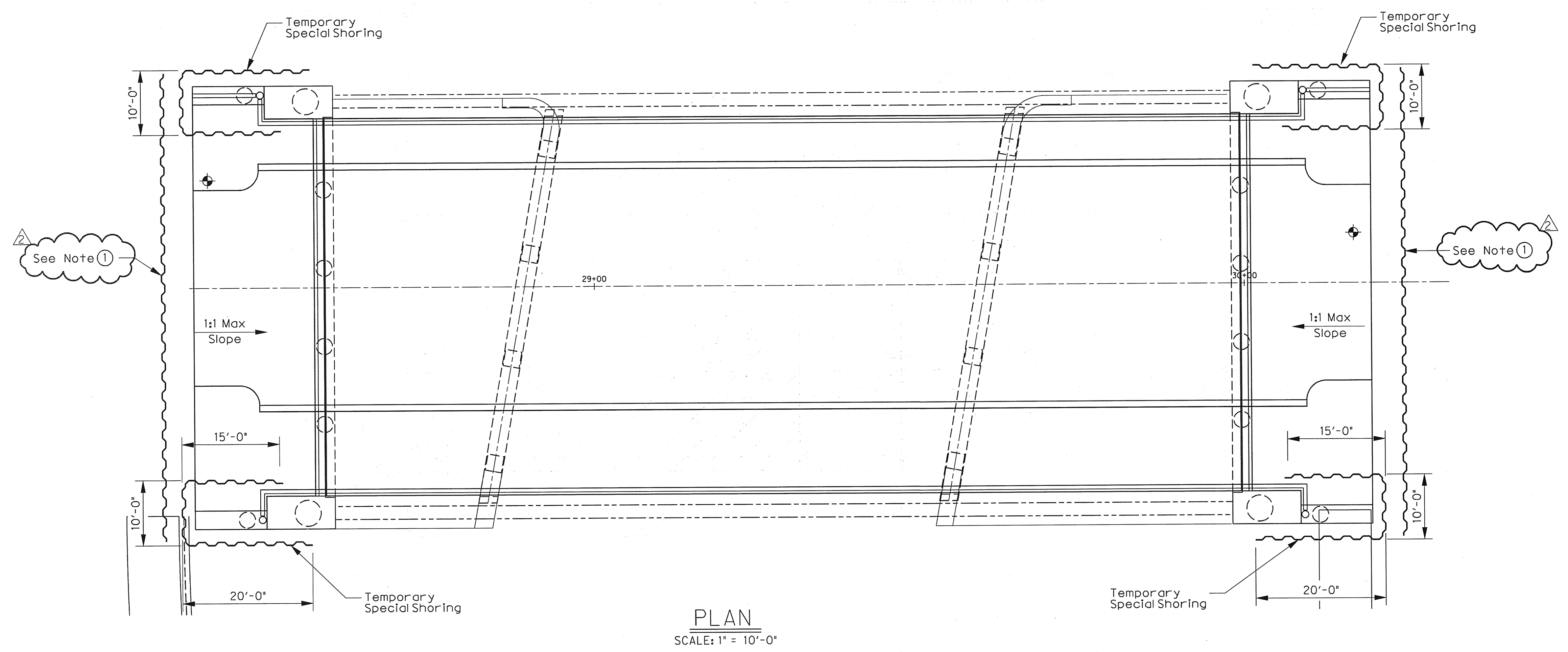
SECTION D-D
SCALE: 3/4" = 1'-0"



04.29.10

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTIANSEN, P.E. 85412 ON 04-29-2010. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS, 75081. TDP, FIRM #2-312.

NO.	REVISION	BY	DATE
TOWN OF ADDISON DALLAS COUNTY, TEXAS			
VITRUVIAN PARK BRIDGES BELLA LANE			
ARCH DETAILS			
1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-6200 FAX (214) 739-0095			
PROJECT	DESIGN	DRAWN	DATE
27379	ESC	AHH	APRIL 2010
FILE	SHEET		
-	S2-20		



Note: Dimensions shown are for quantity calculations only. Actual dimensions may vary.

① Temporary Special Shoring to be provided at the ends of the Approach Slabs.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ERIC S. CHRISTIANSEN, P.E. #85412 ON 05-19-2010. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS, 75081, TYPE FORM #F-312.

Addendum #2		ESC	05/19/10
NO.	REVISION	BY	DATE
TOWN OF ADDISON DALLAS COUNTY, TEXAS			
VITRUVIAN PARK BRIDGES BELLA LANE			
BRIDGE LAYOUT TEMPORARY SPECIAL SHORING			
HALFF 1201 NORTH BOWSER ROAD, RICHARDSON, TEXAS 75081-2275 TEL (214) 346-0200 FAX (214) 739-0095			
PROJECT	DESIGN	DRAWN	DATE
27379	ESC	AHH	APRIL 2010
FILE	SHEET		
-	S2-21		