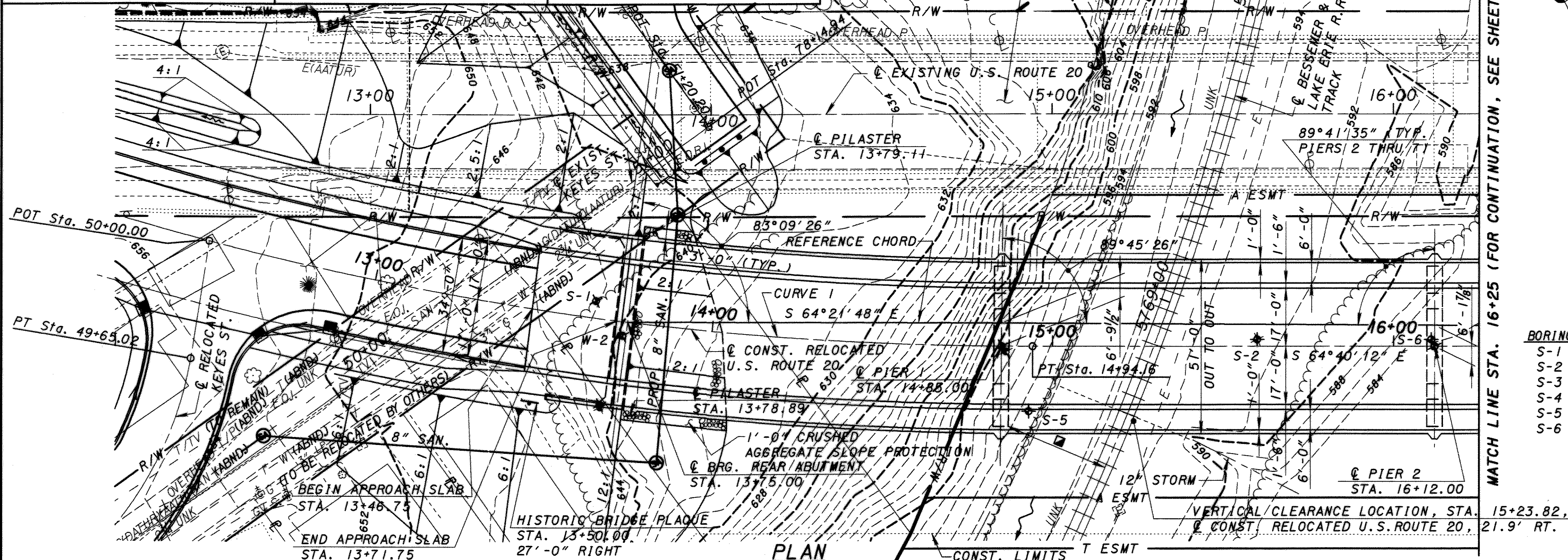


BENCHMARK #1 ELEV. 662.57
TOP S.E. CORNER STONE CAP ON
BRICK PLANTER @ E. SIDE MARCY
FUNERAL HOME @ N.W. CORNER
LIBERTY ST. & U.S.R. 20
(HARBOR ST.),
STA. 59+52, 60.23' LT.

BENCHMARK #2 ELEV. 672.08
CHS. □ ON N.W. CORNER 3'x3'
CONC. PAD @ S.E. CORNER
DORMAN RD. & E. MAIN RD.,
STA. 30+78, 29.19' RT.

BENCHMARK #3 ELEV. 660.28
STD. U.S.C. & G.S. DISK IN
S. FACE @ S.E. CORNER BLDG.
@ N.W. CORNER STATE ST. &
CLEVELAND CT.



- NOTES**
- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
 - THE REFERENCE CHORD IS A LINE FROM @ BEARING REAR ABUTMENT TO @ BEARING FORWARD ABUTMENT, INTERSECTING AT @ CONSTRUCTION RELOCATED U.S. ROUTE 20.

LEGEND

- HORIZONTAL CLEARANCE @ TRACK TO FACE OF PIER:
REQUIRED = 25'-0" MINIMUM
ACTUAL = 30'-10 3/8"

PROPOSED U.S. ROUTE 20

CURVE 1 DATA

P.I. Sta = 12+96.47
Δ = 24° 05' 00" (LT.)
Dc = 6° 00' 00"
R = 954.93'
T = 203.70'
L = 401.39'
E = 21.48'
ema x = NC

FOUNDATION INVESTIGATION LEGEND

★ INDICATES BORING LOCATION

BORING	STATION	OFFSET	ELEVATION	BORING	STATION	OFFSET	ELEVATION
S-1	13+65	5' LT.	641.70	S-7	17+39	0	579.40
S-2	15+60	2' LT.	593.80	S-8	18+66	0	580.20
S-3	21+10	5' RT.	579.90	S-9	19+93	0	580.30
S-4	24+11	6' RT.	664.60	S-10	22+60	20' RT.	588.20
S-5	14+93	19' RT.	591.80	W-2	13+74	4' RT.	637.30
S-6	16+11	2' LT.	583.80	W-3	24+18	25' LT.	666.50

DRAINAGE DATA

DRAINAGE AREA = 184 SQ. MI.
ESTIMATED Q₂₅ = 11,349 CFS
ESTIMATED Q₁₀₀ = 14,989 CFS
NORMAL WATER SURFACE ELEV. = 576.76

TRAFFIC DATA

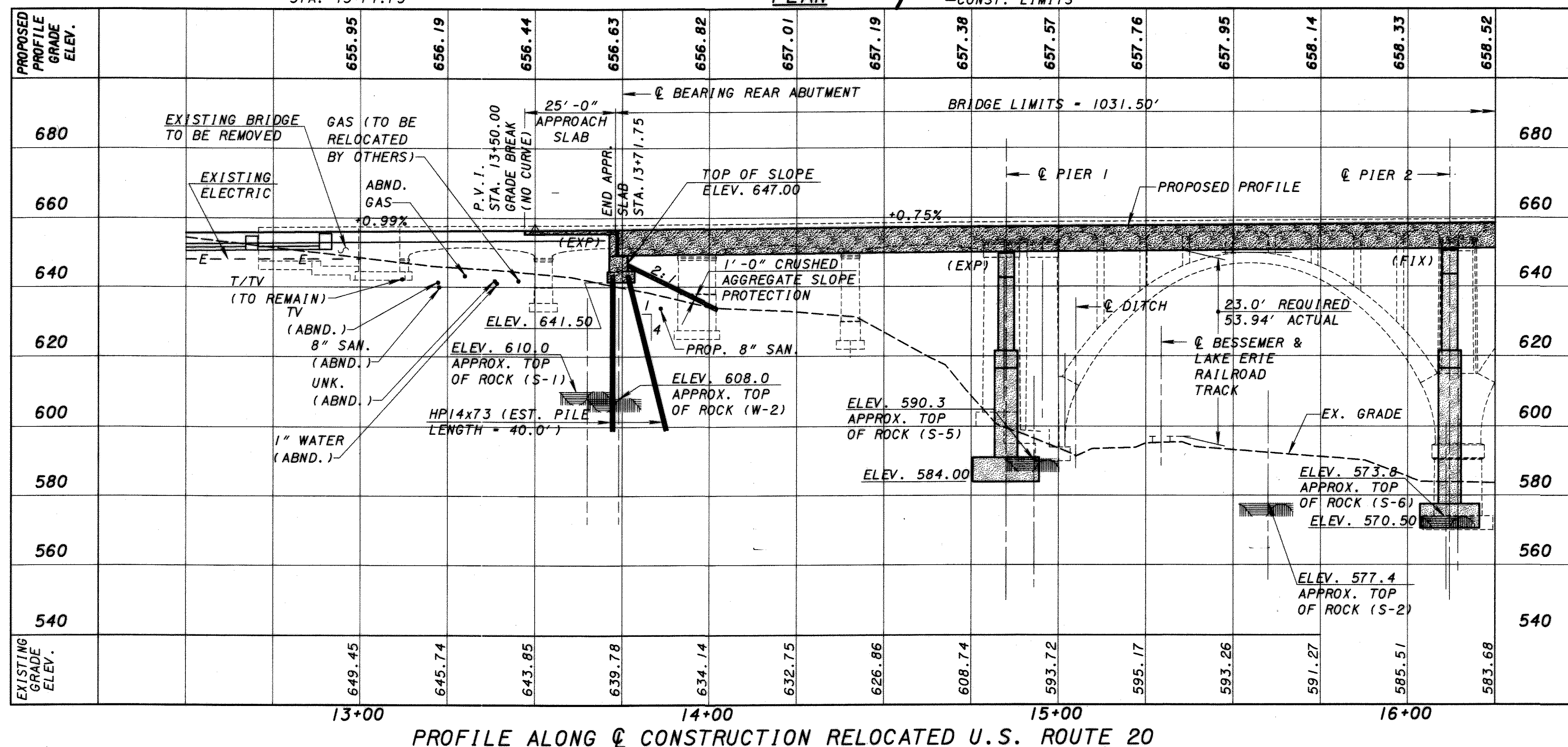
CURRENT ADT (2003) = 10,290
DESIGN YEAR ADT (2023) = 12,890
TRUCKS (24 HOUR B&C) = 1,289

EXISTING STRUCTURE

TYPE: SEVEN (7) SPAN OPEN SPANDREL REINFORCED CONCRETE ARCH BRIDGE WITH SIX (6) REINFORCED CONCRETE VARIABLE DEPTH GIRDER APPROACH SPANS, SUPPORTED ON REINFORCED CONCRETE SUBSTRUCTURE.
SPAN: ARCH SPAN = 119'-0" (±) (C/C BEARINGS)
GIRDER SPAN = 4 @ 45'-6" (±) (C/C BEARINGS)
2 @ 44'-0" (±) (C/C BEARINGS)
DECK: ARCH SPAN = REINFORCED CONCRETE SLAB ON REINFORCED CONCRETE FLOORBEAMS.
GIRDER SPAN = INTEGRAL REINFORCED CONCRETE SLAB ON CONCRETE GIRDERS.
ROADWAY: 32'-0" (±) F/F CURB
LOADING: 60 TON INT. CAR (SINGLE TRACK) AND 20 TON TRUCK (T-20).
SKEW: NONE
ALIGNMENT: TANGENT
WEARING SURFACE: ASPHALT CONCRETE
STRUCTURE FILE NUMBER: 0402281
CONDITION: POOR
DATE BUILT: 1922-1923

PROPOSED STRUCTURE

TYPE: EIGHT (8) SPAN, CONTINUOUS, PRESTRESSED CONCRETE I-BEAM BRIDGE WITH COMPOSITE REINFORCED CONCRETE DECK, SUPPORTED ON REINFORCED CONCRETE SUBSTRUCTURE.
SPANS: 1 SPAN @ 110'-0", 5 SPANS @ 127'-0", 2 SPANS @ 140'-0" C/C PIERS
ROADWAY: 34'-0" F/F BARRIER CURB WITH 6'-0" SIDEWALKS.
LOADING: HS25 AND THE ALTERNATE MILITARY LOADING.
SKEW: VARIES
ALIGNMENT: 6° CURVE LT., TANGENT, 6° CURVE LT.
WEARING SURFACE: MONOLITHIC
APPROACH SLAB: 25'-0" (AS-1-81)
CROWN: 0.0156
LATITUDE: N 41° 56' 30"
LONGITUDE: W 80° 33' 06"



PROFILE ALONG @ CONSTRUCTION RELOCATED U.S. ROUTE 20

DESIGN AGENCY
McCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

DATE
6-11-02
REVIEWED
J.B.H.
STRUCTURE FILE NUMBER
0402273

DRAWN
WEB
REVIEWED
HK
CLB

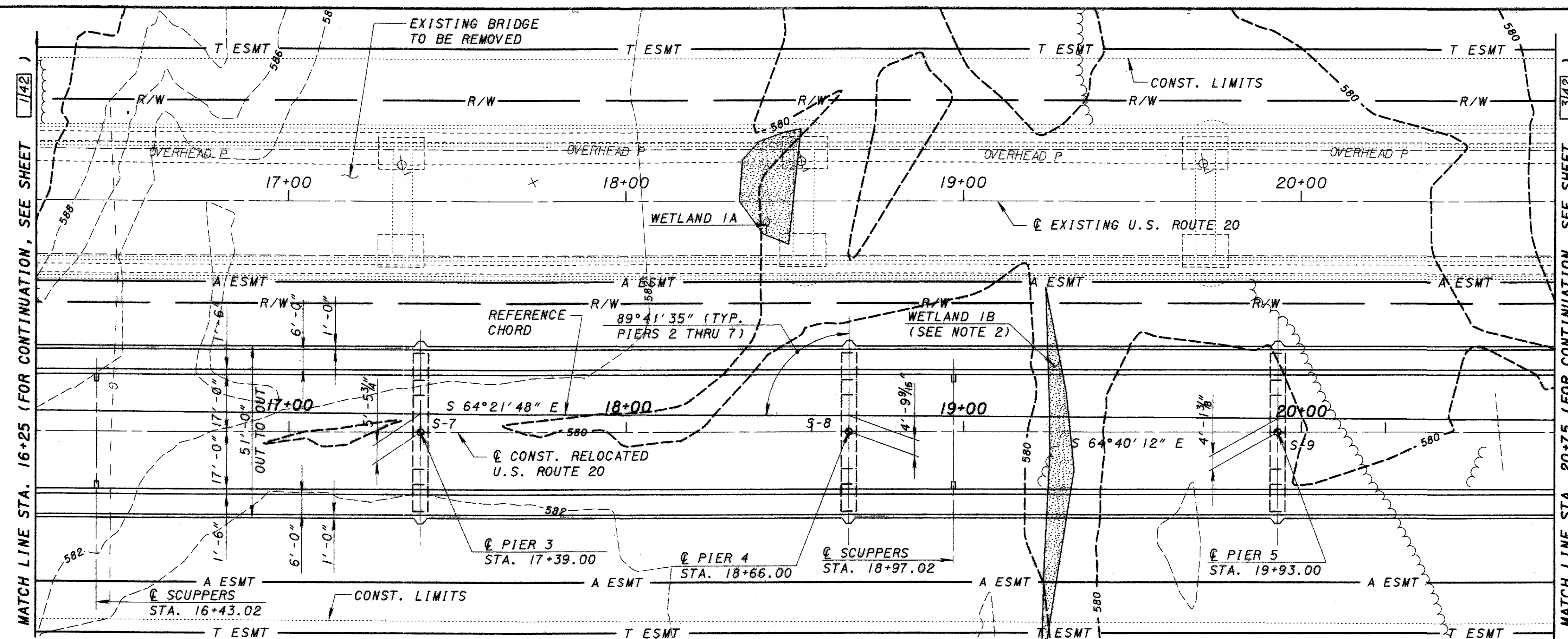
ASHTABULA COUNTY
STA. 13+71.75
STA. 24+03.25

SITE PLAN
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE R.R. & CONNEAUT CREEK

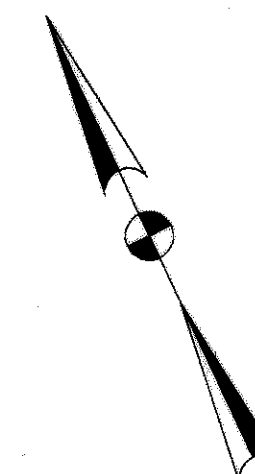
ATB-20-26.19

1/42

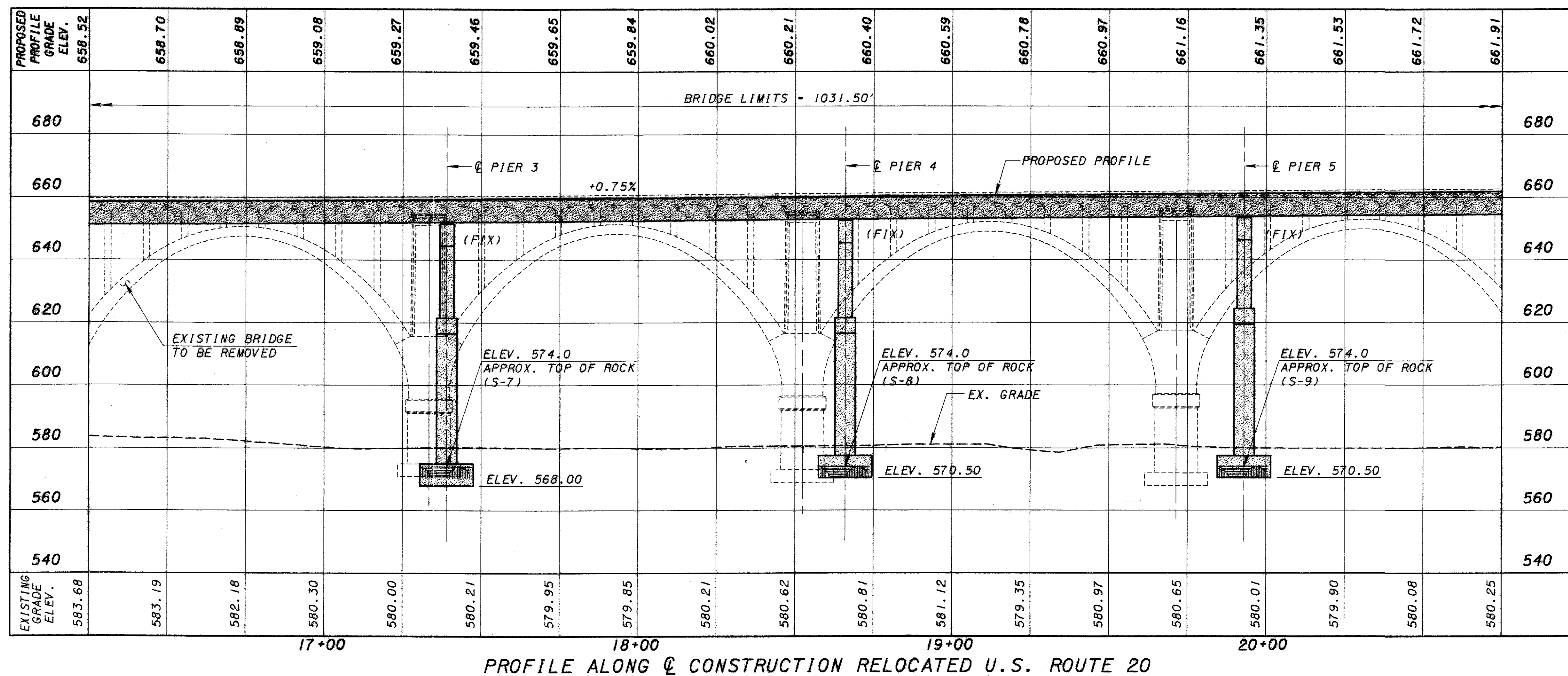
98
162



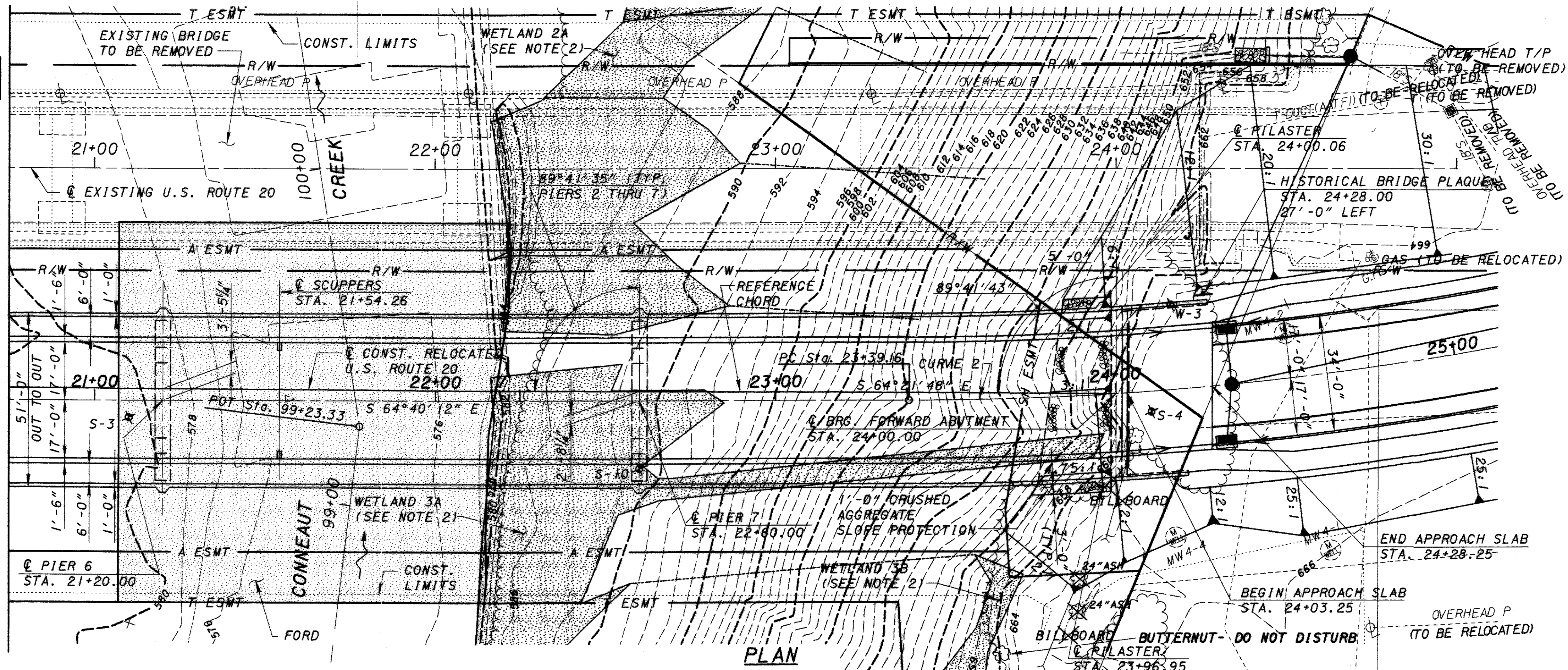
- NOTES**
1. FOR NOTES, SEE SHEET 1/42.
 2. PORTIONS OF WETLANDS OUTSIDE OF CONSTRUCTION LIMITS ARE NOT TO BE DISTURBED.



PLAN



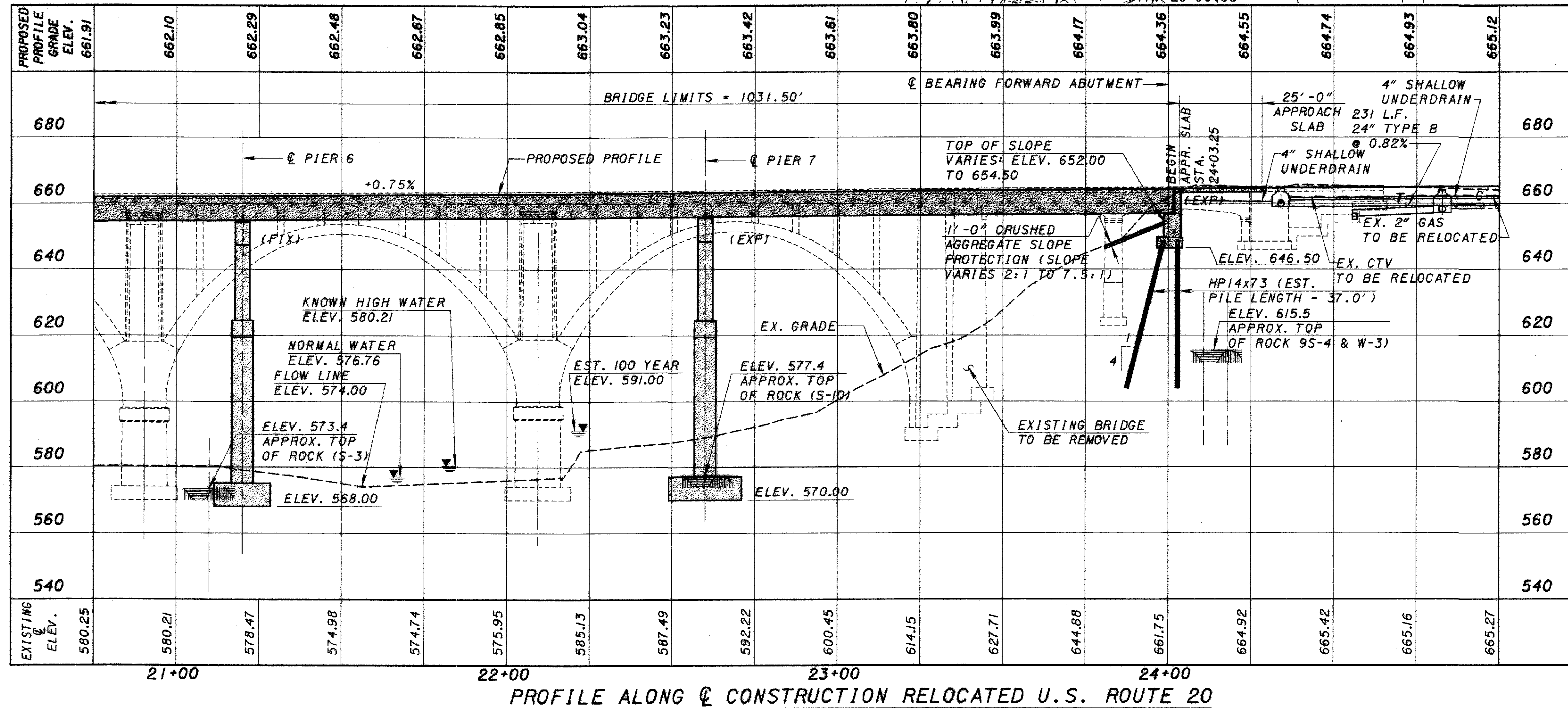
MATCH LINE STA. 20+75 (FOR CONTINUATION, SEE SHEET 2142)



- NOTES**
1. FOR NOTES, SEE SHEET 2142.
 2. PORTIONS OF WETLANDS OUTSIDE OF R/W OR TEMPORARY EASEMENTS ARE NOT TO BE DISTURBED.

**PROPOSED U.S. ROUTE 20
CURVE 2 DATA**

P.I. Sta = 24+78.85
 $\Delta = 16^\circ 38' 40''$ (LT)
Dc = 6° 00' 00"
R = 954.93'
T = 139.69'
L = 277.41'
E = 10.16'
e_{max} = NC



DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

DATE
6-11-02
REVIEWED
JBH
STRUCTURE FILE NUMBER
0402273

DRAWN
WEB
CHECKED
CLB

ASHTABULA COUNTY
STA. 13+71.75
STA. 24+03.25

SITE PLAN
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE R.R. & CONNEAUT CREEK

ATB-20-26.19

3/42

100
162

NOTES

1. THE REFERENCE CHORD EXTENDS FROM ϕ BEARING REAR ABUTMENT TO ϕ BEARING FORWARD ABUTMENT, INTERSECTING AT ϕ CONSTRUCTION RELOCATED U.S. ROUTE 20.
2. FOR BRIDGE RAILING AND BARRIER CURB DETAILS SEE SHEETS 33/42 THRU 36/42.
3. FOR ABBREVIATIONS, SEE SHEET 5/42.
4. PORTIONS OF WETLANDS OUTSIDE OF CONSTRUCTION LIMITS ARE NOT TO BE DISTURBED.

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

DATE
6-11-02
REVIEWED
J.B.H.
STRUCTURE FILE NUMBER
0402273

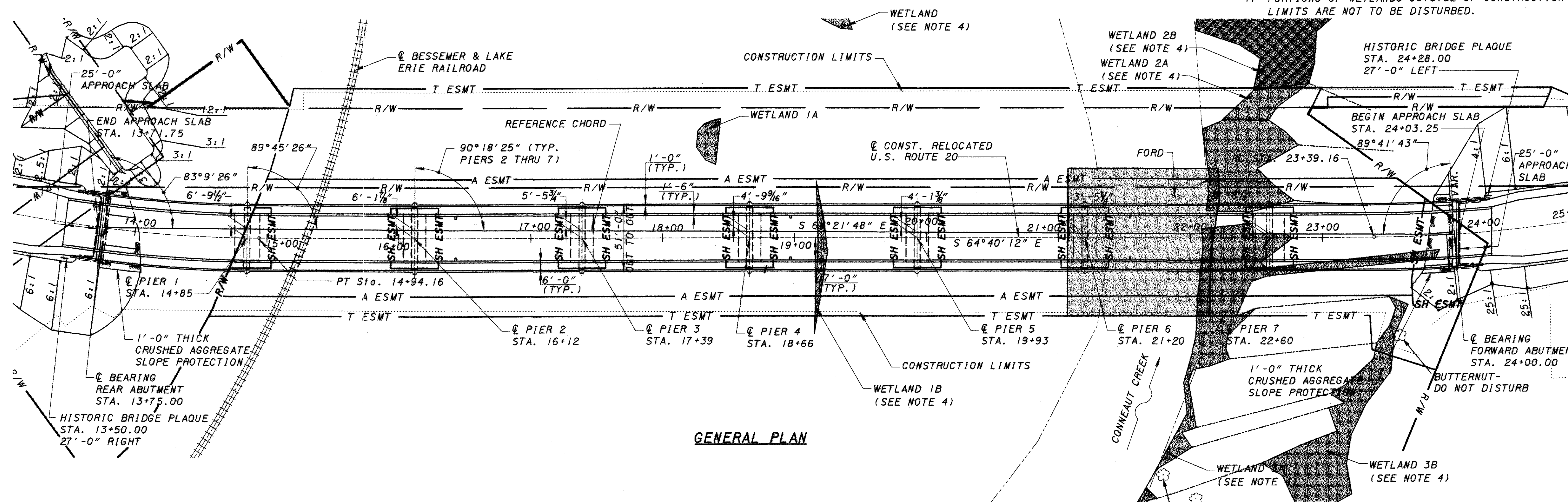
DRAWN
S.L.
CHECKED
S.L.
REVISED
H.K.

GENERAL PLAN AND ELEVATION
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

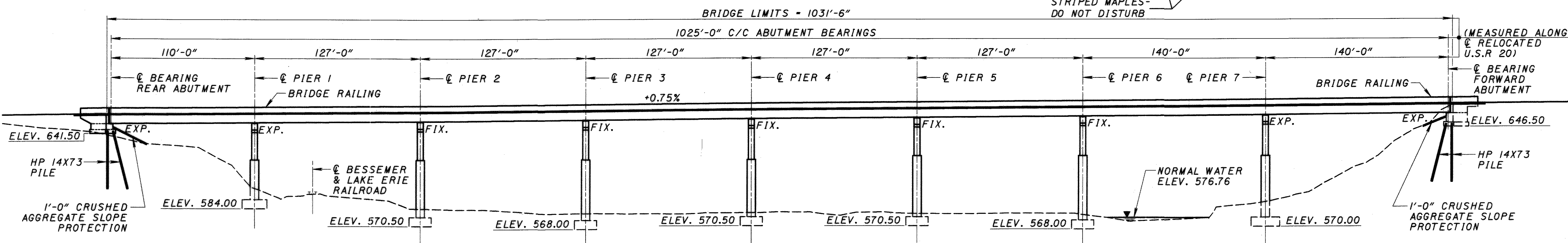
ATB-20-26. 19

4 / 42

101
162



GENERAL PLAN



GENERAL ELEVATION

STRUCTURAL GENERAL NOTES

REFERENCE

SHALL BE MADE TO STANDARD DRAWINGS:
AS-1-81 REVISED 4-20-01
BR-2-98 DATED 12-29-98
EXJ-6-95 REVISED 4-20-01
GSD-1-96 REVISED 4-20-01
PSID-1-99 REVISED 10-20-00

AND TO SUPPLEMENTAL SPECIFICATIONS:
842 DATED 1-6-99
846 DATED 9-9-97
863 DATED 10-12-99
864 DATED 7-11-00
865 DATED 2-22-00
899 DATED 10-21-98
905 DATED 4-1-98
907 DATED 4-19-02
954 DATED 9-9-97

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, 1998, 1999, 2000, 2001, AND 2002 INTERIM SPECIFICATIONS AND THE O.D.O.T. BRIDGE DESIGN MANUAL.

DESIGN LOADING

HS25 AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

DESIGN DATA

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 P.S.I. (PARAPET)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I.
REINFORCING STEEL - ASTM A615, A616 OR A617 GRADE 60, MINIMUM YIELD STRENGTH 60,000 P.S.I.

CONCRETE FOR PRESTRESSED BEAMS:

COMPRESSIVE STRENGTH (FINAL)-7500 P.S.I.
COMPRESSIVE STRENGTH (RELEASE)-5500 P.S.I.
UNIT STRESS-2800 P.S.I. COMPRESSION
502 P.S.I. TENSION

PRESTRESSING STRAND ASTM A416

1/2" DIAMETER AREA = 0.153 IN²
F'S = 270 K.S.I.
INITIAL STRESS = 0.75 F's (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL AND 2 1/2" CONCRETE COVER.

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

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 MATERIAL PLACED IN 6 INCH LIFTS.

ITEM 507. STEEL POINTS. AS PER PLAN

STEEL PILE POINTS SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. THE STEEL POINTS SHALL BE FURNISHED BY ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BLVD., CLIFTON, NEW JERSEY 07014; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC., 301 WAREHOUSE DRIVE, MATTHEWS, NORTH CAROLINA 28015; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; VERSA STEEL INC., 3601 N.W. YEON AVE., P.O. BOX 10559, PORTLAND, OREGON 97210; PILING ACCESSORIES, INC., 3467 GRIBBLE ROAD, MATTHEWS, NORTH CAROLINA 28015; OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE DIRECTOR. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27 65/35 - CLASS 2 - HEAT TREATED OR AASHTO M103 65/35 - HEAT TREATED. WELDING OF THE PILE POINTS TO THE PILE SHALL BE IN ACCORDANCE WITH AWS D1.5 OR THE MANUFACTURER'S WRITTEN WELDING PROCEDURE SUPPLIED THE ENGINEER BEFORE THE WELDING IS PERFORMED. A NOTARIZED COPY OF THE MILL TEST REPORT SHALL BE SUBMITTED TO THE ENGINEER.

BRIDGE SEAT ELEVATIONS

BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 1/8 INCH AT ABUTMENTS AND PIERS TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 50 FEET 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.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE)

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH 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 CONTRACTOR IS RESPONSIBLE FOR SELECTING THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE ULTIMATE BEARING VALUE IS 169 TONS PER PILE FOR THE ABUTMENTS.
THE CALCULATED DESIGN LOADING IS 84.5 TONS PER PILE.

REAR ABUT. PILES: 22 HPI4X73 PILES, 40.0 FEET LONG,
28 PILES OF ORDER LENGTH, 40.0 FEET LONG
FWD. ABUT. PILES: 22 HPI4X73 PILES, 37.0 FEET LONG,
22 PILES OF ORDER LENGTH, 37.00 FEET LONG
44 SPLICES PER BRIDGE

ITEM 630 SIGNING MISC. HISTORIC BRIDGE PLAQUE. AS PER PLAN

THE CONTRACTOR SHALL PURCHASE TWO (2) HISTORIC BRIDGE PLAQUES WITH POSTS FROM ONE OF THE FOLLOWING MANUFACTURERS:

SEWAH STUDIOS ADVANCED MARKING SYSTEMS SMITH CORNELL IMPRESSIONS
P.O. BOX 298 6000 MAHONING AVE. 1545 HOLLAND RD. SUITE K
MARIETTA, OH 45750 YOUNGSTOWN, OH 44515 MAUMEE, OH 43537
PH: (740) 373-2087 PH: (330) 792-8239 PH: 1-800-325-0248

AT THE LOCATIONS SHOWN IN THE PLAN TWO POST MOUNTED PLAQUES WILL BE PLACED. (SEE GENERAL PLAN & ELEVATION, SHEET 14/162.) THE SIGN, SUPPORT, LABOR, INSTALLATION AND INCIDENTALS REQUIRED TO PERFORM THIS WORK SHALL BE INCLUDED FOR PAYMENT ITEM 630 SIGNING MISC., HISTORIC BRIDGE PLAQUES, AS PER PLAN.

THE FOLLOWING QUANTITY HAS BEEN CARRIED OVER TO THE GENERAL SUMMARY:

ITEM 630 SIGNING MISC., HISTORIC BRIDGE PLAQUES, AS PER PLAN, 2 EACH.

ABBREVIATIONS

C	- CENTERLINE	N.S.	- NEAR SIDE
BRG.	- BEARING	F.S.	- FAR SIDE
TYP.	- TYPICAL	E.S.	- EACH SIDE
@	- AT	RD.	- ROAD
SPA.	- SPACING	BOTT.	- BOTTOM
RT.	- RIGHT	EX.	- EXISTING
MIN.	- MINIMUM	STA.	- STATION
DIA.	- DIAMETER	FIX.	- FIXED
ELEV.	- ELEVATION	APPR.	- APPROACH
STR.	- STRAIGHT	NO.	- NUMBER
FT.	- FEET	F/F	- FACE TO FACE
ABUT.	- ABUTMENT	CONC.	- CONCRETE
FWD.	- FORWARD	VAR.	- VARIES
CONST.	- CONSTRUCTION	EQ.	- EQUAL
P.S.I.	- POUNDS PER SQUARE INCH	T.O.S.	- TOP OF SLOPE
EST.	- ESTIMATED	LT.	- LEFT
C/C	- CENTER TO CENTER	SER.	- SERIES
P.E.J.F.	- PREFORMED EXPANSION JOINT FILLER	EXP.	- EXPANSION
RELOC.	- RELOCATED		

CONSTRUCTION CLEARANCE

OF 14 FEET (MIN.) HORIZONTALLY FROM THE CENTER OF TRACKS AND 22 FEET (MIN.) VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL, AND 6 FEET FROM THE CENTER OF TRACKS, SHALL BE MAINTAINED AT ALL TIMES.

FOOTINGS

SHALL BE PLACED IN BEDROCK AT THE ELEVATION SHOWN.

BEARING PAD SHIMS

1/2" THICK PREFORMED BEARING PAD SHIMS, PLAN AREAS LISTED (THE SAME SIZE OF THE ELASTOMERIC BEARING PAD SHOULD BE USED) SHALL BE PLACED UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. THE AMOUNT SUPPLIED IS SUFFICIENT FOR TWO SHIMS PER BEAM. PAYMENT WILL BE MADE AT THE CONTRACT BID PRICE FOR ITEM 516 - 1/2" PREFORMED BEARING PADS. ANY UNUSED SHIMS SHALL BECOME THE PROPERTY OF THE STATE.

FOUNDATION BEARING PRESSURE

PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 4.5 TONS PER SQUARE FOOT FOR PIER 1 THROUGH PIER 6 AND 4.6 TONS PER SQUARE FOOT FOR PIER 7. THE ALLOWABLE BEARING PRESSURE IS 5 TONS PER SQUARE FOOT.

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE ATB-20-2628 (2626) BRIDGE SCHEDULED FOR REPLACEMENT WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE.

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

OEPA-NEDO
2110 EAST AURORA ROAD
TWINSBURG, OHIO 44087
ATTENTION: MR. JIM VERES
TELEPHONE: 330-425-9171 OR 1-800-686-6330
FAX: 330-487-0769

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

INFORMATION REQUIRED ON THE FORM WILL INCLUDE:

- THE NAME, ADDRESS, TELEPHONE/FAX NUMBERS AND CONTACT PERSON OF THE DEMOLITION/GENERAL CONTRACTOR.
- THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL.
- A DESCRIPTION OF THE PLANNED DEMOLITION 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, RAVENA, OHIO, 44266.

BASIS OF PAYMENT:

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE MADE UNDER THE CONTRACT LUMP SUM PRICE BID FOR: ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 202. STRUCTURE REMOVED. OVER 20 FOOT SPAN. AS PER PLAN

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED UPON RECEIVING PERMISSION FROM THE ENGINEER.

THE CONTRACTOR SHALL SUBMIT THE METHOD OF DEMOLITION TO THE OHIO DEPARTMENT OF NATURAL RESOURCES FOR THEIR APPROVAL, A MINIMUM 60 DAYS PRIOR TO THE START OF ANY DEMOLITION ACTIVITIES.

FOR ENVIRONMENTAL CONSTRUCTION CONSTRAINTS SEE SHEET 14/162 AND 15/162.

THE NORTH RETAINING WALL AT THE EXISTING REAR ABUTMENT SHALL REMAIN AS SHOWN ON SHEETS 9/142 AND 9/142. ABUTMENT REMOVAL, ADJACENT TO RETAINING WALL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, HAMMERS NOT EXCEEDING 90 POUNDS, MAY BE USED UPON THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

THE CONTRACTOR SHALL SALVAGE EXISTING BRONZE PLAQUES AND DELIVER THEM TO THE CITY OF CONNEAUT (CITY OF CONNEAUT, 294 MAIN STREET, CONNEAUT, OH 44030) OR THE LOCAL HISTORICAL SOCIETY (CONNEAUT HISTORICAL SOCIETY, 402 SOUTH AMBOY ROAD, CONNEAUT, OH 44030; SUE HOWARD, (440) 593-4896) IF ANY SUCH PLAQUES ARE REQUESTED BY EITHER PARTY.

CONCRETE PARAPETS

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 1" DEEP CONTROL JOINTS SHALL BE SAWS INTO THE PERIMETER OF THE CONCRETE PARAPET AND RAILING. 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 6 FEET AND A MAXIMUM OF 10 FEET CENTERS. 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 AND RAILING. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4 INCH. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E TO A MINIMUM DEPTH OF 1 INCH. THE BOTTOM 1/2 INCH OF THE INSIDE AND OUTSIDE FACE SHOULD BE LEFT UNSEALED TO ALLOW WATER TO ESCAPE.

ESTIMATED QUANTITIES									
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER.	GENERAL	AS PER PLAN
202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	9/42 & 9A/42
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING				LUMP	
503	21101	2223	CU. YD.	UNCLASSIFIED EXCAVATION, AS PER PLAN	458	1765			5/42
503	31120	893	CU. YD.	SHALE EXCAVATION		893			
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00300	1694	LIN. FT.	STEEL PILES HPI4X73, FURNISHED	1694				
507	00350	1694	LIN. FT.	STEEL PILES HPI4X73, DRIVEN	1694				
507	50500	22	EACH	STEEL PILE SPLICES	22				
507	93301	44	EACH	STEEL POINT (OR SHOE), AS PER PLAN	44				5/42
516	11210	98	LIN. FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			98		
516	41100	96	EACH	1/8" PREFORMED BEARING PAD, 711.21 (1'-0" x 1'-10")		96			
516	41100	48	EACH	1/8" PREFORMED BEARING PAD, 711.21 (1'-0 1/2" x 1'-10")		48			
516	41100	24	EACH	1/8" PREFORMED BEARING PAD, 711.21 (1'-1" x 1'-8")	24				
516	41100	24	EACH	1/8" PREFORMED BEARING PAD, 711.21 (1'-3" x 1'-10")		24			
516	43200	48	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (2 3/4" x 1'-0" x 1'-10")		48			
516	43200	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (2 3/4" x 1'-0 1/2" x 1'-10")		12			
516	43300	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (3 5/16" x 1'-3" x 1'-10")		12			
516	43300	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (3 5/8" x 1'-0 1/2" x 1'-10")		12			
516	43300	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (3 3/4" x 1'-1" x 1'-8")	12				
517	76300	2141	LIN. FT.	RAILING, MISC.: ORNAMENTAL PEDESTRIAN RAILING (PRECAST - CONCRETE ALTERNATIVE)			2141		
517	76300	2141	LIN. FT.	RAILING, MISC.: ORNAMENTAL PESESTRIAN RAILING (CAST IN PLACE CONCRETE ALTERNATIVE)			2141		
517	76300	89	LIN. FT.	RAILING, MISC.: HAND RAILING				89	
518	12301	6	EACH	SCUPPER, INCLUDING SUPPORT, AS PER PLAN			6		38/42
518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC	LUMP				
518	40000	129	LIN. FT.	6" PERFORATED CORRUGATED PLASTIC PIPE	129				
518	40010	55	LIN. FT.	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	55				
519	11101	64.5	SQ. FT.	PATCHING CONCRETE STRUCTURE, AS PER PLAN				64.5	9A/42
SPEC	53014000	LUMP		STRUCTURAL SURVEY AND MONITORING OF VIBRATION				LUMP	6/42
601	20000	295	SQ. YD.	CRUSHED AGGREGATE SLOPE PROTECTION	295				
630	97700	2	EACH	SIGNING MISC.: HISTORIC BRIDGE PLAQUE, AS PER PLAN				2	5/42
842	31510	1941	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE			1941		
842	33403	180	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN			180		27/42
842	41000	1737	CU. YD.	CLASS C CONCRETE, PIER ABOVE FOOTING		1737			
842	44100	208	CU. YD.	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING	208				
842	46000	5	CU. YD.	CLASS C CONCRETE, RETAINING WALL				5	
842	46500	1359	CU. YD.	CLASS C CONCRETE, FOOTING	150	1209			
846	73000	159	SQ. YD.	TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN			159		
864	10050	1375	SQ. YD.	SEALING OF CONCRETE SURFACES (NON-EPOXY)			1375		
864	10100	10362	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	294	3139	6784	119	
865	16000	120	EACH	PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, MISC.: DIAPHRAGMS			120		

NOTE

1. FOR REINFORCED CONCRETE APPROACH SLAB QUANTITIES, SEE ROADWAY PLAN, SHEET 30
162.

STRUCTURAL GENERAL NOTES

ITEM 517, RAILING, MISC.: ORNAMENTAL PEDESTRIAN RAILING (PRECAST - CONCRETE ALTERNATIVE)

DESCRIPTION - THE CONTRACTOR SHALL HAVE THE OPTION OF ERECTING A PRE-CAST CONCRETE RAILING. THE FABRICATION OF THE RAILING SHALL COMPLY TO SUPPLEMENTAL SPECIFICATIONS (SS) 865 EXCEPT AS HEREIN PROVIDED.

THE RAILING SHALL HAVE THE GENERAL APPEARANCE AND DIMENSIONS IN ACCORDANCE WITH THE CONTRACT PLANS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS PER SS 865. SHOP DRAWINGS SHALL INCLUDE PANEL LENGTHS, CONNECTION DETAILS TO SUPERSTRUCTURE, CONNECTION DETAILS TO ADJACENT PANELS AND CONNECTION DETAILS TO ABUTMENT WING WALLS. PANEL LENGTH SHALL BE A MAXIMUM OF 10 FEET AND A MINIMUM OF 6 FEET.

PRECAST PANELS SHALL HAVE PROVISIONS FOR THE 2 INCH DIAMETER CONDUITS AND THE JUNCTION BOXES AS SHOWN IN THE CONTRACT PLANS.

METHOD OF MEASUREMENT - THE QUANTITY SHALL BE THE LENGTH OF PANELS IN LINEAR FEET.

THIS ITEM SHALL INCLUDE ALL INSERTS, CONNECTIONS, SLEEVES, FITTINGS, AND REINFORCING STEEL TO COMPLETE THIS ITEM.

BASIS OF PAYMENT - PAYMENT WILL BE MADE AT CONTRACT PRICE FOR ITEM 517 - RAILING, MISC.: ORNAMENTAL PEDESTRIAN RAILING (PRECAST - CONCRETE ALTERNATIVE).

UTILITY LINES

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

ITEM SPECIAL - STRUCTURAL SURVEY AND MONITORING OF VIBRATION

THE CONTRACTOR SHALL MONITOR BUILDINGS AT THE FOLLOWING ADDRESSES IN ACCORDANCE WITH PROPOSAL NOTE 530:

195 KEYES STREET
201 KEYES STREET
165 LIBERTY STREET
171 LIBERTY STREET
177 LIBERTY STREET
200 EAST MAIN ROAD
208 WOODLAND AVENUE

CALC. BY: S.L. DATE: 3/02

CHKD BY: H.K. DATE: 4/02

DESIGN AGENCY
McCOY ASSOCIATES, INC.
367 GHENT ROAD
AKRON, OHIO 44333

DATE
6-11-02
REVIEWED
JBH
STRUCTURE FILE NUMBER
0402273

DRAWN
SL
CHECKED
HK

ESTIMATED QUANTITIES & GENERAL NOTES
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

ATB-20-26.19

6/42

103
162

ESTIMATED QUANTITIES									
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER.	GENERAL	AS PER PLAN
865	16000	1	EACH	PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, MISC.: DRAPED STRAND, LEVEL 3, TYPE 4 MODIFIED (78") (107.8')			1		
865	16000	1	EACH	PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, MISC.: DRAPED STRAND, LEVEL 3, TYPE 4 MODIFIED (78") (108.8')			1		
865	16000	1	EACH	PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, MISC.: DRAPED STRAND, LEVEL 3, TYPE 4 MODIFIED (78") (109.8')			1		
865	16000	1	EACH	PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, MISC.: DRAPED STRAND, LEVEL 3, TYPE 4 MODIFIED (78") (110.9')			1		
865	16000	1	EACH	PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, MISC.: DRAPED STRAND, LEVEL 3, TYPE 4 MODIFIED (78") (111.9')			1		
865	16000	1	EACH	PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, MISC.: DRAPED STRAND, LEVEL 3, TYPE 4 MODIFIED (78") (112.9')			1		
865	16000	6	EACH	PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, MISC.: DRAPED STRAND, LEVEL 3, TYPE 4 MODIFIED (78") (126.0')			6		
865	16000	24	EACH	PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, MISC.: DRAPED STRAND, LEVEL 3, TYPE 4 MODIFIED (78") (126.3')			24		
865	16000	6	EACH	PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, MISC.: DRAPED STRAND, LEVEL 3, TYPE 4 MODIFIED (78") (139.3')			6		
865	16000	6	EACH	PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, MISC.: DRAPED STRAND, LEVEL 3, TYPE 4 MODIFIED (78") (140.4')			6		
SPEC	51912600	23	LIN. FT.	CONCRETE REPAIR BY EPOXY INJECTION				23	

CALC. BY: S.L. DATE: 3/02

CHKD BY: H.K. DATE: 4/02

NOTE

1. FOR REINFORCED CONCRETE APPROACH SLAB QUANTITIES, SEE ROADWAY PLANS, SHEET 30162.

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

DATE
6-11-02

REVIEWED
JBH

STRUCTURE FILE NUMBER
0402273

DRAWN
SL

REVISED

DESIGNED
SL

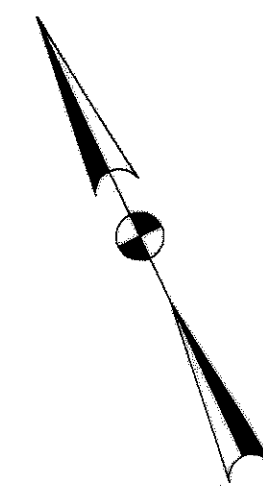
CHECKED
HK

ESTIMATED QUANTITIES
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

ATB-20-26.19

7/42

104162



NOTES

1. ALL PILES ARE HP14X73 STEEL PILES.
2. FOR ABBREVIATIONS, SEE SHEET 542.
3. FOR PILE NUMBERS & LOCATIONS SEE SHEETS 1042 & 1342.

LEGEND

- DENOTES BATTERED PILE (1:4)

PROPOSED U.S. ROUTE 20

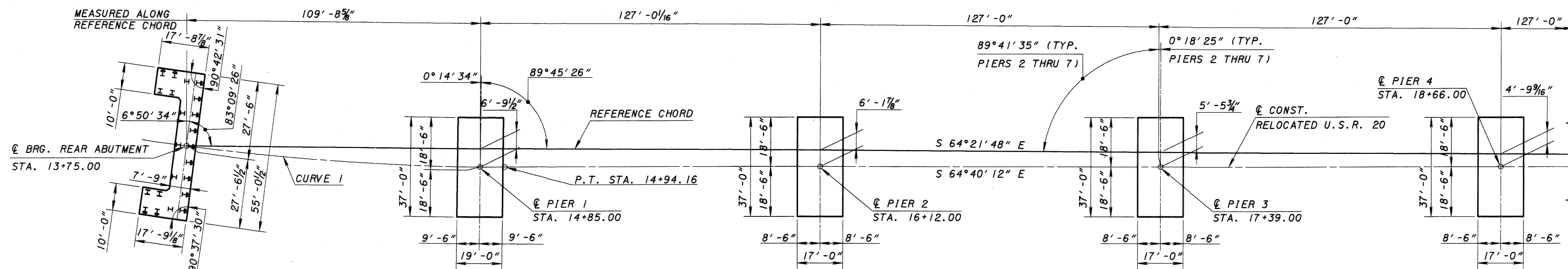
CURVE 1 DATA

P.I. Sta = 12+96.47
 $\Delta = 24^\circ 05' 00''$ (LT.)
 $D_c = 6^\circ 00' 00''$
 $R = 954.93'$
 $T = 203.70'$
 $L = 401.39'$
 $E = 21.48'$
 $e_{max} = NC$

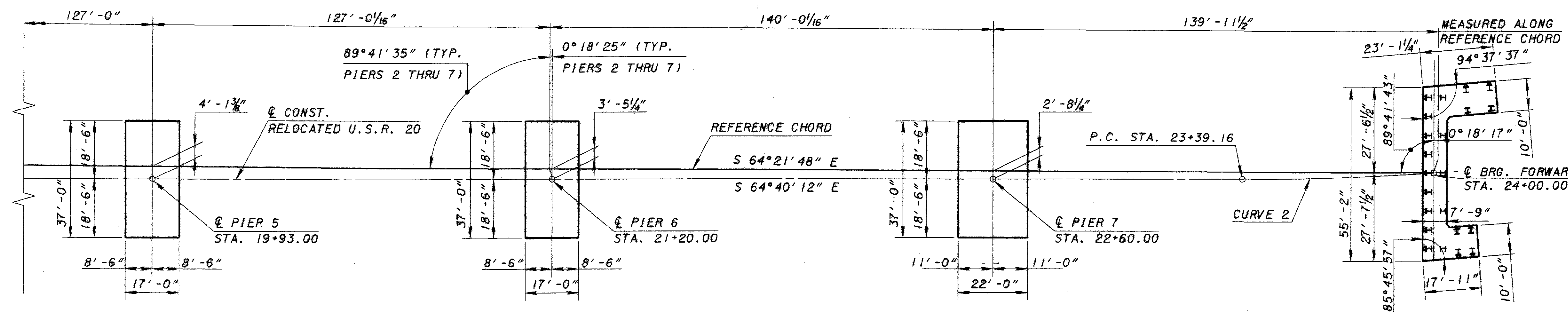
PROPOSED U.S. ROUTE 20

CURVE 2 DATA

P.I. Sta = 24+78.85
 $\Delta = 16^\circ 38' 40''$ (LT.)
 $D_c = 6^\circ 00' 00''$
 $R = 954.93'$
 $T = 139.69'$
 $L = 277.41'$
 $E = 10.16'$
 $e_{max} = NC$



FOUNDATION LAYOUT PLAN



FOUNDATION LAYOUT PLAN

FOUNDATION LAYOUT
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

ATB-20-26. 19

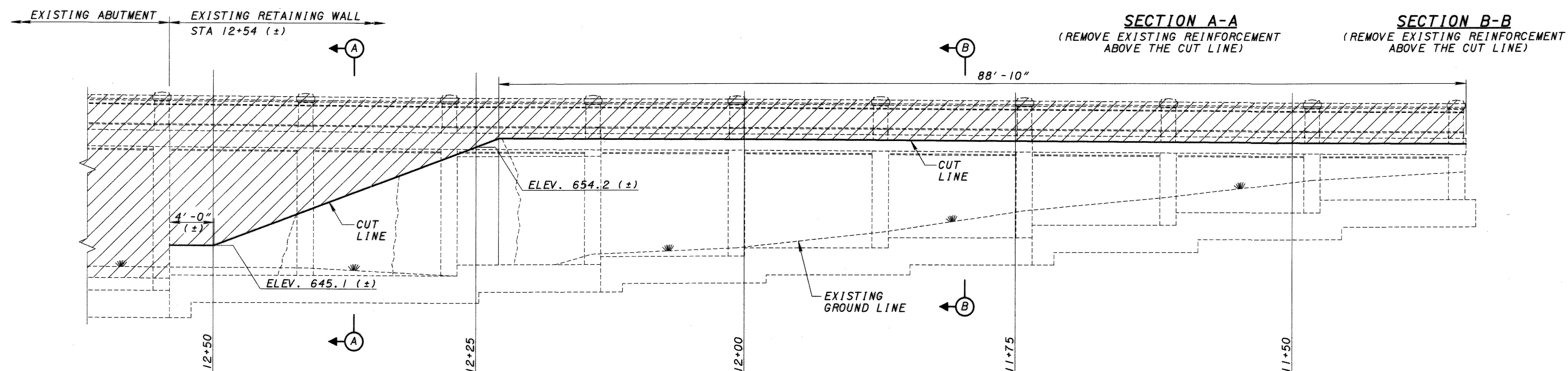
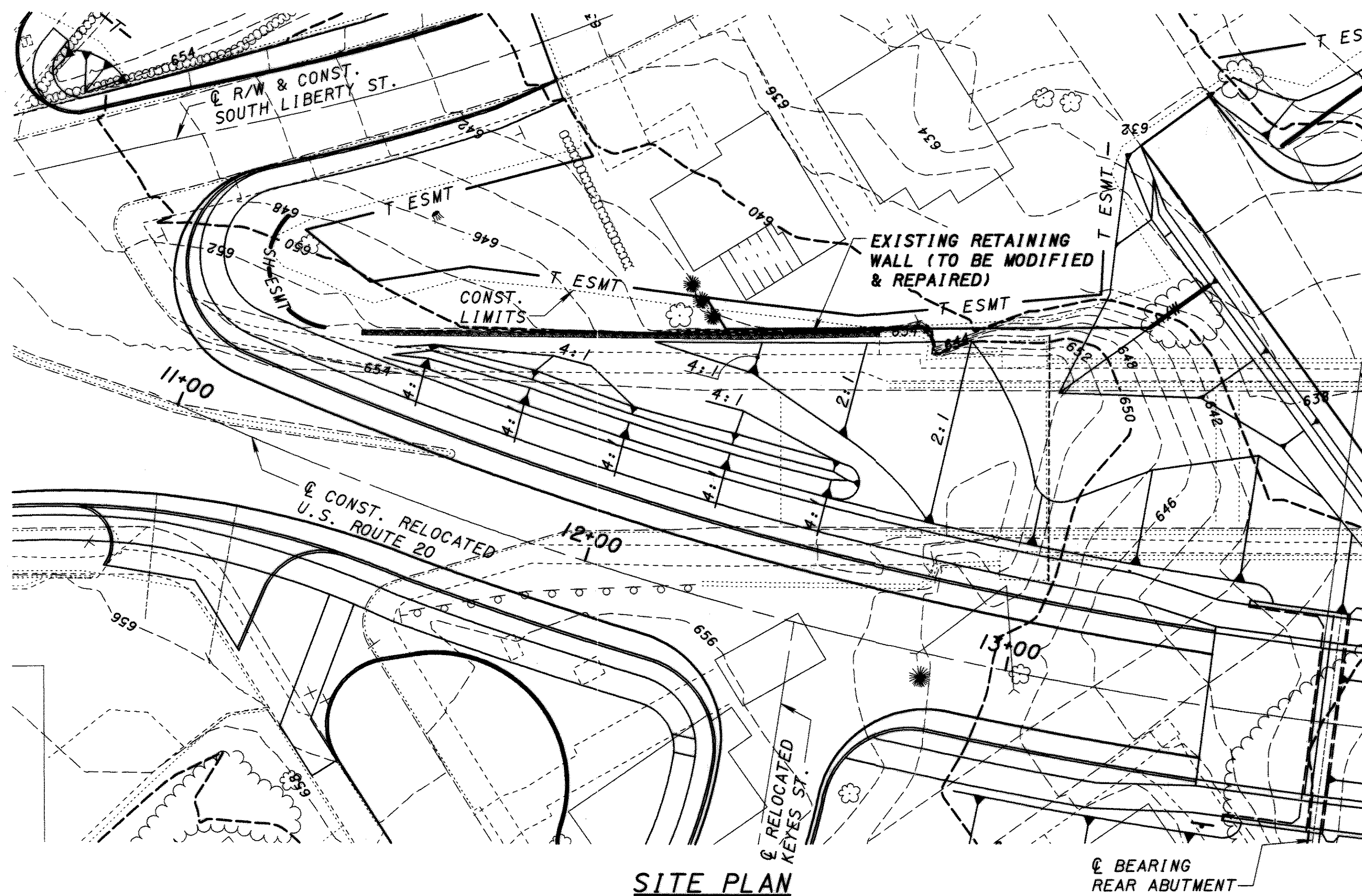
8/42

105
162

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

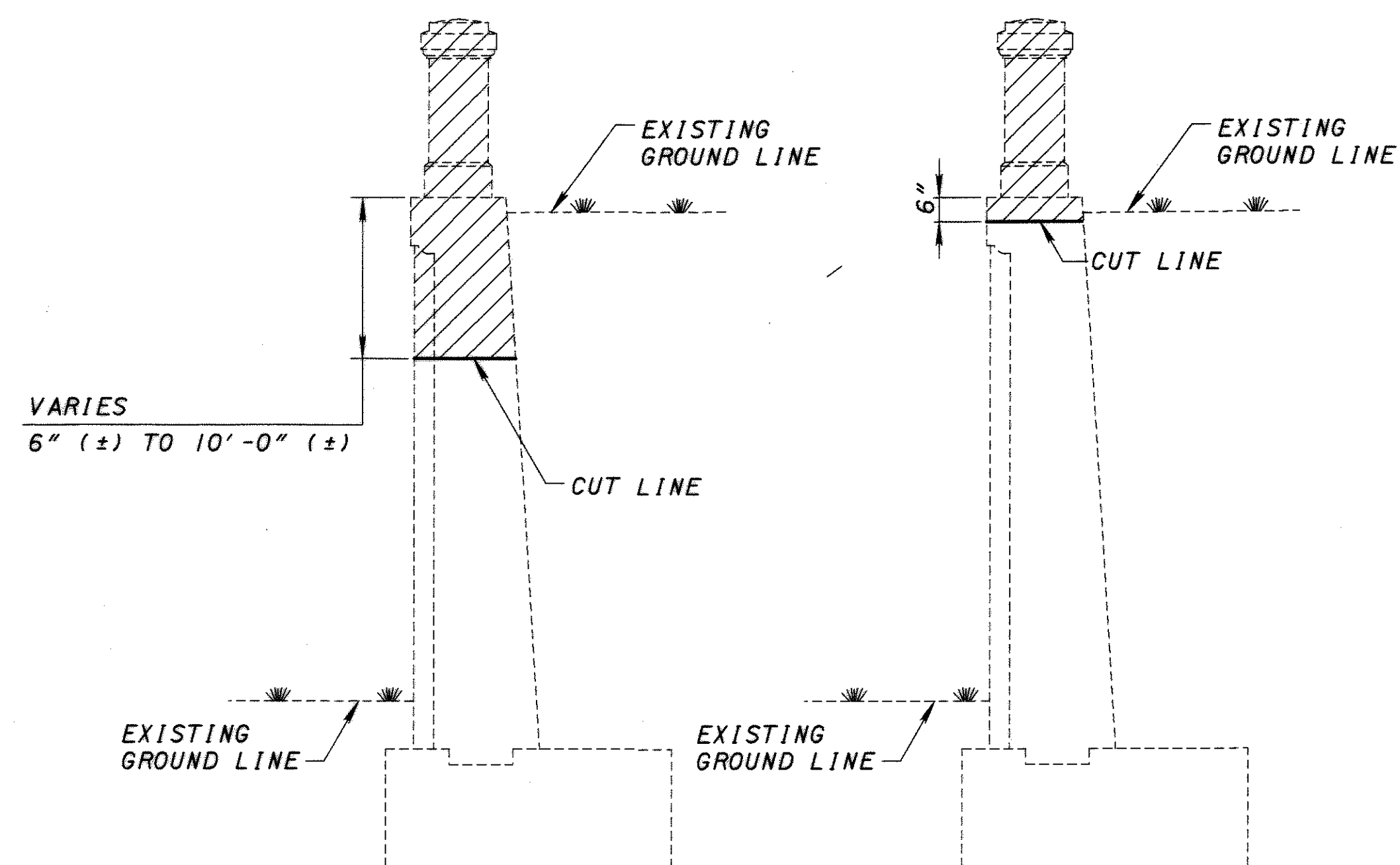
DATE
6-11-02
REVIEWED
JBH
STRUCTURE FILE NUMBER
0402273

DRAWN
SL
CHECKED
SL
REVIS
HK

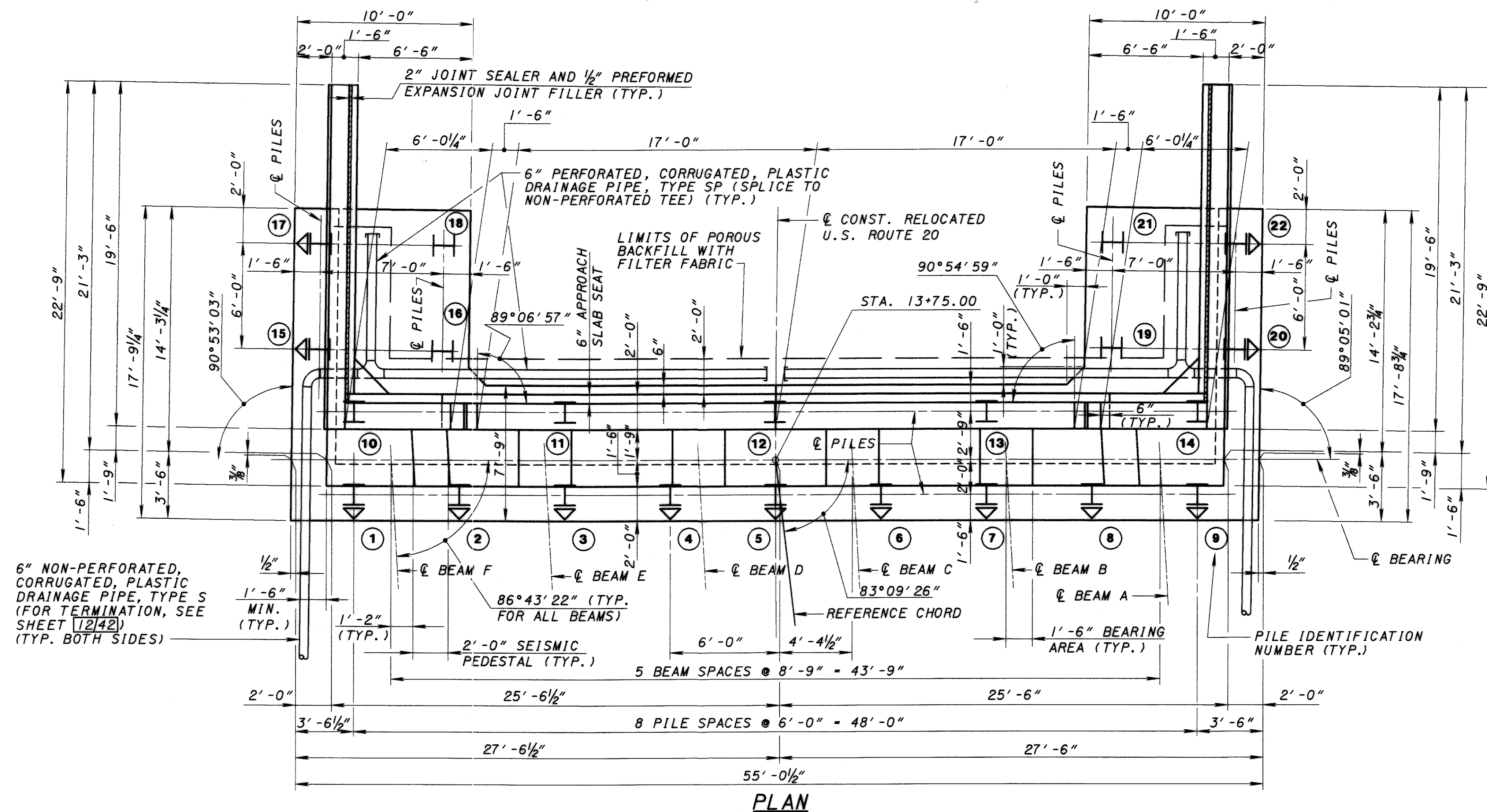


**EXISTING RETAINING WALL REMOVAL
NORTH ELEVATION**

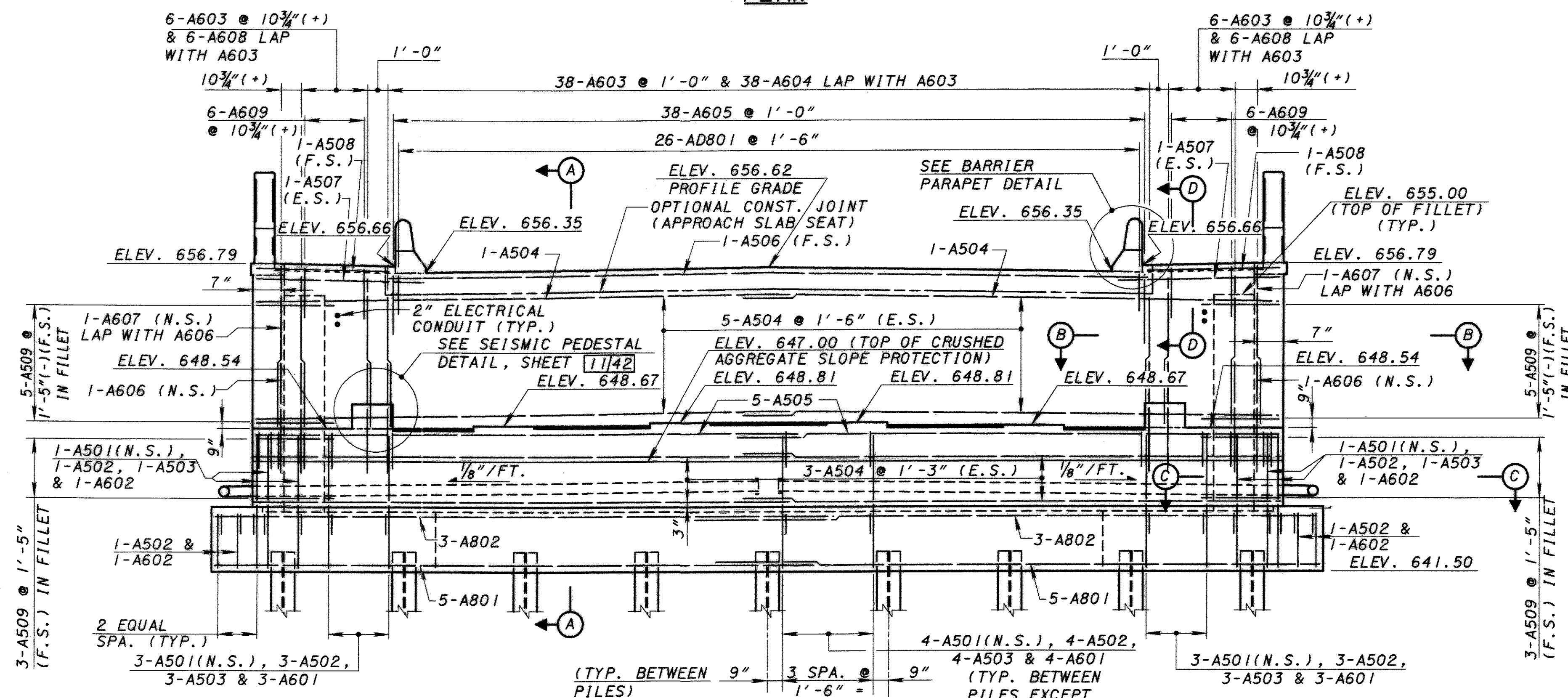
- NOTES**
1. CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS ONE INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT ALL PACK AND LOOSE RUST SHALL BE REMOVED. EXISTING CONCRETE SURFACES WHICH NEW CONCRETE WILL BE PLACED AGAINST SHALL BE WET, BUT WITHOUT FREE WATER, AT THE TIME OF CONCRETE PLACEMENT.
 2. FOR MODIFICATION AND REPAIR DETAILS, AND ADDITIONAL NOTES, SEE SHEET **9A/42**.



- LEGEND**
- DENOTES AREA TO BE REMOVED. REMOVAL SHALL BE PAID FOR UNDER ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.



PLAN



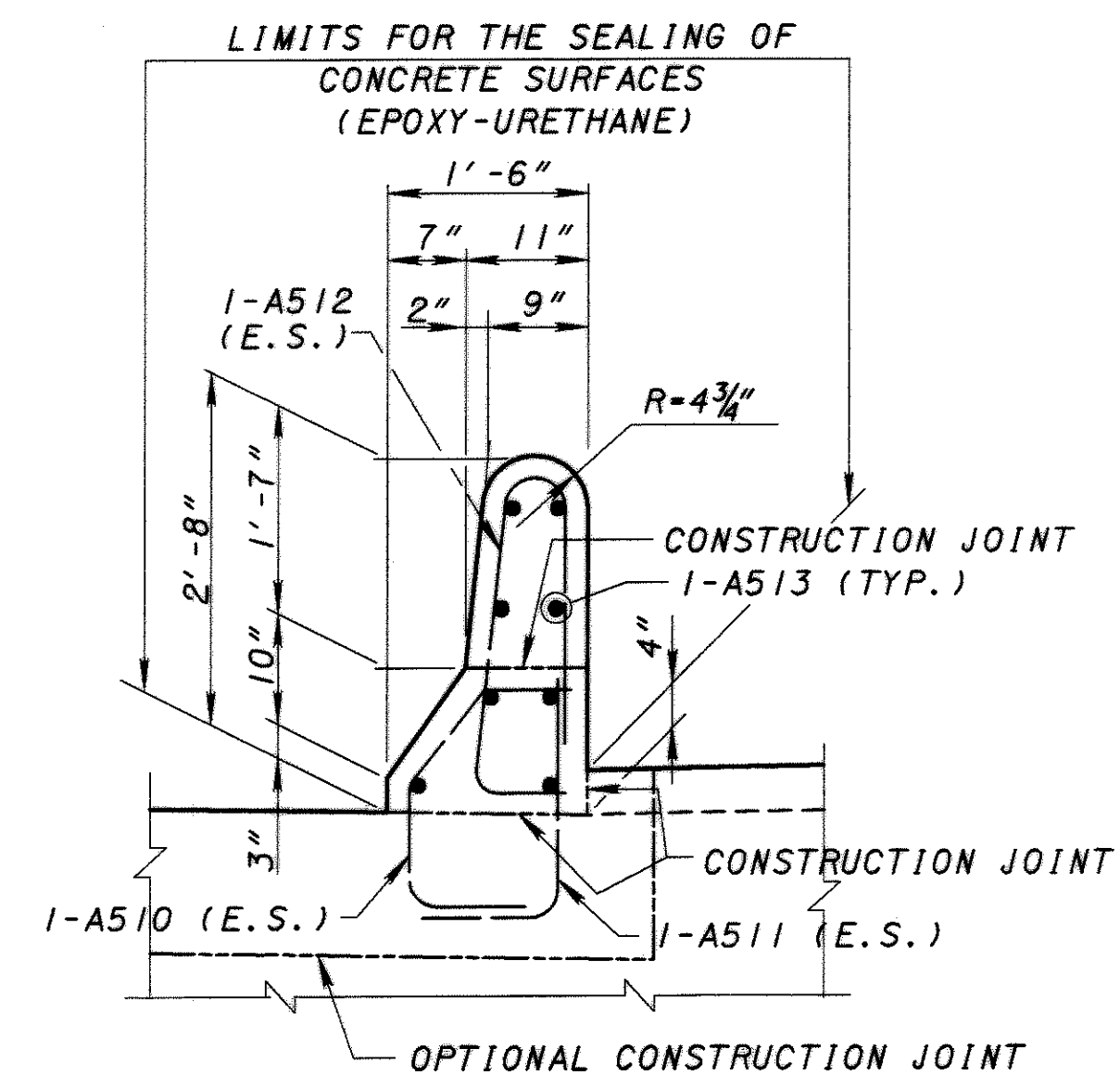
ELEVATION

NOTES

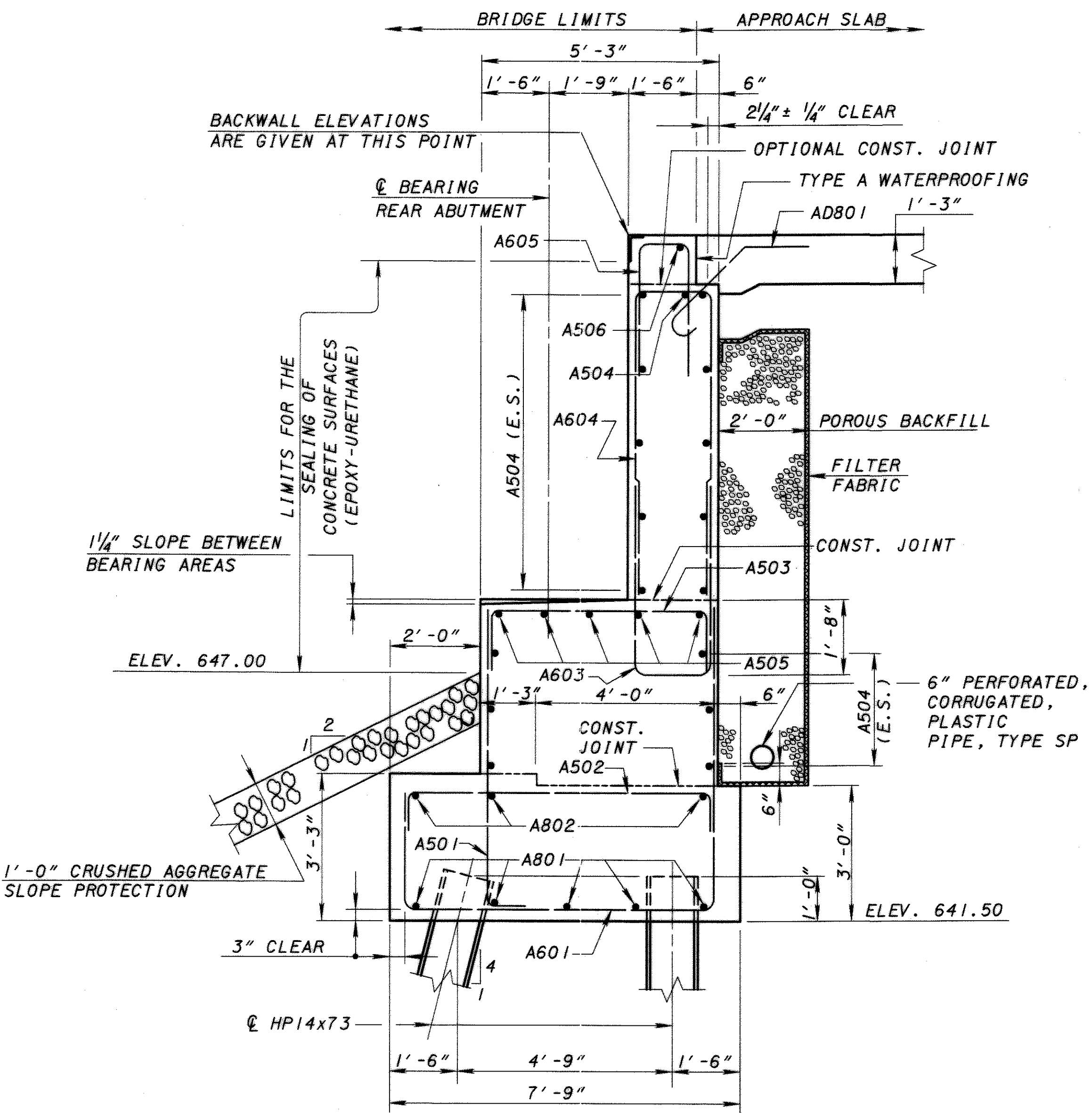
- FOR SECTIONS A-A THRU D-D AND, SEE SHEET 1142.
- ALL PILES ARE HP14X73 STEEL PILES.
- MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 5 BARS = 2'-5"
A505 BARS = 3'-5"
NO. 6 BARS = 2'-11"
NO. 7 BARS = 3'-8"
NO. 8 BARS = 4'-11"
A802 BARS = 6'-10"
- IN ADDITION TO SS 842.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.
- 2 INCH JOINT SEALER AND 1/2 INCH PREFORMED EXPANSION JOINT FILLER SHALL BE INCLUDED WITH ITEM 608 - CONCRETE WALK, AS PER PLAN, FOR PAYMENT.
- FOR ELASTOMERIC BEARINGS, SEE SHEET 2142.
- SEISMIC PEDESTALS ARE PLACED PARALLEL TO BEAMS.
- FOR ABBREVIATIONS, SEE SHEET 542.
- FOR PLACEMENT OF 2" CONDUIT IN BACKWALL, SEE STANDARD DRAWING HL-30.31M.

LEGEND

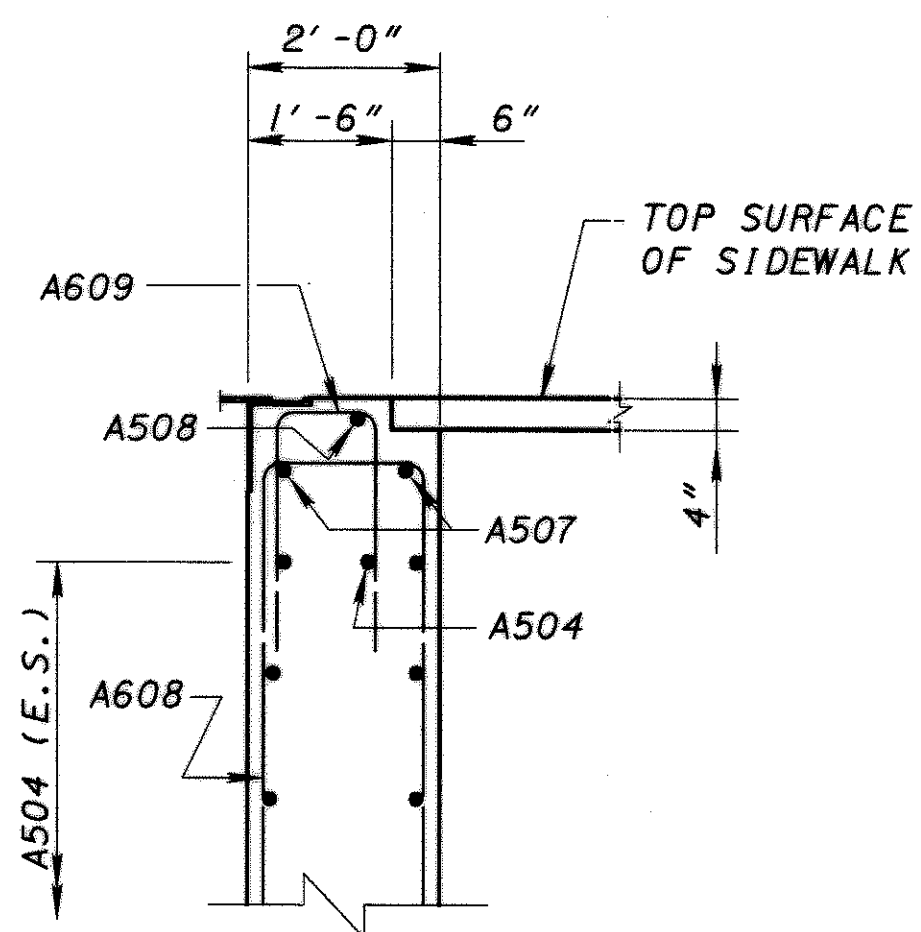
↓ DENOTES BATTERED PILE (1:4)



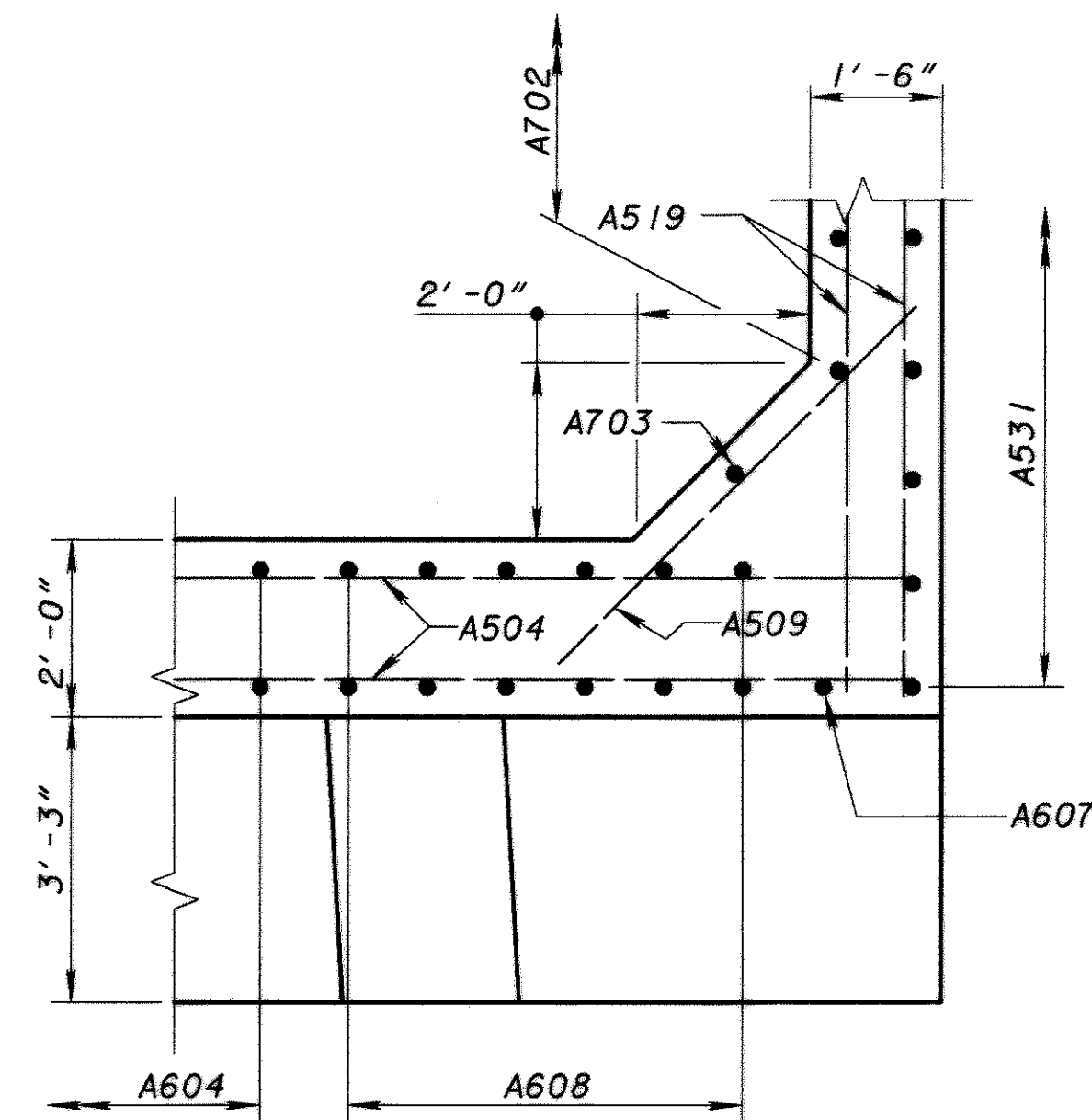
BARRIER PARAPET DETAIL



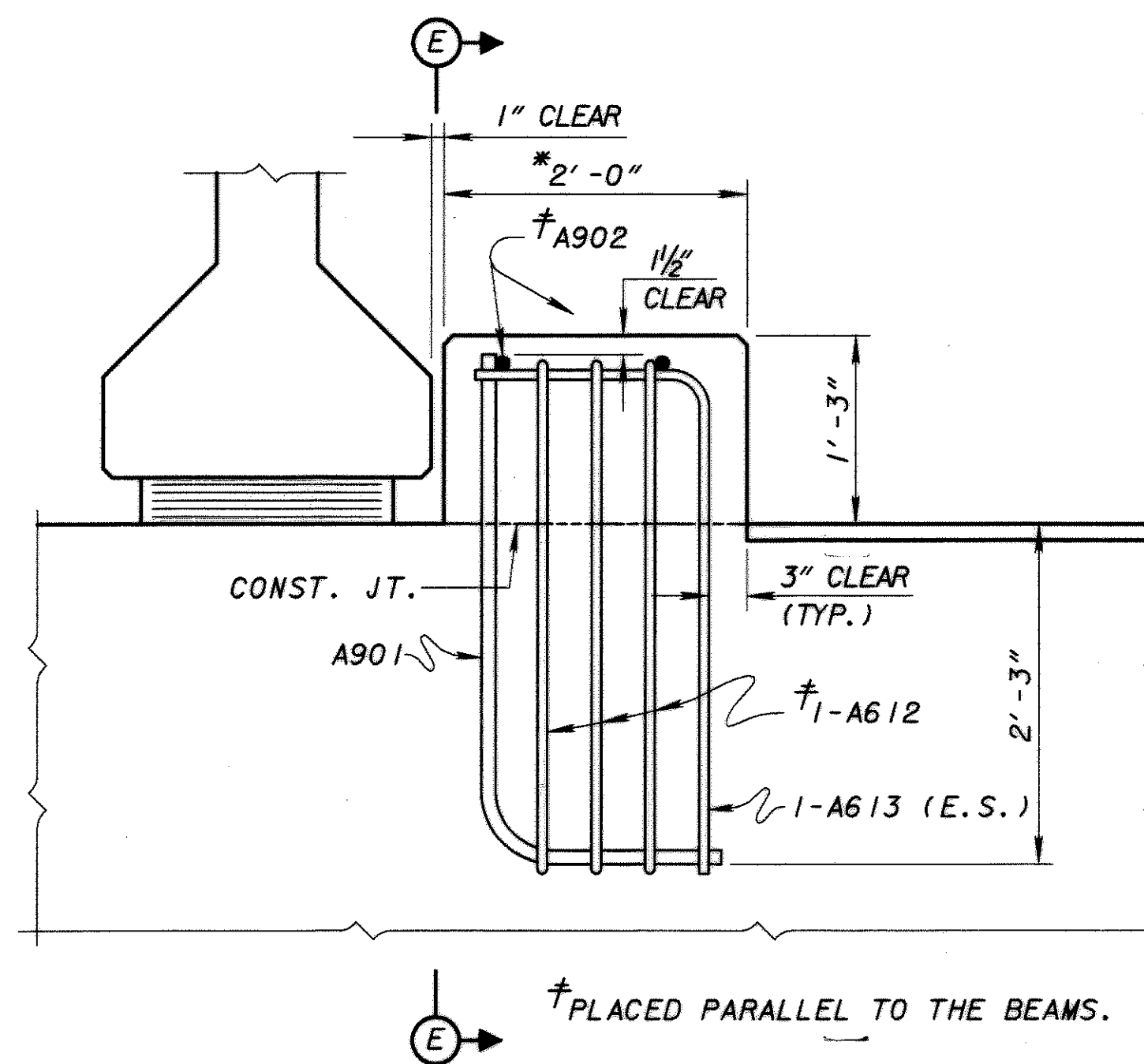
SECTION A-A



SECTION D-D

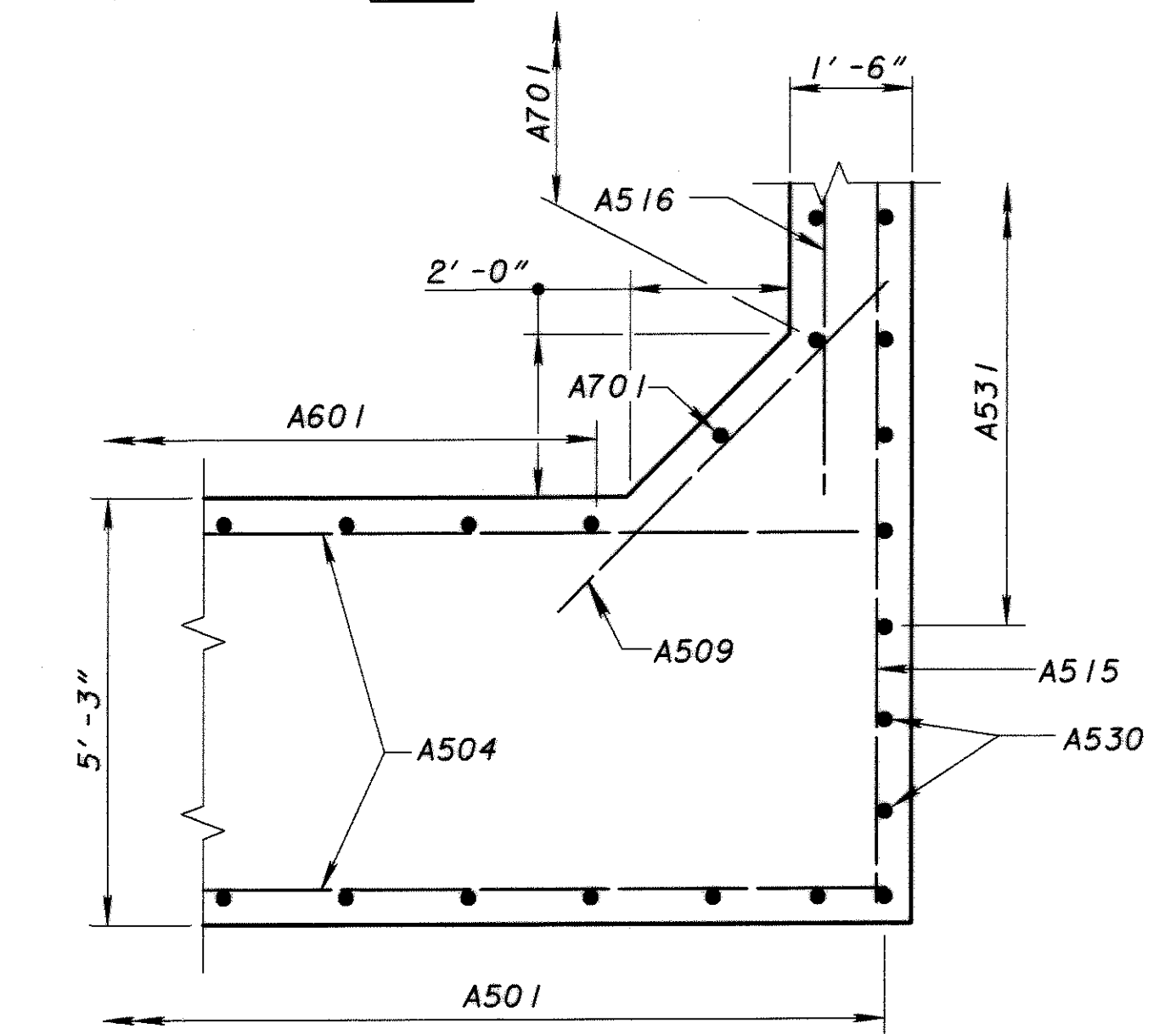


SECTION B-B

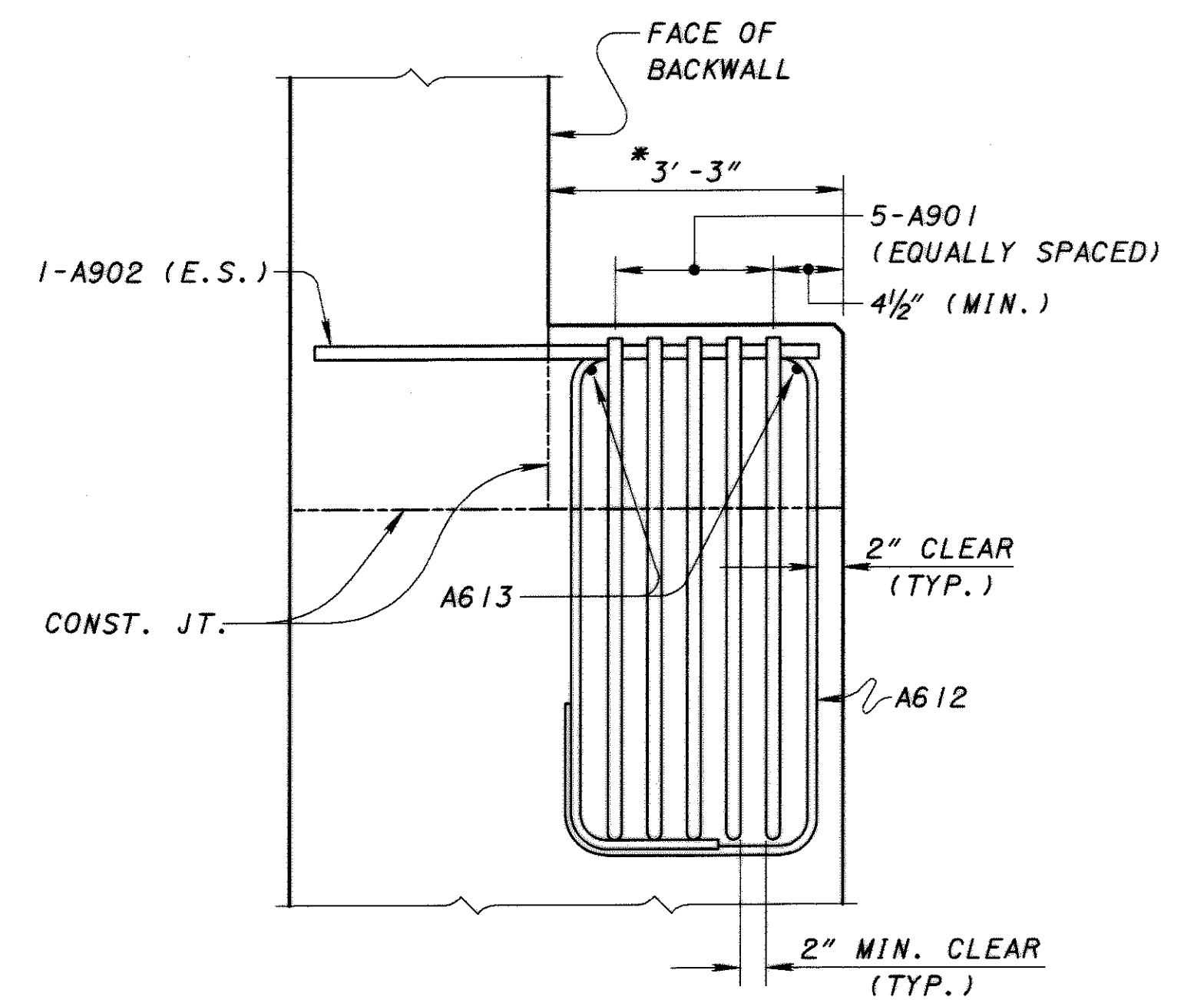


SEISMIC PEDESTAL DETAIL

(FRONT VIEW AT BEAM F SHOWN, FRONT VIEW AT BEAM A OPPOSITE HAND)



SECTION C-C



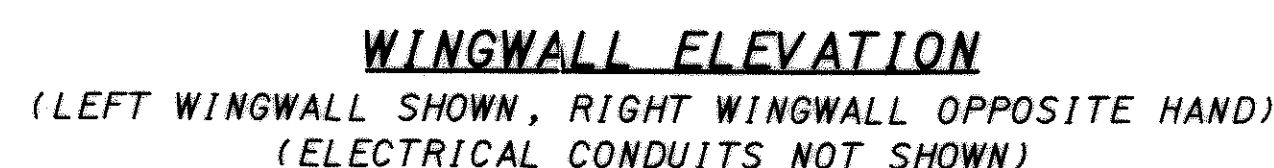
SECTION E-E

NOTES

1. FOR LOCATION OF SECTIONS A-A THRU D-D, SEE SHEET 10/42.
2. TYPE A WATERPROOFING SHALL BE INCLUDED WITH ITEM 611- REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN, FOR PAYMENT.
3. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND Laterally AS SHOWN IN THE PLAN, SHEET 10/42.
4. FOR ADDITIONAL NOTES, SEE SHEET 10/42.

NOTES:
THE LOCATION OF THE MAIN REINFORCEMENT IN THE BEAM SEAT MAY BE ADJUSTED HORIZONTALLY ±1" TO ACCOMMODATE THE A901 BARS.

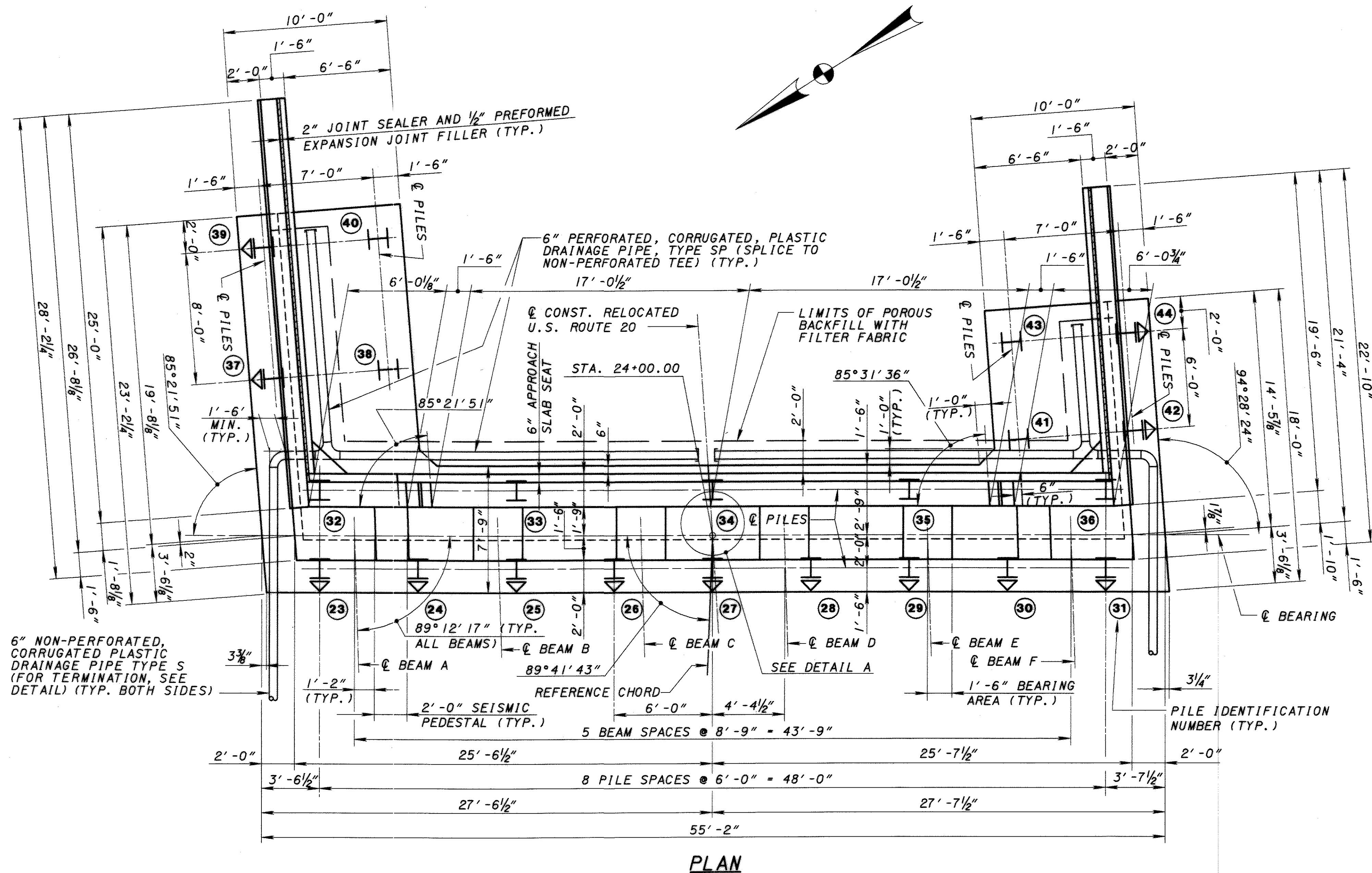
* - THE SURFACE OF THE BEAM SEAT IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE 1/4" DEEP MINIMUM.



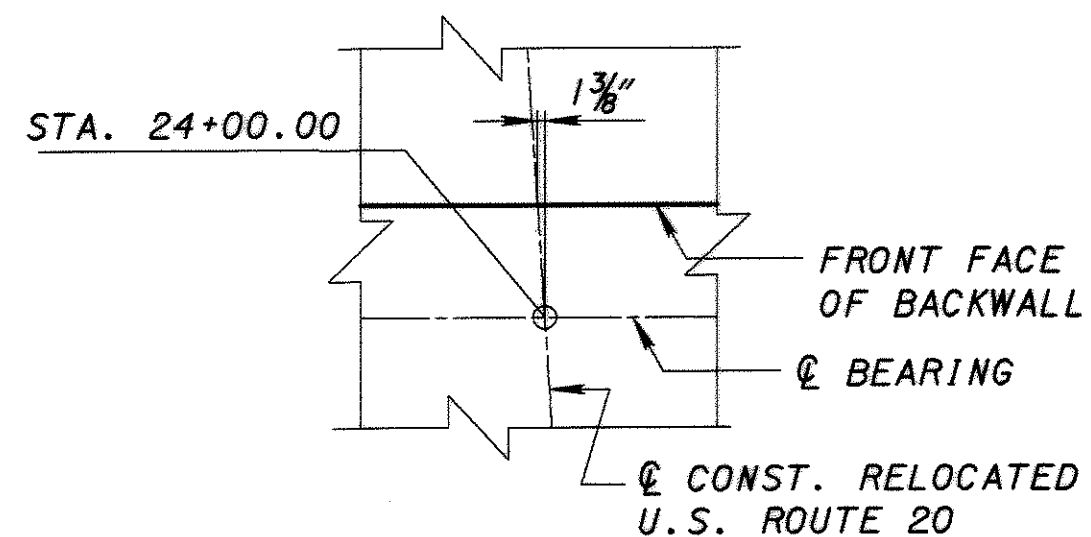
NOTE

1. FOR PLAN, ELEVATION AND ADDITIONAL
NOTES, SEE SHEET 10/42.

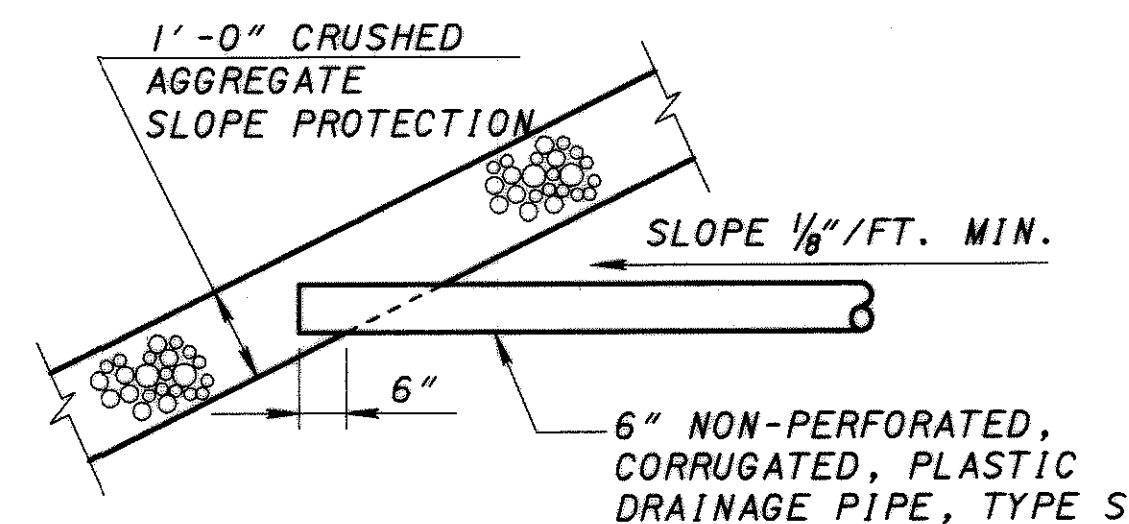




PLAN



DETAIL A



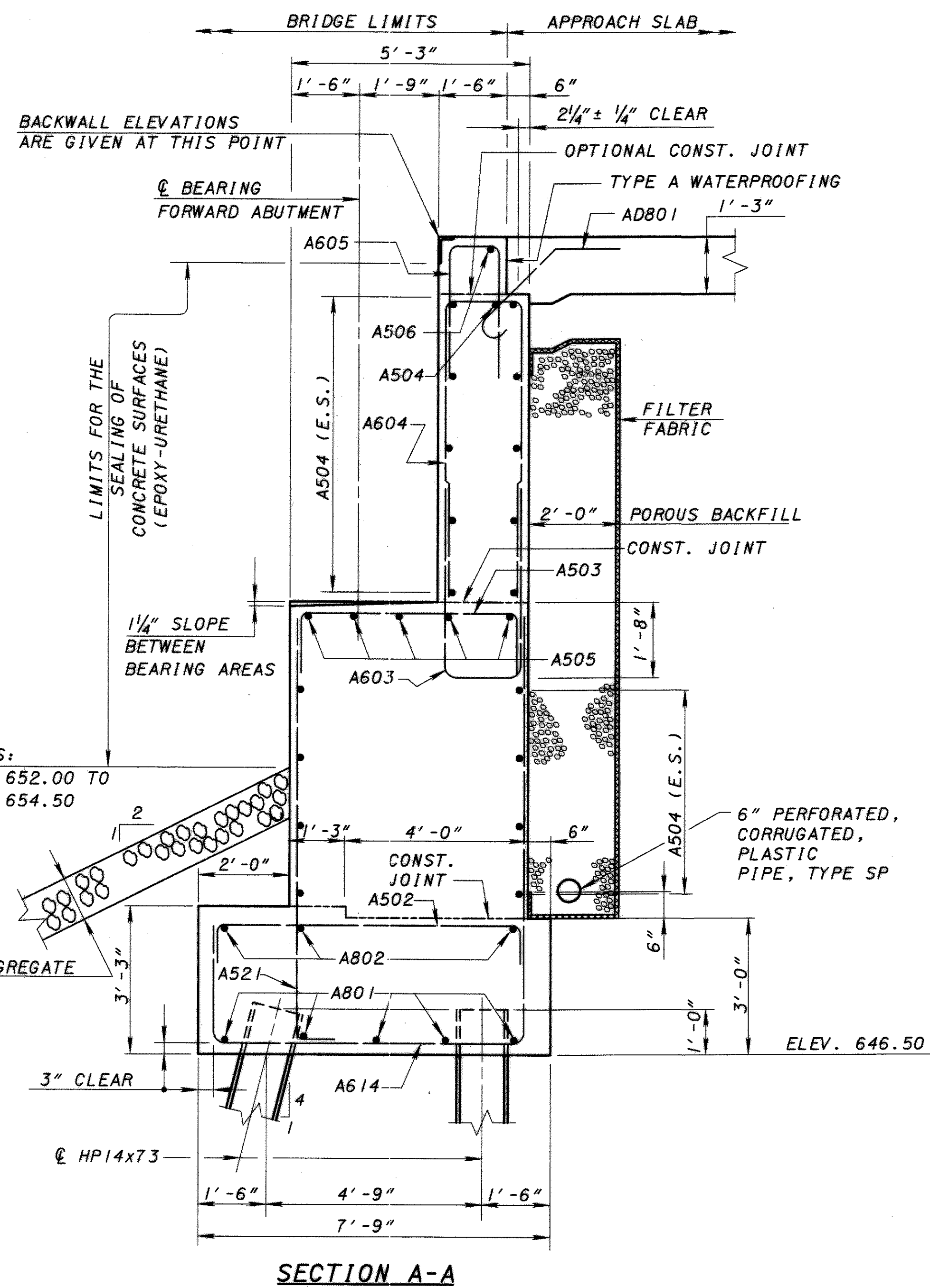
TERMINATION OF 6" PIPE
AT THE FRONT SLOPE

NOTES

1. ALL PILES ARE HP14X73 STEEL PILES.
2. FOR ELEVATION, SEISMIC PEDESTAL DETAIL AND ADDITIONAL NOTES, SEE SHEET 1442.
3. 2 INCH JOINT SEALER AND 1/2 INCH PREFORMED EXPANSION JOINT FILLER SHALL BE INCLUDED WITH ITEM 608 - CONCRETE WALK, AS PER PLAN, FOR PAYMENT.
4. SEISMIC PEDESTALS ARE PLACED PARALLEL TO BEAMS.
5. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND Laterally AS SHOWN IN THE PLAN.

LEGEND

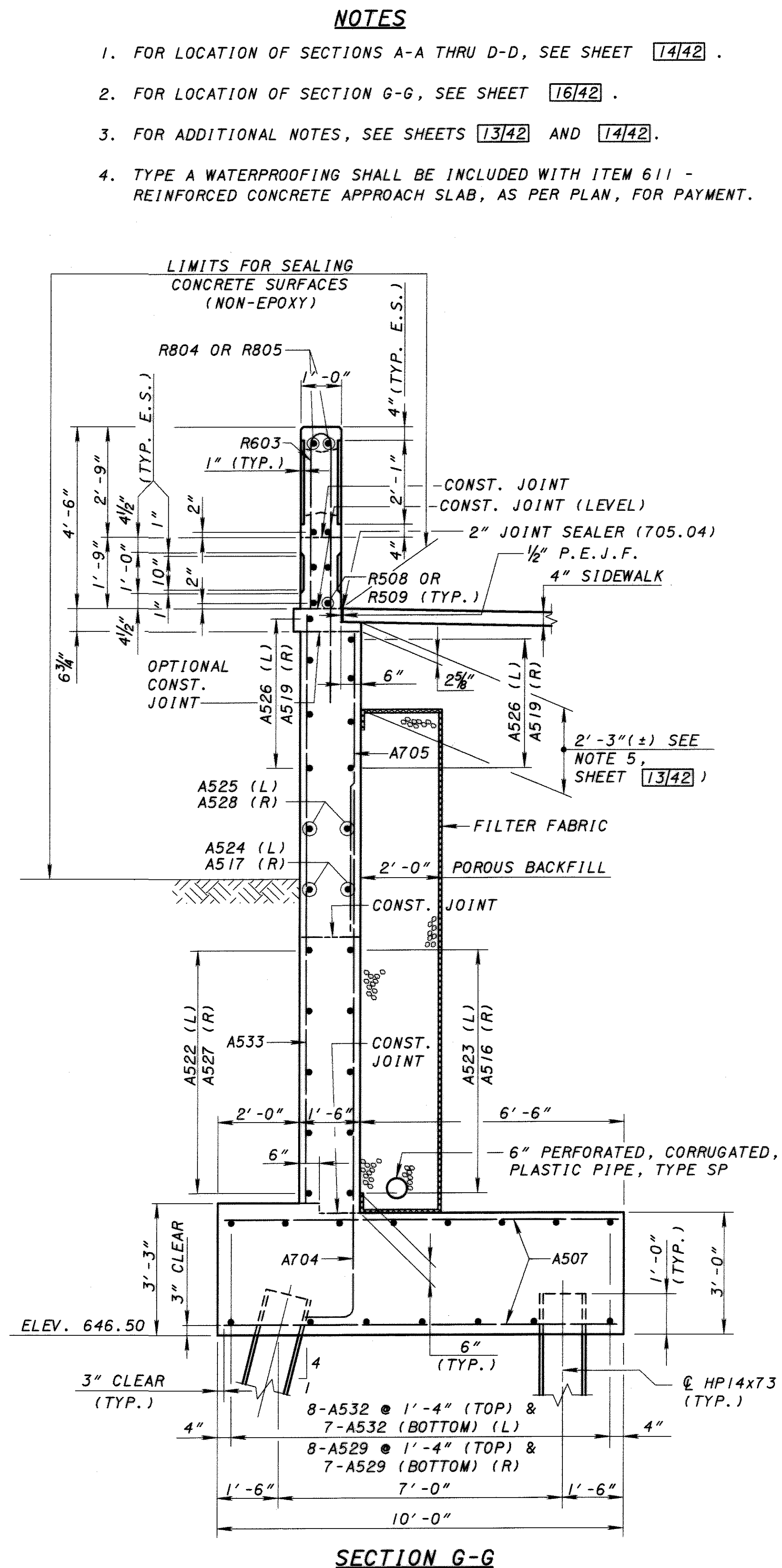
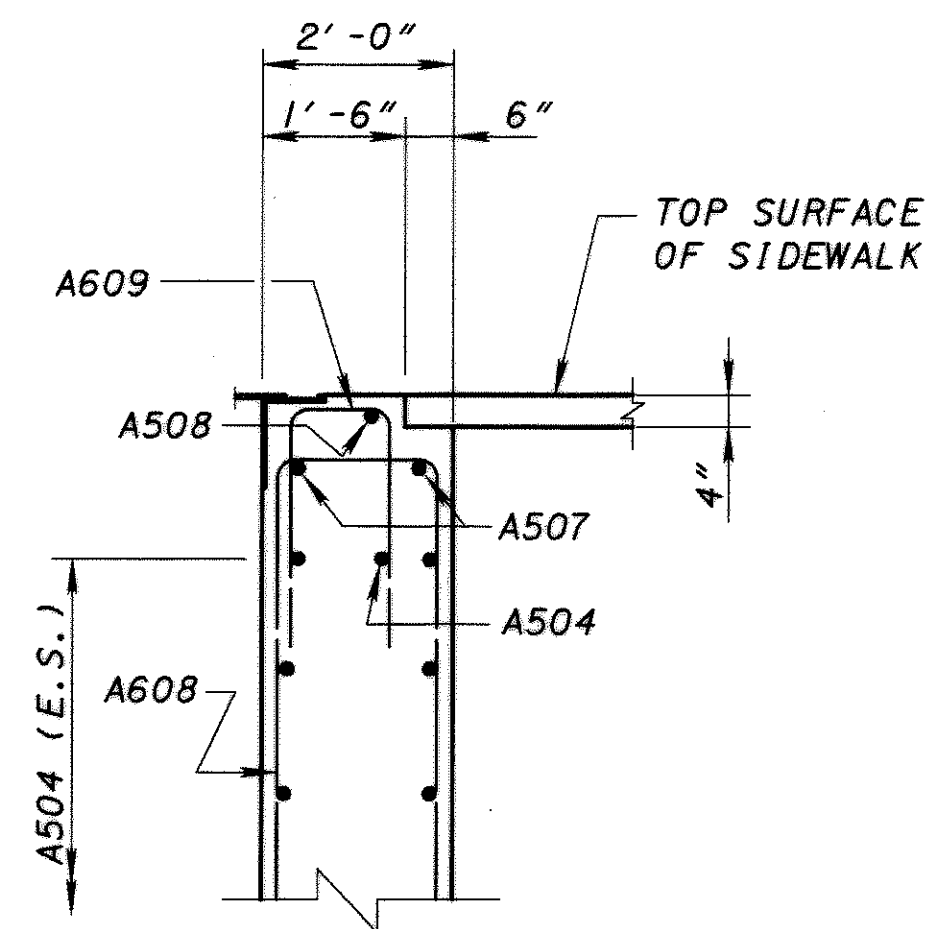
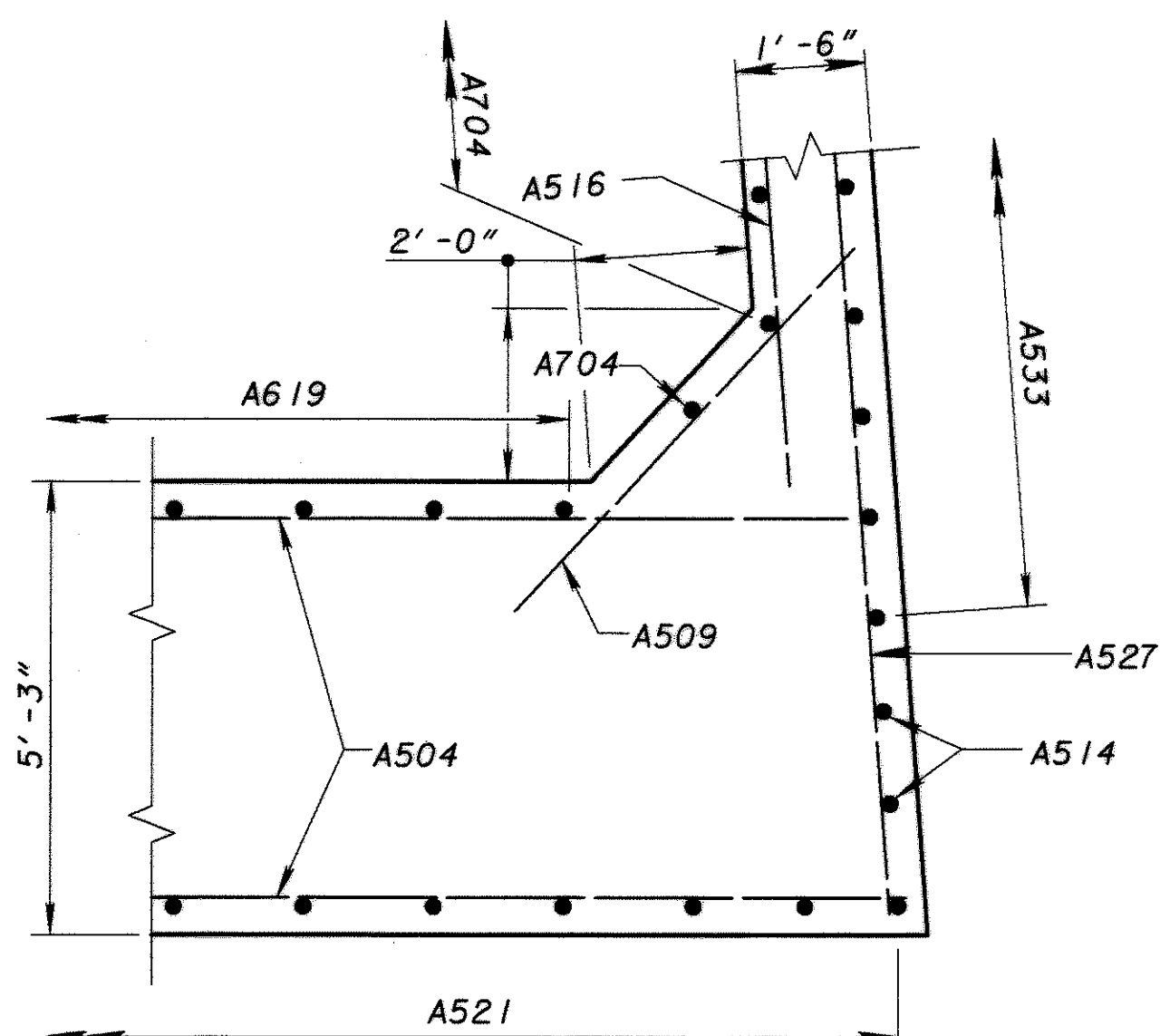
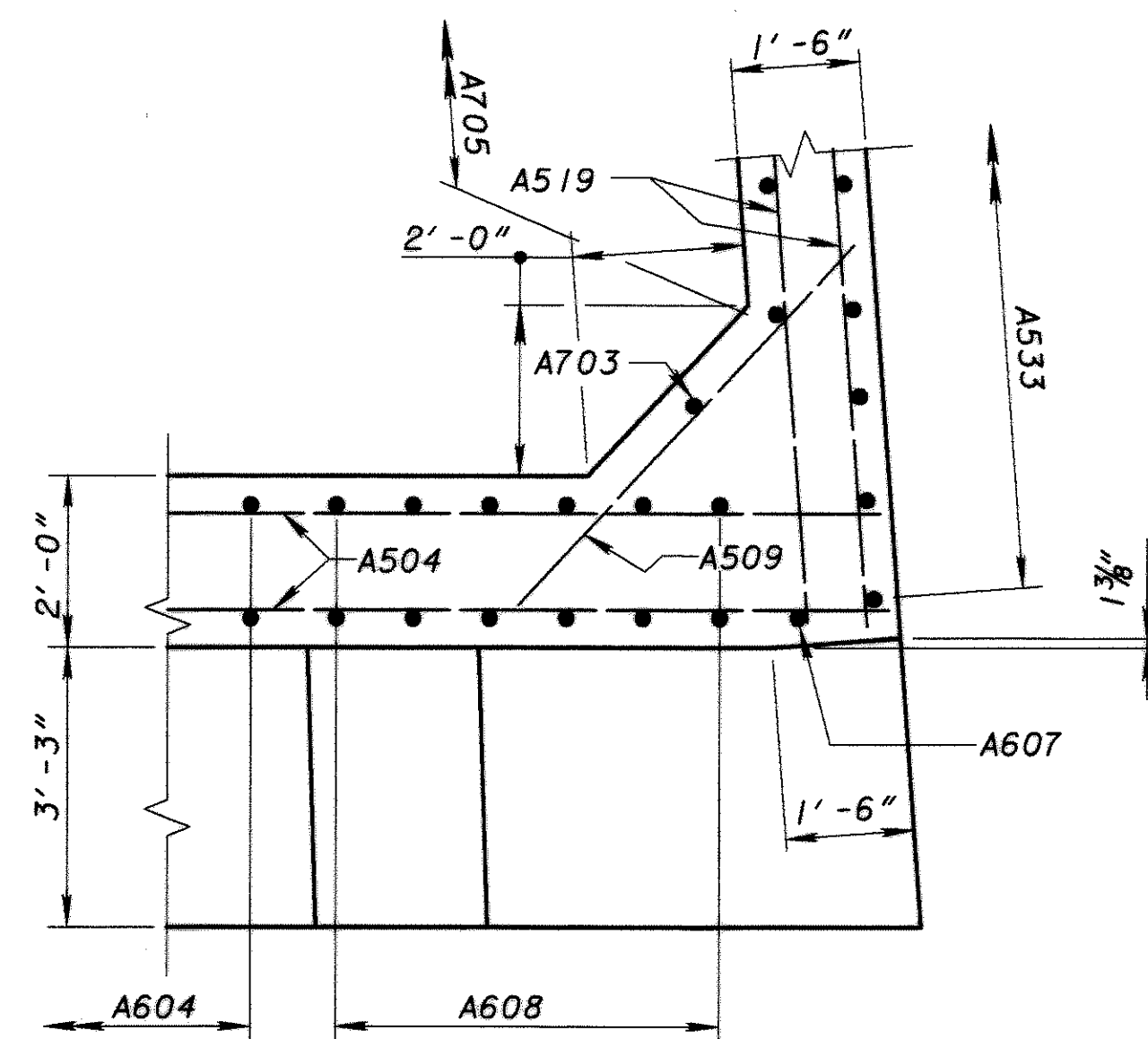
⏏ DENOTES BATTERED PILE (1:4)

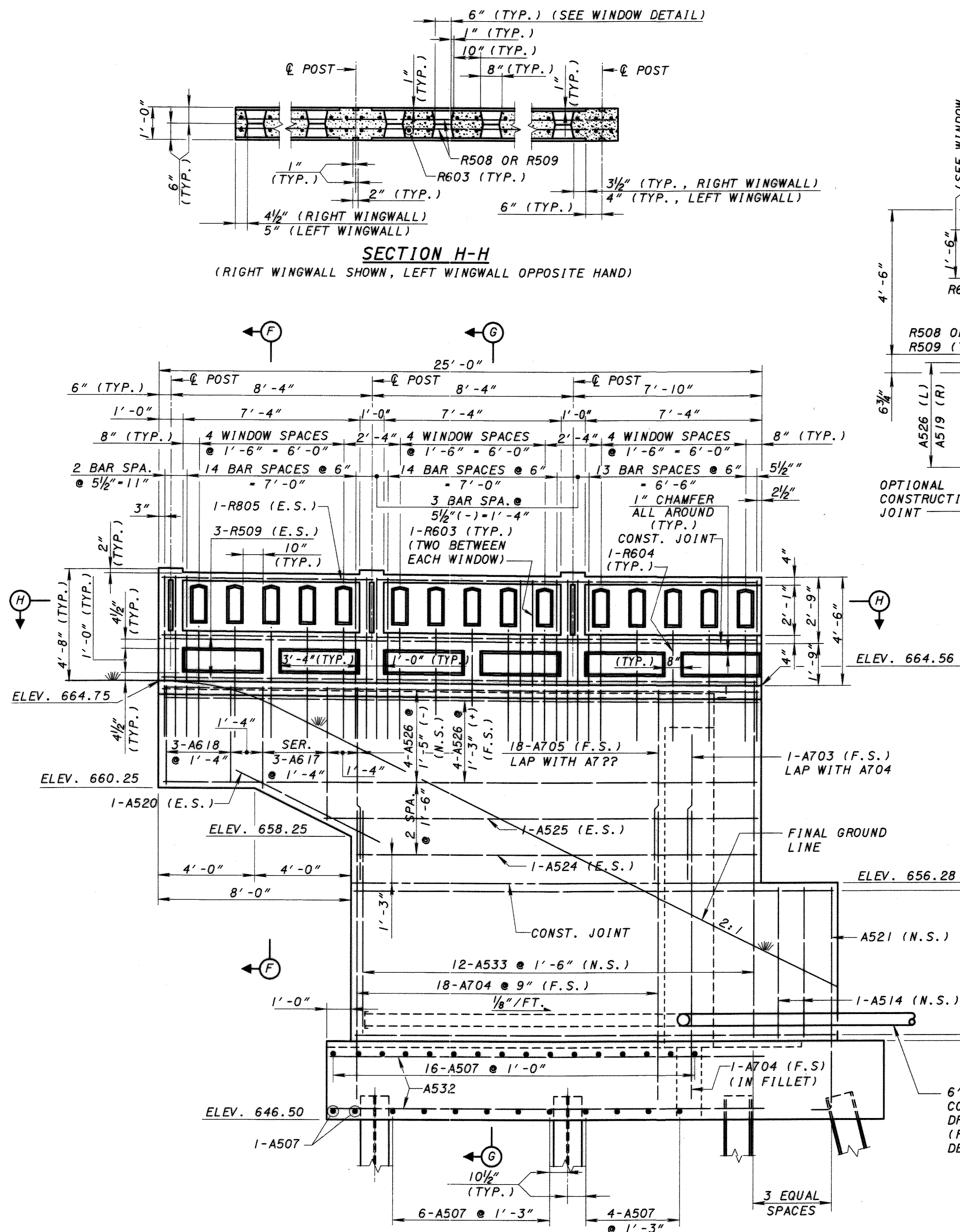


LEGEND

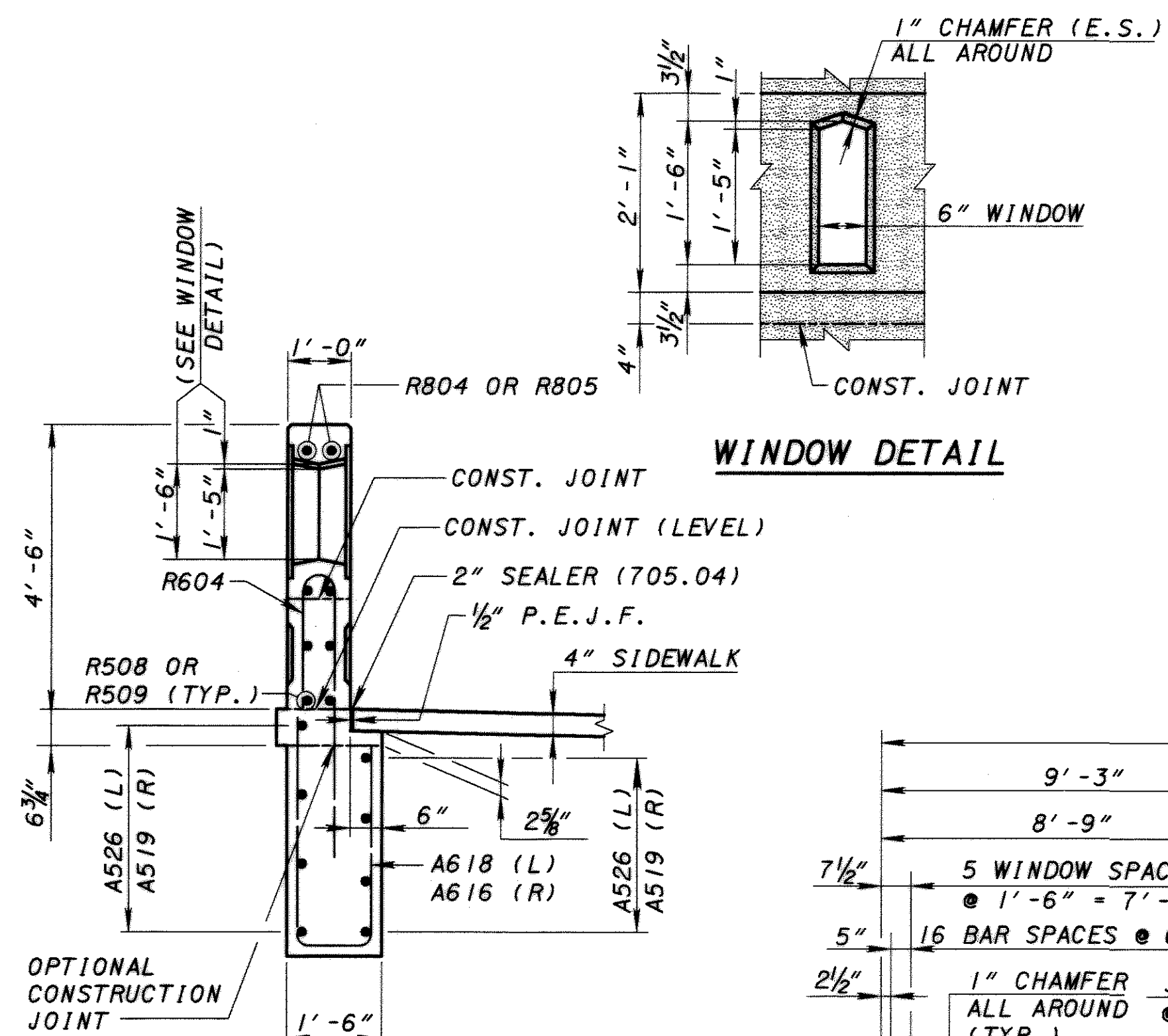
(L) DENOTES LEFT WINGWALL.

(R) DENOTES RIGHT WINGWALL.

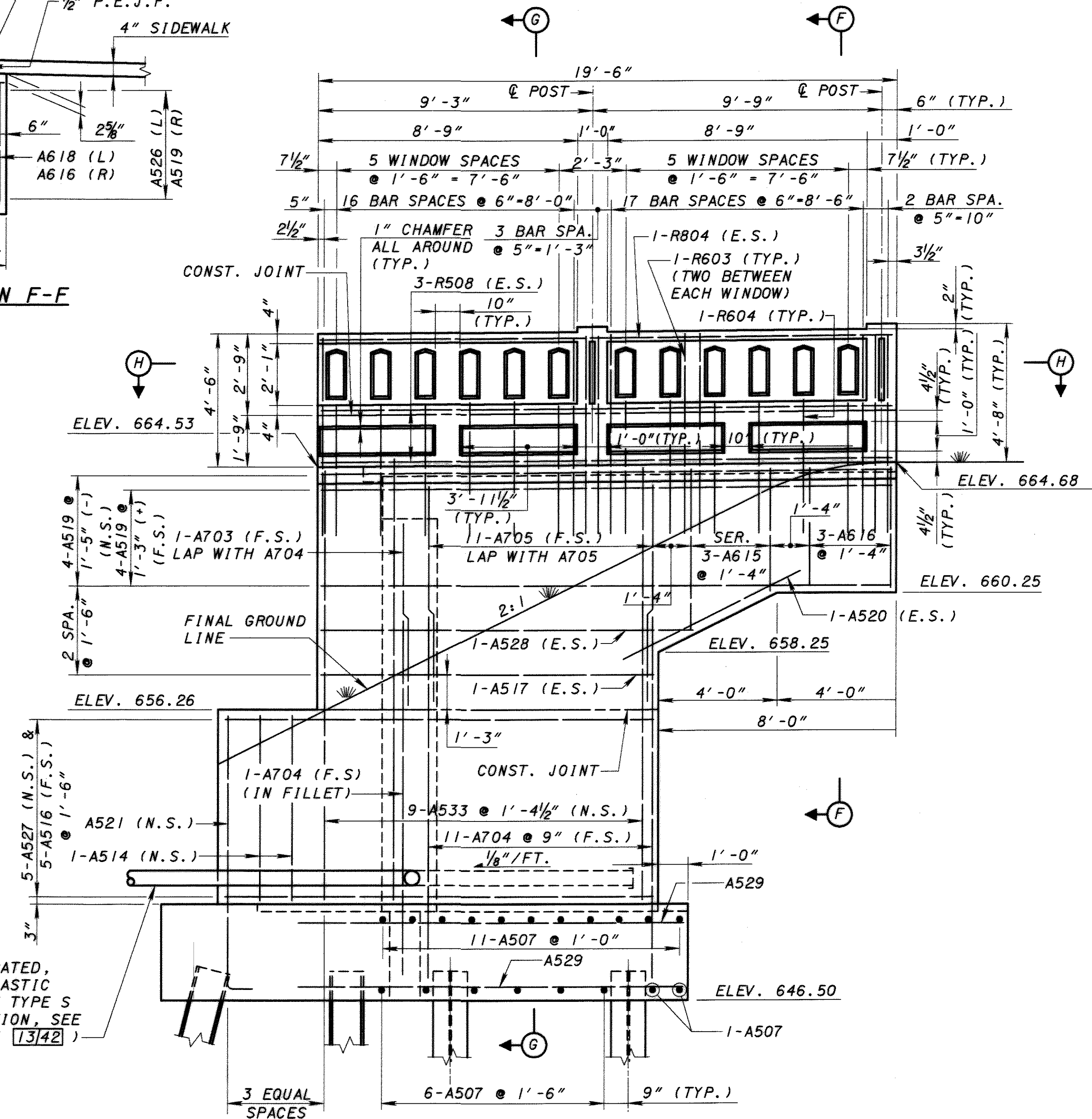




LEFT WINGWALL ELEVATION
(ELECTRICAL CONDUITS NOT SHOWN)



SECTION F-F



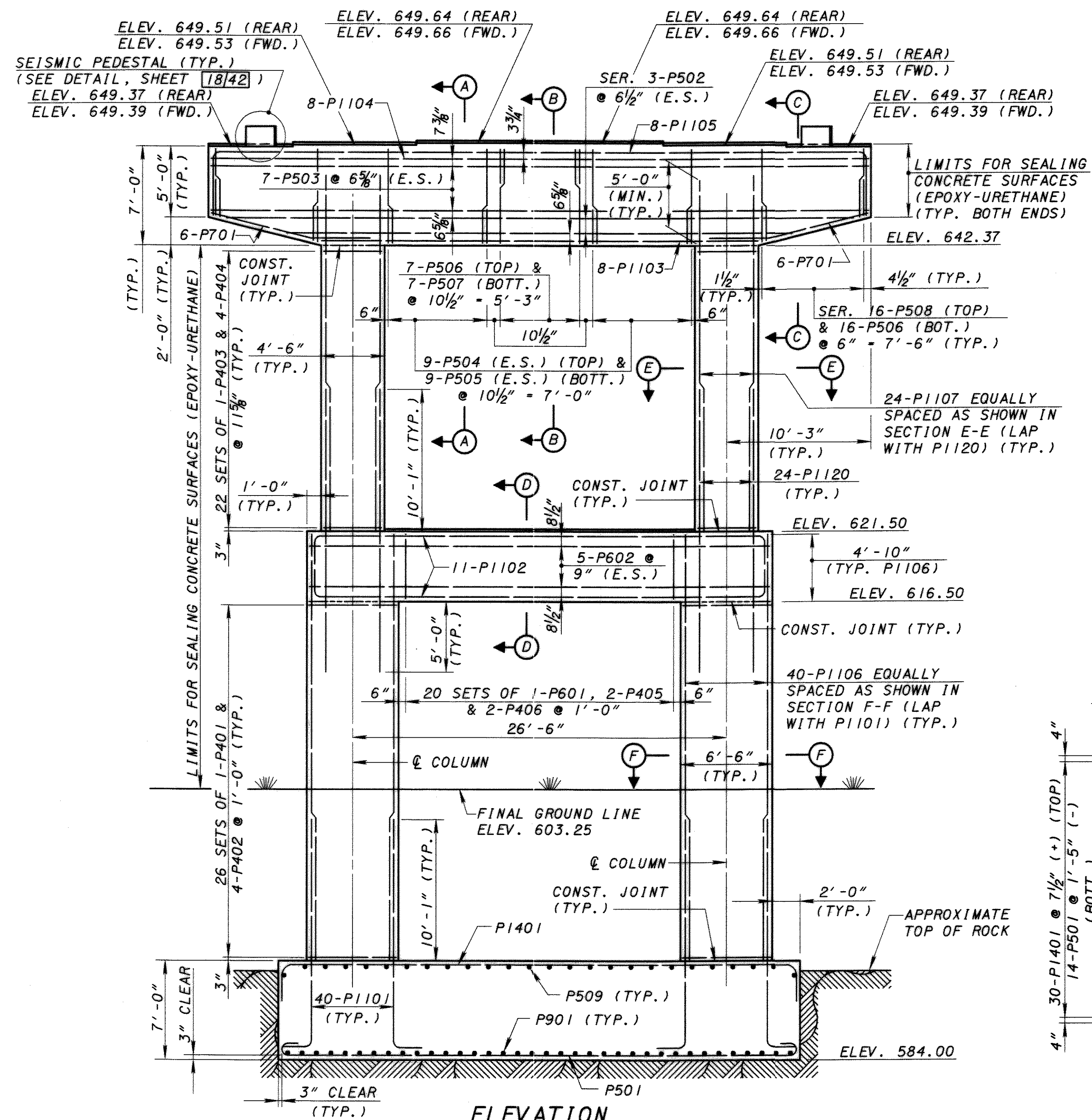
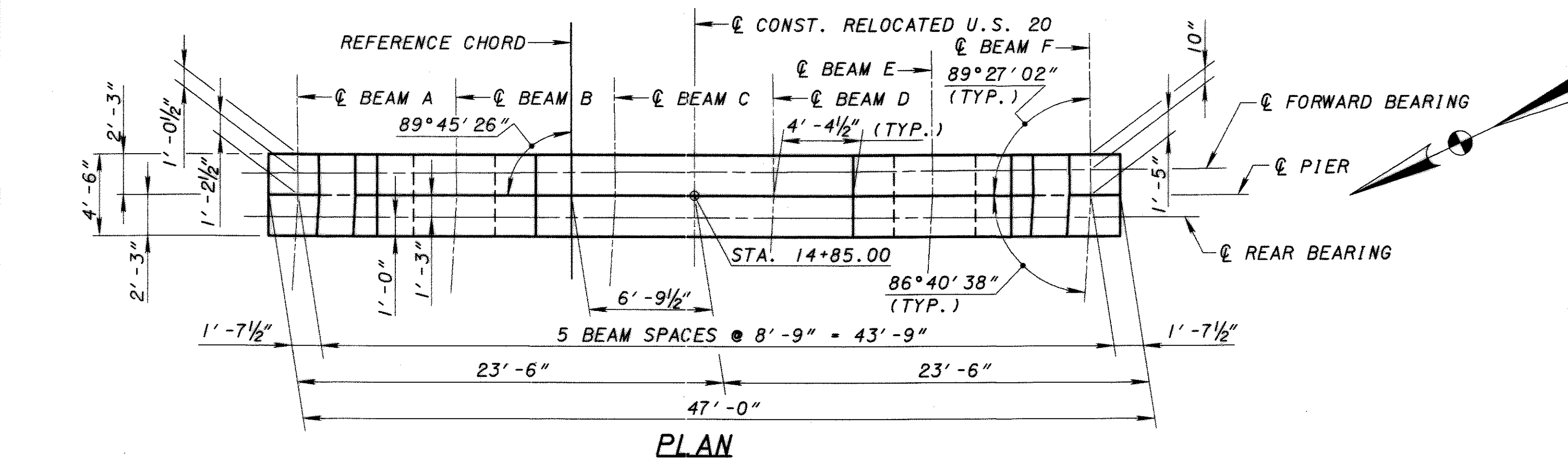
RIGHT WINGWALL ELEVATION
(ELECTRICAL CONDUITS NOT SHOWN)

- NOTES

1. FOR SECTION G-G, SEE SHEET 15/42 .
2. FOR PLAN, SEE SHEET 13/42 .
3. FOR ELEVATION, SEE SHEET 14/42 .
4. FOR ADDITIONAL NOTES, SEE SHEETS 13/42 AND 14/42 .

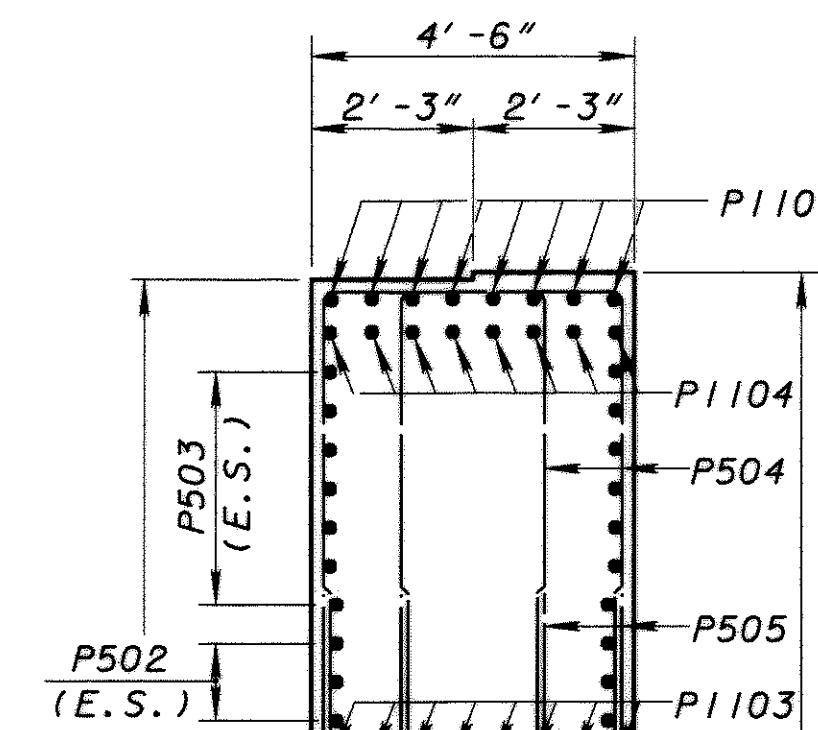
LEGEND

- (L) DENOTES LEFT WINGWALL.
(R) DENOTES RIGHT WINGWALL.

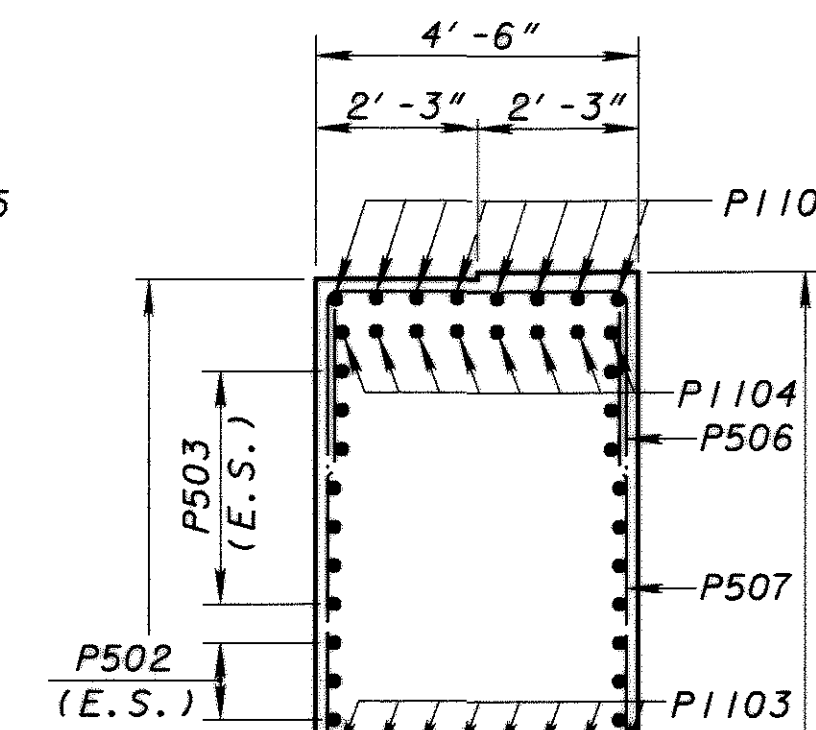


NOTES

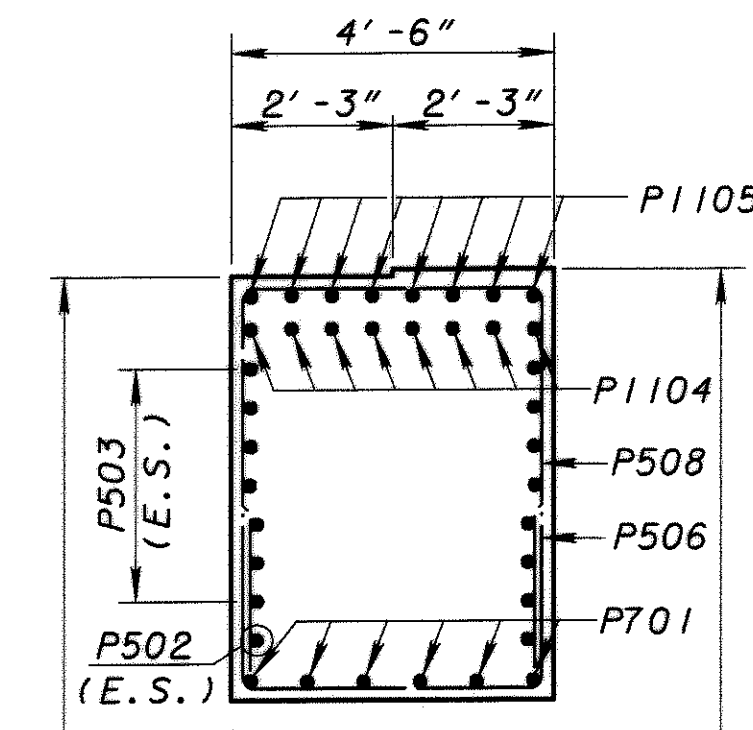
1. MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 4 BARS = 1'-11"
NO. 5 BARS = 2'-5"
2. FOR ABBREVIATIONS, SEE SHEET 5/42.
3. FOR ELASTOMERIC BEARINGS, SEE SHEET 21/42.



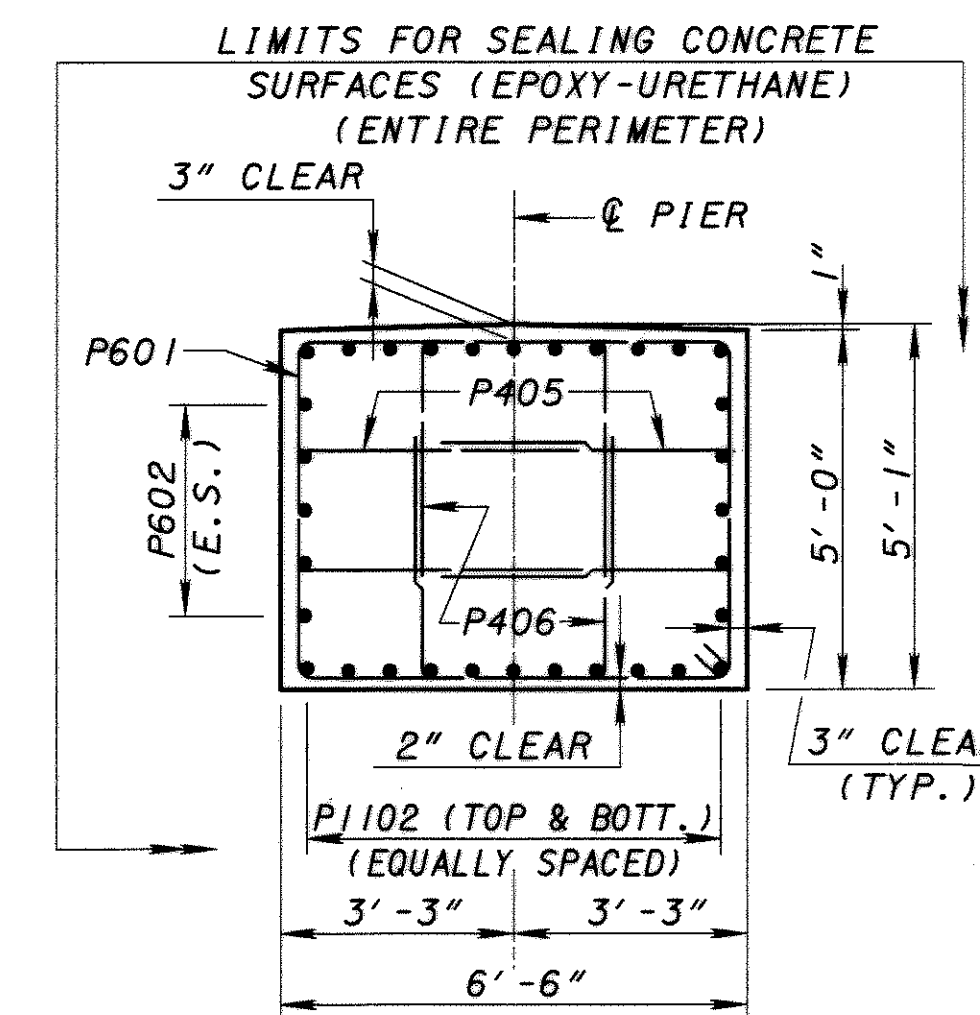
LIMITS FOR SEALING
CONCRETE SURFACES
(EPOXY-URETHANE)
SECTION A-A



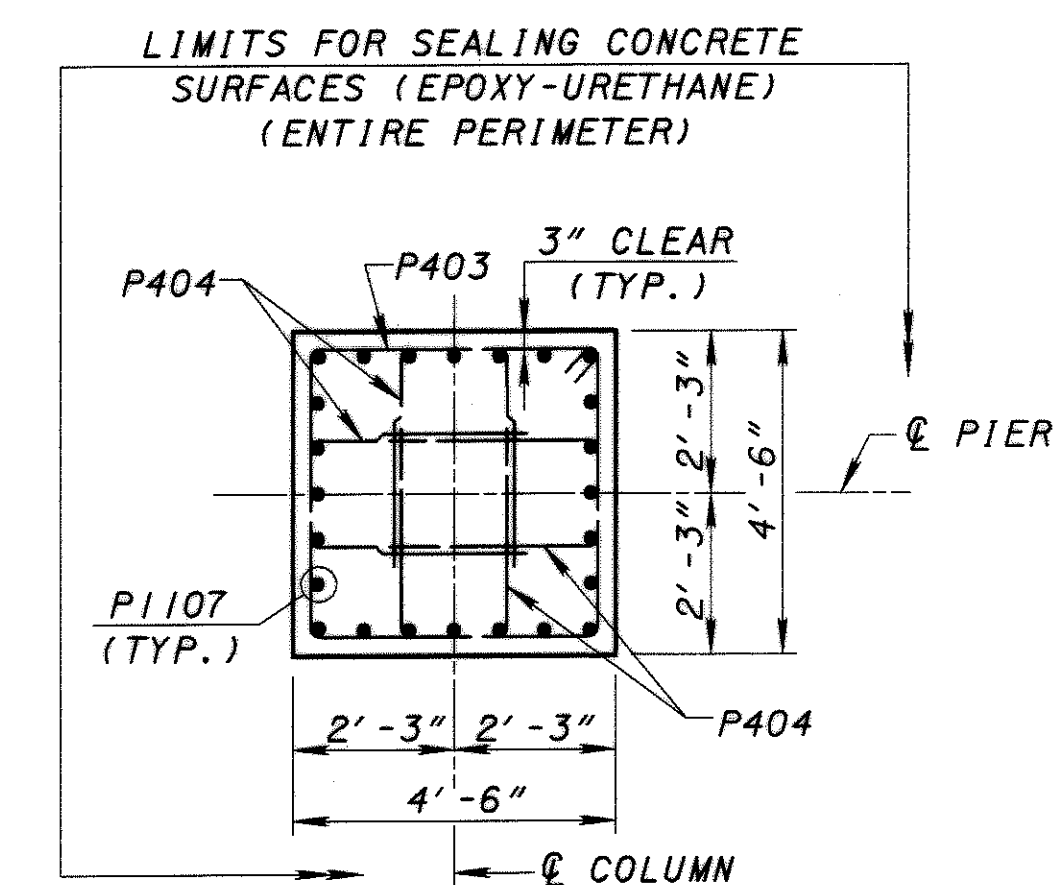
LIMITS FOR SEALING
CONCRETE SURFACES
(EPOXY-URETHANE)
SECTION B-B



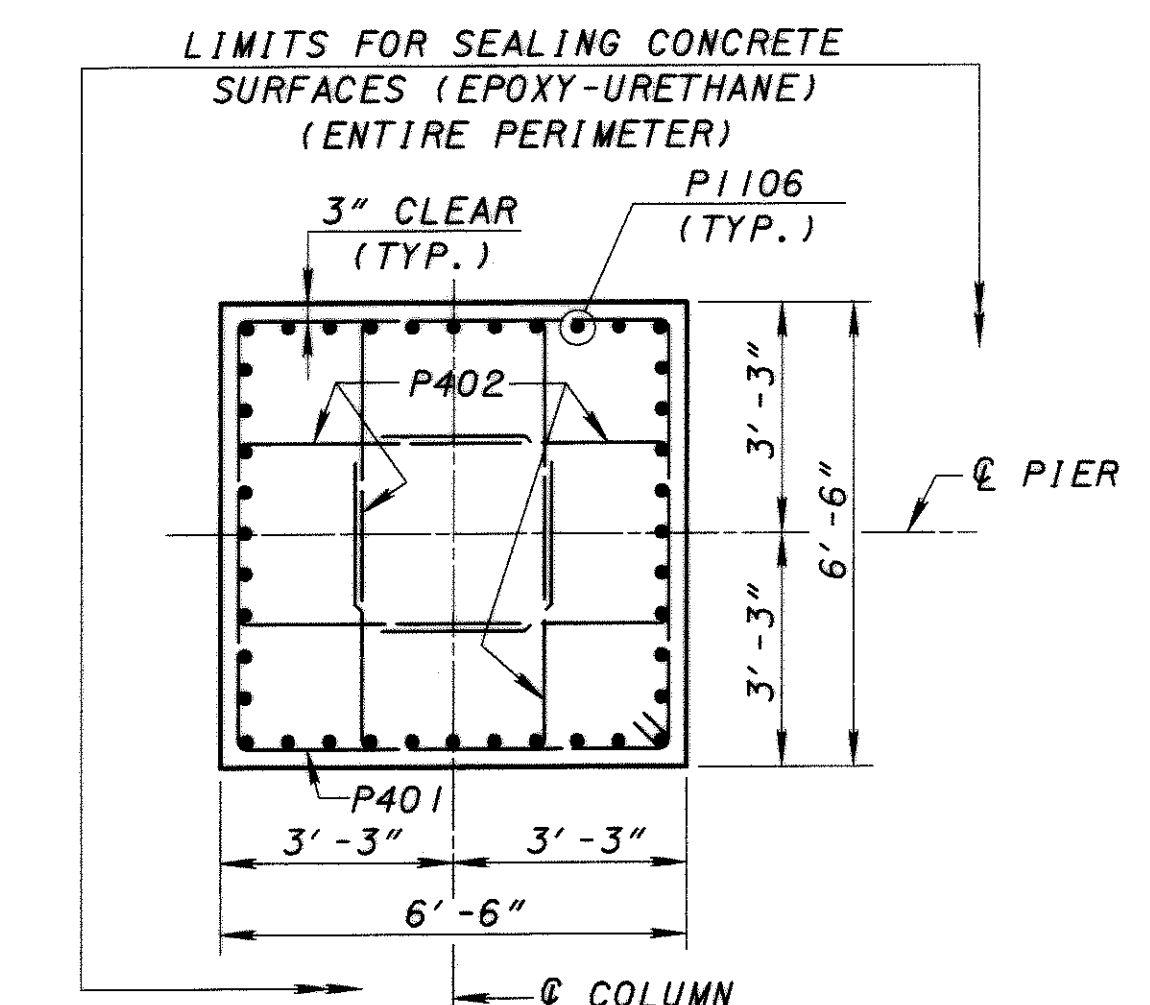
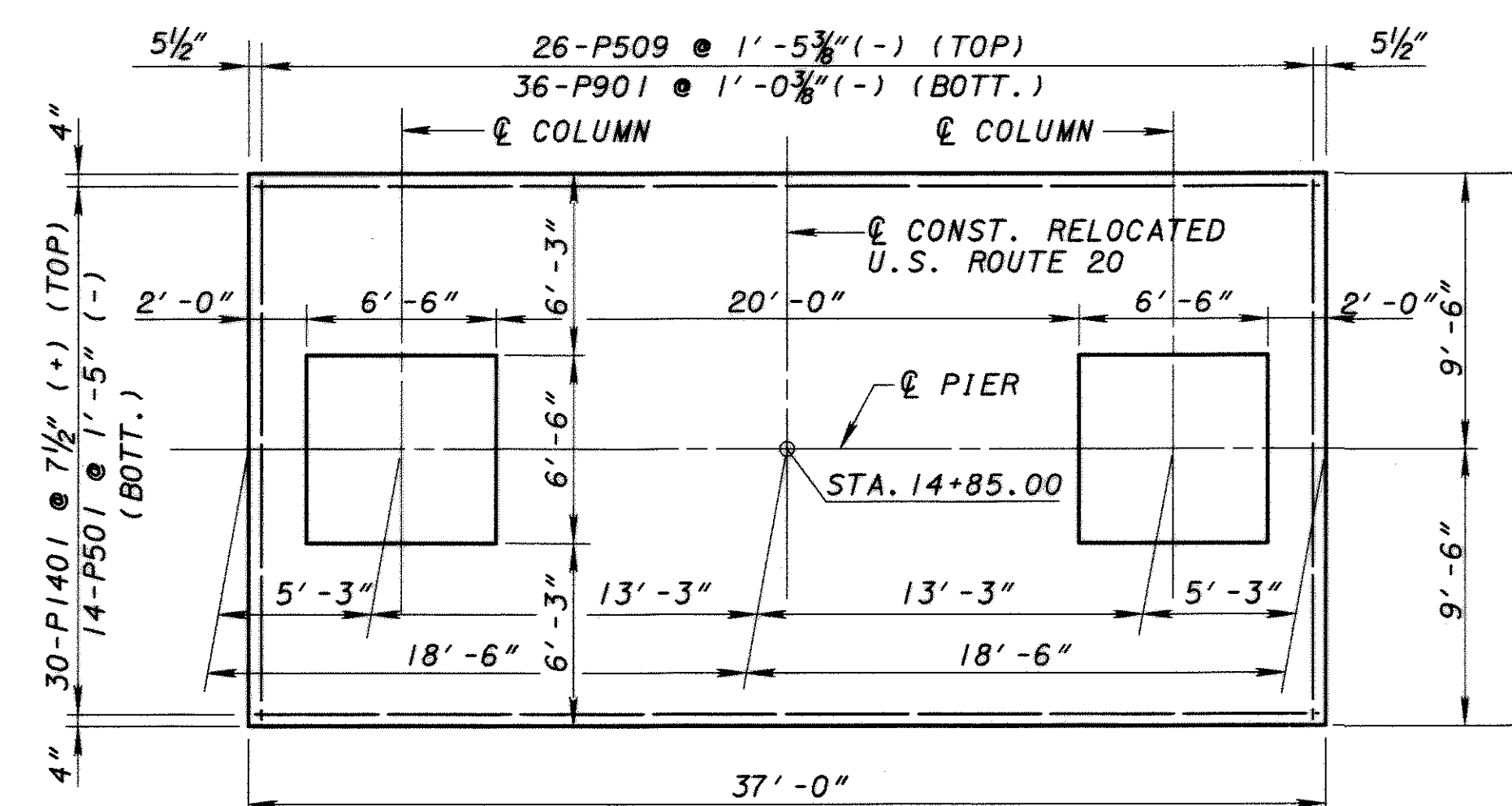
LIMITS FOR SEALING
CONCRETE SURFACES
(EPOXY-URETHANE)
SECTION C-C



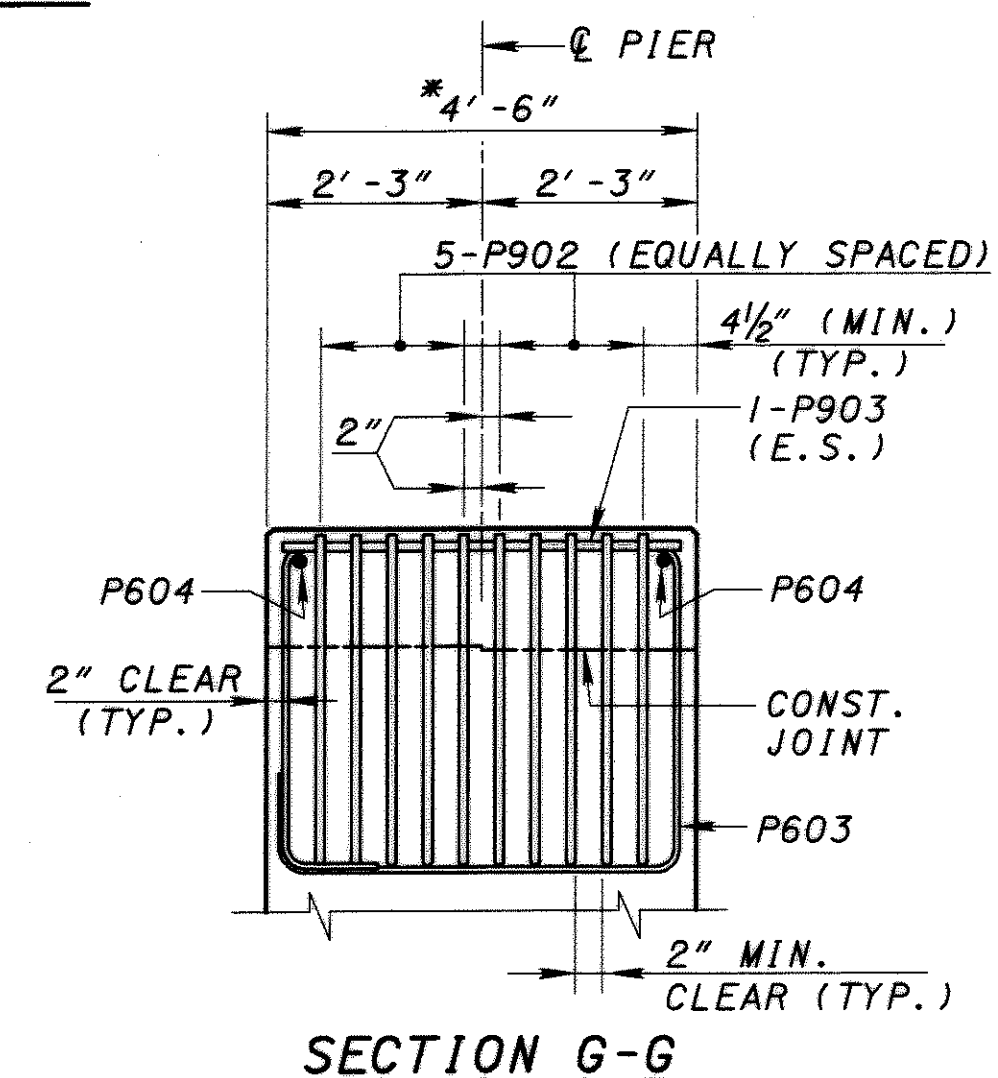
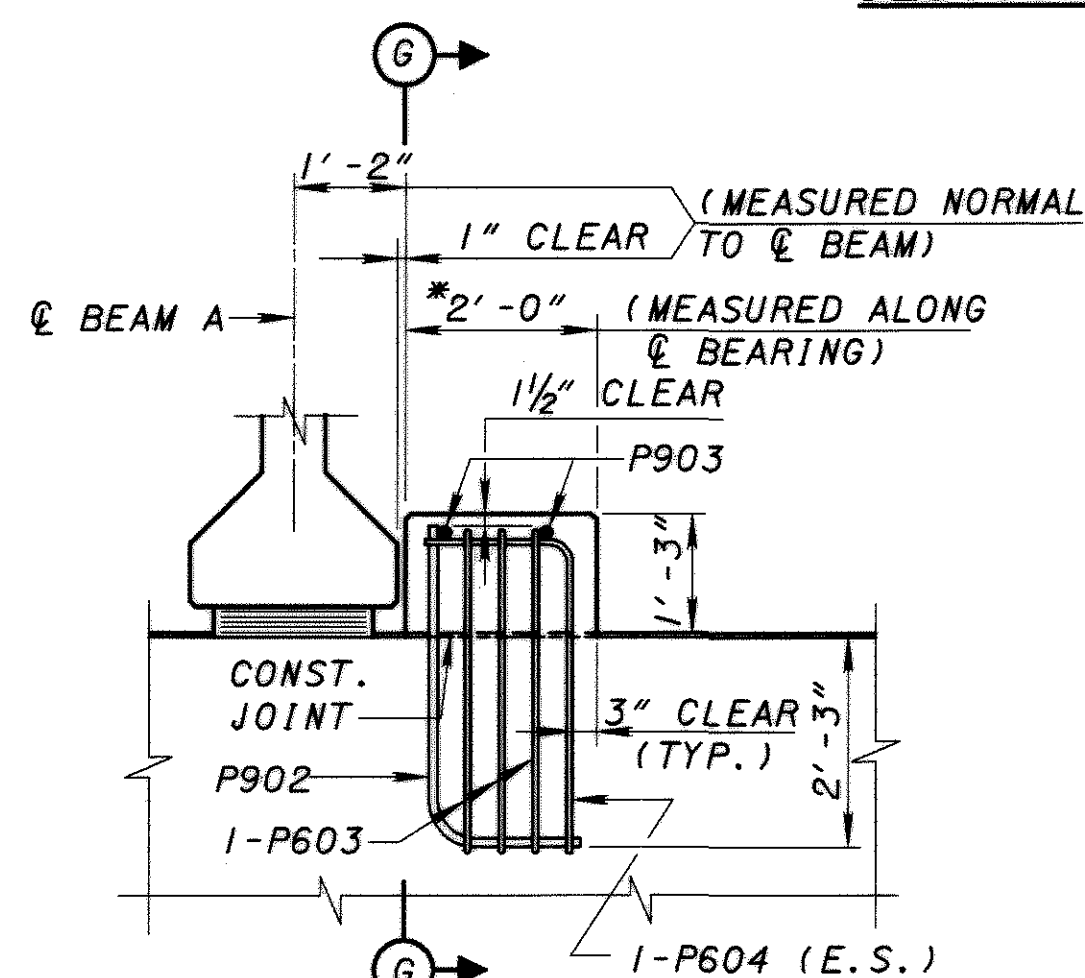
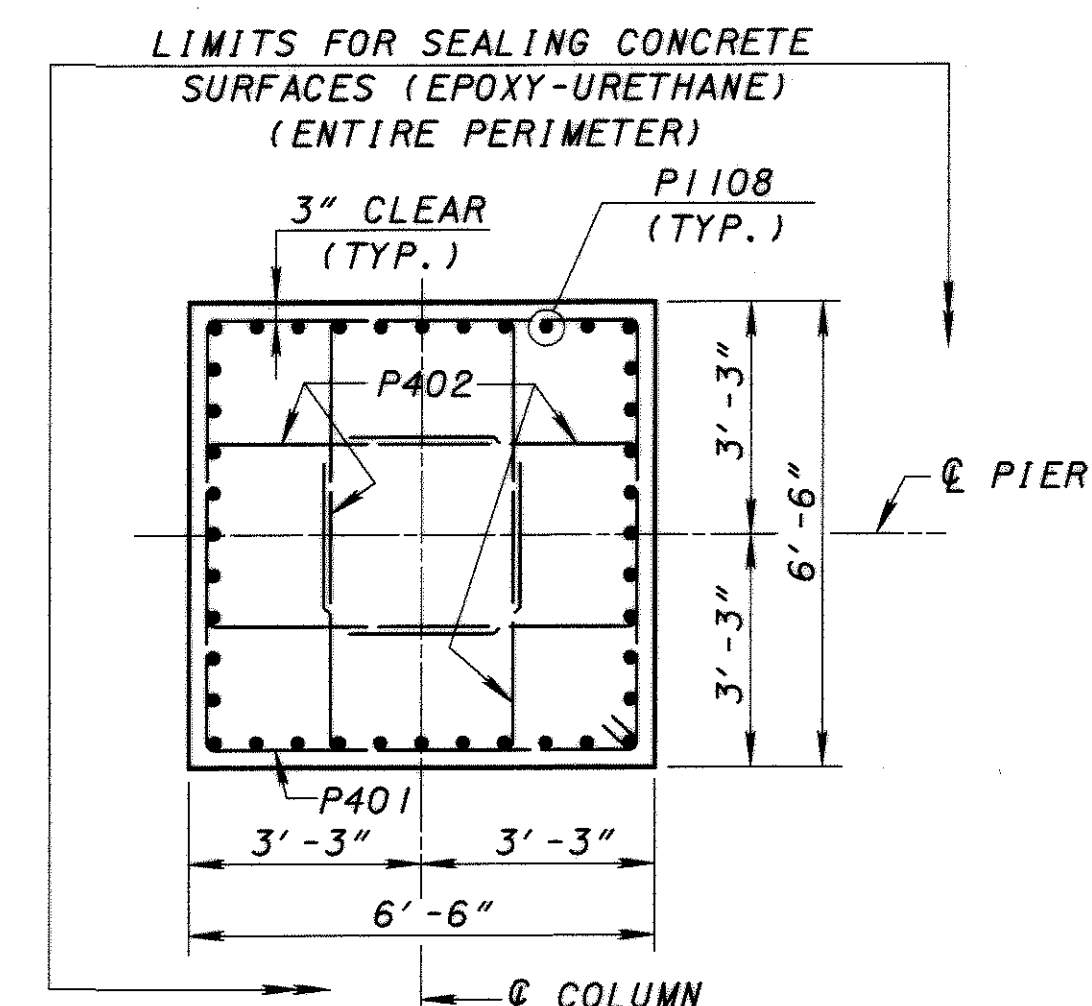
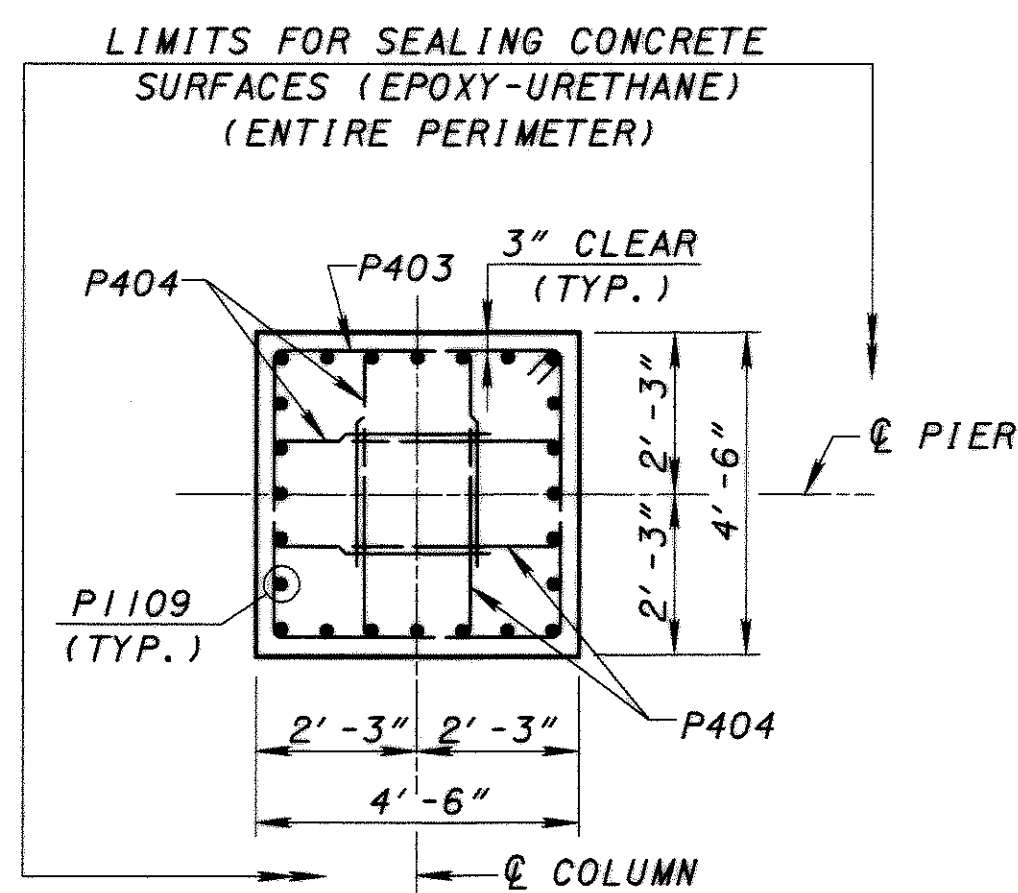
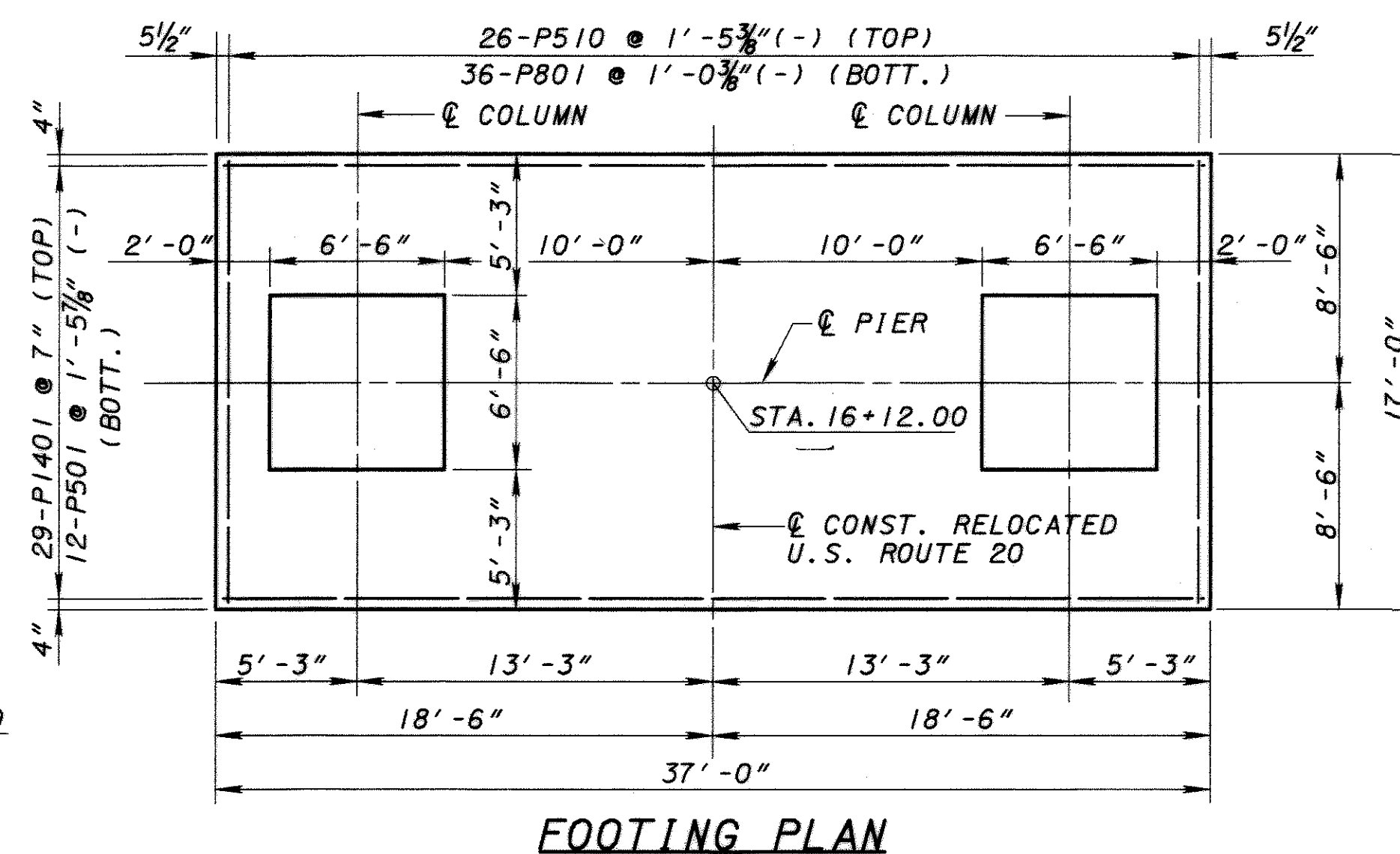
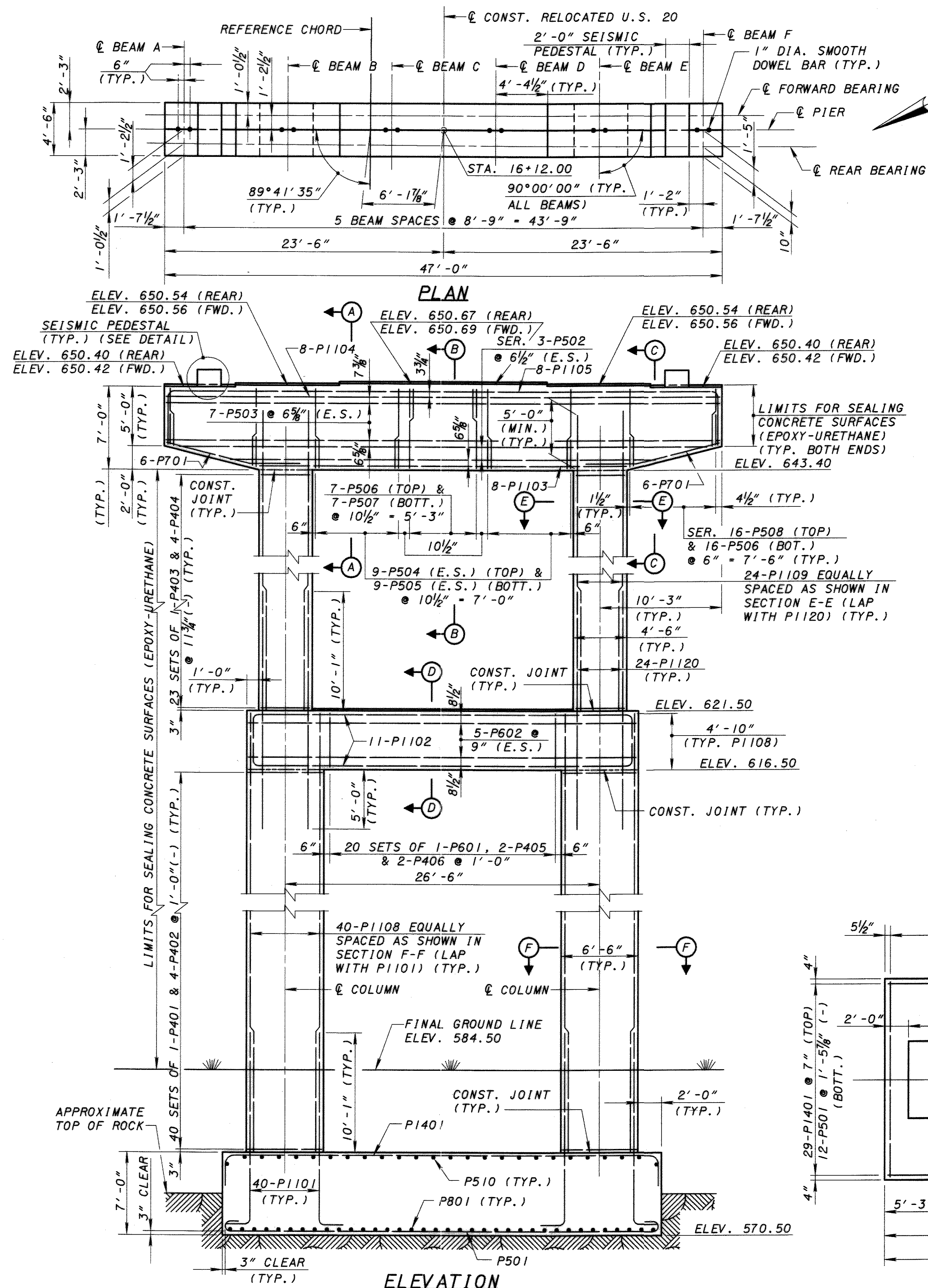
SECTION D-D



SECTION E-E



SECTION F-F



NOTES

1. BRIDGE SEAT REINFORCING, SETTING DOWELS:
REINFORCING STEEL IN THE VICINITY OF THE
BRIDGE SEAT SHALL BE ACCURATELY PLACED TO
AVOID INTERFERENCE WITH THE DRILLING OF
DOWEL HOLES OR THE PRE-SETTING OF DOWELS.
2. FOR DOWEL BAR DETAILS, SEE SHEET 21/42.
3. FOR SECTIONS A-A THRU D-D, SEE SHEET 19/42.
4. MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 4 BARS = 1'-11"
NO. 5 BARS = 2'-5"
5. FOR ABBREVIATIONS, SEE SHEET 5/42.
6. FOR ELASTOMERIC BEARINGS, SEE SHEET 21/42.

LIMITS FOR SEALING CONCRETE
SURFACES (EPOXY-URETHANE)
(ENTIRE PERIMETER)

LIMITS FOR SEALING CONCRETE
SURFACES (EPOXY-URETHANE)
(ENTIRE PERIMETER)

SECTION F-F

SECTION E-E

SECTION G-G

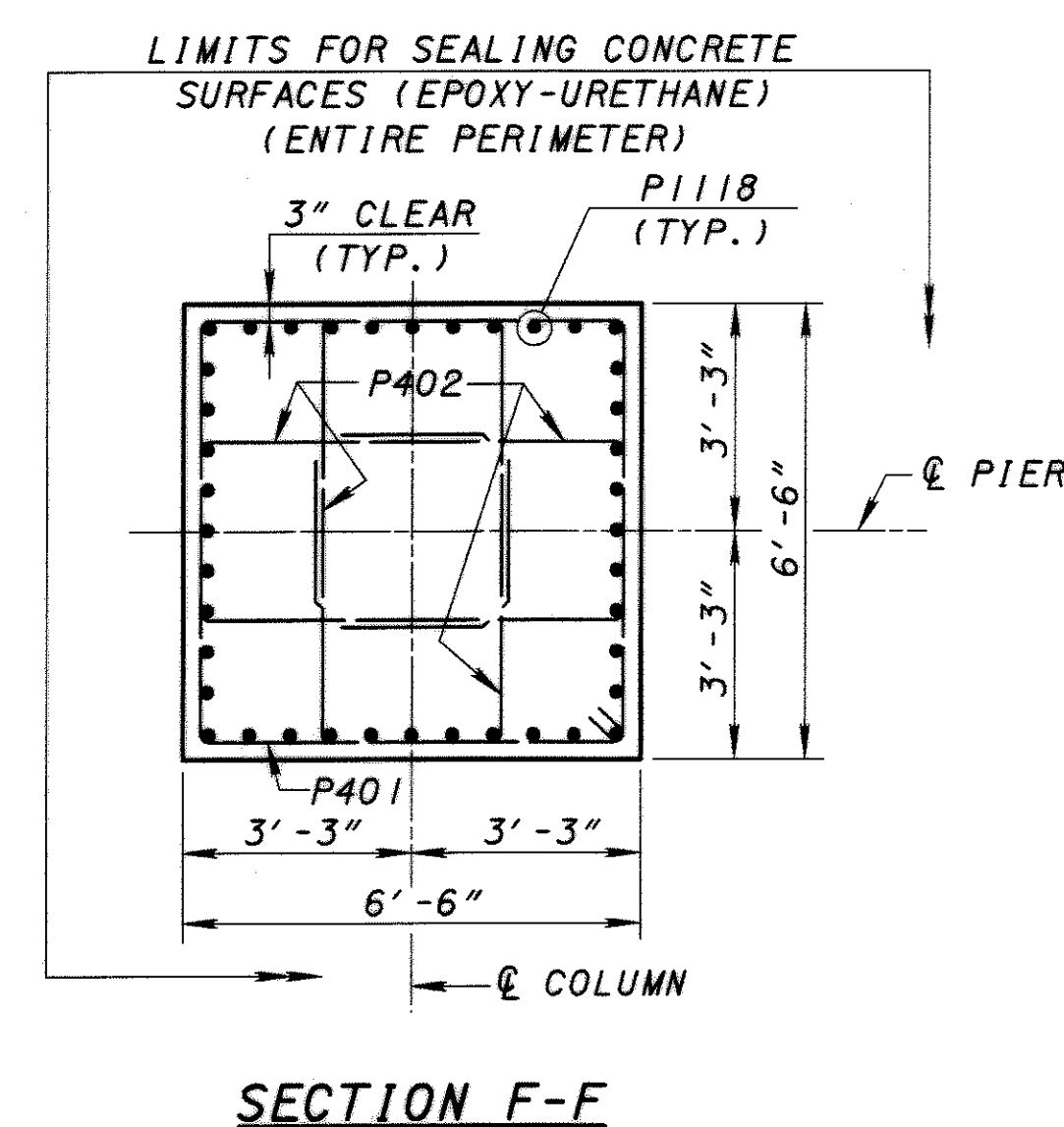
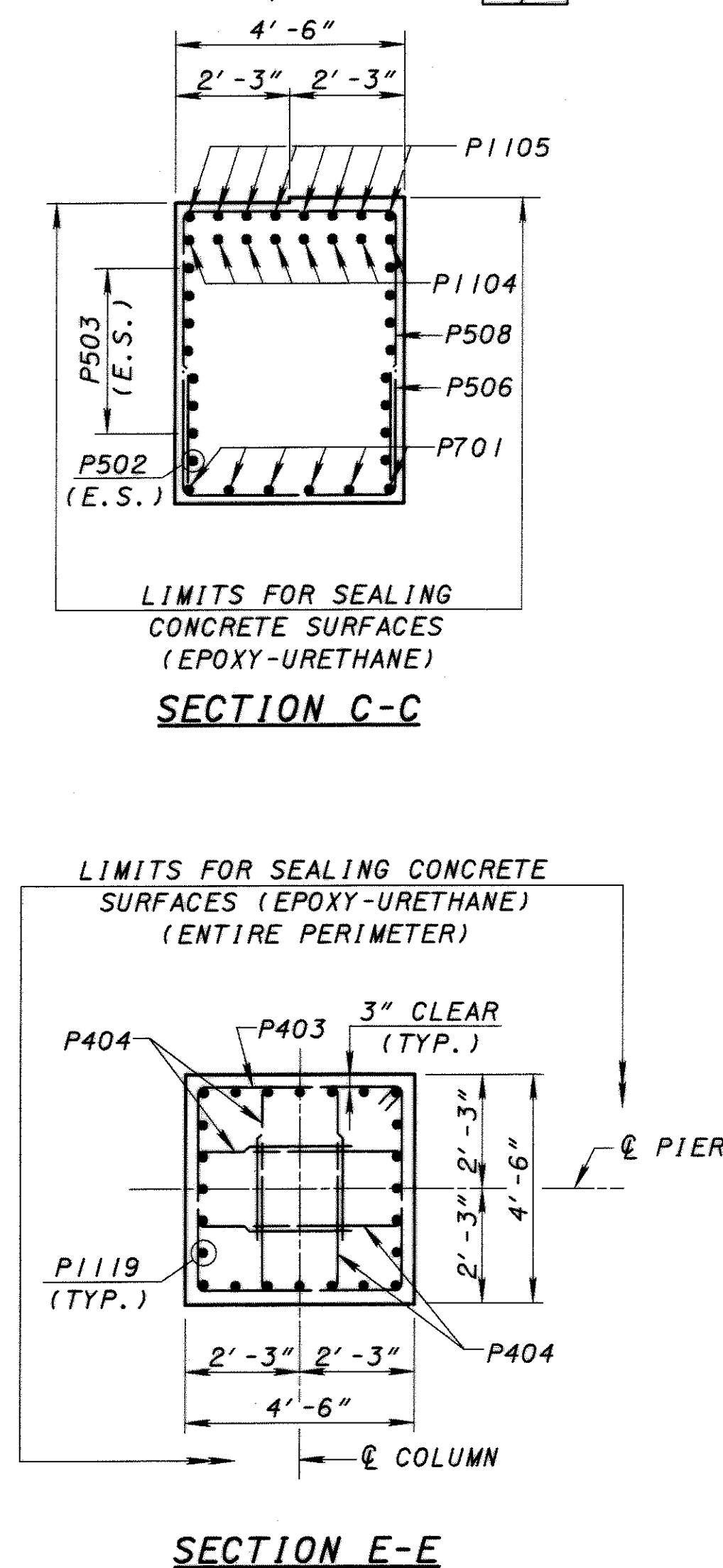
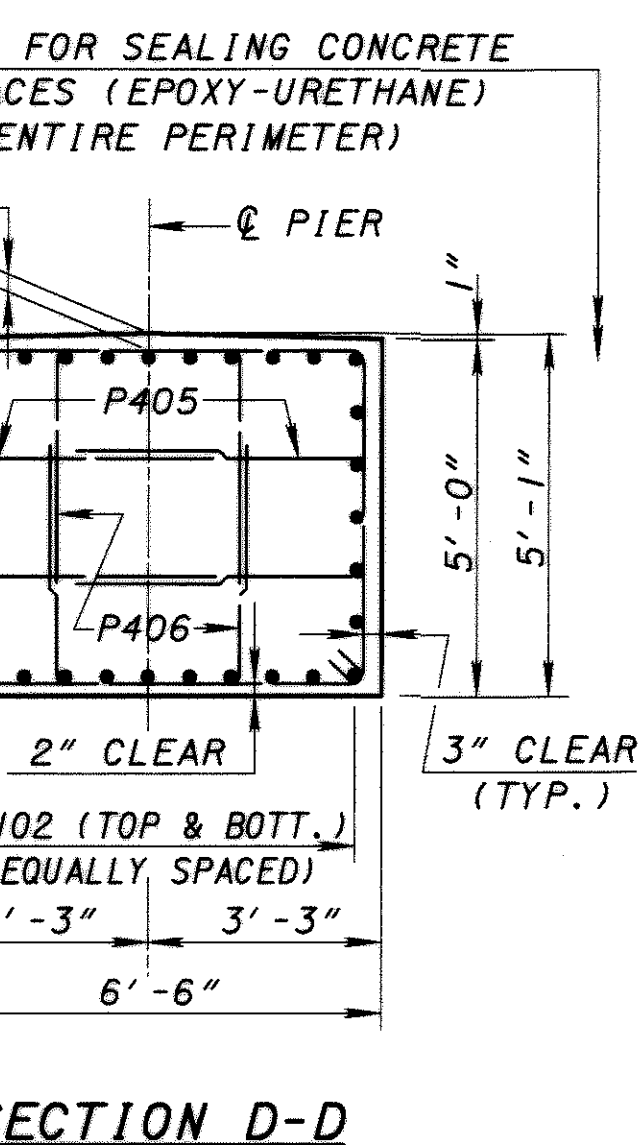
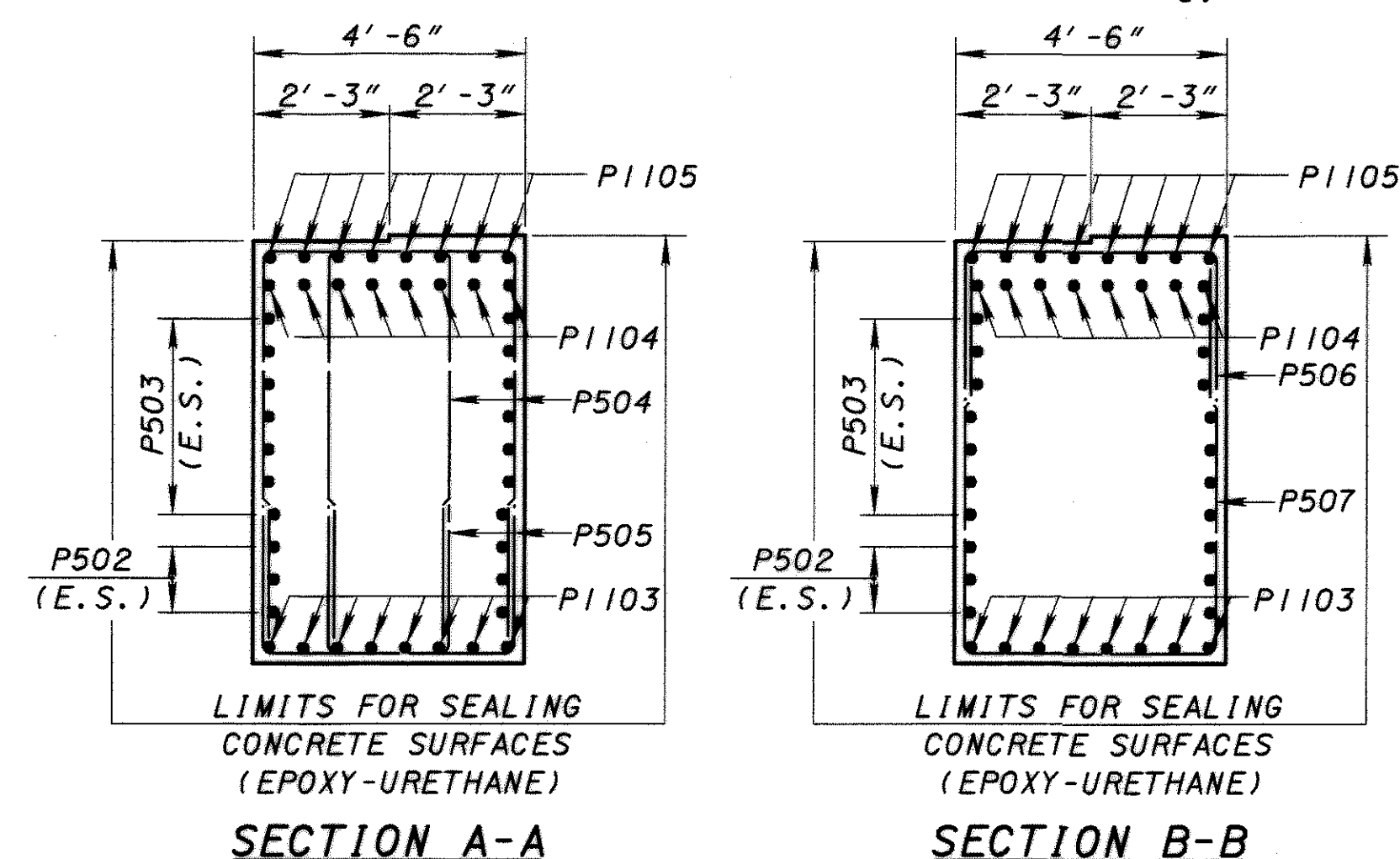
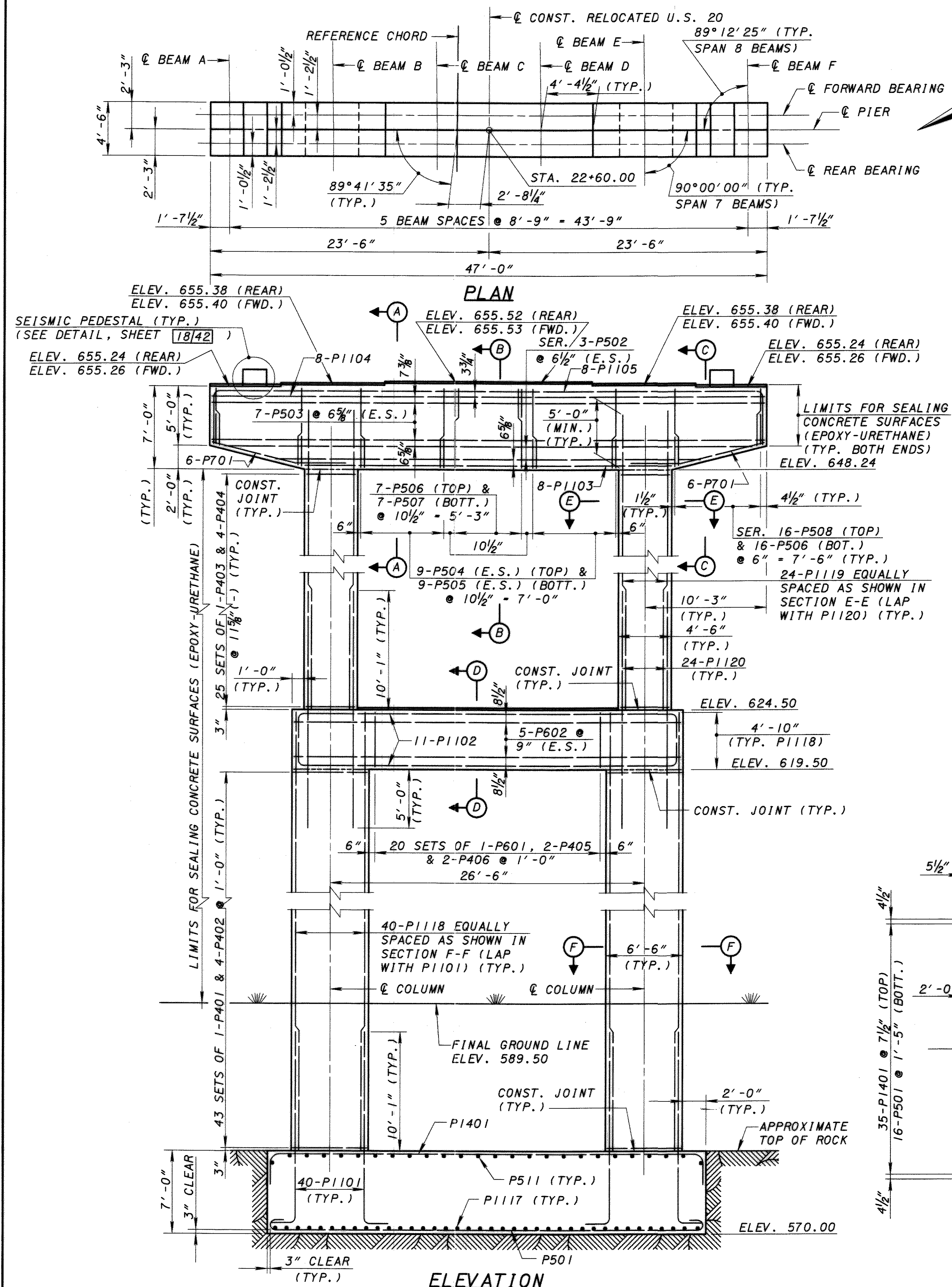
SEISMIC PEDESTAL DETAIL
(PEDESTAL AT BEAM F IS OPPOSITE HAND)

SEISMIC PEDESTAL NOTES:

THE P902 & P604 BARS SHALL BE PLACED PARALLEL TO THE CENTERLINE OF BEARING IN EACH SPAN. THE P903 & P603 BARS SHALL BE PLACED PARALLEL TO THE BEAMS IN THE FORWARD SPAN.

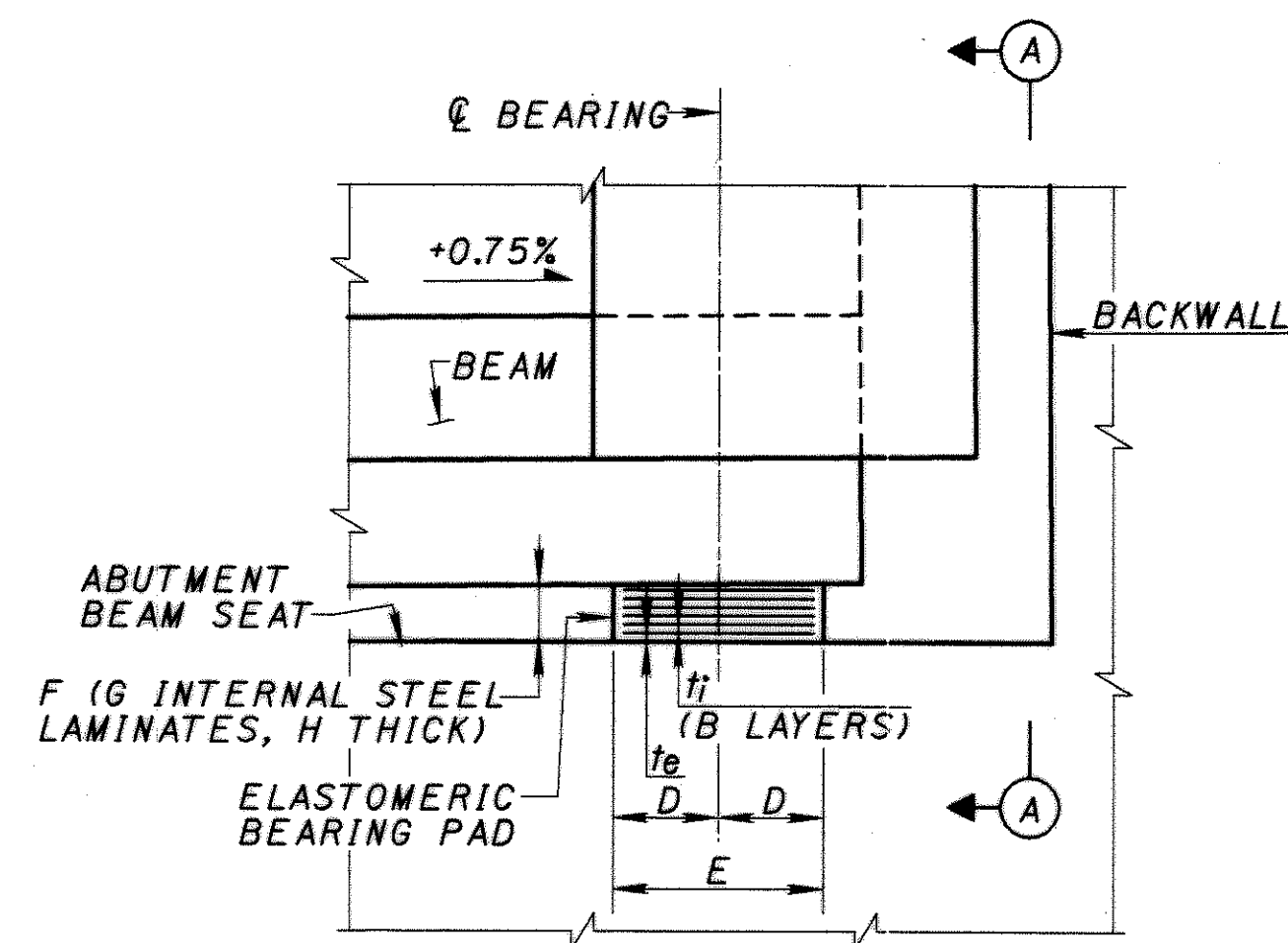
THE LOCATION OF THE MAIN REINFORCEMENT IN THE BEAM
SEAT MAY BE ADJUSTED HORIZONTALLY $\pm 1"$ TO ACCOMMODATE
THE P902 BARS.

* - THE SURFACE OF THE BEAM SEAT IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE 1/4" DEEP MINIMUM.

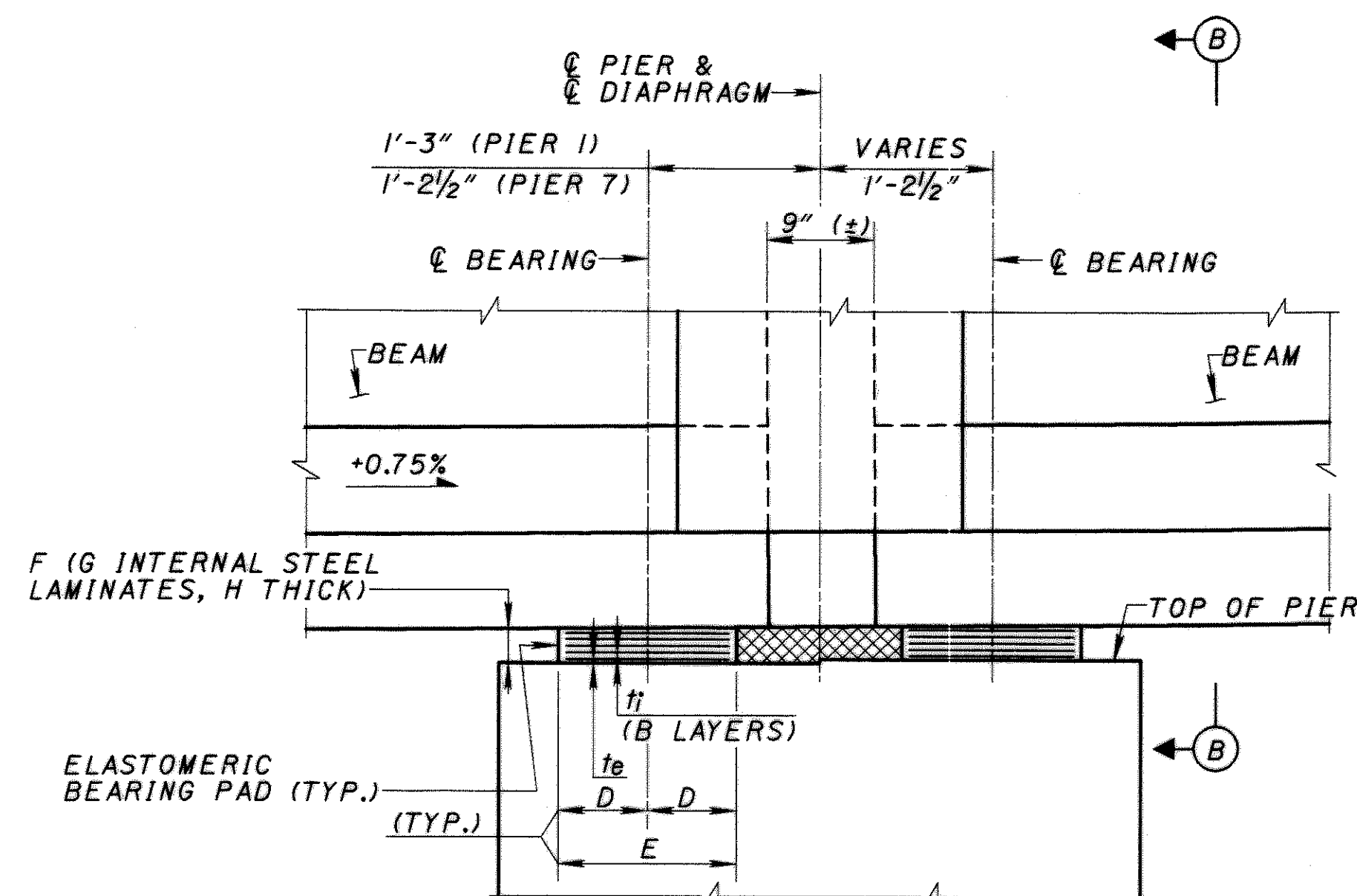


NOTES

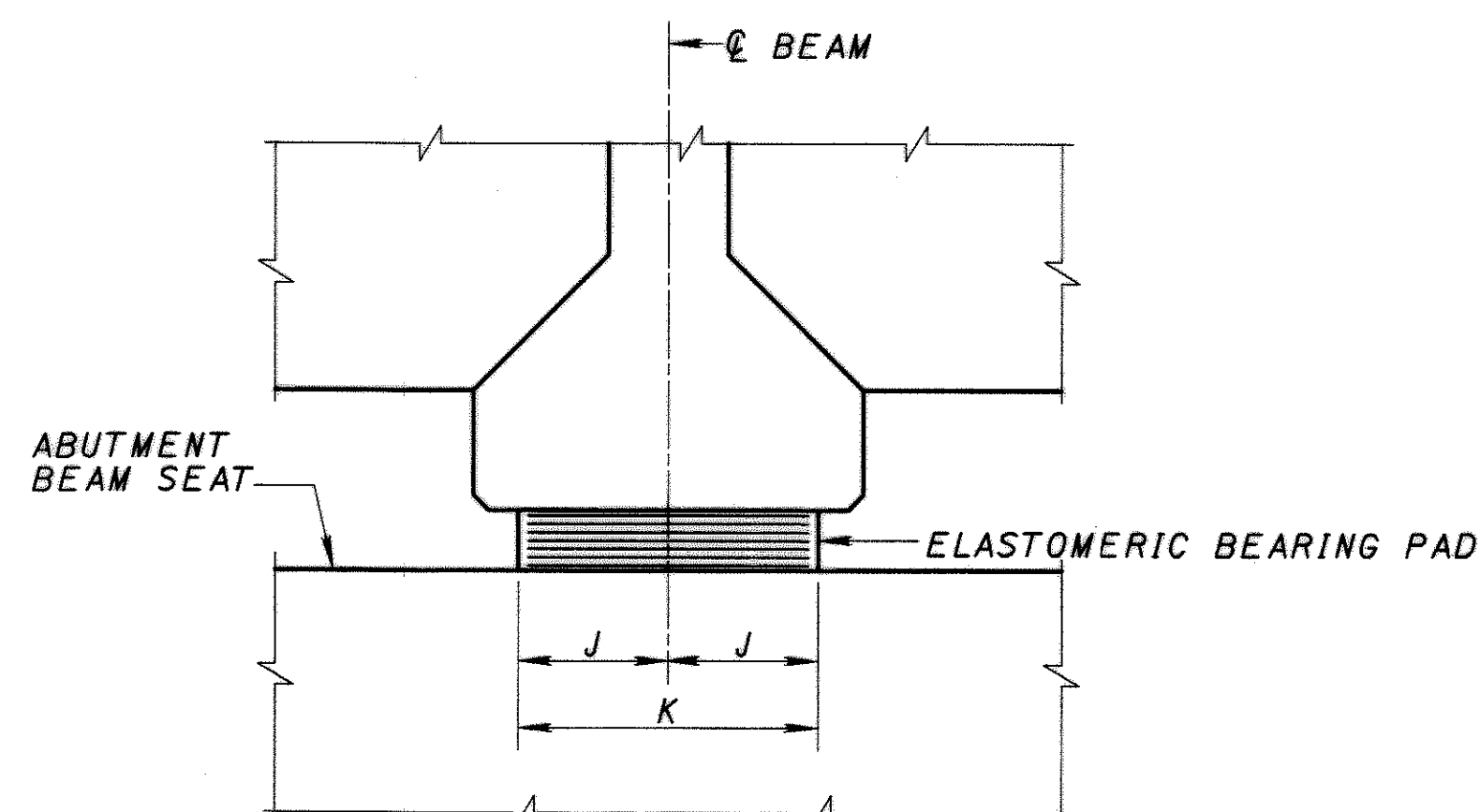
1. MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 4 BARS = 1' - 11"
NO. 5 BARS = 2' - 5"
2. FOR ABBREVIATIONS, SEE SHEET 5/42.
3. FOR ELASTOMERIC BEARINGS, SEE SHEET 2/42.



BEARING ELEVATION AT ABUTMENT
(FORWARD ABUTMENT SHOWN, REAR ABUTMENT SIMILAR)

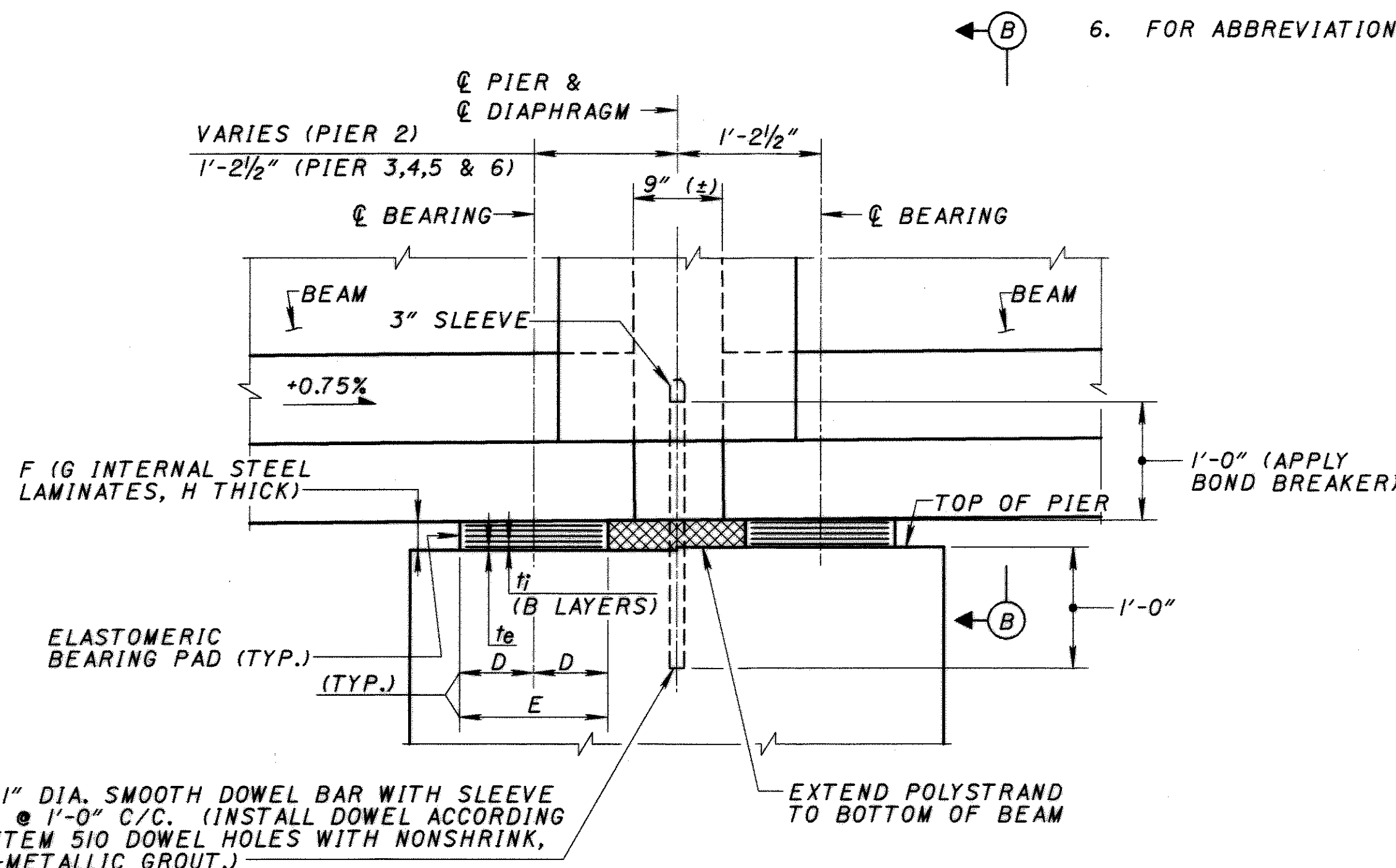


BEARING ELEVATION AT EXPANSION PIER
(LOOKING NORTH)

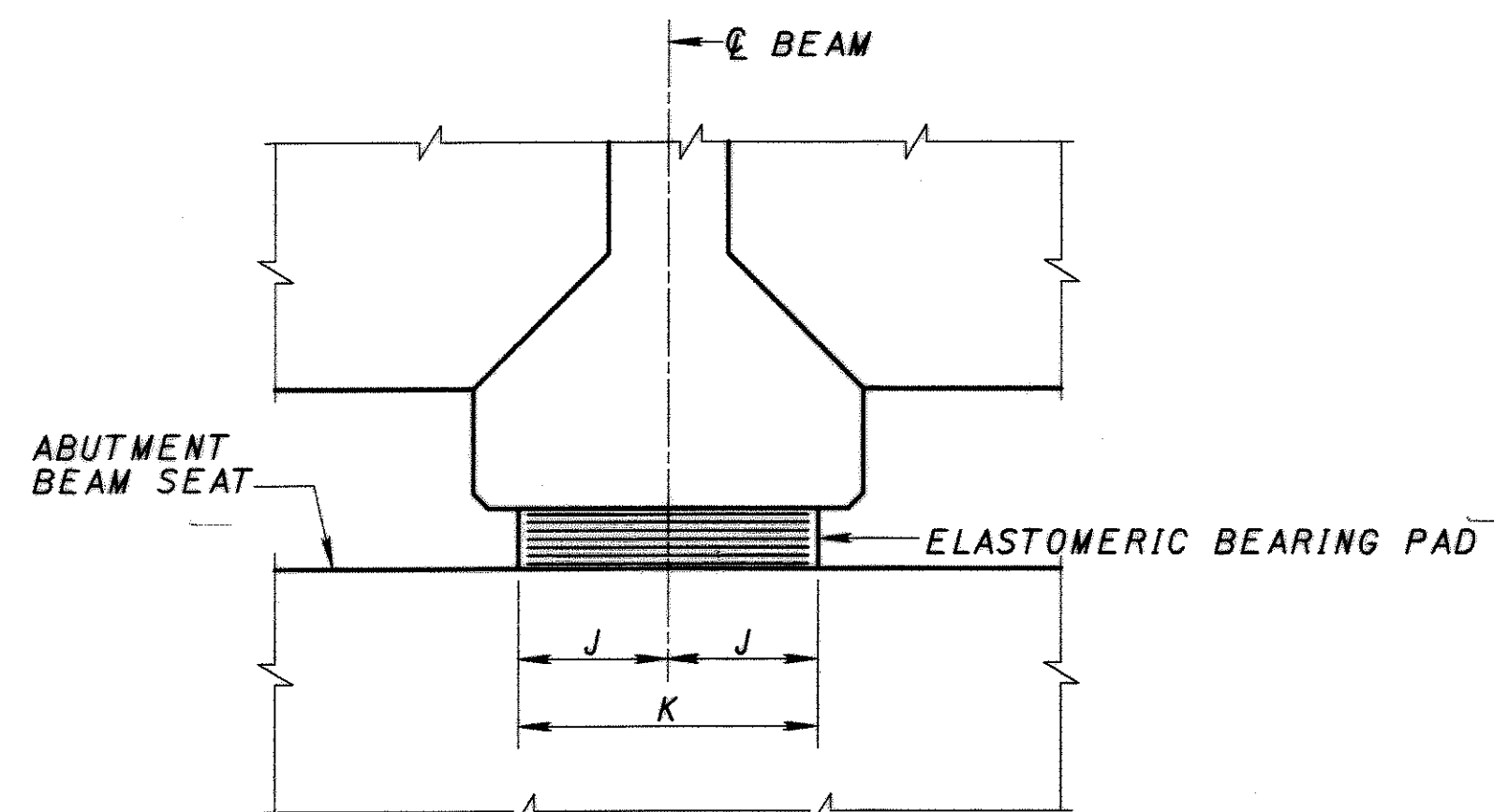


SECTION A-A

TABLE OF BEARING LOAD REACTIONS			
LOCATION	LOADS (KIPS)		
	DEAD LOAD	LIVE LOAD	TOTAL LOAD
REAR ABUTMENT	154.4	63.6	218.0
PIER 1	192.2	70.9	263.1
PIER 2	190.7	72.2	262.9
PIER 3	188.8	72.6	261.4
PIER 4	189.0	72.8	261.8
PIER 5	188.9	73.6	262.5
PIER 6	203.8	75.0	278.8
PIER 7	223.1	80.0	303.1
FORWARD ABUTMENT	196.3	65.5	261.8



BEARING ELEVATION AT FIXED PIER
(LOOKING NORTH)



SECTION B-B

TABLE OF BEARING PAD AND PLATE DIMENSIONS										
LOCATION	LENGTH (INCH)									
	t _i	B	t _e	D	E	F	G	H	J	K
EXP. ABUTMENTS	0.519	5	0.363	6.50	13.0	3.7692	6	0.0747	10.0	20.0
EXP. PIER 1	0.542	4	0.379	6.25	12.5	3.5985	5	0.1345	11.0	22.0
FIX. PIER 2 - 5	0.500	3	0.350	6.00	12.0	2.7380	4	0.1345	11.0	22.0
FIX. PIER 6	0.500	3	0.350	6.25	12.5	2.7380	4	0.1345	11.0	22.0
EXP. PIER 7	0.632	3	0.442	7.50	15.0	3.3180	4	0.1345	11.0	22.0

NOTES

- BEARING TOLERANCE: INDIVIDUAL ELASTOMERIC LAYER THICKNESS (± 20 PERCENT OF DESIGN VALUE NOT TO EXCEED $\pm 1/8$ ")
PLAN DIMENSIONS -0, $+1/8$ INCH
DESIGN THICKNESS $< -1/8$ INCH -0, $+1/8$ INCH
DESIGN THICKNESS $> -1/8$ INCH -0, $+1/8$ INCH
EDGE COVER OF EMBEDDED LAMINATES -0, $+1/8$ INCH
- ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, SECTION 18, BEARING DEVICES, DIVISION II, CONSTRUCTION, ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 60 DUROMETER ELASTOMETER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO DOCUMENT LISTED ABOVE. BEARINGS WERE DESIGNED UNDER SECTION 14.6.6 OF SECTION 14, BEARINGS, DIVISION I, DESIGN. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.
- BEARING REPOSITIONING: IF THE CONCRETE BEAMS ARE ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80° F OR LOWER THAN 40° F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60° F ($\pm$) 10° F, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60° F ($\pm$) 10° F.
- BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES (NEOPRENE).
- PAYMENT FOR POLYSTYRENE, DOWEL HOLES, DOWELS AND BOND BREAKER SHALL BE INCLUDED IN ITEM 842 FOR PAYMENT.
- FOR ABBREVIATIONS, SEE SHEET 542.

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

DATE
6-11-02
JHB
STRUCTURE FILE NUMBER
0402273

DRAWN
SL
CHECKED
SL

ELASTOMERIC BEARING DETAILS
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

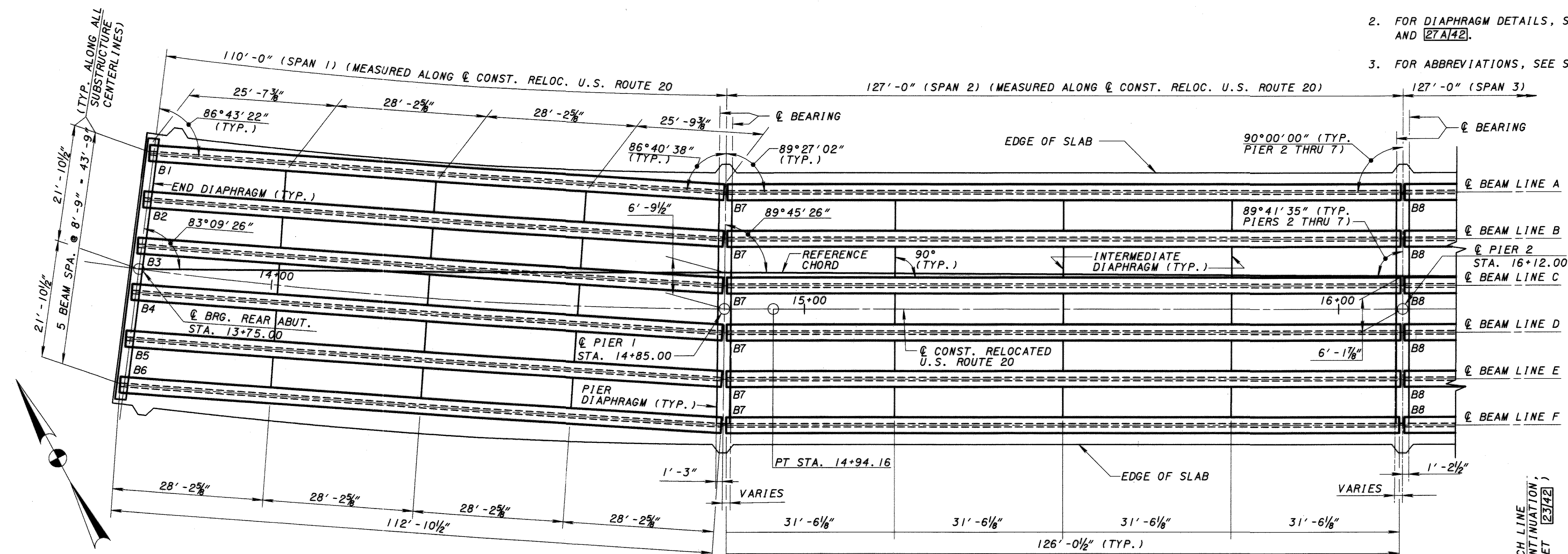
ATB-20-26.19

21/42

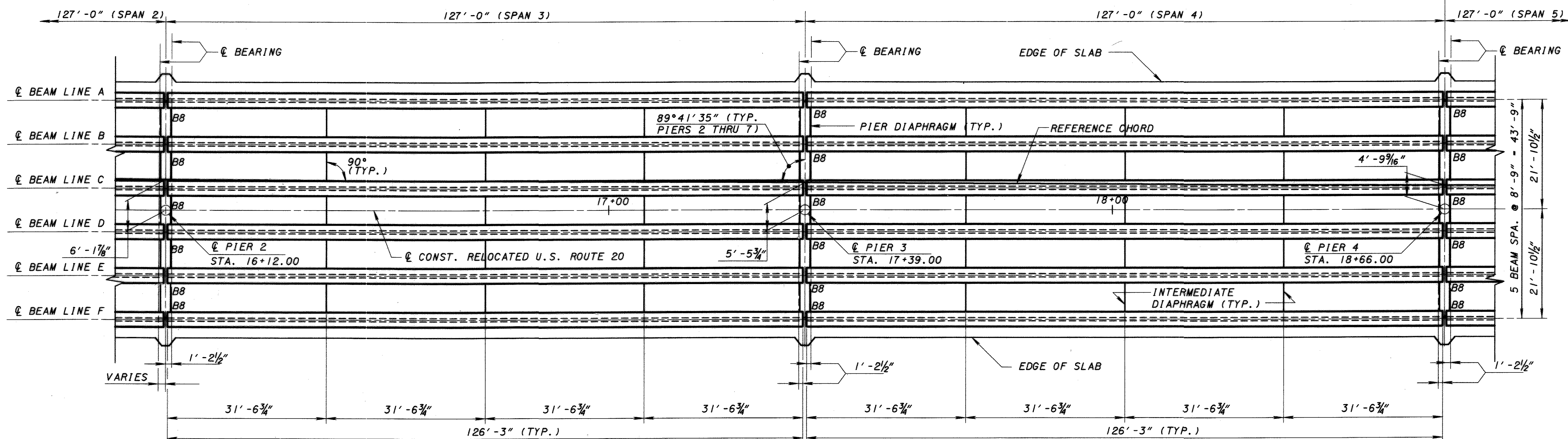
118
162

NOTES

1. FOR BEAM DETAILS AND ADDITIONAL NOTES, SEE SHEET 24/42 THRU 26/42.
2. FOR DIAPHRAGM DETAILS, SEE SHEET 27/42 AND 27A/42.
3. FOR ABBREVIATIONS, SEE SHEET 5/42.



PART FRAMING PLAN



PART FRAMING PLAN

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

DATE
6-11-02

REVIEWED
J.B.H.

STRUCTURE FILE NUMBER
0402273

DRAWN
S.L.

DESIGNED
H.K.

CHECKED
S.L.

FRAMING PLAN - SPANS 1 THRU 4
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

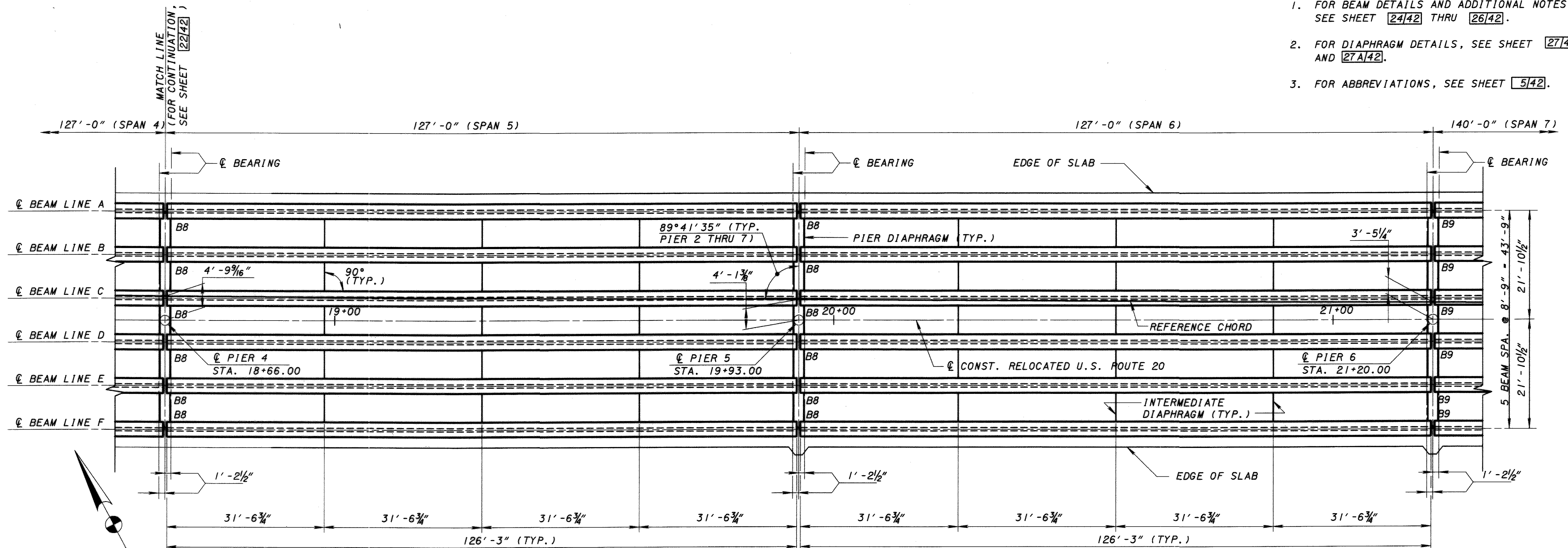
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22/42

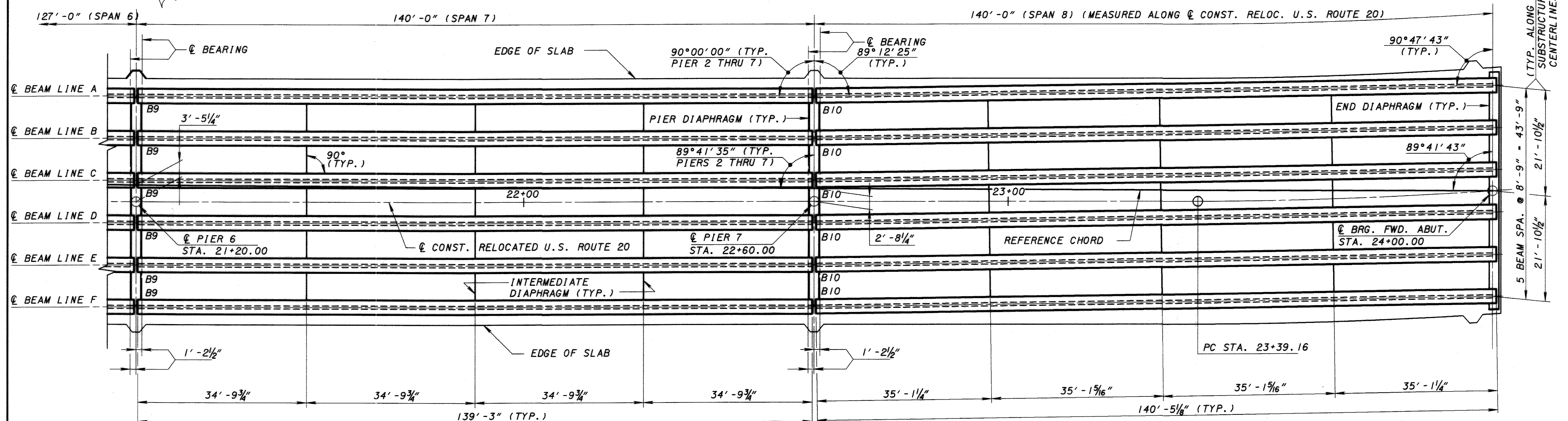
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162

NOTES

1. FOR BEAM DETAILS AND ADDITIONAL NOTES, SEE SHEET 24/42 THRU 26/42.
2. FOR DIAPHRAGM DETAILS, SEE SHEET 27/42 AND 27A/42.
3. FOR ABBREVIATIONS, SEE SHEET 5/42.



PART FRAMING PLAN



PART FRAMING PLAN

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

DATE
REVIEWED
J.B.H.
STRUCTURE FILE NUMBER
0402273

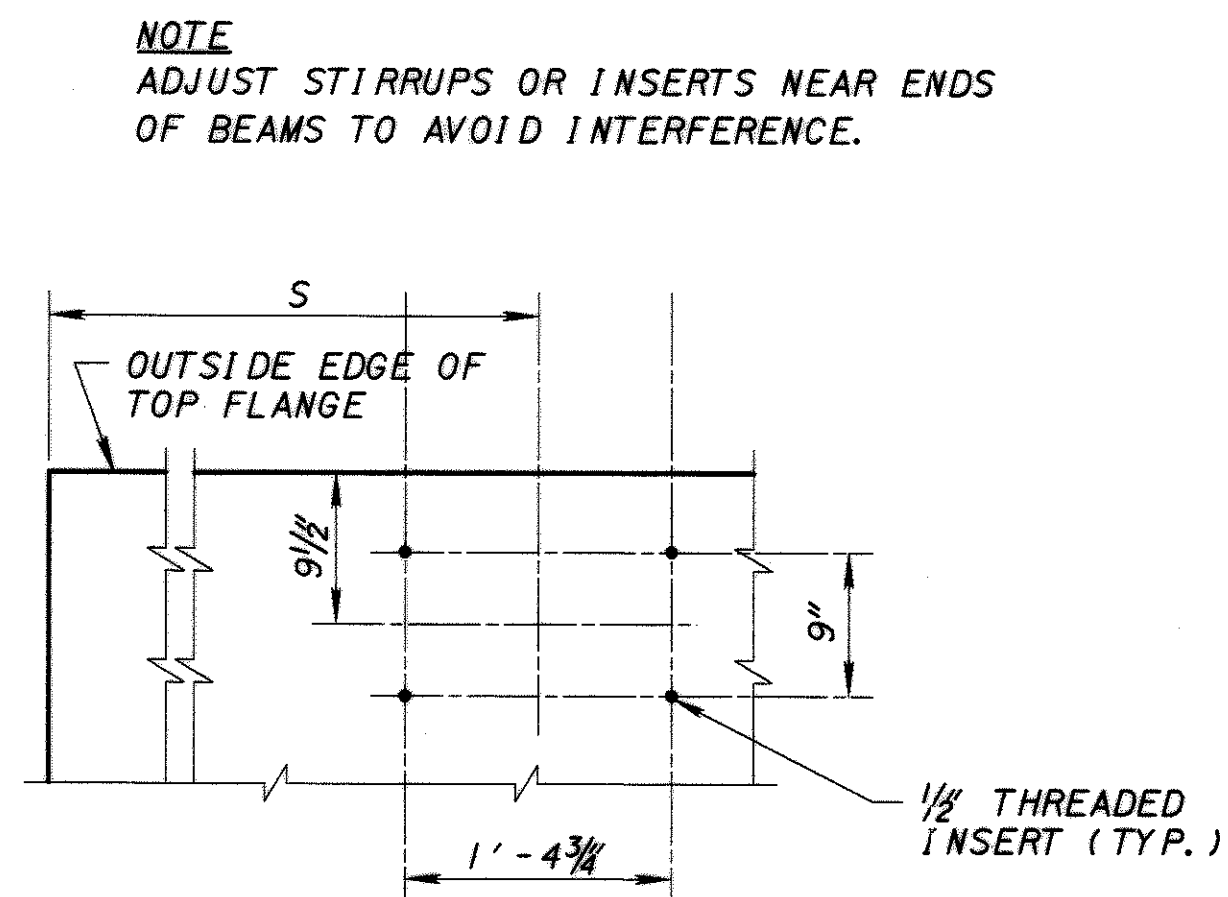
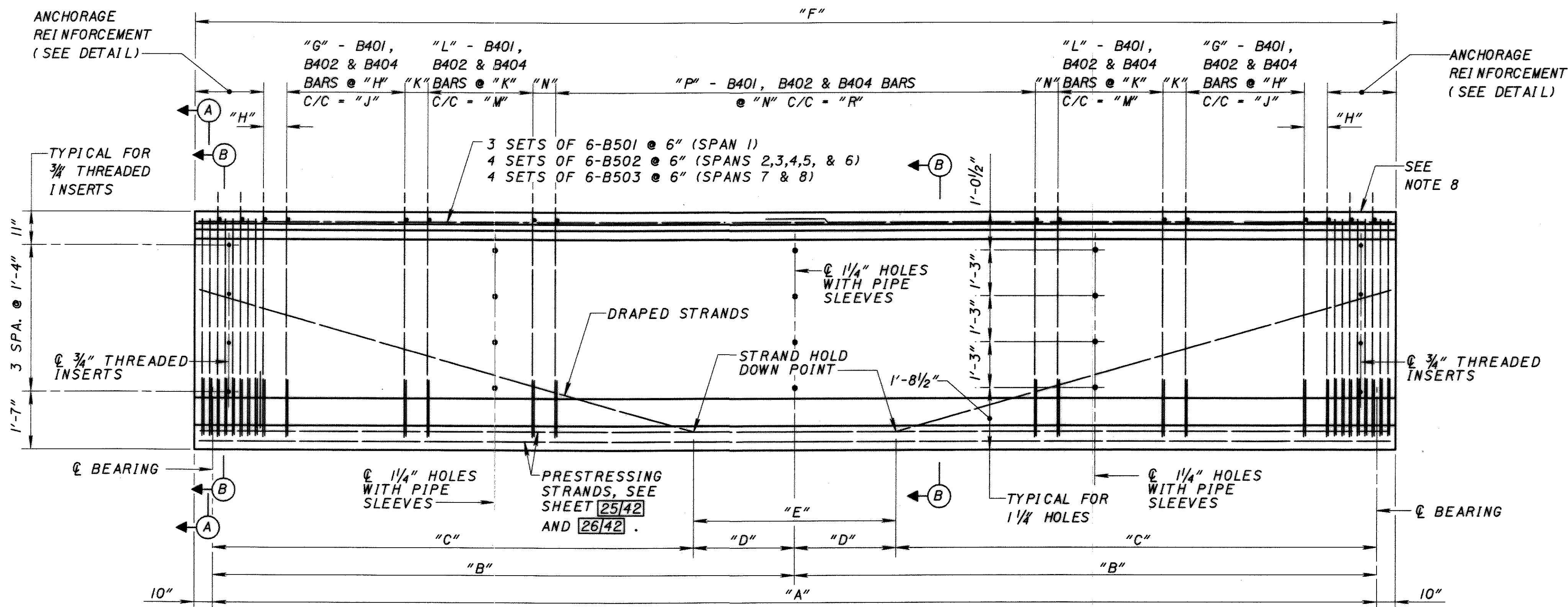
DRAWN
SL
CHECKED
SL

FRAMING PLAN - SPANS 5 THRU 8
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

ATB-20-26.19

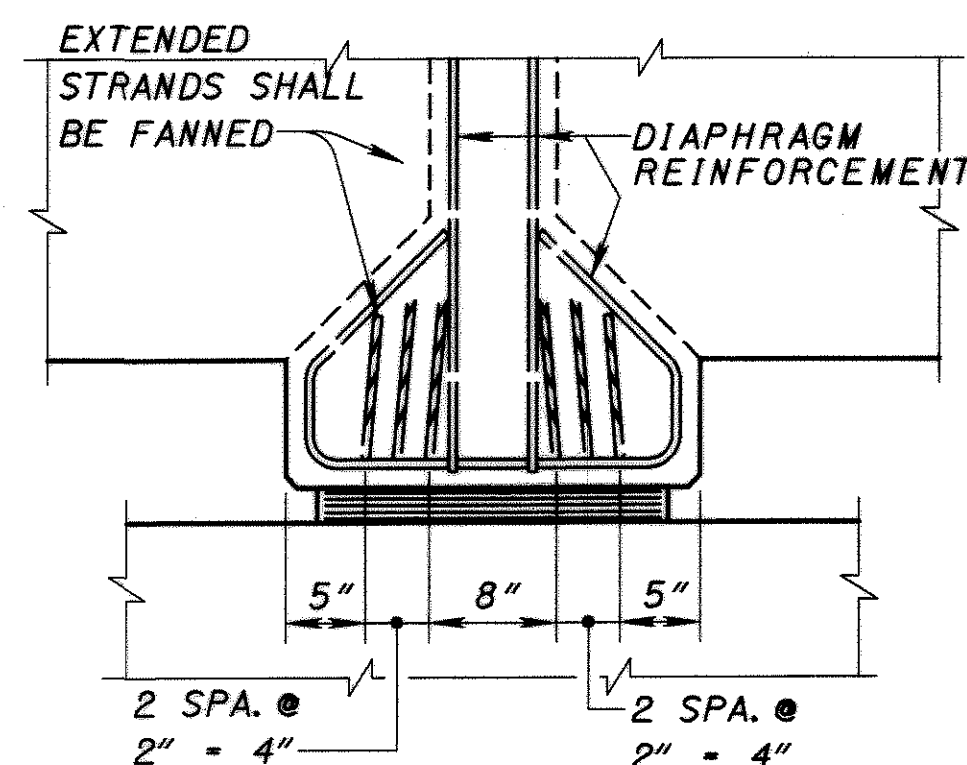
23/42

120
162

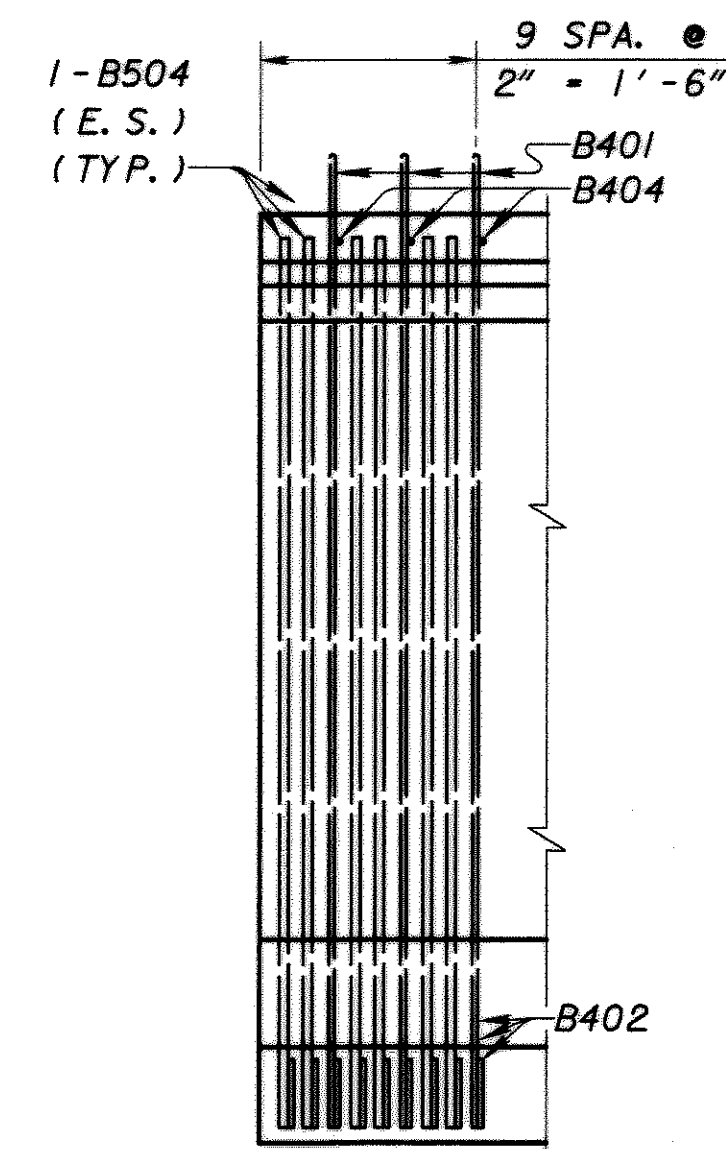


TYPICAL SCUPPER INSERT LOCATION PLAN
(BEAM LINE B SHOWN - BEAM LINE E OPPOSITE HAND)

BEAM ELEVATION
(DIAPHRAGMS NOT SHOWN)



SECTION C-C

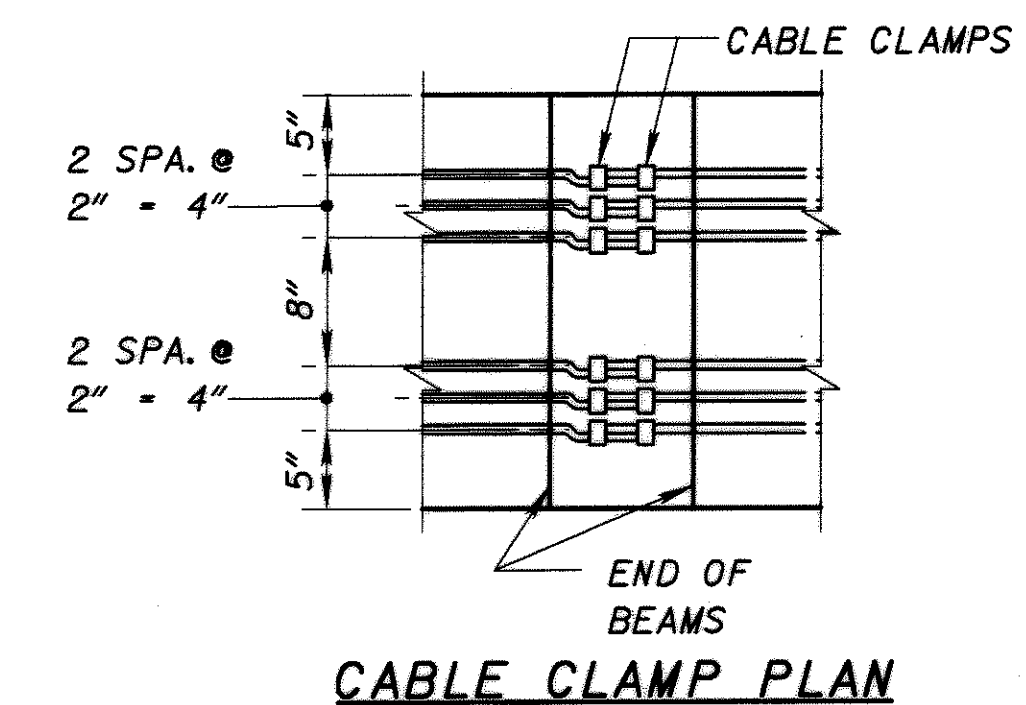


ANCHORAGE REINFORCEMENT DETAIL

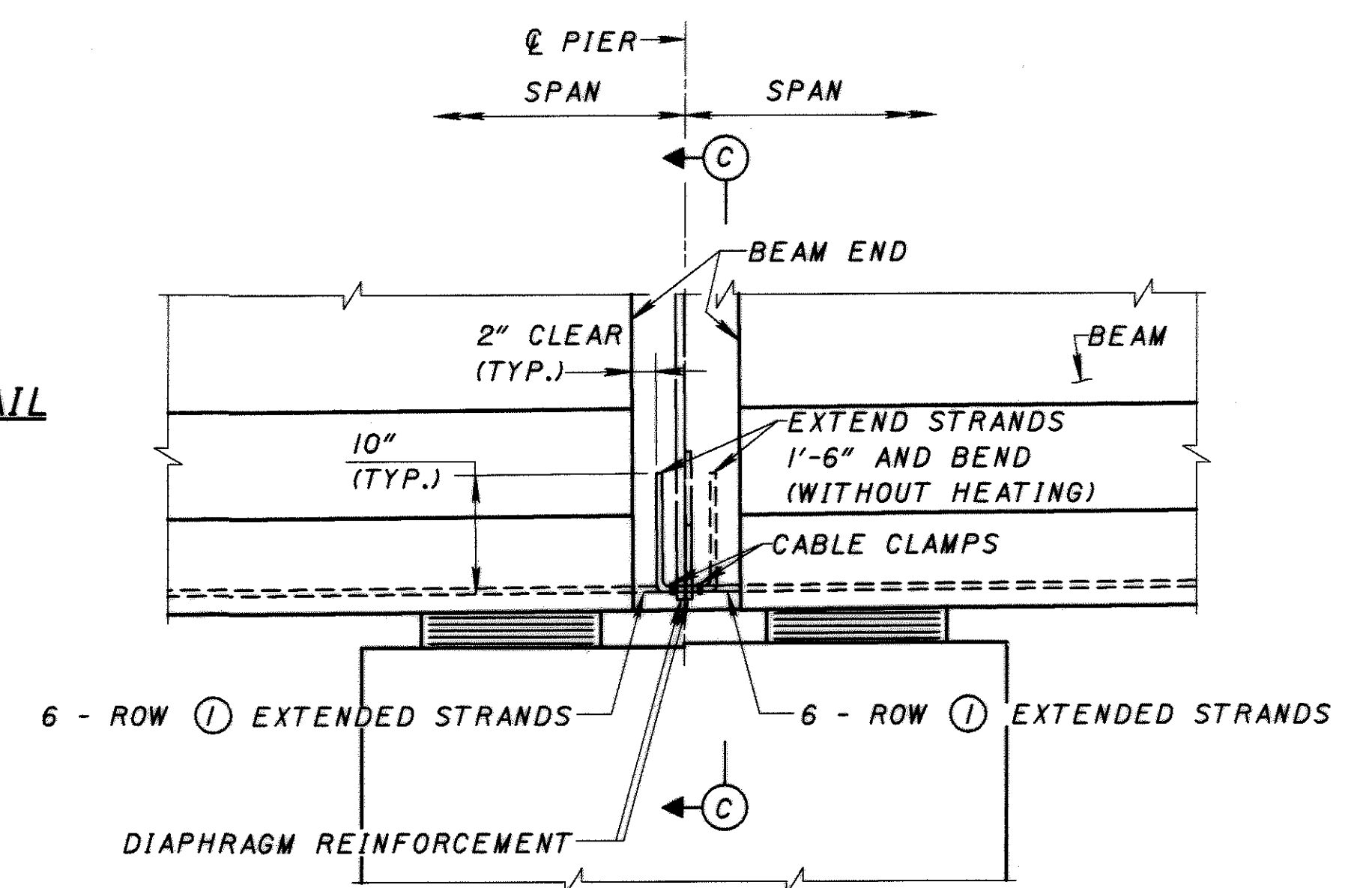
SCUPPER INSERT LOCATIONS						
	SPAN 3		SPAN 5		SPAN 7	
	BEAM LINE B	BEAM LINE E	BEAM LINE B	BEAM LINE E	BEAM LINE B	BEAM LINE E
DIMENSION "S"	30'-7 3/4"	30'-7 3/4"	30'-7 3/4"	30'-7 3/4"	33'-10 5/8"	33'-10 5/8"

BEAM DIMENSIONS																			
SPAN	BEAM MARK	NO. REQ'D.	DIMENSIONS																
			A	B	C	D	E	F	G	H	J	K	L	M	N	P	R		APPROXIMATE WEIGHT (LBS.)
1	B1	1	106'-2 1/16"	53'-1" (+)	42'-5 5/8"	10'-7 3/8"	21'-2 3/4"	107'-10"	12	10 1/2"	9'-7 1/2"	1'-1"	32	33'-7"	1'-9 3/4"	7	10'-10 1/2"		112,794
1	B2	1	107'-2 3/16"	53'-7 1/8" (-)	42'-10 1/2"	10'-8 5/8"	21'-5 1/4"	108'-10 1/8"	12	10 1/2"	9'-7 1/2"	1'-1"	32	33'-7"	1'-11 1/4" (+)	7	11'-7 7/8"		113,851
1	B3	1	108'-2 1/4"	54'-1 1/8"	43'-3 3/4"	10'-9 9/8"	21'-7 3/4"	109'-10 1/4"	12	10 1/2"	9'-7 1/2"	1'-1"	32	33'-7"	1'-10" (+)	8	12'-10 1/4" (-)		114,907
1	B4	1	109'-2 3/8"	54'-7 3/16"	43'-8 1/8"	10'-11 1/16"	21'-10 1/8"	110'-10 3/8"	12	10 1/2"	9'-7 1/2"	1'-1"	33	34'-8"	1'-11" (+)	7	11'-6 1/4" (+)		115,964
1	B5	1	110'-2 1/16"	55'-1 1/4" (-)	44'-1"	11'-0 1/4"	22'-0 1/2"	111'-10 3/8"	12	10 1/2"	9'-7 1/2"	1'-1"	33	34'-8"	1'-9 3/8" (+)	8	12'-8 3/4"		117,010
1	B6	1	111'-2 1/2"	55'-7 1/4"	44'-5 3/4"	11'-1 1/2"	22'-3"	112'-10 1/2"	12	10 1/2"	9'-7 1/2"	1'-1"	34	35'-9"	1'-10 3/4" (+)	7	11'-4 1/8"		118,067
2	B7	6	124'-4 1/2"	62'-2 1/4"	49'-9"	12'-5 1/4"	24'-10 1/2"	126'-0 1/2"	14	10 1/2"	11'-4 1/2"	1'-1"	32	33'-7"	1'-11 3/8" (-)	14	25'-3 3/4" (+)		131,840
3,4,5, & 6	B8	24	124'-7"	62'-3 1/2"	49'-10"	12'-5 1/2"	24'-11"	126'-3"	15	10"	11'-8"	1'-1"	32	33'-7"	1'-10 3/8"	14	25'-0 3/4"		132,058
7	B9	6	137'-7"	68'-9 1/2"	55'-0 3/8"	13'-9 1/8"	27'-6 1/4"	139'-3"	20	8"	12'-8"	1'-1"	42	44'-5"	1'-10 1/4" (+)	9	14'-10 3/8" (+)		145,656
8	B10	6	138'-9 1/8"	69'-4 1/8"	55'-6"	13'-10 1/16"	27'-9 1/8"	140'-5 1/8"	22	7 1/2"	13'-1 1/2"	1'-1"	42	44'-5"	1'-10 3/4" (-)	9	15'-1 3/4" (-)		146,887

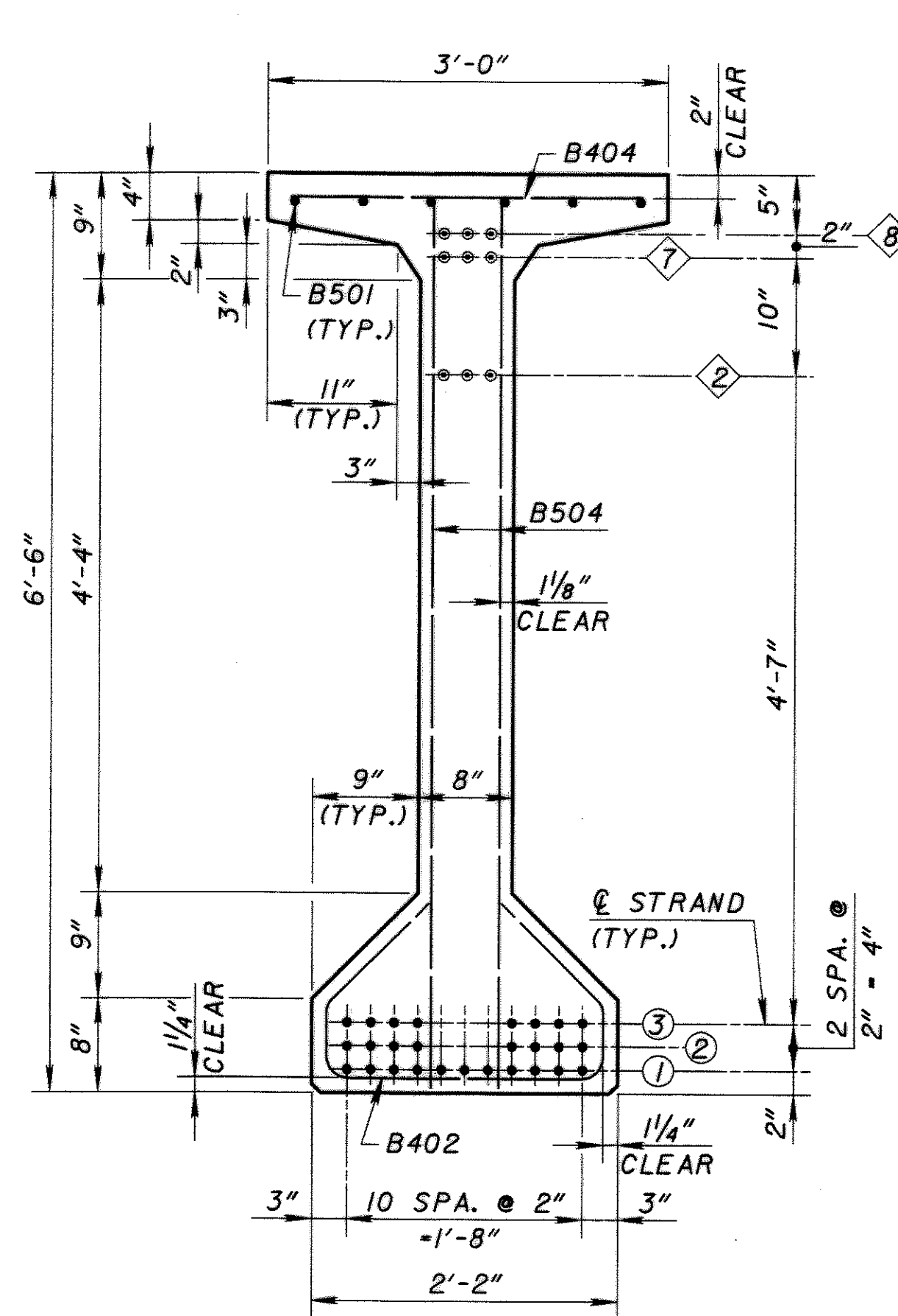
1. FOR CAMBER DETAILS, SEE SHEET [29/42].
2. FOR SECTIONS A-A AND B-B, SEE SHEETS [25/42] AND [26/42].
3. FOR DIAPHRAGM DETAILS, SEE SHEET [27/42] AND [27A/42].
4. CONCRETE:
MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: $F'_c = 7500$ P.S.I.
MINIMUM COMPRESSIVE STRENGTH AT TIME OF INITIAL PRESTRESS: $F'_{ci} = 5500$ P.S.I.
5. PRESTRESSING STRAND:
ASTM 416 GRADE 270K, 1/2" DIAMETER, SEVEN WIRE, UNCOATED LOW-RELAXATION STRANDS.
AREA = 0.153 SQ. IN. EACH
INITIAL STRESS: $0.75 F'_s = 202,500$ P.S.I.
6. MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 5 BARS = 2'-6"
7. FOR ADDITIONAL NOTES AND DETAILS, SEE STANDARD DRAWING PSID-1-99, SHEETS 1 THRU 8.
8. THE TOP SURFACE OF THE I-BEAM MEMBERS SHALL BE SCREEDED AND GIVEN A WIRE BROOM FINISH, IN A TRANSVERSE DIRECTION, PENETRATING THE FINISHED SURFACE APPROXIMATELY 1/4". ALL LAITANCE SHALL BE REMOVED.
9. FOR ABBREVIATIONS, SEE SHEET [5/42].
10. FOR BEARING DETAILS, SEE SHEET [21/42].



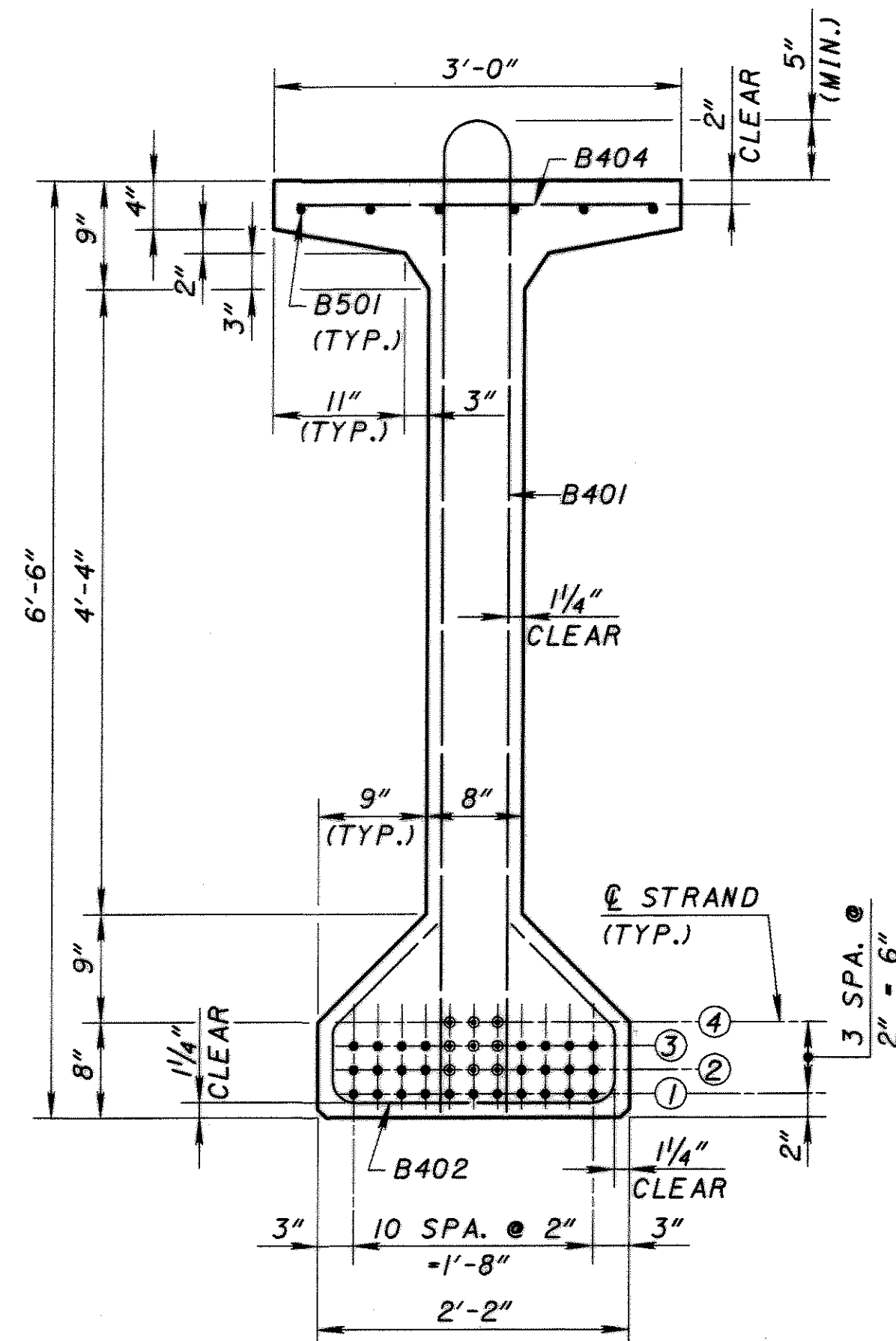
CABLE CLAMP PLAN



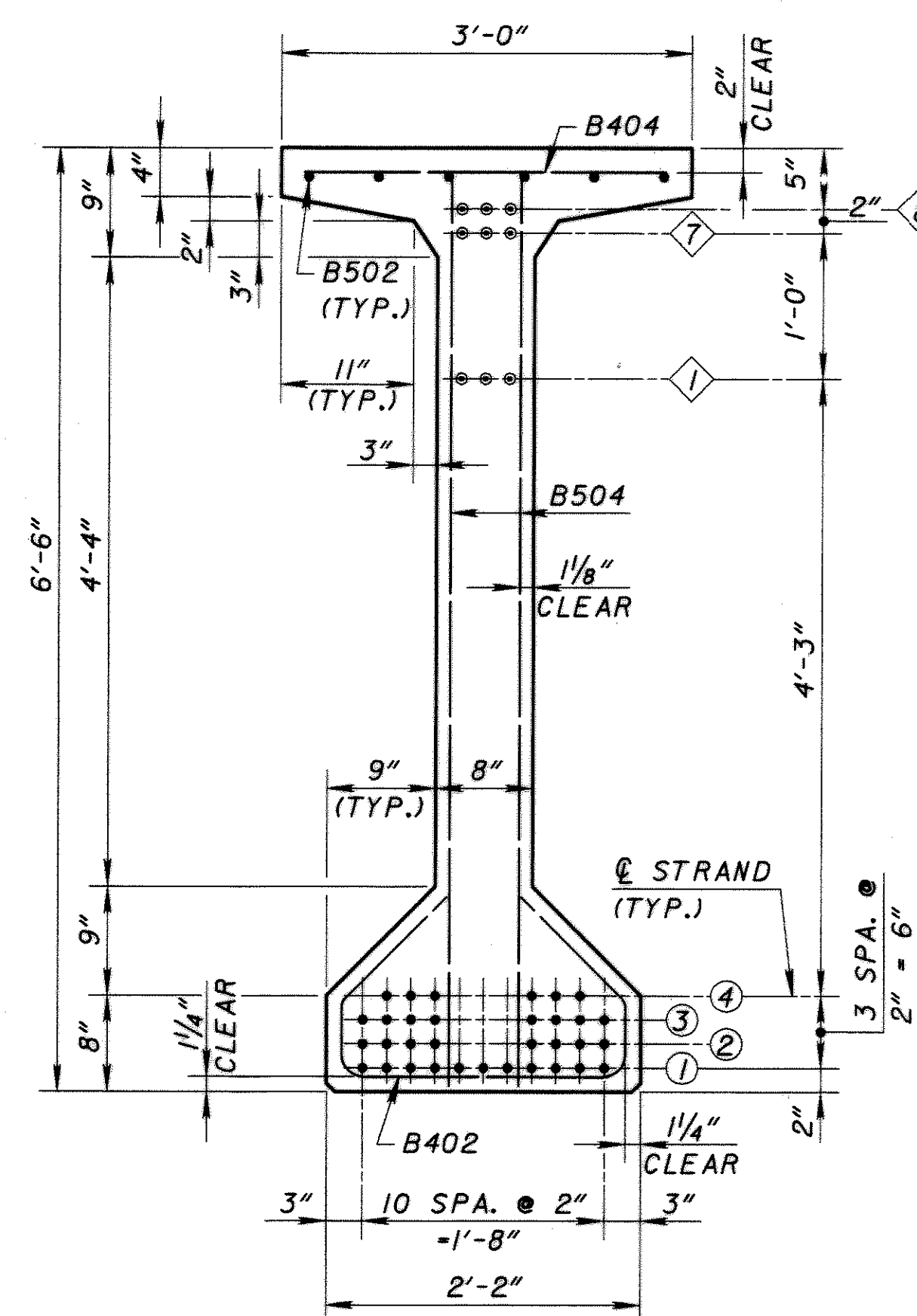
EXTENDED STRAND DETAIL
(EXTENDED STRANDS ARE AT PIERS ONLY)



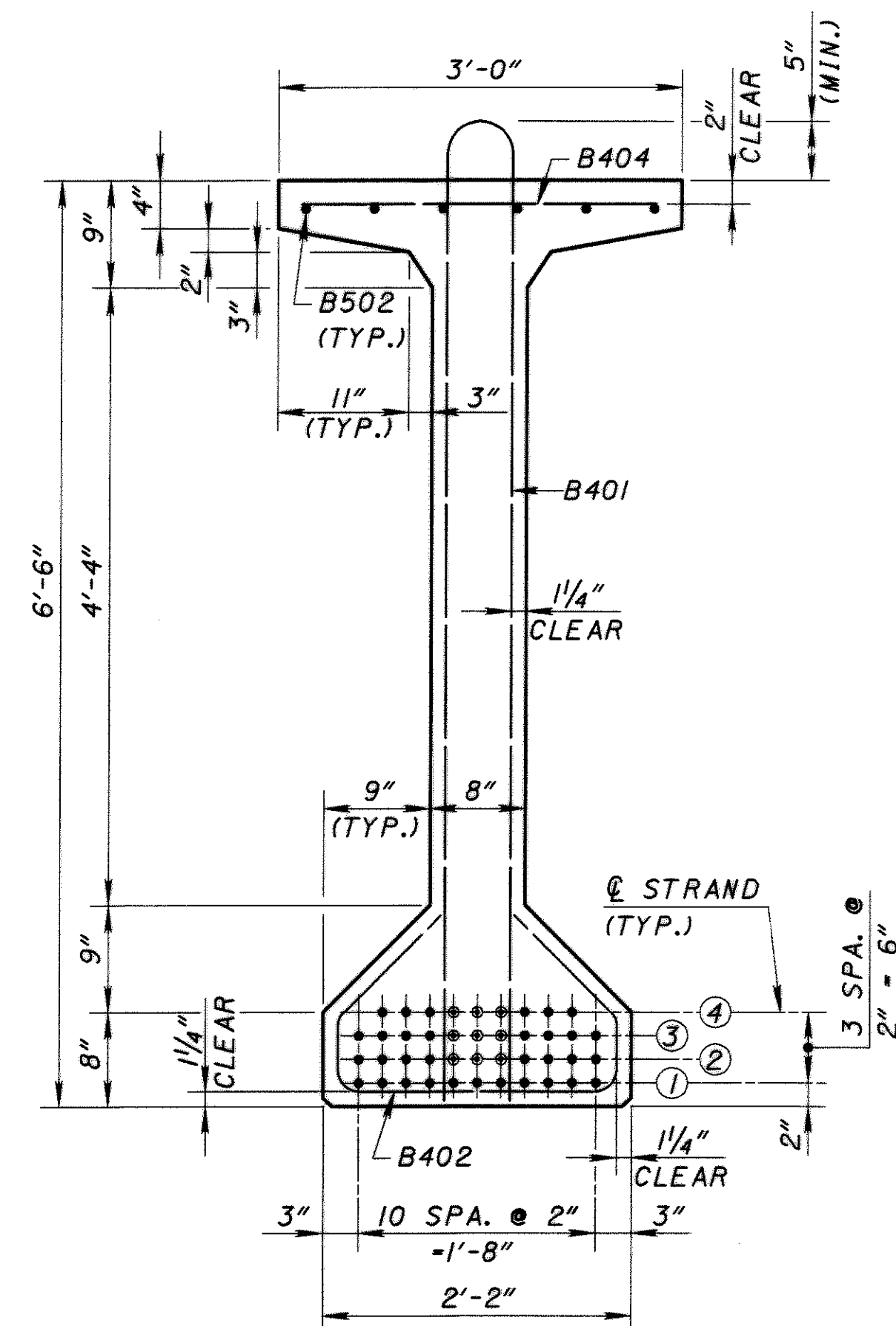
SECTION A-A, SPAN 1
BEAMS B1, B2, B3, B4, B5 & B6



SECTION B-B, SPAN 1
BEAMS B1, B2, B3, B4, B5 & B6

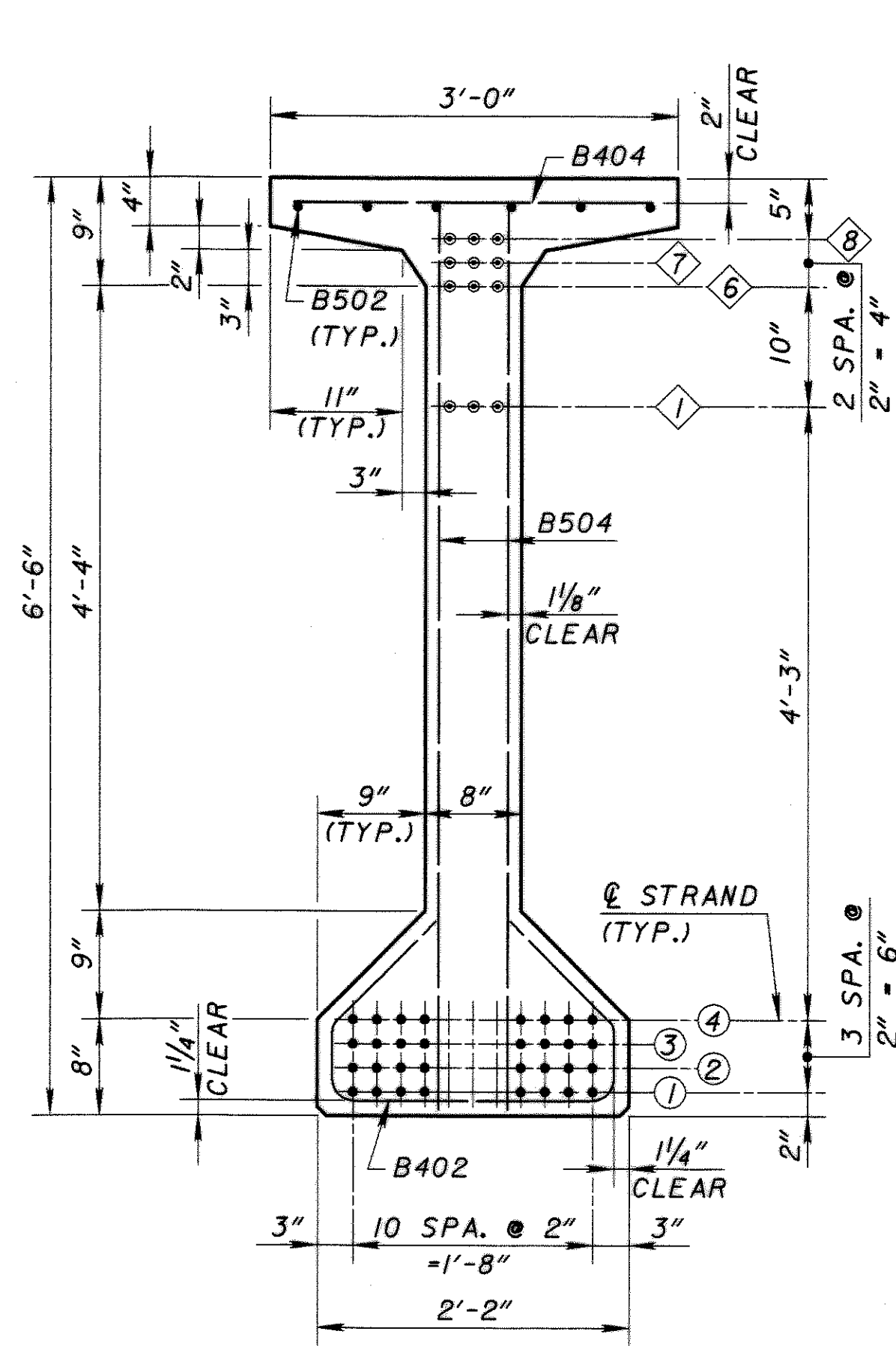


SECTION A-A, SPAN 2
BEAM B7

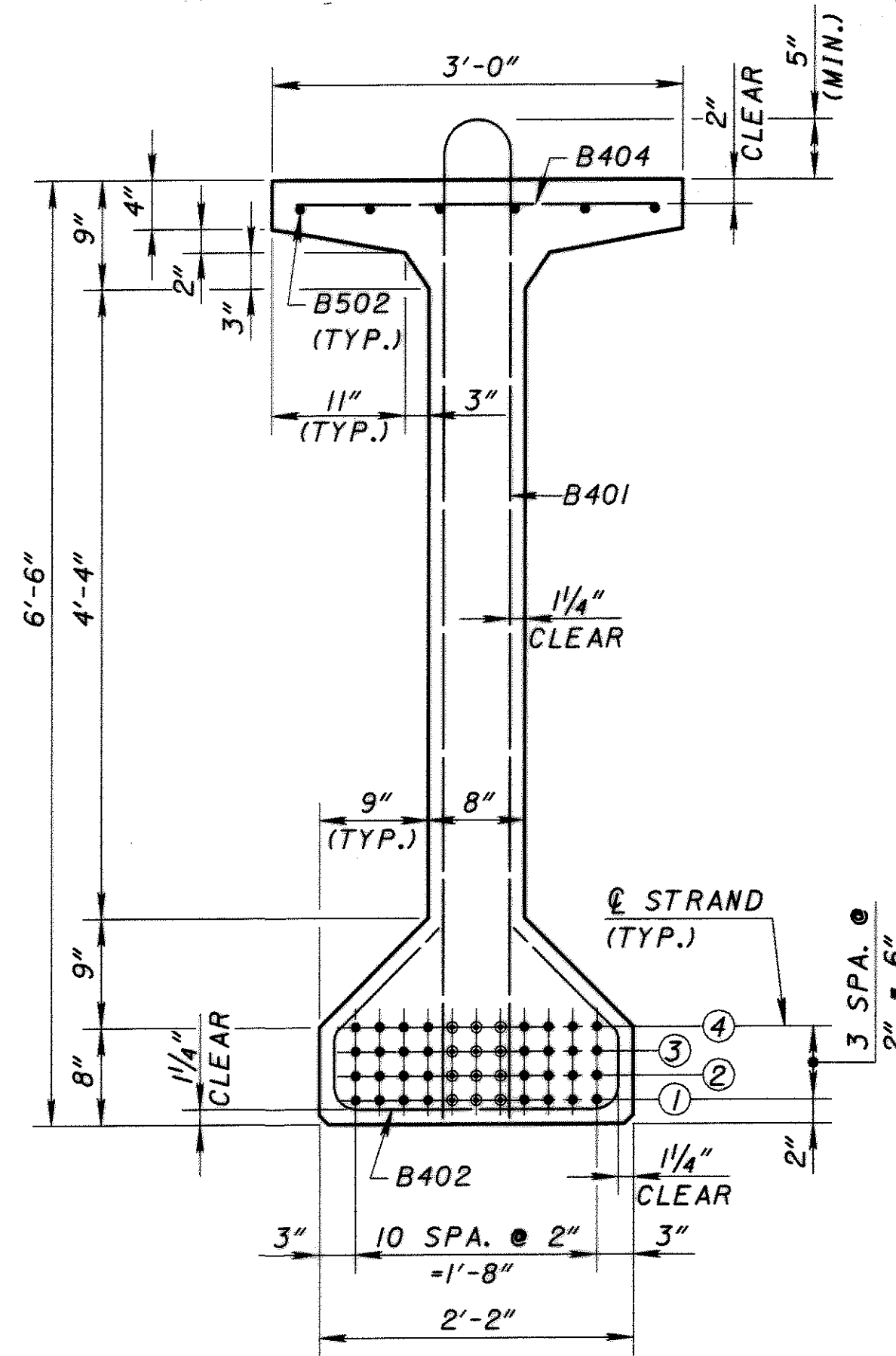


SECTION B-B, SPAN 2
BEAM B7

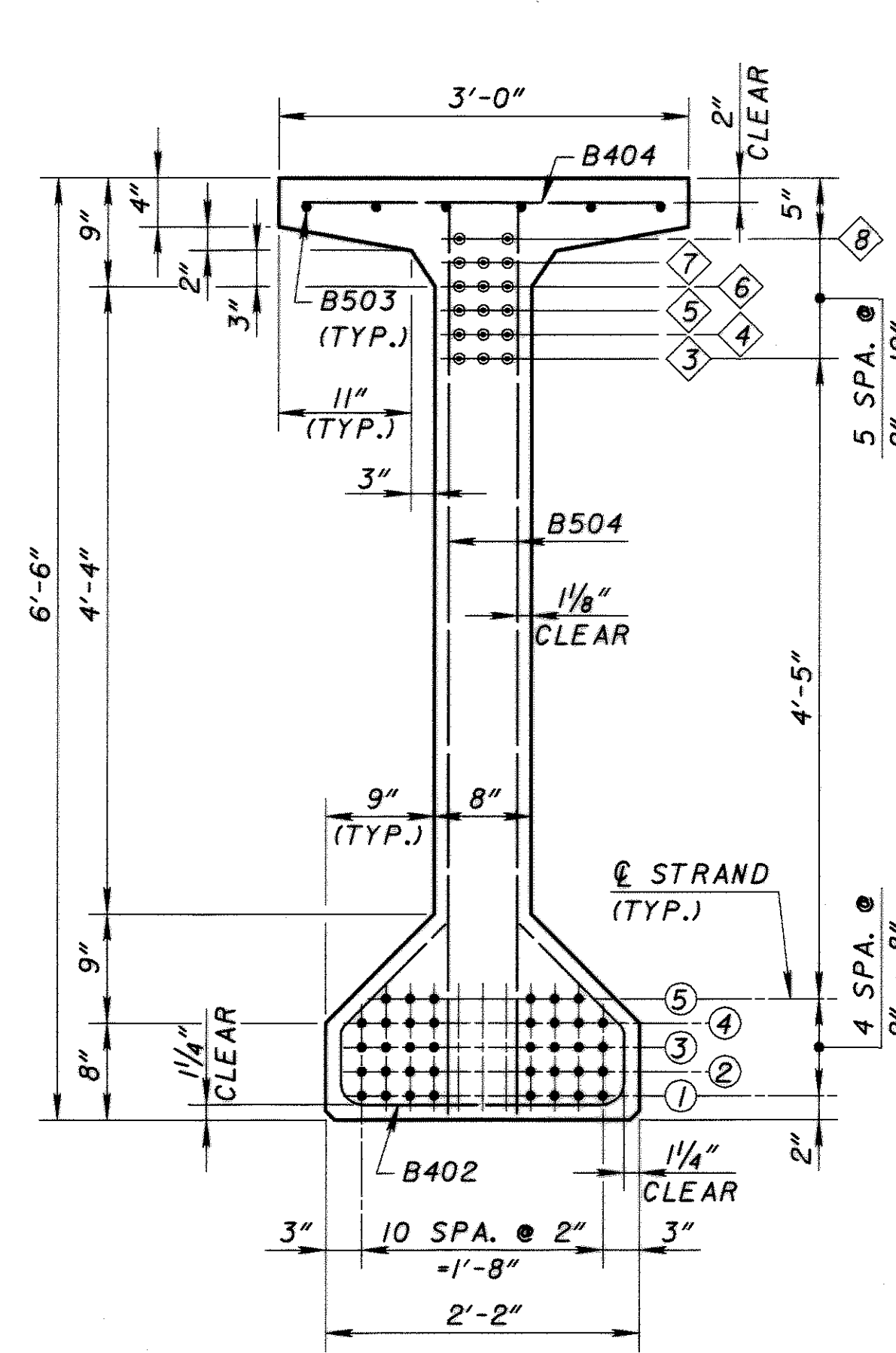
NUMBER OF STRANDS PER ROW																									TOTAL STRANDS (ONE BEAM)	HOLD-DOWN CAPACITY REQUIRED (K)	CONCRETE STRENGTHS (PSI)		B401 BARS REQ'D	B402 BARS REQ'D	B404 BARS REQ'D	B504 BARS REQ'D	CONCRETE UNIT STRESS (PSI)		
SPAN	BEAM MARK	END (SECTION A-A)										MIDSPAN (SECTION B-B)										COMPRESSION (SEE NOTE 2)	TENSION												
		BOTTOM					TOP					BOTTOM					TOP																		
		ROW NUMBER										ROW NUMBER																							
		①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳			㉑									㉒	㉓	㉔
1	B1 & B2	11	8	8	-	-	-	-	-	-	3	-	-	-	-	3	3	11	11	11	3	-	-	-	-	36	37.6	5500	7500	101	113	101	48	4500	520
1	B3	11	8	8	-	-	-	-	-	-	3	-	-	-	-	3	3	11	11	11	3	-	-	-	-	36	37.6	5500	7500	102	114	102	24	4500	520
1	B4	11	8	8	-	-	-	-	-	-	3	-	-	-	-	3	3	11	11	11	3	-	-	-	-	36	37.6	5500	7500	103	115	103	24	4500	520
1	B5	11	8	8	-	-	-	-	-	-	3	-	-	-	-	3	3	11	11	11	3	-	-	-	-	36	37.6	5500	7500	104	116	104	24	4500	520
1	B6	11	8	8	-	-	-	-	-	-	3	-	-	-	-	3	3	11	11	11	3	-	-	-	-	36	37.6	5500	7500	105	117	105	24	4500	520
2	B7	11	8	8	6	-	-	-	-	3	-	-	-	-	-	3	3	11	11	11	9	-	-	-	-	42	31.8	5500	7500	112	124	112	144	4500	520
3,4,5, & 6	B8	8	8	8	8	-	-	-	-	3	-	-	-	-	3	3	3	11	11	11	11	-	-	-	-	44	43.3	5500	7500	114	126	114	576	4500	520
7	B9	8	8	8	8	6	-	-	-	-	3	3	3	3	3	3	2	11	11	11	9	2	-	-	-	55	53.8	5500	7500	139	151	139	144	4500	520
8	B10	8	8	8	8	6	4	2	-	3	3	3	3	3	3	3	2	11	11	11	11	9	7	5	2	67	67.5	5500	7500	143	155	143	144	4500	520



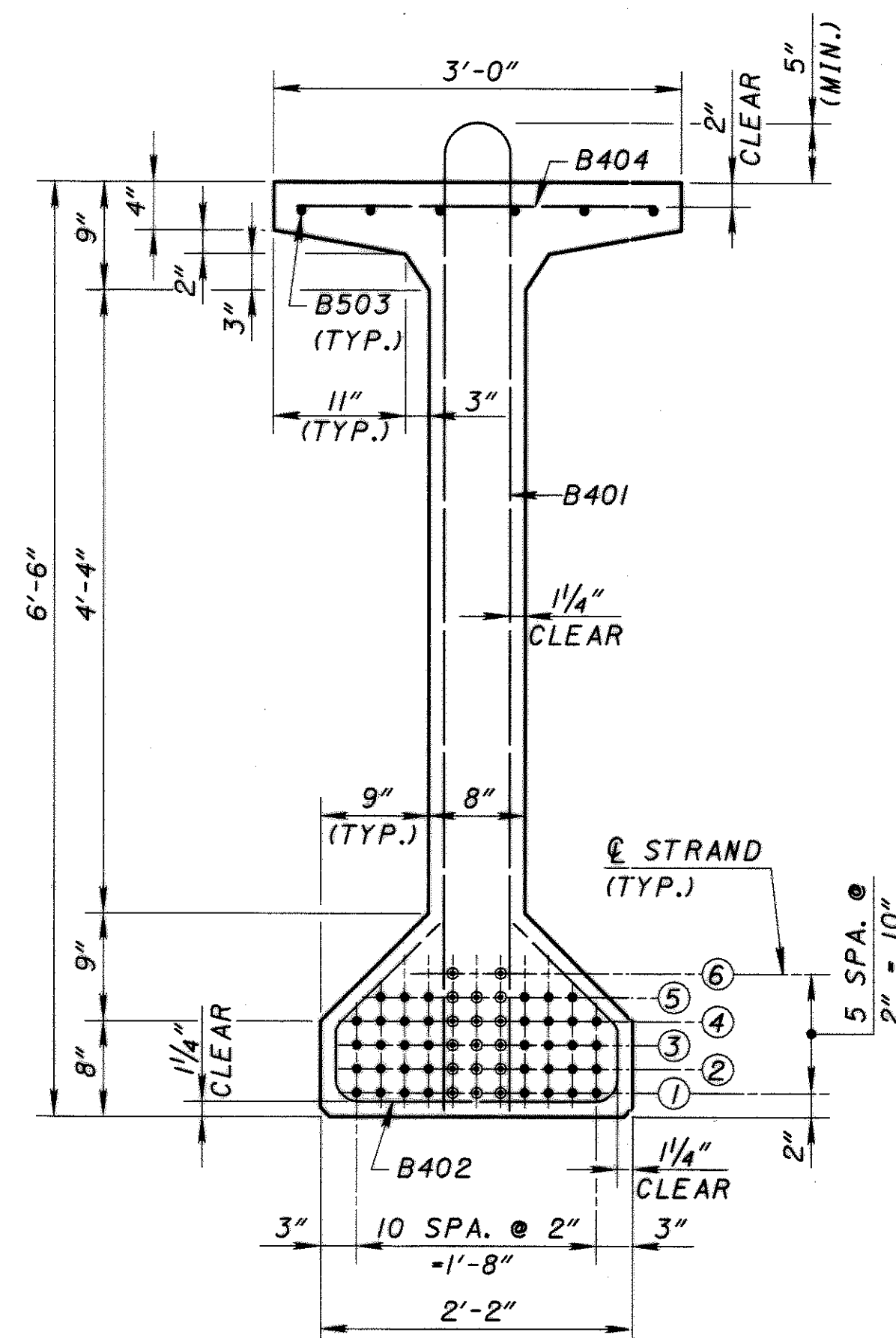
SECTION A-A, SPAN 3, 4, 5, & 6
BEAM B8



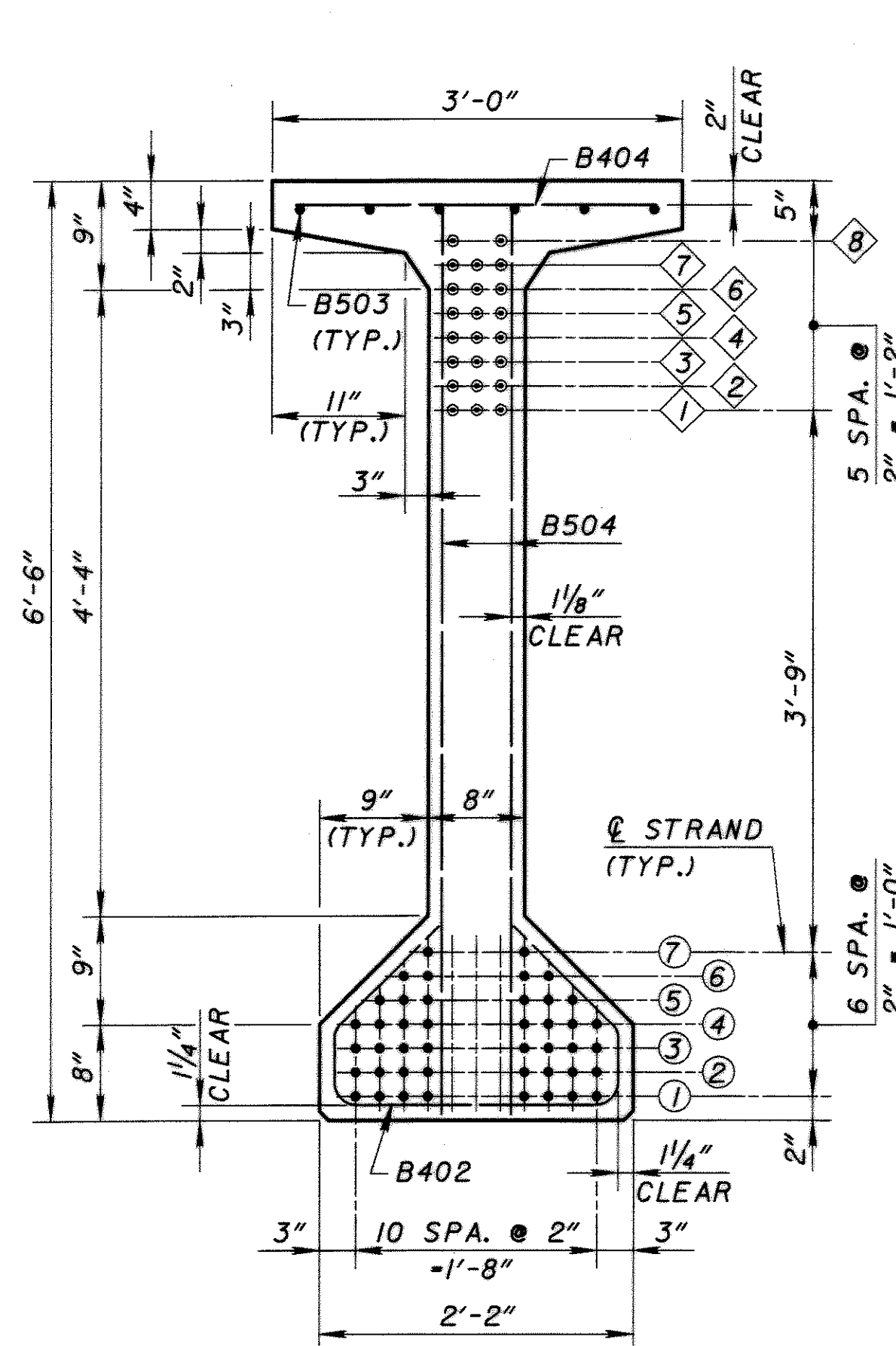
SECTION B-B, SPAN 3, 4, 5, & 6
BEAM B8



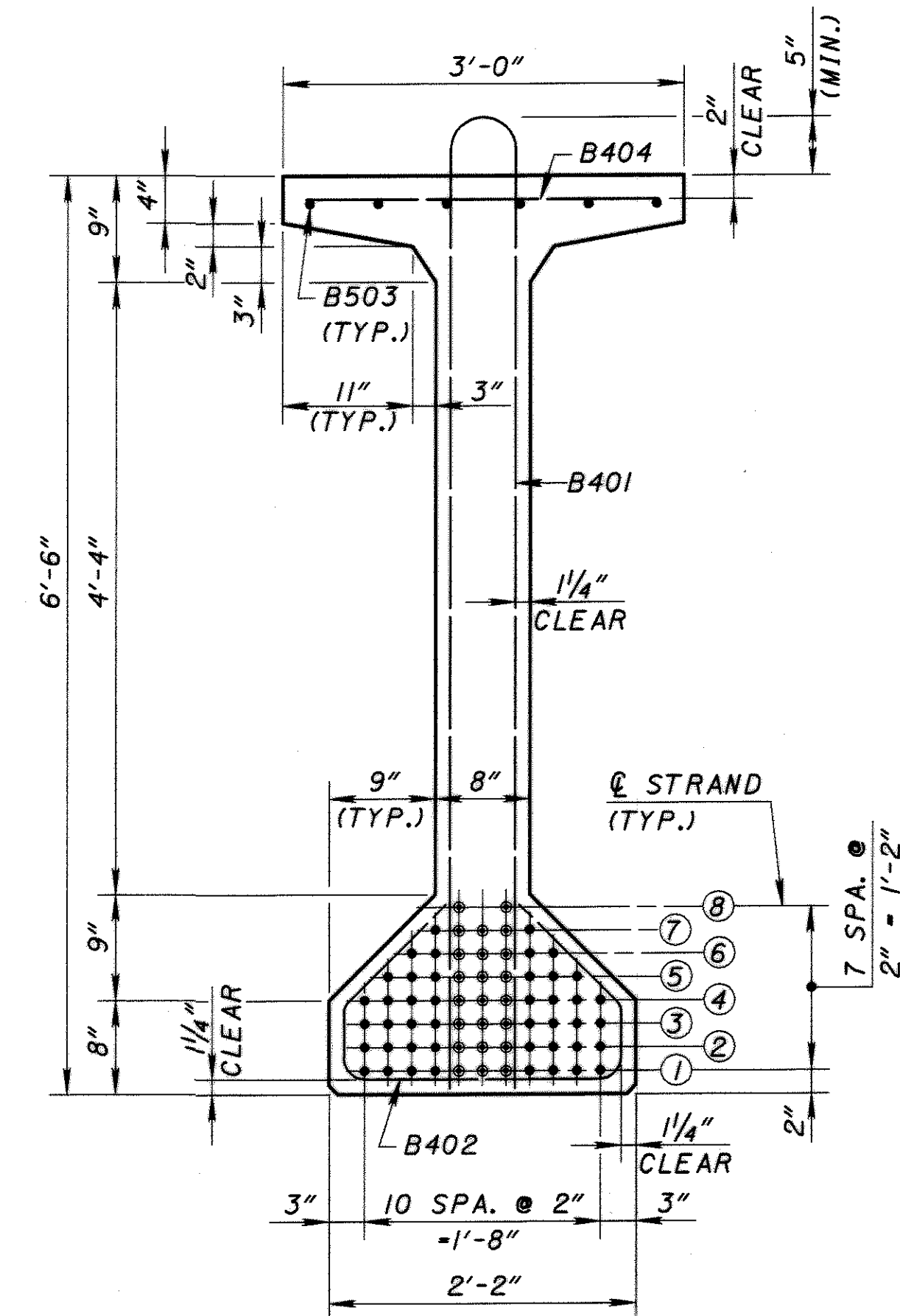
SECTION A-A, SPAN 7
BEAM B9



SECTION B-B, SPAN 7
BEAM B9



SECTION A-A, SPAN 8
BEAM B10



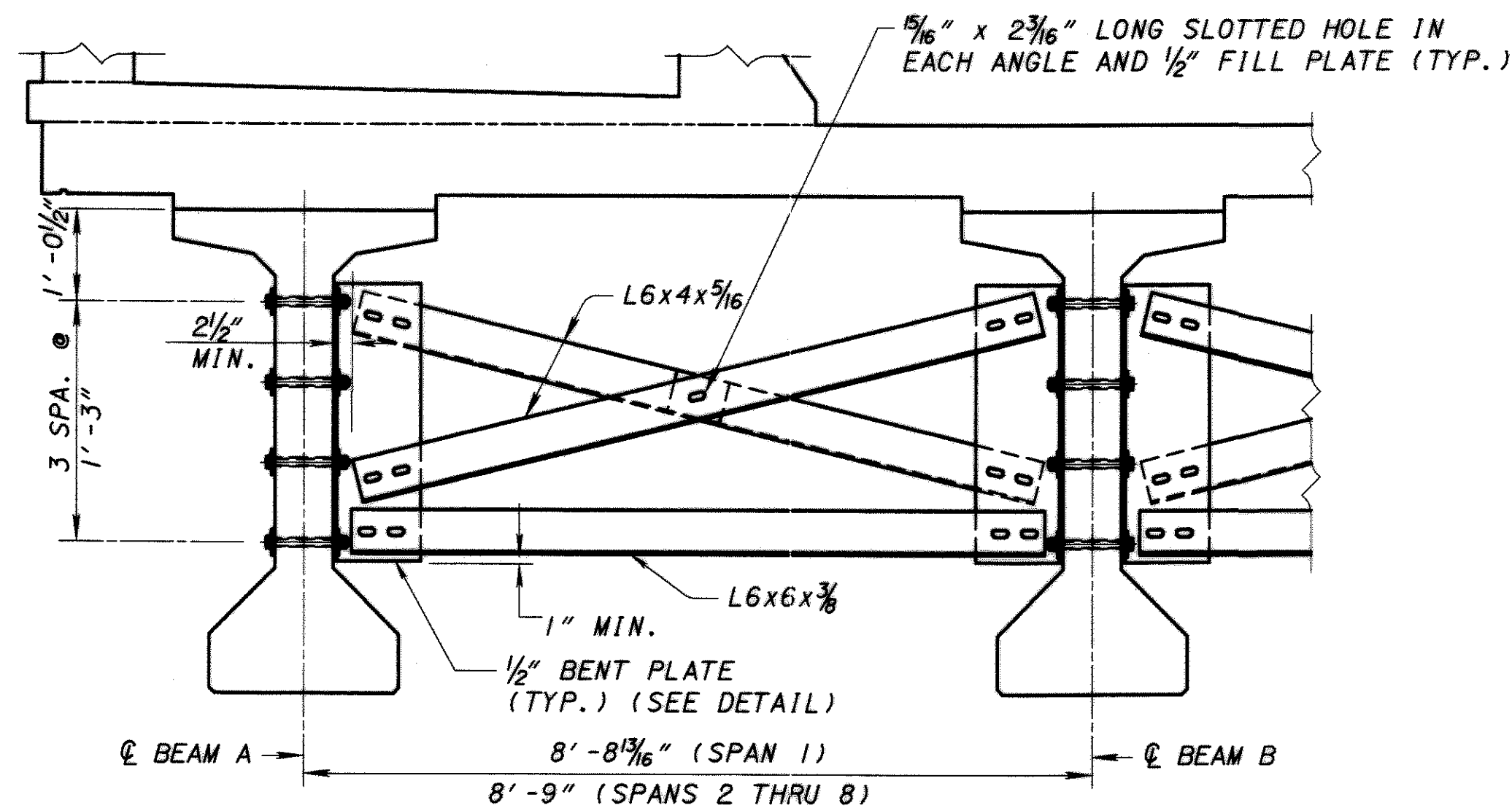
SECTION B-B, SPAN 8
BEAM B10

NOTES

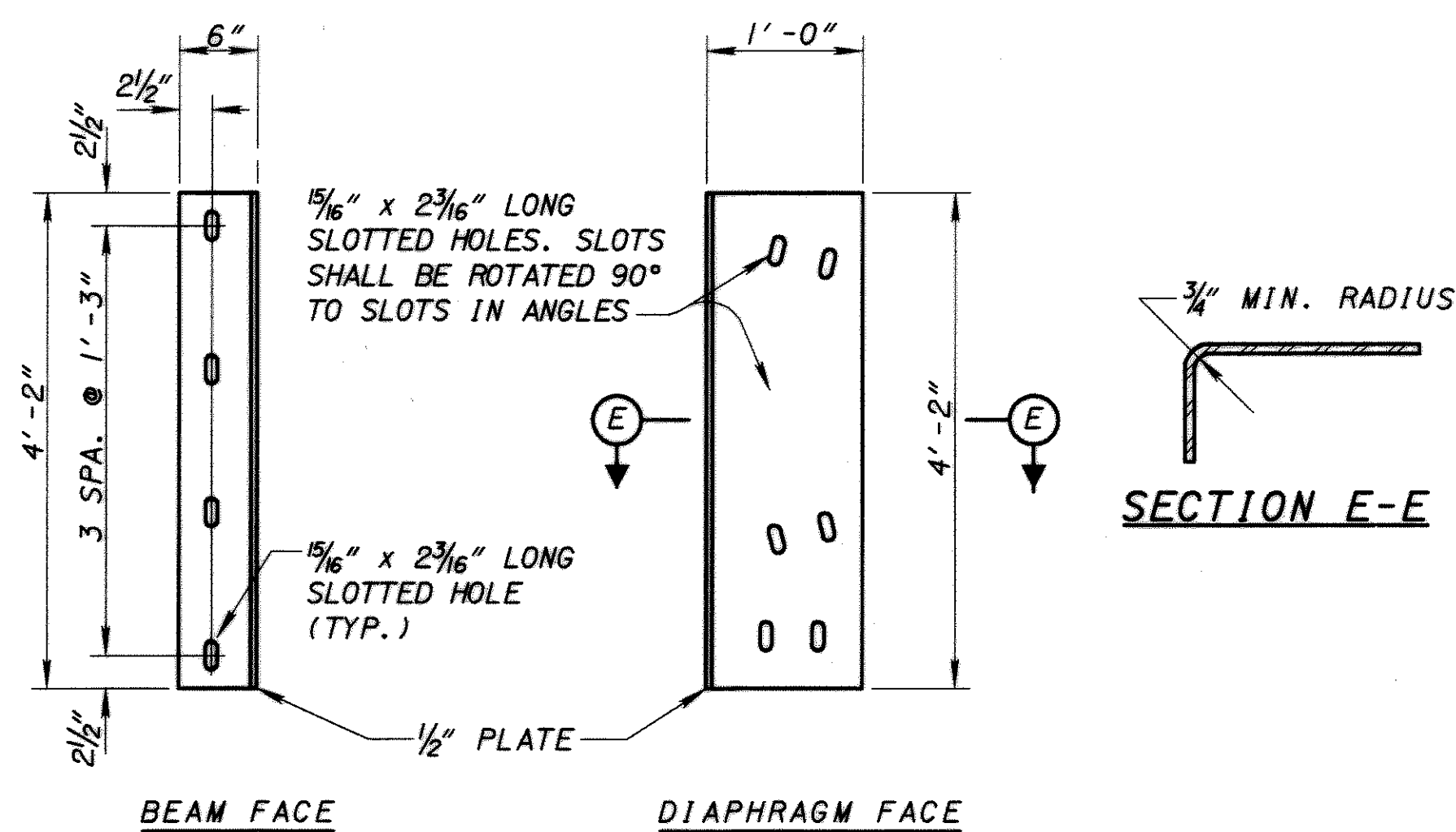
- FOR LOCATION OF SECTIONS A-A AND B-B AND ADDITIONAL NOTES, SEE SHEET 24/42.

LEGEND

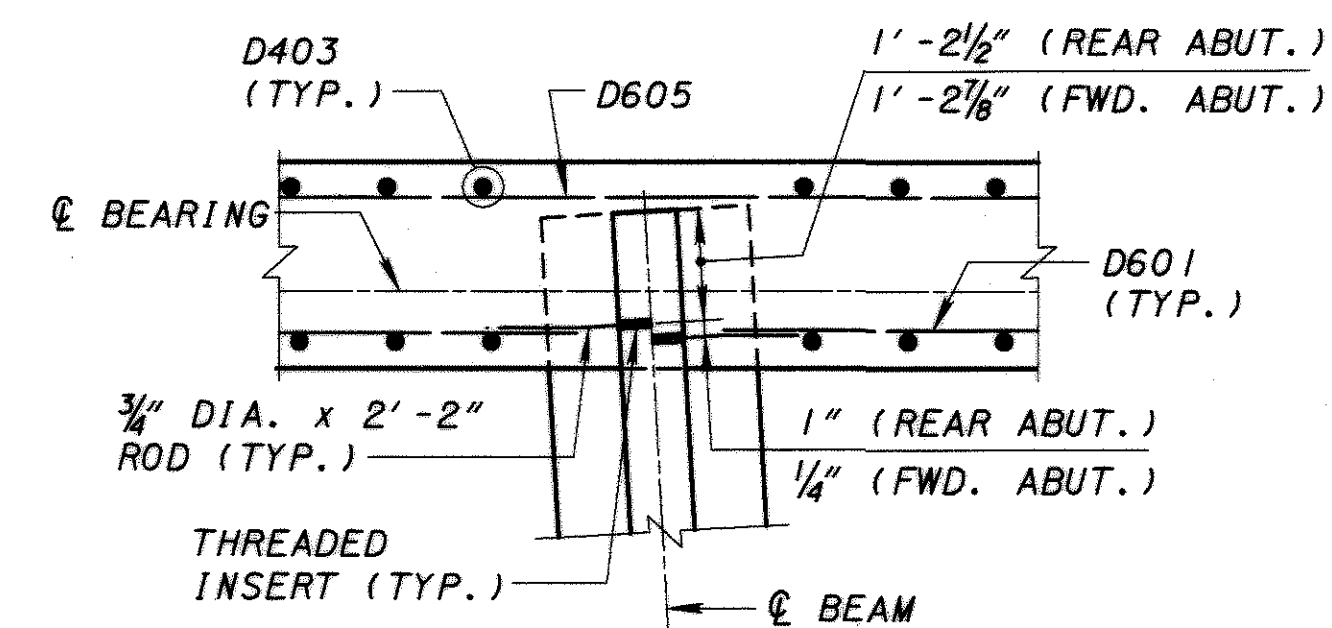
- DENOTES STRAND UNLESS OTHERWISE NOTED.
- DENOTES DRAPED STRAND.



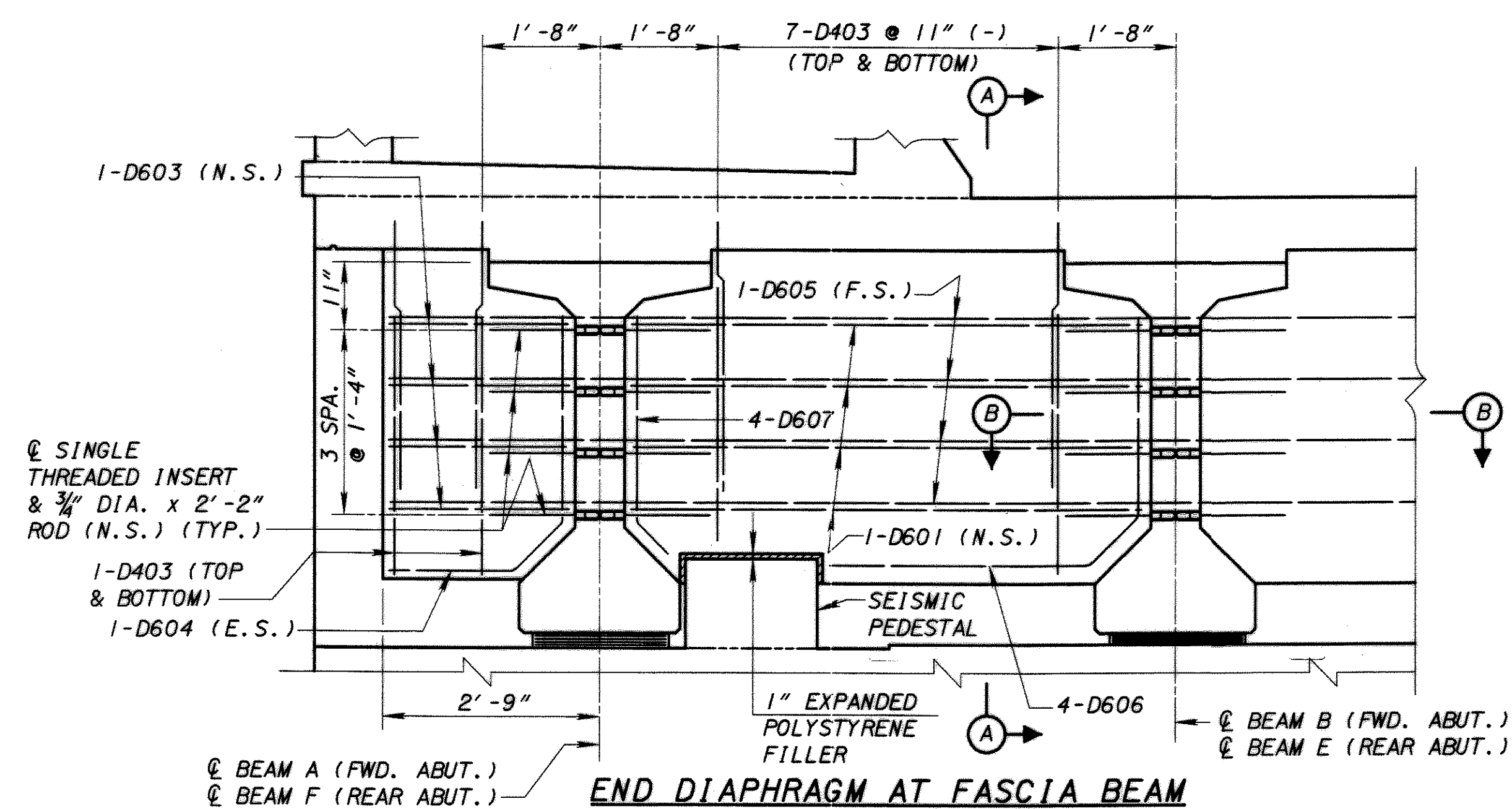
INTERMEDIATE DIAPHRAGM



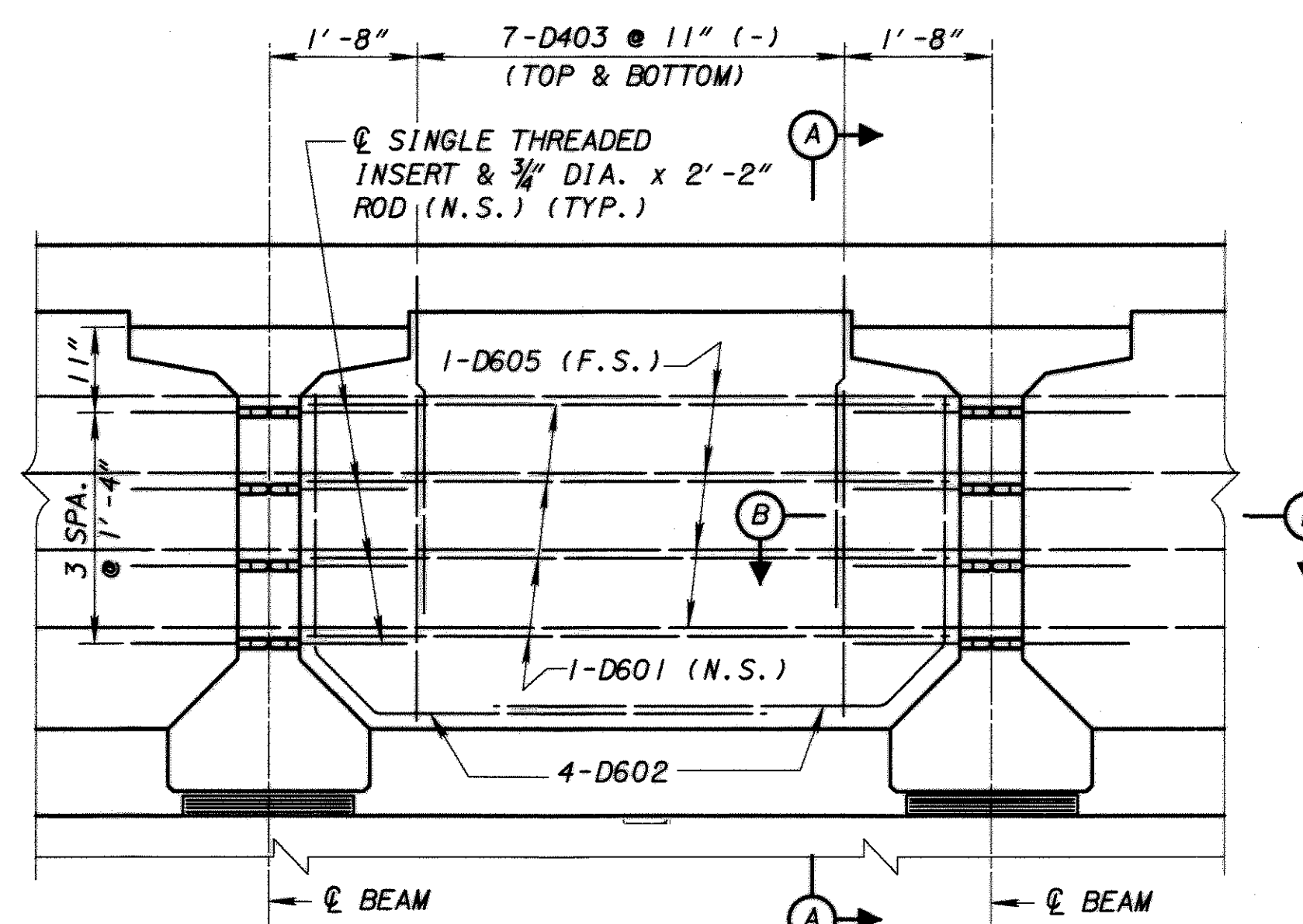
BENT PLATE DETAIL



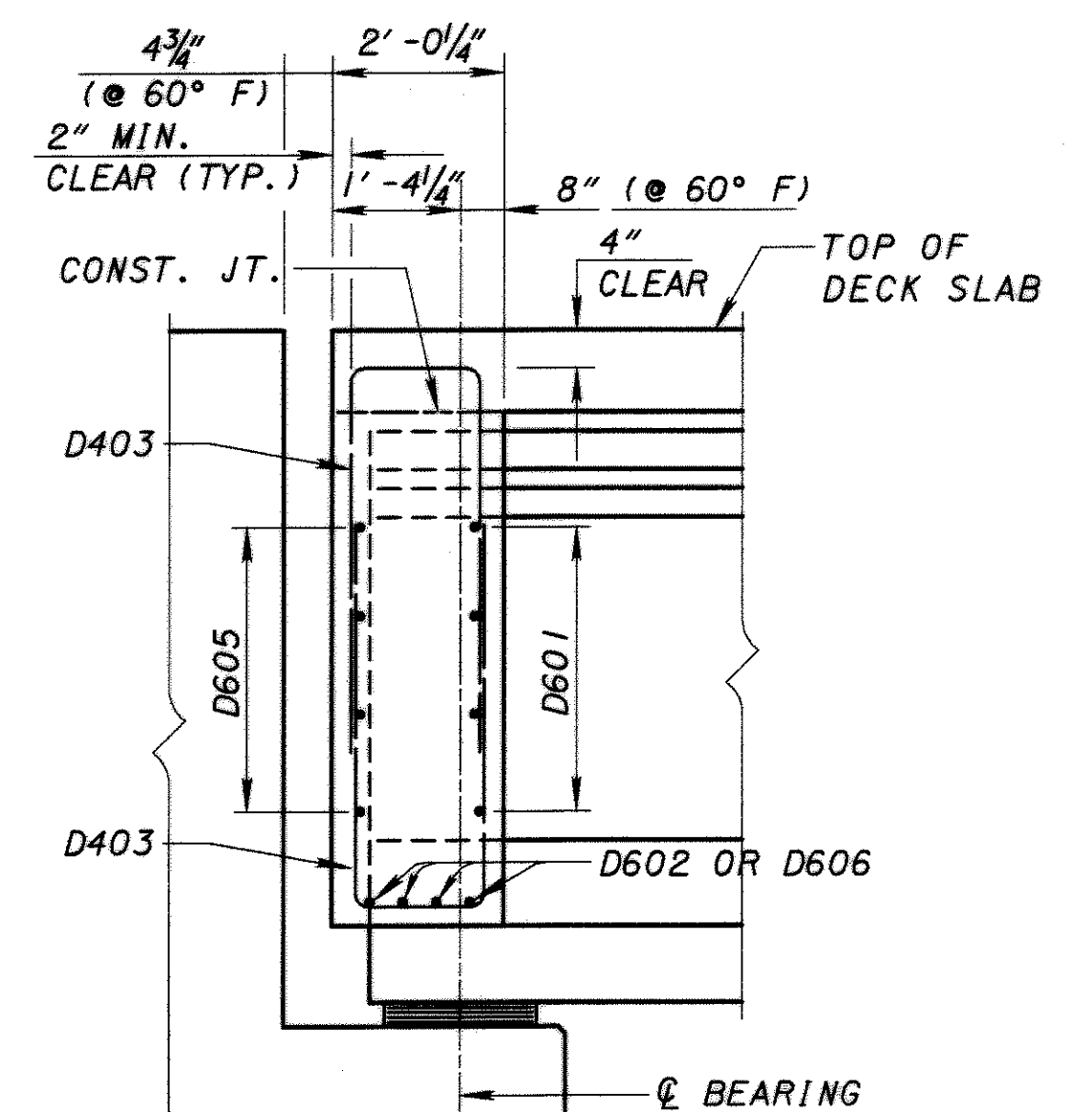
SECTION B-B



END DIAPHRAGM AT FASCIA BEAM
(LOOKING AT FRONT FACE OF ABUTMENT)
(BEAM AND SLAB REINFORCEMENT NOT SHOWN)



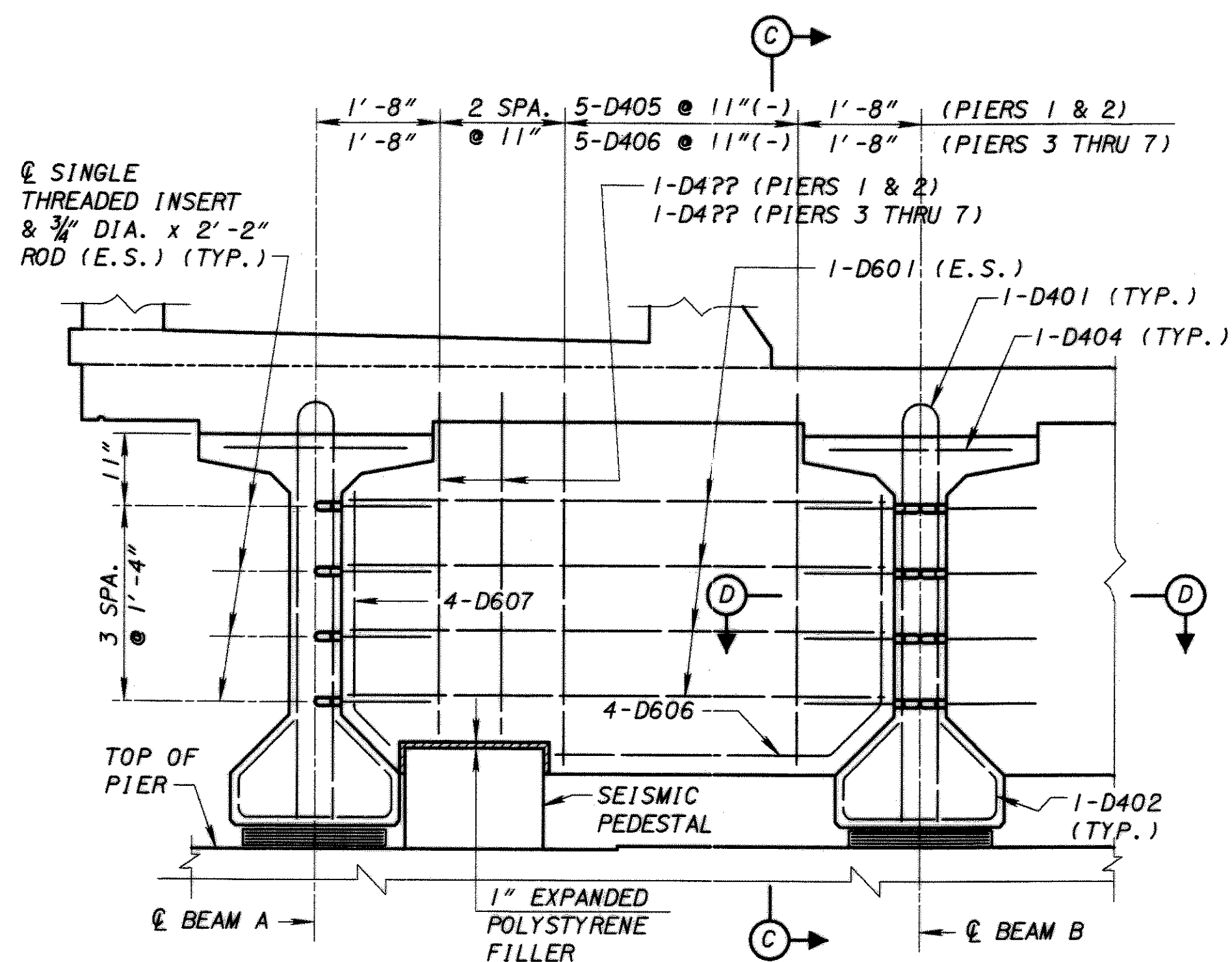
END DIAPHRAGM BETWEEN INTERIOR BEAMS
(LOOKING AT FRONT FACE OF ABUTMENT)
(BEAM AND SLAB REINFORCEMENT NOT SHOWN)



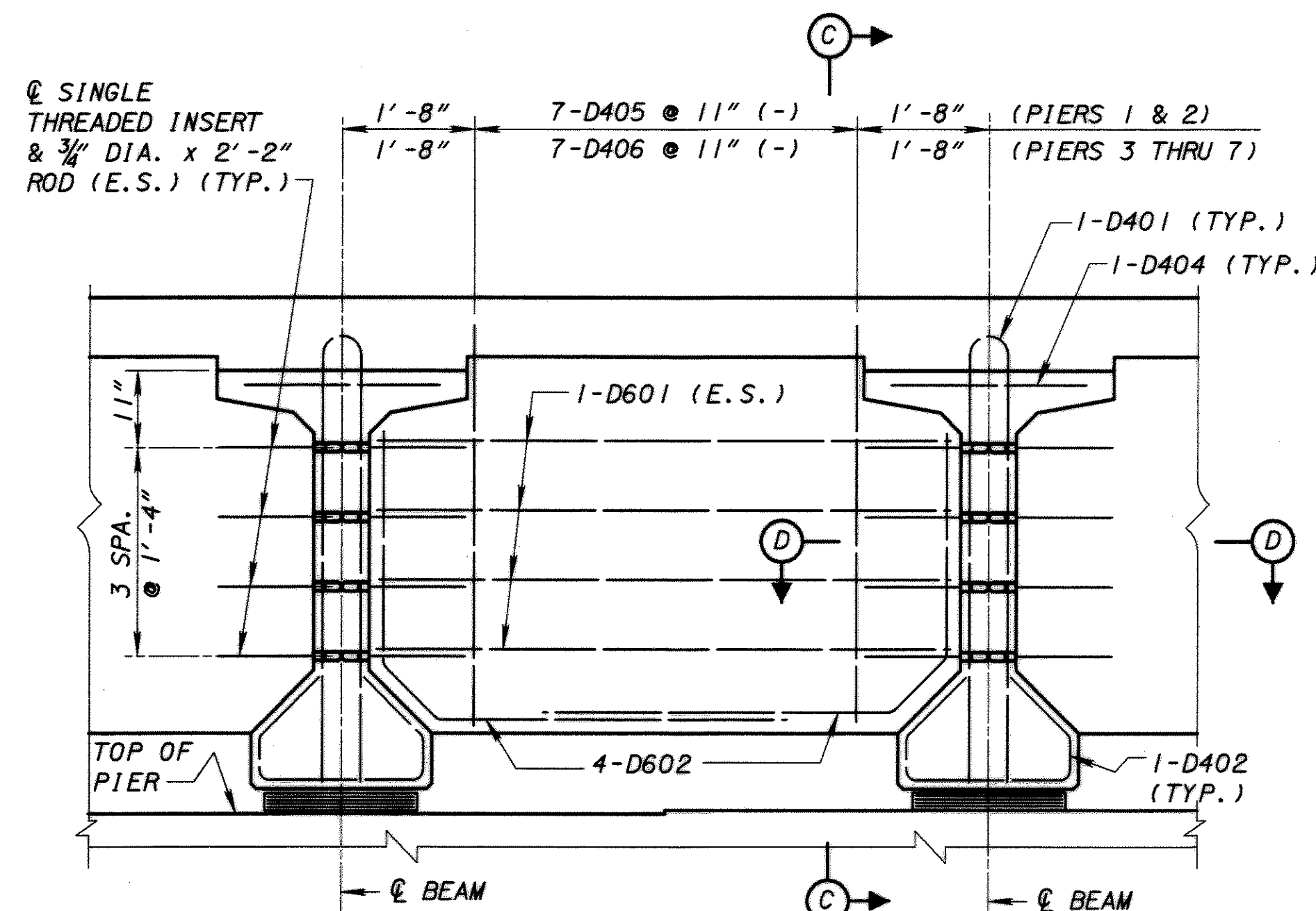
SECTION A-A
(PARTIAL ABUTMENT SHOWN)
(EXPANSION JOINT NOT SHOWN)

NOTES

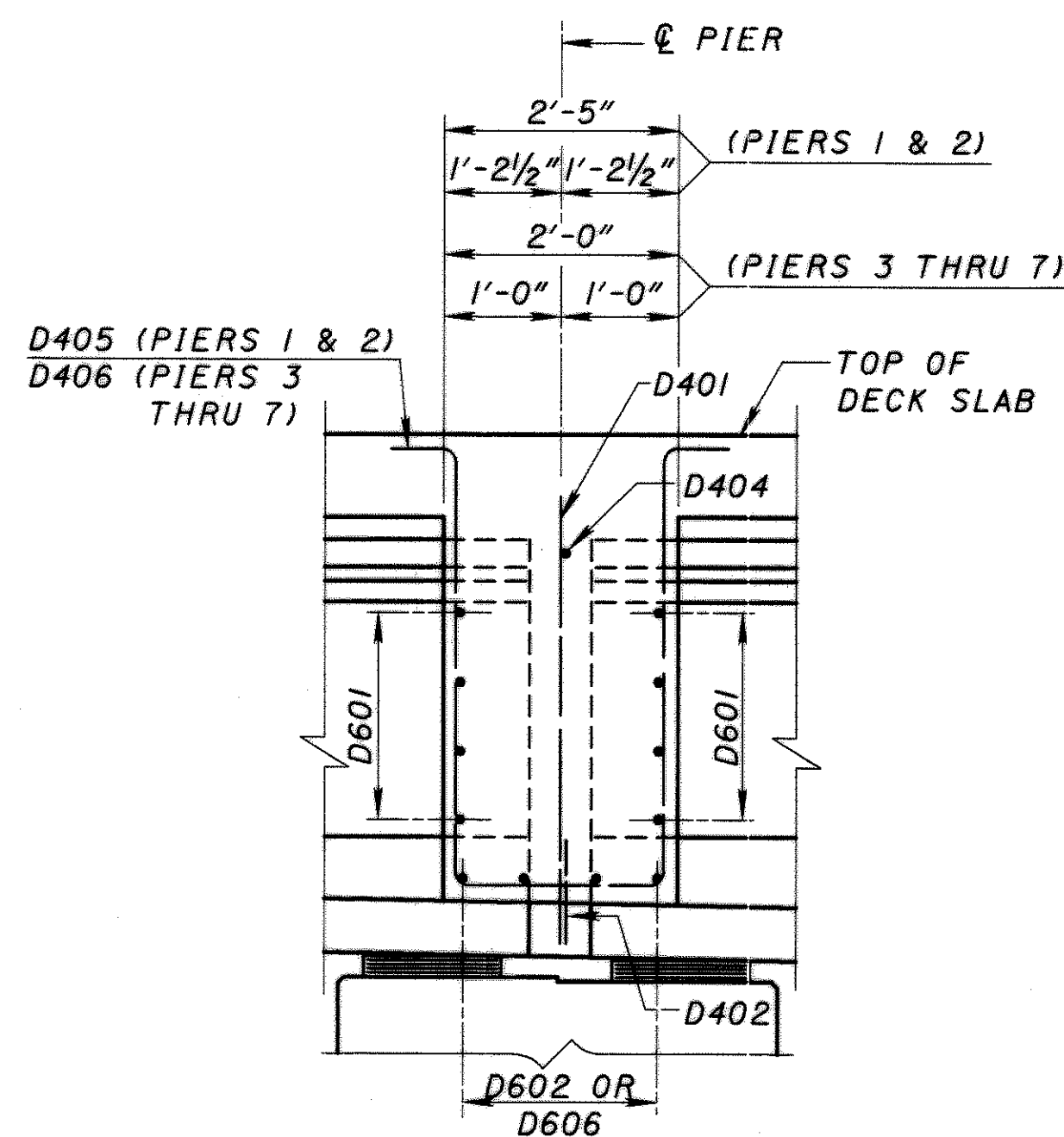
1. FOR FRAMING PLAN, SEE SHEETS 22/42 AND 23/42.
2. MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 4 BARS = 1'-11"
NO. 6 BARS = 2'-11"
3. THREADED INSERTS AND RODS SHALL BE GALVANIZED AS PER 711.02.
4. FOR SEISMIC PEDESTAL DETAILS, SEE SHEETS 11/42 AND 14/42.
5. 1" EXPANDED POLYSTYRENE FILLER SHALL BE INCLUDED WITH ITEM 842 - CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN FOR PAYMENT.
6. FOR ADDITIONAL NOTES AND DETAILS, SEE STANDARD DRAWING PSID-1-99, SHEETS 1 THRU 8.
7. FOR BEARING DETAILS, SEE SHEET 21/42.



PIER DIAPHRAGM AT FASCIA BEAM
(DIAPHRAGM AT BEAM A SHOWN, DIAPHRAGM AT BEAM F IS OPPOSITE HAND)
(BEAM AND SLAB REINFORCEMENT NOT SHOWN)

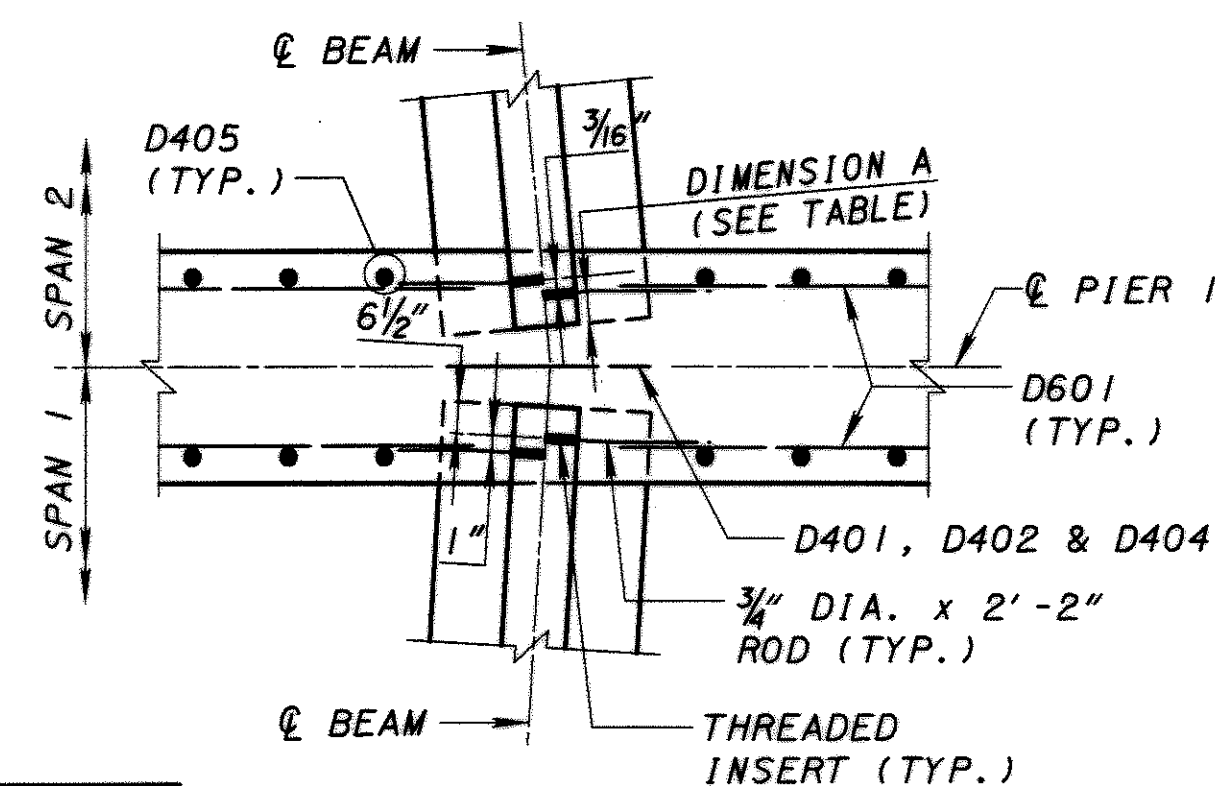


PIER DIAPHRAGM BETWEEN INTERIOR BEAMS
(BEAM AND SLAB REINFORCEMENT NOT SHOWN)

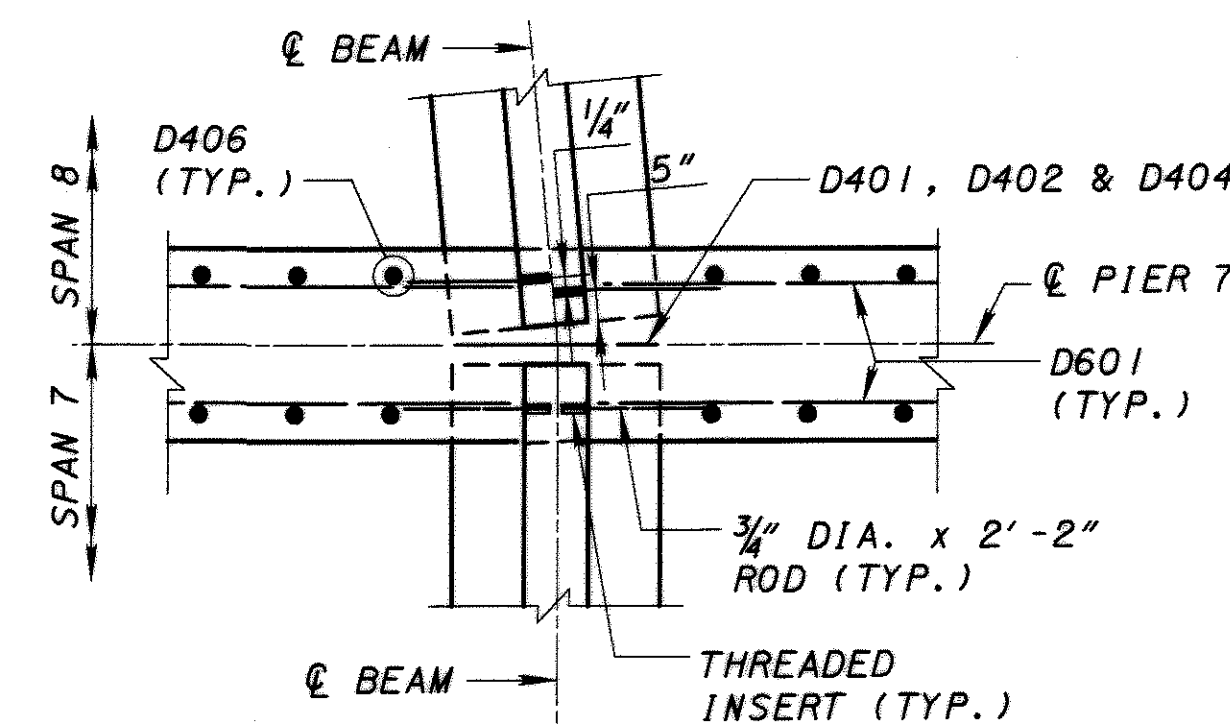


SECTION C-C
(PARTIAL PIER SHOWN)

BEAM	DIM.
A	7 1/2"
B	7"
C	6 1/2"
D	6"
E	5 1/2"
F	5"



SECTION D-D
(PIER 1)



SECTION D-D
(PIER 7)

NOTES

1. FOR FRAMING PLAN, SEE SHEETS 22/42 AND 23/42.
2. MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 6 BARS = 2'-11"
3. THREADED INSERTS AND RODS SHALL BE GALVANIZED AS PER 711.02.
4. FOR SEISMIC PEDESTAL DETAILS, SEE SHEET 18/42.
5. FOR DETAILS OF DOWEL BARS REQUIRED AT FIXED PIERS, SEE SHEET 21/42.
6. 1" EXPANDED POLYSTYRENE FILLER SHALL BE INCLUDED WITH ITEM 842 - CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN FOR PAYMENT.
7. FOR ADDITIONAL NOTES AND DETAILS, SEE STANDARD DRAWING PSID-1-99, SHEETS 1 THRU 8.
8. FOR BEARING DETAILS, SEE SHEET 27/42.

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHENT ROAD
AKRON, OHIO 44333

DATE
6-11-02
REVIEWED
J/BH
STRUCTURE FILE NUMBER
0402273

DRAWN
WEB
CHECKED
SL

PIER DIAPHRAGM DETAILS
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

ATB-20-26.19

27A/42

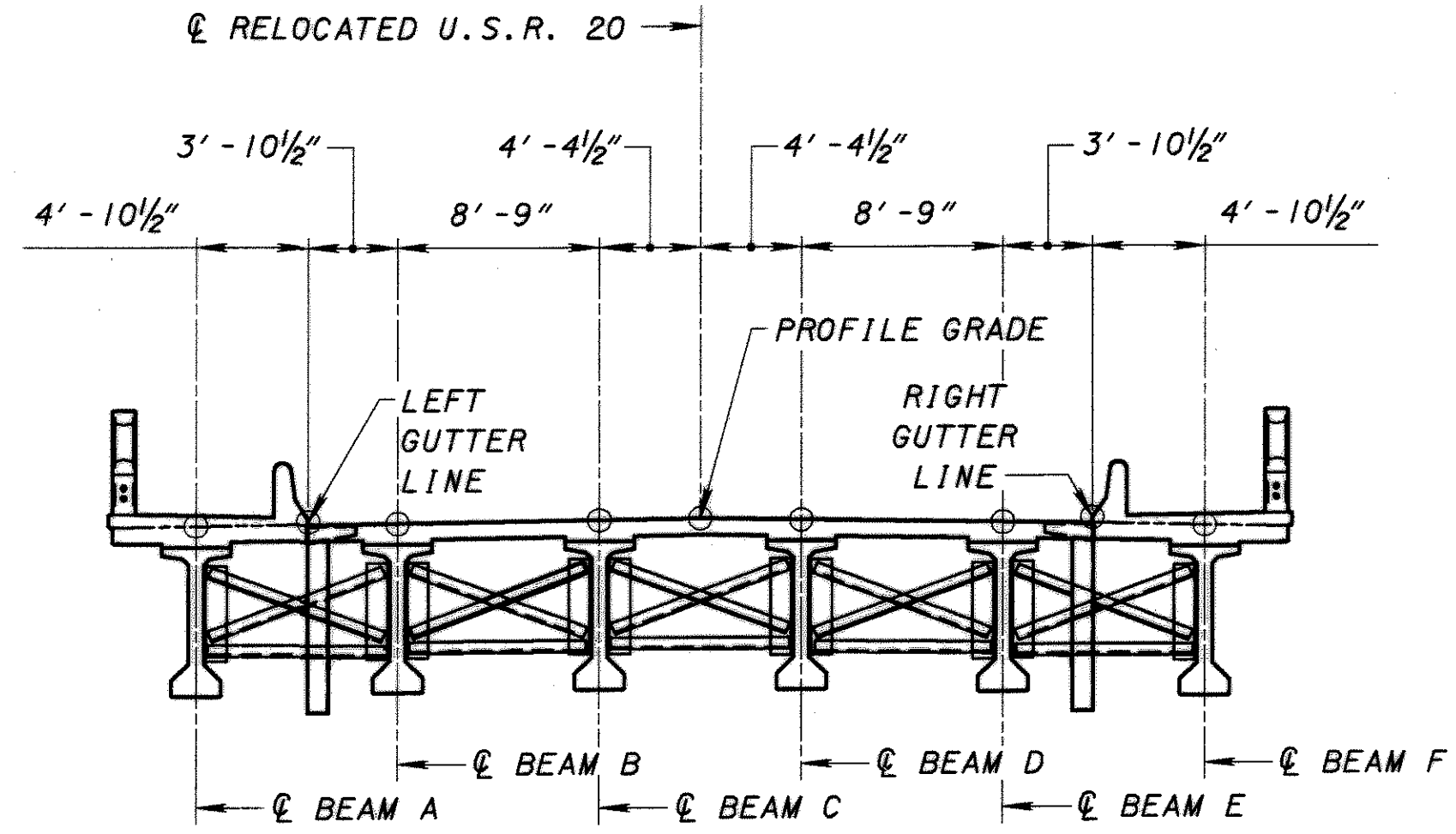
124A
162

SCREED ELEVATIONS										
POINT	STATION	PROFILE GRADE	BEAM LINE A	LEFT GUTTER LINE	BEAM LINE B	BEAM LINE C	BEAM LINE D	BEAM LINE E	RIGHT GUTTER LINE	BEAM LINE F
SPAN 1 @ BRG. REAR ABUT.	13+75.00	656.63	656.29	656.36	656.42	656.56	656.56	656.42	656.36	656.29
	1/4 PT.	14+02.48	656.89	656.52	656.62	656.67	656.80	656.84	656.62	656.56
	1/2 PT.	14+30.00	657.12	656.75	656.85	656.89	657.02	657.07	656.85	656.79
	3/4 PT.	14+57.52	657.30	656.94	657.04	657.08	657.22	657.25	657.12	656.97
SPAN 2 @ PIER 1	14+85.00	657.46	657.12	657.19	657.25	657.39	657.39	657.25	657.19	657.12
	1/8 PT.	15+00.88	657.62	657.28	657.35	657.42	657.55	657.55	657.42	657.28
	1/4 PT.	15+16.75	657.78	657.43	657.52	657.58	657.71	657.71	657.58	657.43
	3/8 PT.	15+32.63	657.92	657.57	657.66	657.72	657.85	657.72	657.66	657.57
SPAN 3 1/2 PT.	15+48.50	658.06	657.71	657.79	657.85	657.99	657.99	657.85	657.79	657.71
	5/8 PT.	15+64.38	658.16	657.81	657.90	657.96	658.09	658.09	657.96	657.81
	3/4 PT.	15+80.25	658.26	657.91	657.99	658.05	658.19	658.19	657.99	657.91
	7/8 PT.	15+96.13	658.34	657.99	658.07	658.13	658.27	658.13	658.07	657.99
SPAN 4 @ PIER 2	16+12.00	658.42	658.08	658.15	658.21	658.35	658.35	658.21	658.15	658.08
	1/8 PT.	16+27.88	658.58	658.23	658.31	658.37	658.51	658.37	658.31	658.23
	1/4 PT.	16+43.75	658.74	658.39	658.47	658.53	658.67	658.53	658.47	658.39
	3/8 PT.	16+59.63	658.88	658.53	658.62	658.68	658.81	658.68	658.62	658.53
SPAN 5 1/2 PT.	16+75.50	659.02	658.67	658.75	658.81	658.95	658.95	658.81	658.75	658.67
	5/8 PT.	16+91.38	659.12	658.77	658.86	658.92	659.05	659.05	658.92	658.77
	3/4 PT.	17+07.25	659.22	658.87	658.95	659.01	659.15	659.15	658.95	658.87
	7/8 PT.	17+23.13	659.30	658.95	659.03	659.09	659.23	659.23	659.09	658.95
SPAN 6 @ PIER 3	17+39.00	659.38	659.03	659.11	659.17	659.31	659.31	659.17	659.11	659.03
	1/8 PT.	17+54.88	659.54	659.19	659.27	659.33	659.47	659.33	659.27	659.19
	1/4 PT.	17+70.75	659.70	659.35	659.43	659.49	659.63	659.49	659.43	659.35
	3/8 PT.	17+86.63	659.84	659.49	659.57	659.64	659.77	659.64	659.57	659.49
SPAN 7 1/2 PT.	18+02.50	659.97	659.62	659.71	659.77	659.91	659.91	659.77	659.71	659.62
	5/8 PT.	18+18.38	660.08	659.73	659.81	659.87	660.01	660.01	659.87	659.73
	3/4 PT.	18+34.25	660.18	659.83	659.91	659.97	660.11	660.11	659.97	659.83
	7/8 PT.	18+50.13	660.26	659.91	659.99	660.05	660.19	660.19	660.05	659.91
SPAN 8 @ PIER 4	18+66.00	660.33	659.99	660.07	660.13	660.27	660.27	660.13	660.07	659.99
	1/8 PT.	18+81.88	660.50	660.15	660.23	660.29	660.43	660.29	660.23	660.15
	1/4 PT.	18+97.75	660.66	660.31	660.39	660.45	660.59	660.45	660.39	660.31
	3/8 PT.	19+13.63	660.80	660.45	660.53	660.59	660.73	660.59	660.53	660.45
SPAN 9 1/2 PT.	19+29.50	660.93	660.58	660.67	660.73	660.86	660.86	660.73	660.67	660.58
	5/8 PT.	19+45.38	661.04	660.69	660.77	660.83	660.97	660.83	660.77	660.69
	3/4 PT.	19+61.25	661.14	660.78	660.87	660.93	661.07	660.93	660.87	660.78
	7/8 PT.	19+77.13	661.22	660.87	660.95	661.01	661.15	661.01	660.95	660.87
SPAN 10 @ PIER 5	19+93.00	661.29	660.95	661.03	661.09	661.22	661.22	661.09	661.03	660.95
	1/8 PT.	20+08.88	661.45	661.11	661.19	661.25	661.39	661.25	661.19	661.11
	1/4 PT.	20+24.75	661.62	661.26	661.35	661.41	661.54	661.41	661.35	661.26
	3/8 PT.	20+40.63	661.76	661.41	661.49	661.55	661.69	661.55	661.49	661.41
SPAN 11 1/2 PT.	20+56.50	661.89	661.54	661.63	661.69	661.82	661.82	661.69	661.63	661.54
	5/8 PT.	20+72.38	662.00	661.65	661.73	661.79	661.93	661.79	661.73	661.65
	3/4 PT.	20+88.25	662.09	661.74	661.83	661.89	662.02	661.89	661.83	661.74
	7/8 PT.	21+04.13	662.17	661.83	661.91	661.97	662.10	661.97	661.91	661.83
SPAN 12 @ PIER 6	21+20.00	662.25	661.91	661.98	662.05	662.18	662.18	662.05	661.98	661.91
	1/8 PT.	21+37.50	662.45	662.10	662.18	662.24	662.38	662.24	662.18	662.10
	1/4 PT.	21+55.00	662.63	662.28	662.37	662.43	662.57	662.43	662.37	662.28
	3/8 PT.	21+72.50	662.80	662.45	662.54	662.60	662.73	662.60	662.54	662.45
SPAN 13 1/2 PT.	21+90.00	662.96	662.60	662.69	662.75	662.89	662.89	662.75	662.69	662.60
	5/8 PT.	22+07.50	663.07	662.71	662.80	662.86	663.00	662.86	662.80	662.71
	3/4 PT.	22+25.00	663.16	662.81	662.90	662.96	663.09	662.96	662.90	662.81
	7/8 PT.	22+42.50	663.24	662.89	662.97	663.03	663.17	663.03	662.97	662.89
SPAN 14 @ PIER 7	22+60.00	663.31	662.97	663.04	663.10	663.24	663.24	663.10	663.04	662.97

SCREED ELEVATIONS										
POINT	STATION	PROFILE GRADE	BEAM LINE A	LEFT GUTTER LINE	BEAM LINE B	BEAM LINE C	BEAM LINE D	BEAM LINE E	RIGHT GUTTER LINE	BEAM LINE F
SPAN 8 @ PIER 7	22+60.00	663.31	662.97	663.04	663.10	663.24	663.24	663.10	663.04	662.97
	1/8 PT.	22+77.50	663.51	663.16	663.25	663.30	663.44	663.31	663.25	663.17
	1/4 PT.	22+95.00	663.71	663.35	663.44	663.49	663.63	663.51	663.44	663.36
	3/8 PT.	23+12.48	663.88	663.51	663.61	663.66	663.80	663.68	663.61	663.53
SPAN 9 1/2 PT.	23+29.98	664.03	663.66	663.77	663.83	663.95	663.98	663.84	663.77	663.69
	5/8 PT.	23+47.48	664.14	663.77	663.88	663.92	664.05	663.95	663.88	663.80
	3/4 PT.	23+64.98	664.23	663.87	663.97	664.02	664.15	664.04	663.97	663.90
	7/8 PT.	23+82.48	664.30	663.95	664.04	664.09	664.23	664.11	664.04	663.94

NOTES

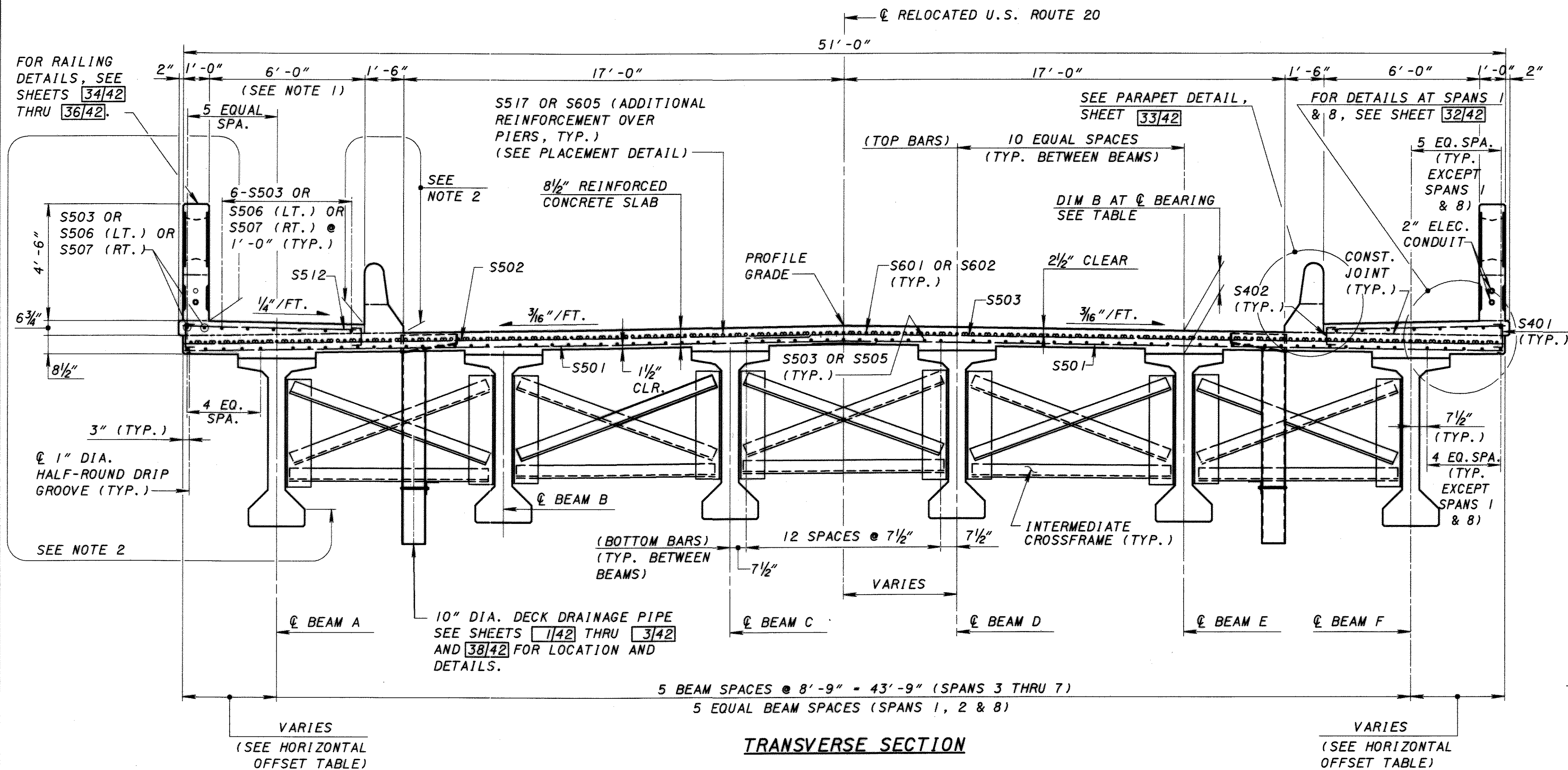
1. SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.
2. SCREED ELEVATIONS IN THE HORIZONTAL CURVE PORTION OF SPANS 1, 2 AND 8 ARE CIRCUMFERENTIAL, RESULTING IN A VARIABLE OFFSET FROM THE CENTER LINES OF THE BEAMS.



SCREED LOCATION KEY

○ - SIGNIFIES POINTS WHERE ELEVATIONS ARE GIVEN (AT TOP OF CONCRETE)

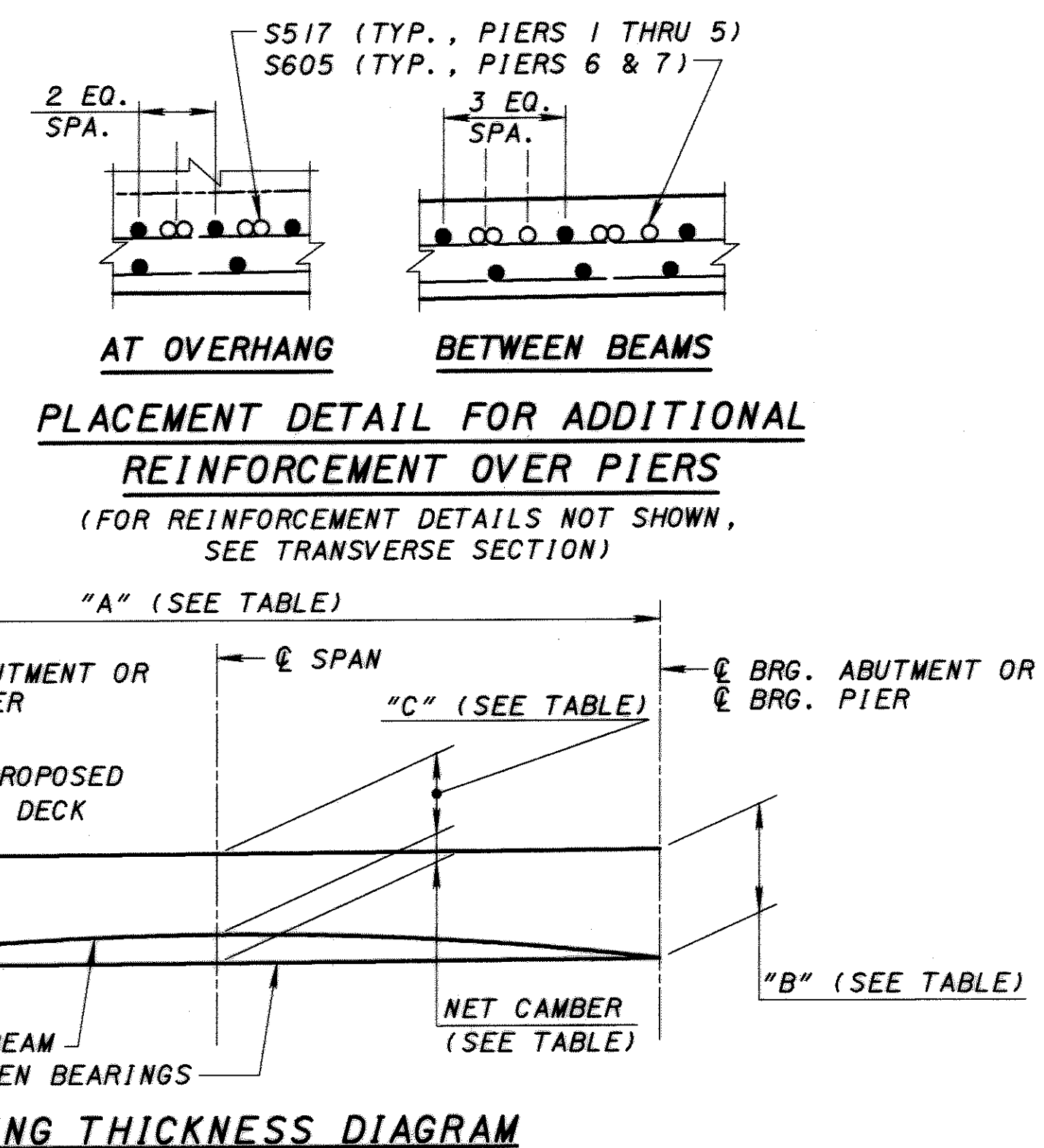
SCREED ELEVATIONS AT @ BRG. FWD. ABUT.		
POINT	STATION	ELEVATION
BEAM LINE A	24+01.43	664.03
LEFT GUTTER LINE	24+01.10	664.10
BEAM LINE B	24+00.85	664.16
BEAM LINE C	24+00.28	664.29
BEAM LINE D	23+99.72	664.29
BEAM LINE E	23+99.18	664.15
RIGHT GUTTER LINE	23+98.93	664.09
BEAM LINE F	23+98.64	664.01
PROFILE GRADE	24+00.00	664.36



DEFLECTION AND CAMBER TABLE										
INTERIOR BEAMS										
ITEM	BEAM B1	BEAM B2	BEAM B3	BEAM B4	BEAM B5	BEAM B6	BEAM B7	BEAM B8	BEAM B9	BEAM B10
A	106' - 2 1/16"	107' - 2 3/16"	108' - 2 1/4"	109' - 2 3/8"	110' - 2 1/16"	111' - 2 1/2"	124' - 4 1/2"	124' - 7"	137' - 7"	138' - 9 1/8"
B	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"
C	10 3/8"	10 3/8"	10 3/8"	10 3/8"	10 3/8"	10 3/8"	10 3/8"	10 1/2"	10 1/2"	11 3/8"
BEAM CAMBER (Dd)	2 1/16"	2 1/16"	2 1/16"	2 1/16"	2 1/16"	2 1/16"	3"	3 1/16"	4 3/8"	5"
DEFLECTION DUE TO DEAD LOAD (E)	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"	1 7/16"	1 7/16"	2 1/8"	2 3/8"
NET CAMBER = Dd - E	1 3/16"	1 3/16"	1 3/16"	1 3/16"	1 3/16"	1 3/16"	1 9/16"	1 5/8"	2 1/4"	2 5/8"
EXTERIOR BEAMS										
A	106' - 2 1/16"	107' - 2 3/16"	108' - 2 1/4"	109' - 2 3/8"	110' - 2 1/16"	111' - 2 1/2"	124' - 4 1/2"	124' - 7"	137' - 7"	138' - 9 1/8"
B	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"	1 13/8"
C	10 3/8"	10 3/8"	10 3/8"	10 3/8"	10 3/8"	10 3/8"	10 1/2"	10 1/2"	10 1/4"	9 1/2"
BEAM CAMBER (Dd)	2 1/16"	2 1/16"	2 1/16"	2 1/16"	2 1/16"	2 1/16"	3"	3 1/16"	4 3/8"	5"
DEFLECTION DUE TO DEAD LOAD (E)	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 5/8"	1 5/8"	1 5/8"	2 3/8"
NET CAMBER = Dd - E	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/16"	1 3/8"	2 1/16"	2 13/16"

HORIZONTAL (RADIAL) OFFSETS TO EDGE OF SLAB															
LOCATION	¢ BRG. REAR ABUT. STA. 13+75	¼ POINT STA. 14+02.5	½ POINT STA. 14+30	¾ POINT STA. 14+57.5	¢ BRG. PIER 1 STA. 14+85	P.T. STA. 14+94.16	¢ BRG. PIER 7 STA. 22+60	½ POINT STA. 22+77.5	¼ POINT STA. 22+95	¾ POINT STA. 23+12.5	½ POINT STA. 23+30	¾ POINT STA. 23+47.5	¾ POINT STA. 23+65	¾ POINT STA. 23+82.5	¢ BRG. FWD. ABUT. STA. 24+00
¢ BEAM LINE A TO LEFT EDGE OF SLAB	3.63'	2.48'	2.10'	2.50'	3.67'	3.63'	3.63'	3.41'	3.17'	2.93'	2.69'	2.48'	2.55'	2.94'	3.67'
¢ BEAM LINE F TO RIGHT EDGE OF SLAB	3.63'	4.83'	5.23'	4.82'	3.58'	3.63'	3.63'	3.90'	4.14'	4.38'	4.62'	4.83'	4.76'	4.36'	3.67'

- NOTES**
1. LIMITS FOR THE SEALING OF CONCRETE SURFACES (NON-EPOXY).
 2. LIMITS FOR THE SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).
 3. MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 5 BARS = 2'-5"
NO. 6 BARS = 2'-11"
NO. 9 BARS = 3'-1"
NO. 10 BARS = 10'-3"
S501 BARS = 3'-2"
 4. FOR SCREED ELEVATIONS, SEE SHEET 28|42.
 5. FOR PARAPET CONTROL JOINT DETAILS AND NOTES, SEE STANDARD DRAWING BR-1, SHEET 1 OF 2.
 6. FOR DIAPHRAGM DETAILS, SEE SHEET 27|42 AND 27A|42.
 7. FOR FRAMING PLAN SEE SHEETS 22|42 AND 23|42.
 8. TRANSVERSE CONSTRUCTION JOINTS SHALL BE SEALED WITH A HIGH MOLECULAR WEIGHT METACRYLATE RESIN 2'-0" WIDE AND CENTERED OVER THE JOINT. PAYMENT SHALL BE INCLUDED IN ITEM 846, TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN.
 9. THE TOPPING THICKNESSES SHOWN ARE NOMINAL DIMENSIONS. THE PAY QUANTITY FOR DECK CONCRETE SHALL BE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE NOMINAL HAUNCH DEPTHS AT MID-SPAN AND AT THE BEAM BEARINGS. THE HAUNCH DEPTH IS THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. DEVIATION FROM THIS AVERAGE MAY OCCUR BECAUSE THE TOP OF THE BEAM MAY NOT HAVE THE CAMBER ANTICIPATED BY DESIGN DUE TO CONTRACTOR'S TIME OF ERECTION, MIX DESIGN, AND OTHER FABRICATION FACTORS. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE CONTRACTOR SHALL RECORD THE TOP OF BEAM ELEVATIONS AT EACH BEARING AND AT MID-SPAN. THE ACTUAL CAMBER FOR EACH MEMBER SHALL BE THE MEASURED ELEVATION AT MID-SPAN MINUS THE AVERAGE ELEVATION AT EACH BEARING. THE ACTUAL HAUNCH DEPTH AT MID-SPAN SHALL BE THE NOMINAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER.
 10. FOR SLAB PLAN SEE SHEETS 30|42 THRU 32|42.
 11. FOR ABBREVIATIONS, SEE SHEET 5|42.



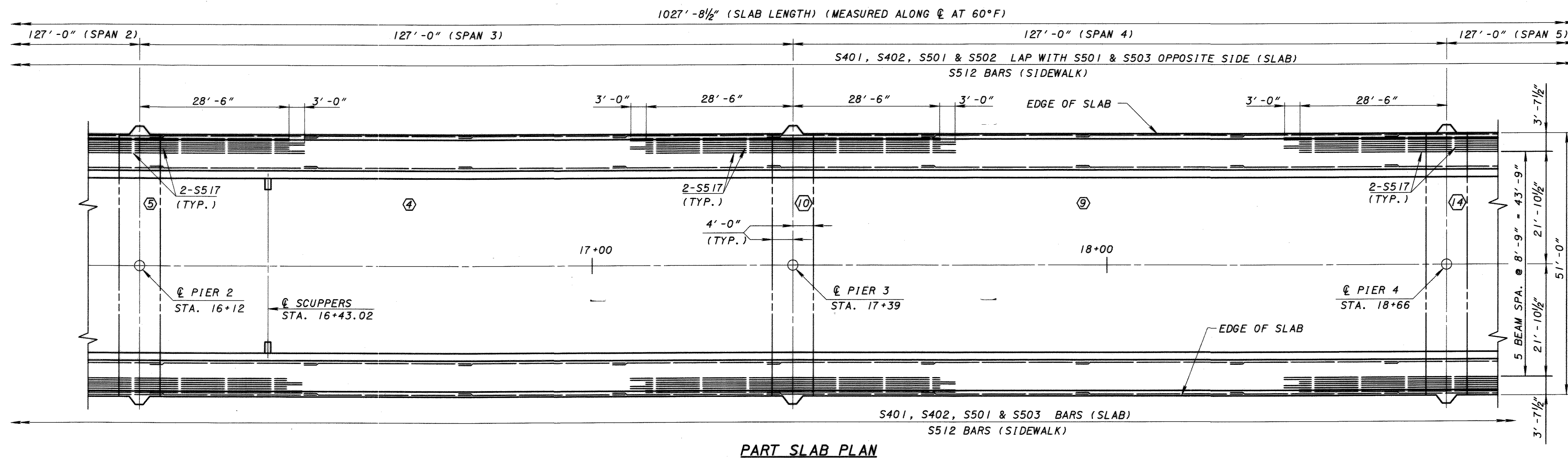
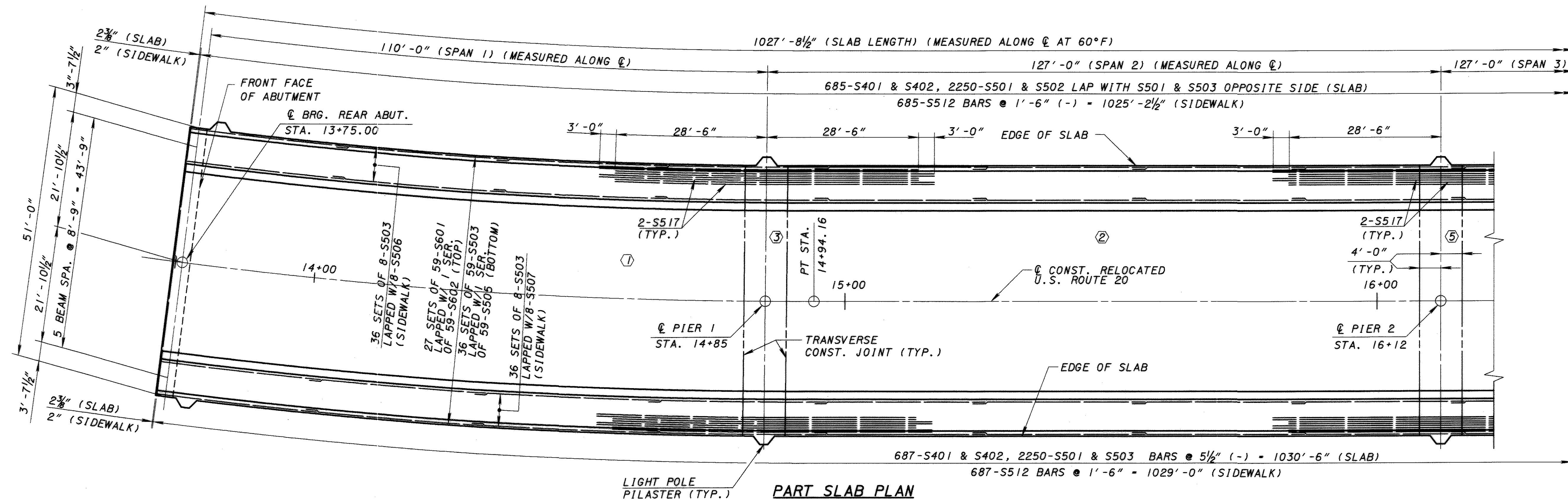
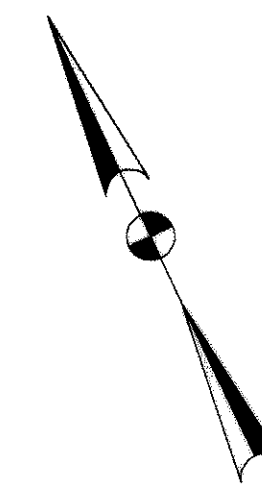
NOTES

1. FOR PILASTER DETAILS AND ADDITIONAL BARS AT PILASTERS, SEE SHEET 36/42.
2. FOR TRANSVERSE SECTION, AND ADDITIONAL NOTES SEE SHEET 29/42.
3. FOR SCUPPER DETAILS, SEE SHEET 38/42.
4. FOR SCREED ELEVATIONS SEE SHEET 28/42.

5. REINFORCING STEEL: NEW REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT SHALL BE INCLUDED IN ITEM 842.
6. FOR ADDITIONAL SLAB DETAILS, SEE SHEET 31/42 & 32/42.

LEGEND

○ DENOTES DECK POUR SEQUENCE



SLAB PLAN - SPANS 1 THRU 4
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

ATB-20-26.19

30/42

127/162

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHENT ROAD
AKRON, OHIO 44333

DATE
6-11-02
REVIEWED
JBH
STRUCTURE FILE NUMBER
0402273

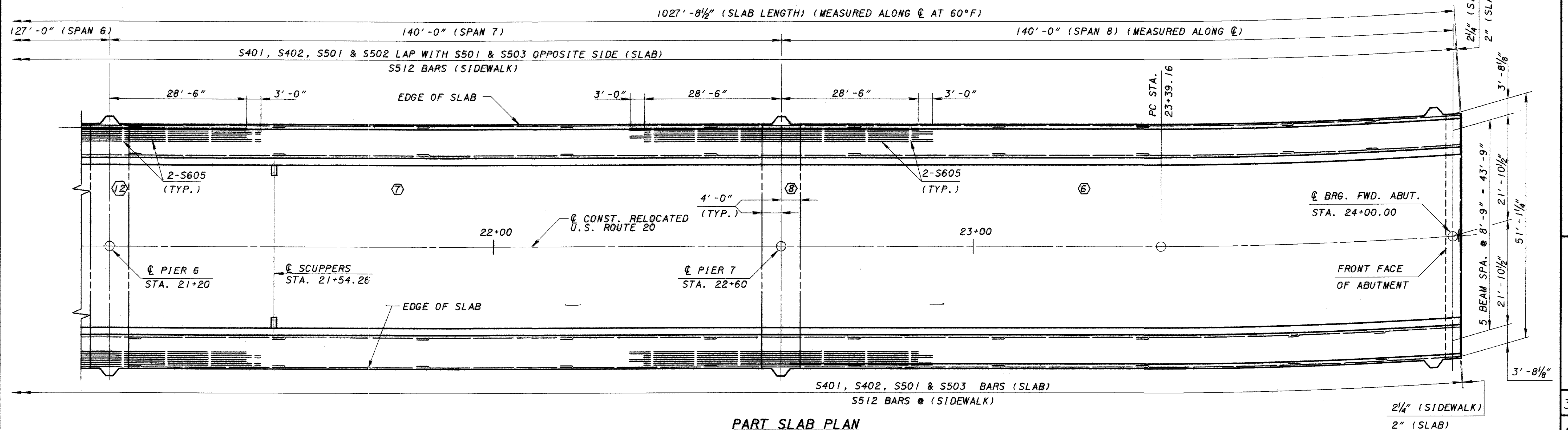
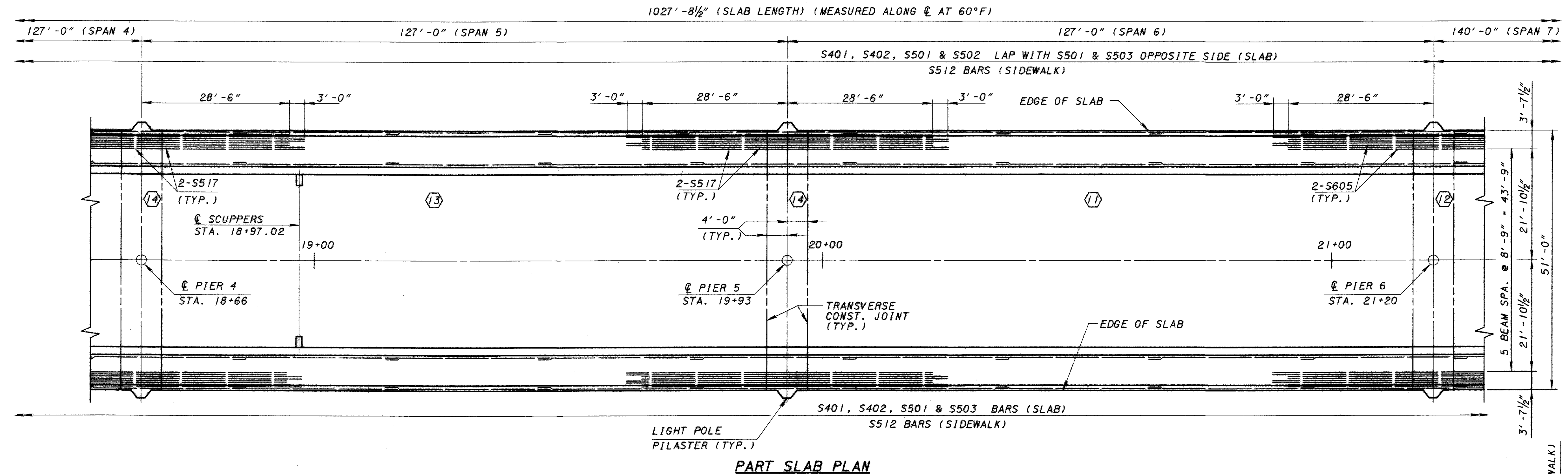
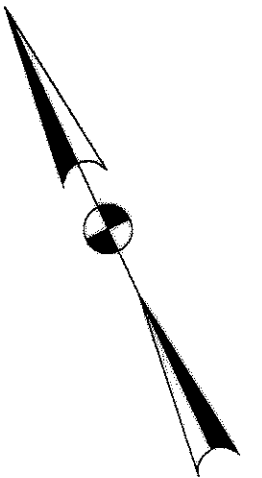
DRAWN
SL
CHECKED
SL
HK

NOTES

1. FOR NOTES SEE SHEET 30/42.

LEGEND

◊ DENOTES DECK POUR SEQUENCE



DESIGN AGENCY
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367 GHENT ROAD
AKRON, OHIO 44333

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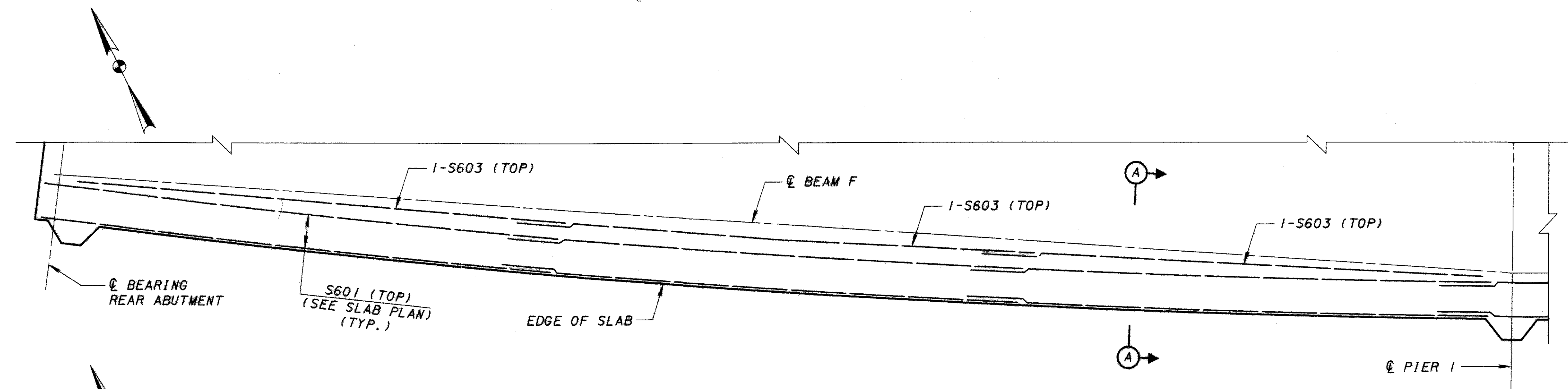
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REVIEWED
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CHECKED
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SLAB PLAN - SPANS 5 THRU 8
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

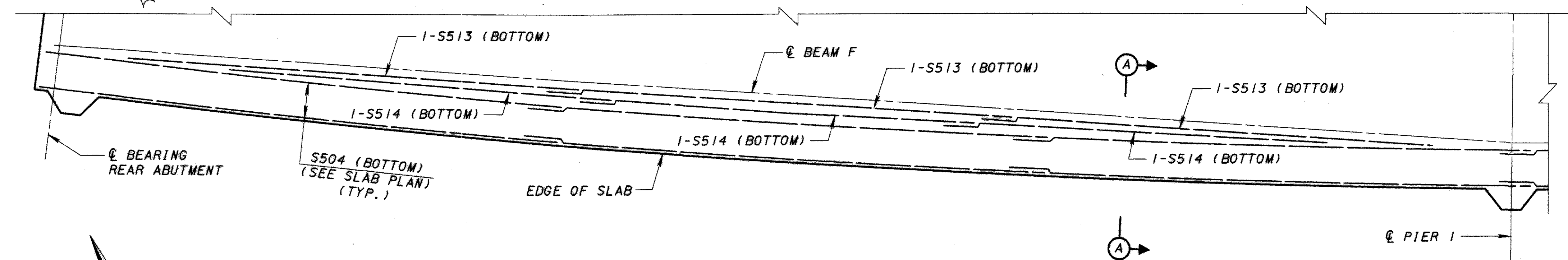
ATB-20-26.19

31/42

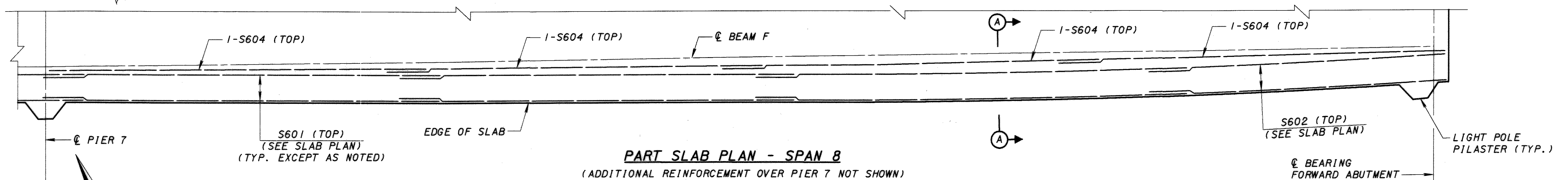
128
162



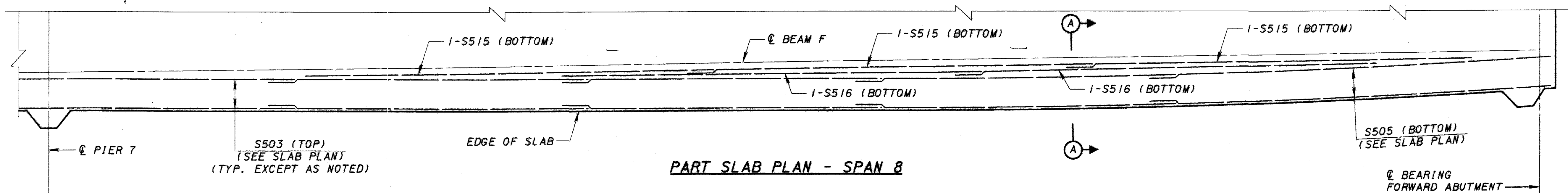
PART SLAB PLAN - SPAN 1
(ADDITIONAL REINFORCEMENT OVER PIER 1 NOT SHOWN)



PART SLAB PLAN - SPAN 1



PART SLAB PLAN - SPAN 8
(ADDITIONAL REINFORCEMENT OVER PIER 7 NOT SHOWN)

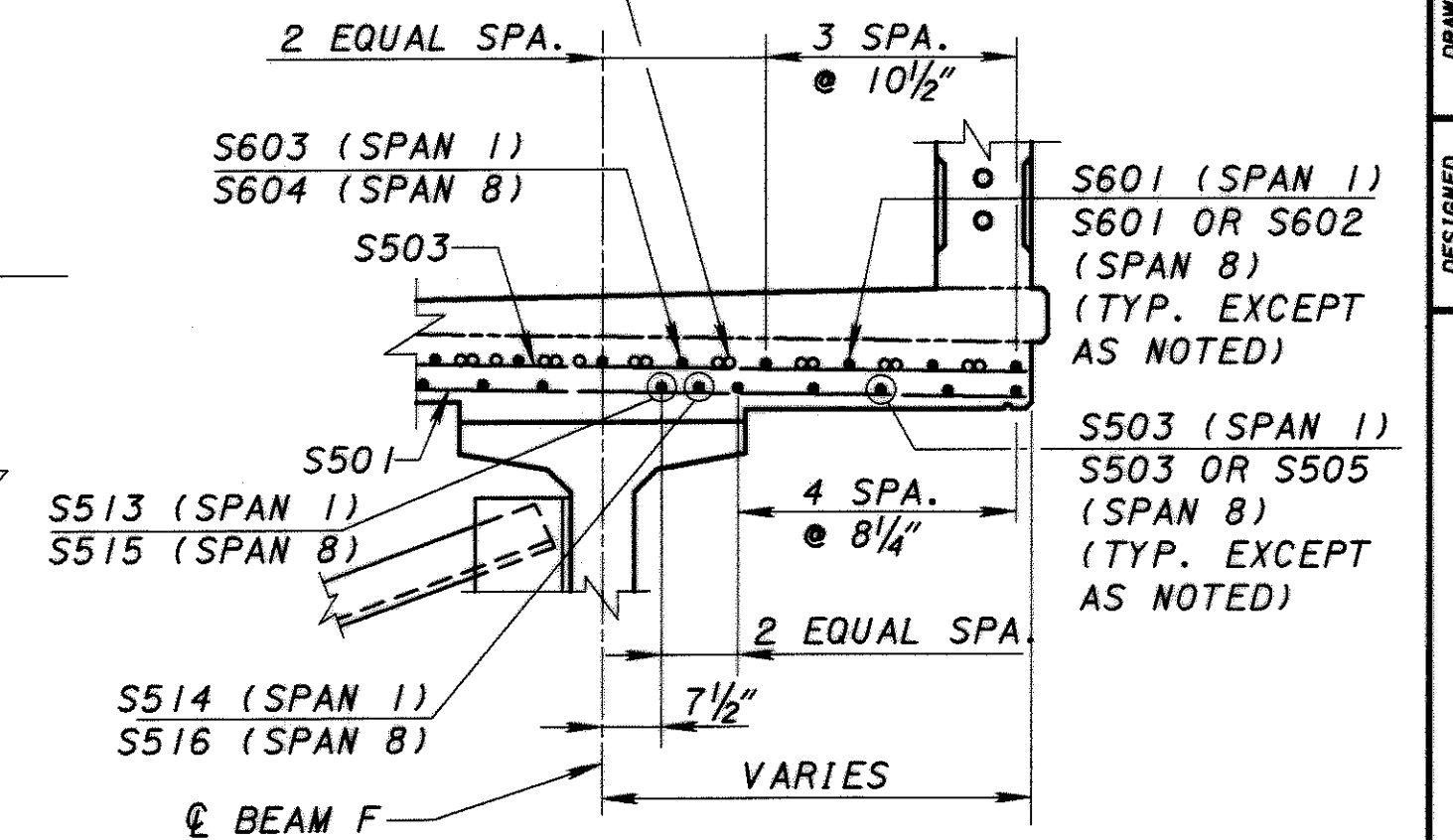


PART SLAB PLAN - SPAN 8

NOTES

1. FOR ADDITIONAL SLAB DETAILS, SEE SHEETS 30/42 AND 31/42.
2. MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 5 BARS = 2'-5"
NO. 6 BARS = 4'-1"

ADDITIONAL REINFORCEMENT OVER PIERS (TYP.)



SECTION A-A

(SIDEWALK REINFORCEMENT NOT SHOWN)

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

DATE
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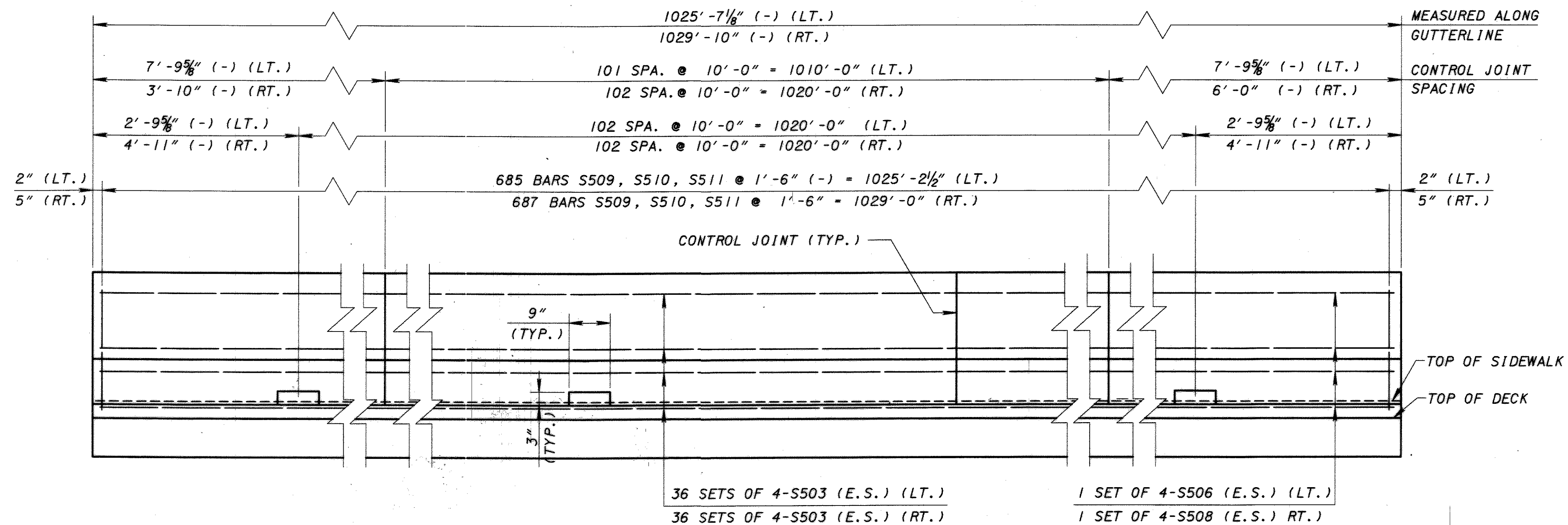
DRAWN
WEB
DESIGNED
HK
CHECKED
SL

SLAB DETAILS
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

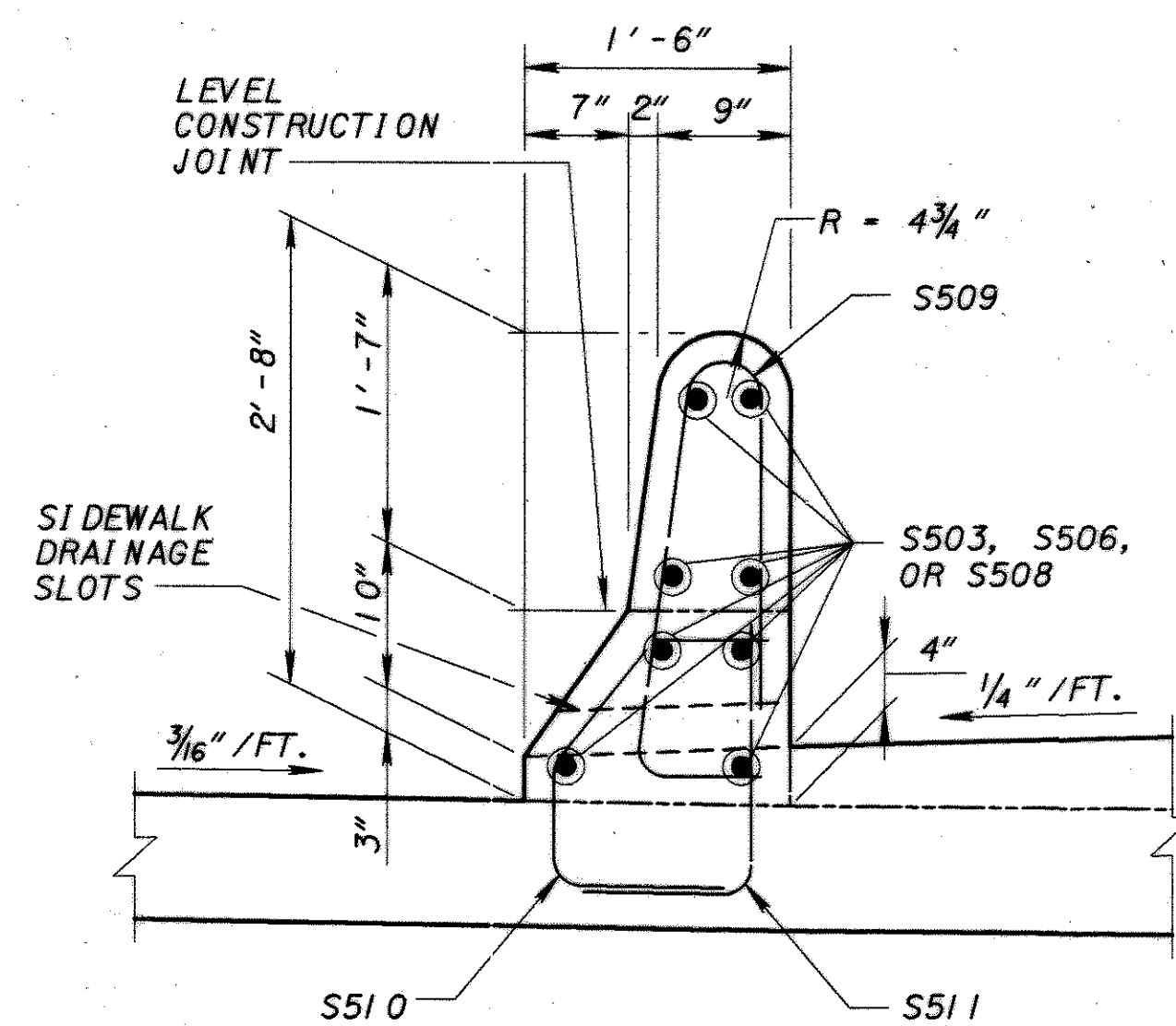
ATB-20-26.19

32/42

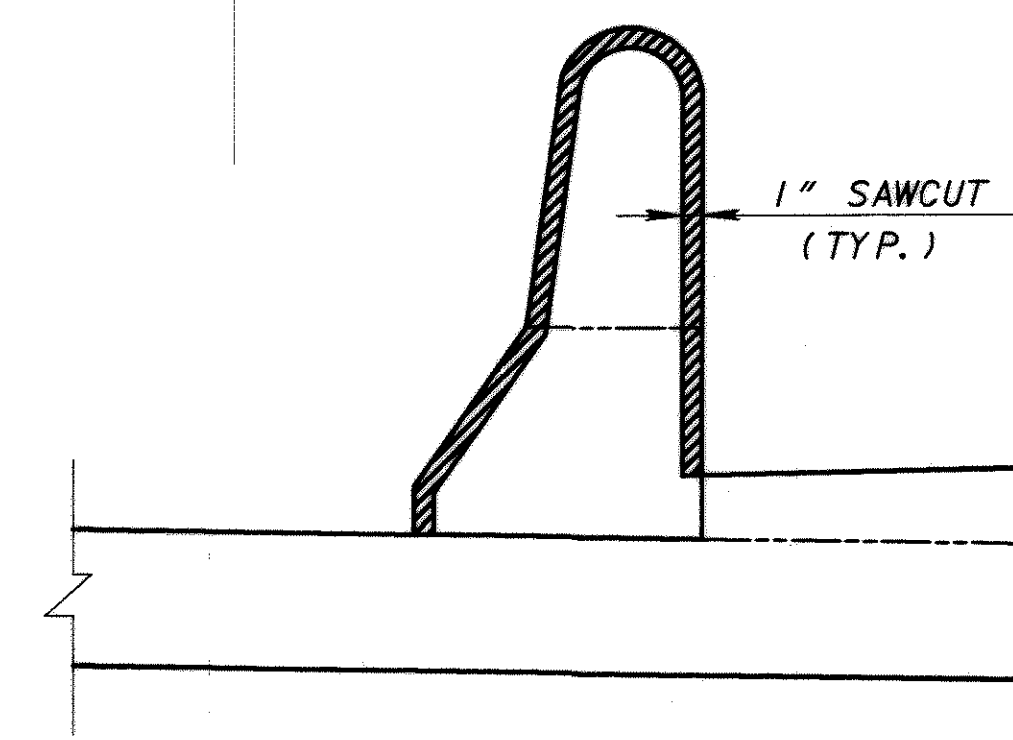
129
162



BARRIER PARAPET ELEVATION



PARAPET DETAIL



CONTROL JOINT DETAIL

NOTES

1. FOR TRANSVERSE SECTION AND ADDITIONAL NOTES SEE SHEET 29/42.
2. MINIMUM LAP - #5 BARS - 2'-5"
3. FOR SLAB PLAN SEE SHEETS 30/42 THRU 32/42.
4. SEE ODOT BRIDGE STANDARD DRAWING BR-2-98 FOR ADDITIONAL SAWCUT JOINT DETAILS & NOTES.

PARAPET DETAILS
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

ATB-20-26. 19

33/42

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162

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

REVIEWED
J.B.H.
DATE
6-11-02
STRUCTURE FILE NUMBER
0402273

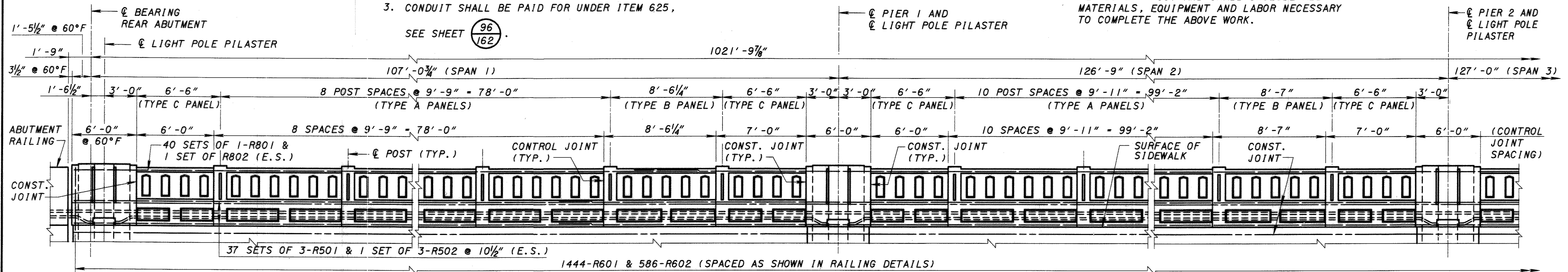
DRAWN
S.L.
CHECKED
S.L.

NOTES

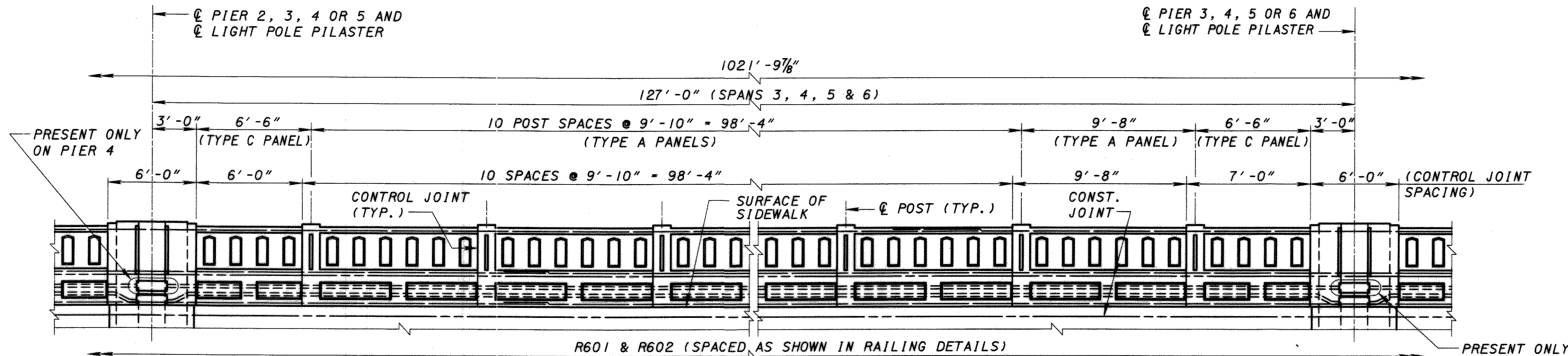
1. ALL DIMENSIONS ARE MEASURED ALONG THE OUTSIDE FACE OF THE RAILING.
2. FOR DETAILS OF PANELS A, B AND C AND THE PILASTER, SEE SHEET 36/42.
3. CONDUIT SHALL BE PAID FOR UNDER ITEM 625, SEE SHEET 96/162.

4. MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 5 BARS = 2'-5"
NO. 8 BARS = 6'-4"
5. FOR ABBREVIATIONS, SEE SHEET 5/42.

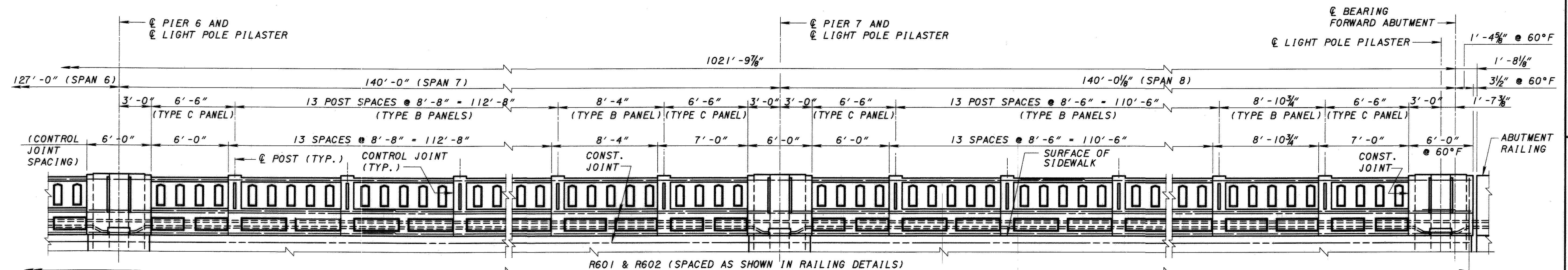
6. ITEM 517 - RAILING MISC. : ORNAMENTAL PEDESTRAIN RAILING (CAST-IN-PLACE CONCRETE ALTERNATIVE). RAILING SHALL COMPLY WITH SUPPLEMENTAL SPECIFICATION 842. CONCRETE SHALL BE CLASS S. PAYMENT OF THIS ITEM IS PER LINEAR FOOT AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO COMPLETE THE ABOVE WORK.



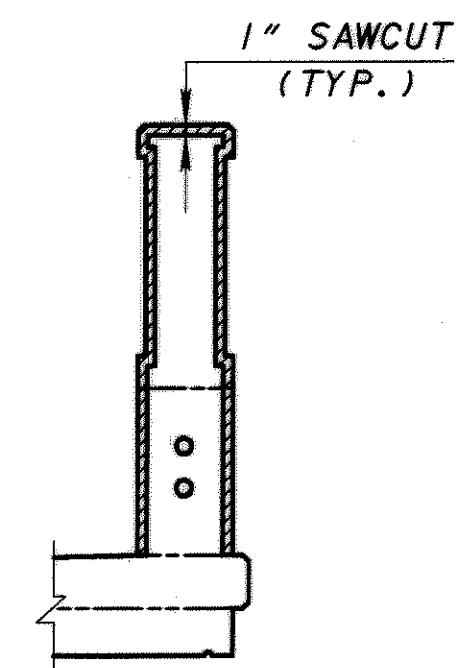
PART LEFT RAILING ELEVATION
(LOOKING NORTH)



PART LEFT RAILING ELEVATION
(LOOKING NORTH)



PART LEFT RAILING ELEVATION
(LOOKING NORTH)



CONTROL JOINT DETAIL

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHENT ROAD
AKRON, OHIO 44333

DATE
6-11-02
REVIEWED
JBH
STRUCTURE FILE NUMBER
0402273
DRAWN
WEB
REVIS
DESIGNED
HK
CHECKED
SL

LEFT RAILING ELEVATION
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

ATB-20-26.19

34/42

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162

1. ALL DIMENSIONS ARE MEASURED ALONG THE OUTSIDE FACE OF THE RAILING.

2. FOR DETAILS OF PANELS A, B AND C AND THE PILASTER, SEE SHEET 36/42.

3. CONDUIT SHALL BE PAID FOR UNDER ITEM 625, SEE SHEET 96/162.

3. MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 5 BARS = 2'-5"
NO. 8 BARS = 6'-4"

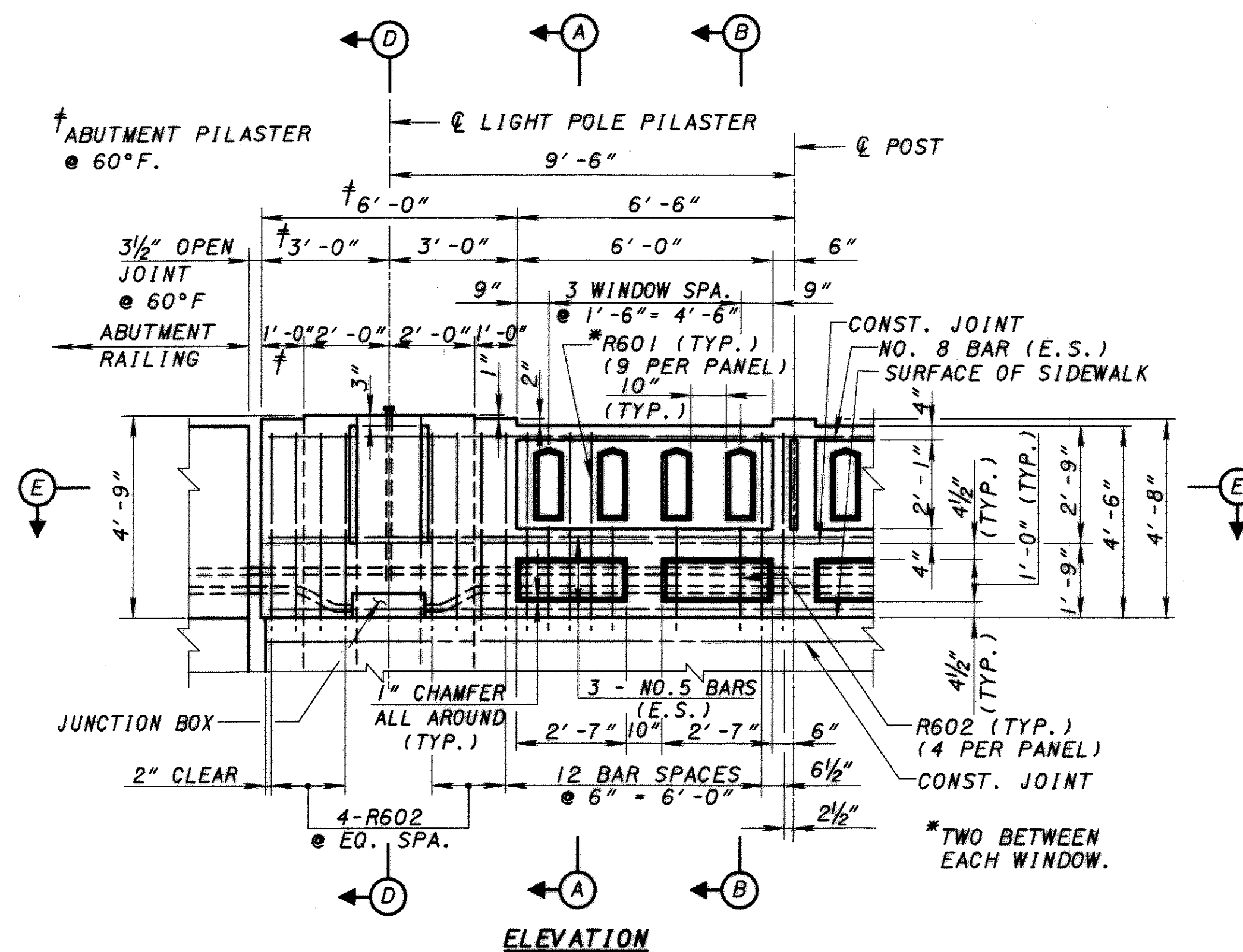
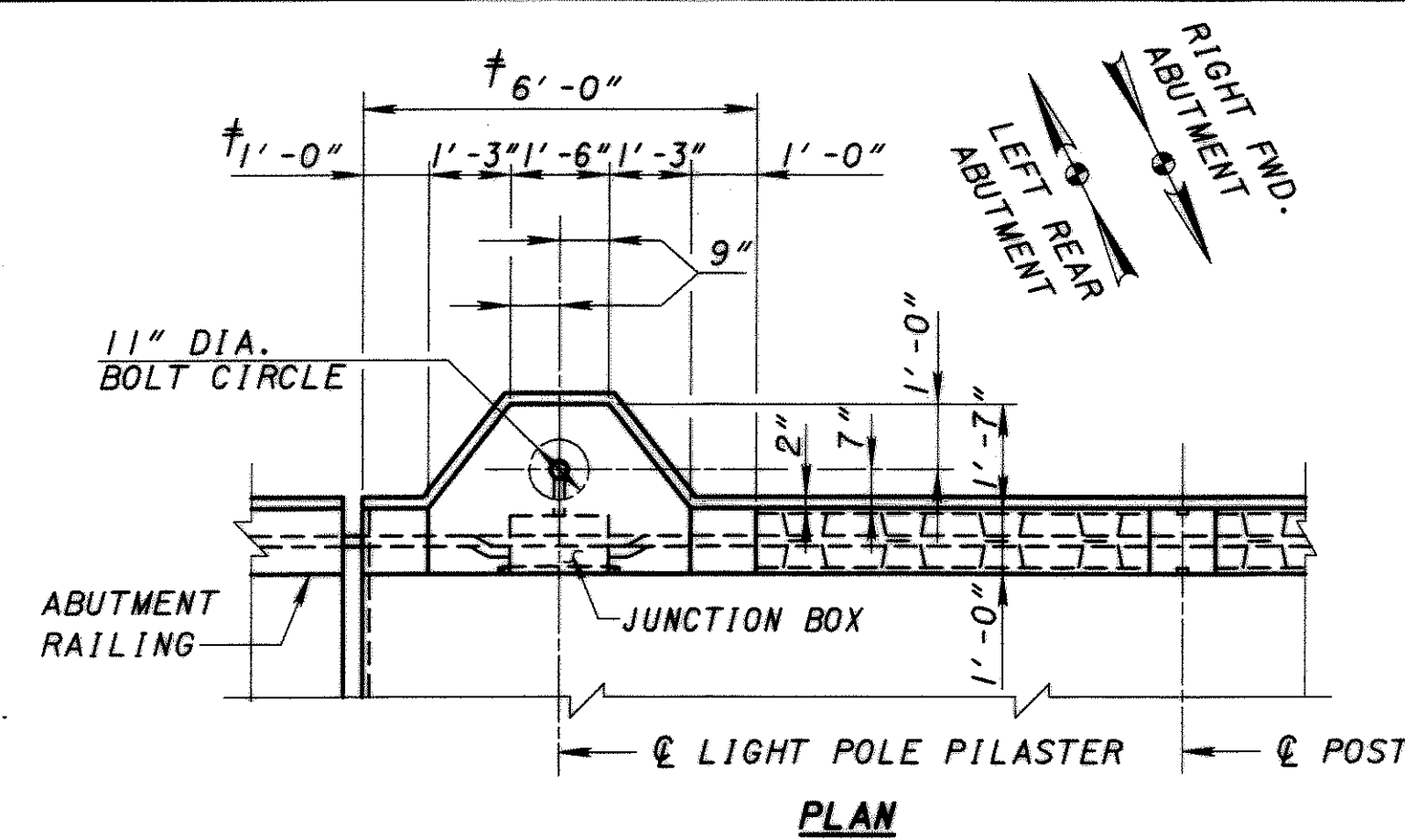
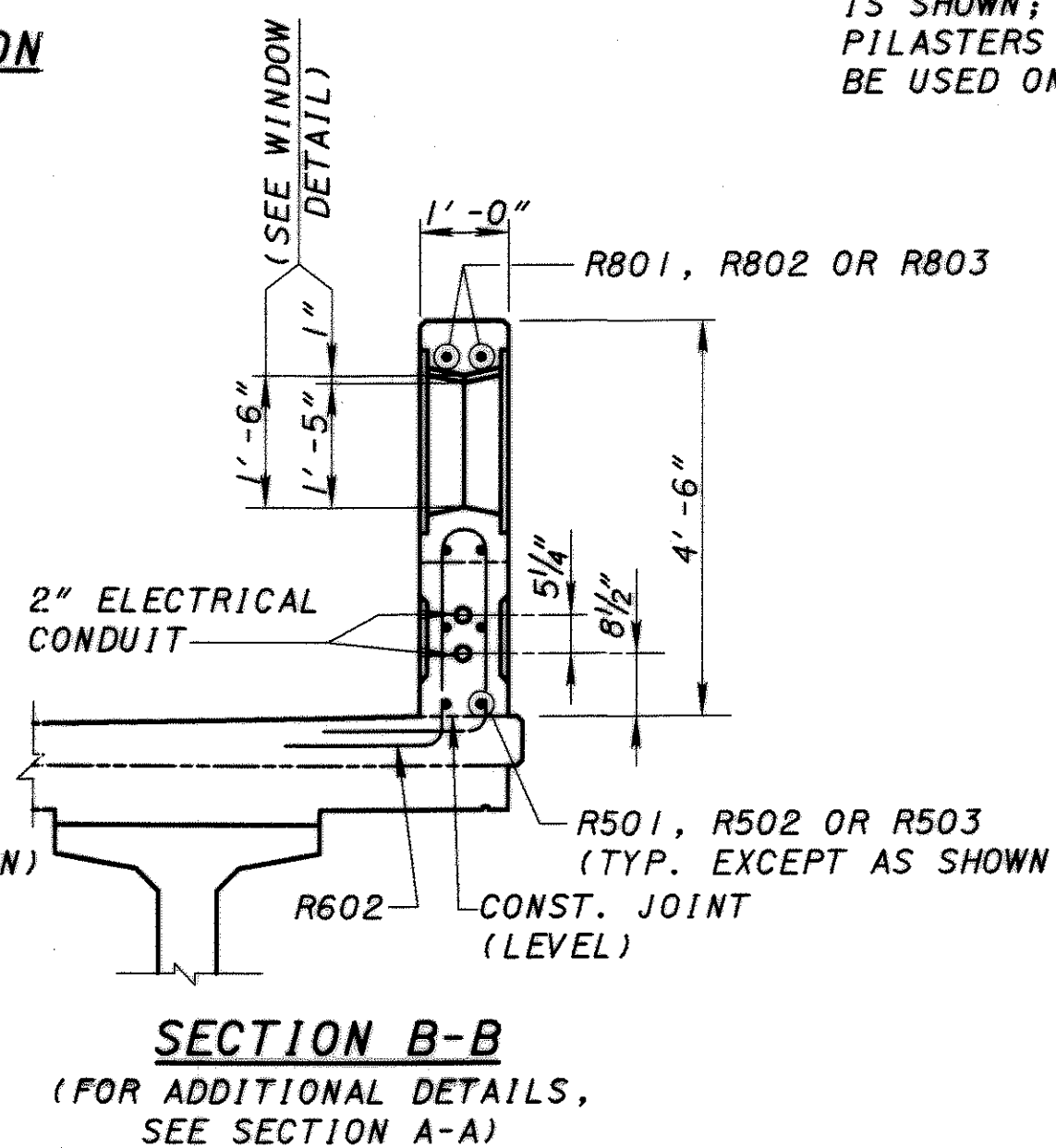
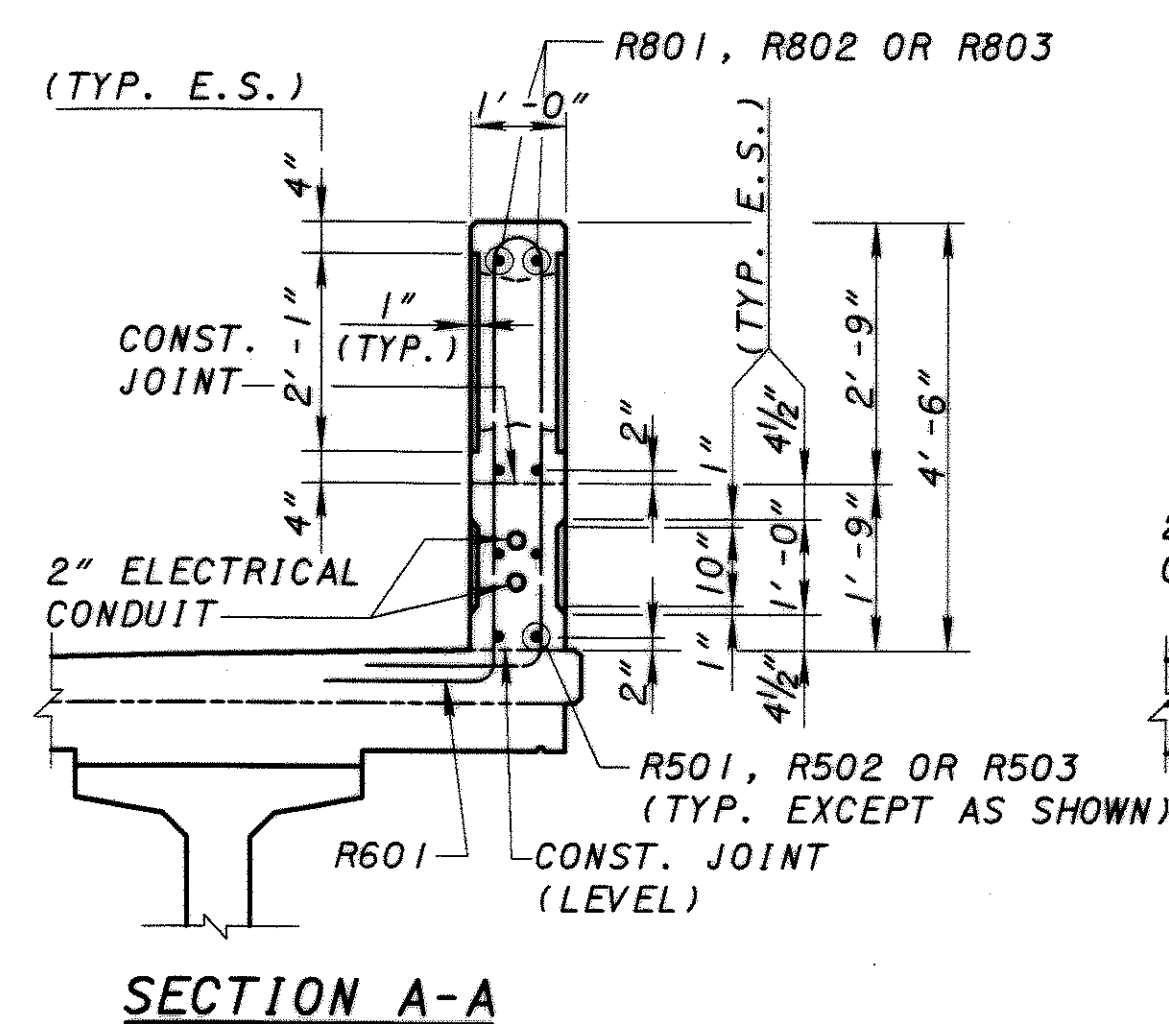
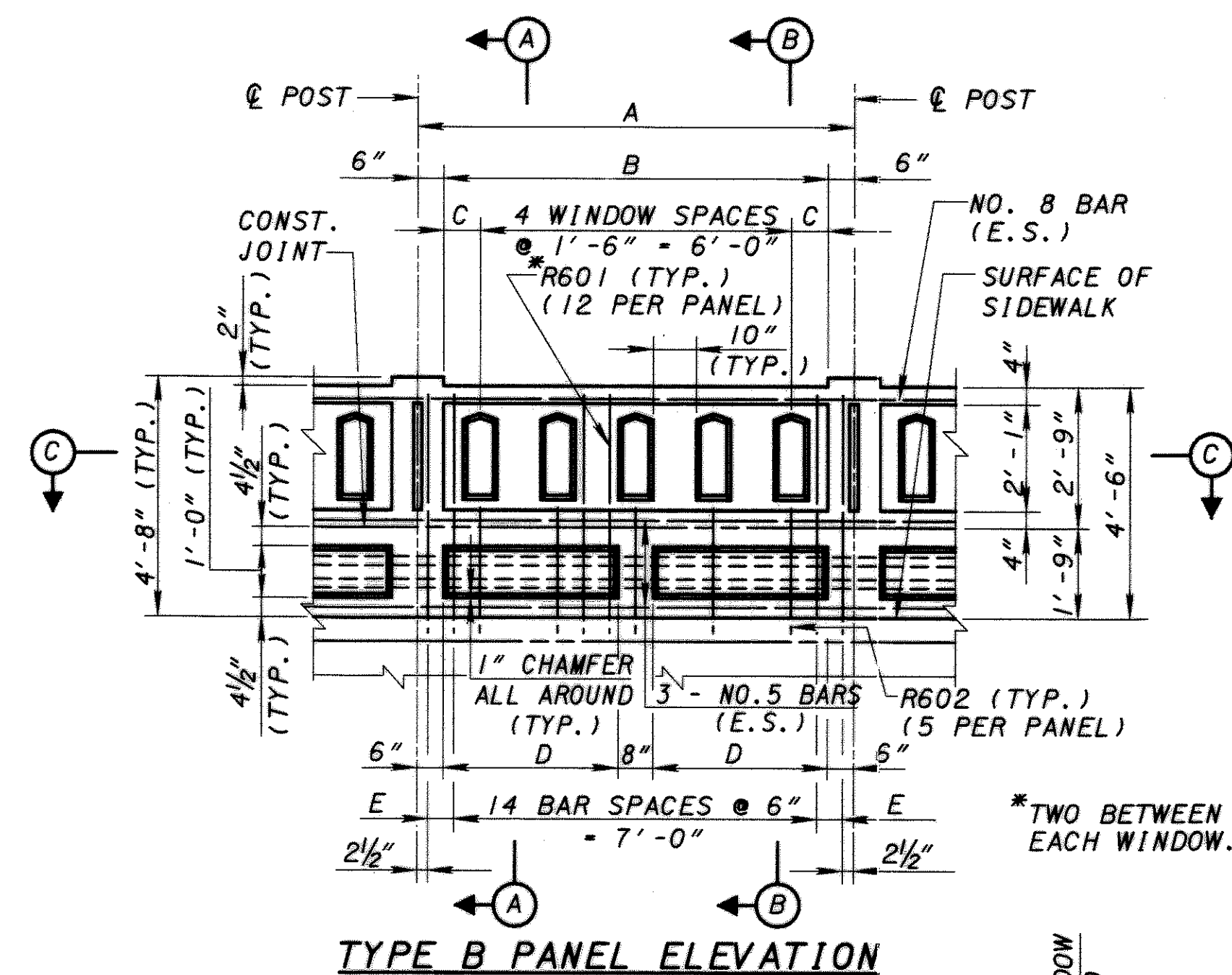
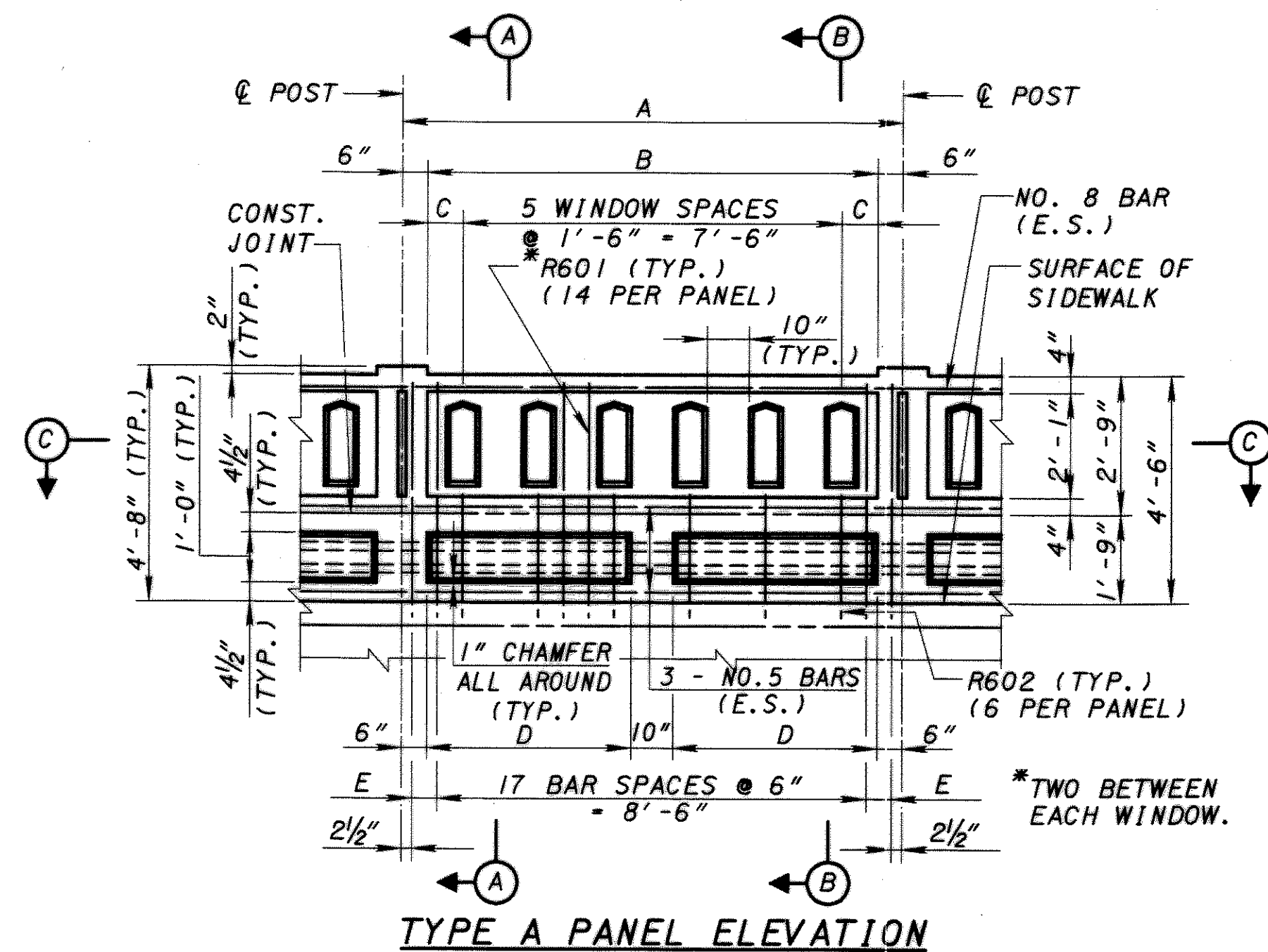
4. FOR CONTROL JOINT DETAIL, SEE SHEET 35/42.

5. FOR ABBREVIATIONS, SEE SHEET 5/42.

6. ITEM 517 - RAILING MISC. : ORNAMENTAL PEDESTRAIN RAILING (CAST-IN-PLACE CONCRETE ALTERNATIVE). RAILING SHALL COMPLY WITH SUPPLEMENTAL SPECIFICATION 842. CONCRETE SHALL BE CLASS S. PAYMENT OF THIS ITEM IS PER LINEAR FOOT AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO COMPLETE THE ABOVE WORK.

Ø PIER 7 AND
Ø LIGHT POLE PILASTER →

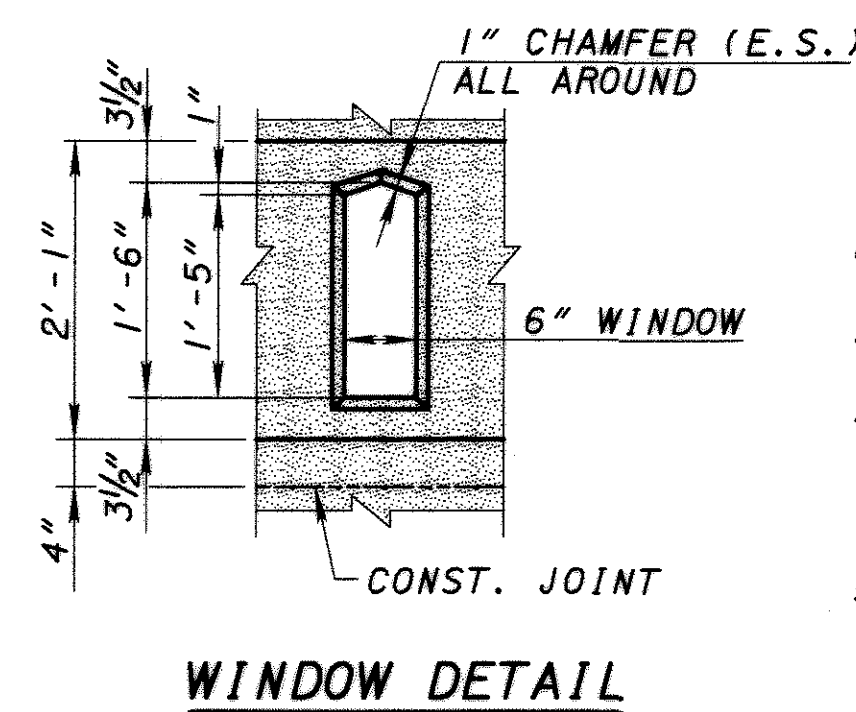




LIGHT POLE PILASTER AND TYPE C PANEL PLAN AND ELEVATION
(LIGHT POLE NOT SHOWN)

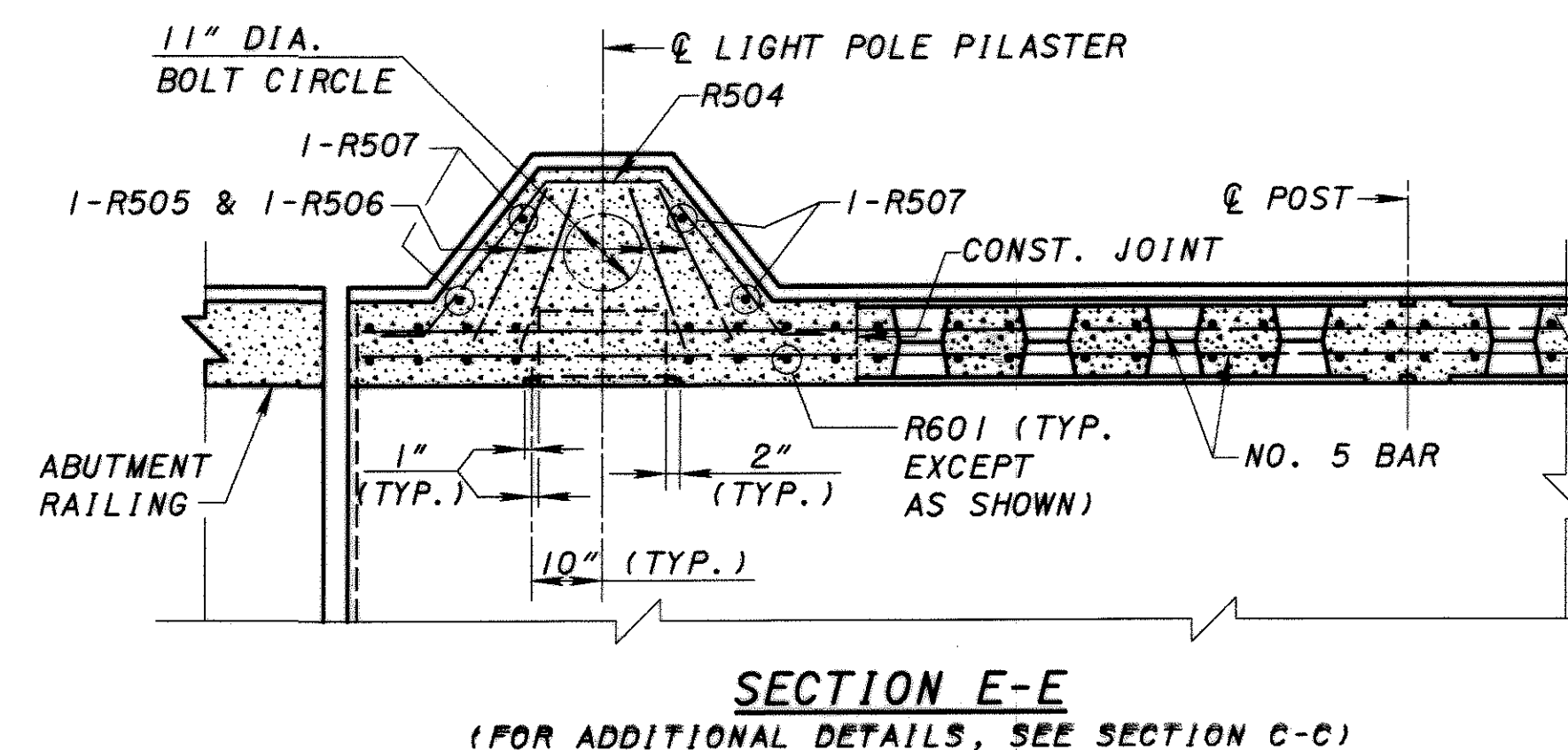
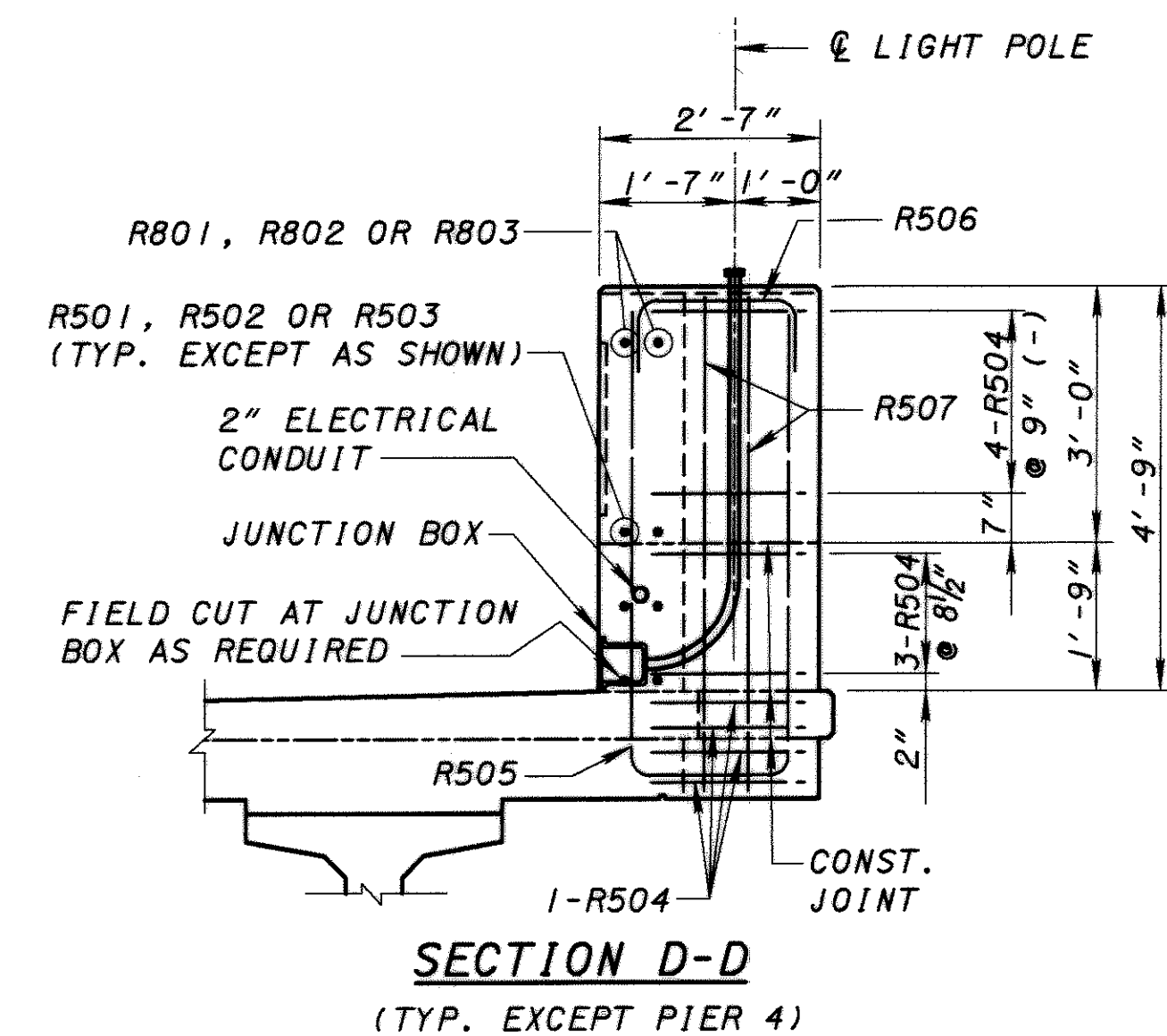
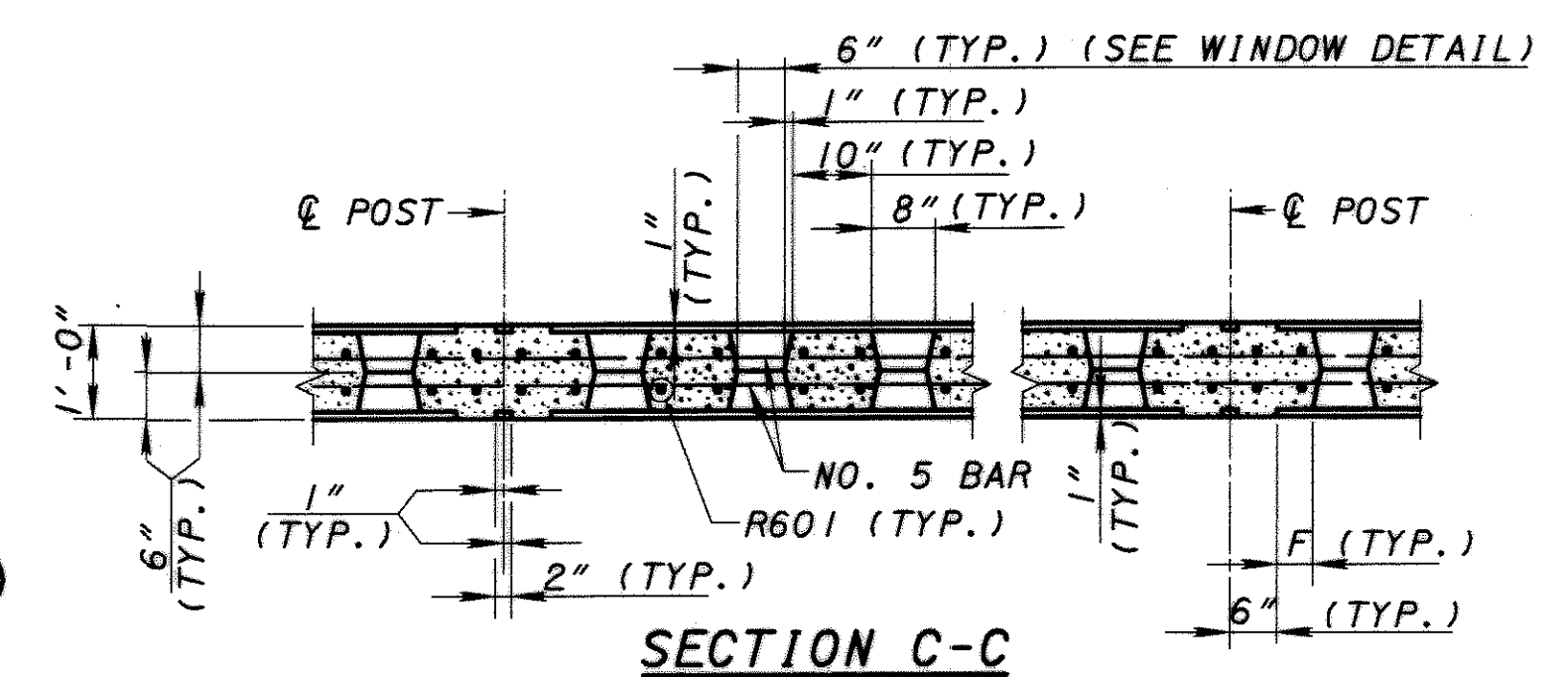
NOTE: THE PILASTER AT THE LEFT REAR AND RIGHT FORWARD ABUTMENTS IS SHOWN; RIGHT REAR AND LEFT FORWARD ABUTMENTS ARE OPPOSITE HAND. PILASTERS AT PIERS ARE THE SAME EXCEPT A CONSTRUCTION JOINT SHALL BE USED ON BOTH SIDES OF THE PILASTER.

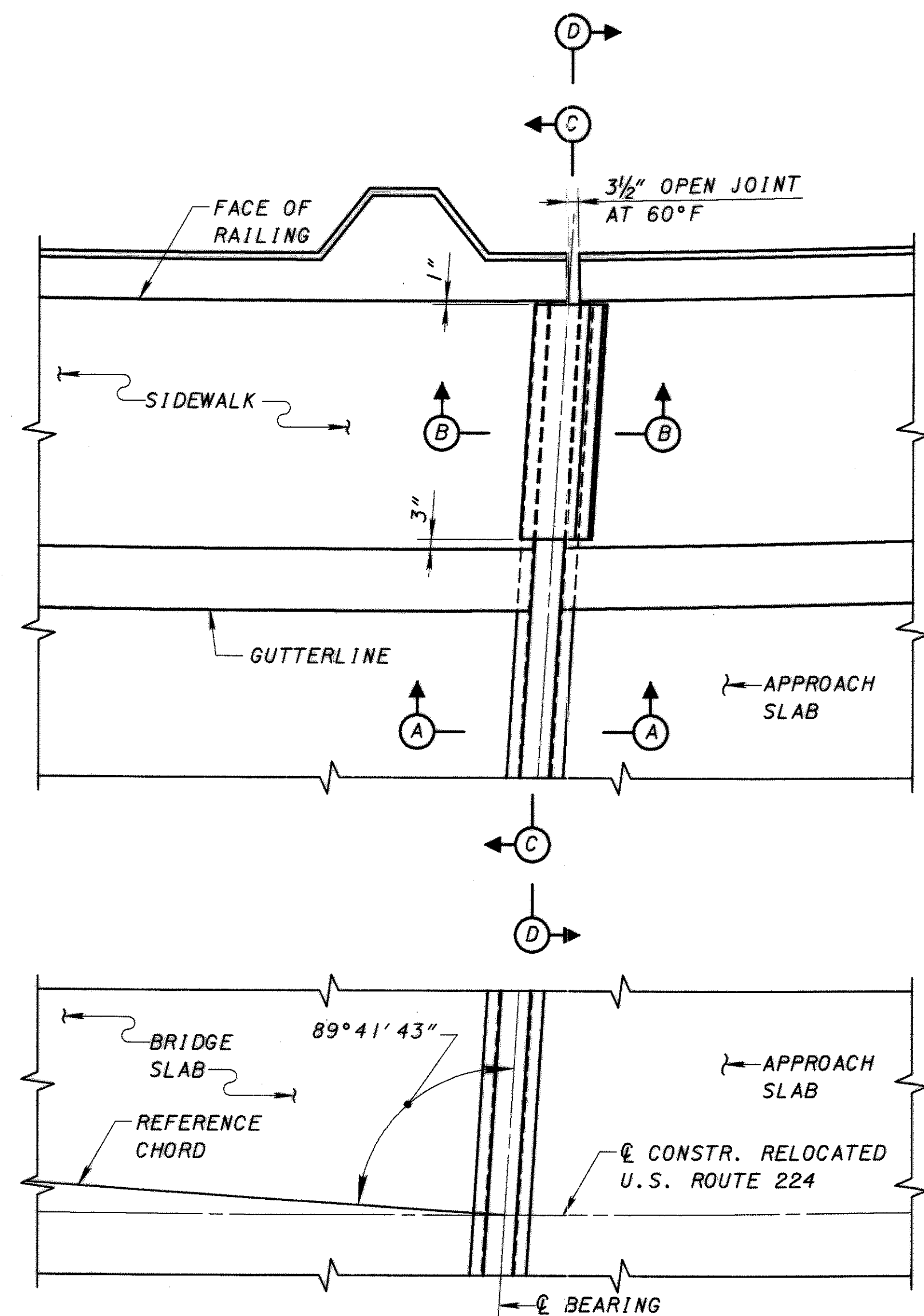
TABLE OF DIMENSIONS						
	A	B	C	D	E	F
PANEL A	9'-8"	8'-8"	7"	3'-11"	4 1/2"	3"
	9'-9"	8'-9"	7 1/2"	3'-11 1/2"	5"	3 1/2"
	9'-10"	8'-10"	8"	4'-0"	5 1/2"	4"
	9'-11"	8'-11"	8 1/2"	4'-0 1/2"	6"	4 1/2"
	8'-2 3/4"	7'-2 3/4"	7 3/8"	3'-3 3/8"	4 1/8"	3 3/8"
PANEL B	8'-4"	7'-4"	8"	3'-4"	5 1/2"	4"
	8'-5"	7'-5"	8 1/2"	3'-4 1/2"	6"	4 1/2"
	8'-6"	7'-6"	9"	3'-5"	6 1/2"	5"
	8'-6 1/4"	7'-6 1/4"	9 1/4"	3'-5 1/4"	6 3/4"	5 1/4"
	8'-6 1/2"	7'-6 1/2"	9 1/2"	3'-5 1/2"	6 1/2"	5 1/2"
	8'-7"	7'-7"	9 1/2"	3'-5 1/2"	7"	5 1/2"
	8'-8"	7'-8"	10"	3'-6"	7 1/2"	6"
	8'-10 3/4"	7'-10 3/4"	11 3/8"	3'-7 3/8"	8 1/8"	7 3/8"



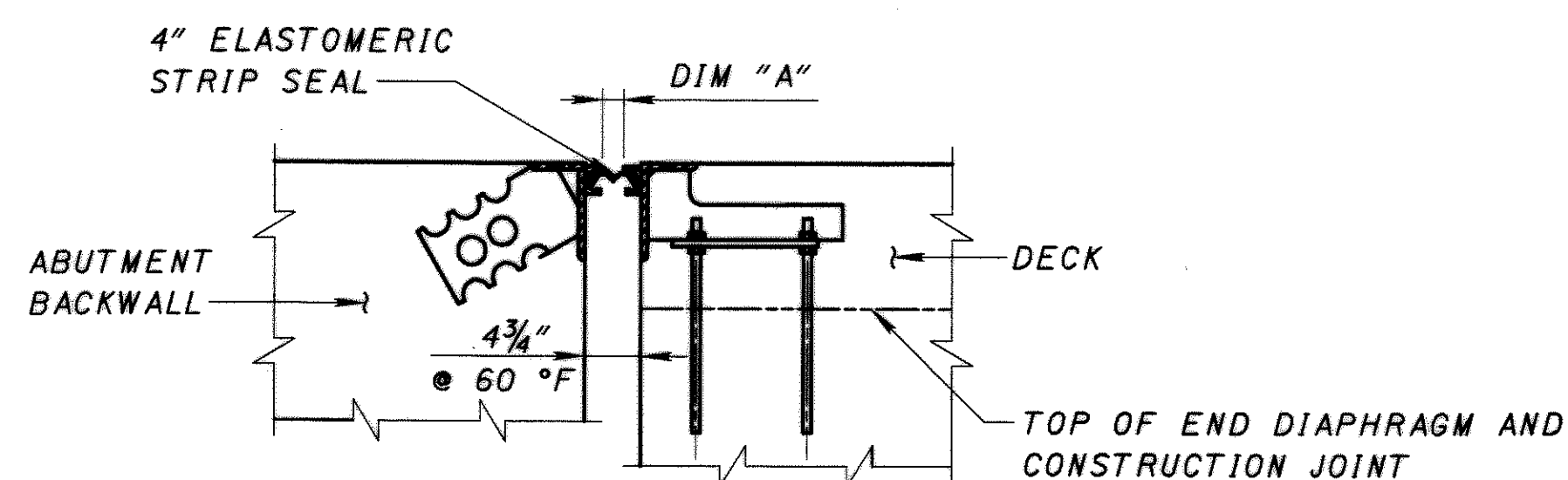
NOTES

- FOR LOCATION OF LIGHT POLE PILASTERS AND PANELS A, B AND C, SEE SHEETS 34/42 AND 35/42.
- FOR ABBREVIATIONS, SEE SHEET 5/42.
- FOR SECTION D-D (AT PIER 4), SEE SHEET 35/42.
- FOR ADDITIONAL LIGHT POLE PILASTER AND LIGHTING DETAILS, SEE STANDARD CONSTRUCTION DRAWING HL-20.14M.
- ITEM 517 - RAILING MISC. : ORNAMENTAL PEDESTRAIN RAILING (CAST-IN-PLACE CONCRETE ALTERNATIVE) RAILING SHALL COMPLY WITH SUPPLEMENTAL SPECIFICATION 842. CONCRETE SHALL BE CLASS S. PAYMENT OF THIS ITEM IS PER LINEAR FOOT AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO COMPLETE THE ABOVE WORK.
- CONDUIT SHALL BE PAID FOR UNDER ITEM 625, SEE SHEET 96/162.

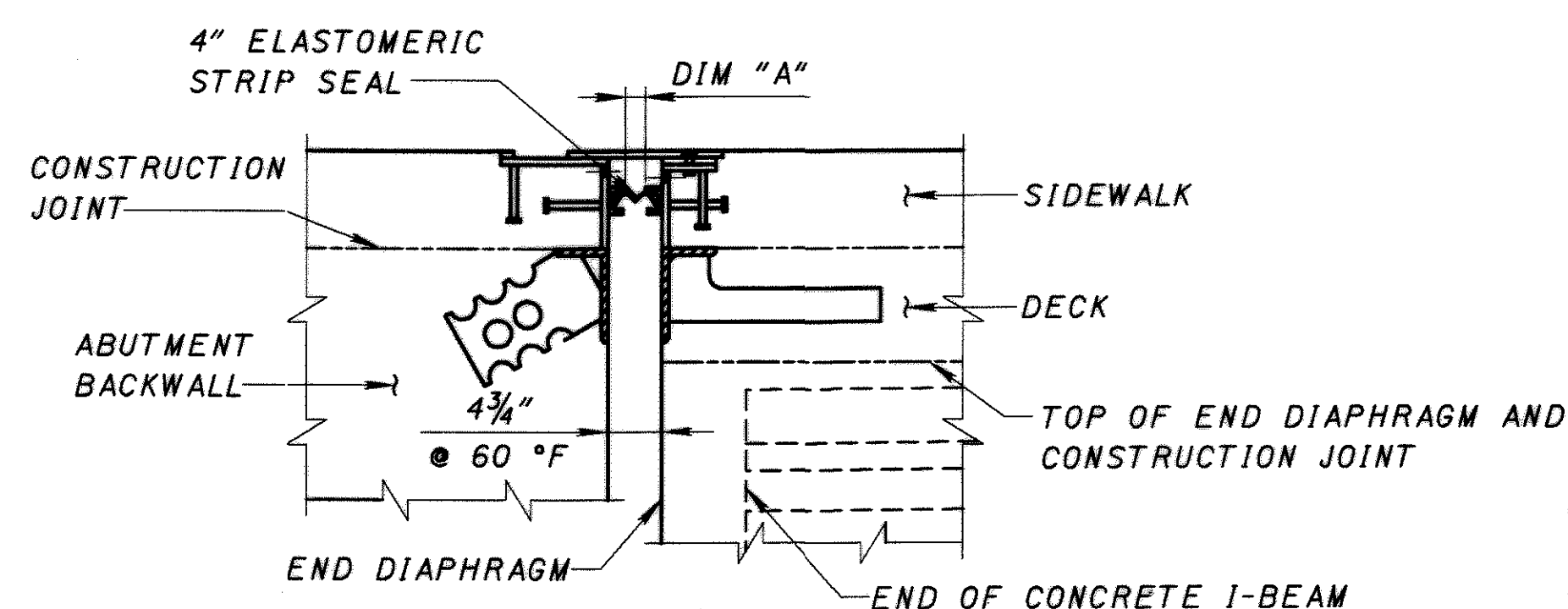




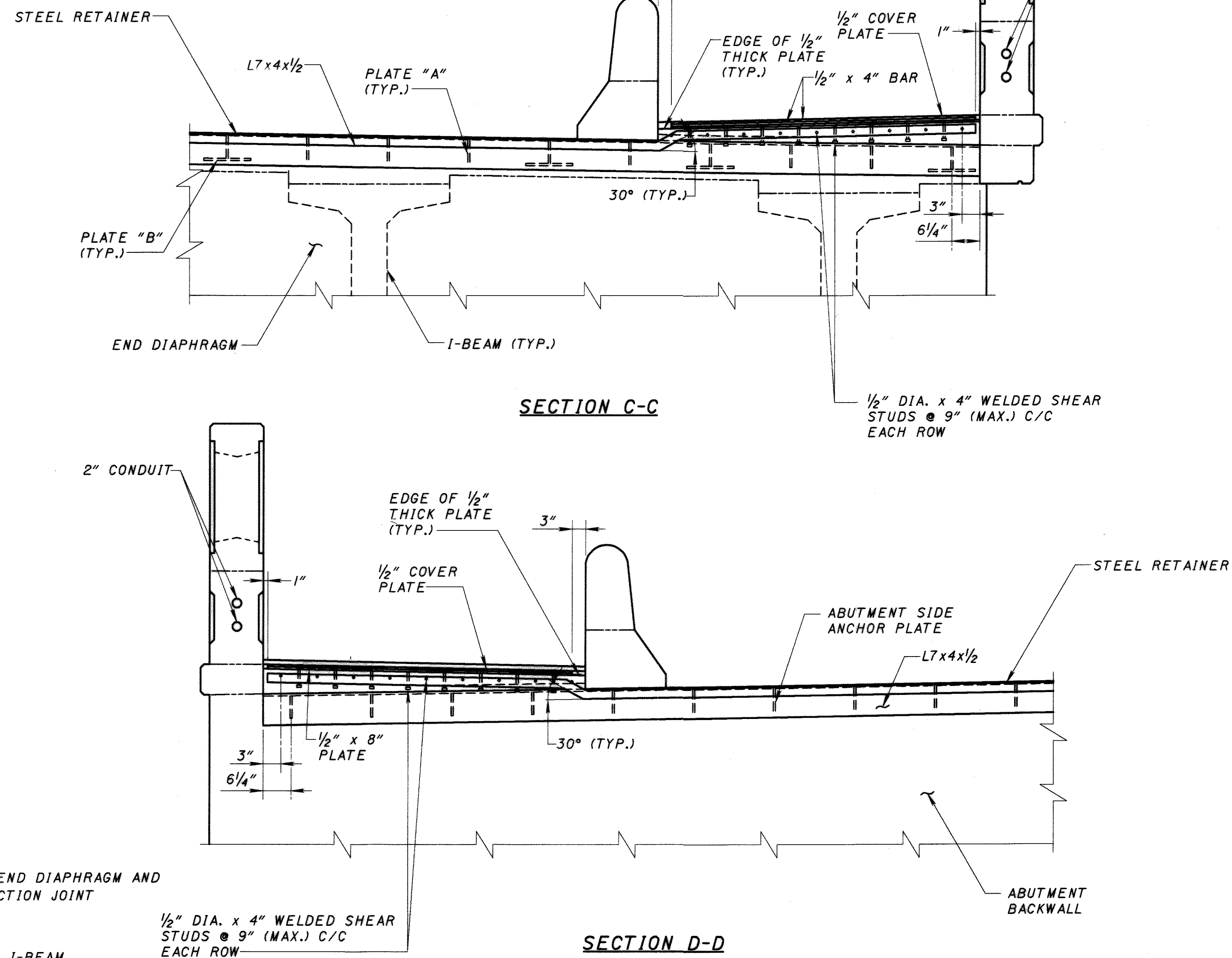
PART PLAN AT FORWARD ABUTMENT
(REAR ABUTMENT SIMILAR)



SECTION A-A



SECTION B-B



SECTION C-C

SECTION D-D

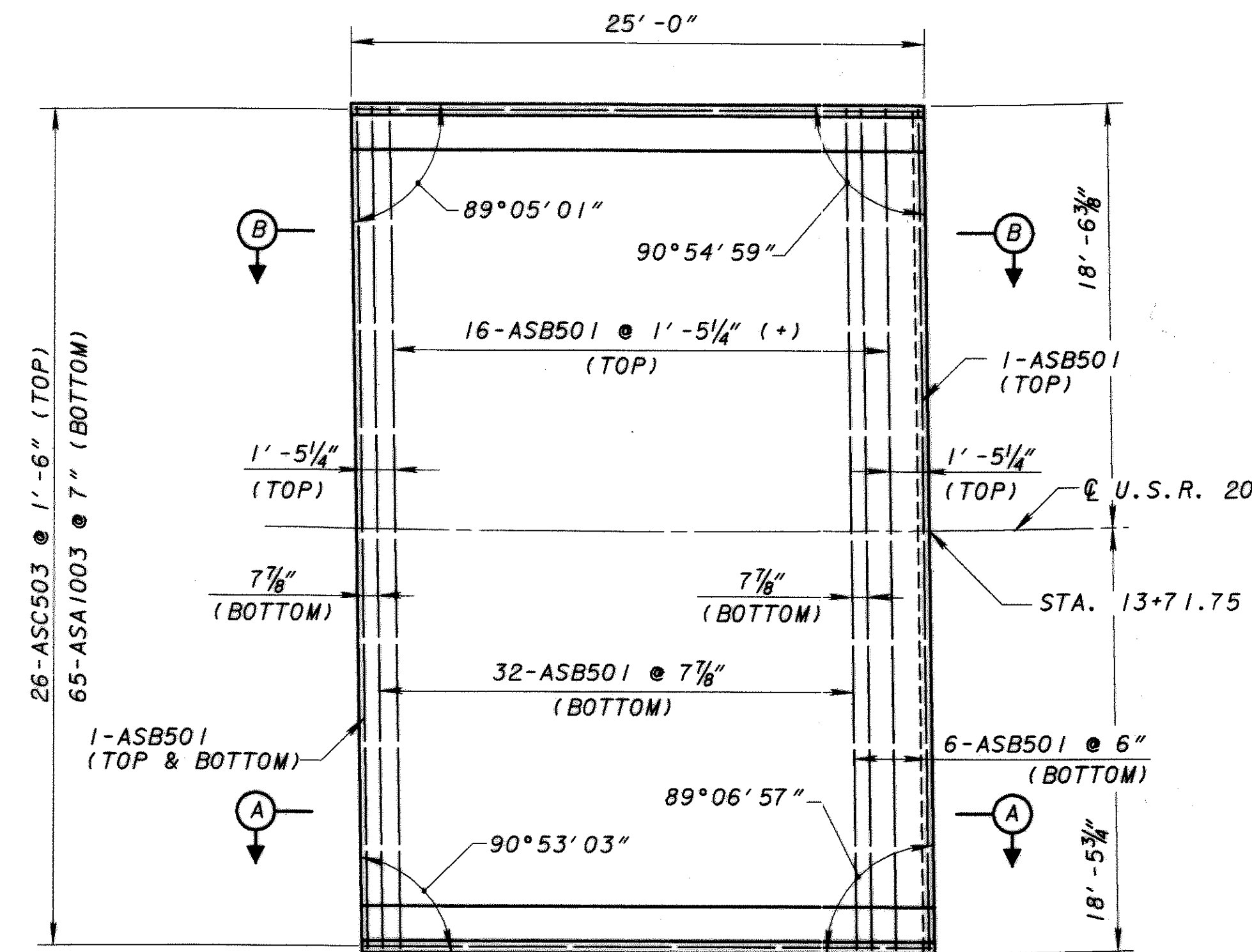
NOTE

1. FOR EXPANSION JOINT DETAILS NOT SHOWN SEE STANDARD DRAWING EXJ-6-95, SHEETS 1 THRU 5.

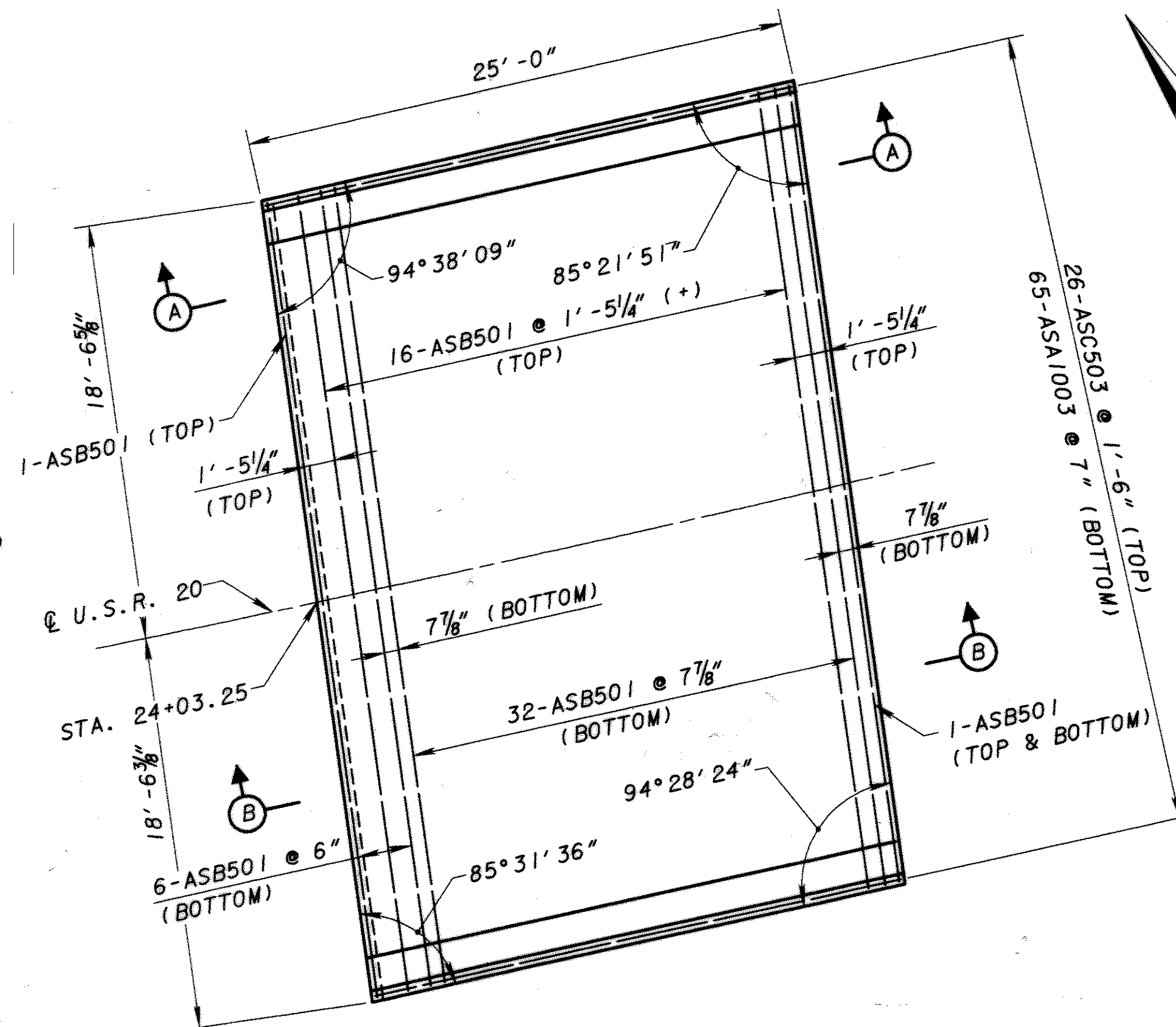
TEMPERATURE (°F)	30	40	50	60	70	80	90
DIMENSION "A" (in) REAR ABUTMENT	3 1/16	2 3/4	2 3/8	2	1 5/8	1 1/4	1 1/8
DIMENSION "A" (in) FORWARD ABUTMENT	3 1/8	2 3/4	2 3/8	2	1 5/8	1 1/4	7/8



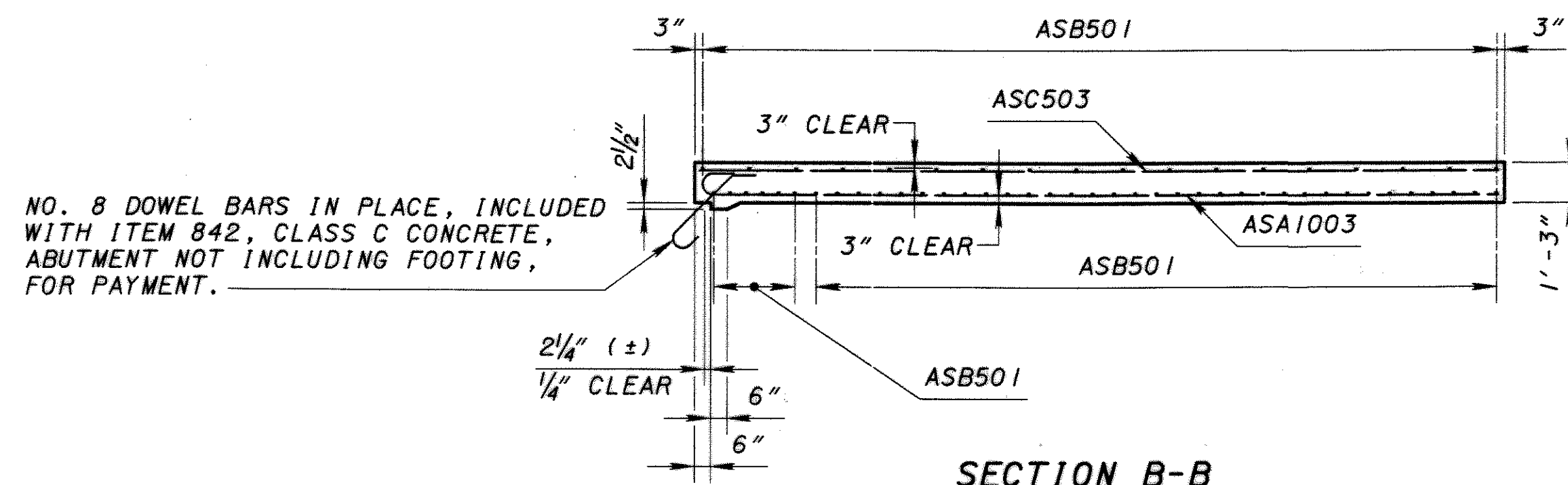
-
- LOWER CROSSFRAME ANGLE
- 10" DIA. SCHEDULE 40 STEEL PIPE
- 1/4"
- 8"
- CL GIRDER B OR E
- 3/8"x6"x6"x1'-10"
BENT PLATE
(GALVANIZED PER 711.02)



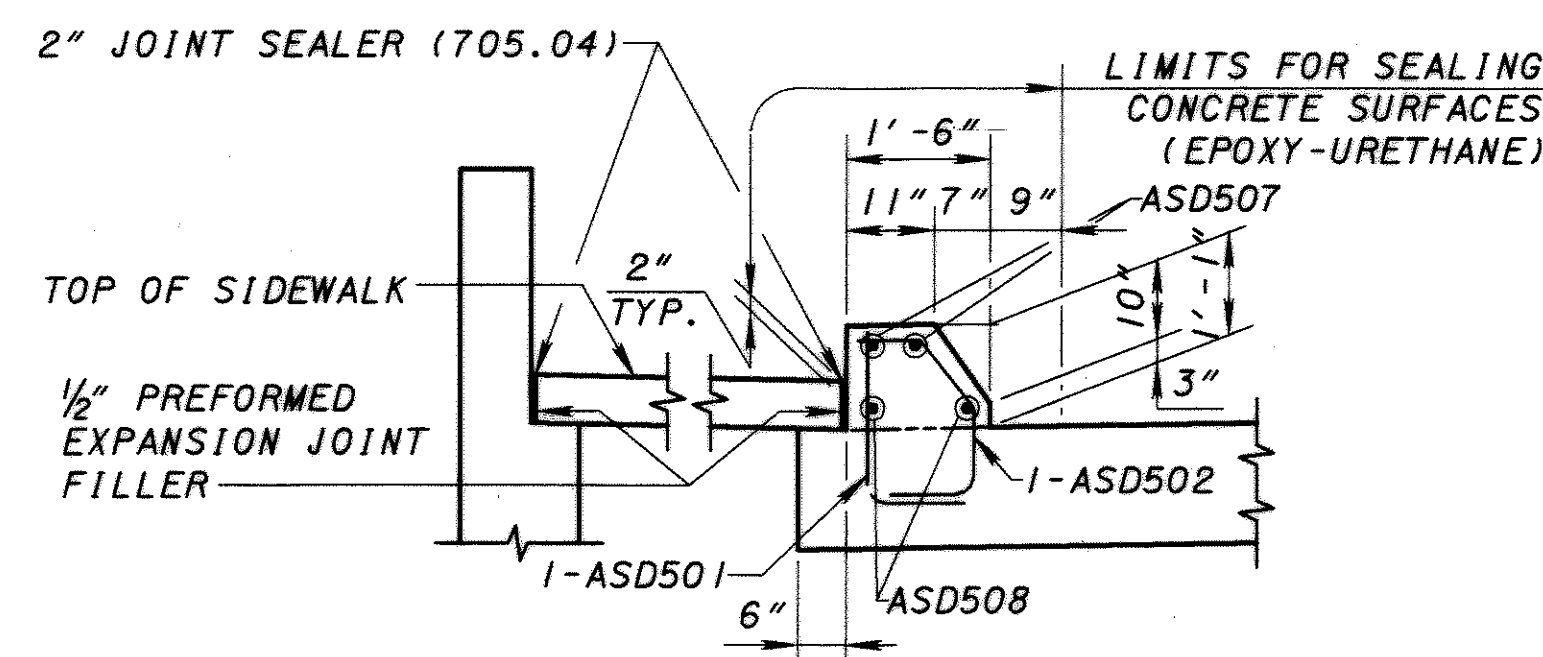
REAR APPROACH SLAB PLAN
(PARTIAL BACKWALL NOT SHOWN)



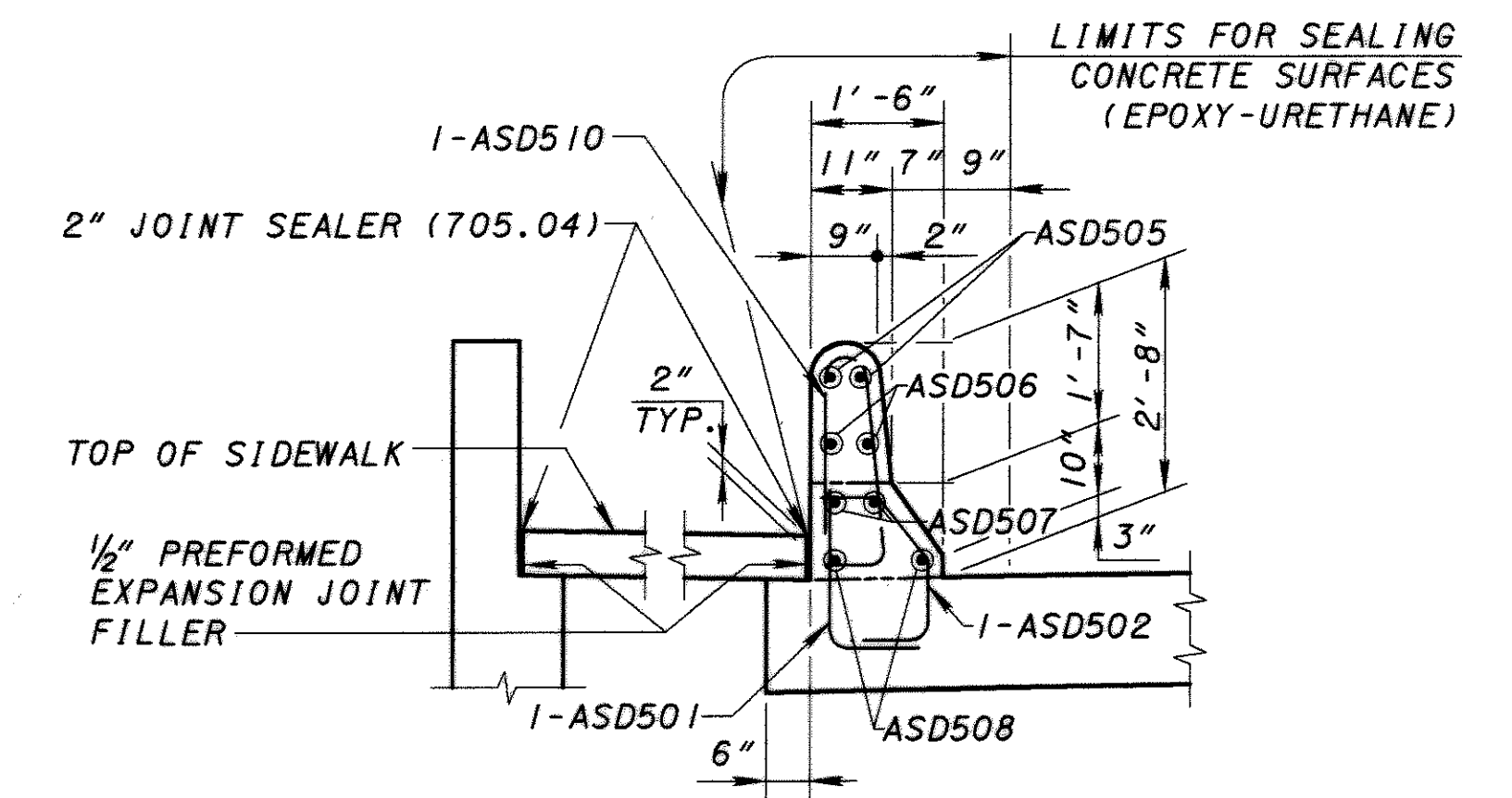
FORWARD APPROACH SLAB PLAN
(PARTIAL BACKWALL NOT SHOWN)



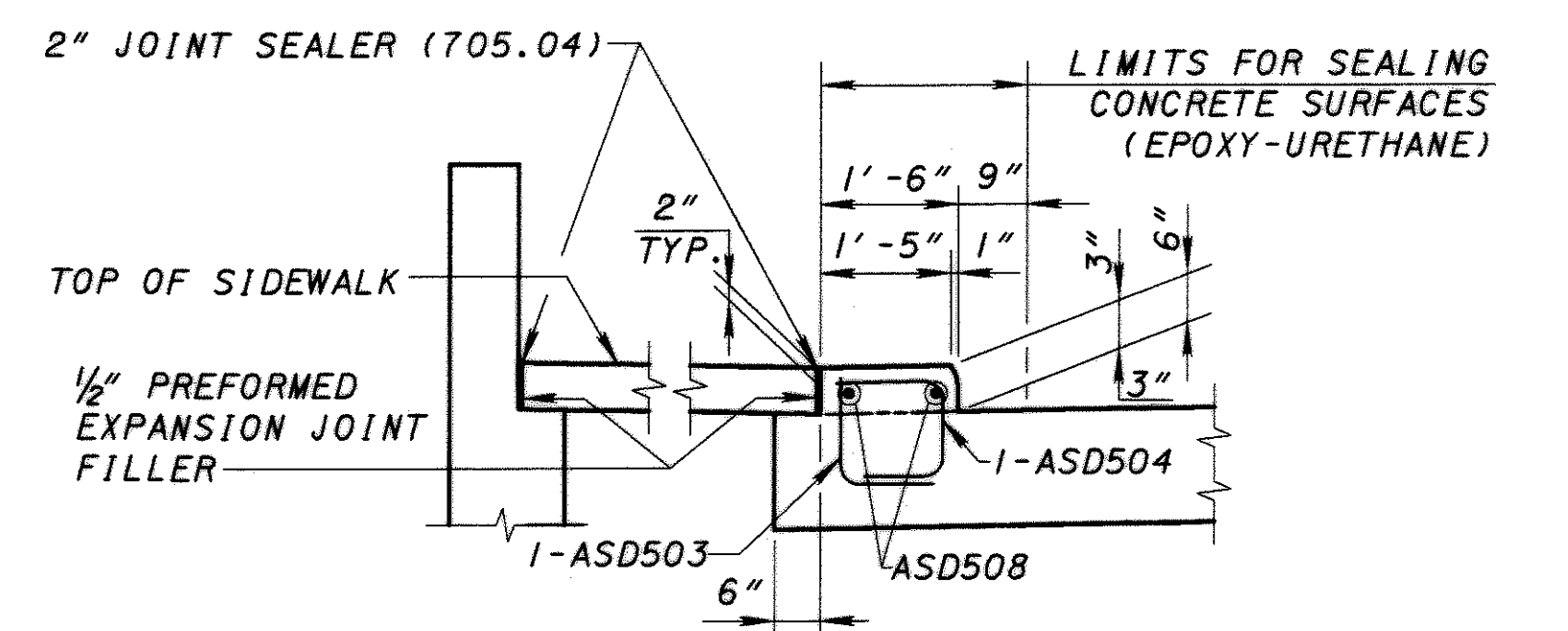
SECTION B-B



SECTION D-D



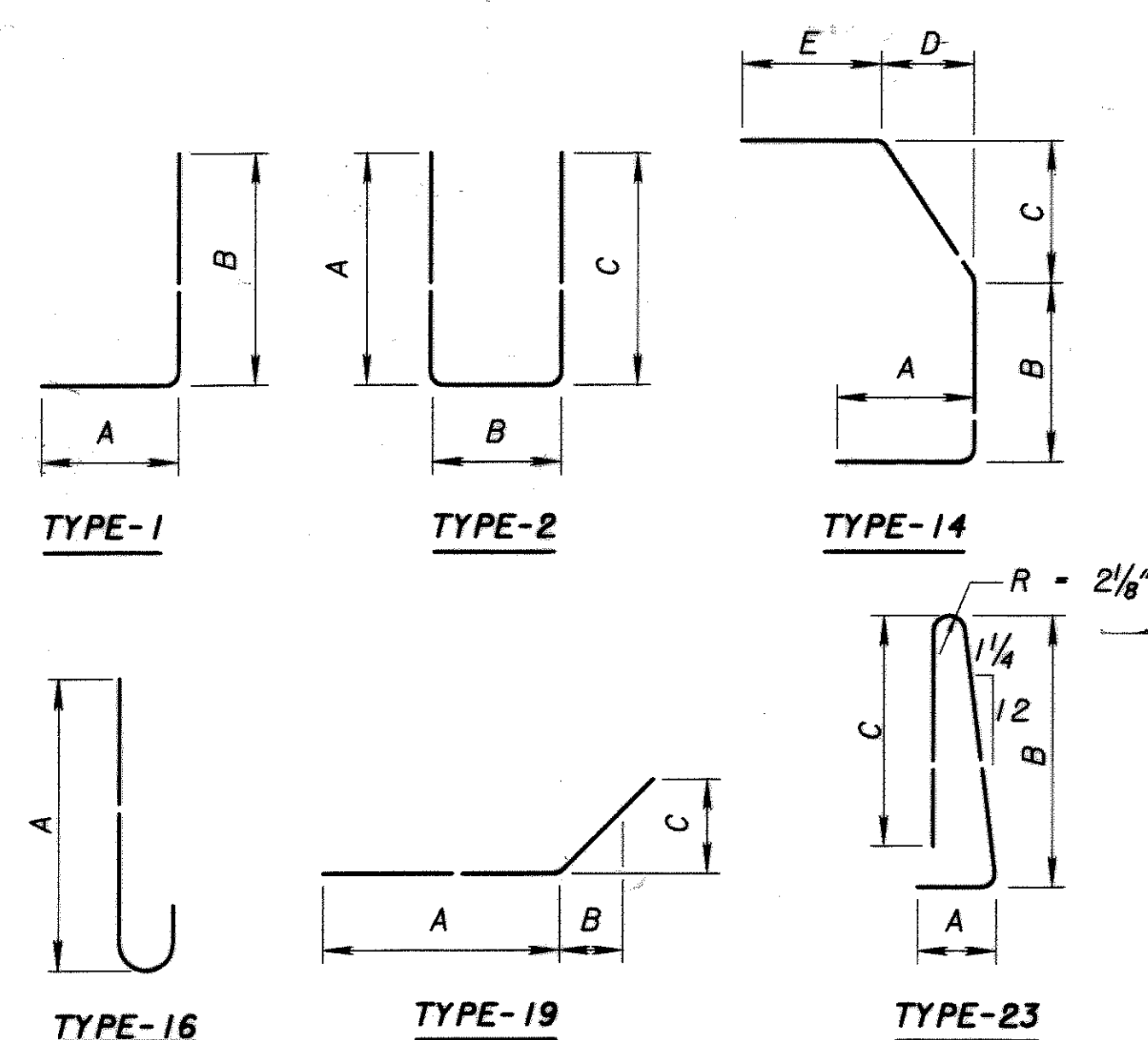
SECTION C-C



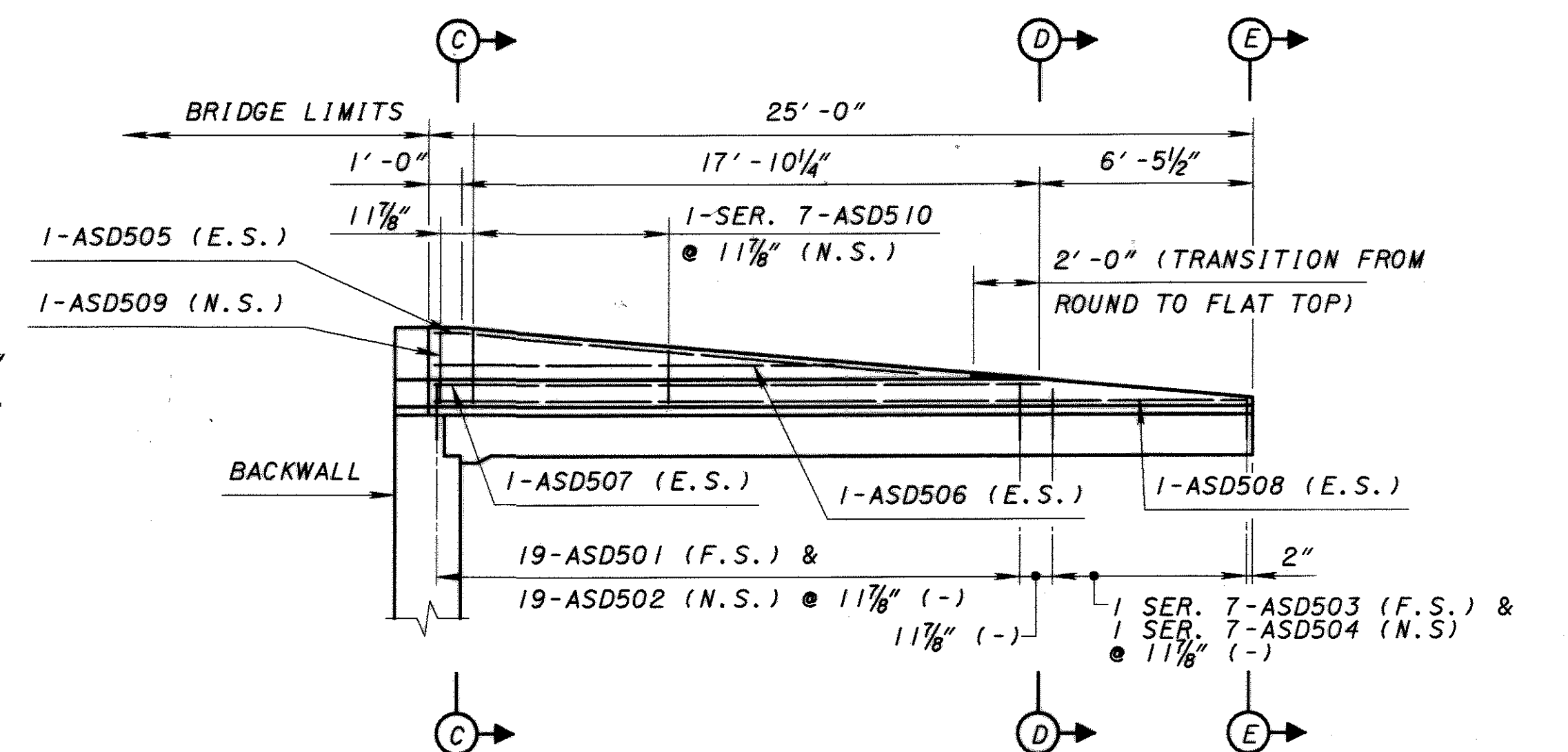
SECTION E-E

REINFORCING SCHEDULE									
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS					INCRM.
ASA1003	65	25'-11"	16	24'-6"					
ASB501	57	37'-6"	STR.						
ASC503	26	24'-6"	STR.						
ASD501	38	2'-6"	1	11"	1'-9"				
ASD502	38	3'-5"	14	10 1/2"	1'-0 1/2"	8 1/2"	6"	9"	
SERIES 2 SETS OF 7	1'-10" TO 2'-5"	1	11"	1'-1" TO 1'-8"					1 3/16"
SERIES 2 SETS OF 7	2'-9" TO 3'-4"	2	1'-1"	1'-1" TO 1'-8"	10 1/2"				1 3/16"
ASD505	4	14'-9"	19	10"	13'-11"	9"			
ASD506	4	12'-1"	STR.						
ASD507	4	8'-0"	STR.						
ASD508	4	24'-8"	STR.						
ASD509	2	5'-3"	23	7 1/2"	2'-5"	2'-2"			
SERIES 2 SETS OF 7	4'-1" TO 5'-1"	23	7 1/2"	1'-10" TO 2'-4"	1'-7" TO 2'-1"				1"

NOTE: REINFORCEMENT SHOWN IS FOR ONE APPROACH SLAB. TWO APPROACH SLABS ARE REQUIRED.



BENDING DIAGRAMS



SECTION A-A

NOTES

1. FOR ADDITIONAL DETAILS SEE STANDARD DRAWING AS-1-81.
2. ALL REINFORCEMENT SHALL BE EPOXY COATED.
3. MINIMUM LAP UNLESS OTHERWISE NOTED:
NO. 5 BARS - 2'-5"
4. 2 INCH JOINT SEALER AND 1/2 INCH PREFORMED EXPANSION JOINT FILLER SHALL BE INCLUDED WITH ITEM 608 - CONCRETE WALK, AS PER PLAN, FOR PAYMENT.
5. CONCRETE FOR BARRIER CURB ON APPROACH SLAB AND SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SHALL BE INCLUDED IN ITEM 611 - REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN, FOR PAYMENT.

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

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0402273

APPROACH SLABS
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

ATB-20-26.19

39/42

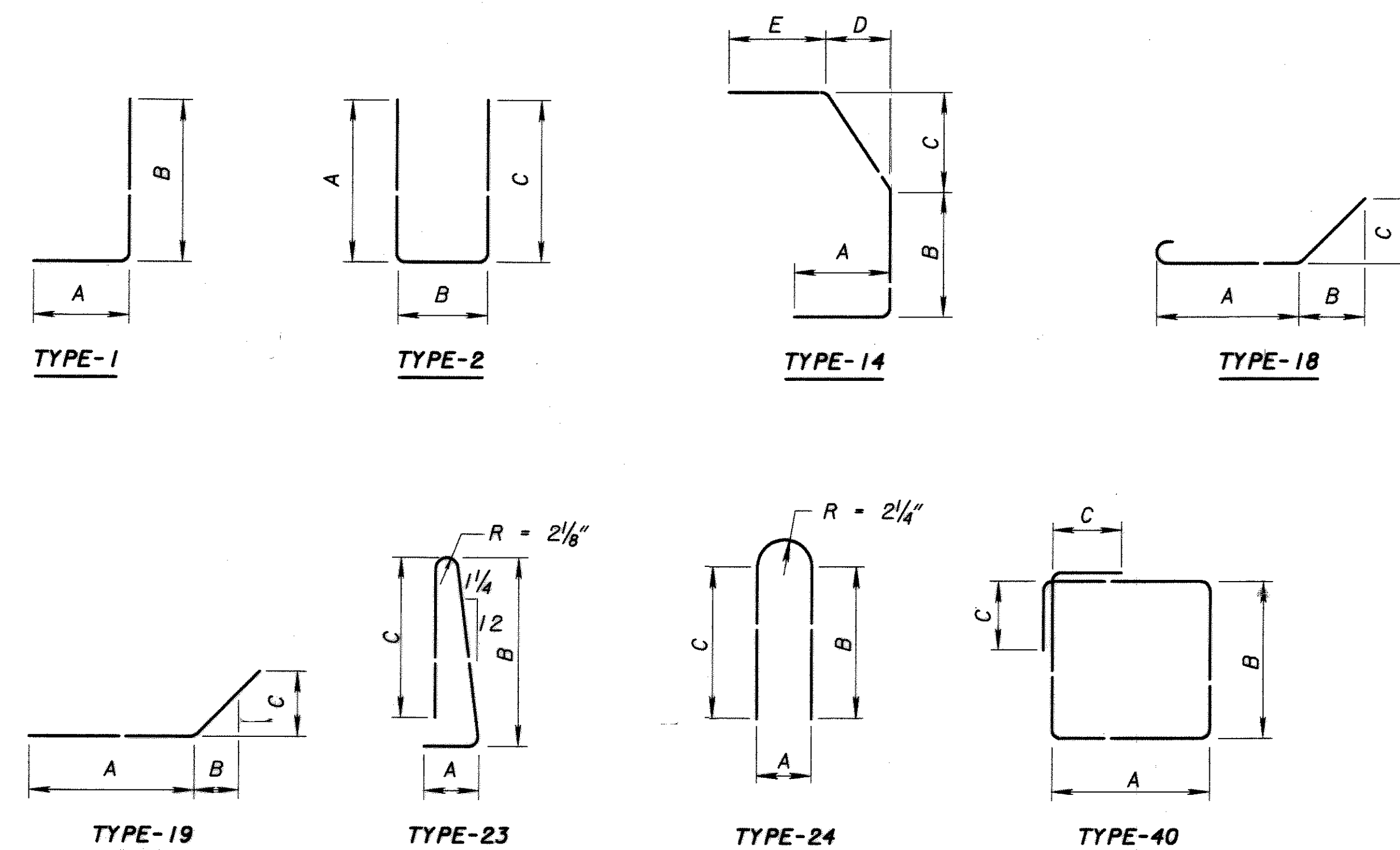
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REINFORCING SCHEDULE												
MARK	TOTAL NO. REQ'D.	LENGTH	TYPE	NUMBER	DIMENSIONS					INCRM.	WEIGHT LBS.	
					A	B	C	D	E			
ABUTMENTS												
				REAR	FWD.							
A501	36	7'-3"	1	36		10"	6'-6"					272
A502	80	8'-3"	2	40	40	10"	6'-10"	10"				688
A503	72	9'-6"	2	36	36	2'-5"	4'-11"	2'-5"				713
A504	72	26'-8"	STR.	34	38							2003
A505	20	27'-2"	STR.	10	10							567
A506	2	38'-0"	STR.	1	1							79
A507	89	9'-6"	STR.	42	47							882
A508	4	6'-6"	STR.	2	2							27
A509	36	5'-8"	STR.	16	20							213
A510	8	3'-2"	14	4	4	10½"	1'-0"	8½"	6"	7"		26
A511	8	2'-7"	1	4	4	11"	1'-9"					22
A512	8	5'-5"	23	4	4	8"	2'-5"	2'-2"				45
A513	32	1'-2"	STR.	16	16							39
A514	4	6'-4"	STR.		4							26
A515	8	14'-5"	STR.	8								120
A516	13	8'-9"	STR.	8	5							119
A517	10	11'-2"	STR.	8	2							116
A518	4	13'-2"	STR.	4								55
A519	24	19'-2"	STR.	16	8							480
A520	8	7'-4"	STR.	4	4							61
A521	36	9'-8"	1		36	10"	8'-11"					363
A522	5	19'-10"	STR.		5							103
A523	5	14'-3"	STR.		5							74
A524	2	16'-8"	STR.		2							35
A525	2	18'-0"	STR.		2							38
A526	8	24'-8"	STR.		8							206
A527	5	14'-6"	STR.		5							76
A528	2	12'-6"	STR.		2							26
A529	45	13'-0"	STR.	30	15							610
A530	4	3'-7"	STR.	4								15
A531	18	11'-8"	STR.	18								219
A532	15	18'-0"	STR.		15							282
A533	21	14'-7"	STR.		21							319
A601	30	15'-8"	2	30		2'-7"	6'-10"	6'-7"				706
A602	20	9'-3"	1	10	10	2'-7"	6'-10"					278
A603	100	10'-10"	2	50	50	4'-9"	1'-8"	4'-9"				1627
A604	76	14'-0"	2	38	38	6'-4"	1'-8"	6'-4"				1598
A605	76	6'-10"	2	38	38	3'-0"	1'-2"	3'-0"				780
A606	4	4'-9"	STR.	2	2							29
A607	4	7'-11"	STR.	2	2							48
A608	24	16'-6"	2	12	12	7'-7"	1'-8"	7'-7"				595
A609	24	7'-6"	2	12	12	3'-4"	1'-2"	3'-4"				270
SERIES	2 SETS	7'-6" TO		2 SETS		3'-6" TO	1'-2"	3'-2" TO				
A610	OF 3	10'-2"	2	OF 3		4'-10"	1'-2"	4'-6"		8"		80
A611	6	7'-2"	2	6		3'-4"	1'-2"	3'-0"				65
A612	12	13'-10"	40	6	6	2'-11"	3'-5"	1'-0"				249
A613	8	4'-10"	1	4	4	1'-7"	3'-4½"					58
A614	30	18'-5"	2		30	2'-7"	6'-10"	9'-4"				830
SERIES	1 SET	8'-10" TO		1 SET		4'-2" TO	1'-2"	3'-10" TO		8"		
A615	OF 3	11'-6"	2	OF 3		5'-6"	1'-2"	5'-2"				46
A616	3	8'-8"	2	3		4'-1"	1'-2"	3'-9"				39
SERIES	1 SET	9'-0" TO		1 SET		4'-3" TO	1'-2"	3'-11" TO		8"		
A617	OF 3	11'-8"	2	OF 3		5'-7"	1'-2"	5'-3"				47
A618	3	8'-10"	2		3	4'-2"	1'-2"	3'-10"				40
A701	24	11'-7"	1	24		1'-2"	10'-7"					568
A702	22	7'-6"	STR.	22								337
A703	4	6'-3"	STR.	2	2							51
A704	31	14'-4"	1		31							908
A705	29	7'-7"	STR.		29							450
A801	20	29'-11"	STR.	10	10							1598
A802	12	30'-10"	STR.	6	6							988
AD801	52	4'-11"	18	26	26	2'-7"	1'-0"	1'-0"				683
A901	20	4'-8"	1	10	10	1'-7"	3'-4½"					317
A902	8	4'-11"	STR.	4	4							134

REINFORCING SCHEDULE												
MARK	TOTAL NO. REQ'D.	LENGTH	TYPE	NUMBER	DIMENSIONS					INCRM.	WEIGHT LBS.	
					A	B	C	D	E			
ABUTMENTS												
				REAR	FWD.							
R508	18	19'-2"	STR.	12	6							360
R509	6	24'-8"	STR.		6							154
R603	120	11'-3"	24	56	64	6"	6'-5"	4'-1"				2028
R604	51	6'-11"	24	24	27	6"	4'-3"	1'-11"				530
R804	6	19'-2"	STR.	4	2							307
R805	2	24'-8"	STR.		2							132
											TOTAL -	25849
RETAINING WALL												
W501	10	2'-10"	1	-	-	1'-1"	1'-10"					30
SERIES	2 SETS	2'-3" TO	1	-	-	1'-1"	1'-3" TO					138
W502	OF 26	2'-10"					1'-10"			1/4"		
W503	180	2'-8"	1			1'-1"	1'-8"					501
W504	2	6'-2"	19	-	-	3'-9"	2'-3"	10 1/4"				13
W505	2	28'-3"	STR.	-	-							59
W506	6	31'-2"	STR.	-	-							195
											TOTAL -	936

NOTES

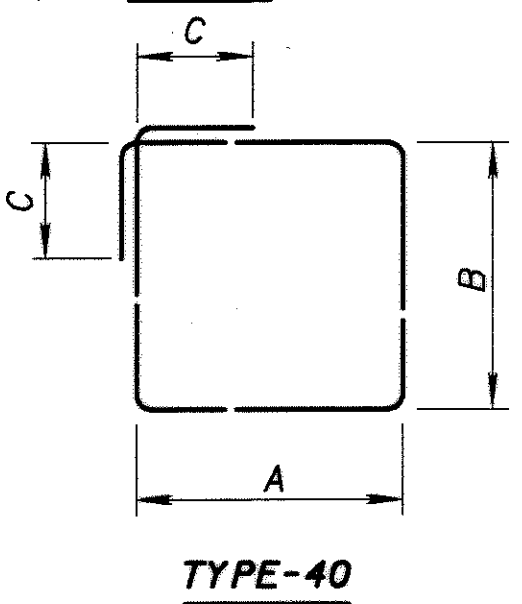
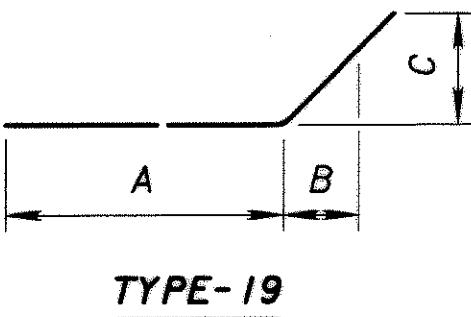
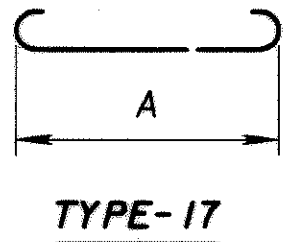
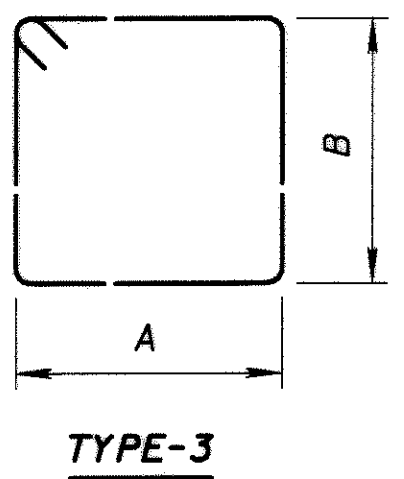
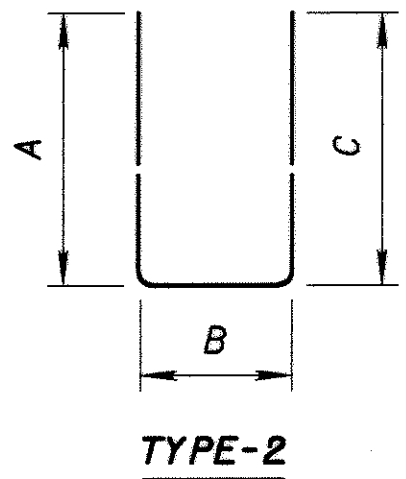
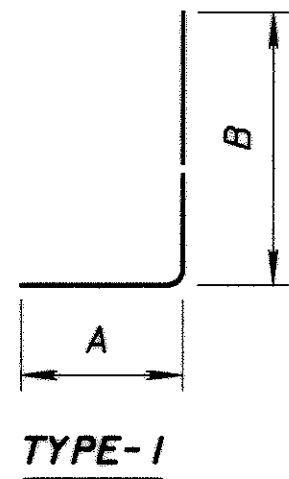
- ALL REINFORCING STEEL TO BE EPOXY COATED.
- THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS UNLESS OTHERWISE NOTED.
- THE WEIGHT OF REINFORCING IS GIVEN FOR INFORMATIONAL PURPOSES ONLY.



BENDING DIAGRAMS

REINFORCING SCHEDULE																		
MARK	NO. REQ'D.	LENGTH	TYPE	NUMBER								DIMENSIONS					INCRM.	WEIGHT LBS.
												A	B	C	D	E		
PIERS																		
				PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7								
P401	558	24'-6"	3	52	80	84	80	86	90	86	6'-0"	6'-0"					9132	
P402	2232	10'-3"	2	208	320	336	320	344	360	344	3'-11 1/2"	2'-6"	3'-11 1/2"				15282	
P403	332	16'-6"	3	44	46	48	50	46	48	50	4'-0"	4'-0"					3659	
P404	1328	7'-3"	2	176	184	192	200	184	192	200	2'-11 1/2"	1'-6"	2'-11 1/2"				6431	
P405	280	9'-5"	2	40	40	40	40	40	40	40	3'-11 1/2"	1'-8"	3'-11 1/2"				176	
P406	280	8'-11"	2	40	40	40	40	40	40	40	3'-3 1/2"	2'-6"	3'-3 1/2"				1668	
P501	90	37'-8"	17	14	12	12	12	12	12	16	36'-6"						3536	
SERIES P502	14 SETS OF 3	36'-3" TO 44'-11"	STR.	2 SETS OF 3	2 SETS OF 3	2 SETS OF 3	2 SETS OF 3	2 SETS OF 3	2 SETS OF 3	2 SETS OF 3						4'-4"	1778	
P503	98	46'-8"	STR.	14	14	14	14	14	14	14							4770	
P504	252	16'-0"	2	36	36	36	36	36	36	36	6'-8"	2'-11"	6'-8"				4205	
P505	252	8'-0"	2	36	36	36	36	36	36	36	2'-8"	2'-11"	2'-8"				2103	
P506	273	9'-3"	2	39	39	39	39	39	39	39	2'-8"	4'-2"	2'-8"				2634	
P507	49	17'-3"	2	7	7	7	7	7	7	7	6'-8"	4'-2"	6'-8"				882	
SERIES P508	14 SETS OF 16	3'-5" TO 17'-2"	2	2 SETS OF 16	2 SETS OF 16	2 SETS OF 16	2 SETS OF 16	2 SETS OF 16	2 SETS OF 16	2 SETS OF 16	4'-9" TO 6'-7 1/2"	4'-2"	4'-9" TO 6'-7 1/2"			1 1/2"	3573	
P509	26	18'-6"	STR.	26													502	
P510	130	16'-6"	STR.		26	26	26	26	26								2237	
P511	26	21'-6"	STR.							26							583	
P601	140	21'-11"	3	20	20	20	20	20	20	20	6'-0"	4'-8"					4609	
P602	70	32'-8"	STR.	10	10	10	10	10	10	10							3435	
P603	42	16'-4"	40	6	6	6	6	6	6	6	4'-2"	3'-5"	1'-0"				1030	
P604	28	4'-10"	1	4	4	4	4	4	4	4	1'-7"	3'-4 1/2"					203	
P701	84	11'-9"	19	12	12	12	12	12	12	12	3'-8"	7'-10"	1'-11 1/2"				2017	
P801	180	16'-6"	STR.		36	36	36	36	36								7930	
P901	36	18'-6"	STR.	36													2264	
P902	140	4'-8"	1	20	20	20	20	20	20	20	1'-7"	3'-4 1/2"					2221	
P903	28	4'-2"	STR.	4	4													

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3. THE WEIGHT OF REINFORCING IS GIVEN FOR INFORMATIONAL PURPOSES ONLY.



BENDING DIAGRAMS

REINFORCING SCHEDULE										
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS					INCRM.	WEIGHT LBS.
				A	B	C	D	E		
BEAMS										
* B401	5716	13'-11"	24	5½"	6'-7¾"	6'-7¾"				53138
* B402	6292	4'-10"	41	1'-11½"	6¼"	8½"	8½"			20315
* B404	5716	2'-8"	STR.							10182
* B501	108	39'-2"	STR.							4412
* B502	720	33'-5"	STR.							25095
* B503	288	36'-11"	STR.							11089
* B504	1152	6'-3"	STR.							7510
									TOTAL =	131740
DIAPHRAGMS										
D401	42	14'-0"	24	5½"	6'-7¾"	6'-7¾"				393
D402	42	4'-10"	41	1'-11½"	6¼"	8½"	8½"			136
D403	156	10'-0"	2	4'-3"	1'-8"	4'-3"				1042
D404	42	2'-8"	STR.							75
D405	62	15'-11"	6	2'-1"	6'-5"	8"				659
D406	155	15'-6"	6	1'-8"	6'-5"	8"				1605
D407	8	15'-3"	6	2'-1"	6'-1"	8"				81
D408	20	14'-10"	6	1'-8"	6'-1"	8"				198
D601	320	7'-7"	STR.							3645
D602	216	9'-11"	13	4'-3"	8"	8"	4'-9"			3217
D603	16	2'-0"	STR.							48
D604	8	6'-7"	13	4'-3"	8"	8"	1'-5"			79
D605	16	25'-11"	STR.							623
D606	72	9'-5"	13	4'-3"	8"	8"	4'-2"			1018
D607	72	4'-10"	19	4'-3"	5"	5"				523
									TOTAL =	13342
DECK SLAB										
S401	1372	2'-0"	2	11"	8"	8"				1833
S402	1372	1'-9"	2	8"	8"	8"				1604
S501	4500	26'-11"	STR.							126333
S502	2250	23'-1"	STR.							54171
S503	4950	30'-0"	STR.							154886
SERIES S505	1 SET OF 59	31'-3" TO 37'-9"	STR.						1½"	2123
S506	16	32'-3"	STR.							538
S507	8	37'-7"	STR.							314
S508	8	36'-9"	STR.							307
S509	1372	5'-3"	23	7½"	2'-5"	2'-2"				7513
S510	1372	2'-11"	14	10½"	8½"	8½"	6"	9"		4174
S511	1372	2'-2"	1	11"	1'-5"					3100
S512	1372	6'-9"	STR.							9659
S513	3	35'-4"	STR.							111
S514	3	30'-1"	STR.							94
S515	3	38'-2"	STR.							119
S516	2	39'-6"	STR.							82
S517	910	60'-0"	STR.							56948
S601	1593	40'-0"	STR.							95707
SERIES S602	1 SET OF 59	22'-11" TO 29'-3"	STR.						1½"	2311
S603	3	39'-0"	STR.							176
S604	4	38'-1"	STR.							229
S605	364	60'-0"	STR.							32804
									TOTAL =	555136
RAILING										
R501	444	30'-0"	STR.							13893
R502	6	3'-9"	STR.							23
R503	6	10'-4"	STR.							65
R504	198	6'-11"	21	1'-4"	1'-5"	6"	1'-10"			1428
R505	72	13'-1"	2	5'-8"	2'-0"	5'-8"				982
R506	72	3'-5"	2	10"	2'-0"	10"				257
R507	72	5'-8"	STR.							426
R601	2898	12'-9"	31	6"	1'-10"	4'-5"	4'-3"			55498
R602	1175	8'-5"	31	6"	1'-10"	2'-3"	2'-1"			14854

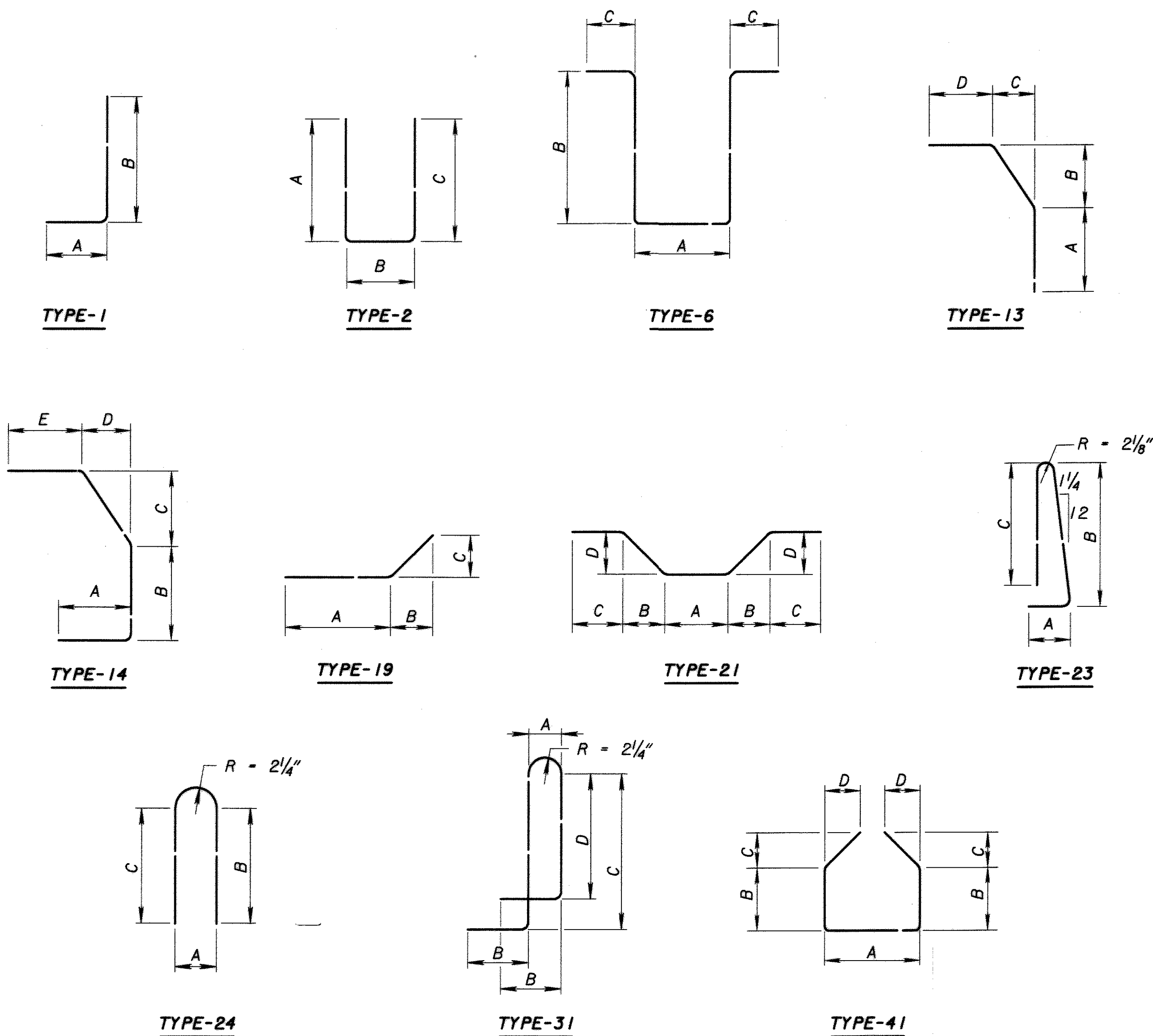
REINFORCING SCHEDULE										
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS					INCRM.	WEIGHT LBS.
				A	B	C	D	E		
RAILING										
R801	160	30' -0"	STR.							12816
R802	2	21' -0"	STR.							112
R803	2	27' -7"	STR.							147
									TOTAL -	100502

LEGEND

* DENOTES REINFORCING STEEL INCLUDED FOR PAYMENT WITH ITEM 865, EACH, DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE 4 MODIFIED.

NOTES

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BENDING DIAGRAMS

DESIGN AGENCY
MCCOY ASSOCIATES, INC.
367 GHEENT ROAD
AKRON, OHIO 44333

DATE
6-11-02
REVIEWED
JBH
STRUCTURE FILE NUMBER
0402273

DRAWN
SL
CHECKED
SL

REINFORCING SCHEDULE
BRIDGE NO. ATB-20-2628
OVER BESSEMER & LAKE ERIE RAILROAD AND CONNEAUT CREEK

ATB-20-26.19

42/42

139
162