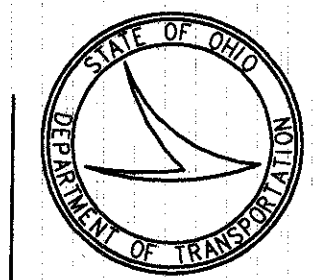


RELOCATED MARIETTA AVE. CURVE DATA
 P.I. STA. 1+141.023
 $\Delta = 0^{\circ}12'52''$ RIGHT
 T = 141.023
 R = 1750.000
 L = 281.438
 E = 5673

U.S. 30 CURVE DATA
 P.I. STA. 33+966.571
 $\Delta = 25^{\circ}16'33''$ LEFT
 T = 358.755
 R = 1600.000
 L = 705.835
 E = 39.727



metric units

DESIGN AGENCY
STILSON & ASSOCIATES, INC.
 ENGINEERING • ARCHITECTURE • ENVIRONMENTAL
 611 HAMILTON ROAD • COLUMBUS, OHIO 43229

DATE
 3/11/96
 REVIEWED
 G.W.M.
 STRUCTURE FILE NUMBER
 7603738 L & 7603746 R

DRAWN
 C.G.
 CHECKED
 V.S.
 W.M.

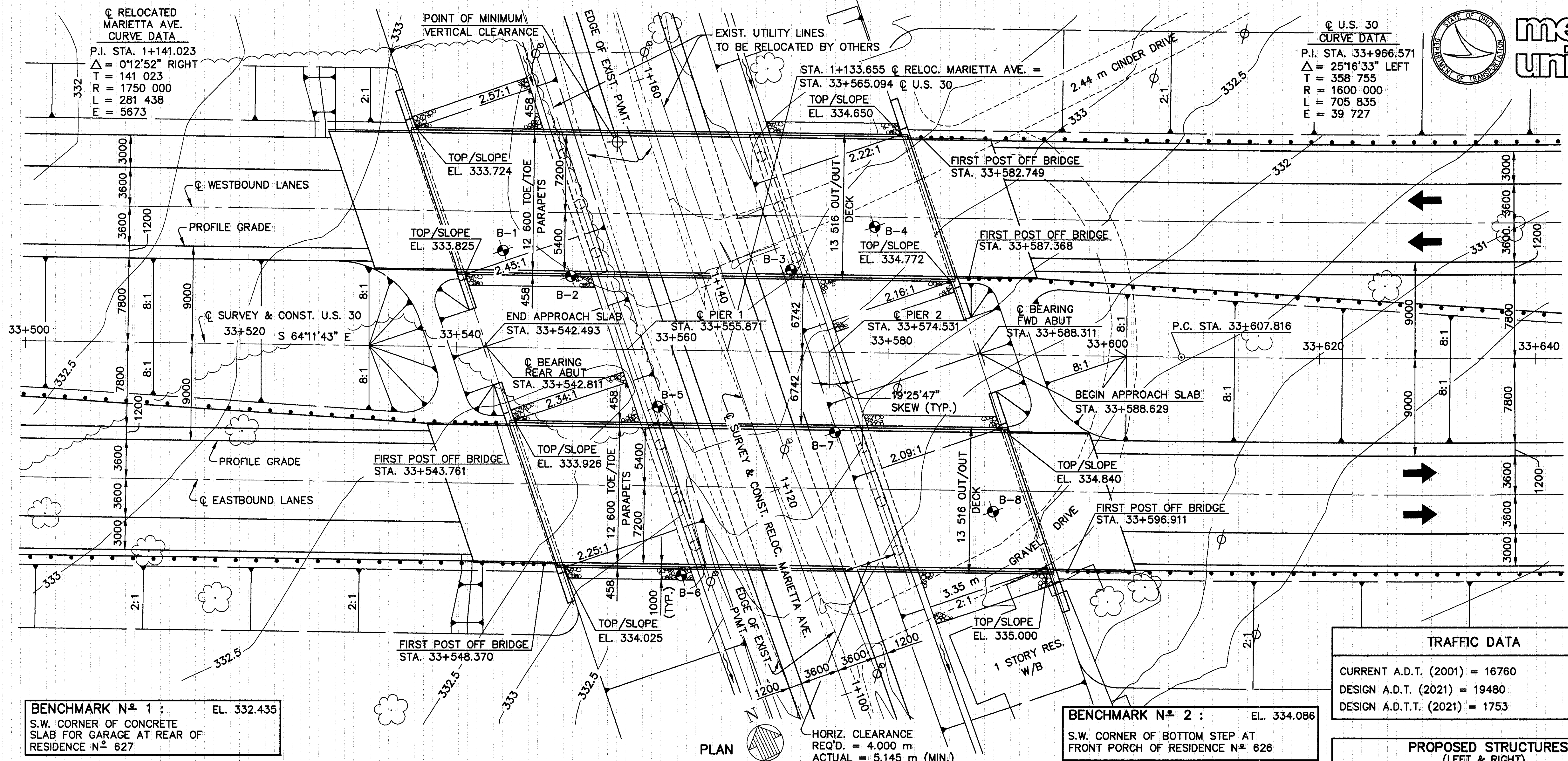
STARBUCK COUNTY
 STA. 33+542.493
 STA. 33+588.629

SITE PLAN
 BRIDGE No. STA-30-28607 L&R
 OVER RELOCATED MARIETTA AVENUE

STA-30-27.696

1/18

384
 520



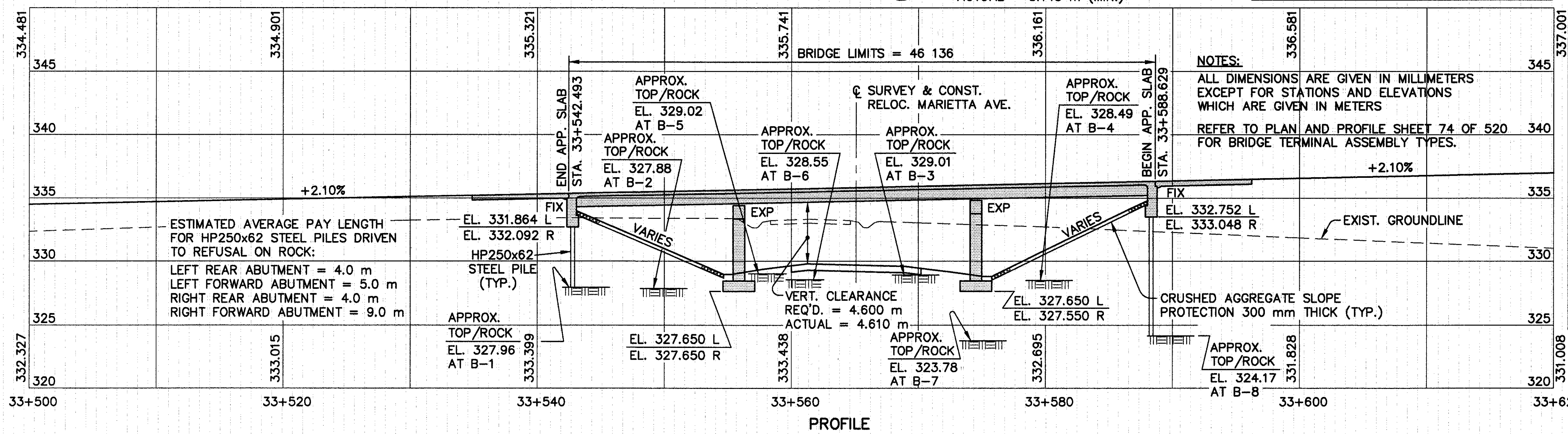
BENCHMARK N^o 1 : EL. 332.435
 S.W. CORNER OF CONCRETE SLAB FOR GARAGE AT REAR OF RESIDENCE N^o 627

BENCHMARK N^o 2 : EL. 334.086
 S.W. CORNER OF BOTTOM STEP AT FRONT PORCH OF RESIDENCE N^o 626

TRAFFIC DATA	
CURRENT A.D.T. (2001)	= 16760
DESIGN A.D.T. (2021)	= 19480
DESIGN A.D.T.T. (2021)	= 1753

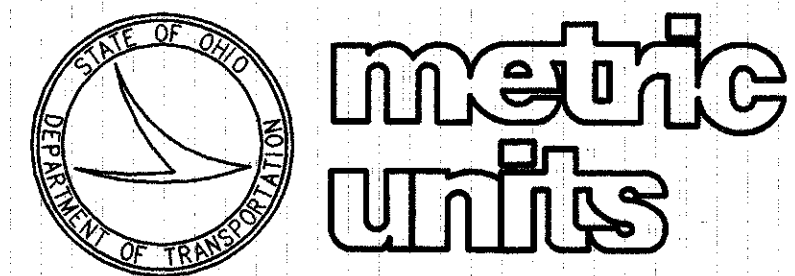
PROPOSED STRUCTURES (LEFT & RIGHT)	
TYPE:	THREE SPAN CONTINUOUS STEEL BEAM (A572M, PAINTED) SUPERSTRUCTURE COMPOSITE WITH A REINFORCED CONCRETE DECK ON REINFORCED CONCRETE SUBSTRUCTURES
SPANS:	13 060 mm, 18 660 mm AND 13 780 mm CENTER TO CENTER OF BEARING
SKEW:	19°25'47" RIGHT FORWARD
ALIGNMENT:	TANGENT
ROADWAY:	12 600 mm TOE TO TOE OF CONCRETE PARAPETS
DESIGN LOADING:	MS18 (CASE II) AND THE ALTERNATE MILITARY LOADING
WEARING SURFACE:	MONOLITHIC CONCRETE
APPROACH SLABS:	AS-1-81M, 7600 mm LONG
SUPERELEVATION:	VARIES
LATITUDE:	40°47'12" N
LONGITUDE:	81°27'04" W

NOTE: EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.



NOTES:
 ALL DIMENSIONS ARE GIVEN IN MILLIMETERS EXCEPT FOR STATIONS AND ELEVATIONS WHICH ARE GIVEN IN METERS
 REFER TO PLAN AND PROFILE SHEET 74 OF 520 FOR BRIDGE TERMINAL ASSEMBLY TYPES.

BORING LOCATION B-1



DESIGN AGENCY
STILSON & ASSOCIATES, INC.
ENGINEERING, ARCHITECTURE, ENVIRONMENTAL
SCIENCE, AND PLANNING

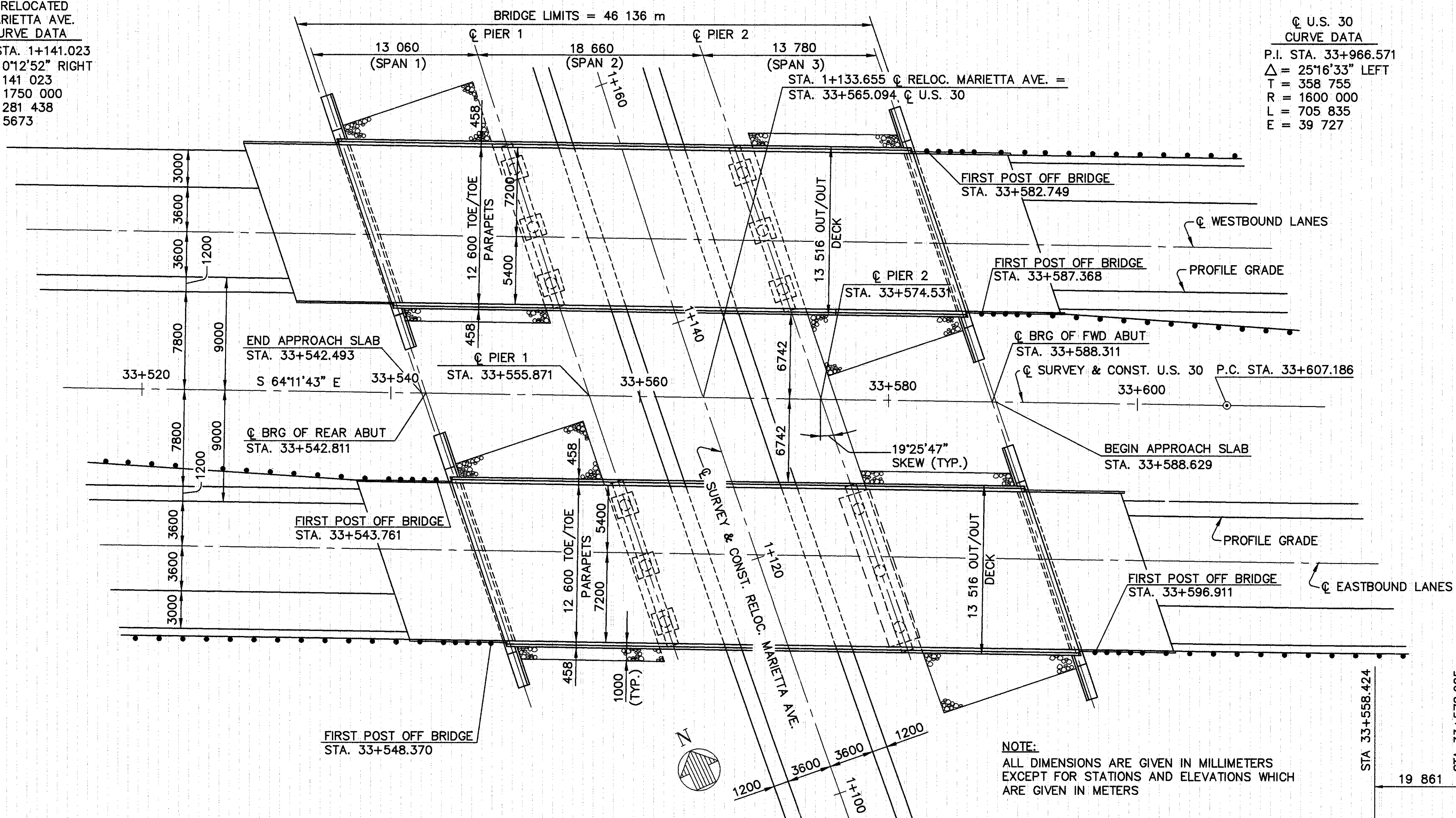
DESIGNED	T.G.H.	CHECKED	T.E.U.
DRAWN	V.O.	REVIEWED	G.W.M.
DATE	10/11/96	STRUCTURE FILE NUMBER	7603738 L & 7603746 R

GENERAL PLAN AND ELEVATION
BRIDGE No. STA-30-28607 L&R
U.S. 30 OVER MARIETTA AVENUE

STA-30-27.696

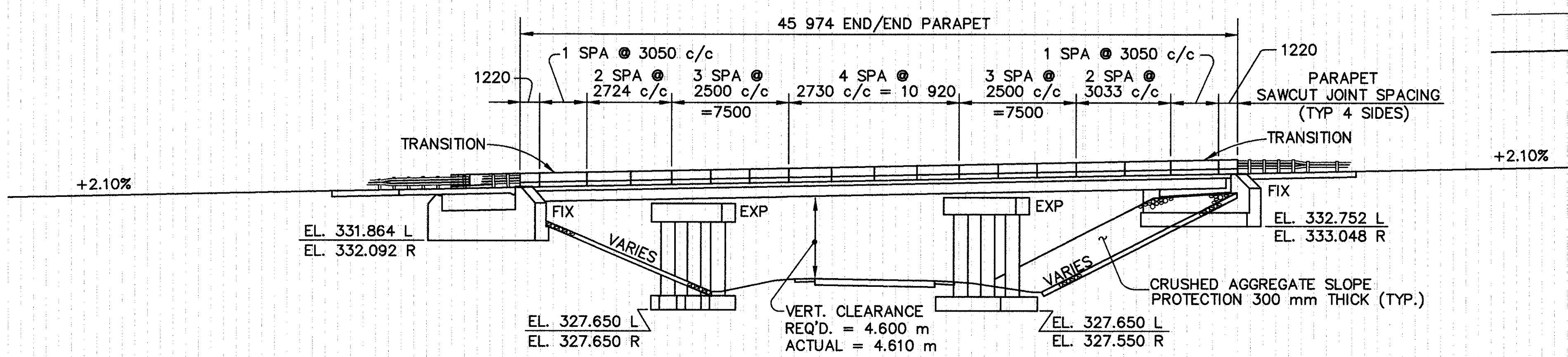
RELOCATED
MARIETTA AVE.
CURVE DATA
P.I. STA. 1+141.023
Δ = 0°12'52" RIGHT
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U.S. 30
CURVE DATA
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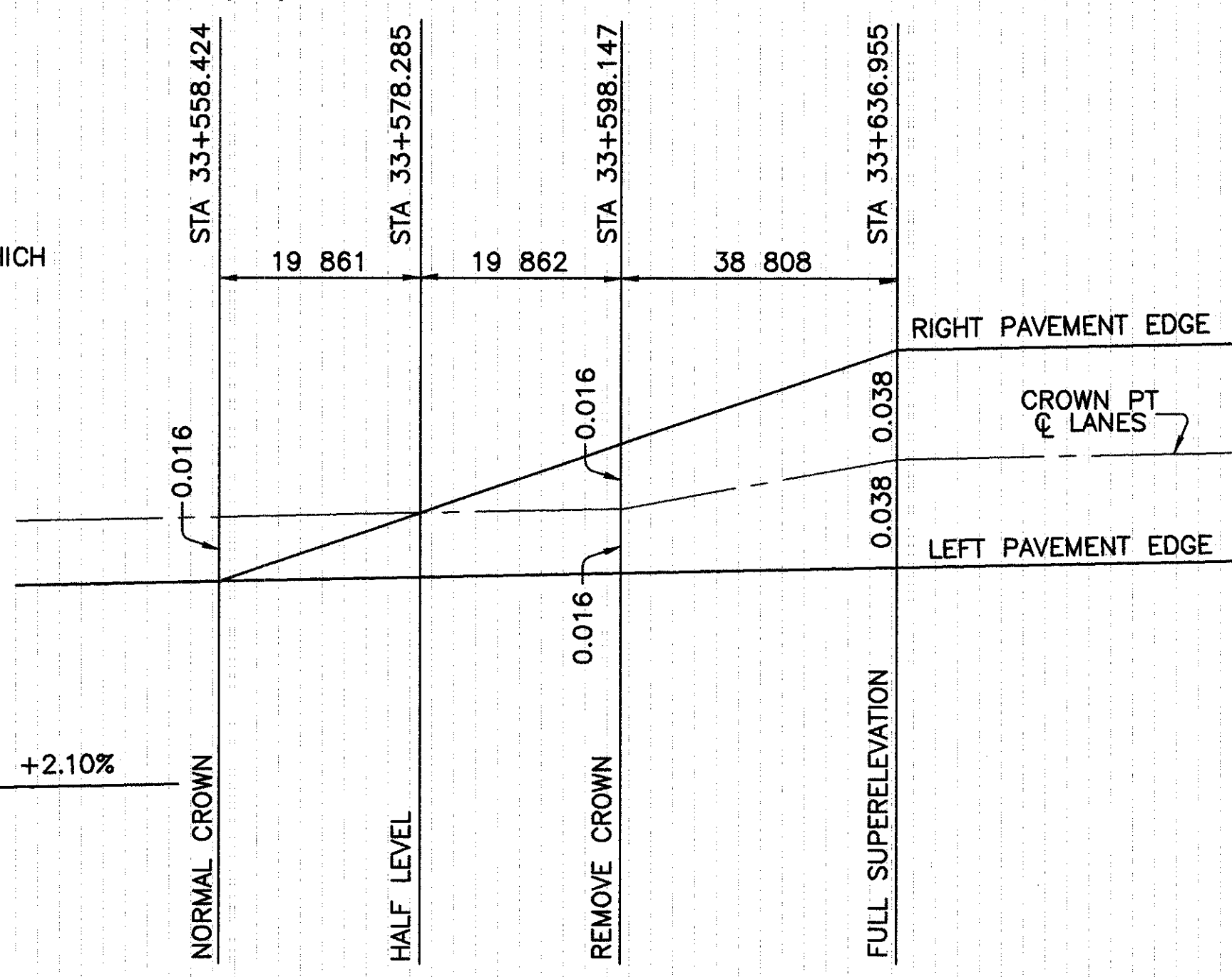
NOTE:
ALL DIMENSIONS ARE GIVEN IN MILLIMETERS
EXCEPT FOR STATIONS AND ELEVATIONS WHICH
ARE GIVEN IN METERS

GENERAL PLAN



ELEVATION

NOTE:
PILING NOT SHOWN.



PAVEMENT TRANSITION DETAIL

GENERAL NOTES



GENERAL:

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

- AS-1-81M DATED 10-25-94
- BR-1-M DATED 12-15-94
- BS-1-93M DATED 12-15-94
- ICD-1-82M DATED 3-20-95

AND TO SUPPLEMENTAL SPECIFICATIONS:

- 942 DATED 6-14-95
- 944 DATED 3-23-95

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "STANDARD SPECIFICATION FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

MS18, CASE II AND THE ALTERNATE MILITARY LOADING.

DESIGN DATA:

CONCRETE CLASS S - COMPRESSIVE STRENGTH 31.0 MPa (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 27.5 MPa (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615M, A616M OR A617M

GRADE 400 MINIMUM YIELD STRENGTH 400 MPa.

SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82M OR A615M.

STRUCTURAL STEEL, A572M - UNIT STRESS 186.2 MPa.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL.

65 mm CONCRETE COVER.

SEALING OF CONCRETE SURFACES.

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 25 mm THICK.

PILE DRIVING CONSTRAINTS:

PRIOR TO DRIVING PILES, THE SPILL THROUGH SLOPES AND BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 60 METERS BEHIND EACH ABUTMENT. THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT PILES SHALL NOT BEGIN UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

PILES DRIVEN TO BEDROCK:

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL MILLIMETERS WITH A MINIMUM RESISTANCE OF 20 BLOWS PER 25 mm OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

THE DESIGN LOAD IS 366 kN PER PILE FOR THE ABUTMENT PILES.

ITEM 503. UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 203 GRANULAR MATERIAL PLACED IN 150 mm LIFTS AND COMPACTED IN ACCORDANCE WITH 304.04.

FOUNDATION BEARING PRESSURE (AS ORIGINALLY DESIGNED):

FOR LEFT BRIDGE PIER 1, LEFT BRIDGE PIER 2, AND RIGHT BRIDGE PIER 1 FOOTINGS AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 640 kPa. THE ALLOWABLE BEARING PRESSURE IS 958 kPa. FOR RIGHT BRIDGE PIER 2, FOOTING AS DESIGNED, PRODUCES A MAXIMUM BEARING PRESSURE OF 180 kPa. THE ALLOWABLE PRESSURE IS 287 kPa. SEE PIER RETROFIT DETAILS SHEET 393B FOR REVISED FOUNDATION BEARING PRESSURES.

FOOTINGS:

FOOTINGS SHALL EXTEND A MINIMUM OF 75 mm INTO BEDROCK. IF NECESSARY, THE FOOTINGS SHOULD BE LOWERED. HOWEVER, IF THE LOW POINT OF THE SURFACE OF THE BEDROCK OCCURS 0.6 METERS OR MORE ABOVE PLAN ELEVATION, THE FOOTINGS MAY BE RAISED, AFTER APPROVAL BY THE PROJECT ENGINEER, BUT TO AN ELEVATION NOT HIGHER THAN THE FOLLOWING:

- LEFT BRIDGE PIER 1 - 327.950
- LEFT BRIDGE PIER 2 - 327.800
- RIGHT BRIDGE PIER 1 - 327.750
- RIGHT BRIDGE PIER 2 - 327.600

STEPPING OF INDIVIDUAL FOOTINGS WILL NOT BE PERMITTED UNLESS SHOWN ON THE PLANS.

UTILITY LINES:

ALL EXPENSE INVOLVED IN RELOCATION OF THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY. THE CONTRACTOR AND THE UTILITY ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM 516. INTEGRAL ABUTMENT EXPANSION JOINT SEAL:

INSTALL A 900 mm WIDE STRIP, 2.5 mm THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT AT LOCATIONS SHOWN IN THE PLANS. SECURE THE 1 METER WIDE NEOPRENE SHEETING TO THE CONCRETE WITH 32 x 3 mm (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 25 mm OUTSIDE DIAMETER, 3 mm GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 225 mm. OTHER SIMILAR GALVANIZED DEVICES WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 150 mm (±) FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 150 mm (±) FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 150 mm

CENTER TO CENTER ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHOULD COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAPS IN THE LENGTH OF THE HORIZONTAL STRIPS DUE TO MATERIAL MANUFACTURING SHALL BE AT LEAST 300 mm IN LENGTH, IF NOT VULCANIZED OR ADHESIVE BONDED, OR 150 mm IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 2.5 mm THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E. I. DUPONT DE MEMORURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, mm	D 751	2.5 +/- .25
BREAKING STRENGTH, GRAB WXF, N, MINIMUM	D 751	3130 x 3130
ADHESIVE 25 mm STRIP, 50 mm MINIMUM, N MINIMUM	D 751	27
BURST STRENGTH (MULLEN) MPa, MINIMUM	D 751	9.65
HEAT AGING 70 HOURS T 100°C, 180 WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40°C, BEND AROUND 6 mm MANDREL	D 2136	NO CRACKING OF COATING

PAYMENT FOR LABOR, MATERIALS AND INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN ITEM 516 INTEGRAL ABUTMENT EXPANSION JOINT SEAL.

ITEM 518 - 150 mm PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN:

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE 150 mm DIAMETER PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE SP.

ITEM 518 - 150 mm NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN:

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE, SHALL BE 150 mm DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE S. THIS ITEM SHALL INCLUDE ALL ELBOWS, TEES AND END CAPS REQUIRED TO COMPLETE THE ABUTMENT DRAINAGE SYSTEM.

CONCRETE PARAPETS:

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 25 mm DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUTS SHALL BE PLACED AT A MINIMUM OF 2000 mm AND A MAXIMUM OF 3000 mm. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 6 mm. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 25 mm WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E.

HIGH PERFORMANCE CONCRETE:

THE CONCRETE USED FOR THE FOLLOWING ITEMS SHALL BE MIX 3:

- ITEM SPECIAL - HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (DECK)
- ITEM SPECIAL - HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET)
- ITEM SPECIAL - HIGH PERFORMANCE CONCRETE, SUBSTRUCTURE

DESIGN AGENCY
STILSON & ASSOCIATES, INC.
ENGINEERING • ARCHITECTURE • ENVIRONMENTAL
6121 TURNLEY ROAD • COLUMBUS, OHIO 43229

DATE
10/11/96
REVIEWED
G.W.M.
STRUCTURE FILE NUMBER
7603738 L & 7603746 R

DRAWN
V.O.
CHECKED
V.S.

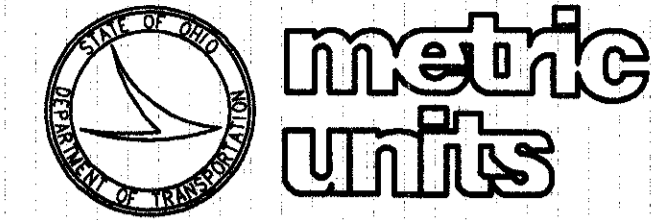
GENERAL NOTES
BRIDGE No. STA-30-28607
U.S. 30 OVER MARIETTA AVENUE

STA-30-27.696

3 / 18

386
520

ESTIMATED QUANTITIES



DESIGN AGENCY
STILSON & ASSOCIATES, INC.
 ENGINEERING, ARCHITECTURE, ENVIRONMENTAL
 9121 MARLEY ROAD • COLUMBUS, OHIO 43229

LEFT BRIDGE										
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	REAR ABUT	FWD ABUT	PIERS	SUPER	GENERAL	AS PER PLAN SHEET NO.
503	11100	LUMP		COFFERDAMS, CRIBS, AND SHEETING					LUMP	
503	21101	271	CU METER	UNCLASSIFIED EXCAVATION, AS PER PLAN	117	117	37			3
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION					LUMP	
507	11100	81	METER	STEEL PILES HP 250x62	36	45				
509	15830	39 933	KILOGRAM	EPOXY COATED REINFORCING STEEL, GRADE 400	2167	2182	6280	29 304		
SPECIAL	51148000	176	CU METER	HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (DECK) *				176		
SPECIAL	51148020	26	CU METER	HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET) *				26		
SPECIAL	51148040	147	CU METER	HIGH PERFORMANCE CONCRETE, SUBSTRUCTURE *	41	42	64			
SPECIAL	51149000	LUMP		HIGH PERFORMANCE CONCRETE, TRIAL MIX					LUMP	
SPECIAL	51149010	LUMP		HIGH PERFORMANCE CONCRETE TESTING					LUMP	
SPECIAL	51267510	402	SQ METER	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)*	18	18	103	263		
513	11400	43 350	KILOGRAM	STRUCTURAL STEEL, A572-50 AISC CATEGORY I *				43 350		
513	20000	1770	EACH	WELDED STUD SHEAR CONNECTOR				1770		
816	00610	43 350	KILOGRAM	FIELD PAINTING OF NEW STEEL, SYSTEM IZEU				43 350		
516	13200	10	SQ METER	13 MM PREFORMED EXPANSION JOINT FILLER	5	5				
516	13600	12	SQ METER	25 MM PREFORMED EXPANSION JOINT FILLER	6	6				
516	14014	36	METER	INTEGRAL ABUTMENT EXPANSION JOINT SEAL	18	18				
516	44100	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 435 MM X 270 MM PAD AND 461 MM X 296 MM LOAD PLATE *			10			
518	21200	81	CU METER	POROUS BACKFILL WITH FILTER FABRIC	40	41				
518	40001	44	METER	150 MM PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN	22	22				3
518	40011	20	METER	150 MM NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	10	10				3
601	20000	444	SQ METER	CRUSHED AGGREGATE SLOPE PROTECTION	213	231				
RIGHT BRIDGE										
503	11100	LUMP		COFFERDAMS, CRIBS, AND SHEETING					LUMP	
503	21101	294	CU METER	UNCLASSIFIED EXCAVATION, AS PER PLAN	116	119	59			3
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION					LUMP	
507	11100	117	METER	STEEL PILES HP 250x62	36	81				
509	15830	40 809	KILOGRAM	EPOXY COATED REINFORCING STEEL, GRADE 400	2165	2188	7152	29 304		
SPECIAL	51148000	176	CU METER	HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (DECK) *				176		
SPECIAL	51148020	26	CU METER	HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET) *				26		
SPECIAL	51148040	161	CU METER	HIGH PERFORMANCE CONCRETE, SUBSTRUCTURE *	41	42	78			
SPECIAL	51149000	LUMP		HIGH PERFORMANCE CONCRETE, TRIAL MIX					LUMP	
SPECIAL	51149010	LUMP		HIGH PERFORMANCE CONCRETE TESTING					LUMP	
SPECIAL	51267510	400	SQ METER	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)*	18	17	102	263		
513	11400	43 350	KILOGRAM	STRUCTURAL STEEL, A572-50 AISC CATEGORY I *				43 350		
513	20000	1770	EACH	WELDED STUD SHEAR CONNECTOR				1770		
816	00610	43 350	KILOGRAM	FIELD PAINTING OF NEW STEEL, SYSTEM IZEU				43 350		
516	13200	10	SQ METER	13 MM PREFORMED EXPANSION JOINT FILLER	5	5				
516	13600	11	SQ METER	25 MM PREFORMED EXPANSION JOINT FILLER	5	6				
516	14014	35	METER	INTEGRAL ABUTMENT EXPANSION JOINT SEAL	18	17				
516	44100	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) 435 MM X 270 MM PAD AND 461 MM X 296 MM LOAD PLATE *			10			
518	21200	80	CU METER	POROUS BACKFILL WITH FILTER FABRIC	39	41				
518	40001	44	METER	150 MM PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN	22	22				3
518	40011	20	METER	150 MM NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	10	10				3
601	20000	453	SQ METER	CRUSHED AGGREGATE SLOPE PROTECTION	220	233				

* SEE PROPOSAL NOTE

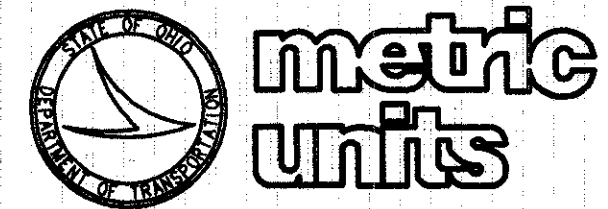
DATE 10/11/96
 REVISIONS
 C.W.M.
 STRUCTURE FILE NUMBER
 7603736 L & 7603746 R

ESTIMATED QUANTITIES
 BRIDGE No. STA-30-28607 L&R
 U.S. 30 OVER MARIETTA AVENUE

STA-30-27.696

4 / 18

387
520



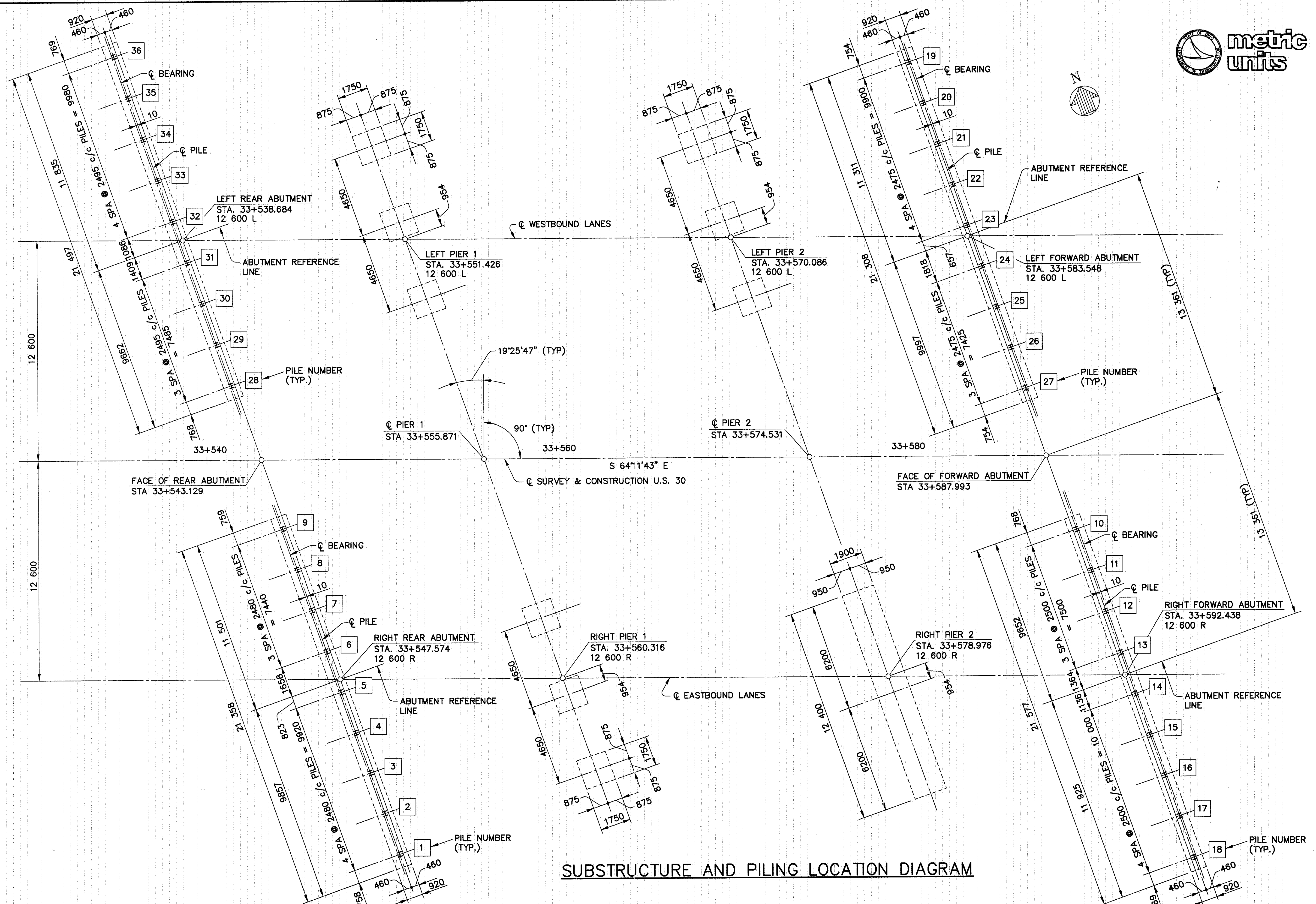
DESIGN AGENCY
STILSON & ASSOCIATES, INC.
 ENGINEERING • ARCHITECTURE • ENVIRONMENTAL
 621 HANLEY ROAD • COLUMBIA, MISSOURI 65205

DATE
 10/11/96
 REVIEWED
 C.W.M.
 DRAWN
 V.O.
 DESIGNED
 T.G.H.
 CHECKED
 V.S.

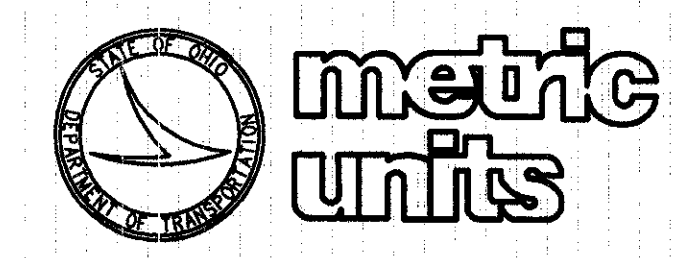
SUBSTRUCTURE AND PILING LOCATION DIAGRAM
 BRIDGE No. STA-30-28607
 U.S. 30 OVER MARIETTA AVENUE

STA-30-27.696

5 / 18
 388
 520



SUBSTRUCTURE AND PILING LOCATION DIAGRAM



STILSON & ASSOCIATES, INC.
 DESIGN AGENCY
 ENGINEERING • ARCHITECTURE • ENVIRONMENTAL
 6111 HANLEY, ROAD • COLUMBUS, OHIO 43235

DATE: 10/11/96
 REVIEWED: G.W.M.
 DRAWN: V.O.
 DESIGNED: T.G.H.
 CHECKED: T.E.U.

ABUTMENT DETAILS
 BRIDGE No. STA-30-28607 L&R
 U.S. 30 OVER MARIETTA AVENUE

STA-30-27.696

7/18
 390
 520

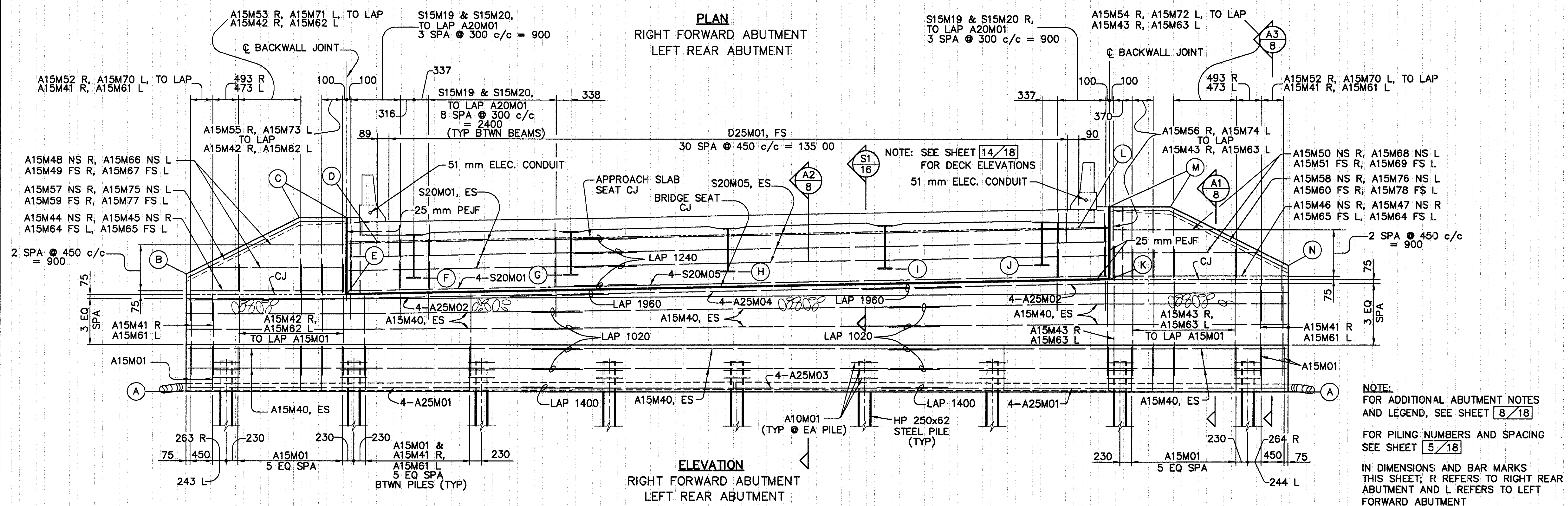
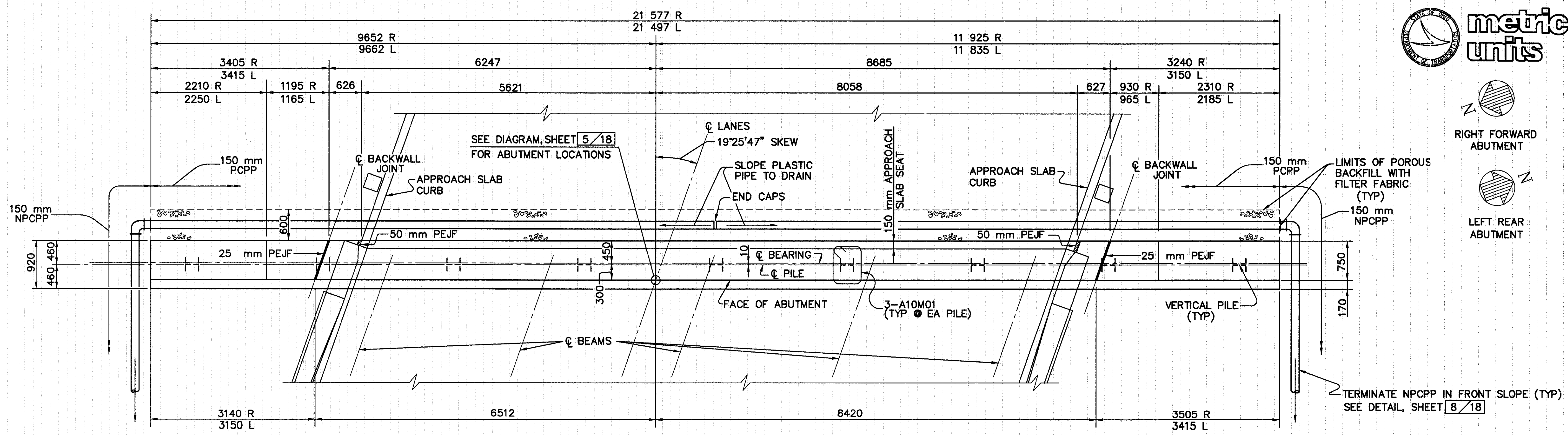
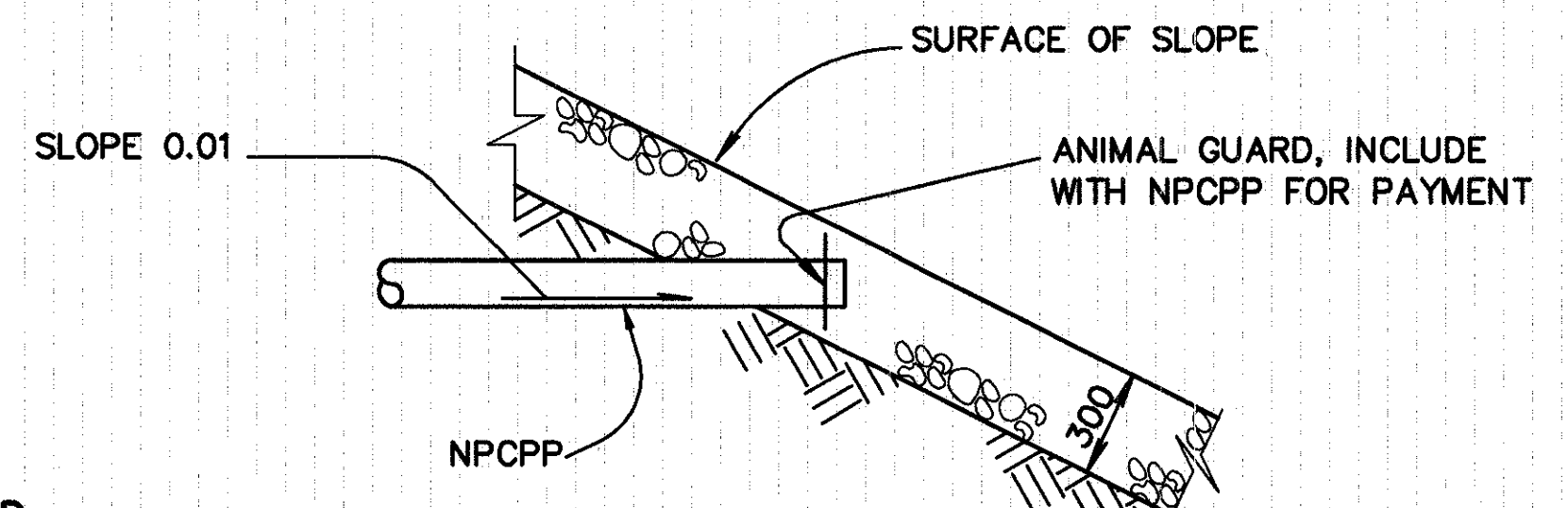
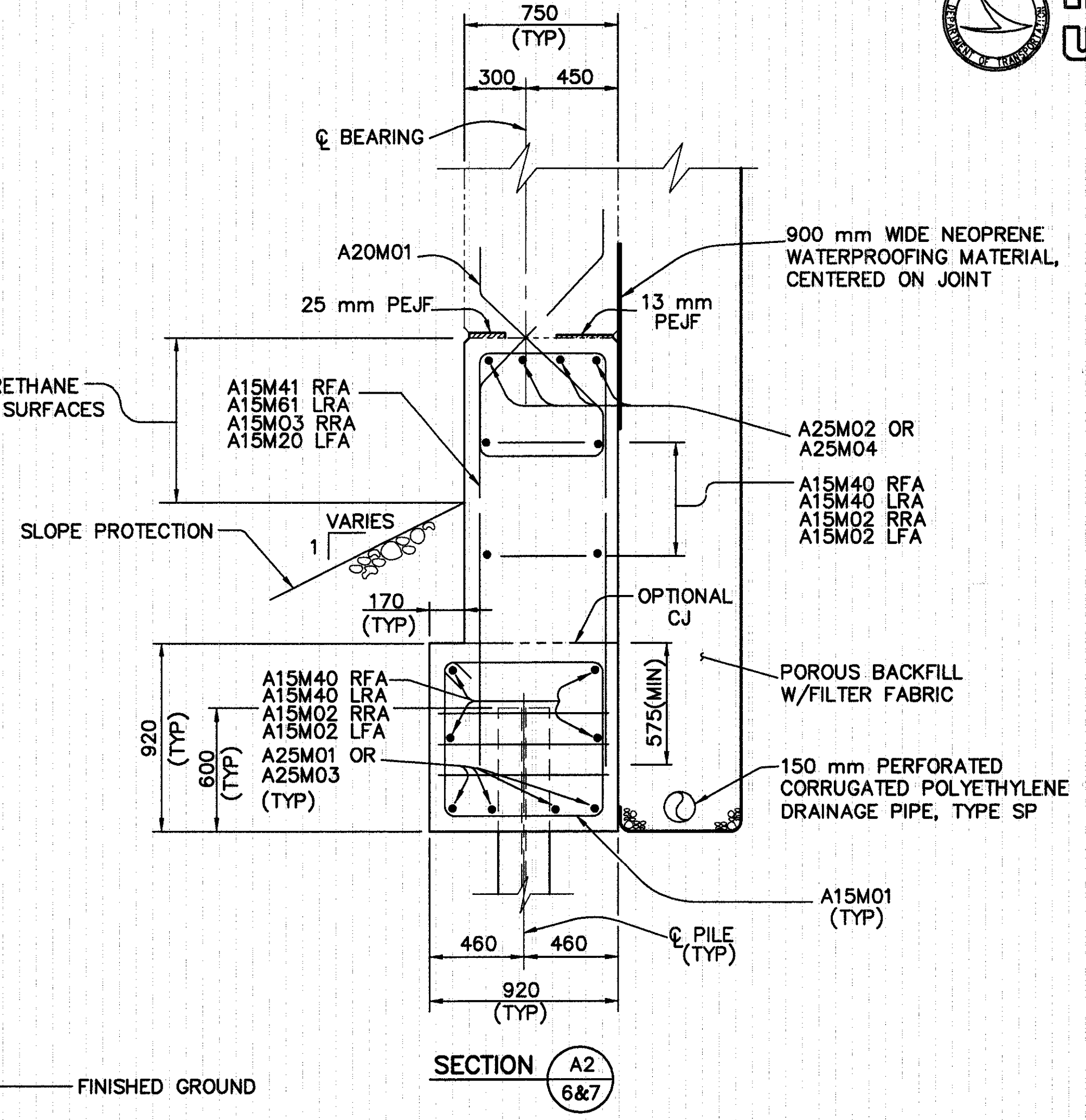
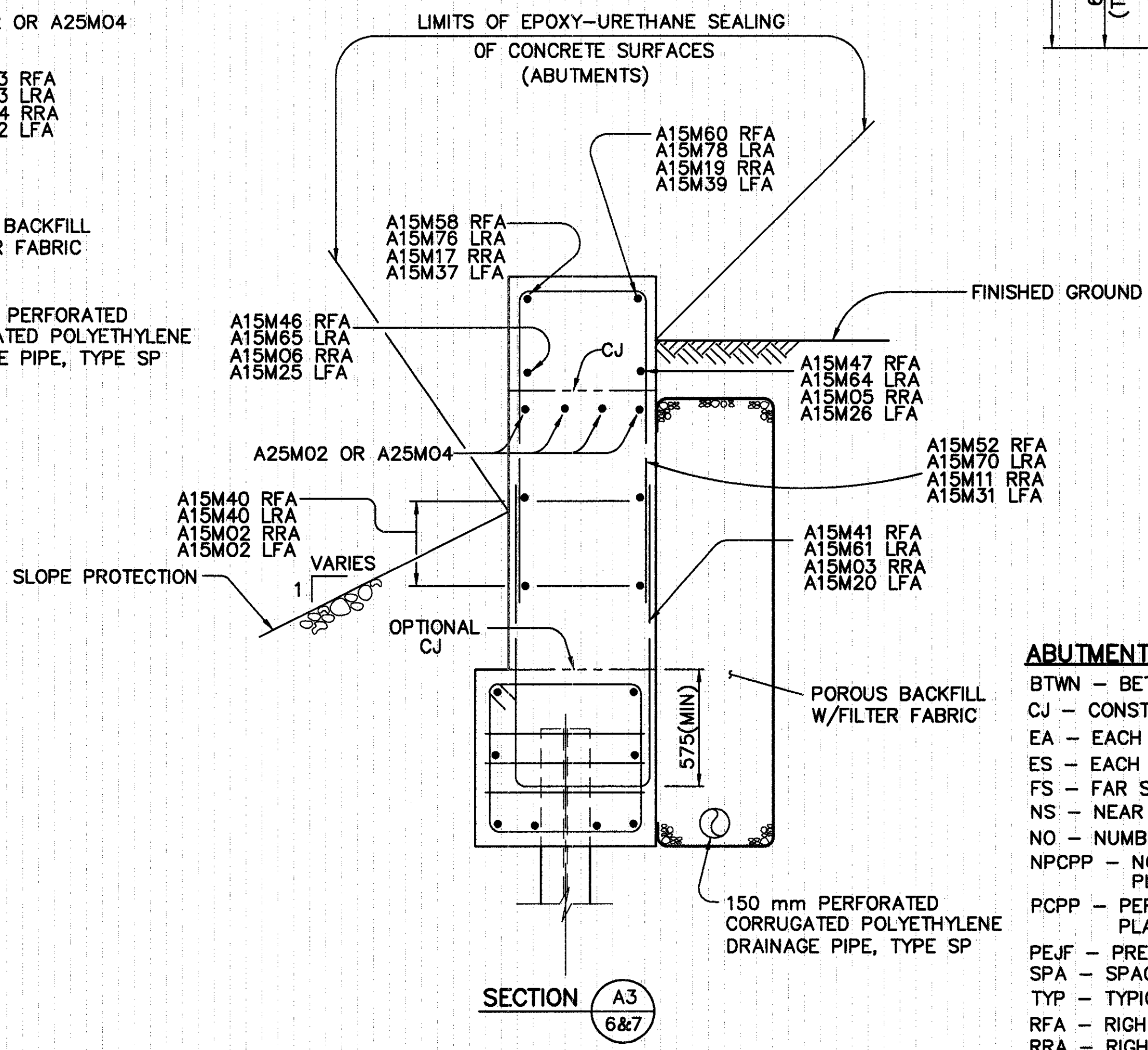
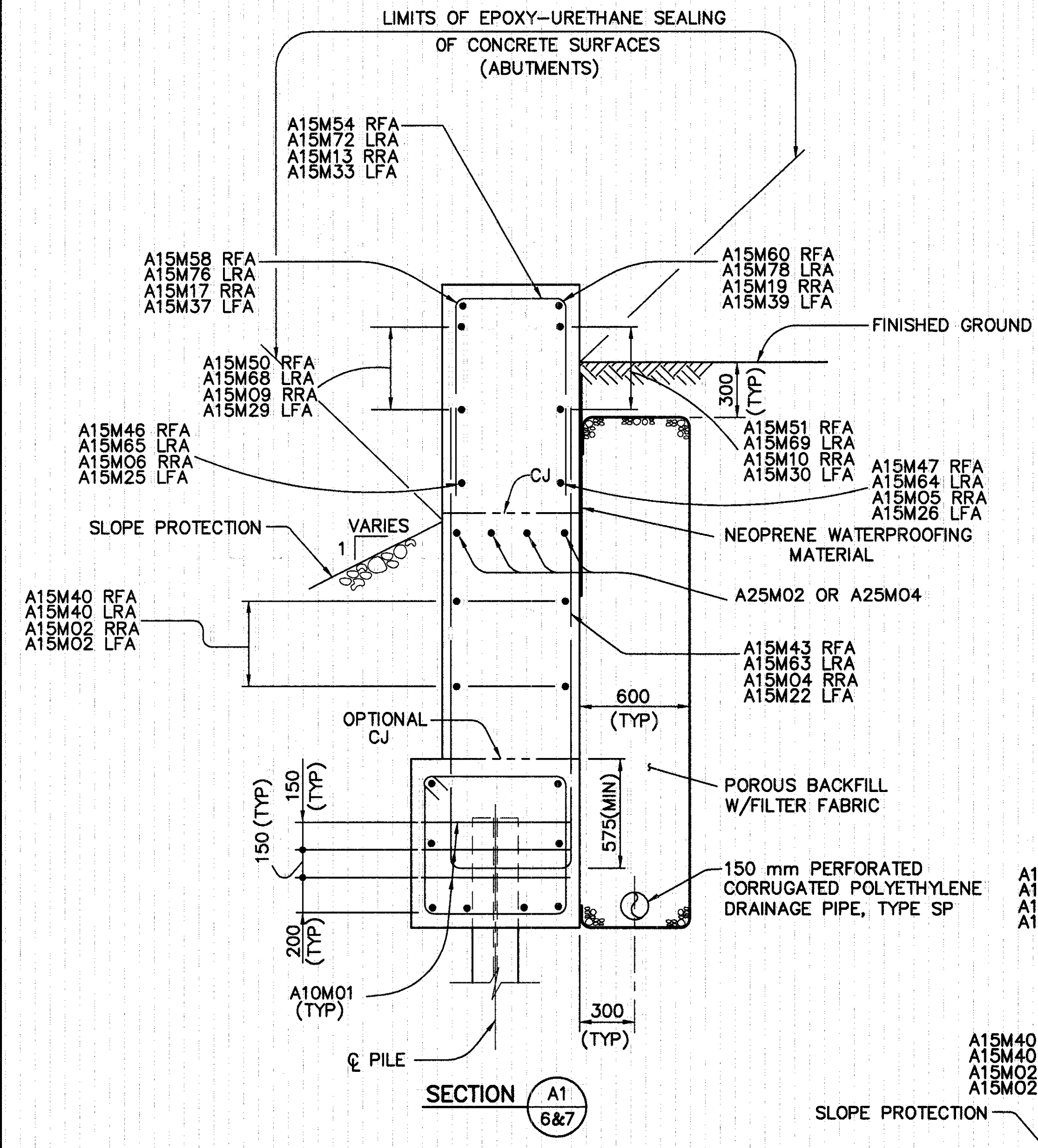


TABLE OF ABUTMENT ELEVATIONS

LOCATION	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)
RIGHT FORWARD ABUTMENT	333.048	335.349	336.456	335.988	334.941	335.268	335.336	335.400	335.459	335.523	335.250	336.266	336.679	335.525
LEFT REAR ABUTMENT	331.864	334.281	335.405	334.912	333.898	334.198	334.223	334.219	334.151	334.084	333.784	334.789	335.257	334.166

NOTE: ELEVATIONS F,G,H,I AND J ARE AT THE BOTTOM OF THE STEEL BEAMS AT CL BEARING.



- ABUTMENT LEGEND:**
- BTWN - BETWEEN
 - CJ - CONSTRUCTION JOINT
 - EA - EACH
 - ES - EACH SIDE
 - FS - FAR SIDE
 - NS - NEAR SIDE
 - NO - NUMBER
 - NPCPP - NON-PERFORATED CORRUGATED PLASTIC PIPE
 - PCPP - PERFORATED CORRUGATED PLASTIC PIPE
 - PEJF - PREFORMED EXPANSION JOINT FILTER
 - SPA - SPACES
 - TYP - TYPICAL
 - RFA - RIGHT FORWARD ABUTMENT
 - RRA - RIGHT REAR ABUTMENT
 - LFA - LEFT FORWARD ABUTMENT
 - LRA - LEFT REAR ABUTMENT
 - VP - VERTICAL PILE

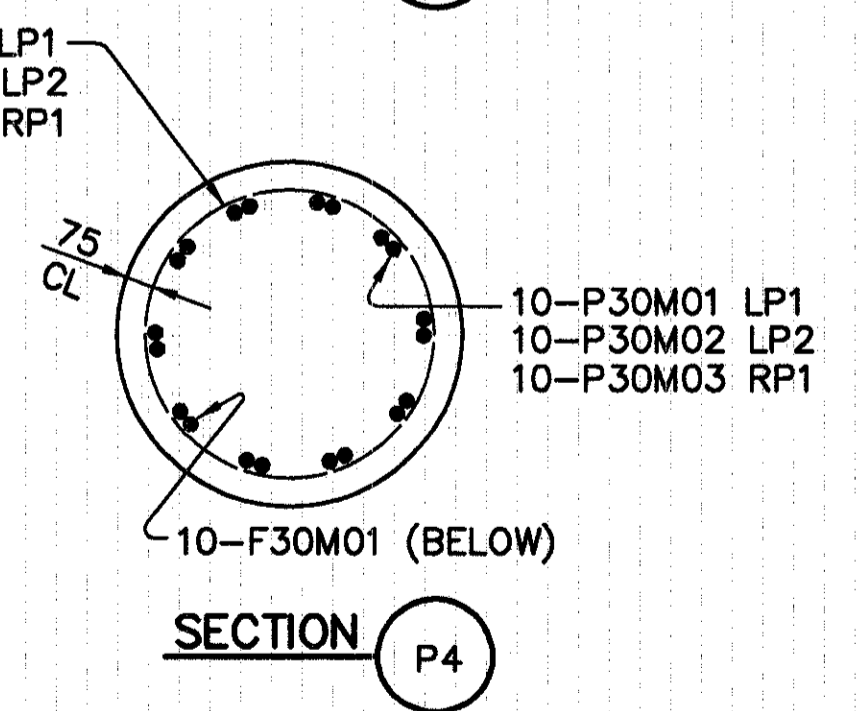
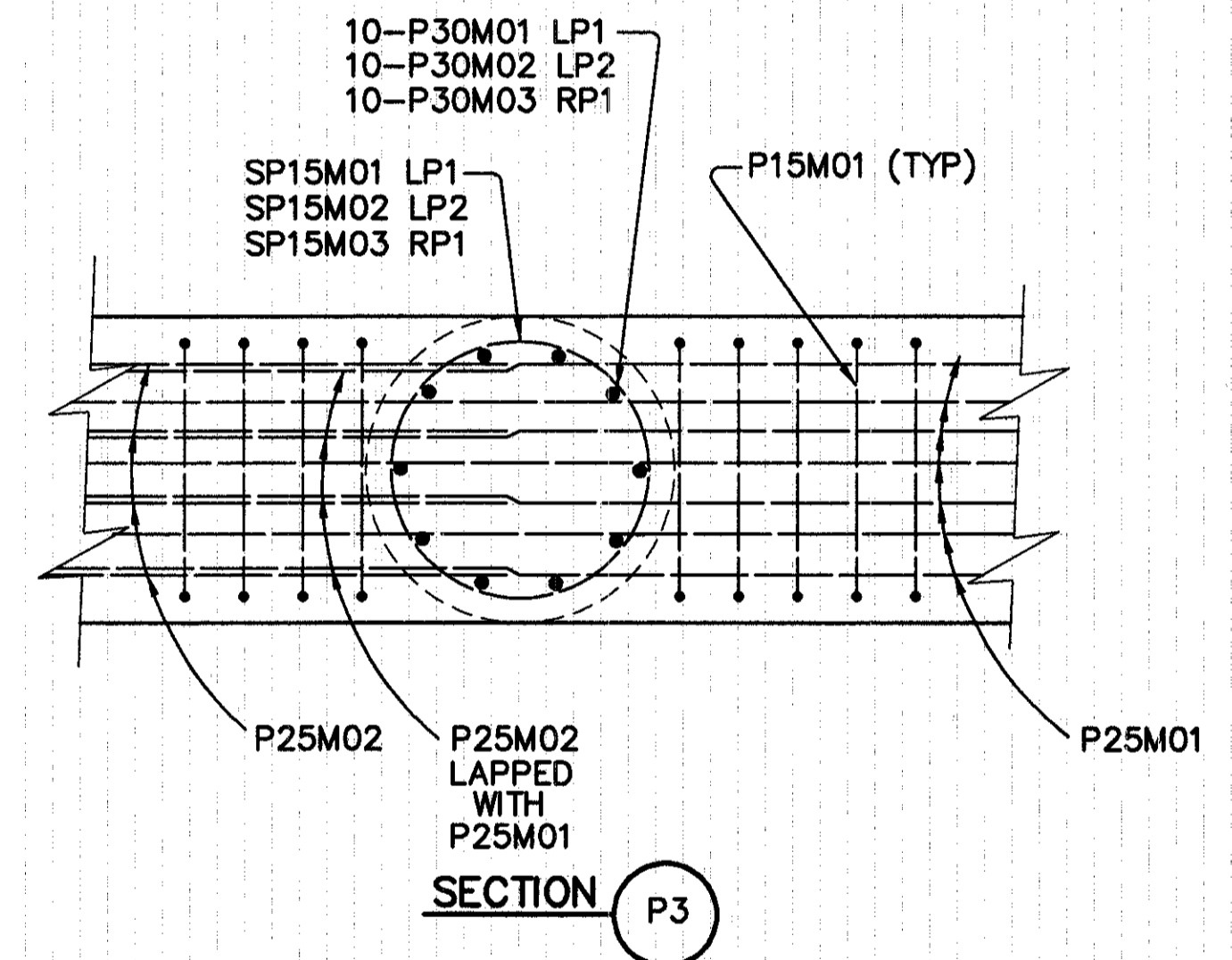
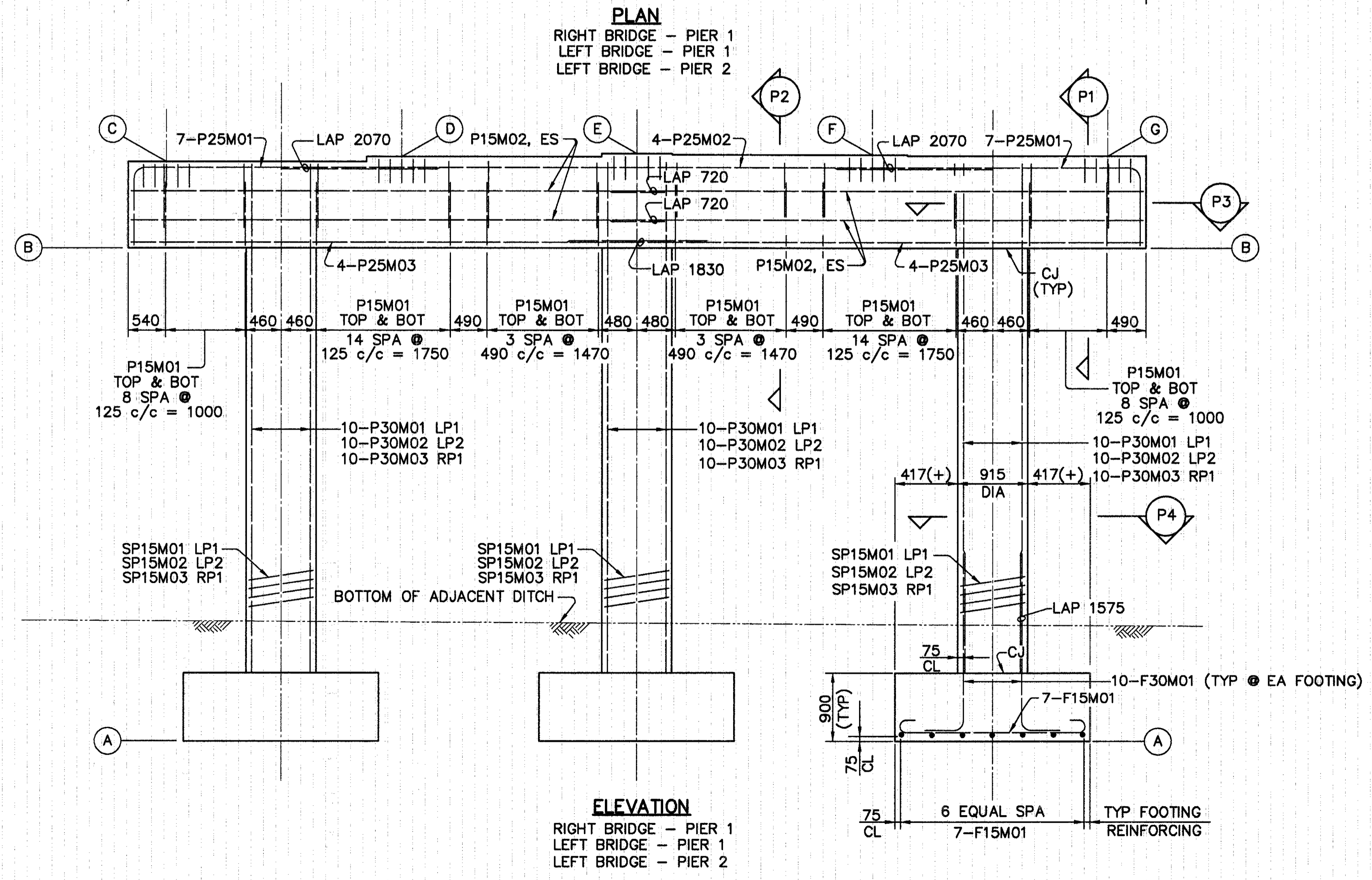
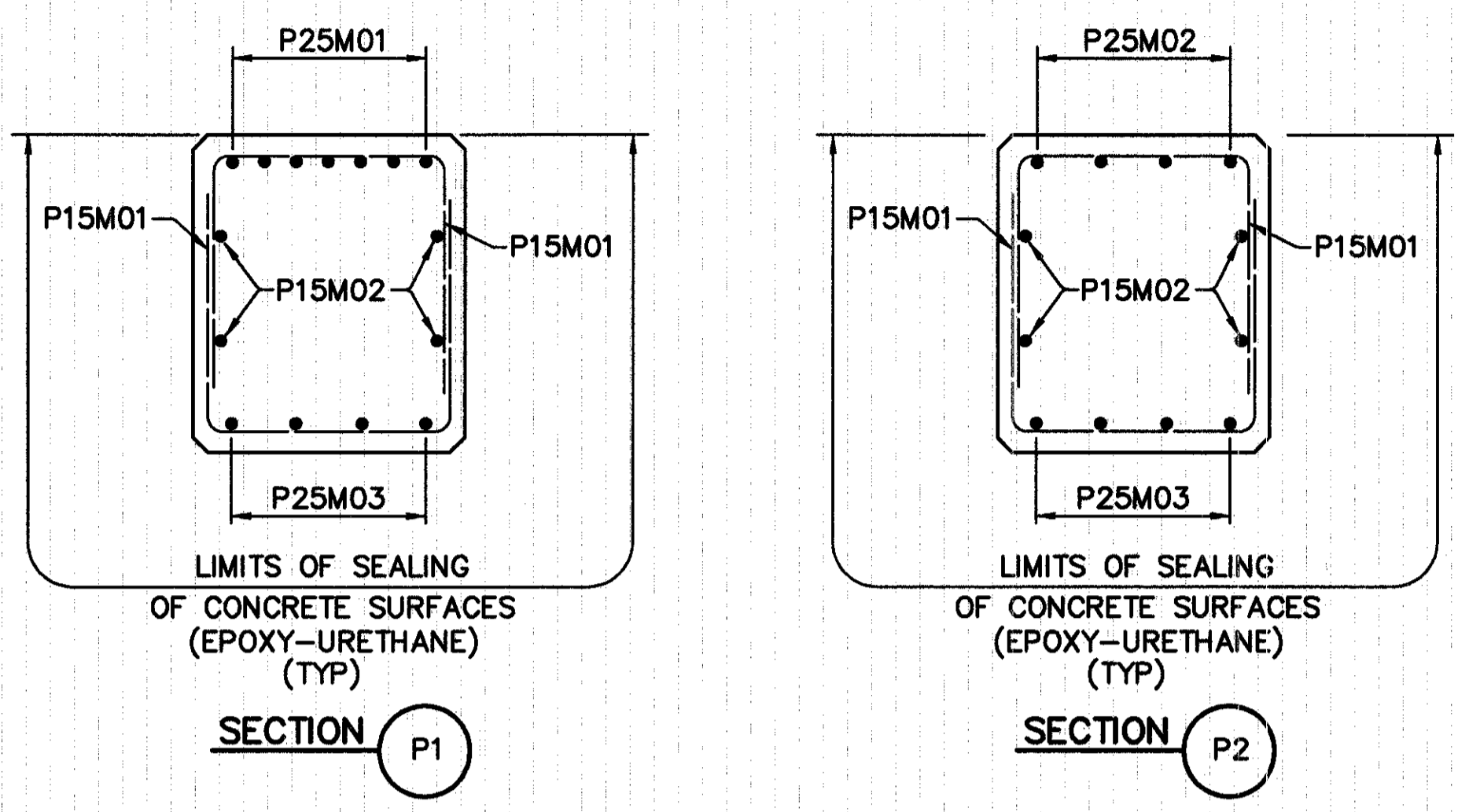
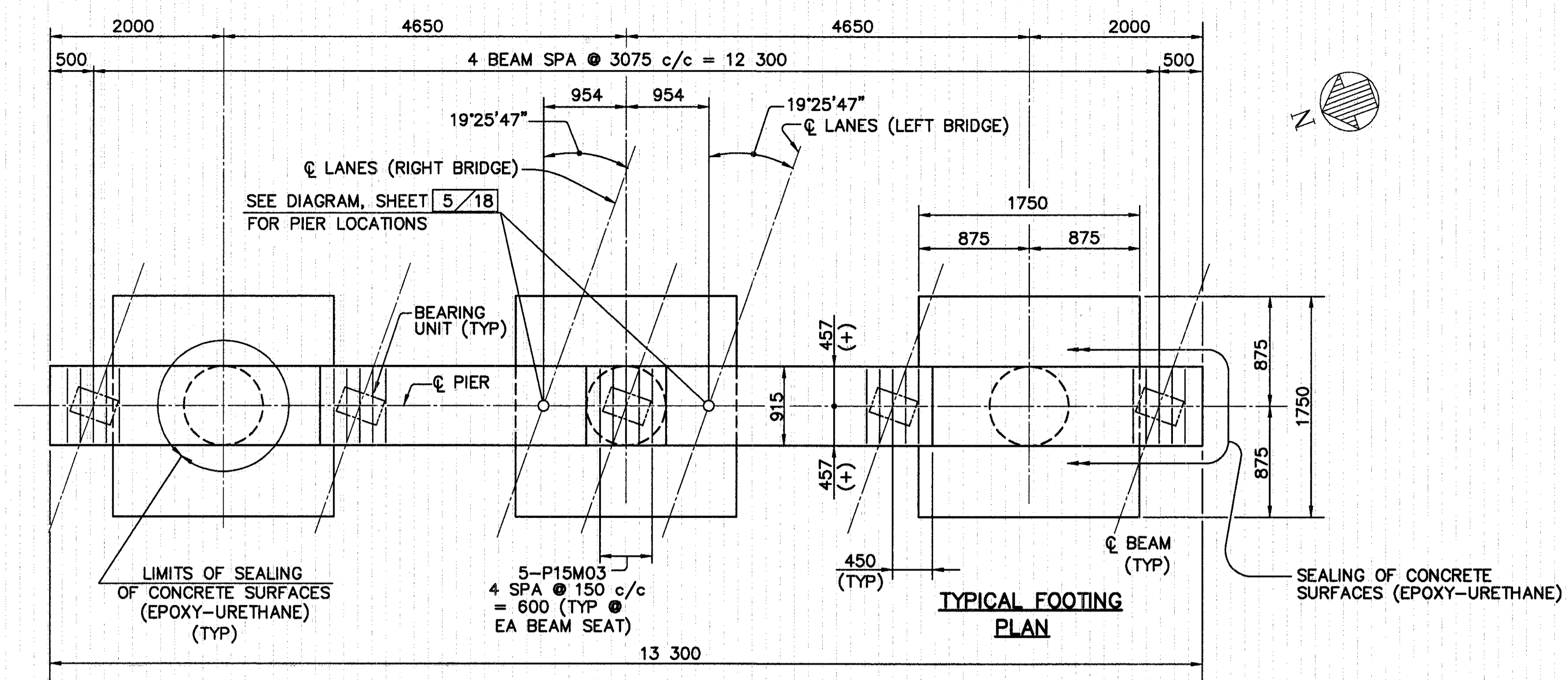
ABUTMENT NOTES:

POROUS BACKFILL WITH FILTER FABRIC, 600 mm THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 300 mm BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

SEE STD. DWG. ICD-1-82M FOR NEOPRENE SHEET PLACEMENT AND DETAILS NOT SHOWN.

FOR BOTTOM OF ABUTMENT ELEVATIONS SEE TABLE OF ABUTMENT ELEVATIONS, SHEETS 6/18 AND 7/18

REINFORCING STEEL CLEARANCES SHALL BE AS PER STANDARD DRAWING ICD-1-82M.

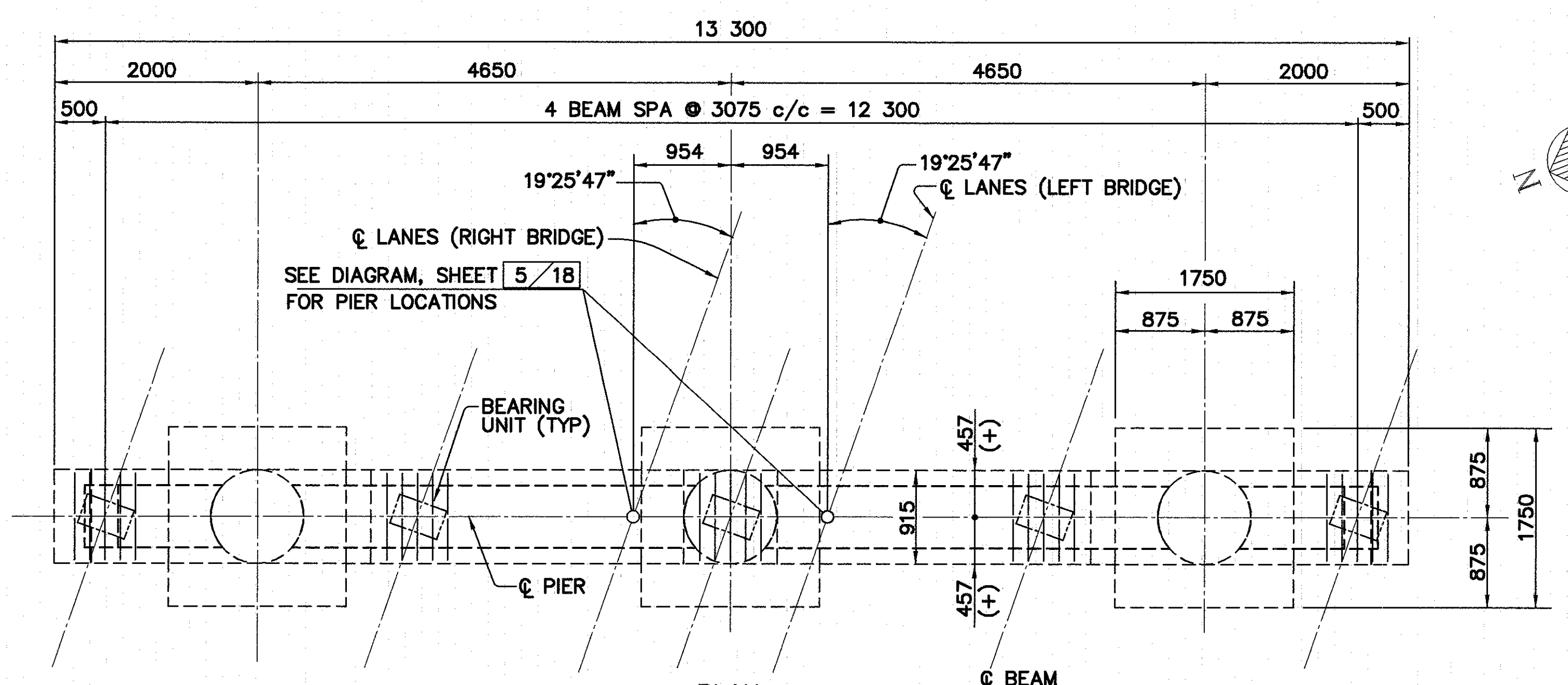


PIER LEGEND:

BOT - BOTTOM
 CJ - CONSTRUCTION JOINT
 CL - CLEAR
 DIA - DIAMETER
 EA - EACH
 EQ - EQUAL
 SPA - SPACES
 TYP - TYPICAL
 RP1 - RIGHT BRIDGE PIER 1
 LP1 - LEFT BRIDGE PIER 1
 LP2 - LEFT BRIDGE PIER 2

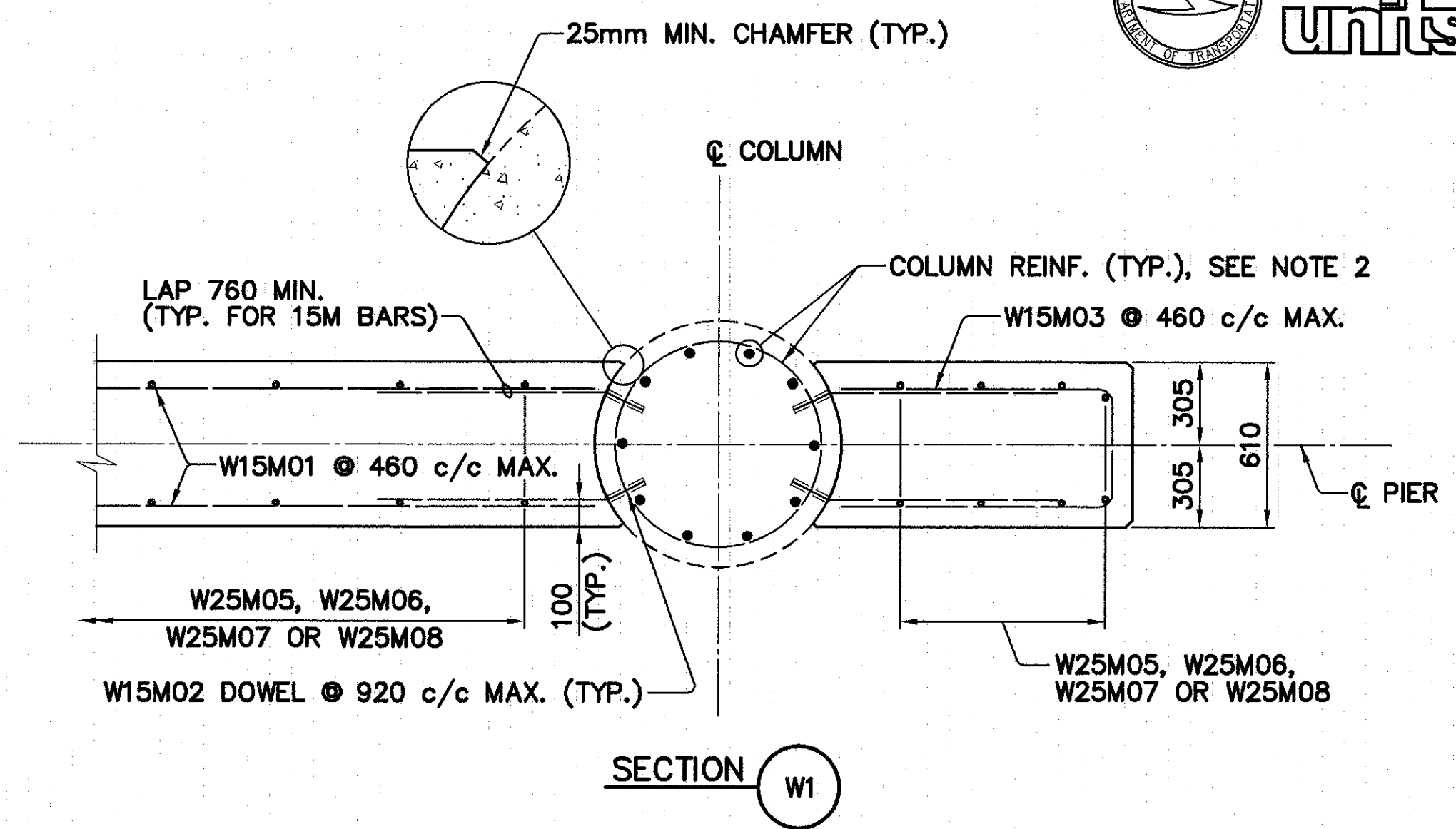
TABLE OF PIER ELEVATIONS

LOCATION	(A)	(B)	(C)	(D)	(E)	(F)	(G)
RIGHT BRIDGE PIER 1 (RP1)	327.650	333.413	334.563	334.575	334.592	334.551	334.483
LEFT BRIDGE PIER 1 (LP1)	327.650	333.184	334.254	334.322	334.390	334.394	334.369
LEFT BRIDGE PIER 2 (LP2)	327.650	333.549	334.619	334.684	334.749	334.770	334.775

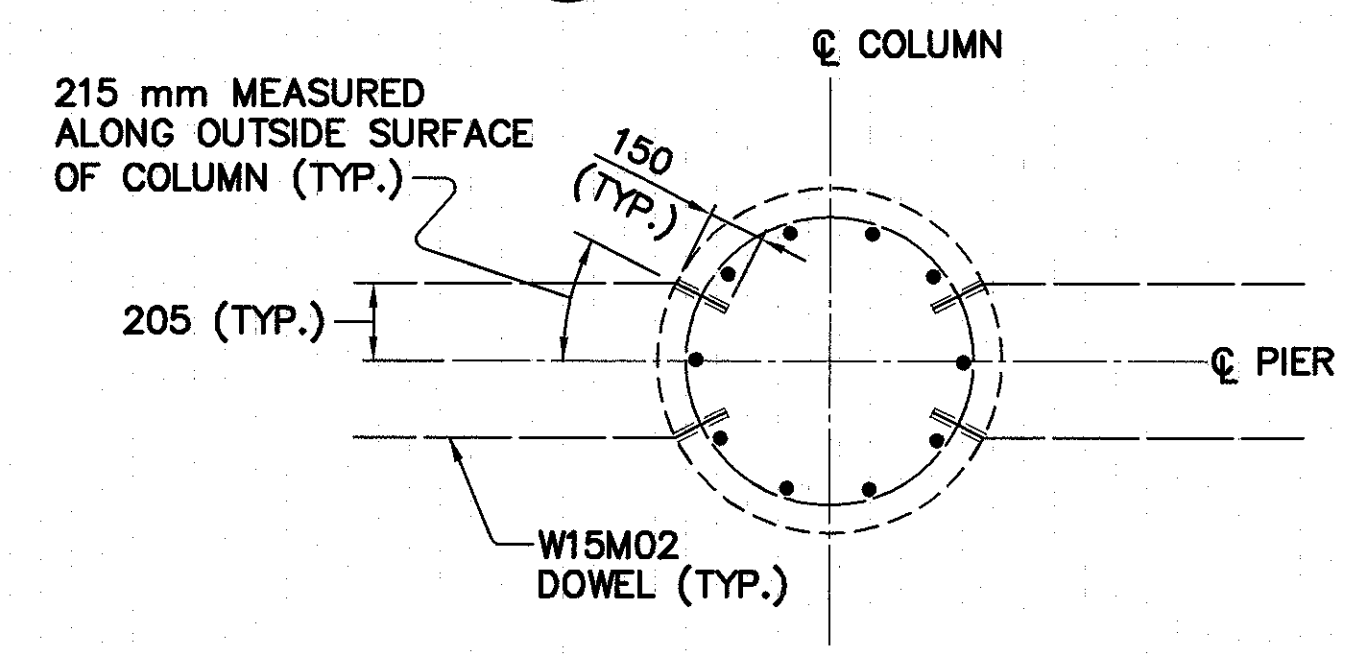


PLAN
 RIGHT BRIDGE - PIER 1
 LEFT BRIDGE - PIER 1
 LEFT BRIDGE - PIER 2

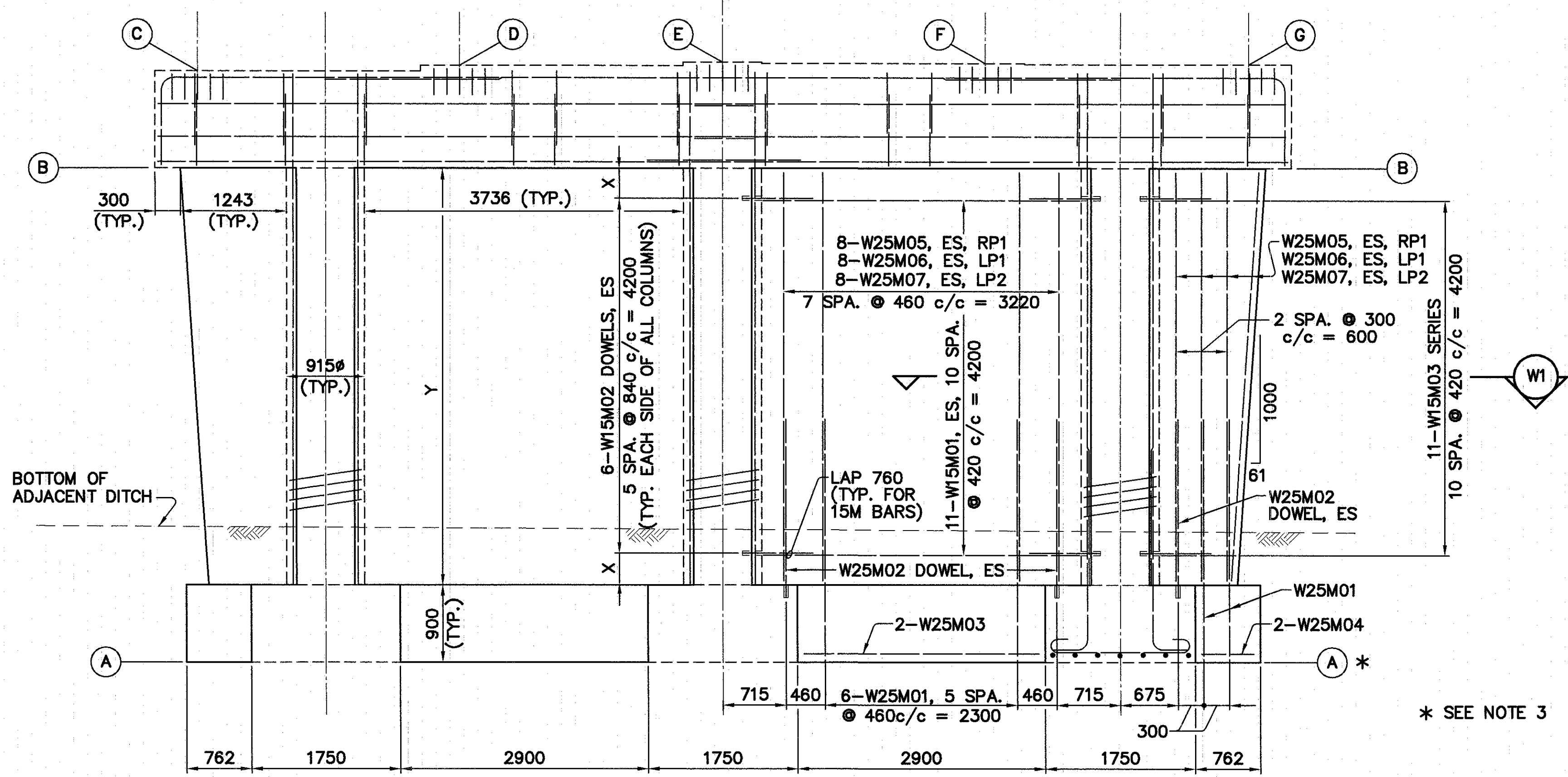
TYPICAL FOOTING PLAN



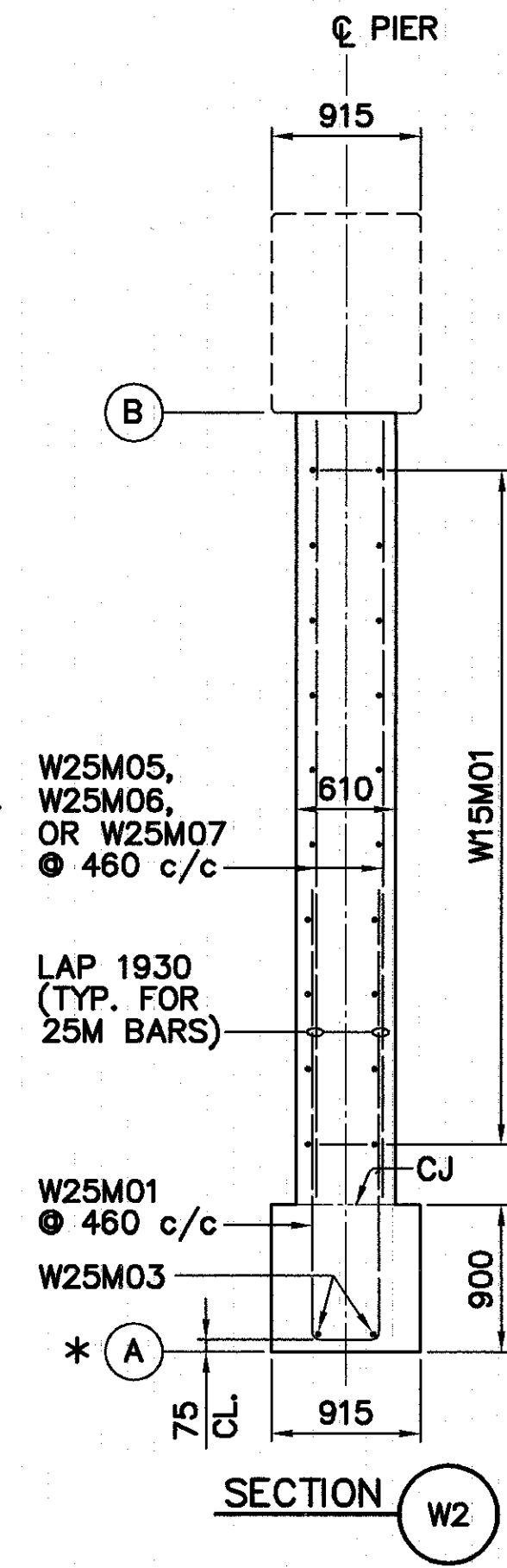
SECTION W1



DOWEL LOCATION DETAIL



ELEVATION
 RIGHT BRIDGE - PIER 1
 LEFT BRIDGE - PIER 1
 LEFT BRIDGE - PIER 2



SECTION W2

LEGEND

- CJ - CONSTRUCTION JOINT
- CL - CLEAR
- ES - EACH SIDE
- EQ - EQUAL
- MAX. - MAXIMUM
- MIN. - MINIMUM
- SPA. - SPACES
- TYP. - TYPICAL
- RP1 - RIGHT BRIDGE PIER 1
- LP1 - LEFT BRIDGE PIER 1
- LP2 - LEFT BRIDGE PIER 2

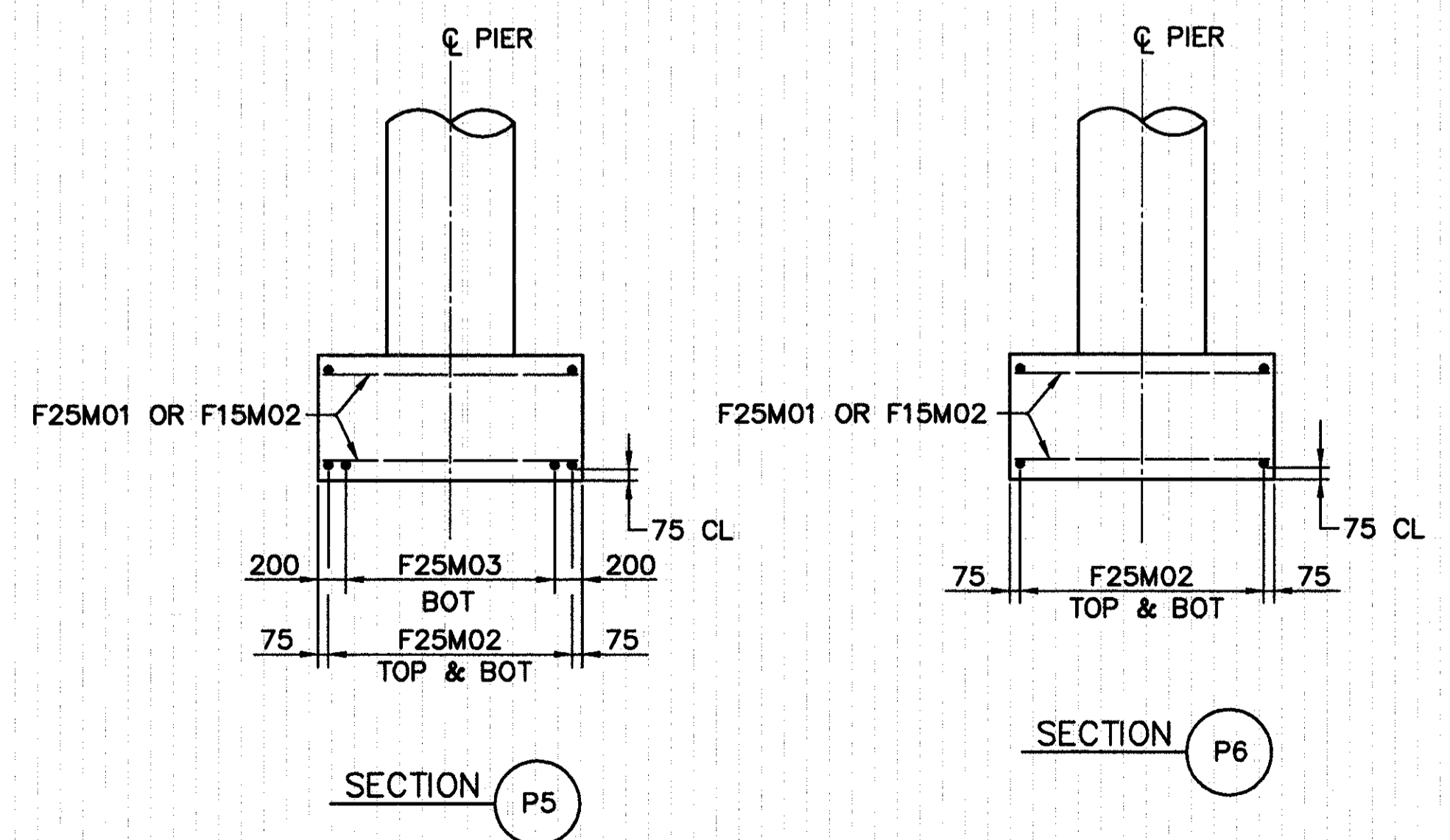
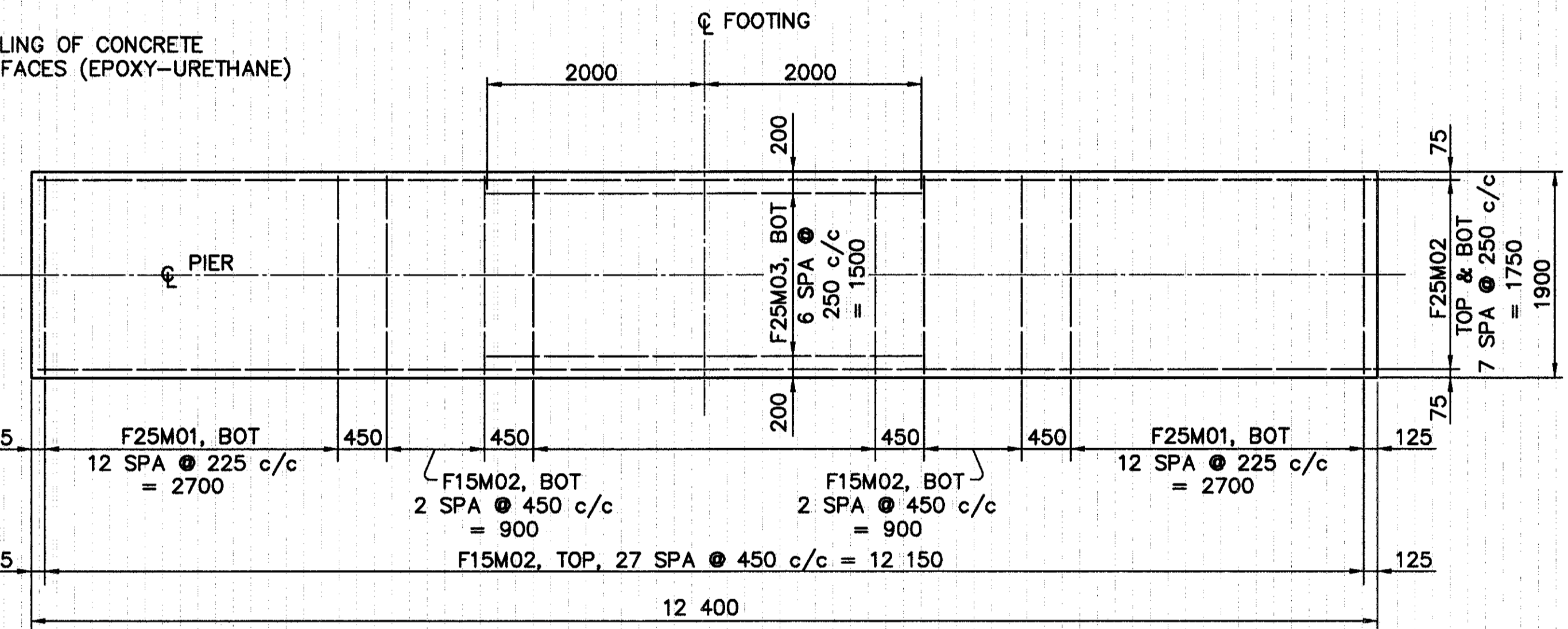
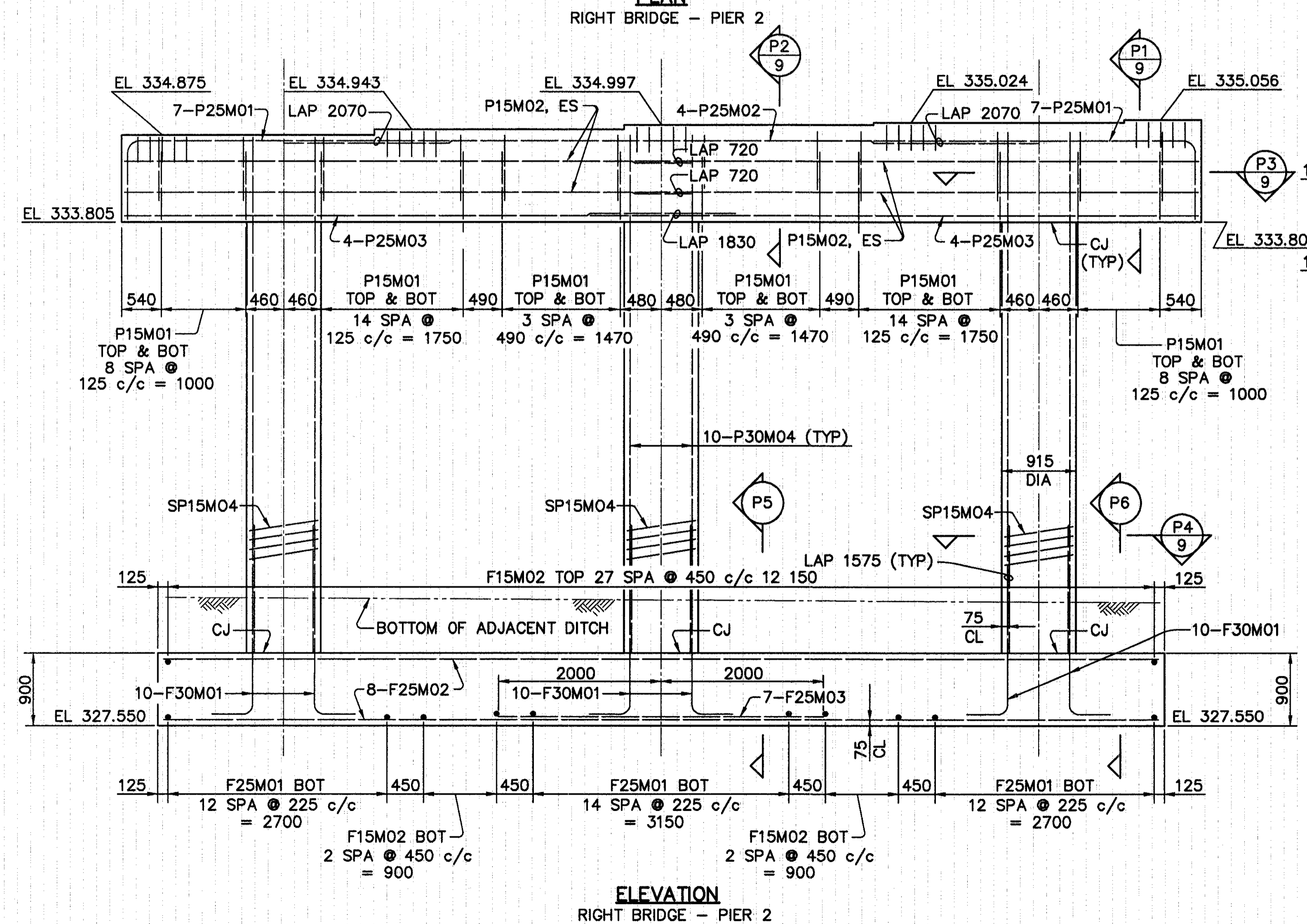
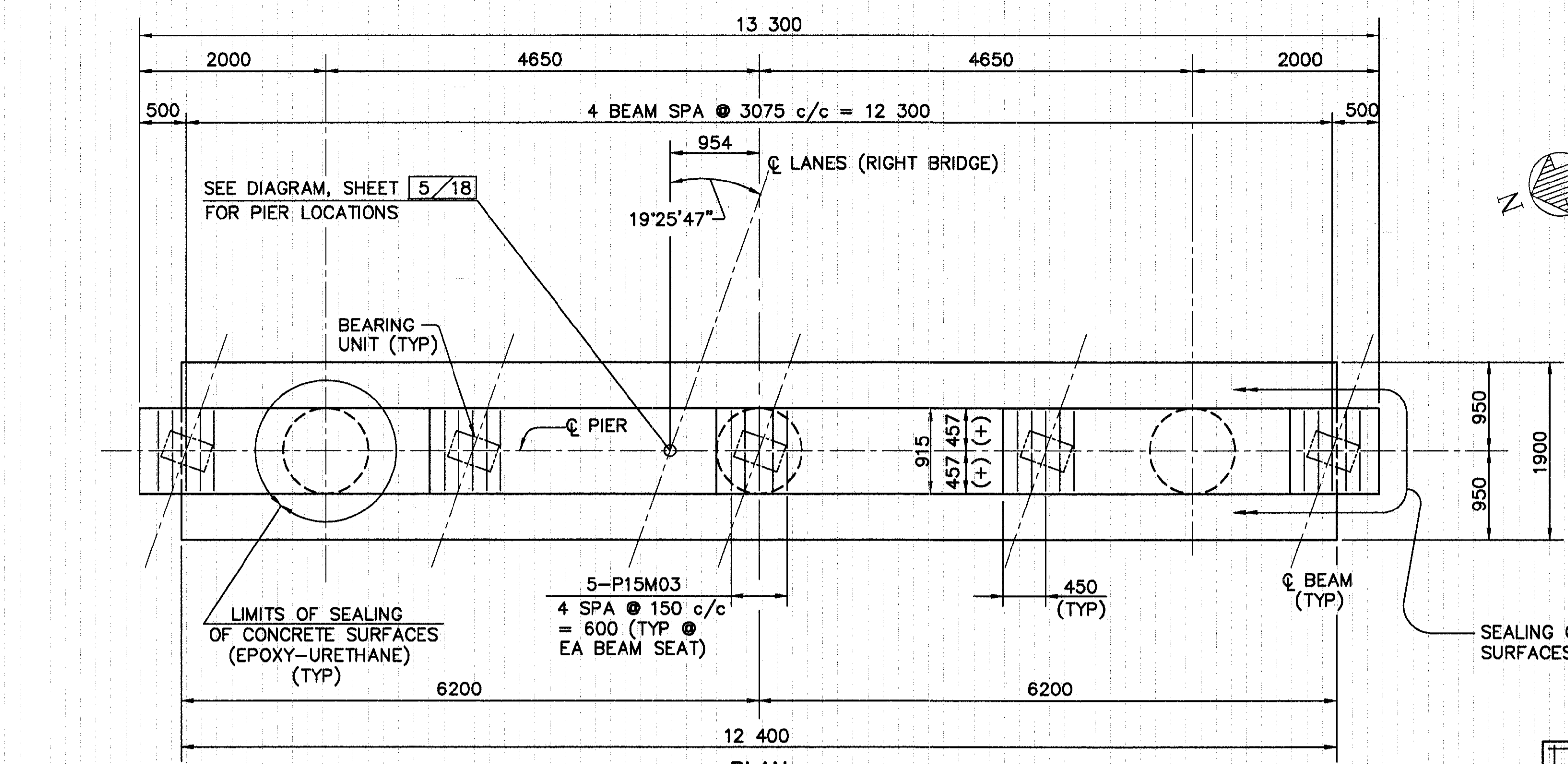
NOTES

1. EXISTING REINFORCING BARS SHALL BE LOCATED PRIOR TO DRILLING DOWEL HOLES. REBARS MAY BE LOCATED USING A PROFOMETER 4 REBAR LOCATOR, OBTAINABLE FROM SDS COMPANY, P.O. BOX 844, PASO ROBLES, CA 93447 OR AN EQUIVALENT DEVICE. DOWEL HOLE LOCATIONS MAY BE ADJUSTED BY 25mm(±) VERTICALLY TO MISS SPIRAL BARS AND BY 25mm(±) CIRCUMFERENTIALLY TO MISS VERTICAL BARS. CIRCUMFERENTIAL ADJUSTMENTS SHALL BE TOWARD THE CENTERLINE OF PIER.
2. CLEAR COVER FOR REINFORCING STEEL SHALL BE 75 mm UNLESS OTHERWISE SHOWN.
3. DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON EXISTING PLAN INFORMATION. PROPOSED FOOTING ELEVATIONS SHALL MATCH EXISTING FOOTING ELEVATIONS. THE CONTRACTOR SHALL FIELD VERIFY FOOTING ELEVATIONS PRIOR TO FABRICATION OF REINFORCING STEEL.
4. FOR REINFORCING STEEL LIST, SEE SHEET 10A/18
5. FOR WALL FINISH DETAILS, SEE SHEET 10B/18

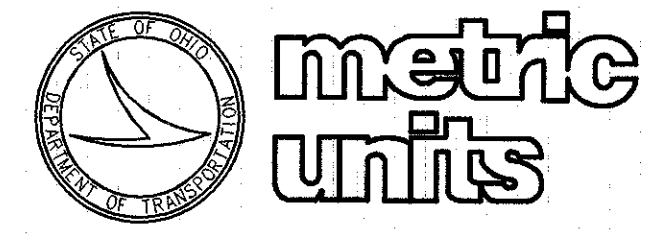
TABLE OF PIER ELEVATIONS & DIMENSIONS

LOCATION	A	B	C	D	E	F	G	DIM. X	DIM. Y
RIGHT BRIDGE PIER 1 (RP1)	327.650	333.413	334.563	334.575	334.592	334.551	334.483	332(±)	4863
LEFT BRIDGE PIER 1 (LP1)	327.650	333.184	334.254	334.322	334.390	334.394	334.369	217(±)	4634
LEFT BRIDGE PIER 2 (LP2)	327.650	333.549	334.619	334.684	334.749	334.770	334.775	400(±)	4999

* SEE NOTE 3



FOR PIER LEGEND, SEE SHEET 9/18
FOR SECTIONS P1, P2 AND P3, SEE SHEET 9/18



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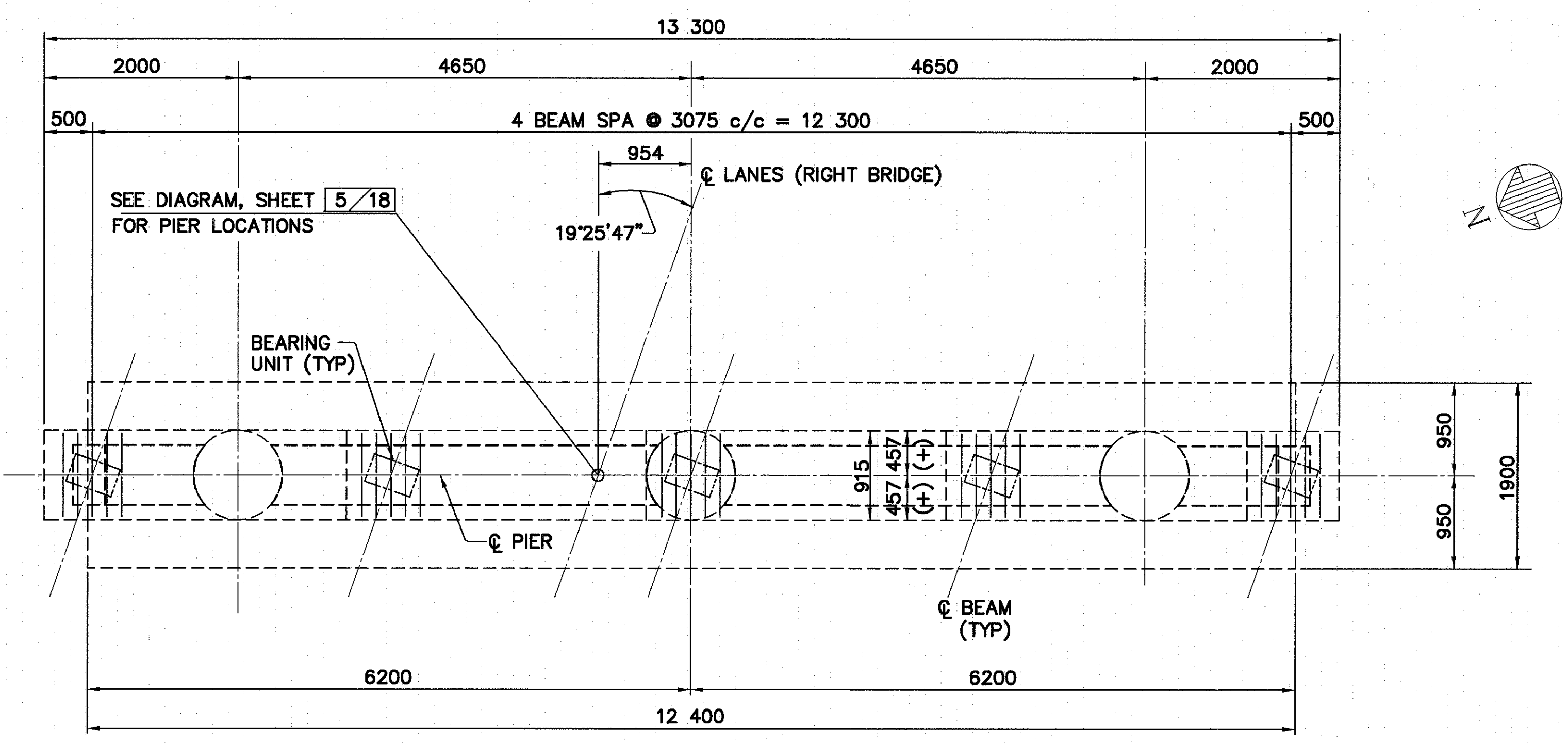
DESIGNED BY: C.W.M.
DRAWN BY: P.A.T.
REVIEWED BY: J.W.B.
DATE: 05/11/00
STRUCTURE FILE NUMBER: 7603738 L & 7603746 R

PIER RETROFIT DETAILS
BRIDGE No. STA-30-28607 L&R
U.S. 30 OVER MARIETTA AVENUE

STA-30-27.696

10A/18

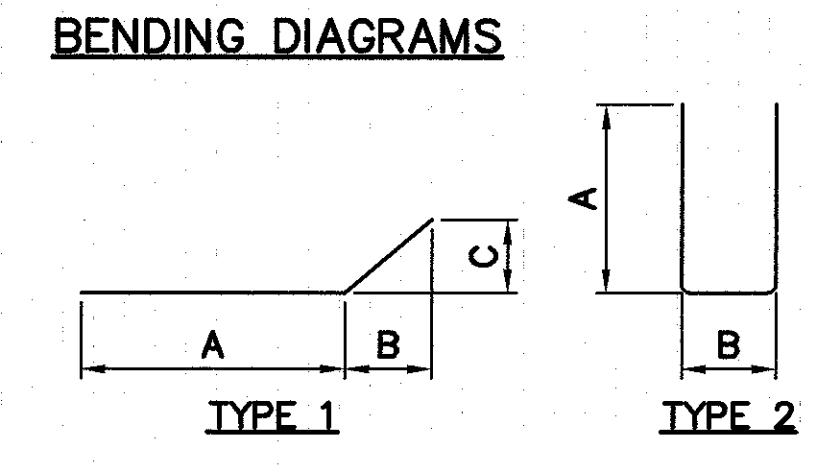
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PLAN
RIGHT BRIDGE - PIER 2

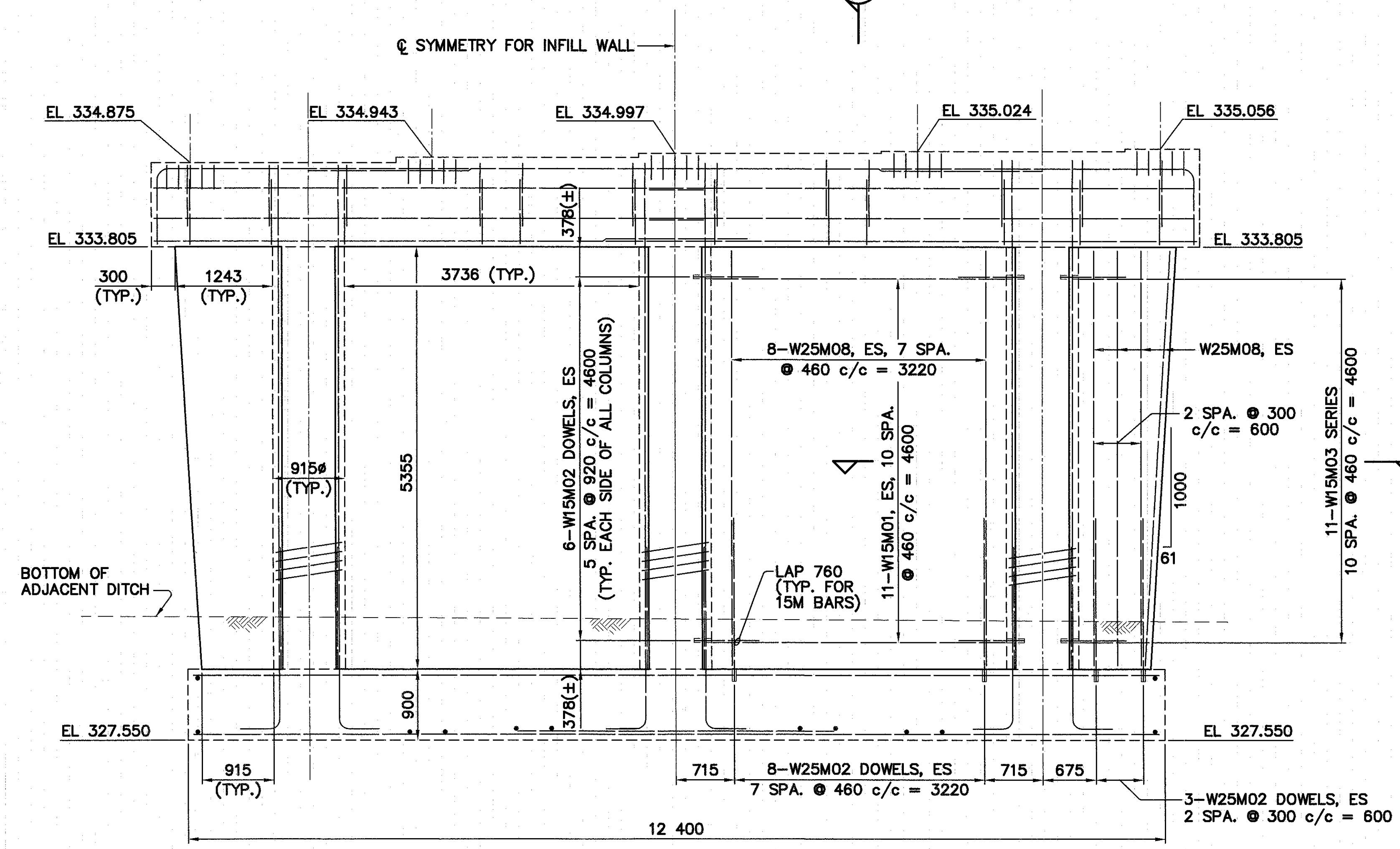
REINFORCING STEEL LIST - INFILL WALLS

MARK	NUMBER	LENGTH	WEIGHT	TYPE	A	B	C	NOTE
W15M01	176	3750	1024	STR				
W15M02	288	1000	447	1	850	135	65	
	4	2180			900			
W15M03	SERIES OF		166	2		460		DIM. A VARIES BY 25 mm
	11	2680			1150			
W25M01	48	5850	1116	2	2760	460		
W25M02	80	2080	661	STR				
W25M03	12	2800	133	STR				
W25M04	12	660	31	STR				
W25M05	48	4760	908	STR				
W25M06	48	4530	864	STR				
W25M07	48	4900	934	STR				
W25M08	48	5250	1001	STR				
TOTAL:			7285 KILOGRAM					

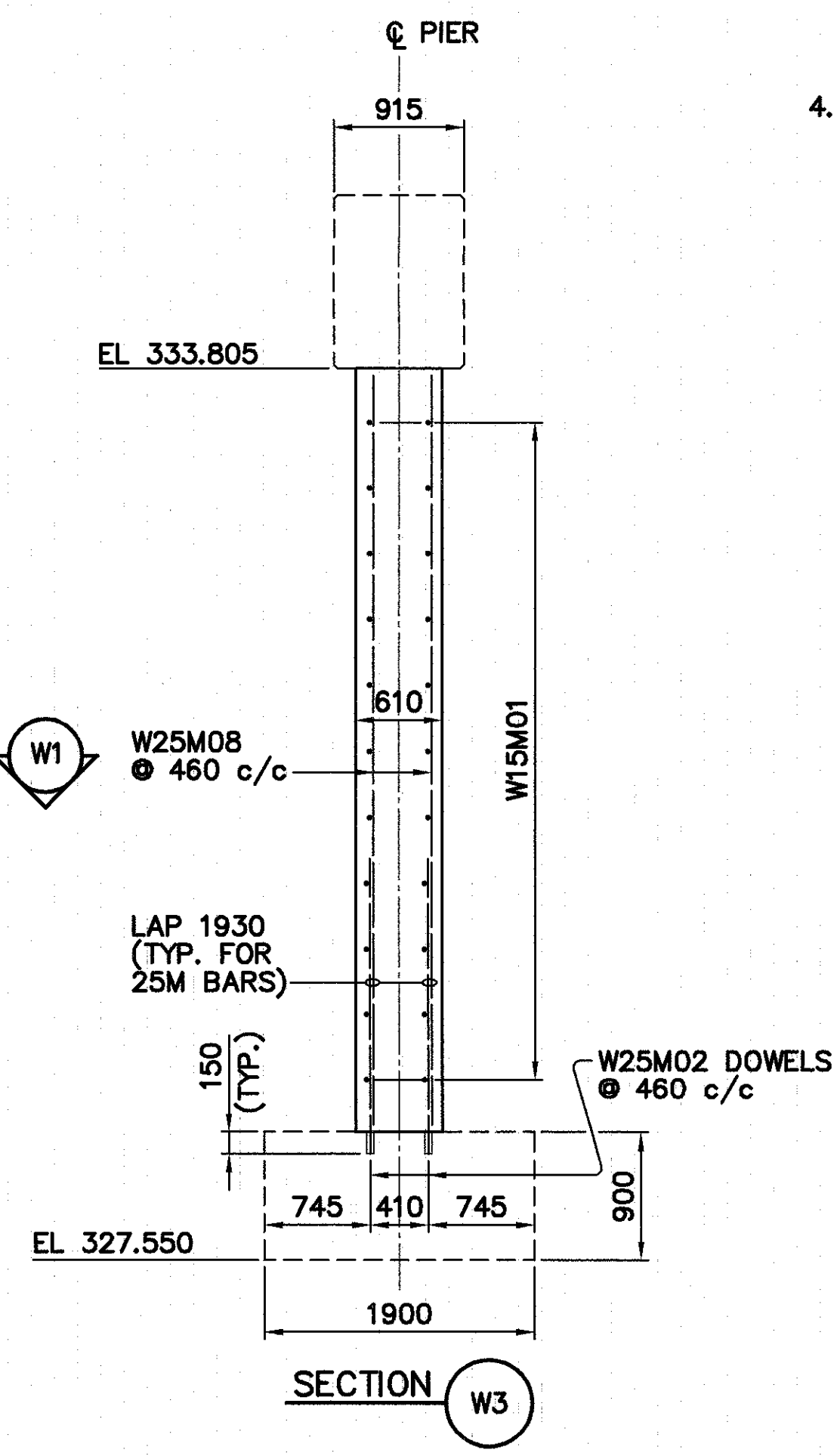


REINFORCING STEEL NOTES

1. ALL DIMENSIONS ARE OUT TO OUT.
2. TYPE 'STR' INDICATES A STRAIGHT BAR.
3. THE BAR SIZE NUMBER IS SPECIFIED IN THE 'MARK' COLUMN. THE FIRST TWO DIGITS INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, W15M01 IS A 15M BAR SIZE.
4. ALL BARS SHALL BE EPOXY COATED UNLESS NOTED OTHERWISE.

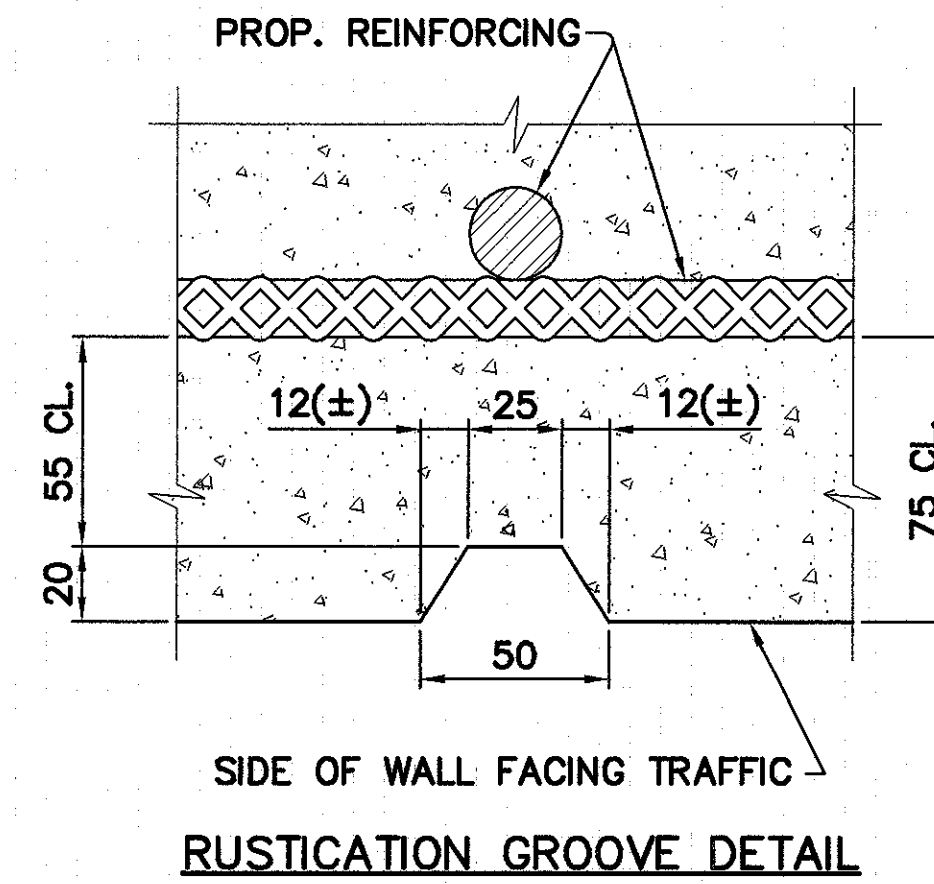
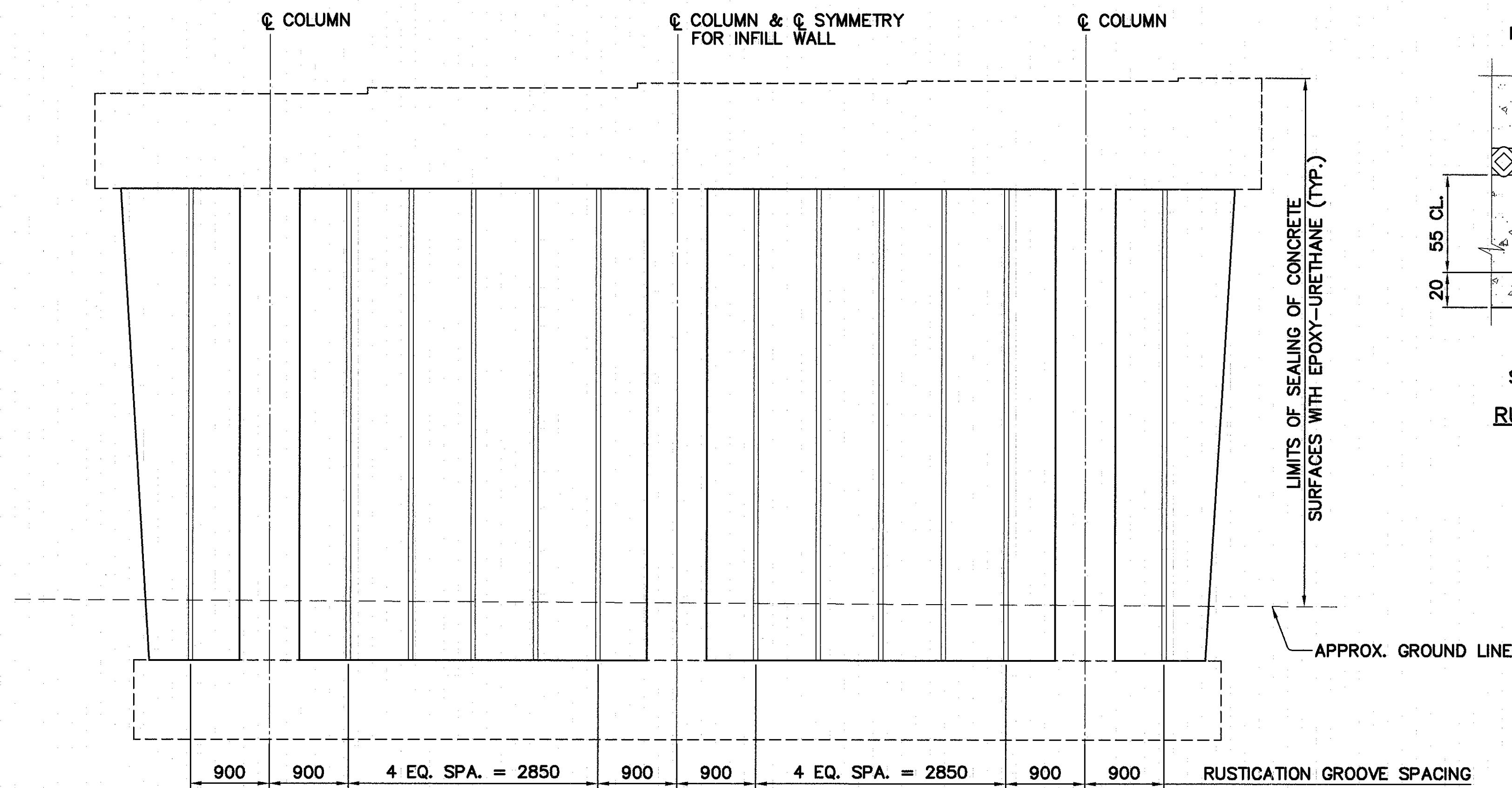


ELEVATION
RIGHT BRIDGE - PIER 2



SECTION W1

FOR LEGEND AND NOTES, SEE SHEET 9A/18
FOR SECTION W1, SEE SHEET 9A/18


ESTIMATED QUANTITIES - INFILL WALLS

ITEM	TOTAL	UNIT	DESCRIPTION
503	36	CU. M.	UNCLASSIFIED EXCAVATION
503	LUMP		COFFERDAMS, CRIBS AND SHEETING
509	7285	KG	EPOXY COATED REINFORCING STEEL, GRADE 400
510	368	EACH	DOWEL HOLES WITH NONSHRINK NONMETALLIC GROUT, 705.20
511	135	CU. M.	CLASS S CONCRETE, AS PER PLAN
516	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN
614	LUMP		MAINTAINING TRAFFIC
SPECIAL	639	SQ. M.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
SPECIAL	LUMP		CONCRETE REPAIR BY EPOXY INJECTION (SEE PROPOSAL NOTE)

NOTES

IT IS VITAL THAT THE INFILL WALL BE IN INTIMATE CONTACT WITH THE BOTTOM OF THE EXISTING PIER CAP. TO ASSURE THAT THIS CONDITION IS ATTAINED, PROVIDE A GAP OF APPROXIMATELY 25 mm BETWEEN THE BOTTOM OF CAP AND TOP OF WALL. AFTER THE CONCRETE HAS CURED, THE GAP SHALL BE PRESSURE GROUTED UTILIZING A NONSHRINK NONMETALLIC GROUT MEETING THE REQUIREMENTS OF 705.20 OR APPROVED EQUAL. COST OF ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO GROUT THE GAP SHALL BE INCLUDED IN THE COST OF ITEM 511, CLASS S CONCRETE.

FOUNDATION BEARING PRESSURE (AS MODIFIED BY RETROFIT): FOR THE LEFT BRIDGE PIER 1, LEFT BRIDGE PIER 2, AND RIGHT BRIDGE PIER 1 FOOTINGS AS MODIFIED BY THE PIER RETROFIT TO INCLUDE AN INFILL WALL PRODUCE A MAXIMUM BEARING PRESSURE OF 710 kPa. THE ALLOWABLE BEARING PRESSURE IS 958 kPa. FOR THE RIGHT BRIDGE PIER 2, THE FOOTING PRODUCES A MAXIMUM BEARING PRESSURE, INCLUDING THE ADDITION OF THE INFILL WALL, OF 220 kPa. THE ALLOWABLE BEARING PRESSURE IS 287 kPa.

NONSHRINK NONMETALLIC GROUT FOR DOWELS SHALL MEET THE REQUIREMENTS OF CMS SECTION 705.20.

EPOXY INJECTION OF EXISTING CRACKS: AFTER THE INFILL WALL CONSTRUCTION IS COMPLETE, INCLUDING GROUTING THE GAP BETWEEN THE TOP OF WALL AND BOTTOM OF EXISTING CAP, THE EXISTING CRACKS IN THE PIER CAP SHALL BE SEALED BY EPOXY INJECTION. IN ADDITION, THE INTERFACE BETWEEN THE EXISTING COLUMNS AND THE INFILL WALL SHALL BE INSPECTED FOR SHRINKAGE CRACKS AND EPOXY INJECTED AS DIRECTED BY THE ENGINEER. ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO EPOXY INJECT THE CRACKS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM SPECIAL - CONCRETE REPAIR BY EPOXY INJECTION.

FORMWORK FOR THE REINFORCED CONCRETE INFILL WALL SHALL NOT BE REMOVED FOR A MINIMUM OF SEVEN (7) DAYS AFTER THE CONCRETE HAS BEEN PLACED.

CONCRETE FOR THE INFILL WALLS SHALL BE CLASS S USING NO. 8 COARSE AGGREGATE.

RESTORATION OF ABUTMENT SLOPES AFTER COMPLETION OF PIER RETROFIT WORK SHALL BE CONSIDERED AS INCIDENTAL TO THE RETROFIT OPERATIONS AND INCLUDED IN THE UNIT PRICE BID FOR ITEM 503 - UNCLASSIFIED EXCAVATION.

MAINTENANCE OF TRAFFIC: UNLESS OTHERWISE RESCINDED BY THE ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TWO-WAY TRAFFIC ON MARIETTA AVENUE AT ALL TIMES DURING THE PIER RETROFIT CONSTRUCTION OPERATIONS, INCLUDING JACKING AND SHORING OF THE SUPERSTRUCTURE TO RELIEVE LOAD ON THE PIER CAP. COST OF ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO MAINTAIN TRAFFIC SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO RAISE THE SUPERSTRUCTURE AT THE PIER BEARINGS SUFFICIENTLY TO REMOVE THE SUPERSTRUCTURE DEAD LOAD FROM THE PIER CAP. THE PERMISSIBLE LIFT SHALL NOT EXCEED 6 mm.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS NECESSARY TO RAISE THE SUPERSTRUCTURE. THREE (3) SETS OF JACKING PLANS, WHICH INCLUDE THE INFORMATION DESCRIBED IN THIS NOTE, SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. THE PLANS SHALL BE PREPARED AND STAMPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE OHIO REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
2. CALCULATIONS AND ANALYSES OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE CONTRACTOR'S SELECTED JACKING POINTS.
3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL JACKS FOR EACH PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH PIER SHALL BE THE SAME SIZE.
5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.

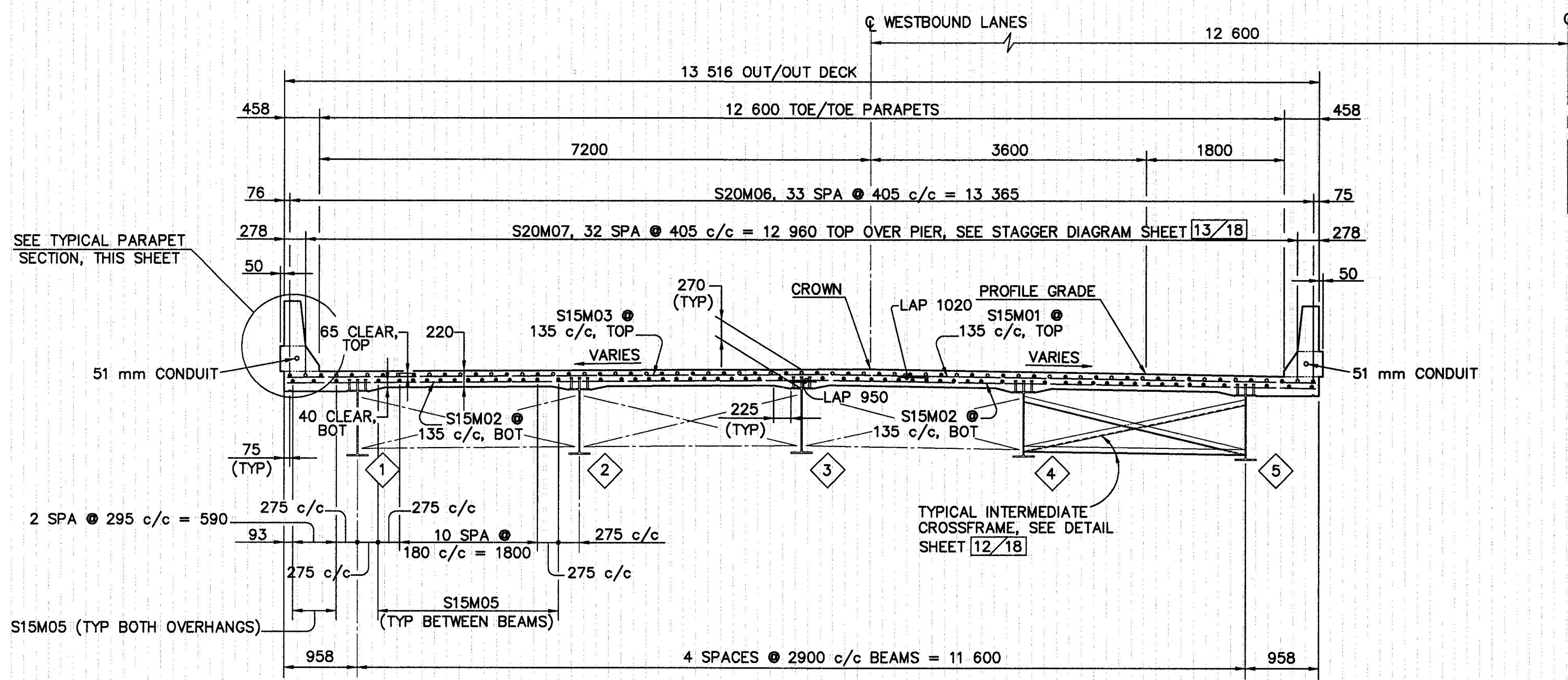
IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISIBLY OBSERVED, THE JACKING OPERATION SHALL IMMEDIATELY CEASE AND APPROVED SUPPORTS SHALL BE INSTALLED. THE CONTRACTOR SHALL THEN ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. ANY BEAMS THAT SEPARATE FROM THE DECK SHALL BE EPOXY INJECTED FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH ODOT'S PROPOSAL NOTE "CONCRETE REPAIR BY EPOXY INJECTION". COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS SHALL BE BORNE BY THE CONTRACTOR.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT THE BRIDGE BEARINGS ARE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, A SUITABLE MEANS OF REPAIR, SUBJECT TO THE ENGINEER'S APPROVAL, WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

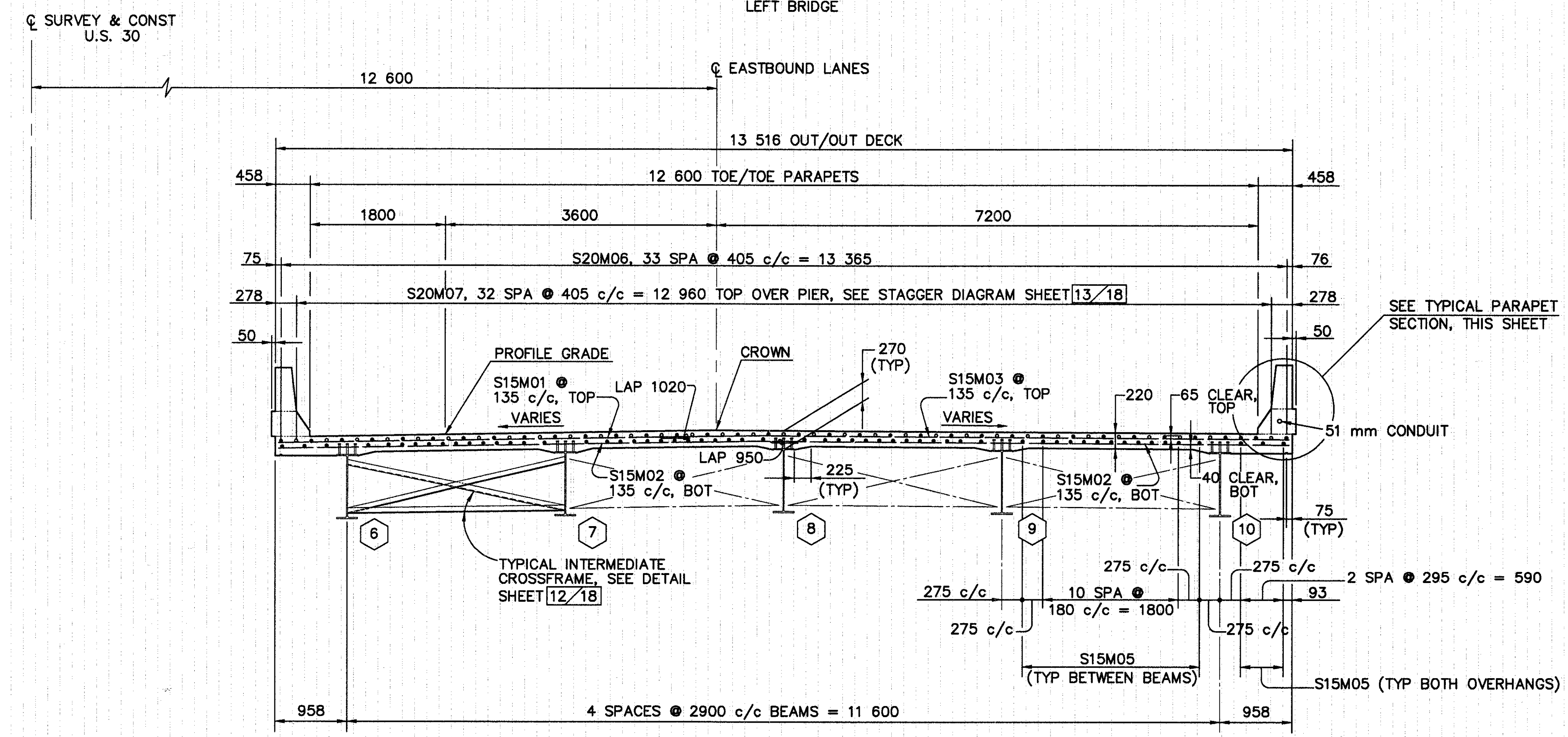
PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN. THIS SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

SUGGESTED SEQUENCE OF PIER RETROFIT CONSTRUCTION OPERATIONS:

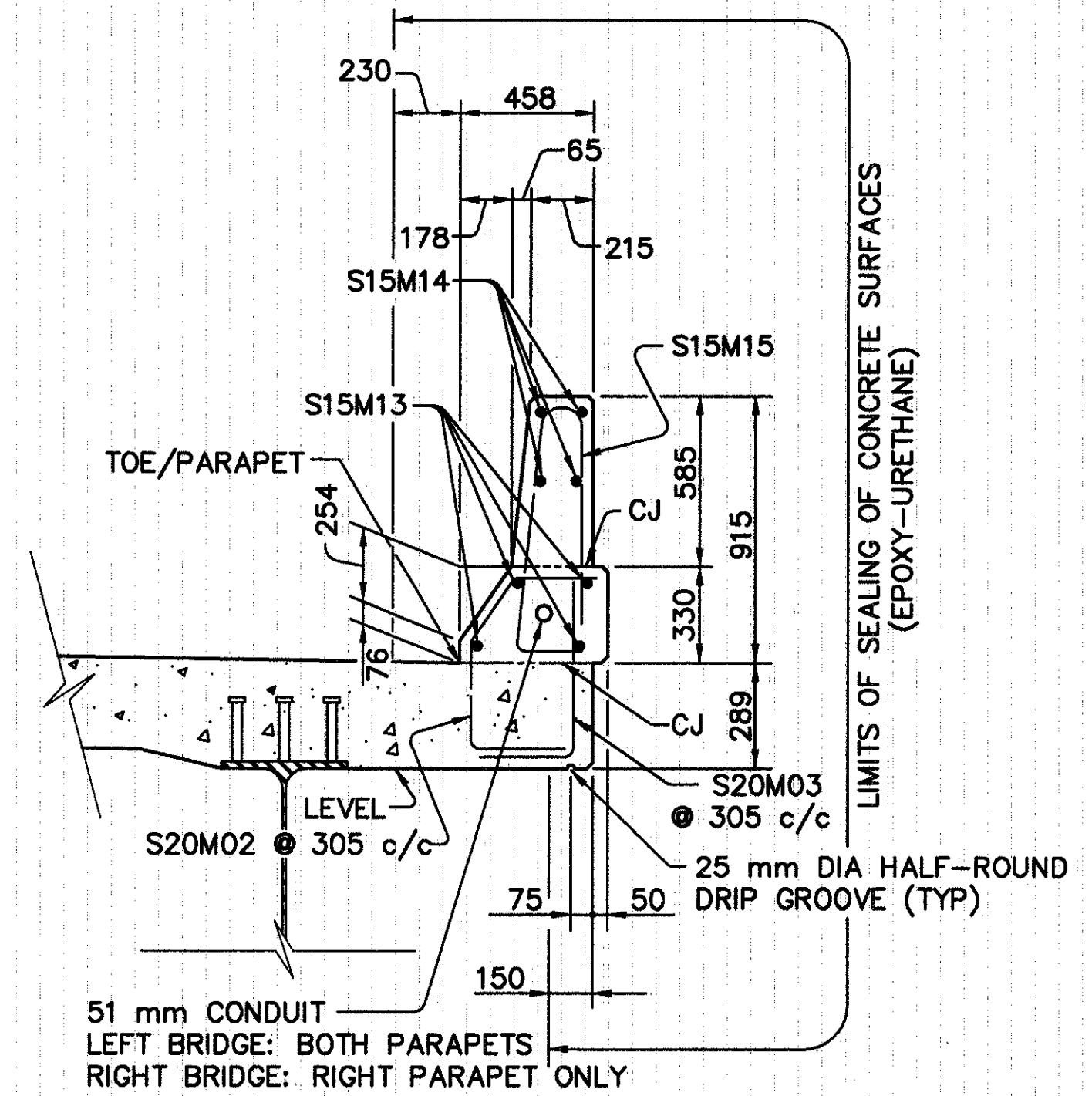
- INSTALL NECESSARY MAINTENANCE OF TRAFFIC DEVICES TO ASSURE TRAFFIC AND WORKER SAFETY.
- EXCAVATE FOR AND CONSTRUCT NEW FOOTING ELEMENTS FOR BOTH LEFT BRIDGE PIERS AND PIER 1 RIGHT BRIDGE.
- REMOVE OVERBURDEN AT RIGHT BRIDGE PIER 2 TO EXPOSE TOP OF FOOTING.
- LOCATE AND INSTALL DOWELS IN COLUMNS AND FOOTING AS SHOWN IN THE PLANS AT ALL PIERS.
- SET WALL REINFORCING.
- INSTALL WALL FORMWORK AND PLACE WALL CONCRETE TO WITHIN APPROXIMATELY 25mm OF BOTTOM OF EXISTING CAP.
- ALLOW WALL CONCRETE TO CURE FOR A MINIMUM OF SEVEN (7) DAYS.
- INSTALL JACKING SYSTEM TO RAISE SUPERSTRUCTURE AT PIERS TO RELIEVE SUPERSTRUCTURE DEAD LOAD.
- AFTER THE CONCRETE IS CURED SUFFICIENTLY AND LOAD IS REMOVED FROM THE PIER CAPS, PRESSURE GROUT THE GAP AT THE TOP OF WALL TO PROVIDE INTIMATE CONTACT WITH THE PIER CAP.
- SEAL EXISTING CRACKS IN THE PIER CAPS BY EPOXY INJECTION.
- MAINTAIN JACKING A MINIMUM OF SEVEN (7) DAYS AFTER GROUTING.
- SEAL ALL EXPOSED CONCRETE SURFACES, EXCEPT TOP OF PIER CAPS, WITH EPOXY-URETHANE SEALING SYSTEM.
- RESTORE ABUTMENT SLOPES, SHOULDER SLOPES, AND DITCH.



TRANSVERSE SECTION
LEFT BRIDGE



TRANSVERSE SECTION
RIGHT BRIDGE



TYPICAL PARAPET SECTION

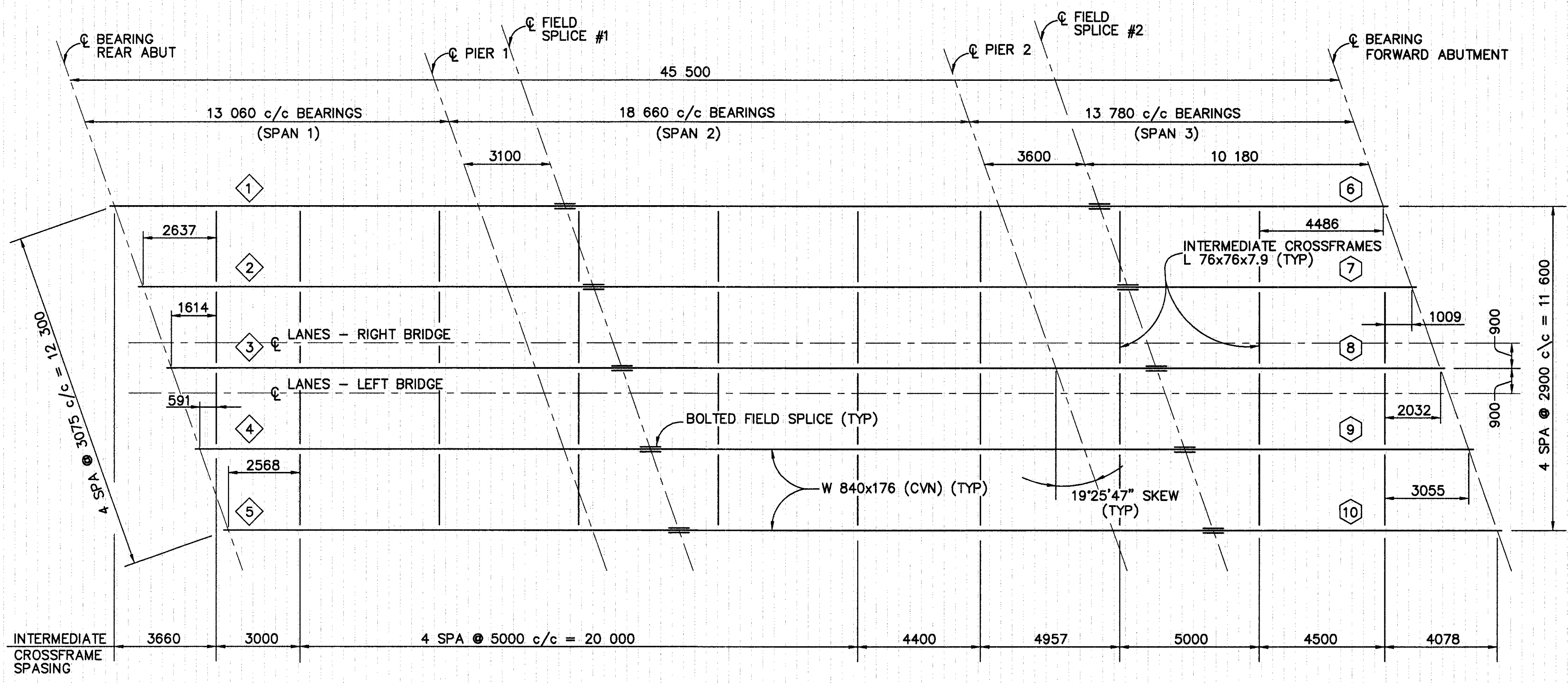
SUPERSTRUCTURE NOTES:

1. DECK SLAB DEPTH: THE DISTANCE SHOWN FROM TOP OF DECK SLAB TO TOP OF STEEL BEAM IS THE THEORETICAL DESIGN DIMENSION INCLUDING THE DESIGN HAUNCH THICKNESS OF 50 mm. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE.
2. A HAUNCH WIDTH OF 225 mm SHALL BE USED FOR COMPUTING THE QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 150 mm AND 300 mm.
3. EACH RUN OF LONGITUDINAL DECK REINFORCING FOR BOTH LEFT AND RIGHT BRIDGES SHALL BE COMPRISED OF THE FOLLOWING:
 TOP BARS: 5-S20M06, MINIMUM LAP 710 mm
 BOTTOM BARS: 4-S15M05, MINIMUM LAP = 950 mm
4. EACH RUN OF LONGITUDINAL PARAPET REINFORCING FOR BOTH LEFT AND RIGHT BRIDGES SHALL BE COMPRISED OF THE FOLLOWING:
 4-S15M13, MINIMUM LAP = 580 mm
 4-S15M14, MINIMUM LAP = 1020 mm

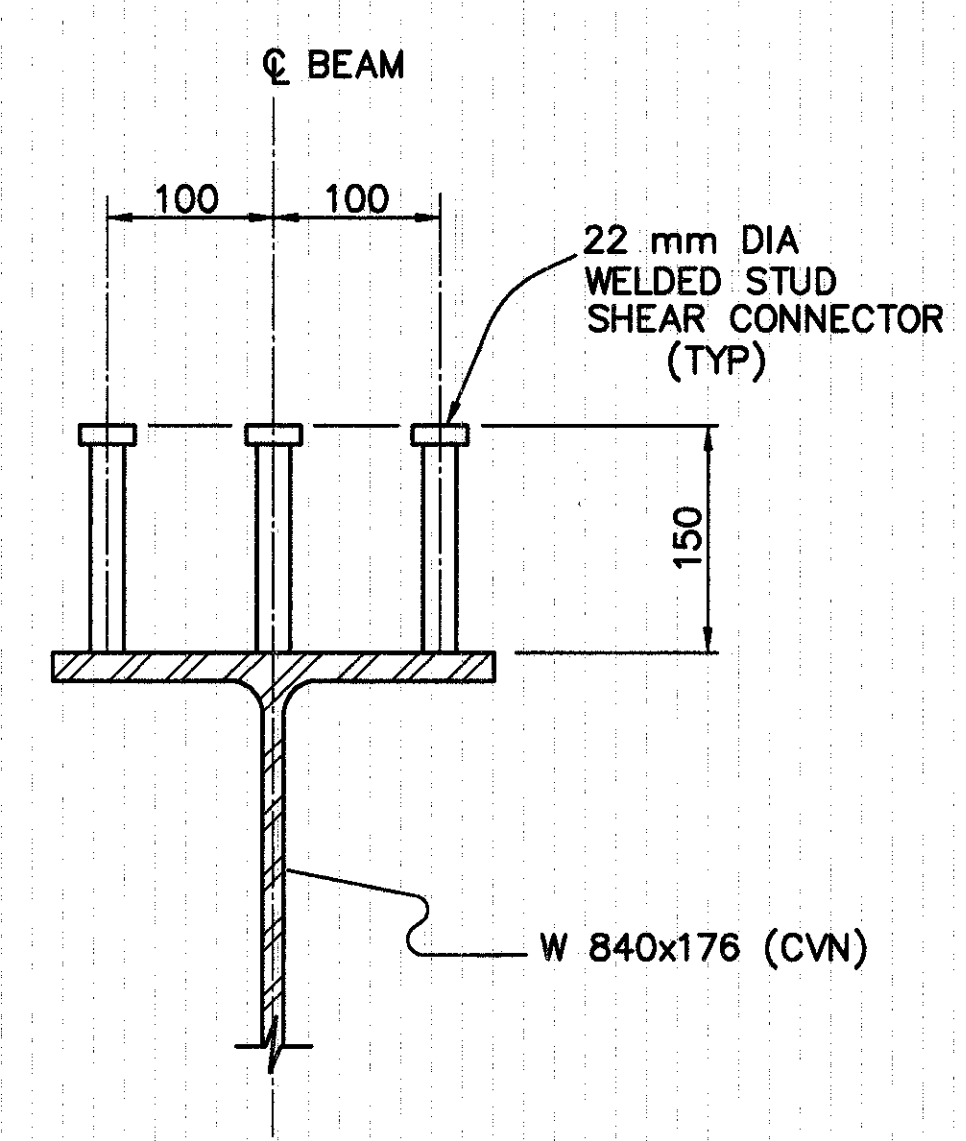
SUPERSTRUCTURE LEGEND:

- ABUT - ABUTMENT
- ALT - ALTERNATE
- BOT - BOTTOM
- BRG - BEARING
- CJ - CONSTRUCTION JOINT
- CJP - WELD SHALL HAVE COMPLETE JOINT PENETRATION
- CVN - MATERIAL SHALL MEET MINIMUM NOTCH TOUGHNESS REQUIREMENTS
- DIA - DIAMETER
- FWD - FORWARD
- HS - HIGH STRENGTH
- HORIZ - HORIZONTAL
- SPA - SPACES
- TYP - TYPICAL
- VERT - VERTICAL

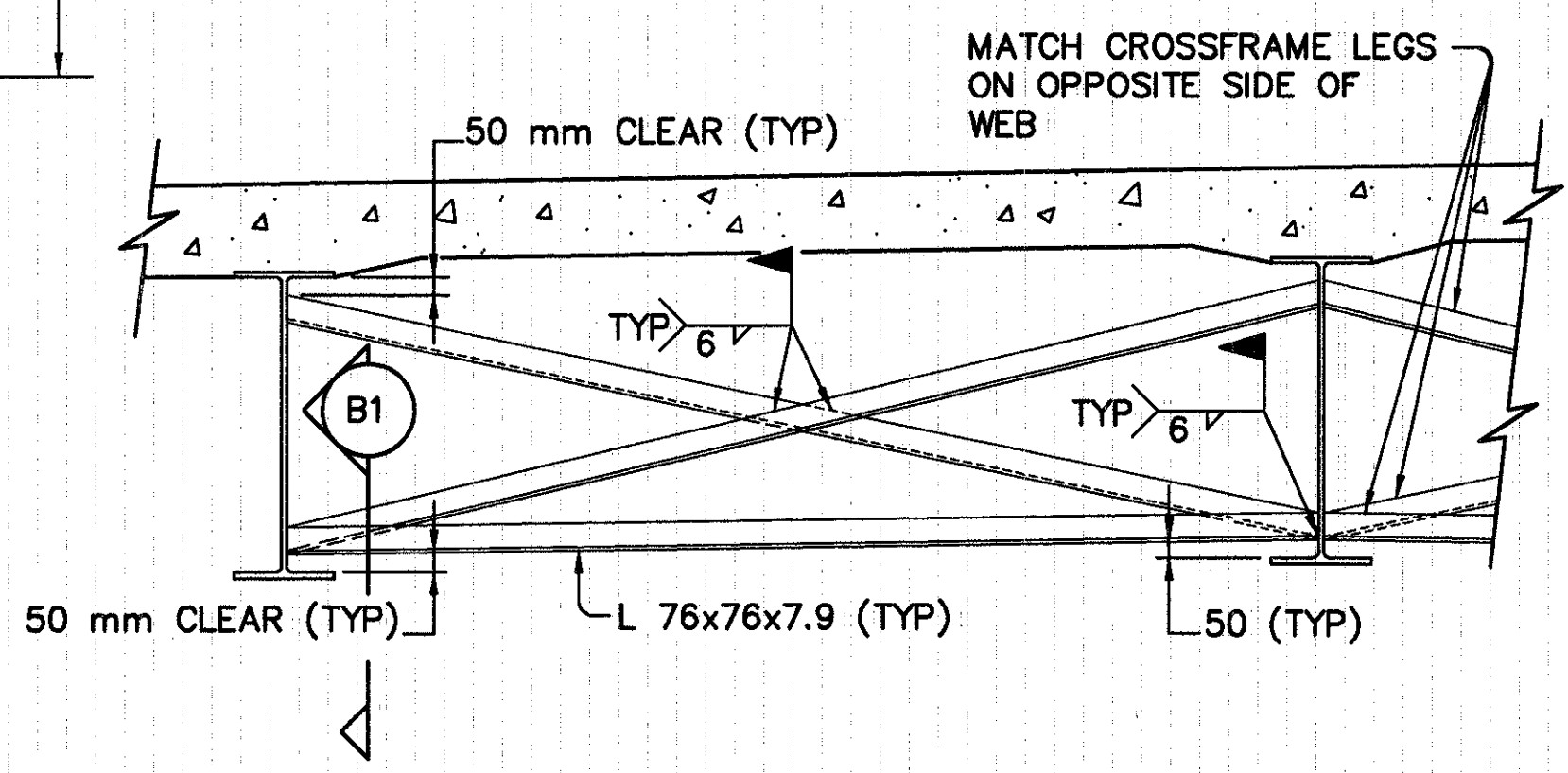
- ◇ 1 - LEFT BRIDGE - BEAM NUMBER
- ◇ 6 - RIGHT BRIDGE - BEAM NUMBER



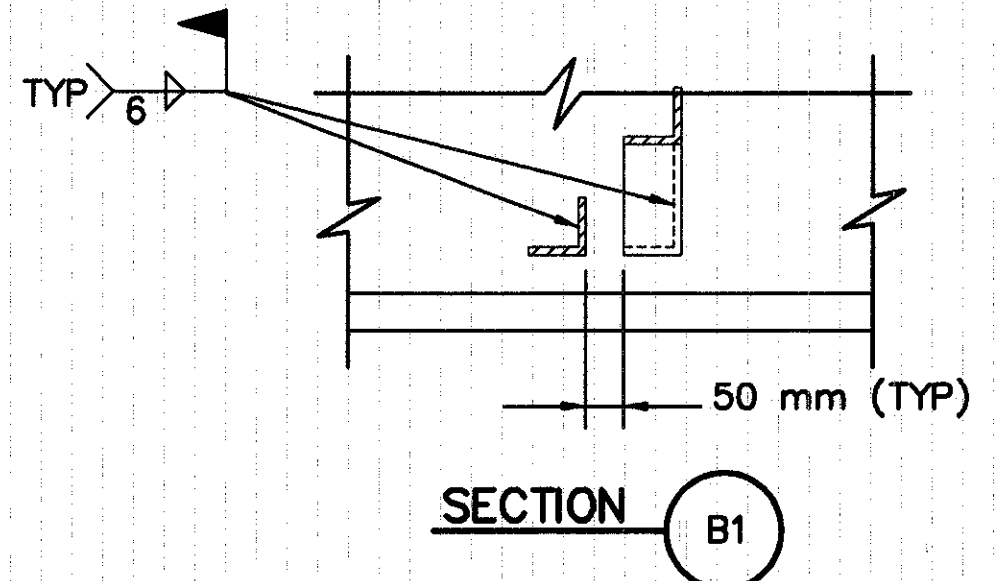
FRAMING PLAN
TYPICAL LEFT AND RIGHT BRIDGES



TYPICAL BEAM SECTION



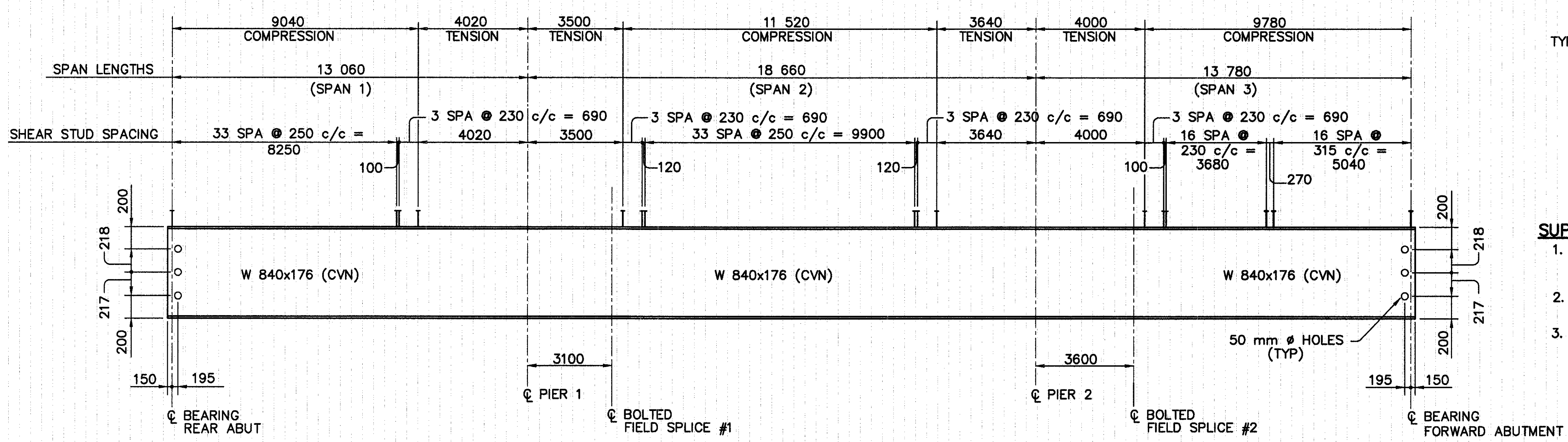
TYPICAL INTERMEDIATE CROSSFRAME DETAIL



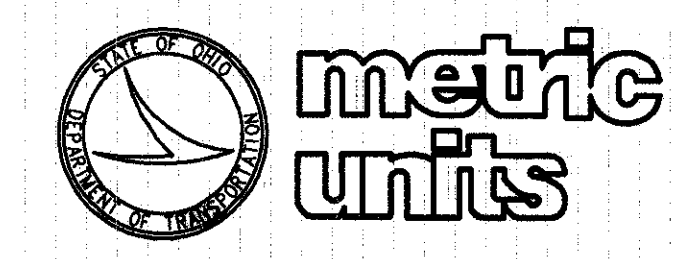
SECTION B1

SUPERSTRUCTURE NOTES:

- WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
- HIGH STRENGTH BOLTS SHALL BE 27 mm DIAMETER A325M, GALVANIZED, UNLESS OTHERWISE NOTED.
- WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FACIA STRINGER FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 25 mm FROM EDGE OF FLANGE, BE NOT MORE THAN 50 mm LONG, AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.
- FOR FIELD SPlice DETAILS AND NOTES SEE STANDARD DRAWING BS-1-93M.
- FOR SUPERSTRUCTURE LEGEND SEE SHEET 11 / 18



TYPICAL BEAM ELEVATION
SHOWING SHEAR STUD SPACING AND FIELD SPICE LOCATIONS



DESIGN AGENCY
STILSON & ASSOCIATES, INC.
 ENGINEERING • ARCHITECTURE • ENVIRONMENTAL
 6121 HAMILTON ROAD • COLUMBUS, OHIO 43229

DESIGNED
 T.G.H.
 CHECKED
 T.E.U.

DRAWN
 V.O.
 REVISED

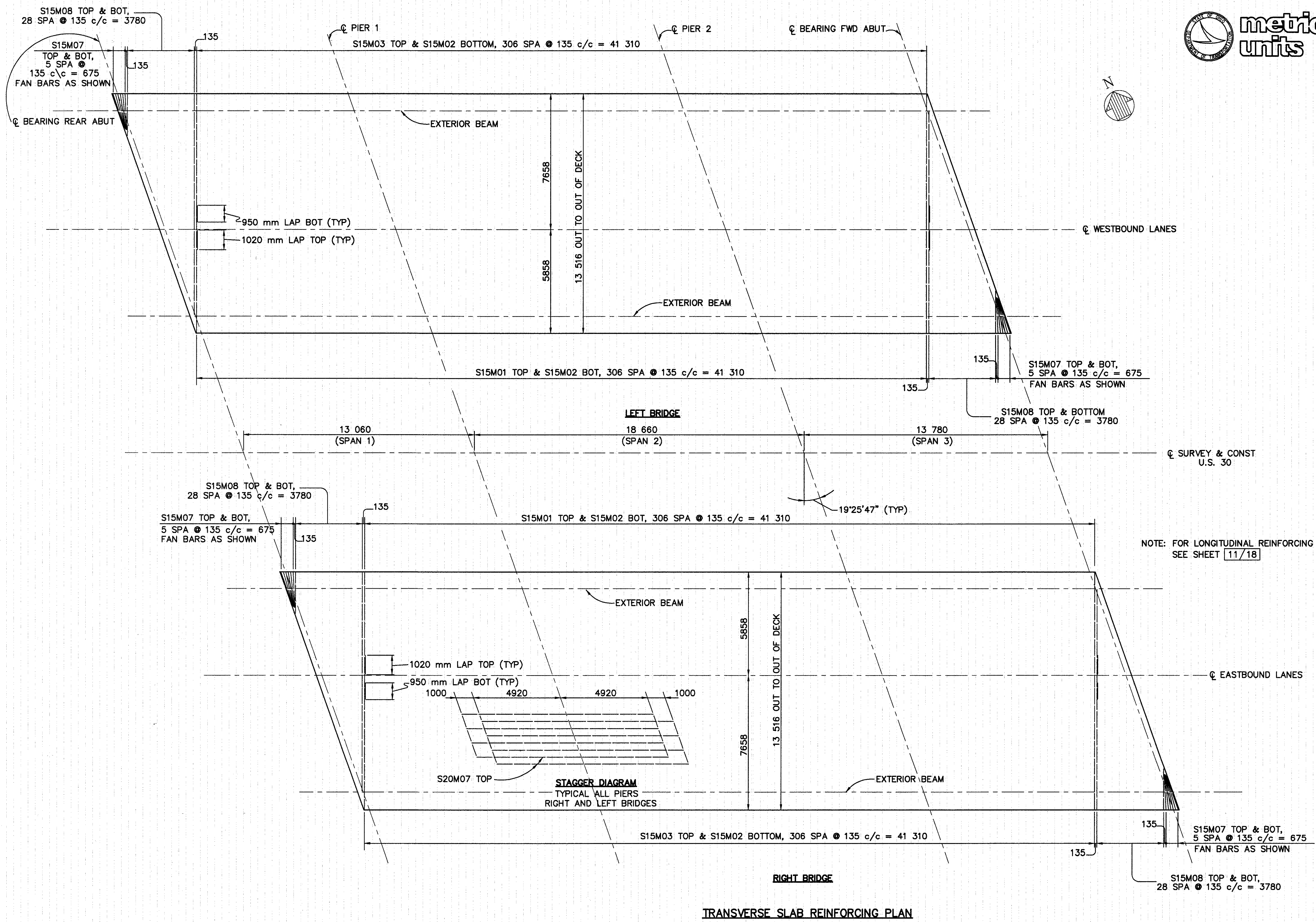
REVIEWED
 G.W.M.
 STRUCTURE FILE NUMBER
 7603738 L & 7603746 R

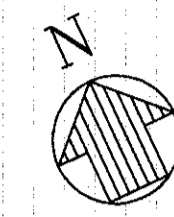
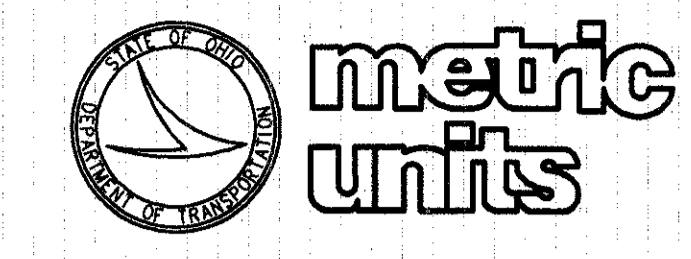
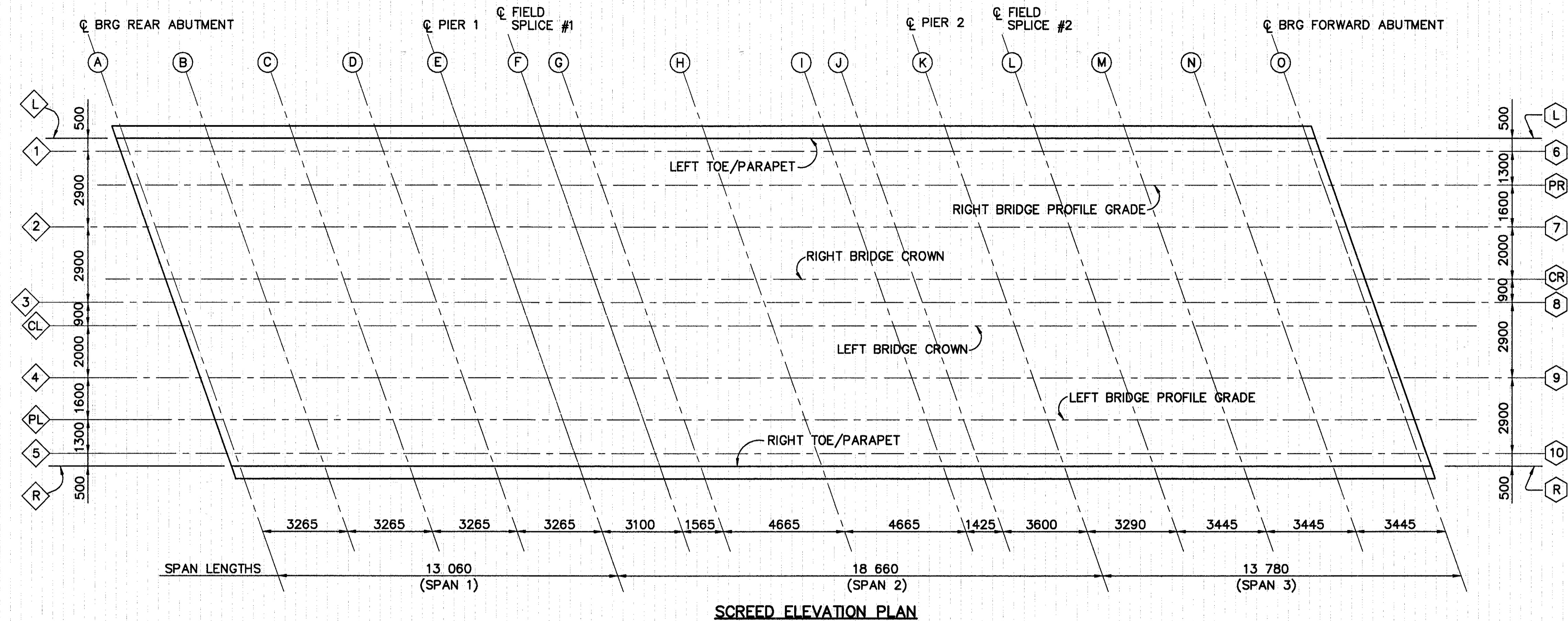
DATE
 10/11/96

SUPERSTRUCTURE DETAILS
 BRIDGE No. STA-30-28607 L&R
 U.S. 30 OVER MARIETTA AVENUE

STA-30-27.696

13 / 18
 396
 520





DESIGN AGENCY
STILSON & ASSOCIATES, INC.
 ENGINEERING • ARCHITECTURE • ENVIRONMENTAL
 6121 HAINLEY ROAD • COLUMBUS, OHIO 43229

DESIGNED
 T.G.H.
 CHECKED
 T.E.U.

DRAWN
 V.O.
 REVISED

REVIEWED
 G.W.M.
 STRUCTURE FILE NUMBER
 7603738 L & 7603746 R

DATE
 10/11/96

SCREED ELEVATION PLAN

TABLE OF SCREED ELEVATIONS																
LINE		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)
LEFT BRIDGE																
LEFT TOE/PARAPET	(L)	335.176	335.249	335.318	335.383	335.451	335.522	335.560	335.664	335.742	335.764	335.816	335.884	335.946	336.008	336.066
BEAM	(1)	335.188	335.261	335.329	335.395	335.462	335.534	335.571	335.675	335.753	335.775	335.827	335.895	335.957	336.020	336.077
BEAM	(2)	335.256	335.329	335.397	335.463	335.530	335.601	335.639	335.740	335.818	335.840	335.892	335.960	336.022	336.084	336.142
BEAM	(3)	335.324	335.396	335.465	335.531	335.598	335.669	335.707	335.805	335.883	335.905	335.957	336.025	336.087	336.149	336.207
CROWN	(CL)	335.345	335.418	335.486	335.552	335.619	335.690	335.728	335.825	335.903	335.925	335.977	336.045	336.107	336.170	336.227
BEAM	(4)	335.328	335.400	335.469	335.535	335.602	335.673	335.711	335.811	335.896	335.920	335.978	336.051	336.119	336.187	336.250
PROFILE GRADE	(PL)	335.314	335.387	335.455	335.521	335.588	335.659	335.697	335.801	335.892	335.918	335.980	336.058	336.130	336.202	336.270
BEAM	(5)	335.303	335.375	335.441	335.510	335.577	335.648	335.686	335.794	335.890	335.918	335.983	336.064	336.140	336.216	336.287
RIGHT TOE/PARAPET	(R)	335.299	335.371	335.440	335.505	335.573	335.646	335.682	335.792	335.890	335.918	335.985	336.067	336.144	336.222	336.294
RIGHT BRIDGE																
LEFT TOE/PARAPET	(L)	335.405	335.478	335.546	335.612	335.680	335.751	335.789	335.893	335.984	336.010	336.072	336.149	336.221	336.294	336.361
BEAM	(6)	335.417	335.490	335.558	335.624	335.691	335.762	335.800	335.904	335.995	336.021	336.083	336.161	336.233	336.305	336.373
PROFILE GRADE	(PR)	335.447	335.520	335.589	335.654	335.722	335.793	335.831	335.935	336.026	336.052	336.114	336.191	336.263	336.336	336.403
BEAM	(7)	335.485	335.557	335.626	335.692	335.759	335.830	335.868	335.972	336.063	336.089	336.151	336.229	336.301	336.373	336.441
CROWN	(CR)	335.532	335.604	335.673	335.738	335.806	335.877	335.915	336.019	336.110	336.136	336.198	336.275	336.348	336.420	336.487
BEAM	(8)	335.524	335.597	335.665	335.731	335.800	335.873	335.912	336.020	336.114	336.141	336.205	336.285	336.360	336.435	336.505
BEAM	(9)	335.499	335.572	335.640	335.706	335.783	335.864	335.907	336.025	336.130	336.160	336.232	336.320	336.403	336.486	336.564
BEAM	(10)	335.474	335.547	335.615	335.686	335.771	335.859	335.906	336.035	336.151	336.185	336.264	336.360	336.451	336.542	336.628
RIGHT TOE/PARAPET	(R)	335.470	335.542	335.611	335.683	335.770	335.859	335.906	336.037	336.155	336.189	336.270	336.367	336.460	336.552	336.639

NOTE:
 SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

SUPERSTRUCTURE DETAILS
 BRIDGE No. STA-30-28607 L&R
 U.S. 30 OVER MARIETTA AVENUE

STA-30-27.696

14 / 18

397
 520

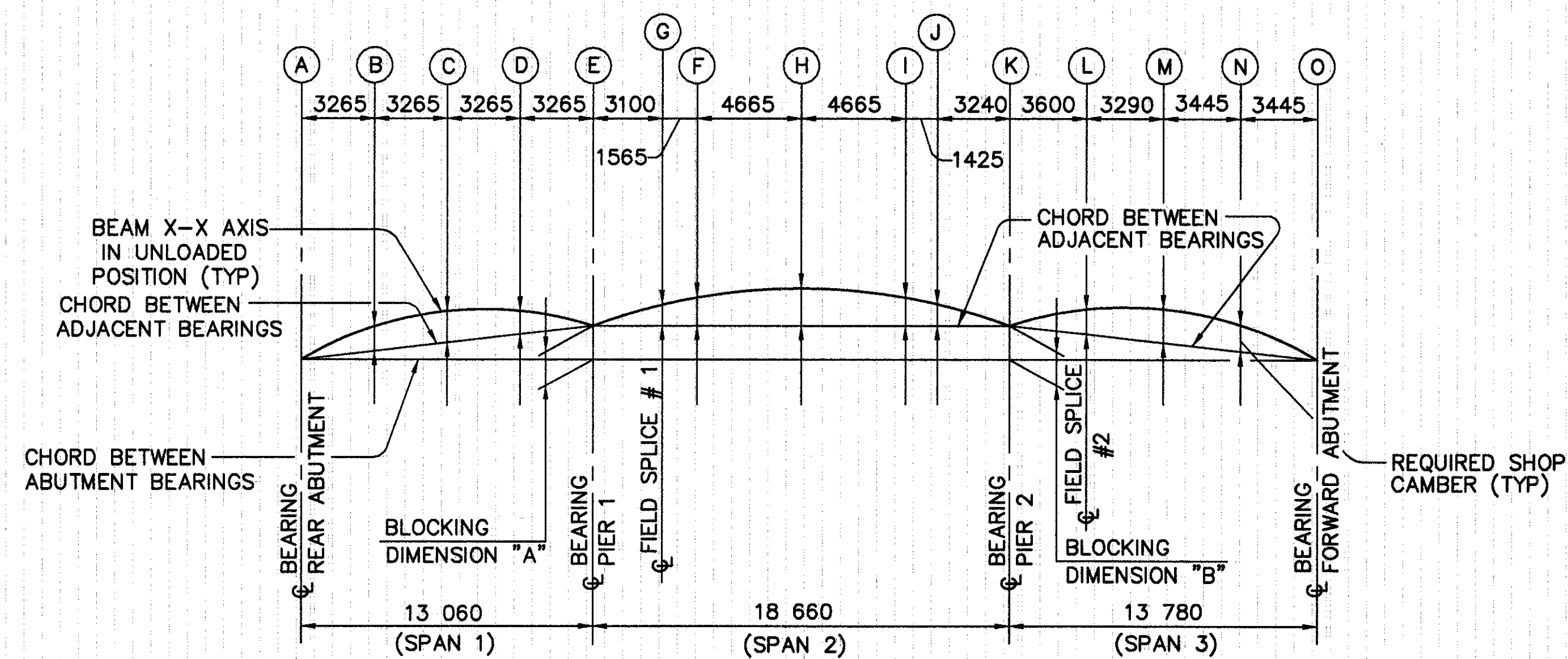


DEFLECTION AND CAMBER (IN MILLIMETERS)																
LEFT BRIDGE BEAM NUMBER	CAMBER DESCRIPTION	13 060 (SPAN 1)					18 660 (SPAN 2)					13 780 (SPAN 3)				
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1 AND 2 AND 3	DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	0	1	1	1	1	0	0	0	1	1	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	4	5	1	0	7	11	18	10	7	0	2	5	5	0
	ADJUSTMENT FOR SUPER TRANSITION	0	0	0	0	0	5	7	12	6	4	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	4	5	1	0	13	19	31	17	11	0	0	6	6	0
4	DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	0	1	1	1	1	0	0	0	1	1	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	4	5	1	0	7	11	18	10	7	0	2	5	5	0
	ADJUSTMENT FOR SUPER TRANSITION	0	0	0	0	0	3	4	4	2	1	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	4	5	1	0	11	16	23	13	8	0	2	6	6	0
5	DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	0	1	1	1	1	0	0	0	1	1	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	4	5	1	0	7	11	18	10	7	0	2	5	5	0
	ADJUSTMENT FOR SUPER TRANSITION	0	0	0	0	0	-2	-4	-3	-1	-1	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	4	5	1	0	6	8	16	10	7	0	2	6	6	0

POSITIVE DIMENSIONS INDICATE DOWNWARD DEFLECTION AND UPWARD CAMBER.

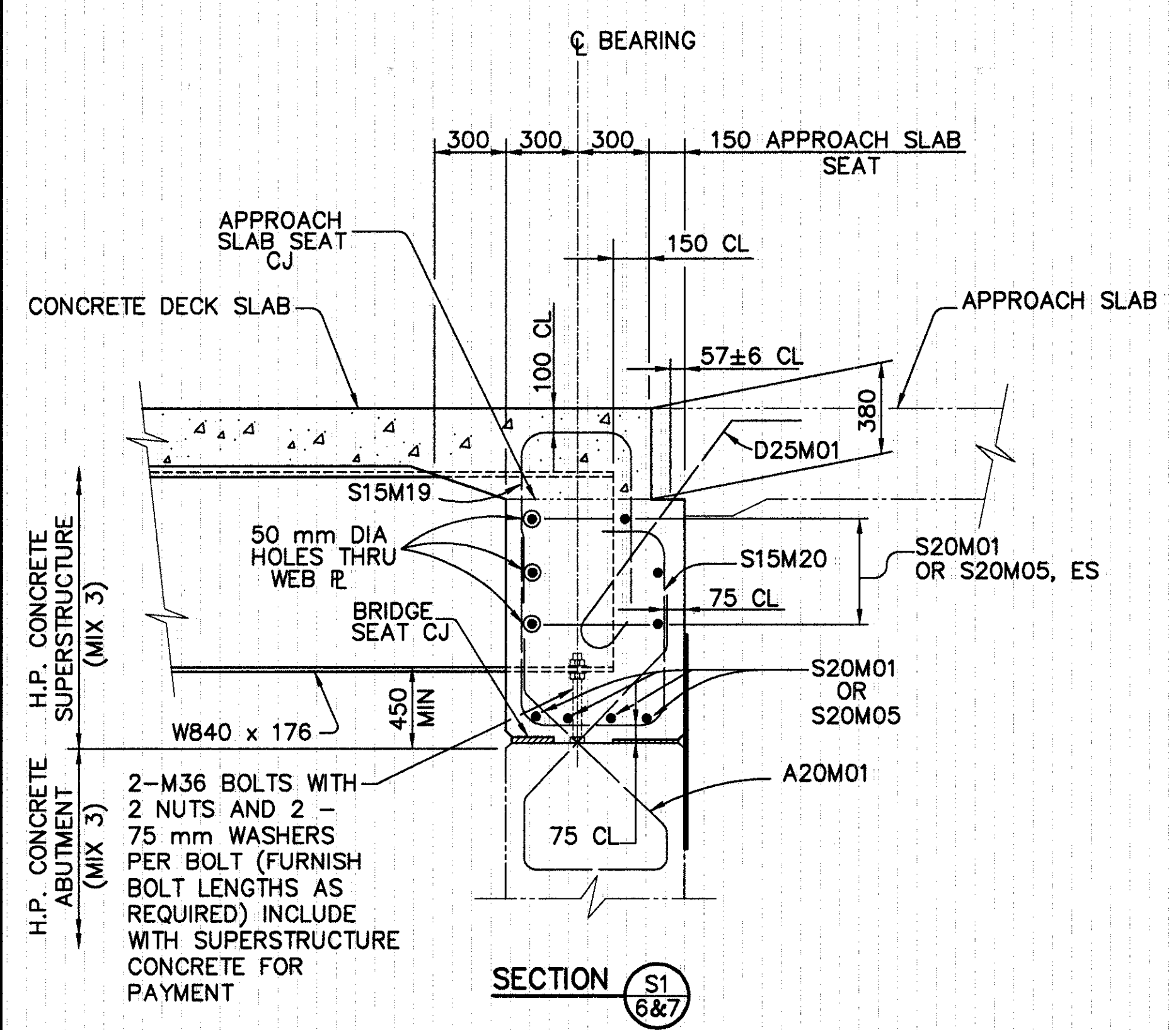
DEFLECTION AND CAMBER (IN MILLIMETERS)																
RIGHT BRIDGE BEAM NUMBER	CAMBER DESCRIPTION	13 060 (SPAN 1)					18 660 (SPAN 2)					13 780 (SPAN 3)				
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
6 AND 7	DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	0	1	1	1	1	0	0	0	1	1	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	4	5	1	0	7	11	18	10	7	0	2	5	5	0
	ADJUSTMENT FOR SUPER TRANSITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	4	5	1	0	8	12	19	11	7	0	2	6	6	0
8	DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	0	1	1	1	1	0	0	0	1	1	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	4	5	1	0	7	11	18	10	7	0	2	5	5	0
	ADJUSTMENT FOR SUPER TRANSITION	0	0	-1	-1	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	4	4	0	0	8	12	19	11	7	0	2	6	6	0
9	DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	0	1	1	1	1	0	0	0	1	1	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	4	5	1	0	7	11	18	10	7	0	2	5	5	0
	ADJUSTMENT FOR SUPER TRANSITION	0	-2	-5	-7	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	2	0	-6	0	8	12	19	11	7	0	2	6	6	0
10	DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	0	1	1	1	1	0	0	0	1	1	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	4	5	1	0	7	11	18	10	7	0	2	5	5	0
	ADJUSTMENT FOR SUPER TRANSITION	0	-6	-11	-12	0	0	0	0	0	0	0	0	0	0	0
	REQUIRED SHOP CAMBER	0	-2	-6	-11	0	8	12	19	11	7	0	2	6	6	0

POSITIVE DIMENSIONS INDICATE DOWNWARD DEFLECTION AND UPWARD CAMBER.



CAMBER AND BLOCKING DIAGRAM

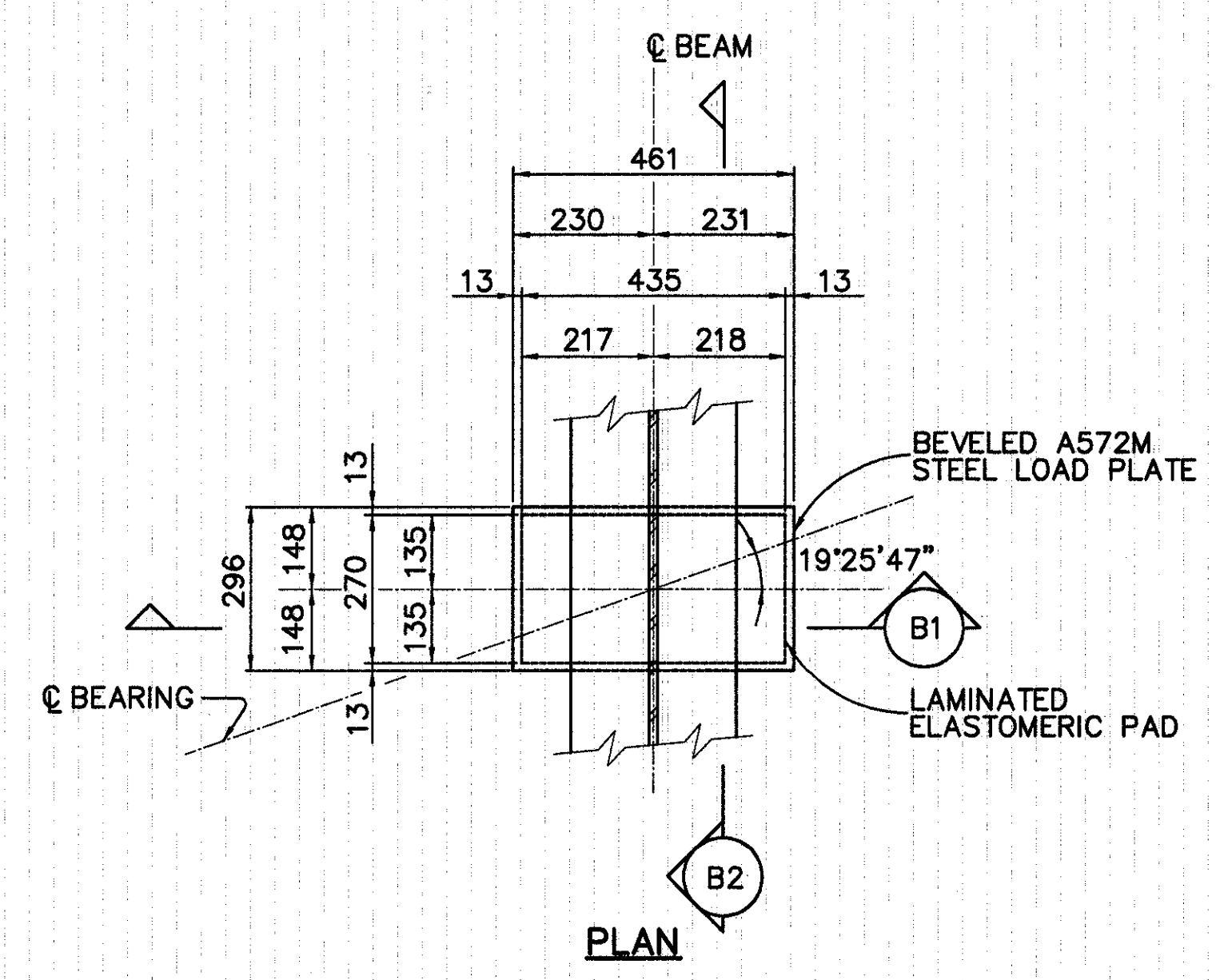
BLOCKING					
LEFT BRIDGE BEAM NUMBER	DIMENSION "A"	DIMENSION "B"	RIGHT BRIDGE BEAM NUMBER	DIMENSION "A"	DIMENSION "B"
1	+19	+19	6	0	0
2	+20	+18	7	0	0
3	+21	+17	8	-6	-3
4	+9	+7	9	-22	-9
5	-8	-6	10	-34	-15



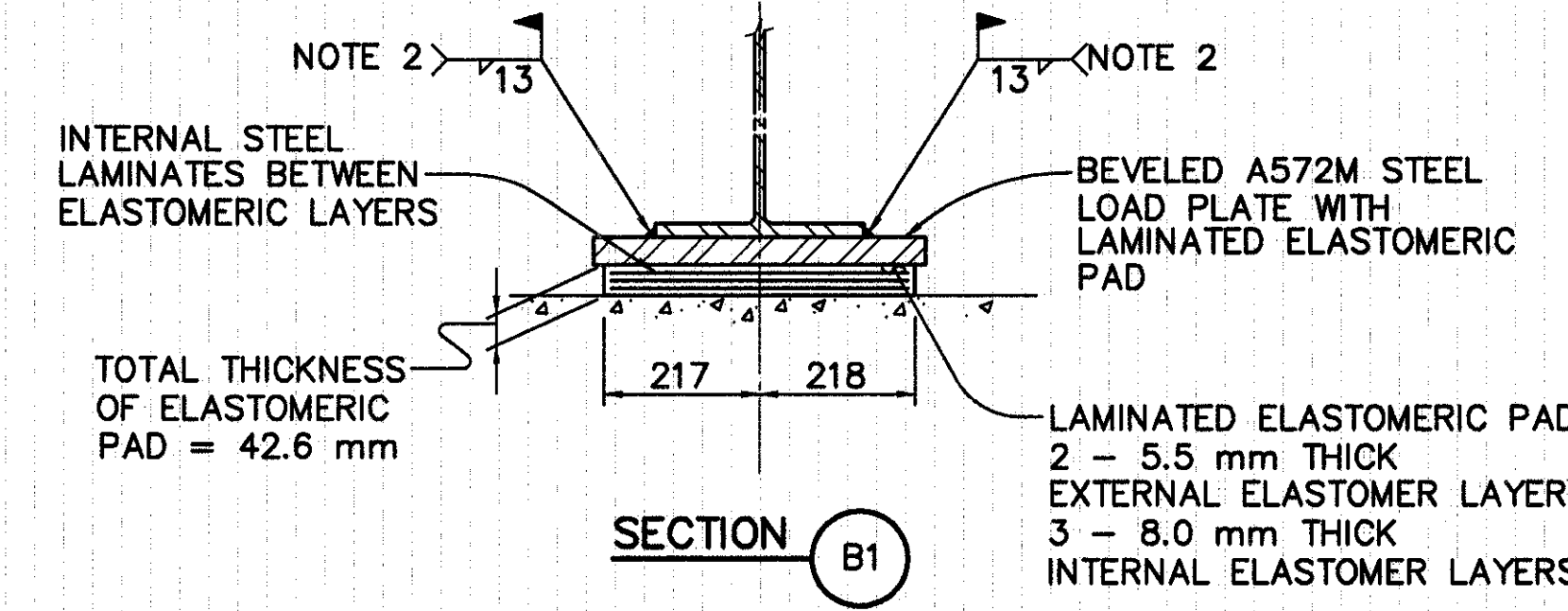
SECTION S1
6&7

SUPERSTRUCTURE NOTES:

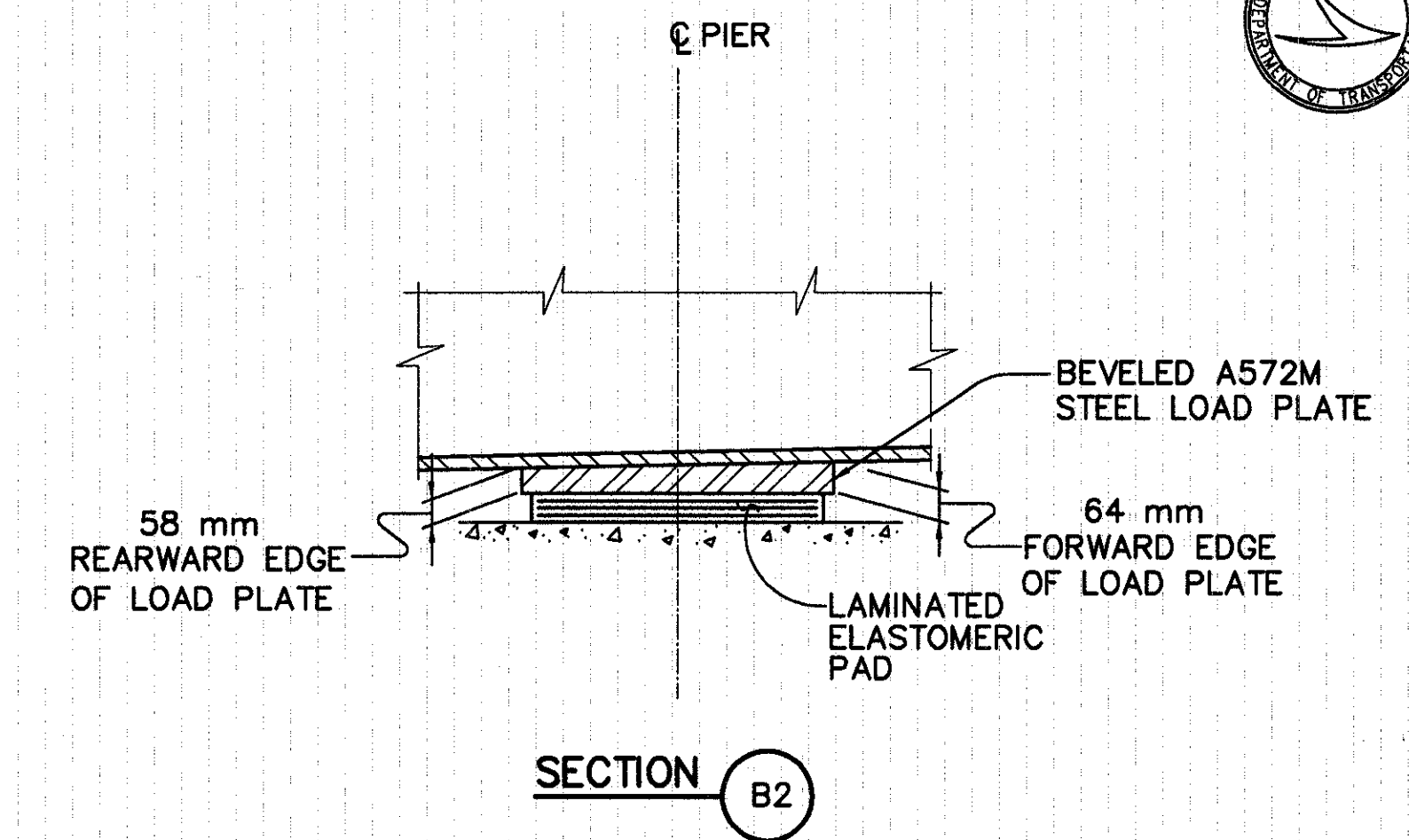
DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER SECTIONS SUPPORTED IN INTEGRAL TYPE ABUTMENTS SHALL BE PLACED AT LEAST 48 HOURS BEFORE THE ACTUAL DECK CONCRETE IS PLACED.



PLAN



SECTION B1

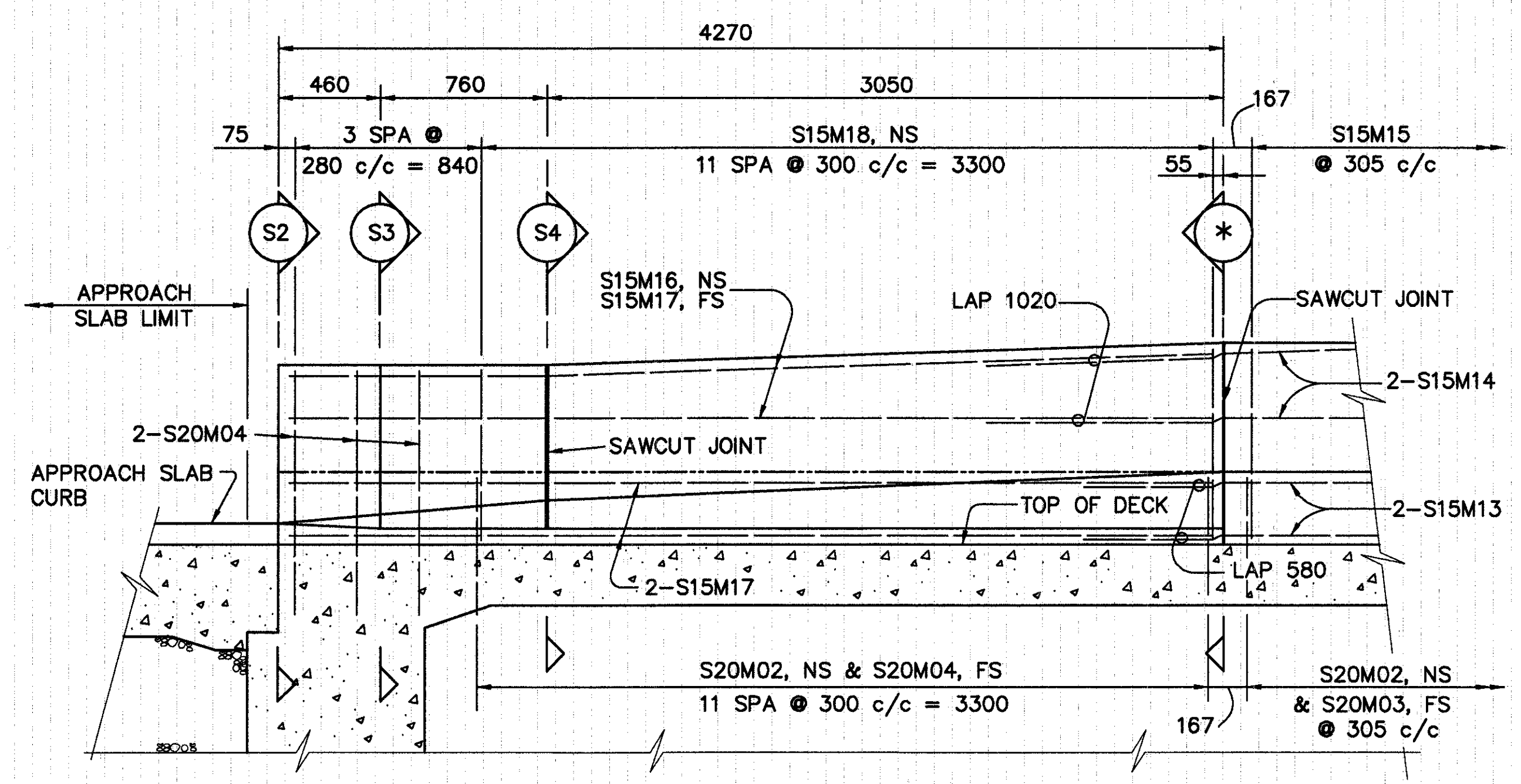


SECTION B2

BEARING NOTES:

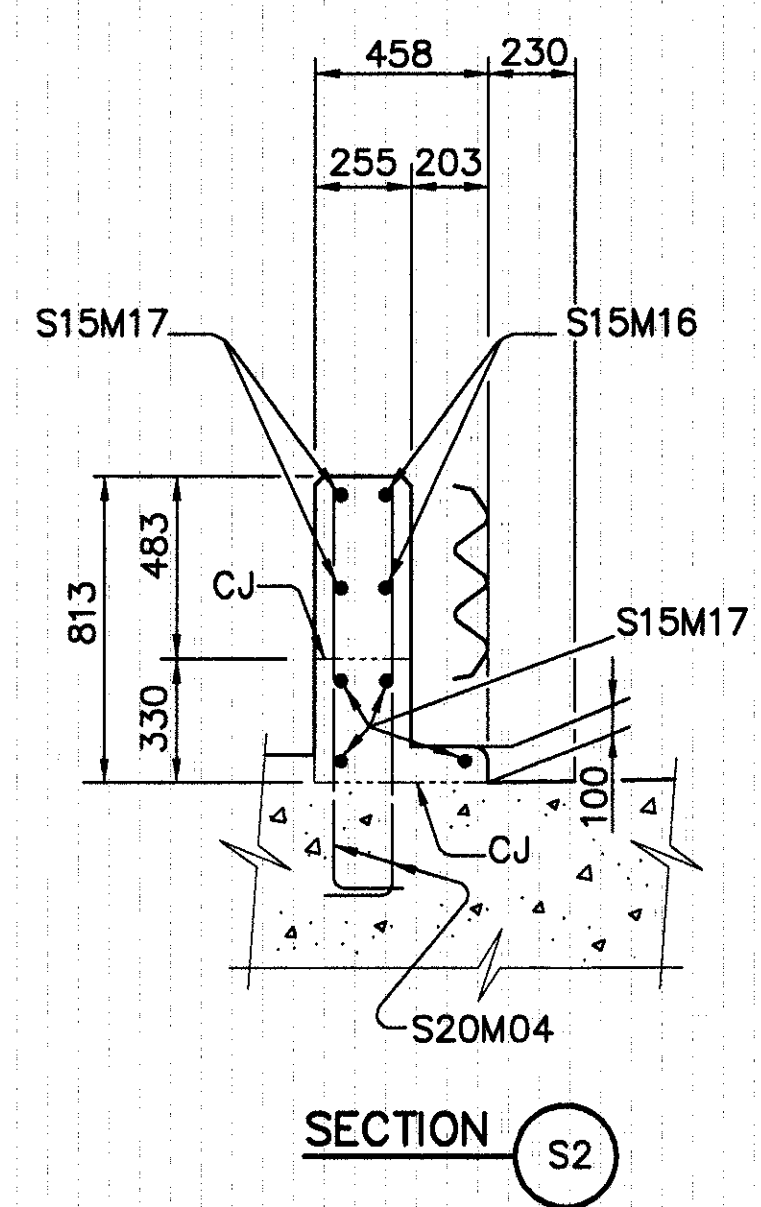
- ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND ARTICLES 18.2.5 THROUGH 18.2.8 OF SECTION 18, BEARING DEVICES, DIVISION II, CONSTRUCTION OF THE AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS CORRESPONDING TO DESIGN METHOD A. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.
- WELDING SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 150° C AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
- LOAD PLATE: THE A572M STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
- BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 27° C OR LOWER THAN 4° C AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 15° C (+/-) 5° C, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDERFORMED SHAPE AT 15° C (+/-) 5° C.
- BEARING DESIGN LOADS:
DEAD LOADS 471 kN
LIVE LOADS (NO IMPACT) 269 kN
TOTAL DESIGN LOAD 740 kN
- PAINTING OF THE BEVELED A572M STEEL LOAD PLATE SHALL BE INCLUDED WITH ITEM 514 FIELD PAINTING OF NEW STEEL SYSTEM IZEU FOR PAYMENT.

EXPANSION BEARING DETAILS
5 REQUIRED AT EACH PIER (TYP.)

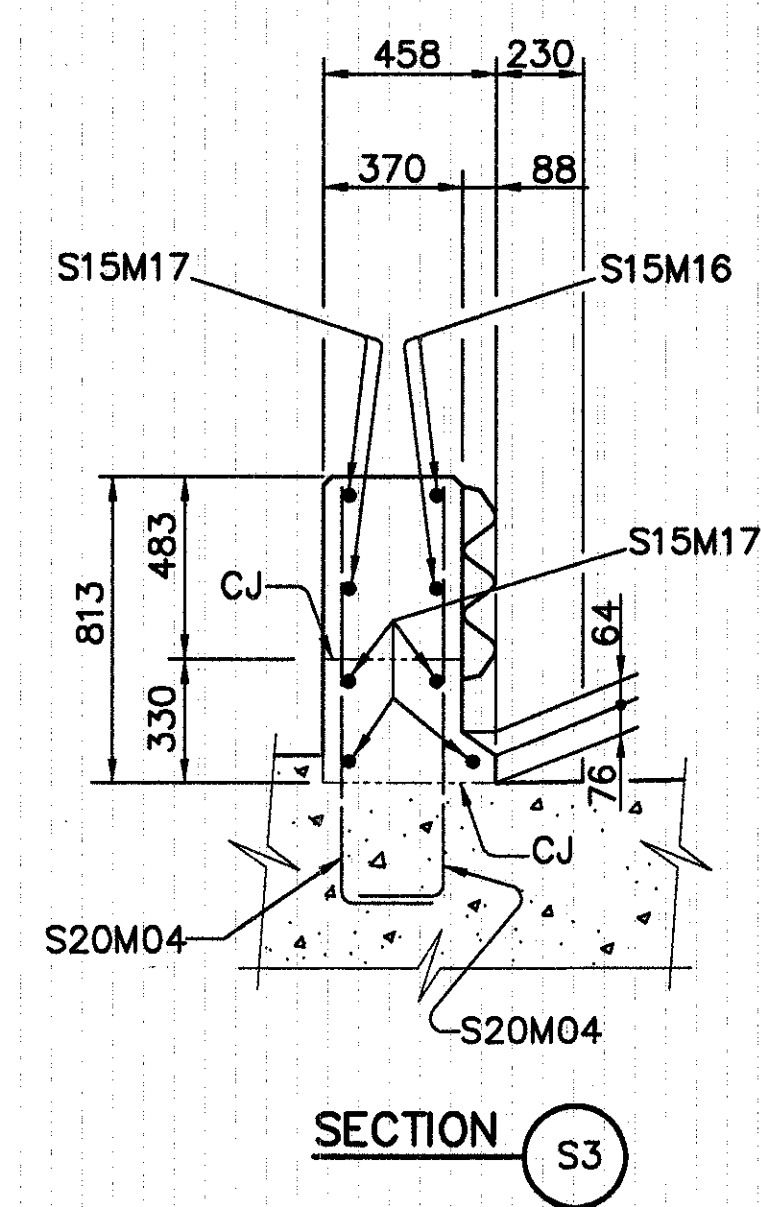


ELEVATION

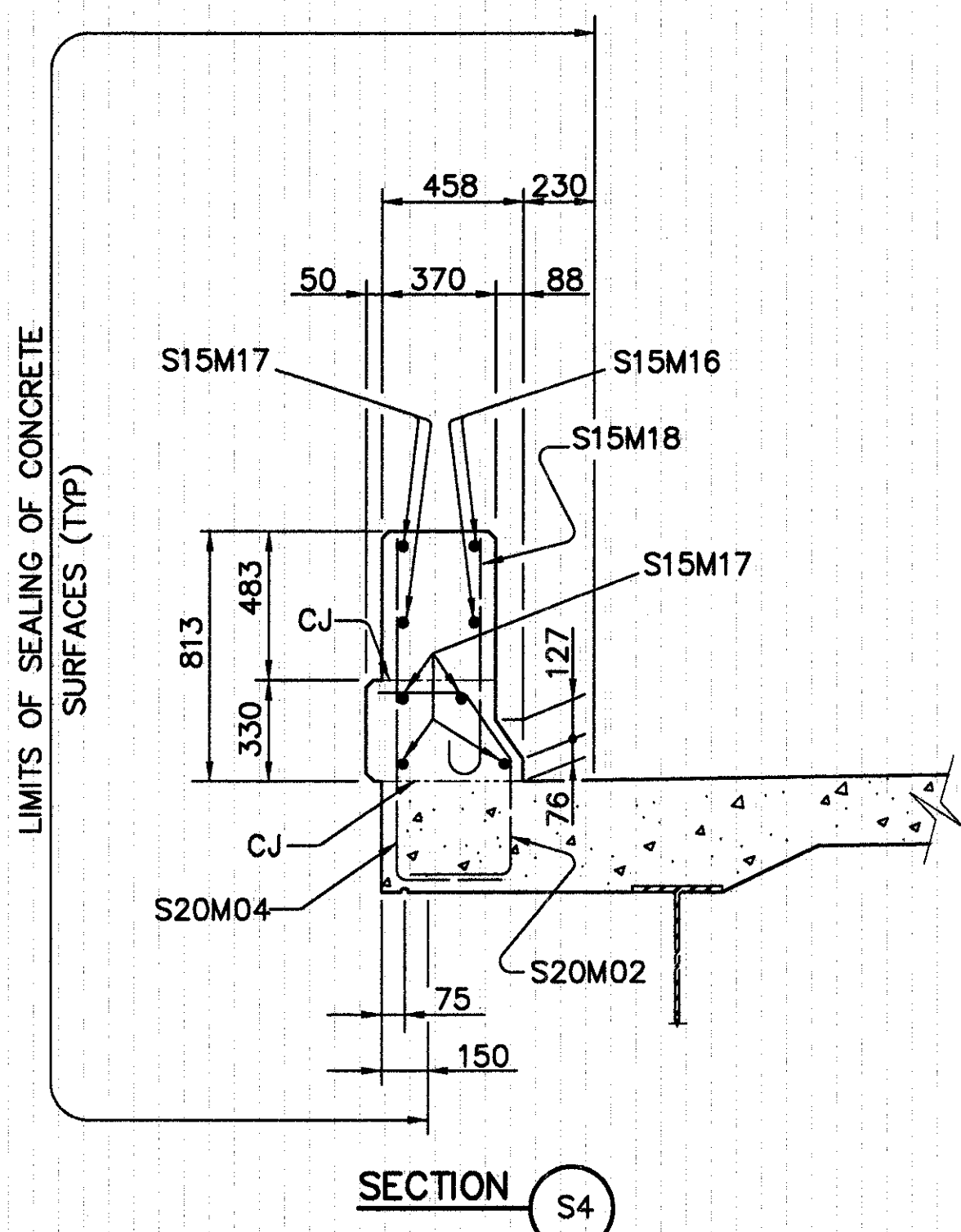
NOTES: FOR PARAPET SAWCUT JOINT SPACING SEE SHEET 2/18 * SEE TYPICAL PARAPET SECTION, SHEET 11/18
FOR DETAILS OF PARAPET SAWCUT JOINTS SEE NOTE "CONCRETE PARAPETS" ON SHEET 3/18



SECTION S2



SECTION S3



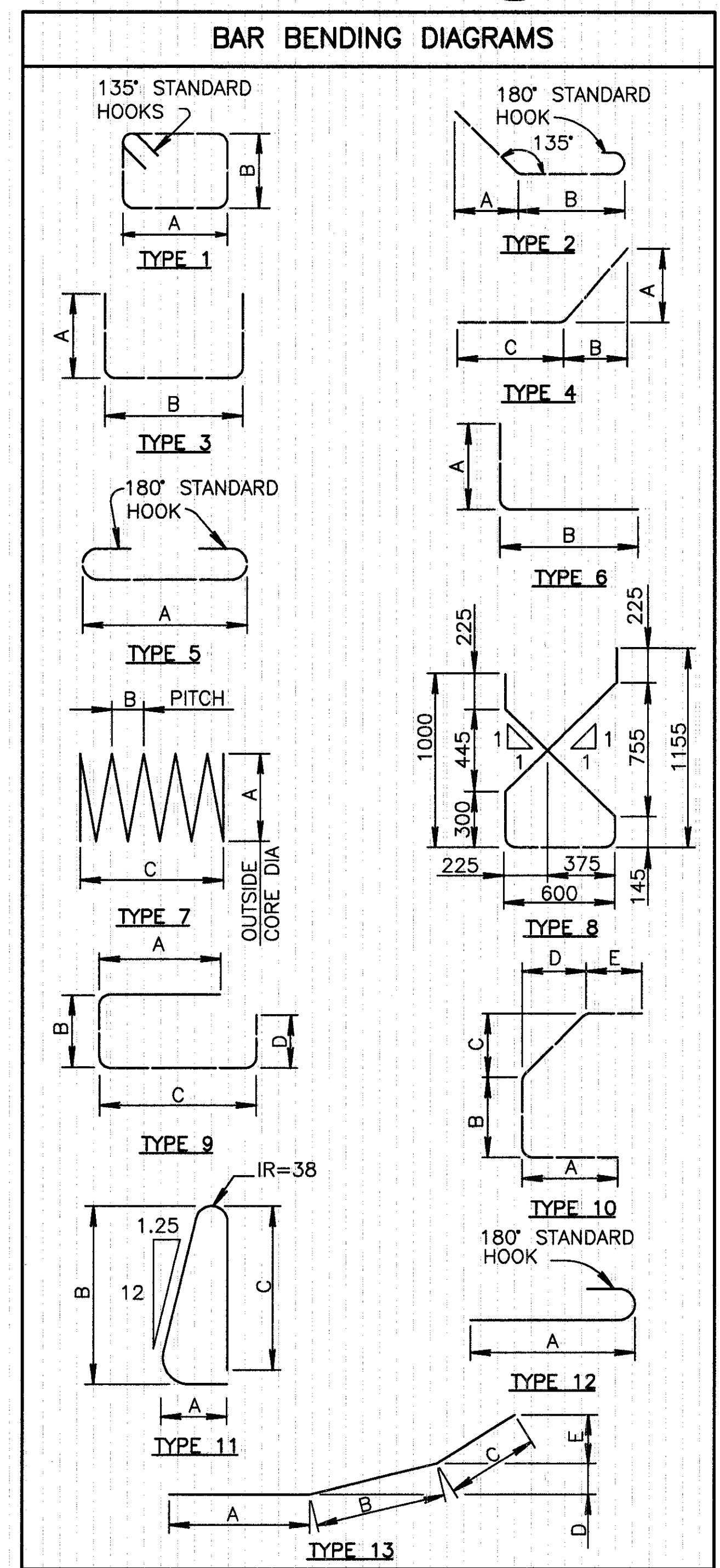
SECTION S4

PARAPET TRANSITION DETAILS

FOR ADDITIONAL DETAILS, SEE STANDARD DRAWING BR-1M

REINFORCING STEEL LIST										
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
REAR ABUTMENT										
A10M01	27	2435	52	1	740	515				
A15M01	52	3160	258	1	770	770				
A15M40	24	7825	295	STR						
A15M61	36	3840	217	3	1660	600				
A15M62	6	5180	49	3	2330	600				
A15M63	7	5110	56	3	2295	600				
A15M64	2	3000	9	STR						
A15M65	2	3265	10	STR						
A15M66	1	2715		STR						1
A15M66	SER	TO	7		LENGTH VARIES BY 900					
A15M67	1	1815		STR						1
A15M67	SER	TO	8		LENGTH VARIES BY 900					
A15M68	1	2980		STR						1
A15M68	SER	TO	8		LENGTH VARIES BY 900					
A15M69	1	2080		STR						1
A15M69	SER	TO	7		LENGTH VARIES BY 900					
A15M70	2	2320		STR						1
A15M70	SER	TO	16		DIM VARIES BY 225					
A15M71	2	2770		3	1125	600				1
A15M71	SER	TO	16		DIM VARIES BY 205					
A15M72	1	1990		3	735	600				1
A15M72	SER	TO	15		DIM VARIES BY 200					
A15M73	4	3220		3	1350	600				1
A15M74	2	3220	10	3	1350	600				1
A15M74	3	3170	15	3	1325	600				1
A15M75	1	3160	5	4	750	2175	1125			
A15M76	1	3405	5	4	1015	2175	1090			
A15M77	1	3465	5	4	1015	2175	1125			
A15M78	1	3180	5	4	750	2175	1090			
A20M01	44	3100	321	8	SEE BENDING DIAGRAM					
A25M03	12	8075	380	STR						
A25M04	12	8450	398	STR						
TOTAL = 2167 KILOGRAM										
FORWARD ABUTMENT										
A10M01	27	2435	52	1	740	515				
A15M01	52	3160	258	1	770	770				
A15M02	24	7750	292	STR						
A15M20	41	3770	243	3	1625	600				
A15M21	6	4670	44	3	2075	600				
A15M22	7	5320	58	3	2400	600				
A15M23	1	2740	4	STR						
A15M24	1	3005	5	STR						
A15M25	1	3335	5	STR						
A15M26	1	3070	5	STR						
A15M27	1	2670		STR						1
A15M27	SER	TO	7		LENGTH VARIES BY 900					
A15M28	2	1770		STR						1
A15M28	SER	TO	8		LENGTH VARIES BY 900					
A15M29	1	2935		STR						1
A15M29	SER	TO	8		LENGTH VARIES BY 900					
A15M30	2	2110		STR						1
A15M30	SER	TO	7		LENGTH VARIES BY 900					
A15M31	2	1845		STR						1
A15M31	SER	TO	16		DIM A VARIES BY 250					
A15M32	2	2300		3	890	600				1
A15M32	SER	TO	13		DIM A VARIES BY 250					
A15M33	1	2800		3	1140	600				1
A15M33	SER	TO	13		DIM A VARIES BY 250					
A15M34	1	2170		3	825	600				1
A15M34	SER	TO	14		DIM A VARIES BY 165					
A15M35	3	3170	15	3	1325	600				1

REINFORCING STEEL LIST										
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
A15M35	3	3220	15	3	1350	600				
A15M36	1	2895	5	4	765	1900	985			
A15M37	1	3525	6	4	1050	2210	1140			
A15M38	1	3160	5	4	1030	1900	985			
A15M39	1	3260	5	4	785	2210	1140			
A20M01	44	3100	321	8	SEE BENDING DIAGRAM					
A25M01	12	8000	377	STR						
A25M02	12	8375	394	STR						
TOTAL = 2182 KILOGRAM										
PIERS										
P15M01	192	2320	700	3	820	760				
P15M02	16	6950	175	STR						
P25M01	28	4855	534	6	920	3995				
P25M02	8	9300	292	STR						
P25M03	16	7490	470	STR						
P30M01	30	5625	927	STR						
P30M02	30	6000	989	STR						
SP15M01	3	103 535	489	7	765	115	4635			6
SP15M02	3	110 595	520	7	765	115	5000			6
F15M01	84	1960	258	5	1600					
F30M01	60	2810	926	6	500	2400				
TOTAL = 6280 KILOGRAM										
SUPERSTRUCTURE										
S15M01	307	5740	2767	STR						
S15M02	614	7160	6902	STR						
S15M03	307	8645	4167	STR						
S15M04					NOT USED					
S15M05	200	12 200	3831	STR						
S15M06					NOT USED					
S15M07	12	1975	37	STR						
S15M08	4	12 200		STR						1
S15M08	SER	TO	1321		LENGTH VARIES BY 341					
S15M09	29	2310		STR						1
S15M10					NOT USED					
S15M11					NOT USED					
S15M12					NOT USED					
S15M13	32	10 075	506	STR						
S15M14	32	10 650	535	STR						
S15M15	246	1825	705	11	205	840	765			
S15M16	8	4220	53	13	3050	738	432	38	127	
S15M17	24	4200	158	STR						
S15M18	48	920	69	12	740					
S15M19	88	2370	327	3	1000	450				
S15M20	88	2455	339	9	900	600	800	275		
S20M01	10	5750	135	STR						
S20M02	294	950	658	10	125	295	216	152	230	
S20M03	246	680	394	6	280	450				
S20M04	72	1160	197	6	280	930				
S20M05	10	10 275	242	STR						
S20M06	170	9775	3913	STR						
S20M07	66	10 840	1685	STR						
D25M01	62	1490	363	2	305	835				
TOTAL = 29 304 KILOGRAM										



- REINFORCING STEEL NOTES:**
- SERIES BARS - EACH BAR VARIES BY TABULATED AMOUNTS.
 - ALL DIMENSIONS ARE OUT TO OUT.
 - TYPE 'STR' INDICATES A STRAIGHT BAR.
 - THE BAR SIZE NUMBER IS SPECIFIED IN THE 'MARK' COLUMN. THE FIRST TWO DIGITS INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A15M01 IS A 15M BAR SIZE.
 - ALL BARS SHALL BE EPOXY COATED.
 - SPACERS CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVALS (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING 3050 mm) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO ENSURE A MINIMUM 75 mm CLEAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE DESIGN DIMENSION OF THE DRILLED SHAFT OR COLUMN. CYLINDRICAL CONCRETE FEET (BOTTOM SUPPORTS) SHALL BE PROVIDED TO ENSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED AT THE PROPER DISTANCE ABOVE THE BASE.

