

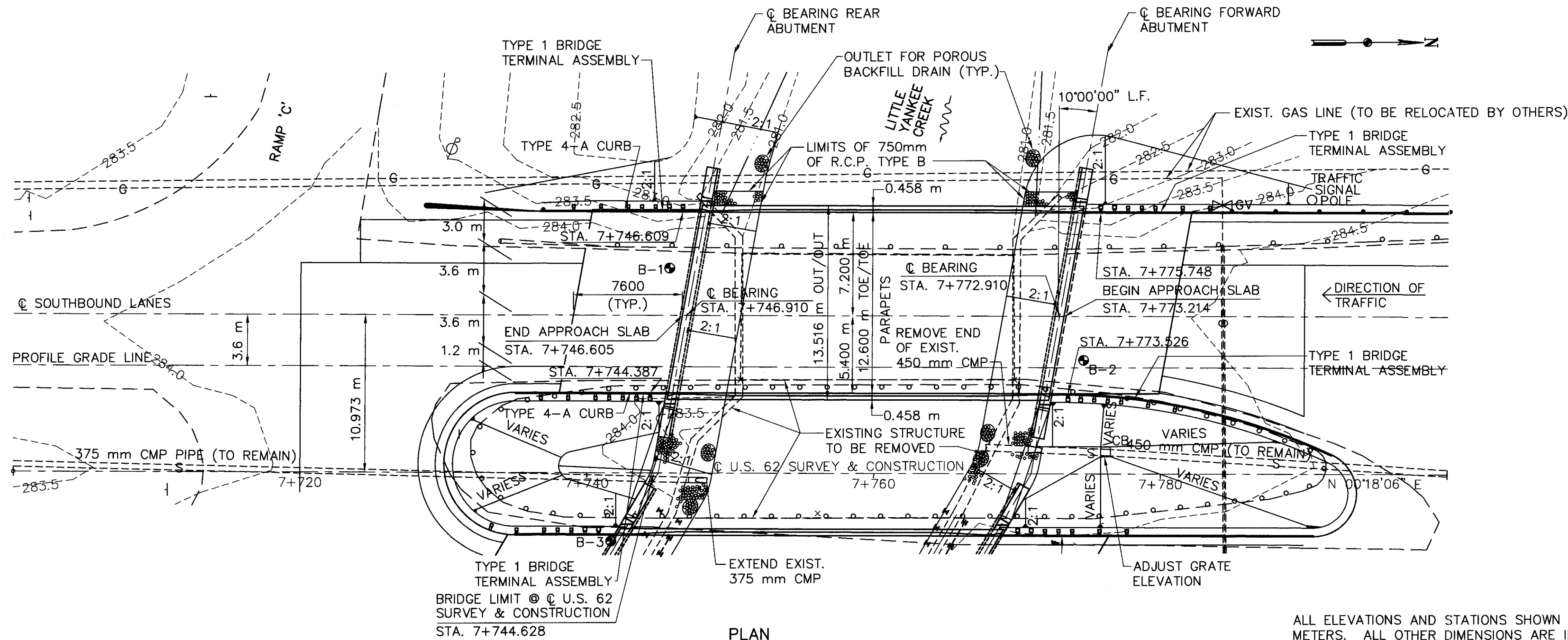
BENCHMARK #1
CHISELED + @ NW CORNER OF CONCRETE
FOUNDATION FOR LIGHT POST,
STA. 7+687.81, 17.51 m LT.
ELEV.=283.519



BENCHMARK #2
CHISELED + IN SW ANCHOR BOLT FOR
SIGN POST, STA. 7+783.62, 19.06 m RT.
ELEV.=284.800

NOTE:
EXISTING ABUTMENT INFORMATION BELOW
GRADE WAS NOT FOUND ON ORIGINAL
BRIDGE PLANS AND IS NOT FIELD VERIFIED.

* - PLAN INFORMATION, NOT FIELD VERIFIED
● - INDICATES BORING LOCATION
T.O.S. - TOP OF SLOPE



PLAN

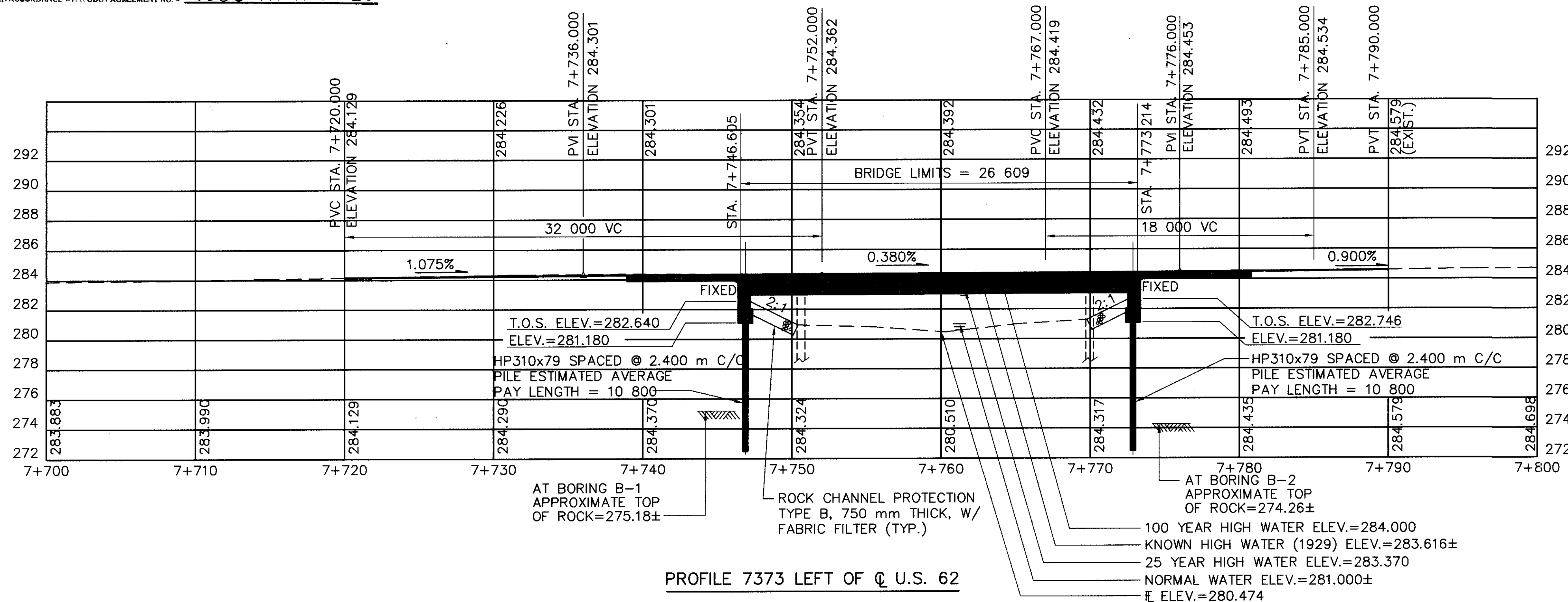
ALL ELEVATIONS AND STATIONS SHOWN ARE IN METERS. ALL OTHER DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

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

STRUCTURE PLANS REVIEWED BY:

HNTB ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

IN ACCORDANCE WITH GUYT AGREEMENT NO. - 9086 TASK 04-20



PROFILE 7373 LEFT OF U.S. 62

HYDRAULIC DATA

DRAINAGE AREA =	49.729 km ²	
DISCHARGE =	25 YEAR	100 YEAR
VELOCITY =	53.52 m ³ /s	71.92 m ³ /s
HIGH WATER =	0.99 m/s	1.33 m/s
	283.370	284.000

DESIGN INFORMATION

1998 ADT = 16,460
2022 ADT = 22,210
2022 ADTT = 1555
DESIGN SPEED = 90 Km/h

EXISTING STRUCTURE

TYPE: STEEL BEAM WITH REINFORCED CONCRETE DECK SUPPORTED ON CONCRETE GRAVITY ABUTMENTS.

SPAN: 18.288± C/C BRGS.

ROADWAY: 8.839± F/F RAIL

SKEW: NONE

LOADING: H-15

DATE BUILT: 1932

STRUCTURE FILE NUMBER: 7803125

WEARING SURFACE: BITUMINOUS

PROPOSED STRUCTURE

TYPE: COMPOSITE REINFORCED CONCRETE DECK ON STEEL BEAMS (A572M) WITH INTEGRAL ABUTMENTS

SPAN: 26 000 C/C BEARINGS

ROADWAY: 12 600 TOE/TOE PARAPET

DESIGN LOADING: MS18, (CASE 2), AND THE ALTERNATE MILITARY LOADING

SKEW: LEFT BRIDGE - 10°00'00" L.F.

WEARING SURFACE: MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-81M (L=7600)

ALIGNMENT: TANGENT

CROWN: 0.016

LONGITUDE: WEST 80°48'56"

LATITUDE: NORTH 41°16'41"

DESIGN AGENCY
HAMMOND & ASSOCIATES, LTD.
ENGINEERS, PLANNERS, SURVEYORS
CANTON PITTSBURGH AKRON
PL. 1-02

DATE
3-10-00
REVIEWED
KAB
STRUCTURE FILE NUMBER
7803133

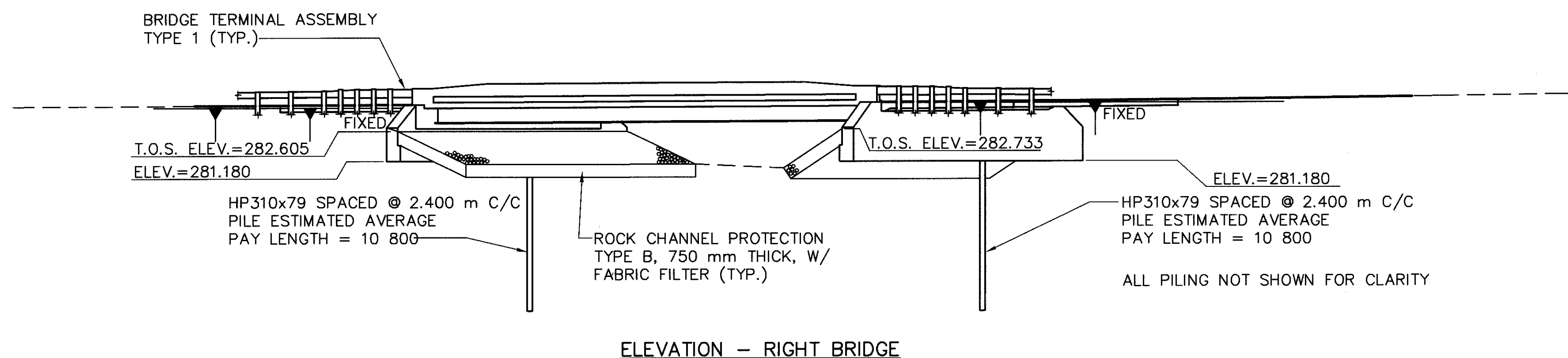
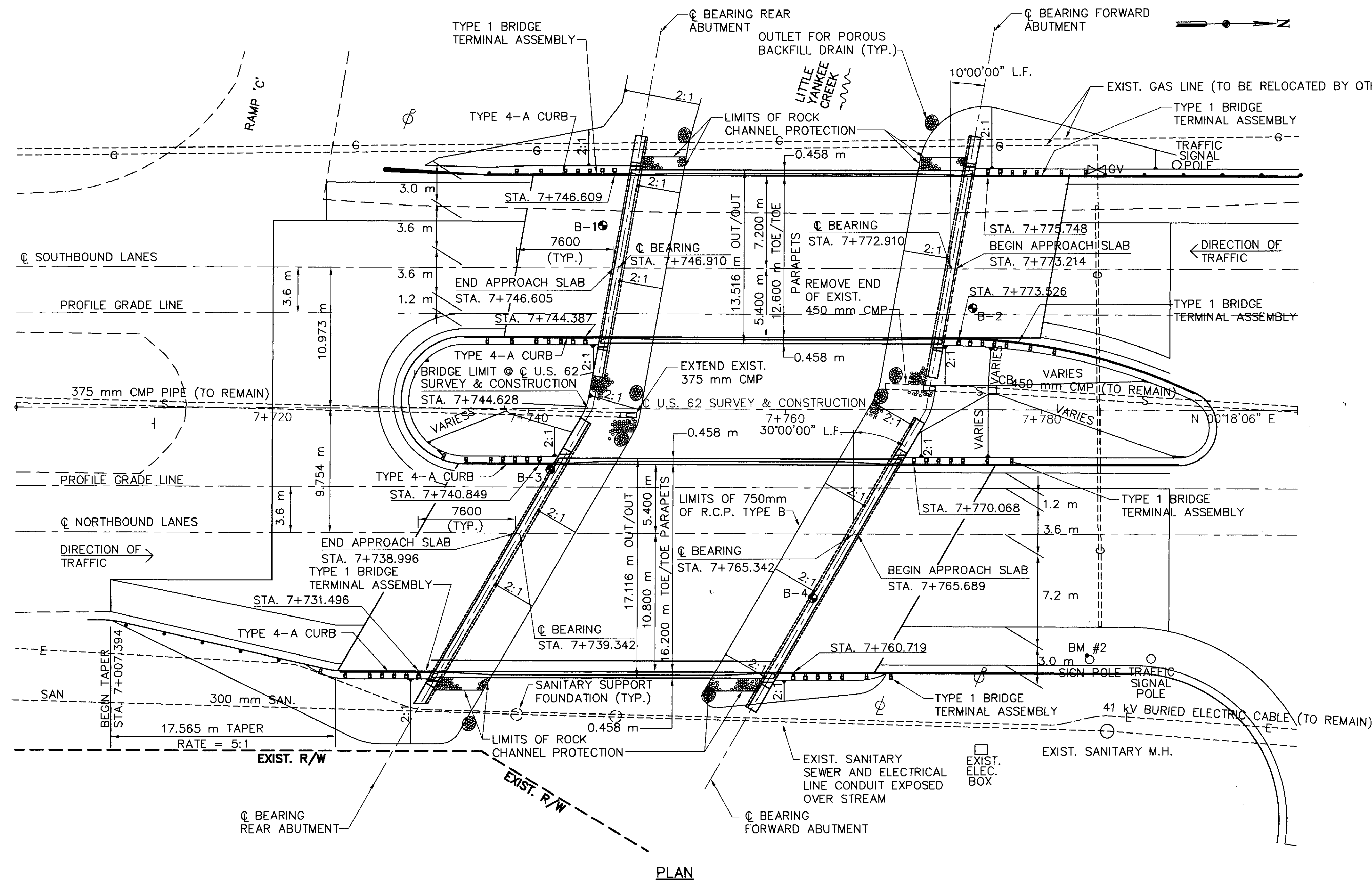
DRAWN
MEF
CHECKED
CJP

TRUMBULL COUNTY
7+746.605
7+773.214

SITE PLAN 1
BRIDGE NO. TRU-62-07745L
OVER LITTLE YANKEE CREEK

TRU-62-7.720

1 / 17
44
60



PROPOSED WORK:

PHASE 1

DURING PHASE 1 CONSTRUCTION THE SOUTHBOUND LANES OF S.R. 62 SHALL BE CLOSED AND THE CONTRACTOR SHALL DIVERT TRAFFIC TO THE NORTHBOUND LANES AS SHOWN ON THE MAINTENANCE OF TRAFFIC SHEETS. THE SOUTHBOUND STRUCTURE SHALL THEN BE CONSTRUCTED IN ITS ENTIRETY.

PHASE 2

DURING PHASE 2 CONSTRUCTION THE NORTHBOUND LANES OF S.R. 62 SHALL BE CLOSED AND THE CONTRACTOR SHALL DIVERT TRAFFIC TO THE SOUTHBOUND LANES AS SHOWN ON THE MAINTENANCE OF TRAFFIC SHEETS. THE NORTHBOUND STRUCTURE SHALL THEN BE CONSTRUCTED IN ITS ENTIRETY.

ALL ELEVATIONS AND STATIONS SHOWN ARE IN METERS. ALL OTHER DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

PORTIONS OF STRUCTURE REMOVED, OVER 6 METER SPAN, AS PER PLAN CONTINUED FROM SHEET 4/17

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE US 62 BRIDGES OVER LITTLE YANKEE RUN SCHEDULED FOR REPLACEMENT WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGES.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORMS AND SUBMIT IT TO:

YOUNGSTOWN
MAHONING-TRUMBULL AIR
POLLUTION CONTROL
9 WEST FRONT ST. ROOM 107
YOUNGSTOWN, OHIO 44503
ROBERT RAMHOFF, DIRECTOR
(330) 744-1928
FAX: (330) 744-1928

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE BRIDGE DEMOLITION WORK. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORMS TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORMS WILL INCLUDE:

- THE CONTRACTORS NAME AND ADDRESS
- THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL OR RENOVATION
- A DESCRIPTION OF THE PLANNED DEMOLITION OR RENOVATION WORK AND THE METHOD(S) TO BE USED

A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 705 OAKWOOD STREET, RAVENNA, OHIO, 44266.

BASIS FOR PAYMENT

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202-PORTIONS OF STRUCTURE REMOVED, OVER 6 METER SPAN, AS PER PLAN.

SEALING OF CONCRETE SURFACES

THE SEALER SHALL BE FEDERAL COLOR NO. 27778 - NEUTRAL

GENERAL NOTES

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81M DATED 10-25-94 ICD-1-82M DATED 3-20-95
BR-1M DATED 1-06-99
GSD-1-96M DATED 11-21-97

AND TO SUPPLEMENTAL SPECIFICATIONS:

814 DATED 6-2-98 899 DATED 10-21-98
842 DATED 1-6-99 905 DATED 4-1-98
863 DATED 10-12-99 907 DATED 10-21-98

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997 AND 1998 INTERIM SPECIFICATIONS, AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

DESIGN LOADING - MS18, CASE II AND THE ALTERNATE MILITARY LOADING.
- FUTURE WEARING SURFACE (2.87 kPa)

DESIGN DATA

CONCRETE CLASS S - COMPRESSIVE STRENGTH 31.0 MPa

CONCRETE CLASS C - COMPRESSIVE STRENGTH 27.5 MPa

REINFORCING STEEL - ASTM A615M, A616M, A617M, GRADE 420, MINIMUM YIELD STRENGTH 420 MPa

STRUCTURAL STEEL - ASTM A572, YIELD STRENGTH 350 MPa

DECK PROTECTION METHOD - EPOXY COATED REINFORCING STEEL

- SEALING OF CONCRETE SURFACES
- 65mm CONCRETE COVER

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

PORTIONS OF STRUCTURE REMOVED, OVER 6 METER SPAN,

AS PER PLAN: WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURES SHALL BE REMOVED. ABUTMENTS SHALL BE REMOVED TO ELEVATION 280.18±.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING STRUCTURES, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE ENGINEER FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION.

PAYMENT: THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

FOR CONTINUATION OF THIS NOTE SEE SHEET [3/17].

PILES DRIVEN TO BEDROCK: PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE 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 ULTIMATE BEARING VALUE IS 1213 kN PER PILE FOR THE LEFT BRIDGE ABUTMENT PILES.

THE ULTIMATE BEARING VALUE IS 1053 kN PER PILE FOR THE RIGHT BRIDGE ABUTMENT PILES.

ABUTMENT PILES:

38 PILES 10.8 METERS LONG, ESTIMATED LENGTH.
38 PILES OF ORDER LENGTH 10.8 METERS LONG
19 SPLICES

STRUCTURE EXCAVATION: EXCAVATION NOT MADE AS PART OF 202 OR 518 AND ALL NECESSARY BACKFILL SHALL BE INCLUDED IN THE LUMP SUM BID ITEM "UNCLASSIFIED EXCAVATION" FOR PAYMENT.

ITEM 503 UNCLASSIFIED EXCAVATION: 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.

MAINTENANCE OF TRAFFIC: TWO LANE, TWO WAY TRAFFIC SHALL BE MAINTAINED ON STATE ROUTE 62 AT ALL TIMES.

(SEE SHEETS 7/60 TO 24/60 ROADWAY PLANS).

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

ITEM 842 CLASS C CONCRETE, ABUTMENT, INCLUDING FOOTING, AS PER PLAN: INSTALL A 900 mm WIDE STRIP, 2.5mm THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT AT LOCATIONS SHOWN IN THE PLANS. SECURE 1 METER WIDE NEOPRENE SHEETING TO THE CONCRETE WITH 32mm x 3mm (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 25mm OUTSIDE DIAMETER, 3mm GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 225mm. 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 150mm± 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 150mm± FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 150mm 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 150mm IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 2.5mm THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I. DUPONT DE NEMOURS 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	D751	2.5±.25
BREAKING STRENGTH, GRAB WXF, N, MINIMUM	D751	3130x3130
ADHESIVE 25mm STRIP, 50mm MINIMUM, N MINIMUM	D751	27
BURST STRENGTH(MULLEN) MPa, MINIMUM	D751	9.65
HEAT AGING 70 HOURS T 100°C, 180° BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLINESS 1 HOUR AT -40°C, BEND AROUND 6mm MANDREL	D2136	NO CRACKING OF COATING

IN LIEU OF THE NEOPRENE SHEETING THE CONTRACTOR MAY CHOOSE TO SUPPLY TYPE 3 MEMBRANE, 711.29.

PAYMENT FOR LABOR, MATERIALS AND INSTALLATION OF THESE ITEMS SHALL BE INCLUDED IN ITEM 842 CLASS C CONCRETE, ABUTMENT, INCLUDING FOOTING, AS PER PLAN.

LEFT STRUCTURE ESTIMATED QUANTITIES

CALC. KJO DATE:10/19/99 CHK'D MEF DATE: 3/20/00

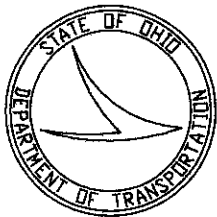
ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	ABUT.	SUPER	GEN.	SEE SHEET
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 6 METER SPAN, AS PER PLAN			LUMP	3/17, 4/17
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING			LUMP	
503	21300	LUMP		UNCLASSIFIED EXCAVATION			LUMP	
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION			LUMP	
507	00200	173	METER	STEEL PILES HP310X79, FURNISHED	173			
507	00250	173	METER	STEEL PILES HP310X79, DRIVEN	173			
507	50500	8	EACH	STEEL PILE SPLICES	8			
SPECIAL	51267510	226	SQ METER	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) *	25	201		
518	21200	69	CU METER	POROUS BACKFILL WITH FILTER FABRIC	69			
518	40000	38.1	METER	150 MM PERFORATED CORRUGATED PLASTIC PIPE	38.1			
518	40011	16.0	METER	150 MM NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	16.0			5/17
842	31508	134	CU METER	CLASS S CONCRETE, SUPERSTRUCTURE		134		
842	43501	61	CU METER	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN	61			4/17
863	10261	57 048	KILOGRAM	STRUCTURAL STEEL MEMBERS, LEVEL THREE (3) FABRICATION, AS PER PLAN		57 048		16/17,17/17
863	20000	1035	EACH	WELDED STUD SHEAR CONNECTOR		1035		

RIGHT STRUCTURE ESTIMATED QUANTITIES

CALC. KJO DATE:10/19/99 CHK'D MEF DATE:10/19/99

ITEM	ITEM EXT.	QUANTITY	UNIT	DESCRIPTION	ABUT.	SUPER	GEN.	SEE SHEET
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 6 METER SPAN, AS PER PLAN			LUMP	3/17, 4/17
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING			LUMP	
503	21300	LUMP		UNCLASSIFIED EXCAVATION			LUMP	
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION			LUMP	
507	00200	238	METER	STEEL PILES HP310X79, FURNISHED	238			
507	00250	238	METER	STEEL PILES HP310X79, DRIVEN	238			
507	50500	11	EACH	STEEL PILE SPLICES	11			
SPECIAL	51267510	248	SQ METER	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) *	30	218		
518	21200	95	CU METER	POROUS BACKFILL WITH FILTER FABRIC	95			
518	40000	51.9	METER	150 MM PERFORATED CORRUGATED PLASTIC PIPE	51.9			
518	40011	16.0	METER	150 MM NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	16.0			5/17
842	31508	172	CU METER	CLASS S CONCRETE, SUPERSTRUCTURE		172		
842	43501	81	CU METER	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN	81			4/17
863	10261	68 900	KILOGRAM	STRUCTURAL STEEL MEMBERS, LEVEL THREE (3) FABRICATION, AS PER PLAN		68 900		16/17,17/17
863	20000	1242	EACH	WELDED STUD SHEAR CONNECTOR		1242		

* - SEE PROPOSAL NOTE



metric
units

DESIGN AGENCY
HAMMOND & ASSOCIATES, LTD.
ENGINEERS, PLANNERS, SURVEYORS
CANTON PITTSBURGH AKRON
LAURENCE, OHIO

DATE
3-10-00
REVIEWED
KAB
STRUCTURE FILE NUMBER
7803133 L / 7803192 R

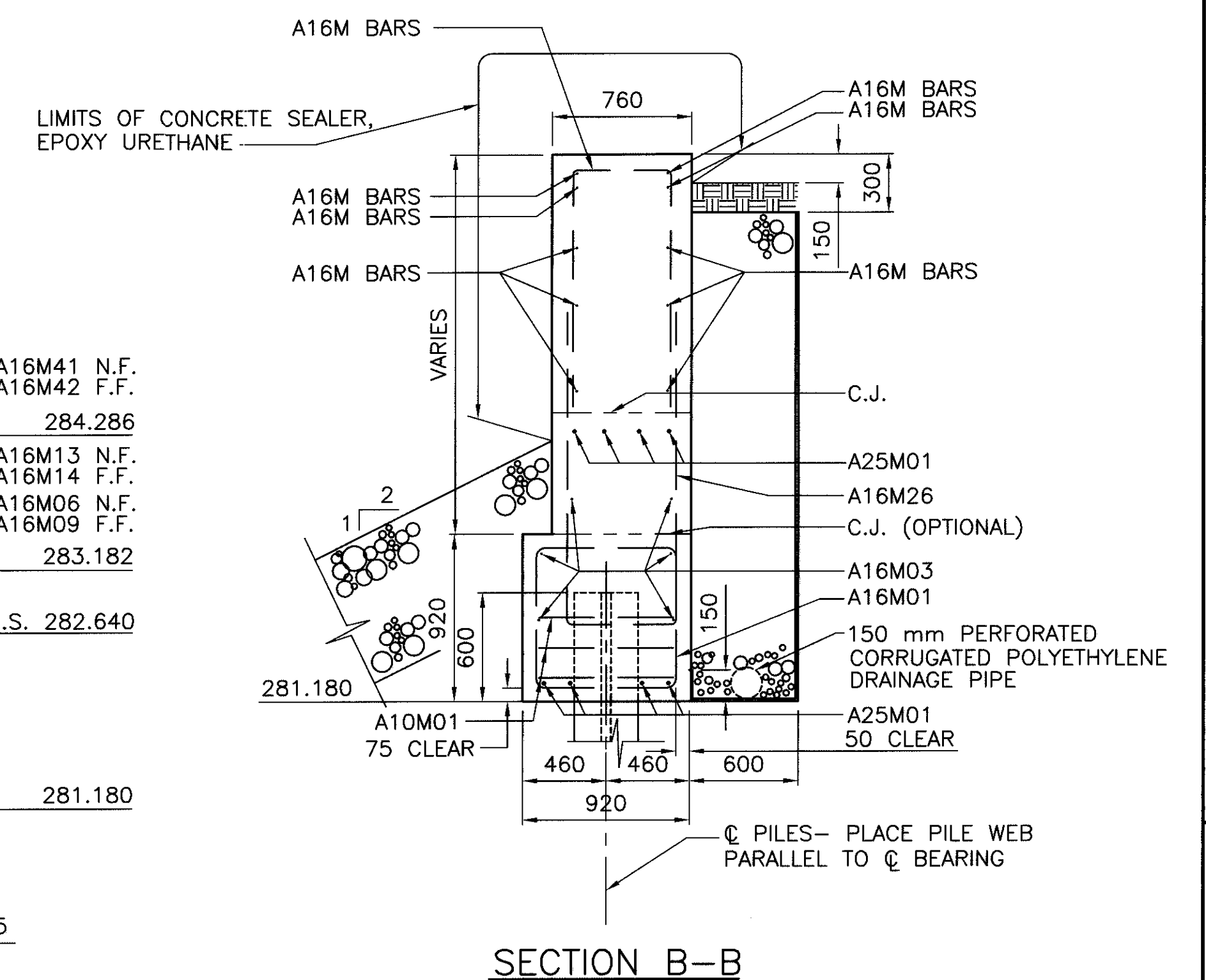
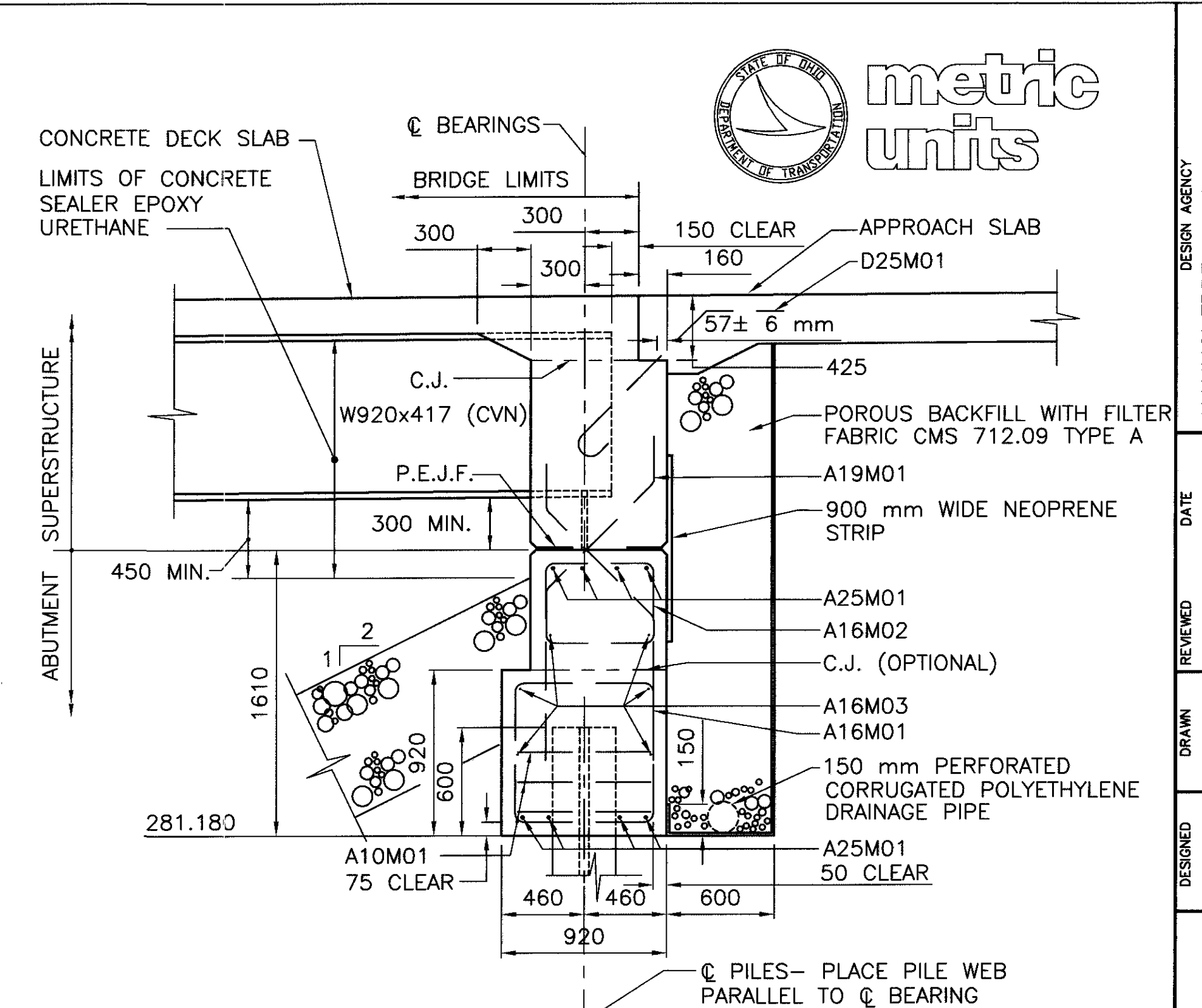
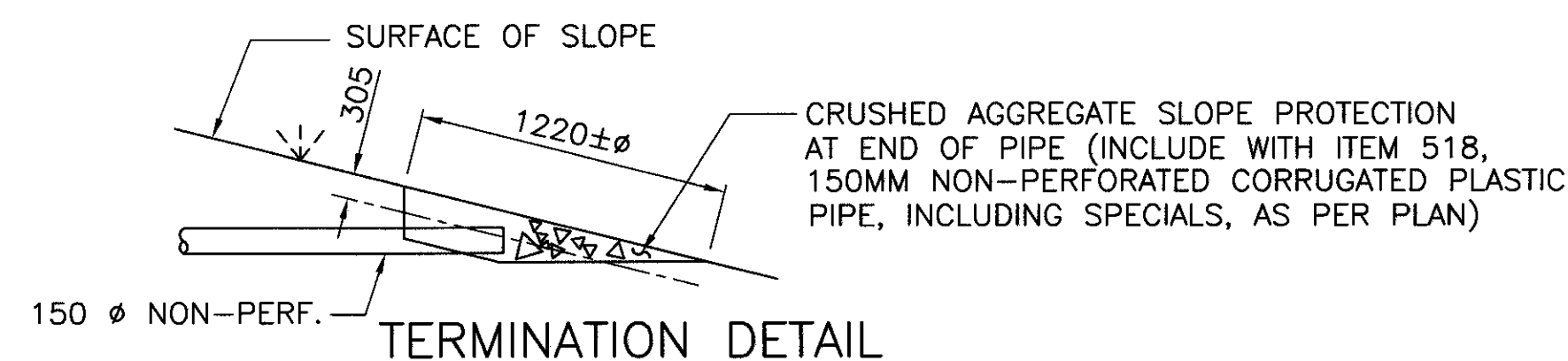
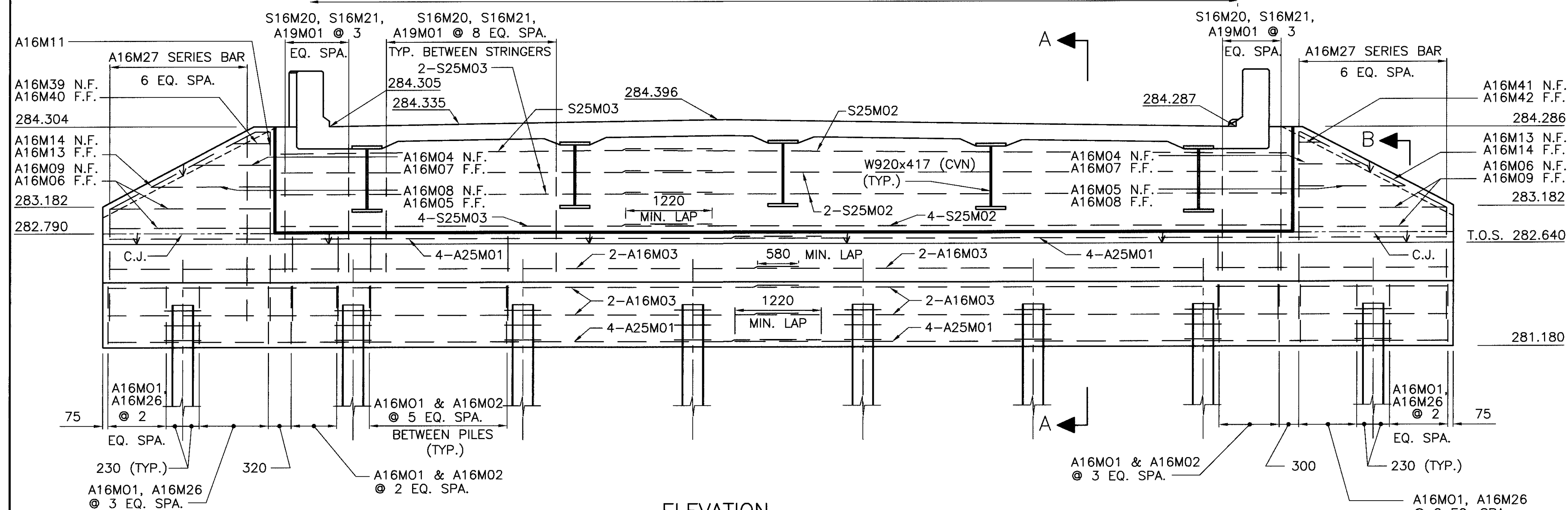
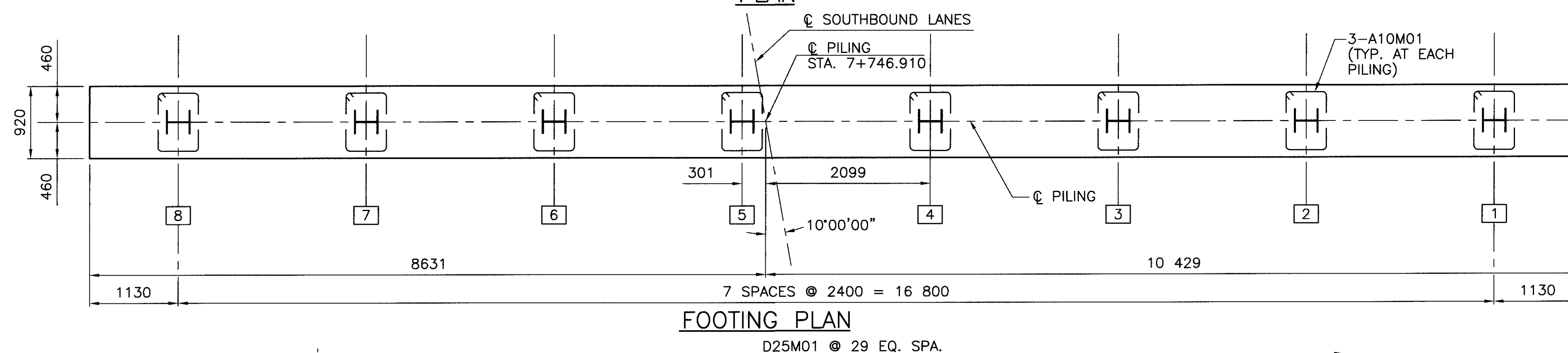
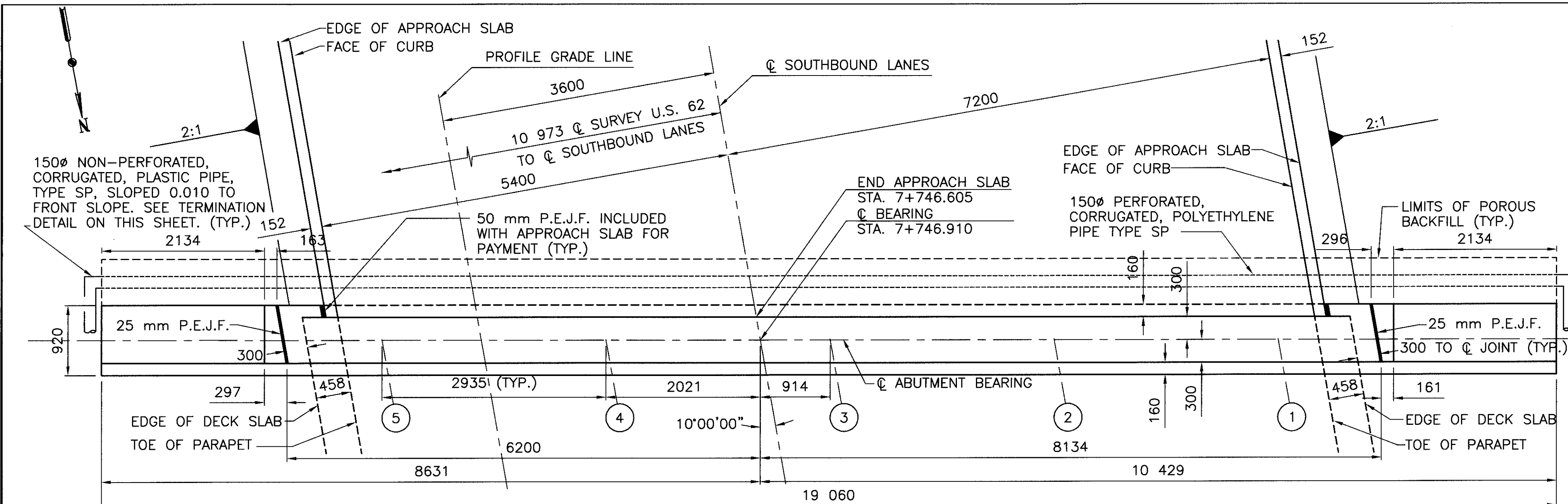
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GENERAL NOTES & ESTIMATED QUANTITIES
BRIDGE NO. TRU-62-07745L&R
OVER LITTLE YANKEE CREEK

TRU-62-7.720

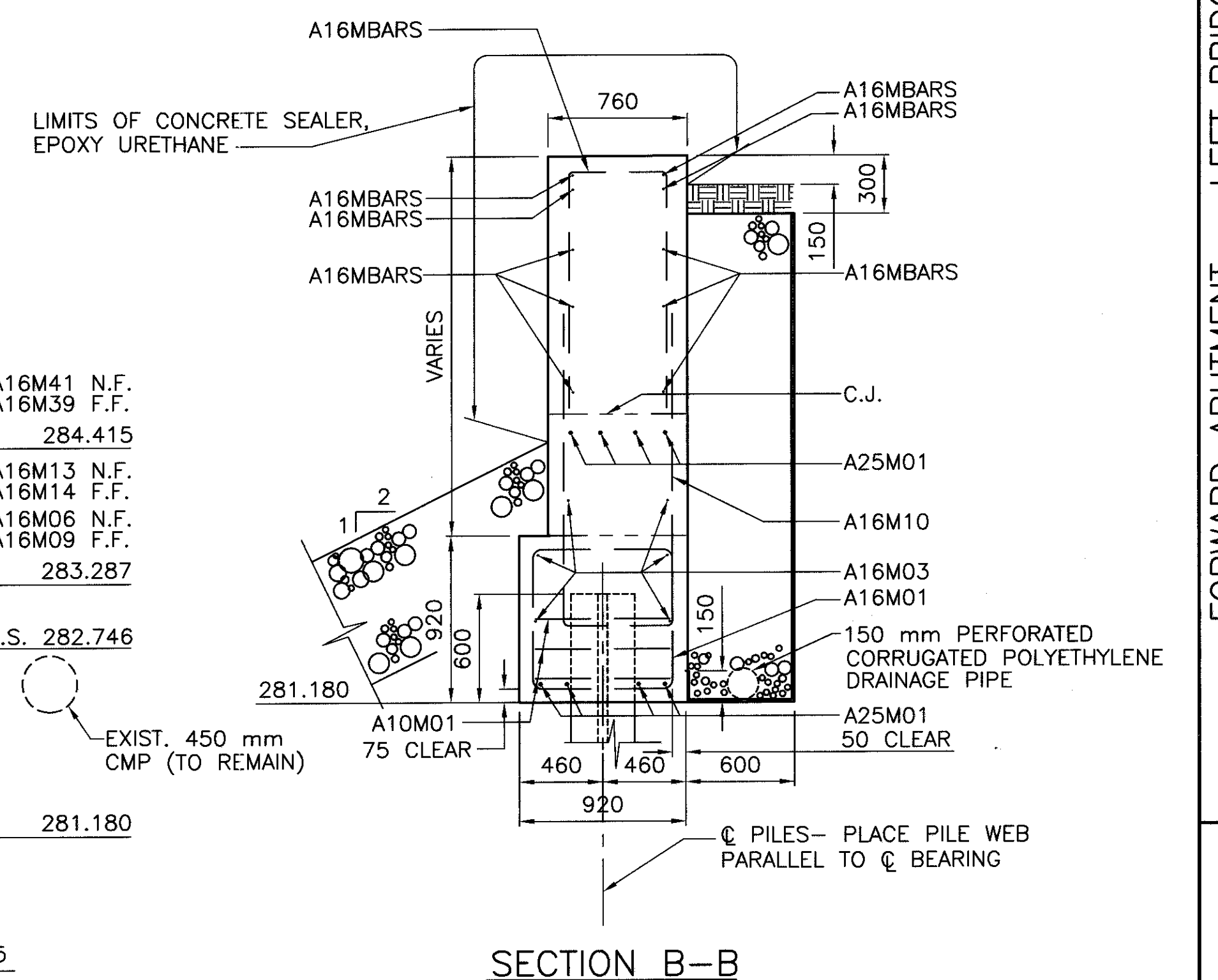
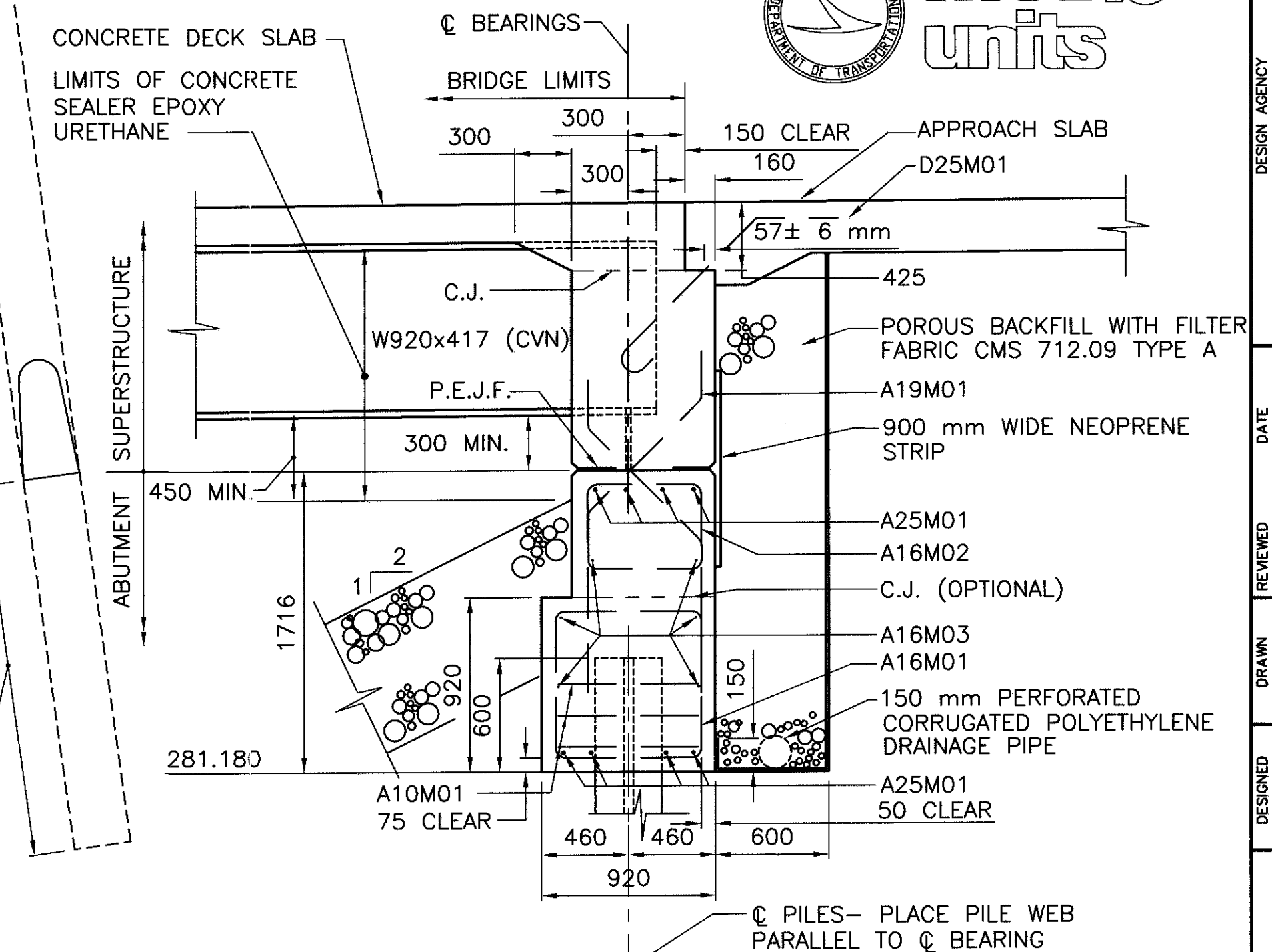
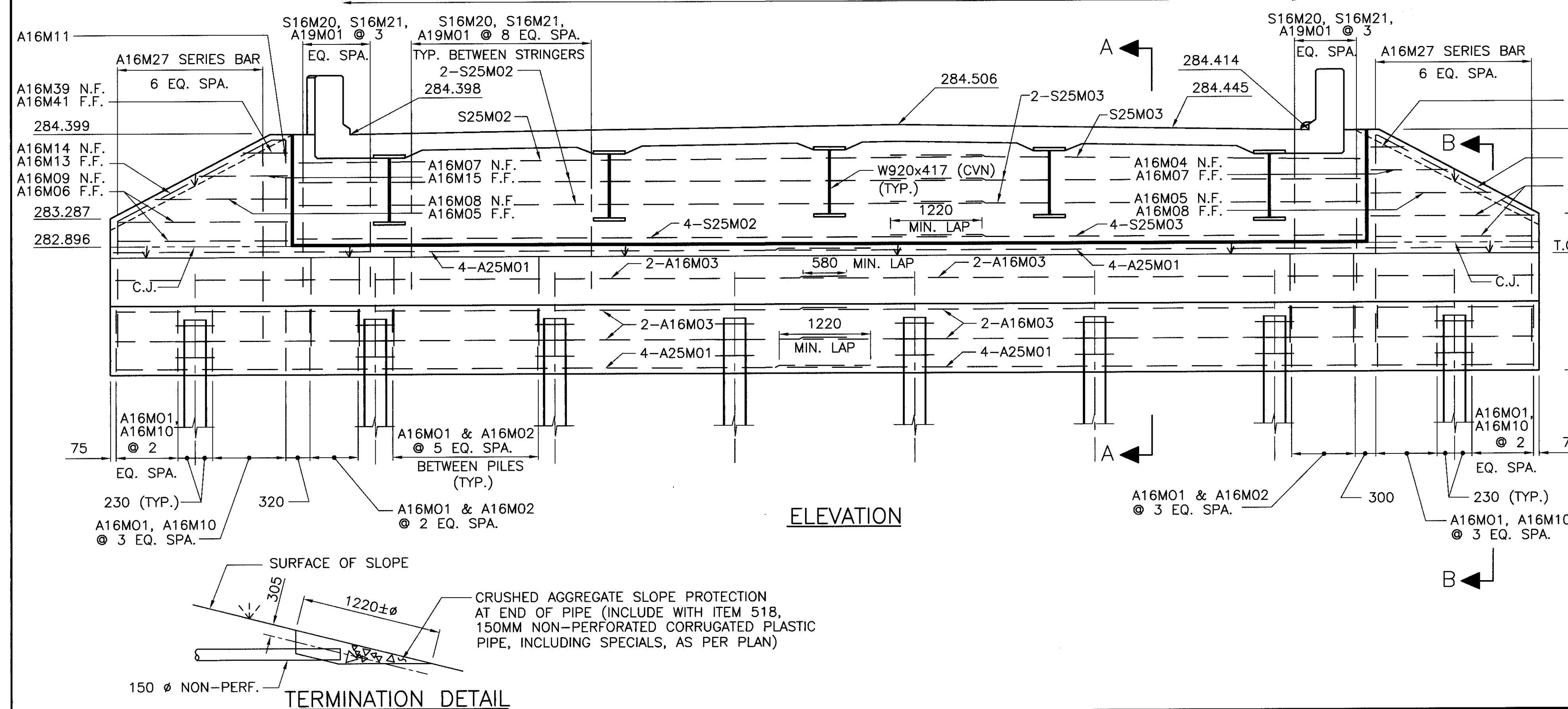
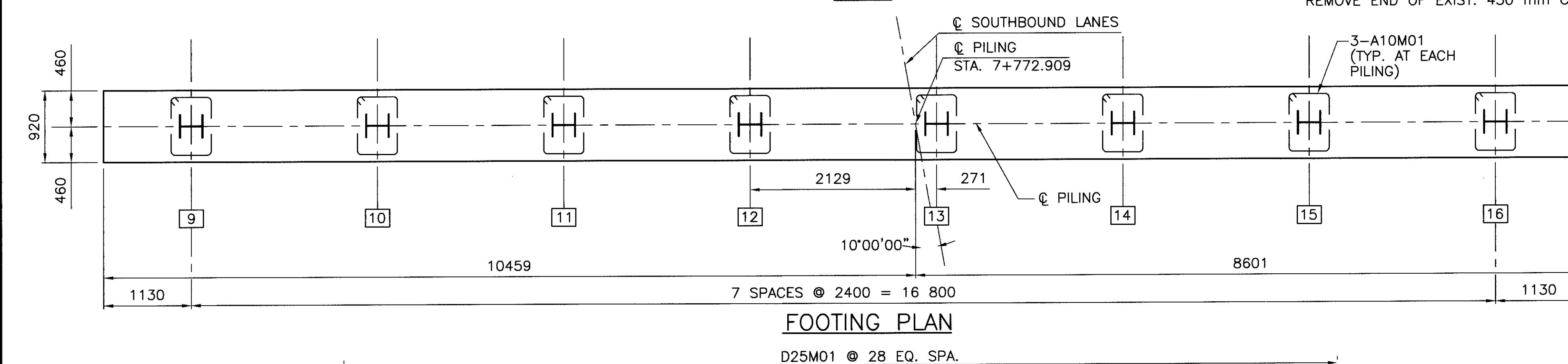
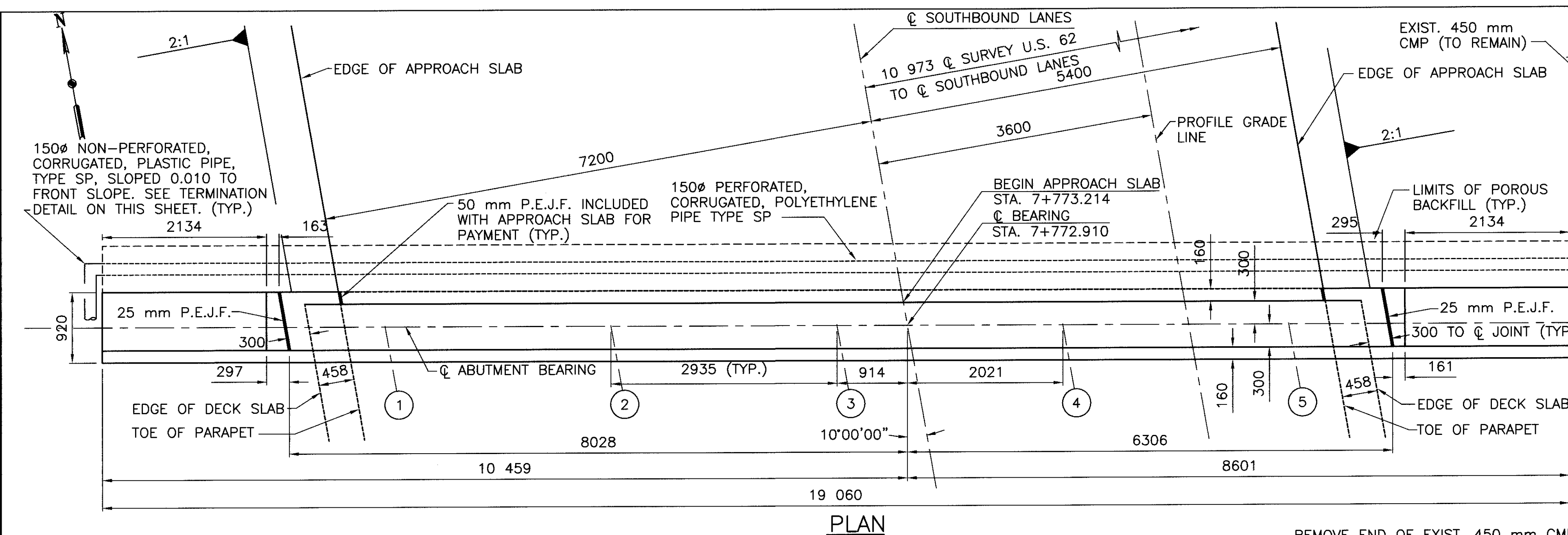
4 / 17

47
60



NOTES:

- 1) MINIMUM LAP LENGTHS SHALL BE 580 FOR NUMBER 16M BARS AND 1220 FOR NUMBER 25M BARS.
- 2) POROUS BACKFILL WITH FILTER FABRIC, 600 THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 300mm BELOW THE EMBANKMENT SURFACE AND Laterally to the edge of the wingwall. GEOTEXTILE FABRIC SHALL CONFORM WITH 712.09, TYPE A. GEOTEXTILE FABRIC IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.
- 3) DECK ELEVATIONS SHOWN ARE ALONG EDGE OF APPROACH SLAB. ALL OTHER ELEVATIONS SHOWN AT NEAR FACE.

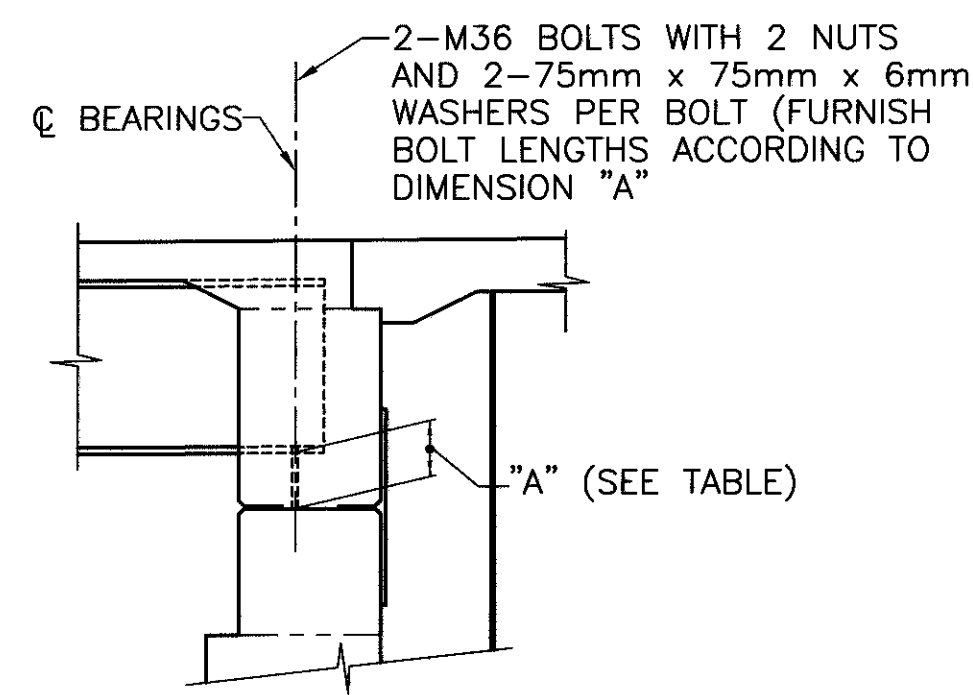
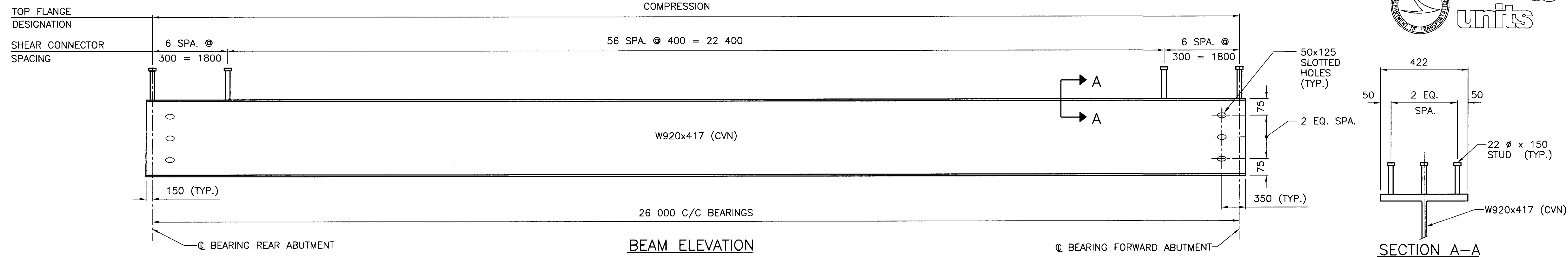


NOTES:

- 1) FOR ADDITIONAL NOTES SEE SHEET 5/17.
- 2) FOR ADDITIONAL DETAILS SEE SHEET 5/17.

LEGEND

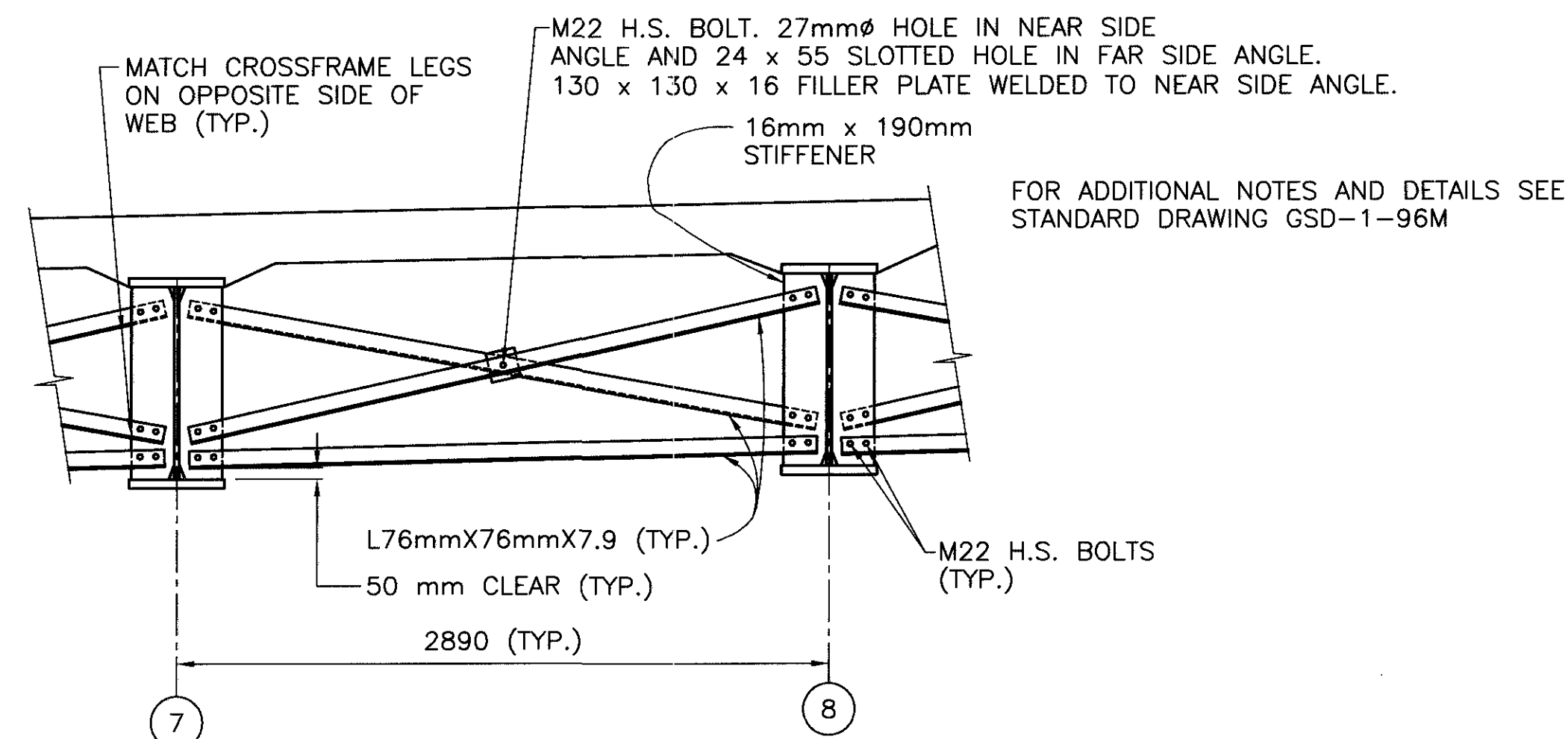
N.F. - NEAR FACE
F.F. - FAR FACE
P.E.J.F.-PREFORMED EXPANSION JOINT FILLER
C.J.-CONSTRUCTION JOINT
SPA.-SPACES
② - BEAM NUMBER
[11] - PILING NUMBER



DIMENSION A		
BEAM NUMBER	REAR	FORWARD
1	300	302
2	343	345
3	387	388
4	367	368
5	319	319

SCREED ELEVATIONS					
LOCATION	CL BRG. REAR ABUT.	1/4 SPAN	MIDSPAN	3/4 SPAN	CL BRG. FWD. ABUT.
LEFT CURB	284.288	284.373	284.409	284.423	284.396
BEAM 1	284.296	284.381	284.417	284.431	284.404
BEAM 2	284.340	284.426	284.461	284.475	284.447
BEAM 3	284.384	284.470	284.506	284.519	284.491
CL LANES	284.397	284.484	284.519	284.533	284.504
BEAM 4	284.364	284.451	284.486	284.500	284.470
PROFILE GRADE	284.337	284.424	284.459	284.473	284.443
BEAM 5	284.315	284.402	284.438	284.452	284.421
RIGHT CURB	284.306	284.394	284.429	284.443	284.413

DEFLECTION AND CAMBER					
LOCATION	CL BRG. REAR ABUT.	1/4 SPAN	MIDSPAN	3/4 SPAN	CL BRG. FWD. ABUT.
DEFLECTION DUE TO WEIGHT OF STEEL	0	11	16	11	0
DEFLECTION DUE TO REMAINING DEAD LOAD	0	59	70	59	0
ADJUSTMENT REQUIRED FOR VERTICAL CURVE	0	0	0	0	0
REQUIRED SHOP CAMBER	0	+70	+86	+70	0



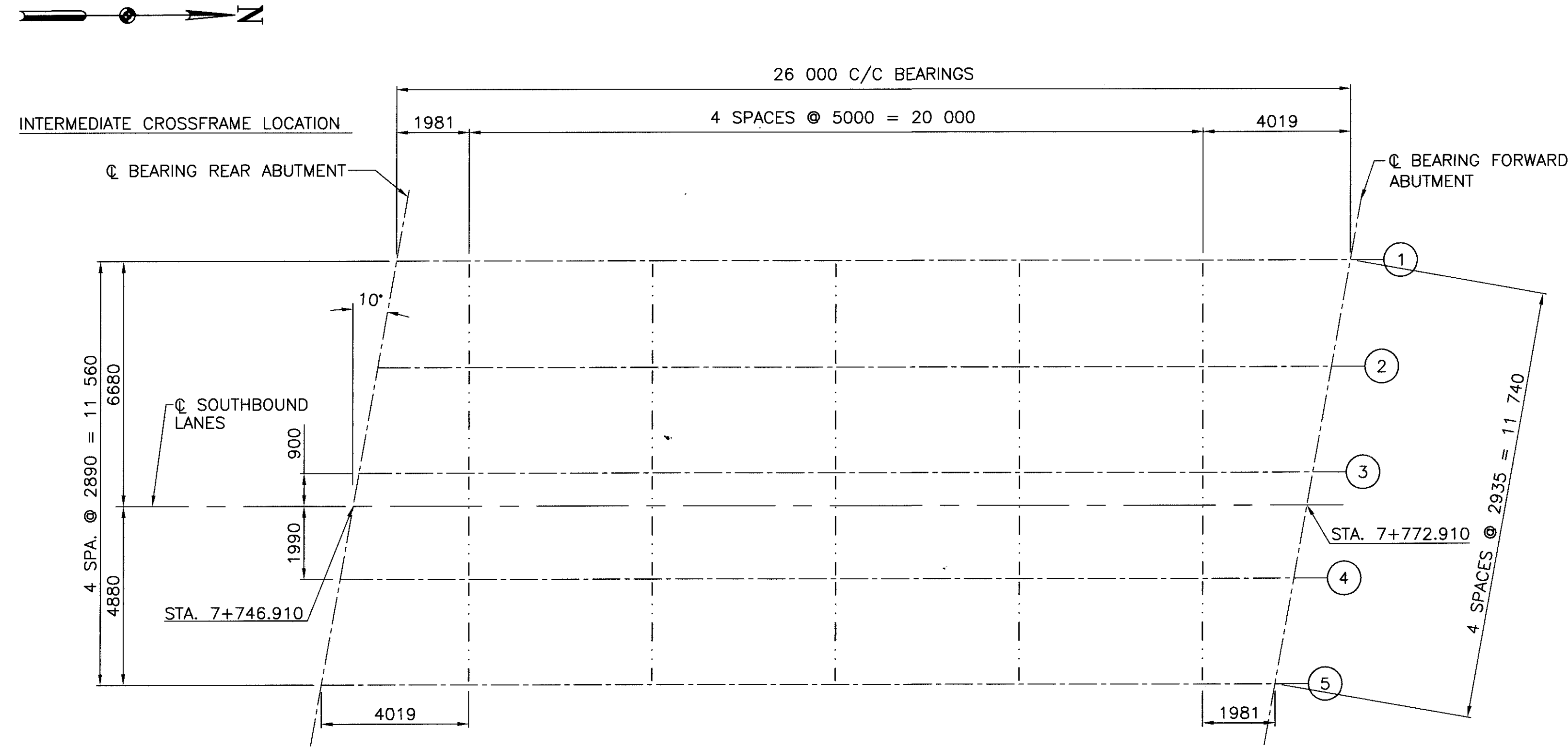
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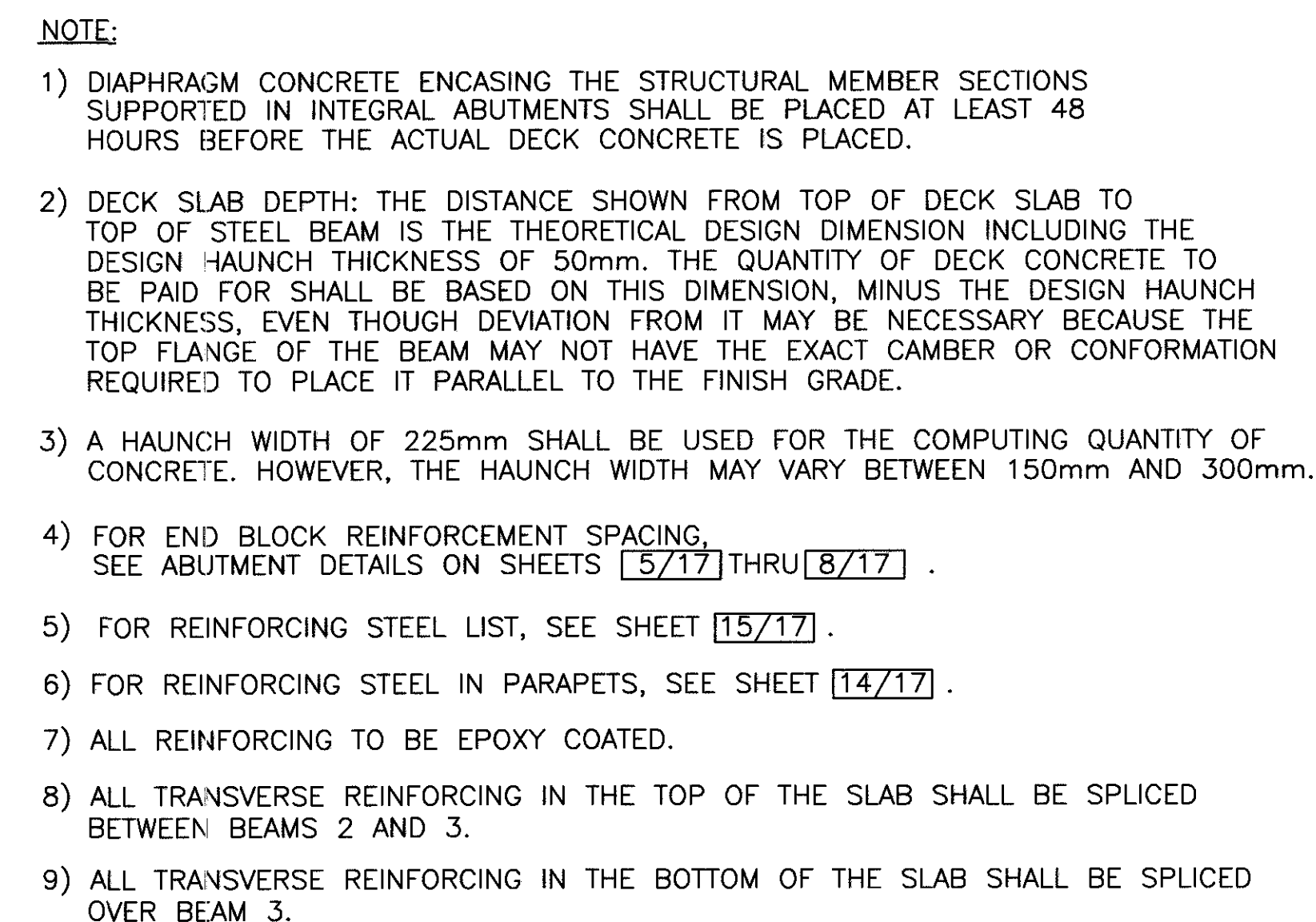
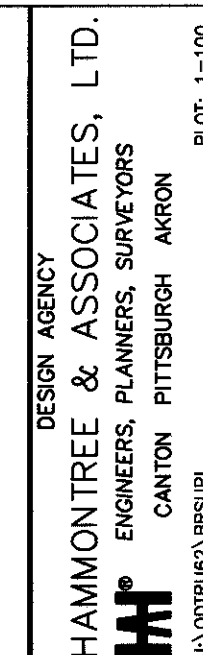
- 1.) SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.
- 2.) WELDED ATTACHMENTS OF SUPPORTS FOR CONCRETE FINISHING MACHINE MAY BE MADE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 25mm FROM EDGE OF FLANGE, BE NOT MORE THAN 50mm LONG, AND BE NOT SMALLER THAN THE MINIMUM SIZE REQUIRED BY AASHTO.
- 3.) ALL STEEL SHALL BE SHOP METALLIZED IN ACCORDANCE WITH THE NOTES ON SHEETS 16/17 AND 17/17.
- 4.) CVN - WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

LEGEND:

2 - BEAM NUMBER

SPA. - SPACES





SECTION A-A

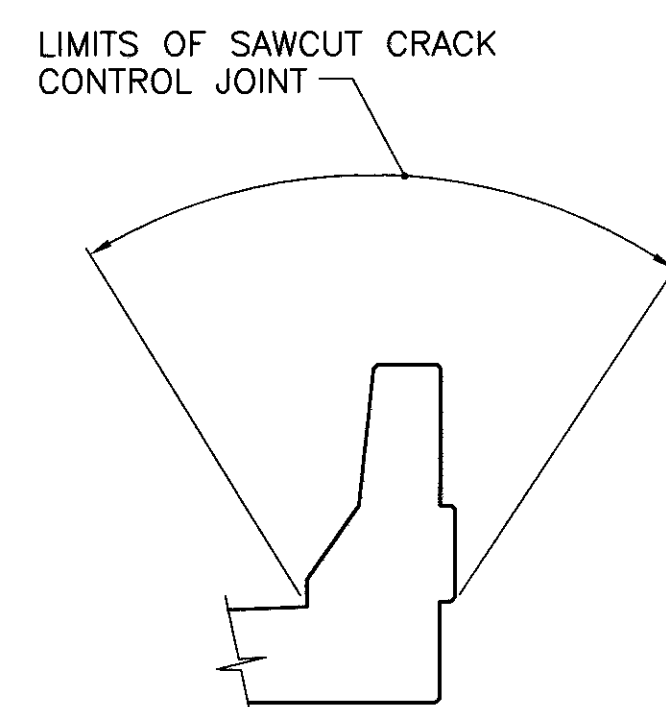
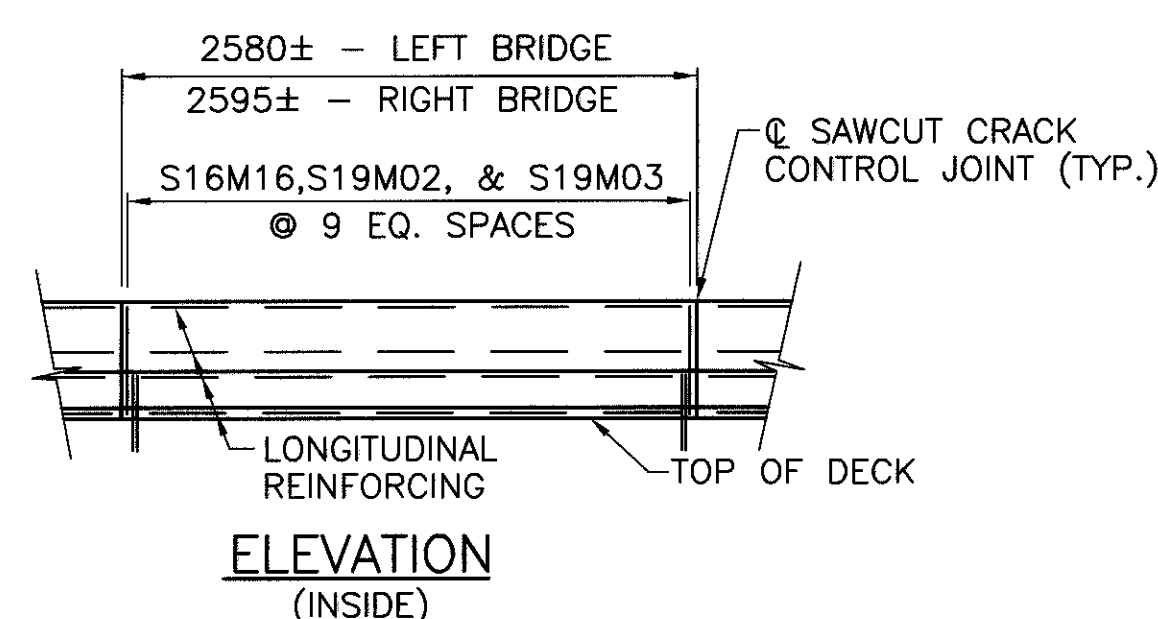
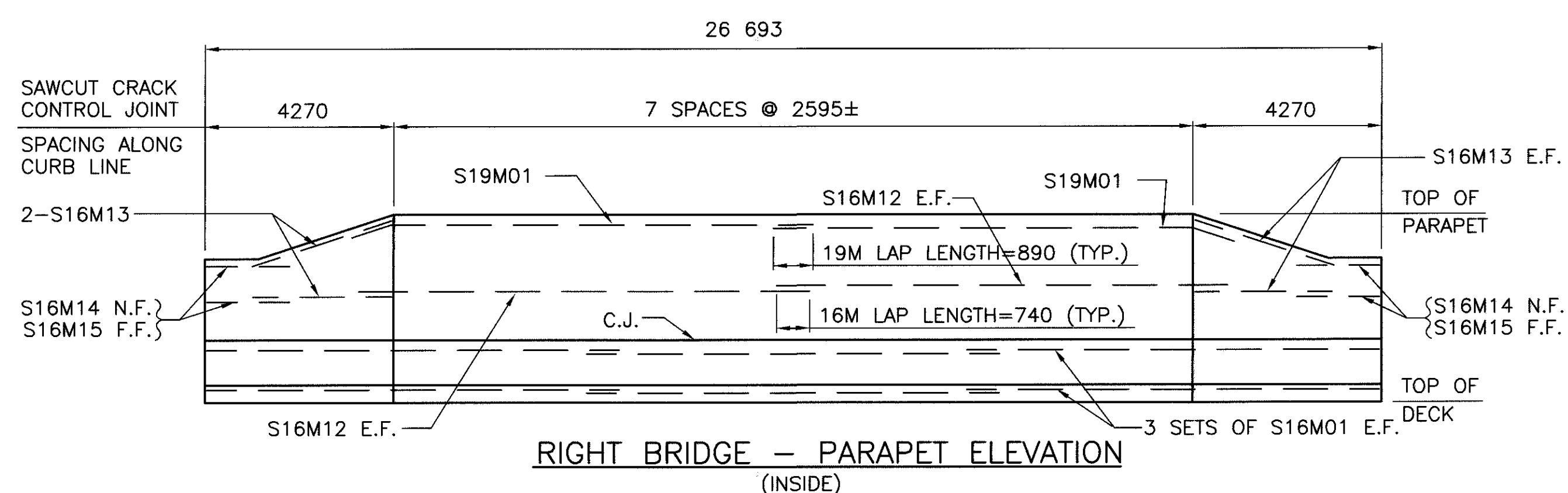
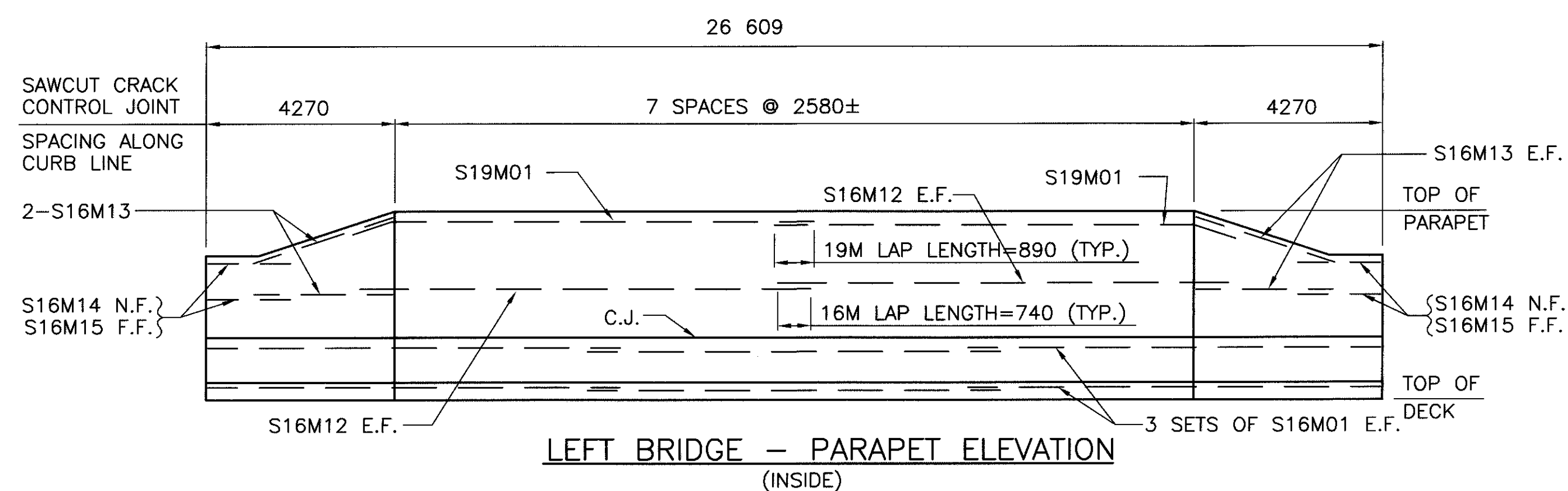
LEGEND:

② - BEAM NUMBER

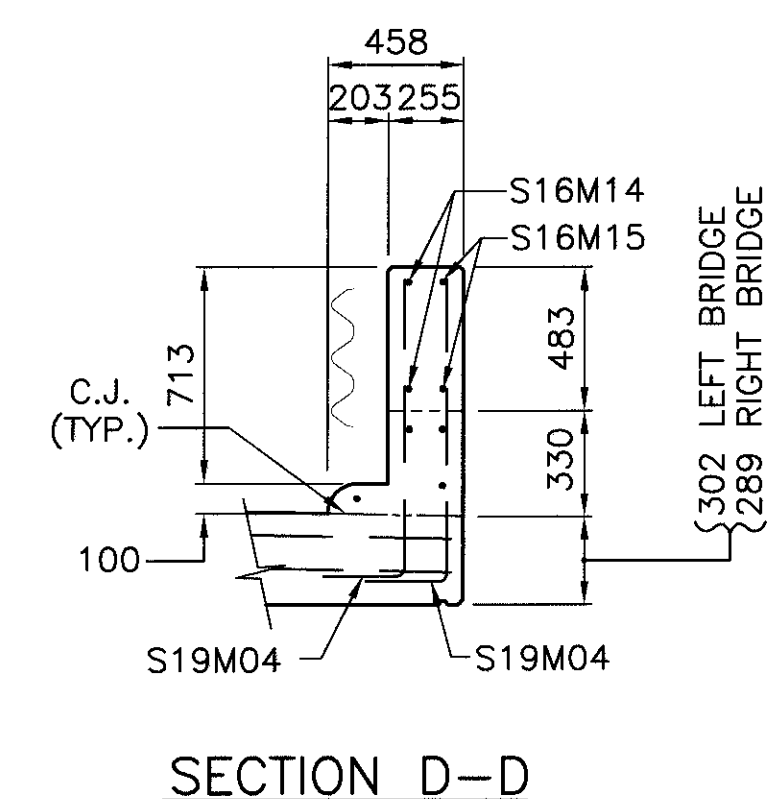
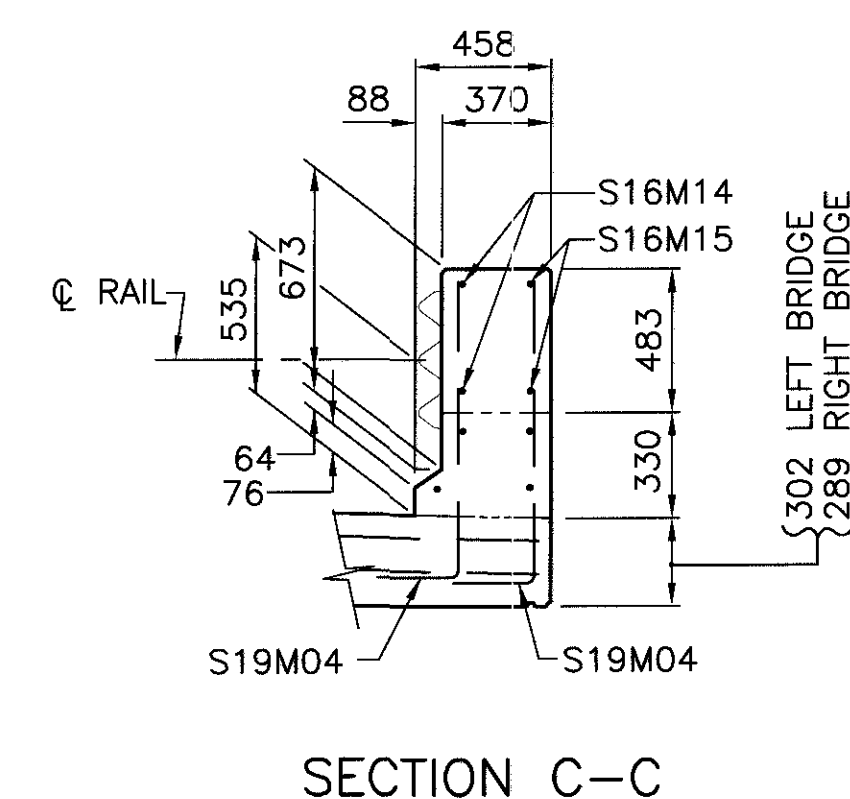
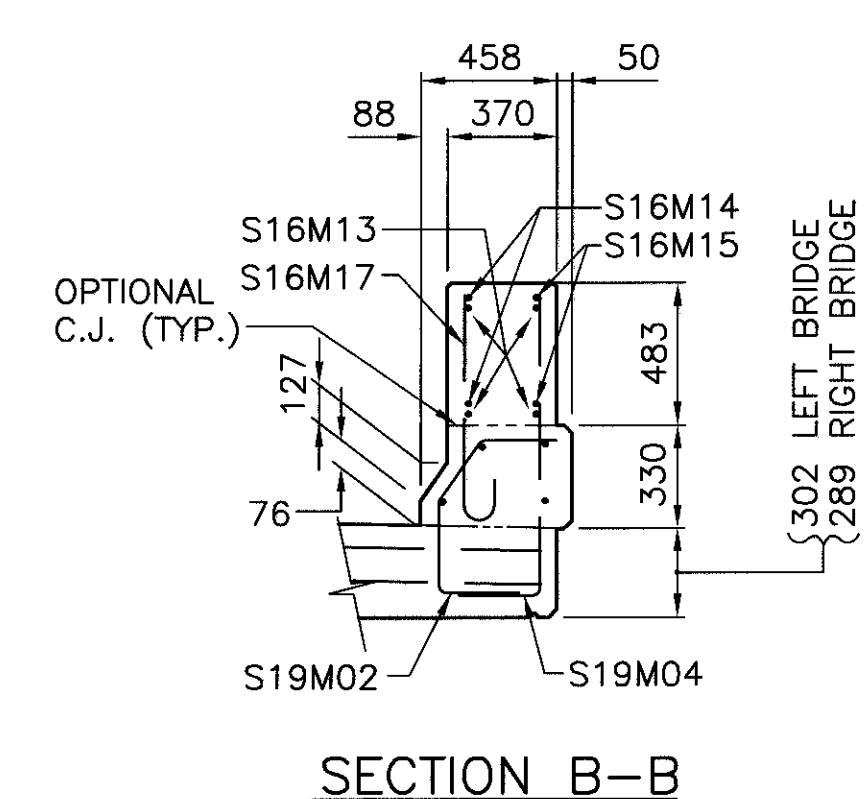
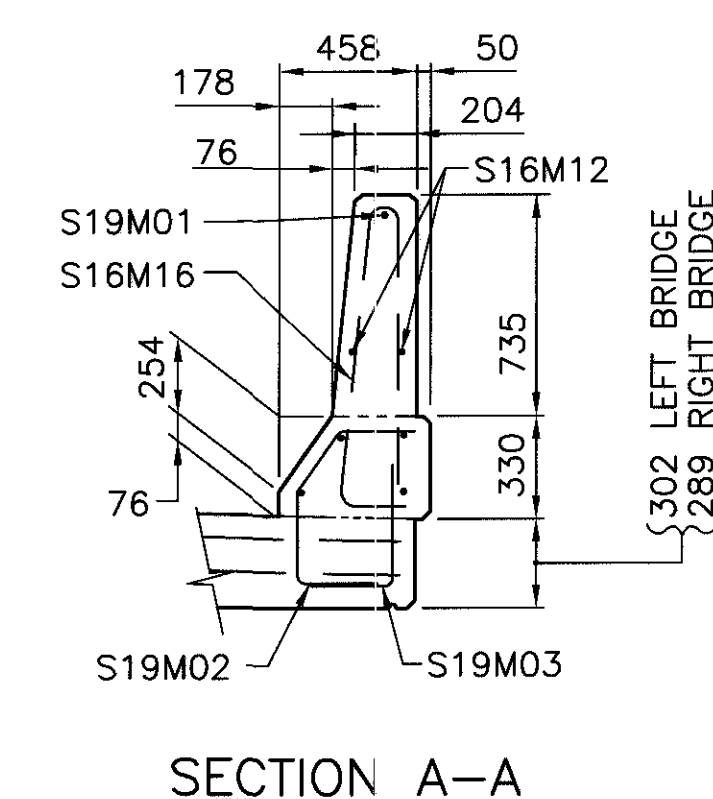
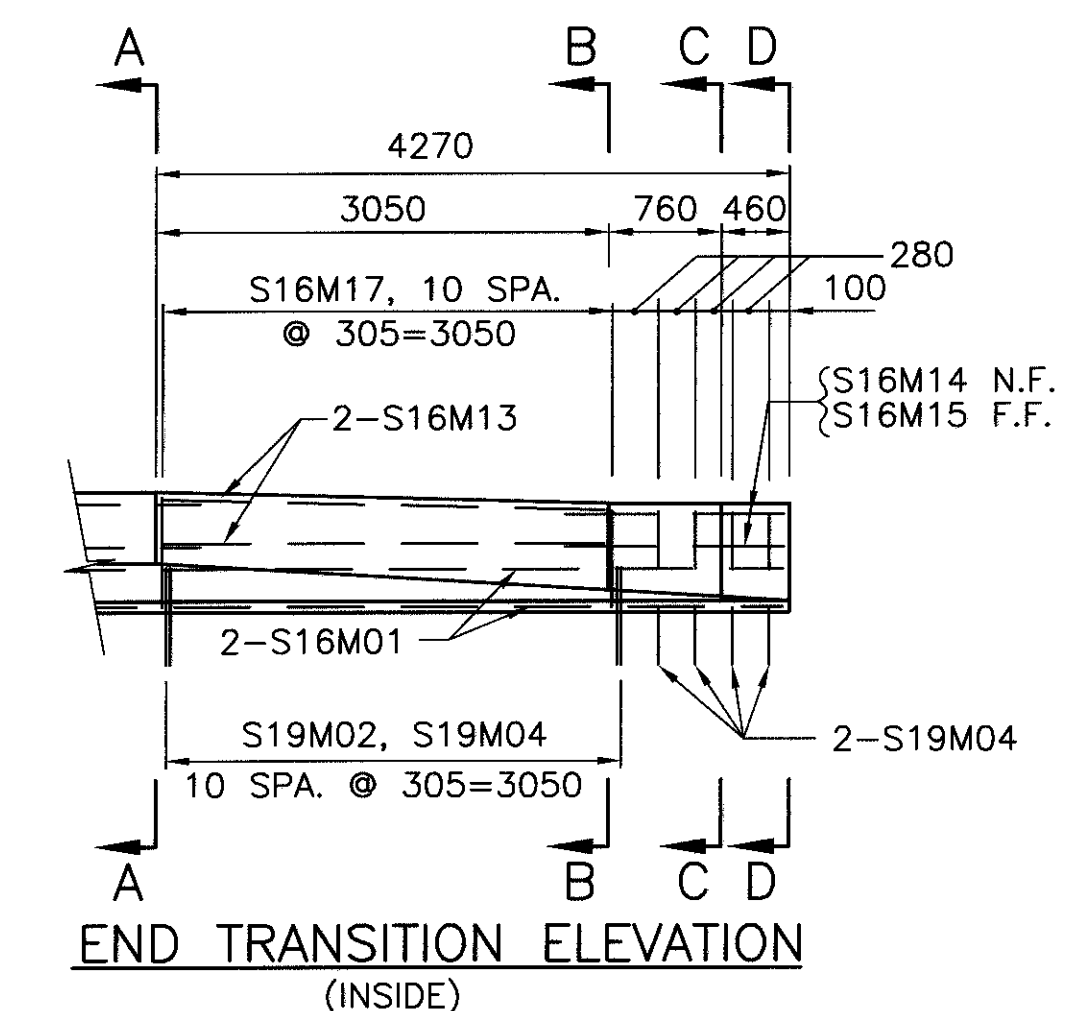
SPA. - SPACES

P.E.J.F. - PREFORMED EXPANSION JOINT FILLER





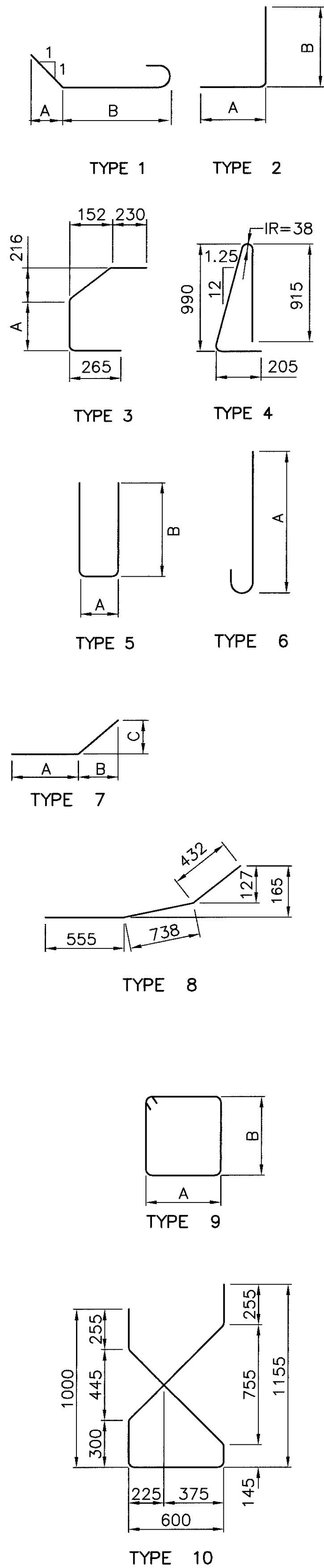
SAWCUT SHALL BE 32mm DEEP AND SHALL BE FILLED WITH CAULK. THE BOTTOM 13mm OF BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET SHOULD BE LEFT UNSEALED TO ALLOW ANY WATER TO ESCAPE. CAULKING MATERIAL SHALL BE IN ACCORDANCE WITH FEDERAL SPECIFICATION TT-S-00227E. SEE SHEET 4/17 FOR ADDITIONAL NOTES.



NOTE: ALL LONGITUDINAL BARS ARE TO BE S16M01 UNLESS OTHERWISE NOTED.

LEGEND
E.F.-EACH FACE
N.F.-NEAR FACE
F.F.-FAR FACE
C.J.-CONSTRUCTION JOINT
SPA.-SPACES

BENDING DIAGRAMS



MARK	NUMBER (LEFT)			NUMBER (RIGHT)			LENGTH	MASS		TYPE	DIMENSIONS				
	REAR	FWD	TOTAL	REAR	FWD	TOTAL		LEFT	RIGHT		A	B	C	SETS	INCR.
ABUTMENTS															
A10M01	24	24	48	33	33	66	2645	72	98	9	740	770			
A16M01	50	51	101	64	67	131	3110	488	633	9	770	770			
A16M02	37	37	74	51	51	102	3175	365	503	5	600	1325			
A16M03	12	12	24	12	12	24	9770	364	364	ST.					
A16M04	2	1	3		1	1	1010	5	2	ST.					
A16M05	2	2	4		1	1	1610	10	3	ST.					
A16M06	4	4	8		2	2	2190	28	7	ST.					
A16M07	2	2	4	3	1	4	1125	7	7	ST.					
A16M08	2	2	4	2		2	1725	11	6	ST.					
A16M09	4	4	8				2310	29		ST.					
A16M10		14	14		16	16	3725	81	93	5	600	1600			
A16M11	1	1	2				3405	11		5	600	1440			
A16M12				1		1	3085		5	5	600	1280			
A16M13	2	2	4				2450	16		7	2360	80	40		
A16M14	2	2	4				2565	16		7	2360	180	95		
A16M15		1	1				1060	2		ST.					
A16M16				4		4	1890		12	ST.					
A16M17				1		1	2065		4	7	1575	435	225		
A16M18				1		1	2105		4	7	1975	115	60		
A16M19				2	2	4	2805		9	ST.					
A16M20				2	2	4	3190		20	ST.					
A16M21				1	1	2	2135		7	ST.					
A16M22				1	1	2	2515		8	ST.					
A16M23				1	1	2	1455		5	ST.					
A16M24				1	1	2	1835		6	ST.					
A16M25				1	1	2	775		3	ST.					
A16M26	13		13	13		13	3445	70	70	5	600	1460			
A16M27	14	14	28		7	7	1180 TO 3405			5	600	330 TO 1440	5	370	
A16M28				7		7	1180 TO 3085			5	600	330 TO 1280	1	380	
A16M29				7	7	14	1180 TO 3585			5	600	330 TO 1530	2	300	
A16M30					1	1	2850		5	7	2360	430	225		
A16M31					1	1	3095		5	7	2965	115	55		
A16M32					1	1	3455		6	7	2965	445	200		
A16M33					1	1	2490		4	7	2360	110	60		
A16M34				6		6	7335		69	ST.					
A16M35				1		1	3075		5	7	2950	110	50		
A16M36				1		1	3435		6	7	2950	440	200		
A16M37					1	1	2015		4	ST.					
A16M38					2	2	2580		8	ST.					
A16M39	1	2	3				570	3		ST.					
A16M40	1		1				685	2		ST.					
A16M41	1	2	3		1	1	420	2		ST.					
A16M42	1		1				535	1		ST.					
A16M43					1	1	830		2	ST.					
A16M44					1	1	3585		6	5	600	1530			
A16M45					1	1	1425		3	ST.					
A16M46					6	6	7620		71	ST.					
A19M01	44	44	88	62	62	124	3100	610	860	10					
A25M01	16	16	32	16	16	32	10 090	1283	1283	ST.					
A25M02				8		8	7975		254	ST.					
A25M03					8	8	8260		263	ST.					
D25M01	30	29	59				1475	346		1	305	763			
D25M02				38	37	75	1590		474	1	305	880			
							TOTAL =	3922	5276						

MARK	NUMBER (LEFT)			NUMBER (RIGHT)			LENGTH	MASS		TYPE	DIMENSIONS				
	REAR	FWD	TOTAL	REAR	FWD	TOTAL		LEFT	RIGHT		A	B	C	SETS	INCR.
SUPERSTRUCTURE															
S13M01			141			177	9490	1330	1670	ST.					
S16M01			162			198	9490	2386	2917	ST.					
S16M02			177				5820	1599		ST.					
S16M03			354				7290	4005		ST.					
S16M04			177				8760	2407		ST.					
S16M05						262	8980		3652	ST.					
S16M06						131	7535		1532	ST.					
S16M07						131	10 425		2120	ST.					
S16M08						36	4270 TO 8690		362	ST.				2	260
S16M09						18	3115 TO 7535		149	ST.				1	260
S16M10						180	620 TO 12 050		1772	ST.				4	260
S16M11						18	5745 TO 10 165		223	ST.				1	260
S16M12			8			8	10 190	127	127	ST.					
S16M13			8			8	3050	38	38	ST.					
S16M14			4			4	1725	11	11	8					
S16M15			4			4	1725	11	11	ST.					
S16M16			140			140	2130	463	463	4					
S16M17			44			44	740 TO 990	60	60	6				8	25
S16M18						4	10 300		64	ST.					
S16M20	44	44	88	62	62	124	2130	291	410	9	650	970			
S16M21	44	44	88	62	62	124	1170	160	226	5	500	650			
S19M01			4			4	10 415	94	94	ST.					
S19M02			184			184	960	395	395	3	300				
S19M03			140			140	990	310	310	2	280	760			
S19M04			76			76	1240	211	211	2	280	1010			
S25M01				9	9	18	12 000		859	ST.					
S25M02	9	9	18	9	9	18	9580	686	686	ST.					
S25M03	9	9	18				5875	421		ST.					
							TOTAL =	15 005	18 783						

NOTE:
1) THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST TWO DIGITS INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A 15M01 IS A 15M BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.
2) ALL REINFORCING STEEL TO BE EPOXY COATED.





metric units

QUALITY CONTROL POINTS

QUALITY CONTROL POINTS (QCP)	PURPOSE
1) QUALIFICATION OF OPERATOR AND EQUIPMENT	TO ASSURE THE PROPOSED EQUIPMENT & OPERATORS CAN PERFORM THE WORK
2) SOLVENT CLEANING	REMOVE ASPHALTIC CEMENT, OIL, GREASE, SALT, DIRT ETC.
3) EDGE GRINDING	REMOVE SHARP CORNERS PER AWS
4) ABRASIVE BLASTING	BLASTED SURFACE TO RECEIVE METALLIC COATING, INCLUDING REPAIR OF FINS, TEARS, SLIVERS OR SHARP EDGES, PER AWS.
5) METALLIZED COAT APPLICATION	CHECK SURFACE CLEANLINESS, APPLY METALLIZING, CHECK COATING THICKNESS.
6) ADHESION	CHECK ADHESION OF METALLIZING.
7) SEAL COAT APPLICATION	CHECK SURFACE CLEANLINESS, APPLY SEAL COAT, CHECK COATING THICKNESS.
8) FIELD REVIEW	VISUAL INSPECTION OF THE SYSTEM FOR ACCEPTANCE.

QUALIFICATION OF OPERATOR AND EQUIPMENT (QCP #1)

THE QCPS SHALL WITNESS AND RECORD OPERATOR AND EQUIPMENT QUALIFICATION TESTS AND ASSURE THE TESTS ARE PERFORMED AS PER THE REQUIREMENTS. THE QA INSPECTOR SHALL BE PRESENT TO WITNESS THE TESTS.

EACH EQUIPMENT OPERATOR MUST DEMONSTRATE THE ABILITY TO ADEQUATELY SET UP AND OPERATE THE EQUIPMENT AND PRODUCE AN ACCEPTABLE COATING. ACCEPTANCE SHALL BE BASED ON THE OPERATOR PRODUCING ADHESION AND BEND TEST PLATES MEETING THE MINIMUM VALUES REQUIRED IN THIS SPECIFICATION.

THE QCPS MUST RECORD THAT EACH OPERATOR DEMONSTRATED THE ABILITY TO APPLY THE METALLIZED COATING AS SPECIFIED.

ADHESION TEST PLATES

IN THE PRESENCE OF THE QCPS AND QA INSPECTORS, THE APPLICATOR MUST PREPARE AND METALLIZE, PER THIS SPECIFICATION, A 4"x12"x1/4" [100 x 300 x 6 MM] STEEL PLATE OF THE SAME MATERIAL AS THE STRUCTURAL STEEL TO BE METALLIZED. AN ADHESION TEST SHALL BE RUN IN ACCORDANCE WITH ASTM D-4541 AND THE MINIMUM ACCEPTABLE VALUE SHALL BE 1000 PSI [6.9 MPA]. IF A TEST PLATE FAILS THE OPERATOR WILL ADJUST THE PROCEDURE AND RE-RUN THE TEST PLATE. THE MAXIMUM NUMBER OF TEST PLATES PER OPERATOR SHALL BE THREE. NO METALLIZING WORK MUST BE PERFORMED PRIOR TO THE APPROVAL OF THE ADHESION TEST PLATE.

BEND TEST PLATES

IN THE PRESENCE OF THE QCPS AND QA INSPECTORS, THE APPLICATOR MUST PREPARE AND METALLIZE, AS SPECIFIED, A 2" X 8" X 1/8" [50 X 200 X 3.2 MM] COUPON OF A606 OR A588 LOW CARBON STEEL. THE METALLIZING MUST BE THE SAME THICKNESS AS SPECIFIED. ONCE SPRAYED, THE COUPONS MUST BE COLD BENT 180 DEGREES AROUND A 1/2 INCH [13 MM] DIAMETER MANDREL. THE METALLIZING MUST BE ON THE OUTSIDE OF THE COUPON. NO DELAMINATION OF THE COATING IS PERMITTED. CRACKING OF THE COATING IS PERMITTED, PROVIDED THE COATING ADHERES TO THE COUPON. THE COATING MUST ADHERE TO THE FACE OF THE COUPON. THE BEND TEST FAILS IF THE COATING CAN BE PICKED OFF WITH A KNIFE BLADE.

SOLVENT CLEANING (QCP #2)

THE STEEL MUST BE SOLVENT CLEANED WHERE NECESSARY TO REMOVE ALL TRACES OF ASPHALTIC CEMENT, OIL, GREASE, DIESEL FUEL DEPOSITS, AND OTHER SOLUBLE CONTAMINANTS PER SSPC-SP 1. UNDER NO CIRCUMSTANCES MUST ANY ABRASIVE BLASTING BE DONE TO AREAS WITH ASPHALTIC CEMENT, OIL, GREASE, OR DIESEL FUEL DEPOSITS. THE STEEL MUST BE ALLOWED TO DRY BEFORE BLAST CLEANING BEGINS. THE QCPS SHALL CHECK AND DOCUMENT THE PERFORMANCE OF THE SOLVENT CLEANING AND THAT DEFECTS ON EXPOSED SURFACES ARE CORRECTED PRIOR TO RELEASE TO THE METALLIZING PROCESS.

ALL CORNERS OF THERMALLY CUT OR SHEARED EDGES MUST HAVE A 1/16 INCH [1.6 MM] RADIUS OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE. THERMALLY CUT MATERIAL THICKER THAN 1 1/2 INCH [40 MM] MUST HAVE THE SIDES GROUND TO REMOVE THE HEAT AFFECTED ZONE, AS NECESSARY TO ACHIEVE THE SPECIFIED SURFACE CLEANING. THE QCPS MUST VISUALLY INSPECT AND DOCUMENT THAT THE GRINDING CONFORMS TO THIS SPECIFICATION AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

ABRASIVES SHALL BE CHECKED FOR OIL CONTAMINATION BEFORE USE. A SMALL SAMPLE OF ABRASIVES SHALL BE ADDED TO ORDINARY TAP WATER. ANY DETECTION OF A OIL FILM ON THE SURFACE OF THE WATER IS CAUSE FOR REJECTION. THE QCPS MUST PERFORM AND RECORD THIS TEST AT THE START OF EACH SHIFT. THE QCPS SHALL RECORD THE SURFACE PROFILE WITH REPLICA TAPE ASTM D4417-93 METHOD C.

FOR AUTOMATED BLASTING PROCESS: FIVE (5) EACH RECORDED READINGS AT RANDOM LOCATIONS ON ONE MEMBER FOR 20% OF THE MAIN MEMBERS OR ONE (1) BEAM PER SHIFT (WHICH EVER IS GREATER) AND ONE (1) RECORDED READING FOR 10% OF ALL SECONDARY MATERIAL.

FOR MANUAL BLASTING PROCESS: FIVE (5) EACH RECORDED READINGS AT RANDOM LOCATIONS FOR EACH MAIN MEMBER AND ONE (1) RECORDED READING FOR 25% OF ALL SECONDARY MATERIAL.

THE QCPS SHALL PERFORM AND RECORD THE FOLLOWING TEST TO ENSURE THE COMPRESSED AIR IS NOT CONTAMINATED: BLOW AIR FROM THE NOZZLE FOR 30 SECONDS ONTO A WHITE CLOTH OR BLOTTER HELD IN A RIGID FRAME. IF ANY OIL OR OTHER CONTAMINANTS ARE PRESENT ON THE CLOTH OR BLOTTER, ABRASIVE BLASTING SHALL BE SUSPENDED UNTIL THE PROBLEM IS CORRECTED AND THE OPERATION IS VERIFIED BY A REPEATED TEST. THIS TEST SHALL BE DONE PRIOR TO BLOWING, AT THE START OF EACH SHIFT.

ALL FINS, TEARS, SLIVERS AND BURRED OR SHARP EDGES THAT APPEAR AFTER THE BLASTING OPERATION MUST BE CONDITIONED PER ASTM A6 AND THE AREA RE-BLASTED TO PROVIDE THE SPECIFIED SURFACE PROFILE.

ALL STRUCTURAL STEEL SURFACES MUST BE BLAST CLEANED ACCORDING TO SSPC-SP5. THE APPEARANCE OF THE BLAST-CLEANED SURFACE SHALL MATCH THE PICTORIAL STANDARDS OF SSPC-VIS 1-89. STEEL MUST BE MAINTAINED IN A BLAST CLEANED CONDITION UNTIL IT HAS RECEIVED A METALLIC COATING.

ANY ABRASIVE BLASTING WHICH IS DONE WHEN THE STEEL TEMPERATURE IS LESS THAN 5° F [2.8° C] ABOVE THE DEW POINT MUST BE RE-BLASTED WHEN THE STEEL TEMPERATURE IS AT LEAST 5° F [2.8° C] ABOVE THE DEW POINT.

THE ABRASIVE MUST BE RECYCLABLE STEEL GRIT PRODUCING A MINIMUM ANGULAR SURFACE PROFILE OF THREE (3) MILS. PRIOR TO REUSE, THE ABRASIVE MUST BE CLEANED OF PAINT CHIPS, RUST, MILL SCALE AND OTHER FOREIGN MATERIAL BY EQUIPMENT SPECIFICALLY DESIGNED FOR SUCH CLEANING.

ALL ABRASIVES AND RESIDUE MUST BE REMOVED FROM ALL SURFACES TO BE METALLIZED WITH A VACUUM CLEANER EQUIPPED WITH A BRUSH-TYPE CLEANING TOOL, OR BY DOUBLE BLOWING.

ALL CORNERS OF THERMALLY CUT OR SHEARED EDGES MUST HAVE A 1/16 INCH RADIUS [1.6 MM] OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE. PRIOR TO BLASTING, THERMALLY CUT MATERIAL MUST HAVE THE SIDES GROUND AS NECESSARY TO REMOVE THE HARDENED EDGES.

METALLIC COAT APPLICATION AND THICKNESS (QCP #5)

THE QCPS SHALL RECORD THE TIME BETWEEN BLASTING AND APPLICATION OF THE METALLIZING. THE QCPS SHALL RECORD THE AMBIENT TEMPERATURE AND DEW POINT NO MORE THAN ONE (1) HOUR BEFORE APPLICATION OF THE METALLIZING. ENVIRONMENTAL CONDITIONS SHALL BE MONITORED EVERY FOUR (4) HOURS DURING THE METALLIZING OPERATION.

GAUGES SHALL BE CALIBRATED ON THE STEEL SURFACE BEING METALLIZED. THICKNESS SHALL BE DETERMINED BY USE OF TYPE 2 MAGNETIC GAGE IN ACCORDANCE WITH THE FOLLOWING:

GENERAL

THE METALLIZING MUST COAT ALL SURFACES OF THE STRUCTURAL STEEL FABRICATED UNDER SS863, STRUCTURAL STEEL MEMBERS. METALLIZING AND WELDING IN THE VICINITY OF PREVIOUSLY COATED (METALLIZED, SEALED OR OTHER) SURFACES MUST BE CONDUCTED IN A MANNER THAT PREVENTS MOLTEN METAL FROM STRIKING THE COATING AND OTHERWISE MINIMIZES COATING DAMAGE. COATINGS DAMAGED BY WELDING OR METALLIZING OPERATIONS MUST BE REPAIRED IN ACCORDANCE WITH THIS SPECIFICATION.

PRIOR TO APPLICATION OF THE METALLIC COATING, THE STEEL SURFACE TO BE METALLIZED MUST MEET THE REQUIREMENTS UNDER "SURFACE PREPARATION".

THE METALLIZING MUST NOT BE APPLIED TO A SURFACE WHICH SHOWS ANY SIGN OF SURFACE MOISTURE. THERMAL SPRAYING MUST NOT BE PERFORMED WHEN THE STEEL TEMPERATURE IS LESS THAN 5° F [2.8° C] ABOVE THE DEW POINT. IF FLAME SPRAY EQUIPMENT IS USED, THE INITIAL STARTING AREA MUST BE PRE-HEATED TO 250° F [120° C] BEFORE APPLICATION OF THE METALLIZED COATING. EACH TIME THE OPERATOR STOPS THE COATING OPERATION THE PRE-HEAT NEEDS TO BE RE-DONE. THE MINIMUM APPLICATION TEMPERATURE IS 0° F [-32° C]

EQUIPMENT AND TECHNIQUES

THE METALLIZING MAY BE APPLIED USING EITHER COMBUSTION FLAME SPRAYING EQUIPMENT OR BY ELECTRIC ARC SPRAYING EQUIPMENT OPERATED IN ACCORDANCE WITH THE MANUFACTURER'S LATEST WRITTEN INSTRUCTIONS, INCLUDING BUT NOT LIMITED TO AIR PRESSURE AND GUN ANGLE RELATIVE TO THE WORK SURFACE.

THERMAL SPRAY OPERATORS MUST APPLY THE METALLIZING IN A MANNER THAT PROMOTES UNIFORM COVERAGE AND PREVENTS DISCONTINUITY OF THE APPLIED COATING. SPRAYING MUST BE PERFORMED IN A BLOCK PATTERN, TYPICALLY TWO TO THREE FEET SQUARE [0.4 TO 1.0 SQUARE METER]. THE METALLIZING MUST OVERLAP FIFTY PERCENT (50%) ON EACH PASS TO ENSURE UNIFORM COVERAGE. THE REQUIRED COATING THICKNESS MUST BE OBTAINED IN MULTIPLE LAYERS. EACH LAYER MUST BE APPLIED AT RIGHT ANGLES TO THE PREVIOUS LAYER. SPRAYING DISTANCE SHOULD BE BETWEEN 6 TO 8 INCHES [150 TO 200 MM] FROM THE WORK SURFACE TO ENSURE THE METAL IS PLASTIC ON IMPACT. ANY DEFECTS MUST BE IMMEDIATELY CORRECTED.

STARTUP AND ADJUSTMENT OF THERMAL SPRAY EQUIPMENT MUST BE DONE OFF THE SURFACE BEING METALLIZED.

METALLIZING THICKNESS

THE METALLIZING MUST BE APPLIED TO A MINIMUM THICKNESS OF TWELVE (12) MILS [300 μ M]. IN GENERAL, ANY PASS MUST NOT DEPOSIT MORE THAN FOUR (4) MILS [100 μ M]. THE TOP OF THE TOP FLANGE MUST RECEIVE A COAT NOT LESS THAN 0.5 MILS [13 μ M] NOR MORE THAN 1.5 MILS [40 μ M].

METALLIZING TO THE SPECIFIED THICKNESS MUST BE COMPLETED WITHIN TWELVE (12) HOURS OF BLASTING AND BEFORE DETERIORATION OF THE STEEL FROM THE SPECIFIED SURFACE CLEANLINESS. THE TIME BETWEEN METALLIZING PASSES MUST BE FOUR (4) HOURS.

METALLIZING WIRE

PURE ZINC (99.99%) METALLIZING WIRE MUST BE USED, POWDER MATERIAL WILL NOT BE ACCEPTED. THE WIRE USED FOR METALLIZING MUST BE IN ACCORDANCE WITH ASTM B833. THE WIRE MANUFACTURER MUST PROVIDE CERTIFIED TEST DATA PER SS863.09.

59 60 16 / 17	TRU-62-7.720	METALLIZING NOTES 1 BRIDGE NO. TRU-62-07745&R OVER LITTLE YANKEE CREEK				DESIGNED DRAWN REVIEWED DATE CJP CJP KAB 3-10-00				CHECKED REVISED STRUCTURE FILE NUMBER KJO 7803133 L / 7803192 R				DESIGN AGENCY HAMMONTREE & ASSOCIATES, LTD. ENGINEERS, PLANNERS, SURVEYORS  CANTON PITTSBURGH AKRON JANUARY 2001/2002 BRIDGE PLOT: 1-1			
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ITEM 863 STRUCTURAL STEEL MEMBERS, LEVEL THREE (3) FABRICATION, AS PER PLAN

ADHESION (QCP #6)

BEFORE SEALING, THE QCPS MUST TEST FOR ADHESION IN ACCORDANCE WITH ASTM D 4541. THE QCPS MUST PERFORM FIVE (5) TESTS AT RANDOM LOCATIONS SELECTED BY THE QA INSPECTOR ON THE FIRST MAIN MEMBER, INCLUDING SPLICE PLATES. THEREAFTER, TEN PERCENT (10%) OF THE MAIN MATERIAL MUST BE TESTED IN THE SAME MANNER. FIVE PERCENT (5%) OF ALL SECONDARY MATERIAL MUST BE TESTED AT A RATE OF ONE (1) RECORDED READING. THE MINIMUM ACCEPTABLE ADHESION VALUE SHALL BE 1000 PSI [6.9 MPA].

SEAL COAT APPLICATION AND THICKNESS (QCP #7)

GENERAL

THE AREAS OF STRUCTURAL STEEL THAT ARE EMBEDDED IN, PARTIALLY EMBEDDED IN, OR IN CONTACT WITH CAST-IN-PLACE CONCRETE MUST BE SEALED (E.G., TOP AND SIDES OF TOP FLANGE). WHEN THE STRUCTURE IS AN INTEGRAL ABUTMENT, ALL METALLIZED SURFACES FROM THE END OF THE BEAM TO ONE (1) FOOT 9 [0.3 METER] PAST THE ABUTMENT INTERFACE MUST BE SEALED.

SEALER MATERIAL

AN AIR DRIED CLEAR PHENOLIC, EITHER "METALLIZING SEALER #9876" OR "9127", MANUFACTURED BY KEELER AND LONG (PPG)P.O. BOX 460, WATERTOWN, CT 06795, OR "METCO AP" MANUFACTURED BY METCO, OR EQUAL TO METCO AP MANUFACTURED BY AKRON PAINT & VARNISH.

SEALERS

ALL SEALER MUST BE DELIVERED TO THE FABRICATOR IN ORIGINAL, UNOPENED CONTAINERS WITH LABELS INTACT. MINOR DAMAGE TO CONTAINERS IS ACCEPTABLE PROVIDED THE CONTAINER HAS NOT BEEN PUNCTURED.

SEALER MUST BE STORED AT THE TEMPERATURE RECOMMENDED BY THE MANUFACTURER TO PREVENT SEALER DETERIORATION.

THE APPLICATOR MUST PROVIDE THERMOMETERS CAPABLE OF MONITORING THE MAXIMUM HIGH AND LOW TEMPERATURES WITHIN THE STORAGE FACILITY. THE APPLICATOR IS RESPONSIBLE FOR PROPERLY DISPOSING OF ALL UNUSED SEALER AND SEALER CONTAINERS.

THE QCPS MUST RECORD THE STORAGE TEMPERATURE, LOT AND STOCK NUMBERS, AND DATE OF MANUFACTURE OF THE SEALANT.

ALL CONTAINERS OF SEALER MUST REMAIN UNOPENED UNTIL USE. THE LABEL INFORMATION MUST BE LEGIBLE AND CHECKED AT THE TIME OF USE. SOLVENT USED FOR CLEANING EQUIPMENT IS EXEMPT FROM THE ABOVE REQUIREMENTS.

EACH CONTAINER OF SEALER MUST BE CLEARLY MARKED OR LABELED TO SHOW SEALER IDENTIFICATION, COMPONENT, LOT NUMBER, STOCK NUMBER, DATE OF MANUFACTURE, AND INFORMATION AND WARNINGS AS MAY BE REQUIRED BY FEDERAL AND STATE LAWS.

SEALER WHICH HAS LIVERED, GELLED OR OTHERWISE DETERIORATED DURING STORAGE MUST NOT BE USED. THE OLDEST SEALER OF EACH KIND MUST BE USED FIRST. NO SEALER MUST BE USED WHICH HAS SURPASSED ITS SHELF LIFE.

ENVIRONMENTAL CONDITIONS

SEALER MUST NOT BE APPLIED WHEN THE METALLIZING STEEL SURFACE TEMPERATURE IS LESS THAN 5° F [2.8° C] ABOVE THE DEW POINT. THE SURFACES TO BE SEALED MUST BE DRY. SEALERS SHALL NOT BE APPLIED IN RAIN, SNOW, FOG OR MIST, OR TO FROSTED OR ICE-COATED SURFACES. THE AMBIENT TEMPERATURE MUST BE PER THE SEALER MANUFACTURER'S RECOMMENDATIONS.

EQUIPMENT AND TECHNIQUES

SEALERS MUST BE APPLIED BY SPRAY METHODS. SPRAY EQUIPMENT MUST BE KEPT CLEAN SO DIRT, DRIED SEALER AND OTHER FOREIGN MATERIALS ARE NOT DEPOSITED IN THE SEALER FILM. ANY SOLVENT LEFT IN THE EQUIPMENT MUST BE COMPLETELY REMOVED BEFORE USING.

THE QCPS MUST DOCUMENT THAT ALL SPRAY EQUIPMENT USED FOLLOWS THE SEALER MANUFACTURER'S EQUIPMENT RECOMMENDATIONS. EQUIPMENT MUST BE SUITABLE FOR USE WITH THE SPECIFIED SEALER TO AVOID SEALER APPLICATION PROBLEMS.

IF AIR SPRAY IS USED, TRAPS OR SEPARATORS MUST BE PROVIDED TO REMOVE OIL AND CONDENSED WATER FROM THE AIR. THE TRAPS OR SEPARATORS MUST BE OF ADEQUATE SIZE AND MUST BE DRAINED PERIODICALLY DURING OPERATIONS.

THE SEAL COAT THICKNESS MUST BE A MINIMUM OF 1 MIL [25 µM] OVER THE SURFACE AND PEAKS OF THE METALLIZING. THIS THICKNESS SHALL BE VERIFIED BY THE QCPS. PINHOLING MUST BE AVOIDED BY METHOD OF APPLICATION.

THE APPLICATOR MUST TAKE PRECAUTION TO PREVENT CONTAMINATION OF SURFACES THAT HAVE BEEN PREPARED FOR SEALING AND SURFACES FRESHLY SEALED. THE SURFACE TO BE SEALED SHALL BE CLEAN AND DRY. THE SEALER MUST BE APPLIED WITHIN EIGHT (8) HOURS OF THE COMPLETION OF THE METALLIZING.

THE SEALER MUST BE APPLIED IN THE SHOP. THE STEEL MUST NOT BE HANDLED UNNECESSARILY OR REMOVED FROM THE SHOP UNTIL THE SEALER HAS DRIED SUFFICIENTLY TO RESIST BEING MARRED IN HANDLING AND SHIPPING.

THE QCPS MUST RECORD THE TIME BETWEEN METALLIZING AND SEAL COAT APPLICATION. THE QCPS MUST RECORD THE AMBIENT TEMPERATURE AND HUMIDITY NO MORE THAN ONE (1) HOUR BEFORE APPLICATION OF THE SEAL COAT. ENVIRONMENTAL CONDITIONS MUST BE MONITORED EVERY FOUR (4) HOURS DURING THE SEALING OPERATION.

THE SAME TEST FOR ABRASIVE BLASTING AIR CONTAMINATION MUST BE MADE BY THE SEALER APPLICATOR AND VERIFIED BY THE QCPS TO ENSURE THAT THE TRAPS OR SEPARATORS ARE WORKING PROPERLY. THIS IS NOT REQUIRED FOR AN AIRLESS SPRAYER.

FIELD REVIEW (QCP #8)

WHILE APPROVAL OF THE SHOP METALLIZED COATING IS REQUIRED BEFORE SHIPMENT THERE WILL BE POSSIBLE DAMAGE TO THE METALLIZED COATING AND THE SEALER DUE TO FIELD ERECTION AND CONSTRUCTION OPERATIONS.

SPECIFIED AREAS OF FIELD WELDING MUST REQUIRE THE REMOVAL OF THE METALLIZED COATING BY GRINDING OR OTHER METHODS ACCEPTABLE TO THE ENGINEER.

APPLICATION OF WELDED SHEAR STUDS WILL REQUIRE WELDING THROUGH A THIN LAYER OF ZINC COATING SIMILAR TO INORGANIC ZINC PAINT. THE WELDING OF THE STUDS WILL NOT REQUIRE REMOVAL OF THE METALLIZED COATING, BUT STUD WELDING PROCEDURES MAY REQUIRE ADJUSTMENT TO MEET THE PRODUCTION CONTROL REQUIREMENTS, SECTION 7.7, OF AWS D1.5 BRIDGE WELDING CODE. OTHER AREAS OF FIELD WELDING WILL REQUIRE REMOVAL OF THE METALLIZED COATING. REMOVAL LIMITS SHOULD BE MINIMIZED TO WHERE THE WELDING IS APPLIED.

SMALL AREAS OF METALLIZING LESS THAN ONE (1) SQUARE FOOT [0.1 SQUARE METER] THAT ARE REMOVED, MARRED, DAMAGED, OR REJECTED MUST BE REPAIRED ACCORDING TO ASTM A780, ANNEX 1 OR 3. LARGER AREAS OF METALLIZING MUST BE REPAIRED BY REMOVAL AND REPLACEMENT AS SPECIFIED HEREIN. THE COATING AT THE WELDED SHEAR STUD LOCATIONS WILL NOT REQUIRE REPAIR. AT THE COMPLETION OF CONSTRUCTION, THE METALLIZED COATING MUST BE UNDAMAGED AND THE SURFACES FREE FROM GREASE, OIL, CHALK MARKS, PAINT, CONCRETE SPLATTER OR OTHER SOILAGE.

THE ENGINEER MUST VISUALLY INSPECT THE METALLIZING TO ESTABLISH THAT FIELD WELDED AND DAMAGED AREAS ARE REPAIRED AS PER THIS SPECIFICATION.

HANDLING AND SHIPPING

REASONABLE CARE MUST BE EXERCISED IN HANDLING THE METALLIZED STEEL DURING SHIPPING, ERECTION, AND SUBSEQUENT CONSTRUCTION OF THE BRIDGE. THE STEEL MUST BE INSULATED FROM THE BINDING CHAINS BY SOFTENERS. HOOKS AND SLINGS USED TO HOIST STEEL MUST BE PADDED. DIAPHRAGMS AND SIMILAR PIECES MUST BE SPACED IN SUCH A WAY THAT NO RUBBING WILL OCCUR DURING SHIPMENT THAT MAY DAMAGE THE METALLIZING. THE STEEL MUST BE STORED ON PALLETES AT THE JOB SITE, OR BY OTHER MEANS, SO THAT IT DOES NOT REST ON THE GROUND OR SO THAT COMPONENTS DO NOT FALL OR REST ON EACH OTHER.

SAFETY REQUIREMENTS AND PRECAUTIONS

THE CONTRACTOR MUST MEET THE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), IN ADDITION TO THE SCAFFOLDING REQUIREMENTS BELOW.

THE CONTRACTOR IS REQUIRED TO MEET THE APPLICABLE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION IN ADDITION TO THE SCAFFOLDING REQUIREMENTS SPECIFIED BELOW.

SCAFFOLDING

RUBBER ROLLERS, OR OTHER PROTECTIVE DEVICES MEETING THE APPROVAL OF THE ENGINEER, MUST BE USED ON SCAFFOLD FASTENINGS. METAL ROLLERS OR CLAMPS AND OTHER TYPES OF FASTENINGS WHICH WILL MAR OR DAMAGE COATED SURFACES MUST NOT BE USED.

INSPECTION ACCESS FOR FIELD REPAIR

IN ADDITION TO THE REQUIREMENT OF 105.11, THE CONTRACTOR MUST FURNISH, ERECT, AND MOVE SCAFFOLDING AND OTHER APPROPRIATE EQUIPMENT, TO PERMIT THE INSPECTOR THE OPPORTUNITY TO INSPECT (CLOSELY OBSERVE), ALL AFFECTED SURFACES. THIS OPPORTUNITY MUST BE PROVIDED TO THE INSPECTOR DURING ALL PHASES OF THE WORK AND CONTINUE FOR A PERIOD OF AT LEAST TEN (10) WORKING DAYS AFTER THE TOUCH-UP WORK HAS BEEN COMPLETED. WHEN SCAFFOLDING IS USED, IT MUST BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS. WHEN SCAFFOLDING, OR THE HANGERS ATTACHED TO THE SCAFFOLDING ARE SUPPORTED BY HORIZONTAL WIRE ROPES, OR WHEN SCAFFOLDING IS PLACED DIRECTLY UNDER THE SURFACE TO BE PAINTED, THE FOLLOWING REQUIREMENTS MUST BE COMPLIED WITH:

WHEN SCAFFOLDING IS SUSPENDED 43" [1100 MM] OR MORE BELOW THE COATED SURFACE TO BE REPAIRED, TWO ROWS OF GUARDRAIL MUST BE PLACED ON ALL SIDES OF THE SCAFFOLDING. ONE ROW OF GUARDRAIL MUST BE PLACED AT 42" [1050 MM] ABOVE THE SCAFFOLDING AND THE OTHER ROW AT 20" [500 MM] ABOVE THE SCAFFOLDING.

WHEN THE SCAFFOLDING IS SUSPENDED AT LEAST 21" [530 MM], BUT LESS THAN 43" [1100 MM] BELOW THE COATED SURFACE TO BE REPAIRED, A ROW OF GUARDRAIL MUST BE PLACED ON ALL SIDES OF THE SCAFFOLDING AT 20" [500 MM] ABOVE THE SCAFFOLDING.

TWO ROWS OF GUARDRAIL MUST BE PLACED ON ALL SIDES OF SCAFFOLDING NOT PREVIOUSLY MENTIONED. THE ROWS OF GUARDRAIL MUST BE PLACED AT 42" [1050 MM] AND 20" [500 MM] ABOVE SCAFFOLDING, AS PREVIOUSLY MENTIONED.

ALL SCAFFOLDING MUST BE AT LEAST 24" [610 MM] WIDE WHEN GUARDRAIL IS USED AND 28" [710 MM] WIDE WHEN THE SCAFFOLDING IS SUSPENDED LESS THAN 21" [530 MM] BELOW THE COATED SURFACE TO BE REPAIRED AND GUARDRAIL IS NOT USED. IF TWO OR MORE SCAFFOLDING ARE LAID PARALLEL TO ACHIEVE THE PROPER WIDTH, THEY MUST BE RIGIDLY ATTACHED TO EACH OTHER TO PRECLUDE ANY DIFFERENTIAL MOVEMENT.

ALL GUARDRAIL MUST BE CONSTRUCTED AS A SUBSTANTIAL BARRIER WHICH IS SECURELY FASTENED IN PLACE AND IS FREE FROM PROTRUDING OBJECTS SUCH AS NAILS, SCREWS AND BOLTS. THERE MUST BE AN OPENING IN THE GUARDRAIL, PROPERLY LOCATED, TO ALLOW THE INSPECTOR ACCESS ONTO THE SCAFFOLDING.

THE RAILS AND UPRIGHTS MUST BE EITHER METAL OR WOOD. IF PIPE RAILING IS USED, THE RAILING MUST HAVE A NOMINAL DIAMETER OF NO LESS THAN ONE AND ONE HALF INCHES. IF STRUCTURAL STEEL RAILING IS USED, THE RAILS MUST BE 2 X 2 X 3/8 INCH [50 X 50 X 10 MM] STEEL ANGLES OR OTHER METAL SHAPES OF EQUAL OR GREATER STRENGTH. IF WOOD RAILING IS USED, THE RAILING MUST BE 2 X 4 INCH [50 X 100 MM] (NOMINAL) STOCK. ALL UPRIGHTS MUST BE SPACED AT NO MORE THAN 8 FEET [2.4 M] ON CENTER. IF WOOD UPRIGHTS ARE USED, THE UPRIGHTS MUST BE 2 X 4 INCHES [50 X 100 MM] (NOMINAL) STOCK.

WHEN THE SURFACE TO BE INSPECTED IS MORE THAN 15 FEET [4.6 M] ABOVE THE GROUND OR WATER, AND THE SCAFFOLDING IS SUPPORTED FROM THE STRUCTURE BEING COATED, THE CONTRACTOR MUST PROVIDE THE INSPECTOR WITH A SAFETY BELT AND LIFELINE. THE LIFELINE MUST NOT ALLOW A FALL GREATER THAN 6 FEET [2 M]. THE CONTRACTOR MUST PROVIDE A METHOD OF ATTACHING THE LIFELINE TO THE STRUCTURE INDEPENDENT OF THE SCAFFOLDING, CABLES, OR BRACKETS SUPPORTING THE SCAFFOLDING.

WHEN SCAFFOLDING IS MORE THAN TWO AND ONE HALF FEET [0.75 M] ABOVE THE GROUND, THE CONTRACTOR MUST PROVIDE A LADDER FOR ACCESS ONTO THE SCAFFOLDING. THE LADDER AND ANY EQUIPMENT USED TO ATTACH THE LADDER TO THE STRUCTURE MUST BE CAPABLE OF SUPPORTING 250 POUNDS [115 KG] WITH A SAFETY FACTOR OF AT LEAST FOUR (4). ALL RUNGS, STEPS, CLEATS, OR TREADS MUST HAVE UNIFORM SPACING AND MUST NOT EXCEED 12" [305 MM] ON CENTER. AT LEAST ONE SIDE RAIL MUST EXTEND AT LEAST 36" [915 MM] ABOVE THE LANDING NEAR THE TOP OF THE LADDER.

AN ADDITIONAL LANDING MUST BE REQUIRED WHEN THE DISTANCE FROM THE LADDER TO THE POINT WHERE THE SCAFFOLDING MAY BE ACCESSED, EXCEEDS 12" [305 MM]. THE LANDING MUST BE A MINIMUM OF AT LEAST 24" [610 MM] WIDE AND 24" [610 MM] LONG. IT MUST ALSO BE OF ADEQUATE SIZE AND SHAPE SO THAT THE DISTANCE FROM THE LANDING TO THE POINT WHERE THE SCAFFOLDING IS ACCESSED DOES NOT EXCEED 12" [305 MM]. THE LANDING MUST BE RIGID AND FIRMLY ATTACHED TO THE LADDER; HOWEVER, IT MUST NOT BE SUPPORTED BY THE LADDER. THE SCAFFOLDING MUST BE CAPABLE OF SUPPORTING A MINIMUM OF 1000 LBS [455 KG].

IN ADDITION TO THE AFOREMENTIONED REQUIREMENTS, THE CONTRACTOR IS STILL RESPONSIBLE TO OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS, ORDINANCES, REGULATIONS, ORDERS AND DECREES.

THE CONTRACTOR MUST FURNISH ALL NECESSARY TRAFFIC CONTROL TO PERMIT INSPECTION DURING AND AFTER ALL PHASES OF THE PROJECT.

PROTECTION OF PERSONS AND PROPERTY

THE CONTRACTOR MUST INSTALL AND MAINTAIN SUITABLE SHIELDS OR ENCLOSURES TO PREVENT DAMAGE TO ADJACENT BUILDINGS, PARKED CARS, TRUCKS, BOATS, OR VEHICLES TRAVELING ON, OVER, OR UNDER STRUCTURES HAVING GALVANIZED REPAIRS. THEY MUST BE SUITABLY ANCHORED AND REINFORCED TO PREVENT INTERFERING WITH NORMAL TRAFFIC OPERATIONS IN THE OPEN LANES. PAYMENT FOR THE SHIELDS MUST BE INCLUDED AS INCIDENTAL TO THE APPLICABLE FIELD COATING OPERATION. WORK MUST BE SUSPENDED WHEN DAMAGE TO ADJACENT BUILDINGS, MOTOR VEHICLES, BOATS, OR OTHER PROPERTY IS OCCURRING.

WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY, THE CONTRACTOR MUST RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY, TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE.

POLLUTION CONTROL

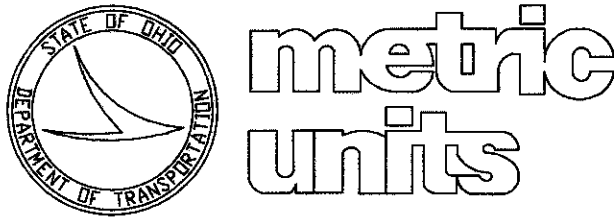
THE CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES OR REGULATIONS OF FEDERAL, STATE OR LOCAL AGENCIES.

METHOD OF MEASUREMENT

THE COST OF ALL LABOR, MATERIALS, EQUIPMENT NECESSARY TO METALLIZE , TO FABRICATE THE STRUCTURAL STEEL IN ACCORDANCE WITH SS863 AND PERFORM ANY NECESSARY FIELD REPAIR SHALL BE INCLUDED IN THIS SS 863, AS PER PLAN ITEM.

BASIS OF PAYMENT

PAYMENT WILL BE MADE AT CONTRACT PRICES FOR THE APPLICABLE 863 AS PER PLAN ITEM.



DESIGN AGENCY
HAMMONTREE & ASSOCIATES, LTD.
ENGINEERS, PLANNERS, SURVEYORS
PITTSBURGH AKRON
CANTON
ALDING/CONTRUBA/BRONG

DATE
3-10-00
REVIEWED
KAB
STRUCTURE FILE NUMBER
7803133 L / 7803192 R
DRAWN
CJP
CHECKED
KJO
REVIEWED

METALLIZING NOTES 2
BRIDGE NO. TRU-62-07745&R
OVER LITTLE YANKEE CREEK

TRU-62-7.720

17 / 17

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