

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CLA-4-5.56

BETHEL TOWNSHIP MAD RIVER TOWNSHIP SPRINGFIELD TOWNSHIP

PROJECT DESCRIPTION

IMPROVEMENT OF 5.95 MILES OF S.R.-4 BY RESURFACING OF THE EXISTING PAVEMENT AND CONSTRUCTION OF PROPOSED PAVEMENT. MAJOR BRIDGE WORK ON STRUCTURES: CLA-4-0859L&R AND CLA-4-1102L&R. REMOVAL OF STRUCTURES CLA-4-0839 L&R AND REPLACEMENT WITH A BOX CULVERT. MINOR BRIDGE WORK ON CLA-4-0611R AND CLA-4-1124L.

PROJECT EDA = 295 ACRES
CONTRACTOR EDA = 11 ACRES
NOI EDA = 327 ACRES

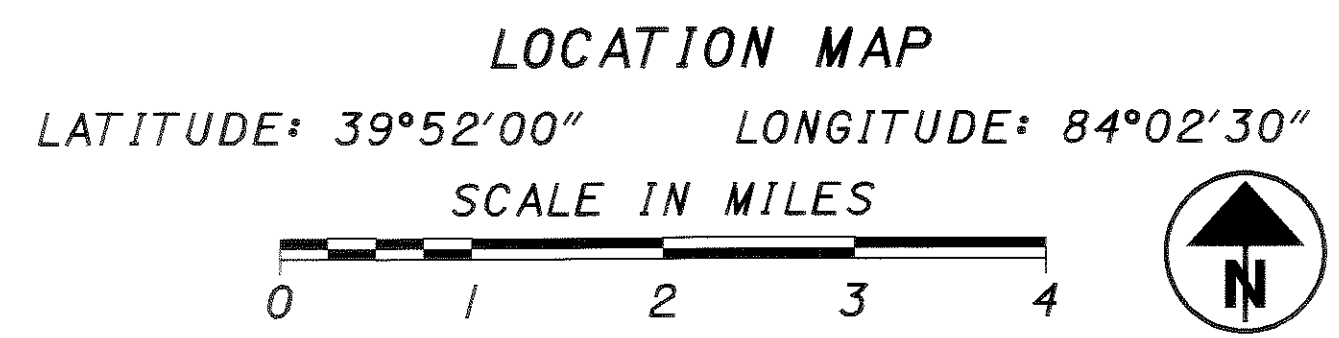
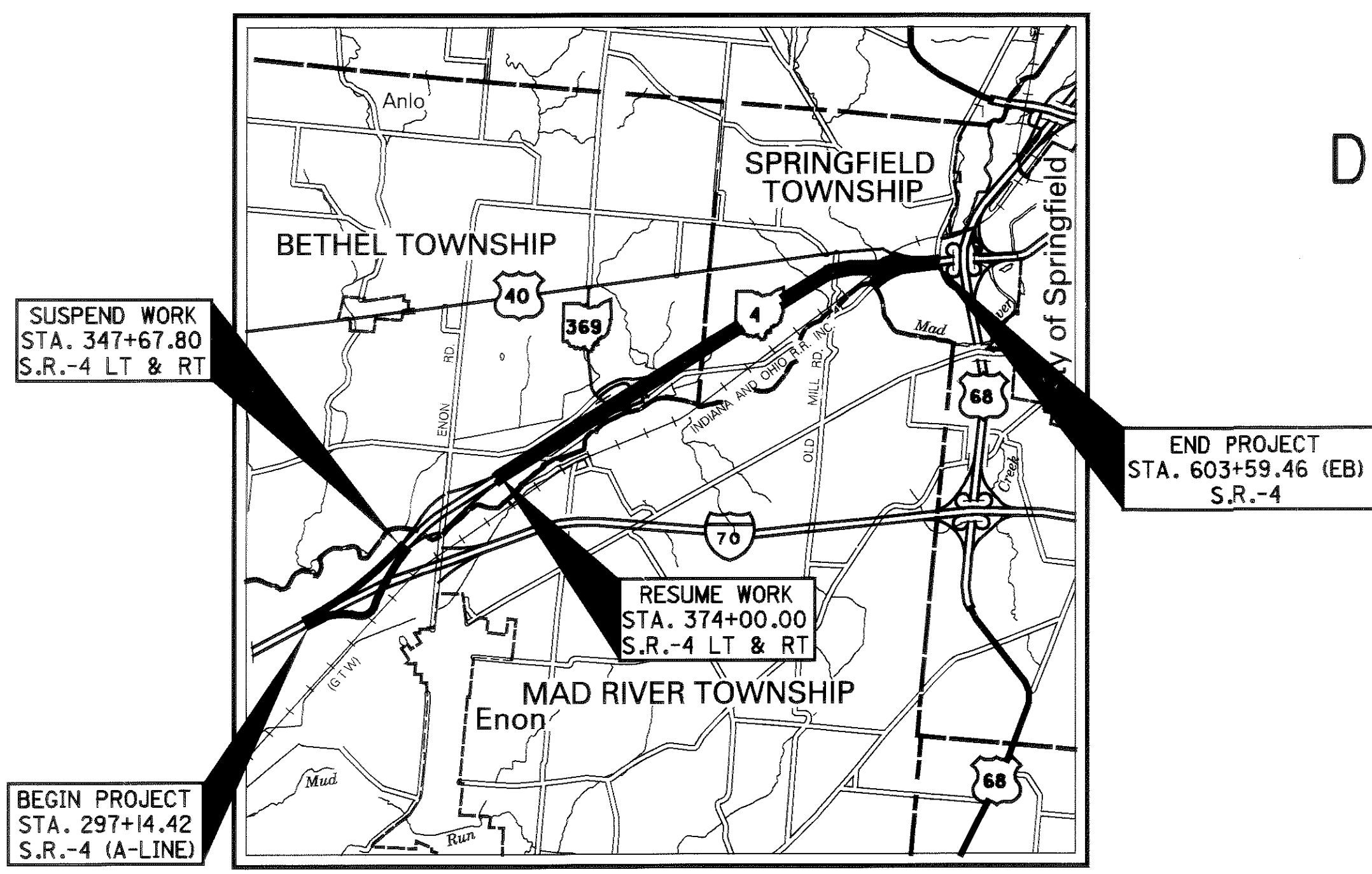
LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2002 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE DIRECTIONAL CLOSING OF THE HIGHWAY TO TRAFFIC, AS NOTED ON SHEETS 28, 29. DURING WHICH TIME DETOURS WILL BE PROVIDED AS SHOWN HEREIN. PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.



PORTION TO BE IMPROVED

INTERSTATE & DIVIDED HIGHWAY	=====
UNDIVIDED STATE & FEDERAL ROUTES	=====
OTHER ROADS	=====

DESIGN DESIGNATION

CURRENT ADT (2003)	17680
DESIGN YEAR ADT (2023)	24330
DESIGN HOURLY VOLUME (2023)	2433
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	9%
DESIGN SPEED	65 mph
LEGAL SPEED	65 mph
DESIGN FUNCTIONAL CLASSIFICATION - RURAL PRINCIPAL ARTERIAL	

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NOS.
VERTICAL CLEARANCE	6-25-02	217
GRADED SHOULDER WIDTH	6-25-02	9,10,12,13,16
HORIZONTAL ALIGNMENT	6-25-02	2,6
BRIDGE WIDTH	6-25-02	335

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:
OHIO DEPARTMENT OF TRANSPORTATION
PRODUCTION DEPARTMENTS IN
DISTRICT NO. 7 AND CENTRAL OFFICE,
AND KZF INCORPORATED

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ENGINEERS SEAL:	ENGINEERS SEAL:	ENGINEERS SEAL:	ENGINEERS SEAL:
	FOR ROADWAY STA. 420+00 TO STA. 457+45 	FOR STRUCTURES CLA-4-0851 L&R 	FOR STRUCTURES CLA-4-1102 L&R SEE SHEETS 263 AND 299
SIGNED: Paul Robert Hartner DATE: 8-19-03	SIGNED: Michael D. Cornbach DATE: 8/19/03	SIGNED: Teddy Custer DATE: 8/19/03	

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	
BP-1.1	7/28/00	GR-1.1	4/18/03	TC-41.10	1/19/01	MT-97.10	04-19-02	AS-1-81	7/19/02	802	7/19/02
BP-2.1	7/28/00	GR-2.1	4/18/03	TC-41.20	1/19/01			BR-1	7/19/02	832	2/12/03
BP-2.2	7/28/00	GR-3.1	4/18/03	TC-42.10	1/19/01	MT-98.12	04-19-02	BS-1-93	7/19/02	833	2/12/03
BP-2.3	7/28/00	GR-3.2	4/18/03	TC-42.20	4/20/01	MT-98.13	04-19-02	GSD-1-96	7/19/02	846	4/19/02
BP-3.1	7/28/00	GR-4.1	4/18/03	TC-51.11	4/20/01	MT-98.14	04-19-02			848	2/8/02
BP-5.1	7/28/00	GR-4.2	4/18/03	TC-51.12	4/20/01			PCB-91	7/19/02	864	7/11/00
BP-9.1	7/28/00	GR-5.1	4/18/03	TC-52.10	4/20/01	MT-98.16	04-19-02	SICD-1-96	7/19/02	894	10/18/02
		GR-5.2	4/18/03	TC-52.20	4/20/01	MT-98.17	10-18-02	VPF-1-90	7/19/02	898	1/17/03
DM-1.1	7/19/03	GR-5.3	4/18/03	TC-61.10	1/19/01	MT-98.18	10-18-02			908	4/18/03
DM-1.2	7/19/02	GR-6.1	4/18/03	TC-65.10	10/19/01	MT-99.50	10-18-02	CB-1.1	7/19/02	954	9/9/97
DM-4.1	7/19/02	GR-6.2	4/18/03	TC-65.11	10/19/01	MT-99.51	10-18-02	CB-2.2	7/19/02		
DM-4.3	7/19/02			TC-65.12	10/19/01	MT-99.60	10-18-02	CB-3.1	7/19/02		
DM-4.4	7/19/02	RM-4.2	4/18/03	TC-72.20	01/19/01			CB-3.2	7/19/02		
F-2.1	7/28/00	RM-4.3	4/18/03	MT-35.10	4-20-01	MT-101.60	10-18-02	MH-1.2	7/19/02		
F-3.3	7/28/00	RM-4.5	4/18/03	MT-95.30	4-19-02	MT-105.10	10-18-02	HW-2.1	7/19/02		
F-3.4	7/28/00			MT-95.40	7-18-03	MT-105.11	10-18-02				

APPROVED: *William J. Harrison*
DATE: 08-20-03 DISTRICT DEPUTY DIRECTOR

APPROVED: *Yordon Piveter*
DATE: 9-8-03 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.
E036(202)

PID NO.
17097

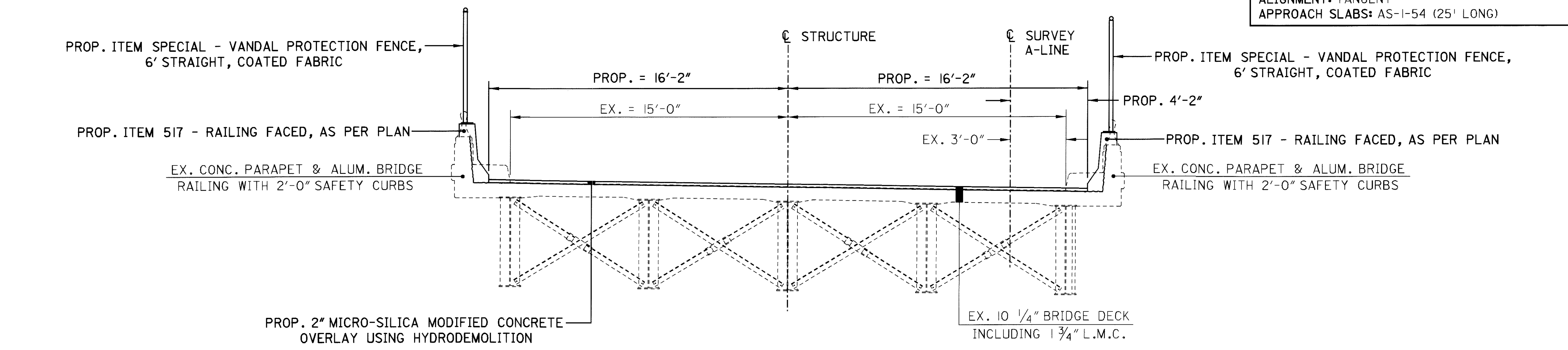
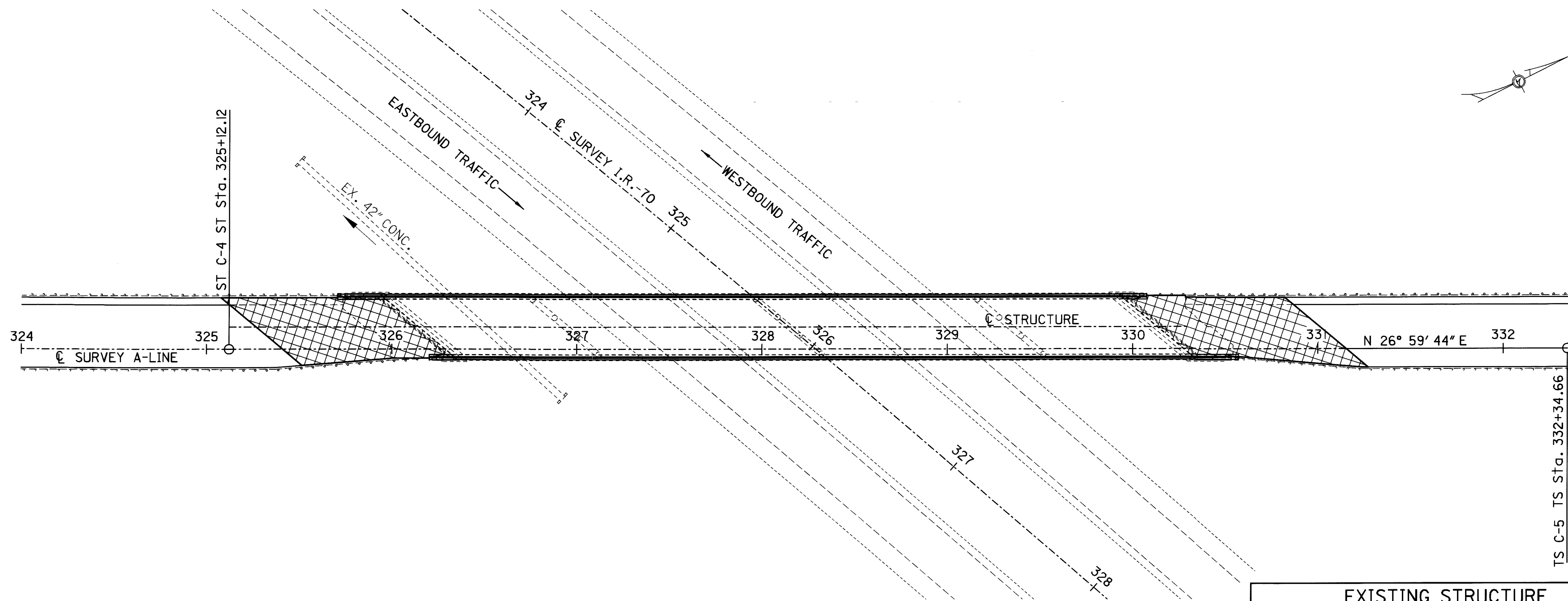
CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
INDIANA AND OHIO
RAILROAD INC.

CLA-4-5.56

1
352

CLA-SR-4-5.56
048000 PID #17097
DIST 07 01-21-04



EXISTING STRUCTURE	
CLA-4-0611R (S.R.-4 OVER I.R.-70)	SFN:1200011
TYPE: CONTINUOUS STEEL GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE	
SPAN: = 78'-0", 120'-0", 120'-0", 78'-0" c/c BEARINGS	
ROADWAY: 30'-0" F/F 2'-0" SAFETY CURBS	
LOAD FREQUENCY: CF 2000 (57) ADEQUATE FOR AASHTO ALTERNATE LOADING	
WEARING SURFACE: 1 3/4" LATEX MODIFIED CONCRETE	
SKEW: 49°-52'-00" RT. FWD.	
ALIGNMENT: TANGENT	
APPROACH SLABS: AS-1-54 (25' LONG)	

DESTROY AGENCY
 OHIO DEPARTMENT
 OF TRANSPORTATION
 DISTRICT 7

DATE	6-24-03
REVIEWED	TLB
STRUCTURE FILE NUMBER	1200011
DRAWN	JBS
REVISID	
DESTROYED	JBS
CHECKED	

STA. 326+26.70
 STA. 330+29.68

SITE PLAN
 CLA-4-0611R
 S.R.-4 OVER I.R.-70

CLA-4-5.56

1/8
 208
 352

1:1

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND WEIGHT OF THE HAMMER SHALL BE APPROVED BY THE ENGINEER. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NORMAL 90 POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SETIONS 102.05 AND 105.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ITEM 509, REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW REINFORCING STEEL. ANY EXISTING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT THE CONTRACTOR'S COST. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER.

THE NUMBER OF POUNDS OF REINFORCING STEEL PAID FOR AT THE CONTRACT PRICES SHALL BE THE ACTUAL POUNDS OF REPLACEMENT REINFORCING STEEL SPECIFIED BY THE ENGINEER DUE TO CORROSION AND SHALL INCLUDE PLACEMENT, DOWELING, BENDING, SUPPORTING, TIE WIRES AND TYING OF THAT SPECIFIED REINFORCING STEEL.

EXISTING BRIDGE PLANS

EXISTING BRIDGE PLANS MAY BE INSPECTED AT THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN IN COLUMBUS, OHIO OR IN THE DISTRICT 7 OFFICE IN SIDNEY, OHIO.

STANDARD DRAWINGS

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

BR-1	DATED	7-19-02
VPF-1-90	DATED	7-19-02

ITEM 516, HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO CAREFULLY DISASSEMBLE THE EXISTING CURB PLATE STEEL FROM THE EXISTING EXPANSION JOINT END DAM STEEL. NEW END DAM STEEL SHALL BE WELDED TO THE CLEANED EXISTING END DAM STEEL. NEW CURB PLATES SHALL BE WELDED TO THE NEW END DAM STEEL. THE NEW CURB PLATE ANCHOR BARS SHALL BE WELDED TO CONFORM WITH THE SKEW OF THE EXPANSION JOINT. ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE PAID FOR UNDER ITEM 516, HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLANS. FOR DETAILS SEE SHEET 214.

CONVERSION OF STANDARD BRIDGE DRAWINGS

THE STANDARD BRIDGE DRAWINGS REFERENCED IN THIS PLAN ARE METRIC. ANY CONVERSION OF DIMENSIONS REQUIRED TO CONSTRUCT THE ITEM SHOWN ON THE STANDARDS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONVERSIONS SHALL BE MADE USING SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.02 OF THE 2002 CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE APPENDIX OF ASTM E380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

ITEM 517, RAILING FACED, AS PER PLAN

DESCRIPTION: THIS ITEM WORK SHALL CONSIST OF FACING CURB STYLE PARAPETS, USING CAST IN PLACE CONCRETE, TO OBTAIN THE DEFLECTOR SHAPE AS SHOWN IN THESE PLANS.

REMOVAL: THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXISTING ALUMINUM RAILING, POSTS, CURB PLATES, EXISTING CONCRETE CURB AND BULB ANGLE GUTTER. ALL LOOSE OR UNSOUND CONCRETE SHALL BE REMOVED. ALSO TO BE REMOVED SHALL BE ANY SOUND CONCRETE NECESSARY TO OBTAIN A MINIMUM 4 INCH THICKNESS OF NEW CONCRETE.

DOWEL HOLES AND REINFORCING STEEL: DOWEL HOLES SHALL BE DRILLED WHERE SHOWN IN THE PLANS. REINFORCING STEEL SHALL BE INSTALLED USING EPOXY GROUT PER 510 AND (CMS 705.20). ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE DOWEL HOLE SHALL BE LOCATED WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER) PRIOR TO DRILLING THE HOLES. IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, THE DOWEL HOLE SHALL BE MOVED TO EITHER SIDE OF EXISTING BAR. ALL REINFORCING STEEL, DOWEL HOLES AND GROUTING SHALL BE INCLUDED WITH ITEM 517 FOR PAYMENT.

SURFACE PREPARATION: THE PARAPET SURFACE IN CONTACT WITH THE REFACING SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING, WITH ENVIRONMENTAL CONTROLS, FOLLOWED BY AN AIR BLAST. USE OF HAND TOOLS MAY BE NECESSARY TO REMOVE SCALE FROM ANY EXPOSED REINFORCING STEEL. THE SURFACE SHALL BE MADE FREE FROM SPALLS, LANTENCE, AND ALL TRACES OF FOREIGN MATERIAL. DETERGENT CLEANING SHALL PRECED BLAST CLEANING AS NECESSARY TO ENSURE REMOVAL OF CONTAMINANTS THAT ARE DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

MATERIALS: EPOXY COATED REINFORCING STEEL - (CMS 709)
QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE - (SS 898)

CONTROL JOINTS SHALL BE PLACED IN THE NEW CONCRETE AT THE SAME LOCATION AS THE EXISTING DEFLECTION JOINTS AND SHALL BE MADE AT A RIGHT ANGLE TO THE DECK BY SAWING TO MATCH THE ALIGNMENT OF EXISTING DEFLECTION JOINTS. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE DEPTH OF THE SAWCUT SHALL BE 1 1/4 INCH. THE SAWING SHALL BE DONE NO MORE THAN 48 HOURS AFTER THE CONCRETE PLACEMENT. THE USE OF AN EDGE GUIDE, FENCE OR JIG IS REQUIRED TO ENSURE THAT THE CUT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, NOT TO EXCEED 1/4 INCH. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E TO A MINIMUM DEPTH OF 1/2 INCH THE BOTTOM 1/2 INCH OF THE INSIDE AND OUTSIDE FACES SHOULD BE LEFT UNSEALED TO ALLOW WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

METHOD OF MEASUREMENT: THE QUANTITY SHALL BE THE ACTUAL LENGTH OF RAILING FACED AS MEASURED FROM END OF WINGWALL TO END OF WINGWALL. THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS WORK. ALL COSTS OF REMOVAL, DOWELS HOLES, REINFORCING STEEL, CONCRETE AND SHRINKAGE CONTROL JOINTS, EPOXY INJECTION, INSPECTION PLATFORMS, COMPLETE AND IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR:

ITEM 517, RAILING FACED, AS PER PLAN 798 FOOT

ITEM 864, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

THE FOLLOWING EXPOSED CONCRETE SURFACES SHALL BE SEALED USING AN EPOXY-URETHANE SEALER AS PER SUPPLEMENTAL SPECIFICATION 864:

- PIERS FROM GROUND LINE TO BOTTOM OF PIER CAP.
- PIER CAPS BOTTOM AND BOTH SIDES OF PIER CAP.
- ABUTMENTS AND BACKWALLS FROM TOP OF BACKWALL TO BRIDGE SEAT, THE BRIDGE SEAT, AND FROM BRIDGE SEAT TO THE GROUND LINE.
- FROM 9" ON BRIDGE DECK, FRONT, FACE, TOP AND BACKSIDES OF BRIDGE RAILING INCLUDING THE FASCIA FROM THE BRIDGE DECK SURFACE TO A 6" UNDERDECK RETURN ON THE BRIDGE DECK.
- BRIDGE TRANSITION PARAPETS FROM THE EDGE OF PAVEMENT FRONT, FACE TOP AND BACKSIDES OF PARAPET TO THE GROUND LINE.

ITEM SPECIAL, VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FENCE

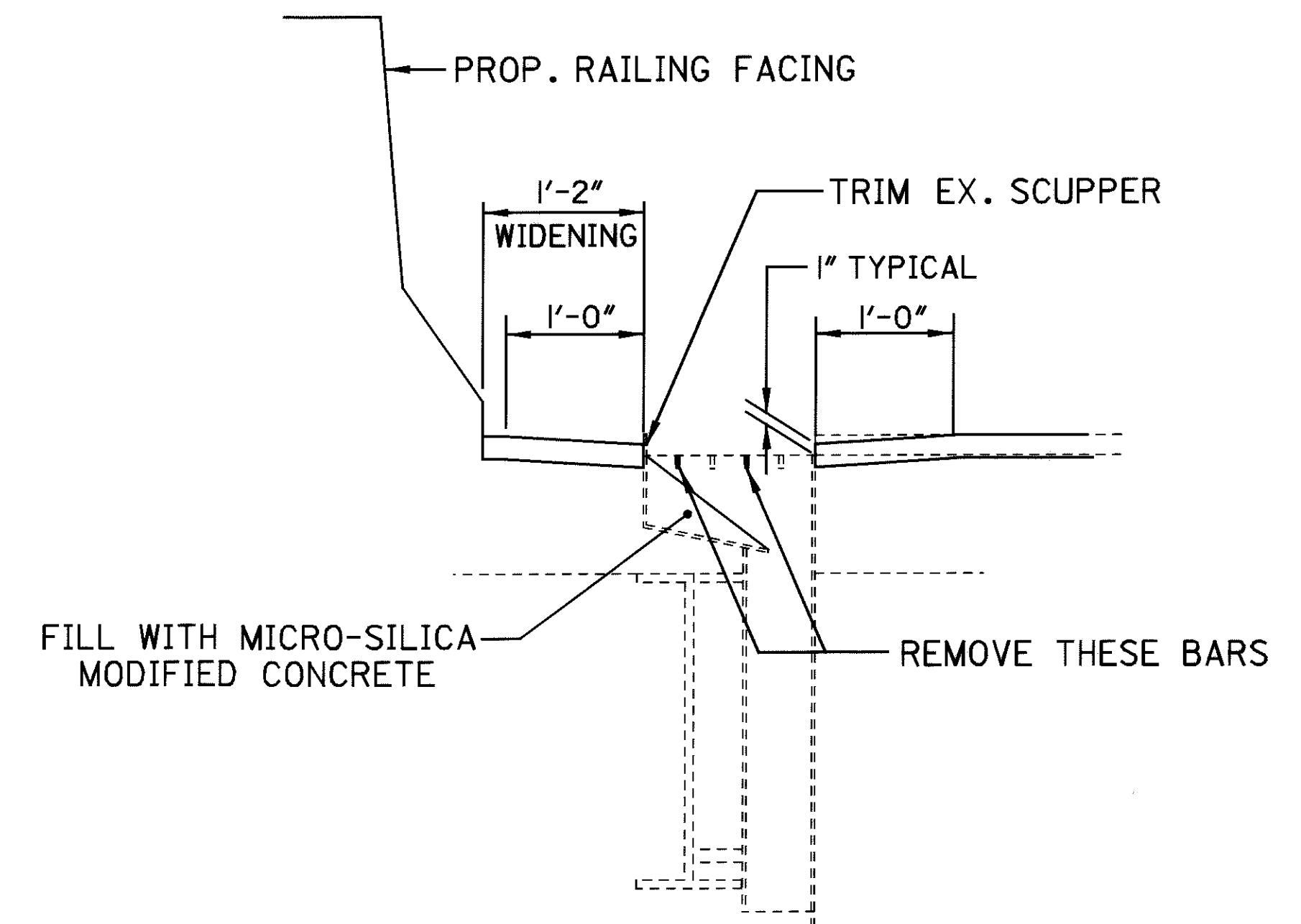
THE PROPOSED VANDAL FENCE SHALL BE ERECTED AS PER STANDARD DRAWING VPF-1-90 EXCEPT THAT THE VANDAL FENCE ANCHORS SHALL BE CAST-IN-PLACE IN THE NEW CONCRETE. DRILLING/DOWELING OF THE ANCHOR HOLES SHALL BE PROHIBITED.

ITEM 518, SCUPPER MODIFICATION, AS PER PLAN

REMOVE BARS, USE ABRASIVE BLASTING ON AREAS OF SCUPPERS AND FILL WITH MICRO-SILICA MODIFIED CONCRETE AS SHOWN ON DETAIL BELOW.

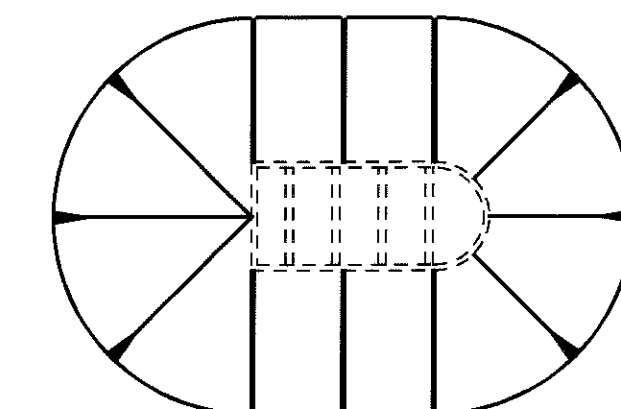
PAYMENT FOR ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS DESCRIBED IN THE NOTES AND DETAILS SHALL BE INCLUDED WITH ITEM 518, SCUPPER MODIFICATION, AS PER PLAN.

STRUCTURE NO.	LOCATION	518
		SCUPPER MODIFICATION, AS PER PLAN
		EACH
CLA-4-0611R	S.R.-4 OVER I.R.-70	8
TOTAL CARRIED ESTIMATED QUANTITIES		8



SCUPPER MODIFICATION, AS PER PLAN

PROPOSED 1'-0" SLOPE AROUND EXISTING SCUPPER



DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 7

DATE
6-24-03
REVIEWED
T.L.B.
STRUCTURE FILE NUMBER
1200011

DRAWN
J.B.S.
CHECKED
J.B.S.

BRIDGE GENERAL NOTES
BRIDGE NO. **CLA-4-0611R**
S.R.-4 OVER I.R.-70

CLA-4-5.56

2 / 8

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352

ITEM 864, SEALING OF CONCRETE SURFACES
(EPOXY-URETHANE) CALCULATIONS

	SQ. YD.
BRIDGE RAILING: 9.62' (SECTION A-A) X 398.52' (BRIDGE LENGTH) ÷ 9 = 425.97 SQ. YD. 425.97 SQ. YD. X 2 (SIDES) =	851.94 SQ. YD.
BRIDGE RAILING DEFLECTOR PARAPET RAILING TRANSITION (23'-6 5/8"): 12.05' (AVE. SECTION A-A TO SECTION B-B) X 9.55' (LENGTH) ÷ 9 = 12.79 SQ. YD. 9.22' (AVE. SECTION B-B TO SECTION C-C) X 10.00' (LENGTH) ÷ 9 = 10.24 SQ. YD. 7.80' (AVE. SECTION C-C TO SECTION D-D) X 2.50' (LENGTH) ÷ 9 = 2.17 SQ. YD. 7.72' (AVE. SECTION D-D TO SECTION E-E) X 1.50' (LENGTH) ÷ 9 = 1.29 SQ. YD. 4.39 SQ. FT. (END AREA OF PARAPET) ÷ 9 = 0.49 SQ. YD. 26.98 SQ. YD. X 2 (TRANSITIONS) =	53.96 SQ. YD.
BRIDGE RAILING DEFLECTOR PARAPET RAILING TRANSITION (14'-3 7/8"): 10.10' (AVE. SECTION A-A TO SECTION C-C) X 10.32' (LENGTH) ÷ 9 = 11.58 SQ. YD. 7.80' (AVE. SECTION C-C TO SECTION D-D) X 2.50' (LENGTH) ÷ 9 = 2.17 SQ. YD. 7.72' (AVE. SECTION D-D TO SECTION E-E) X 1.50' (LENGTH) ÷ 9 = 1.29 SQ. YD. 4.39 SQ. FT. (END AREA OF PARAPET) ÷ 9 = 0.49 SQ. YD. 15.53 SQ. YD. X 2 (TRANSITIONS) =	31.06 SQ. YD.
PIER COLUMNS: 13.33' (AVE. HEIGHT) X 9.42' (CIRCUMFERENCE) ÷ 9 = 13.96 SQ. YD. 13.96 SQ. YD. X 12 (COLUMNS) =	167.52 SQ. YD.
PIER CAPS: SIDES - [46.54' (CAP LENGTH) X 3.19' (HEIGHT) ÷ 9] X 2 (SIDES) = 32.99 SQ. YD. ENDS - [4.72' (END CAP WIDTH) X 3.19' (HEIGHT) ÷ 9] X 2 (ENDS) = 3.35 SQ. YD. BOTTOM - [46.54' (LENGTH) X 3.00' (WIDTH) - 21.21 (COLUMNS)] ÷ 9 = 13.16 SQ. YD. 49.50 SQ. YD. X 3 (PIER CAPS) =	148.50 SQ. YD.
ABUTMENTS: GROUND TO BRIDGE SEAT - [54.04' (LENGTH) X 1.0' (HEIGHT)] ÷ 9 = 6.00 SQ. YD. BRIDGE SEAT - [54.04' (LENGTH) X 2.00' (WIDTH)] ÷ 9 = 12.00 SQ. YD. BACKWALL - [54.04' (LENGTH) X 5.50' (HEIGHT)] ÷ 9 = 33.02 SQ. YD. 51.02 SQ. YD. X 2 (ABUTMENTS) =	102.04 SQ. YD.
TOTAL CARRIED TO ESTIMATED QUANTITIES	1355

ESTIMATED QUANTITIES (CLA-4-06/IR)

ITEM	ITEM EXTENSION	QUANTITY	UNIT	DESCRIPTION
202	11201	LUMP	LUMP	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (SEE SHEET 209)
509	20001	500	POUNDS	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN (SEE SHEET 209)
510	10000	152	EACH	DOWEL HOLES WITH NONSHRINK, NON METALLIC GROUT
516	11401	7	FOOT	HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN (SEE SHEET 209)
517	76201	798	FOOT	RAILING FACED, AS PER PLAN (SEE SHEET 209)
518	12801	8	EACH	SCUPPER MODIFICATION, AS PER PLAN (SEE SHEET 209)
SPECIAL	607E39900	795	FOOT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FENCE (SEE SHEET 209)
848	10000	1432	SQ. YD.	MICRO-SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2")
848	20000	1329	SQ. YD.	SURFACE PREPARATION USING HYDRODEMOLITION, 2"
848	30000	25	CU. YD.	MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS) MATERIAL ONLY
848	50200	7	CU. YD.	FULL DEPTH REPAIR (MICRO-SILICA)
848	50000	100	SQ. YD.	HAND CHIPPING
864	10100	1355	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
898	11100	15	CU. YD.	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE

DESIGN AGENCY
OHIO DEPARTMENT
OF TRANSPORTATION
DISTRICT 7

DATE
6-24-03
REVIEWED
T.L.B.
STRUCTURE FILE NUMBER
120011

DRAWN
J.B.S.
REVISOR

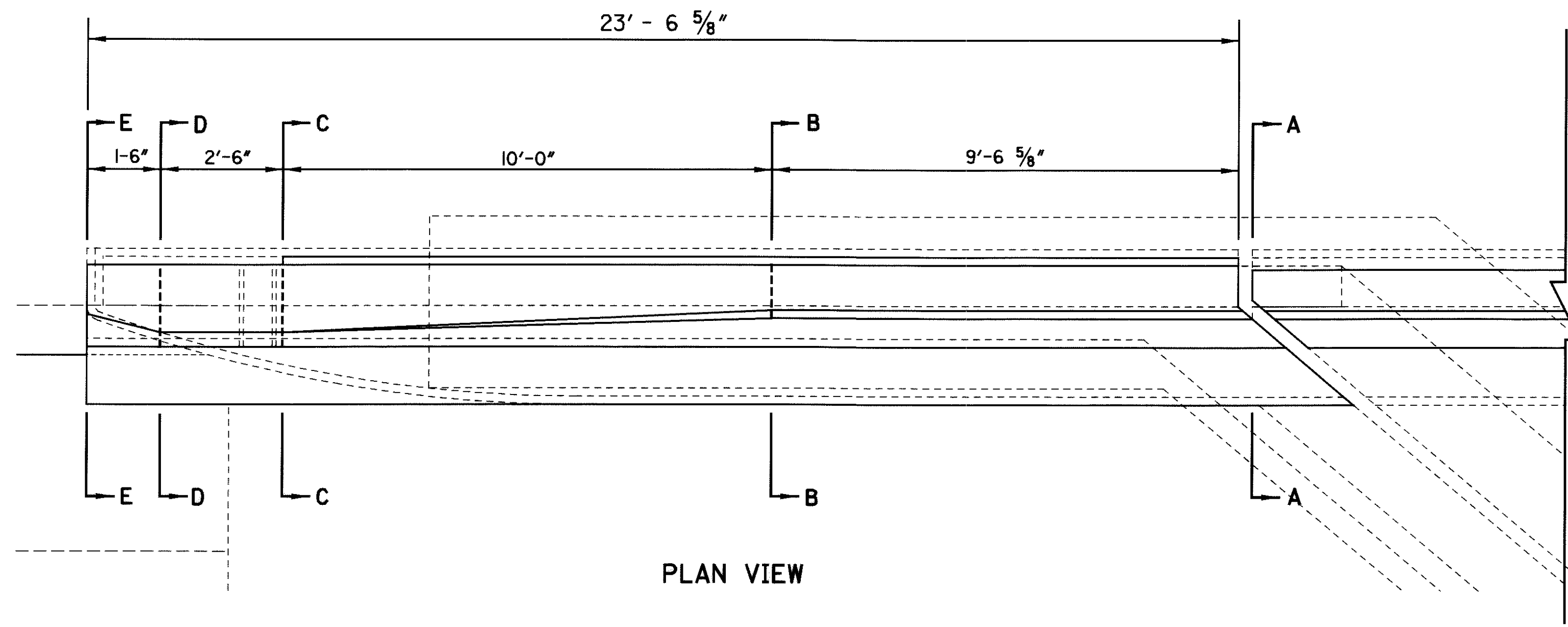
DESIGNED
J.B.S.
CHECKED

CALCULATIONS AND ESTIMATED QUANTITIES
BRIDGE NO. CLA-4-06/IR
S.R.-4 OVER I.R.-70

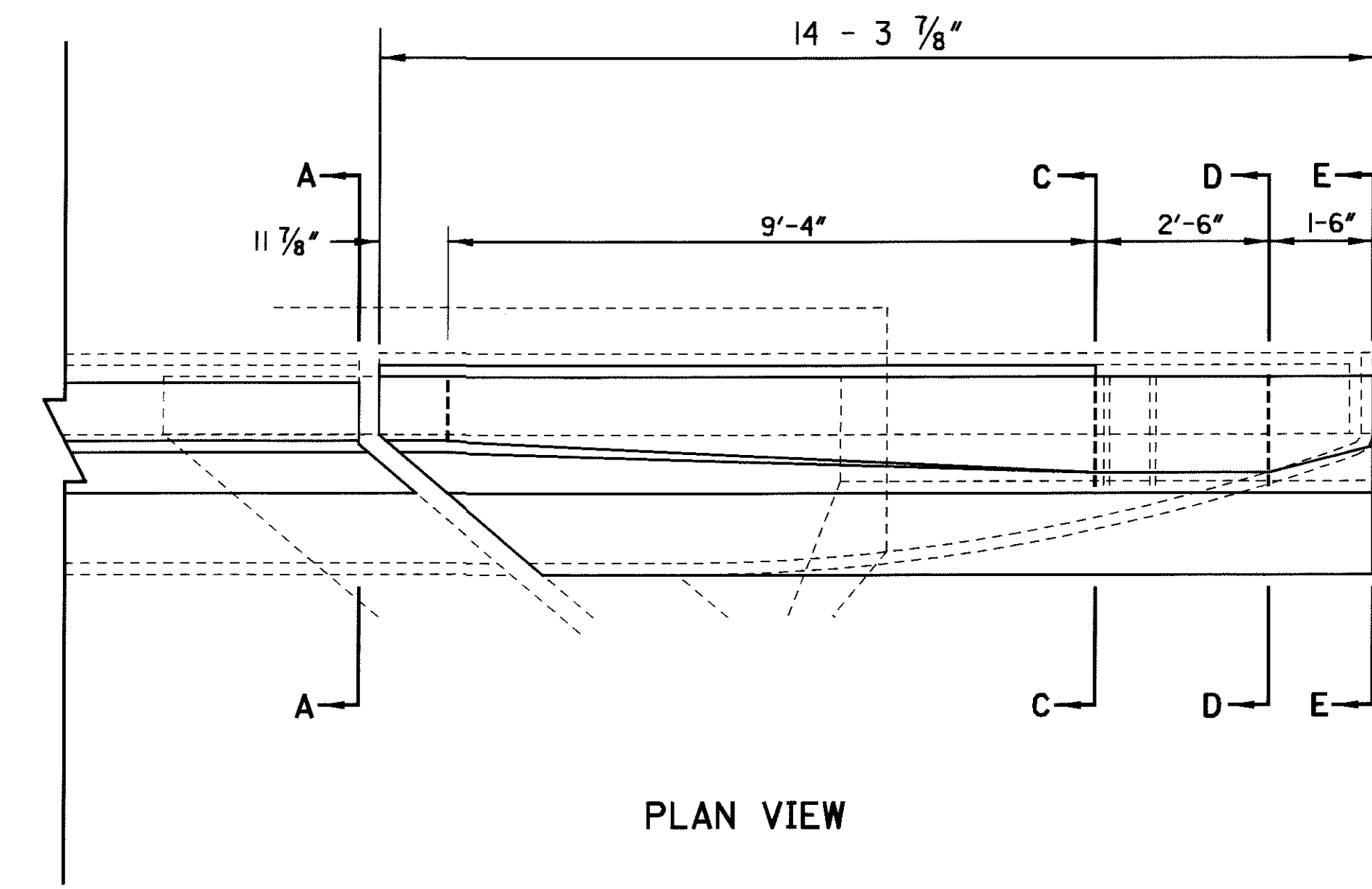
CLA-4-5.56

3 / 8

210
352

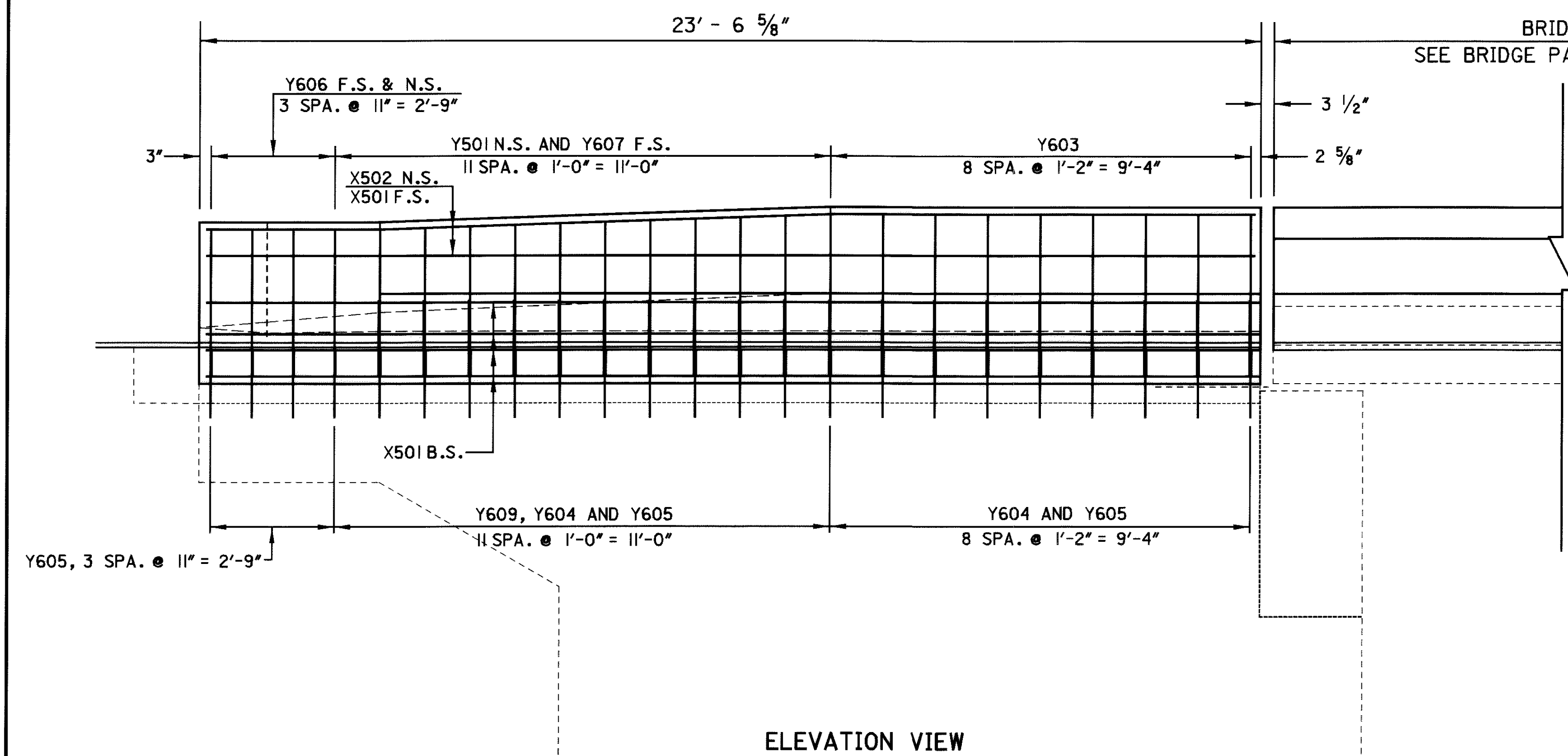


BRIDGE RAILING DEFLECTOR PARAPET RAILING
FOR SOUTHWEST AND NORTHEAST PARAPETS

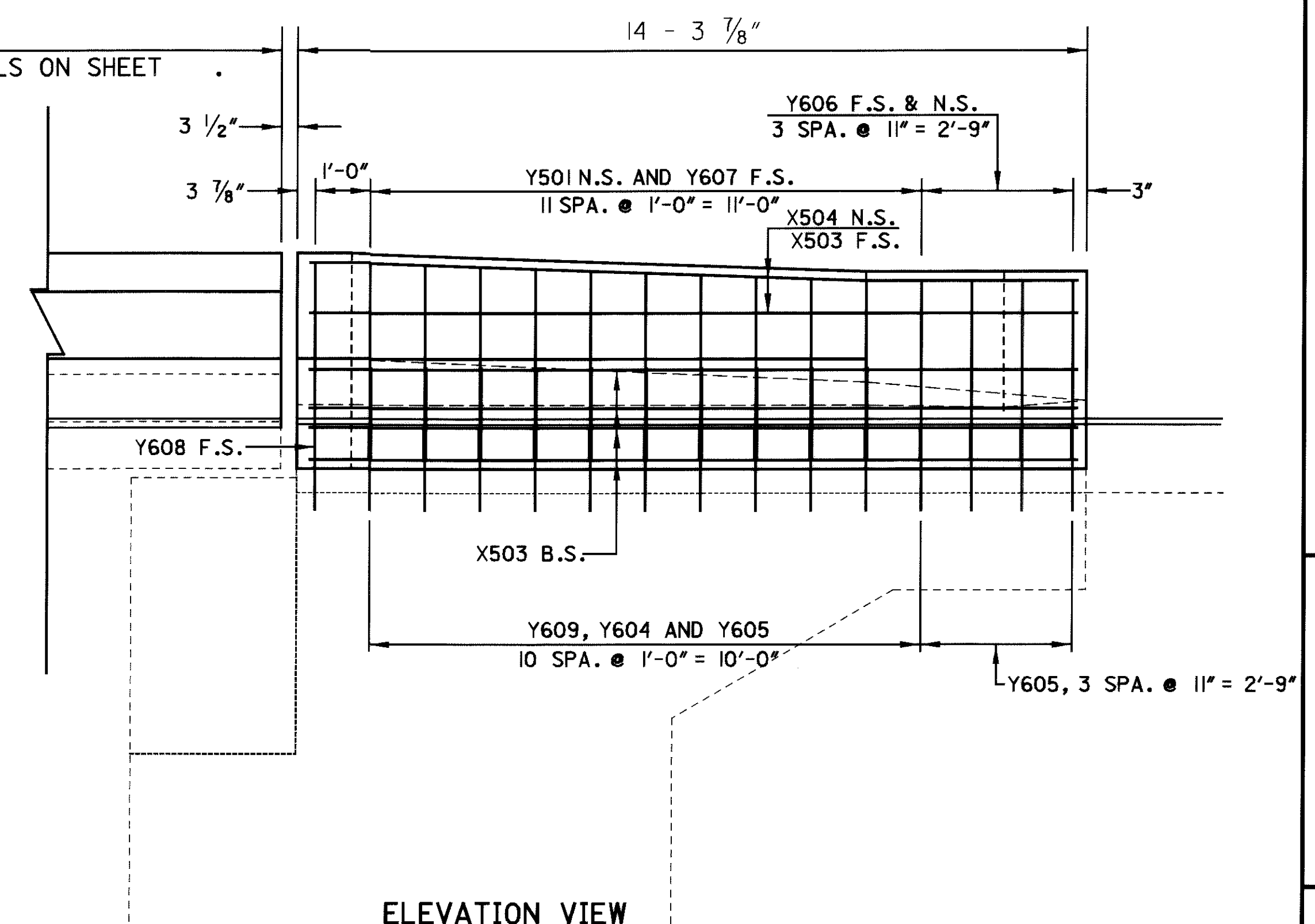


BRIDGE RAILING DEFLECTOR PARAPET RAILING
FOR SOUTHEAST AND NORTHWEST PARAPETS

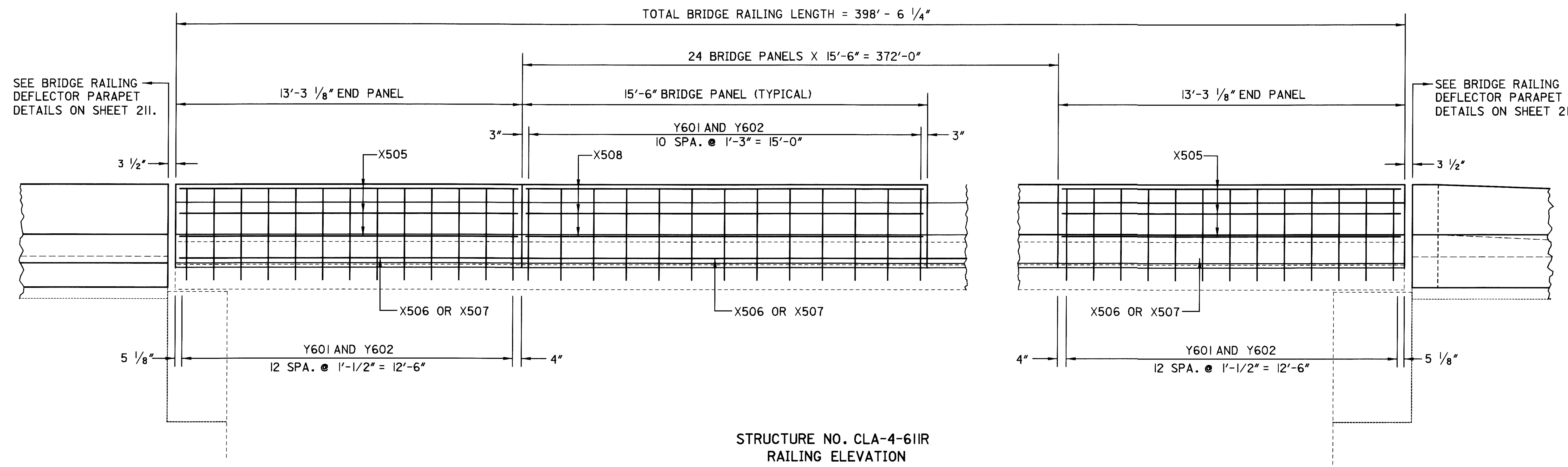
FOR SECTIONS SEE SHEET 213.



ELEVATION VIEW

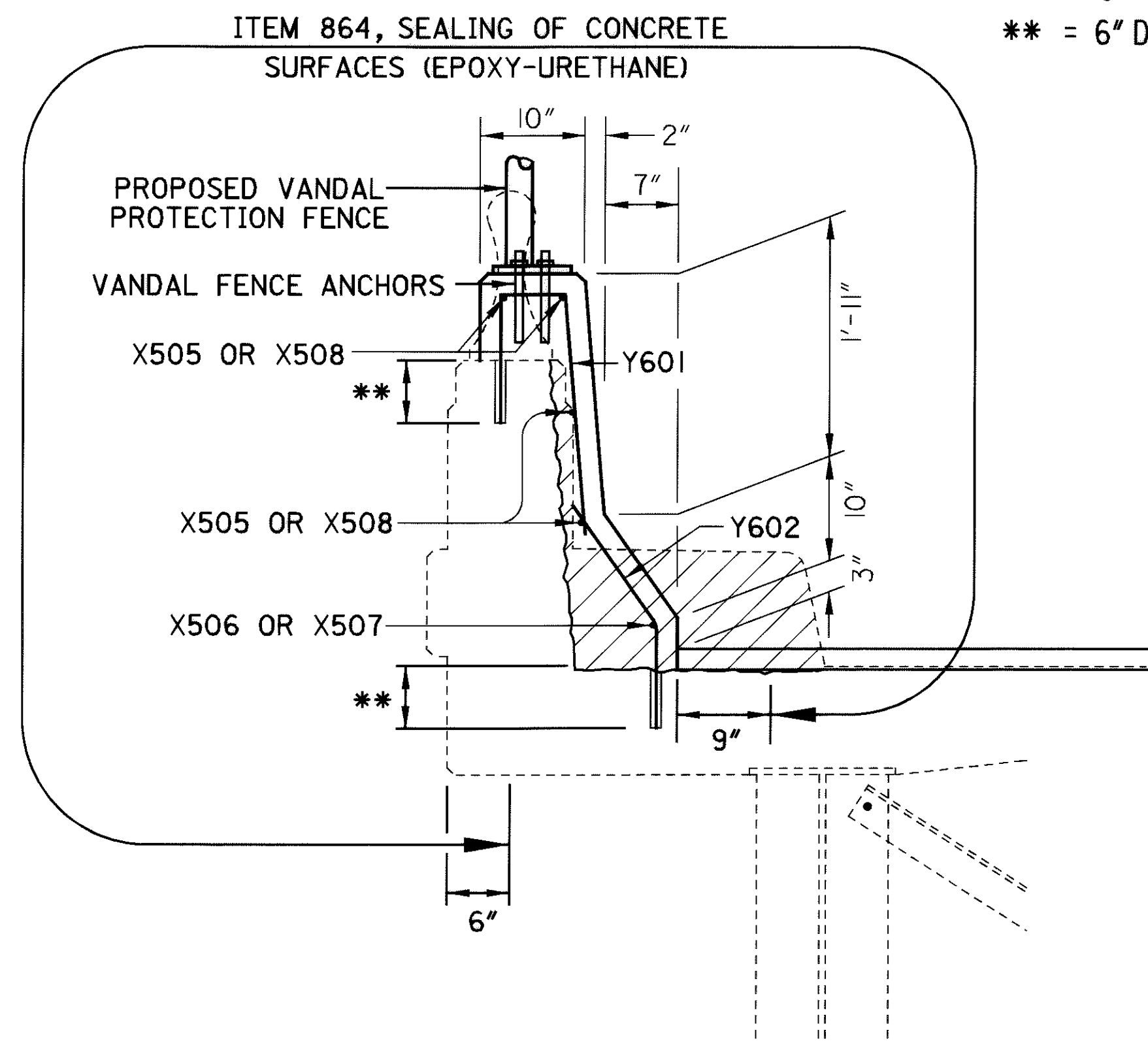


ELEVATION VIEW

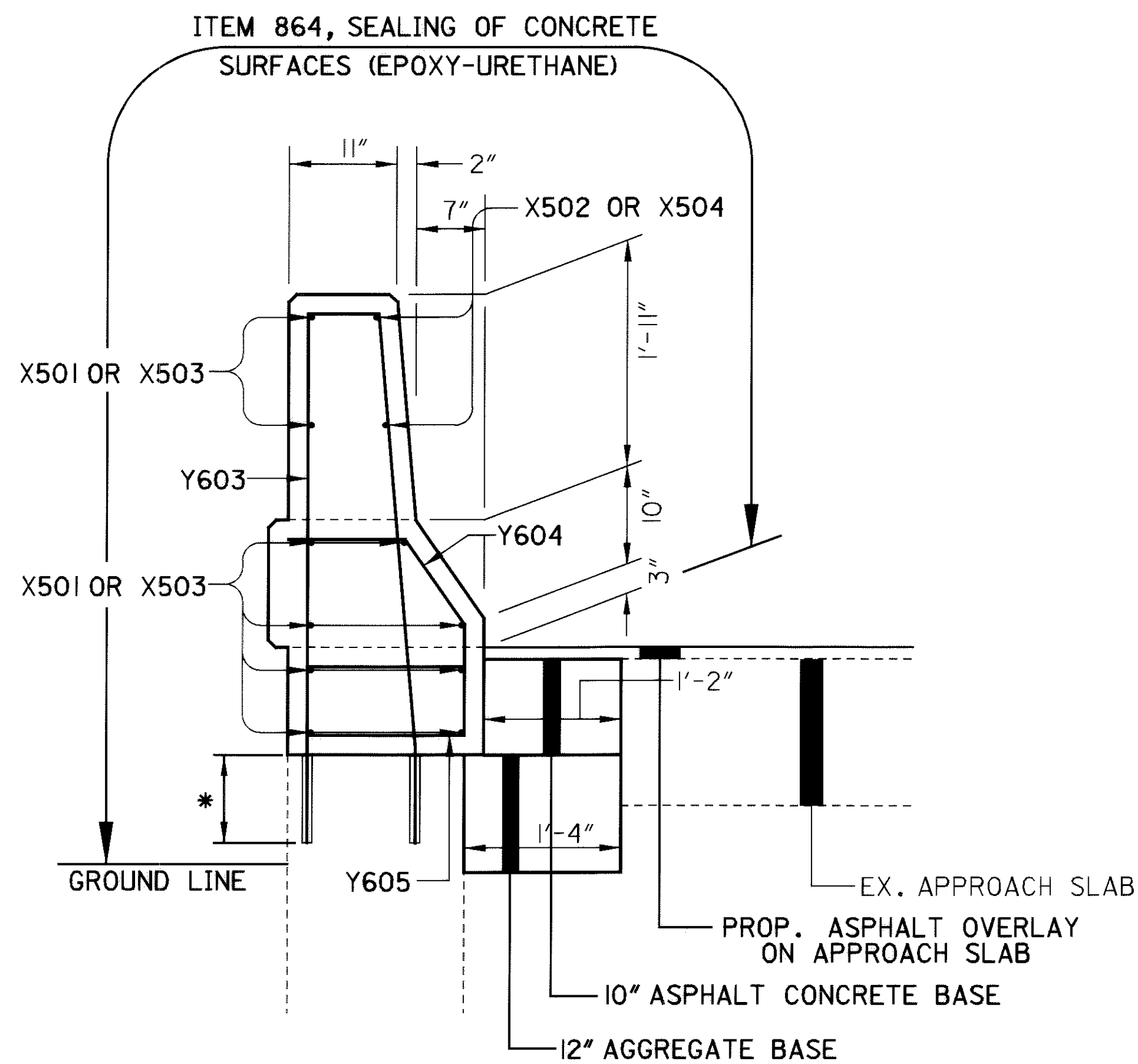


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* = 9" - ITEM 510, DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT
 ** = 6" DOWEL HOLES, COST INCLUDED WITH ITEM 517, RAILING FACED, AS PER PLAN

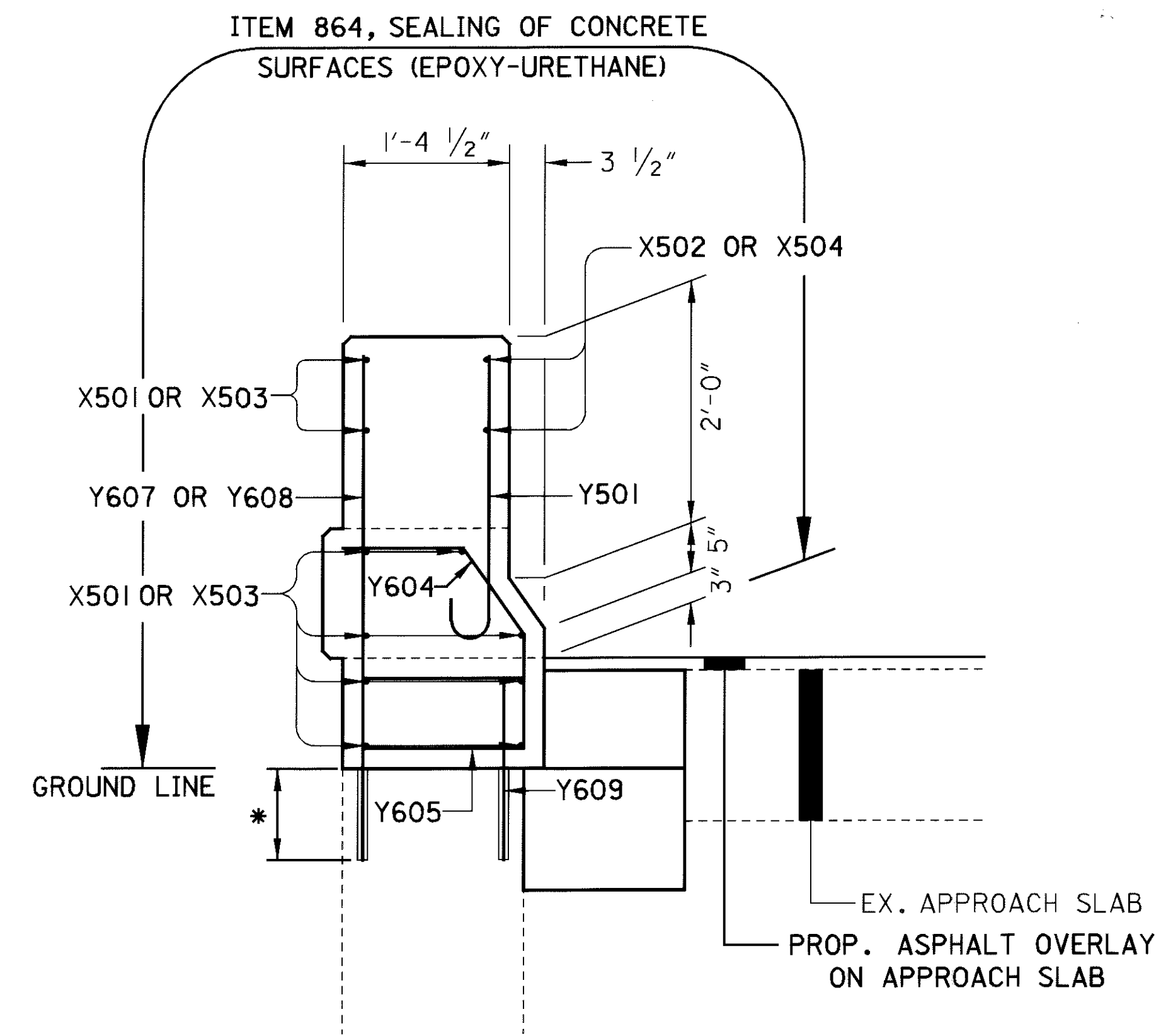


SECTION A-A

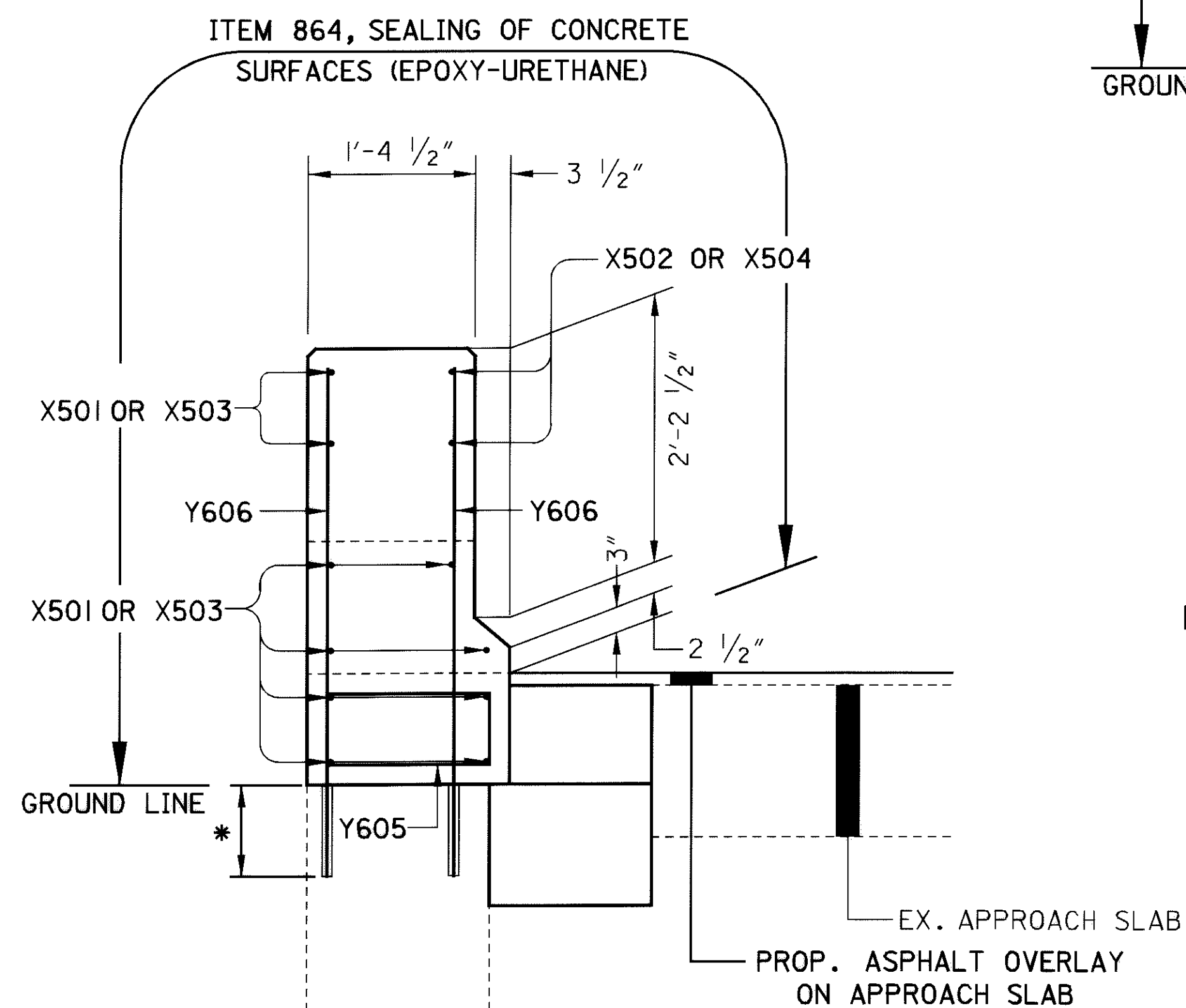


SECTION B-B

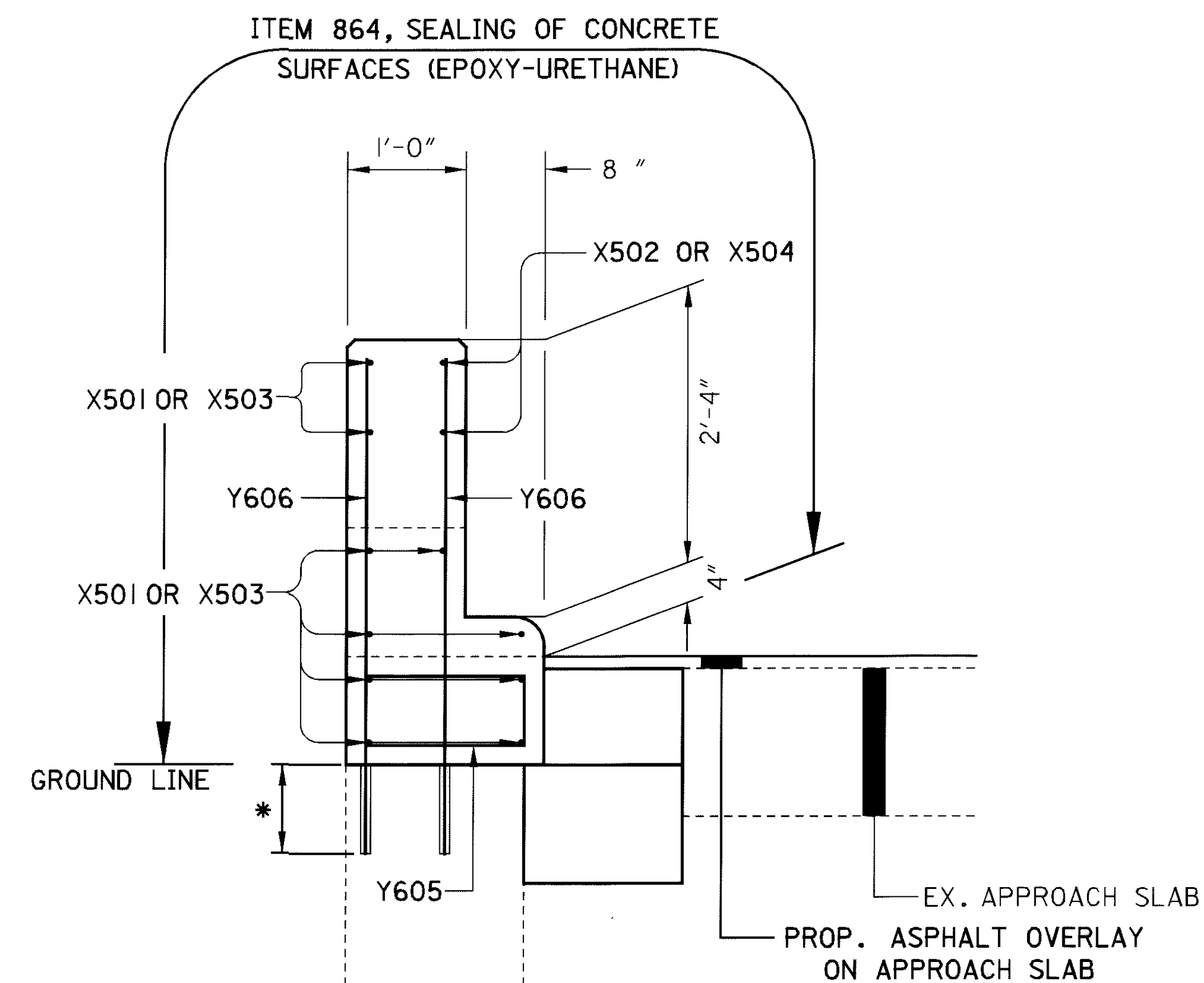
FOR REINFORCING STEEL LIST SEE SHEET 215.



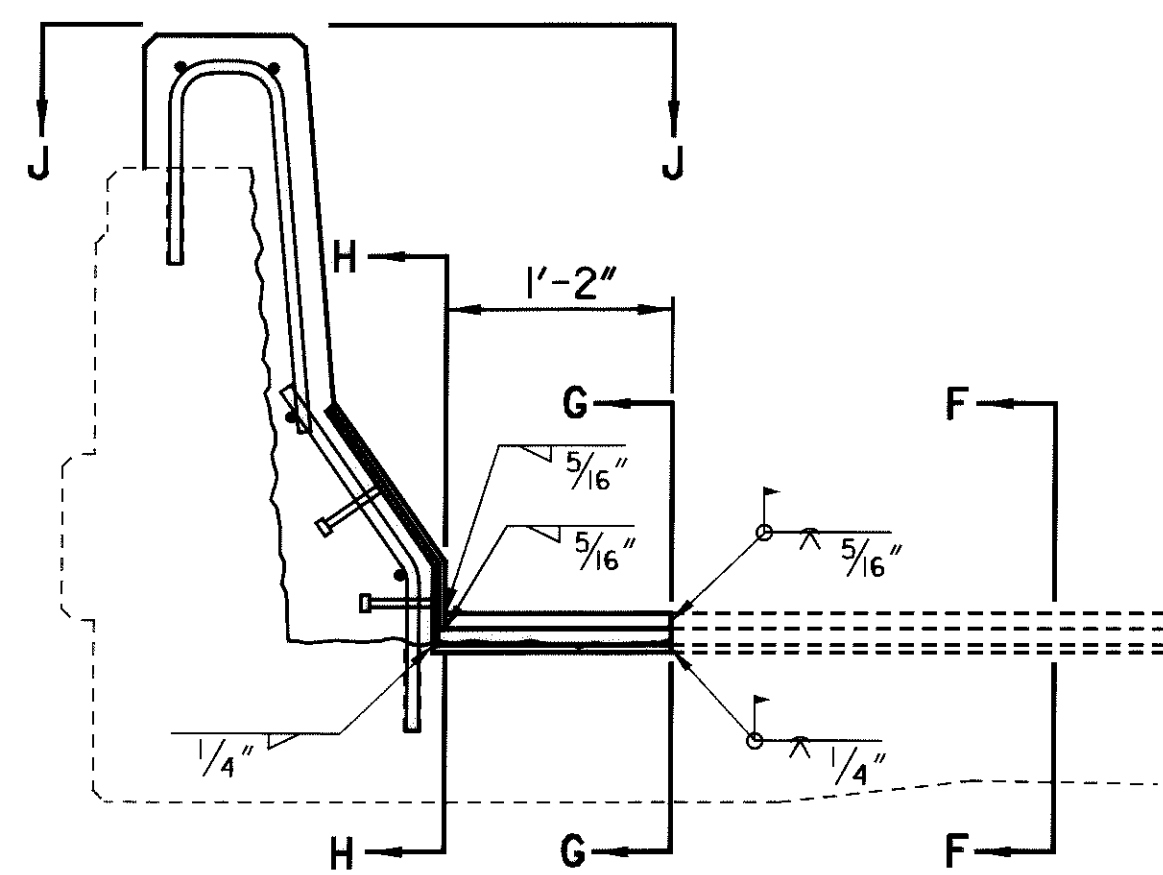
SECTION C-C



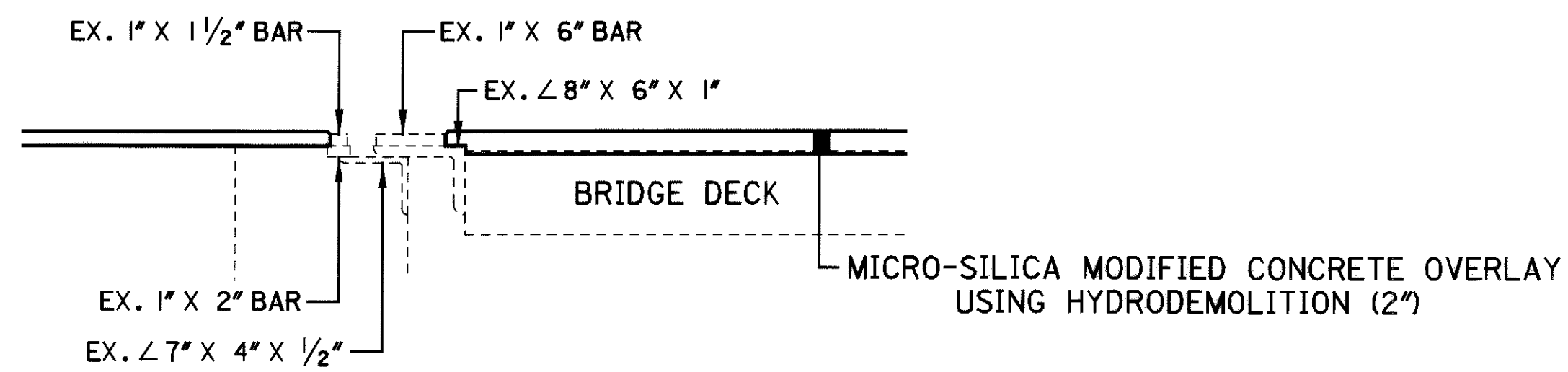
SECTION D-D



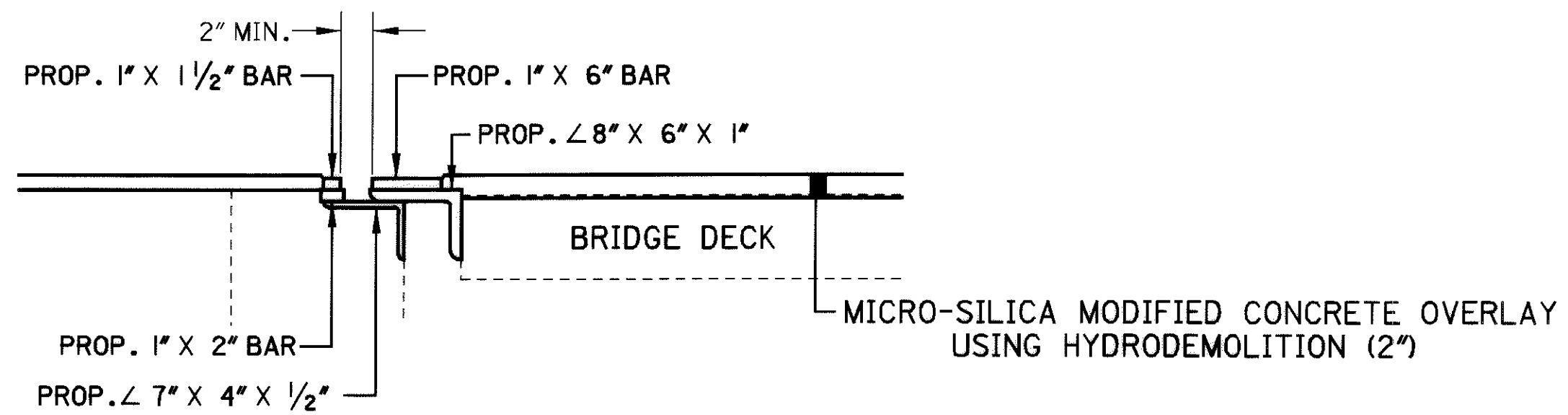
SECTION E-E



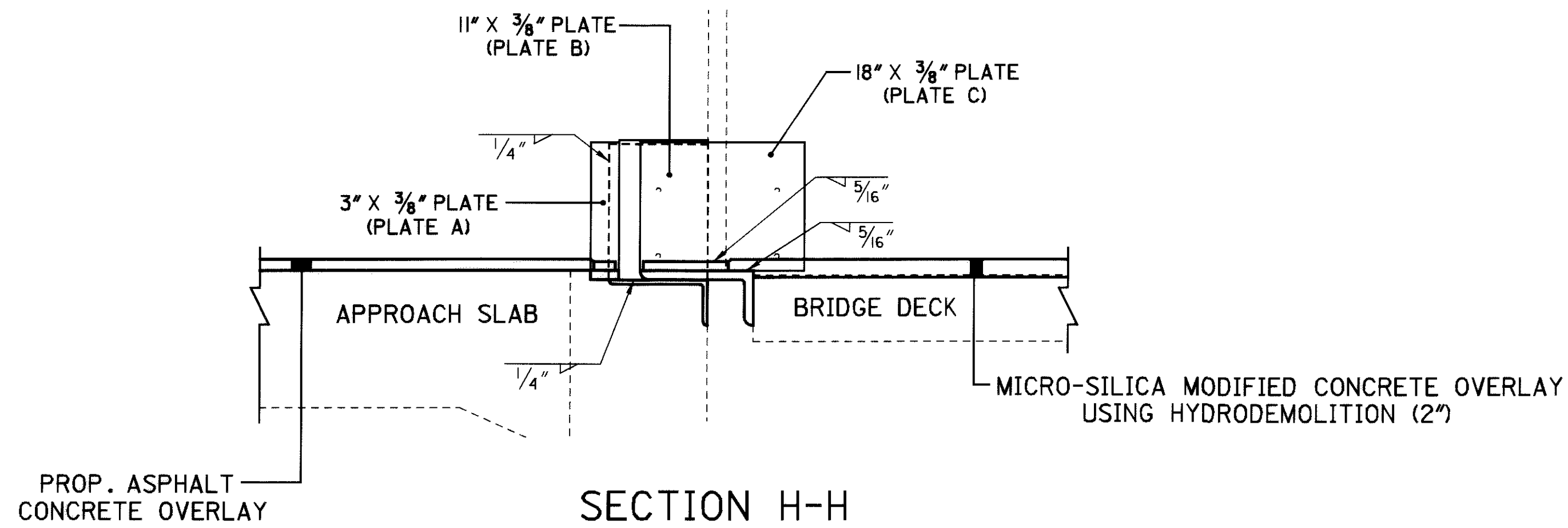
SECTION F-F



SECTION G-G



SECTION H-H



SECTION J-J

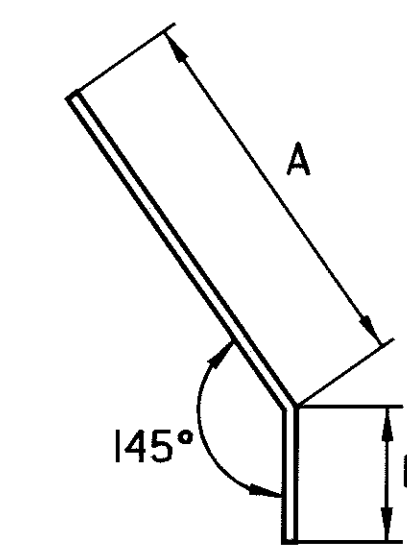
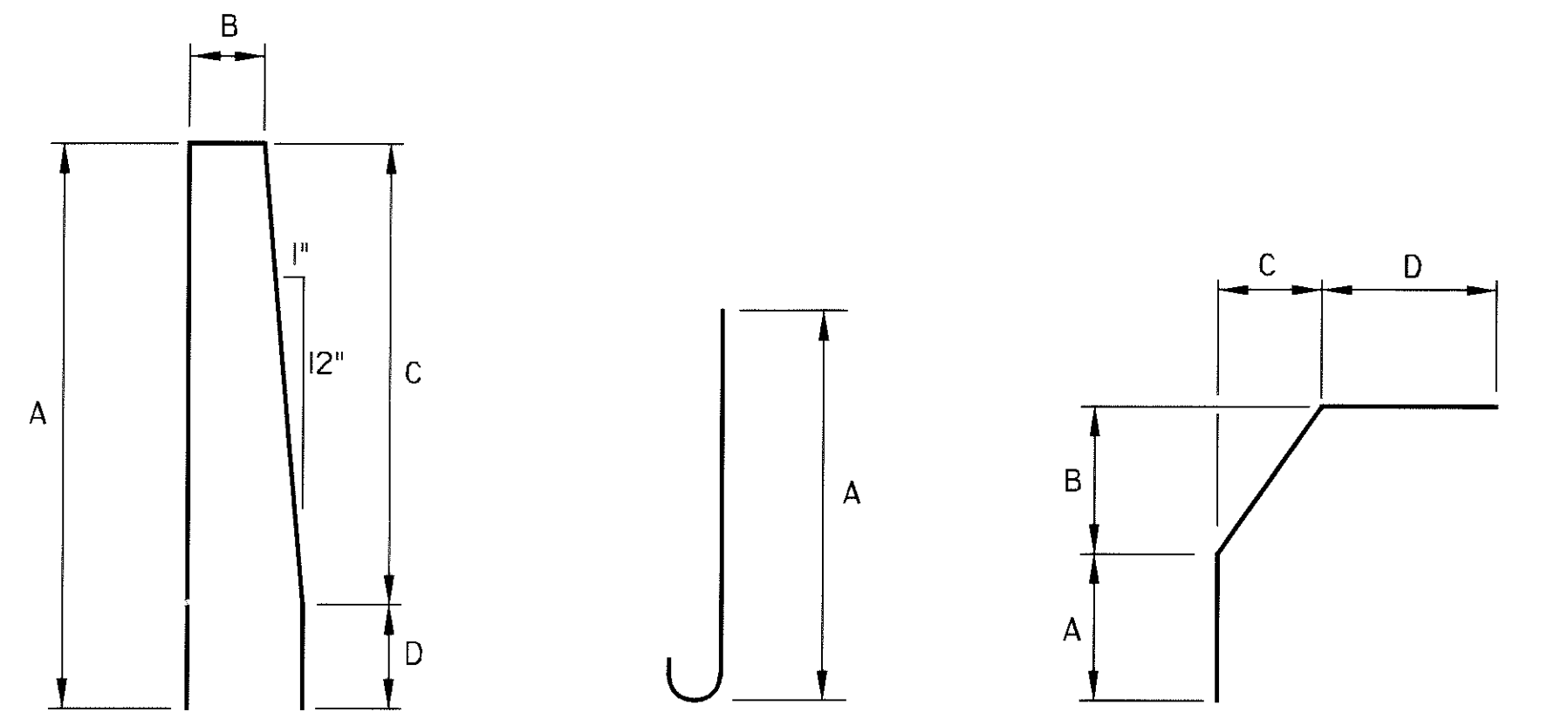


PLATE DIMENSIONS

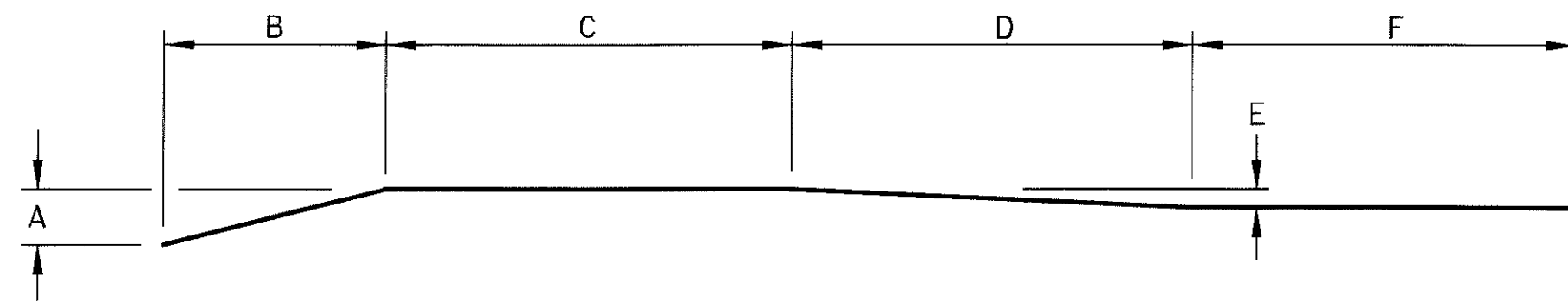
PLATE A		PLATE B		PLATE C	
DIMENSION		DIMENSION		DIMENSION	
A	B	A	B	A	B
12"	4"	12"	5"	12"	4"



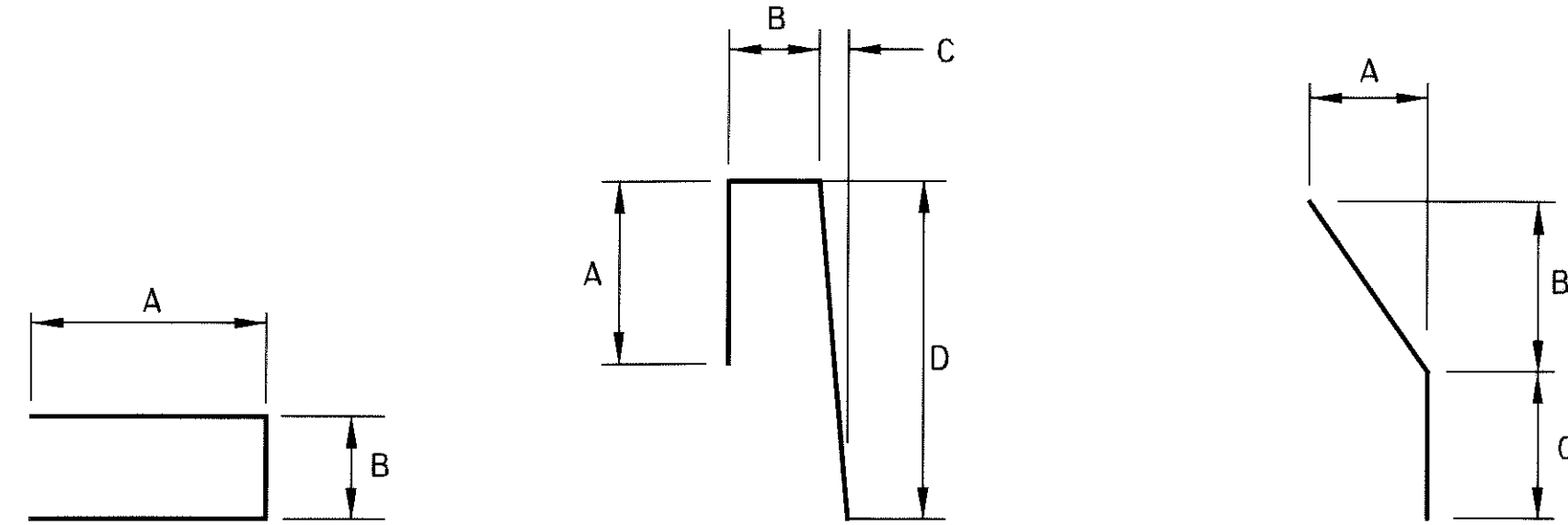
TYPE 1

TYPE 2

TYPE 3



TYPE 4



TYPE 5

TYPE 6

TYPE 7

EPOXY COATED REINFORCING STEEL LIST

ALL REINFORCING STEEL IN THIS TABLE SHALL BE INCLUDED IN THE THE COST OF ITEM 898, QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE

BAR NO.	NUMBER OF BARS	BAR LENGTH	SHAPE	WEIGHT	TYPE	A	B	C	D	E	F	INCR.	DESCRIPTION
CLA-4-066IR (SOUTHWEST AND NORTHEAST BRIDGE RAILING DEFLECTOR PARAPET RAILING)													
X501	20	23'-2"	STR.	484									10 BARS PER TRANS. X 2 TRANS. = 20 BARS
X502	4	23'-3"	BENT	97	4	0'-4"	1'-4"	2'-5"	10'-0"	0'-6"	9'-5"		2 BARS PER TRANS. X 2 TRANS. = 4 BARS
Y501	22	2'-10"	BENT	65	2	2'-4"							11 BARS PER TRANS. X 2 TRANS. = 22 BARS
Y603	16	9'-6"	BENT	229	1	4'-6"	0'-8"	3'-8"	0'-10"				8 BARS PER TRANS. X 2 TRANS. = 16 BARS
Y604	38	2'-10"	BENT	162	3	0'-11"	0'-9"	0'-6"	1-0"				19 BARS PER TRANS. X 2 TRANS. = 38 BARS
Y605	46	3'-1"	BENT	213	5	1'-4"	7"						23 BARS PER TRANS. X 2 TRANS. = 46 BARS
Y606	16	4'-2"	STR.	100									8 BARS PER TRANS. X 2 TRANS. = 16 BARS
Y607	2 S.O. (11)	4'-2" TO 4'-6"	STR.	143								3/8"	11 BARS PER TRANS. X 2 TRANS. = 22 BARS
Y609	22	1'-6"	STR.	50									11 BARS PER TRANS. X 2 TRANS. = 22 BARS
CLA-4-066IR (SOUTHEAST & NORTHWEST BRIDGE RAILING DEFLECTOR PARAPET RAILING)													
X503	20	13'-11"	STR.	291									10 BARS PER TRANS. X 2 TRANS. = 20 BARS
X504	4	14'-0"	BENT	59	4	0'-4"	1'-4"	2'-5"	9'-4"	0'-6"	0'-10"		2 BARS PER TRANS. X 2 TRANS. = 4 BARS
Y501	20	2'-10"	BENT	60	2	2'-4"							10 BARS PER TRANS. X 2 TRANS. = 22 BARS
Y604	20	2'-10"	BENT	86	3	0'-11"	0'-9"	0'-6"	1-0"				10 BARS PER TRANS. X 2 TRANS. = 20 BARS
Y605	28	3'-1"	BENT	130	5	1'-4"	7"						14 BARS PER TRANS. X 2 TRANS. = 28 BARS
Y606	16	4'-2"	STR.	100									8 BARS PER TRANS. X 2 TRANS. = 16 BARS
Y607	2 S.O. (10)	4'-2" TO 4'-6"	STR.	131								3/8"	10 BARS PER TRANS. X 2 TRANS. = 20 BARS
Y608	2	4'-6"	STR.	14									1 BAR PER TRANS. X 2 TRANS. = 2 BARS
Y609	20	1'-6"	STR.	46									10 BARS PER TRANS. X 2 TRANS. = 20 BARS

EPOXY COATED REINFORCING STEEL LIST

ALL REINFORCING STEEL IN THIS TABLE SHALL BE INCLUDED IN THE THE COST OF ITEM 517, RAILING FACED, AS PER PLAN

BAR NO.	NUMBER OF BARS	BAR LENGTH	SHAPE	WEIGHT	TYPE	A	B	C	D	E	F	INCR.	DESCRIPTION
CLA-4-066IR (LT. AND RT. BRIDGE RAILINGS)													
X505	16	12'-11"	STR.	216									4 BARS PER PANEL X 4 PANELS = 16 BARS
X506	26	30'-0"	STR.	814									13 BARS PER SIDE X 2 SIDES = 26 BARS
X507	2	20'-3"	STR.	43									1 BAR PER SIDE X 2 SIDES = 2 BARS
X508	192	15'-2"	STR.	3038									4 BARS PER PANEL X 48 PANELS = 192 BARS
Y601	676	3'-4"	BENT	3385	6	1'-0"	0'-6"	0'-2"	2'-0"				13 BARS PER PANEL X 4 PANELS = 52 BARS 13 BARS PER PANEL X 48 PANELS = 624 BARS
Y602	676	2'-0"	BENT	2031	7	0'-8"	1'-0"	0'-10"					13 BARS PER PANEL X 4 PANELS = 52 BARS 13 BARS PER PANEL X 48 PANELS = 624 BARS

DESIGN AGENCY
OHIO DEPARTMENT
OF TRANSPORTATION
DISTRICT 7

DATE
6-24-03
REVIEWED
T.L.B.
STRUCTURE FILE NUMBER
120001

DESIGNED
J.B.S.
CHECKED
DRAIN
J.B.S.
REVISED

REINFORCING STEEL LIST
BRIDGE NO. CLA-4-06/IR
S.R.-4 OVER I.R.-70

CLA-4-5.56

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352