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1. **CONSTRUCTION SPECIFICATIONS:** \_\_\_\_\_ EDITION ALABAMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND APPLICABLE SPECIAL PROVISIONS.
2. **DESIGN SPECIFICATION AND LOADING:** THIS BRIDGE HAS BEEN DESIGNED TO CONFORM TO THE \_\_\_\_\_ EDITION OF THE AASHTO LRFD DESIGN SPECIFICATIONS AND THE \_\_\_\_\_ EDITION OF THE ALDOT BRIDGE BUREAU STRUCTURES DESIGN MANUAL. DESIGN LOADING: \_\_\_\_\_ AASHTO.
3. **CONCRETE SURFACE FINISH:** CLASS 3 SURFACE FINISH SHALL APPLY TO THIS BRIDGE SITE.
4. **WASHING:** ALL SPILLED CONCRETE AND SPLASHES SHALL BE WASHED OFF STRUCTURAL STEEL BY WATER HOSE IMMEDIATELY AFTER SLAB IS POURED.
5. **PILING:** MAXIMUM DESIGN LOADING PER PILE: IN ABUTMENTS \_\_\_\_\_ TONS  
IN BENTS \_\_\_\_\_ TONS
6. **CLEARANCE (RAILROAD):** VERTICAL CLEARANCE SHALL BE MAINTAINED ABOVE HIGH POINT OF RAIL WITHIN THE CONFINES OF THE STRUCTURE. HORIZONTAL CLEARANCE SHALL BE MAINTAINED WITH RESPECT TO CENTERLINE OF RESPECTIVE TRACKS. SEE SPECIAL PROVISION FOR CONSTRUCTION CLEARANCE REQUIREMENTS, ETC.
7. **WIDENING AND/OR RAISING BRIDGE:** ALL DIMENSIONS SHOWN ARE APPROXIMATE ONLY AND SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING SHOP DRAWINGS AND ORDERING MATERIAL THAT COULD BE AFFECTED BY THE FIELD SURVEY RESULTS.
8. **OMIT**
9. **PAINTING:** PAINT SYSTEM NO. \_\_\_\_\_ SHALL BE USED ON ALL SHOP AND FIELD PAINTING.
10. **PILE ENCASEMENTS:** ALL CONCRETE AND REINFORCEMENT IN PILE ENCASEMENTS SHALL BE PAID FOR AS "CU. YDS. BRIDGE SUBSTRUCTURE CONCRETE" AND "POUNDS STEEL REINFORCEMENT." FURNISHING OF ALL NECESSARY EQUIPMENT AND CONSTRUCTION OF ALL SHEETING AND SHORING, CRIBS, COFFERDAMS, CAISSONS, DE-WATTERING, ETC. WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE PILE ENCASEMENTS SHALL BE A SUBSIDIARY OBLIGATION OF PAY ITEM 510A, BRIDGE SUBSTRUCTURE CONCRETE.
11. **FIELD WELDING:** THE FOLLOWING FIELD WELDS MAY BE MADE BY AN ELECTRIC ARC WELDER WHO DEMONSTRATES TO THE PROJECT ENGINEER THAT HE IS A PROFICIENT WELDER: 1) PILE CAP PLATES AND PILE CAP CHANNELS TO PILES 2) FIELD SPLICES IN BRIDGE JOINT ARMOR PLATES. THIS WELDER IS NOT REQUIRED TO HAVE A QUALIFICATIONS CARD ISSUED BY THE ALABAMA DEPARTMENT OF TRANSPORTATION. ALL OTHER FIELD WELDS SHALL BE PERFORMED BY WELDERS WHO POSSESS CURRENT ALABAMA DEPARTMENT OF TRANSPORTATION WELDERS QUALIFICATIONS CARDS.
12. **RIPRAP:** THE RIPRAP APRON LENGTH AS REQUIRED ON SPECIAL DRAWING NUMBER RR-610 SHALL BE \_\_\_\_\_ FEET AT THE BEGINNING OF THE BRIDGE AND \_\_\_\_\_ FEET AT THE END OF THE BRIDGE.
13. **TRAFFIC PROTECTION:** THE BRIDGE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN TRAFFIC PROTECTION DURING CONSTRUCTION OF THE OVERPASS. ALL PROTECTORS SHALL BE ADEQUATELY FRAMED AND COVERED WITH 3/8" (MINIMUM) EXTERIOR GRADE PLYWOOD OR APPROVED EQUAL STRENGTH MATERIAL. THE VERTICAL CLEARANCE SHALL BE THE MAXIMUM OBTAINABLE BUT NOT LESS THAN 14'-0" UNLESS OTHERWISE SHOWN ON THE PLANS. THE EXACT VERTICAL CLEARANCE IS TO BE DETERMINED AFTER THE PROTECTORS HAVE BEEN DESIGNED. THE CONTRACTOR SHALL SUBMIT SKETCHES OF THE PROTECTION TO THE ENGINEER PRIOR TO CONSTRUCTION. ADDITIONALLY, TRAFFIC PROTECTION SHALL EXTEND 5'-0" INSIDE THE LIMITS OF REMOVAL OF EXISTING BRIDGES BEING WIDENED. SEE BRIDGE SPECIAL PROJECT DRAWING TP-1 FOR FURTHER DETAILS.  
  
THE CONTRACTOR SHALL NOTIFY THE STATE MAINTENANCE ENGINEER IN MONTGOMERY FIVE (5) DAYS IN ADVANCE WHEN RESTRICTED VERTICAL CLEARANCE WILL BE EFFECTIVE AND ALSO THE DATE THE RESTRICTION IS REMOVED.  
  
PAYMENT FOR TRAFFIC PROTECTION SHALL BE A SUBSIDIARY OBLIGATION OF PAY ITEM 510C AND SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY FOR CONSTRUCTION AND REMOVAL OF SAME.
14. **WELDED STUDS:** ALL STUDS ON BEAMS AND GIRDERS SHALL BE ALIGNED WITH MAIN TRANSVERSE REINFORCING BARS. ANY GALVANIZING REQUIRED SHALL BE DONE AFTER STUD WELDING IS COMPLETED.
15. **DECK JOINTS:** ALL BRIDGE DECK JOINTS SHALL BE SEALED IN ACCORDANCE WITH THE DETAILS SHOWN ON BRIDGE SPECIAL PROJECT DRAWING SBD-1 WITH SILICONE.
16. **POURING CURBS, RAILS, AND SIDEWALKS:** ALL SLAB CONCRETE SHALL BE POURED PRIOR TO POURING ANY CURBS, RAILS, OR SIDEWALKS ON ANY SIMPLE SPAN, OR ANY CONTINUOUS UNIT.

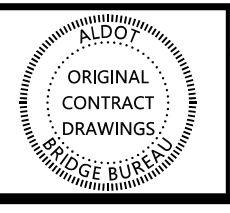
17. **REMOVING BRIDGE DECKS:** THE EXISTING GIRDERS SHALL NOT BE DAMAGED IN ANY WAY DUE TO THE REMOVAL OF THE BRIDGE DECK. THE CONTRACTOR SHALL NOT USE ANY REMOVAL EQUIPMENT LARGER THAN A 70 POUND HAND HELD PAVEMENT BREAKER. THE HAMMER SIZE SHALL BE LIMITED TO 35 POUNDS WHEN WORKING WITHIN 6" OF THE BREAKLINE OR EDGE OF GIRDER. CARE SHALL BE TAKEN NOT TO DAMAGE THE CONCRETE AND STEEL REINFORCEMENT TO BE RETAINED. WHERE THE DECK IS BEING REMOVED BETWEEN GIRDERS FOR ARMOR JOINT REPLACEMENT, THE CONSTRUCTION JOINT SHALL BE TAPERED TOWARD THE BREAKOUT AREA TO PREVENT SPALLS ON THE UNDERSIDE OF THE SLAB. THE CONTRACTOR SHALL REPAIR CONCRETE SPALLS AND DAMAGED STEEL REINFORCEMENT, AT NO ADDITIONAL COST TO THE PROJECT, BY A METHOD APPROVED BY THE ENGINEER.
18. **SHOP DRAWINGS:** STRUCTURAL STEEL DETAILS SHOWN ON THE PLANS ARE FOR ESTIMATING PURPOSES ONLY, AND ARE NOT GUARANTEED BY THE STATE TO BE ENTIRELY COMPLETE AND CORRECT. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CORRECT SHOP DRAWINGS AND DETAIL DIMENSIONS TO FIT THE STRUCTURE. ATTENTION IS CALLED TO SECTION 105, PARTICULARLY ARTICLE 105.02, AND ARTICLE 836.14 OF THE SPECIFICATIONS.
19. **COLUMN REINFORCING BARS:** WHEN THE CAP IS NOT MORE THAN TWO (2) INCHES WIDER ON EACH SIDE OF THE COLUMN, THE FOLLOWING SHALL APPLY: COLUMN BARS SHALL BE TIED TO THE TOP FEW COLUMN HOOPS IN A MANNER THAT WILL ALLOW COLUMN BARS TO CLEAR CAP REINFORCING AND BE LOCATED INSIDE OF CAP REINFORCING.
20. **MANDATORY NOTCH TOUGHNESS REQUIREMENTS FOR STRUCTURE STEEL:** MEMBERS AS SPECIFIED IN SECTION 836.01 (b) 1 OF CURRENT ALABAMA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST. A MEMBER SHALL BE ORDERED WITH ADDITIONAL LENGTH SO THE CONTRACTOR CAN FURNISH THE BUREAU OF MATERIALS AND TESTS AN EIGHTEEN (18) INCH SAMPLE FOR CHECK TESTING.
21. **PRESTRESSED CONCRETE GIRDERS WITH POURED-IN-PLACE DECK:**
  - (A) SHOP DRAWINGS: SHOP DRAWINGS SHALL BE SUBMITTED AND SHALL SHOW A COMPLETE DETENSIONING SCHEDULE THAT WILL MINIMIZE TENSION IN THE CONCRETE DURING RELEASE OF THE STRANDS. DETAILED CONCRETE STRESSES DURING EACH OPERATION OF DETENSIONING SHALL BE SUBMITTED WITH THE DRAWINGS. THE SHOP DRAWINGS SHALL SHOW COMPLETE GIRDER DETAILS INCLUDING SHIELDING AND ALL REINFORCING AND STRUCTURAL STEEL.
  - (B) FORMS: ALL GIRDERS SHALL BE CAST ON CONCRETE FLOORED PALLETS AND IN METAL FORMS.
  - (C) FINISH: THE ENTIRE TOP OF THE GIRDERS SHALL BE SCRUBBED TRANSVERSELY TO A FULL MAGNITUDE OF APPROXIMATELY 1/4" AT THE TIME OF INITIAL SET TO REMOVE ALL LAITANCE AND TO PROVIDE A ROUGHENED SURFACE. THE USE OF ALL MEMBRANE CURING COMPOUND SHALL NOT BE PERMITTED ON THE TOP OF THE TOP FLANGE OF PRESTRESSED GIRDERS.
  - (D) SCARIFYING: GIRDER SIDES AT EDGE BEAMS/END WALLS SHALL BE SCARIFIED FOR BONDING AFTER GIRDERS HAVE BEEN ERECTED AND FORM LINES HAVE BEEN ESTABLISHED.
  - (E) INSERTS: INSERTS ENCASED IN TOP OF EXTERIOR GIRDERS FOR USE IN FORMING OVERHANG WILL BE CONSIDERED ON GIRDER DETAILS SUBMITTED FOR APPROVAL.
  - (F) MISC. HARDWARE: ACCESSORIES ENCASE IN GIRDERS FOR USE IN ATTACHING ANY TEMPORARY BRACING WILL BE CONSIDERED ON GIRDER DETAILS SUBMITTED FOR APPROVAL. AFTER TEMPORARY BRACING IS REMOVED, ANY HOLES THAT EXIST SHALL BE GROUTED AND SURFACE RUBBED TO A NEAT FINISH.
22. **CONCRETE PEDESTALS:** CONCRETE PEDESTALS MAY BE POURED CONCURRENTLY WITH THE CAP OR POURED SEPARATELY IF A TYPE II EPOXY ADHESIVE IS APPLIED TO THE CONSTRUCTION JOINT JUST PRIOR TO POURING THE PEDESTALS.
23. **ANCHOR BOLT INSTALLATION:** WELLS ARE REQUIRED FOR THE PLACEMENT OF ANCHOR BOLTS. SEE SECTION 508.03 (d) 2e OF THE STANDARD SPECIFICATIONS FOR FURTHER REQUIREMENTS.
24. **BRIDGE DECK FINISH:** THE FINAL BRIDGE DECK FINISH BEHIND THE SCREED SHALL BE OBTAINED BY BURLAP DRAG TO MATCH THE EXISTING DECK FINISH.
25. **YEAR OF COMPLETION AND REFERENCE MARK:** THE YEAR OF COMPLETION OF THIS STRUCTURE, AND THE PERMANENT REFERENCE MARK, AS SHOWN ON BRIDGE SPECIAL PROJECT DRAWING BBR-1 OR BBR-2 AND SBD-1 ARE REQUIRED FOR THIS STRUCTURE.
26. **DRILLED SHAFTS:** EXTERIOR SURFACES OF PERMANENT CASINGS FOR DRILLED SHAFTS SHALL BE COATED (PRIMER COAT ONLY) FROM THE TOP OF THE CASING DOWN TO \_\_\_\_\_.
27. **METAL STAY-IN-PLACE FORMS:** THIS STRUCTURE HAS BEEN DESIGNED TO ALLOW THE USE OF METAL STAY-IN-PLACE FORMS AT THE CONTRACTOR'S OPTION. SEE SUB-ARTICLE 501.03 (I) OF THE SPECIFICATIONS FOR NECESSARY DETAILS AND REQUIREMENTS. NO FIELD WELDING WILL BE PERMITTED ON STRUCTURAL STEEL MEMBERS UNLESS OTHERWISE NOTED ON THE BRIDGE DRAWINGS. THE CONTRACTOR SHALL EXERCISE CARE WHEN INSTALLING STAY-IN-PLACE FORMS TO INSURE THAT NO FIELD WELDS OR ARC STRIKES OCCUR ON THE STRUCTURAL STEEL MEMBERS.

28. **SUBSURFACE INVESTIGATION:** GENERAL SOIL STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON AN ENGINEERING INTERPRETATION OF ALL AVAILABLE SUBSURFACE INFORMATION BY THE GEOTECHNICAL SECTION OF THE BUREAU OF MATERIALS AND TESTS OR FOUNDATION CONSULTANTS AND MAY NOT NECESSARILY REFLECT THE ACTUAL VARIATION IN SUBSURFACE CONDITIONS BETWEEN BORINGS AND SAMPLES. DETAILED DATA AND FIELD INTERPRETATION OF CONDITIONS ENCOUNTERED IN INDIVIDUAL BORINGS ARE SHOWN ON THE BORING LOGS.  
  
THE OBSERVED WATER LEVELS AND CONDITIONS INDICATED ON THE SOIL PROFILE AND BORING LOGS ARE AS RECORDED AT THE TIME OF EXPLORATION. THESE WATER LEVELS AND CONDITIONS MAY VARY CONSIDERABLY, WITH TIME, ACCORDING TO THE PREVAILING CLIMATE, RAINFALL OR OTHER FACTORS AND ARE OTHERWISE DEPENDENT ON THE DURATION OF AND THE METHODS USED IN THE EXPLORATION PROGRAM.  
  
SOUND ENGINEERING JUDGEMENT WAS EXERCISED IN PREPARING THE SUBSURFACE INFORMATION PRESENTED HEREIN. THIS INFORMATION WAS PREPARED AND IS INTENDED FOR STATE DESIGN AND ESTIMATE PURPOSES. ITS PRESENTATION ON THE PLANS OR ELSEWHERE IS FOR THE PURPOSE OF PROVIDING INTENDED USERS WITH ACCESS TO THE SAME INFORMATION AVAILABLE TO THE STATE. THIS SUBSURFACE INFORMATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION, INDEPENDENT INTERPRETATIONS OR JUDGMENT OF THE CONTRACTOR.
29. **FOUNDATION REPORT:** ACCESS TO A FOUNDATION REPORT AND CORE BORINGS FOR THIS PROJECT CAN BE ARRANGED BY CONTACTING THE GEOTECHNICAL SECTION OF THE ALABAMA DEPARTMENT OF TRANSPORTATION.
30. **GIRDER ERECTION:** THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STABILITY AND POSITIONAL CORRECTNESS (PLUMBNESS, ALIGNMENT, ETC.) OF THE GIRDERS DURING ALL PHASES OF CONSTRUCTION. ANY TEMPORARY BRACING AND/OR SUPPORT DEEMED NECESSARY BY THE CONTRACTOR TO ENSURE THE ABOVE UNTIL CONSTRUCTION IS COMPLETE SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE STATE. WORKING DRAWINGS FOR BRACING SHALL BE SUBMITTED IN ACCORDANCE WITH ARTICLE 501.03 (I) OF THE STANDARD SPECIFICATIONS.
31. **FIELD WELDING:** NO FIELD WELDING WILL BE PERMITTED ON STEEL SUPER-STRUCTURE ELEMENTS UNLESS OTHERWISE NOTED ON THE BRIDGE PLANS OR APPROVED IN WRITING BY THE BRIDGE ENGINEER.
32. **OLD BRIDGE REMOVAL:** IN ADDITION TO THE SPECIFICATION REQUIREMENTS FOR REMOVING THE OLD BRIDGE, ANY OF THE EXISTING BRIDGE SUBSTRUCTURE THAT INTERFERES WITH THE CONSTRUCTION OF THE REQUIRED BRIDGE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN PAY ITEM 206A, REMOVAL OF OLD BRIDGE.
33. **OMIT**

NOTE:  
REFER TO BRIDGE PLANS FOR NOTE NUMBERS APPLICABLE TO THE PROJECT AND FOR SPECIAL NOTES.

ASSISTANT BRIDGE ENGINEER  DATE 11/20/2020	BRIDGE ENGINEER  DATE 11/20/2020
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**ALABAMA DEPARTMENT OF TRANSPORTATION**



REVISIONS
1. REVISE NOTE 10 KCM 8/13/19

THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

THESE DRAWINGS REPRESENT DESIGNS PREPARED FOR USE BY THE ALABAMA DEPARTMENT OF TRANSPORTATION AND ARE NOT TO BE COPIED, REPRODUCED, ALTERED, OR USED BY ANYONE, OR ANY ORGANIZATION, WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ALABAMA DEPARTMENT OF TRANSPORTATION REPRESENTATIVE AUTHORIZED TO APPROVE SUCH USE. ANYONE MAKING UNAUTHORIZED USE OF THESE DRAWINGS MAY BE PROSECUTED TO THE FULLEST EXTENT OF THE LAW.

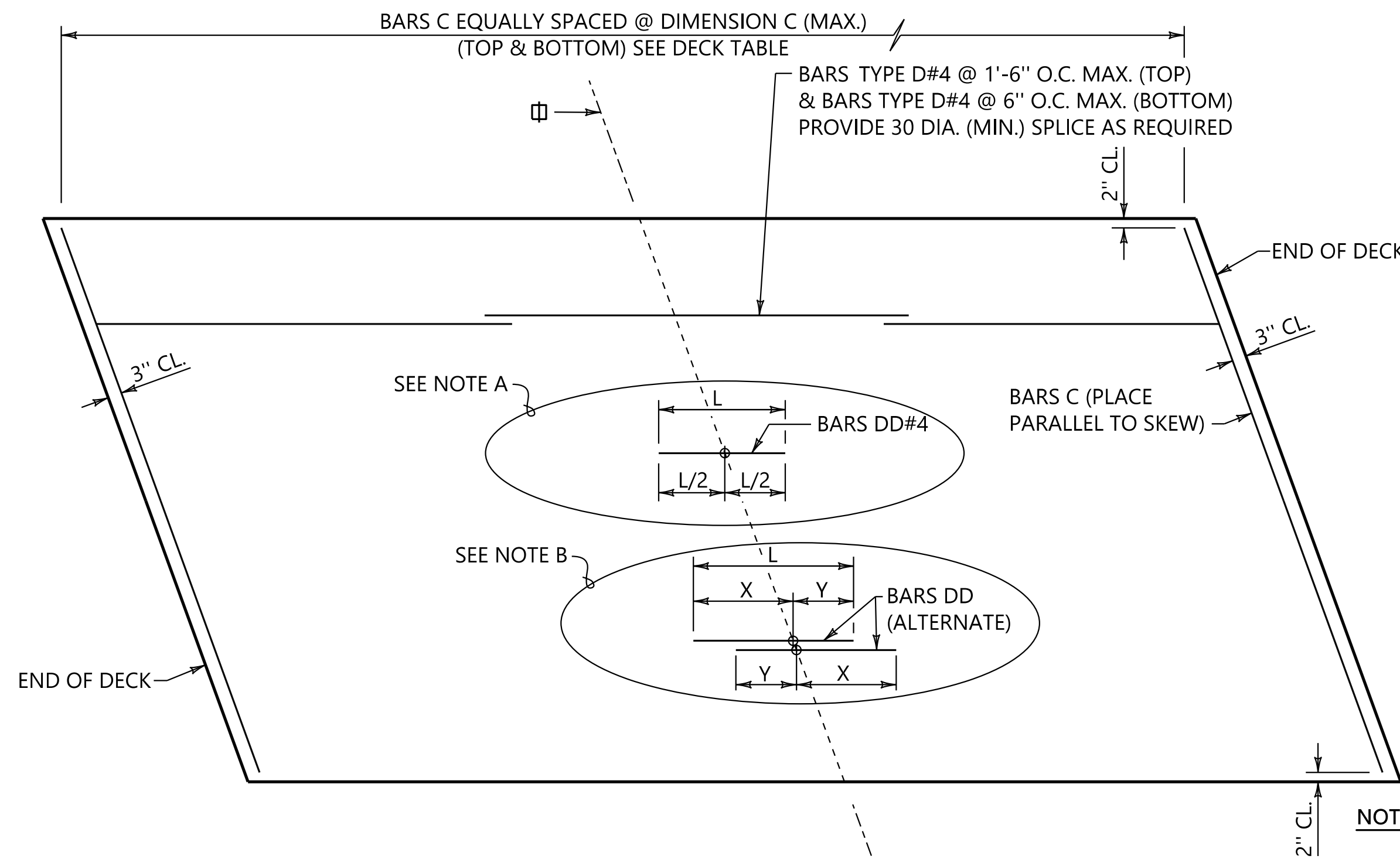
STANDARD BRIDGE NOTES

BRIDGE SPECIAL PROJECT DRAWING	SHEET 1 OF 1
SBN-1	

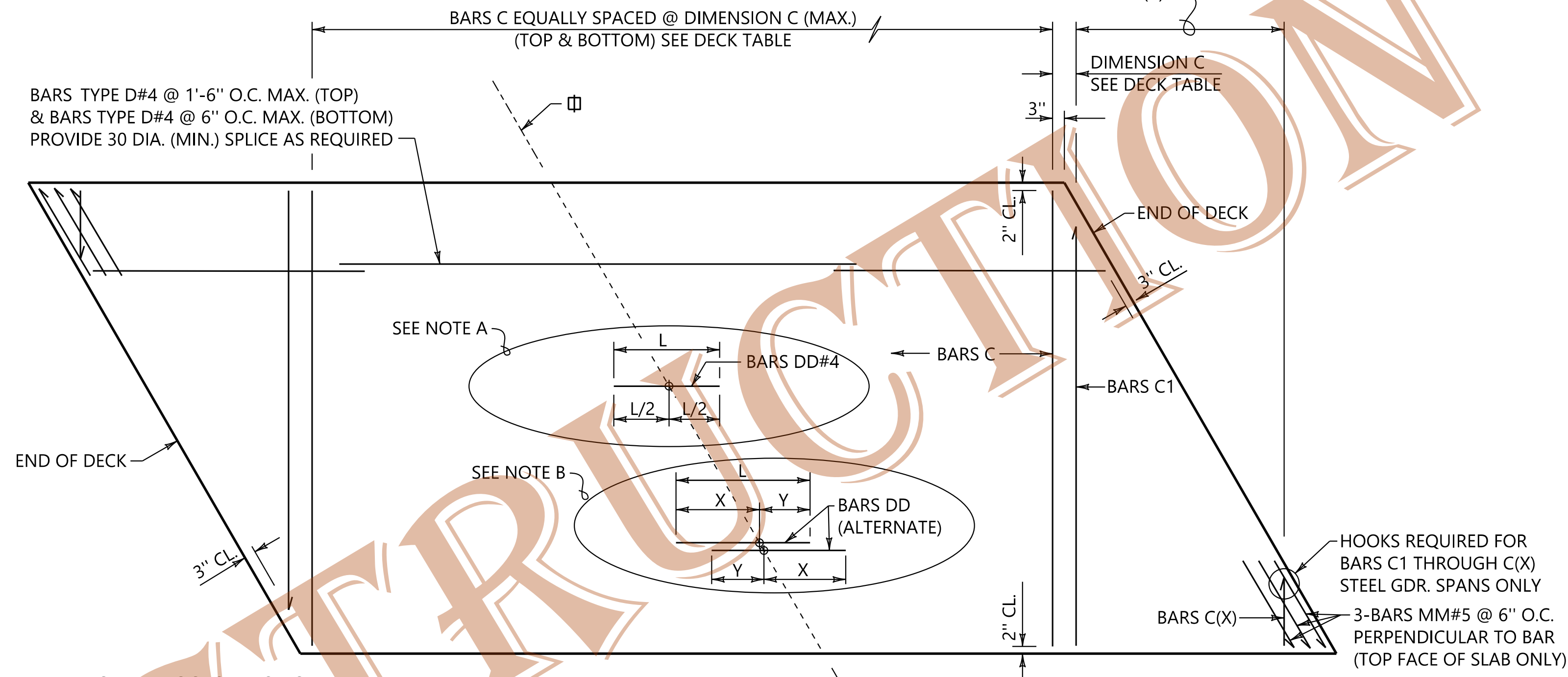


☐ DECK CONSTRUCTION JOINT AT BENT OR PIER LOCATIONS FOR SIMPLE SPAN BRIDGES WITH CONTINUOUS DECKS. SEE BRIDGE PLANS FOR DETAILS OF CONSTRUCTION JOINTS. ☐ BENT OR PIER FOR FULLY CONTINUOUS STRUCTURAL STEEL BRIDGES.

BARS C1 THRU C(X) (TOP AND BOTTOM) SPACED @ DIMENSION C AS SHOWN IN DECK TABLE. SEE BRIDGE PLANS FOR DETAILS OF BAR SERIES C1 THRU C(X)



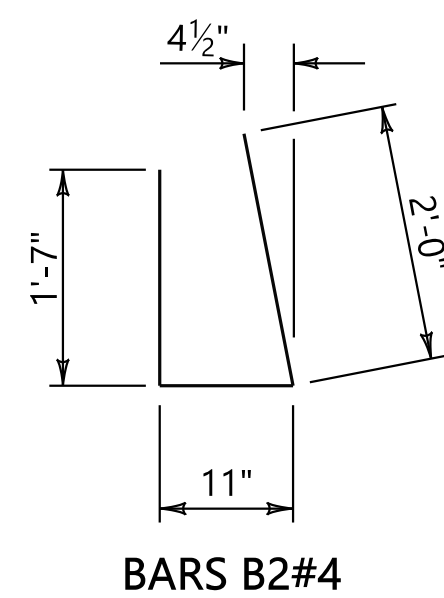
**PLAN, DECK REINFORCING (0° TO 25° SKEW)  
SIMPLE SPAN OR CONTINUOUS UNIT  
TANGENT OR CURVED**  
(SEE BRIDGE PLANS FOR SKEW ANGLE)



**PLAN, DECK REINFORCING (SKEW GREATER THAN 25°)  
SIMPLE SPAN OR CONTINUOUS UNIT  
TANGENT OR CURVED**  
(SEE BRIDGE PLANS FOR SKEW ANGLE)

**NOTE A:** PLACE SUPPLEMENTAL BARS DD#4 AS SHOWN ON SIMPLE SPANS WITH CONTINUOUS DECK ONLY (UNLESS OTHERWISE SHOWN ON BRIDGE PLANS). LENGTH L SHALL BE AS SHOWN ON BRIDGE PLANS.

**NOTE B:** PLACE SUPPLEMENTAL BARS DD AS SHOWN ON FULLY CONTINUOUS SPANS ONLY (UNLESS OTHERWISE SHOWN ON BRIDGE PLANS). LENGTH L, DIMENSIONS X AND Y AND BAR SIZE SHALL BE AS SHOWN ON BRIDGE PLANS.

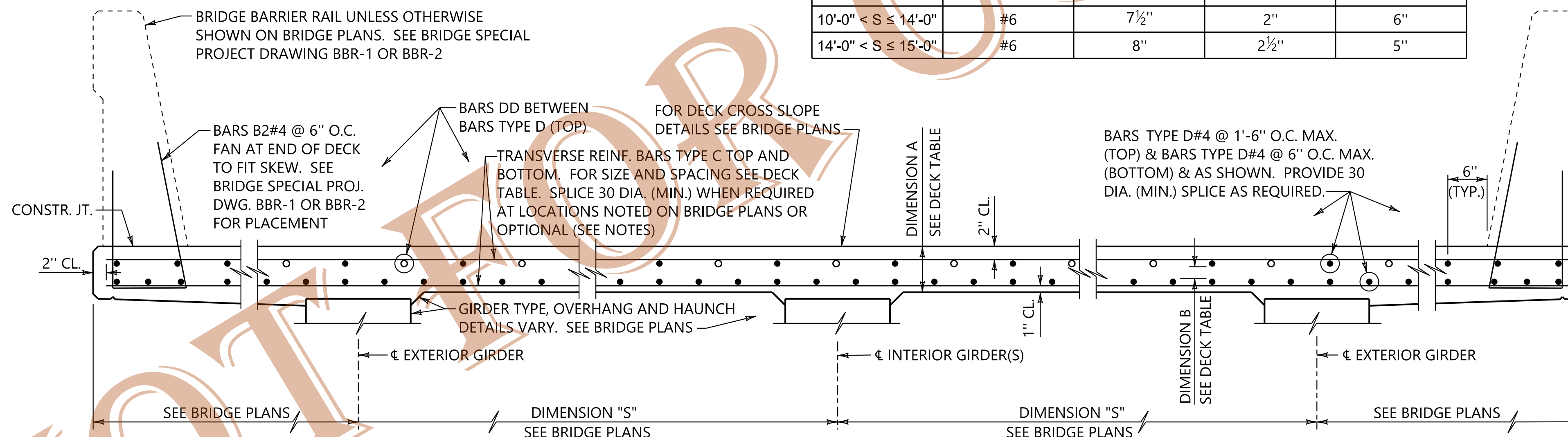


**BARS B2#4**

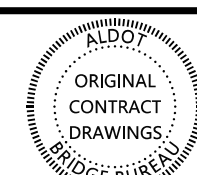
DECK TABLE				
DIMENSION S	BARS TYPE C SIZE	DIMENSION A	DIMENSION B	DIMENSION C
4'-0" ≤ S ≤ 10'-0"	#5	7"	1 3/4"	6"
10'-0" < S ≤ 14'-0"	#6	7 1/2"	2"	6"
14'-0" < S ≤ 16'-0"	#6	8"	2 1/2"	5"

**NOTES:**

- SEE BRIDGE PLANS FOR BILL OF REINFORCEMENT AND BAR DETAILS NOT SHOWN.
- FOR BARS TYPE D, AT THE OPTION OF THE CONTRACTOR, AN ALTERNATE LAYOUT UTILIZING STOCK LENGTH BARS MAY BE SUBMITTED TO THE STATE BRIDGE ENGINEER FOR APPROVAL. FOR CONTINUOUS DECK UNITS, SPLICING OF BARS TYPE D WILL NOT BE PERMITTED WITHIN 10'-0" EITHER SIDE OF REQUIRED SLAB CONSTRUCTION JOINT OCCURRING AT BENT OR PIER LOCATIONS.
- FOR BARS TYPE C, AT THE OPTION OF THE CONTRACTOR, BARS MAY BE SPLICED 30 DIA. (MIN.) AT THE FOLLOWING LOCATIONS ONLY UNLESS APPROVED OTHERWISE BY THE STATE BRIDGE ENGINEER: FOR TOP BARS, CENTERED AT THE MIDPOINT BETWEEN GIRDERS. FOR BOTTOM BARS, CENTERED OVER THE CENTERLINE OF AN INTERIOR GIRDER ONLY. ESTIMATED QUANTITIES (SEE BRIDGE PLANS) DO NOT INCLUDE OPTIONAL SPLICES. ONLY ONE SPLICE PER BAR RUN WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE STATE BRIDGE ENGINEER.
- CURVED ALIGNMENTS:  
BARS D: BARS TYPE D SHALL BE PLACED PARALLEL TO CURVATURE.  
BARS C: SPACING FOR BARS TYPE C SHALL BE BASED ON THE LONG SIDE OF THE SPAN WITH THE END POINT OF THE BAR DEFINING THE SPACING. BAR SPACING WILL DECREASE FROM THE LONG SIDE OF SPAN TO THE SHORT SIDE. FOR SKEWS GREATER THAN 25°, BARS TYPE C SHALL BE PLACED ALONG RADIAL LINES.
- THIS BRIDGE SPECIAL PROJECT DRAWING APPLICABLE ONLY WITH DECKS THAT HAVE PARALLEL EDGES, EQUAL SKEW ANGLES, NON-PHASED CONSTRUCTION. OTHERWISE, DECKS SHALL BE COMPLETELY DETAILED IN THE BRIDGE PLANS.



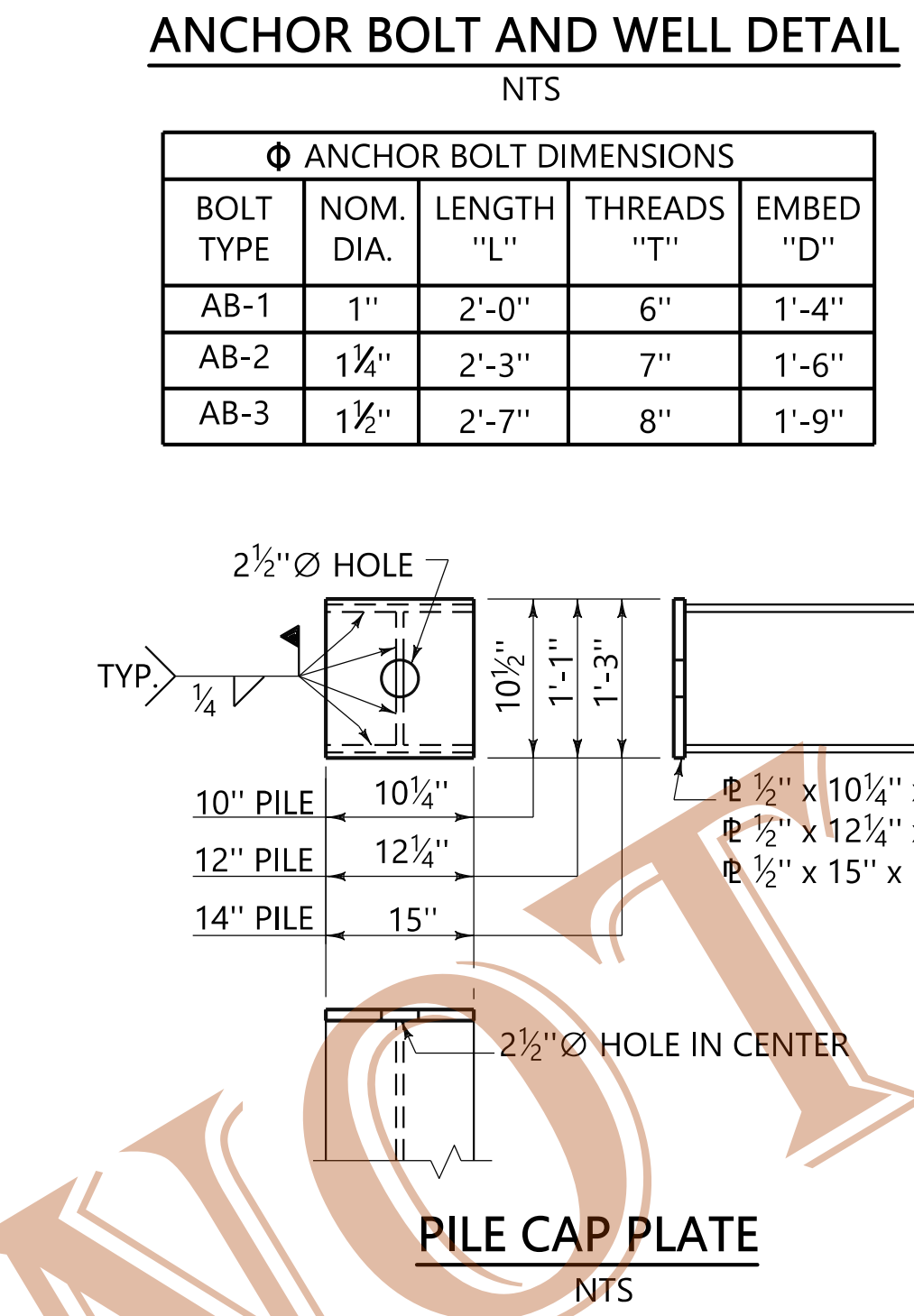
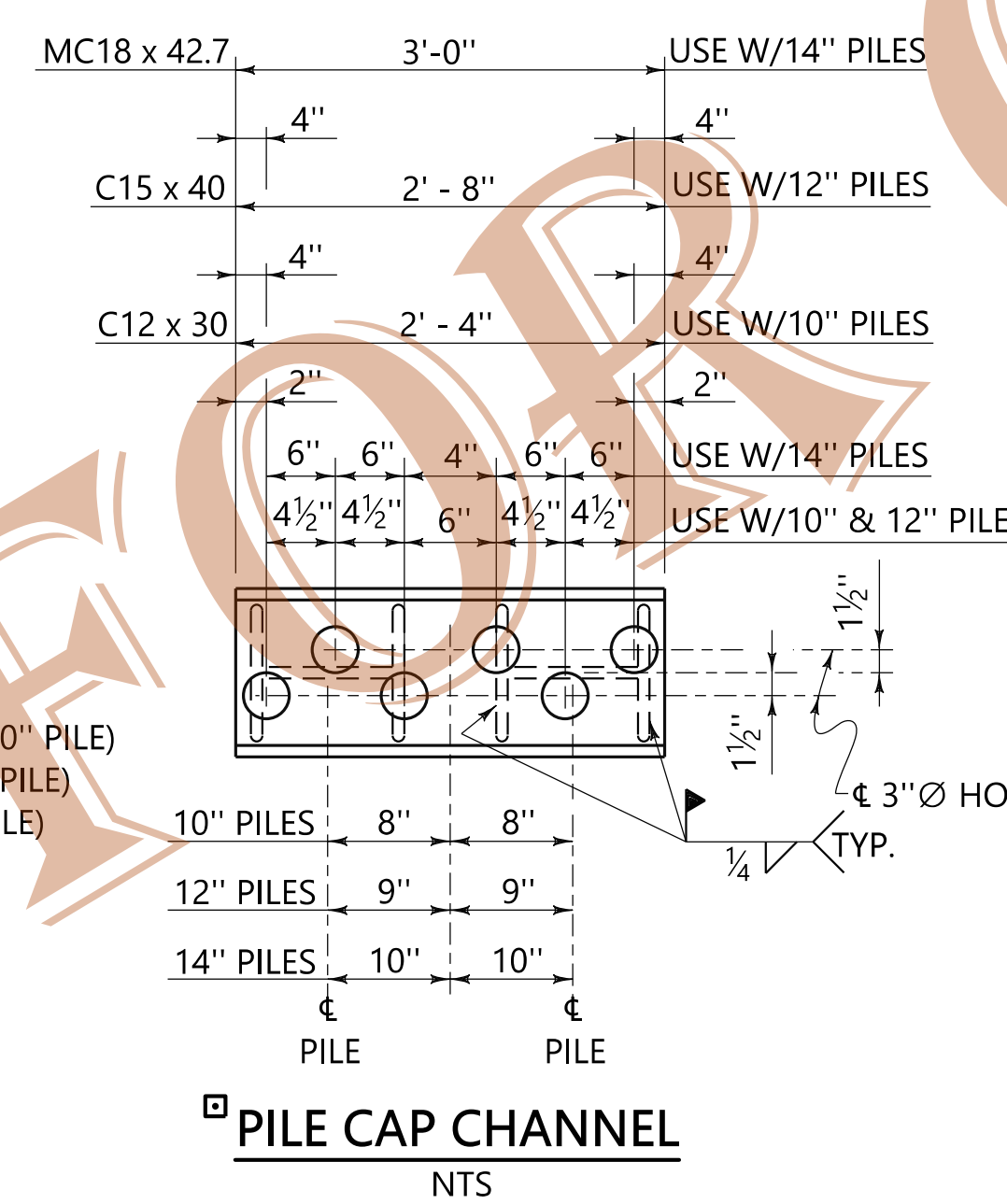
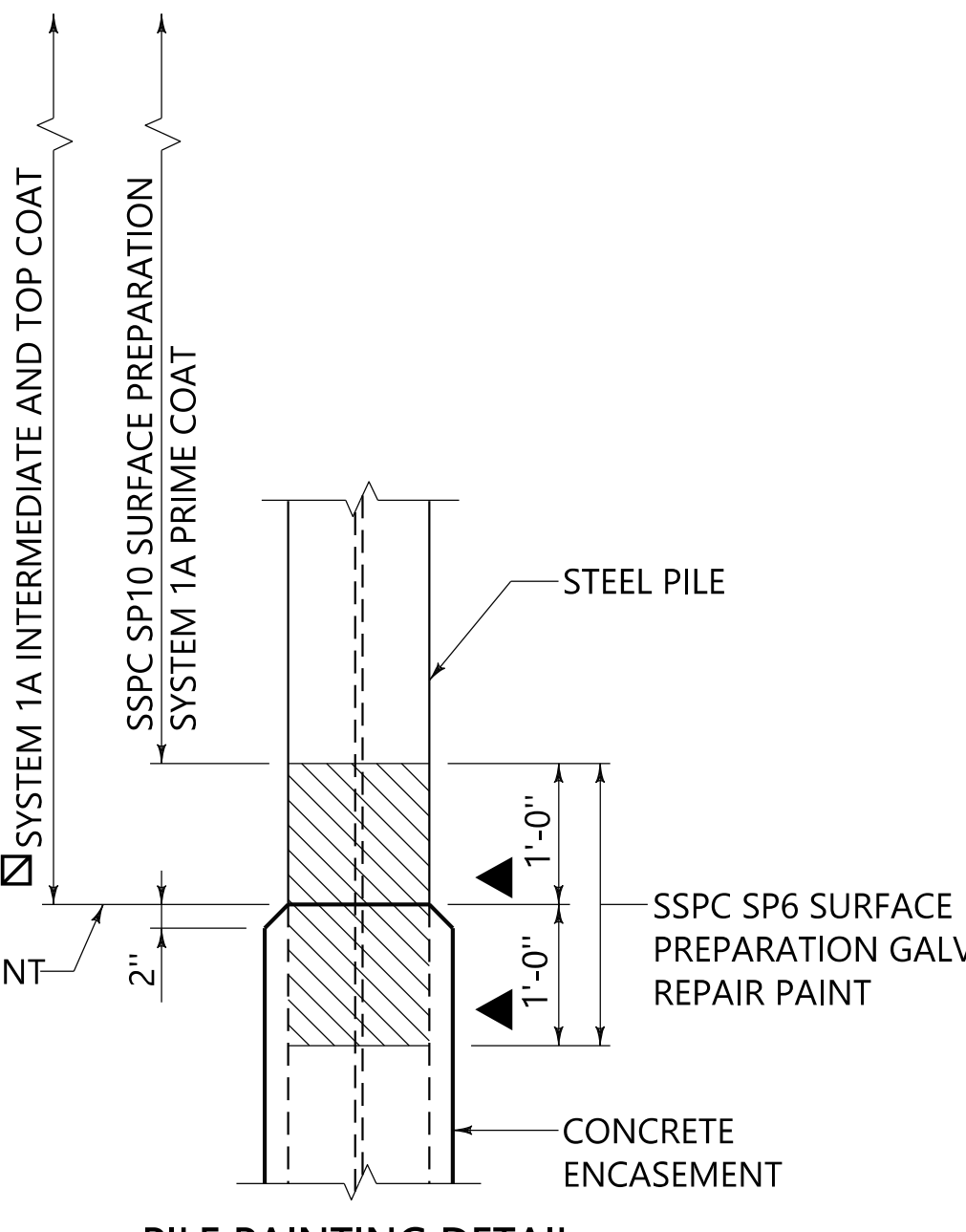
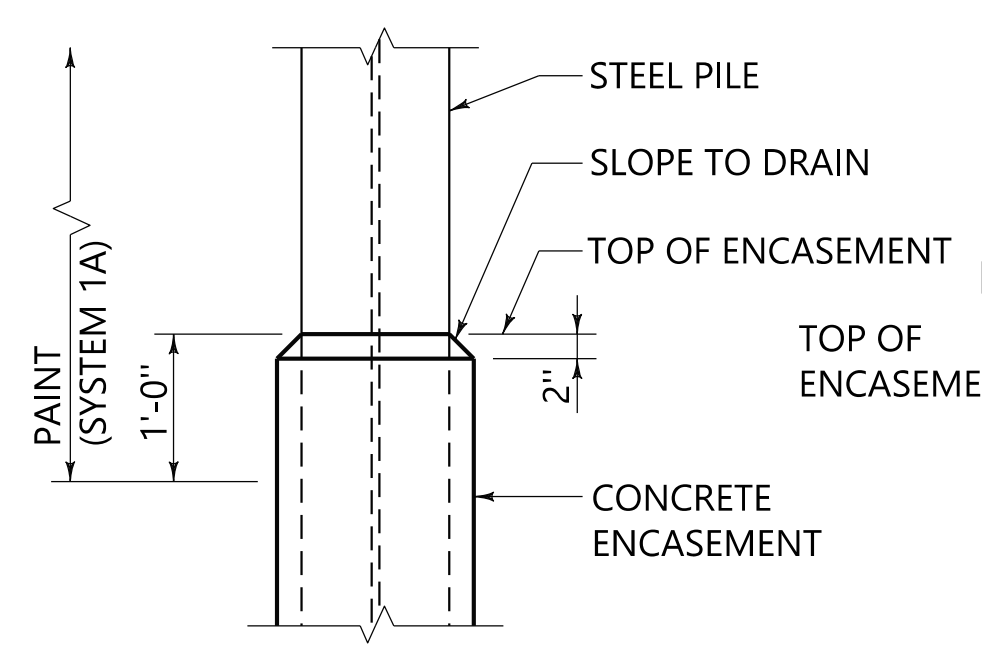
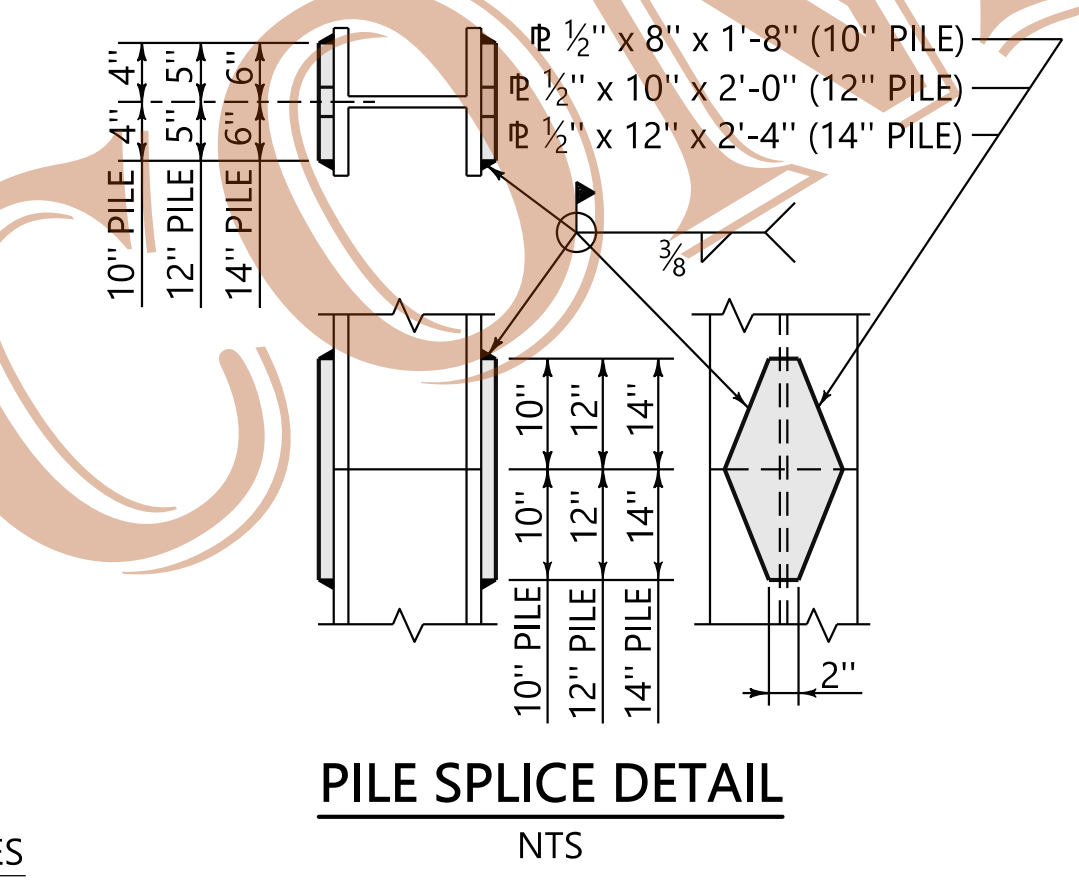
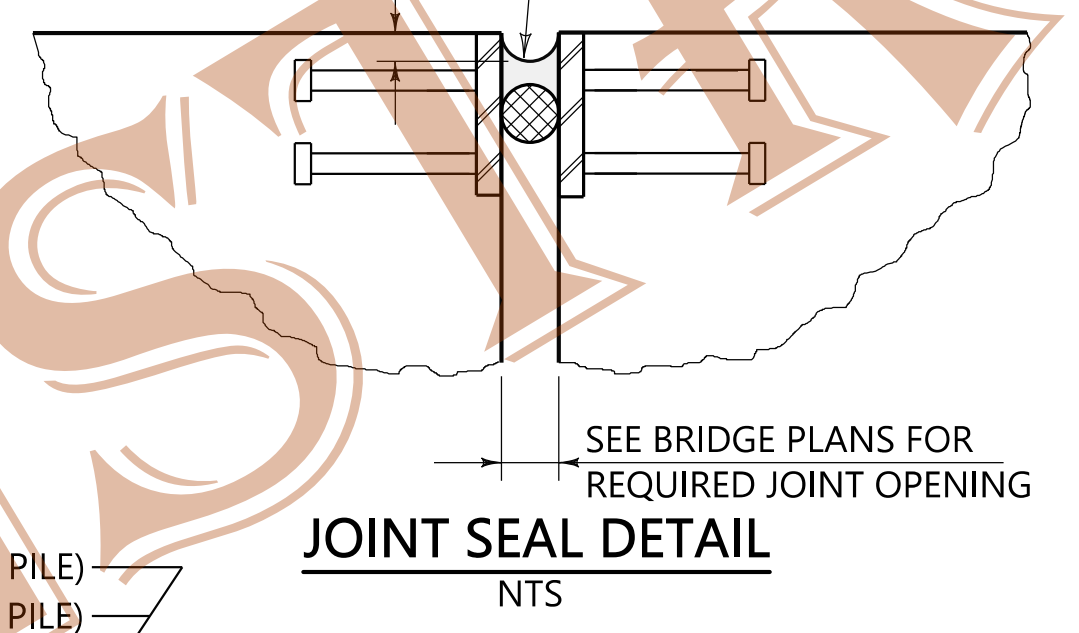
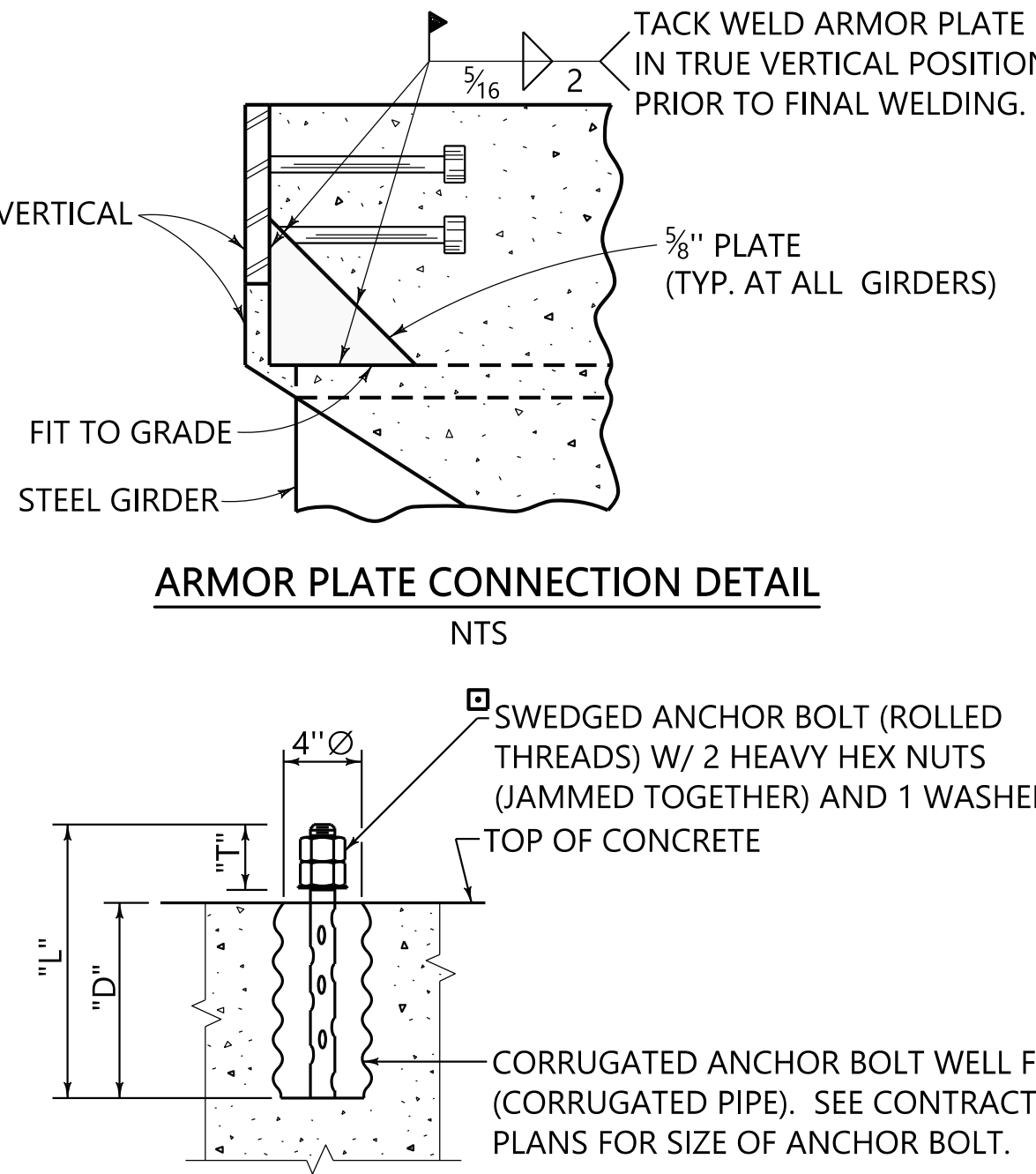
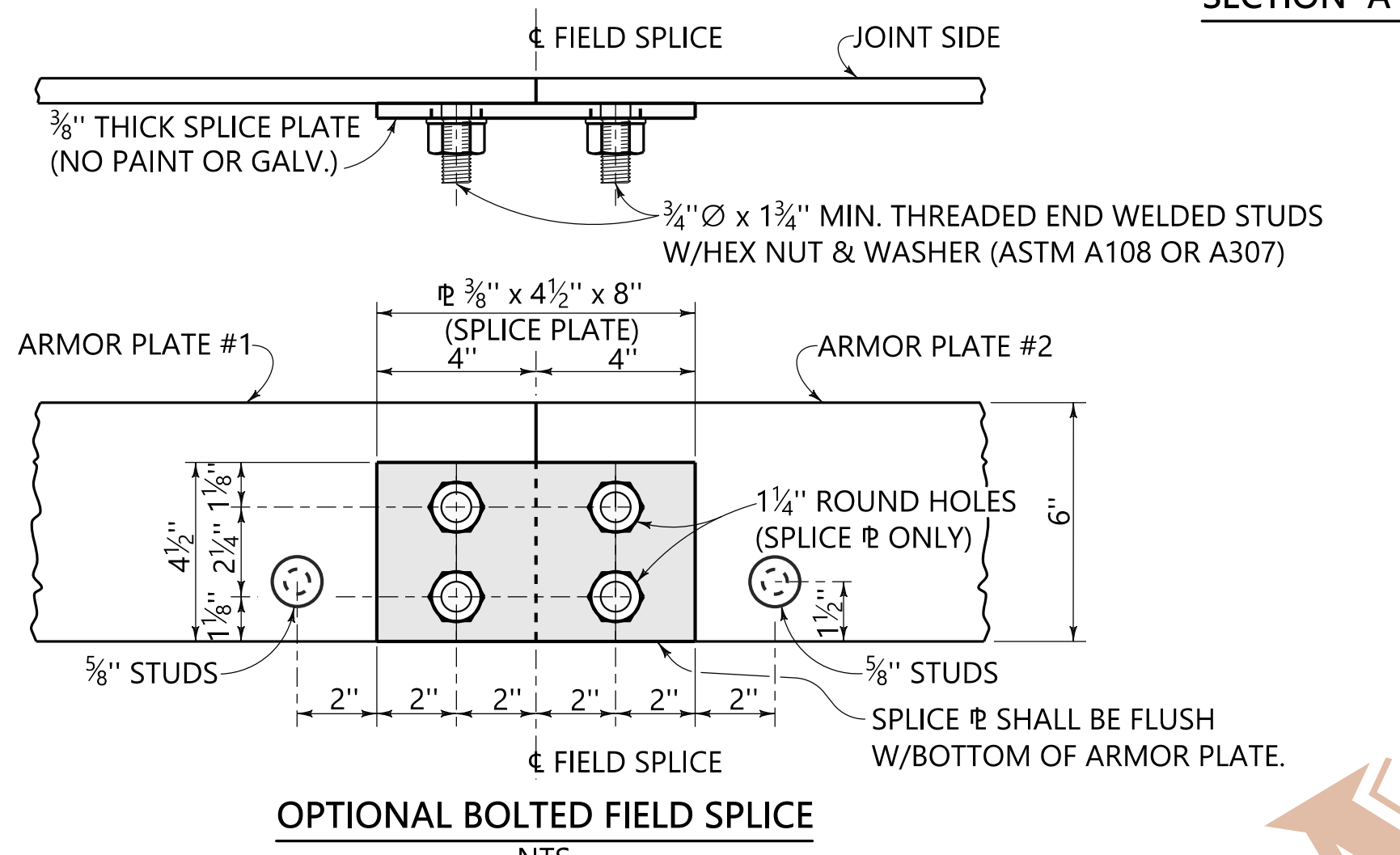
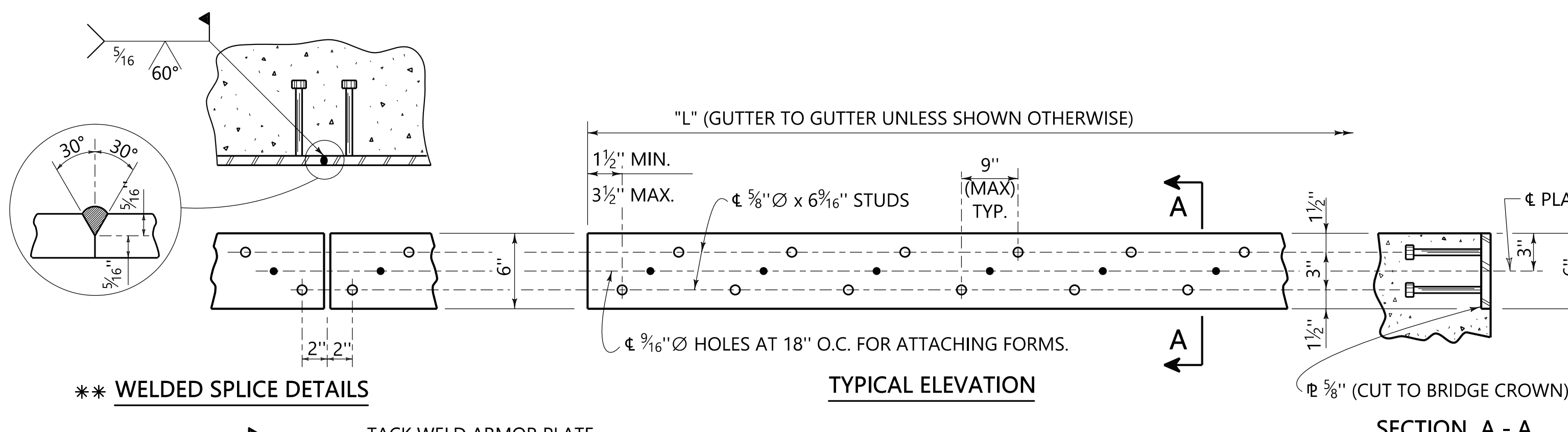
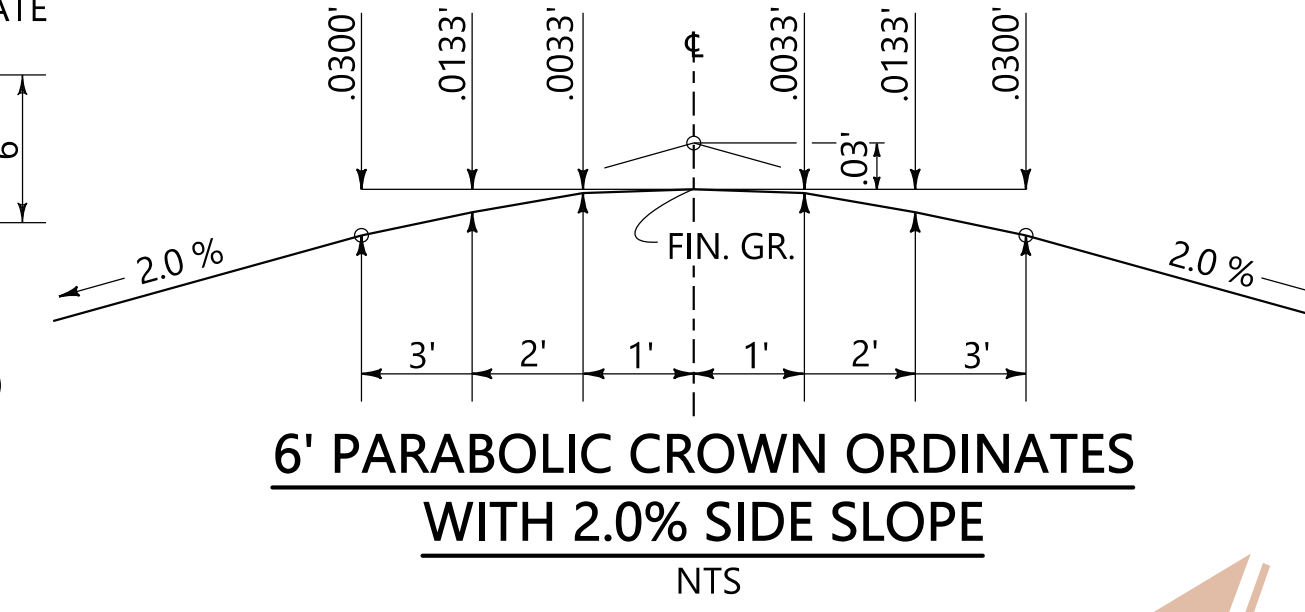
**TYPICAL DECK CROSS SECTION**





**NOTES:**

- ARMOR PLATE**
- ANY BURRS ON ROADWAY EDGE OF ARMOR PLATE SHALL BE GROUND SMOOTH.
  - ON AN ARMOR PLATE WHERE A WELDED SPlice IS USED, PLACE ONE (1) STUD TWO INCHES (2") EACH SIDE OF THE WELDED SPlice AS SHOWN.
  - A FULL PENETRATION GROOVE WELD SHALL BE USED FOR SHOP WELDED SPLICES.
  - FIELD SPLICES SHALL NOT BE LOCATED INSIDE THE LIMITS OF PARABOLIC CROWNS UNLESS OTHERWISE SHOWN BY PLAN DETAILS.
  - ARMOR PLATES SHALL BE GALVANIZED ACCORDING TO AASHTO M 111 AND THE FOLLOWING, UNLESS OTHERWISE NOTED ON THE CONTRACT PLANS: THE ARMOR PLATE SHALL BE RETURNED TO THE FABRICATION SHOP FOR INSPECTION AFTER GALVANIZATION, AREAS WHICH ARE TO BE WELDED AFTER GALVANIZATION SHALL HAVE THE GALVANIZATION REMOVED PRIOR TO WELDING, IF THE FIELD SPlice IS WELDED, COLD GALVANIZATION SHALL BE USED TO REPAIR THESE AREAS AND ANY DAMAGED AREAS, AND NUMBER OF BOLTED FIELD SPLICES SHALL BE HELD TO A MINIMUM DEPENDENT ON CONSTRUCTION REQUIREMENTS AND APPROVAL OF THE ENGINEER.
  - WEIGHT OF OPTIONAL BOLTED SPlice PLATE AND 3/8" DIA x 1 1/4" STUDS WILL NOT BE MEASURED FOR PAYMENT. COST SHALL BE INCLUDED IN PAYMENT FOR ARMOR PLATES.
  - STEEL FOR ARMOR PLATES SHALL BE GRADE 36 OR BETTER. PAYMENT SHALL BE INCLUDED IN PAY ITEM 508A, LBS., STRUCTURAL STEEL.
- ANCHOR BOLTS**
- ANCHOR BOLTS DIMENSIONED FOR USE WITH STANDARD BEARINGS SHOWN ON BRIDGE SPECIAL PROJECT DRAWING SPGD-1. ANCHOR BOLTS MAY BE USED WITH OTHER BEARING DESIGNS BUT COMPATIBILITY MUST BE VERIFIED BY THE DESIGNER.
  - SWEDGED ANCHOR BOLTS W/2 HEAVY HEX NUTS AND 1-WASHER EACH SHALL BE INCLUDED IN PAY ITEM 508A, LBS., STRUCTURAL STEEL.
  - SWEDGED ANCHOR BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M 232. DAMAGED GALVANIZED SURFACES NOT TO BE ENCASED IN CONCRETE SHALL BE REPAIRED IN ACCORDANCE WITH STANDARD SPECIFICATION 855.15.
  - SWEDGED ANCHOR BOLTS SHALL BE SET IN 4" DIA ANCHOR BOLT WELLS.
  - PROVIDE EACH ANCHOR BOLT WELL WITH A READILY REMOVABLE WATERTIGHT CAP, DETAILS TO BE APPROVED BY THE ENGINEER. THE FORMWORK, DEBRIS AND STANDING WATER SHALL BE REMOVED FROM EACH WELL IMMEDIATELY PRIOR TO CAPPING. IT IS MANDATORY THAT CAPS BE IN PLACE THROUGHOUT PERIODS DURING WHICH BELOW FREEZING TEMPERATURES CAN BE EXPECTED TO OCCUR. THE CONTRACTOR SHALL ENSURE THAT ANY WATER TRAPPED IN THE WELLS DOES NOT FREEZE.
  - REMOVE CORRUGATED WELL FORM PRIOR TO GROUTING ANCHOR BOLTS. DO NOT GROUT ANCHOR BOLTS UNTIL GIRDERS HAVE BEEN COMPLETELY ERECTED, ADJUSTED IF NECESSARY AFTER ERECTION AND APPROVED BY THE ENGINEER.
- PILE CAP CHANNELS & PLATE**
- PILE CAP PLATE MAY BE CUT FROM PILE CUT-OFF. PAYMENT FOR PILE CAP PLATES AND PILE CAP CHANNELS ARE INCLUDED IN PAY ITEM 508A, LBS., STRUCTURAL STEEL
- JOINT SEAL**
- WHEN BRIDGE STANDARD NOTE (15) IS CALLED FOR, SILICONE JOINT SEAL SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MATERIALS USED FOR SEALING THE JOINT SHALL BE 100% SILICONE RUBBER DESIGNED TO SEAL EXPANSION JOINTS THAT EXPERIENCE BOTH THERMAL AND VERTICAL MOVEMENT DUE TO TRAFFIC LOADING. TURN SEAL UP BETWEEN BARRIER RAILS AT GUTTERLINES TO EXTEND A MINIMUM OF 6" ABOVE BRIDGE DECK. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED IN PAY ITEM "LUMP SUM-BRIDGE CONCRETE SUPERSTRUCTURE."
- PILE SPlice PLATE**
- AT THE CONTRACTOR'S OPTION, A PRE-FABRICATED H-PILE SPlicER MAY BE USED IN LIEU OF THE SPlice SHOWN. THE CONTRACTOR SHALL CHOOSE A SPlicER FROM THE ALDOT MISCELLANEOUS APPROVED PRODUCTS LIST OR SHALL FURNISH THE MANUFACTURER'S SPlicER DETAILS AND RECOMMENDATIONS FOR INSTALLATION TO THE CONSTRUCTION ENGINEER FOR APPROVAL.
  - PILE SPlice PLATES MAY BE CUT FROM PILE CUT-OFF. ENDS OF PILES TO BE BURNED SQUARE AND BUTT WELDED BY A WELDER POSSESSING AN ALDOT WELDER QUALIFICATION CARD.
  - PILE SPlices SHALL ONLY BE USED BELOW GRADE WITH THE EXCEPTION OF TEST PILES.
- PILE PAINTING**
- THE SYSTEM 1A INTERMEDIATE AND TOP COAT MAY BE OMITTED WHENEVER CONCRETE ENCASEMENT EXTENDS TO WITHIN 6" FROM BOTTOM OF CAP.
  - HATCHED SURFACE (1'-0" ABOVE & BELOW TOP OF ENCASEMENT) SHALL RECEIVE A SSPC SP6 SURFACE PREPARATION PRIOR TO BEING COATED WITH AN APPROVED GALV. REPAIR PAINT THAT SATISFIES THE REQUIREMENTS OF SUB-ARTICLE 855.15 OF THE STANDARD SPECIFICATIONS.
  - SURFACE PREPARATION AND PAINTING FOR PILE AND SWAY BRACING SHALL BE FIELD APPLIED.
- SHOP DRAWINGS**
- PER ALDOT STANDARD SPECIFICATIONS, SHOP DRAWINGS FOR PAY ITEM 508-A ITEMS ARE REQUIRED. SHOP DRAWINGS ARE NOT REQUIRED FOR PILE CAP PLATES.

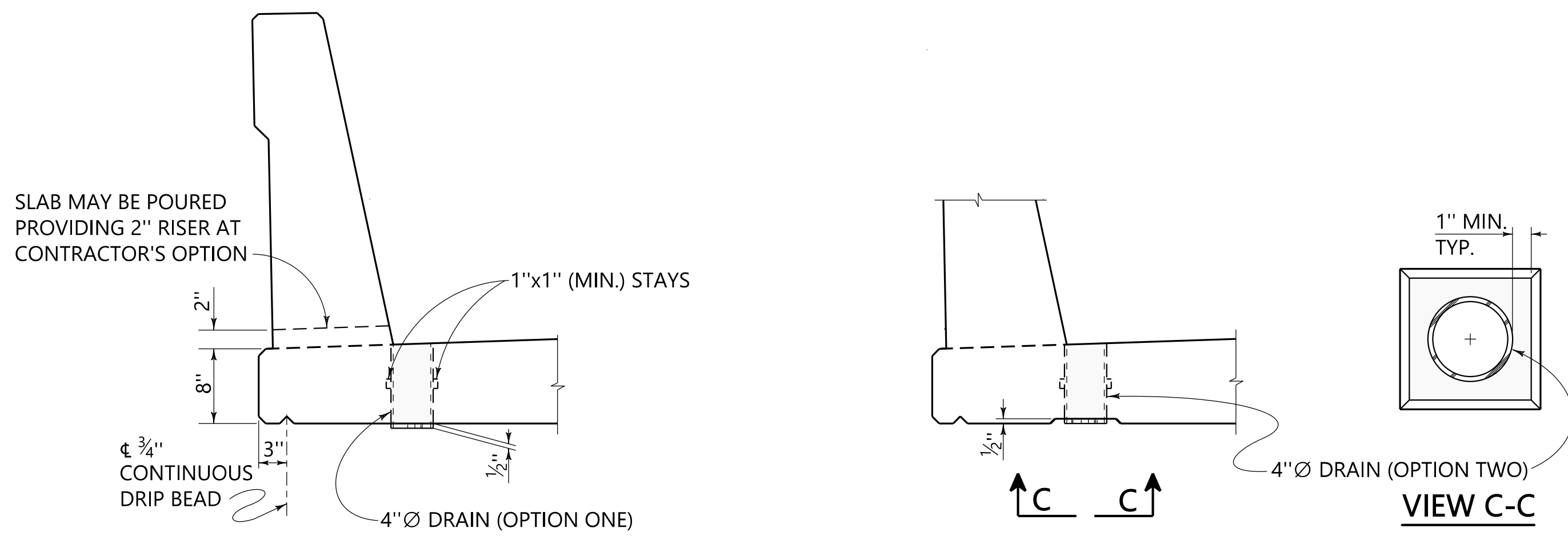


BOLT TYPE	NOM. DIA.	LENGTH "L"	THREADS "T"	EMBED "D"
AB-1	1"	2'-0"	6"	1'-4"
AB-2	1 1/4"	2'-3"	7"	1'-6"
AB-3	1 1/2"	2'-7"	8"	1'-9"

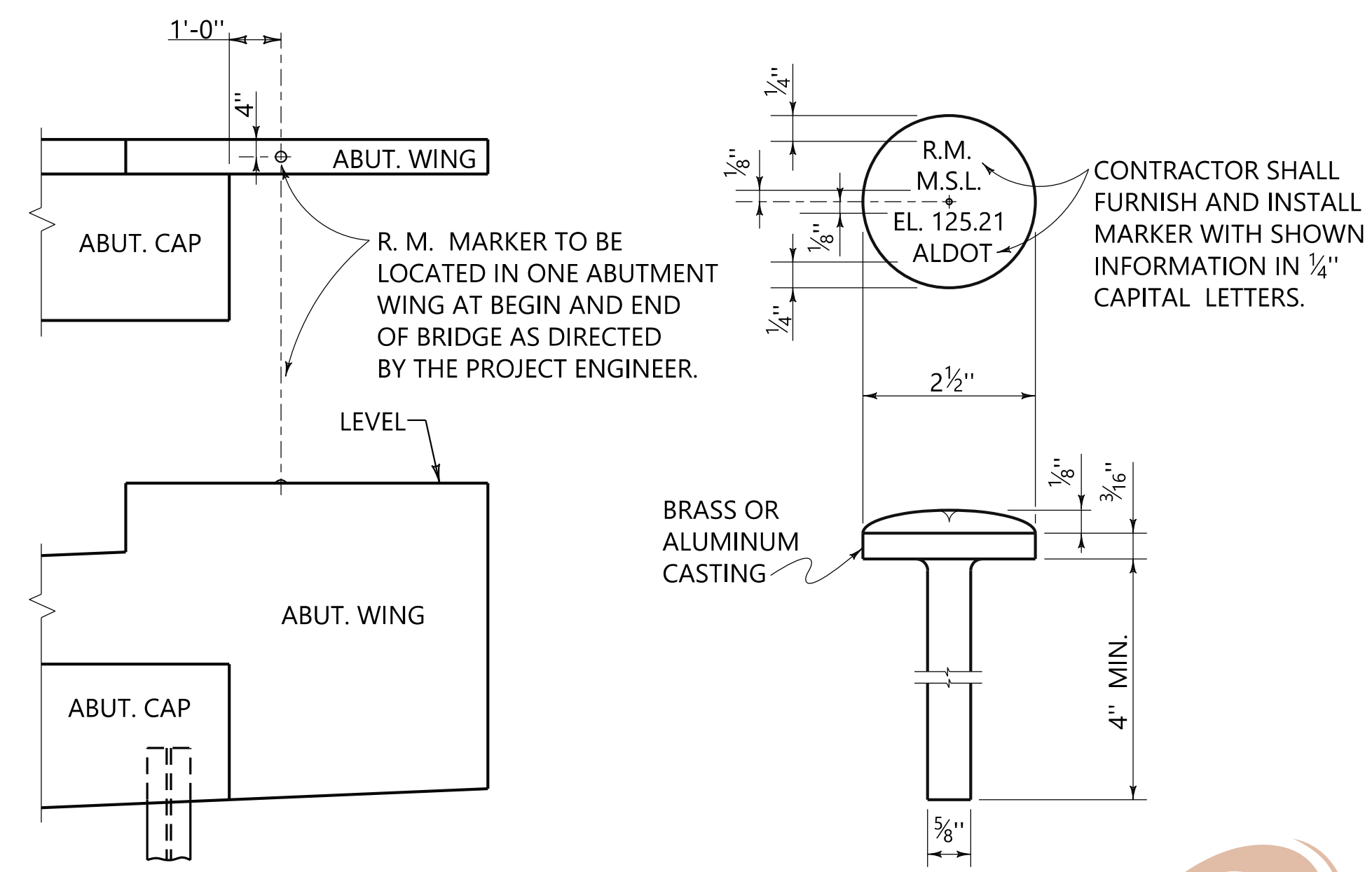
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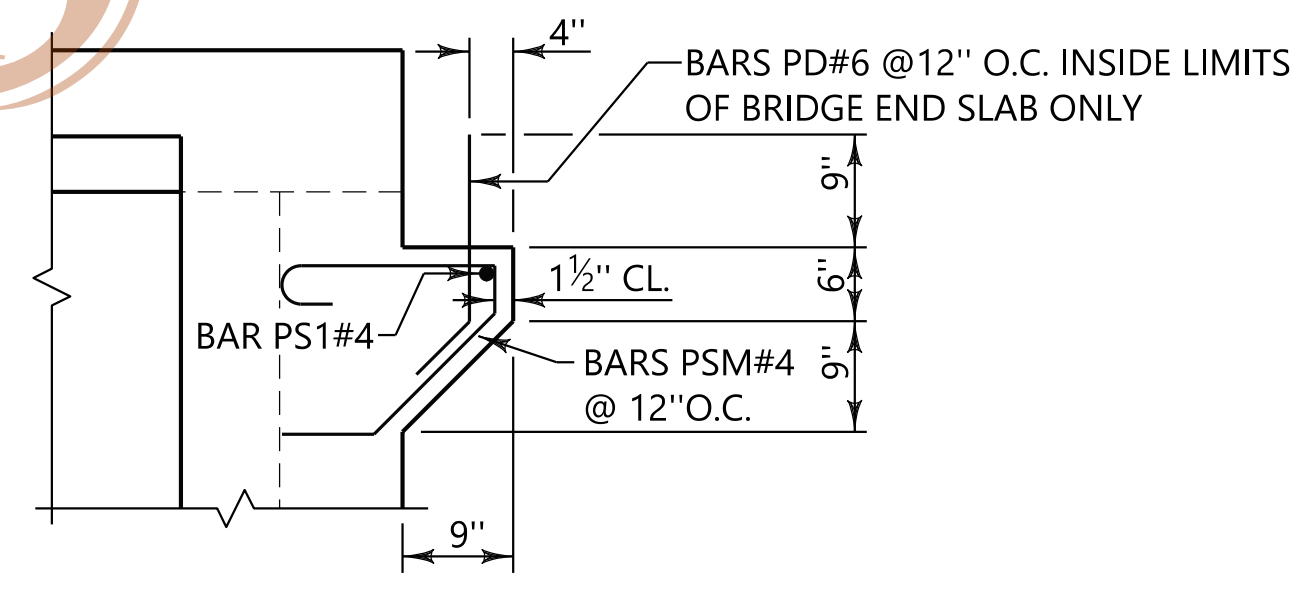
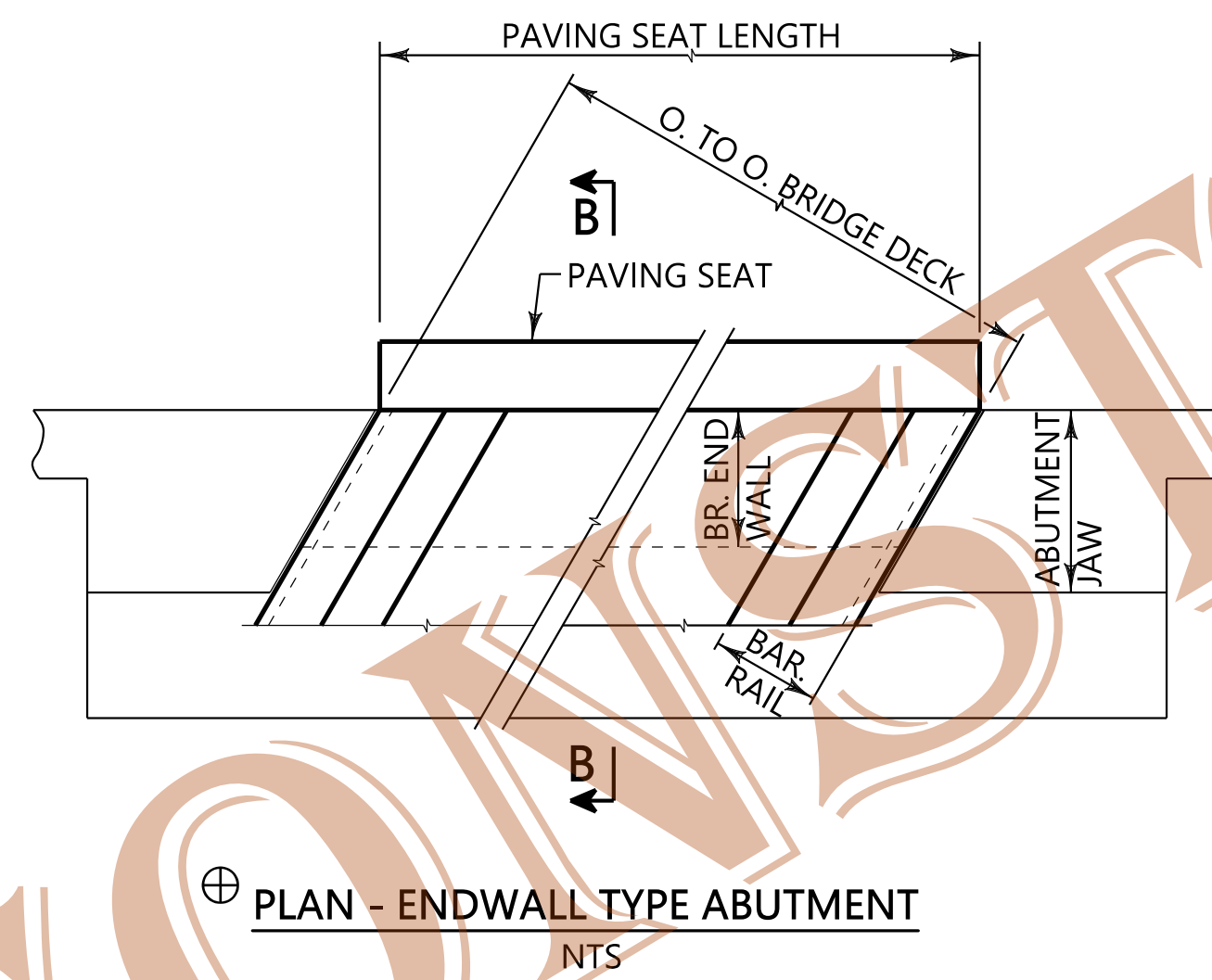
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1"  
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SHEET REFERENCE



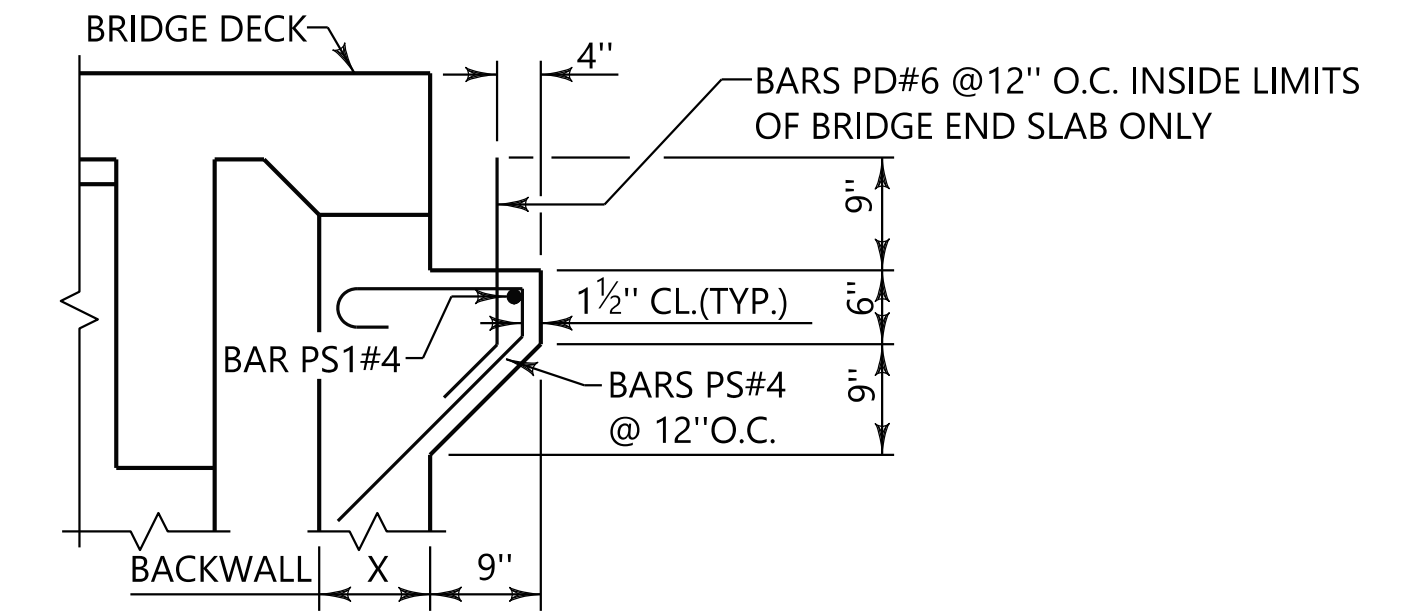
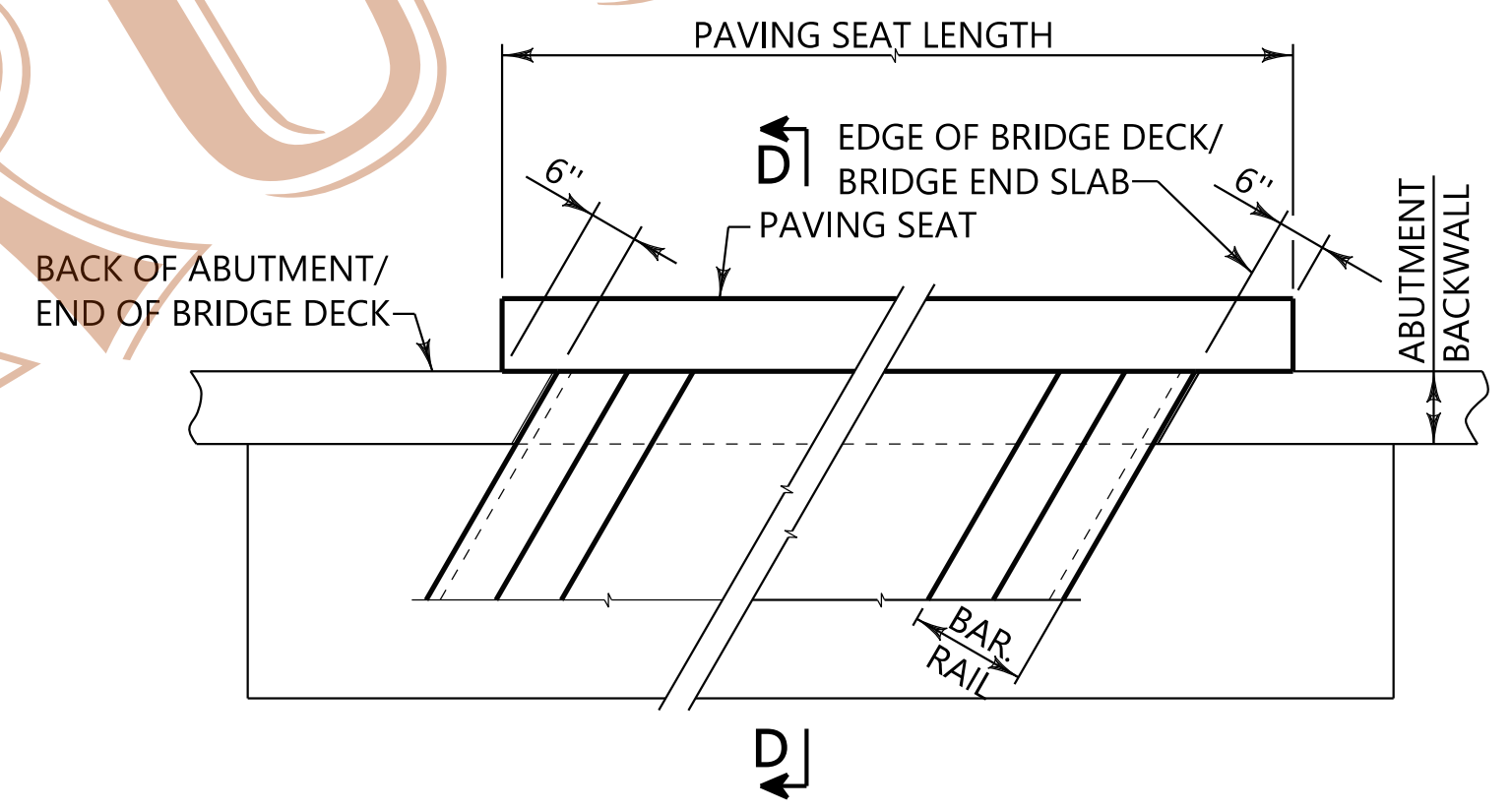
**MISCELLANEOUS SLAB DETAILS**  
NTS



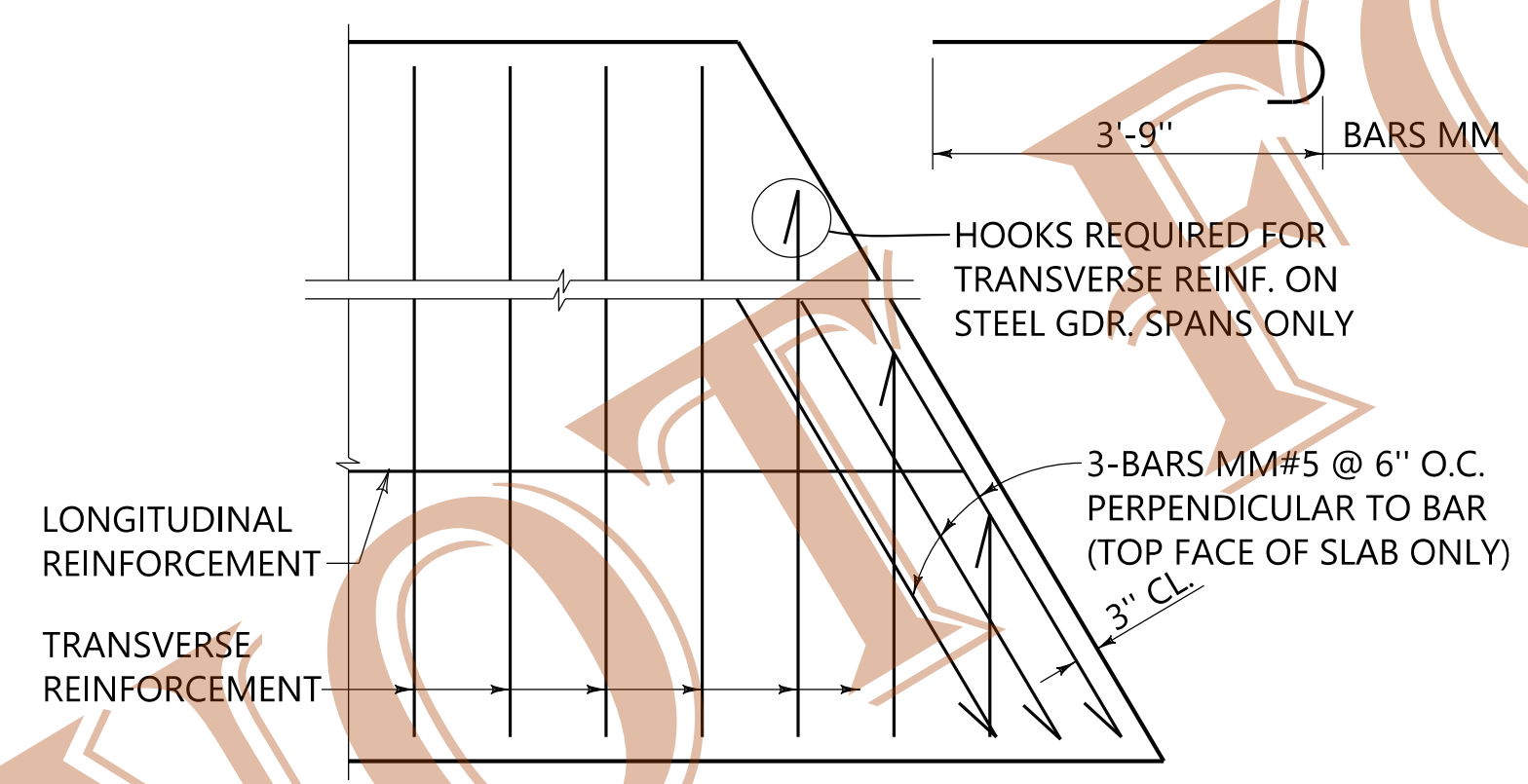
**PERMANENT REFERENCE MARK DETAIL**  
NTS



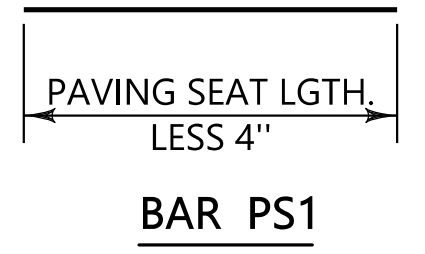
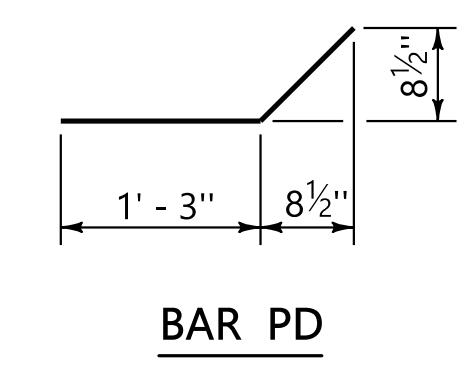
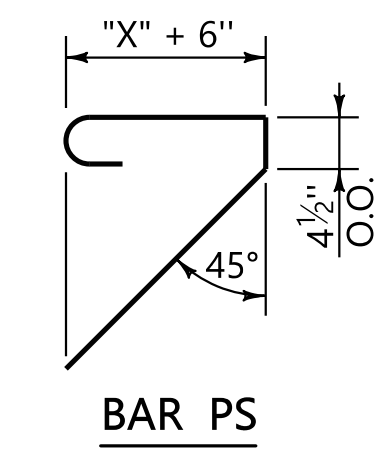
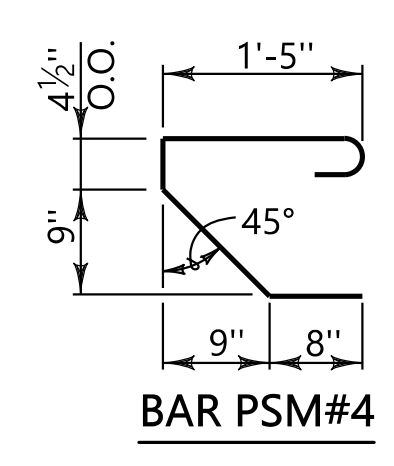
**SECTION B-B**  
NTS



**SECTION D-D**  
NTS



**TYP. END OF DECK REINFORCEMENT DETAIL**  
WHEN BRIDGE IS SKEWED GREATER THAN 25°  
NTS



**PAVING SEAT DETAILS**

**NOTES:**

**MISCELLANEOUS SLAB DETAILS**

1. DRAIN SHALL BE WHITE OR GRAY PVC (SANITARY) SEWER PIPE (ARTICLE 854.11). LOCATE AND ATTACH TWO (2) 1" x 1" (MIN.) STAYS 180° APART, AS SHOWN. STAYS SHALL BE MADE FROM PVC PIPE AND BONDED WITH PVC SOLVENT CEMENT. OMIT DRAINS OVER TRAFFIC LANES, UNPROTECTED SLOPE FILLS, HIGH SIDE IF SUPERELEVATED AND WITHIN 10'-0" OF BRIDGE ENDS AND 5'-0" OF INTERIOR BRIDGE JOINTS. SPACE @ 5'-0" O.C. UNLESS SHOWN OTHERWISE ON THE CONTRACT PLANS.

**PERMANENT REFERENCE MARK**

2. BRASS MARKER TO BE CAST IN ONE PIECE, OUT OF LEADED-SEMI-RED BRASS ASTM B584 ALLOY 848 OR APPROVED EQUAL. ALUMINUM DISC SHALL BE ALUMINUM ALLOY CS 208 IN ACCORDANCE WITH ASTM B26 OR APPROVED EQUAL.

3. INFORMATION AND FIELD STENCILING (ILLUSTRATED IN LIGHT WT. LETTERS) SHALL BE THE RESPONSIBILITY OF THE STATE (COUNTY ON COUNTY PROJECTS).

**PAVEMENT SEAT**

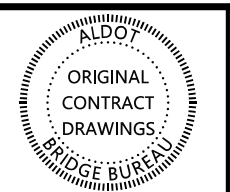
4. PAVING SEATS NOT USED WHEN BRIDGE JOINT IS ON INSIDE OF ABUTMENT BACKWALL. SEE BRIDGE SPECIAL PROJECT DWG. TYPE BES-450(IJ)

5. APPLIES TO BRIDGE JOINT ON OUTSIDE OF ABUTMENT BACKWALL ONLY. SEE BRIDGE SPECIAL PROJECT DWG. TYPE BES-450(OJ)

6. SEE BRIDGE SPECIAL PROJECT DWG. SERIES EBW FOR DETAILS.

\\bvms002\bridge\standard\special\bridge\special\Drawings\SBD-1 Standard Bridge Details.dgn

PLOTTED: 14-Dec-21 at 09:21



REVISIONS
1. REVISED SKEW DEGREE IN DECK REINFORCEMENT KCM 12/14/21

THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

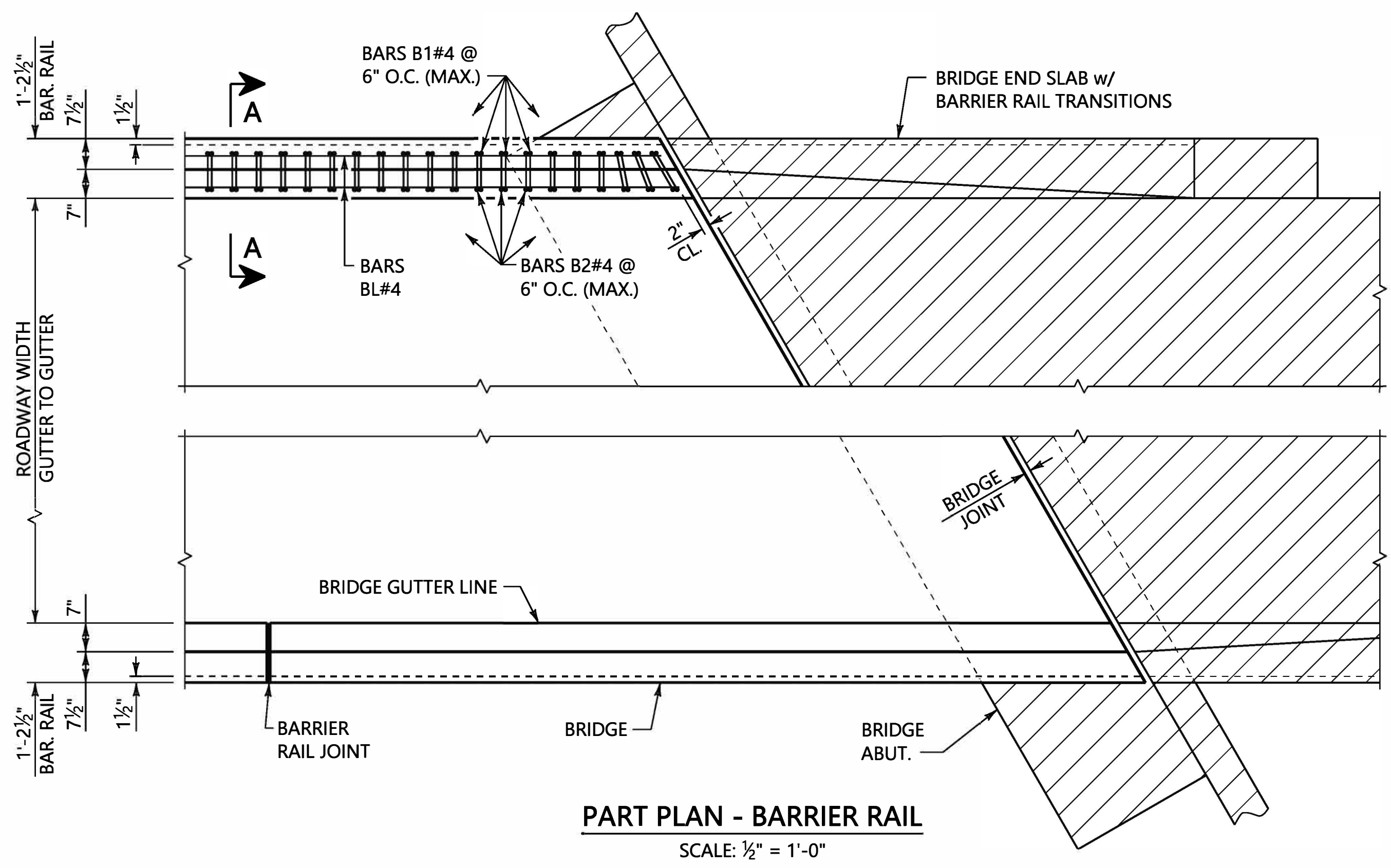
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BRIDGE STANDARD DETAILS

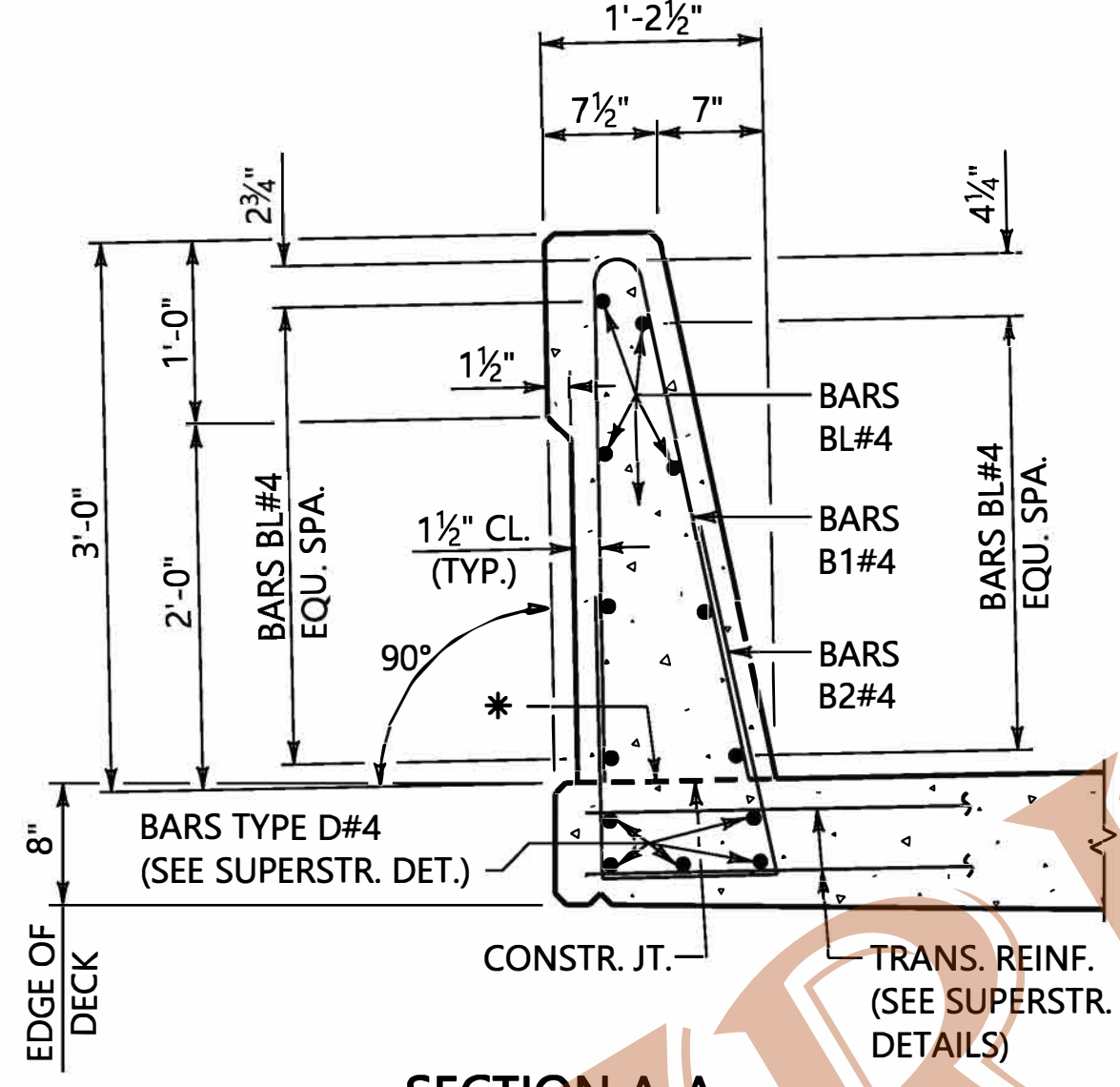
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SBD-1  
SHEET 2 OF 2



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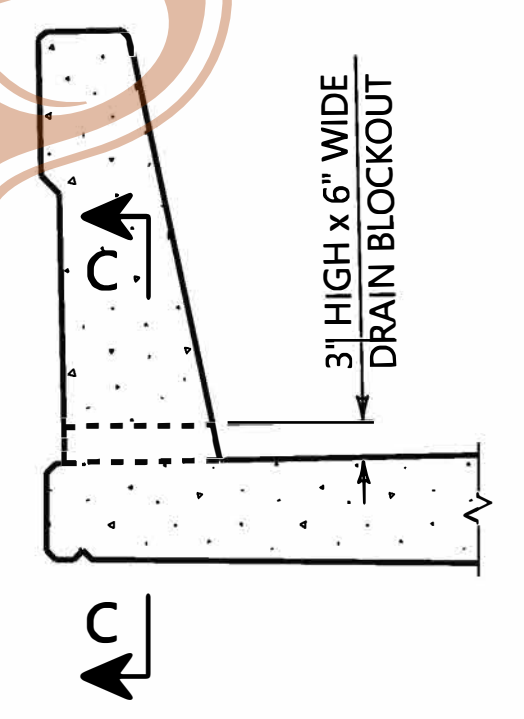


**PART PLAN - BARRIER RAIL**  
SCALE: 1/2" = 1'-0"

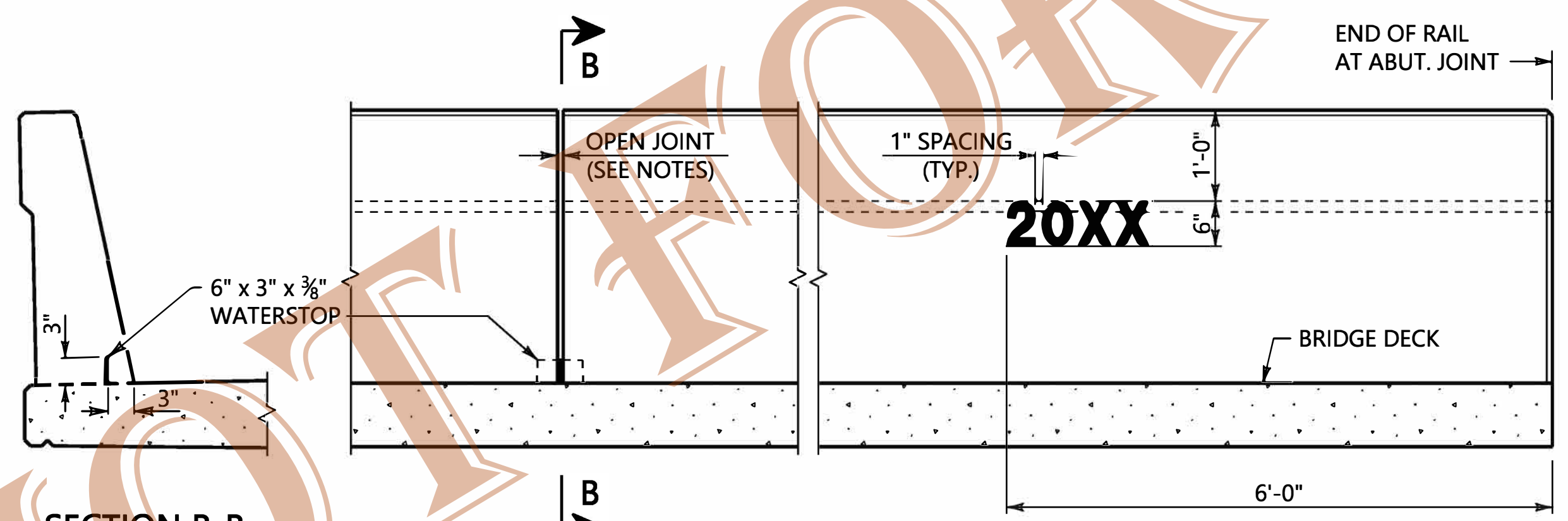


**SECTION A-A**  
SCALE: 1" = 1'-0"

\* MATCH SLOPE SHOWN ON TYPICAL BRIDGE CROSS SECTION OF CONTRACT PLANS.

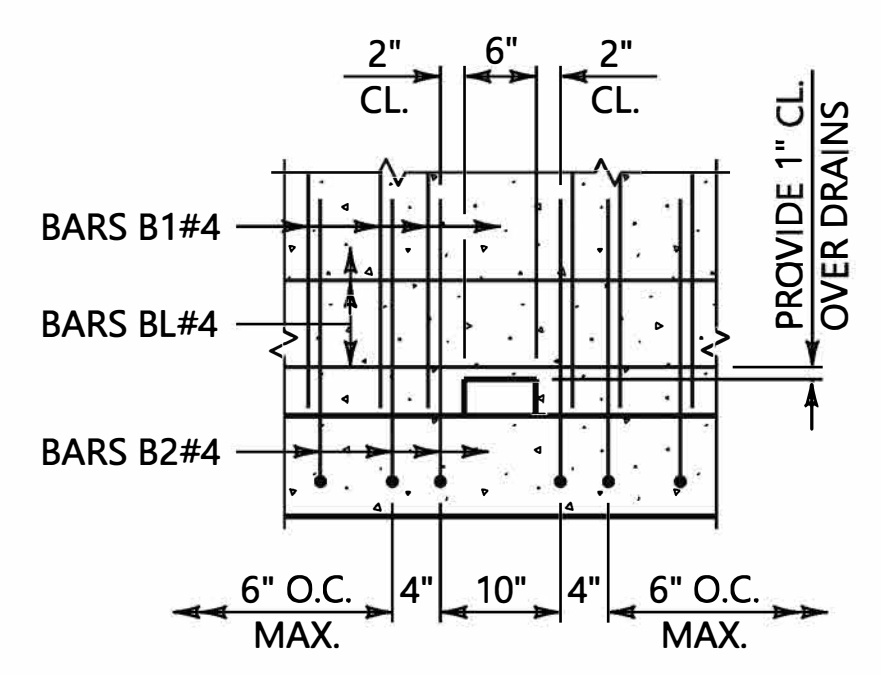


**DRAIN BLOCKOUT**  
SCALE: 3/4" = 1'-0"



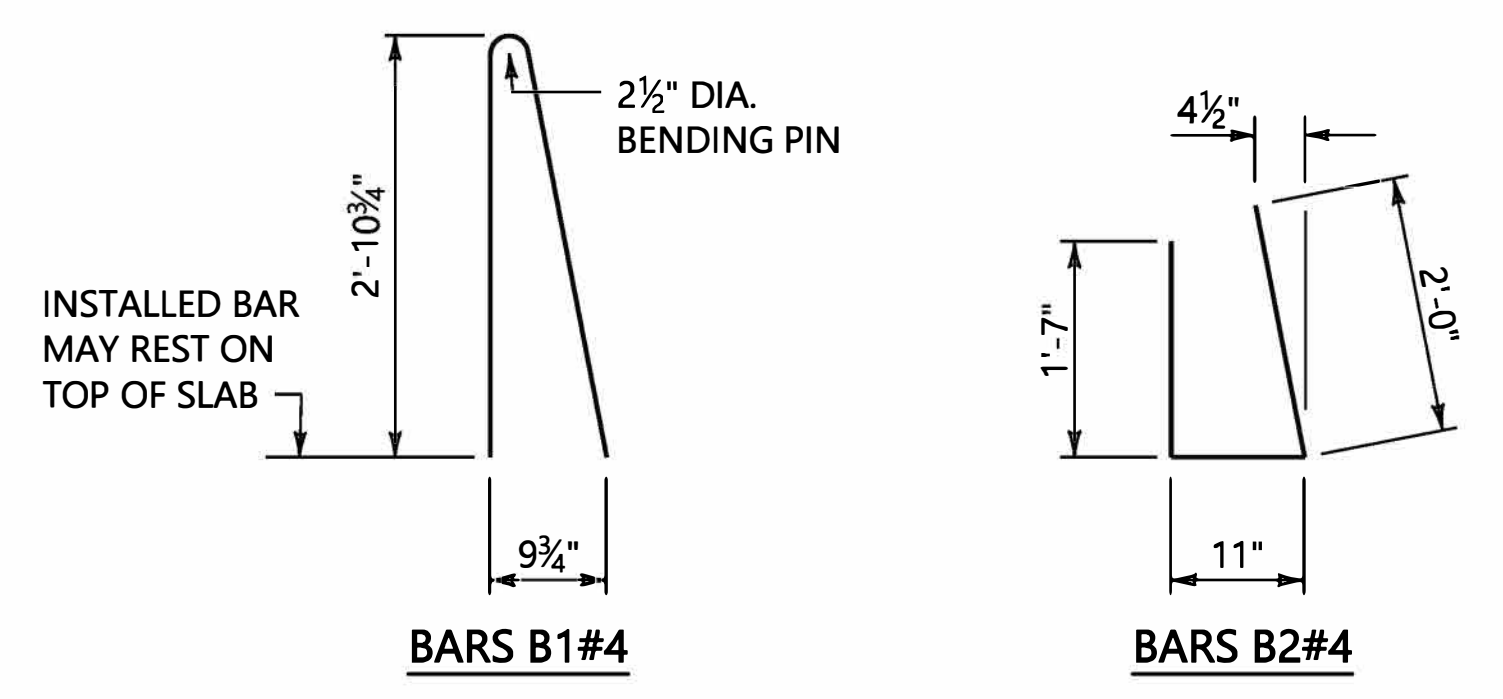
**SECTION B-B (WATERSTOP)**  
SCALE: 3/4" = 1'-0"

**PART ELEVATION - BARRIER RAIL**  
SCALE: 3/4" = 1'-0"



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

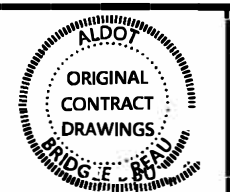
- NOTES:**
- BARRIER REINFORCEMENT**
- FAN BARS B1 AND B2 AT SKEWED JOINTS AS REQ'D. TO FIT SKEW. LENGTHS OF BARS BL#4 SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY, AT HIS OPTION, PLACE BARS BL CONTINUOUSLY AND CUT AT JOINT LOCATIONS. TWO INCH (2") END COVER SHALL BE PROVIDED AT ALL JOINT LOCATIONS. SPLICE BARS BL#4 30 DIA. (MIN.). MINIMUM LENGTH OF BARS BL 10'-0".
- YEAR OF COMPLETION**
- THE YEAR OF COMPLETION OF BRIDGE SHALL BE CONSTRUCTED ON THE INSIDE FACE OF BARRIER RAIL AT BEGIN AND END, AS SHOWN. NUMERALS SHALL BE OF A STANDARD ARIAL FONT, SIX INCH (6") TALL WITH AN APPROXIMATE 3/4" TO 1" THICKNESS.
  - NUMERALS MAY BE CONSTRUCTED OF A SUITABLE MATERIAL AND ATTACHED TO FORMS IN ORDER TO CAST THREE-EIGHTHS INCH (3/8") DEEP INDENTATIONS IN CONCRETE. EDGES OF NUMERALS SHOULD HAVE AN INWARD BEVEL TO FACILITATE REMOVAL OF FORMS.
  - UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY USE PREFORMED, BLACK THREE-EIGHTHS INCH (3/8") MINIMUM DEPTH NUMERALS THAT ARE PERMANENTLY EMBEDDED WITHIN THE BARRIER RAIL SO THE FACE OF THE NUMERALS ARE FLUSH WITH THE CONCRETE FACE. EDGES OF NUMERALS TO HAVE AN OUTWARD BEVEL TO ENSURE PERMANENT EMBEDMENT.
  - COST OF NUMERALS SHALL BE INCLUDED IN THE PAY ITEM 510J, BRIDGE BARRIER RAIL, TYPE 36" SINGLE SLOPE.
- OPEN JOINTS IN BARRIER**
- IN ADDITION TO THE OPEN JOINTS SHOWN ON THE BRIDGE DRAWINGS AT THE BEGINNING AND END OF SPANS, OPEN JOINTS IN BARRIER RAILS SHALL BE LOCATED AS FOLLOWS: FOR SPANS UP TO 60 FEET IN LENGTH, PROVIDE ONE OPEN JOINT AT MID-POINT OF THE SPAN. FOR SPANS EXCEEDING 60 FEET IN LENGTH, PROVIDE ONE OPEN JOINT AT MID-POINT OF THE SPAN AND ADDITIONAL JOINTS AT EQUAL SPACES NOT TO EXCEED 30 FEET BETWEEN JOINTS.
  - FOR CONTINUOUS SPAN UNITS, OPEN JOINTS IN BARRIER RAILS SHALL ALSO BE PROVIDED AT INTERIOR BENT LOCATIONS.
  - JOINT OPENINGS SHALL BE THREE-QUARTERS INCH (3/4") IN WIDTH WHENEVER BARRIER RAILS ARE CONSTRUCTED BY MEANS OTHER THAN A SLIP FORM EXTRUSION MACHINE.
- WATERSTOPS**
- OPEN JOINTS IN BARRIER RAIL TO BE SEALED WITH A 6" x 3" x 3/8" WATERSTOP, EXCEPT AS NOTED BELOW. WATERSTOP MATERIAL SHALL CONFORM TO REQUIREMENTS OF SUB-ARTICLE 832.05(b) OF THE STANDARD SPECIFICATIONS. WATERSTOP SHALL BE BONDED TO BRIDGE DECK WITH AN APPROVED ADHESIVE MEETING REQUIREMENTS OF SUB-ARTICLE 832.03(a)2b OF THE STANDARD SPECIFICATIONS.
  - WATERSTOP NOT REQUIRED ON HIGH SIDE OF SLOPED DECKS, WHEN CLASS 3 SURFACE FINISH IS REQUIRED, OR WHEN JOINT OPENING IS SAW CUT PER SUB-ARTICLE 510.03(c)j OF THE STANDARD SPECIFICATIONS.
  - COST OF WATERSTOPS SHALL BE INCLUDED IN PAY ITEM 510J, BRIDGE BARRIER RAIL TYPE 36" SINGLE SLOPE.
- DRAIN BLOCKOUTS**
- DRAIN BLOCKOUTS ARE TO BE USED ONLY WHEN SPECIFIED ON THE CONTRACT PLANS. OMIT DRAINS OVER TRAFFIC LANES, UNPROTECTED SLOPE FILLS, HIGH SIDE IF SUPER-ELEVATED AND WITHIN 10'-0" OF BRIDGE ENDS. NO BLOCKOUT SHALL BE PLACED WITHIN 5'-0" OF AN OPEN JOINT IN THE BARRIER RAIL. SPACE BLOCKOUTS @ 5'-0" O.C. (MAX.) UNLESS SHOWN OTHERWISE ON THE CONTRACT PLANS.



**BARS B1#4**

**BARS B2#4**

ASSISTANT BRIDGE ENGINEER <i>Jeffrey T. ...</i> DATE: 6/27/22	BRIDGE ENGINEER <i>W. ...</i> DATE:
---	---



REVISIONS
1. ADDED DRAIN BLOCKOUT DETAIL, REORGANIZED NOTES, REMOVED YEAR OF COMPLETION NUMERAL DETAILS, REVISED VARIOUS DETAILS. JTH 11/15/2021

THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

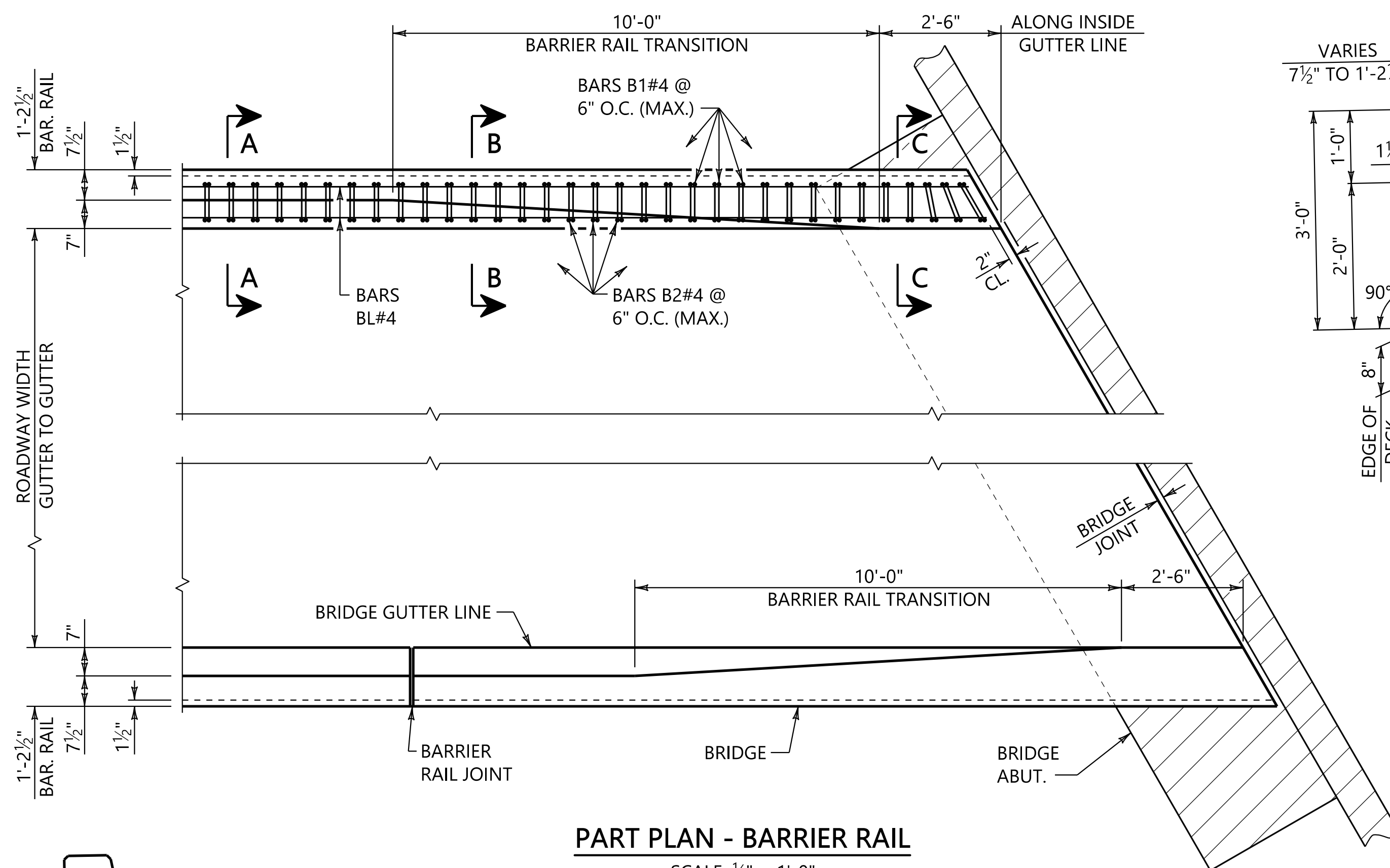
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BRIDGE BARRIER RAIL  
(36" SINGLE SLOPE)

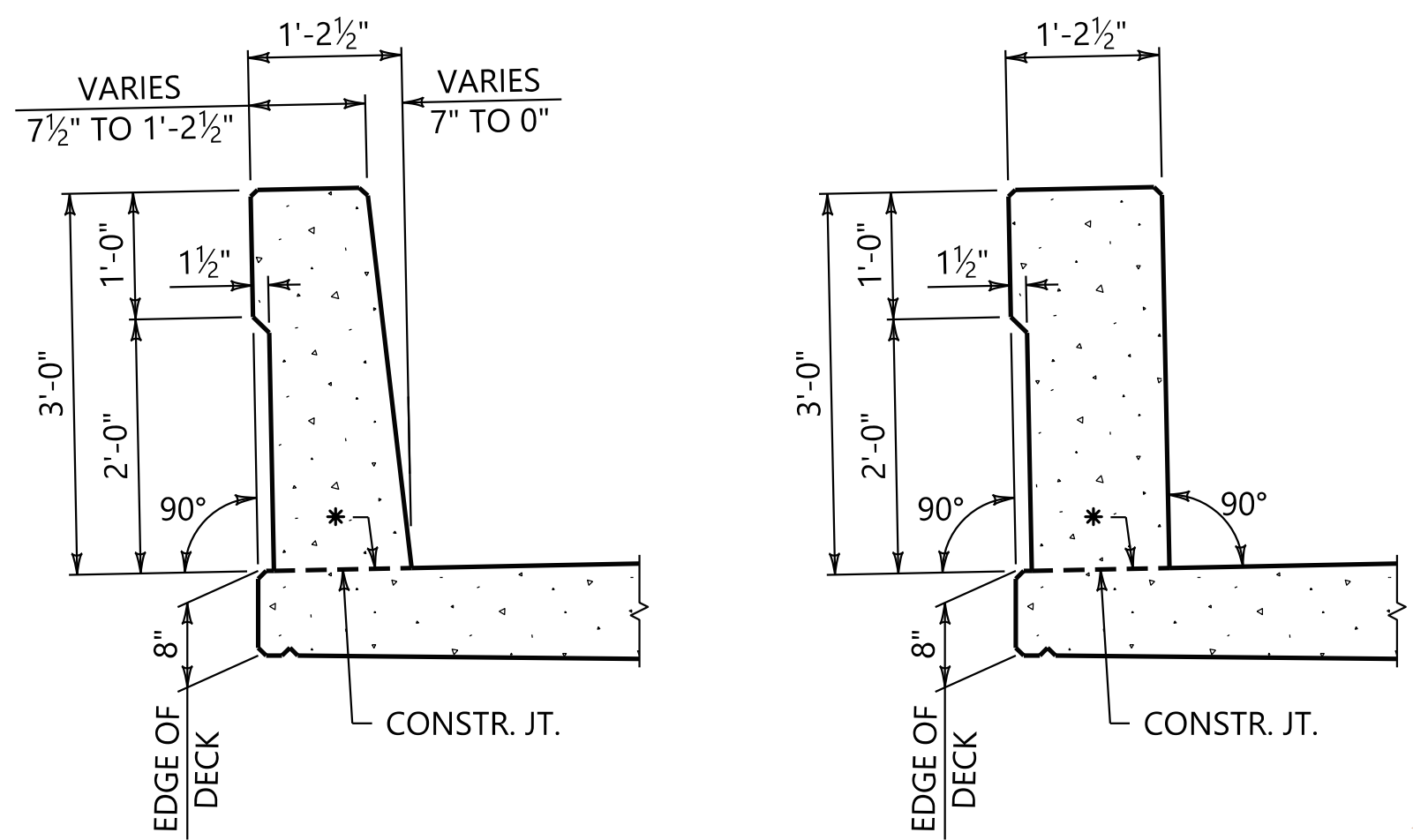
BRIDGE SPECIAL PROJECT DRAWING  
BBR-1  
SHEET 1 OF 1



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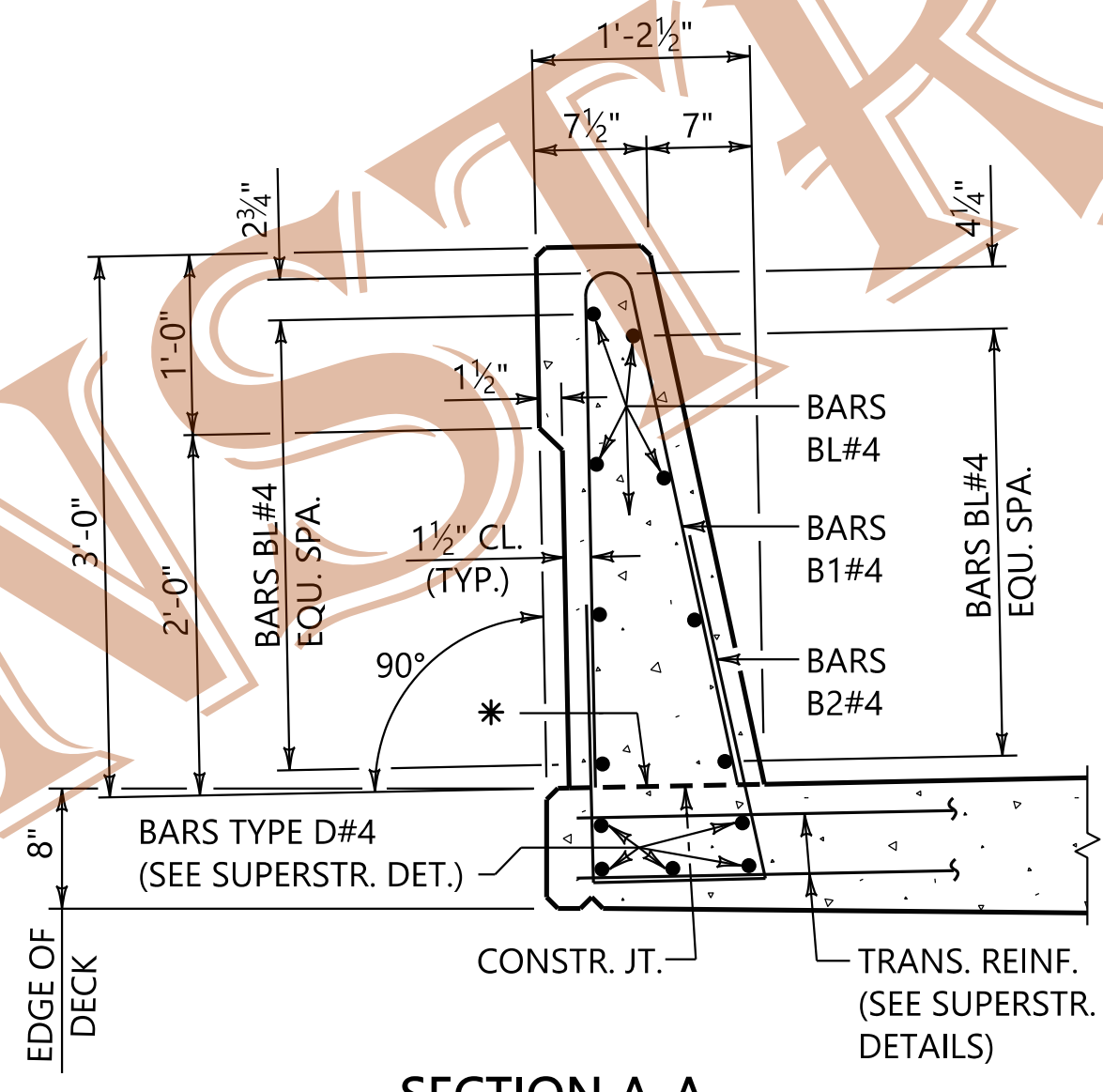
**PART PLAN - BARRIER RAIL**  
SCALE: 1/2" = 1'-0"



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

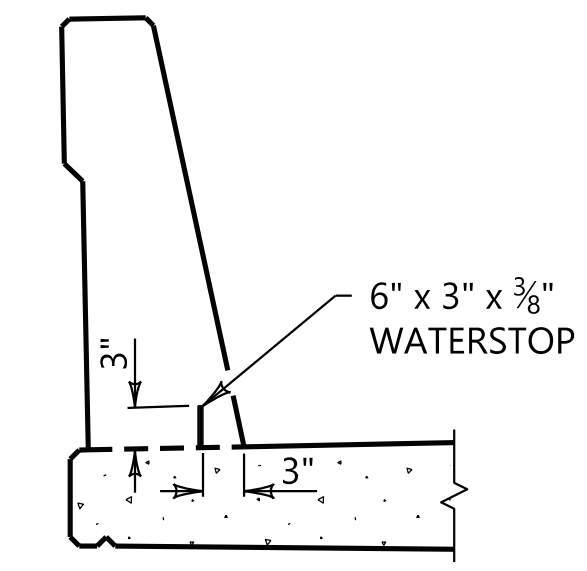
**SECTION C-C**  
SCALE: 3/4" = 1'-0"

SEE SECTION A-A FOR REINFORCEMENT DETAILS.

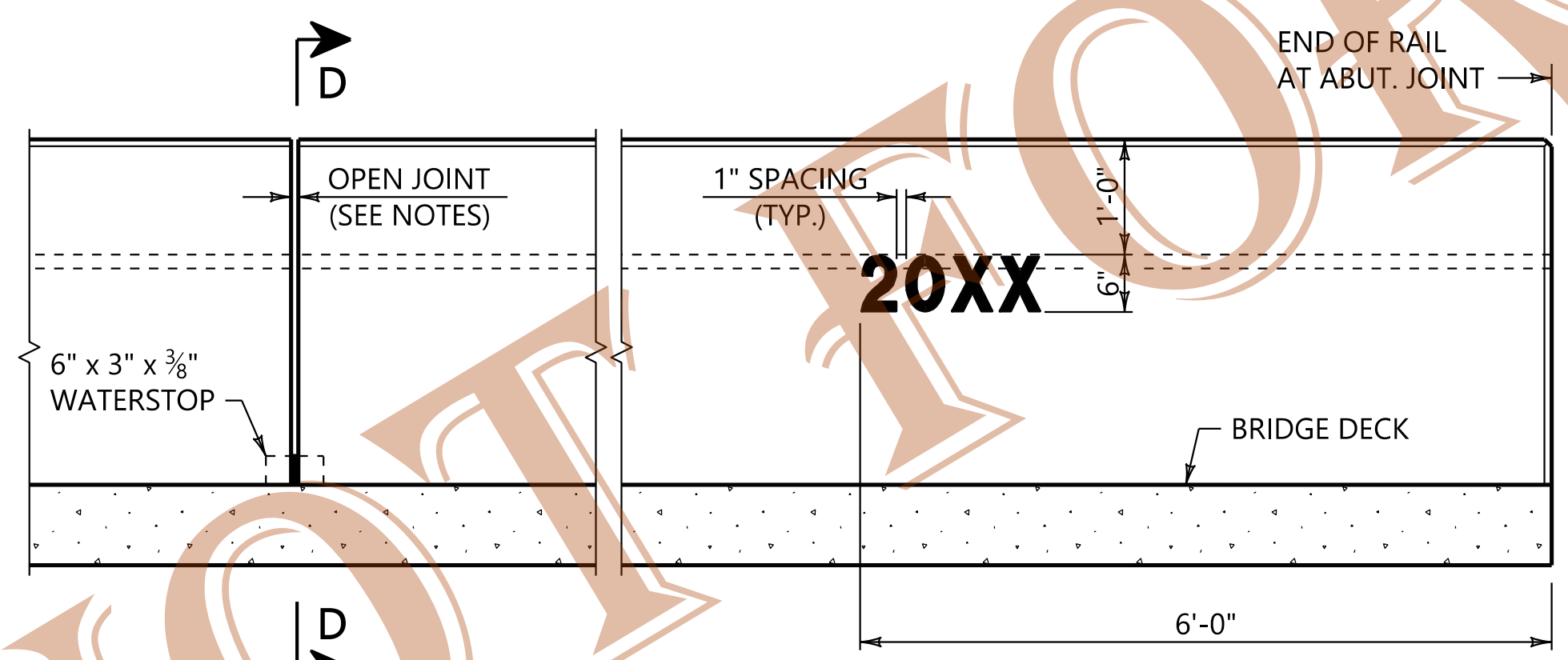


**SECTION A-A**  
SCALE: 1" = 1'-0"

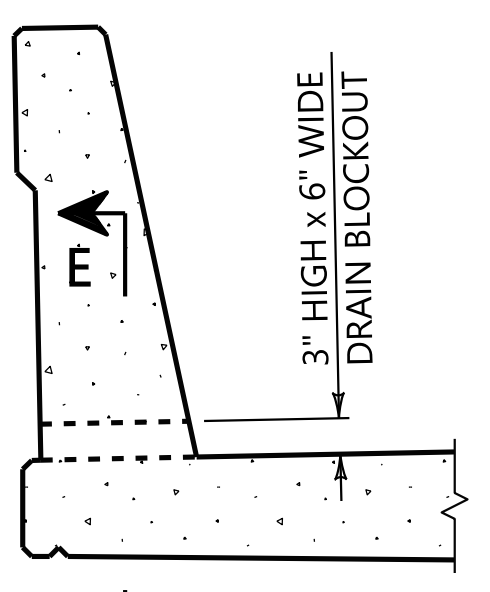
\* MATCH SLOPE SHOWN ON TYPICAL BRIDGE CROSS SECTION OF CONTRACT PLANS.



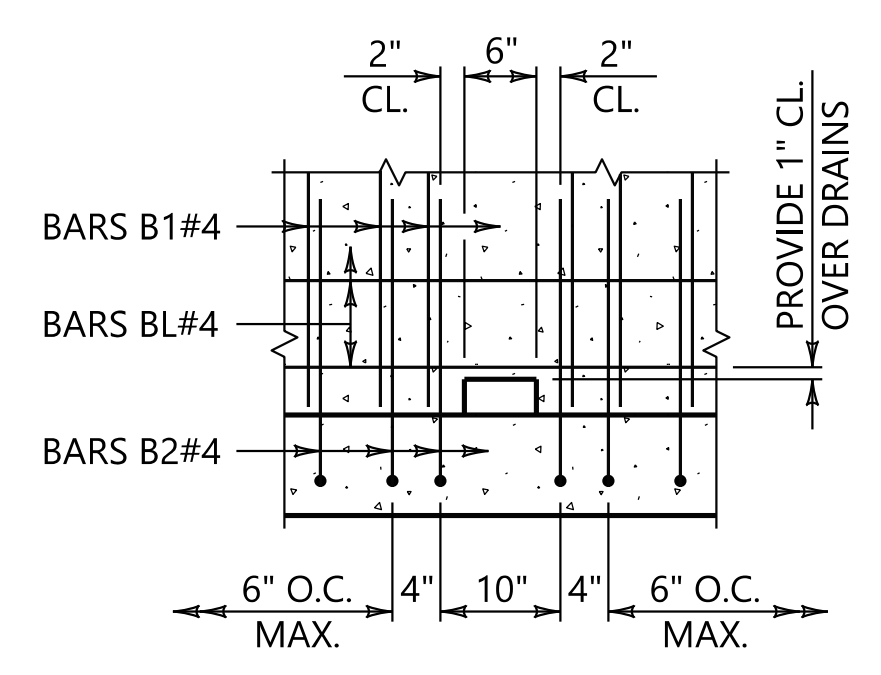
**SECTION D-D (WATERSTOP)**  
SCALE: 3/4" = 1'-0"



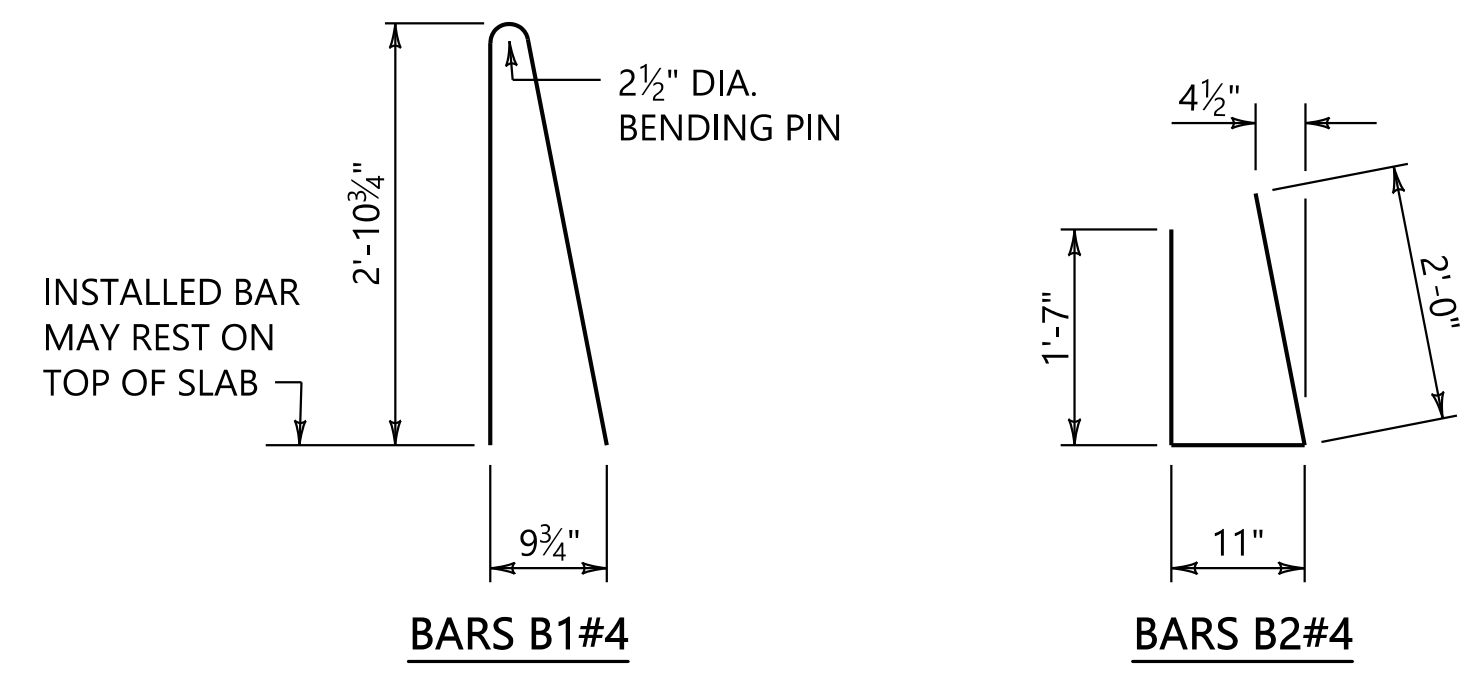
**PART ELEVATION - BARRIER RAIL**  
SCALE: 3/4" = 1'-0"



**DRAIN BLOCKOUT**  
SCALE: 3/4" = 1'-0"

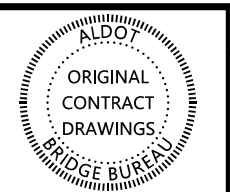


**SECTION E-E**  
SCALE: 3/4" = 1'-0"



END TRANSITIONS TO BE INCLUDED IN THE LINEAR FOOT QUANTITY FOR PAY ITEM 510J, BRIDGE BARRIER RAIL, TYPE 36" SINGLE SLOPE.

- NOTES:**
- BARRIER REINFORCEMENT**
- FAN BARS B1 AND B2 AT SKEWED JOINTS AS REQ'D. TO FIT SKEW. LENGTHS OF BARS BL#4 SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY, AT HIS OPTION, PLACE BARS BL CONTINUOUSLY AND CUT AT JOINT LOCATIONS. TWO INCH (2") END COVER SHALL BE PROVIDED AT ALL JOINT LOCATIONS. SPLICE BARS BL#4 30 DIA. (MIN.). MINIMUM LENGTH OF BARS BL 10'-0".
- YEAR OF COMPLETION**
- THE YEAR OF COMPLETION OF BRIDGE SHALL BE CONSTRUCTED ON THE INSIDE FACE OF BARRIER RAIL AT BEGIN AND END, AS SHOWN. NUMERALS SHALL BE OF A STANDARD ARIAL FONT, SIX INCH (6") TALL WITH AN APPROXIMATE 3/4" TO 1" THICKNESS.
  - NUMERALS MAY BE CONSTRUCTED OF A SUITABLE MATERIAL AND ATTACHED TO FORMS IN ORDER TO CAST THREE-EIGHTHS INCH (3/8") DEEP INDENTATIONS IN CONCRETE. EDGES OF NUMERALS SHOULD HAVE AN INWARD BEVEL TO FACILITATE REMOVAL OF FORMS.
  - UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY USE PREFORMED, BLACK THREE-EIGHTHS INCH (3/8") MINIMUM DEPTH NUMERALS THAT ARE PERMANENTLY EMBEDDED WITHIN THE BARRIER RAIL SO THE FACE OF THE NUMERALS ARE FLUSH WITH THE CONCRETE FACE. EDGES OF NUMERALS TO HAVE AN OUTWARD BEVEL TO ENSURE PERMANENT EMBEDMENT.
  - COST OF NUMERALS SHALL BE INCLUDED IN THE PAY ITEM 510J, BRIDGE BARRIER RAIL, TYPE 36" SINGLE SLOPE.
- OPEN JOINTS IN BARRIER**
- IN ADDITION TO THE OPEN JOINTS SHOWN ON THE BRIDGE DRAWINGS AT THE BEGINNING AND END OF SPANS, OPEN JOINTS IN BARRIER RAILS SHALL BE LOCATED AS FOLLOWS: FOR SPANS UP TO 60 FEET IN LENGTH, PROVIDE ONE OPEN JOINT AT MID-POINT OF THE SPAN. FOR SPANS EXCEEDING 60 FEET IN LENGTH, PROVIDE ONE OPEN JOINT AT MID-POINT OF THE SPAN AND ADDITIONAL JOINTS AT EQUAL SPACES NOT TO EXCEED 30 FEET BETWEEN JOINTS.
  - FOR CONTINUOUS SPAN UNITS, OPEN JOINTS IN BARRIER RAILS SHALL ALSO BE PROVIDED AT INTERIOR BENT LOCATIONS.
  - JOINT OPENINGS SHALL BE THREE-QUARTERS INCH (3/4") IN WIDTH WHENEVER BARRIER RAILS ARE CONSTRUCTED BY MEANS OTHER THAN A SLIP FORM EXTRUSION MACHINE.
- WATERSTOPS**
- OPEN JOINTS IN BARRIER RAIL TO BE SEALED WITH A 6" x 3" x 3/8" WATERSTOP, EXCEPT AS NOTED BELOW. WATERSTOP MATERIAL SHALL CONFORM TO REQUIREMENTS OF SUB-ARTICLE 832.05(b) OF THE STANDARD SPECIFICATIONS. WATERSTOP SHALL BE BONDED TO BRIDGE DECK WITH AN APPROVED ADHESIVE MEETING REQUIREMENTS OF SUB-ARTICLE 832.03(a)2b OF THE STANDARD SPECIFICATIONS.
  - WATERSTOP NOT REQUIRED ON HIGH SIDE OF SLOPED DECKS, WHEN CLASS 3 SURFACE FINISH IS REQUIRED, OR WHEN JOINT OPENING IS SAW CUT PER SUB-ARTICLE 510.03(c)6j OF THE STANDARD SPECIFICATIONS.
  - COST OF WATERSTOPS SHALL BE INCLUDED IN PAY ITEM 510J, BRIDGE BARRIER RAIL, TYPE 36" SINGLE SLOPE.
- DRAIN BLOCKOUTS**
- DRAIN BLOCKOUTS ARE TO BE USED ONLY WHEN SPECIFIED ON THE CONTRACT PLANS. OMIT DRAINS OVER TRAFFIC LANES, UNPROTECTED SLOPE FILLS, HIGH SIDE IF SUPER-ELEVATED AND WITHIN 10'-0" OF BRIDGE ENDS. NO BLOCKOUT SHALL BE PLACED WITHIN 5'-0" OF AN OPEN JOINT IN THE BARRIER RAIL. SPACE BLOCKOUTS @ 5'-0" O.C. (MAX.) UNLESS SHOWN OTHERWISE ON THE CONTRACT PLANS.



REVISIONS
1. ADDED DRAIN BLOCKOUT DETAIL, REORGANIZED NOTES, REMOVED YEAR OF COMPLETION NUMERAL DETAILS, REVISED VARIOUS DETAILS. JTH 11/15/2021

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COUNTY(S) \_\_\_\_\_

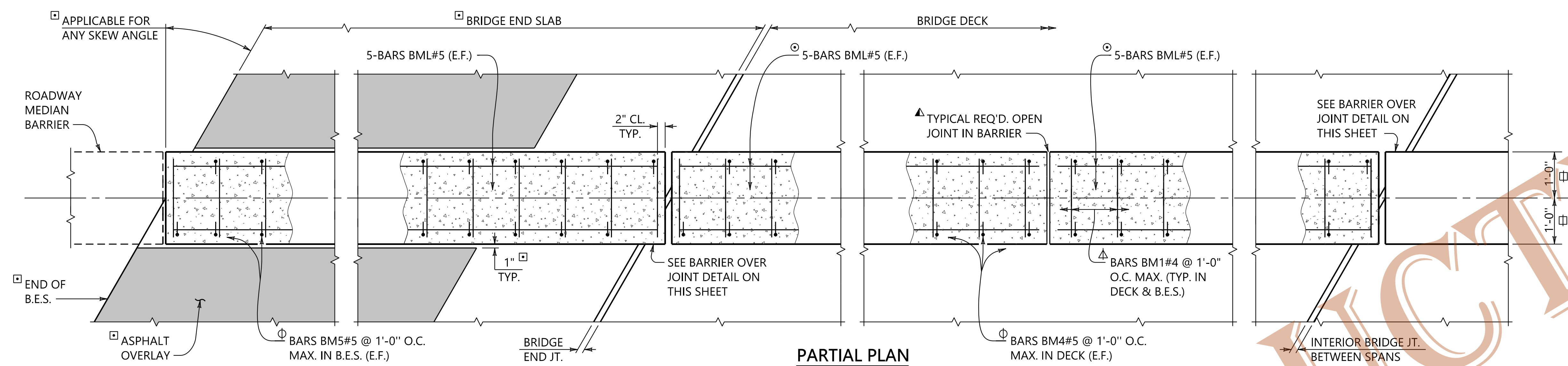
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BRIDGE BARRIER RAIL  
w/ END TRANSITIONS  
(36" SINGLE SLOPE)

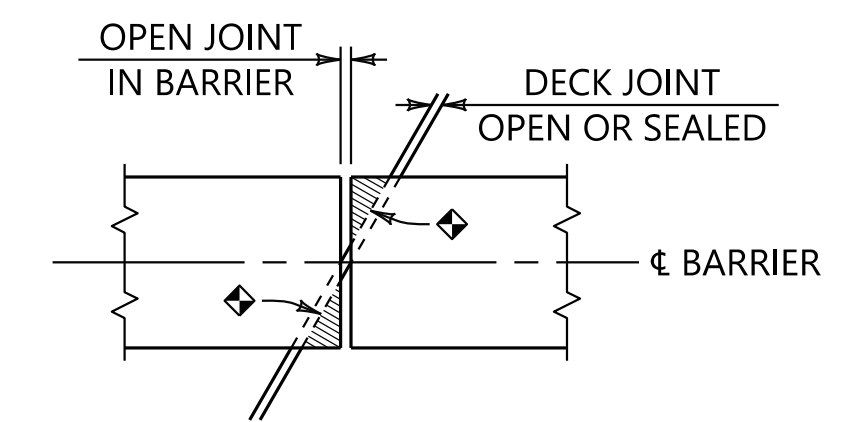
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BRIDGE SPECIAL PROJECT DRAWING	
BBR-2	SHEET 1 OF 1



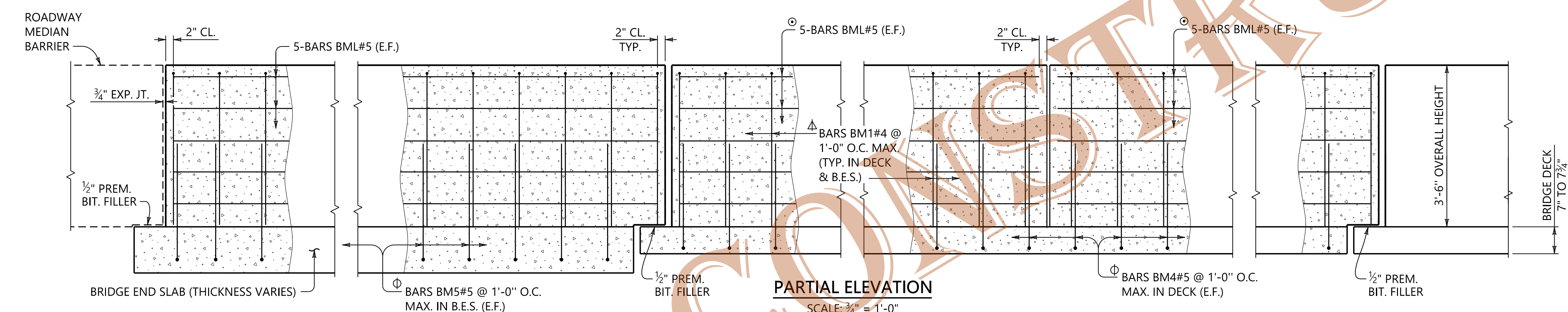
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**PARTIAL PLAN**  
SCALE: 3/4" = 1'-0"



**BARRIER OVER JOINT**  
NO SCALE

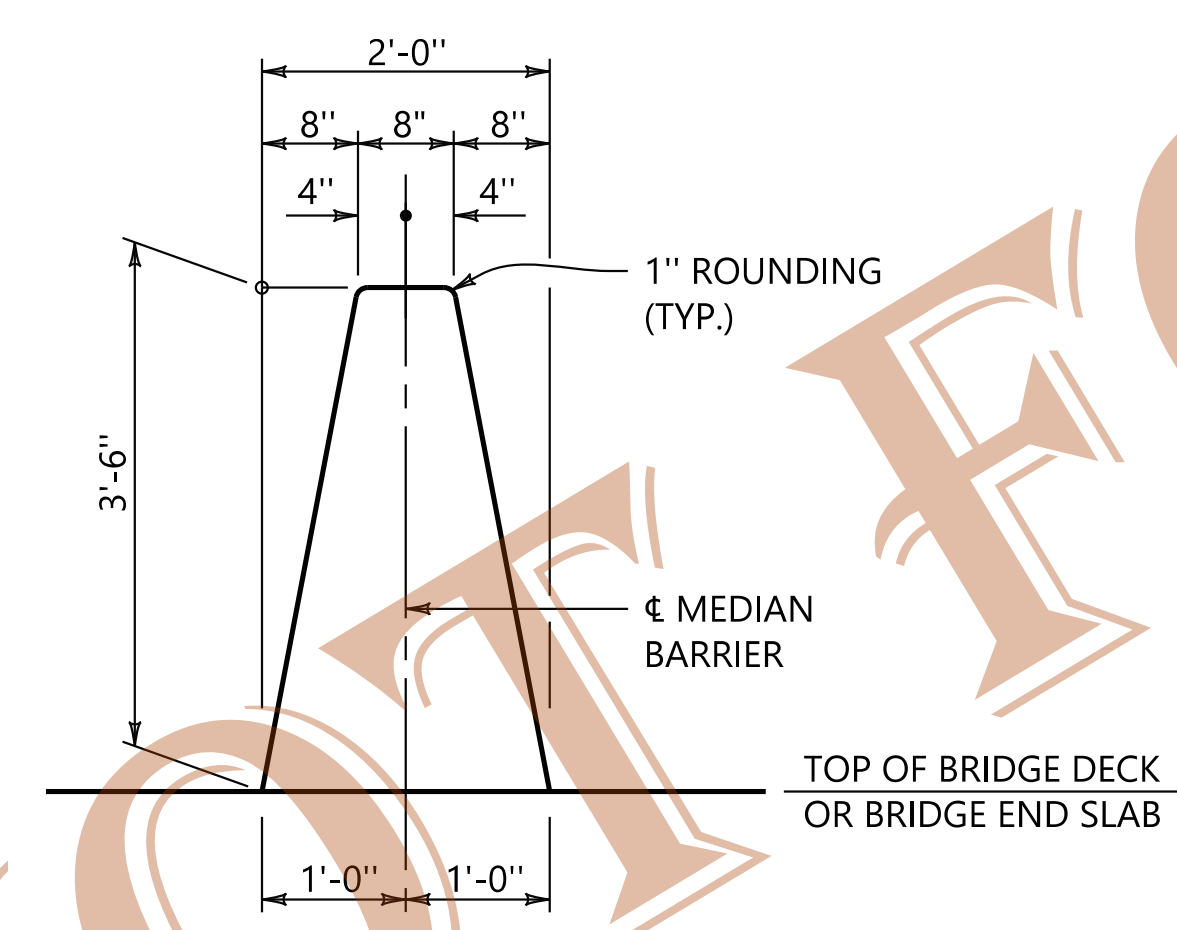


**PARTIAL ELEVATION**  
SCALE: 3/4" = 1'-0"

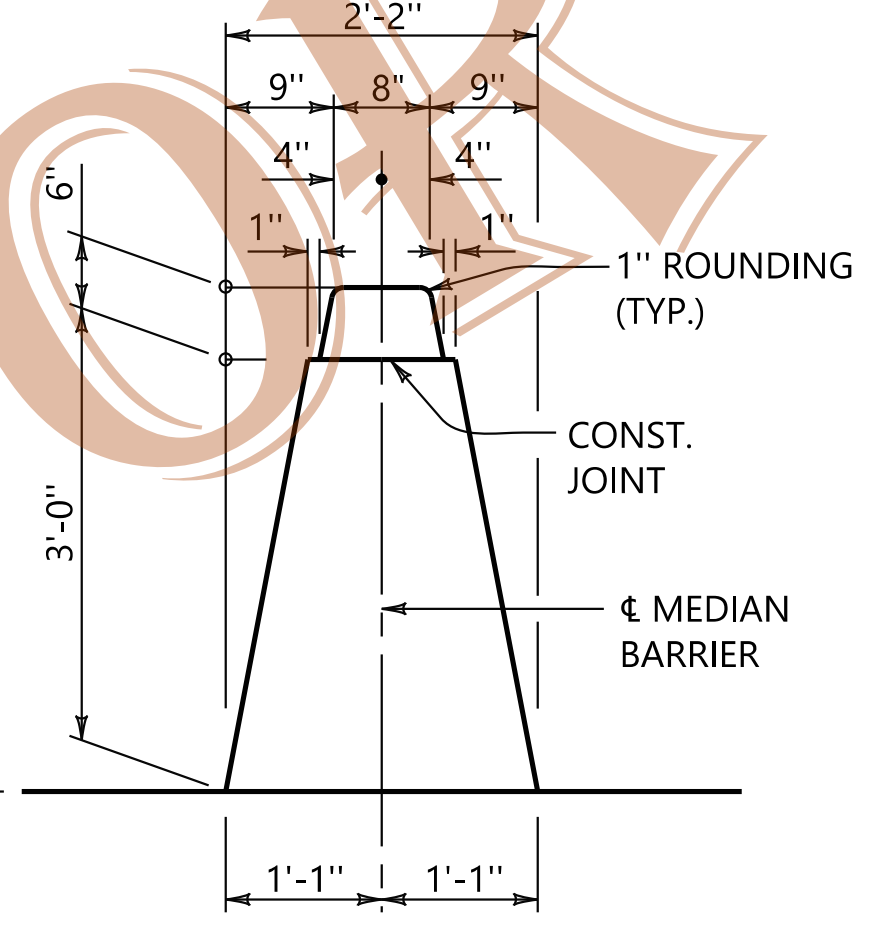
**NOTES**

1. IN ADDITION TO THE OPEN JOINTS SHOWN ON THE BRIDGE DRAWINGS AT THE BEGINNING AND END OF SPANS, OPEN JOINTS IN THE MEDIAN BARRIER RAIL SHALL BE LOCATED AS FOLLOWS: FOR SPANS UP TO 60 FEET IN LENGTH, PROVIDE ONE JOINT AT THE MID-POINT OF THE SPAN. FOR SPANS OVER 60 FEET IN LENGTH, PROVIDE ONE JOINT AT THE MID-POINT OF THE SPAN AND ADDITIONAL JOINTS AT EQUAL SPACES NOT TO EXCEED 30 FEET BETWEEN JOINTS.
2. FOR CONTINUOUS SPAN UNITS, OPEN JOINTS IN THE MEDIAN BARRIER RAIL SHALL ALSO BE PROVIDED AT INTERIOR BENT LOCATIONS.
3. INTERIOR JOINT OPENINGS SHALL BE THREE-QUARTER INCH (3/4") IN WIDTH WHENEVER THE MEDIAN BARRIER RAIL IS CONSTRUCTED BY MEANS OTHER THAN A SLIP FORM EXTRUSION MACHINE.
4. BARS BLM TO BE PLACED CONTINUOUSLY AND CUT AT JOINT LOCATIONS TO PROVIDE FOR TWO INCH (2") END COVER. BARS BLM MAY BE SPLICED 30 DIA. MIN.
5. THE MEDIAN BARRIER RAIL ON BRIDGE DECKS SHALL BE PAID FOR IN PAY ITEMS 502B, STEEL REINFORCEMENT FOR BRIDGE SUPERSTRUCTURE AND 510J, BRIDGE BARRIER RAIL, TYPE 42" CSF MEDIAN.
6. THE MEDIAN BARRIER RAIL ON BRIDGE END SLABS SHALL BE PAID FOR IN PAY ITEM 450B, REINFORCED CEMENT CONCRETE BRIDGE END SLAB.

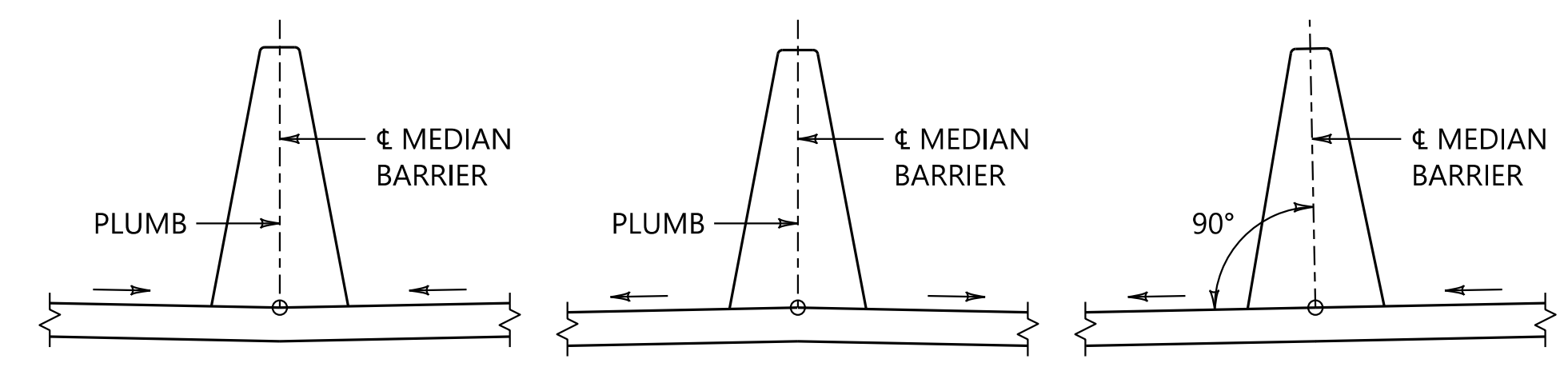
THE BRIDGE END SLAB SHOWN DEPICTS THE TYPICAL DETAILS USED FOR BITUMINOUS PAVEMENTS. CONCRETE PAVEMENT DETAILS ARE SIMILAR WITH THE OMISSION OF THE END SKEW AND ASPHALT OVERLAY. SEE SHEET 2 OF 2 FOR ADDITIONAL DETAILS.



**TYPICAL CROSS-SECTION**  
(w/o CONST. JT.)  
SCALE: 3/4" = 1'-0"



**OPTIONAL CROSS-SECTION**  
(w/ CONST. JT.)  
SCALE: 3/4" = 1'-0"



THE MEDIAN BARRIER SHALL BE CONSTRUCTED PLUMB WHEN THE BRIDGE DECK OR BRIDGE END SLAB ON EACH SIDE OF THE BARRIER SLOPES IN OPPOSING DIRECTIONS. WHEN THE BRIDGE DECK OR BRIDGE END SLAB ON EACH SIDE OF THE MEDIAN BARRIER SLOPES IN THE SAME DIRECTION, THE BARRIER SHALL BE CONSTRUCTED PERPENDICULAR TO THE SLOPE.

**VERTICAL ORIENTATION OF MEDIAN BARRIER**  
(RELATIVE TO BRIDGE DECK/B.E.S. SLOPES)  
NO SCALE

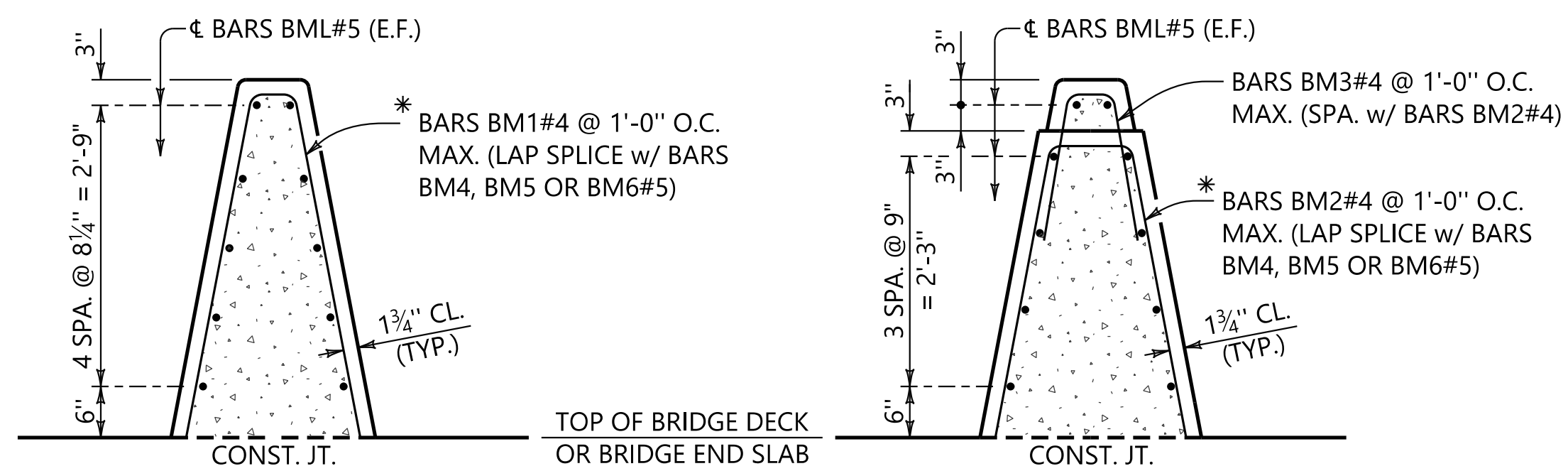
ASSISTANT BRIDGE ENGINEER <i>J.A. Waller</i> DATE: 3/14/2024	BRIDGE ENGINEER <i>W. C. ...</i> DATE: 3/14/2024
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PLOTTED: 14-Mar-24 at 13:56  
 \\bnvms002\Bridges\Standard\Special\Bridges\Special DGN Files\2024 DGN\1 Standard Notes & Details\BBR-M(42) Bridge Median Barrier Rail - PENDING.dgn

REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER
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\* BARS BM1 & BM2 MAY REST ON TOP OF CONST. JOINT



(SEE ATTACHMENT DETAILS FOR CONNECTION TO BRIDGE DECK OR BRIDGE END SLAB)

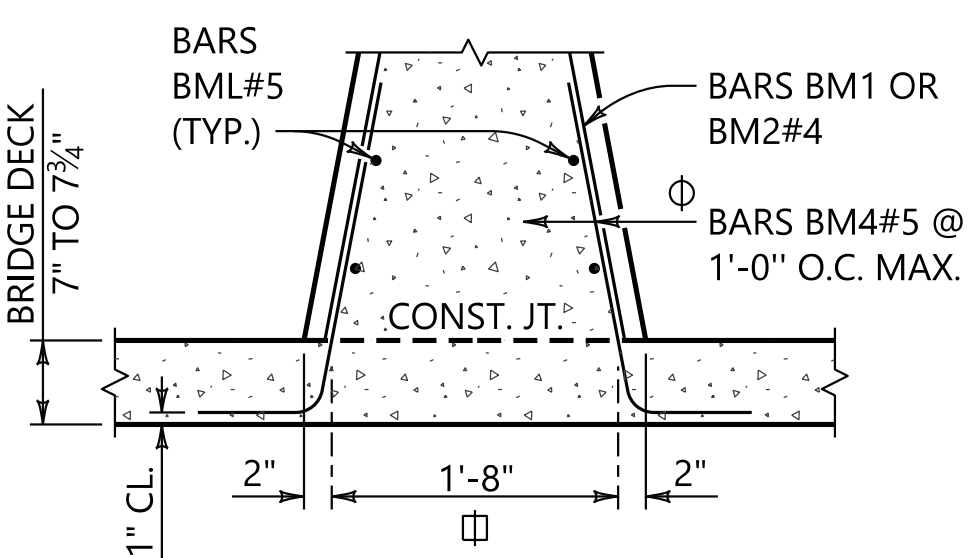
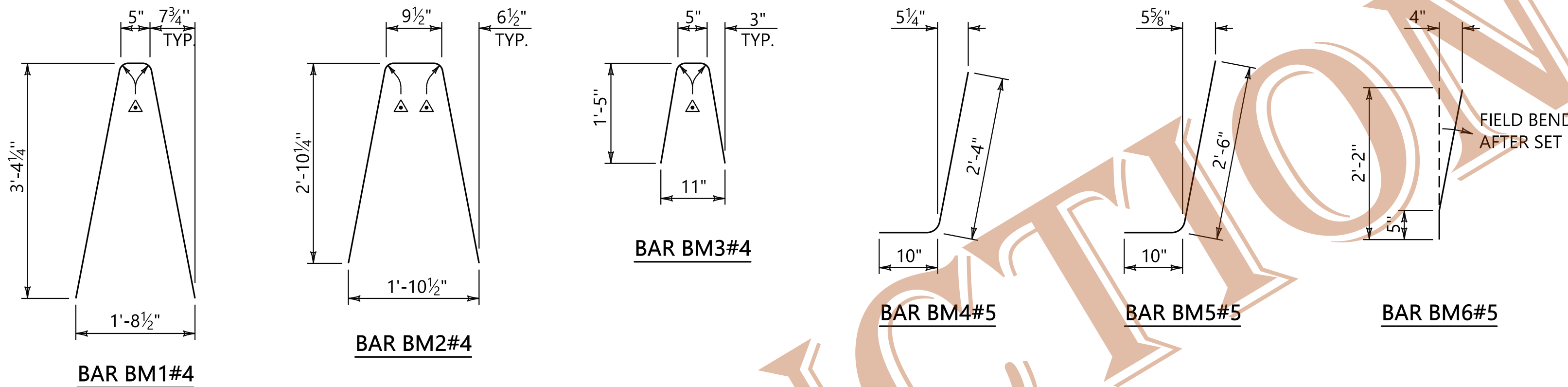
TYPICAL CROSS-SECTION

OPTIONAL CROSS-SECTION

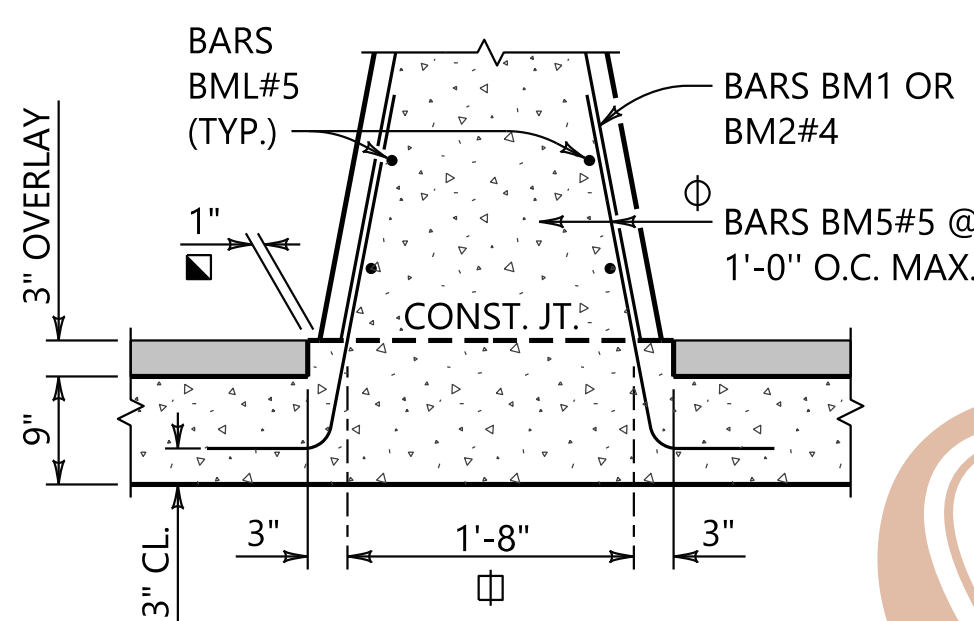
**REINFORCEMENT DETAILS**

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

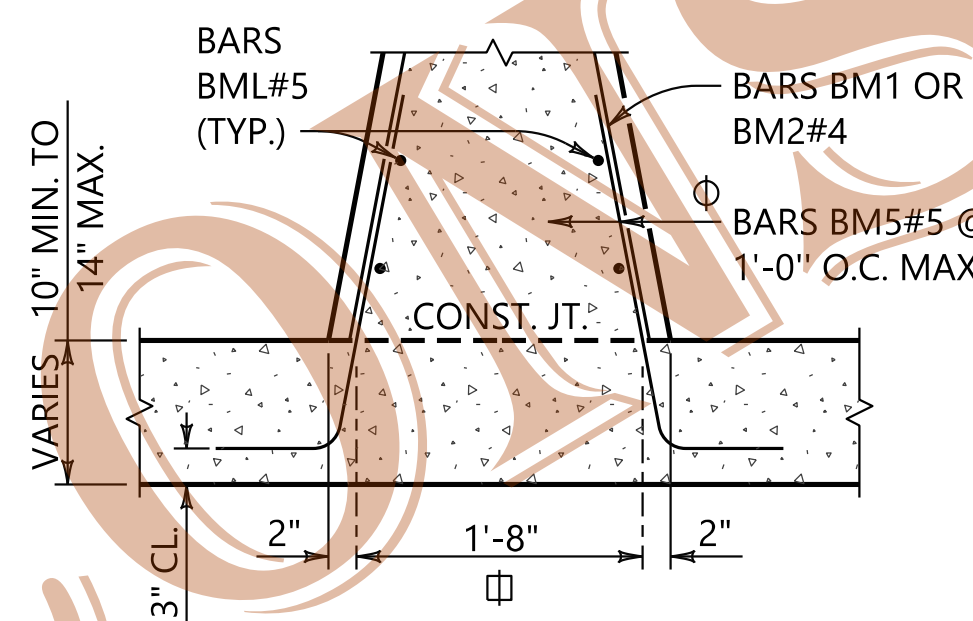
△ 2" BENDING PIN



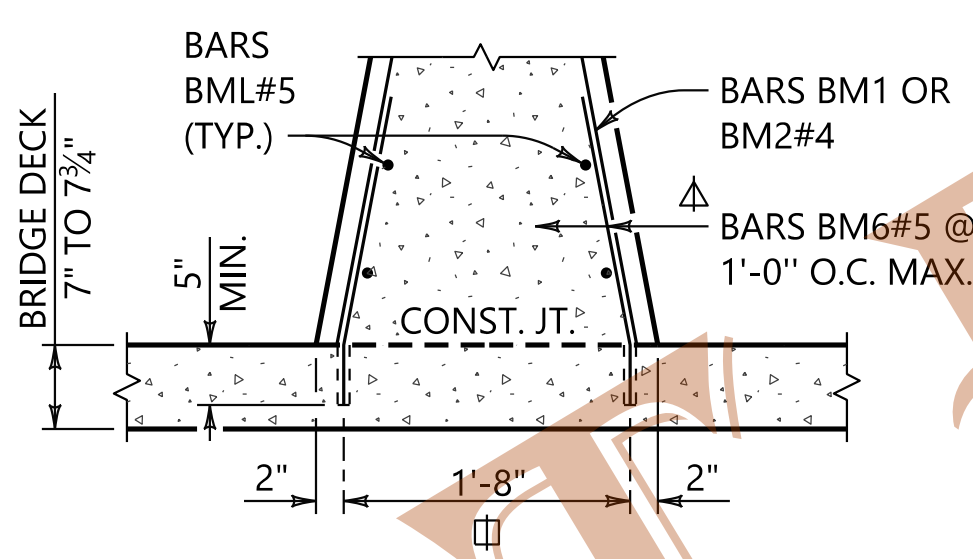
BRIDGE DECK (CAST-IN-PLACE)  
STANDARD CIP DECK



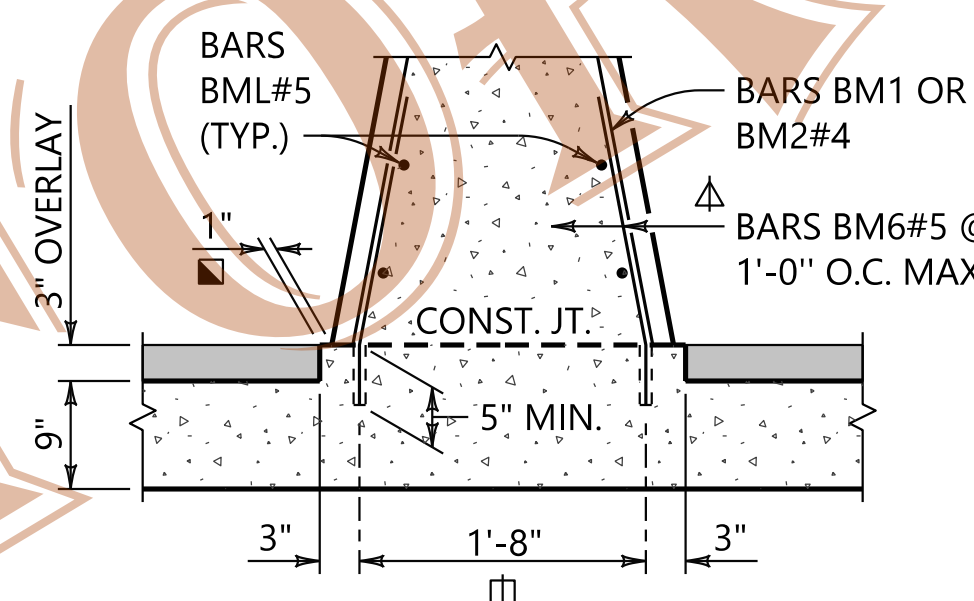
BRIDGE END SLAB (CAST-IN-PLACE)  
BITUMINOUS PAVEMENT



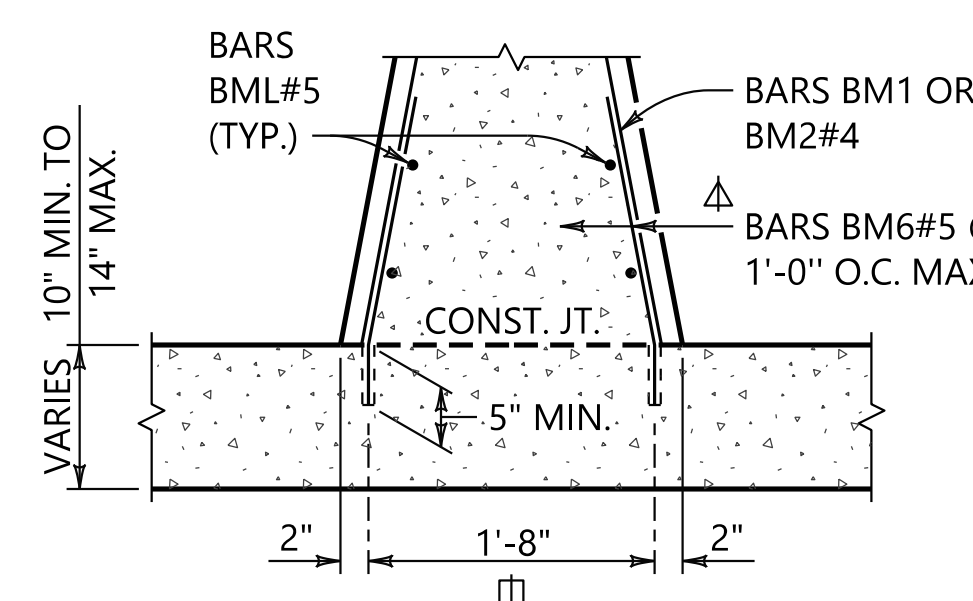
BRIDGE END SLAB (CAST-IN-PLACE)  
CONCRETE PAVEMENT



BRIDGE DECK (DRILL-IN)  
STANDARD CIP DECK



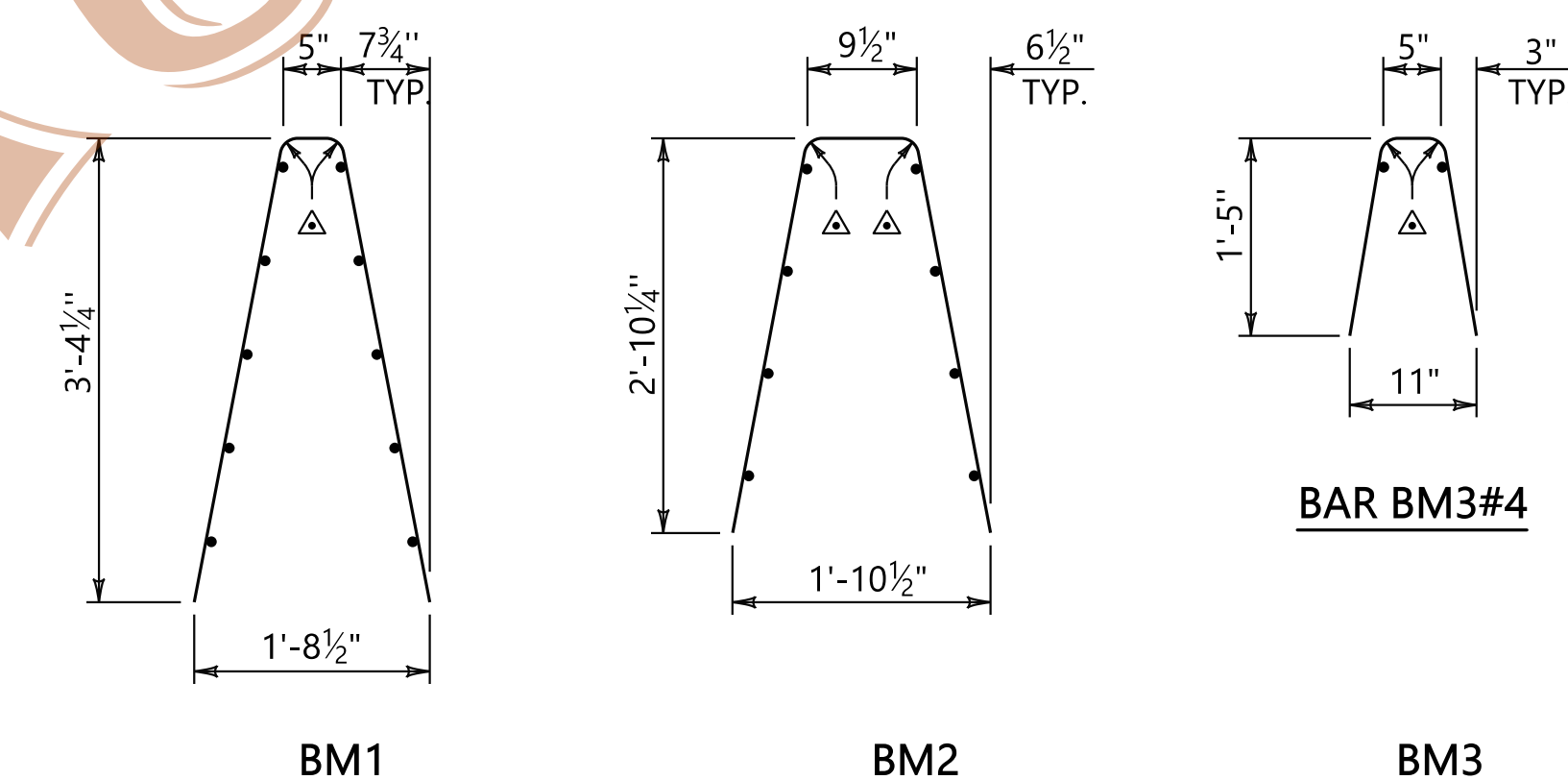
BRIDGE END SLAB (DRILL-IN)  
BITUMINOUS PAVEMENT



BRIDGE END SLAB (DRILL-IN)  
CONCRETE PAVEMENT

**DETAILS OF ATTACHMENT TO BRIDGE DECK OR BRIDGE END SLAB**

△ 2" BENDING PIN



**WELDED WIRE REINFORCEMENT OPTIONS**

D14 VERTICAL WWR SPACED @ 1'-0" O.C.  
D20 HORIZONTAL WWR SPACED @ 8 1/4" O.C. FOR BM1 & 9" O.C. FOR BM2

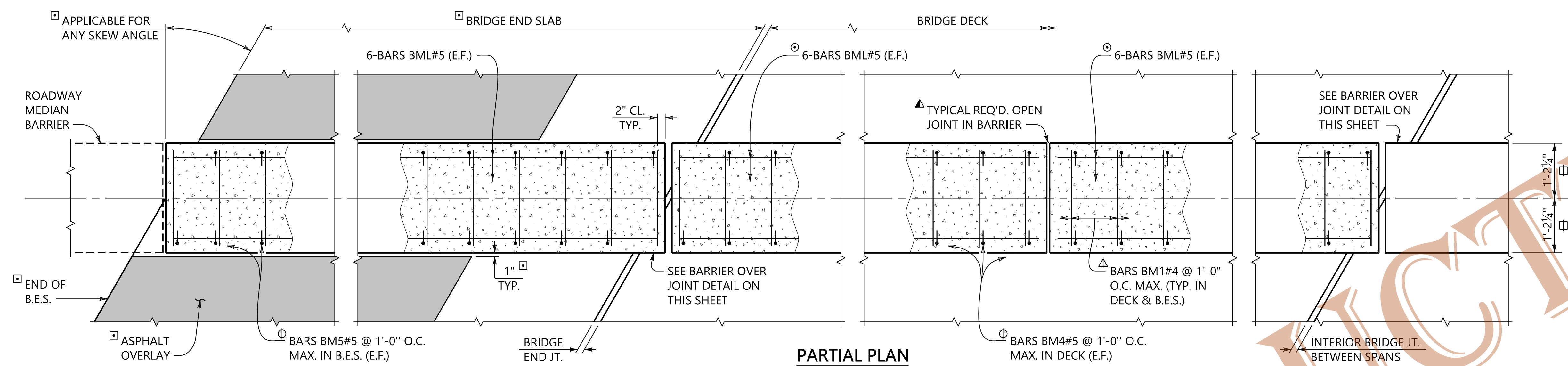
**NOTES**

1. INCREASE DIMENSION TO 1'-10" WHEN OPTIONAL CROSS-SECTION IS USED.
2. BARS BM4 & BM5#5 TO BE TIED TO BOTTOM MAT OF STEEL IN DECK OR B.E.S.
3. A 3" HIGH RAISED AREA SHALL BE POURED 1" WIDER ON EACH SIDE THAN THE BASE OF THE BARRIER DURING CONSTRUCTION ON THE BRIDGE END SLAB.
4. THE CONCRETE SURFACE BELOW THE MEDIAN BARRIER RAIL SHALL BE SCARIFIED PRIOR TO SETTING BARS AND COATED WITH AN APPROVED TYPE II EPOXY ADHESIVE PRIOR TO POURING RAIL CONCRETE. SEE SECTION 870 OF THE STANDARD SPECIFICATIONS. ANY TEMPORARY TRAFFIC STRIPING AND PAVEMENT MARKERS SHALL BE REMOVED.
5. DRILL 5" (MAX.) DEEP HOLES IN BRIDGE DECK AND SET BARS BM6 WITH AN APPROVED CONCRETE ANCHORING SYSTEM. HOLE DIAMETER AND DEPTH TO BE PER THE MANUFACTURER'S RECOMMENDATIONS. A MINIMUM OF 2 BARS PER 50' LINEAR FEET OF RAIL SHALL BE TESTED FOR A PULL OUT PROOF LOAD OF 9,300 LBS. NO TWO ADJACENT BARS MAY BE TESTED. THE BARS TO BE TESTED SHALL BE SELECTED BY THE ENGINEER AND ADDITIONAL BARS MAY BE TESTED AT THE DISCRETION OF THE ENGINEER. ALL COST ASSOCIATED WITH DRILLING, ANCHORING AND/OR TESTING SHALL BE INCLUDED IN PAY ITEM 502B, STEEL REINFORCEMENT FOR BRIDGE SUPERSTRUCTURE OR PAY ITEM 450B, REINFORCED CEMENT CONCRETE BRIDGE END SLAB.



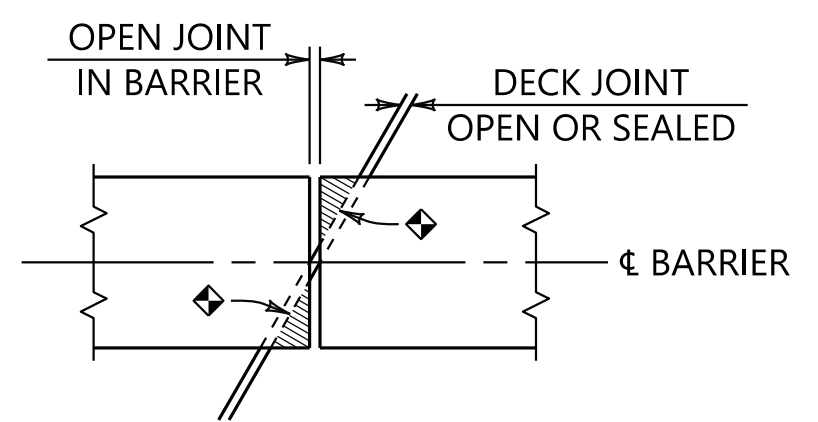


PLOTTED: 25-Jul-22 at: 13:29  
 \\brvms002\Bridges\Standard\Special\Bridges\BBR-M(54) Bridge Median Barrier Rail.dgn

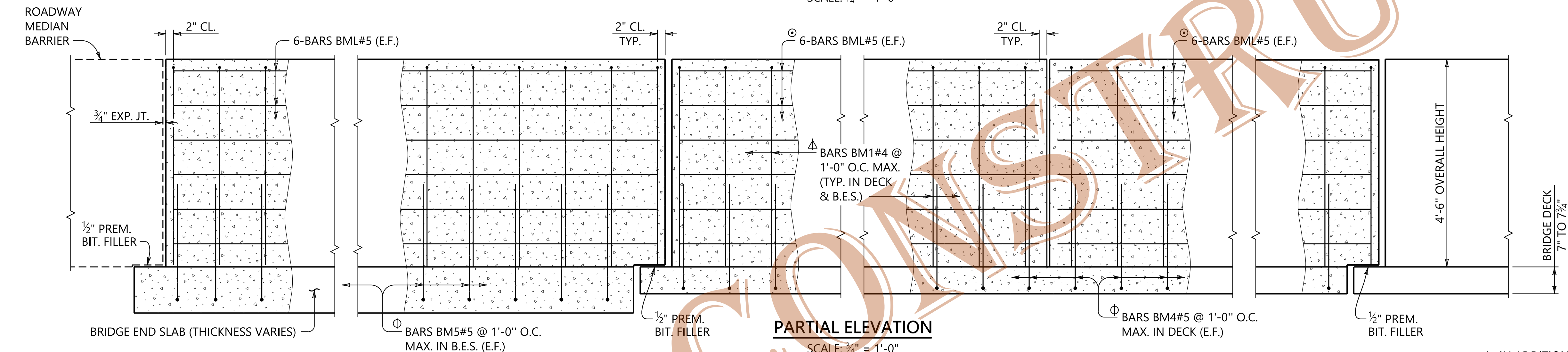


**PARTIAL PLAN**  
SCALE: 3/4" = 1'-0"

- INCREASE DIMENSIONS TO 1'-3 1/4" WHEN OPTIONAL CROSS-SECTION IS USED.
- △ WHEN THE OPTIONAL CROSS-SECTION IS USED BARS BM2 & BM3#4 ARE SPACED SIMILARLY
- BARS BM6#5 SPACED SIMILARLY WHEN DRILL-IN ATTACHMENT IS REQUIRED



**BARRIER OVER JOINT**  
NO SCALE



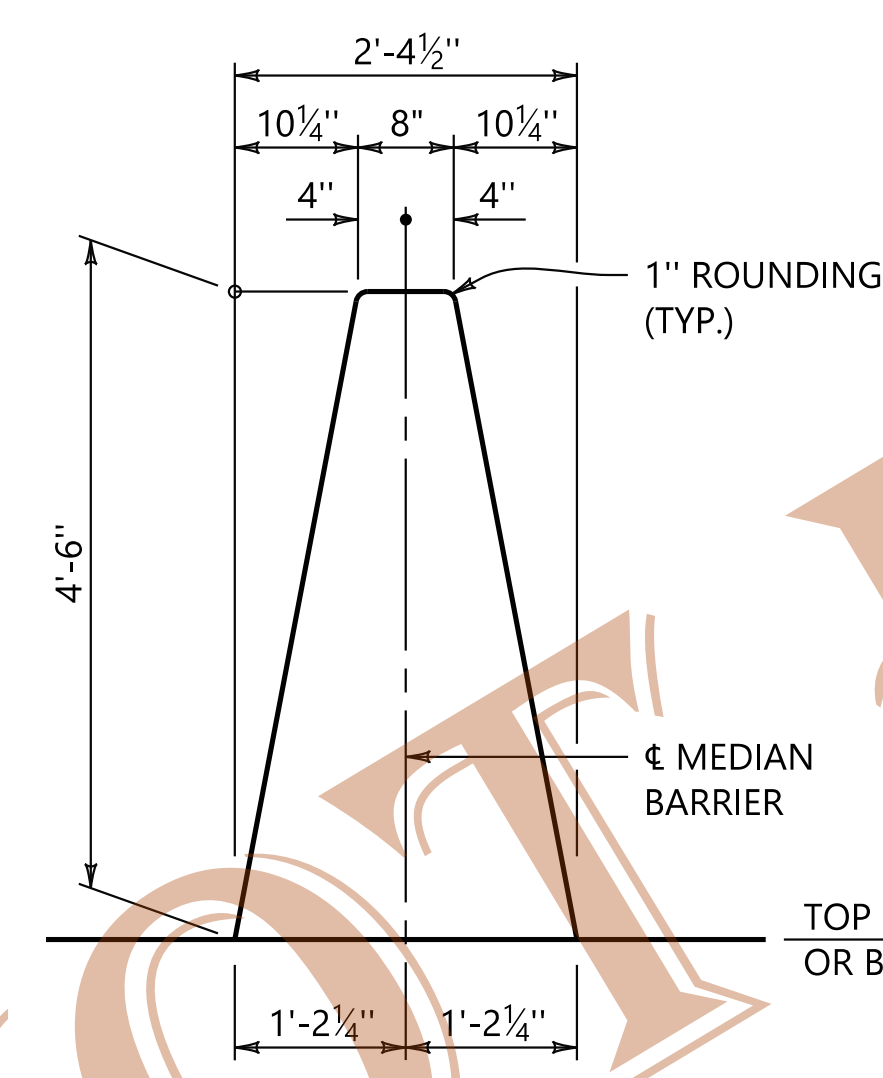
**PARTIAL ELEVATION**  
SCALE: 3/4" = 1'-0"

- ◆ 1/2" PREMOLDED BITUMINOUS FILLER TO BE PLACED UNDER CORNER OF BARRIER ON OPPOSING SIDE OF JOINT.
- FOR BRIDGES ON A 0° SKEW, THE JOINT IN BARRIER TO MATCH JOINT IN DECK. (NO FILLER REQUIRED)

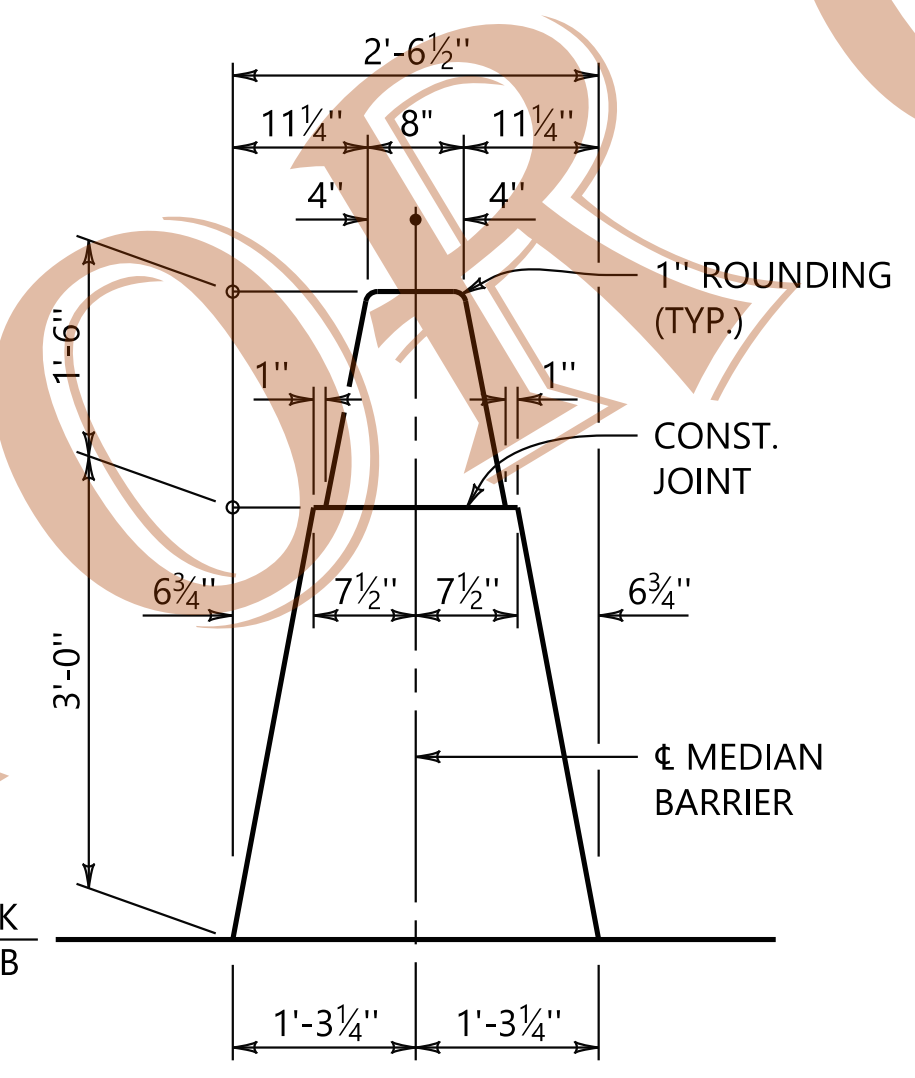
**NOTES**

1. IN ADDITION TO THE OPEN JOINTS SHOWN ON THE BRIDGE DRAWINGS AT THE BEGINNING AND END OF SPANS, OPEN JOINTS IN THE MEDIAN BARRIER RAIL SHALL BE LOCATED AS FOLLOWS: FOR SPANS UP TO 60 FEET IN LENGTH, PROVIDE ONE JOINT AT THE MID-POINT OF THE SPAN. FOR SPANS OVER 60 FEET IN LENGTH, PROVIDE ONE JOINT AT THE MID-POINT OF THE SPAN AND ADDITIONAL JOINTS AT EQUAL SPACES NOT TO EXCEED 30 FEET BETWEEN JOINTS.
2. FOR CONTINUOUS SPAN UNITS, OPEN JOINTS IN THE MEDIAN BARRIER RAIL SHALL ALSO BE PROVIDED AT INTERIOR BENT LOCATIONS.
3. INTERIOR JOINT OPENINGS SHALL BE THREE-QUARTER INCH (3/4") IN WIDTH WHENEVER THE MEDIAN BARRIER RAIL IS CONSTRUCTED BY MEANS OTHER THAN A SLIP FORM EXTRUSION MACHINE.
4. BARS BLM TO BE PLACED CONTINUOUSLY AND CUT AT JOINT LOCATIONS TO PROVIDE FOR TWO INCH (2") END COVER. BARS BLM MAY BE SPICED 30 DIA. MIN.
5. THE CONCRETE IN THE MEDIAN BARRIER RAIL ON BOTH THE BRIDGE DECK AND BRIDGE END SLABS SHALL BE PAID FOR IN PAY ITEM 510J, BRIDGE BARRIER RAIL, TYPE 54" CSF MEDIAN.
6. THE STEEL REINFORCEMENT IN THE MEDIAN BARRIER RAIL ON BOTH THE BRIDGE DECK AND BRIDGE END SLABS SHALL BE PAID FOR IN PAY ITEM 502B, STEEL REINFORCEMENT FOR BRIDGE SUPERSTRUCTURE.

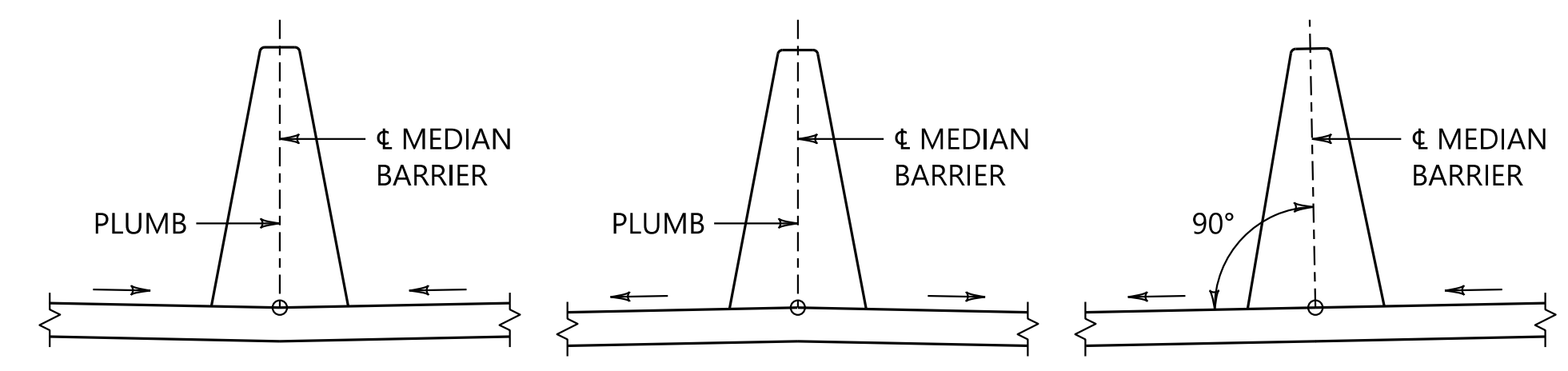
□ THE BRIDGE END SLAB SHOWN DEPICTS THE TYPICAL DETAILS USED FOR BITUMINOUS PAVEMENTS. CONCRETE PAVEMENT DETAILS ARE SIMILAR WITH THE OMISSION OF THE END SKEW AND ASPHALT OVERLAY. SEE SHEET 2 OF 2 FOR ADDITIONAL DETAILS.



**TYPICAL CROSS-SECTION**  
(w/o CONST. JT.)  
SCALE: 3/4" = 1'-0"

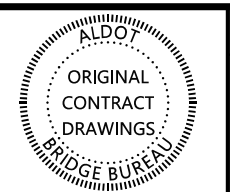


**OPTIONAL CROSS-SECTION**  
(w/ CONST. JT.)  
SCALE: 3/4" = 1'-0"



THE MEDIAN BARRIER SHALL BE CONSTRUCTED PLUMB WHEN THE BRIDGE DECK OR BRIDGE END SLAB ON EACH SIDE OF THE BARRIER SLOPES IN OPPOSING DIRECTIONS. WHEN THE BRIDGE DECK OR BRIDGE END SLAB ON EACH SIDE OF THE MEDIAN BARRIER SLOPES IN THE SAME DIRECTION, THE BARRIER SHALL BE CONSTRUCTED PERPENDICULAR TO THE SLOPE.

**VERTICAL ORIENTATION OF MEDIAN BARRIER**  
(RELATIVE TO BRIDGE DECK/B.E.S. SLOPES)  
NO SCALE



REVISIONS

THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

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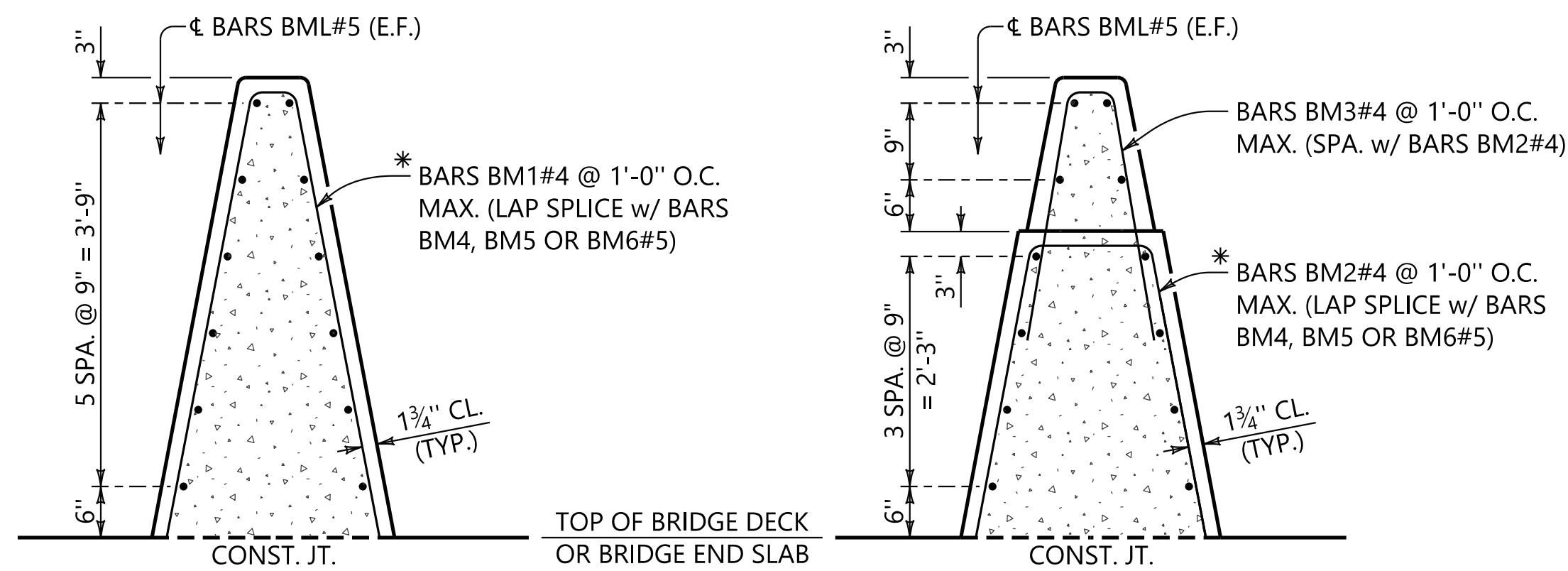
BRIDGE BARRIER RAIL  
(54" CSF MEDIAN)

BRIDGE SPECIAL PROJECT DRAWING  
BBR-M(54)  
SHEET 1 OF 2

ASSISTANT BRIDGE ENGINEER <i>Ally T. Korman</i> 7/26/22 DATE	BRIDGE ENGINEER <i>Walter G. Gandy</i> 7/26/2022 DATE
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\* BARS BM1 & BM2 MAY REST ON TOP OF CONST. JOINT



(SEE ATTACHMENT DETAILS FOR CONNECTION TO BRIDGE DECK OR BRIDGE END SLAB)

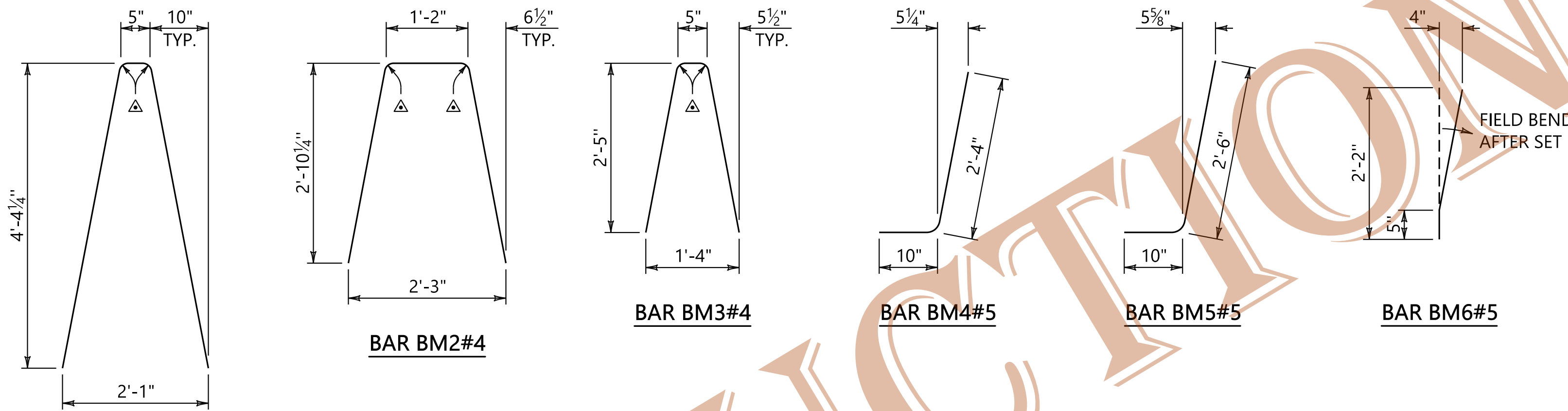
TYPICAL CROSS-SECTION

OPTIONAL CROSS-SECTION

**REINFORCEMENT DETAILS**

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

△ 2" BENDING PIN



BAR BM1#4

BAR BM2#4

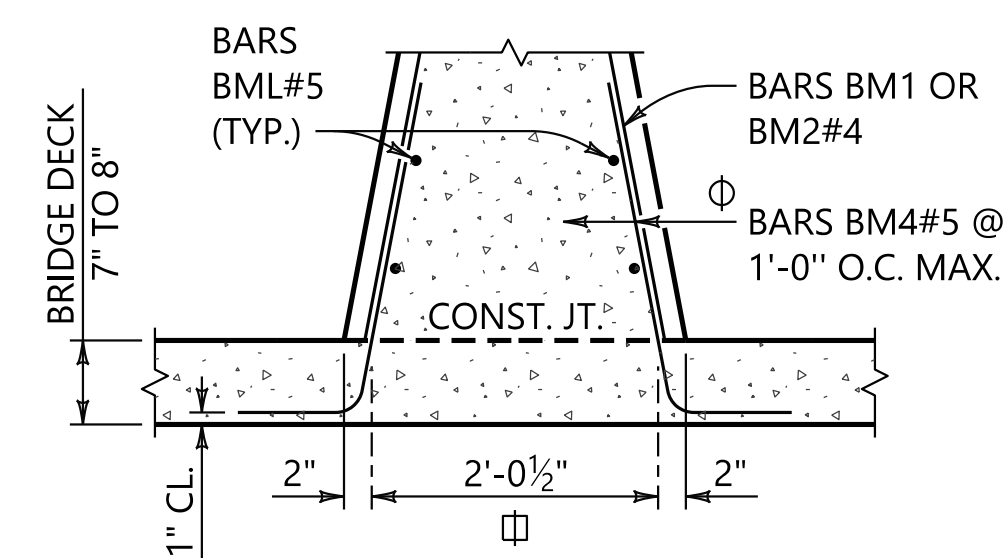
BAR BM3#4

BAR BM4#5

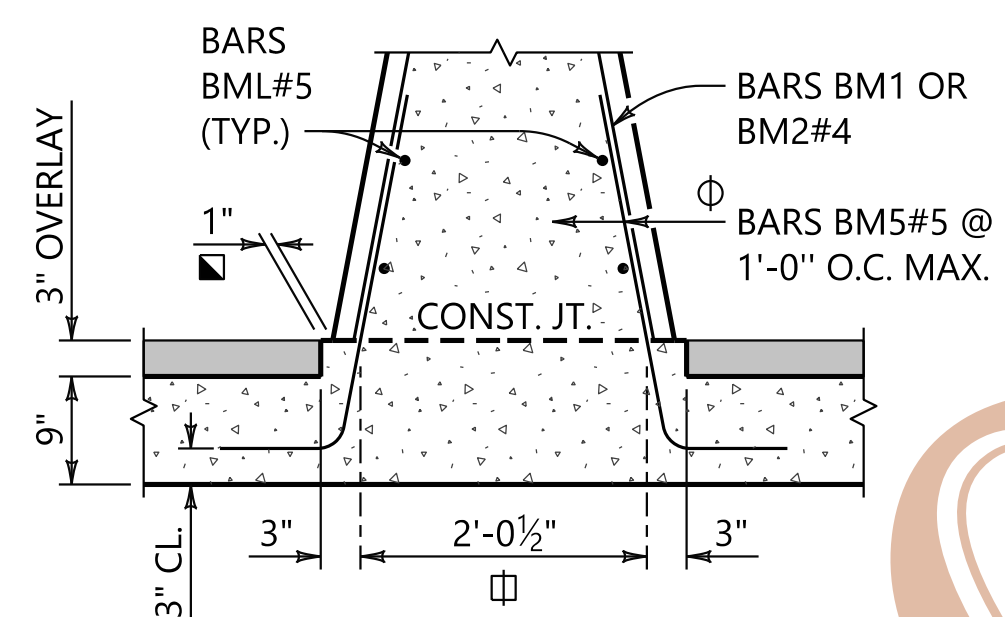
BAR BM5#5

BAR BM6#5

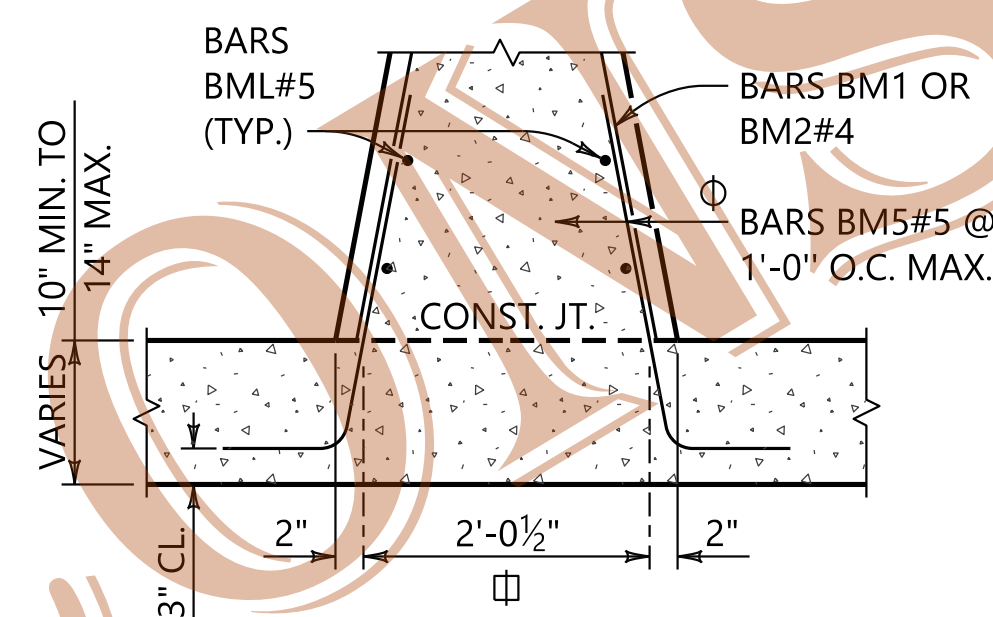
FIELD BEND AFTER SET



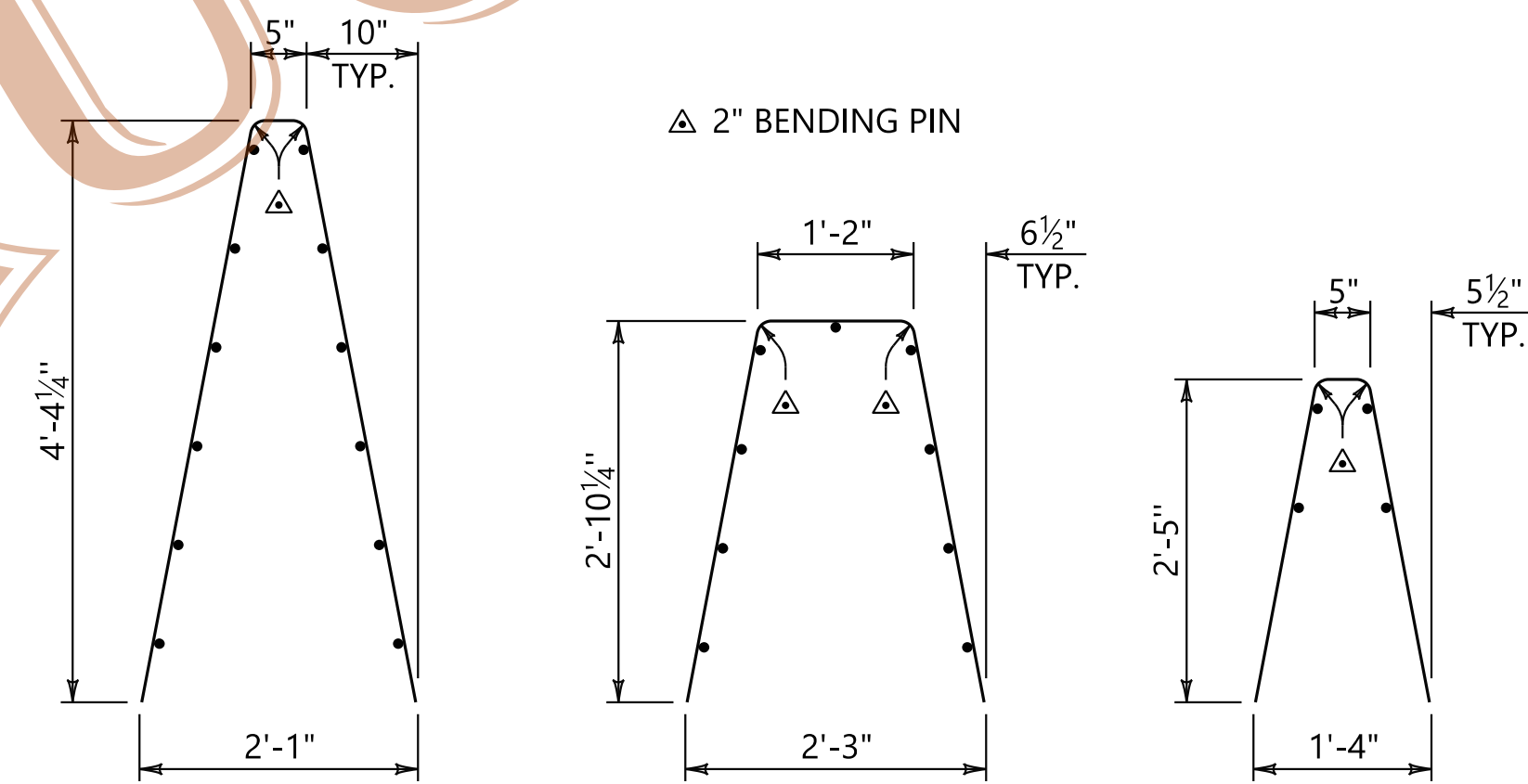
BRIDGE DECK (CAST-IN-PLACE)  
STANDARD CIP DECK



BRIDGE END SLAB (CAST-IN-PLACE)  
BITUMINOUS PAVEMENT



BRIDGE END SLAB (CAST-IN-PLACE)  
CONCRETE PAVEMENT



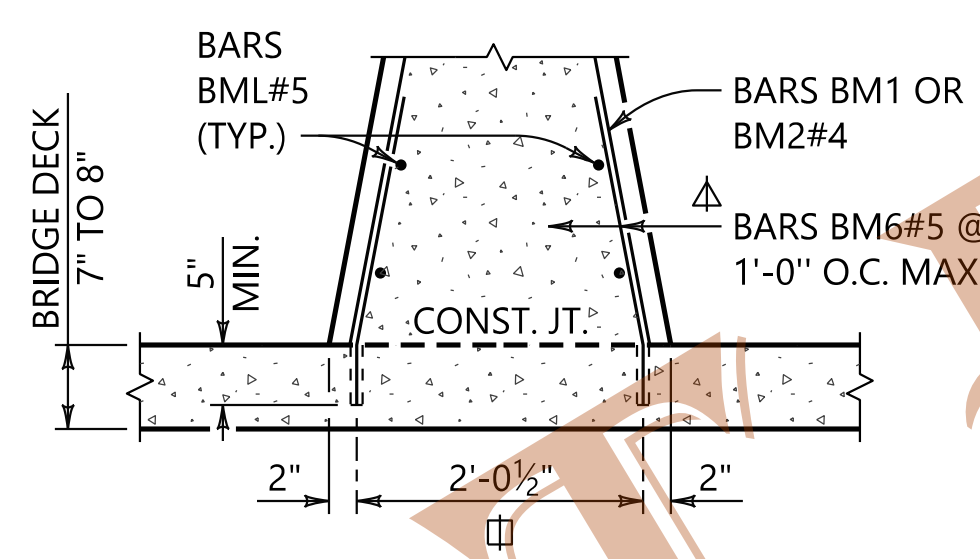
BM1

BM2

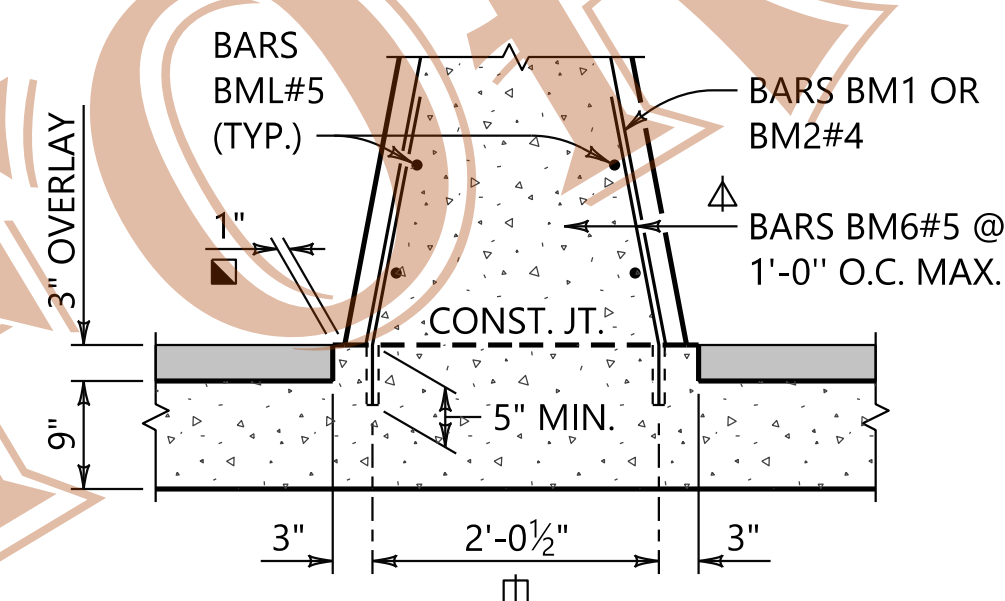
BM3

**WELDED WIRE REINFORCEMENT OPTIONS**

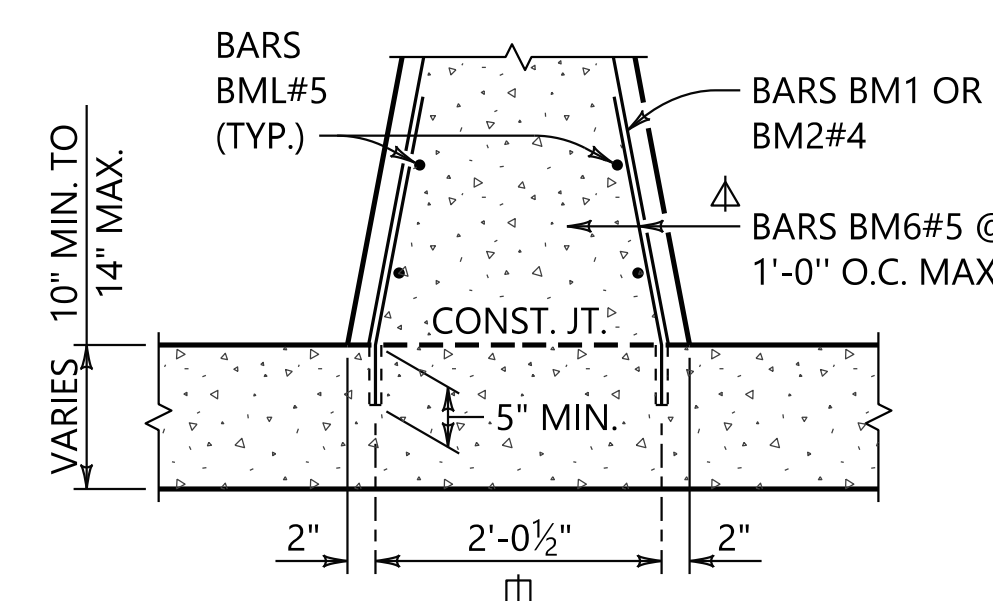
D14 VERTICAL WWR SPACED @ 1'-0" O.C.  
D20 HORIZONTAL WWR SPACED @ 9" O.C.



BRIDGE DECK (DRILL-IN)  
STANDARD CIP DECK



BRIDGE END SLAB (DRILL-IN)  
BITUMINOUS PAVEMENT



BRIDGE END SLAB (DRILL-IN)  
CONCRETE PAVEMENT

**DETAILS OF ATTACHMENT TO BRIDGE DECK OR BRIDGE END SLAB**

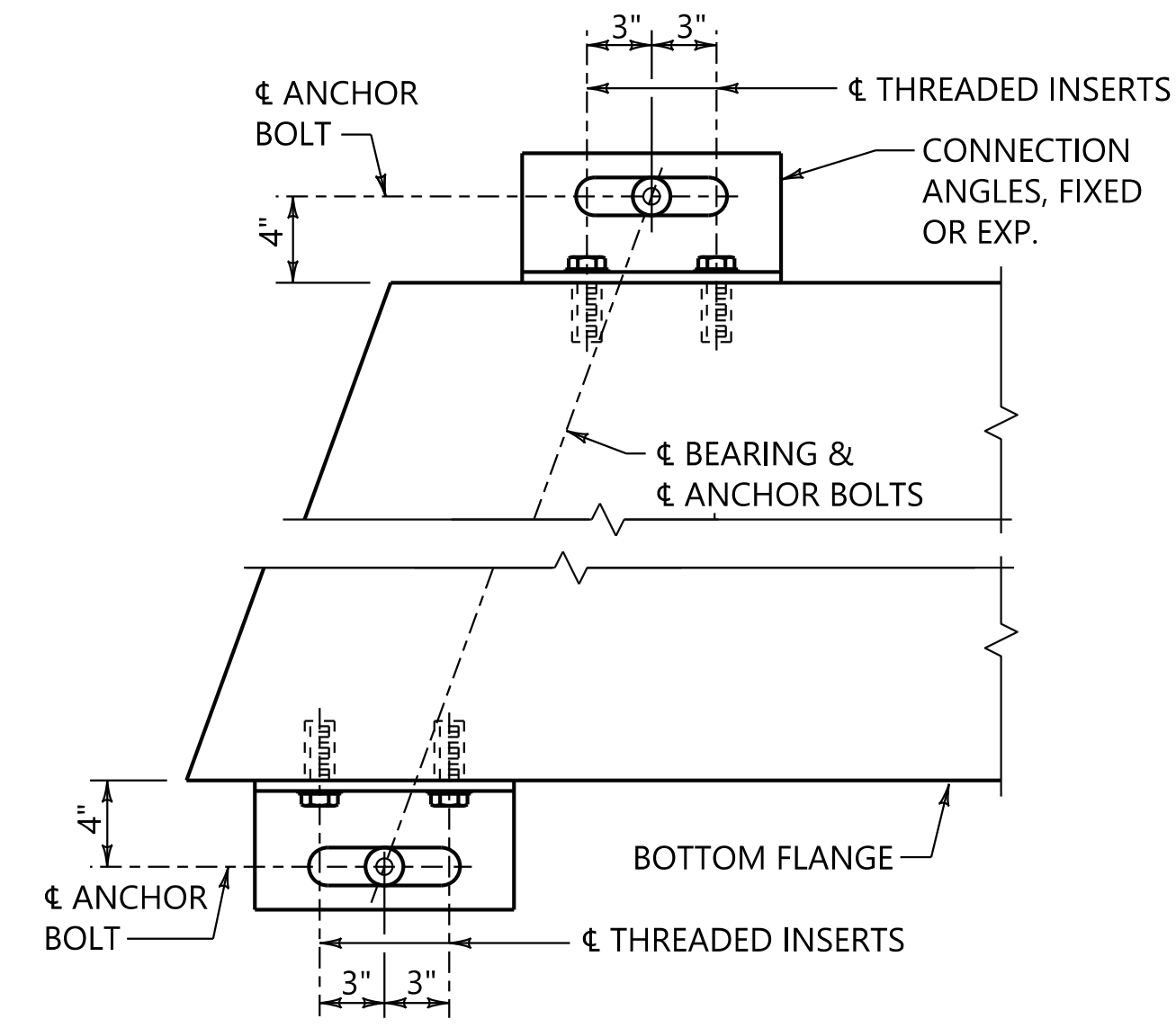
SCALE: 3/4" = 1'-0"

**NOTES**

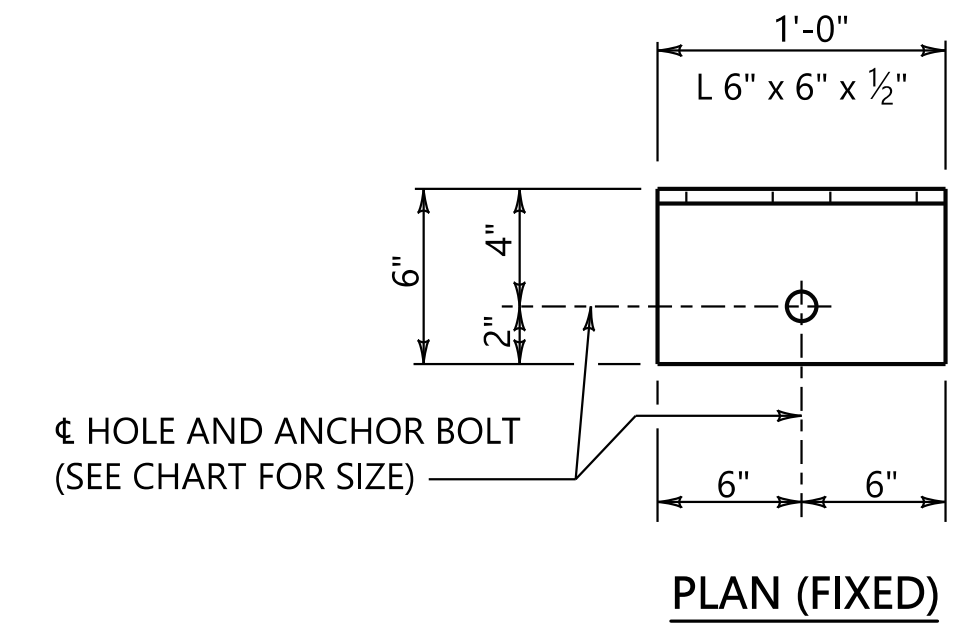
1. INCREASE DIMENSION TO 2'-2 1/2" WHEN OPTIONAL CROSS-SECTION IS USED.
2. BARS BM4 & BM5#5 TO BE TIED TO BOTTOM MAT OF STEEL IN DECK OR B.E.S.
3. A 3" HIGH RAISED AREA SHALL BE POURED 1" WIDER ON EACH SIDE THAN THE BASE OF THE BARRIER DURING CONSTRUCTION ON THE BRIDGE END SLAB.
4. THE CONCRETE SURFACE BELOW THE MEDIAN BARRIER RAIL SHALL BE SCARIFIED PRIOR TO SETTING BARS AND COATED WITH AN APPROVED TYPE II EPOXY ADHESIVE PRIOR TO POURING RAIL CONCRETE. SEE SECTION 870 OF THE STANDARD SPECIFICATIONS. ANY TEMPORARY TRAFFIC STRIPING AND PAVEMENT MARKERS SHALL BE REMOVED.
5. DRILL 5" (MAX.) DEEP HOLES IN BRIDGE DECK AND SET BARS BM6 WITH AN APPROVED CONCRETE ANCHORING SYSTEM. HOLE DIAMETER AND DEPTH TO BE PER THE MANUFACTURER'S RECOMMENDATIONS. A MINIMUM OF 2 BARS PER 50' LINEAR FEET OF RAIL SHALL BE TESTED FOR A PULL OUT PROOF LOAD OF 9,300 LBS. NO TWO ADJACENT BARS MAY BE TESTED. THE BARS TO BE TESTED SHALL BE SELECTED BY THE ENGINEER AND ADDITIONAL BARS MAY BE TESTED AT THE DISCRETION OF THE ENGINEER. ALL COST ASSOCIATED WITH DRILLING, ANCHORING AND/OR TESTING SHALL BE INCLUDED IN PAY ITEM 502B, STEEL REINFORCEMENT FOR BRIDGE SUPERSTRUCTURE.



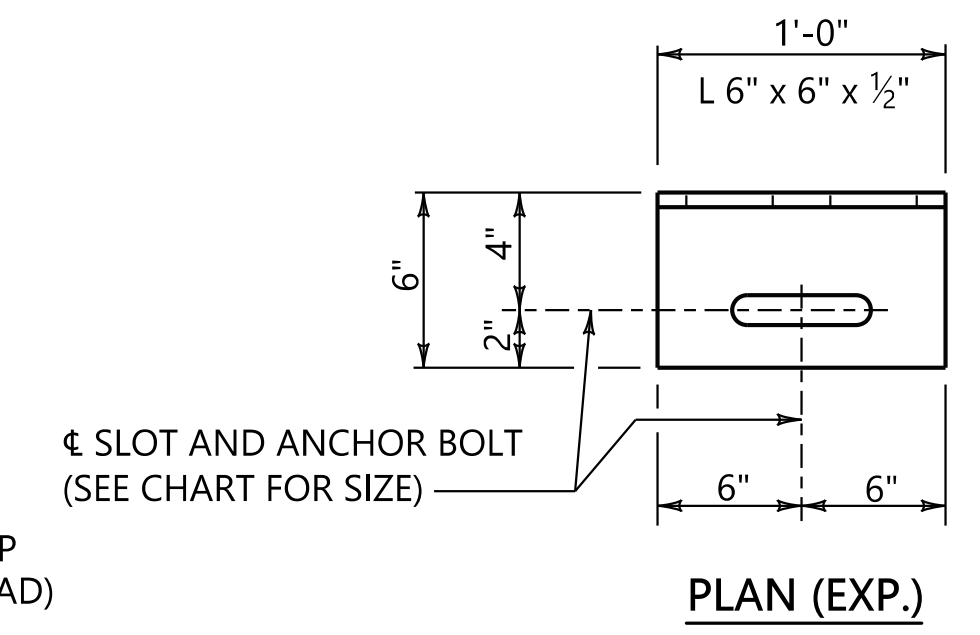




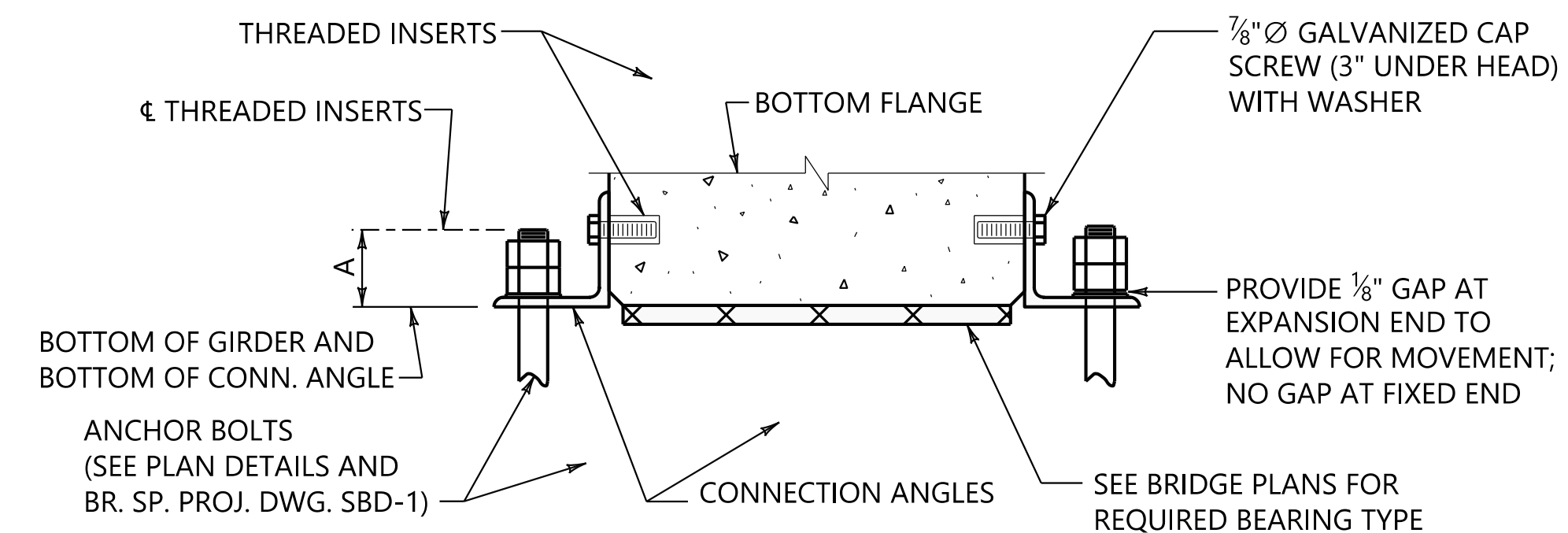
TYPICAL PLAN VIEW



PLAN (FIXED)

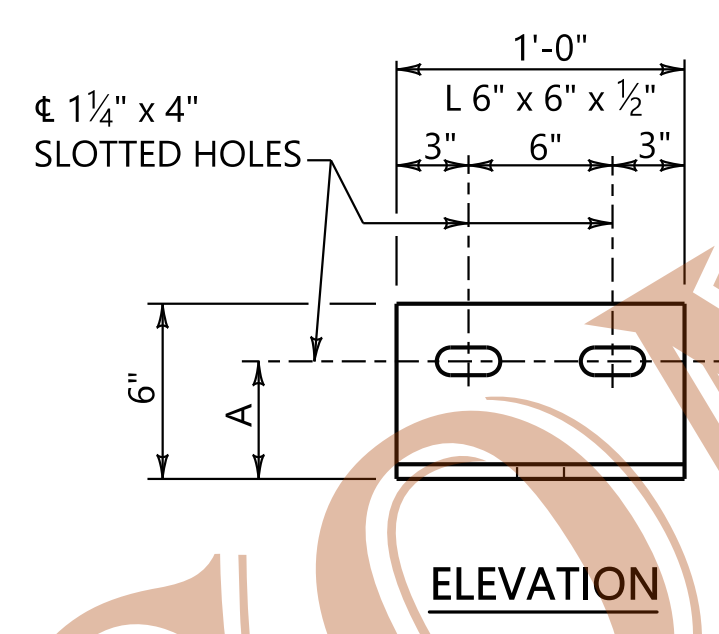


PLAN (EXP.)

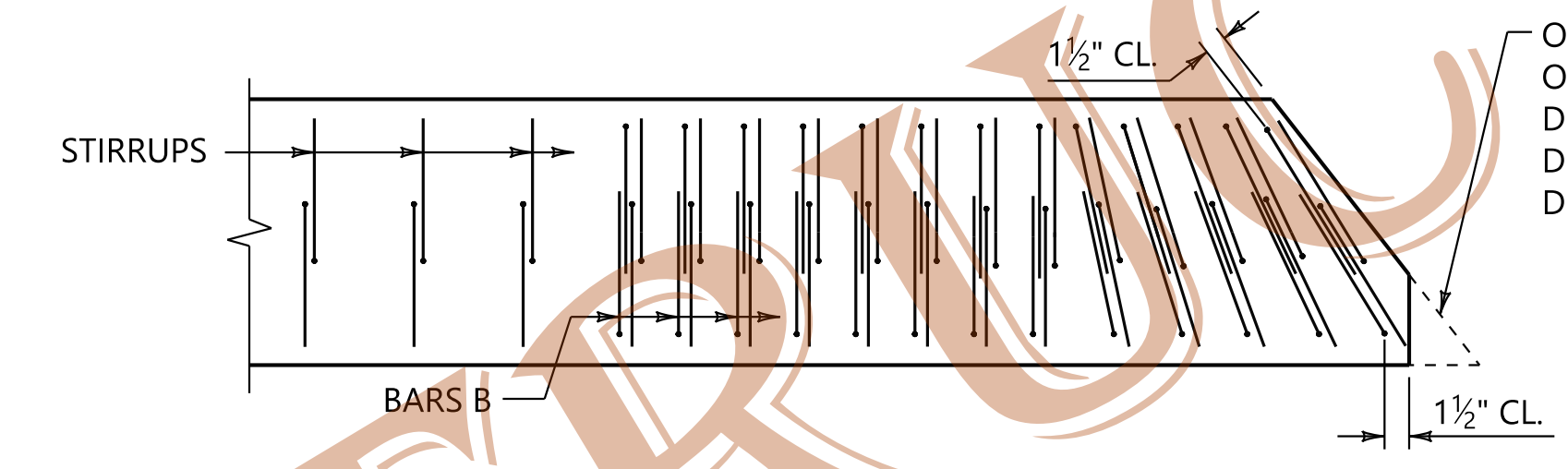


TYPICAL END VIEW

CONNECTION ANGLE DETAILS



ELEVATION



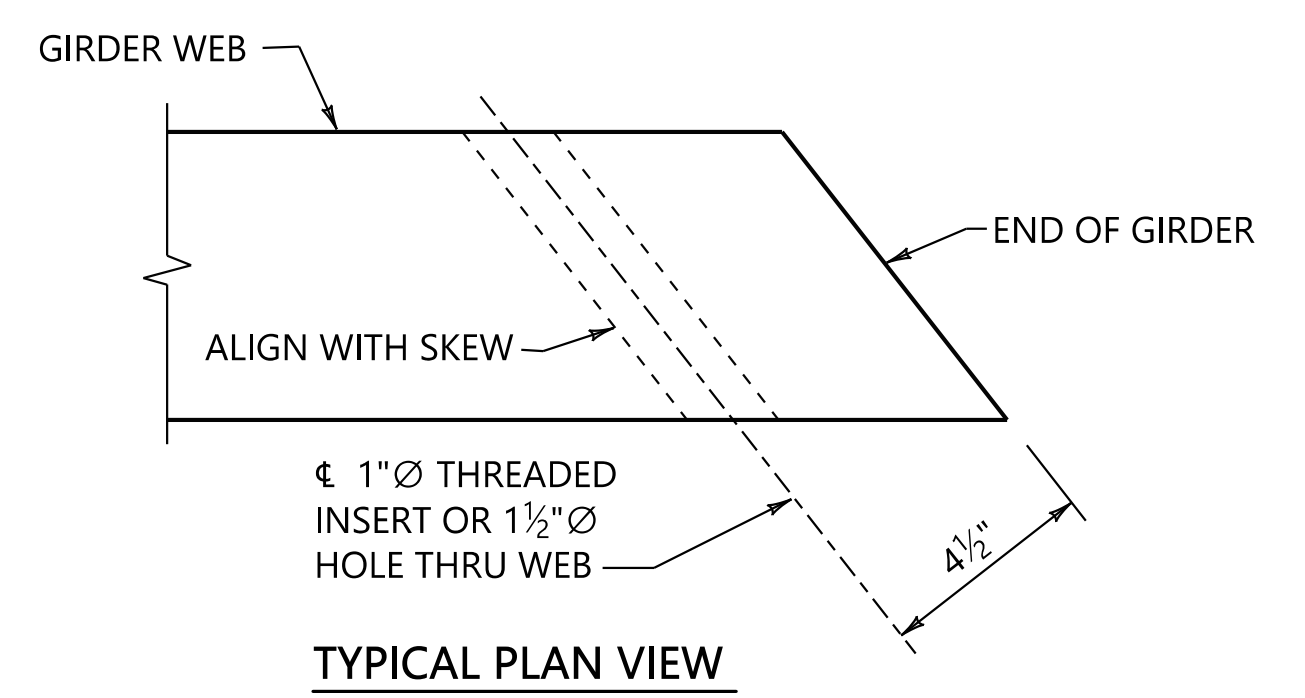
PLACEMENT OF STIRRUPS AND BARS B AT SKEWED GIRDER ENDS

NOTES

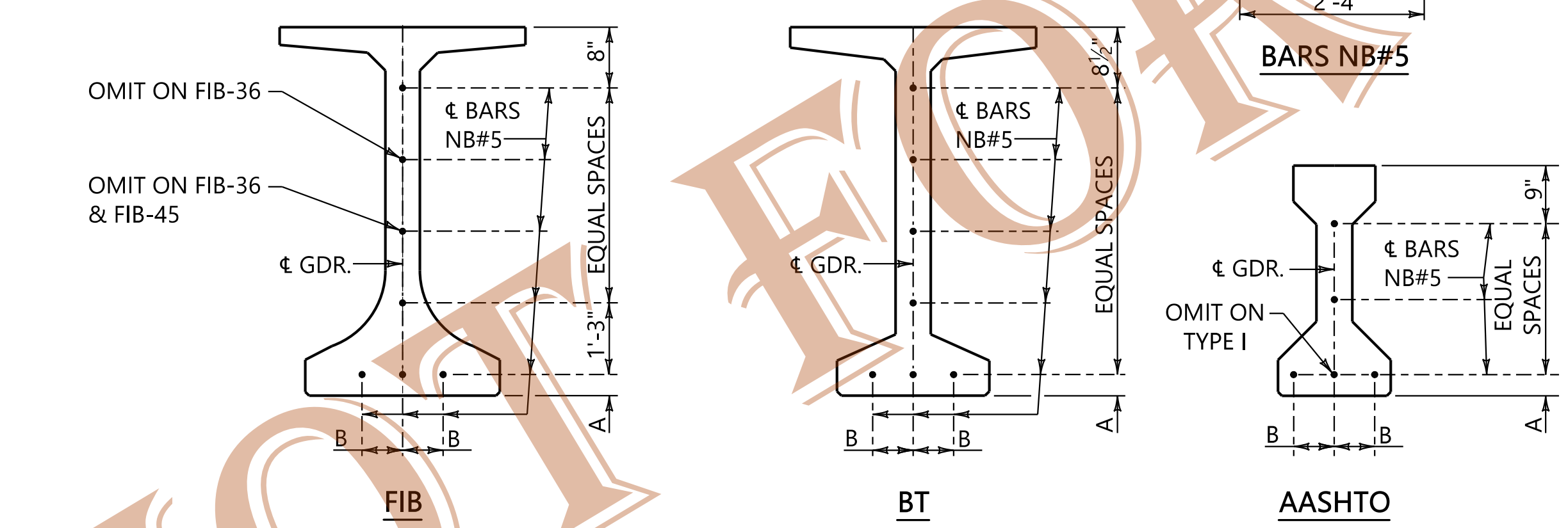
1. THREADED INSERTS AND 7/8" Ø x 3" CAP SCREWS WITH 1 WASHER EACH SHALL BE INCLUDED IN PAY ITEM 513B - PRETENSIONED-PRESTRESSED CONCRETE GIRDERS.
2. CONNECTION ANGLES SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111. 7/8" Ø CAP SCREWS AND WASHERS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 232. DAMAGED GALVANIZED SURFACES NOT TO BE ENCASED IN CONCRETE SHALL BE REPAIRED IN ACCORDANCE WITH STANDARD SPECIFICATION 855.15.
3. FOR SEMI-INTEGRAL TYPE ABUTMENTS ONLY, CAST BARS NB 2'-0" INTO END OF GIRDER. BARS MAY BE BENT AFTER REMOVAL OF FORMS.
4. FOR SKEWED GIRDER ENDS, PLACE FIRST SET OF STIRRUPS AND BARS B PARALLEL TO GIRDER END AND INCREMENTALLY ADJUST OVER THE FIRST FEW SETS UNTIL 90° TO GIRDER IS OBTAINED.

ON SKEWED GIRDER ENDS, THE CORNERS OF FLANGES MAY BE CLIPPED AT THE DISCRETION OF THE FABRICATOR WITH DETAILS TO BE SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR APPROVAL

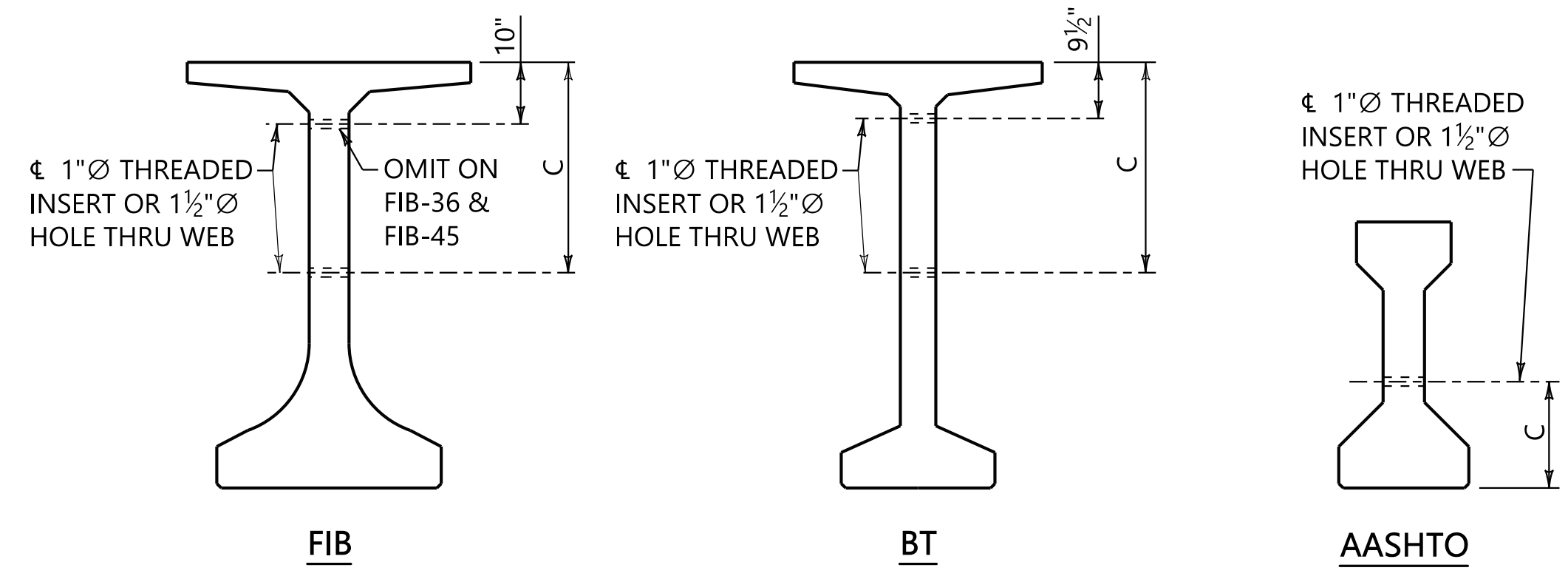
CONNECTION ANGLE HOLE & SLOT SIZE		
BOLT	ROUND	SLOT
AB-1	1 1/4"	1 1/4" x 7"
AB-2	1 1/2"	1 1/2" x 7"
AB-3	1 3/4"	1 3/4" x 7"



TYPICAL PLAN VIEW



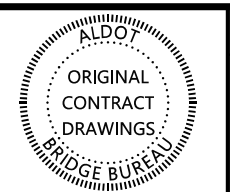
PLACEMENT OF BARS NB IN GIRDER END AT ABUTMENTS (SEMI-INTEGRAL TYPE ONLY)



PLACEMENT OF THREADED INSERTS AND HOLES IN WEBS

DIMENSION TABLE			
GIRDER SHAPE	A	B	C
AASHTO TYPE I	4"	2"	1'-4"
AASHTO TYPE I MOD.	4"	4"	1'-4"
AASHTO TYPE I MOD. (III)	4"	4"	1'-4"
AASHTO TYPE I MOD. (BT)	3 1/2"	6"	1'-3 1/2"
AASHTO TYPE I MOD. (BT+)	3 1/2"	6"	1'-3 1/2"
AASHTO TYPE II	4"	6"	1'-6"
AASHTO TYPE II MOD.	4"	8"	1'-6"
AASHTO TYPE III	4"	8"	1'-7 1/2"
AASHTO TYPE III MOD.	3 1/2"	10"	1'-7 1/2"
BT-54 / BT-54 MOD.	3 1/2"	10"	1'-7 1/2"
BT-56 / BT-56 MOD.	3 1/2"	10"	1'-7 1/2"
BT-63 / BT-63 MOD.	3 1/2"	10"	2'-0 1/2"
BT-65 / BT-65 MOD.	3 1/2"	10"	2'-0 1/2"
BT-72 / BT-72 MOD.	3 1/2"	10"	2'-5 1/2"
BT-74 / BT-74 MOD.	3 1/2"	10"	2'-5 1/2"
FIB-36	4"	11"	10"
FIB-45	4"	11"	1'-3"
FIB-54	4"	11"	1'-8"
FIB-63	4"	11"	2'-1"
FIB-72	4"	11"	2'-6"

ASSISTANT BRIDGE ENGINEER <i>J. Waller</i> 3/14/2024 DATE	BRIDGE ENGINEER <i>W. R. ...</i> 3/14/24 DATE
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REVISIONS
REVISED NOTES, TABULATED DIMENSIONS, ADDED FIB DETAILS, AND REMOVED HOLD DOWN DETAIL. JNW 1/2024

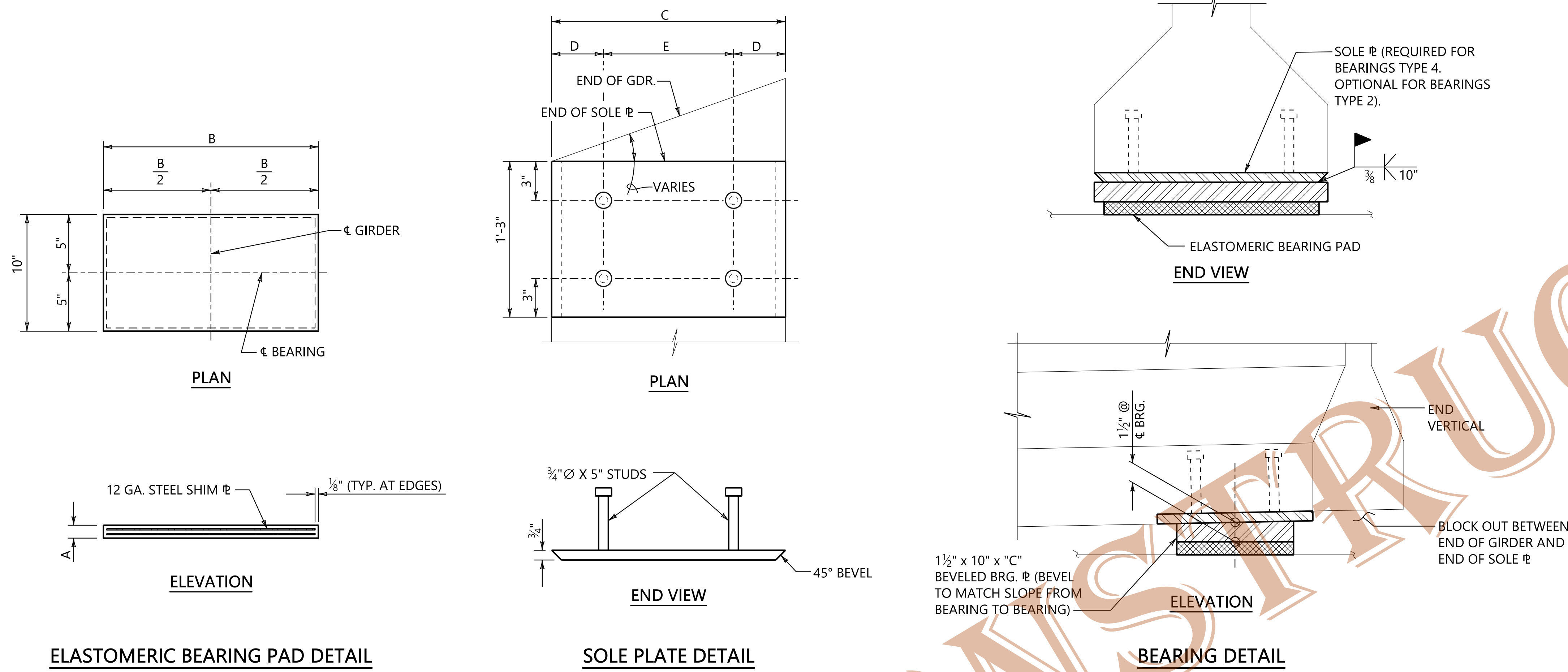
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PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

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STANDARD PRESTRESSED GIRDER DETAILS

BRIDGE SPECIAL PROJECT DRAWING  
SPGD-1  
SHEET 1 OF 2



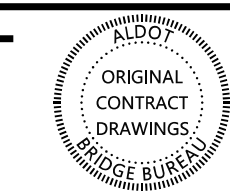


- ### NOTES
- SOLE PLATES SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M 111. BEVELED EDGES OF THE SOLE PLATE TO RECEIVE FIELD WELDING SHALL BE GROUND TO BARE METAL BEFORE BEING CAST IN GIRDER. SOLE PLATES SHALL BE INCLUDED IN PAY ITEM 513B.
  - A BEARING LAYOUT (ERECTION PLAN) SHALL BE PROVIDED BY THE MANUFACTURER OF THE BEARINGS WHENEVER TYPE 4 ELASTOMERIC BEARINGS ARE SPECIFIED IN THE BRIDGE PLANS. THE LAYOUT SHALL BE INCLUDED IN THE BEARING PAD FABRICATION DRAWINGS SUBMITTED TO THE BRIDGE ENGINEER FOR APPROVAL AND SHALL INCLUDE ALL BEARINGS OF ALL TYPES FOR EACH STRUCTURE. THE LAYOUT SHALL LOCATE EACH BEARING WITH RESPECT TO UNIQUE IDENTIFICATION NUMBERS AND SHALL INDICATE CORRECT PLACEMENT OF BEARING WITH RESPECT TO BEVELING.
  - THE CONTRACTOR SHALL REMOVE ANY RUST THAT APPEARS IN THE FIELD WELD AREAS OF THE BEARING PLATE AND SOLE PLATE BY WIRE BRUSHING JUST PRIOR TO FIELD WELDING THESE PLATES. ALL DECK POURS SHALL BE COMPLETED PRIOR TO WELDING BEARING PLATE TO SOLE PLATE. SEE SECTIONS 511 AND 837 OF THE STANDARD SPECIFICATIONS FOR BEARING PLATE PREPARATION REQUIREMENTS.
  - BEARING MARK INDICATES TYPICAL USAGE WITH ALDOT STANDARD PRESTRESSED GIRDER SHAPES AS INDICATED IN TABLE. BEARINGS MAY BE ADAPTED FOR USE WITH OTHER MODIFIED SHAPES AS APPROPRIATE.
  - MAXIMUM SPAN LENGTH BASED ON ALLOWABLE SHEAR DEFORMATION OF ELASTOMER. SPAN LENGTH MEASURED FROM  $\phi$  FIXED BEARING TO FURTHEST  $\phi$  EXPANSION BEARING.
  - EXTERIOR LAYER THICKNESS MEASURED FROM OUTSIDE SURFACE OF PAD TO  $\phi$  SHIM PLATE. INTERIOR LAYER THICKNESS MEASURED FROM  $\phi$  SHIM PLATE TO  $\phi$  SHIM PLATE.

ELASTOMERIC BEARINGS TYPE 2												
ELASTOMERIC BEARING PAD DATA												
ELASTOMERIC BEARING MARK	MAXIMUM SPAN LENGTH	MAXIMUM LOAD DL + LL	BEARING PAD DIMENSIONS			INDIVIDUAL LAYERS				REQUIRED 12 GAUGE STEEL SHIM PLATES		
			THICKNESS "A"	LENGTH "B"	WIDTH	EXTERIOR		INTERIOR		NUMBER	LENGTH	WIDTH
B1	150 FT.	129 KIPS	1 1/2"	1'-2 1/2"	10"	2	1/4"	2	1/2"	3	1'-2 1/4"	9 3/4"
B2	200 FT.	154 KIPS	2"	1'-4 1/2"	10"	2	1/4"	3	1/2"	4	1'-4 1/4"	9 3/4"
B3	200 FT.	207 KIPS	2"	1'-8 1/2"	10"	2	1/4"	3	1/2"	4	1'-8 1/4"	9 3/4"
B4	250 FT.	261 KIPS	2 1/2"	2'-0 1/2"	10"	2	1/4"	4	1/2"	5	2'-0 1/4"	9 3/4"
B5	300 FT.	289 KIPS	3"	2'-2 1/2"	10"	2	1/4"	5	1/2"	6	2'-2 1/4"	9 3/4"
B6	300 FT.	430 KIPS	3"	3'-0 1/2"	10"	2	1/4"	5	1/2"	6	3'-0 1/4"	9 3/4"

BEARING USAGE	
MARK	GIRDER SHAPE
B1 OR VB1	AASHTO TYPE I
B2 OR VB2	AASHTO TYPE II AASHTO TYPE I MOD.
B3 OR VB3	AASHTO TYPE III AASHTO TYPE II MOD. AASHTO TYPE I MOD. (III)
B4 OR VB4	BULB-TEE AASHTO TYPE III MOD. AASHTO TYPE I MOD. (BT & BT+)
B5 OR VB5	BULB-TEE MOD.
B6 OR VB6	FLORIDA FIB

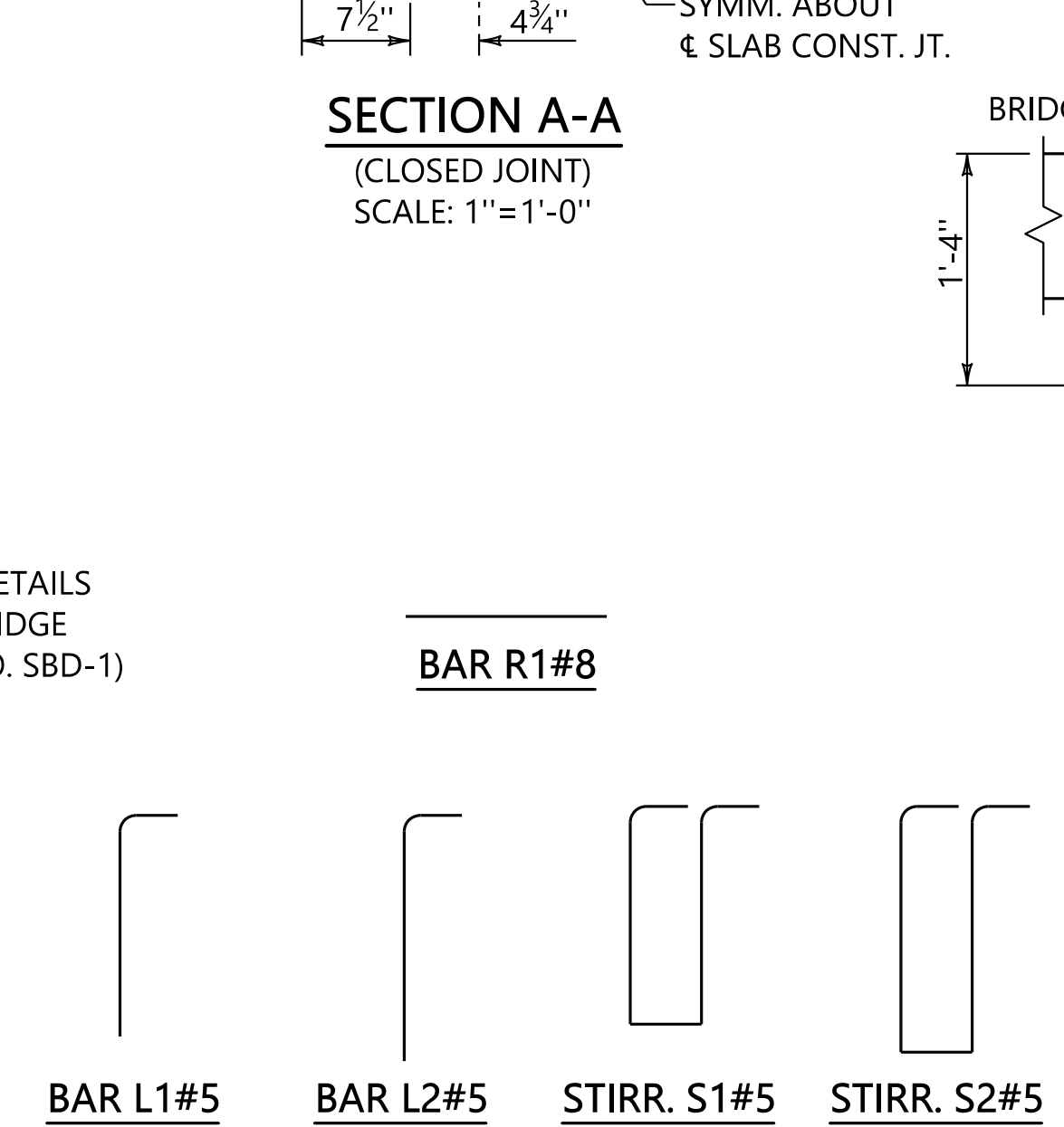
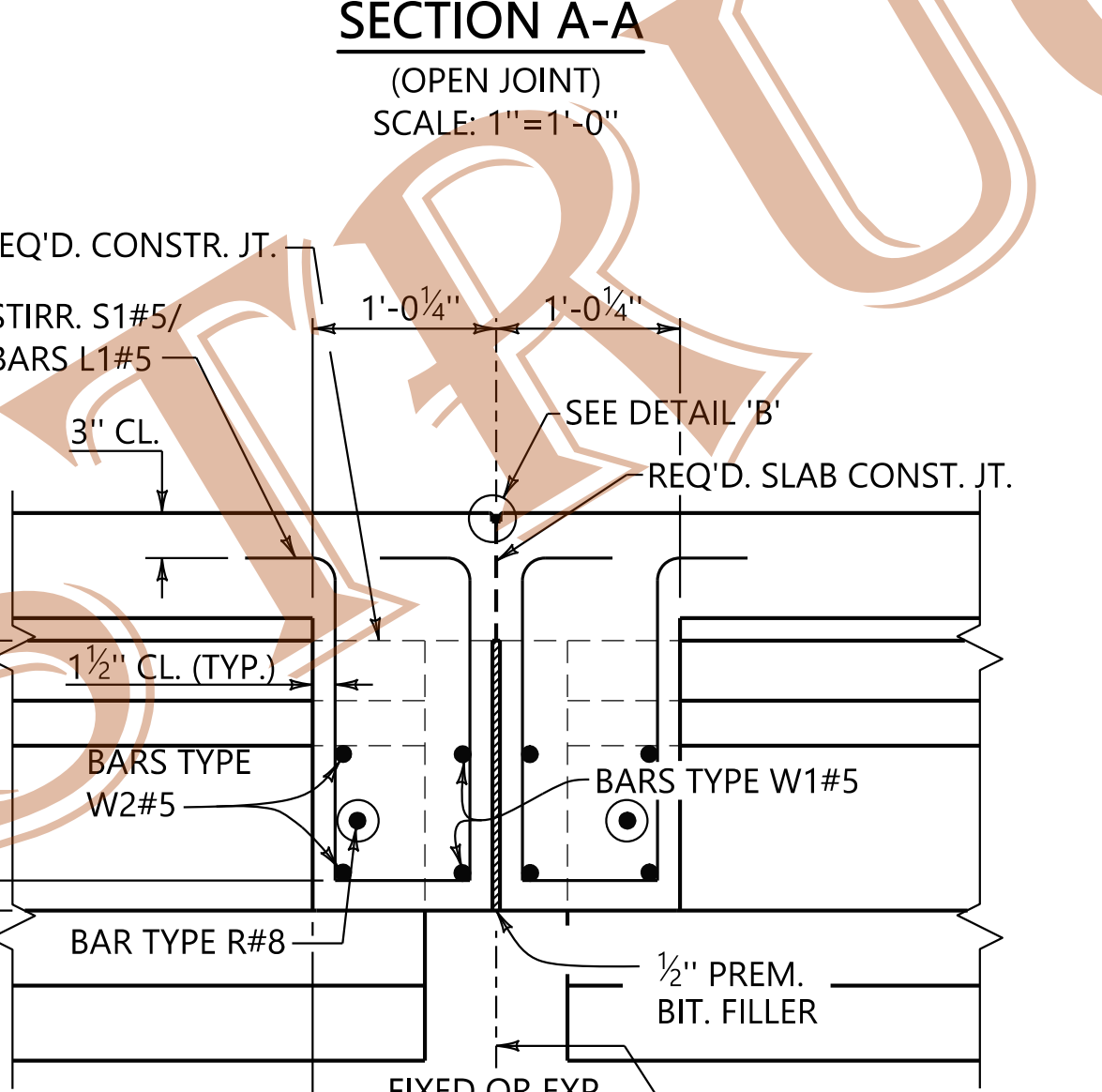
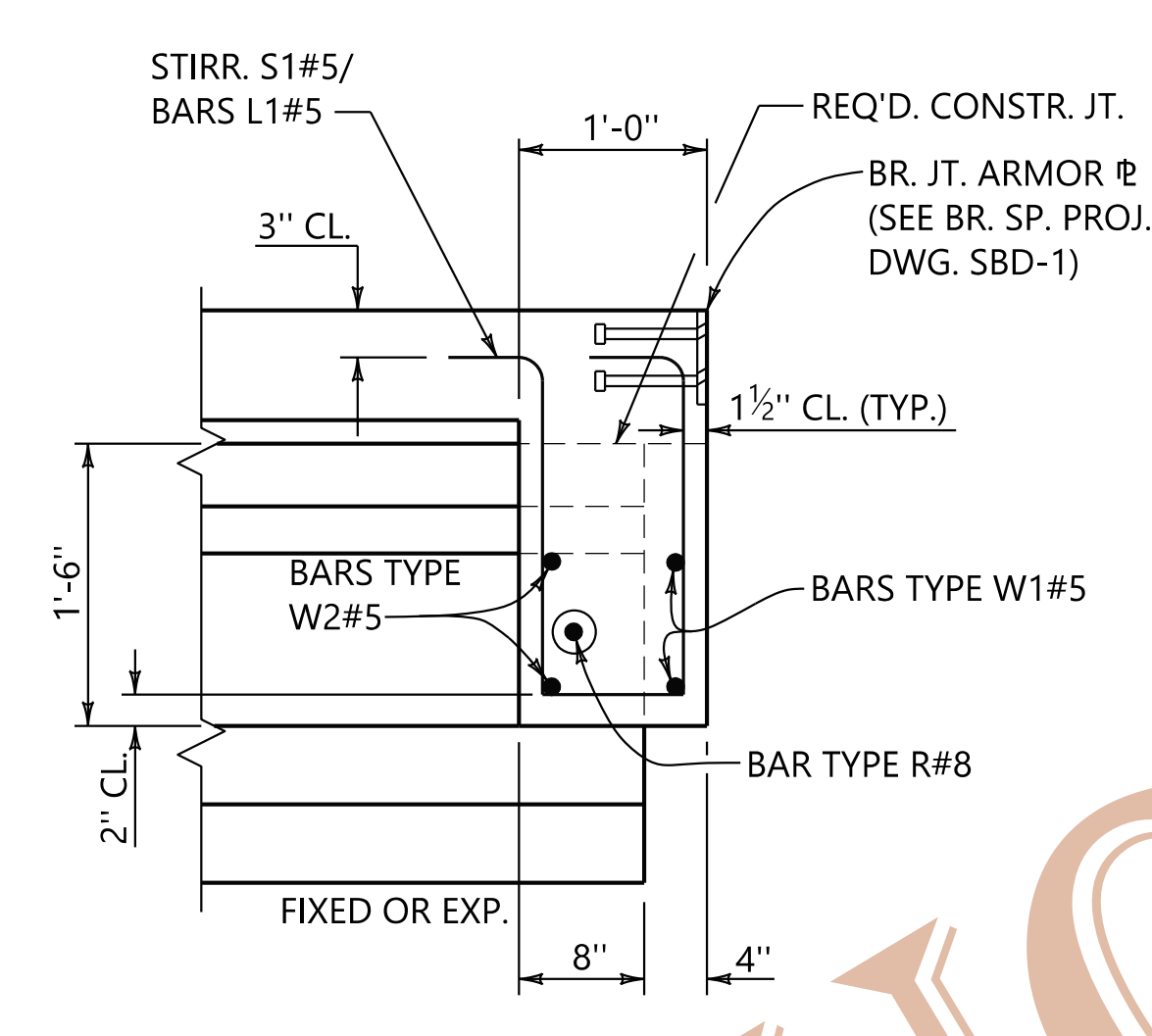
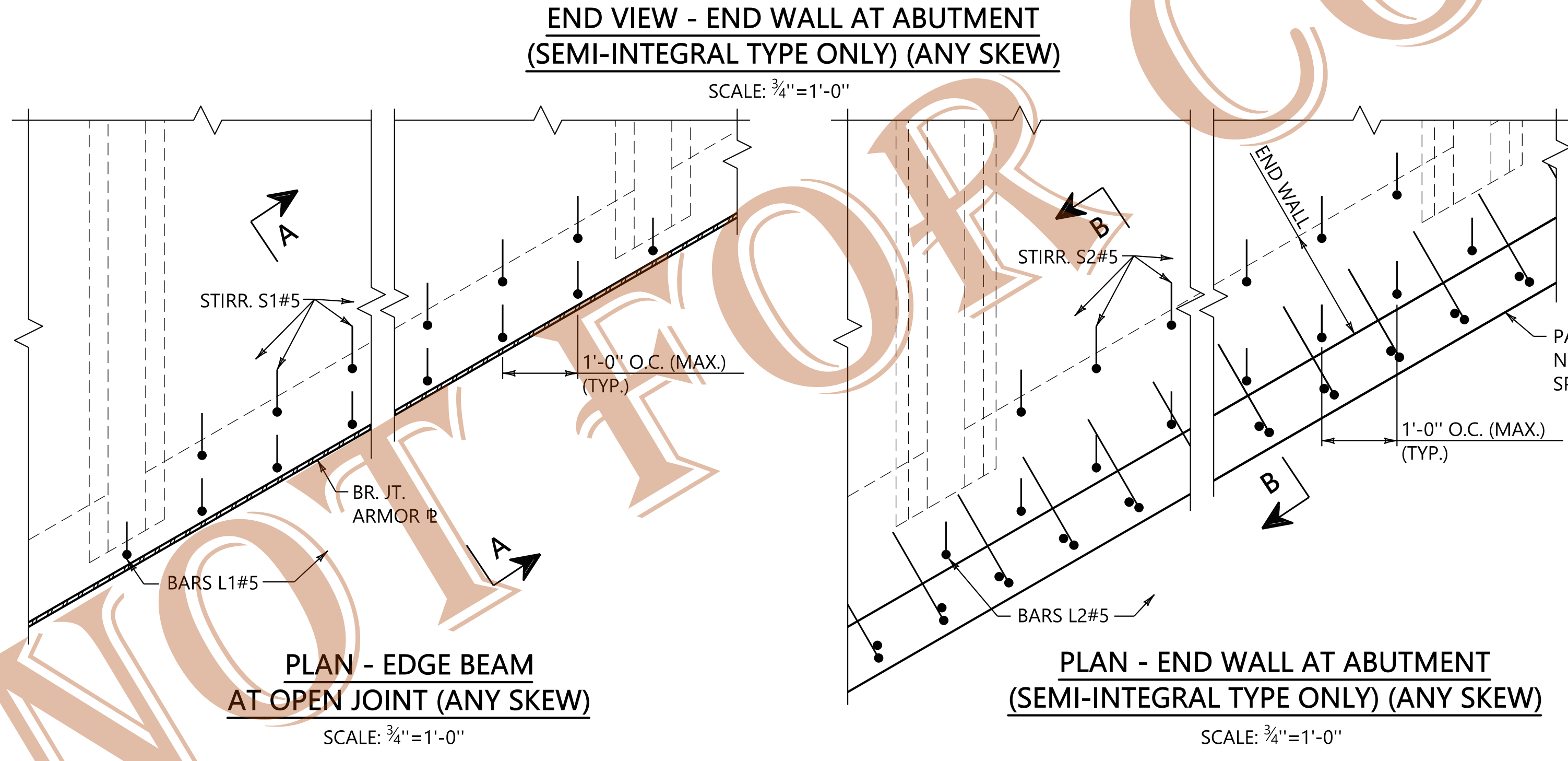
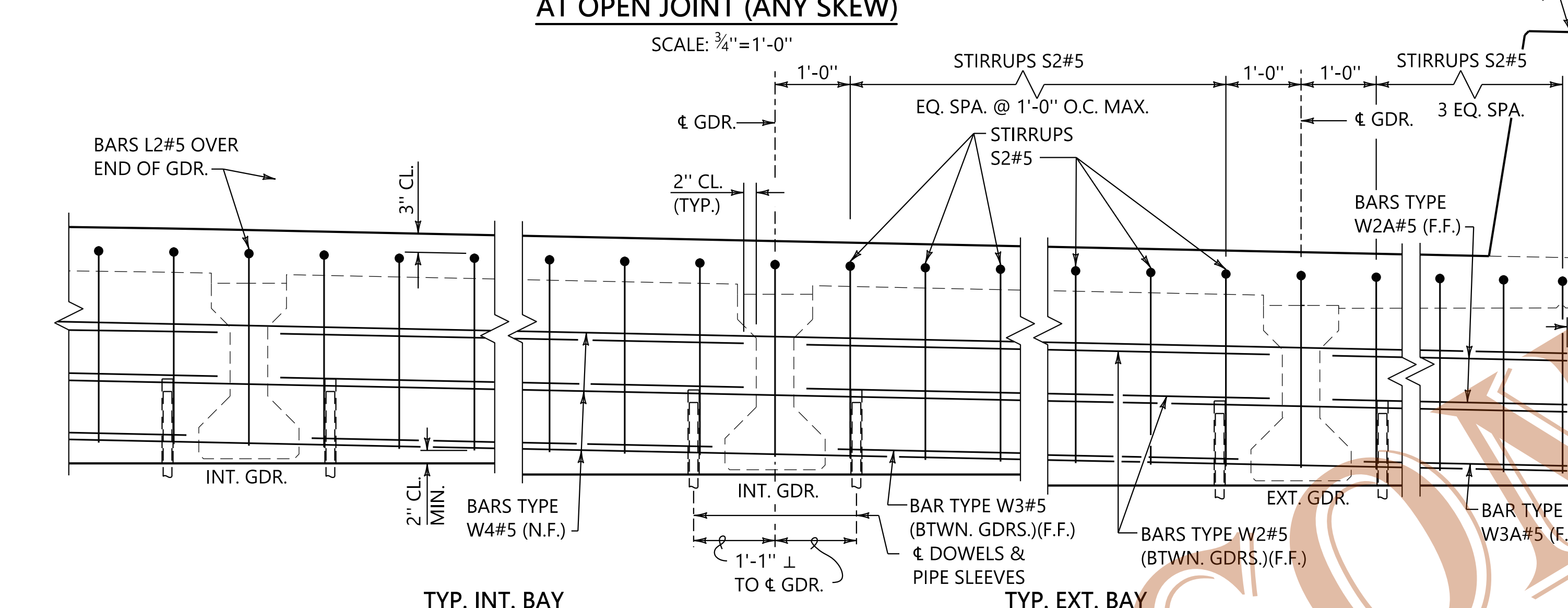
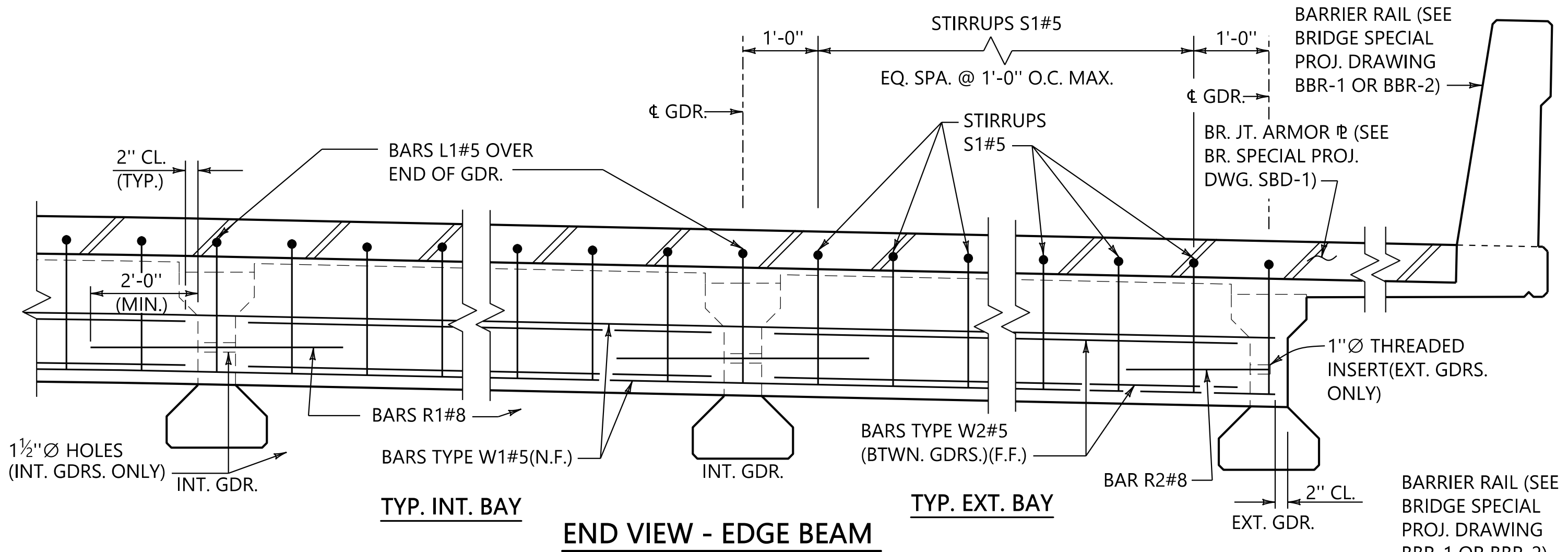
ELASTOMERIC BEARINGS TYPE 4															
ELASTOMERIC BEARING PAD DATA													SOLE $\phi$ & BEARING $\phi$ DATA		
ELASTOMERIC BEARING MARK	MAXIMUM SPAN LENGTH	MAXIMUM LOAD DL + LL	BEARING PAD DIMENSIONS			INDIVIDUAL LAYERS				REQUIRED 12 GAUGE STEEL SHIM PLATES			LENGTH "C"	CONNECTION STUD SPACING	
			THICKNESS "A"	LENGTH "B"	WIDTH	EXTERIOR		INTERIOR		NUMBER	LENGTH	WIDTH		"D"	"E"
VB1	150 FT.	129 KIPS	1 1/2"	1'-2 1/2"	10"	2	1/4"	2	1/2"	3	1'-2 1/4"	9 3/4"	1'-4"	4"	8"
VB2	200 FT.	154 KIPS	2"	1'-4 1/2"	10"	2	1/4"	3	1/2"	4	1'-4 1/4"	9 3/4"	1'-6"	5"	8"
VB3	200 FT.	207 KIPS	2"	1'-8 1/2"	10"	2	1/4"	3	1/2"	4	1'-8 1/4"	9 3/4"	1'-10"	5"	1'-0"
VB4	250 FT.	261 KIPS	2 1/2"	2'-0 1/2"	10"	2	1/4"	4	1/2"	5	2'-0 1/4"	9 3/4"	2'-2"	5"	1'-4"
VB5	300 FT.	289 KIPS	3"	2'-2 1/2"	10"	2	1/4"	5	1/2"	6	2'-2 1/4"	9 3/4"	2'-4"	6"	1'-4"
VB6	300 FT.	430 KIPS	3"	3'-0 1/2"	10"	2	1/4"	5	1/2"	6	3'-0 1/4"	9 3/4"	3'-2"	6"	2'-2"





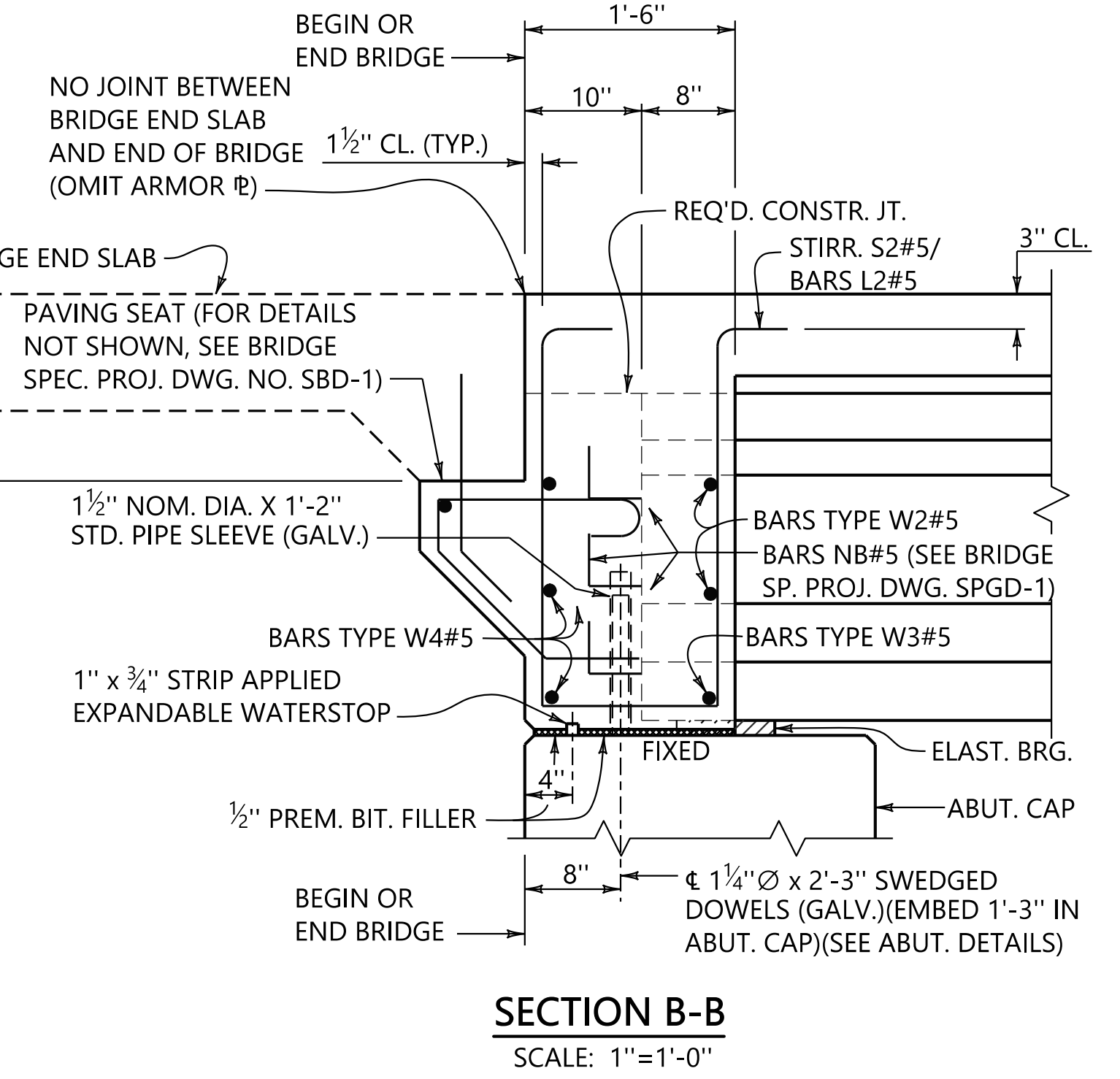
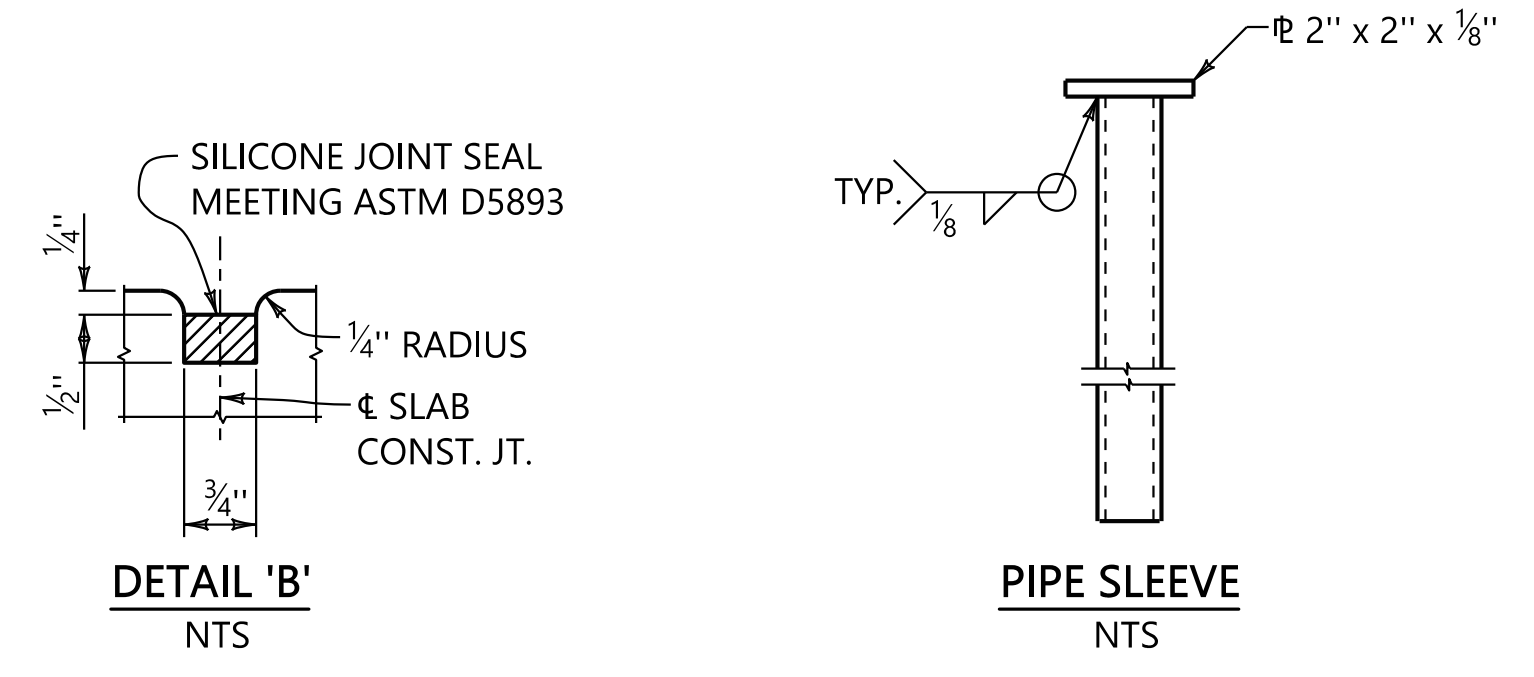
11\brvms002\Bridges\Standard\Special\Bridges\Special DGN\2 Details for Edge Beams & End Walls\URFD Standard Edge Beam End Wall Details 1.dgn  
PLOTTED: 14-Mar-24 at 09:11

REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER
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NOTES

- FOR EDGE BEAM AT CLOSED JOINTS (CONTINUOUS DECK): END VIEW AND PLAN SAME EXCEPT OMIT ARMOR PLATE. DO NOT COAT REQUIRED SLAB CONSTRUCTION JOINT WITH EPOXY ADHESIVE PRIOR TO NEXT POUR. STOP DECK GROOVING 6" MINIMUM FROM CLOSED JOINT.
- WHEN BRIDGE SPECIAL PROJECT DRAWING BBR-2 IS USED, VIEW AT ABUTMENT IS SAME EXCEPT FOR BARRIER RAIL TRANSITION.
- FOR DETAILS NOT SHOWN IN PLAN VIEW, SEE END VIEW.
- PAVING SEAT NOT SHOWN FOR CLARITY IN END VIEW OF END WALL.
- COST OF WATER STOPS, JOINT SEALER AND 1/2" PREMOLDED BITUMINOUS FILLER SHALL BE INCLUDED IN PAY ITEM 510C - BRIDGE CONCRETE SUPERSTRUCTURE.
- COST OF PIPE SLEEVES AND SWEDGED DOWELS SHALL BE INCLUDED IN PAY ITEM 508A - STRUCTURAL STEEL. SHOP DRAWINGS PER THE STANDARD SPECIFICATIONS ARE REQUIRED.
- AT THE CONTRACTOR'S OPTION, THE 2" x 2" x 1/8" PLATE MAY BE REPLACED WITH A POLYETHYLENE CAP OR INSERT TO SEAL THE END OF THE PIPE SLEEVE. THE CAP OR PLUG SEAL SHALL BE SECURED TO THE PIPE SLEEVES PRIOR TO SHIPMENT BY WRAPPING WITH DUCT TAPE. PAYMENT FOR POLYETHYLENE CAP OR INSERT AND DUCT TAPE SHALL BE INCLUDED IN PAY ITEM 508A - STRUCTURAL STEEL.
- SEE BRIDGE PLANS FOR DETAILS OF STIRRUPS TYPE S, BARS TYPE L, BARS R1 AND BARS R2.
- SPLICE BARS TYPE W1#5 30 DIAMETER (MINIMUM).
- SPLICE BARS TYPE W4#5 30 DIAMETER (MINIMUM).



ALABAMA DEPARTMENT OF TRANSPORTATION

REVISIONS

REVISED NOTES TO REMOVE SYMBOLS, REMOVED GIRDER INSERT DIMENSIONING AND ADDED WEBWALL HEIGHT DIMENSION TO ALLOW USE WITH ALL AASHTO TYPE I SHAPES.	JNW 1/2024
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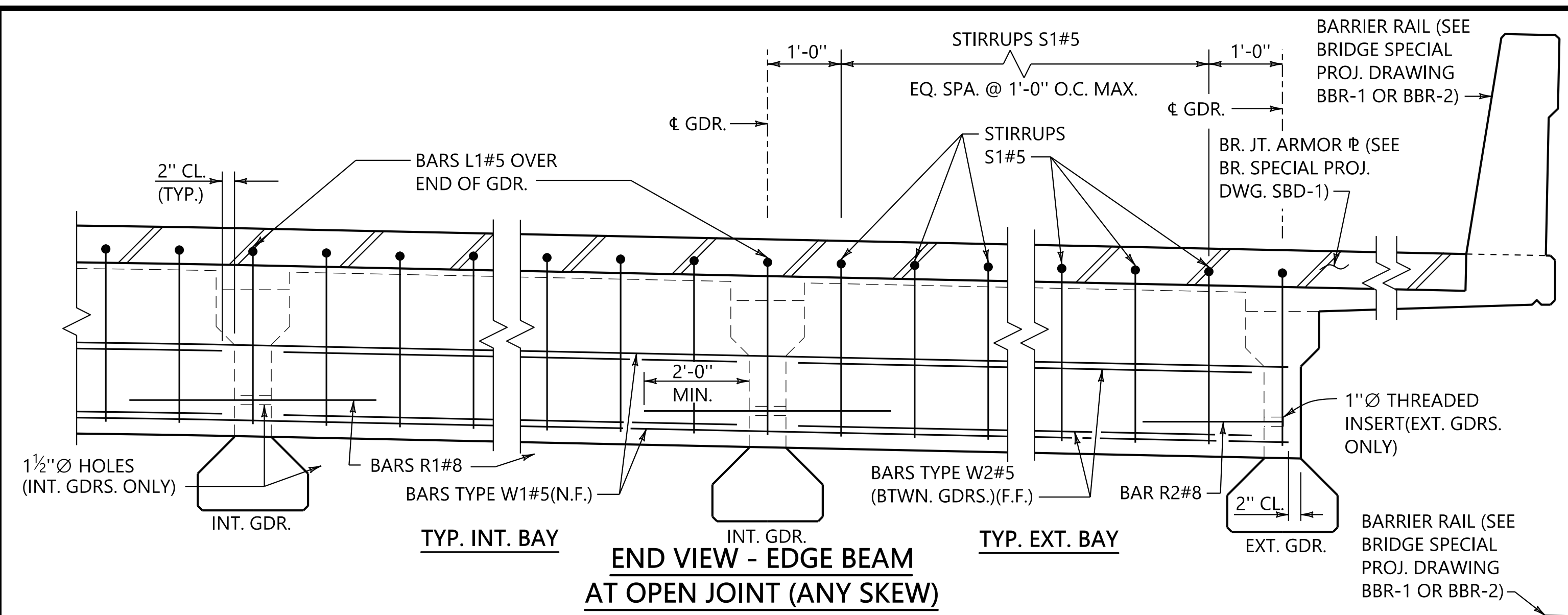
UNIFORM DETAILS FOR EDGE BEAMS AND END WALLS FOR USE WITH AASHTO TYPE I GIRDER SHAPES

ASSISTANT BRIDGE ENGINEER <i>J.A. Walker</i> DATE: 3/14/2024	BRIDGE ENGINEER <i>W. C. Aguirre</i> DATE: 3/14/24
BRIDGE SPECIAL PROJECT DRAWING	
EBEW1	
SHEET 1 OF 1	

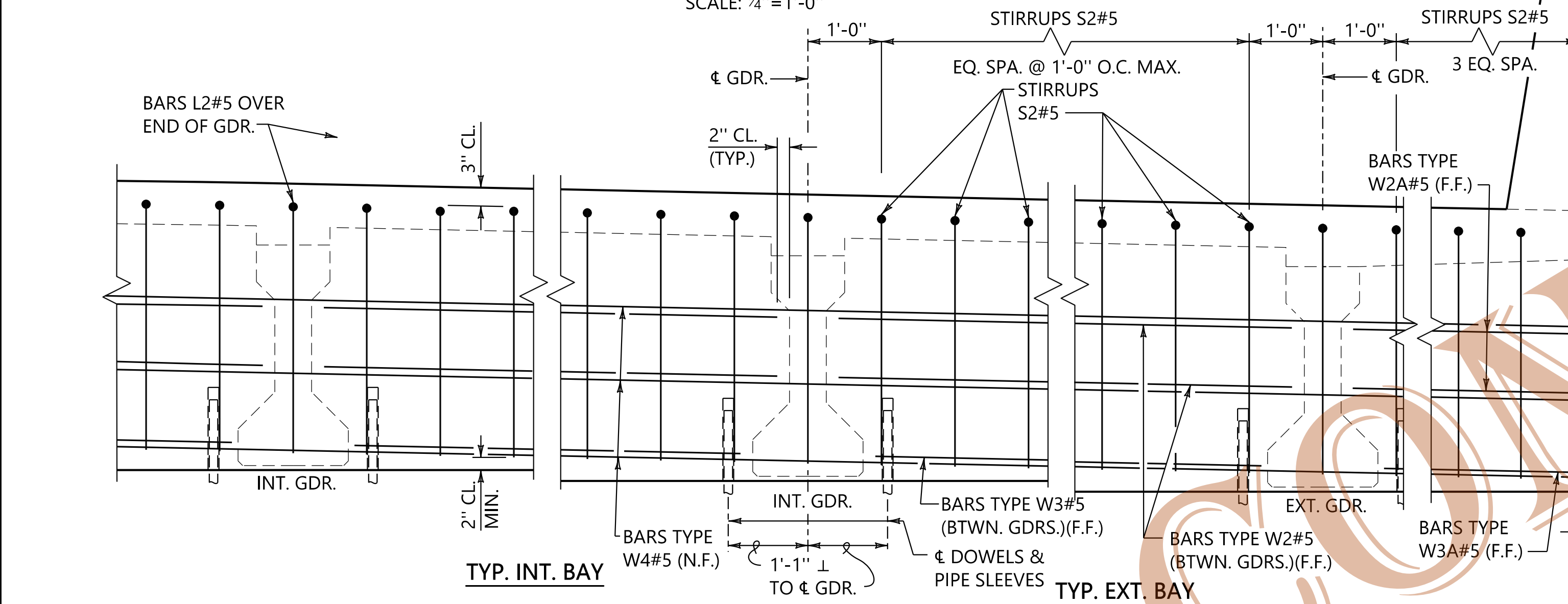


PLOTTED: 14-Mar-24 at 09:11  
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 0 1" 2"

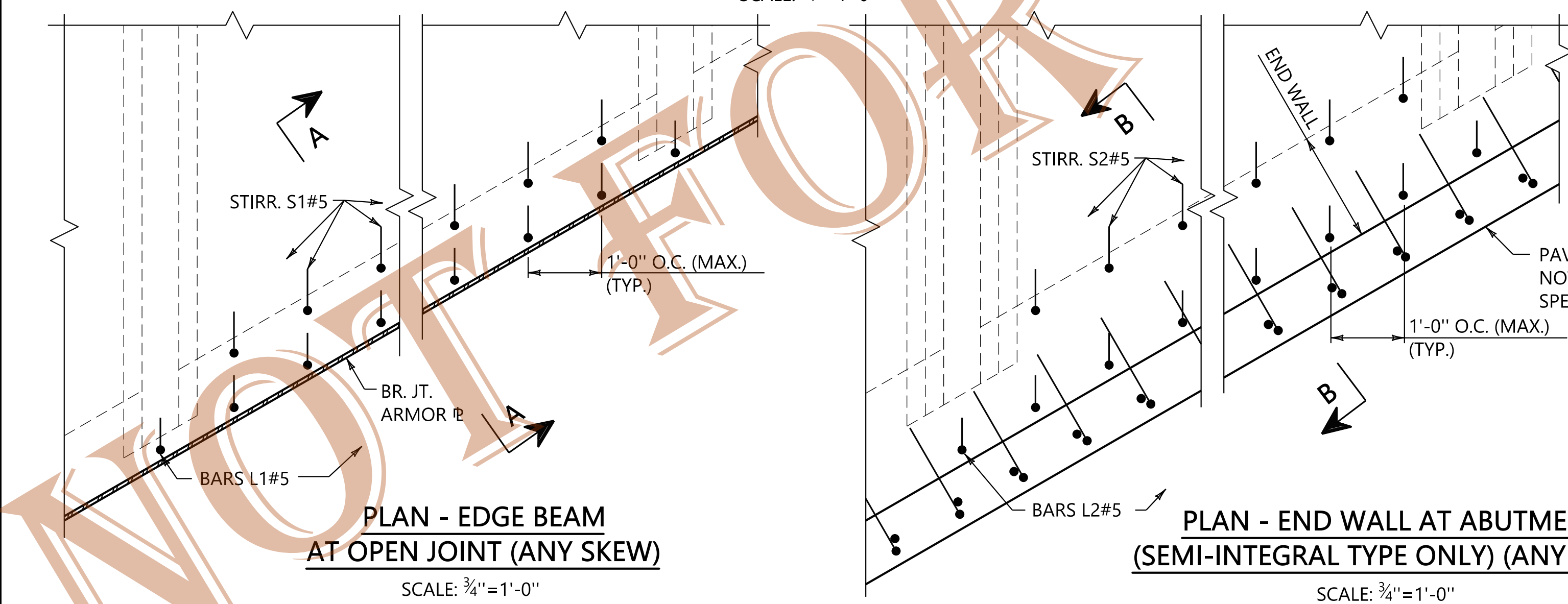
REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER
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**END VIEW - EDGE BEAM AT OPEN JOINT (ANY SKEW)**  
SCALE: 3/4" = 1'-0"

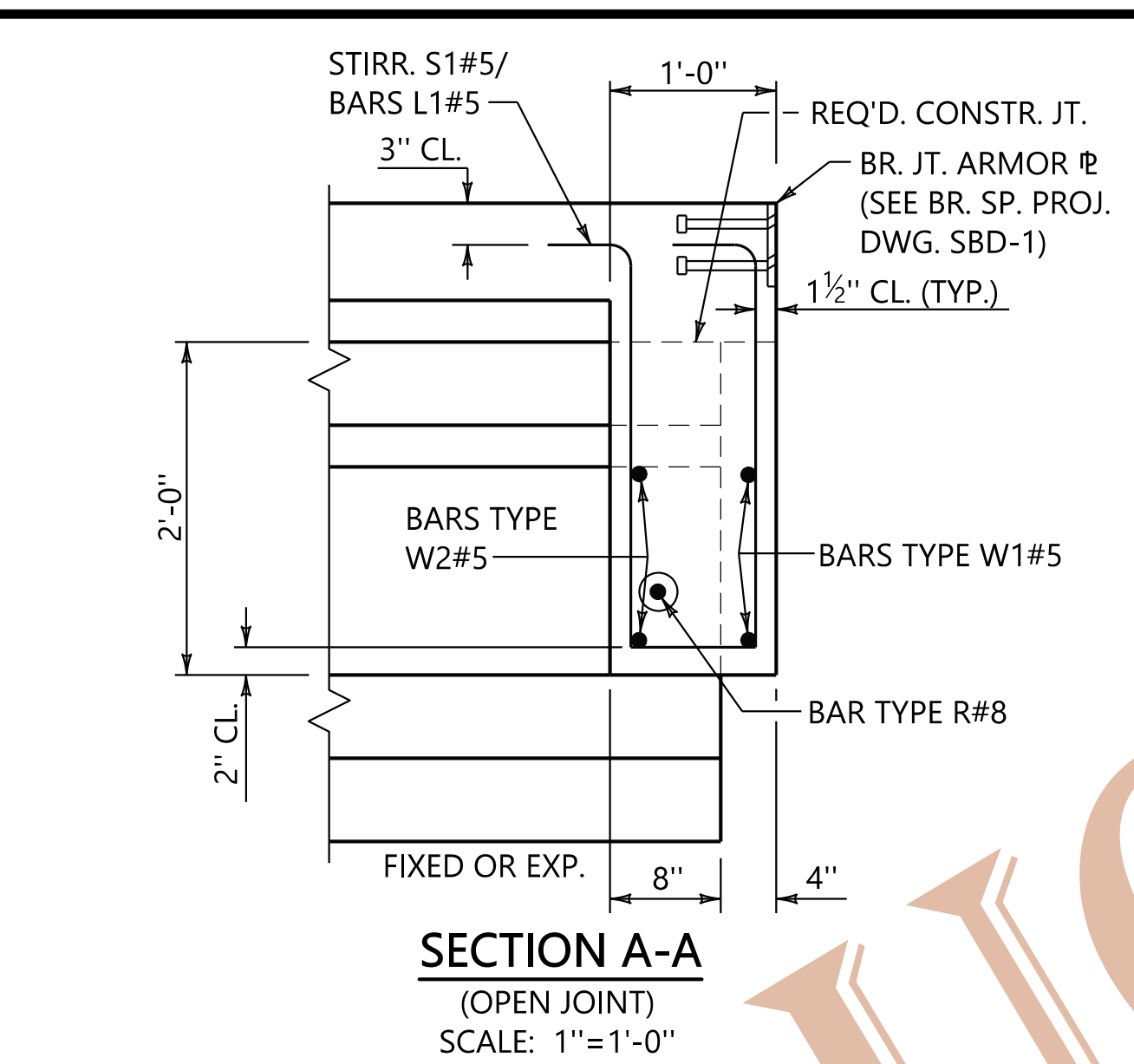


**END VIEW - END WALL AT ABUTMENT (SEMI-INTEGRAL TYPE ONLY) (ANY SKEW)**  
SCALE: 3/4" = 1'-0"

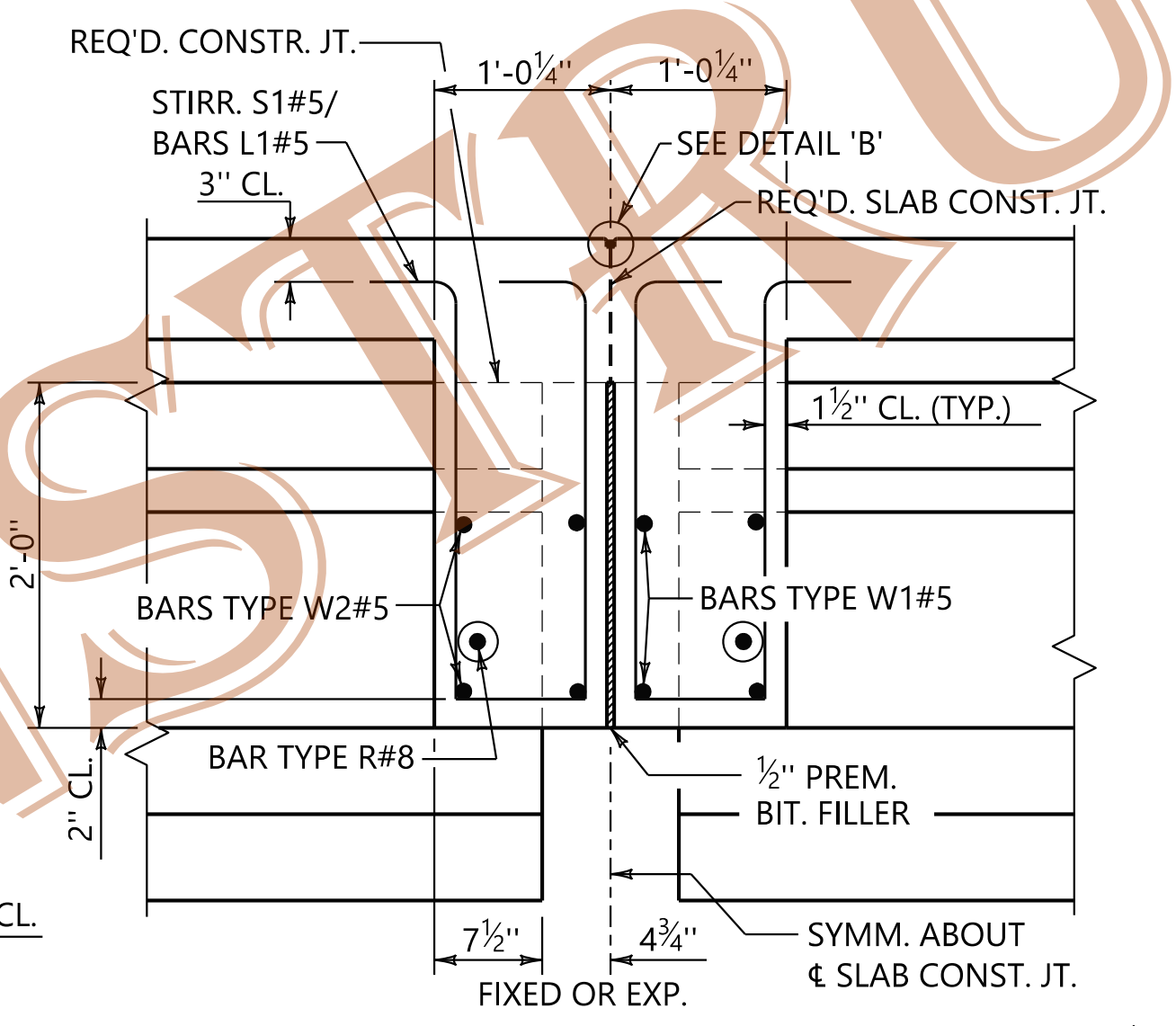


**PLAN - EDGE BEAM AT OPEN JOINT (ANY SKEW)**  
SCALE: 3/4" = 1'-0"

**PLAN - END WALL AT ABUTMENT (SEMI-INTEGRAL TYPE ONLY) (ANY SKEW)**  
SCALE: 3/4" = 1'-0"



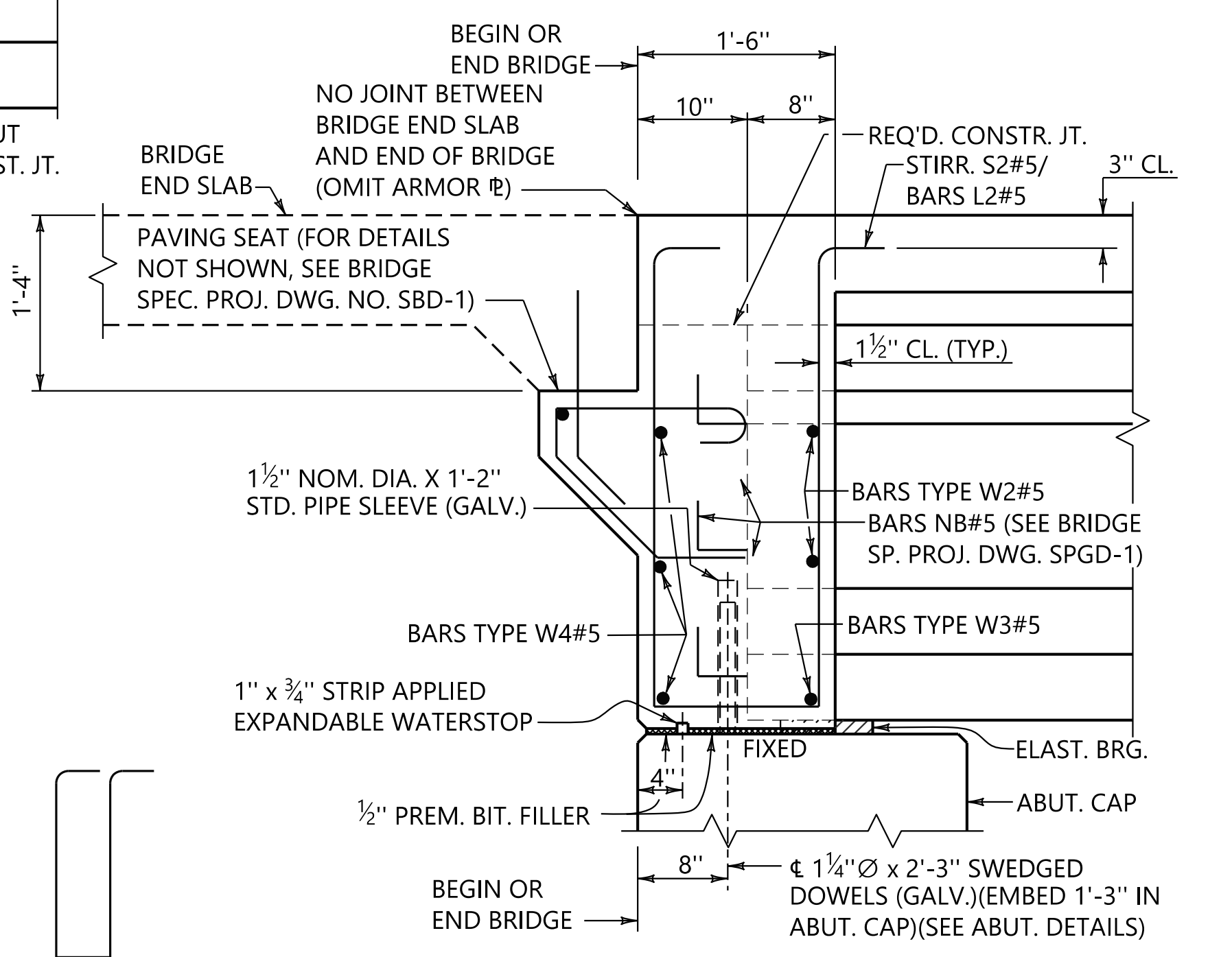
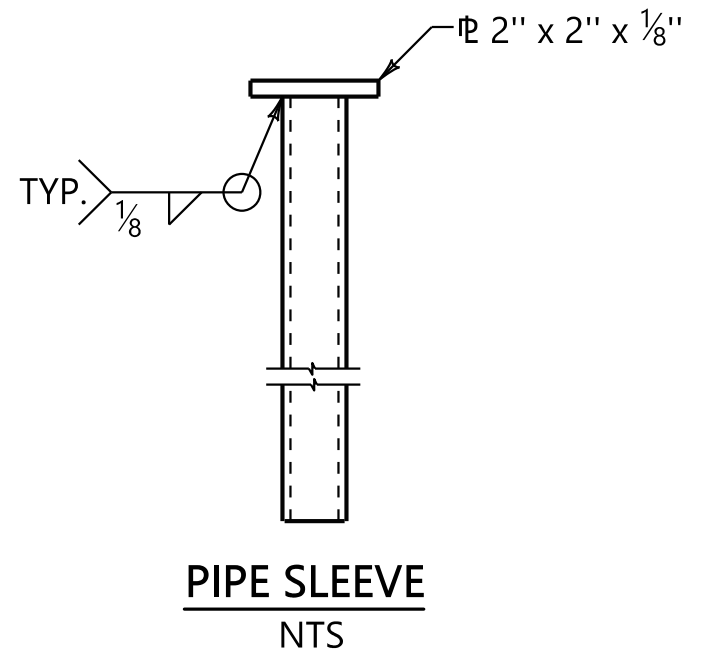
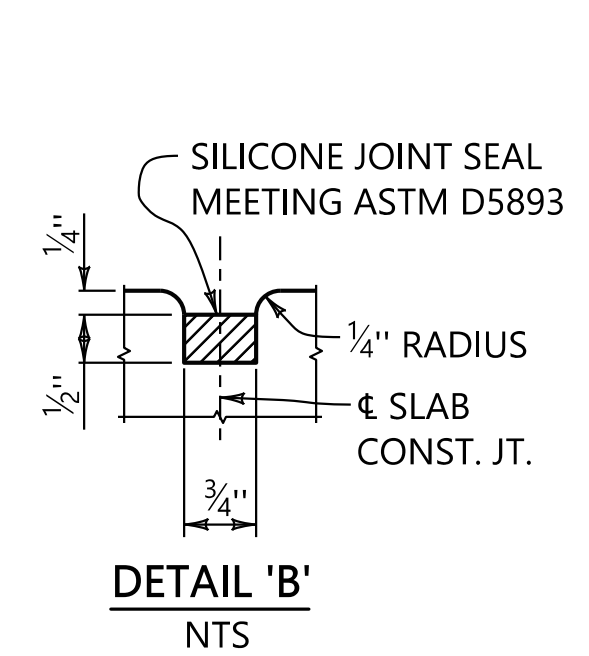
**SECTION A-A (OPEN JOINT)**  
SCALE: 1" = 1'-0"



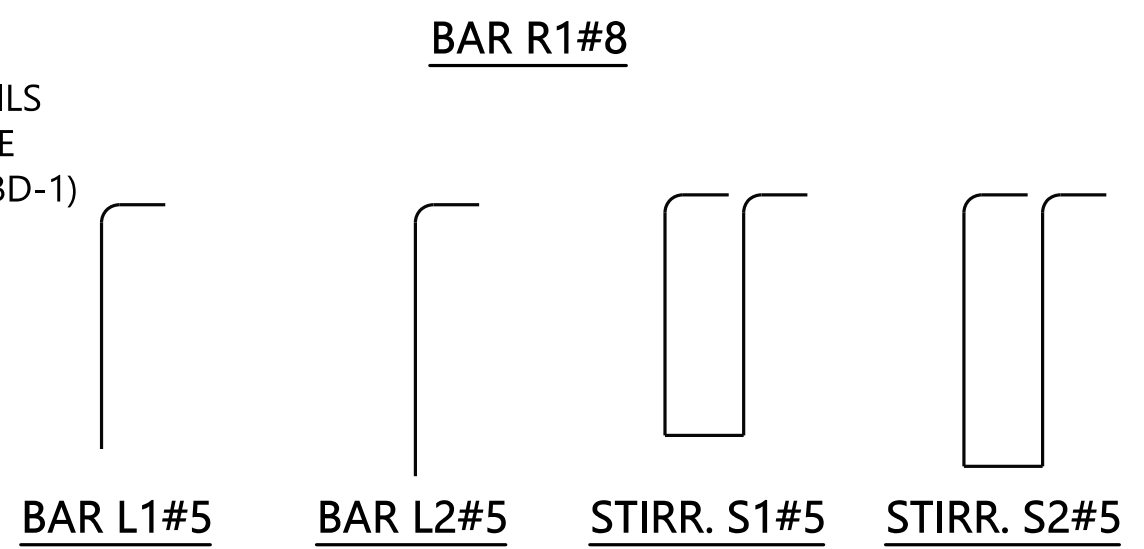
**SECTION A-A (CLOSED JOINT)**  
SCALE: 1" = 1'-0"

**NOTES**

- FOR EDGE BEAM AT CLOSED JOINTS (CONTINUOUS DECK): END VIEW AND PLAN SAME EXCEPT OMIT ARMOR PLATE. DO NOT COAT REQUIRED SLAB CONSTRUCTION JOINT WITH EPOXY ADHESIVE PRIOR TO NEXT POUR. STOP DECK GROOVING 6" MINIMUM FROM CLOSED JOINT.
- WHEN BRIDGE SPECIAL PROJECT DRAWING BBR-2 IS USED, VIEW AT ABUTMENT IS SAME EXCEPT FOR BARRIER RAIL TRANSITION.
- FOR DETAILS NOT SHOWN IN PLAN VIEW, SEE END VIEW.
- PAVING SEAT NOT SHOWN FOR CLARITY IN END VIEW OF END WALL.
- COST OF WATER STOPS, JOINT SEALER AND 1/2" PREMOLDED BITUMINOUS FILLER SHALL BE INCLUDED IN PAY ITEM 510C - BRIDGE CONCRETE SUPERSTRUCTURE.
- COST OF PIPE SLEEVES AND SWEDGED DOWELS SHALL BE INCLUDED IN PAY ITEM 508A - STRUCTURAL STEEL. SHOP DRAWINGS PER THE STANDARD SPECIFICATIONS ARE REQUIRED.
- AT THE CONTRACTOR'S OPTION, THE 2" x 2" x 1/8" PLATE MAY BE REPLACED WITH A POLYETHYLENE CAP OR INSERT TO SEAL THE END OF THE PIPE SLEEVE. THE CAP OR PLUG SEAL SHALL BE SECURED TO THE PIPE SLEEVES PRIOR TO SHIPMENT BY WRAPPING WITH DUCT TAPE. PAYMENT FOR POLYETHYLENE CAP OR INSERT AND DUCT TAPE SHALL BE INCLUDED IN PAY ITEM 508A - STRUCTURAL STEEL.
- SEE BRIDGE PLANS FOR DETAILS OF STIRRUPS TYPE S, BARS TYPE L, BARS R1 AND BARS R2.
- SPLICE BARS TYPE W1#5 30 DIAMETER (MINIMUM).
- SPLICE BARS TYPE W4#5 30 DIAMETER (MINIMUM).



**SECTION B-B**  
SCALE: 1" = 1'-0"



REVISIONS
REVISED NOTES TO REMOVE SYMBOLS, REMOVED GIRDER INSERT DIMENSIONING AND ADDED WEBWALL HEIGHT DIMENSION TO ALLOW USE WITH ALL AASHTO TYPE II SHAPES. JNW 1/2024

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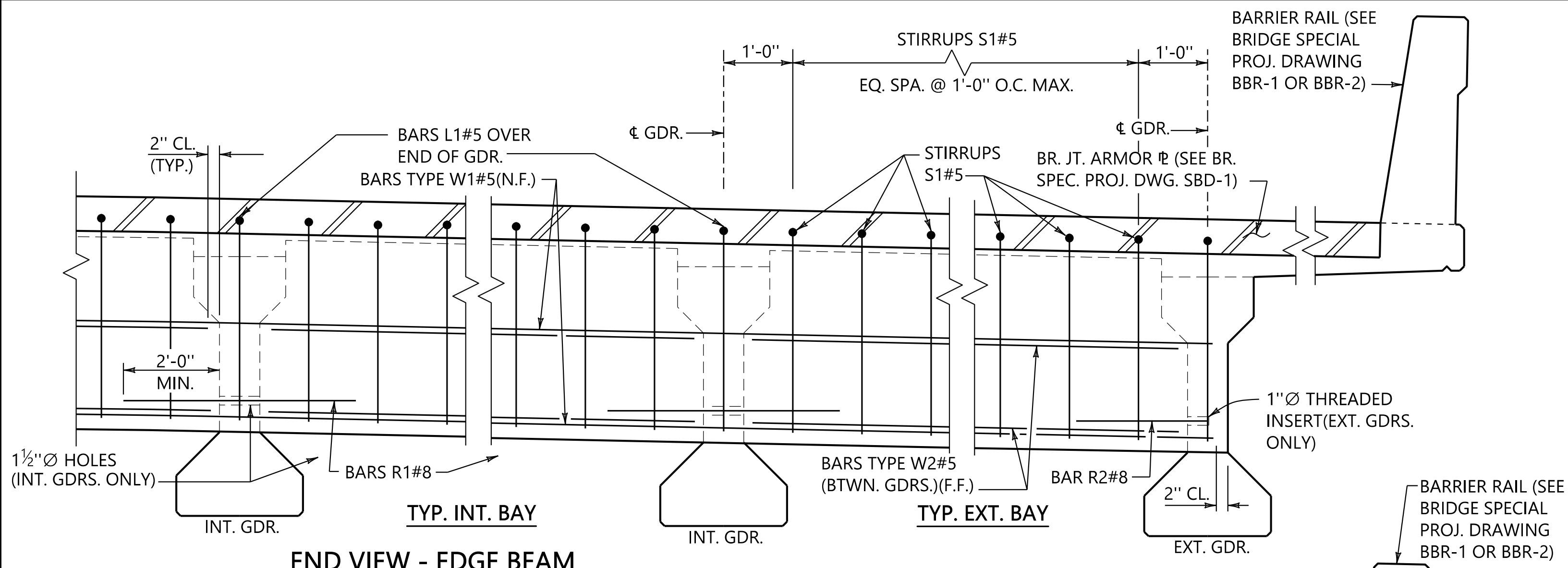
UNIFORM DETAILS FOR EDGE BEAMS AND END WALLS FOR USE WITH AASHTO TYPE II GIRDER SHAPES

ASSISTANT BRIDGE ENGINEER <i>J. Walker</i> 3/14/2024 DATE	BRIDGE ENGINEER <i>W. C. ...</i> 3/14/24 DATE
BRIDGE SPECIAL PROJECT DRAWING	
EBEW2	
SHEET 1 OF 1	

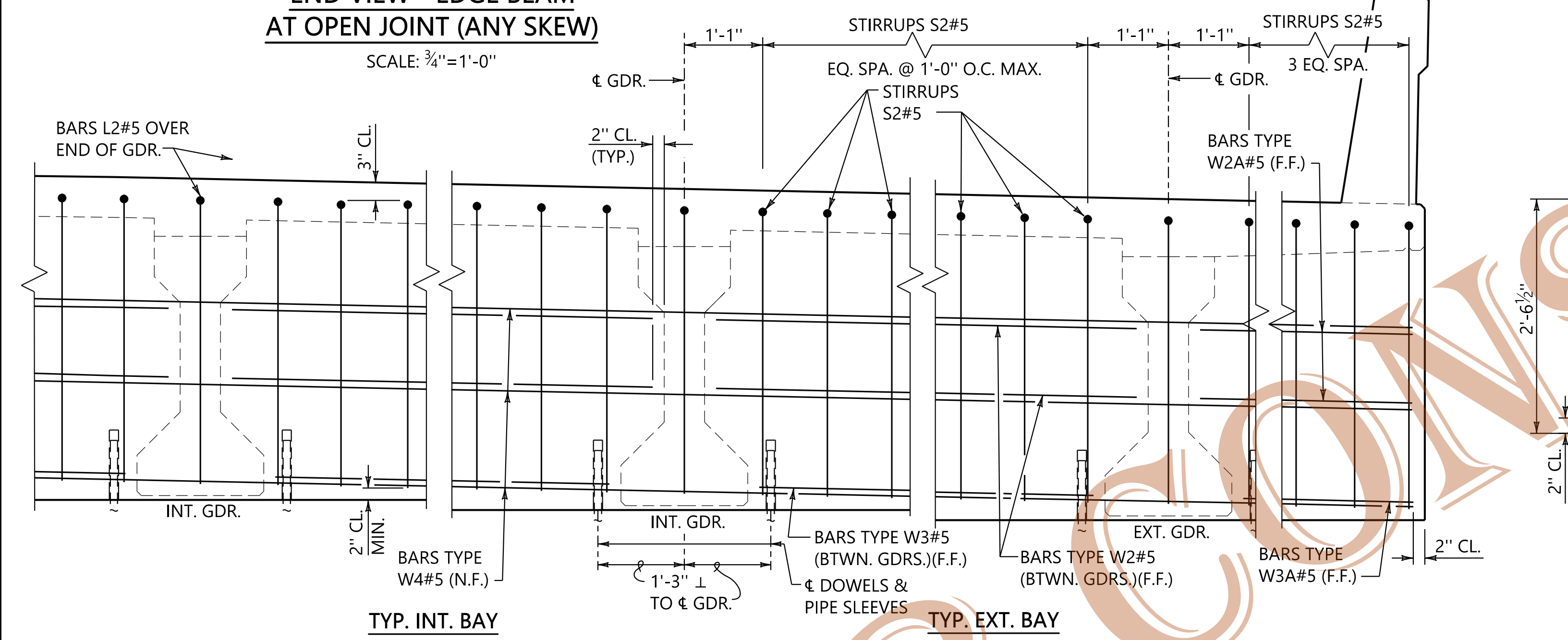


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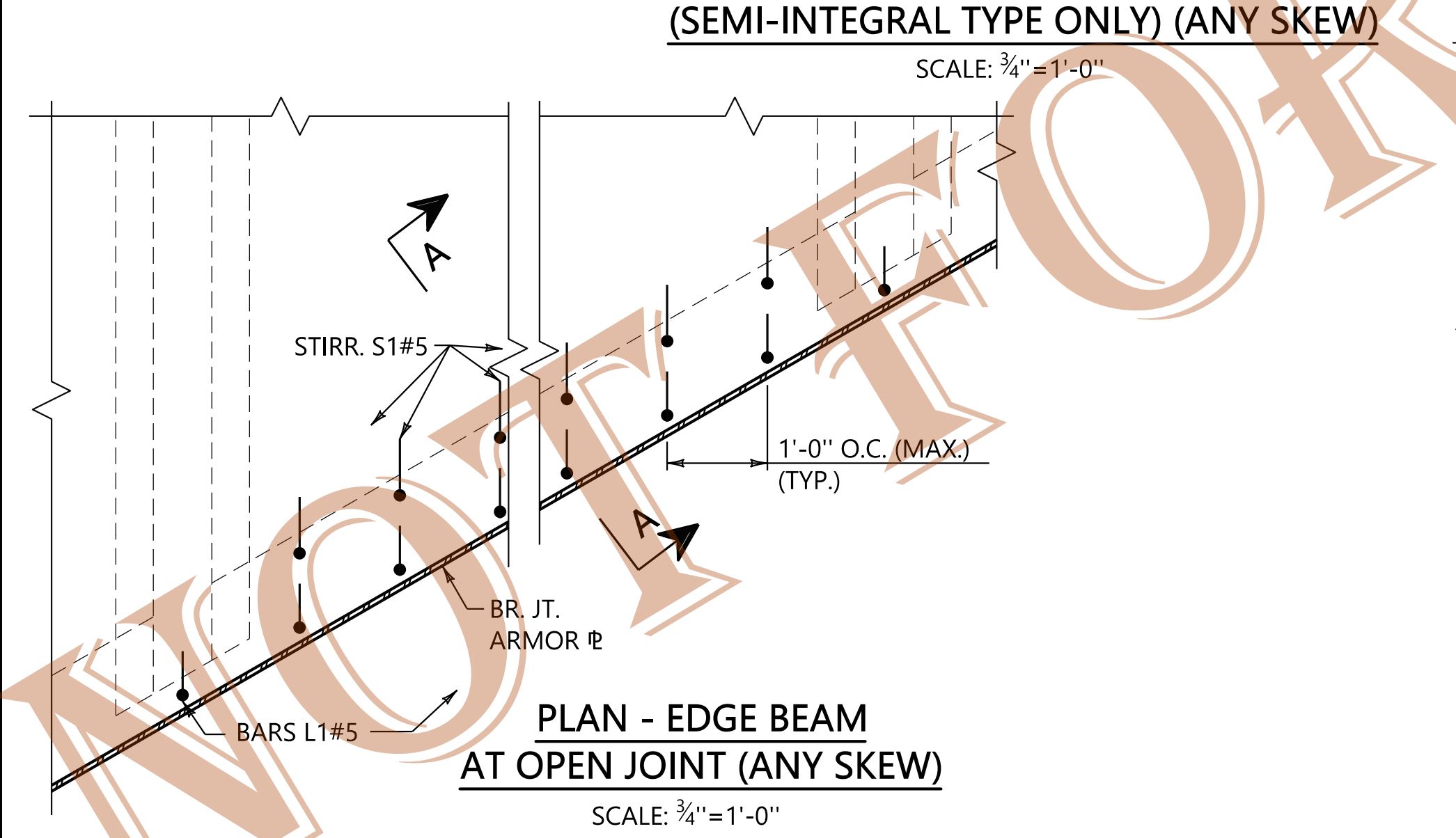
REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER
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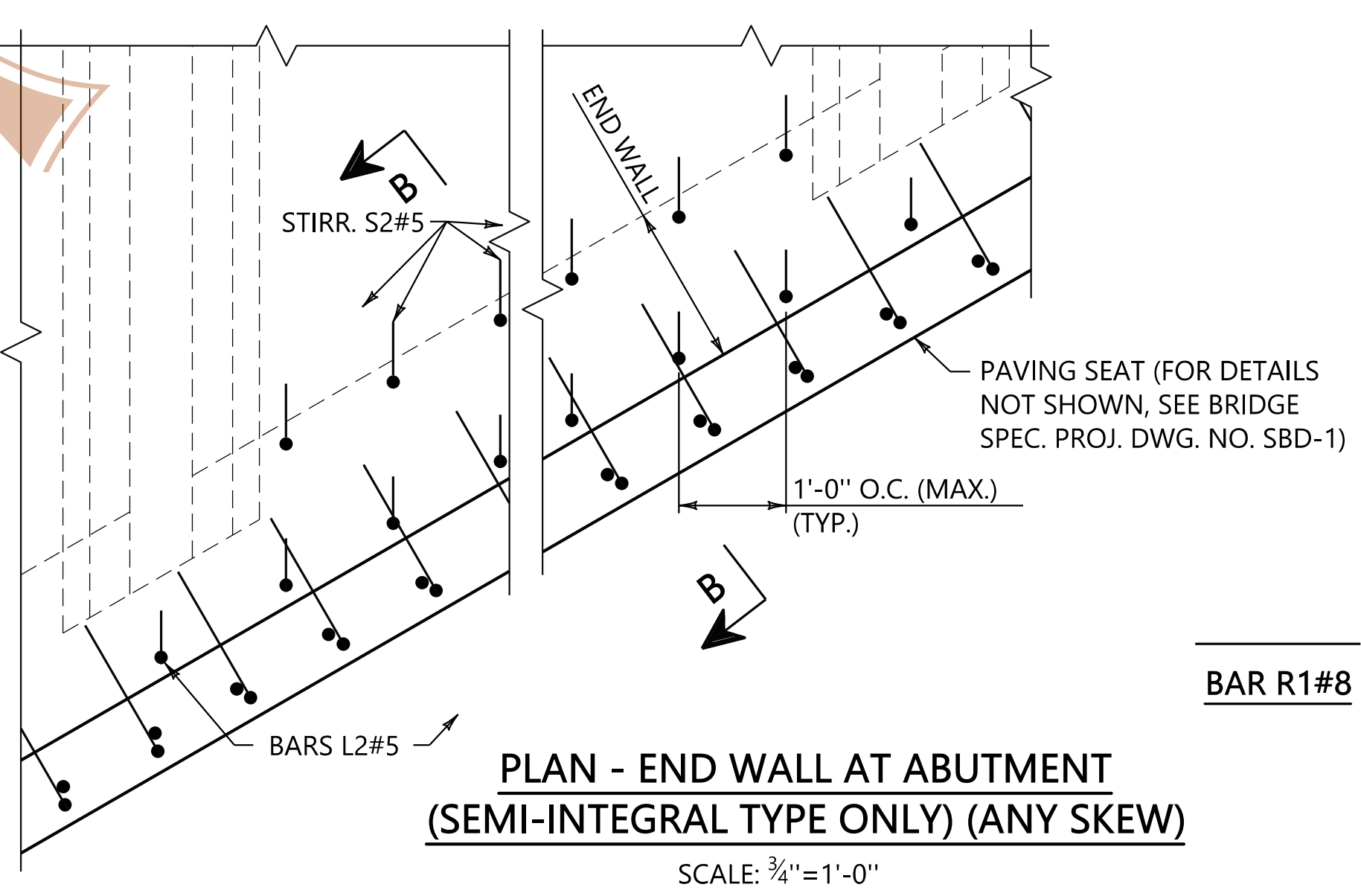
**END VIEW - EDGE BEAM AT OPEN JOINT (ANY SKEW)**  
SCALE: 3/4"=1'-0"



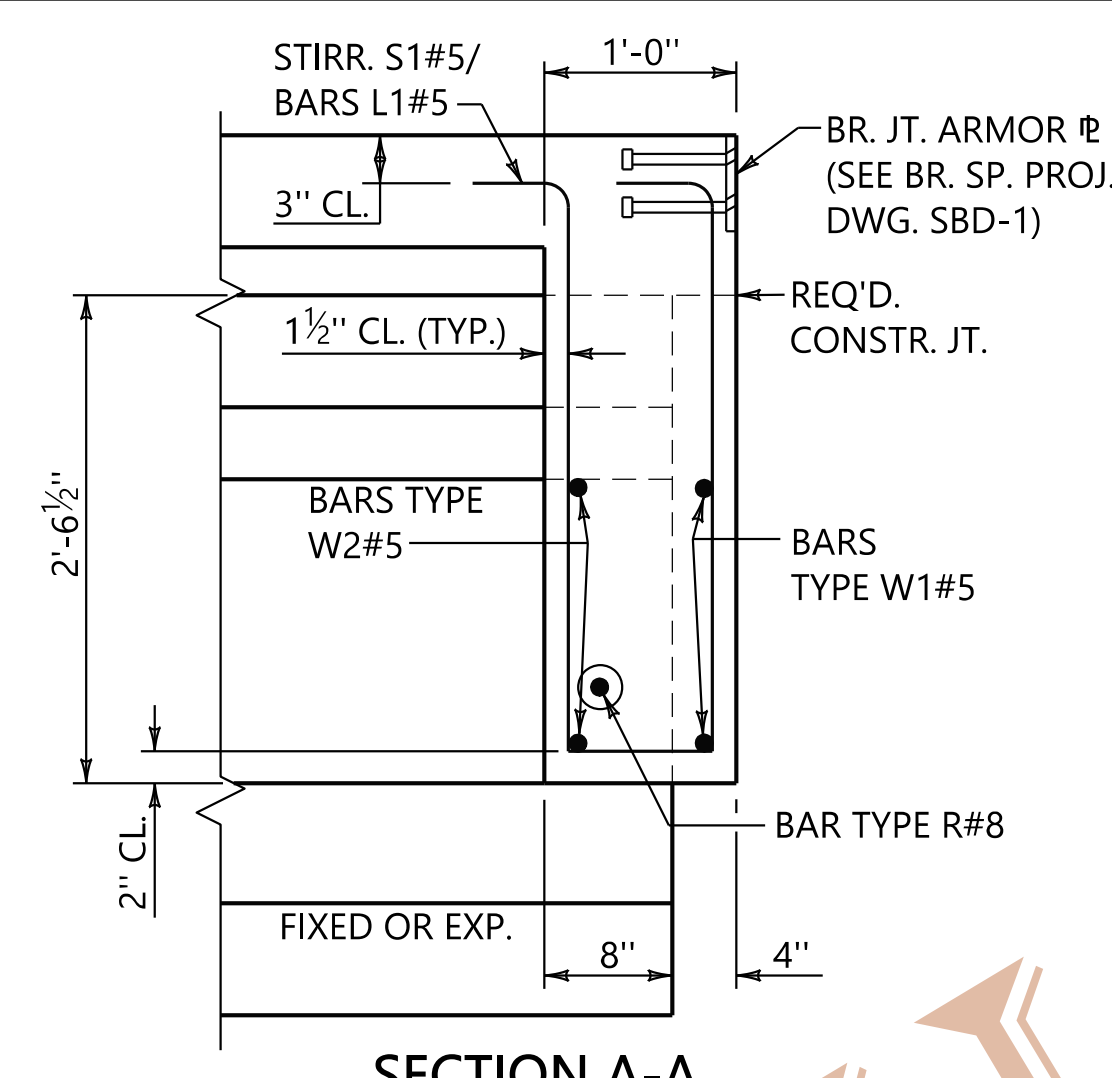
**END VIEW - END WALL AT ABUTMENT (SEMI-INTEGRAL TYPE ONLY) (ANY SKEW)**  
SCALE: 3/4"=1'-0"



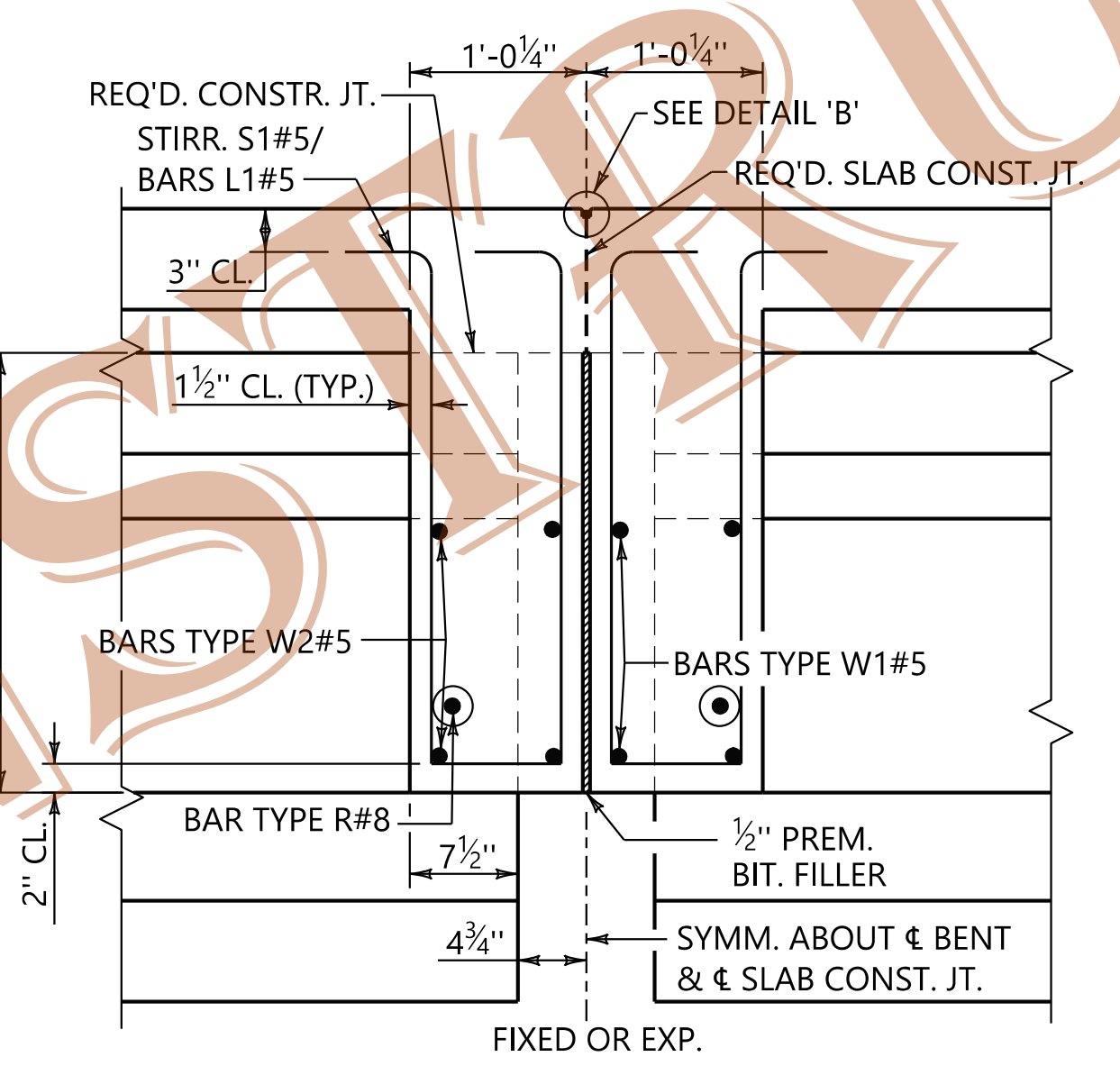
**PLAN - EDGE BEAM AT OPEN JOINT (ANY SKEW)**  
SCALE: 3/4"=1'-0"



**PLAN - END WALL AT ABUTMENT (SEMI-INTEGRAL TYPE ONLY) (ANY SKEW)**  
SCALE: 3/4"=1'-0"



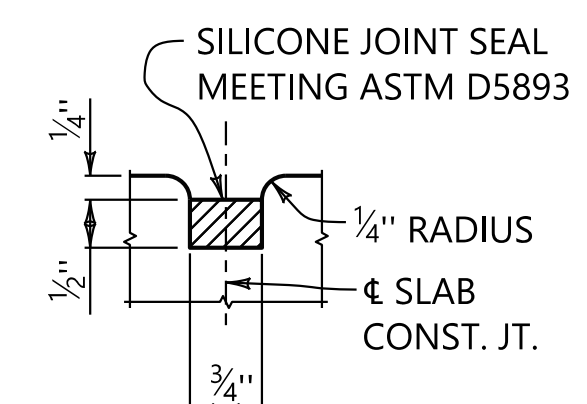
**SECTION A-A (OPEN JOINT)**  
SCALE: 1"=1'-0"



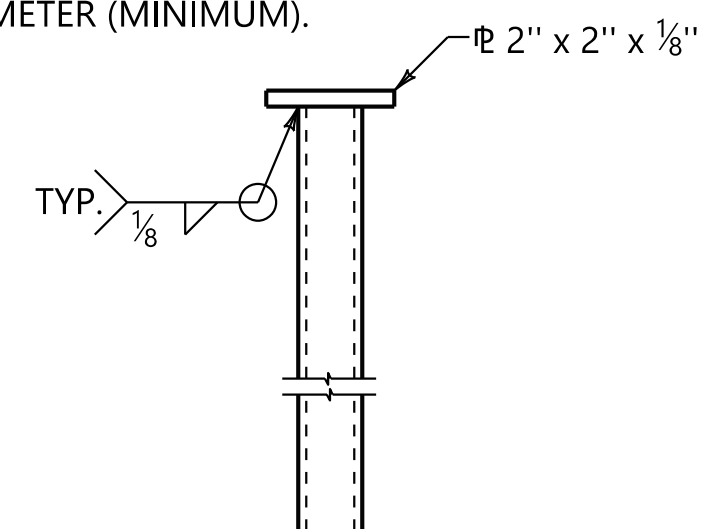
**SECTION A-A (CLOSED JOINT)**  
SCALE: 1"=1'-0"

**NOTES**

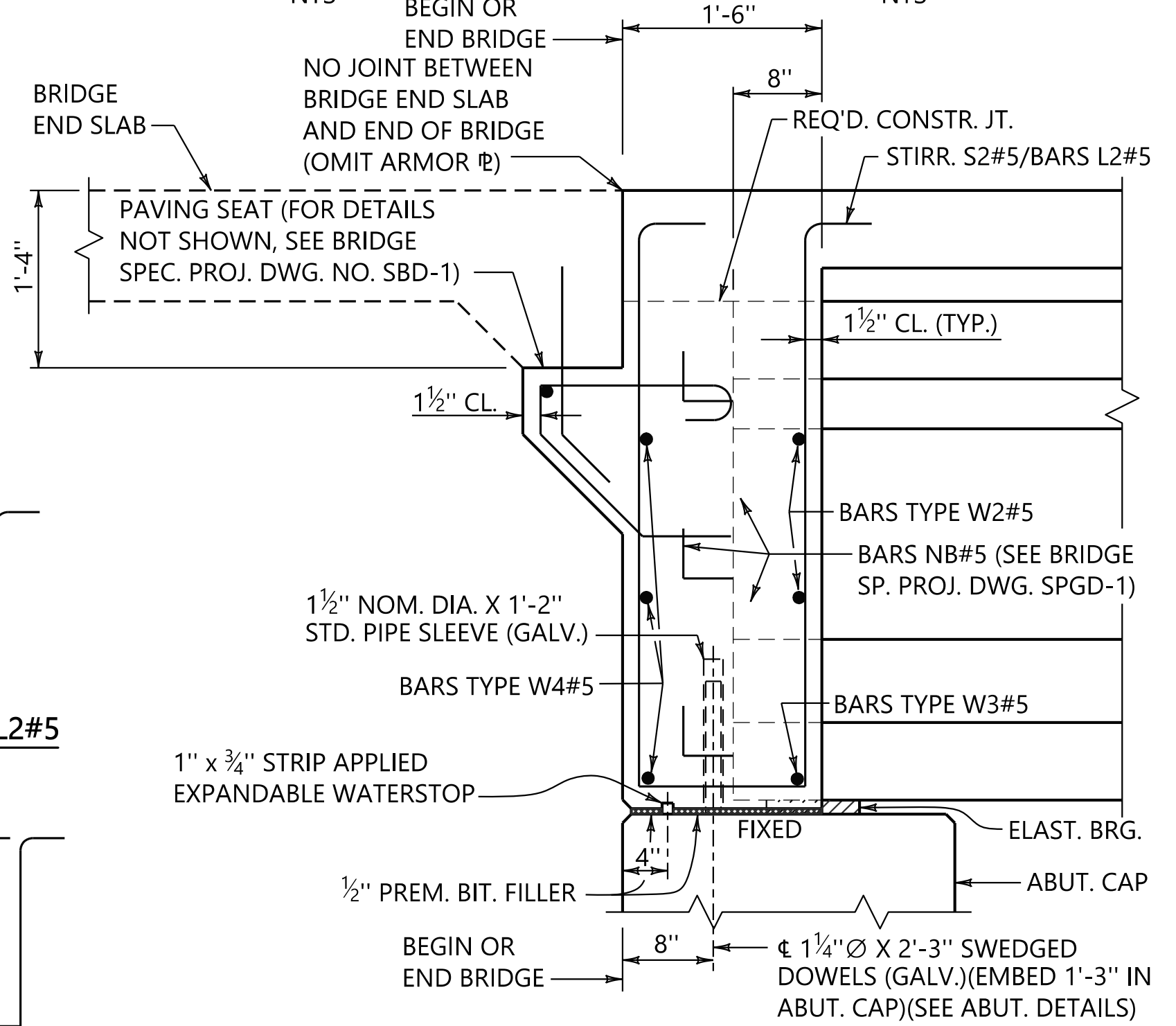
- FOR EDGE BEAM AT CLOSED JOINTS (CONTINUOUS DECK): END VIEW AND PLAN SAME EXCEPT OMIT ARMOR PLATE. DO NOT COAT REQUIRED SLAB CONSTRUCTION JOINT WITH EPOXY ADHESIVE PRIOR TO NEXT POUR. STOP DECK GROOVING 6" MINIMUM FROM CLOSED JOINT.
- WHEN BRIDGE SPECIAL PROJECT DRAWING BBR-2 IS USED, VIEW AT ABUTMENT IS SAME EXCEPT FOR BARRIER RAIL TRANSITION.
- FOR DETAILS NOT SHOWN IN PLAN VIEW, SEE END VIEW.
- PAVING SEAT NOT SHOWN FOR CLARITY IN END VIEW OF END WALL.
- COST OF WATER STOPS, JOINT SEALER AND 1/2" PREMOLDED BITUMINOUS FILLER SHALL BE INCLUDED IN PAY ITEM 510C - BRIDGE CONCRETE SUPERSTRUCTURE.
- COST OF PIPE SLEEVES AND SWEDGED DOWELS SHALL BE INCLUDED IN PAY ITEM 508A - STRUCTURAL STEEL. SHOP DRAWINGS PER THE STANDARD SPECIFICATIONS ARE REQUIRED.
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- SEE BRIDGE PLANS FOR DETAILS OF STIRRUPS TYPE S, BARS TYPE L, BARS R1 AND BARS R2.
- SPLICE BARS TYPE W1#5 30 DIAMETER (MINIMUM).
- SPLICE BARS TYPE W4#5 30 DIAMETER (MINIMUM).



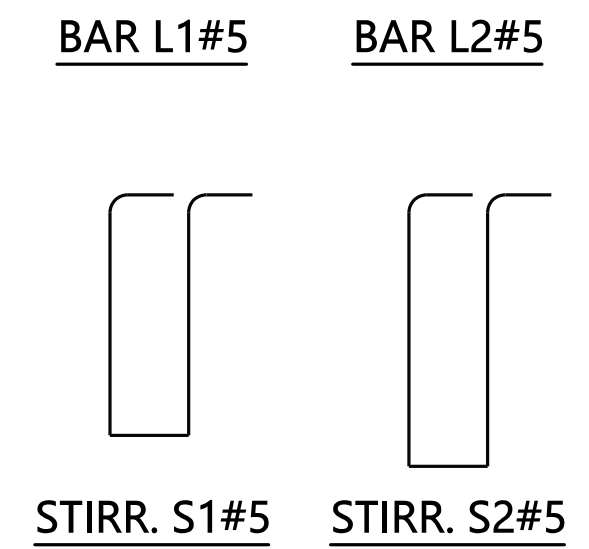
**DETAIL 'B'**  
NTS



**PIPE SLEEVE**  
NTS



**SECTION B-B**  
SCALE: 1"=1'-0"



ASSISTANT BRIDGE ENGINEER <i>J. Walker</i> 3/14/2024 DATE	BRIDGE ENGINEER <i>W. C. ...</i> 3/14/24 DATE
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<b>REVISIONS</b>
REVISED NOTES TO REMOVE SYMBOLS, REMOVED GIRDER INSERT DIMENSIONING AND ADDED WEBWALL HEIGHT DIMENSION TO ALLOW USE WITH ALL AASHTO TYPE III SHAPES. JNW 1/2024

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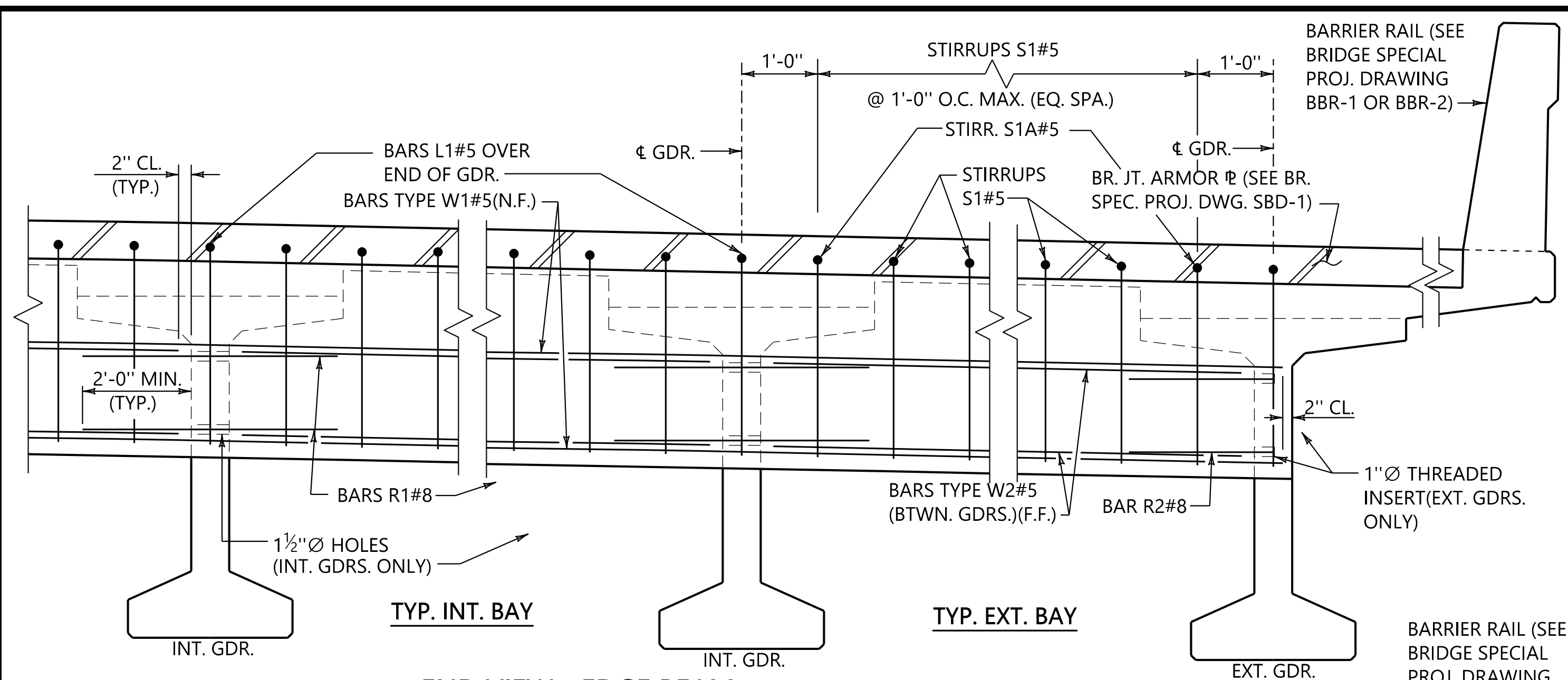
UNIFORM DETAILS FOR EDGE BEAMS AND END WALLS FOR USE WITH AASHTO TYPE III GIRDER SHAPES

<b>BRIDGE SPECIAL PROJECT DRAWING</b>	<b>SHEET 1 OF 1</b>
<b>EBEW3</b>	

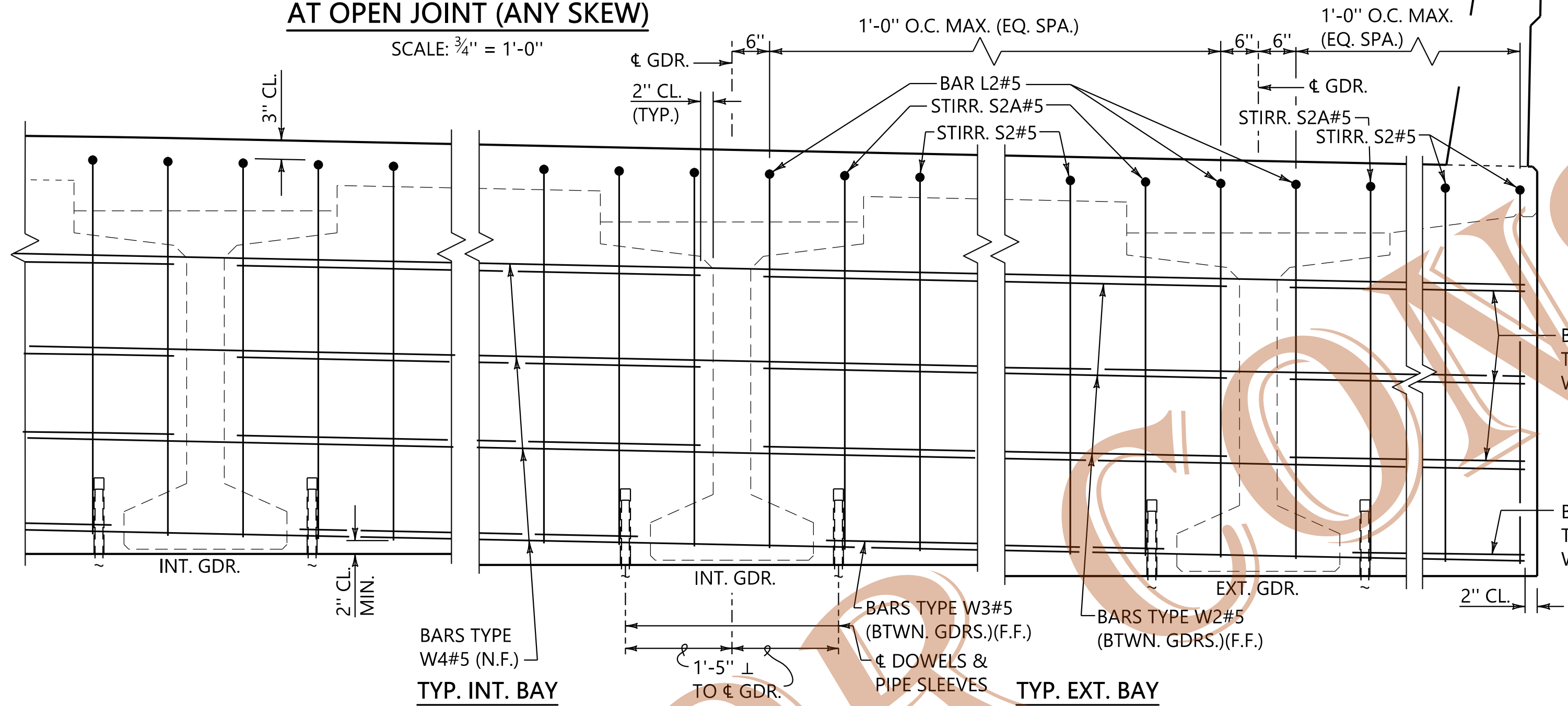


PLOTTED: 14-Mar-24 at 09:12  
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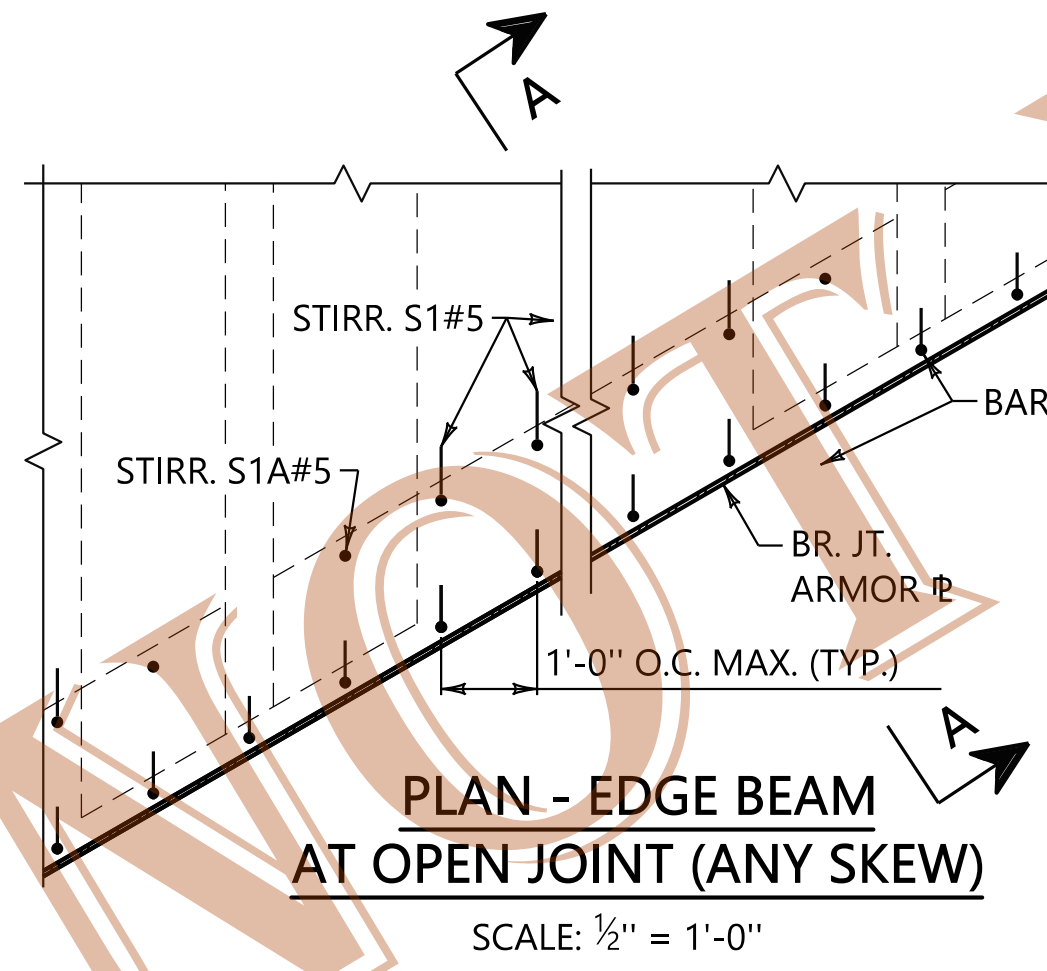
REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER
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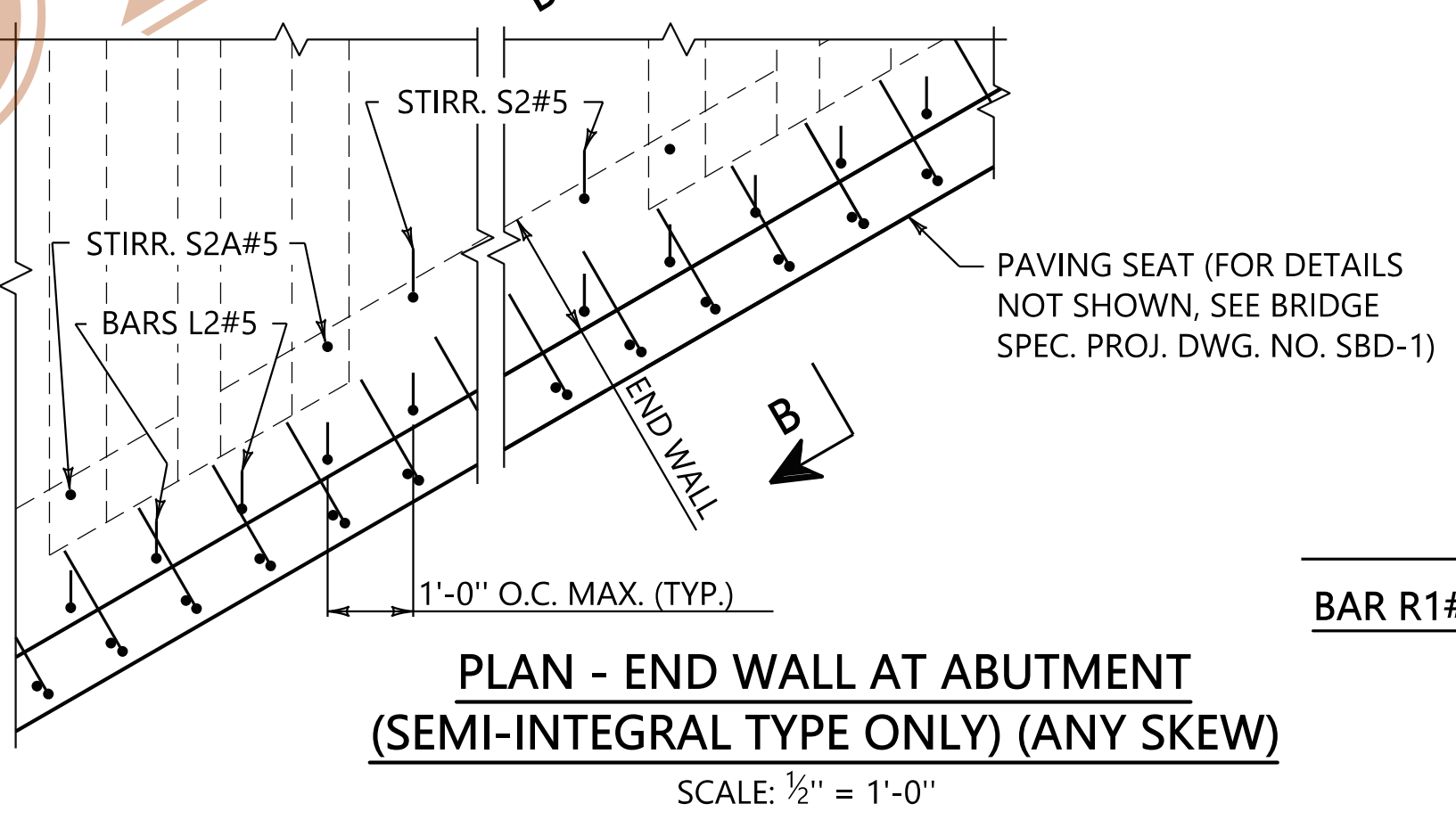
**END VIEW - EDGE BEAM AT OPEN JOINT (ANY SKEW)**  
SCALE: 3/4" = 1'-0"



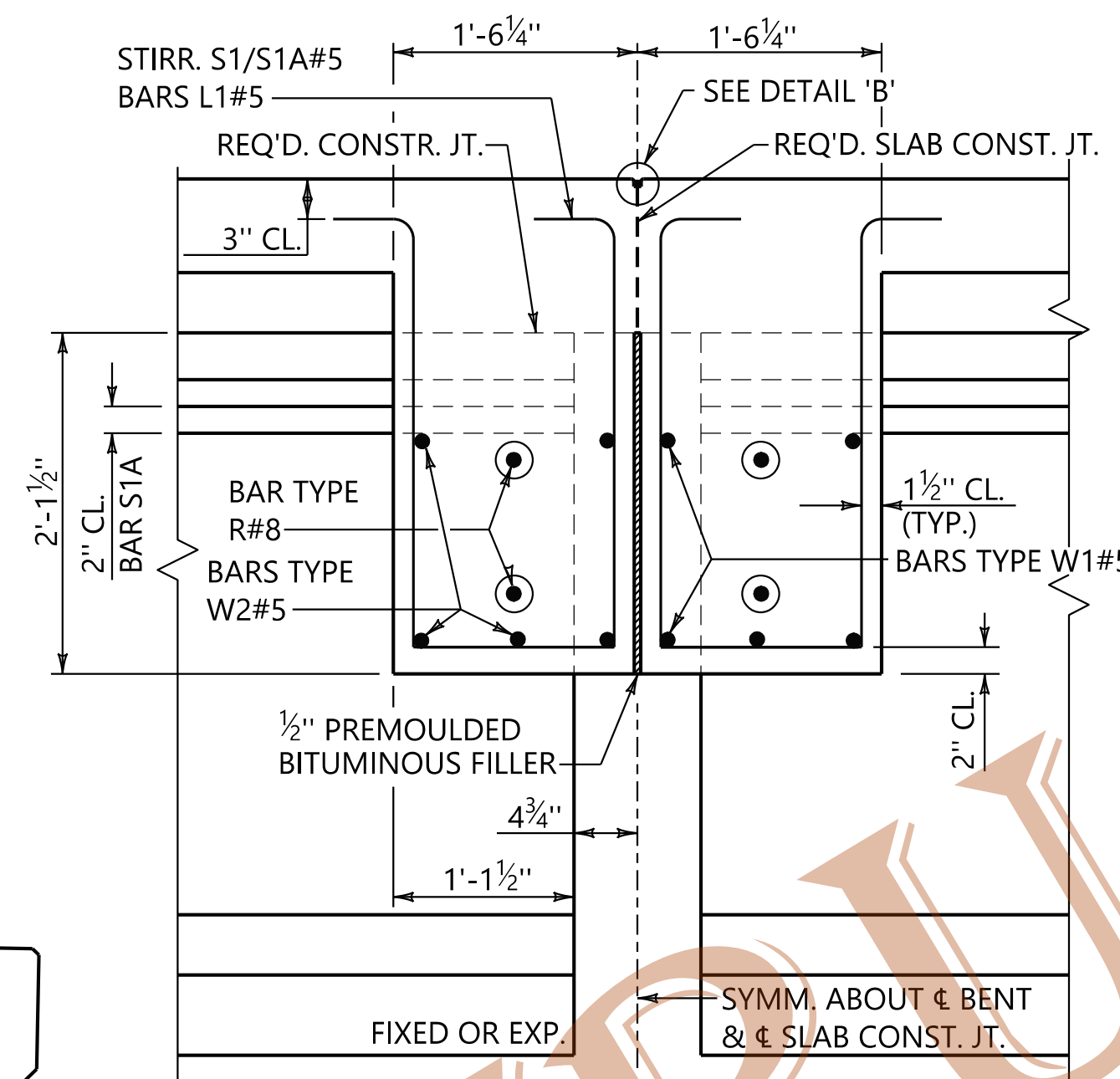
**END VIEW - END WALL AT ABUTMENT (SEMI-INTEGRAL TYPE ONLY) (ANY SKEW)**  
SCALE: 3/4" = 1'-0"



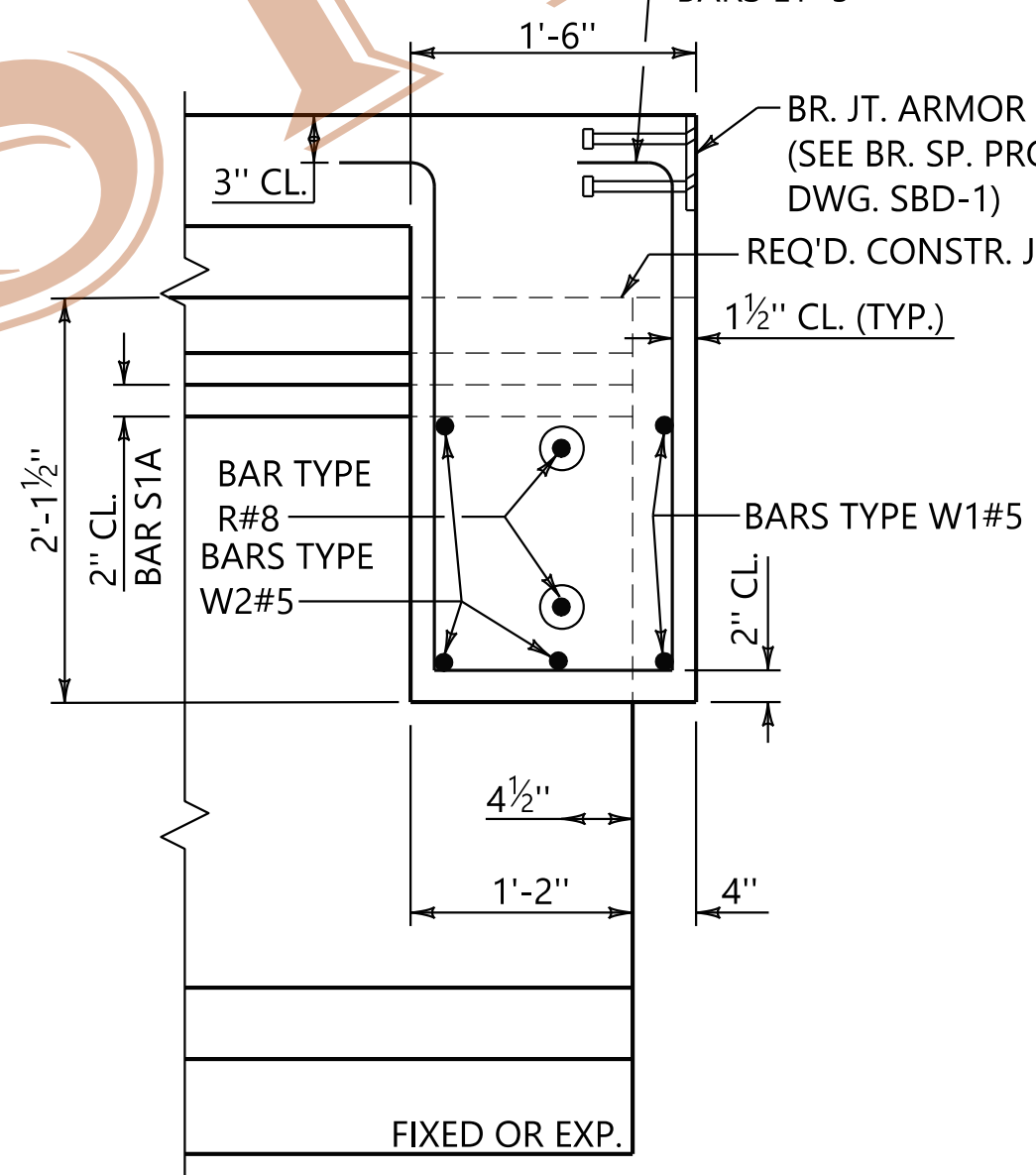
**PLAN - EDGE BEAM AT OPEN JOINT (ANY SKEW)**  
SCALE: 1/2" = 1'-0"



**PLAN - END WALL AT ABUTMENT (SEMI-INTEGRAL TYPE ONLY) (ANY SKEW)**  
SCALE: 1/2" = 1'-0"



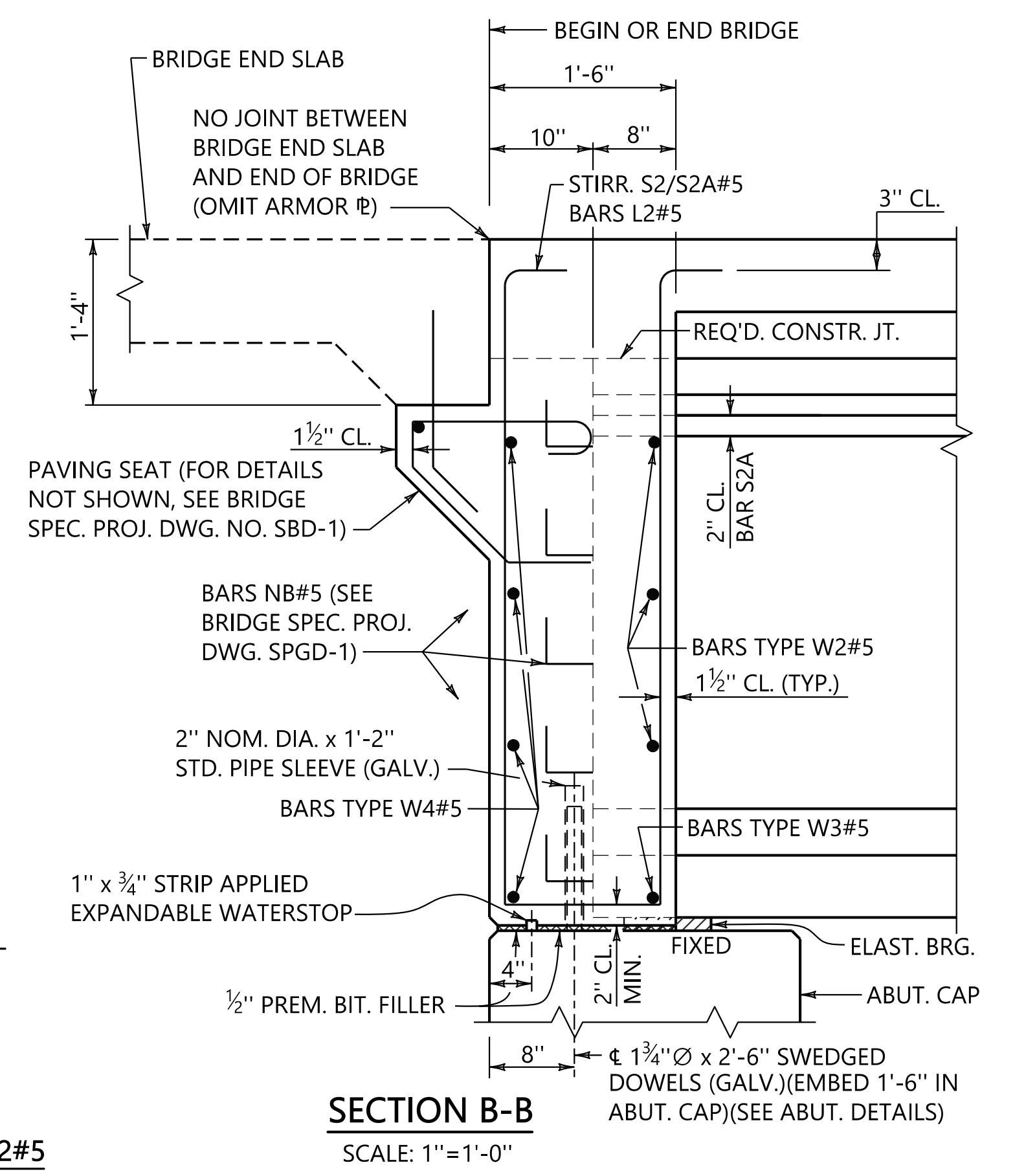
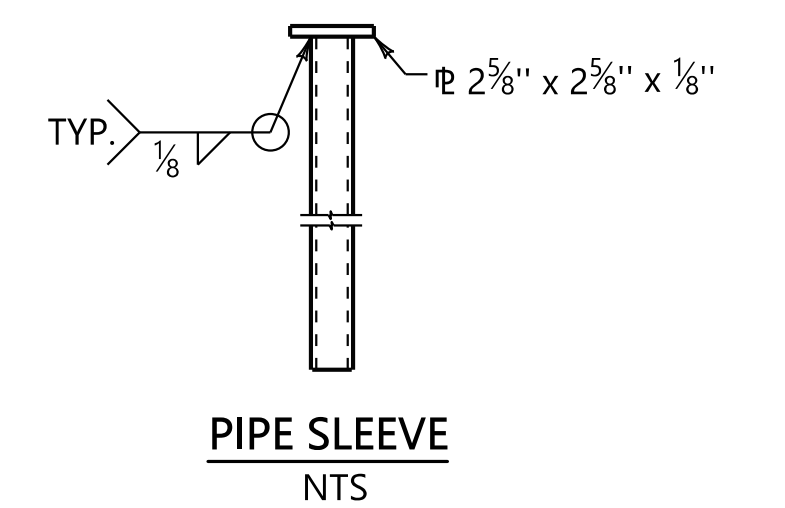
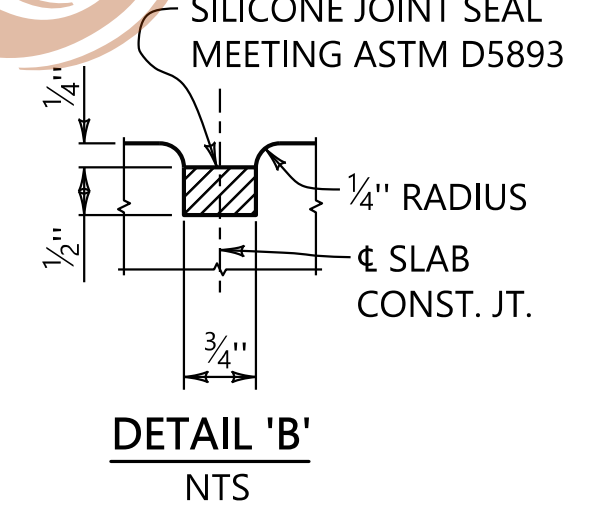
**SECTION A-A (CLOSED JOINT)**  
SCALE: 1" = 1'-0"



**SECTION A-A (OPEN JOINT)**  
SCALE: 1" = 1'-0"

**NOTES**

- FOR EDGE BEAM AT CLOSED JOINTS (CONTINUOUS DECK): END VIEW AND PLAN SAME EXCEPT OMIT ARMOR PLATE. DO NOT COAT REQUIRED SLAB CONSTRUCTION JOINT WITH EPOXY ADHESIVE PRIOR TO NEXT POUR. STOP DECK GROOVING 6" MINIMUM FROM CLOSED JOINT.
- WHEN BRIDGE SPECIAL PROJECT DRAWING BBR-2 IS USED, VIEW AT ABUTMENT IS SAME EXCEPT FOR BARRIER RAIL TRANSITION.
- FOR DETAILS NOT SHOWN IN PLAN VIEW, SEE END VIEW.
- PAVING SEAT NOT SHOWN FOR CLARITY IN END VIEW OF END WALL.
- COST OF WATER STOPS, JOINT SEALER AND 1/2" PREMOLDED BITUMINOUS FILLER SHALL BE INCLUDED IN PAY ITEM 510C - BRIDGE CONCRETE SUPERSTRUCTURE.
- COST OF PIPE SLEEVES AND SWEDGED DOWELS SHALL BE INCLUDED IN PAY ITEM 508A - STRUCTURAL STEEL. SHOP DRAWINGS PER THE STANDARD SPECIFICATIONS ARE REQUIRED.
- AT THE CONTRACTOR'S OPTION, THE 2 3/8" x 2 3/8" x 1/8" PLATE MAY BE REPLACED WITH A POLYETHYLENE CAP OR INSERT TO SEAL THE END OF THE PIPE SLEEVE. THE CAP OR PLUG SEAL SHALL BE SECURED TO THE PIPE SLEEVES PRIOR TO SHIPMENT BY WRAPPING WITH DUCT TAPE. PAYMENT FOR POLYETHYLENE CAP OR INSERT AND DUCT TAPE SHALL BE INCLUDED IN PAY ITEM 508A - STRUCTURAL STEEL.
- SEE BRIDGE PLANS FOR DETAILS OF STIRRUPS TYPE S, BARS TYPE L, BARS R1 AND BARS R2.
- SPLICE BARS TYPE W1#5 30 DIAMETER (MINIMUM).
- SPLICE BARS TYPE W4#5 30 DIAMETER (MINIMUM).



**SECTION B-B**  
SCALE: 1" = 1'-0"

BAR R1#8    STIRR. S1A/S2A#5    STIRR. S1/S2#5    BAR L1/L2#5

REVISIONS
REVISED NOTES TO REMOVE SYMBOLS AND REMOVED GIRDER INSERT DIMENSIONING TO ALLOW USE WITH BT-54 AND BT-56 GIRDER SHAPES. JNW 1/2024

THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
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UNIFORM DETAILS FOR EDGE BEAMS AND END WALLS FOR USE WITH BT-54 AND BT-56 GIRDER SHAPES

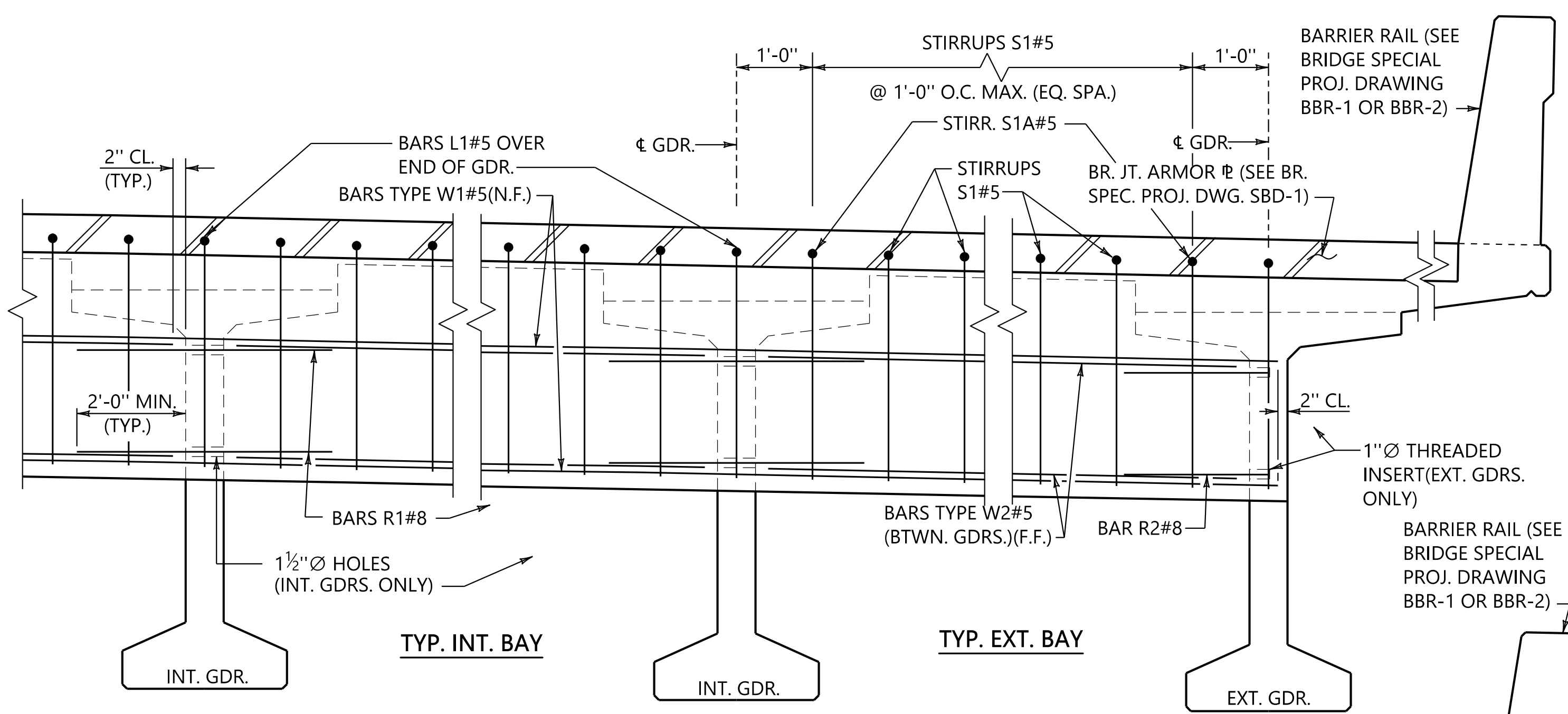
BRIDGE SPECIAL PROJECT DRAWING		SHEET 1 OF 1
EBEW54		

ASSISTANT BRIDGE ENGINEER <i>J. Waller</i> 3/14/2024	BRIDGE ENGINEER <i>W. C. ...</i> 3/14/24
DATE	DATE

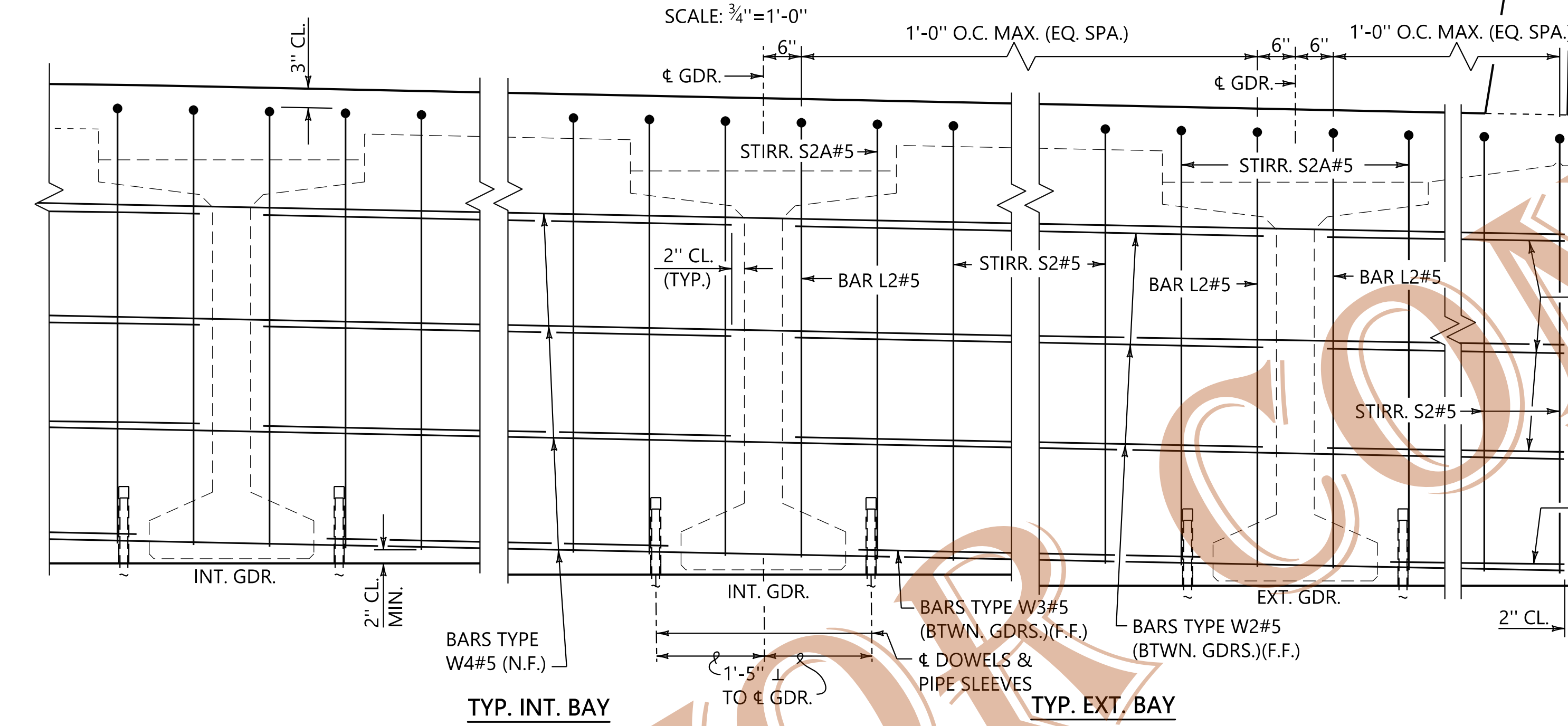


PLOTTED: 14-Mar-24 at 09:12  
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 SHEET REFERENCE  
 0 1" 2"

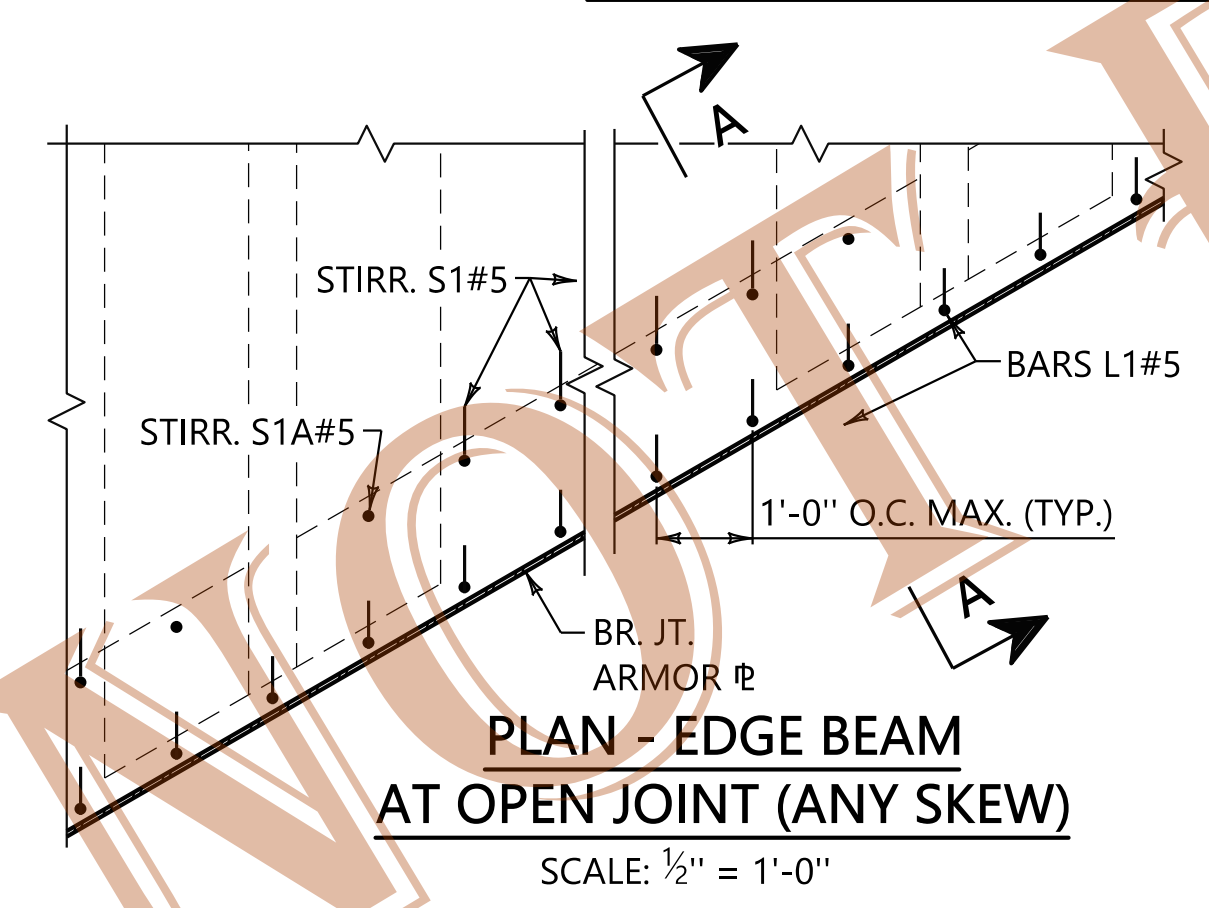
REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER
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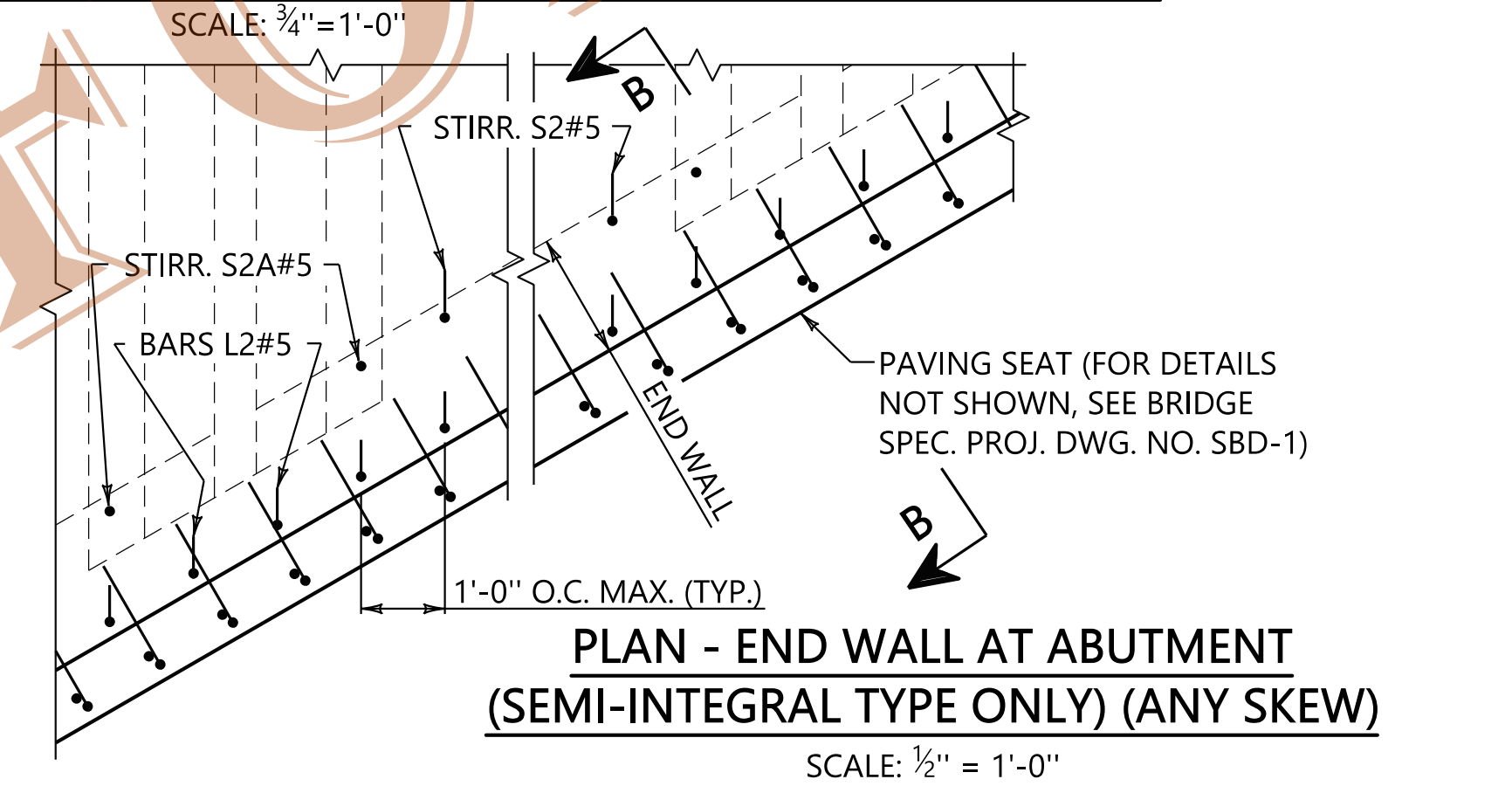
**END VIEW - EDGE BEAM AT OPEN JOINT (ANY SKEW)**



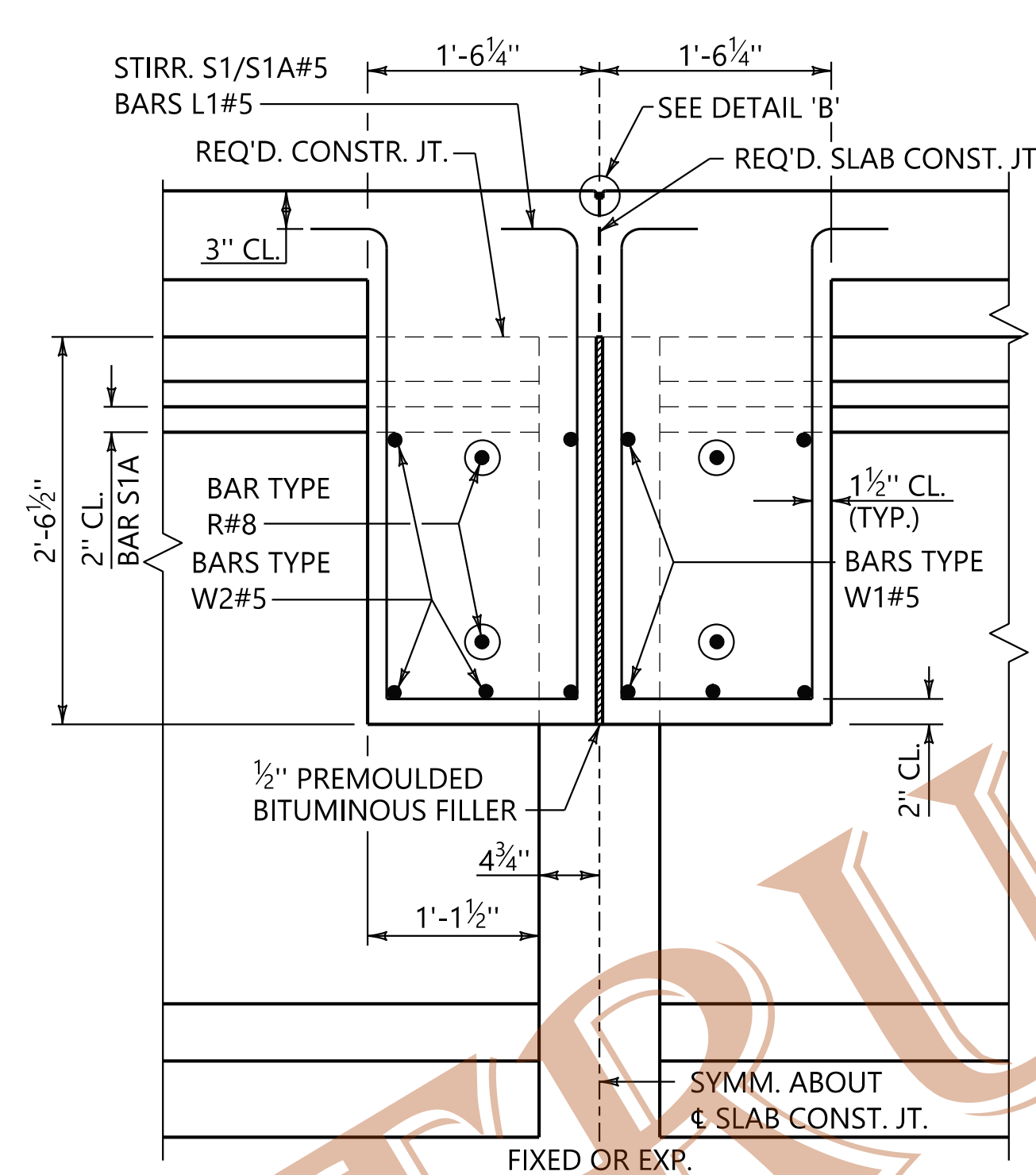
**END VIEW - END WALL AT ABUTMENT (SEMI-INTEGRAL TYPE ONLY) (ANY SKEW)**



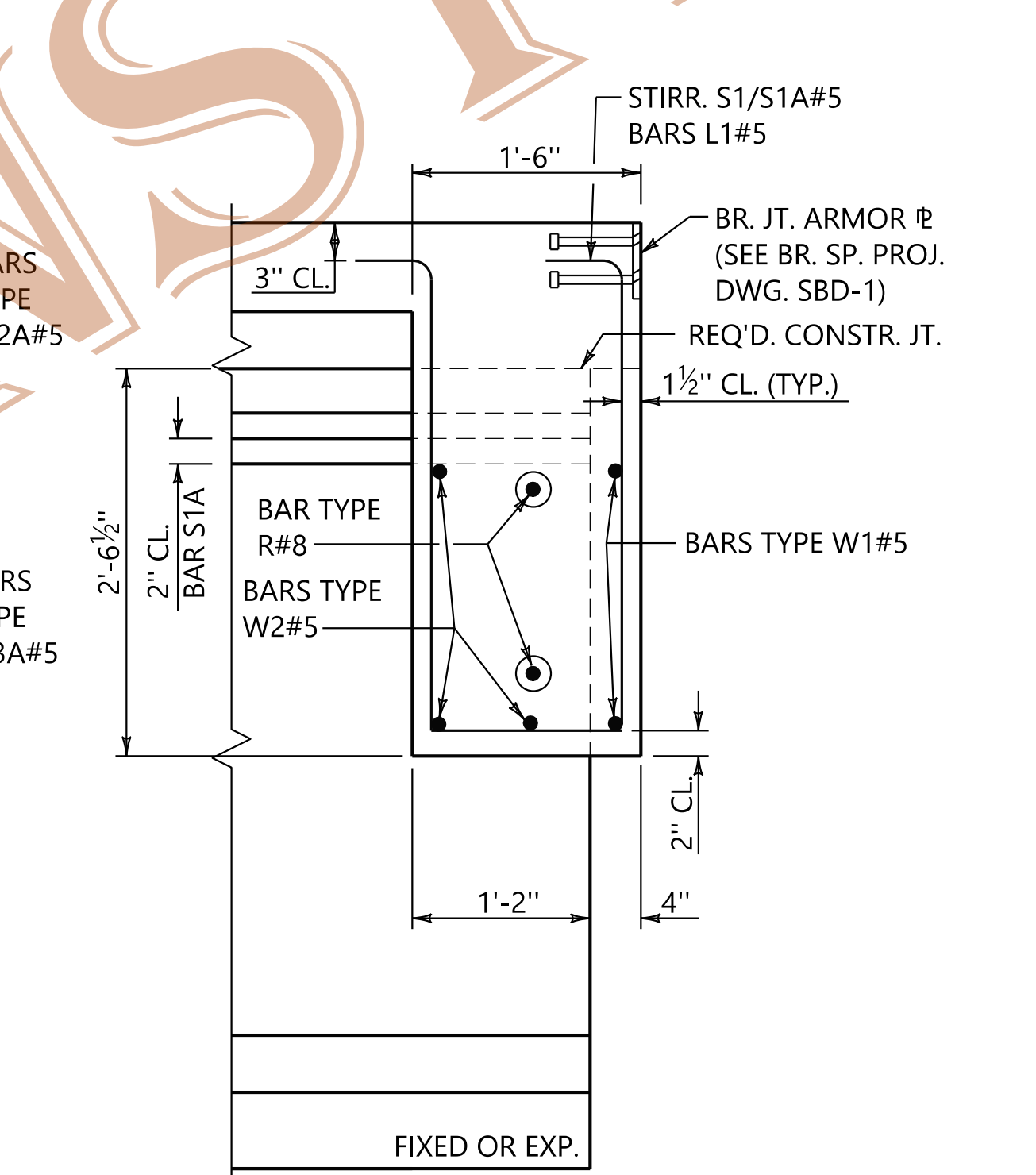
**PLAN - EDGE BEAM AT OPEN JOINT (ANY SKEW)**



**PLAN - END WALL AT ABUTMENT (SEMI-INTEGRAL TYPE ONLY) (ANY SKEW)**



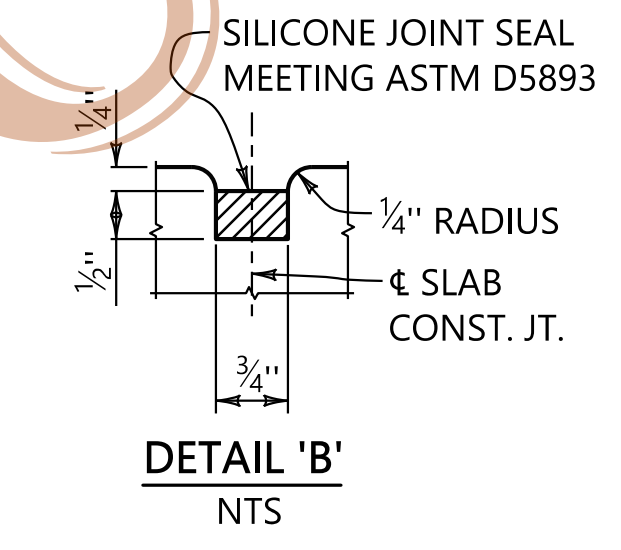
**SECTION A-A (CLOSED JOINT)**



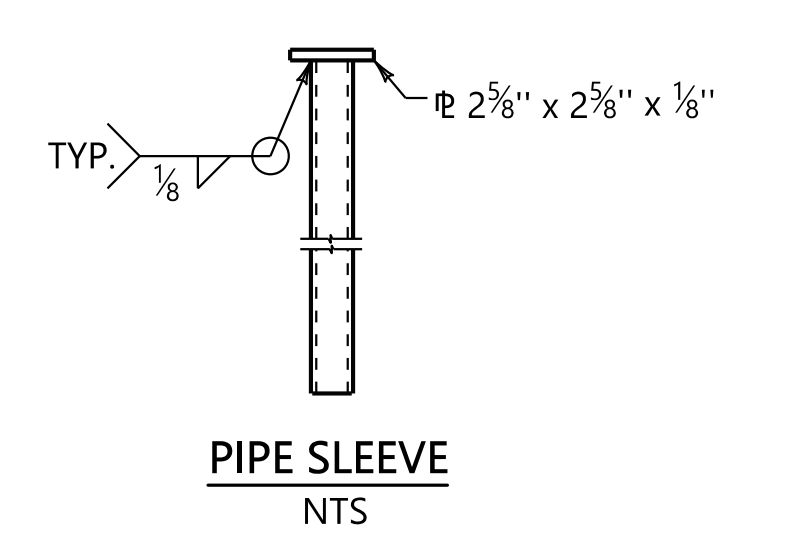
**SECTION A-A (OPEN JOINT)**

**NOTES**

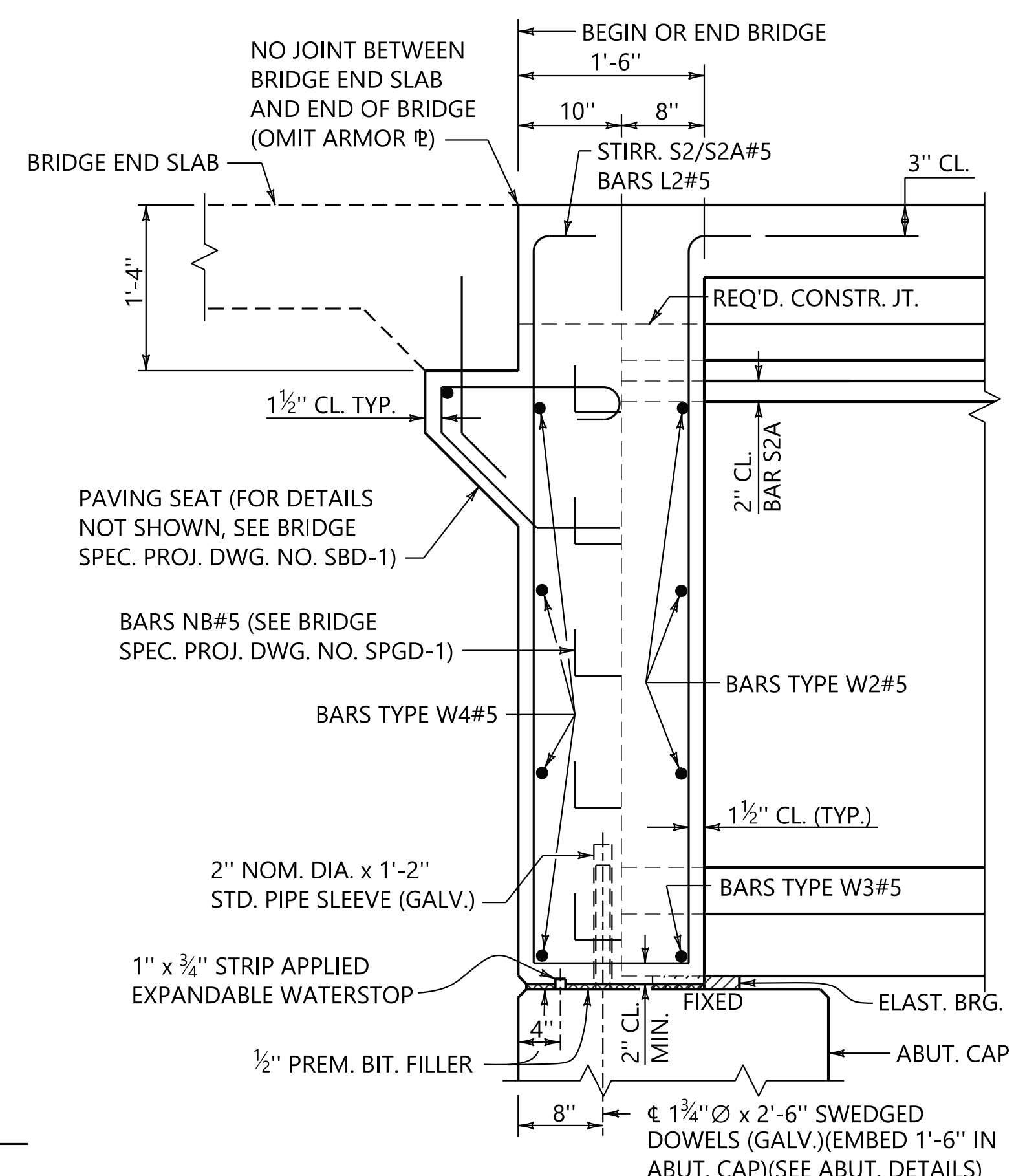
- FOR EDGE BEAM AT CLOSED JOINTS (CONTINUOUS DECK): END VIEW AND PLAN SAME EXCEPT OMIT ARMOR PLATE. DO NOT COAT REQUIRED SLAB CONSTRUCTION JOINT WITH EPOXY ADHESIVE PRIOR TO NEXT POUR. STOP DECK GROOVING 6" MINIMUM FROM CLOSED JOINT.
- WHEN BRIDGE SPECIAL PROJECT DRAWING BBR-2 IS USED, VIEW AT ABUTMENT IS SAME EXCEPT FOR BARRIER RAIL TRANSITION.
- FOR DETAILS NOT SHOWN IN PLAN VIEW, SEE END VIEW.
- PAVING SEAT NOT SHOWN FOR CLARITY IN END VIEW OF END WALL.
- COST OF WATER STOPS, JOINT SEALER AND 1/2" PREMOLDED BITUMINOUS FILLER SHALL BE INCLUDED IN PAY ITEM 510C - BRIDGE CONCRETE SUPERSTRUCTURE.
- COST OF PIPE SLEEVES AND SWEDGED DOWELS SHALL BE INCLUDED IN PAY ITEM 508A - STRUCTURAL STEEL. SHOP DRAWINGS PER THE STANDARD SPECIFICATIONS ARE REQUIRED.
- AT THE CONTRACTOR'S OPTION, THE 2 3/8" x 2 3/8" x 1/8" PLATE MAY BE REPLACED WITH A POLYETHYLENE CAP OR INSERT TO SEAL THE END OF THE PIPE SLEEVE. THE CAP OR PLUG SEAL SHALL BE SECURED TO THE PIPE SLEEVES PRIOR TO SHIPMENT BY WRAPPING WITH DUCT TAPE. PAYMENT FOR POLYETHYLENE CAP OR INSERT AND DUCT TAPE SHALL BE INCLUDED IN PAY ITEM 508A - STRUCTURAL STEEL.
- SEE BRIDGE PLANS FOR DETAILS OF STIRRUPS TYPE S, BARS TYPE L, BARS R1 AND BARS R2.
- SPLICE BARS TYPE W1#5 30 DIAMETER (MINIMUM).
- SPLICE BARS TYPE W4#5 30 DIAMETER (MINIMUM).



**DETAIL 'B' NTS**



**PIPE SLEEVE NTS**



**SECTION B-B**

- BAR R1#8
- STIRR. S1A/S2A#5
- STIRR. S1/S2#5
- BAR L1/L2#5

ASSISTANT BRIDGE ENGINEER <i>J. Waller</i> 3/14/2024	BRIDGE ENGINEER <i>W. C. ...</i> 3/14/24
DATE	DATE

**ALABAMA DEPARTMENT OF TRANSPORTATION**

**REVISIONS**

REVISED NOTES TO REMOVE SYMBOLS AND REMOVED GIRDER INSERT DIMENSIONING TO ALLOW USE WITH BT-63 AND BT-65 GIRDER SHAPES. JNW 1/2024
--

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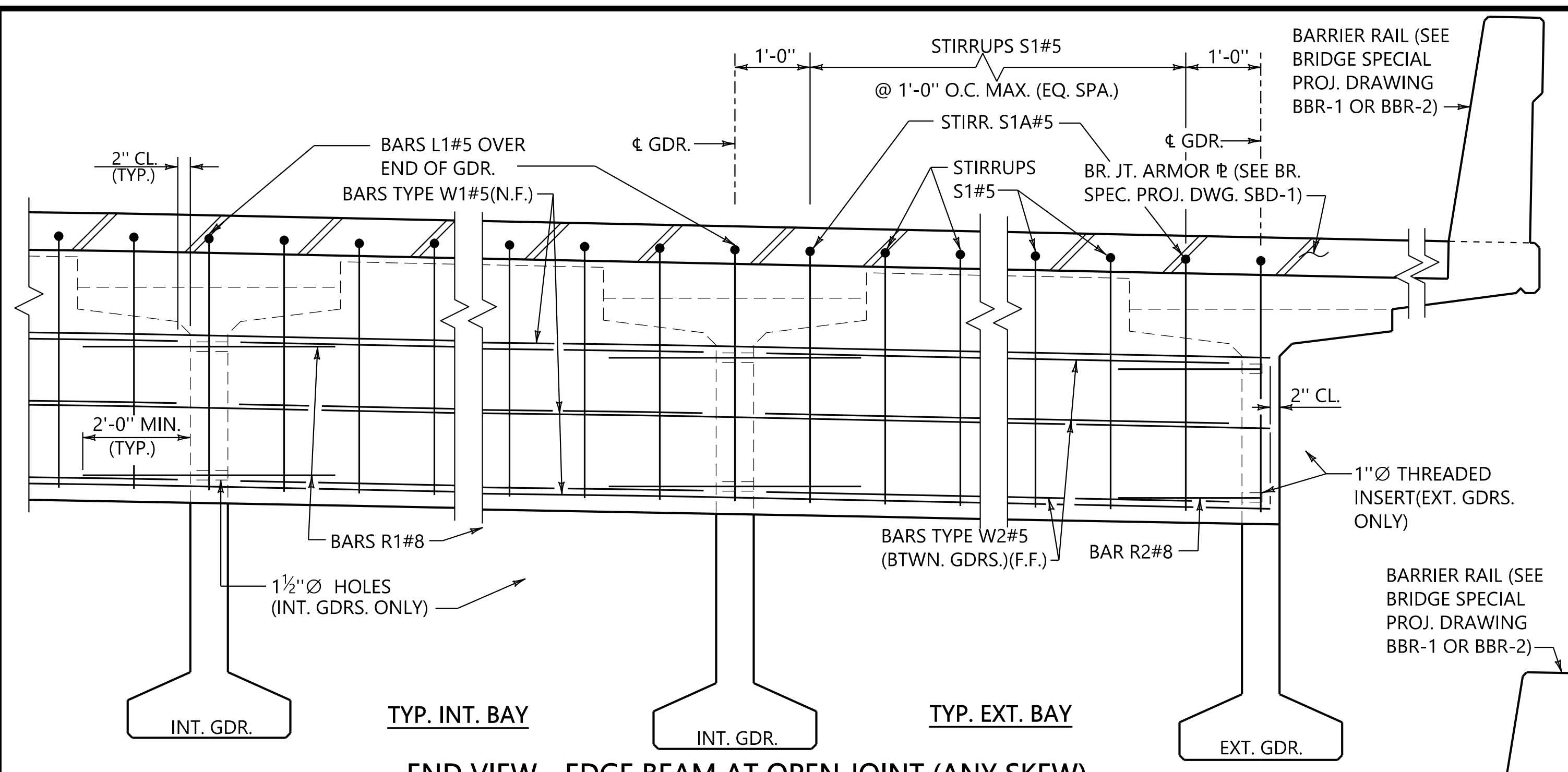
UNIFORM DETAILS FOR EDGE BEAMS AND END WALLS FOR USE WITH BT-63 AND BT-65 GIRDER SHAPES

BRIDGE SPECIAL PROJECT DRAWING	SHEET 1 OF 1
EBEW63	

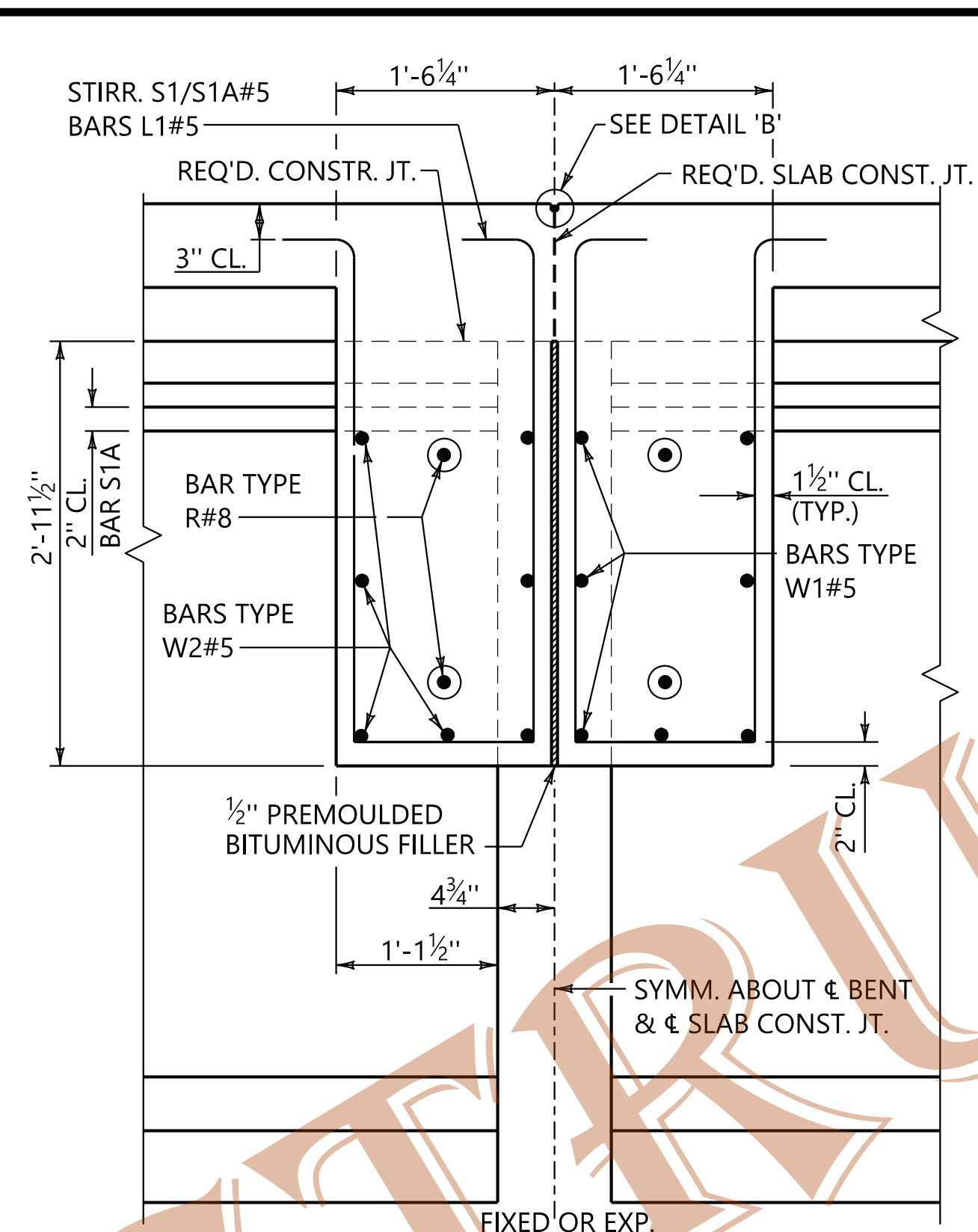


PLOTTED: 14-Mar-24 at 09:12  
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 SHEET REFERENCE  
 0 1" 2"

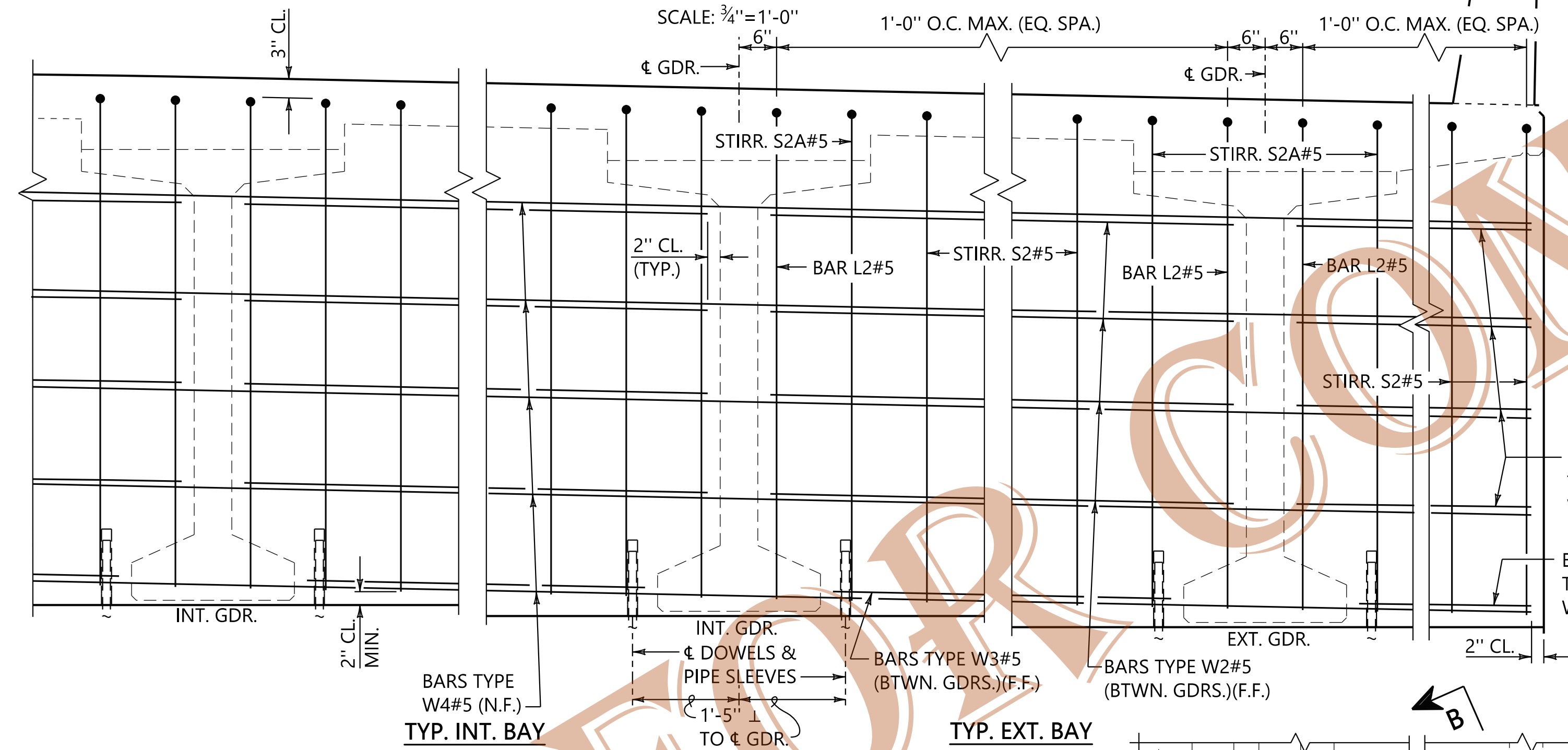
REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER



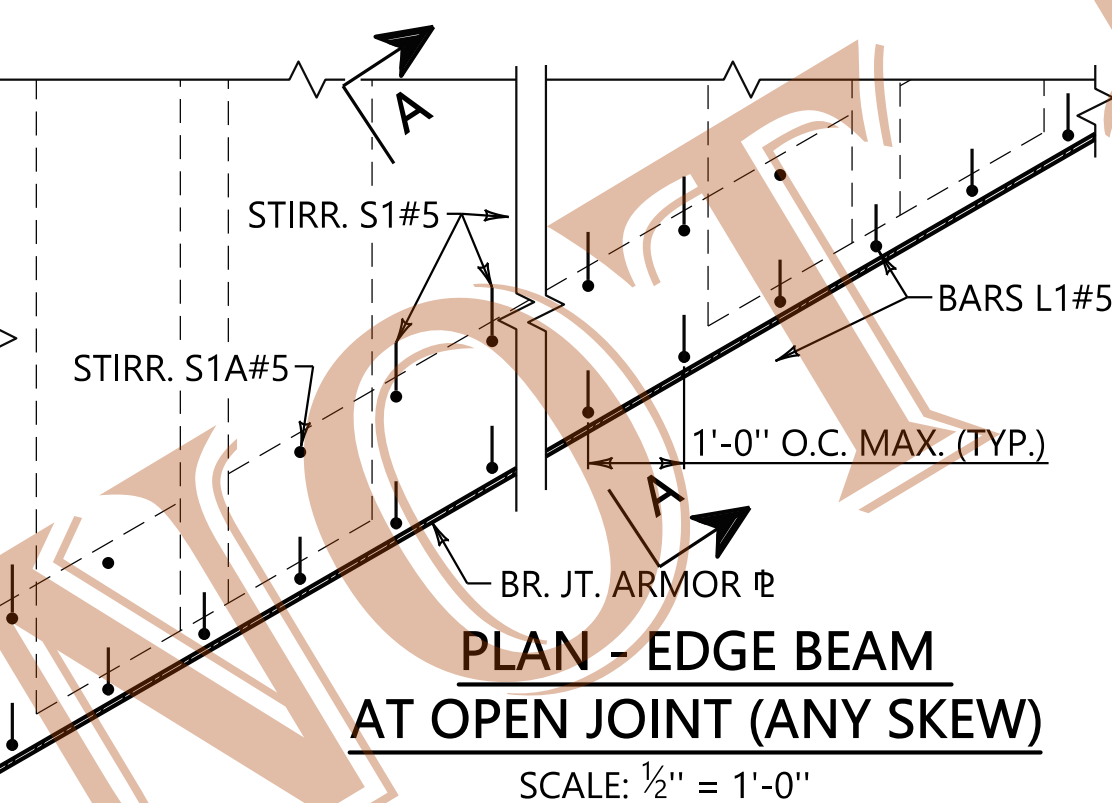
**END VIEW - EDGE BEAM AT OPEN JOINT (ANY SKEW)**



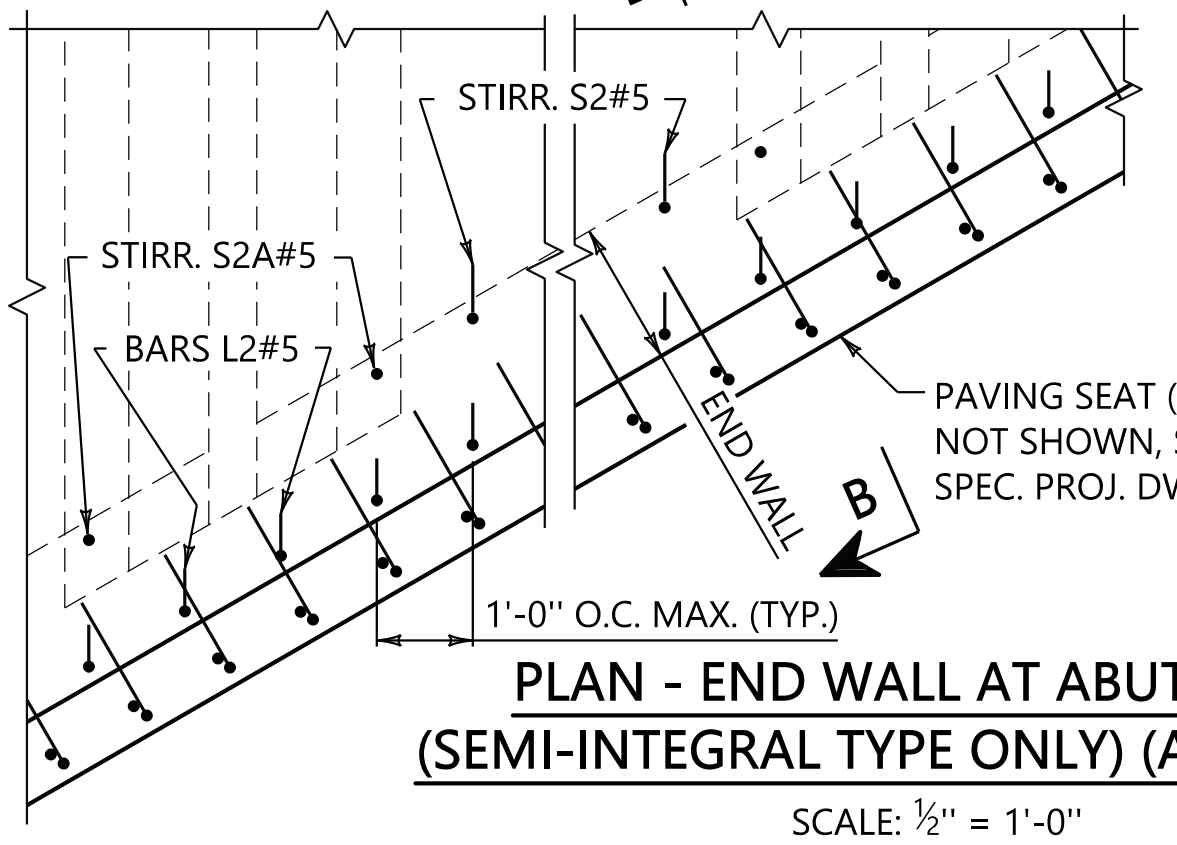
**SECTION A-A (CLOSED JOINT)**  
SCALE: 1"=1'-0"



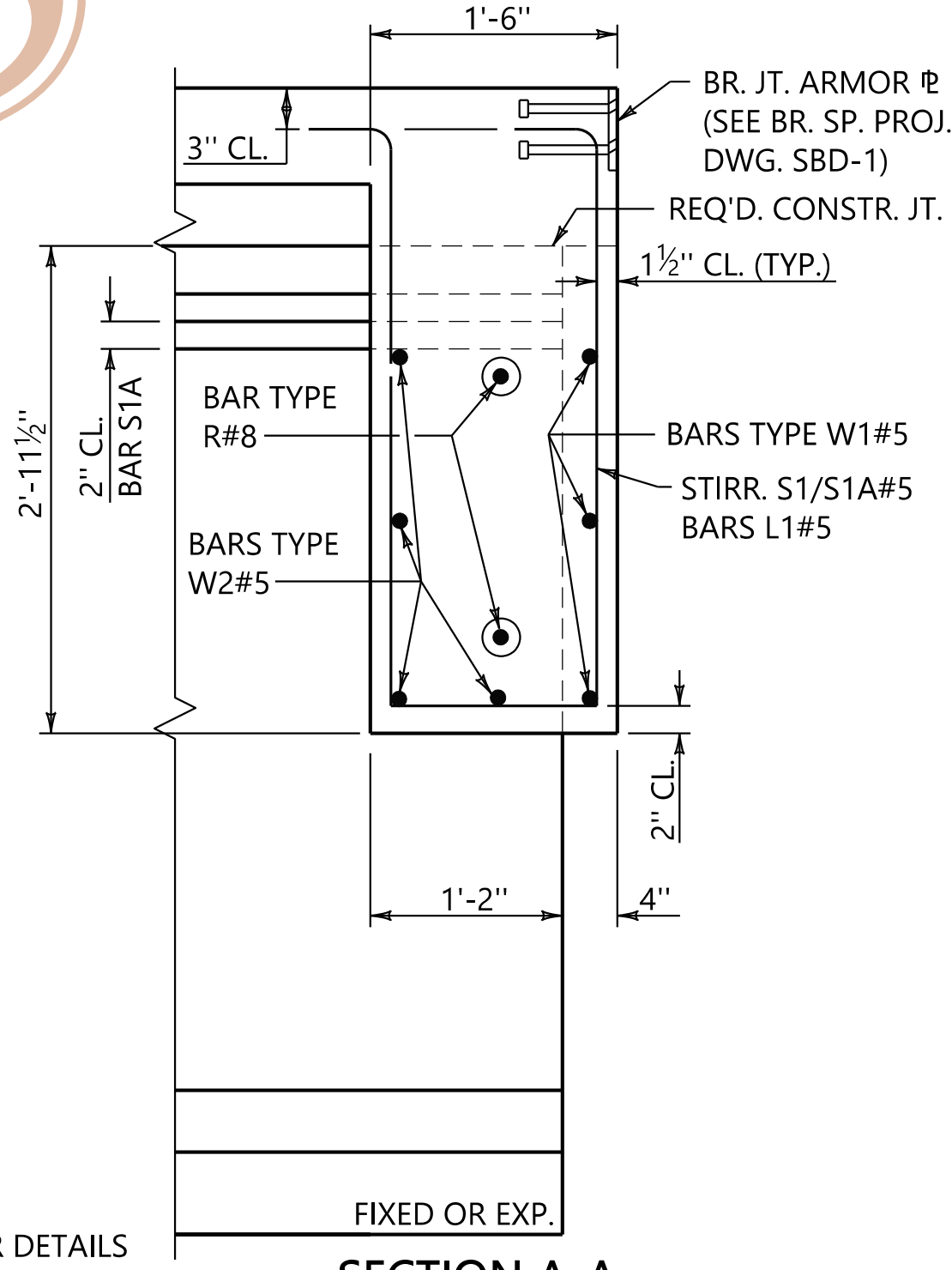
**END VIEW - END WALL AT ABUTMENT (SEMI-INTEGRAL TYPE ONLY) (ANY SKEW)**



**PLAN - EDGE BEAM AT OPEN JOINT (ANY SKEW)**  
SCALE: 1/2"=1'-0"



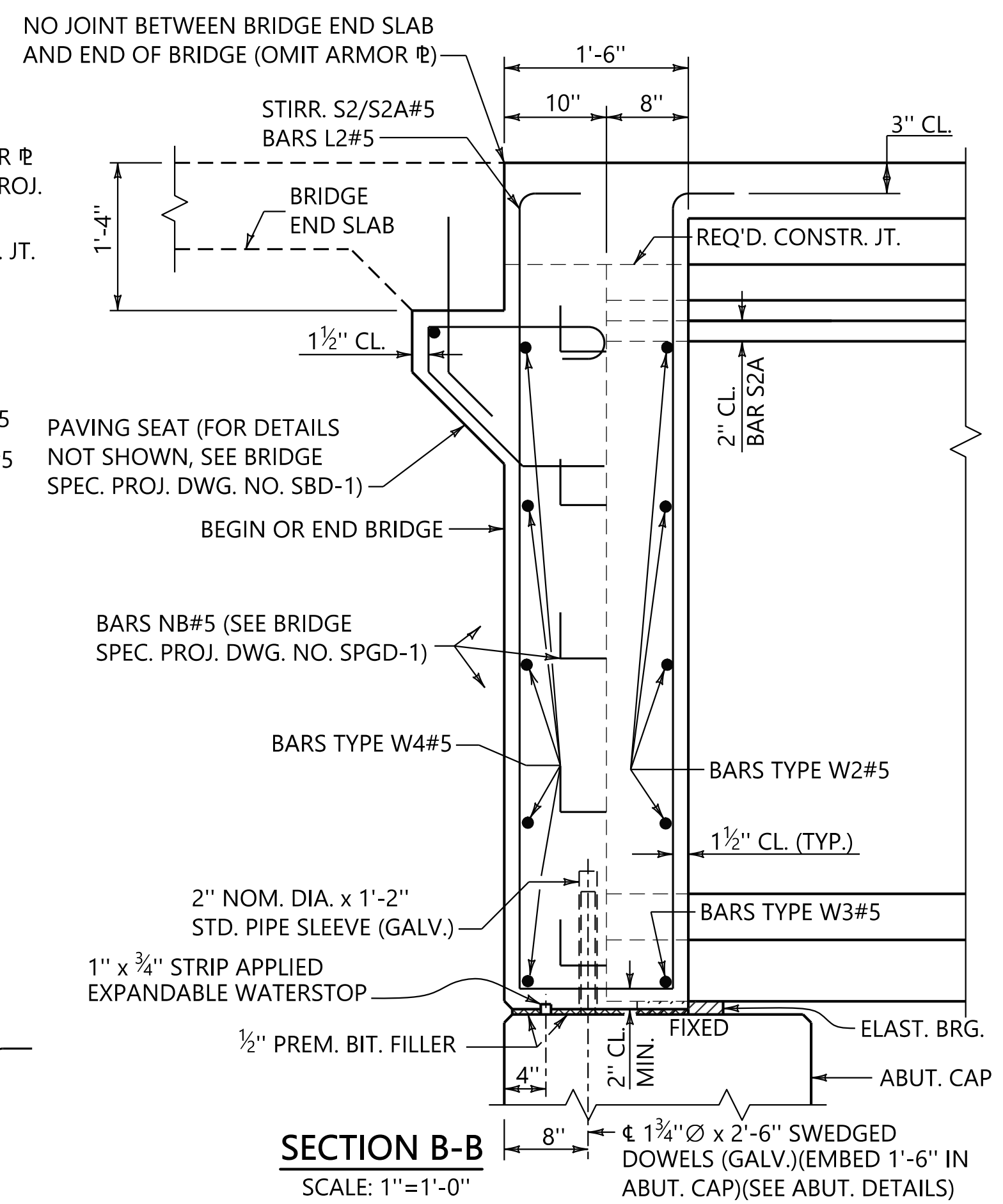
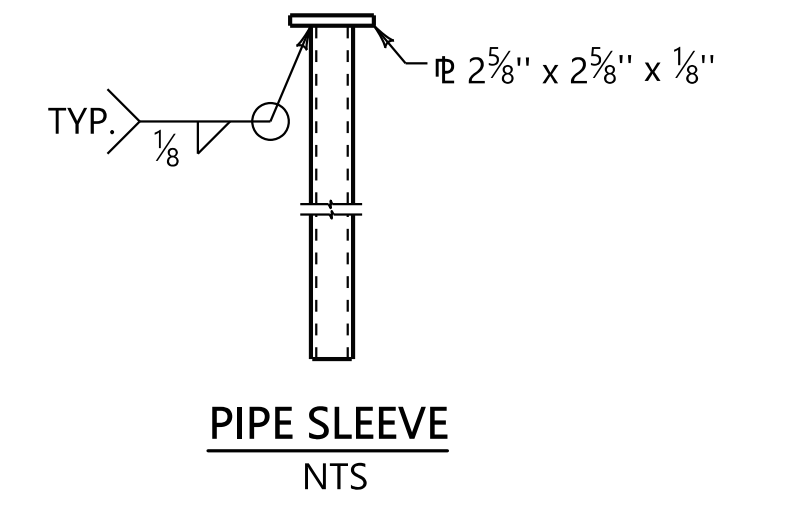
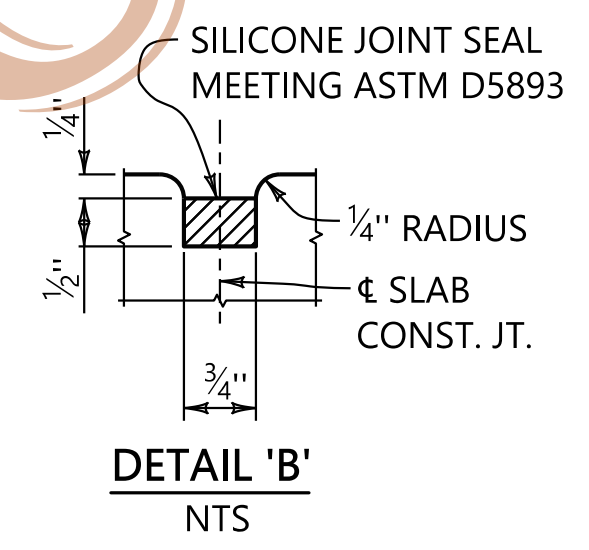
**PLAN - END WALL AT ABUTMENT (SEMI-INTEGRAL TYPE ONLY) (ANY SKEW)**  
SCALE: 1/2"=1'-0"



**SECTION A-A (OPEN JOINT)**  
SCALE: 1"=1'-0"

**NOTES**

- FOR EDGE BEAM AT CLOSED JOINTS (CONTINUOUS DECK): END VIEW AND PLAN SAME EXCEPT OMIT ARMOR PLATE. DO NOT COAT REQUIRED SLAB CONSTRUCTION JOINT WITH EPOXY ADHESIVE PRIOR TO NEXT POUR. STOP DECK GROOVING 6" MINIMUM FROM CLOSED JOINT.
- WHEN BRIDGE SPECIAL PROJECT DRAWING BBR-2 IS USED, VIEW AT ABUTMENT IS SAME EXCEPT FOR BARRIER RAIL TRANSITION.
- FOR DETAILS NOT SHOWN IN PLAN VIEW, SEE END VIEW.
- PAVING SEAT NOT SHOWN FOR CLARITY IN END VIEW OF END WALL.
- COST OF WATER STOPS, JOINT SEALER AND 1/2" PREMOLDED BITUMINOUS FILLER SHALL BE INCLUDED IN PAY ITEM 510C - BRIDGE CONCRETE SUPERSTRUCTURE.
- COST OF PIPE SLEEVES AND SWEDGED DOWELS SHALL BE INCLUDED IN PAY ITEM 508A - STRUCTURAL STEEL. SHOP DRAWINGS PER THE STANDARD SPECIFICATIONS ARE REQUIRED.
- AT THE CONTRACTOR'S OPTION, THE 2 3/8" x 2 3/8" x 1/8" PLATE MAY BE REPLACED WITH A POLYETHYLENE CAP OR INSERT TO SEAL THE END OF THE PIPE SLEEVE. THE CAP OR PLUG SEAL SHALL BE SECURED TO THE PIPE SLEEVES PRIOR TO SHIPMENT BY WRAPPING WITH DUCT TAPE. PAYMENT FOR POLYETHYLENE CAP OR INSERT AND DUCT TAPE SHALL BE INCLUDED IN PAY ITEM 508A - STRUCTURAL STEEL.
- SEE BRIDGE PLANS FOR DETAILS OF STIRRUPS TYPE S, BARS TYPE L, BARS R1 AND BARS R2.
- SPLICE BARS TYPE W1#5 30 DIAMETER (MINIMUM).
- SPLICE BARS TYPE W4#5 30 DIAMETER (MINIMUM).



**SECTION B-B**  
SCALE: 1"=1'-0"

ASSISTANT BRIDGE ENGINEER <i>J. Waller</i> DATE: 3/14/2024	BRIDGE ENGINEER <i>W. T. ...</i> DATE: 3/14/24
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**REVISIONS**

REVISED NOTES TO REMOVE SYMBOLS AND REMOVED GIRDER INSERT DIMENSIONING TO ALLOW USE WITH BT-72 AND BT-74 GIRDER SHAPES. JNW 1/2024
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THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

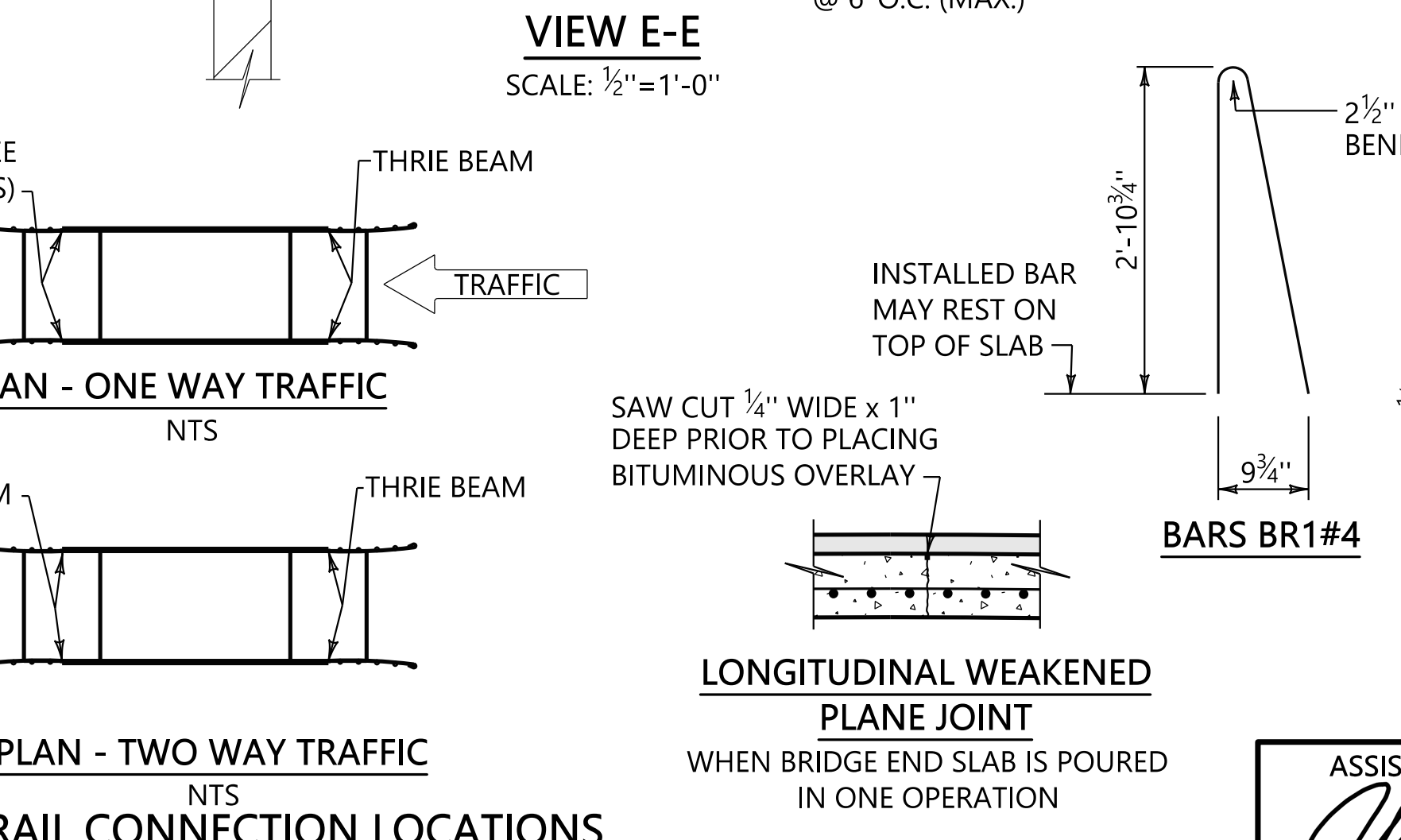
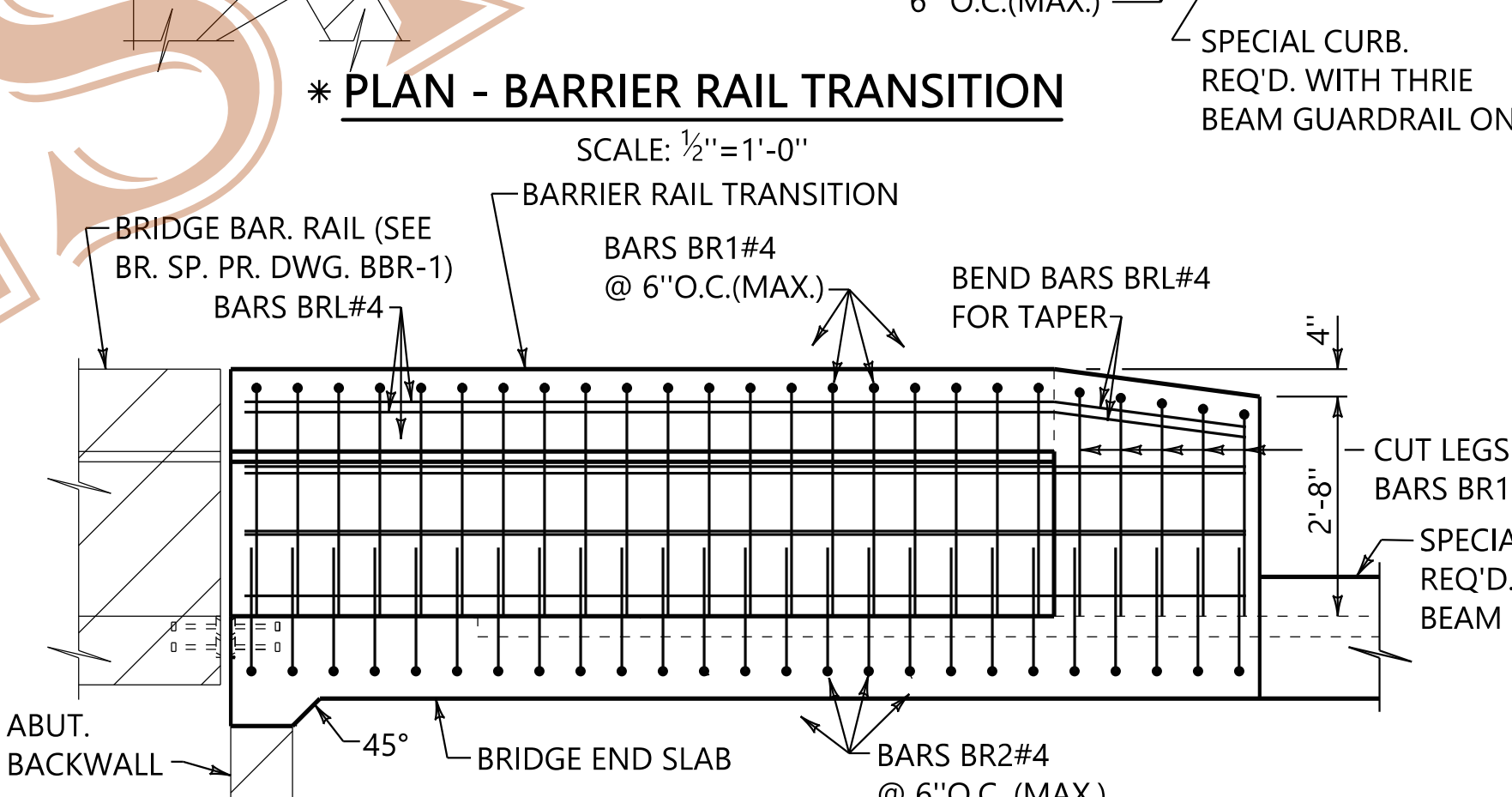
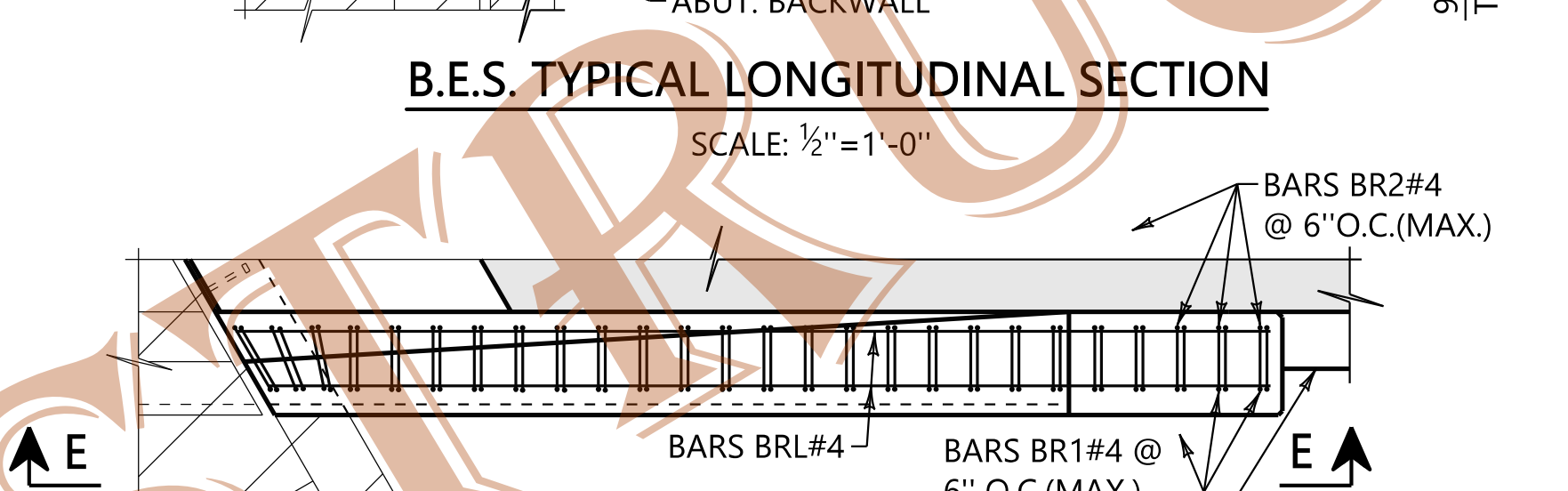
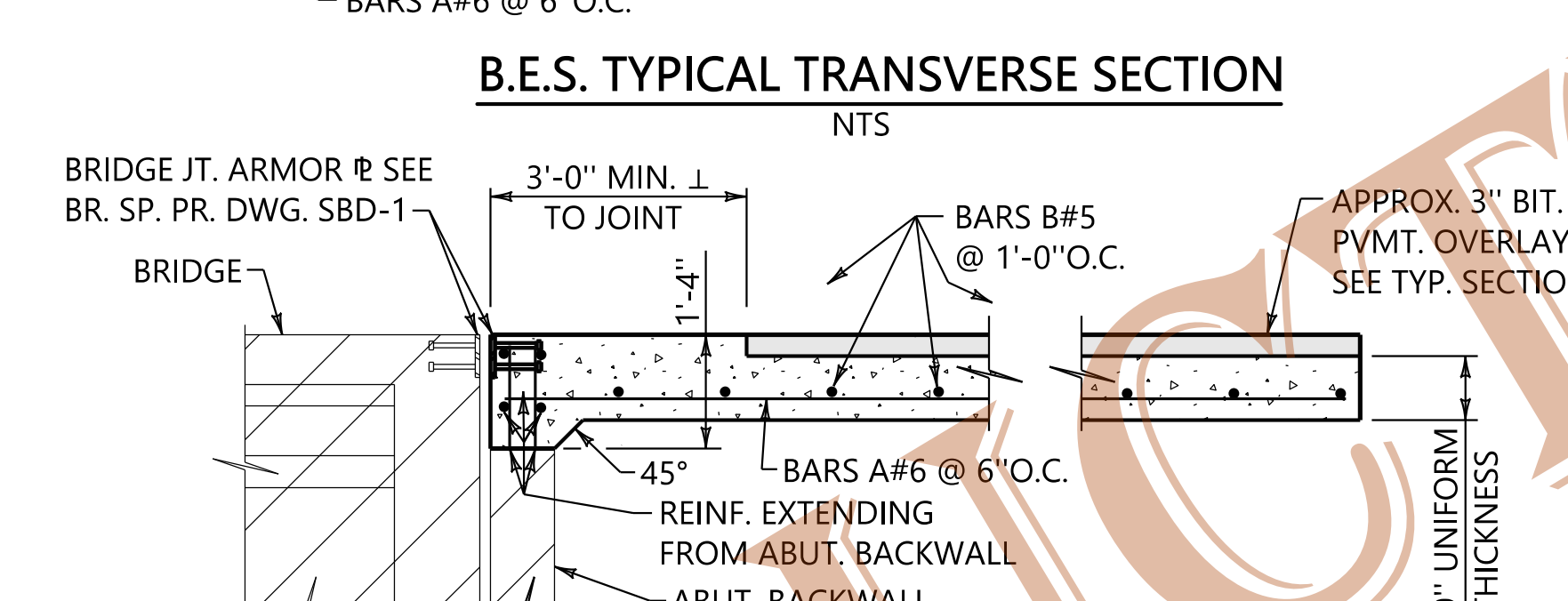
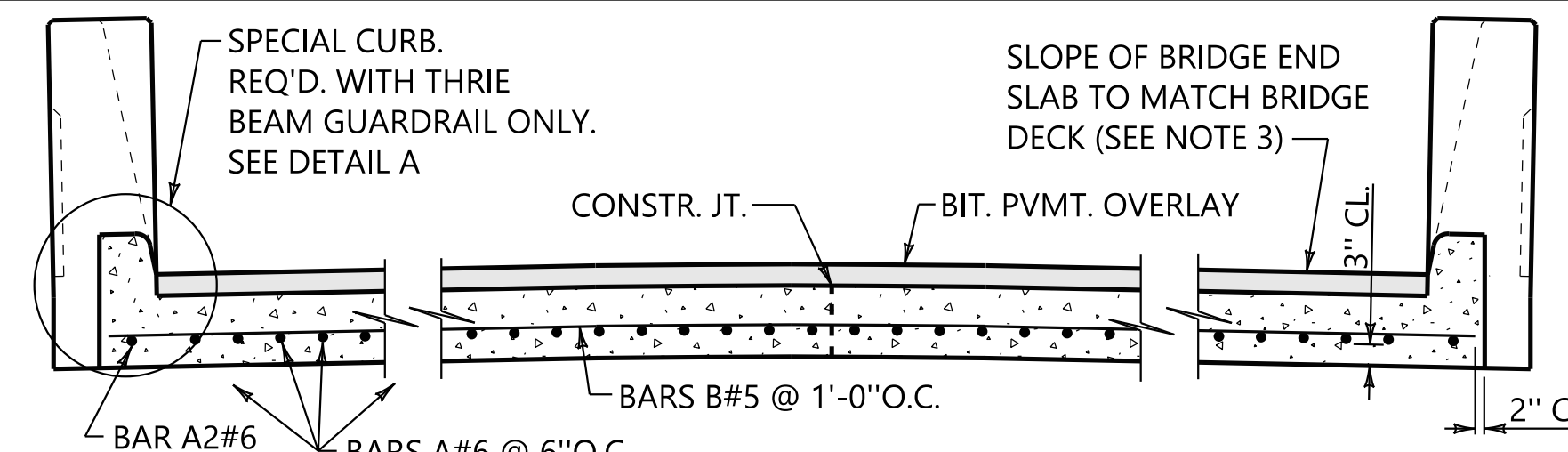
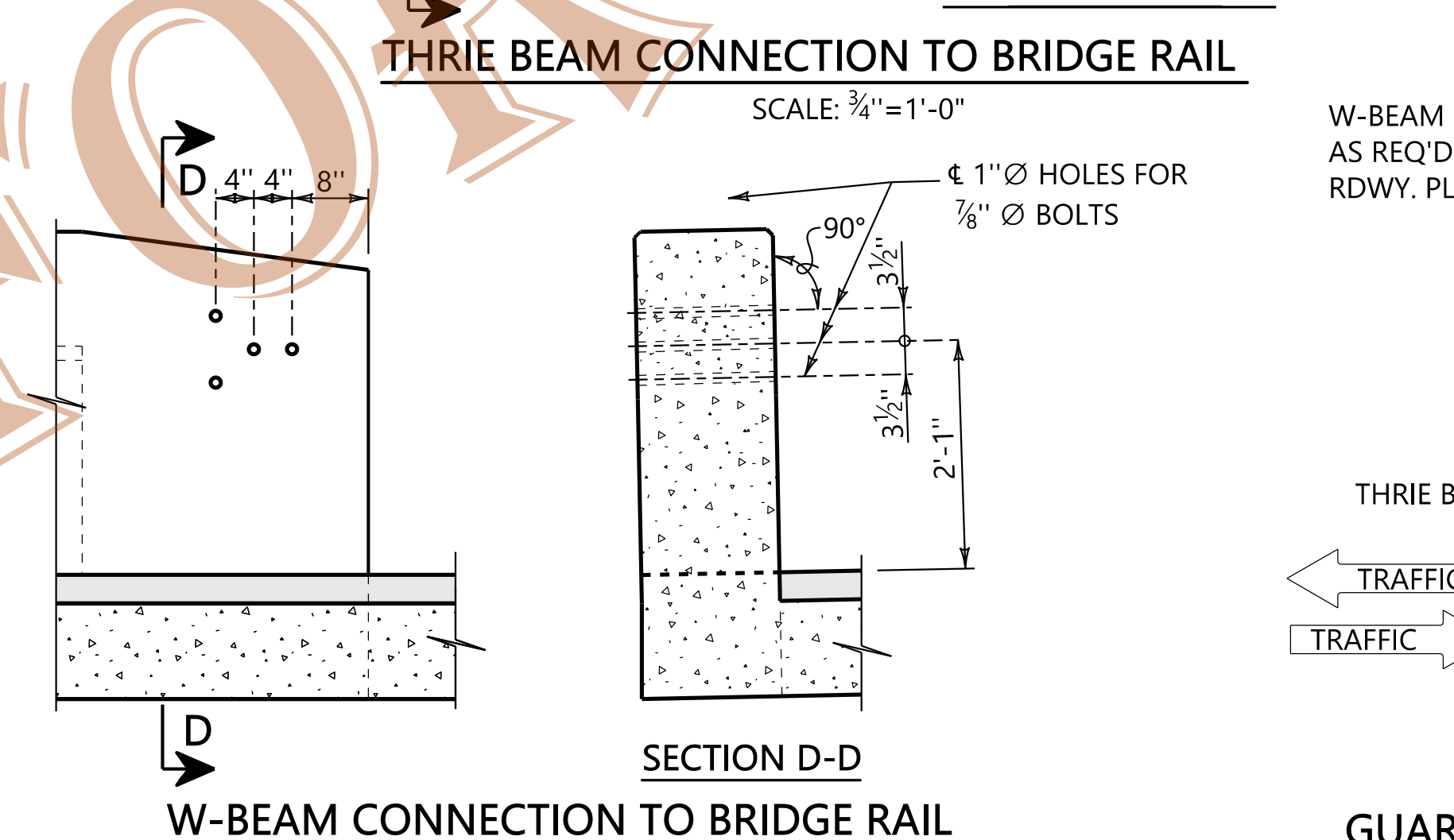
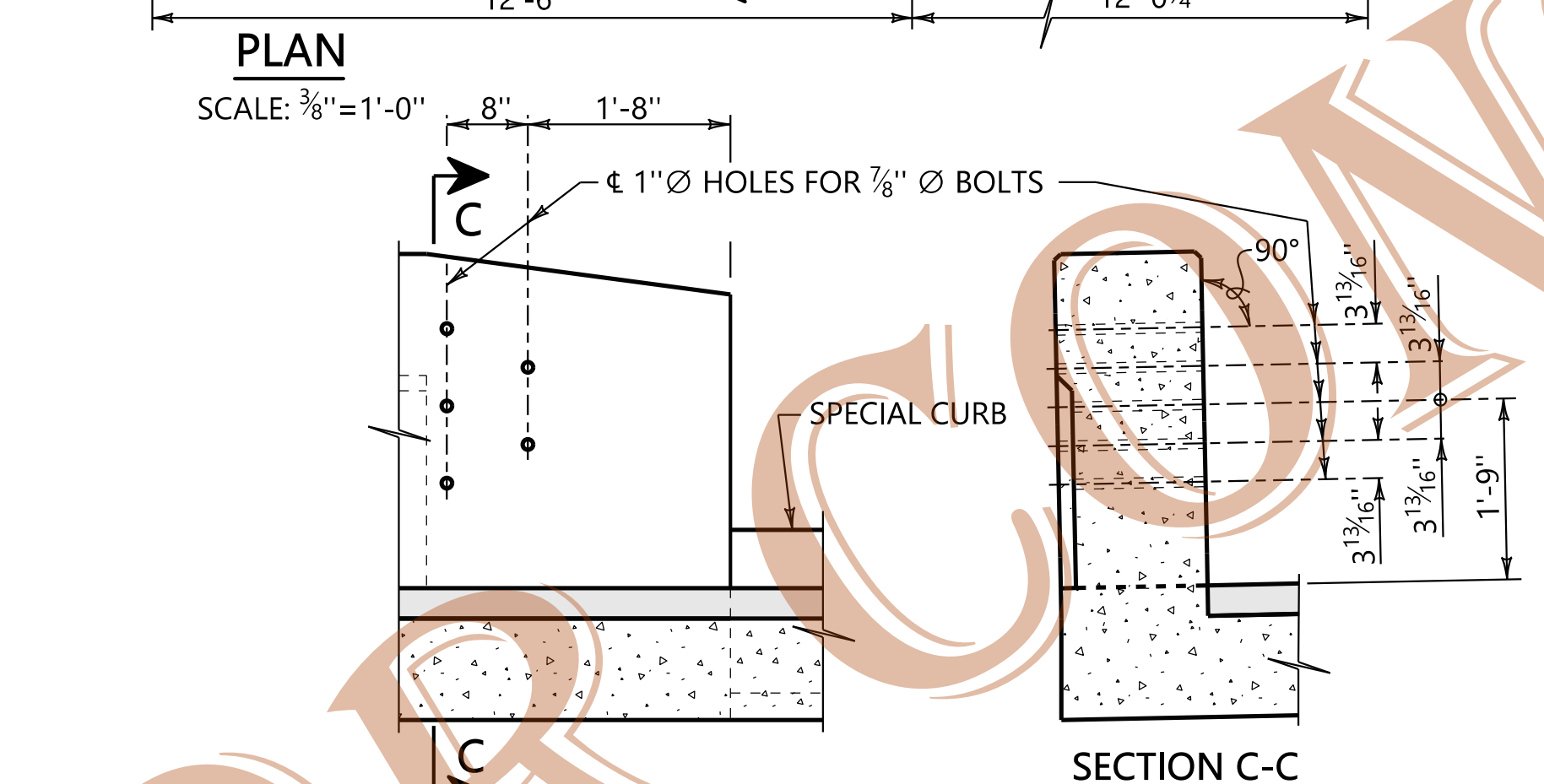
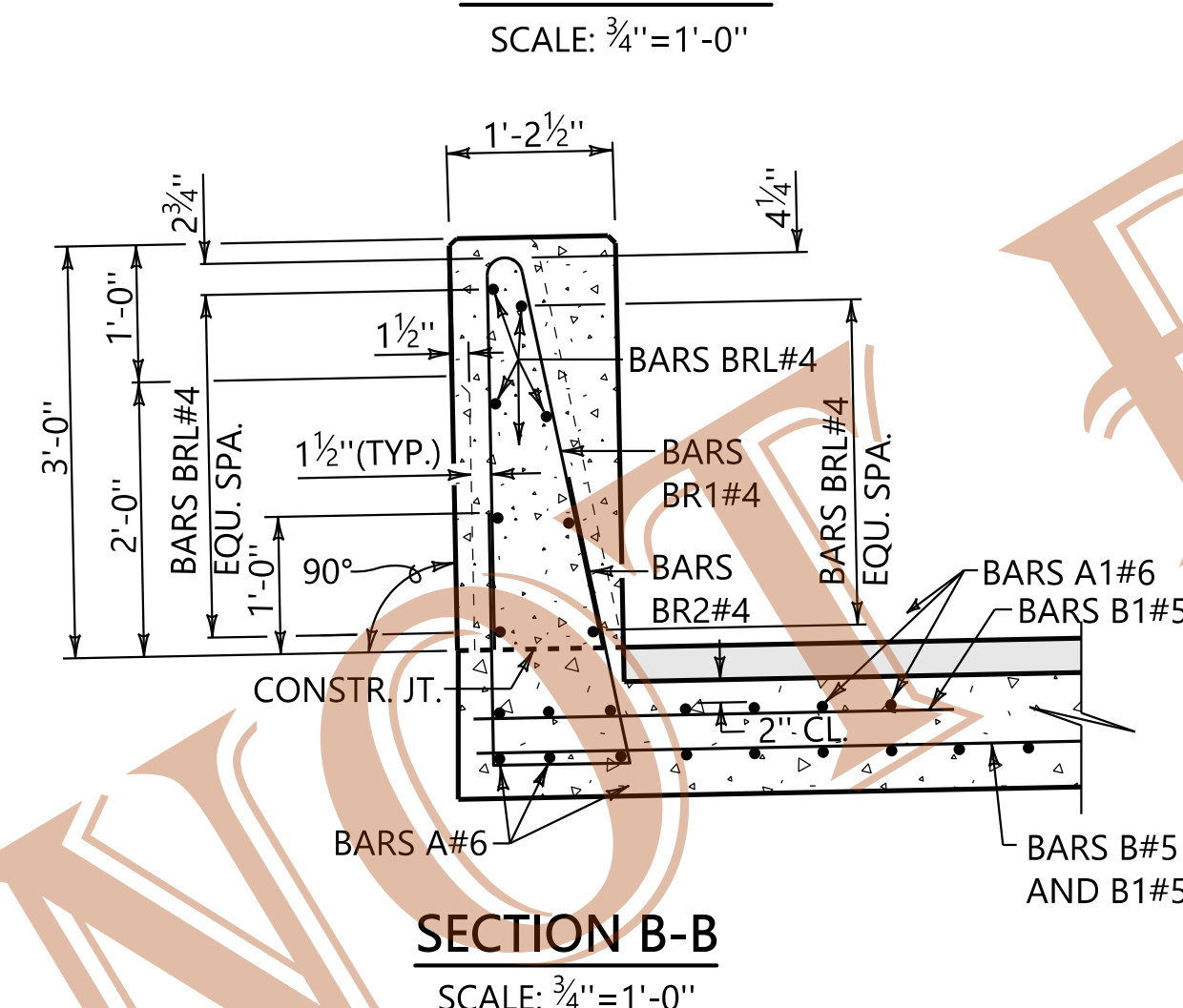
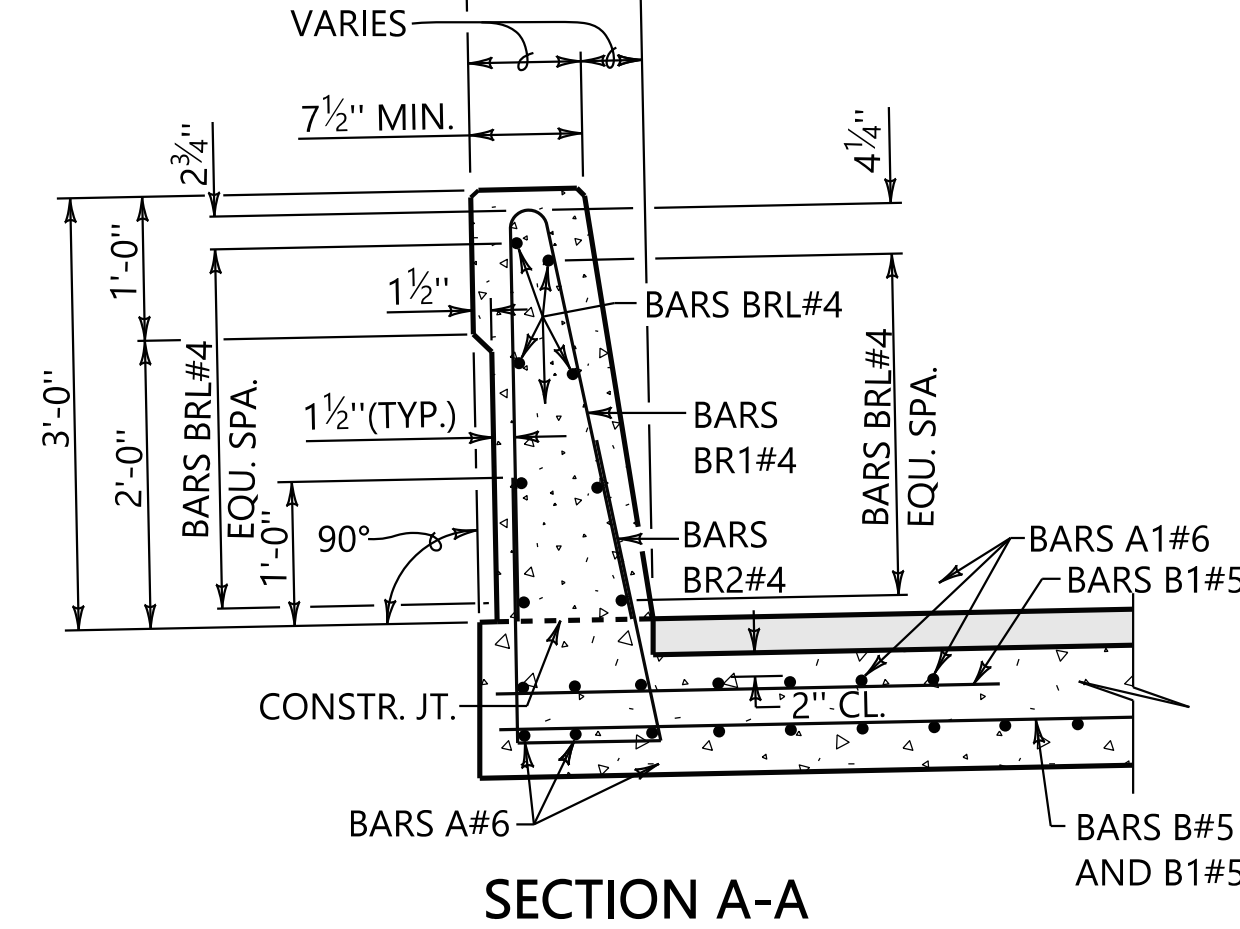
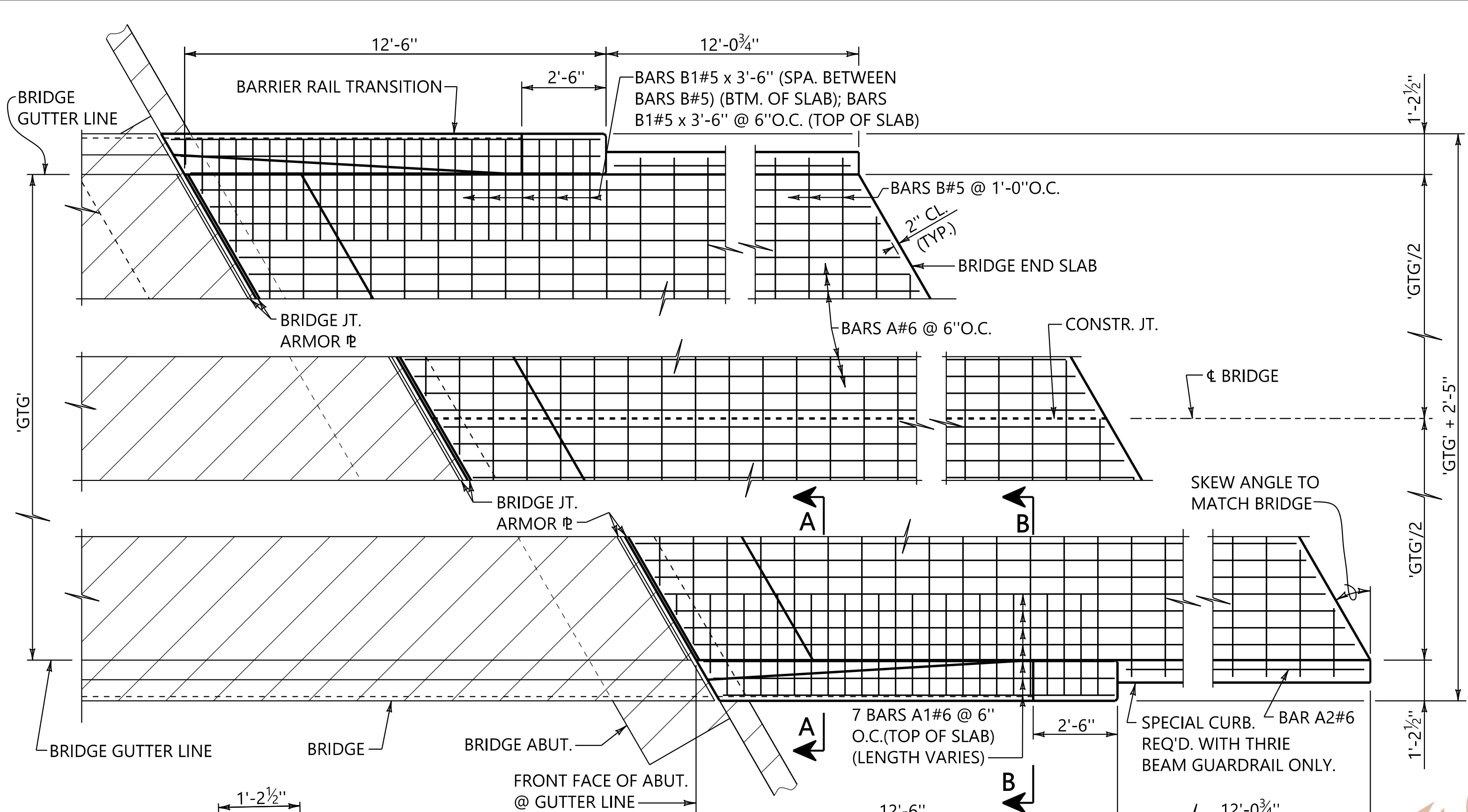
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UNIFORM DETAILS FOR EDGE BEAMS AND END WALLS FOR USE WITH BT-72 AND BT-74 GIRDERS SHAPES

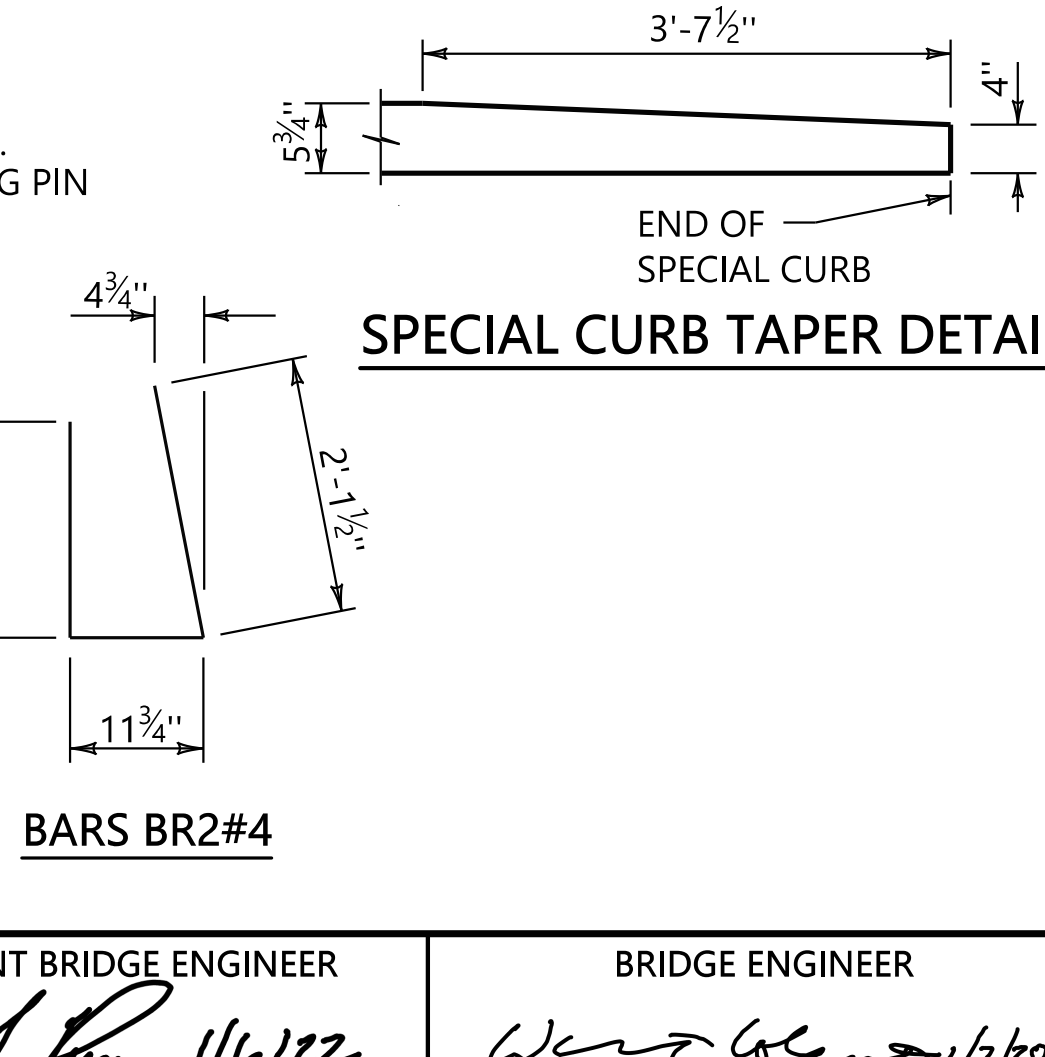
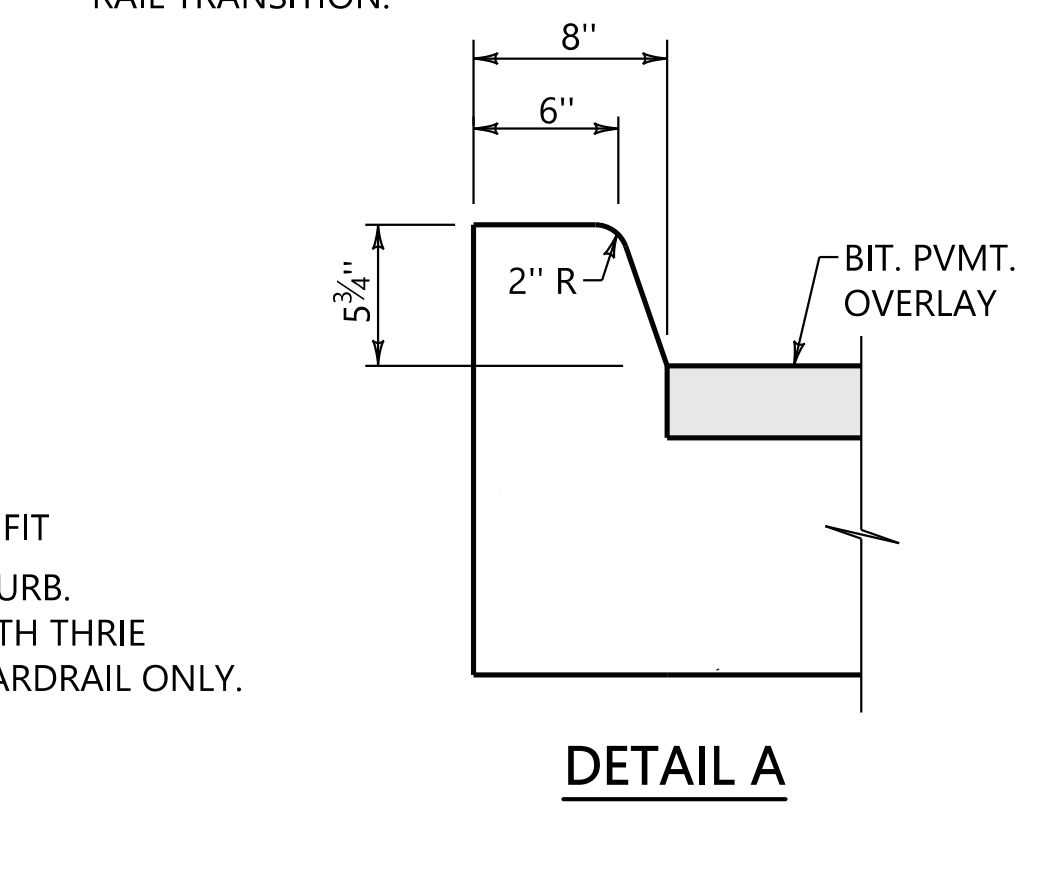


PLOTTED: 27-Dec-21 at 08:39  
 \\brvms002\Bridges\Standard\Special\Bridges\Special DGN\3 Bridge End Slab with Barrier Rail Transition\BES-450(IJ)BP & CP Bridge End Slabs.dgn  
 SHEET REFERENCE: 0 1" 2"

REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER
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- NOTES**
- PROVIDE A CONSTRUCTION JOINT AT THE BRIDGE FOR 2 LANE BRIDGES AS SHOWN. FOR BRIDGES WITH MORE THAN 2 LANES, MULTIPLE CONSTRUCTION JOINTS MAY BE PROVIDED TO COINCIDE WITH LANE LINES. AT THE OPTION OF THE CONTRACTOR, THE BRIDGE END SLAB MAY BE POURED IN A SINGLE POUR. IF THIS OPTION IS CHOSEN, LONGITUDINAL JOINTS SHALL BE SAWN IN THE SLAB TO COINCIDE WITH LANE LINES.
  - TRANSVERSE BARS B SHALL BE CONTINUOUS ACROSS JOINTS AND SLAB. WHEN FEASIBLE, USE ONE LENGTH OF BAR TO RUN ACROSS JOINTS AND SLAB, HOWEVER, WHERE IT IS NECESSARY TO USE MORE THAN ONE (1) LENGTH OF BAR, BARS SHALL BE SPLICED 30 DIAMETER MINIMUM.
  - THE FINISHED CROWN OF THE BRIDGE END SLAB SHALL CONFORM TO THE CROWN OF THE BRIDGE DECK. TRANSITION FROM NORMAL CROWN OF BITUMINOUS PAVEMENT TO CROWN OF BRIDGE END SLAB SHALL BE MADE IN A DISTANCE OF 100 FEET.
  - COST OF BRIDGE JOINT ARMOR PLATES SHALL BE INCLUDED IN PAY ITEM 508A, LBS., STRUCTURAL STEEL. SHOP DRAWINGS PER THE STANDARD SPECIFICATIONS ARE REQUIRED.
  - COST OF CONCRETE AND STEEL REINFORCEMENT FOR BRIDGE END SLAB, TYPE SPECIAL CURB AND BARRIER RAIL TRANSITION SHALL BE INCLUDED IN THE PAY ITEM 450B, SQUARE YARDS, REINFORCED CEMENT CONCRETE BRIDGE END SLAB. CONCRETE SHALL BE CLASS B.
  - WHEN SKEW OF BRIDGE IS 0° TO 25°, TRANSVERSE REINFORCEMENT MAY BE PARALLEL TO SKEW. FOR SKEWS GREATER THAN 25°, TRANSVERSE REINFORCEMENT SHALL BE PERPENDICULAR TO ROADWAY AS SHOWN.
  - \* FAN BARS IN END AS REQUIRED TO FIT SKEW IN BARRIER RAIL TRANSITION.



**ALABAMA DEPARTMENT OF TRANSPORTATION**

REVISIONS
1. REVISED NOTE 6 TO 25° SKEW KCM 12/27/21

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 COUNTY(S) \_\_\_\_\_

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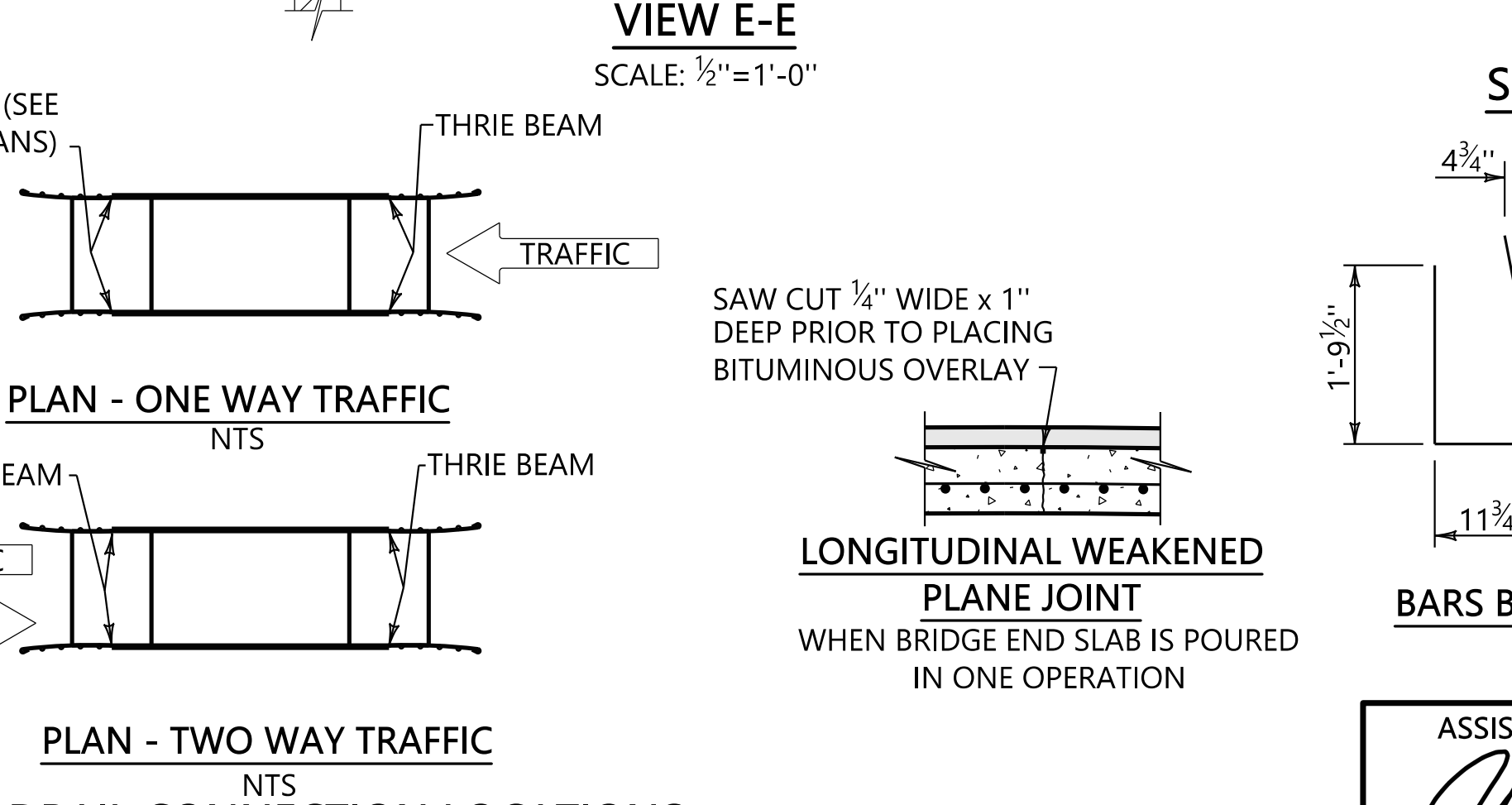
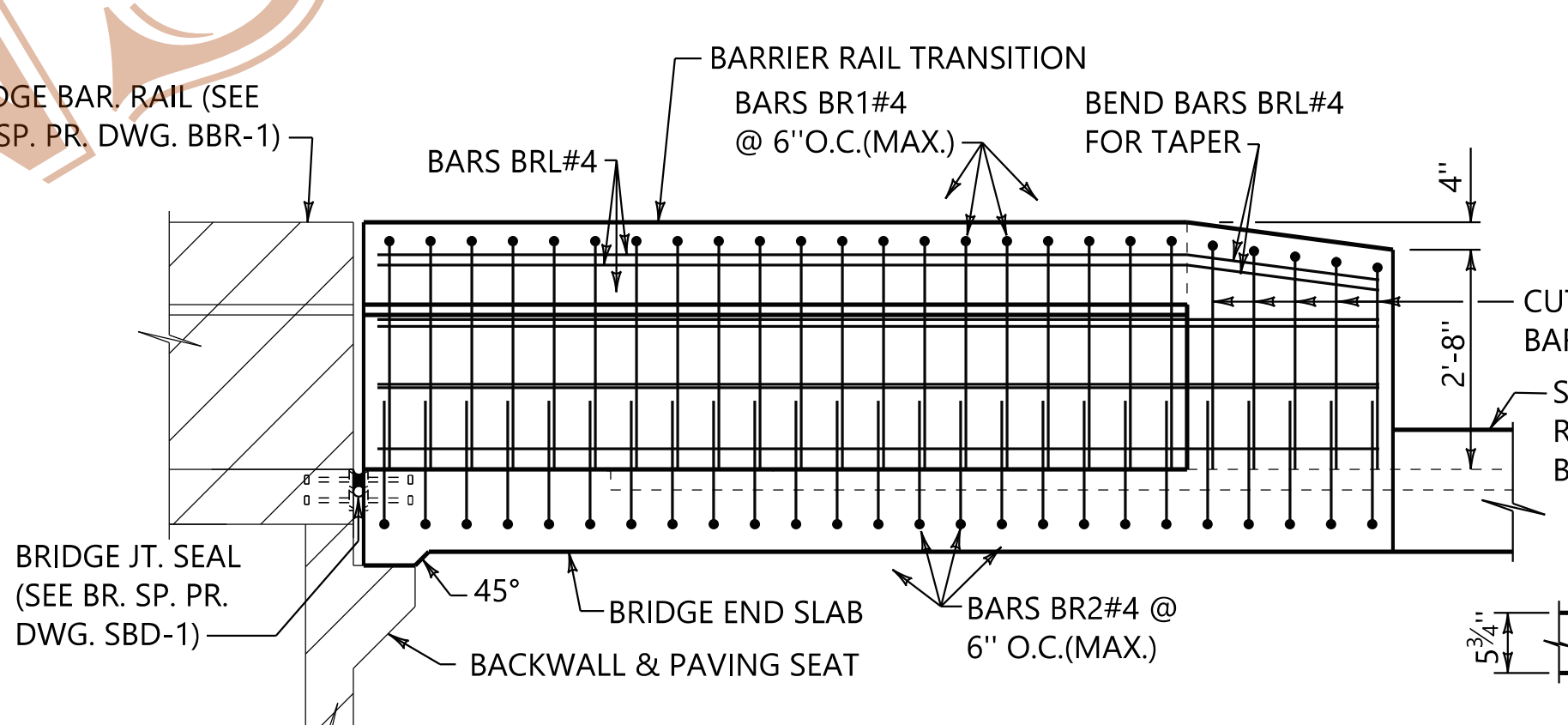
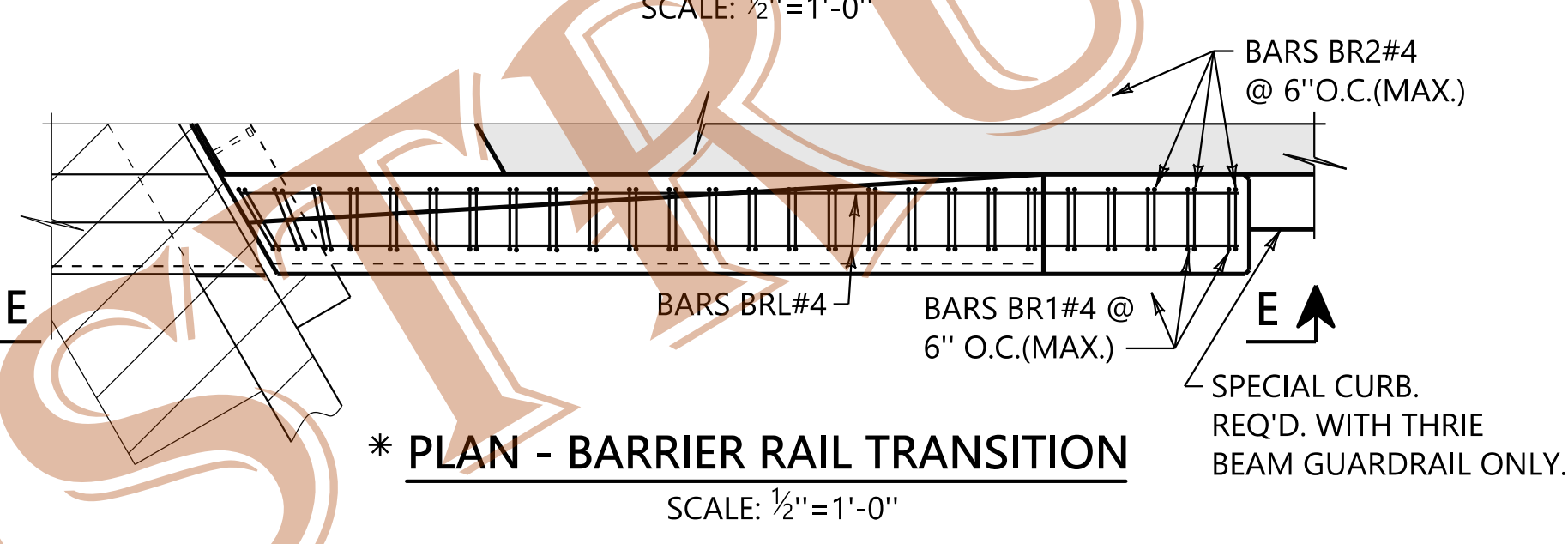
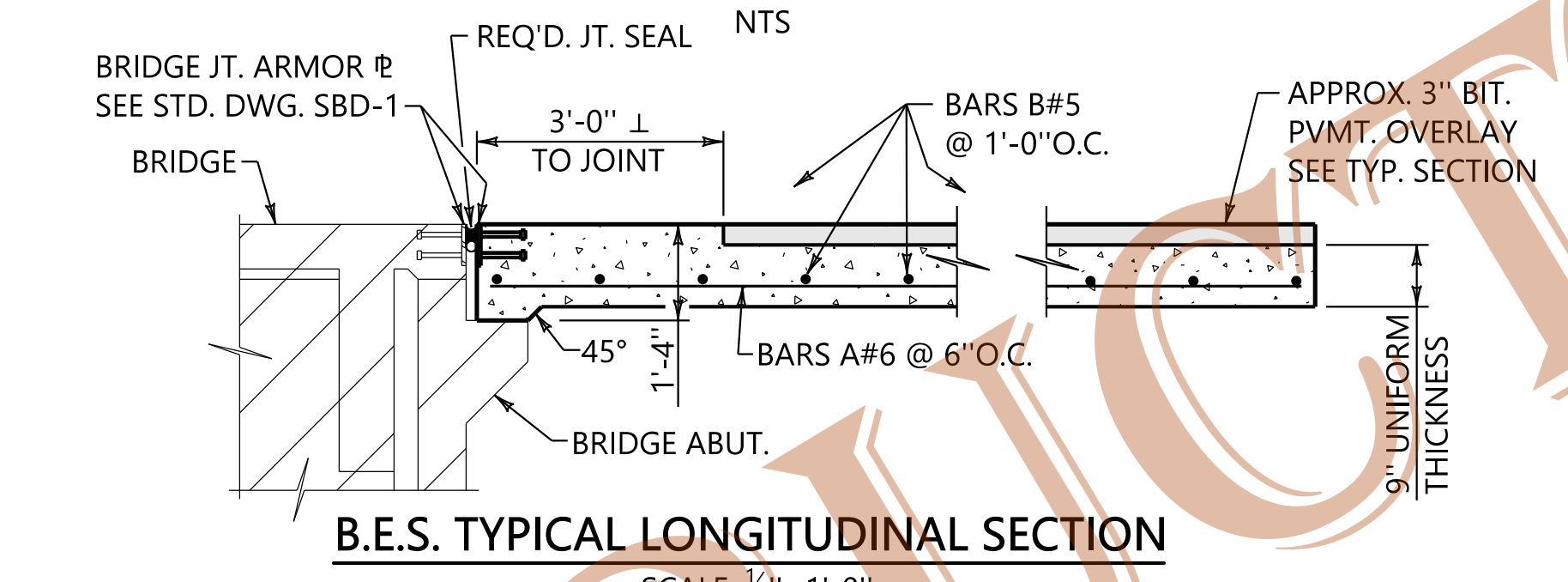
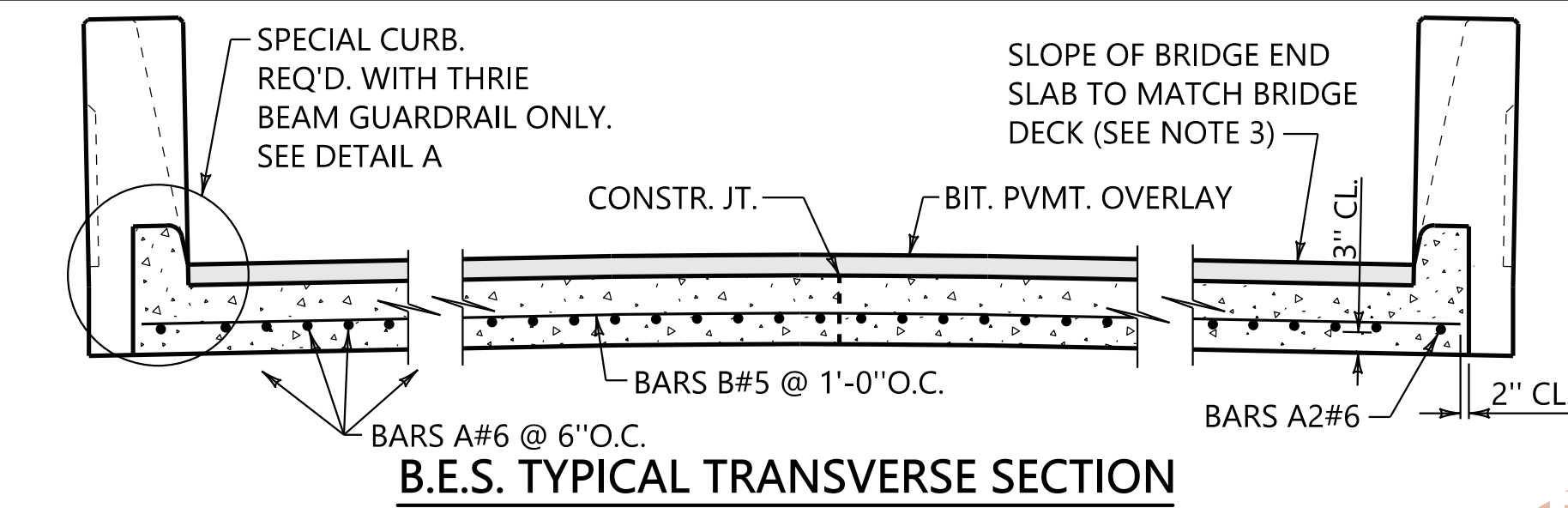
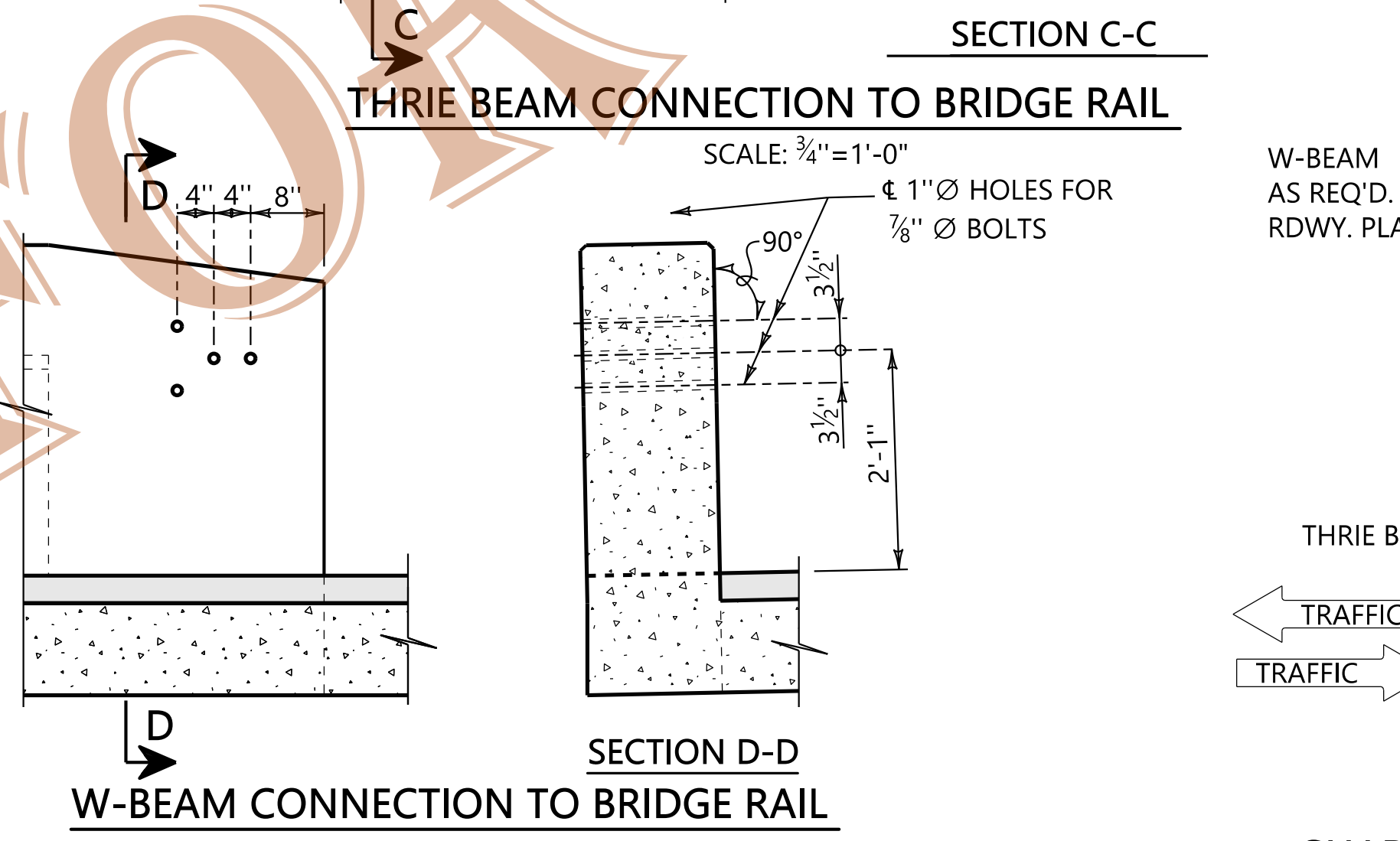
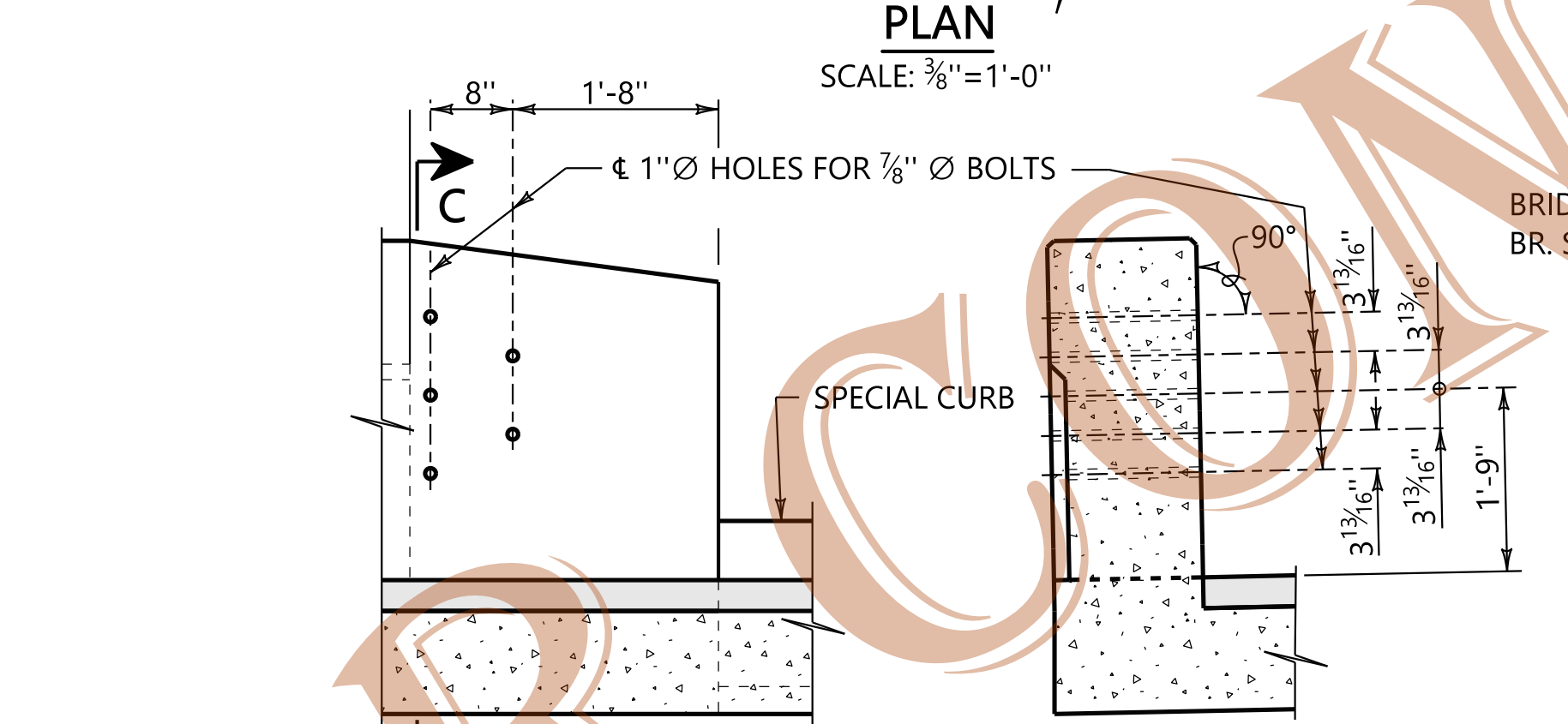
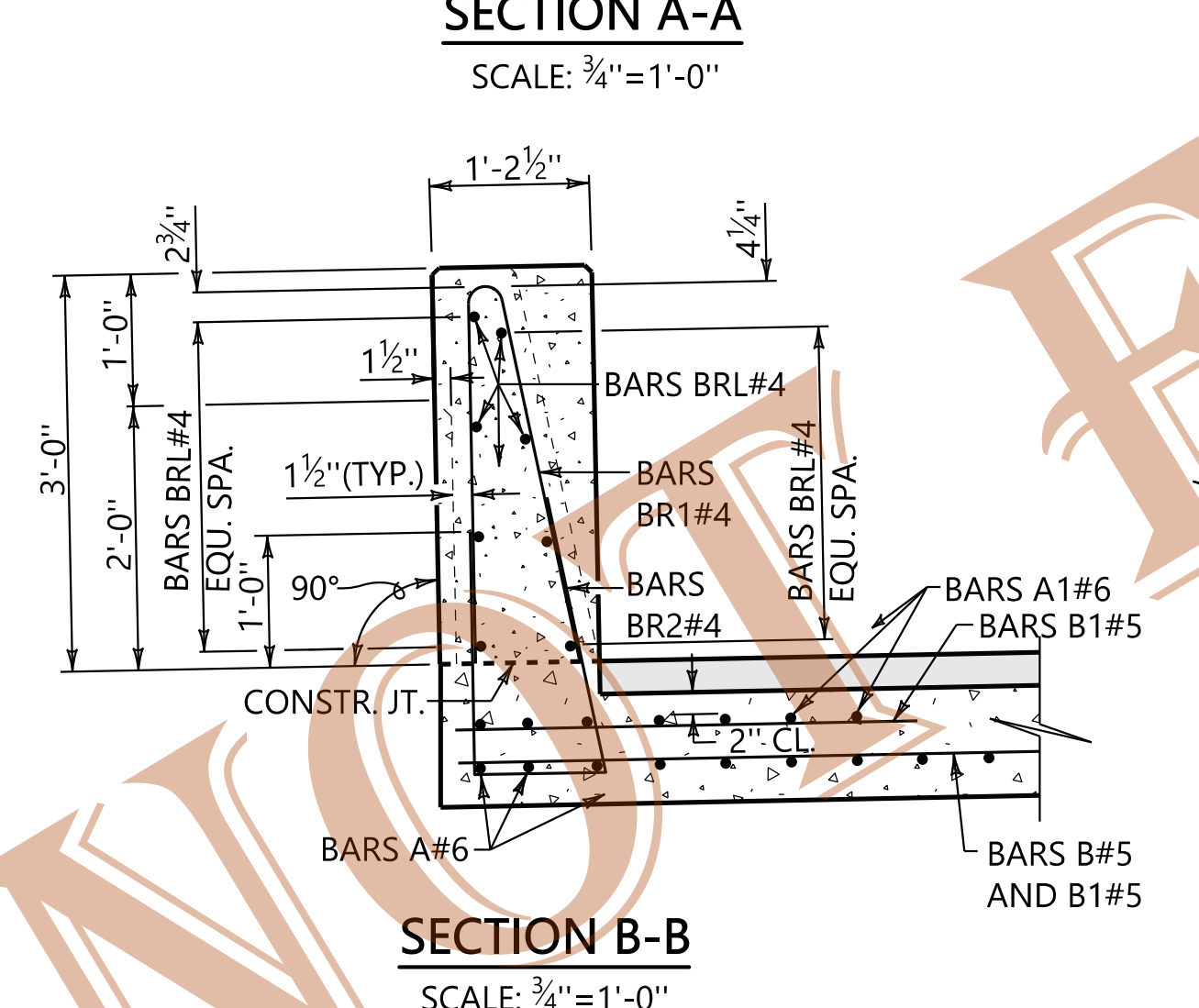
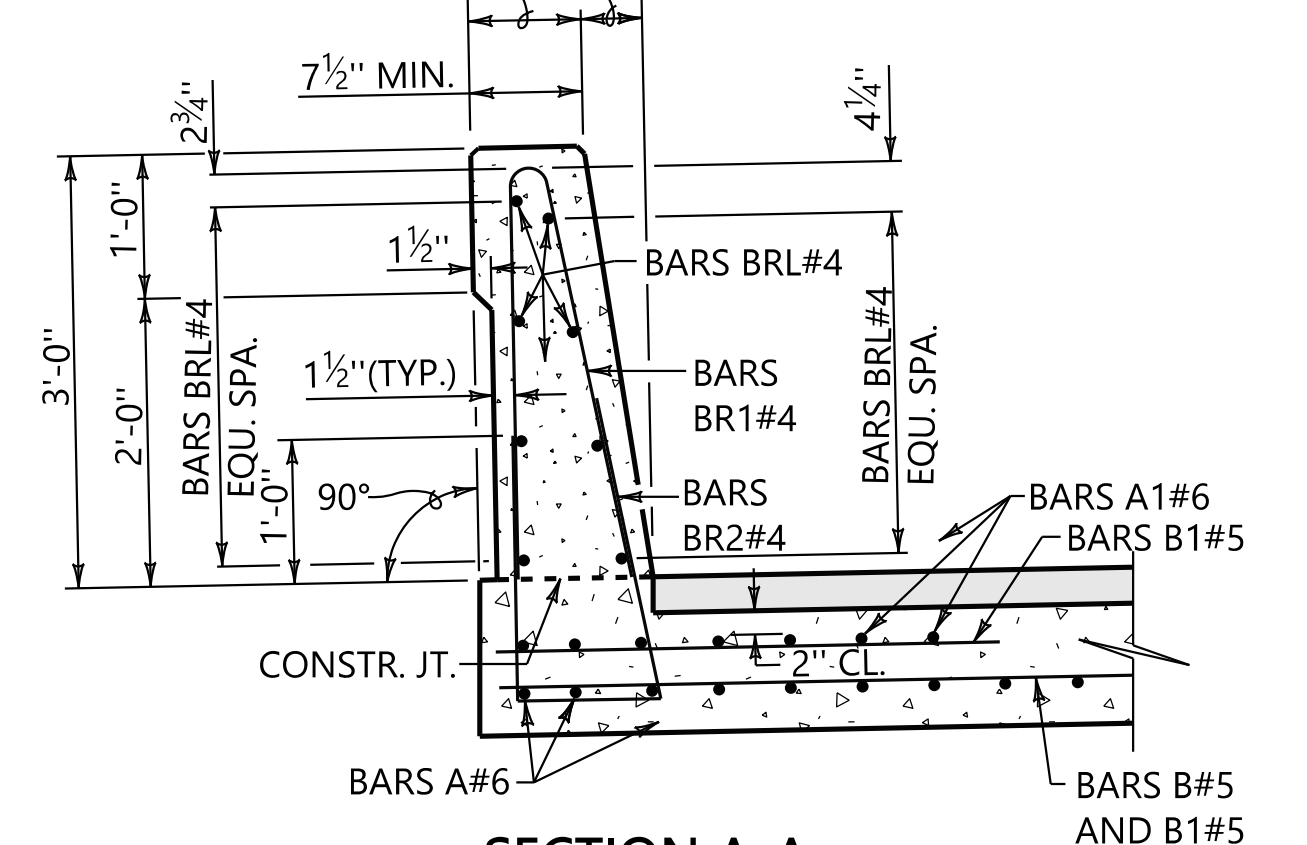
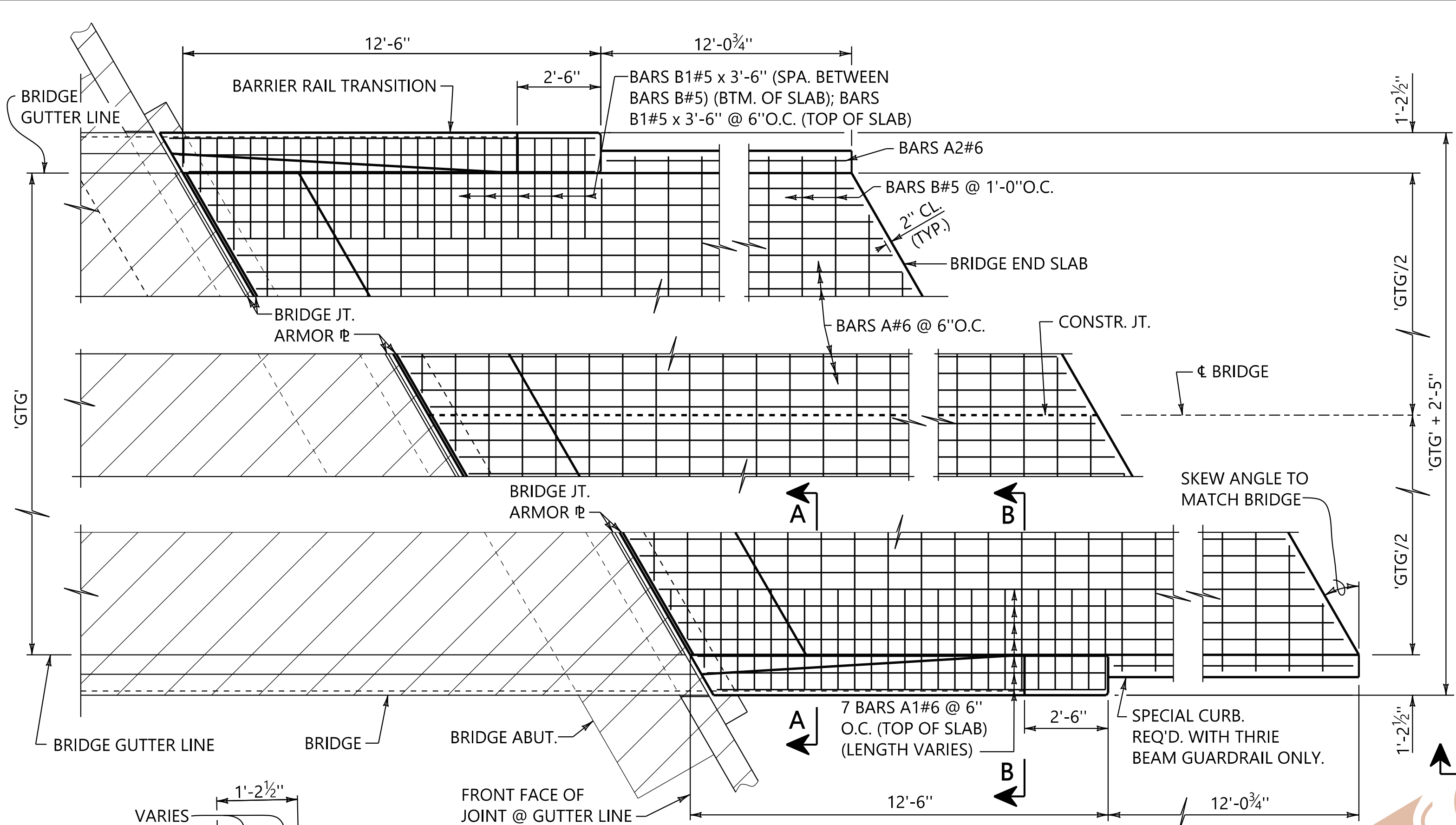
REINFORCED CONCRETE BRIDGE END SLAB WITH BARRIER RAIL TRANSITION (BRIDGE JOINT INSIDE ABUTMENT WALL) FOR USE WITH BITUMINOUS PAVEMENT

ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> DATE: 1/6/22	BRIDGE ENGINEER <i>[Signature]</i> DATE: 1/7/2022
BRIDGE SPECIAL PROJECT DRAWING	
BES-450(IJ)BP	
SHEET 1 OF 1	

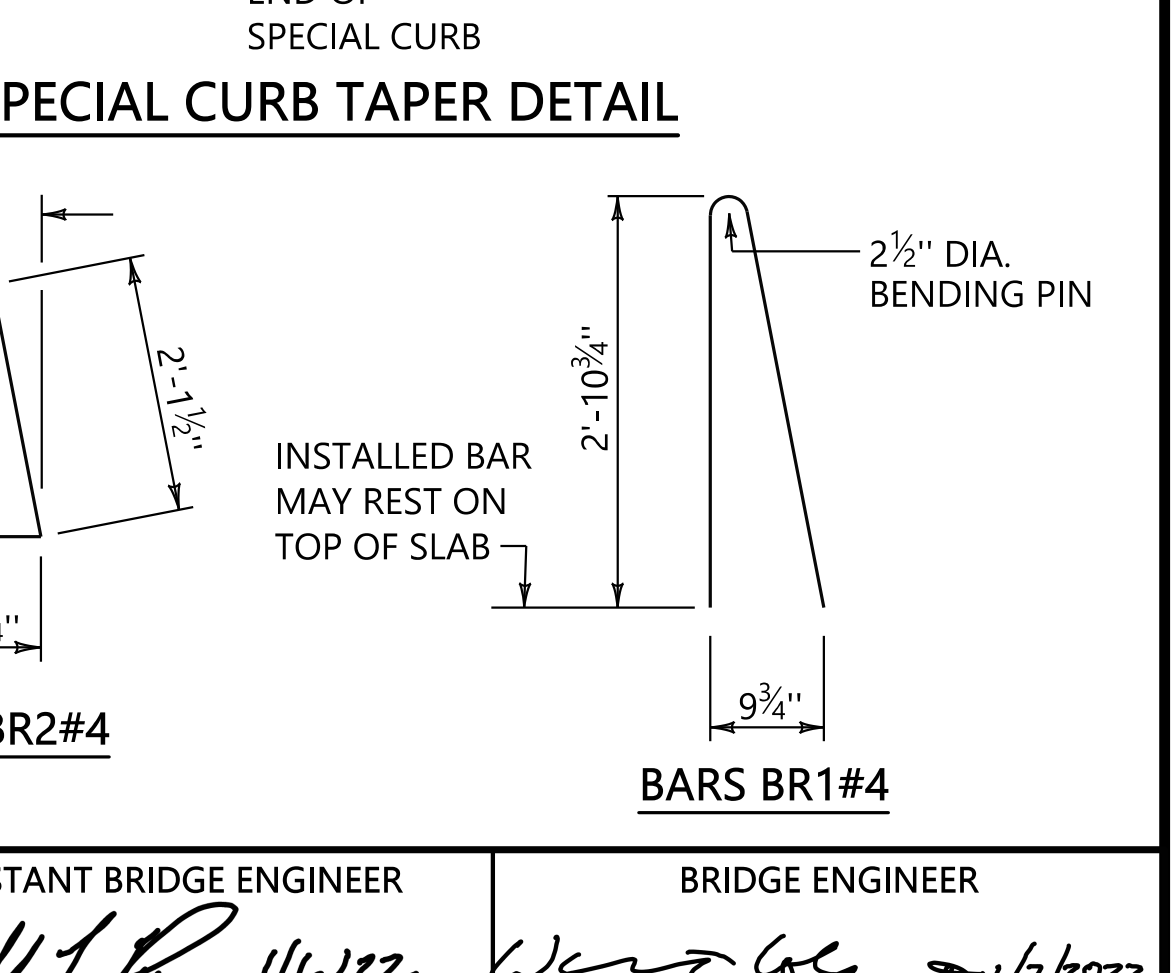
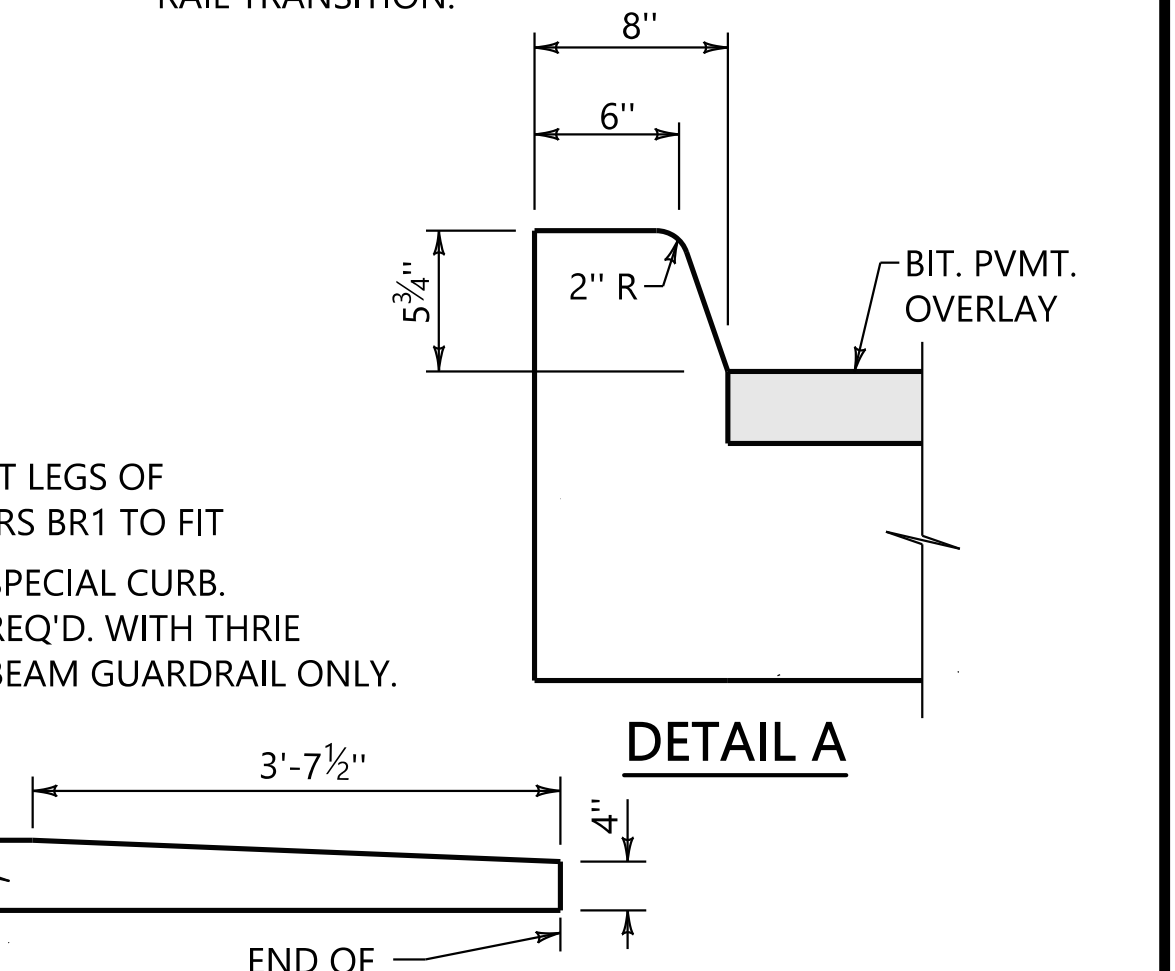


PLOTTED: 27-Dec-21 at 08:46  
 \\bnvms002\Bridges\Standard\Special\Bridges\Special DGN\3 Bridge End Slab with Barrier Rail Transition\BES-450(OJ)BP & CP Bridge End Slabs.dgn

REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER
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- NOTES**
1. PROVIDE A CONSTRUCTION JOINT AT  $\epsilon$  BRIDGE FOR 2 LANE BRIDGES AS SHOWN. FOR BRIDGES WITH MORE THAN 2 LANES, MULTIPLE CONSTRUCTION JOINTS MAY BE PROVIDED TO COINCIDE WITH LANE LINES. AT THE OPTION OF THE CONTRACTOR, THE BRIDGE END SLAB MAY BE POURED IN A SINGLE POUR. IF THIS OPTION IS CHOSEN, LONGITUDINAL JOINTS SHALL BE SAWN IN THE SLAB TO COINCIDE WITH LANE LINES.
  2. TRANSVERSE BARS B SHALL BE CONTINUOUS ACROSS JOINTS AND SLAB. WHEN FEASIBLE, USE ONE LENGTH OF BAR TO RUN ACROSS JOINTS AND SLAB, HOWEVER, WHERE IT IS NECESSARY TO USE MORE THAN ONE (1) LENGTH OF BAR, BARS SHALL BE SPLICED 30 DIAMETER MINIMUM.
  3. THE FINISHED CROWN OF THE BRIDGE END SLAB SHALL CONFORM TO THE CROWN OF THE BRIDGE DECK. TRANSITION FROM NORMAL CROWN OF BITUMINOUS PAVEMENT TO CROWN OF BRIDGE END SLAB SHALL BE MADE IN A DISTANCE OF 100 FEET.
  4. COST OF BRIDGE JOINT ARMOR PLATES SHALL BE INCLUDED IN PAY ITEM 508A, LBS., STRUCTURAL STEEL. SHOP DRAWINGS PER THE STANDARD SPECIFICATIONS ARE REQUIRED.
  5. COST OF CONCRETE AND STEEL REINFORCEMENT FOR BRIDGE END SLAB, TYPE SPECIAL CURB AND BARRIER RAIL TRANSITION SHALL BE INCLUDED IN THE PAY ITEM 450B, SQUARE YARDS, REINFORCED CEMENT CONCRETE BRIDGE END SLAB. CONCRETE SHALL BE CLASS B.
  6. WHEN SKEW OF BRIDGE IS 0° TO 25°, TRANSVERSE REINFORCEMENT MAY BE PARALLEL TO SKEW. FOR SKEWS GREATER THAN 25°, TRANSVERSE REINFORCEMENT SHALL BE PERPENDICULAR TO ROADWAY AS SHOWN.
  - \* 7. FAN BARS IN END AS REQUIRED TO FIT SKEW IN BARRIER RAIL TRANSITION.



**REVISIONS**

1. REVISED NOTE 6 TO 25° SKEW KCM 12/27/21
---

THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

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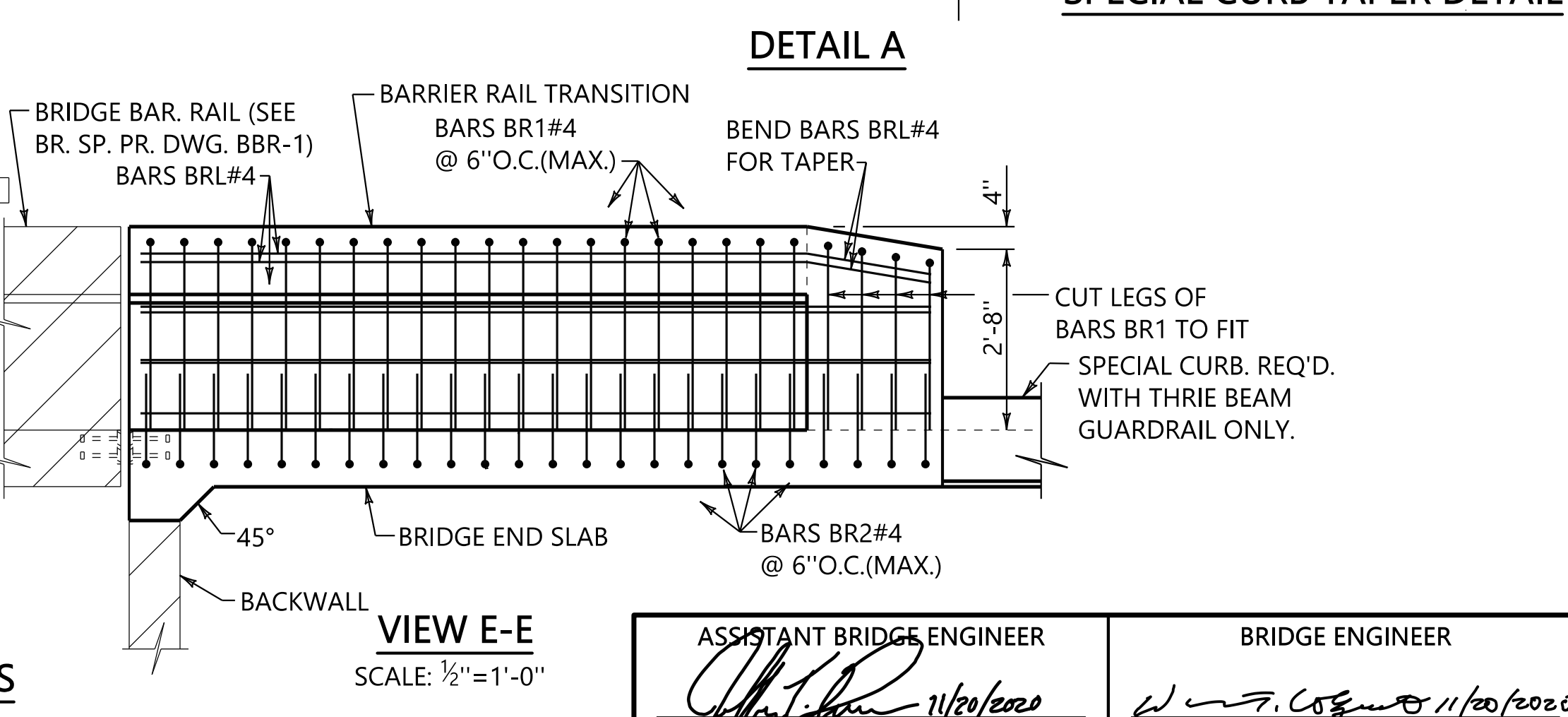
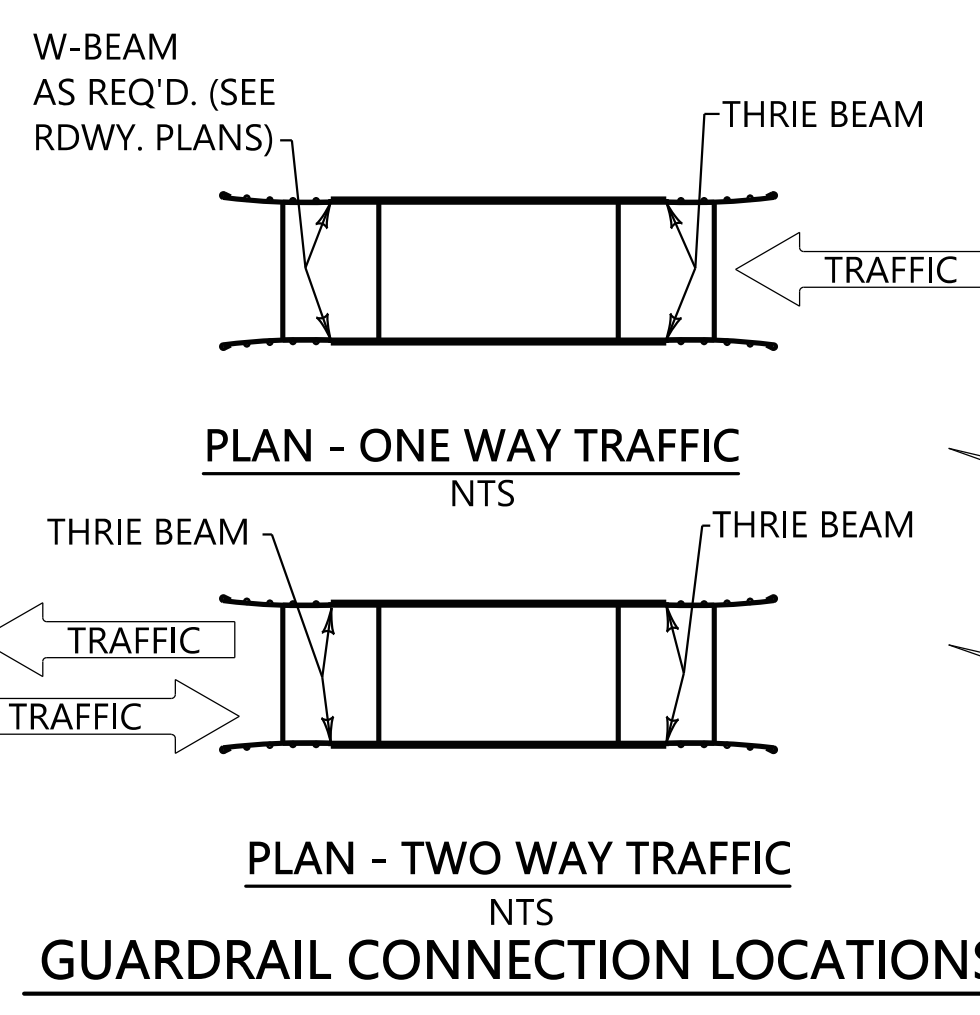
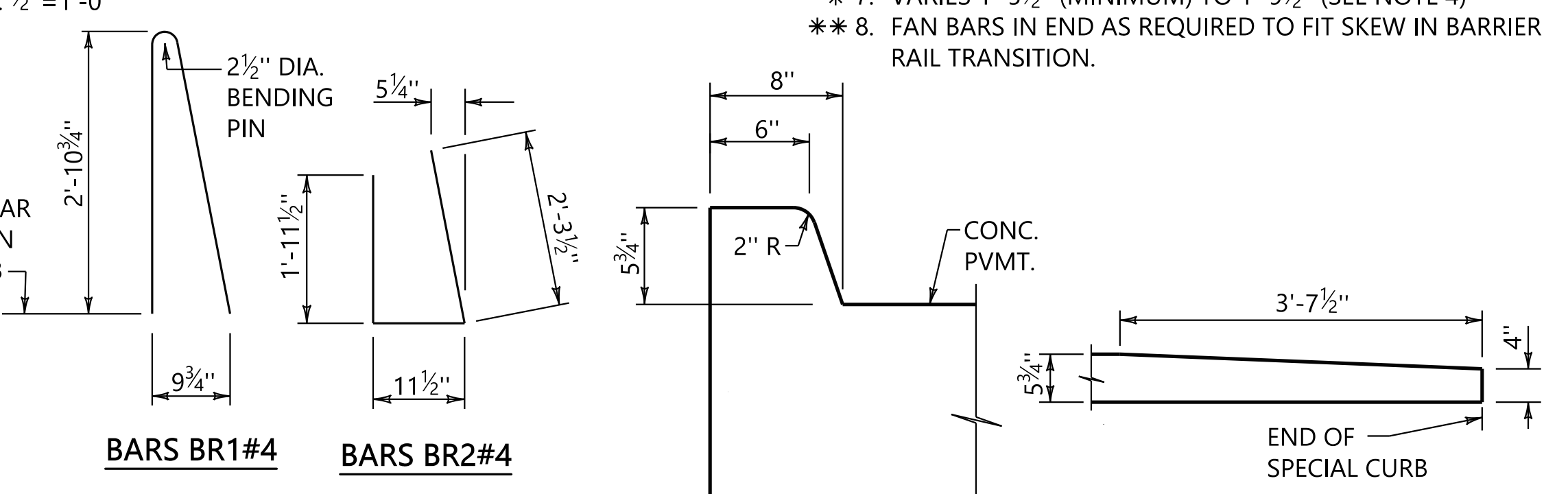
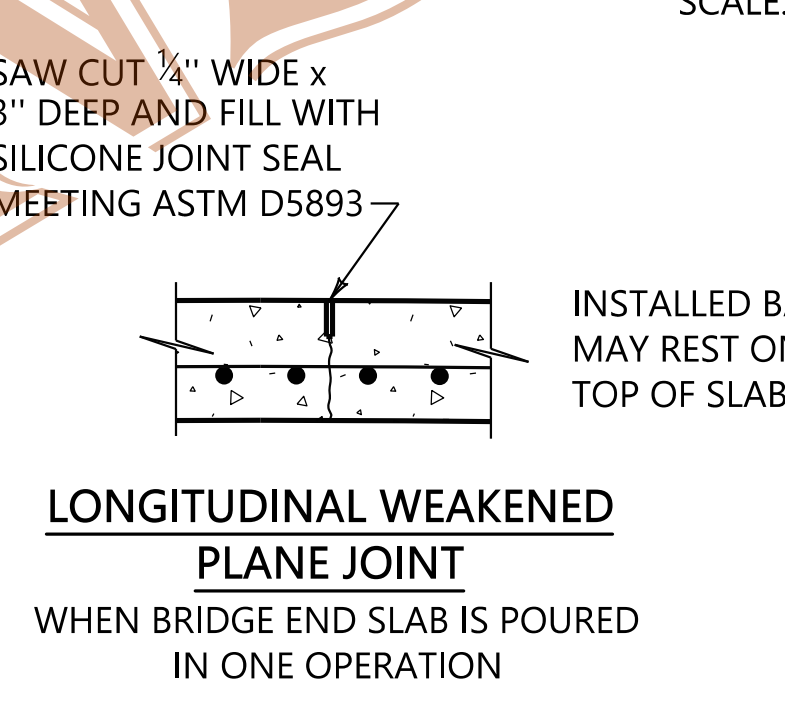
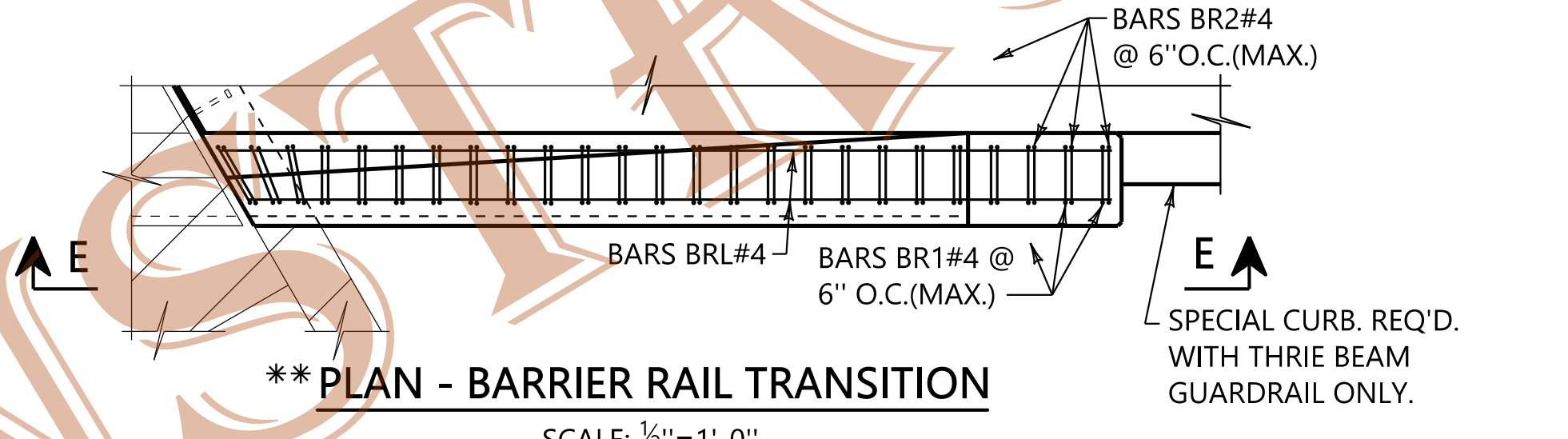
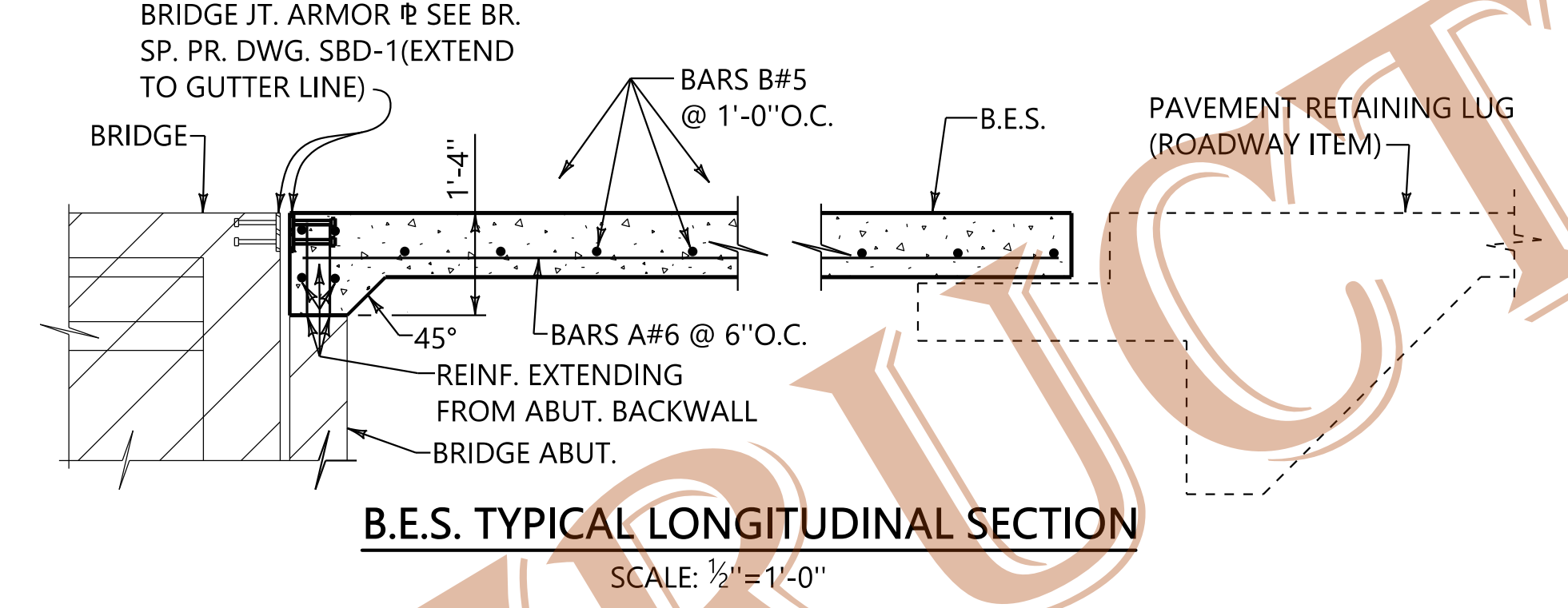
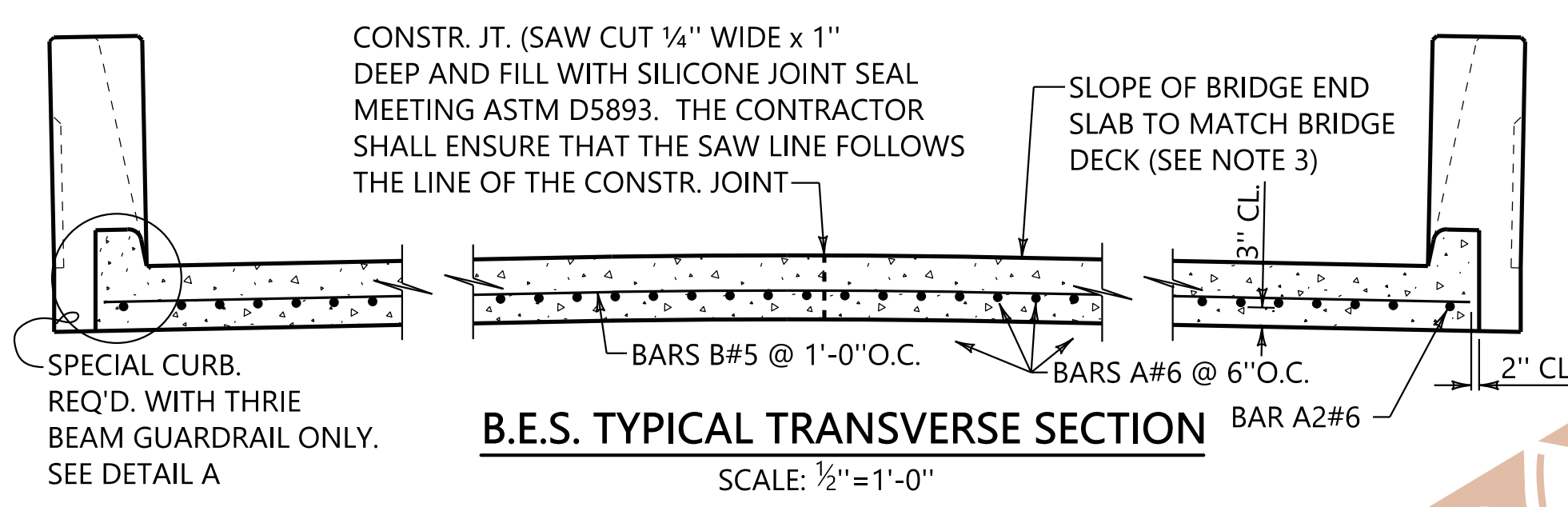
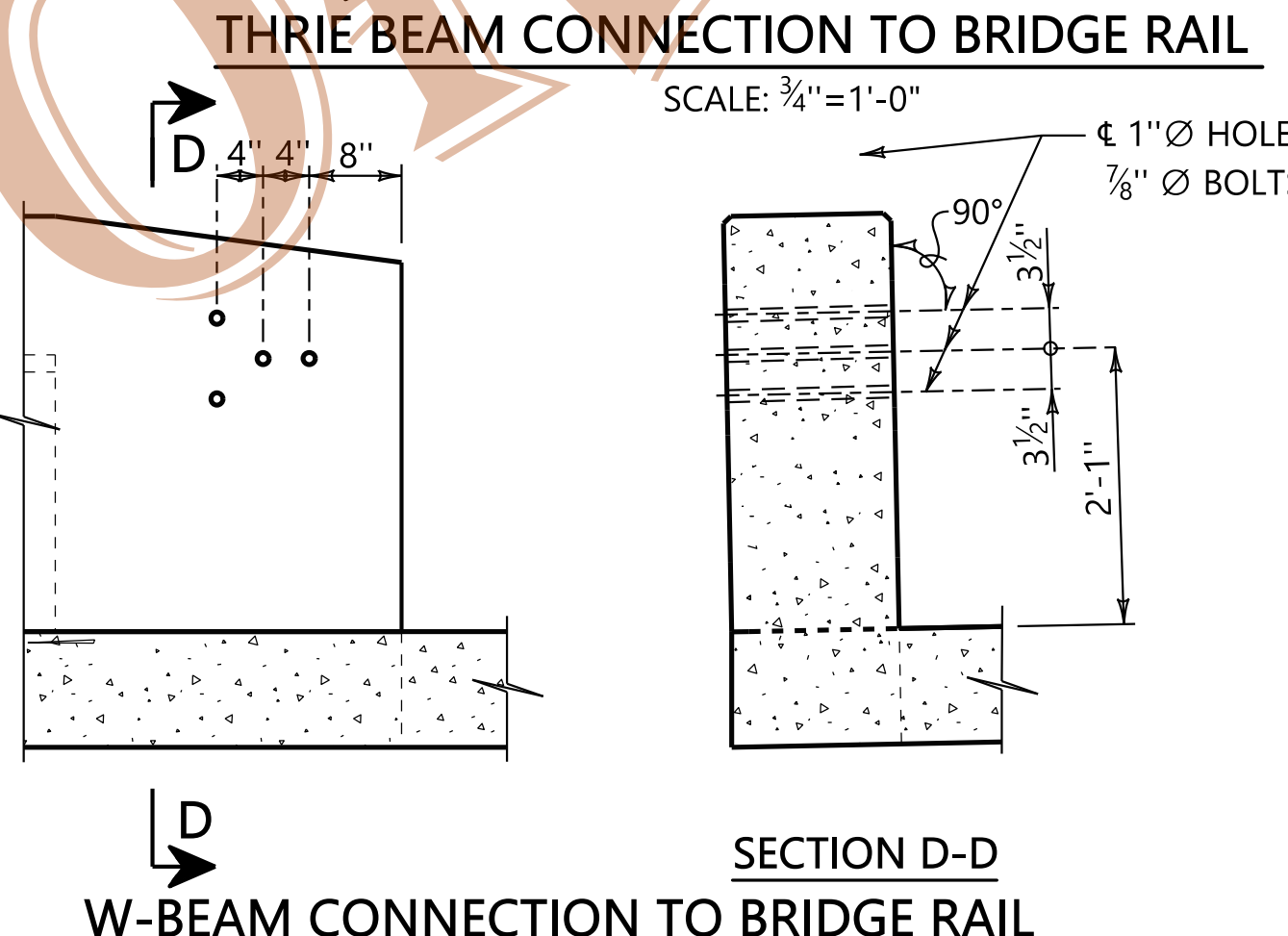
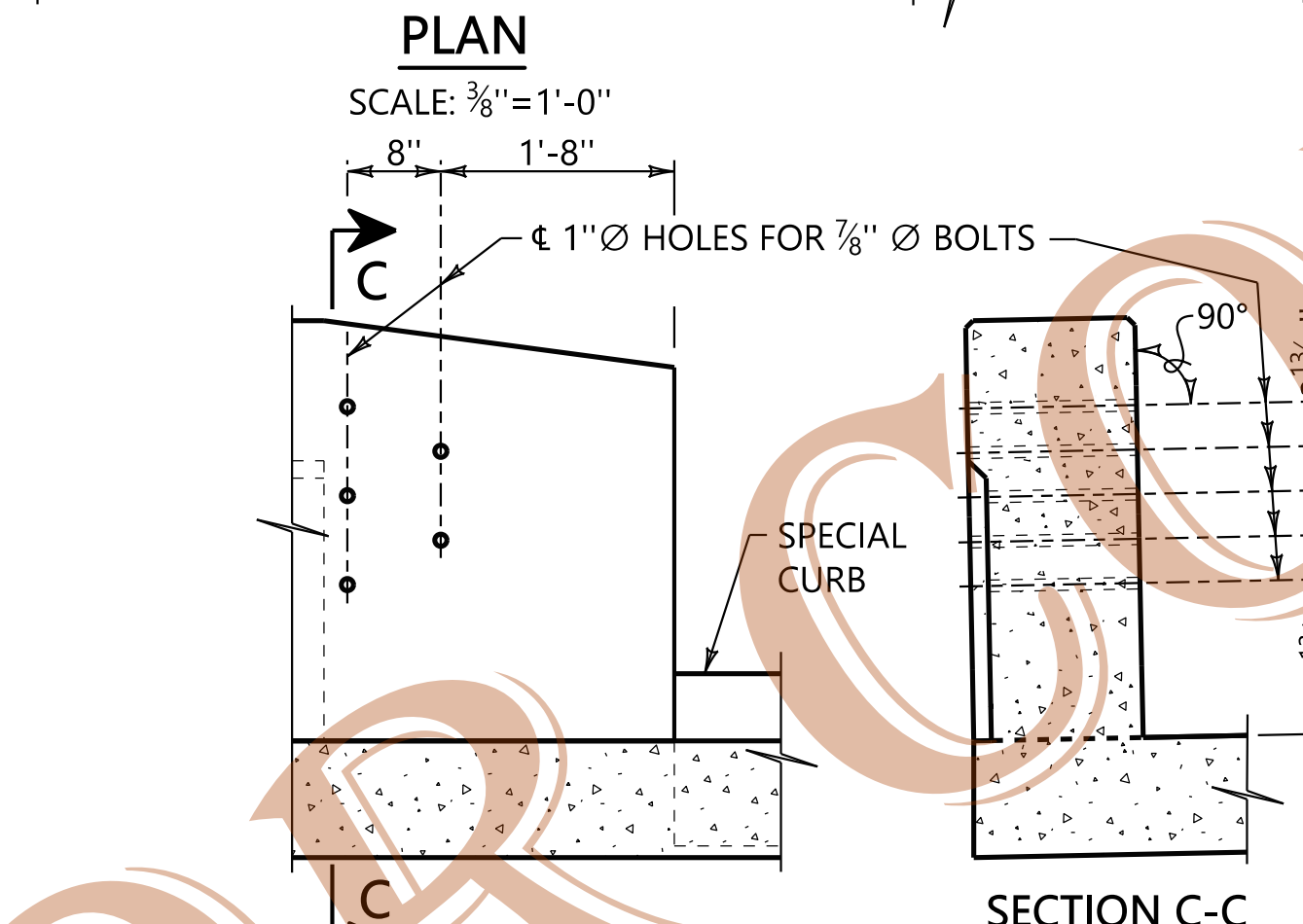
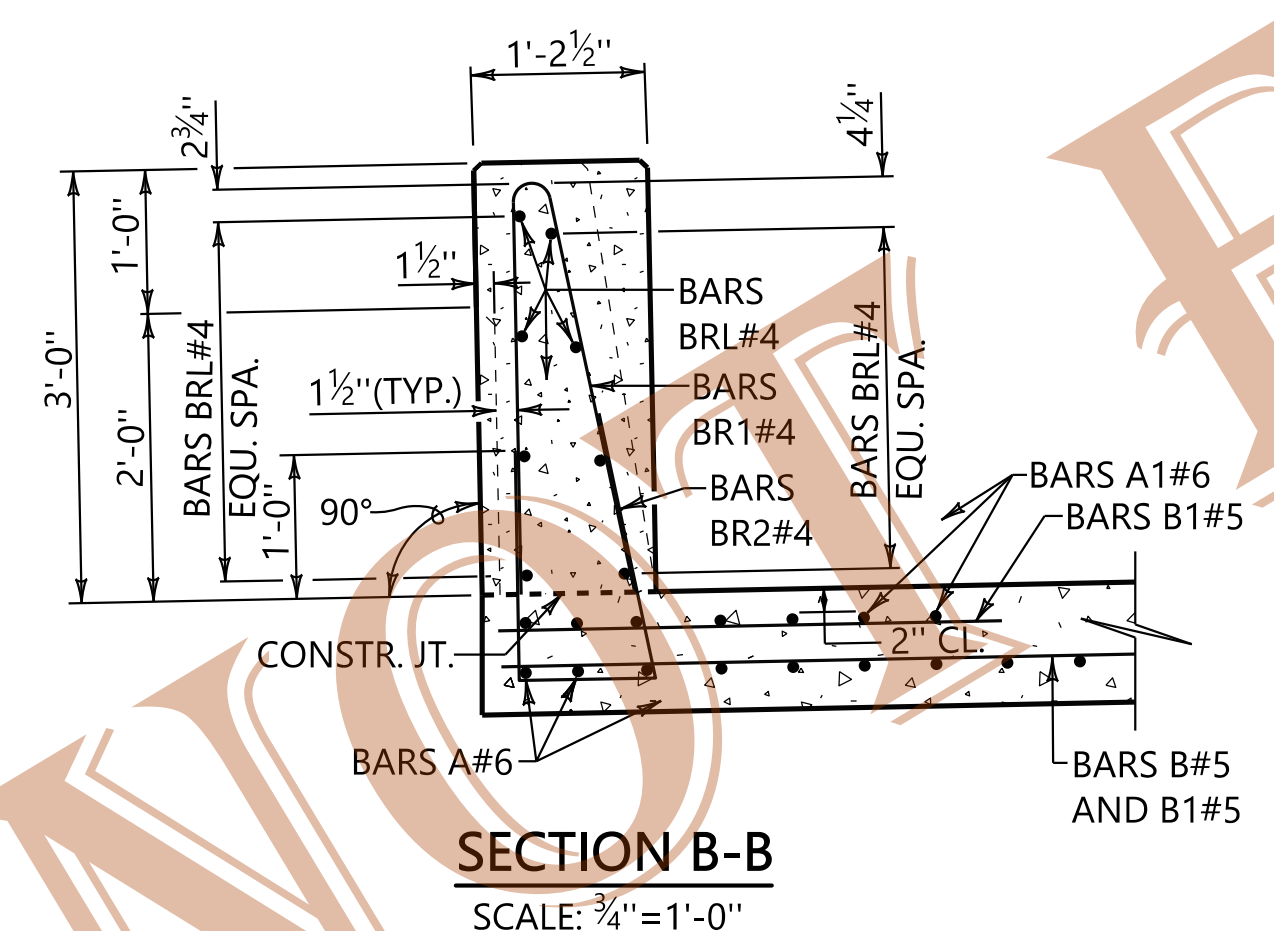
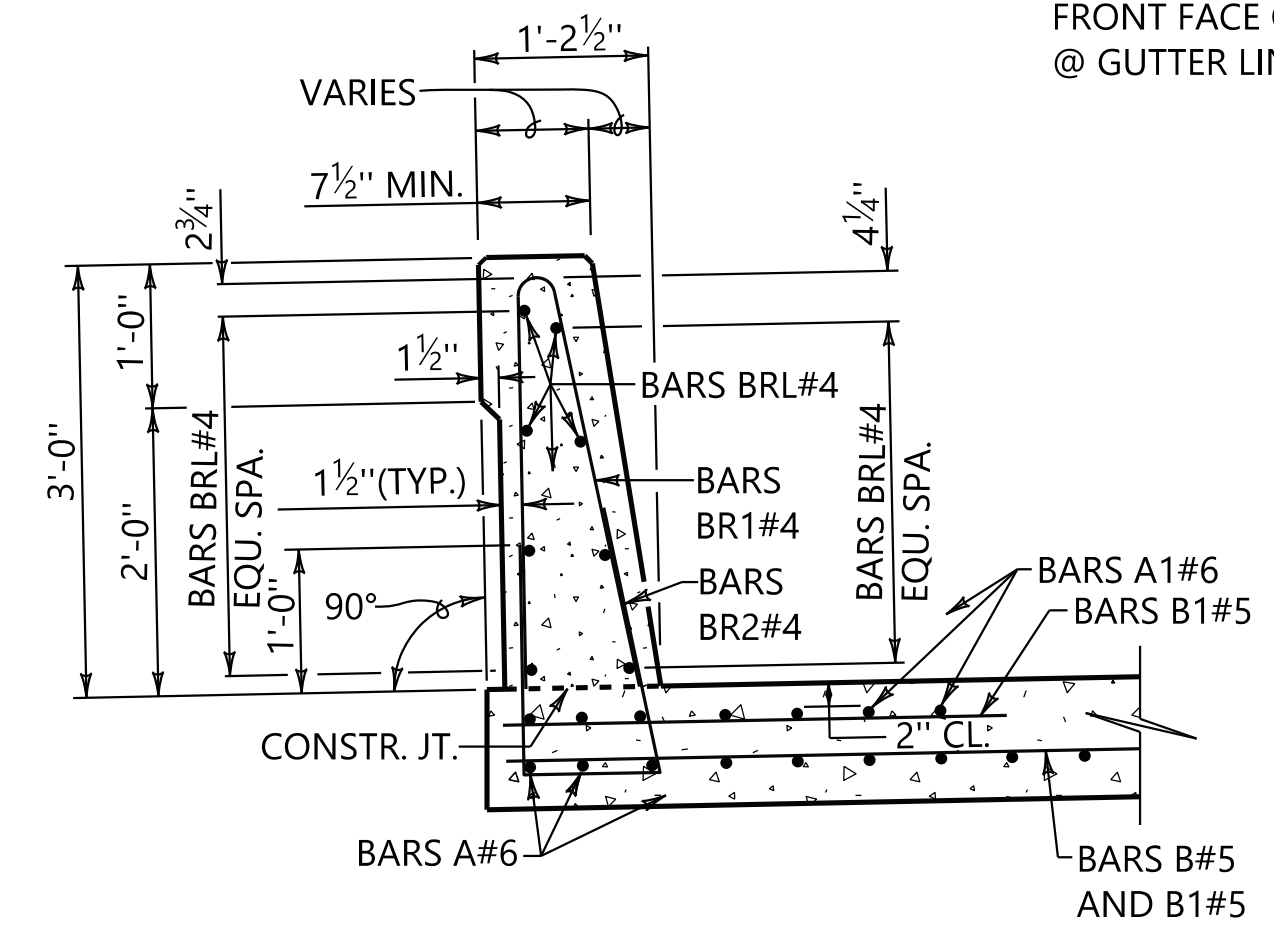
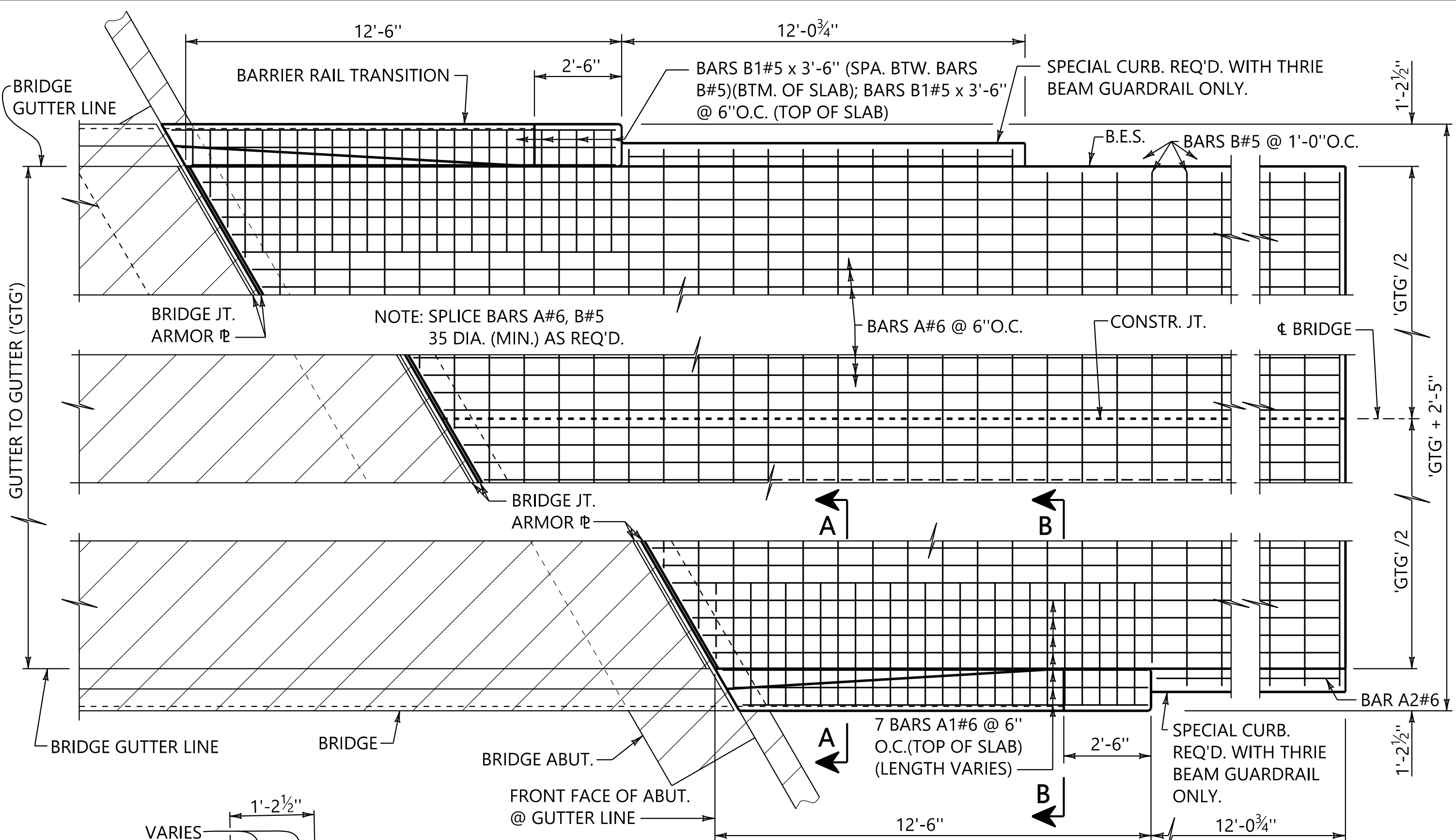
REINFORCED CONCRETE BRIDGE END SLAB WITH BARRIER RAIL TRANSITION (BRIDGE JOINT OUTSIDE ABUTMENT WALL) FOR USE WITH BITUMINOUS PAVEMENT

**BRIDGE SPECIAL PROJECT DRAWING**

ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> 1/6/22 DATE	BRIDGE ENGINEER <i>[Signature]</i> 1/7/2022 DATE
<b>BES-450(OJ)BP</b>	
SHEET 1 OF 1	



PLOTTED: 20-Nov-20 at 12:04  
 \\brvms002\Bridges\Standards\Special Bridge End Slab with Barrier Rail Transition\BES-450(IJ)CP & CP Bridge End Slabs.dgn  
 SHEET REFERENCE  
 0 1" 2"



- NOTES**
- PROVIDE A CONSTRUCTION JOINT AT THE BRIDGE FOR 2 LANE BRIDGES AS SHOWN. FOR BRIDGES WITH MORE THAN 2 LANES, MULTIPLE CONSTRUCTION JOINTS MAY BE PROVIDED TO COINCIDE WITH LANE LINES. AT THE OPTION OF THE CONTRACTOR, THE BRIDGE END SLAB MAY BE POURED IN A SINGLE POUR. IF THIS OPTION IS CHOSEN, LONGITUDINAL JOINTS SHALL BE SAWN IN THE SLAB TO COINCIDE WITH LANE LINES. JOINTS SHALL BE SEALED.
  - TRANSVERSE BARS B SHALL BE CONTINUOUS ACROSS JOINTS AND SLAB. WHEN FEASIBLE, USE ONE LENGTH OF BAR TO RUN ACROSS JOINTS AND SLAB, HOWEVER, WHERE IT IS NECESSARY TO USE MORE THAN ONE (1) LENGTH OF BAR, BARS SHALL BE SPLICED 30 DIAMETER MINIMUM.
  - IN THE EVENT THAT THE BRIDGE AND ROADWAY CROWN LINES DO NOT MATCH UP, THE FINISHED CROWN OF THE BRIDGE END SLAB SHALL CONFORM TO THE CROWN OF THE BRIDGE DECK AT THE END ADJACENT TO THE BRIDGE AND TO THE ROADWAY CROWN AT THE END ADJACENT TO THE PAVEMENT. THE CROWN SHALL VARY UNIFORMLY.
  - CONCRETE THICKNESS FOR SKEWED SLABS SHALL BE AS FOLLOWS: 0° TO 15°, 10" THICK; 15° TO 33° SKEW, 10" TO 11" THICK; 33° TO 45° SKEW, 10" TO 14" THICK; GREATER THAN 45°, 10" TO 14" THICK. SLABS SHALL INCREASE IN THICKNESS ON LONG SIDE. THICKNESS SHALL VARY TRANSVERSALLY FROM LONG SIDE TO SHORT SIDE IN A UNIFORM MANNER.
  - COST OF BRIDGE JOINT ARMOR PLATES SHALL BE INCLUDED IN PAY ITEM 508A, LBS., STRUCTURAL STEEL. SHOP DRAWINGS PER THE STANDARD SPECIFICATIONS ARE REQUIRED.
  - COST OF CONCRETE AND STEEL REINFORCEMENT IN BRIDGE END SLAB, TYPE SPECIAL CURB AND BARRIER RAIL TRANSITION SHALL BE INCLUDED IN THE PAY ITEM 450B, SQUARE YARDS, REINFORCED CEMENT CONCRETE BRIDGE END SLAB. CONCRETE SHALL BE CLASS B.
  - VARIES 1'-5 1/2" (MINIMUM) TO 1'-9 1/2" (SEE NOTE 4)
  - FAN BARS IN END AS REQUIRED TO FIT SKEW IN BARRIER RAIL TRANSITION.

**REVISIONS**

1.	Deleted guardrail anchor details; added thrie beam and w-beam connection detail; added Type Special Curb; deleted Bars BR3 and revised reinforcing; revised notes. WTC 10/2020
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THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

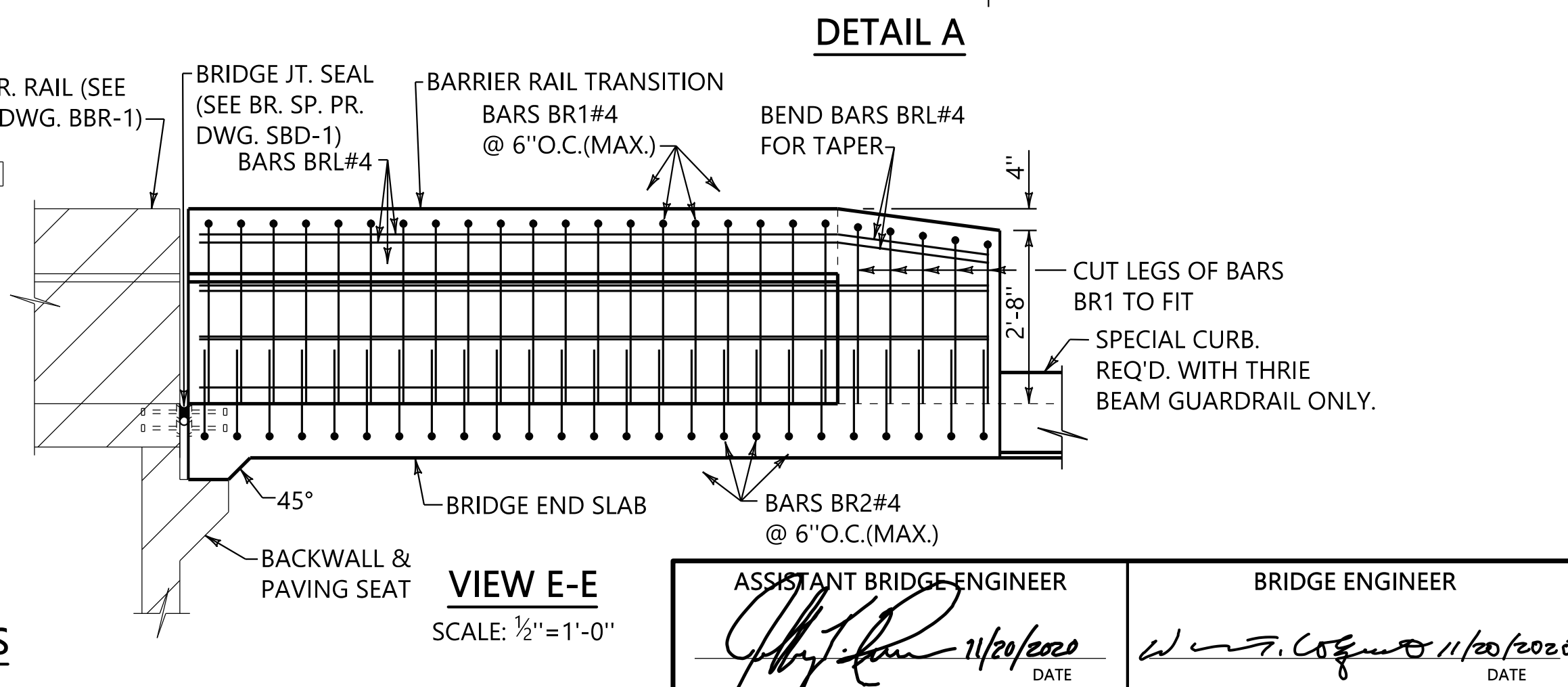
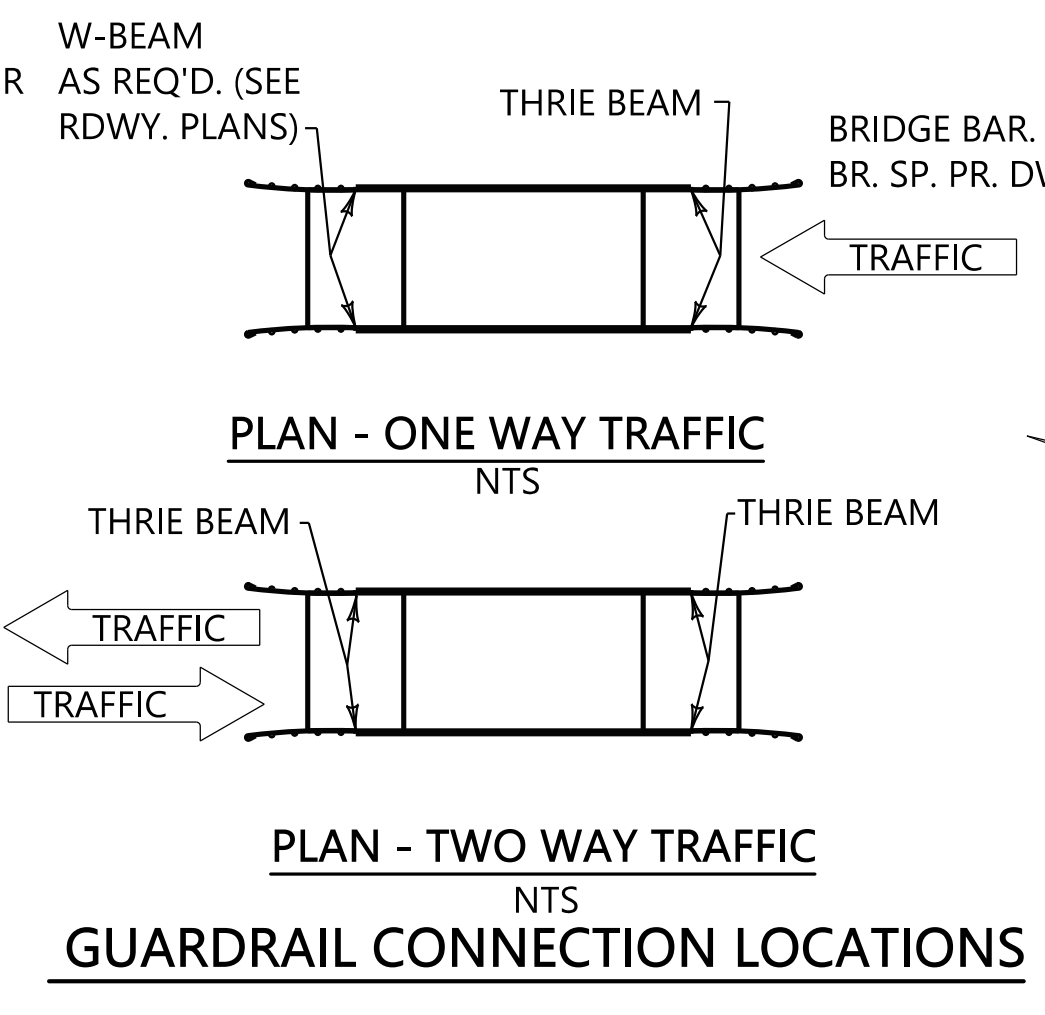
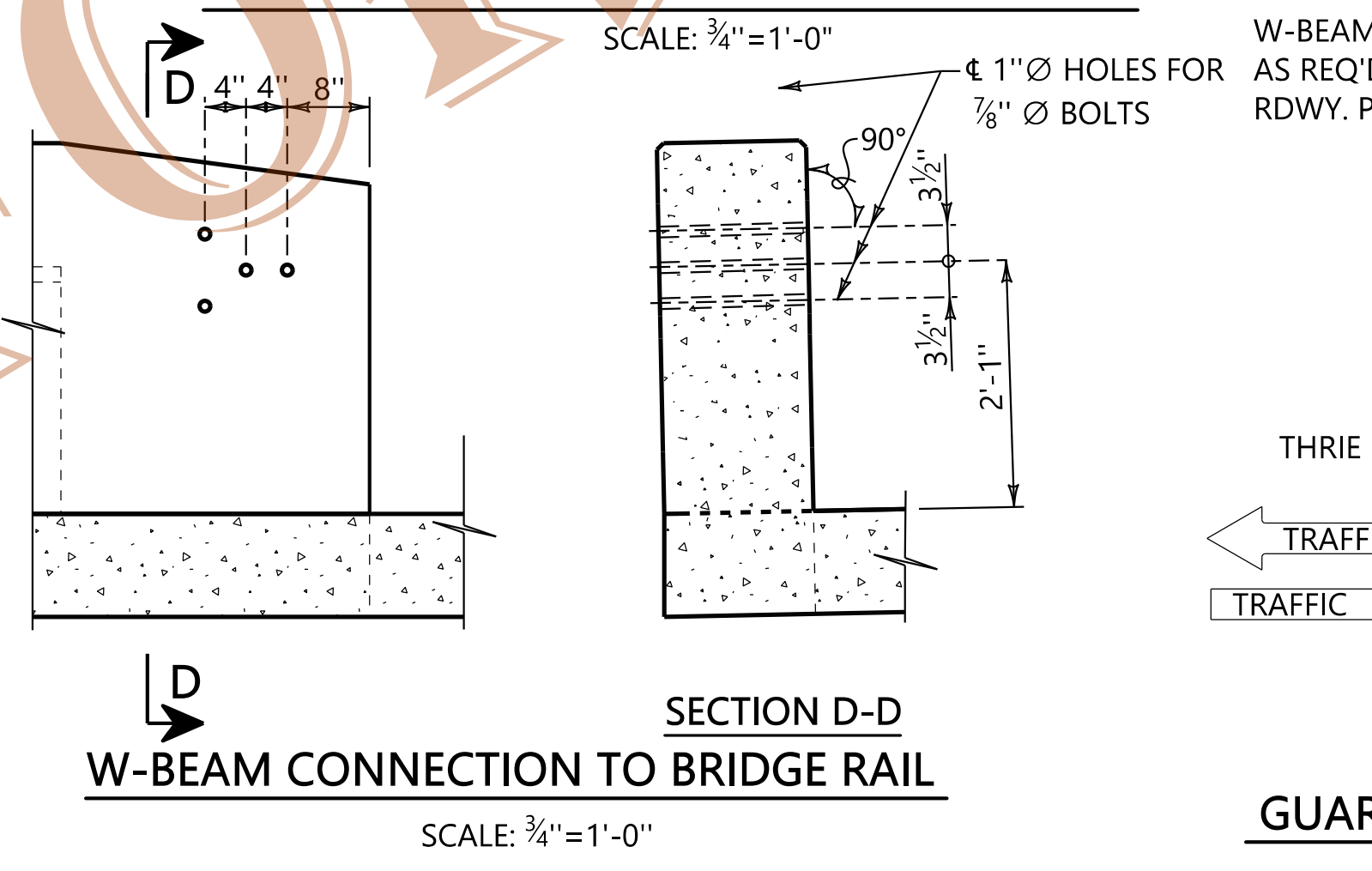
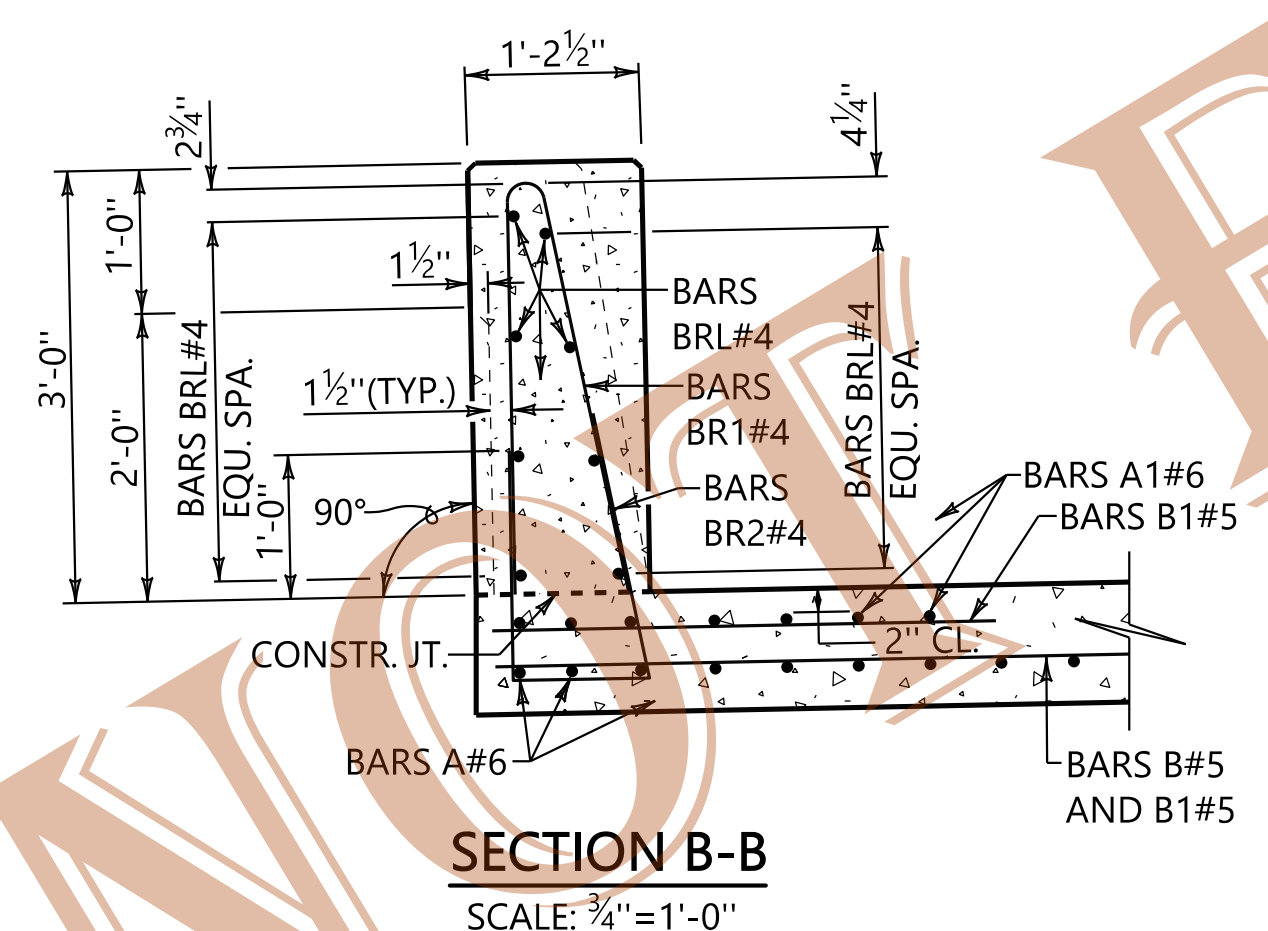
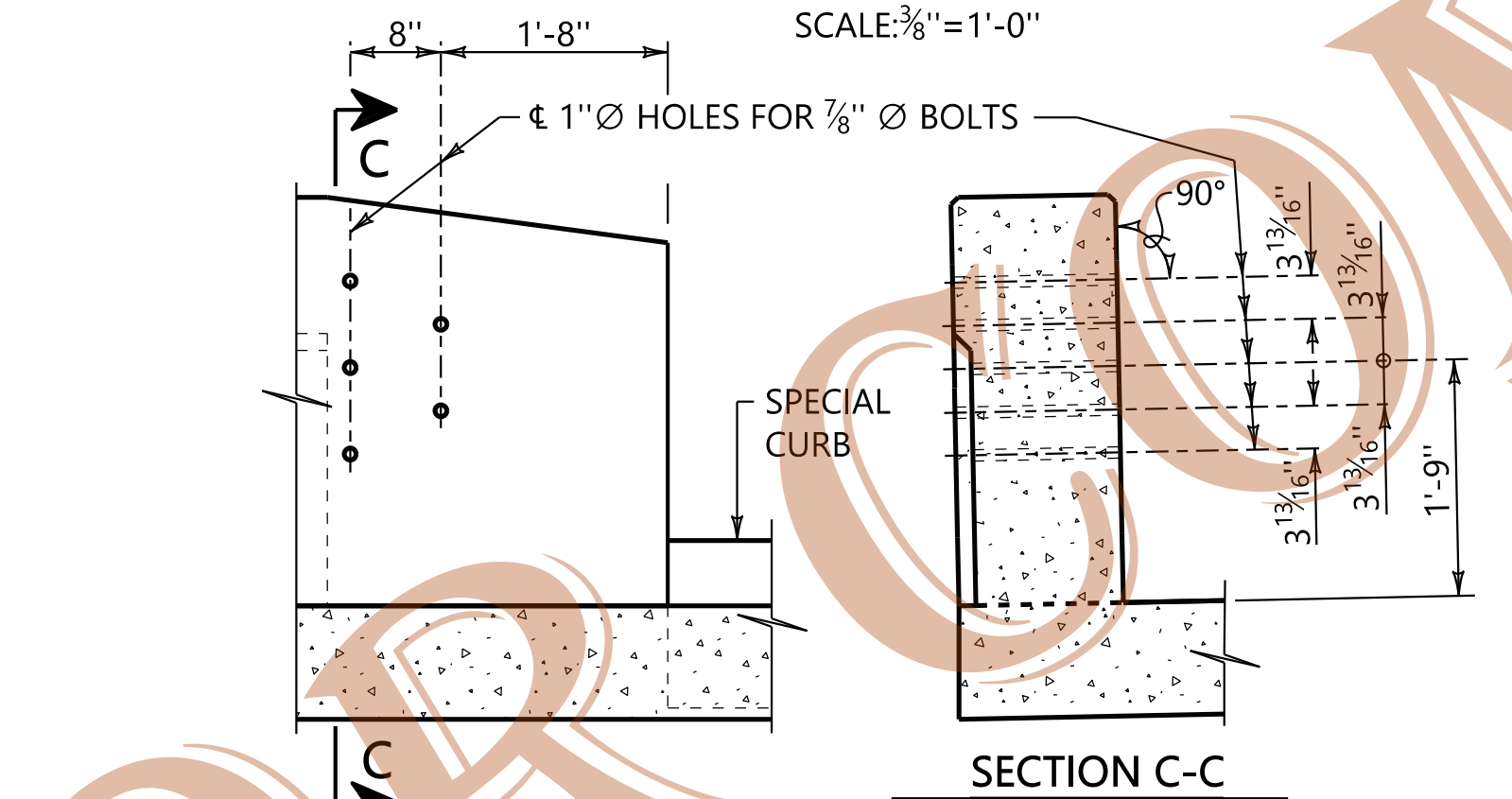
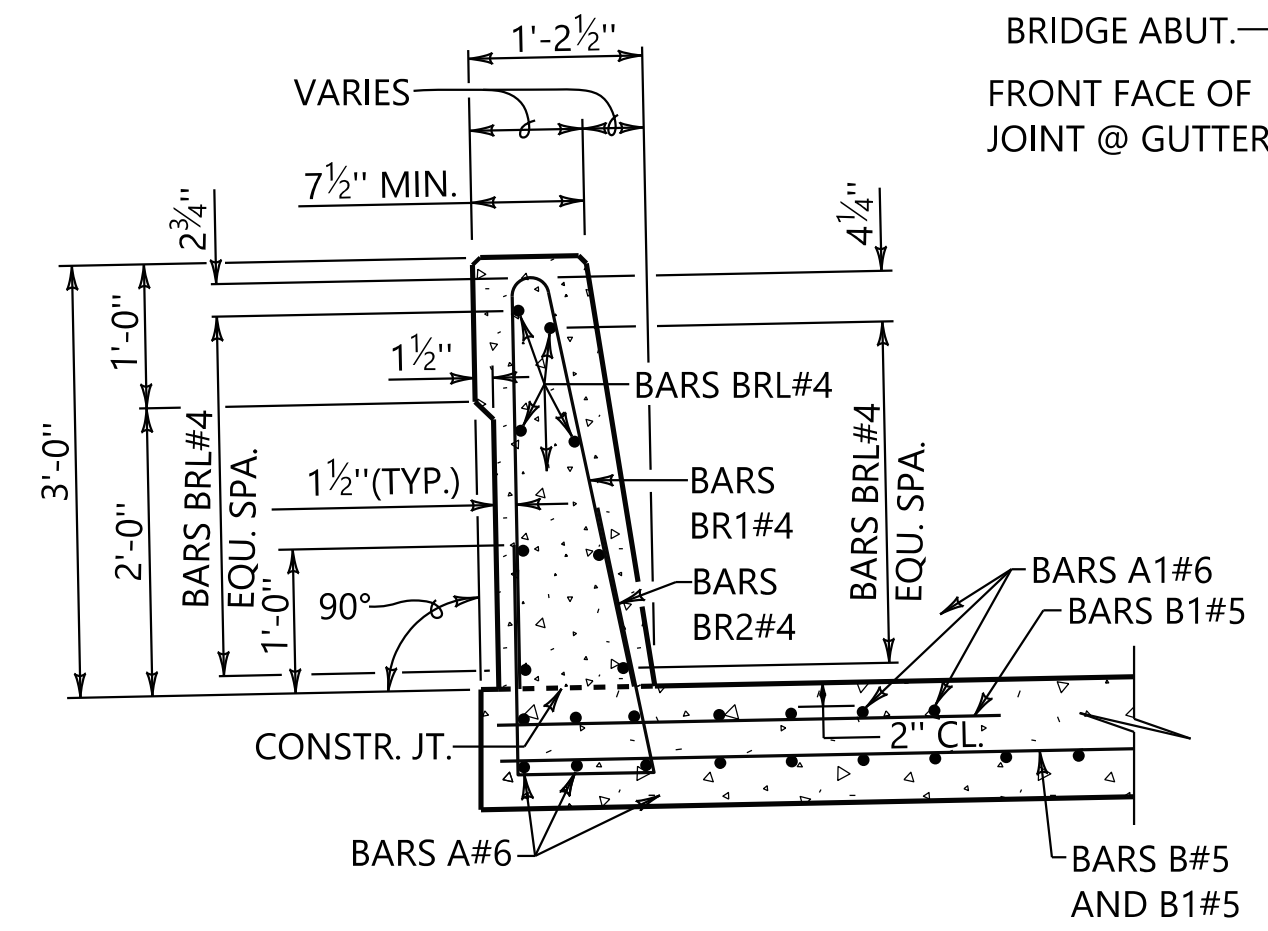
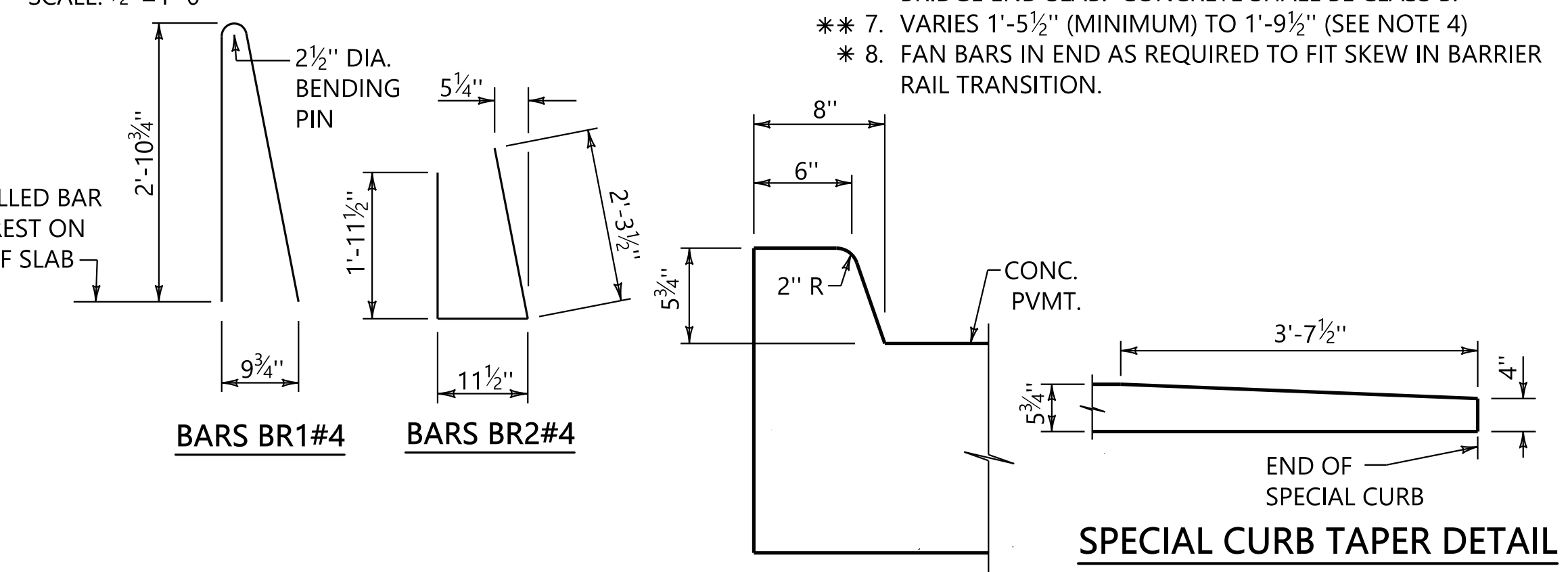
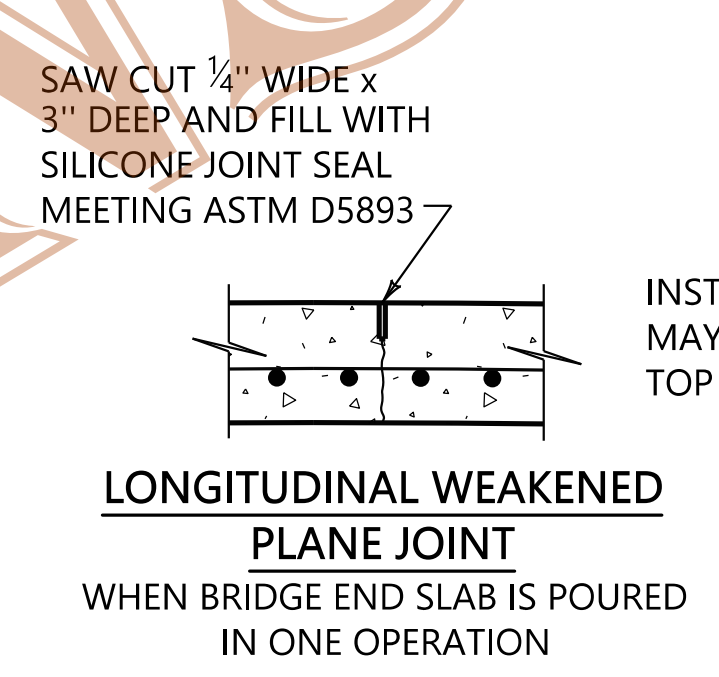
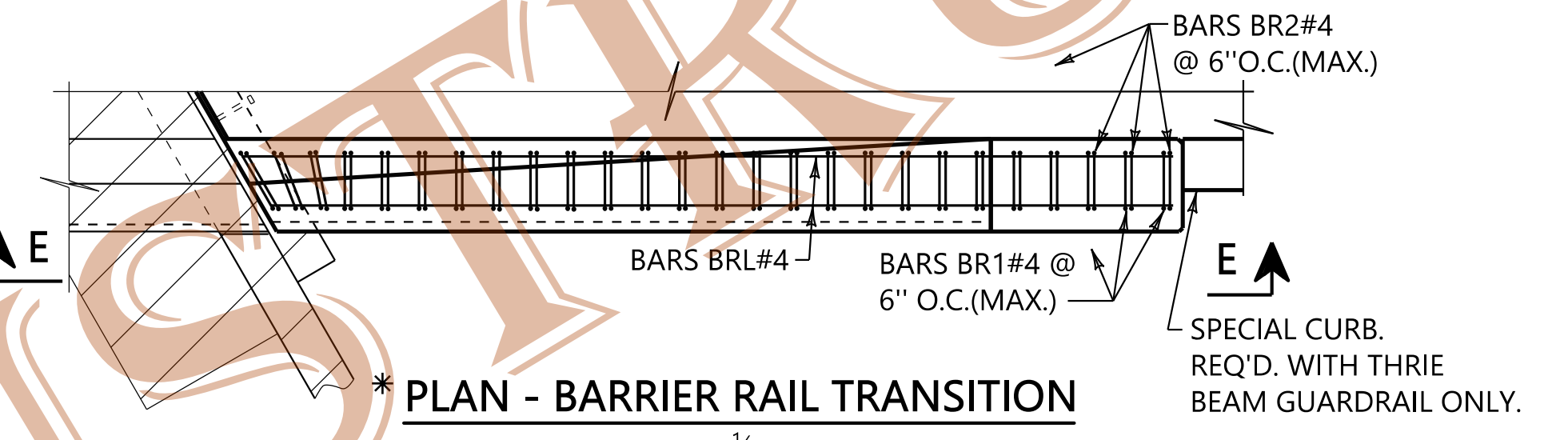
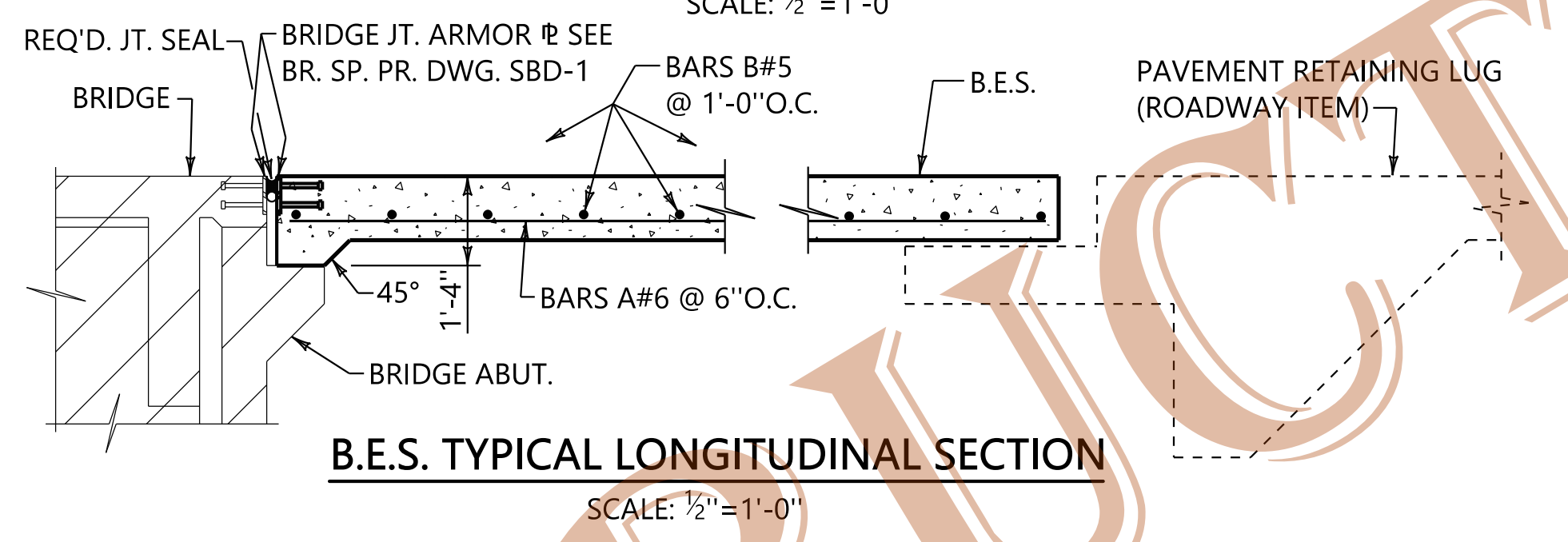
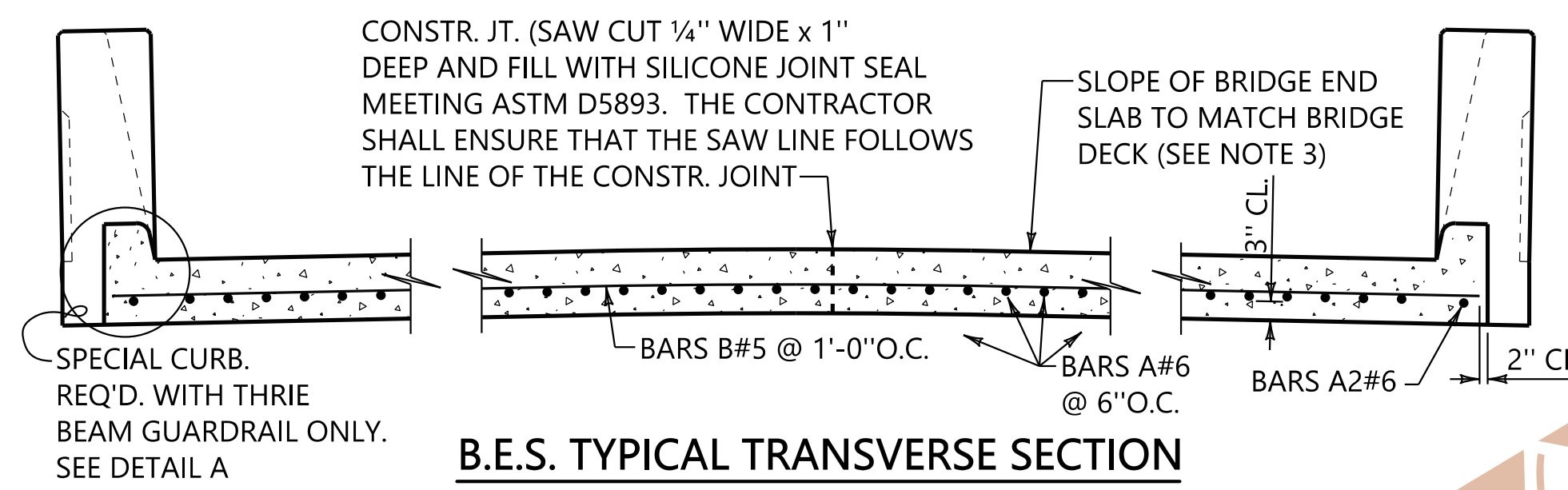
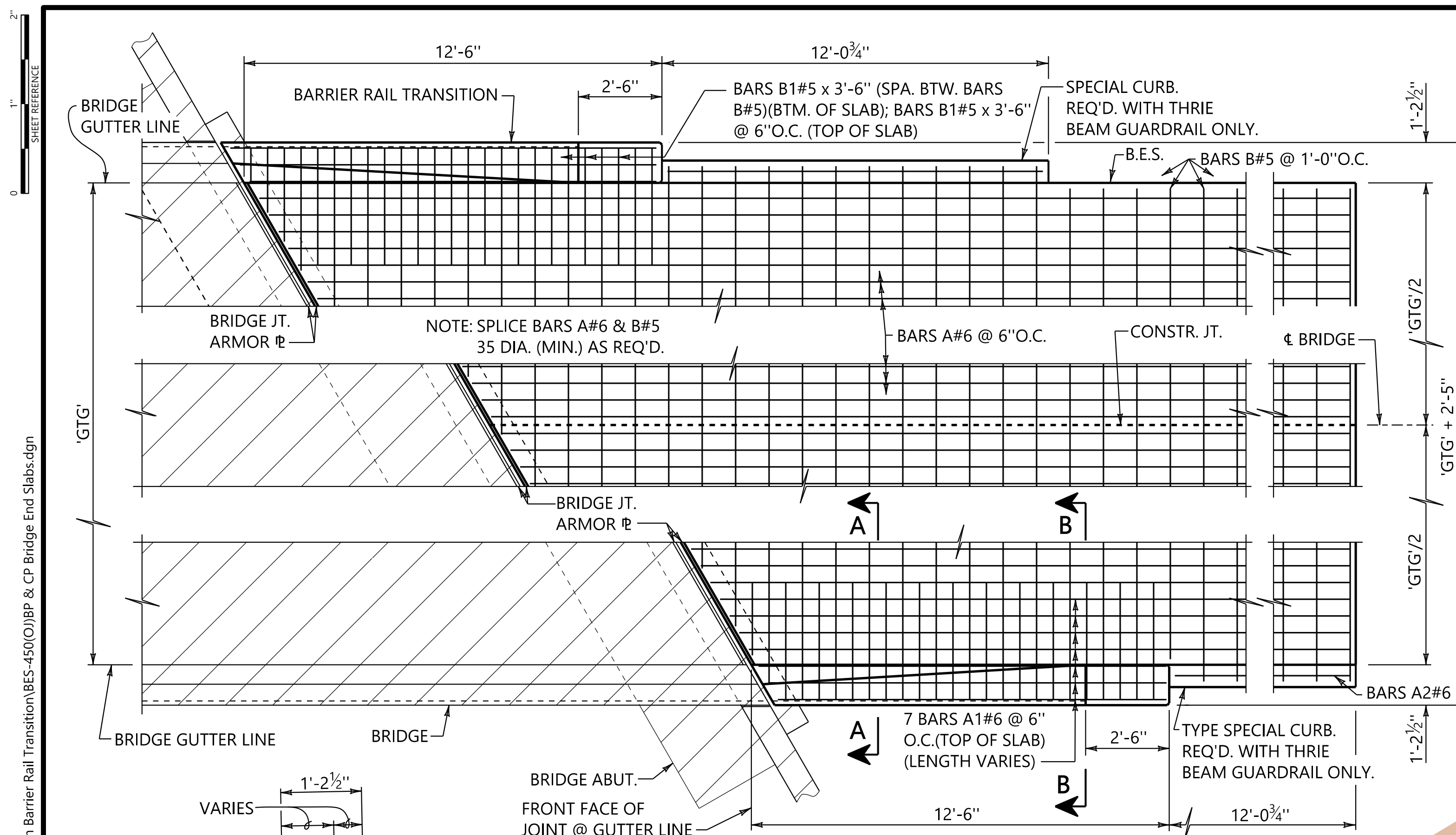
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REINFORCED CONCRETE BRIDGE END SLAB WITH BARRIER RAIL TRANSITION (BRIDGE JOINT INSIDE ABUTMENT WALL) FOR USE WITH CONCRETE PAVEMENT

**BRIDGE SPECIAL PROJECT DRAWING**

ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020	BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020
BES-450(IJ)CP	
SHEET 1 OF 1	





- NOTES**
- PROVIDE A CONSTRUCTION JOINT AT THE BRIDGE FOR 2 LANE BRIDGES AS SHOWN. FOR BRIDGES WITH MORE THAN 2 LANES, MULTIPLE CONSTRUCTION JOINTS MAY BE PROVIDED TO COINCIDE WITH LANE LINES. AT THE OPTION OF THE CONTRACTOR, THE BRIDGE END SLAB MAY BE POURED IN A SINGLE POUR. IF THIS OPTION IS CHOSEN, LONGITUDINAL JOINTS SHALL BE SAWN IN THE SLAB TO COINCIDE WITH LANE LINES. JOINTS SHALL BE SEALED.
  - TRANSVERSE BARS B SHALL BE CONTINUOUS ACROSS JOINTS AND SLAB. WHEN FEASIBLE, USE ONE LENGTH OF BAR TO RUN ACROSS JOINTS AND SLAB, HOWEVER, WHERE IT IS NECESSARY TO USE MORE THAN ONE (1) LENGTH OF BAR, BARS SHALL BE SPLICED 30 DIAMETER MINIMUM.
  - IN THE EVENT THAT THE BRIDGE AND ROADWAY CROWN LINES DO NOT MATCH UP, THE FINISHED CROWN OF THE BRIDGE END SLAB SHALL CONFORM TO THE CROWN OF THE BRIDGE DECK AT THE END ADJACENT TO THE BRIDGE AND TO THE ROADWAY CROWN AT THE END ADJACENT TO THE PAVEMENT. THE CROWN SHALL VARY UNIFORMLY.
  - CONCRETE THICKNESS FOR SKEWED SLABS SHALL BE AS FOLLOWS: 0° TO 15°, 10" THICK; 15° TO 33° SKEW, 10" TO 11" THICK; 33° TO 45° SKEW, 10" TO 14" THICK; GREATER THAN 45°, 10" TO 14" THICK. SLABS SHALL INCREASE IN THICKNESS ON LONG SIDE. THICKNESS SHALL VARY TRANSVERSALLY FROM LONG SIDE TO SHORT SIDE IN A UNIFORM MANNER.
  - COST OF BRIDGE JOINT ARMOR PLATES SHALL BE INCLUDED IN PAY ITEM 508A, LBS., STRUCTURAL STEEL. SHOP DRAWINGS PER THE STANDARD SPECIFICATIONS ARE REQUIRED.
  - COST OF CONCRETE AND STEEL REINFORCEMENT IN BRIDGE END SLAB, TYPE SPECIAL CURB AND BARRIER RAIL TRANSITION SHALL BE INCLUDED IN THE PAY ITEM 450B, SQUARE YARDS, REINFORCED CEMENT CONCRETE BRIDGE END SLAB. CONCRETE SHALL BE CLASS B.
  - VARIES 1'-5 1/2" (MINIMUM) TO 1'-9 1/2" (SEE NOTE 4)
  - FAN BARS IN END AS REQUIRED TO FIT SKEW IN BARRIER RAIL TRANSITION.

PLOTTED: 20-Nov-20 at 12:05  
 \\brvms002\Bridges\StandardSpecial\Bridges\Special DGN Files\2021 DGN\3 Bridge End Slab with Barrier Rail Transition\BES-450(O)CP & CP Bridge End Slabs.dgn

REVISIONS
1. Deleted guardrail anchor details; added thrie beam and w-beam connection detail; added Type Special Curb; deleted Bars BR3 and revised reinforcing; revised notes. WTC 10/2020

THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
 PROJECT NO. \_\_\_\_\_  
 COUNTY(S) \_\_\_\_\_

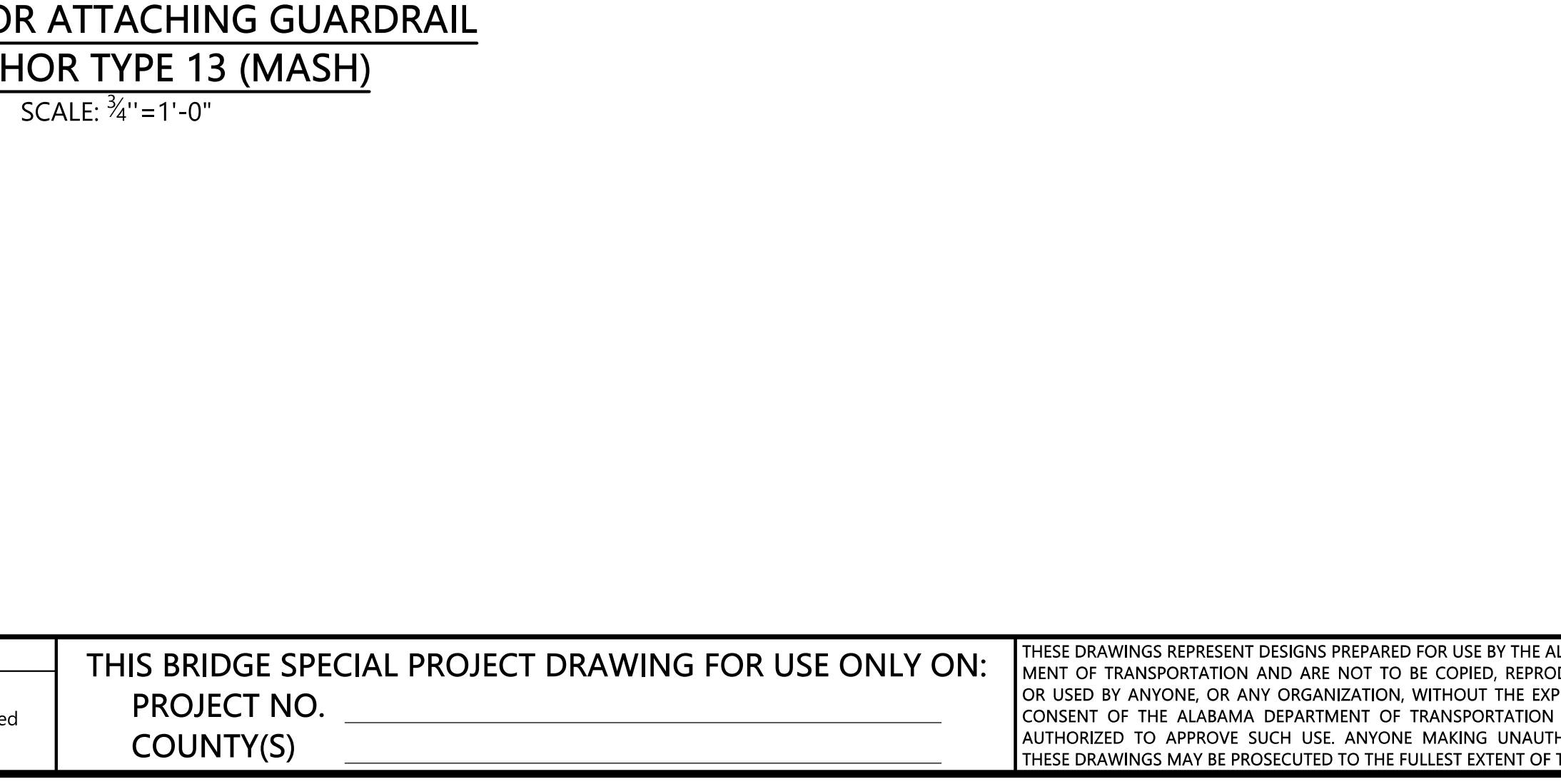
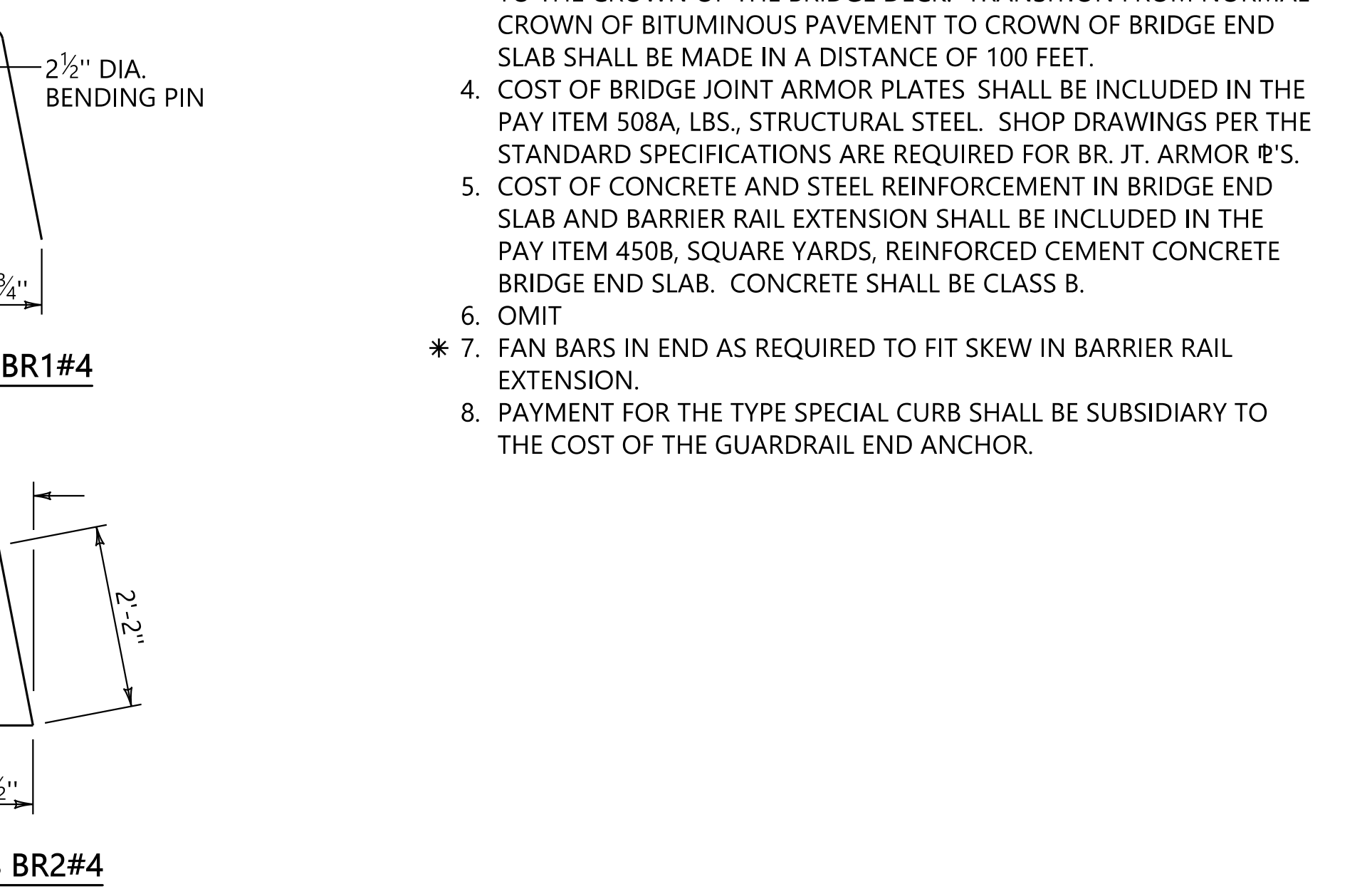
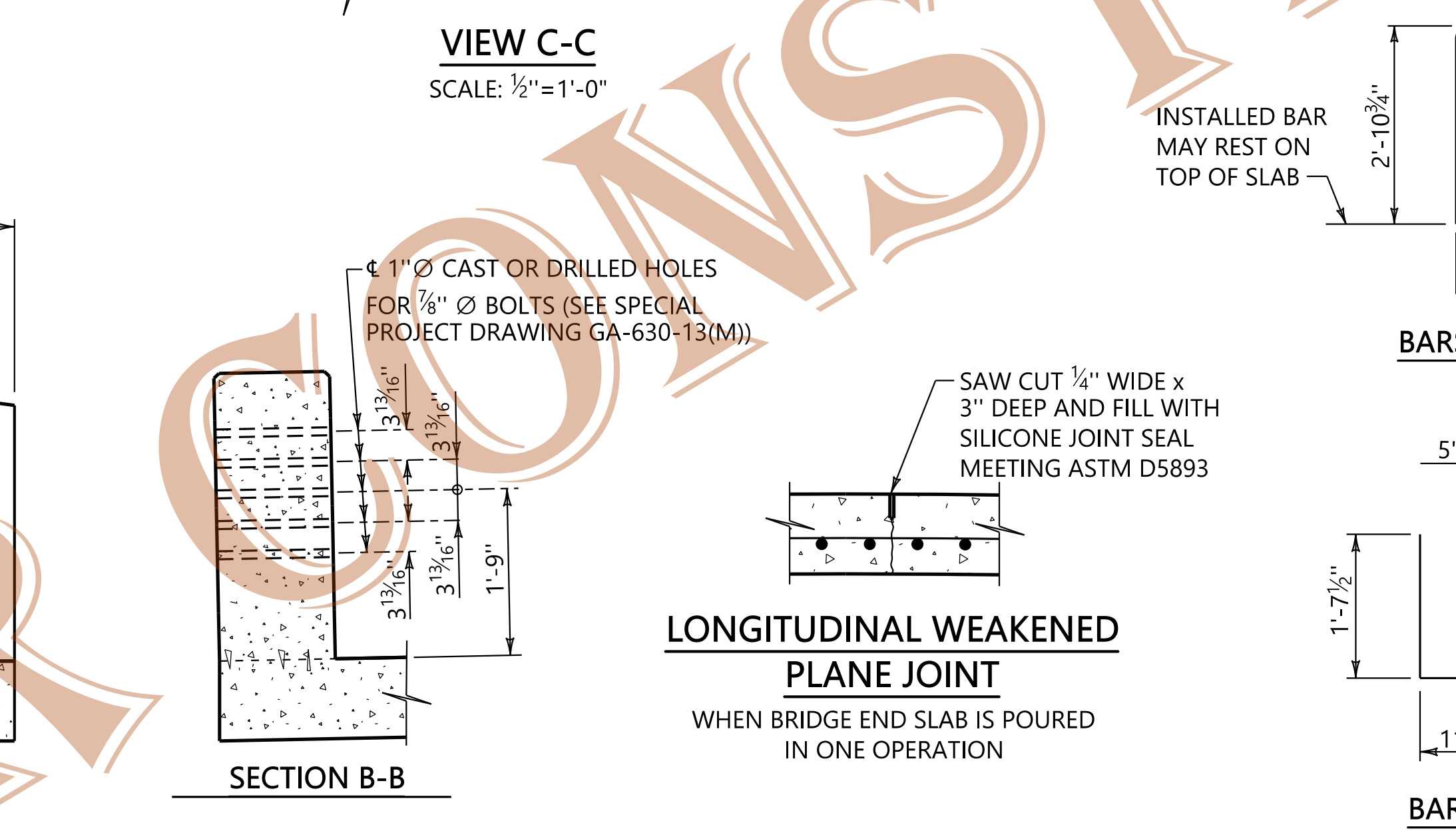
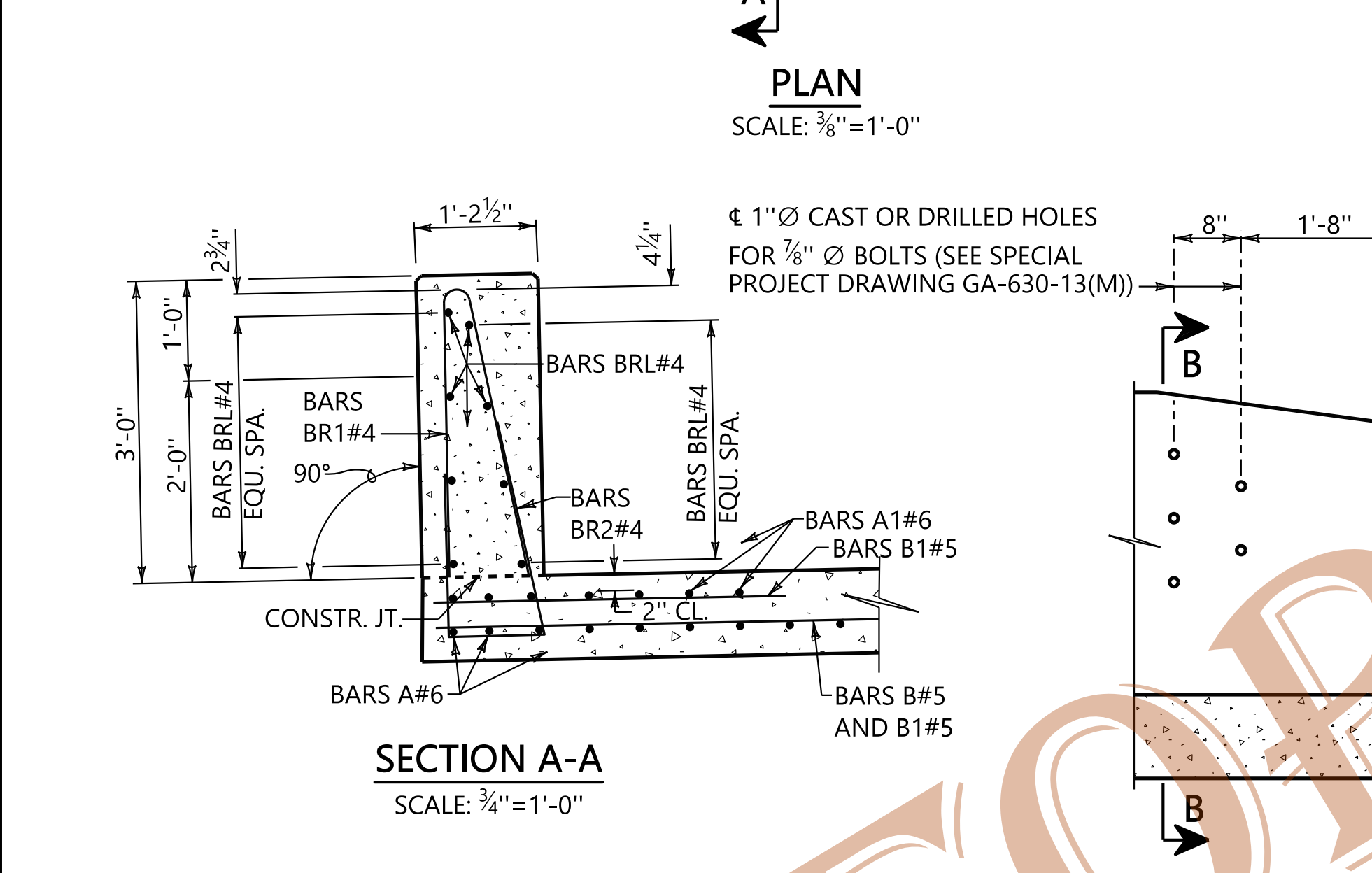
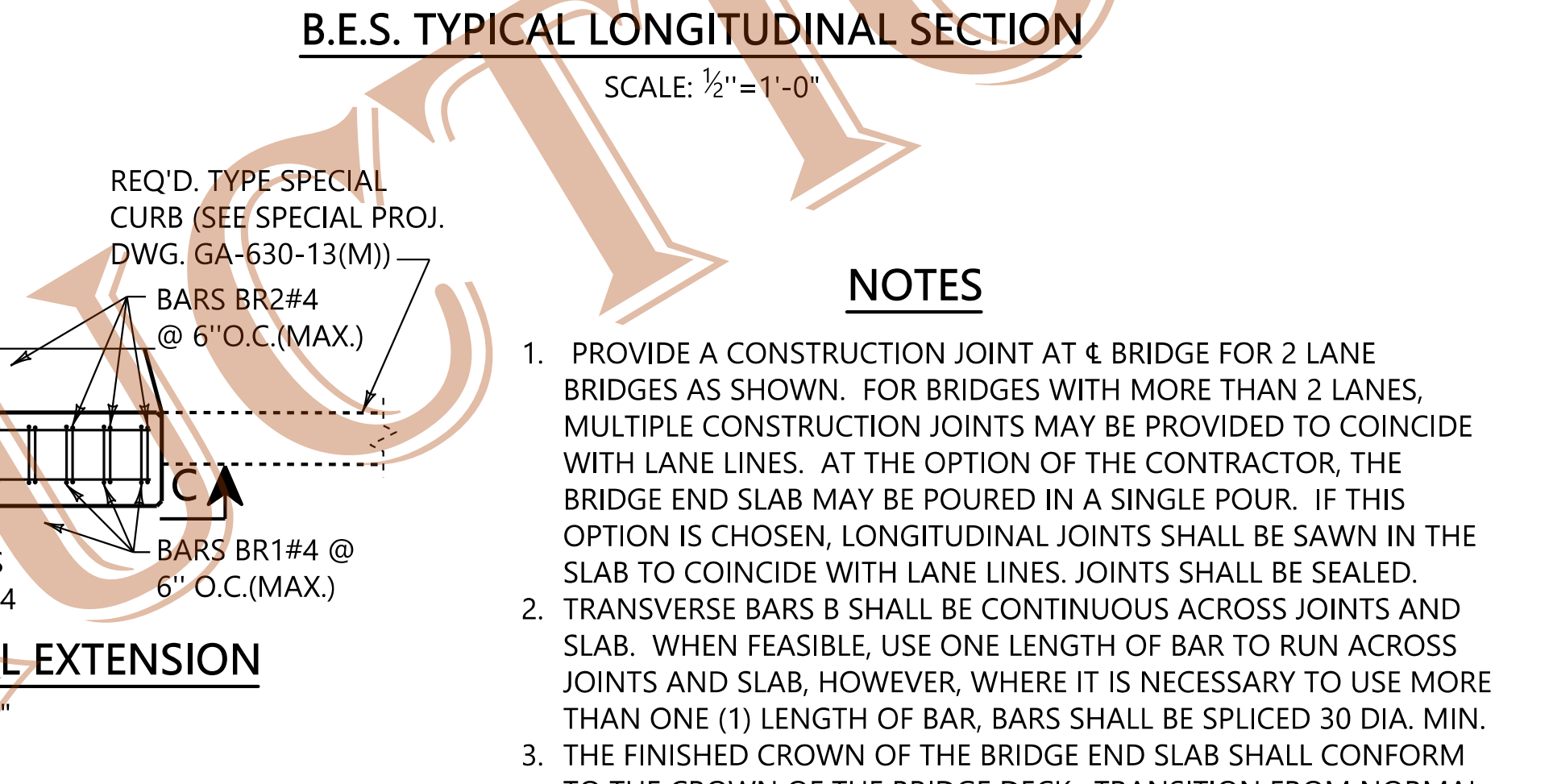
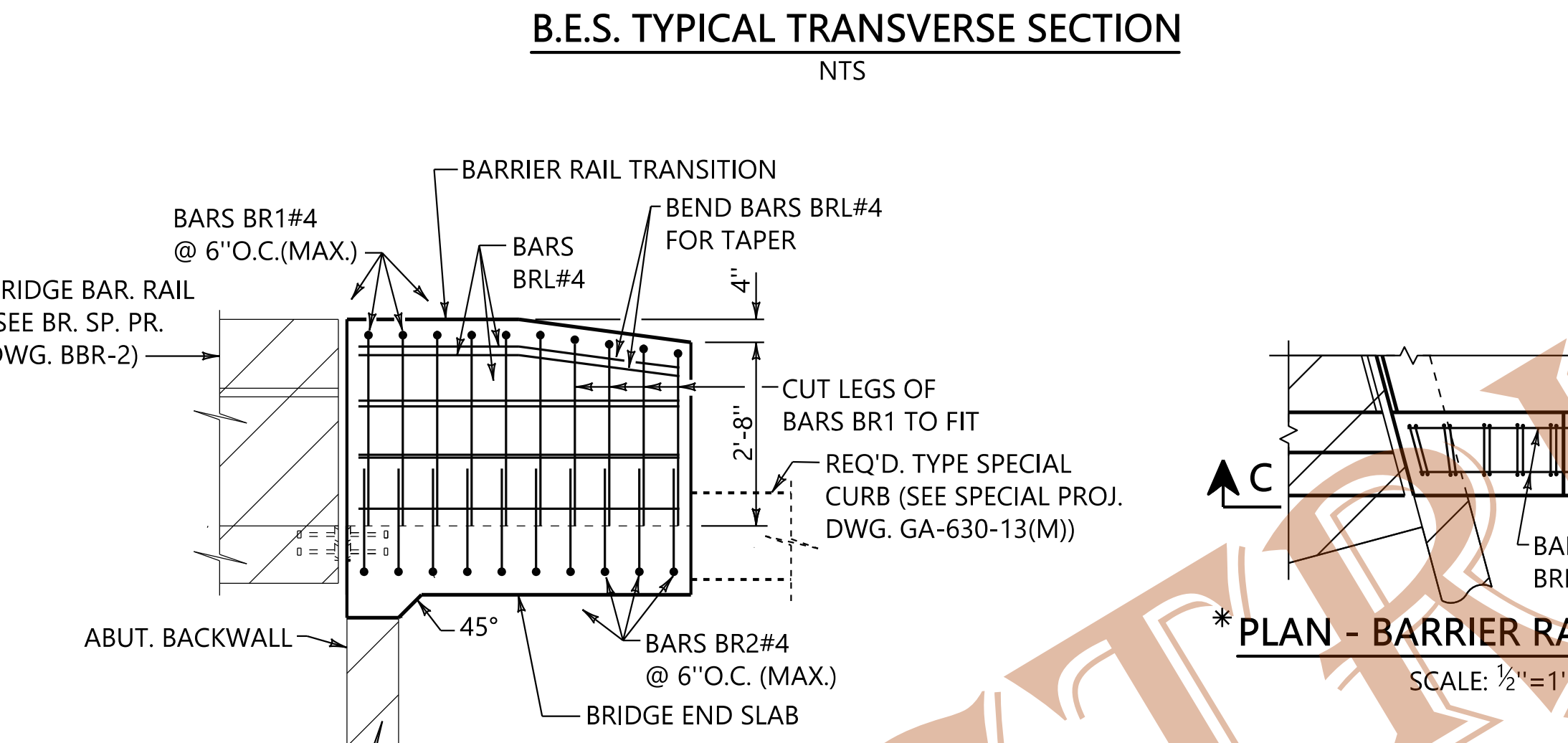
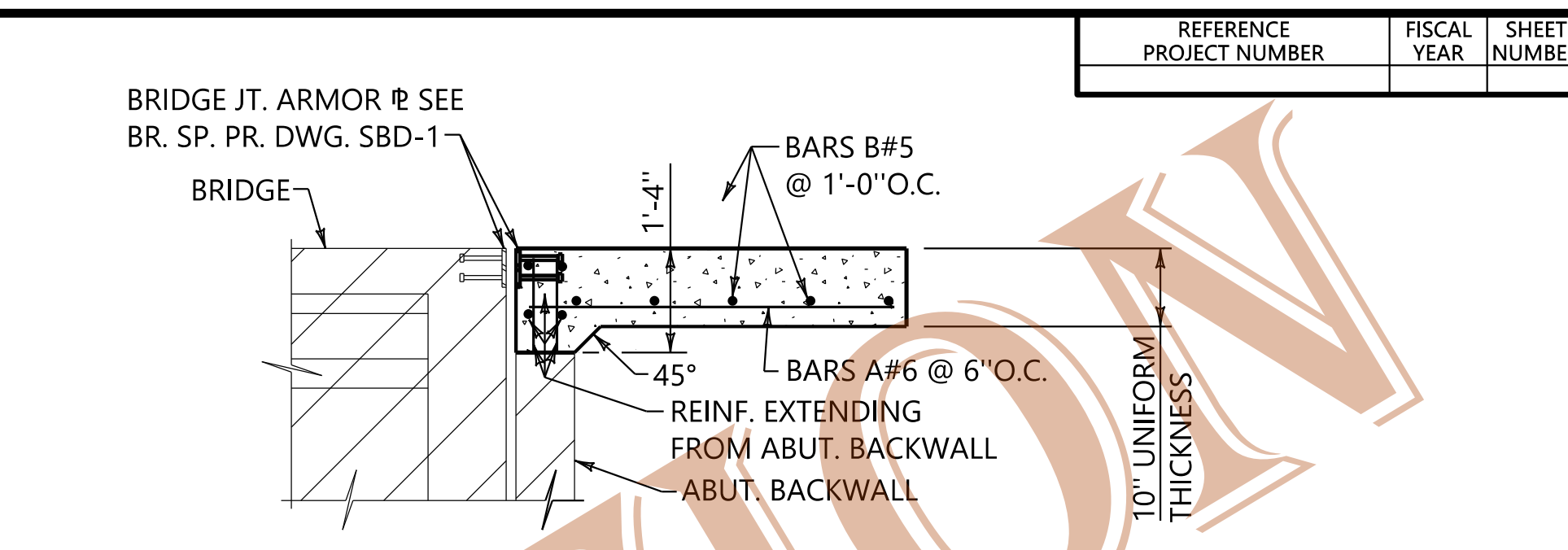
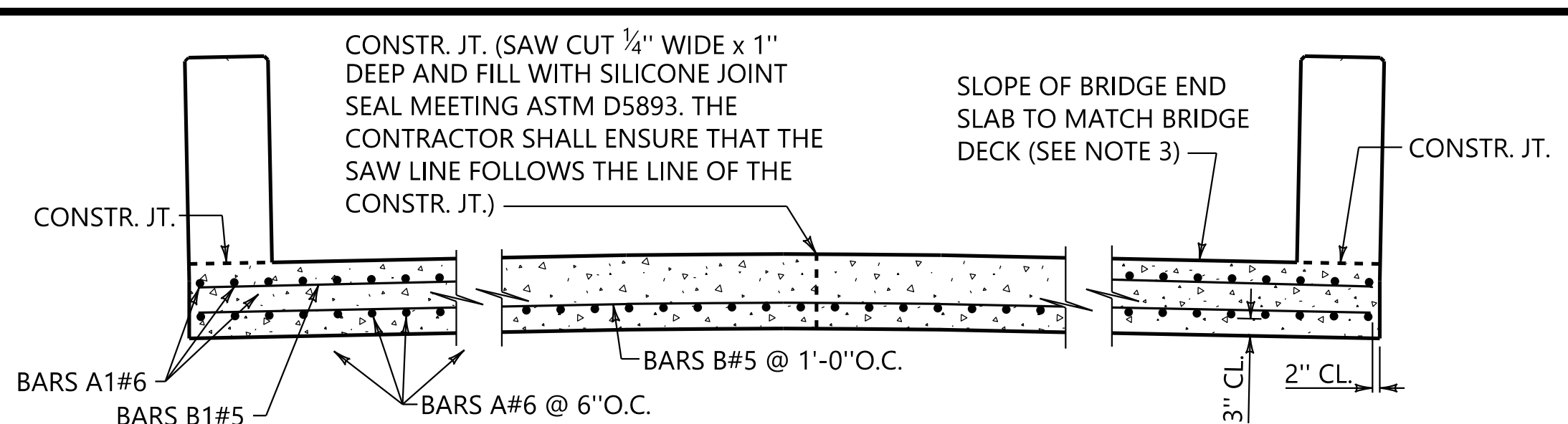
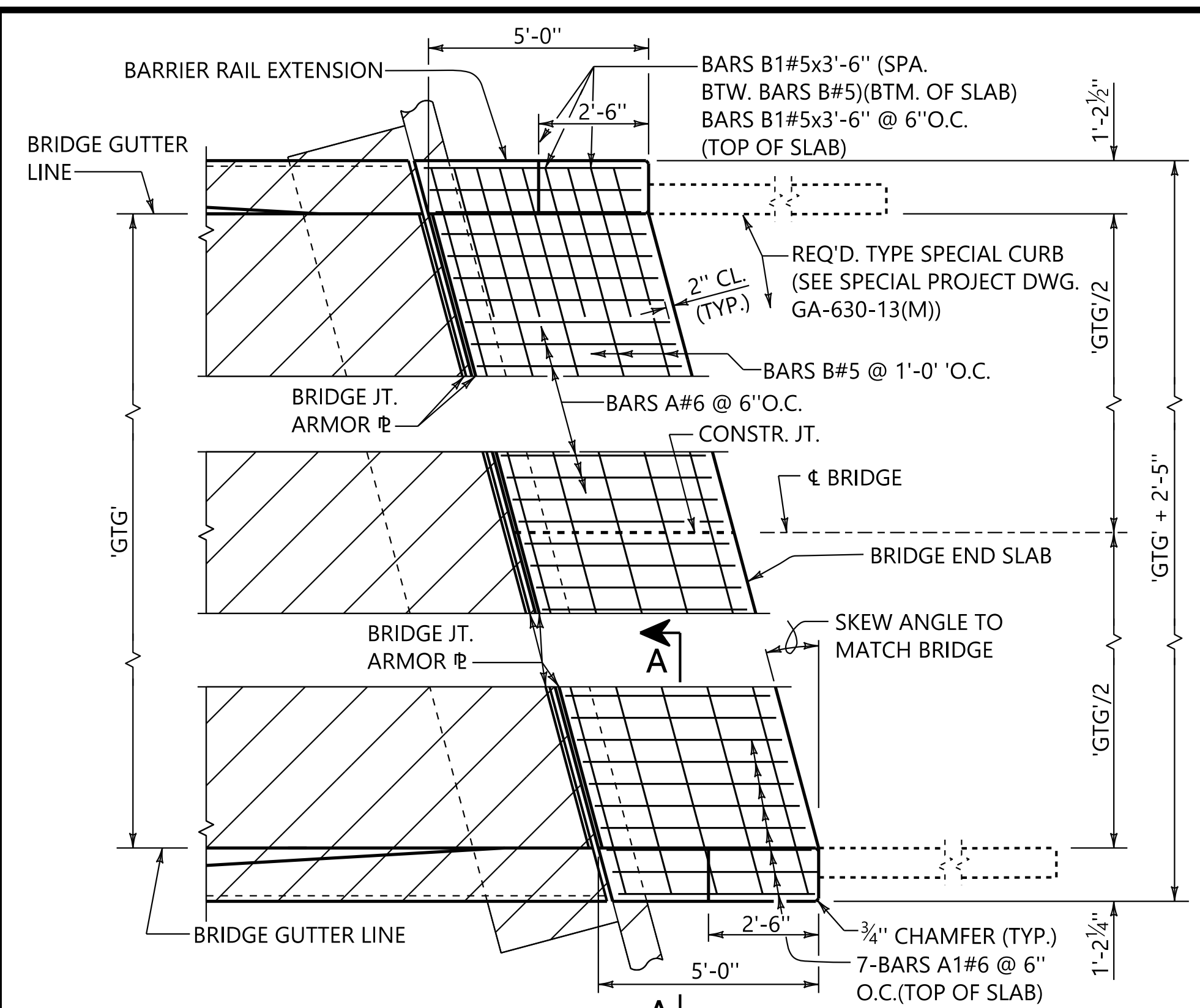
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REINFORCED CONCRETE BRIDGE END SLAB WITH BARRIER RAIL TRANSITION (BRIDGE JOINT OUTSIDE ABUTMENT WALL) FOR USE WITH CONCRETE PAVEMENT

ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020	BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020
<b>BRIDGE SPECIAL PROJECT DRAWING</b>	
<b>BES-450(O)CP</b>	
SHEET	1 OF 1



PLOTTED: 19-Nov-20 at 13:08  
 \\bvms002\BridgesStandardSpecial\Bridges\Special DGN\2021 DGN\3 Bridge End Slab with Barrier Rail Transition\BES-EXT Bridge End Slab Extension.dgn



- NOTES**
1. PROVIDE A CONSTRUCTION JOINT AT  $\phi$  BRIDGE FOR 2 LANE BRIDGES AS SHOWN. FOR BRIDGES WITH MORE THAN 2 LANES, MULTIPLE CONSTRUCTION JOINTS MAY BE PROVIDED TO COINCIDE WITH LANE LINES. AT THE OPTION OF THE CONTRACTOR, THE BRIDGE END SLAB MAY BE POURED IN A SINGLE POUR. IF THIS OPTION IS CHOSEN, LONGITUDINAL JOINTS SHALL BE SAWN IN THE SLAB TO COINCIDE WITH LANE LINES. JOINTS SHALL BE SEALED.
  2. TRANSVERSE BARS B SHALL BE CONTINUOUS ACROSS JOINTS AND SLAB. WHEN FEASIBLE, USE ONE LENGTH OF BAR TO RUN ACROSS JOINTS AND SLAB, HOWEVER, WHERE IT IS NECESSARY TO USE MORE THAN ONE (1) LENGTH OF BAR, BARS SHALL BE SPLICED 30 DIA. MIN.
  3. THE FINISHED CROWN OF THE BRIDGE END SLAB SHALL CONFORM TO THE CROWN OF THE BRIDGE DECK. TRANSITION FROM NORMAL CROWN OF BITUMINOUS PAVEMENT TO CROWN OF BRIDGE END SLAB SHALL BE MADE IN A DISTANCE OF 100 FEET.
  4. COST OF BRIDGE JOINT ARMOR PLATES SHALL BE INCLUDED IN THE PAY ITEM 508A, LBS., STRUCTURAL STEEL. SHOP DRAWINGS PER THE STANDARD SPECIFICATIONS ARE REQUIRED FOR BR. JT. ARMOR P'S.
  5. COST OF CONCRETE AND STEEL REINFORCEMENT IN BRIDGE END SLAB AND BARRIER RAIL EXTENSION SHALL BE INCLUDED IN THE PAY ITEM 450B, SQUARE YARDS, REINFORCED CEMENT CONCRETE BRIDGE END SLAB. CONCRETE SHALL BE CLASS B.
  6. OMIT
  - \* 7. FAN BARS IN END AS REQUIRED TO FIT SKEW IN BARRIER RAIL EXTENSION.
  8. PAYMENT FOR THE TYPE SPECIAL CURB SHALL BE SUBSIDIARY TO THE COST OF THE GUARDRAIL END ANCHOR.

**REVISIONS**

1.	Deleted guardrail anchor details; added thrie beam and w-beam connection detail; added Type Special Curb; deleted Bars BR3 and revised reinforcing; revised notes. WTC 10/2020
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THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

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REINFORCED CONCRETE BRIDGE END SLAB WITH BARRIER RAIL EXTENSION FOR BRIDGE SKEW 15 DEGREE & GREATER

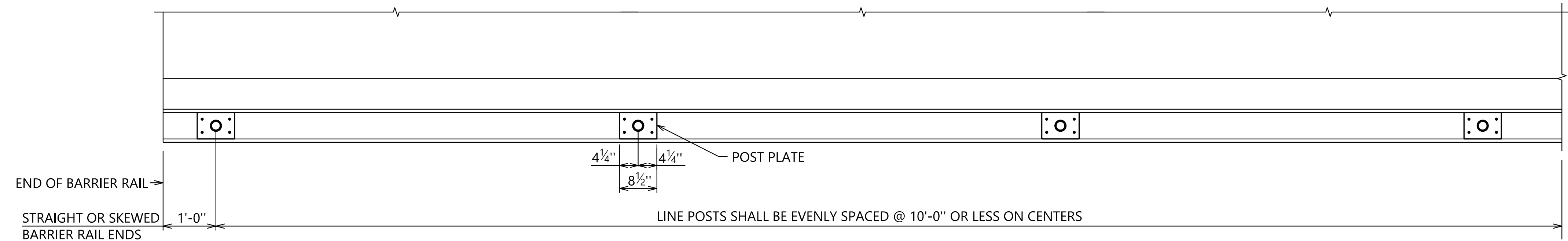
BRIDGE SPECIAL PROJECT DRAWING  
BES-EXT  
SHEET 1 OF 1

ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020	BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020
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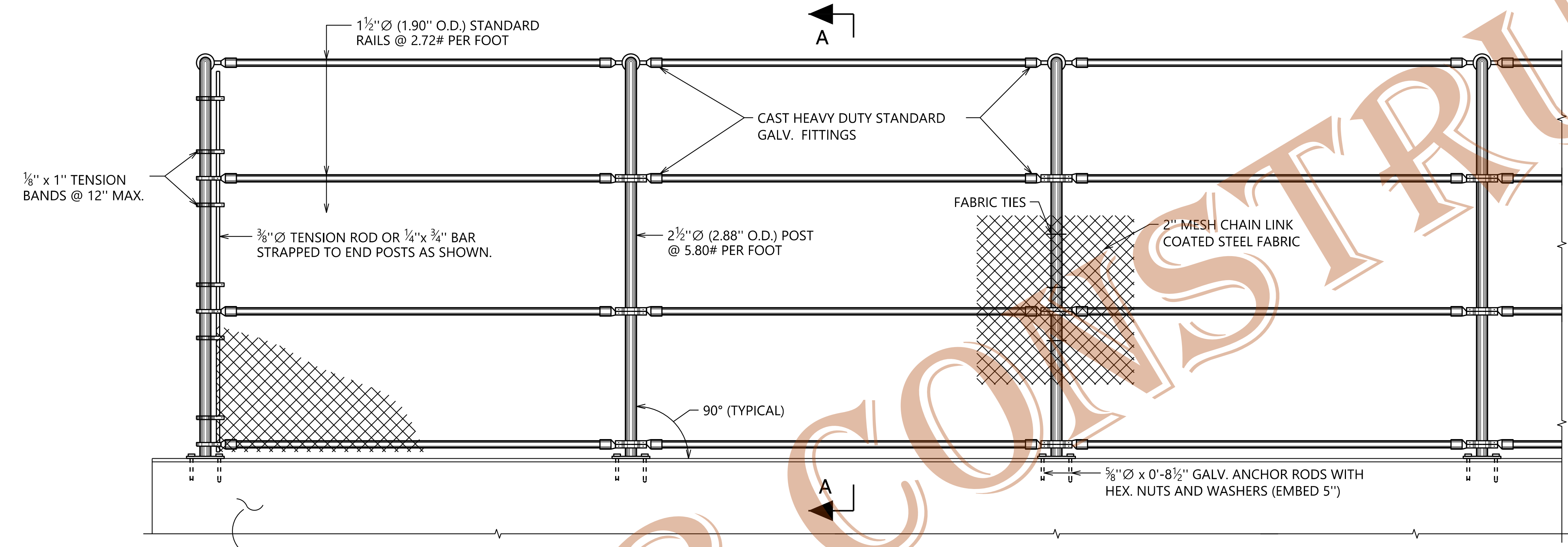


**NOTES**

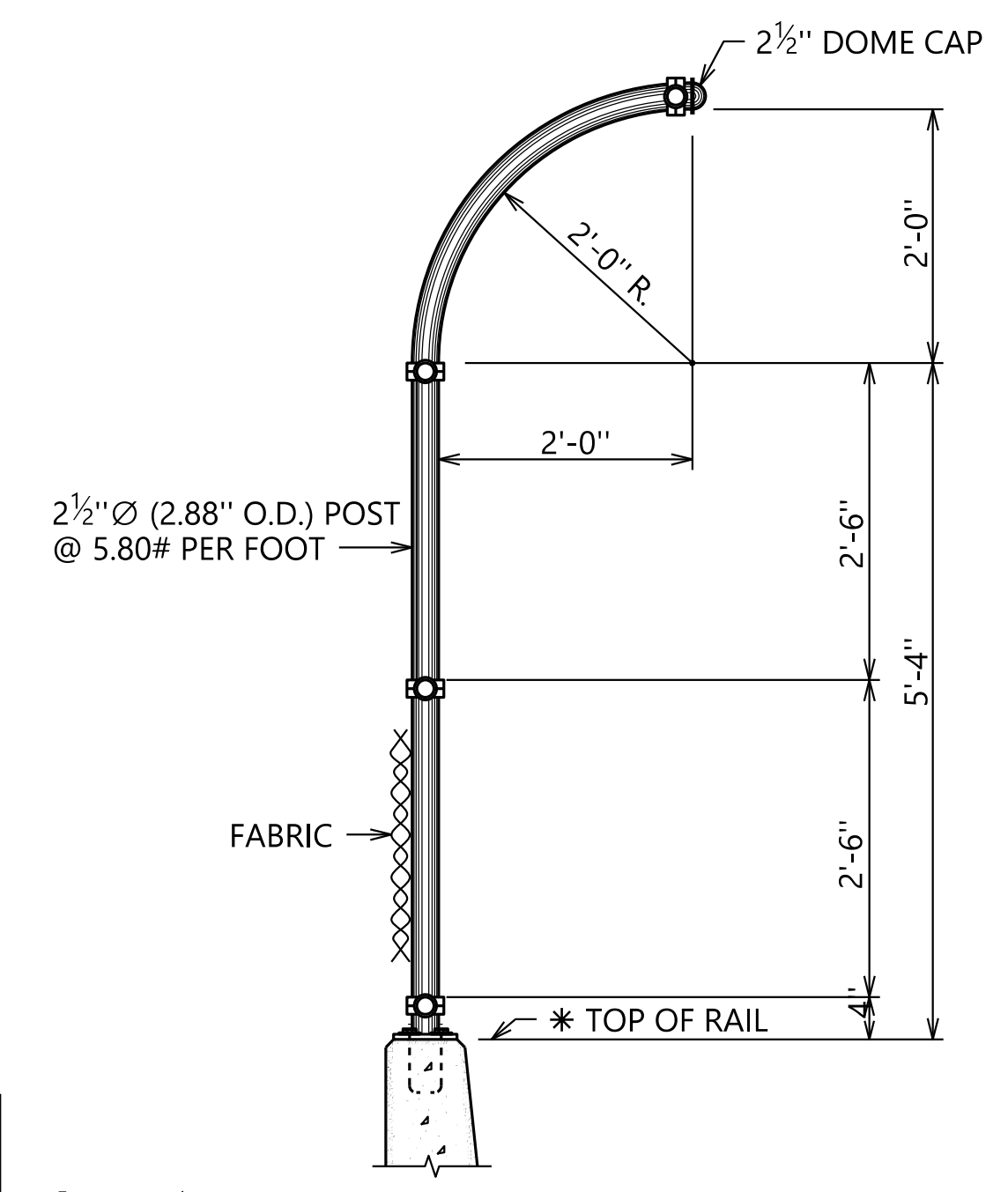
1. ALL POST AND FRAMES TO BE SET AS SHOWN IN ELEVATION ABOVE.
2. FABRIC SHALL BE FASTENED TO LINE POST WITH PROPER TIES SPACED APPROX. 12" APART. FABRIC SHALL BE ATTACHED TO RAILS WITH PROPER TIES SPACED APPROX 15" APART.
3. ALL ROUGH EDGES OF FABRIC OR TIE TWIST ENDS SHALL BE BENT BACK AWAY FROM PEDESTRIAN SIDE OF WALKWAYS.
4. OMITTED
5. ALL MATERIALS FOR FENCE SHALL BE IN ACCORDANCE WITH THE ALABAMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 871. ALL MISCELLANEOUS STEEL, SEE SUB-ARTICLE 634.02(b).
6. TEMPLATES, SUPPLIED BY THE MATERIALS MANUFACTURER, SHALL BE USED TO PLACE ALL  $\frac{5}{8}$ "  $\varnothing$  ANCHOR RODS FOR POST PLATES.
7. PAYMENT FOR FENCE SHALL BE PAY ITEM 634E "INDUSTRIAL FENCE, 7.33 FEET HIGH, SPECIAL MOUNTING - PER LIN. FT.". THIS ITEM SHALL CONSIST OF FURNISHING AND PLACING THE FENCE, WHICH INCLUDES THE WIRE FABRIC, ALL THE PIPE, FRAMEWORK, ALL THE FASTENERS, PLATES, STRAPS AND CONNECTORS NECESSARY FOR THIS INSTALLATION, COMPLETE AND IN PLACE.
8. THE CONTRACTOR MAY SUBSTITUTE  $\frac{5}{8}$ "  $\varnothing$  x 8" ALL THREADED, GALVANIZED A-36 ANCHOR RODS IN  $\frac{1}{16}$ " x 6" DRILLED HOLES IN LIEU OF THE ANCHORAGE DETAILS SHOWN ON THIS SHEET. THIS ALTERNATE ANCHORAGE SYSTEM MUST BE EPOXIED IN WITH ONE OF THE APPROVED CONCRETE ANCHORING SYSTEMS IN THE ALDOT "MATERIALS, SOURCES AND DEVICES WITH SPECIAL ACCEPTANCE REQUIREMENTS" MANUAL, SECTION II-15. PULL OUT TEST MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER.
- \* 9. INDUSTRIAL FENCE MAY BE MOUNTED TO THE BRIDGE DECK IF SHOWN ON THE CONTRACT PLANS.



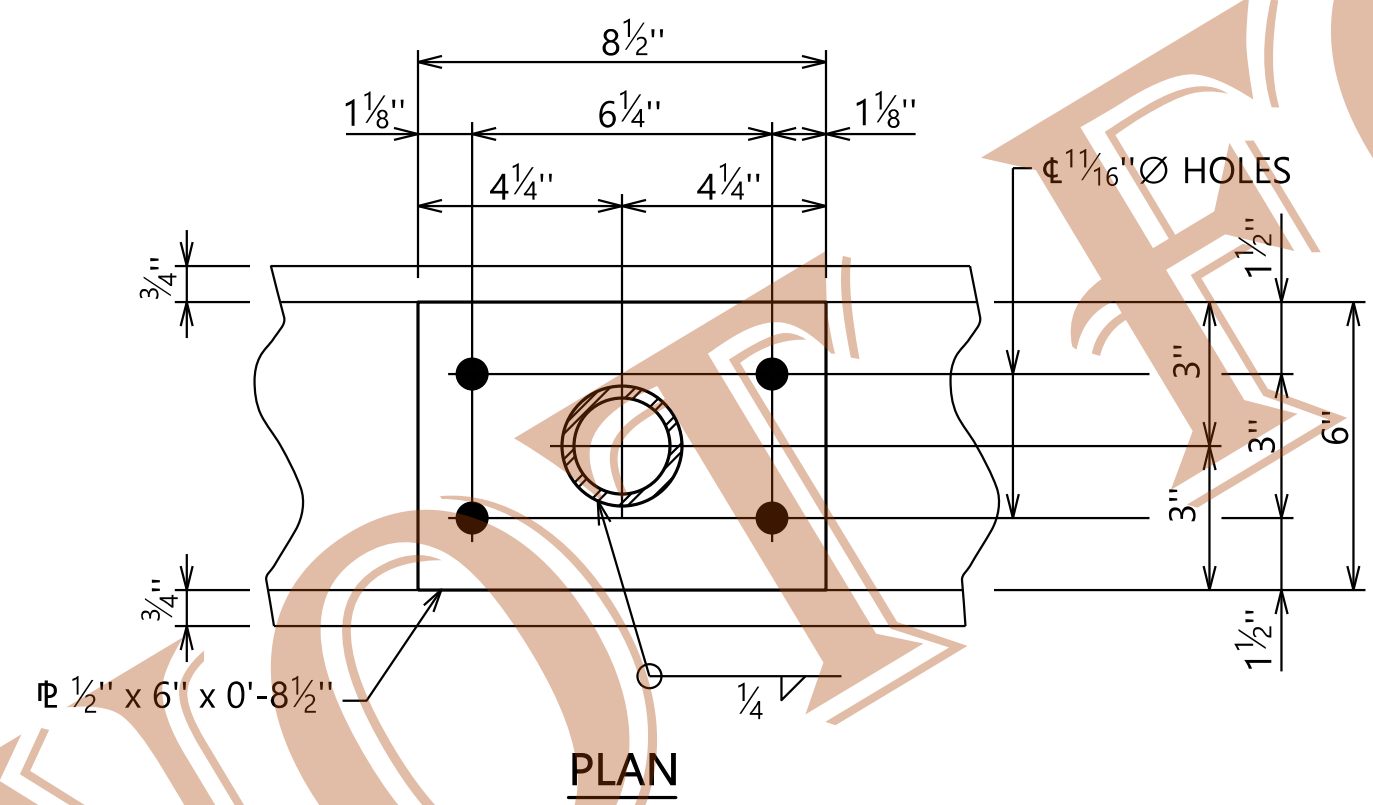
**PLAN OF POST PLATES**  
SCALE:  $\frac{3}{4}$ " = 1'-0"



**ELEVATION OF FENCE**  
SCALE:  $\frac{3}{4}$ " = 1'-0"



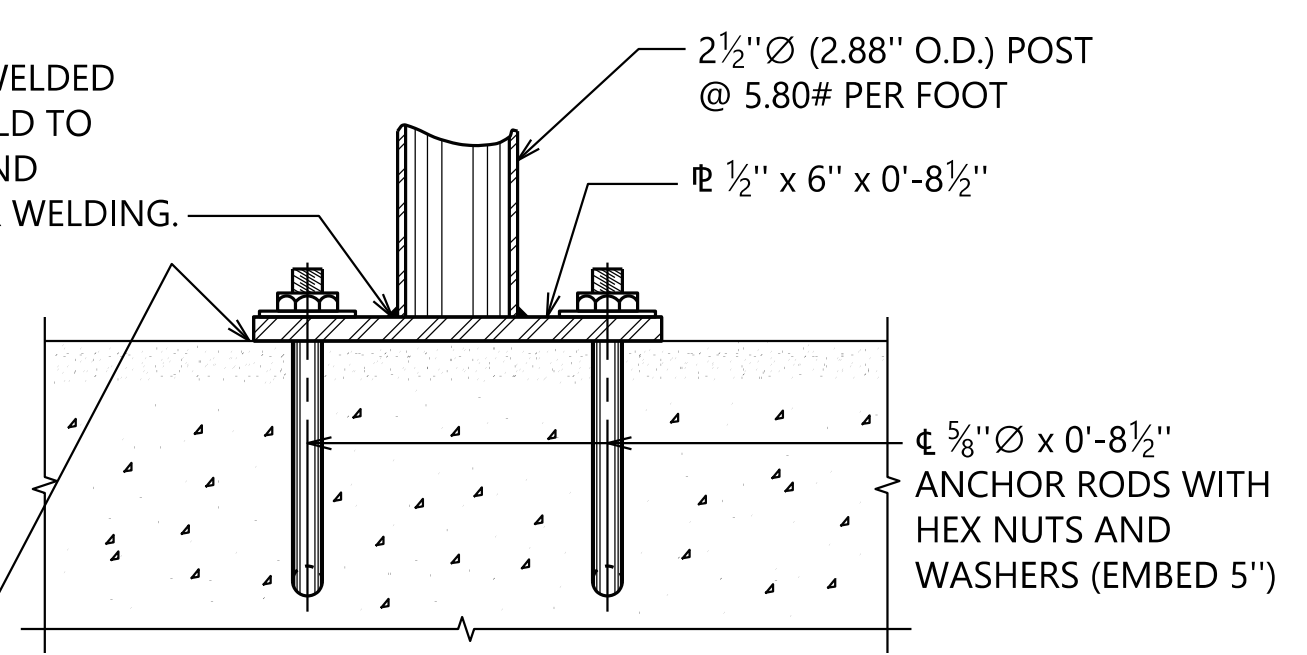
**SECTION A-A**  
SCALE:  $\frac{3}{4}$ " = 1'-0"



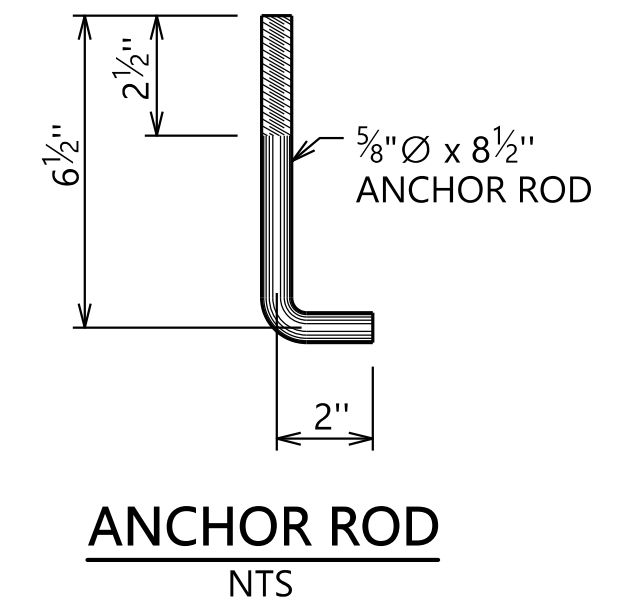
**PLAN**

$\frac{1}{2}$ "  $\varnothing$  TO BE SHOP WELDED WITH  $\frac{1}{4}$ " FILLET WELD TO 2 1/2"  $\varnothing$  O.D. POST AND GALVANIZED AFTER WELDING.

GALVANIZED BEVELED WASHERS SHALL BE PROVIDED AS SHIMS WHERE REQUIRED FOR PROPER POST ALIGNMENT. EPOXY CEMENT SHALL BE REQUIRED TO LEVEL CONCRETE UNDER POST IF A GREATER THAN  $\frac{1}{8}$ " THICK WASHER IS NEEDED TO ALIGN THE POSTS.



**ELEVATION**



**ANCHOR ROD NTS**

**POST PLATE**  
SCALE: 3" = 1'-0"

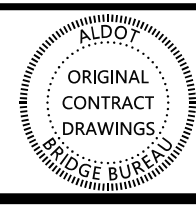
REVISIONS

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COUNTY(S) \_\_\_\_\_

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ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020	BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020
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ALABAMA DEPARTMENT OF TRANSPORTATION



INDUSTRIAL FENCE STANDARD DETAILS FOR BRIDGE SIDEWALKS

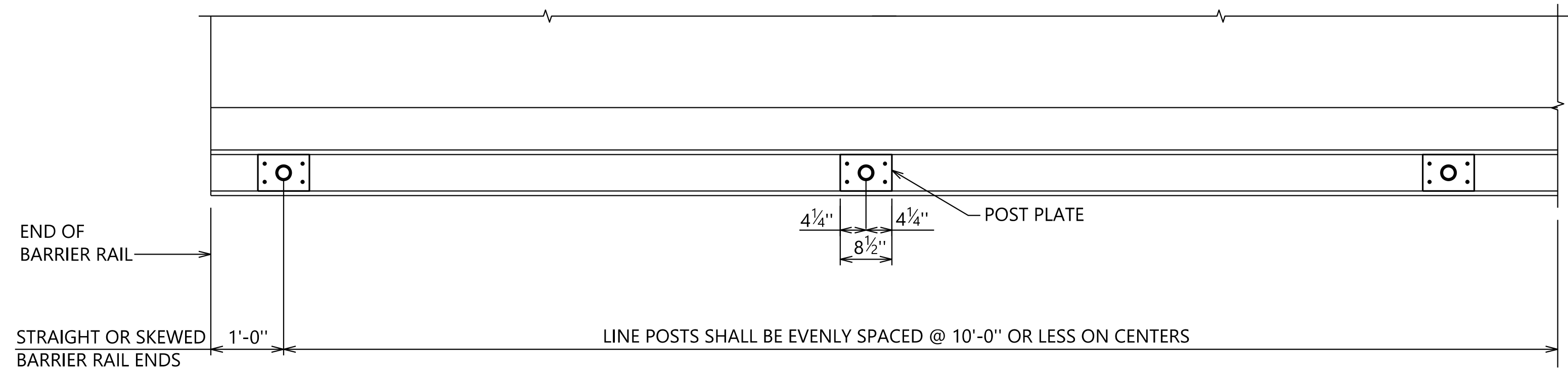
BRIDGE SPECIAL PROJECT DRAWING  
IFS-2  
SHEET 1 OF 1

PLOTTED: 19-Nov-20 at 13:10 \\bnvms002\Bridges\Standard\Special\Bridges\Special DGN Files\2021 DGN\4 Industrial Fence Standard Details for Bridge Sidewalks\LRFD IFS-2.dgn

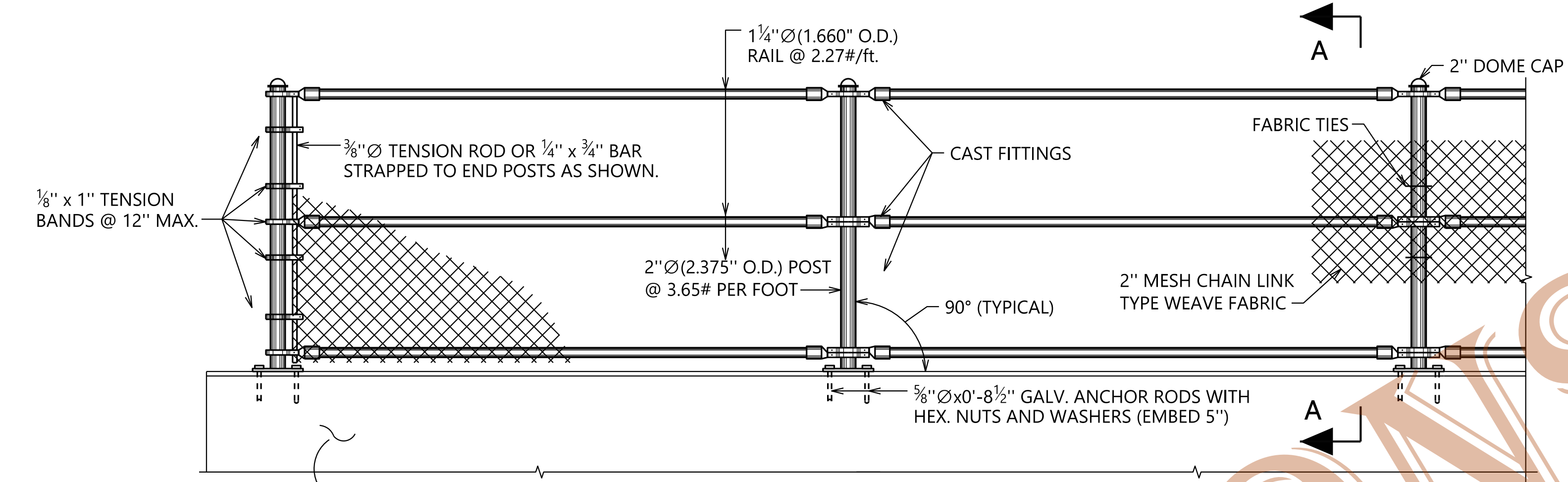


2"  
1"  
0

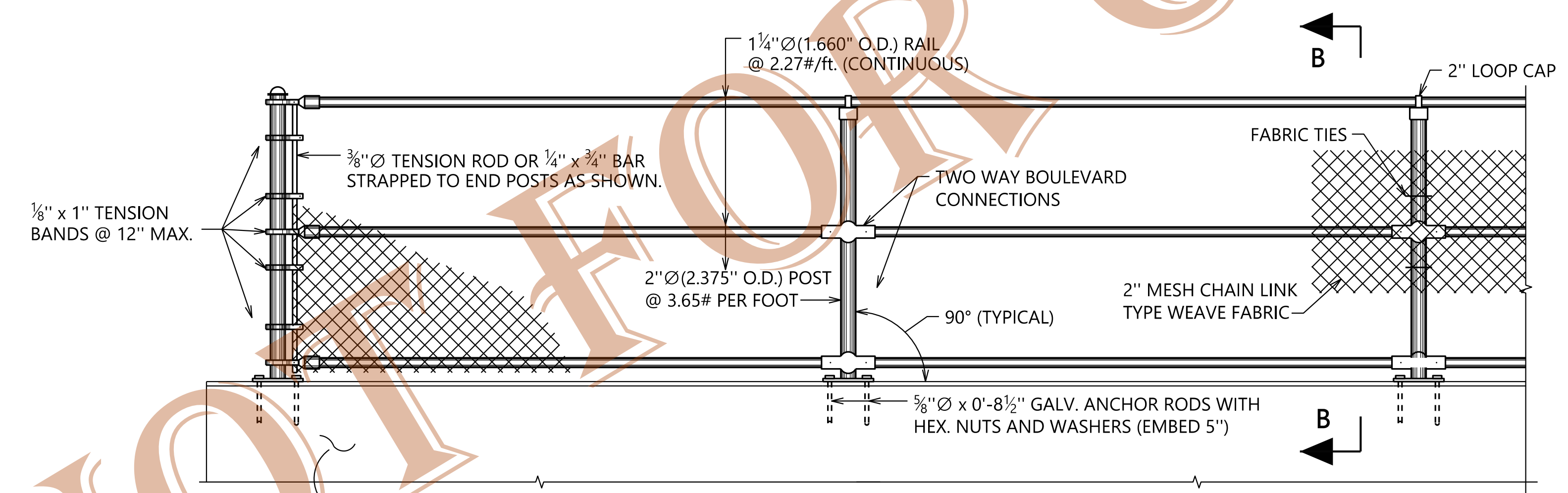
PLOTTED: 19-Nov-20 at 13:10 \\bnvms002\Bridges\Standards\Special\Bridges\Special DGN Files\2021 DGNV4 Industrial Fence Standard Details for Bridge Sidewalks\LRFD IFS-4.dgn



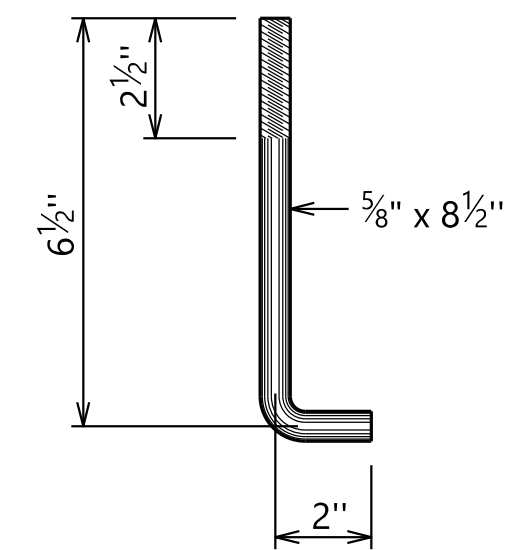
**PLAN OF POST PLATES**  
SCALE: 3/4"=1'-0"



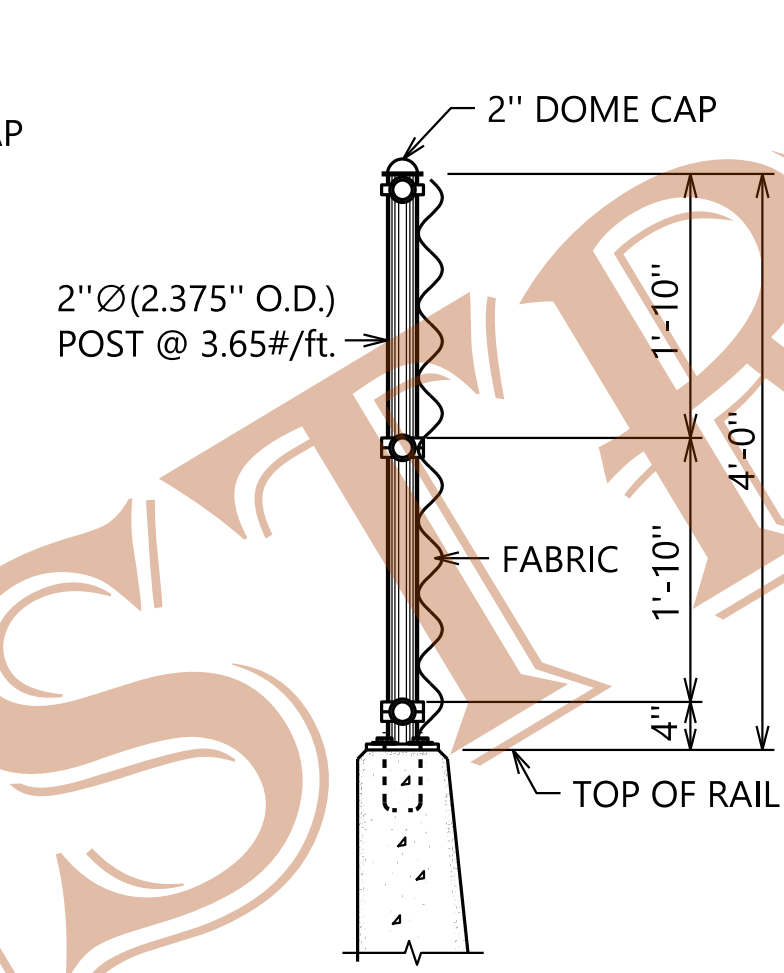
**ELEVATION OF FENCE**  
SCALE: 3/4"=1'-0"



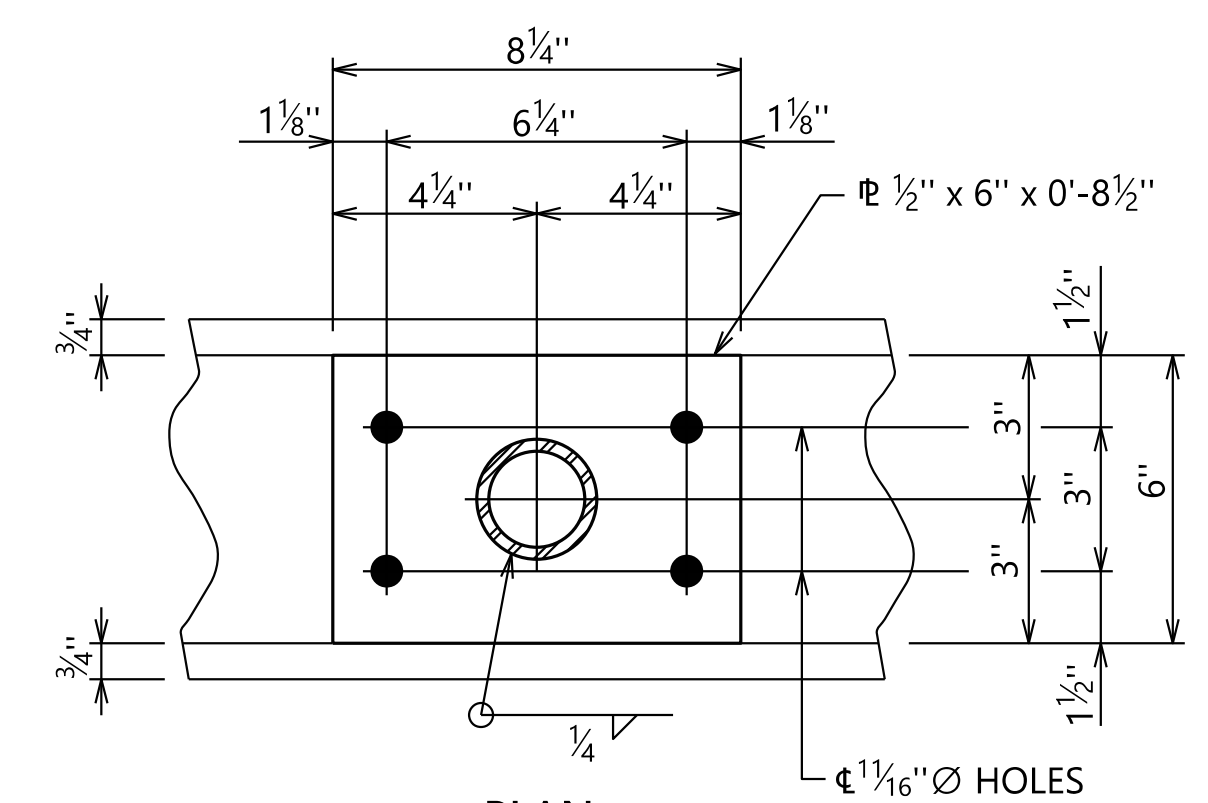
**ELEVATION OF FENCE (OPTIONAL)**  
SCALE: 3/4"=1'-0"



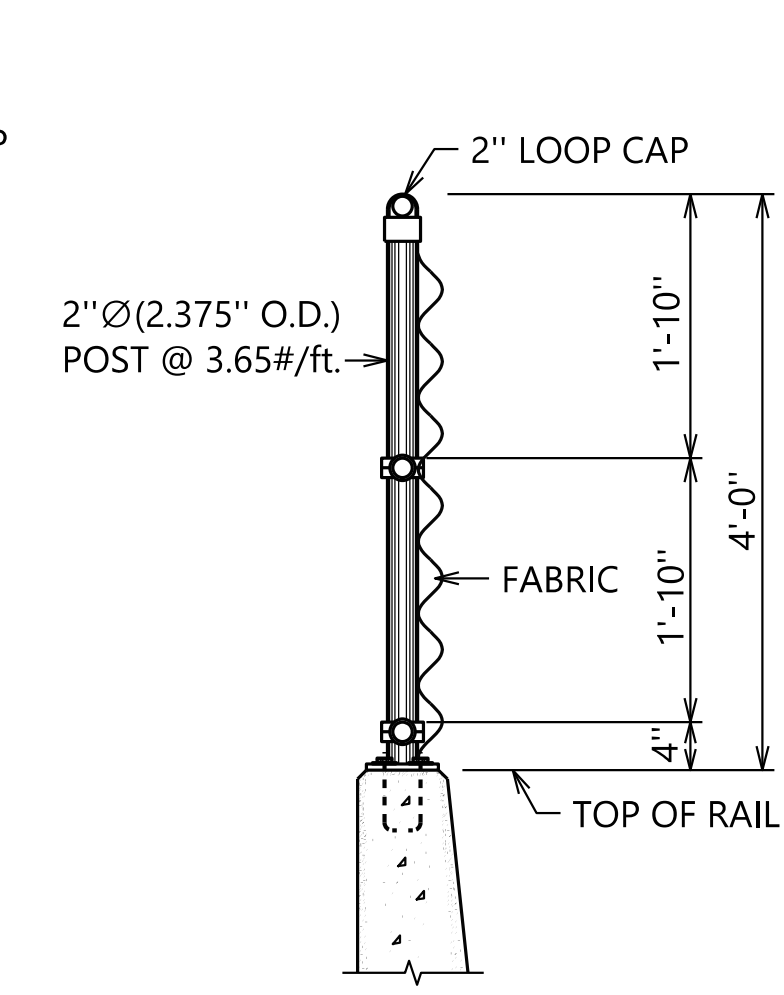
**ANCHOR ROD NTS**



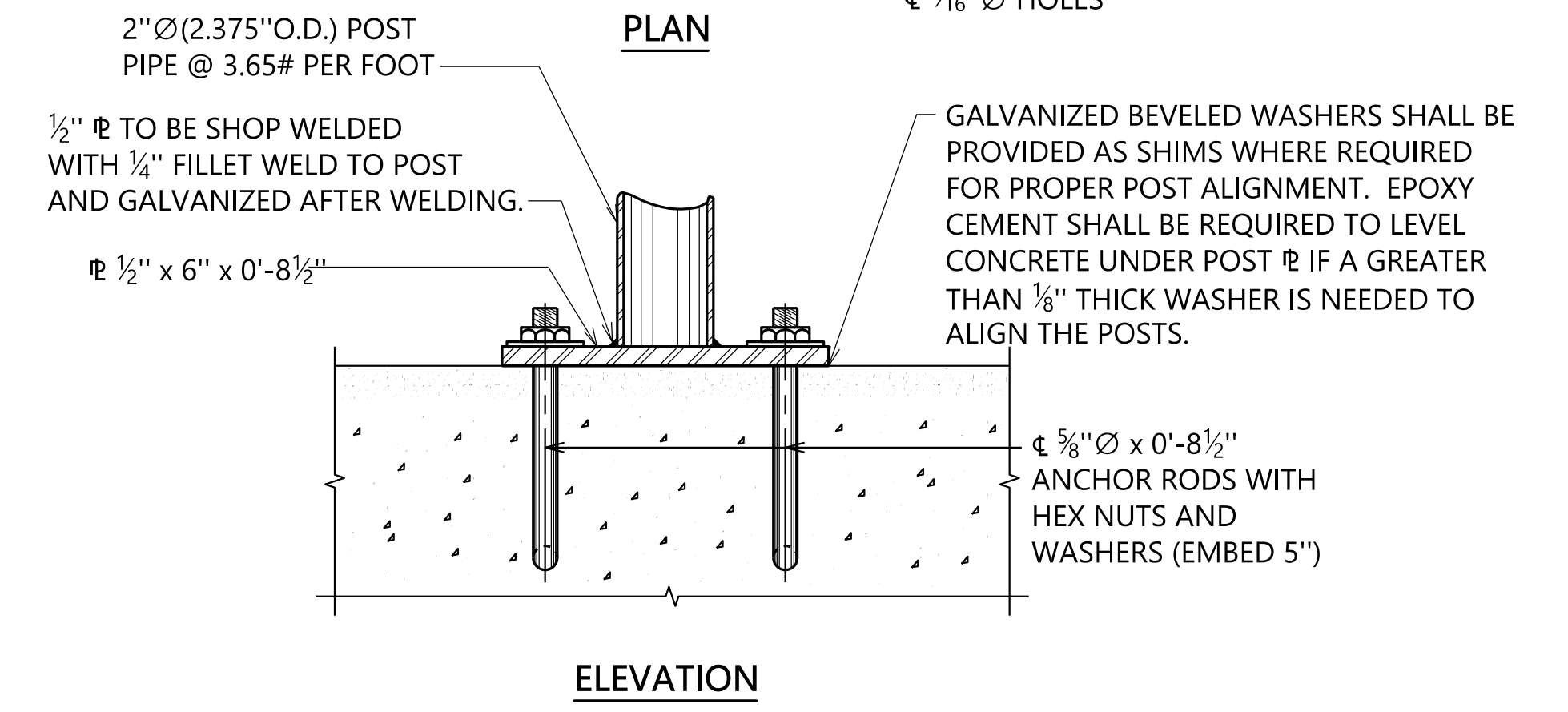
**SECTION A-A**  
SCALE: 3/4"=1'-0"



**PLAN**



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



**ELEVATION**

**POST PLATE**  
SCALE: 3"=1'-0"

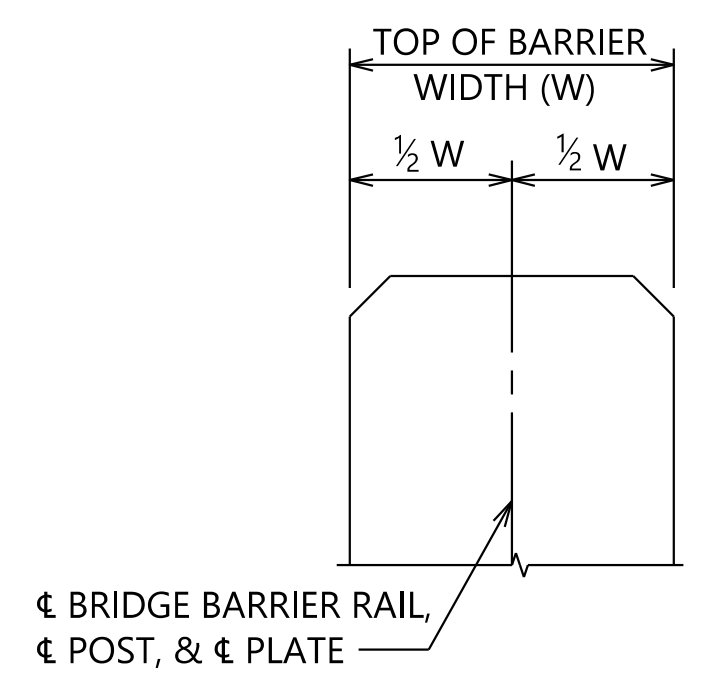
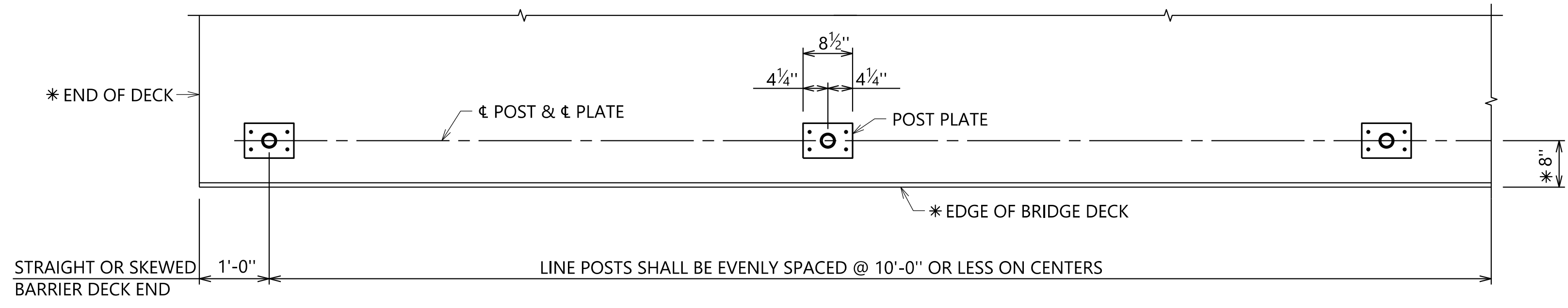
**NOTES**

1. ALL POST AND FRAMES TO BE SET AS SHOWN IN ELEVATION VIEWS ON THIS SHEET.
2. FABRIC SHALL BE FASTENED TO LINE POSTS WITH PROPER TIES SPACED APPROX. 12" APART. FABRIC SHALL BE ATTACHED TO RAILS WITH PROPER TIES SPACED APPROX. 15" APART.
3. ALL ROUGH EDGES OF FABRIC OR TIE TWIST ENDS SHALL BE BENT BACK AWAY FROM PEDESTRIAN SIDE OF WALKWAYS.
4. ALL MATERIALS FOR FENCE SHALL BE IN ACCORDANCE WITH THE ALABAMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 871. ALL MISCELLANEOUS STEEL, SEE SUB-ARTICLE 634.02(b).
5. TEMPLATES, SUPPLIED BY THE MATERIALS MANUFACTURER, SHALL BE USED TO PLACE ALL 5/8" O.D. ANCHOR RODS FOR POST PLATES.
6. PAYMENT FOR FENCE SHALL BE PAY ITEM 634E "INDUSTRIAL FENCE, 4.0 FEET HIGH, SPECIAL MOUNTING - PER LIN. FT." THIS ITEM SHALL CONSIST OF FURNISHING AND PLACING THE FENCE, WHICH INCLUDES THE WIRE FABRIC, ALL THE PIPE, FRAMEWORK, ALL THE FASTENERS, PLATES, STRAPS AND CONNECTORS NECESSARY FOR THIS INSTALLATION, COMPLETE AND IN PLACE.
7. THE CONTRACTOR MAY SUBSTITUTE 5/8" O.D. x 8" ALL THREADED, GALVANIZED A-36 ANCHOR RODS IN 1/4" x 6" DRILLED HOLES IN LIEU OF THE ANCHORING DETAILS SHOWN ON THIS SHEET. THIS ALTERNATE ANCHORAGE SYSTEM MUST BE EPOXIED IN WITH ONE OF THE APPROVED CONCRETE ANCHORING SYSTEMS IN THE ALDOT "MATERIALS, SOURCES AND DEVICES WITH SPECIAL ACCEPTANCE REQUIREMENTS" MANUAL, SECTION II-15. PULL OUT TEST MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER.

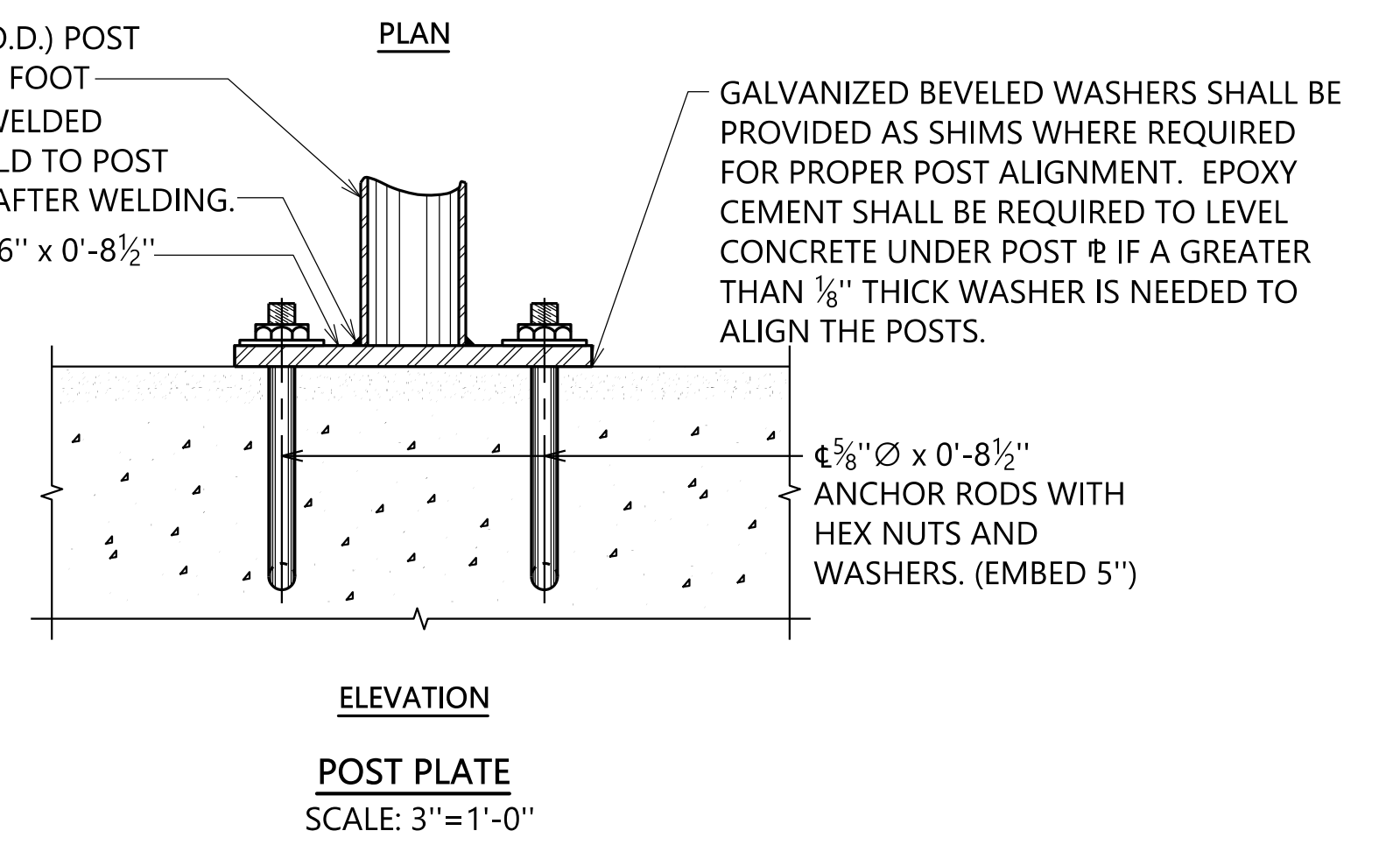
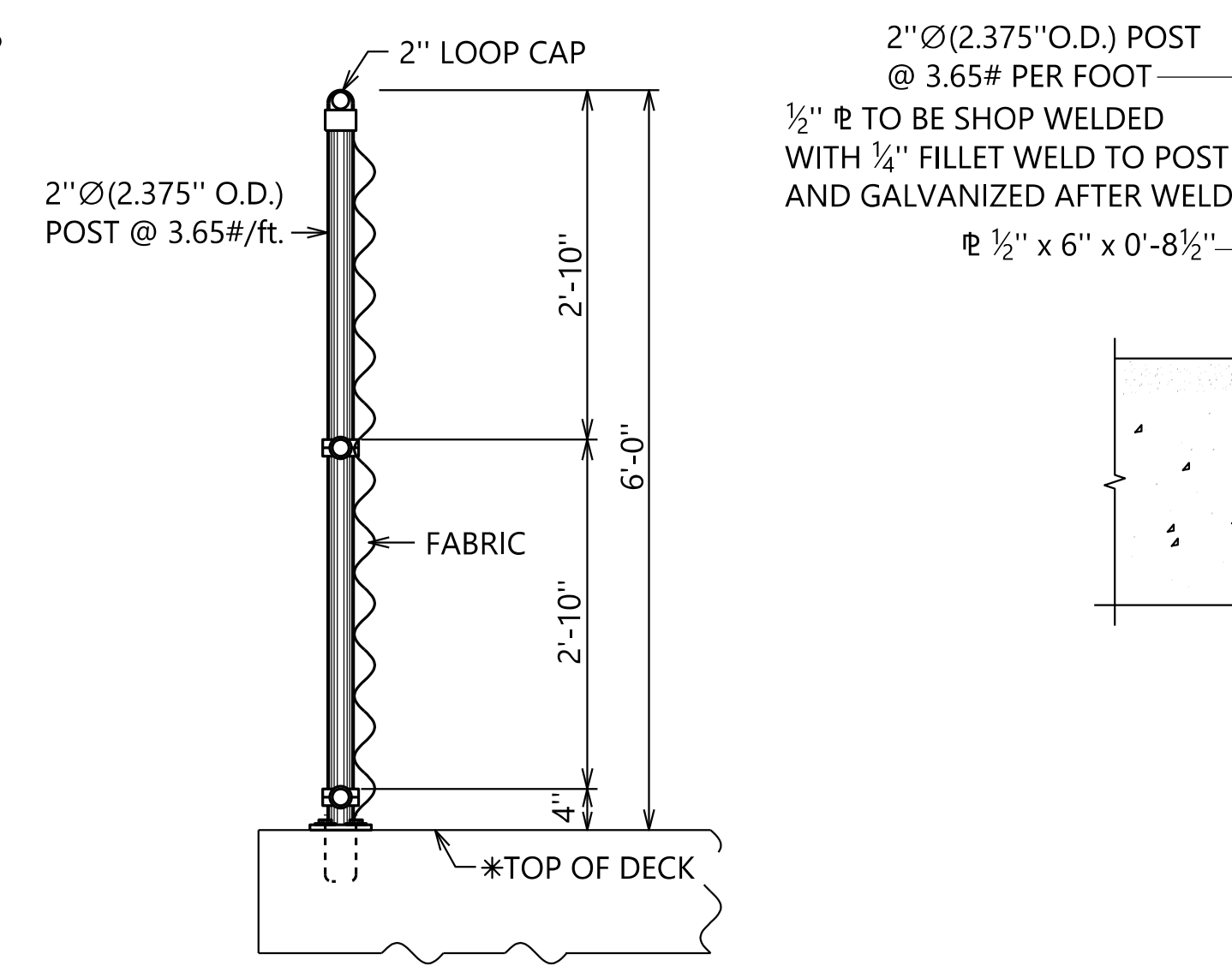
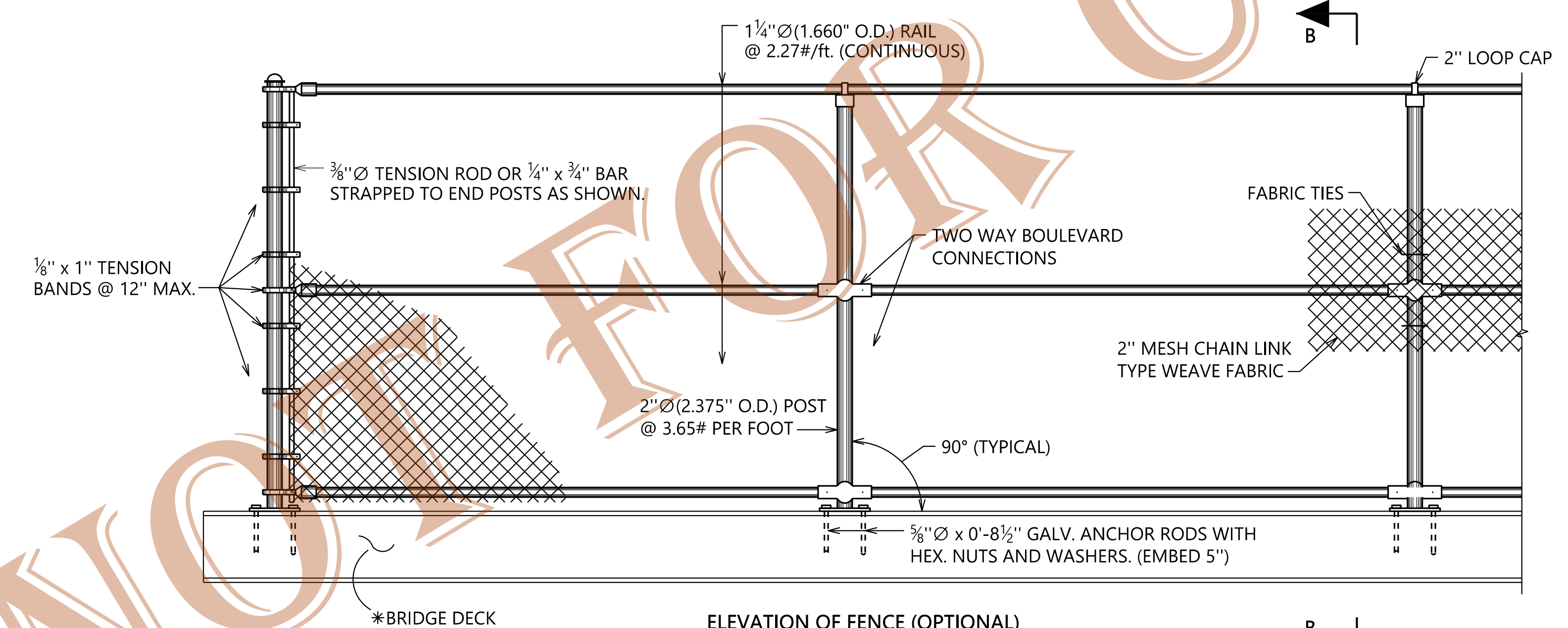
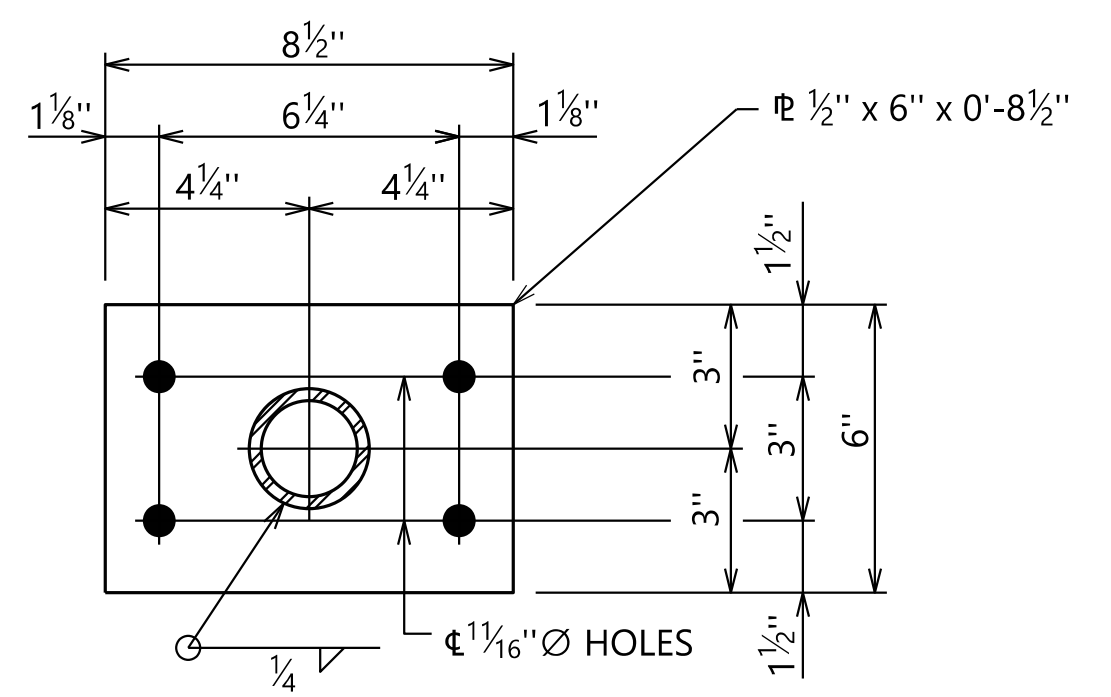
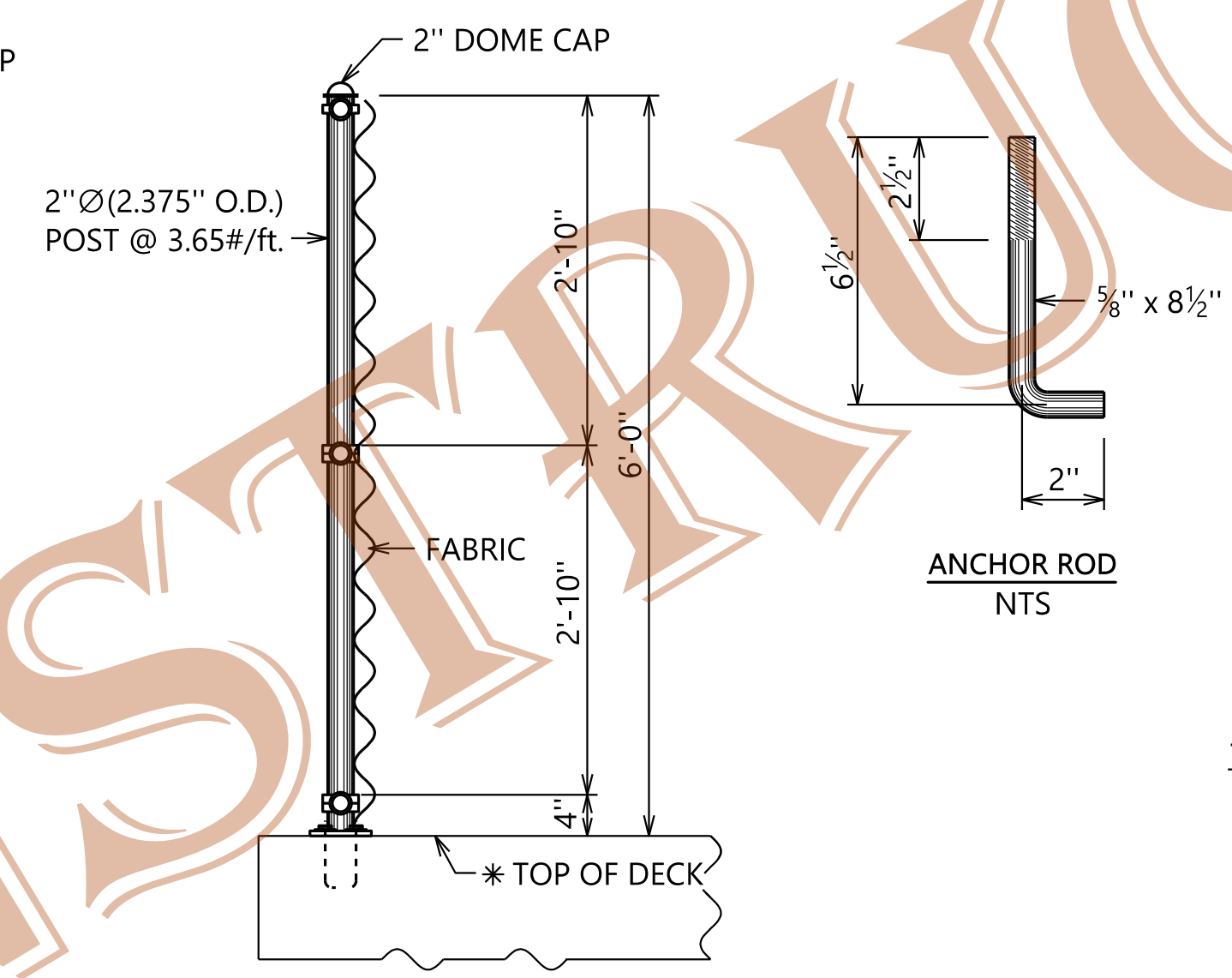
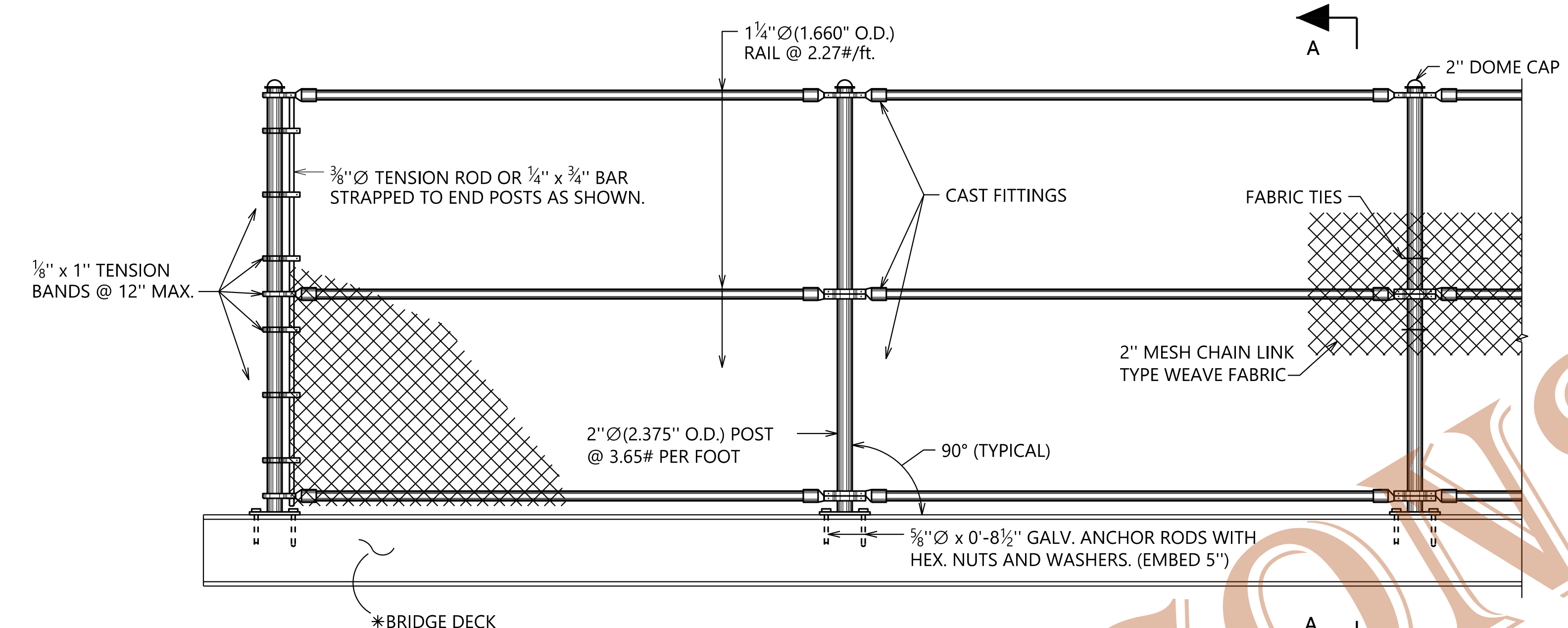
ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020	BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020
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 \\brvms002\Bridges\Standards\Special\Bridges\Special DGN Files\2021 DGN\4 Industrial Fence Standard Details for Bridge Sidewalks\IFS-5.dgn  
 SHEET REFERENCE  
 0 1" 2"



- NOTES**
- ALL POST AND FRAMES TO BE SET AS SHOWN IN ELEVATION VIEWS ON THIS SHEET.
  - FABRIC SHALL BE FASTENED TO LINE POSTS WITH PROPER TIES SPACED APPROX. 12" APART. FABRIC SHALL BE ATTACHED TO RAILS WITH PROPER TIES SPACED APPROX. 15" APART.
  - ALL ROUGH EDGES OF FABRIC OR TIE TWIST ENDS SHALL BE BENT BACK AWAY FROM PEDESTRIAN SIDE OF WALKWAYS.
  - ALL MATERIALS FOR FENCE SHALL BE IN ACCORDANCE WITH THE ALABAMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 871. ALL MISCELLANEOUS STEEL, SEE SUB-ARTICLE 634.02(b).
  - TEMPLATES, SUPPLIED BY THE MATERIALS MANUFACTURER, SHALL BE USED TO PLACE ALL 3/8" Ø ANCHOR RODS FOR POST PLATES.
  - PAYMENT FOR FENCE SHALL BE PAY ITEM 634E "INDUSTRIAL FENCE, 6.0 FEET HIGH, SPECIAL MOUNTING - PER LIN. FT.". THIS ITEM SHALL CONSIST OF FURNISHING AND PLACING THE FENCE, WHICH INCLUDES THE WIRE FABRIC, ALL THE PIPE, FRAMEWORK, ALL THE FASTENERS, PLATES, STRAPS AND CONNECTORS NECESSARY FOR THIS INSTALLATION, COMPLETE AND IN PLACE.
  - THE CONTRACTOR MAY SUBSTITUTE 5/8" Ø x 8" ALL THREADED, GALVANIZED A-36 ANCHOR RODS IN 1 1/16" x 6" DRILLED HOLES IN LIEU OF THE ANCHORAGE DETAILS SHOWN ON THIS SHEET. THIS ALTERNATE ANCHORAGE SYSTEM MUST BE EPOXIED IN WITH ONE OF THE APPROVED CONCRETE ANCHORING SYSTEMS IN THE ALDOT "MATERIALS, SOURCES AND DEVICES WITH SPECIAL ACCEPTANCE REQUIREMENTS" MANUAL, SECTION II-15. PULL OUT TEST MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER.
  - INDUSTRIAL FENCE MAY BE MOUNTED TO THE BRIDGE BARRIER RAIL IF SHOWN ON THE CONTRACT PLANS.



ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020	BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020
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REVISIONS

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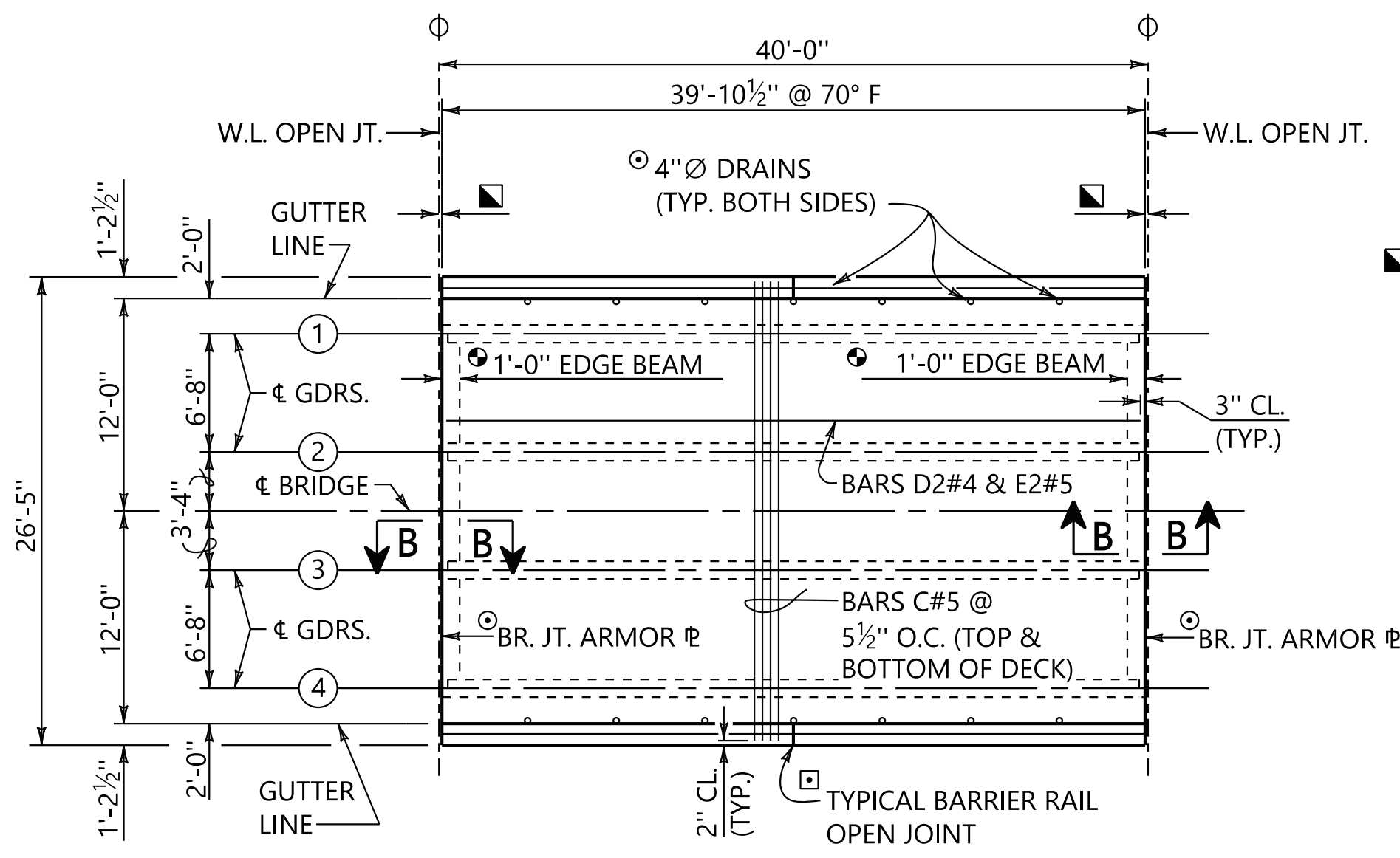
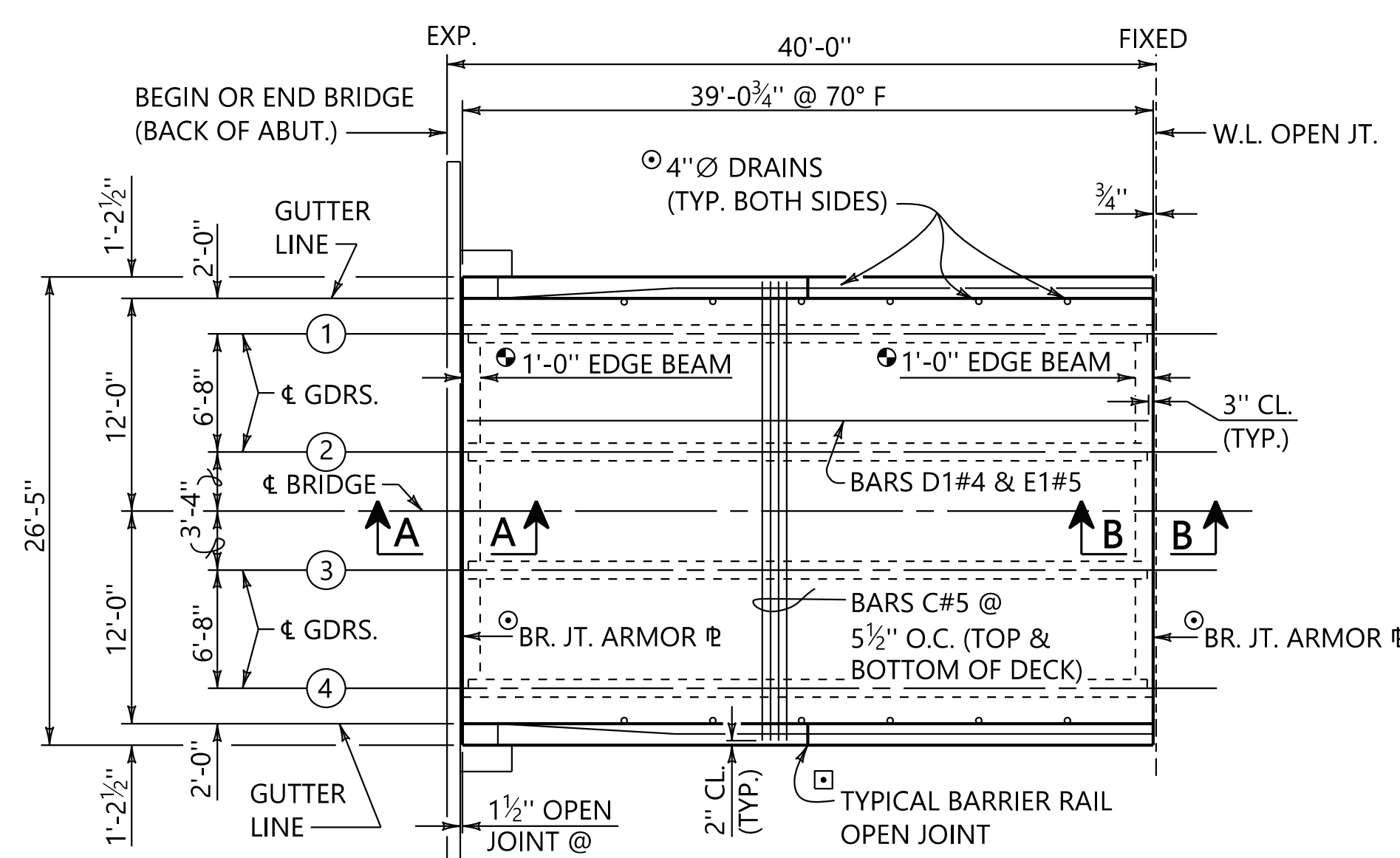
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INDUSTRIAL FENCE STANDARD DETAILS FOR BRIDGE SIDEWALKS

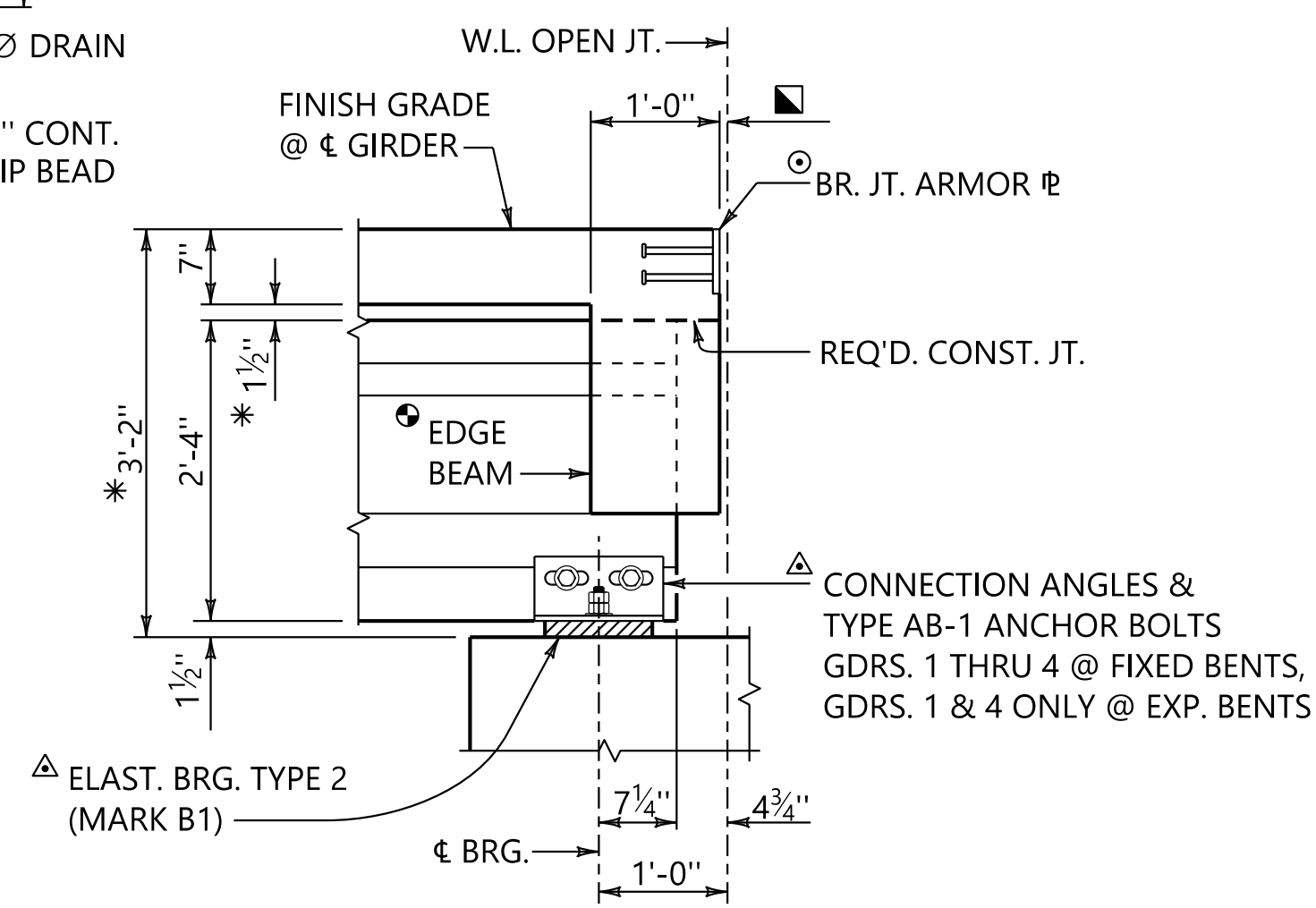
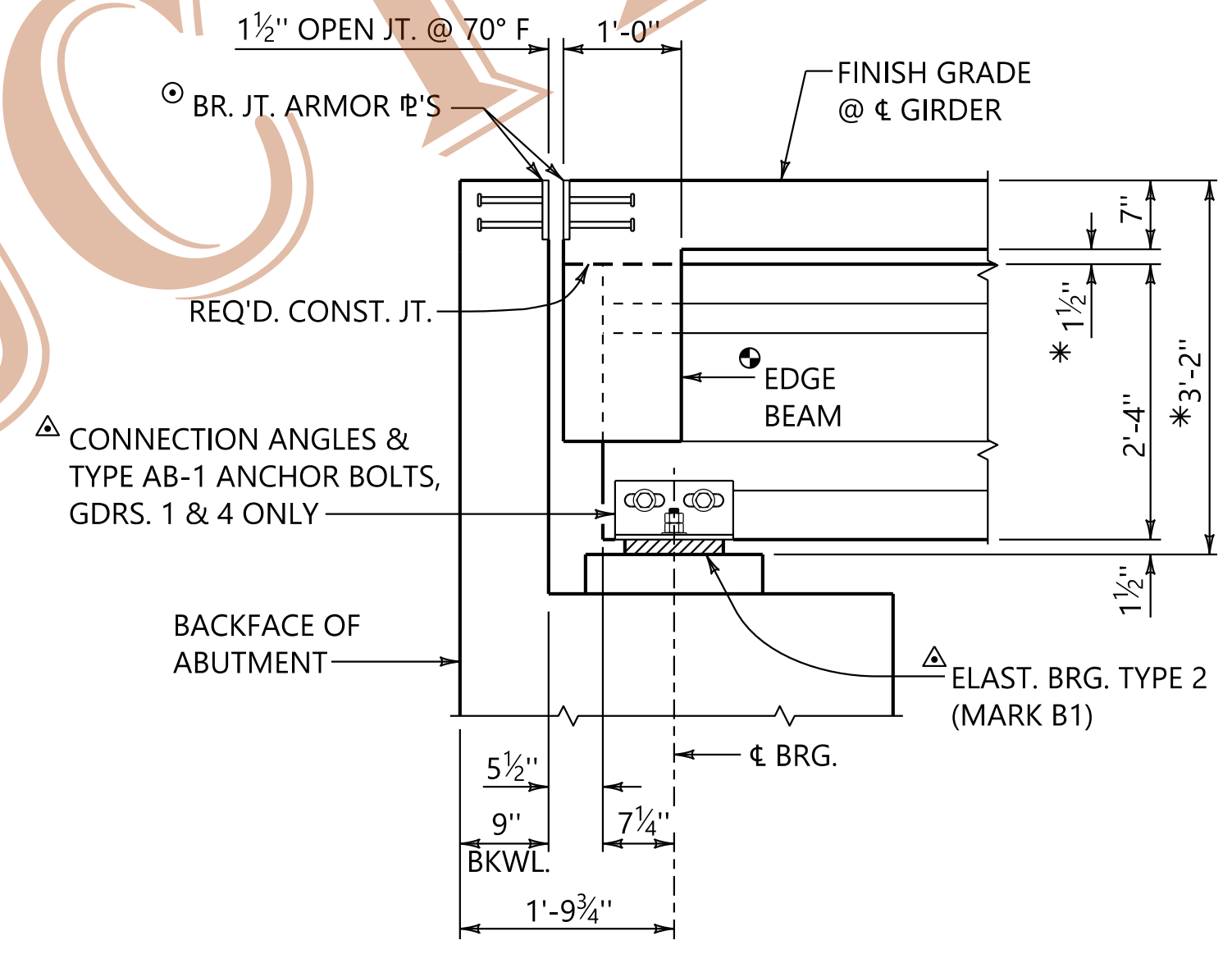
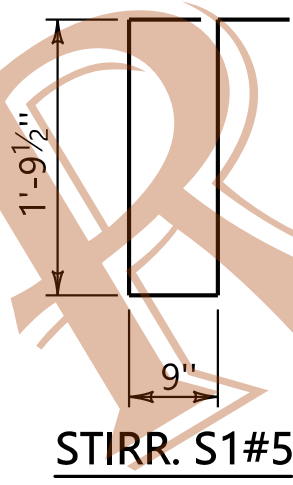
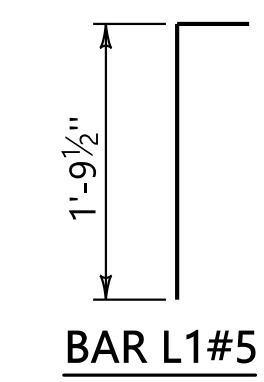
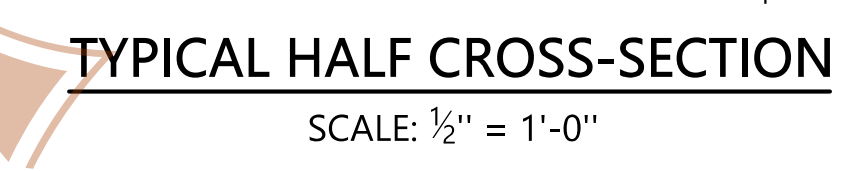
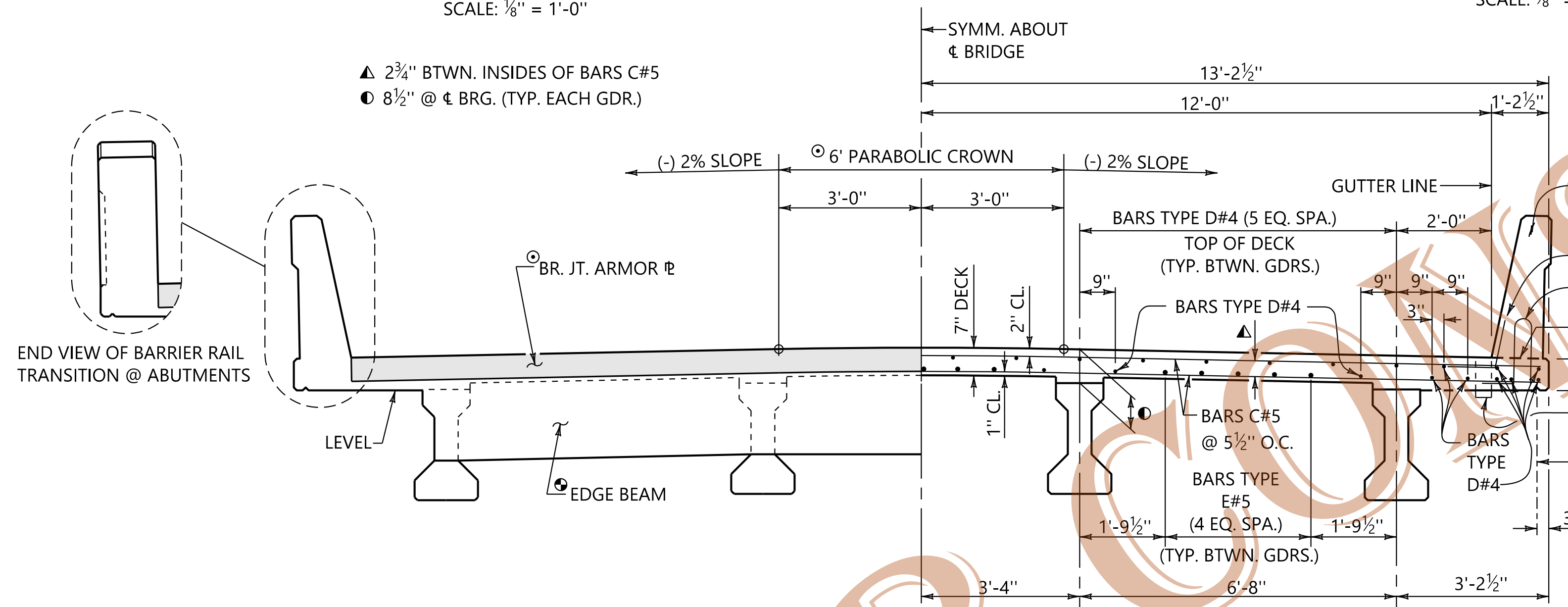


**NOTES**

- 1. FOR LOCATION OF FIXED AND EXPANSION ENDS, SEE THE GENERAL PLAN AND ELEVATION SHEET.
- \* 2. DIMENSIONS SHOWN ARE AT  $\epsilon$  BEARING ONLY. (SEE SHT. 2 OF 2)
- 3. FOR GUARDRAIL ANCHOR REQUIREMENTS, SEE ROADWAY PLANS AND BR. SPEC. PROJ. DWG. BBR-2. QUANTITIES NOT INCLUDED ON THIS SPECIAL DRAWING.
- 4. SEE BR. SPEC. PROJ. DWG. SBD-1 FOR DETAILS.
- 5. SEE BR. SPEC. PROJ. DWG. BBR-2 FOR DETAILS.
- 6. SEE BR. SPEC. PROJ. DWG. EBW1 FOR DETAILS.
- 7. SEE BR. SPEC. PROJ. DWG. SPGD-1 FOR DETAILS.
- 8. STRUCTURAL STEEL QUANTITIES INCLUDE CONNECTION ANGLES, ANCHOR BOLTS AND BRIDGE JOINT ARMOR  $\phi$ 'S.



3/4" @ 70° F (EXPANSION ENDS)  
OR 3/4" (FIXED ENDS)



**SUPERSTRUCTURE DEADLOAD REACTIONS**

EXTERIOR GIRDERS 1 & 4:	23.6 KIPS
INTERIOR GIRDERS 2 & 3:	24.5 KIPS

**DESIGN PARAMETERS**

SUPERSTRUCTURE CONCRETE: 4,000 PSI  
STEEL REINFORCEMENT: GRADE 60

DESIGN CONFORMS TO THE 7TH EDITION OF THE AASHTO LRFD DESIGN SPECIFICATIONS.

**GEOMETRIC PARAMETERS**

ALIGNMENT: TANGENT GRADE: 0.00%  
CROSS-SLOPE: 2.0% w/ 6' PARABOLIC CROWN

ADAPTATIONS TO THIS DRAWING MAY BE REQUIRED FOR OTHER GEOMETRIC CONDITIONS.

**ESTIMATED QUANTITIES**

END SPAN	INT. SPAN			
8,150	8,270	POUNDS	502B	STEEL REINF. FOR BR. SUPERSTR.
956	956	POUND	508A	STRUCTURAL STEEL
33.9	34.1	CUBIC YARDS	510C	BRIDGE CONCRETE SUPERSTR.

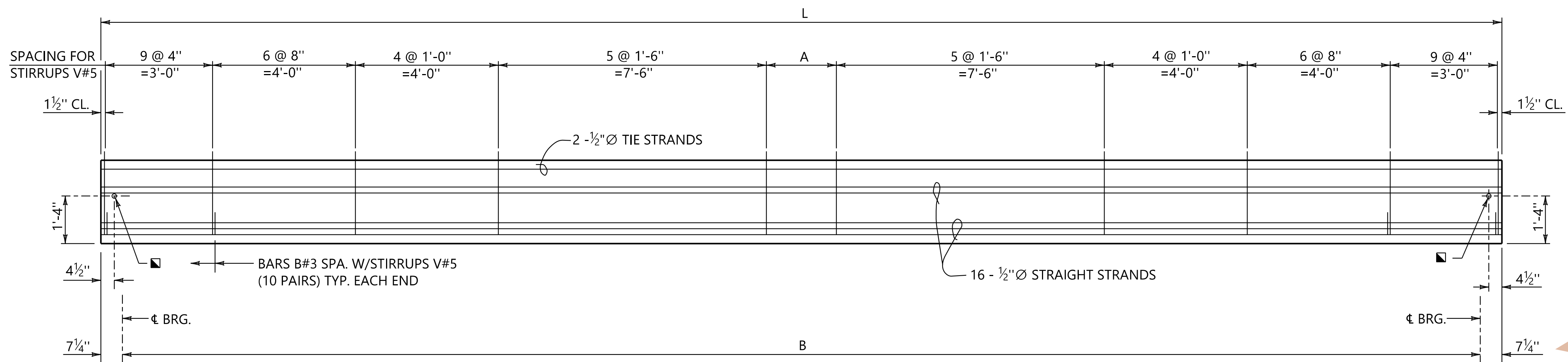
**BILL OF REINFORCEMENT**

MARK	SIZE	NUMBER PER SPAN		LENGTH	BENDING
		END	INT.		
<b>BARRIER RAIL</b>					
BL	4	16	16	□	STRAIGHT
B1	4	156	160	6'-0"	□
B2	4	156	160	3'-8 3/4"	□
B3	3	40	40	2'-0"	□
<b>DECK</b>					
C	5	172	174	26'-1"	STRAIGHT
D1	4	38	---	38'-6 3/4"	STRAIGHT
D2	4	---	38	39'-4 1/2"	STRAIGHT
E1	5	15	---	38'-6 3/4"	STRAIGHT
E2	5	---	15	39'-4 1/2"	STRAIGHT
<b>EDGE BEAM</b>					
L1	5	8	8	2'-3 1/2"	SEE DIAG.
R1	8	4	4	4'-6"	STRAIGHT
S1	5	36	36	5'-4"	SEE DIAG.
W1	5	4	4	20'-2"	STRAIGHT
W2	5	12	12	5'-10"	STRAIGHT

ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020	BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020
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PLOTTED: 19-Nov-20 at 13:25





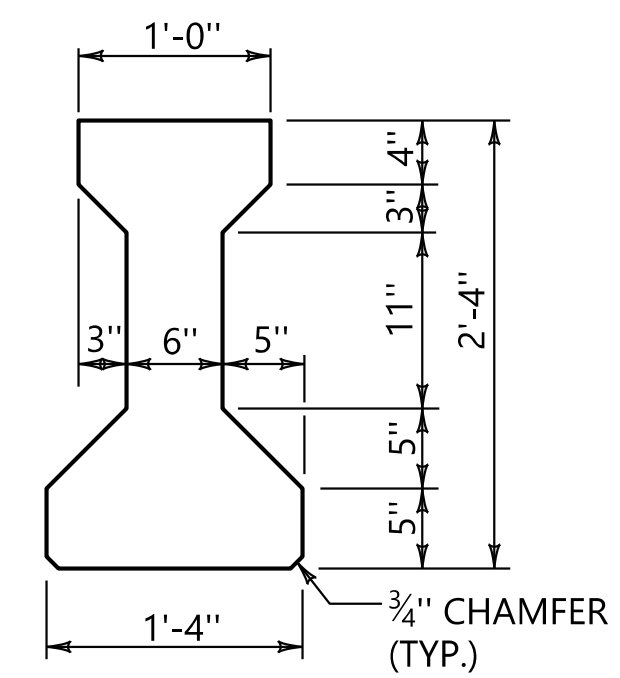
**\* TYPICAL GIRDER ELEVATION**  
SCALE: 1/2" = 1'-0"

▲ 2 STRAIGHT 1/2" Ø PRESTRESSED STRANDS WITH INITIAL TENSION OF 5,000 LBS. PER STRAND. STIRRUPS V#5 SHALL BE TIED IN PLACE TO THESE STRANDS.

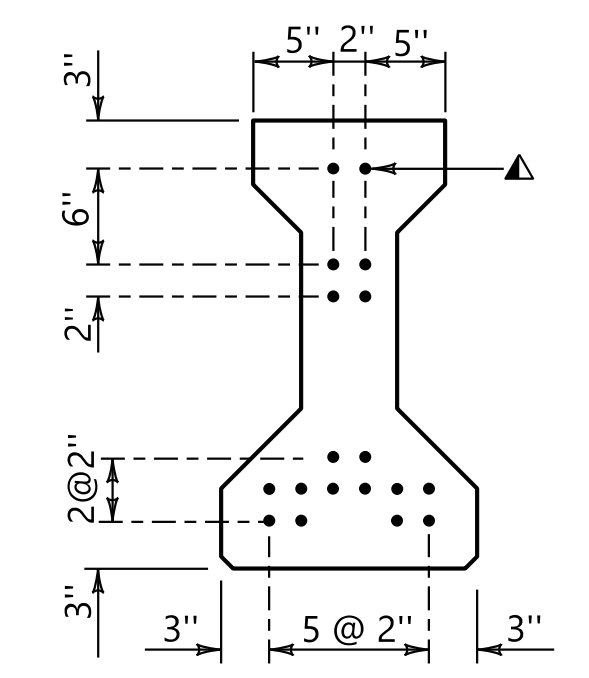
■ 1 1/2" Ø HOLE (GDRS. 2 & 3) OR 1" Ø THREADED INSERT (INSIDE FACE ONLY, GDRS. 1 & 4)  
\* DIMENSIONS SHOWN ARE ALONG CL GIRDER

**NOTES**

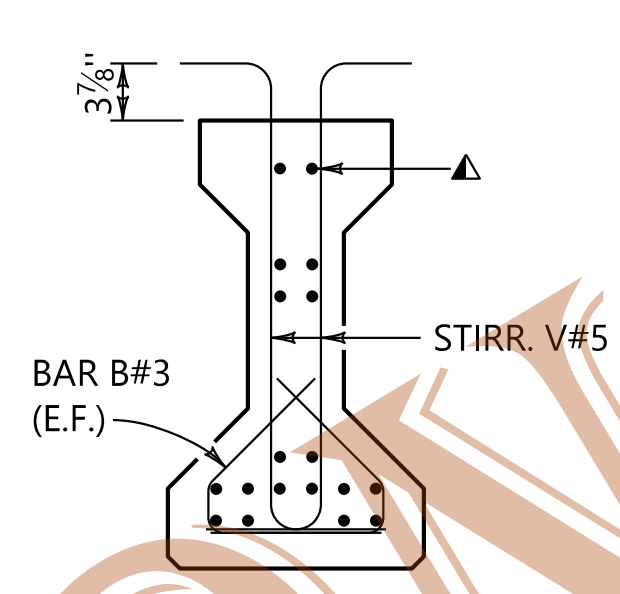
1. PRESTRESSING STRANDS SHALL BE 1/2" DIAMETER 270,000 PSI LOW RELAXATION WITH AN INITIAL TENSION OF 30,983 LBS./STRAND UNLESS OTHERWISE NOTED.
2. ALL STRANDS NOT TO BE ENCASED IN CONCRETE SHALL BE CUT FLUSH AT EACH END OF THE GIRDER. COAT GIRDER ENDS WHERE STRANDS ARE CUT WITH AN APPROVED EPOXY COATING. STRANDS TO BE ENCASED IN CONCRETE MAY EXTEND 2" FROM THE END OF THE GIRDER.
3. THE GIRDER CONCRETE SHALL HAVE A MINIMUM OF 4,500 PSI COMPRESSIVE STRENGTH PRIOR TO RECEIVING PRESTRESSING FORCE AND A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5,000 PSI.
4. THREADED BARS R2 AND THREADED INSERTS SHALL BE INCLUDED IN THE BID ITEM 513B, PRETENSIONED-PRESTRESSED CONCRETE GIRDERS, TYPE I.
5. GIRDER ENDS SHALL BE VERTICAL IN FINAL ERECTED POSITION.
6. UNLESS OTHERWISE SHOWN, STIRRUPS AND CONFINEMENT STEEL SHALL BE SECURELY TIED TO THE PRESTRESSING STRANDS TO PROVIDE A MINIMUM OF 1" CONCRETE COVER.
7. CONNECTION ANGLES ARE REQUIRED ON BOTH FACES OF ALL GIRDERS AT THE FIXED END AND BOTH FACES OF THE EXTERIOR GIRDERS ONLY AT THE EXPANSION END. SEE BRIDGE SPECIAL PROJECT DWG. SPGD-1 FOR DETAILS.
8. THE ENGINEER WILL CONSIDER ALTERNATE GIRDER REINFORCING UTILIZING WELDED WIRE FABRIC IN LIEU REINFORCING FOR BARS B. THE EQUIVALENT AREA OF STEEL AND SPACING OF BARS SHALL BE MAINTAINED.



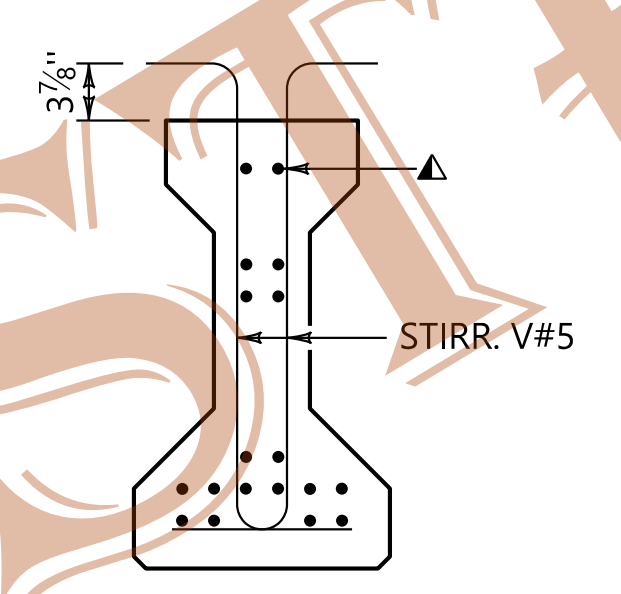
**AASHTO TYPE I GIRDER**  
SCALE: 1" = 1'-0"



**STRAND PATTERN**  
SCALE: 1" = 1'-0"

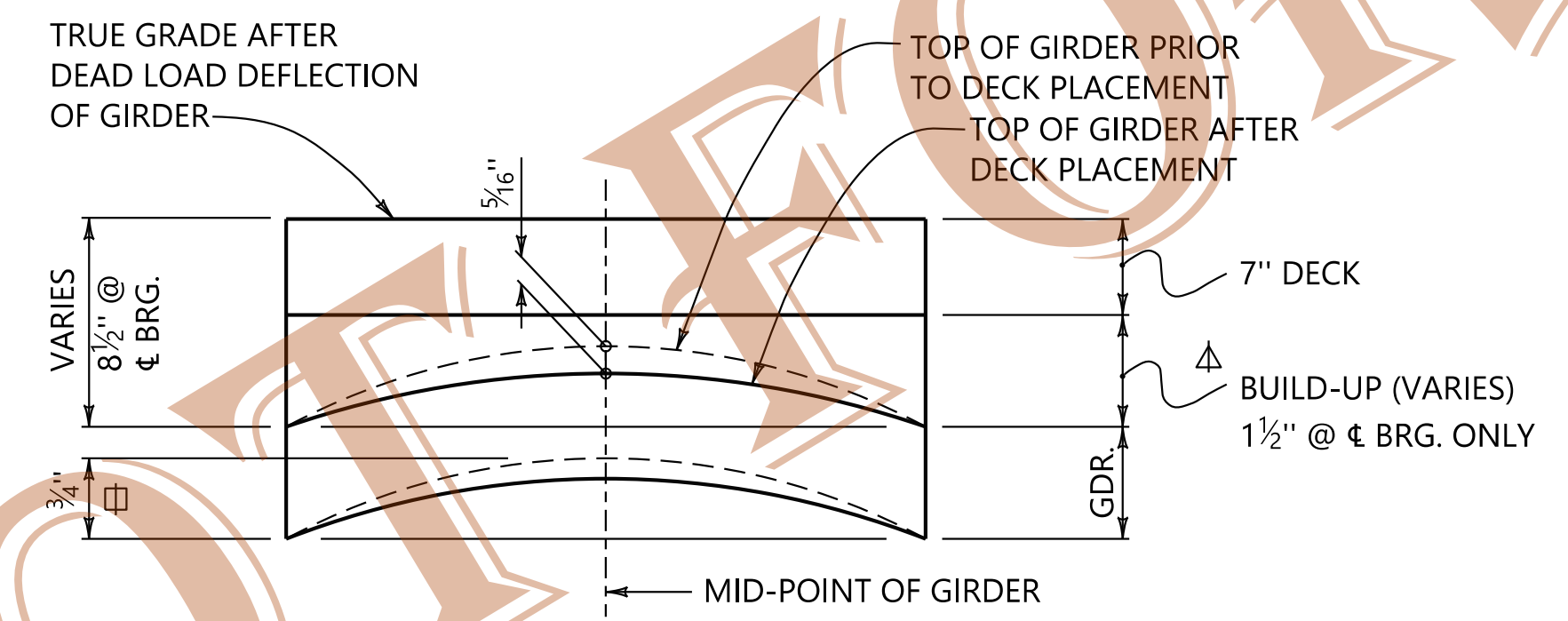
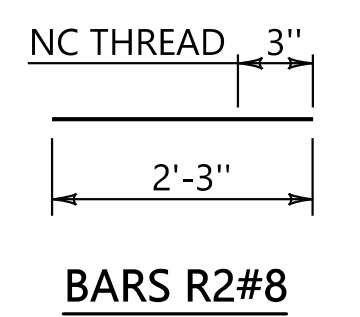
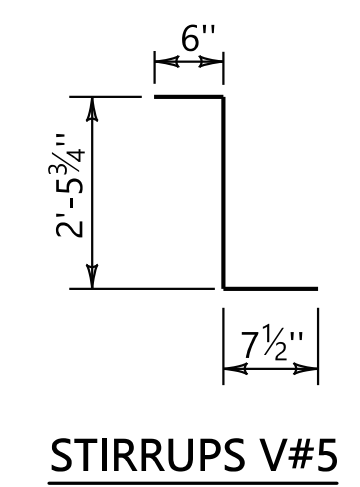


**SECTION @ END OF GIRDER**  
SCALE: 1" = 1'-0"



**SECTION ALONG GIRDER**  
SCALE: 1" = 1'-0"

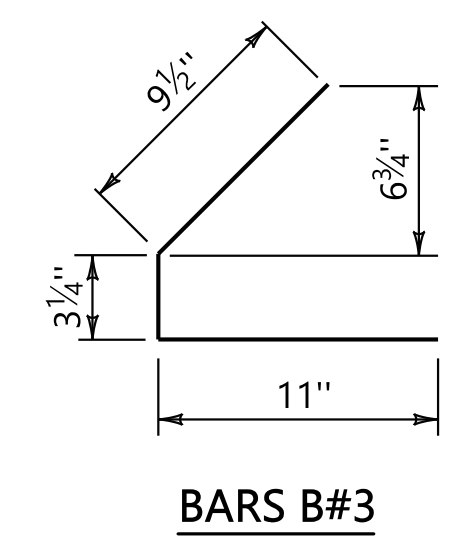
	END SPANS	INT. SPANS
L	38'-4 3/4"	39'-2 1/2"
B	37'-2 1/4"	38'-0"
A	1'-1 3/4"	2 SPA. @ 11 3/4"



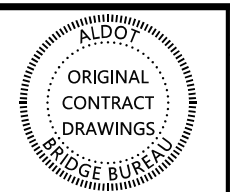
**DETAIL OF BUILD-UP BETWEEN BOTTOM OF DECK AND TOP OF GDR. (ALONG CL GDR.)**  
NO SCALE

□ THEORETICAL CAMBER (UPWARD DEFLECTION) SHOWN. ACTUAL CAMBER OF GIRDER MAY VARY AND SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS AND SETTING FORMS.

▲ ADJUSTMENT TO BUILD-UP MAY BE REQUIRED IF USED FOR BRIDGES IN EXTREME CREST OR SAG VERTICAL CURVE GRADES.



PLOTTED: 19-Nov-20 at 13:26



REVISIONS

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COUNTY(S) \_\_\_\_\_

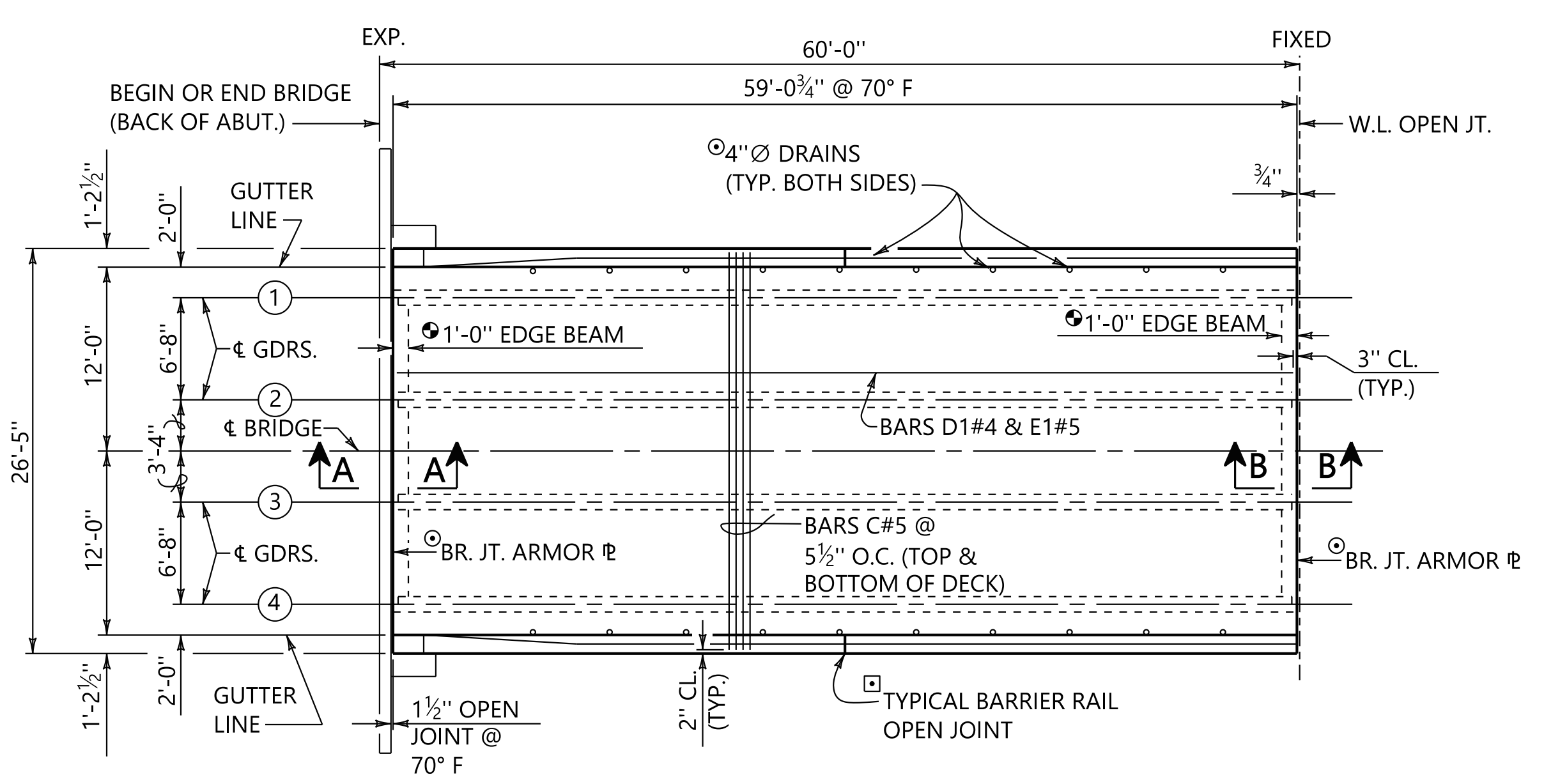
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40'-0" SIMPLE AASHTO TYPE I GIRDER SPANS  
HL 93 LOADING

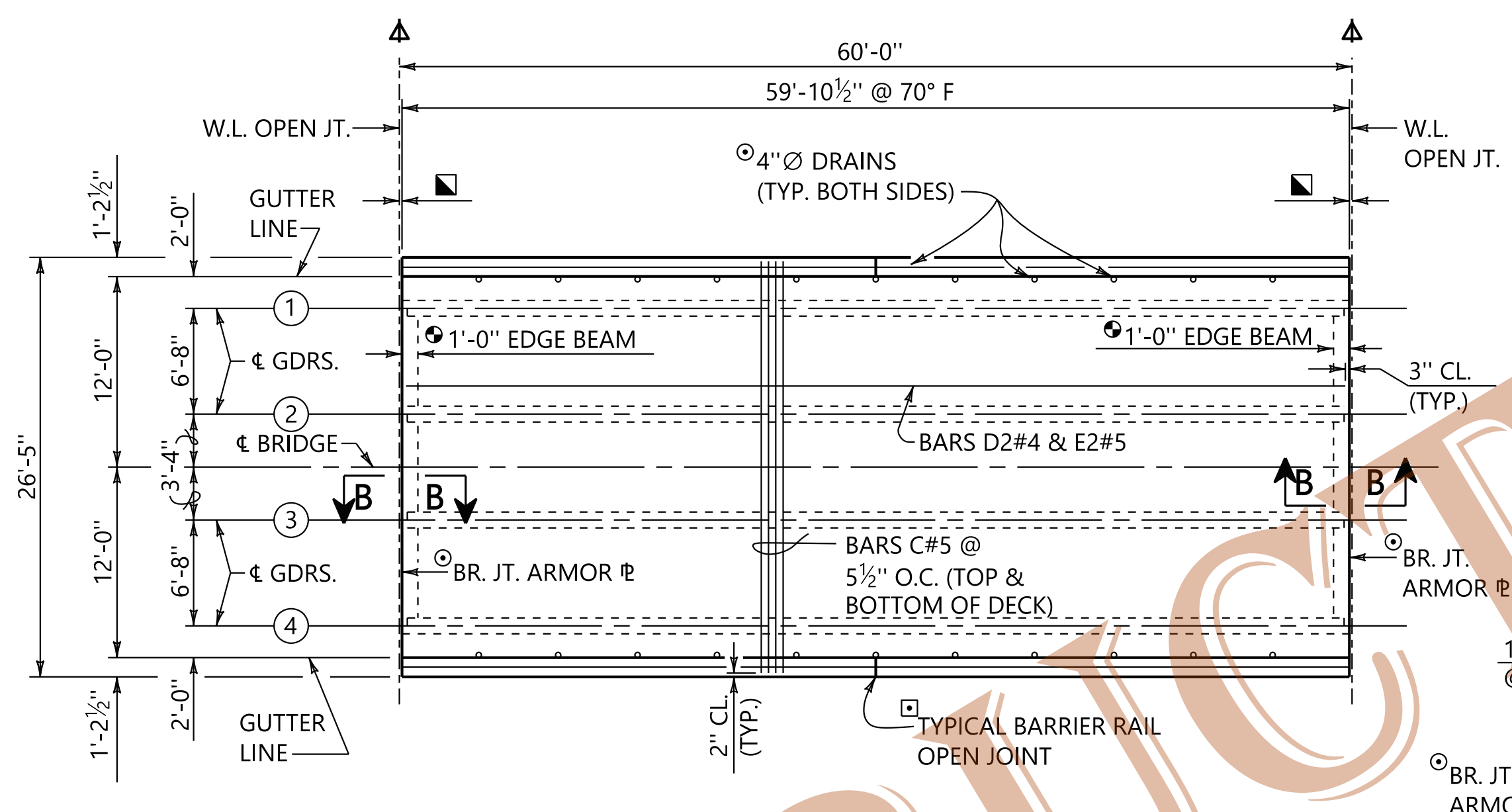


**NOTES**

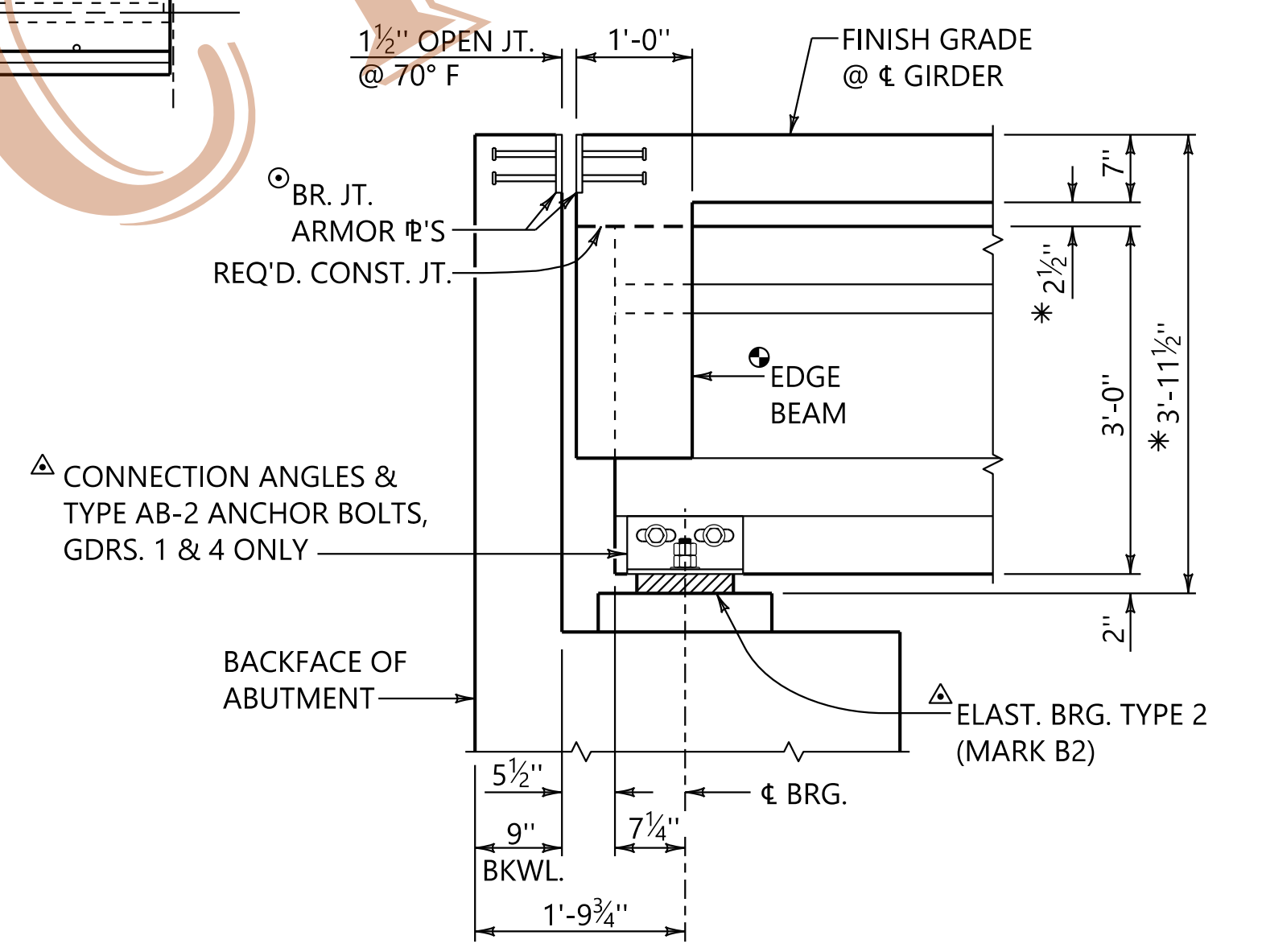
1. FOR LOCATION OF FIXED AND EXPANSION ENDS, SEE THE GENERAL PLAN AND ELEVATION SHEET.
2. DIMENSIONS SHOWN ARE AT  $\epsilon$  BEARING ONLY. (SEE SHT. 2 OF 2).
3. FOR GUARDRAIL ANCHOR REQUIREMENTS, SEE ROADWAY PLANS AND BR. SPEC. PROJ. DWG. BBR-2. QUANTITIES NOT INCLUDED ON THIS SPECIAL DRAWING.
4. STRUCTURAL STEEL QUANTITIES INCLUDE CONNECTION ANGLES, ANCHOR BOLTS AND BRIDGE JOINT ARMOR  $\phi$ 'S.
5. SEE BR. SPEC. PROJ. DWG. SBD-1 FOR DETAILS.
6. SEE BR. SPEC. PROJ. DWG. BBR-2 FOR DETAILS.
7. SEE BR. SPEC. PROJ. DWG. EBEW2 FOR DETAILS.
8. SEE BR. SPEC. PROJ. DWG. SPGD-1 FOR DETAILS.
9. AT THE CONTRACTOR'S OPTION, BARS TYPE D & E MAY BE SPLICED 30 DIA. (MIN.). OPTIONAL SPLICE NOT INCLUDED IN BAR DIMENSIONS AND ESTIMATED QUANTITIES SHOWN.



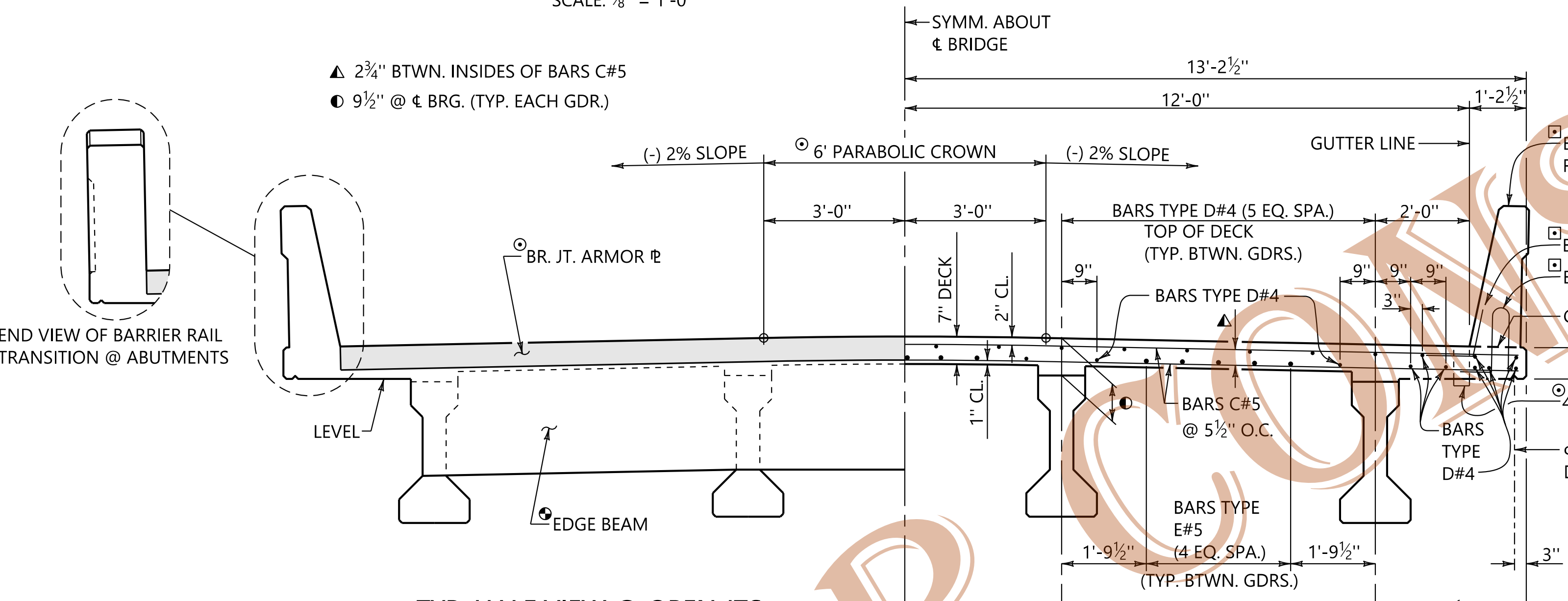
**PLAN VIEW - END SPAN**  
SCALE: 1/8" = 1'-0"



**PLAN VIEW - INT. SPAN**  
SCALE: 1/8" = 1'-0"

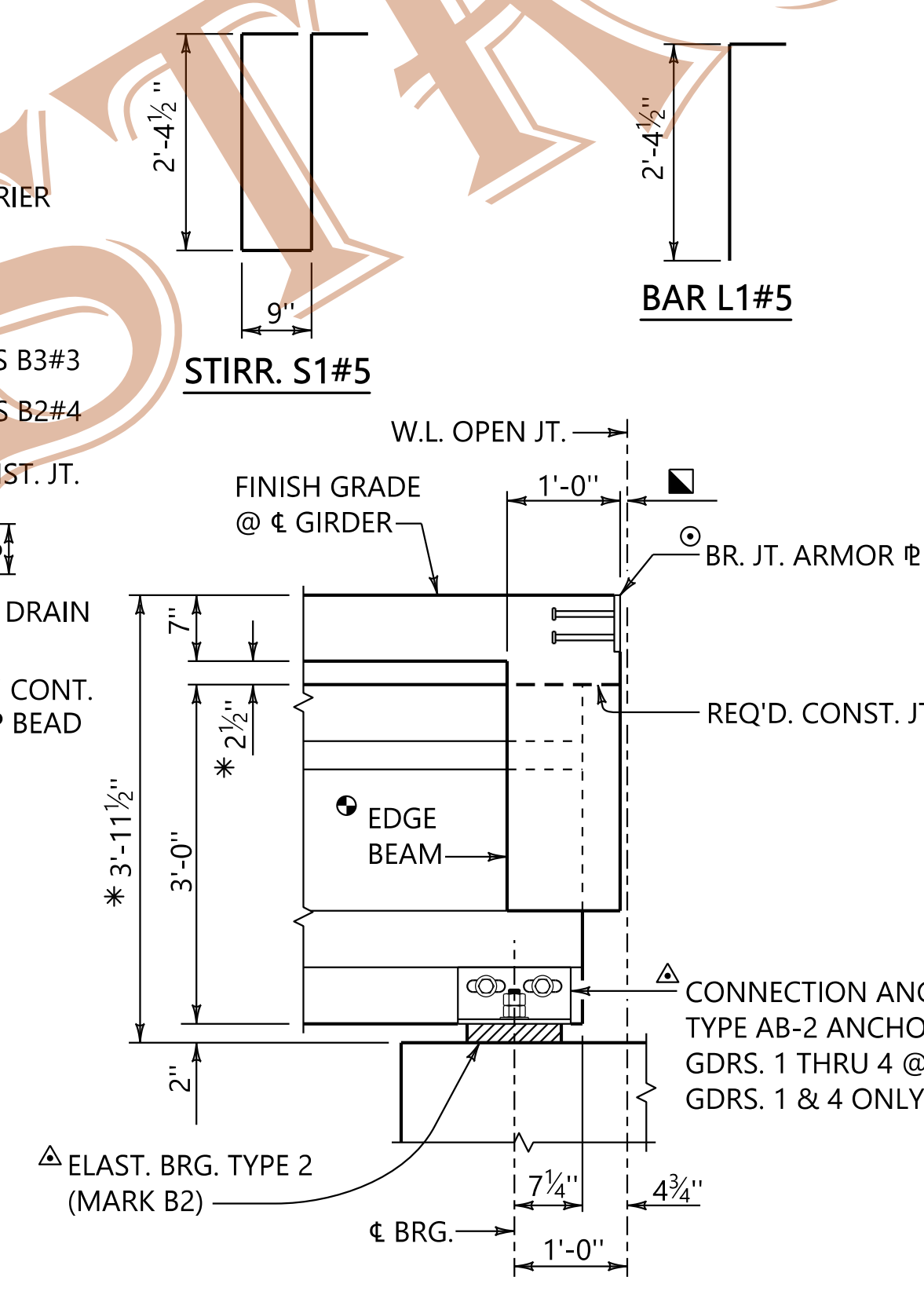


**SECTION A-A**  
SCALE: 3/4" = 1'-0"



**TYP. HALF VIEW @ OPEN JTS.**  
SCALE: 1/2" = 1'-0"

**TYPICAL HALF CROSS-SECTION**  
SCALE: 1/2" = 1'-0"



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

BILL OF REINFORCEMENT					
MARK	SIZE	NUMBER PER SPAN		LENGTH	BENDING
		END	INT.		
BARRIER RAIL					
BL	4	16	16	□	STRAIGHT
B1	4	236	240	6'-0"	□
B2	4	236	240	3'-8 3/4"	□
B3	3	60	60	2'-0"	□
DECK					
C	5	284	288	26'-1"	STRAIGHT
D1	4	38	---	58'-6 3/4"	STRAIGHT
D2	4	---	38	59'-4 1/2"	STRAIGHT
E1	5	15	---	58'-6 3/4"	STRAIGHT
E2	5	---	15	59'-4 1/2"	STRAIGHT
EDGE BEAM					
L1	5	8	8	2'-10 1/2"	SEE DIAG.
R1	8	4	4	4'-6"	STRAIGHT
S1	5	42	42	6'-6"	SEE DIAG.
W1	5	4	4	20'-2"	STRAIGHT
W2	5	12	12	5'-10"	STRAIGHT

SUPERSTRUCTURE DEADLOAD REACTIONS	
EXTERIOR GIRDERS 1 & 4:	38.7 KIPS
INTERIOR GIRDERS 2 & 3:	39.7 KIPS

**DESIGN PARAMETERS**  
 SUPERSTRUCTURE CONCRETE: 4,000 PSI  
 STEEL REINFORCEMENT: GRADE 60  
 DESIGN CONFORMS TO THE 7TH EDITION OF THE AASHTO LRFD DESIGN SPECIFICATIONS.

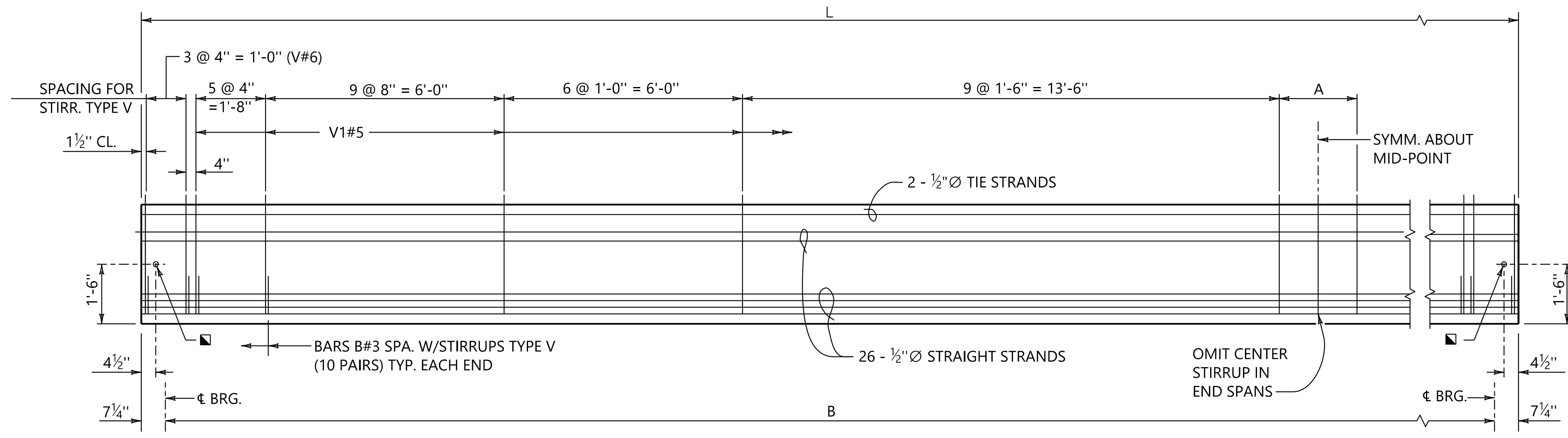
**GEOMETRIC PARAMETERS**  
 ALIGNMENT: TANGENT GRADE: 0.00%  
 CROSS-SLOPE: 2.0% w/ 6' PARABOLIC CROWN  
 ADAPTATIONS TO THIS DRAWING MAY BE REQUIRED FOR OTHER GEOMETRIC CONDITIONS.

ESTIMATED QUANTITIES					
END SPAN	INT. SPAN				
12,850	13,030	POUNDS	502B	STEEL REINF. FOR BR. SUPERSTR.	
1,025	1,025	POUND	508A	STRUCTURAL STEEL	
51.3	51.5	CUBIC YARDS	510C	BRIDGE CONCRETE SUPERSTR.	

ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/29/20	BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/20
---	---

PLOTTED: 19-Nov-20 at 13:37





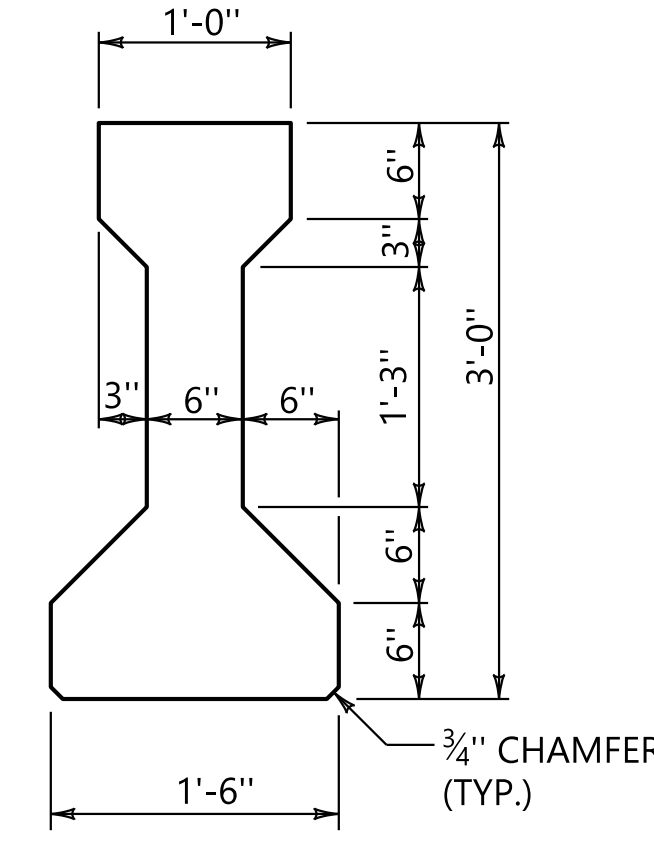
**\* TYPICAL GIRDER ELEVATION**  
SCALE: 1/2" = 1'-0"

▲ 2 STRAIGHT 1/2" Ø PRESTRESSED STRANDS WITH INITIAL TENSION OF 5,000 LBS. PER STRAND. STIRRUPS TYPE V SHALL BE TIED IN PLACE TO THESE STRANDS.

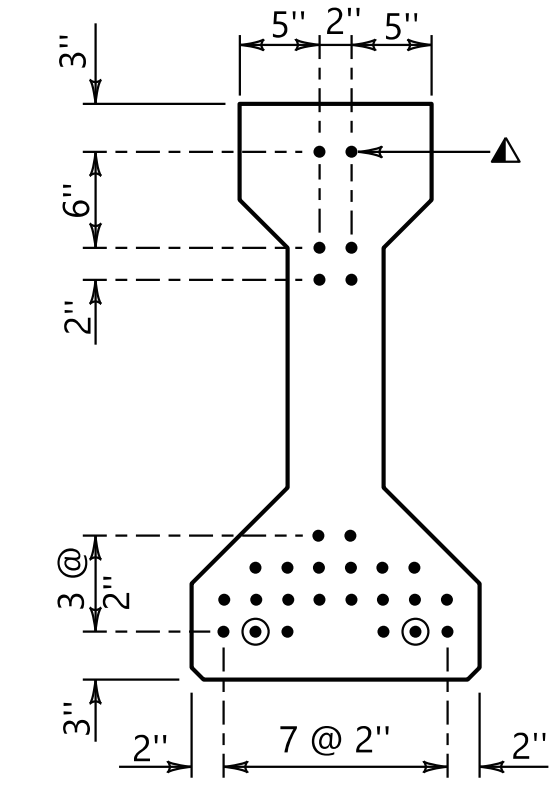
■ 1 1/2" Ø HOLE (GDRS. 2 & 3) OR 1" Ø THREADED INSERT (INSIDE FACE ONLY, GDRS. 1 & 4)

\* DIMENSIONS SHOWN ARE ALONG C GIRDER

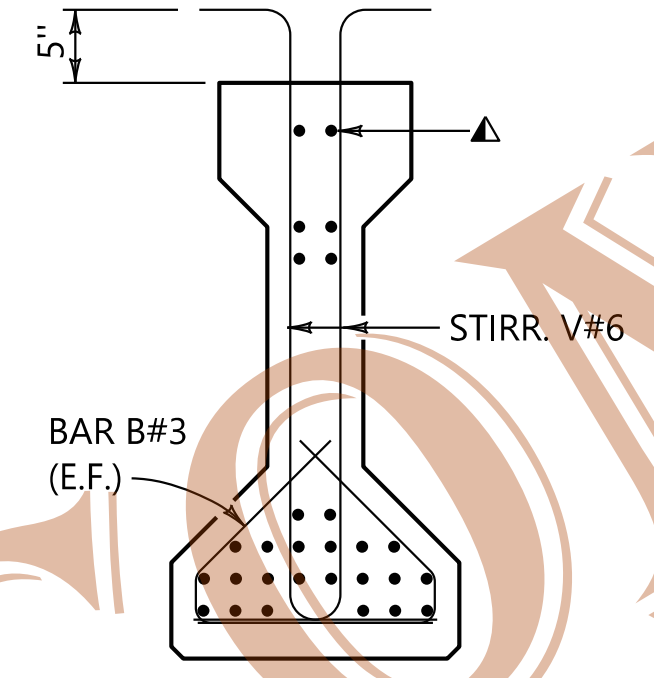
- NOTES**
- PRESTRESSING STRANDS SHALL BE 1/2" DIAMETER 270,000 PSI LOW RELAXATION WITH AN INITIAL TENSION OF 30,983 LBS./STRAND UNLESS OTHERWISE NOTED.
  - ALL STRANDS NOT TO BE ENCASED IN CONCRETE SHALL BE CUT FLUSH AT EACH END OF THE GIRDER. COAT GIRDER ENDS WHERE STRANDS ARE CUT WITH AN APPROVED EPOXY COATING. STRANDS TO BE ENCASED IN CONCRETE MAY EXTEND 2" FROM THE END OF THE GIRDER.
  - THE GIRDER CONCRETE SHALL HAVE A MINIMUM OF 5,500 PSI COMPRESSIVE STRENGTH PRIOR TO RECEIVING PRESTRESSING FORCE AND A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 6,000 PSI.
  - THREADED BARS R2 AND THREADED INSERTS SHALL BE INCLUDED IN THE BID ITEM 513B, PRETENSIONED-PRESTRESSED CONCRETE GIRDERS, TYPE II.
  - GIRDER ENDS SHALL BE VERTICAL IN FINAL ERECTED POSITION.
  - STRANDS SHOWN THUS ○ SHALL REMAIN UNBONDED BY USING PLASTIC SHEATHES AROUND CABLES FOR A DISTANCE OF 6'-0" FROM THE ENDS OF THE GIRDER.
  - UNLESS OTHERWISE SHOWN, STIRRUPS AND CONFINEMENT STEEL SHALL BE SECURELY TIED TO THE PRESTRESSING STRANDS TO PROVIDE A MINIMUM OF 1" CONCRETE COVER.
  - CONNECTION ANGLES ARE REQUIRED ON BOTH FACES OF ALL GIRDERS AT THE FIXED END AND BOTH FACES OF THE EXTERIOR GIRDERS ONLY AT THE EXPANSION END. SEE BRIDGE SPECIAL PROJECT DWG. SPGD-1 FOR DETAILS.
  - THE ENGINEER WILL CONSIDER ALTERNATE GIRDER REINFORCING UTILIZING WELDED WIRE FABRIC IN LIEU OF TIED REINFORCING FOR BARS B. THE EQUIVALENT AREA OF STEEL AND SPACING OF BARS SHALL BE MAINTAINED.



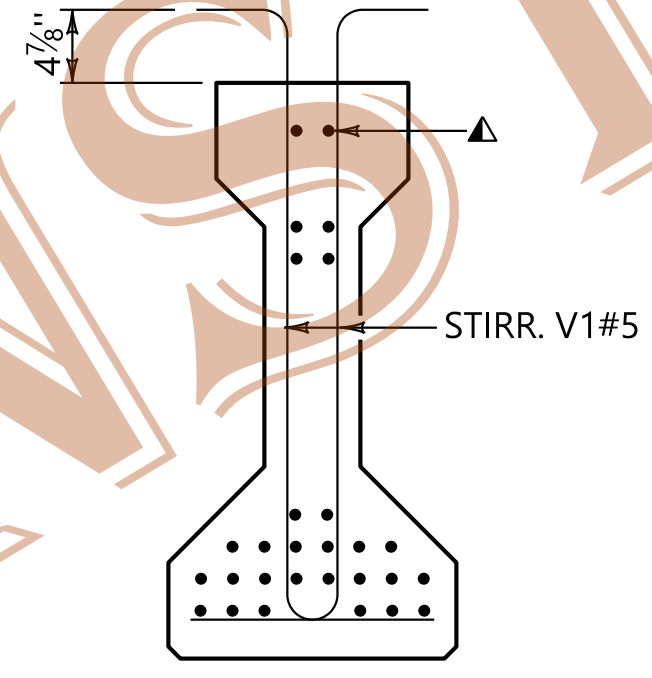
**AASHTO TYPE II GIRDER**  
SCALE: 1" = 1'-0"



**STRAND PATTERN**  
SCALE: 1" = 1'-0"

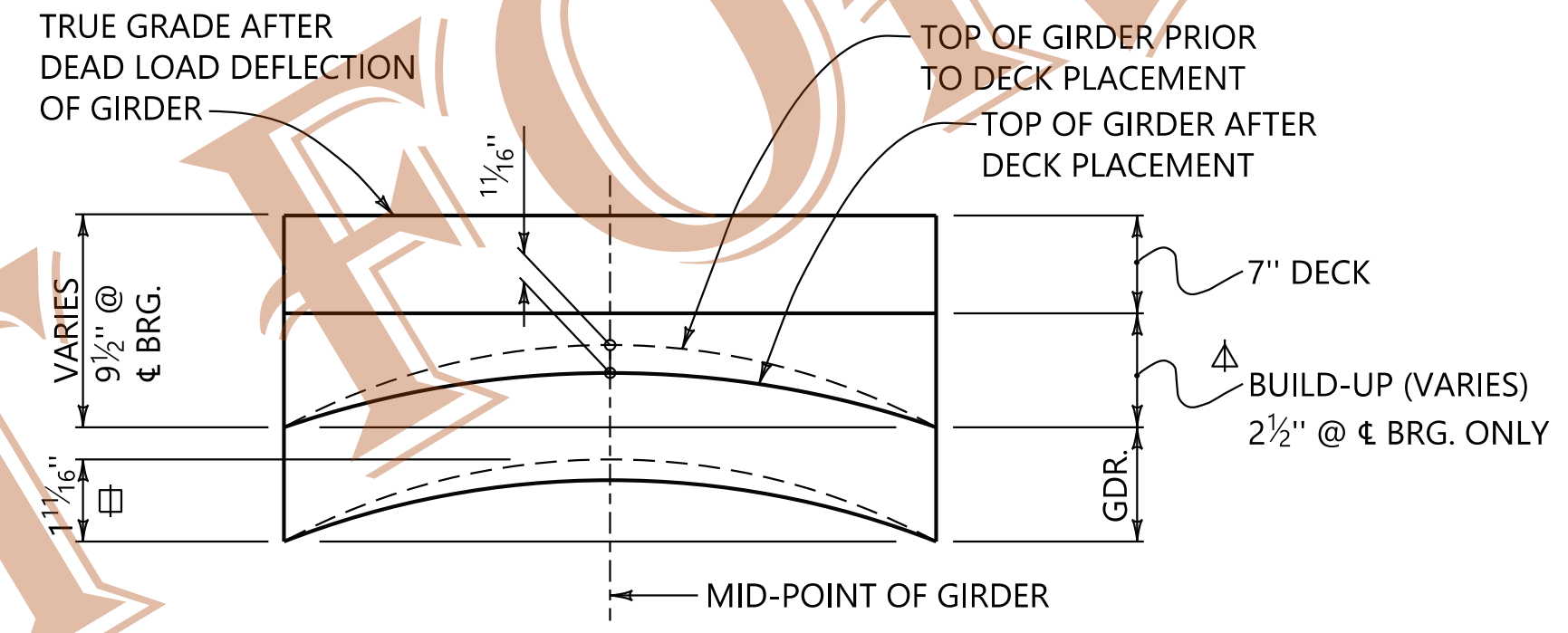


**SECTION @ END OF GIRDER**  
SCALE: 1" = 1'-0"



**SECTION ALONG GIRDER**  
SCALE: 1" = 1'-0"

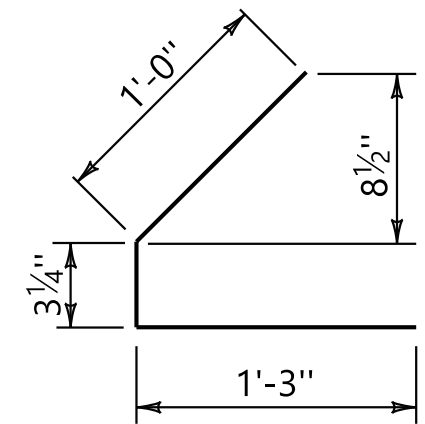
	END SPANS	INT. SPANS
L	58'-4 3/4"	59'-2 1/2"
B	57'-2 1/4"	58'-0"
A	1'-1 3/4"	2 SPA. @ 11 3/4"



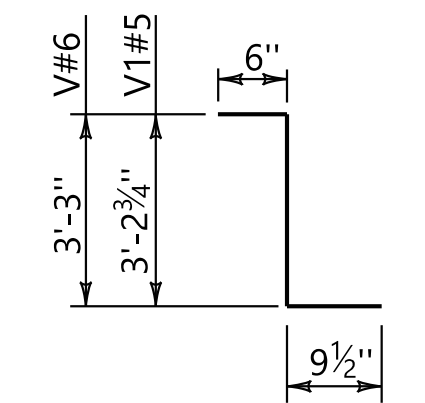
**DETAIL OF BUILD-UP BETWEEN BOTTOM OF DECK AND TOP OF GDR. (ALONG C GDR.)**  
NO SCALE

□ THEORETICAL CAMBER (UPWARD DEFLECTION) SHOWN. ACTUAL CAMBER OF GIRDER MAY VARY AND SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS AND SETTING FORMS.

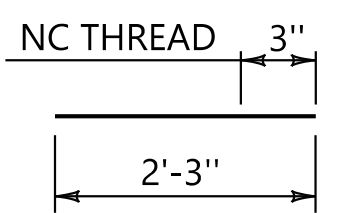
▲ ADJUSTMENT TO BUILD-UP MAY BE REQUIRED IF USED FOR BRIDGES IN EXTREME CREST OR SAG VERTICAL CURVE GRADES.



**BARS B#3**

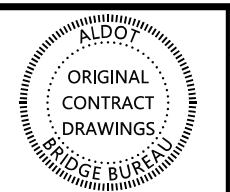


**STIRRUPS TYPE V**



**BARS R2#8**

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REVISIONS

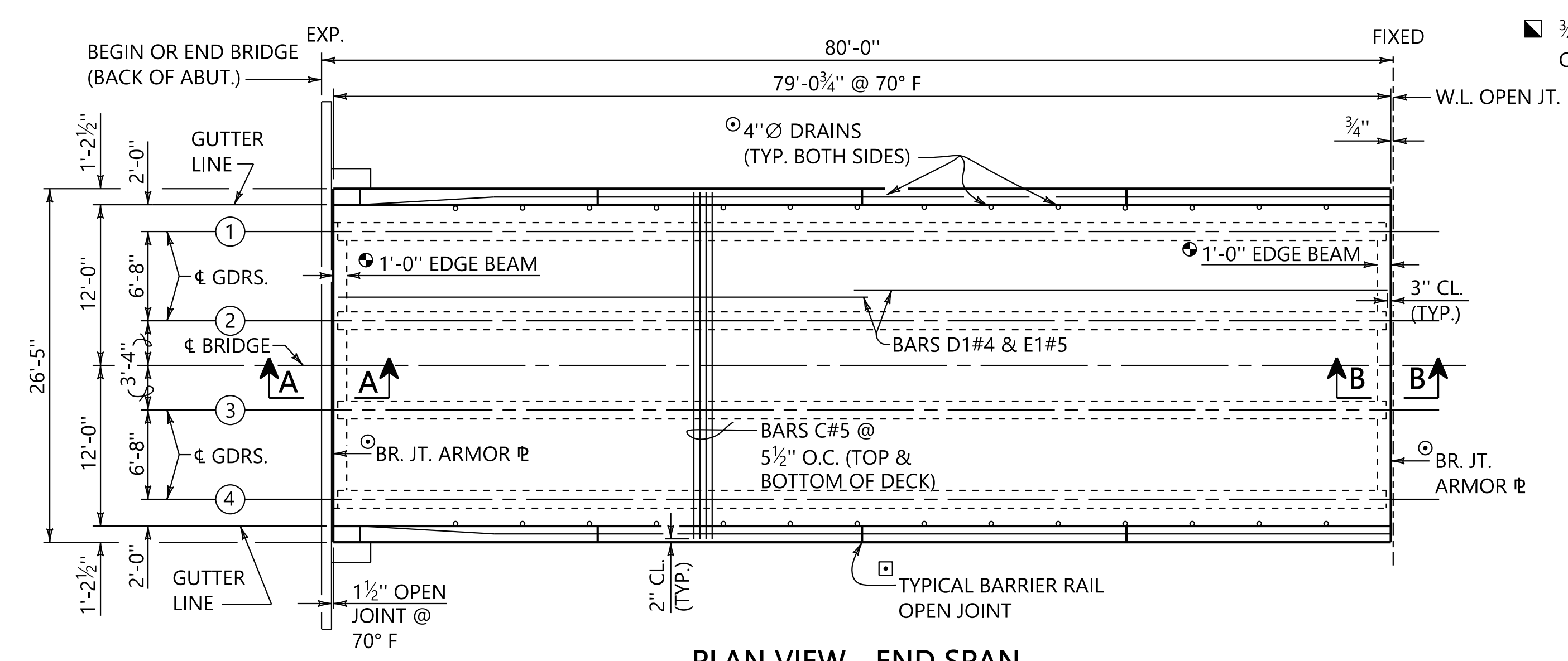
THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

THESE DRAWINGS REPRESENT DESIGNS PREPARED FOR USE BY THE ALABAMA DEPARTMENT OF TRANSPORTATION AND ARE NOT TO BE COPIED, REPRODUCED, ALTERED, OR USED BY ANYONE, OR ANY ORGANIZATION, WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ALABAMA DEPARTMENT OF TRANSPORTATION REPRESENTATIVE AUTHORIZED TO APPROVE SUCH USE. ANYONE MAKING UNAUTHORIZED USE OF THESE DRAWINGS MAY BE PROSECUTED TO THE FULLEST EXTENT OF THE LAW.

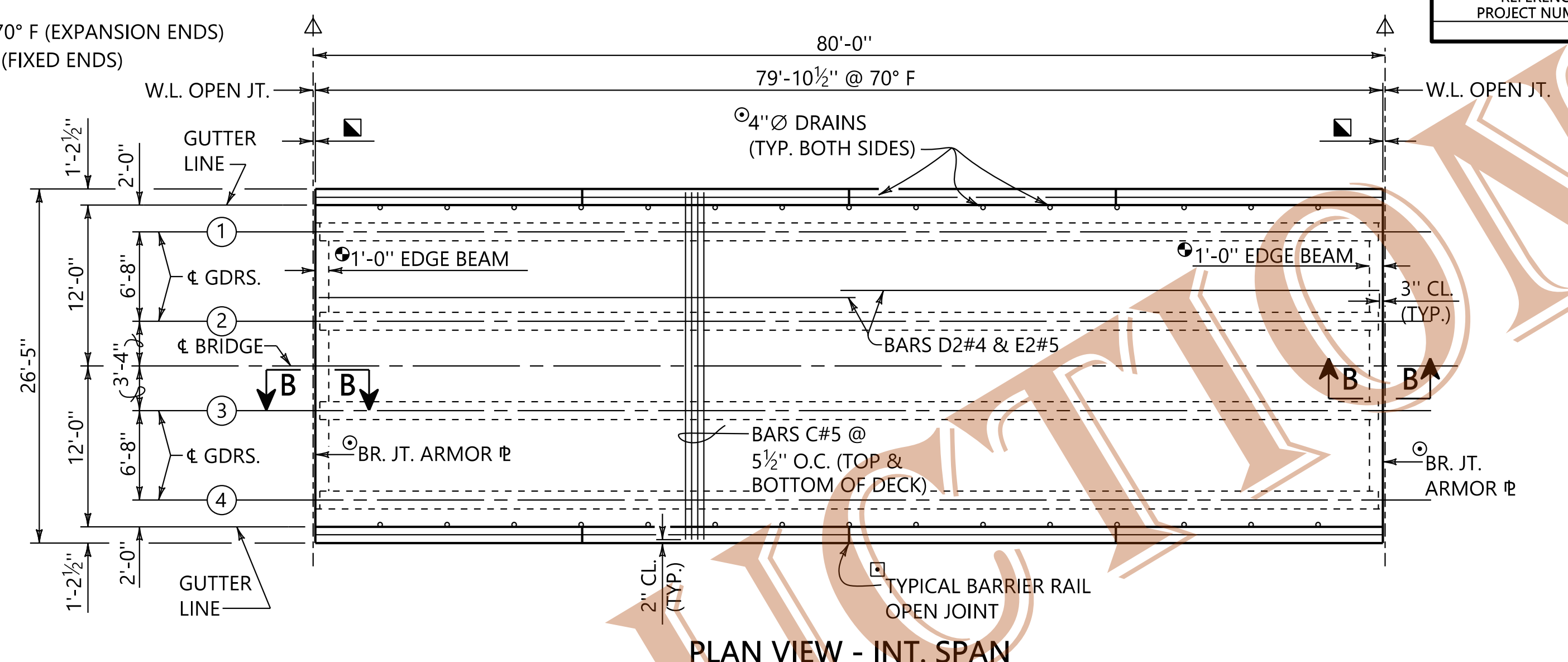
60'-0" SIMPLE AASHTO TYPE II GIRDER SPANS  
HL 93 LOADING  
(24'-0" ROADWAY, 0° SKEW)



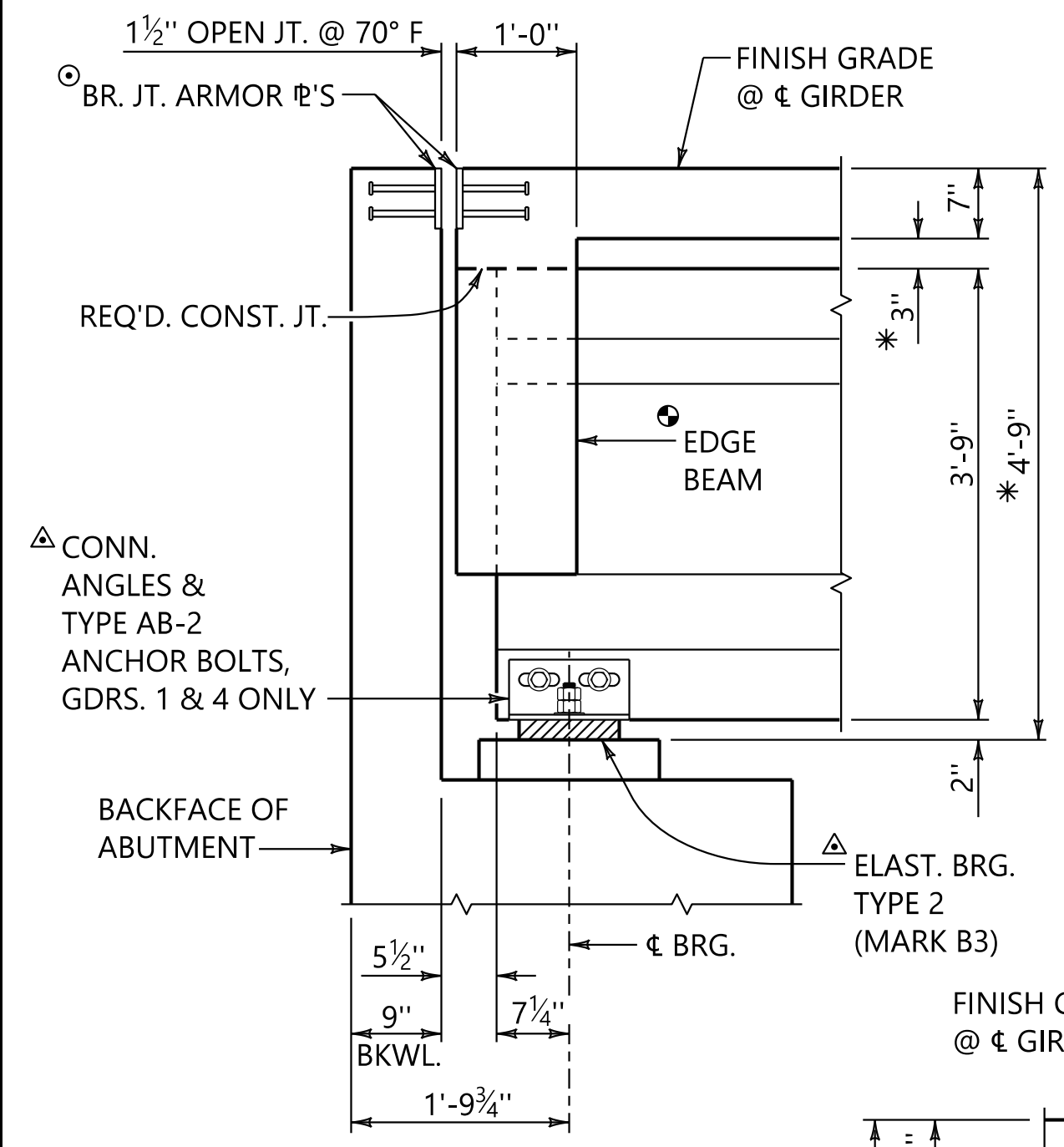
SHEET REFERENCE



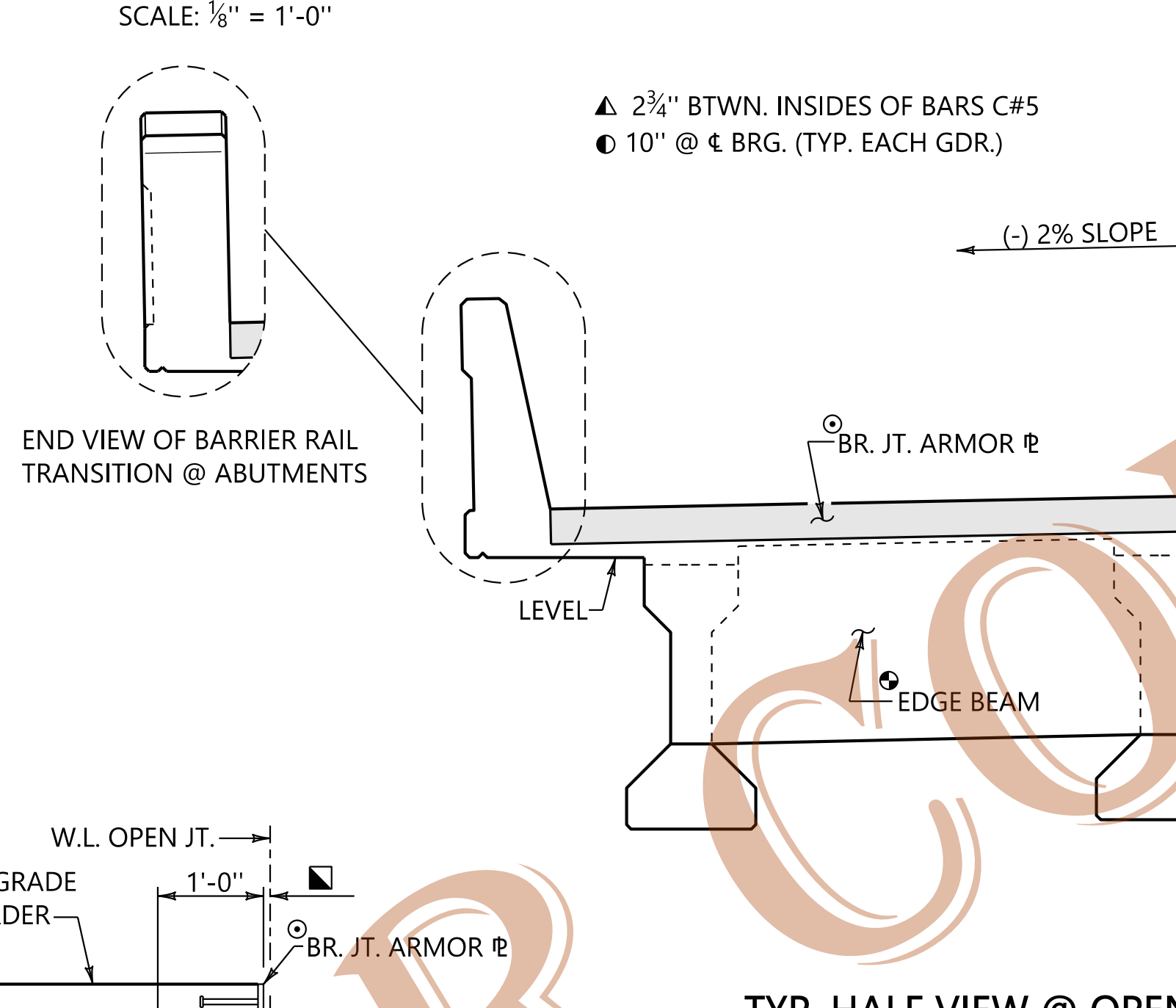
**PLAN VIEW - END SPAN**  
SCALE: 1/8" = 1'-0"



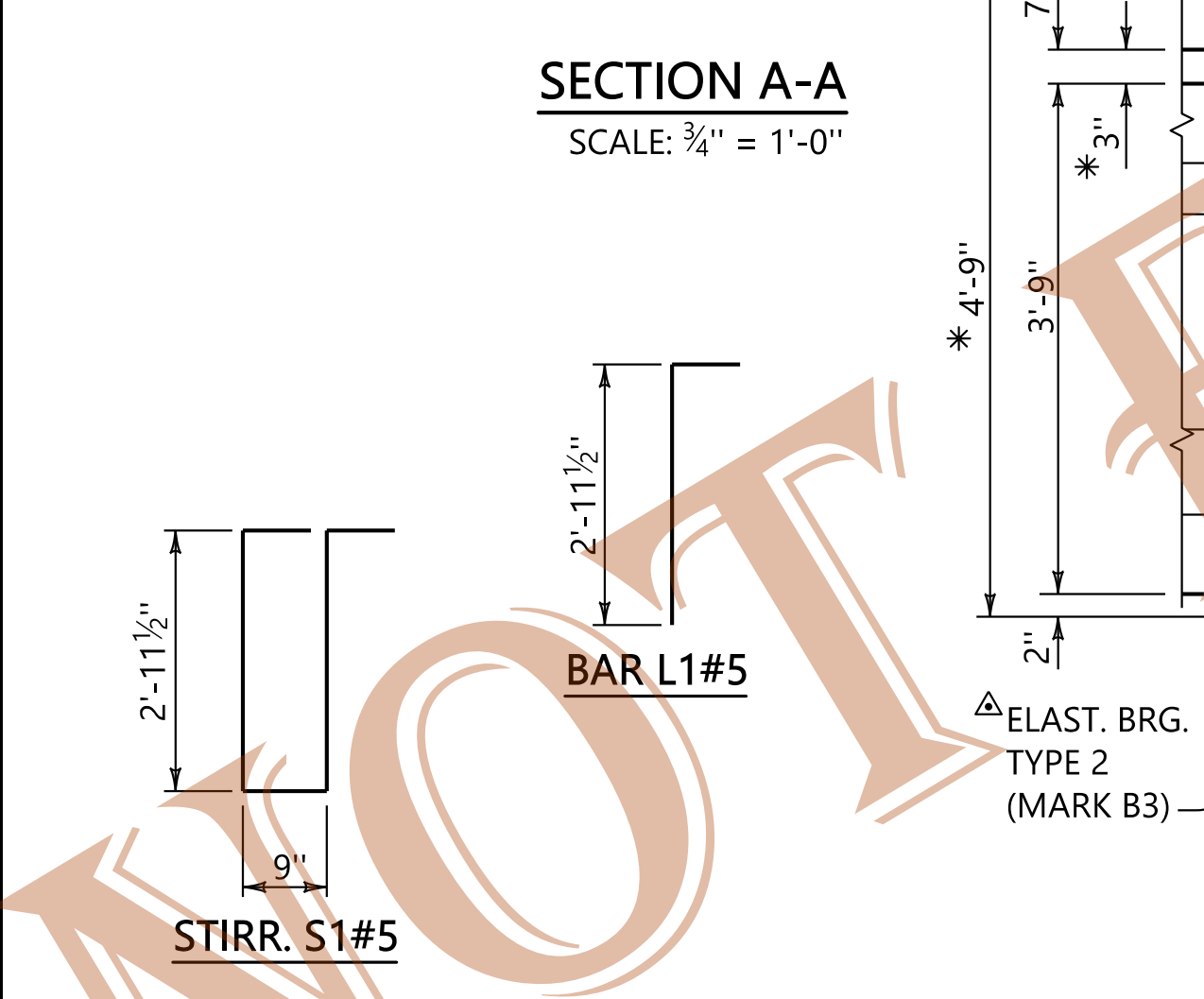
**PLAN VIEW - INT. SPAN**  
SCALE: 1/8" = 1'-0"



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



**TYP. HALF VIEW @ OPEN JTS.**  
SCALE: 1/2" = 1'-0"



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

**GEOMETRIC PARAMETERS**  
ALIGNMENT: TANGENT GRADE: 0.00%  
CROSS-SLOPE: 2.0% w/ 6' PARABOLIC CROWN  
ADAPTATIONS TO THIS DRAWING MAY BE REQUIRED FOR OTHER GEOMETRIC CONDITIONS.

**DESIGN PARAMETERS**  
SUPERSTRUCTURE CONCRETE: 4,000 PSI  
STEEL REINFORCEMENT: GRADE 60  
DESIGN CONFORMS TO THE 7TH EDITION OF THE AASHTO LRFD DESIGN SPECIFICATIONS.

**SUPERSTRUCTURE DEADLOAD REACTIONS**

EXTERIOR GIRDERS 1 & 4:	59.5 KIPS
INTERIOR GIRDERS 2 & 3:	60.9 KIPS

**ESTIMATED QUANTITIES**

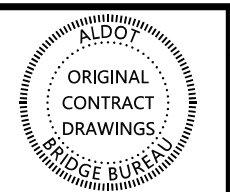
END SPAN	INT. SPAN			
16,220	16,400	POUNDS	502B	STEEL REINF. FOR BR. SUPERSTR.
1,024	1,024	POUND	508A	STRUCTURAL STEEL
70.3	70.6	CUBIC YARDS	510C	BRIDGE CONCRETE SUPERSTR.

- NOTES**
- FOR LOCATION OF FIXED AND EXPANSION ENDS, SEE THE GENERAL PLAN AND ELEVATION SHEET.
  - DIMENSIONS SHOWN ARE AT  $\epsilon$  BEARING ONLY. (SEE SHT. 2 OF 3)
  - FOR GUARDRAIL ANCHOR REQUIREMENTS, SEE ROADWAY PLANS AND BR. SPEC. PROJ. DWG. BBR-2. QUANTITIES NOT INCLUDED ON THIS SPECIAL DRAWING.
  - SEE BR. SPEC. PROJ. DWG. SBD-1 FOR DETAILS.
  - SEE BR. SPEC. PROJ. DWG. BBR-2 FOR DETAILS.
  - SEE BR. SPEC. PROJ. DWG. EBW3 FOR DETAILS.
  - SEE BR. SPEC. PROJ. DWG. SPGD-1 FOR DETAILS.
  - BARS TYPE D & E TO BE SPLICED 30 DIA. (MIN.).
  - STRUCTURAL STEEL QUANTITIES INCLUDE CONNECTION ANGLES, ANCHOR BOLTS AND BRIDGE JOINT ARMOR  $\phi$ 'S.

**BILL OF REINFORCEMENT**

MARK	SIZE	NUMBER PER SPAN		LENGTH	BENDING
		END	INT.		
BARRIER RAIL					
BL	4	16	16	$\square$	STRAIGHT
B1	4	316	320	6'-0"	$\square$
B2	4	316	320	3'-8 3/4"	$\square$
B3	3	80	80	2'-0"	$\square$
DECK					
C	5	346	350	26'-1"	STRAIGHT
D1	4	76	---	39'-11"	STRAIGHT
D2	4	---	76	40'-3 3/4"	STRAIGHT
E1	5	30	---	40'-1"	STRAIGHT
E2	5	---	30	40'-5 3/4"	STRAIGHT
EDGE BEAM					
L1	5	8	8	3'-5 1/2"	SEE DIAG.
R1	8	4	4	4'-7"	STRAIGHT
S1	5	42	42	7'-8"	SEE DIAG.
W1	5	4	4	20'-3"	STRAIGHT
W2	5	12	12	5'-9"	STRAIGHT

ASSISTANT BRIDGE ENGINEER: *[Signature]* 11/20/2020  
BRIDGE ENGINEER: *[Signature]* 11/20/2020



**REVISIONS**

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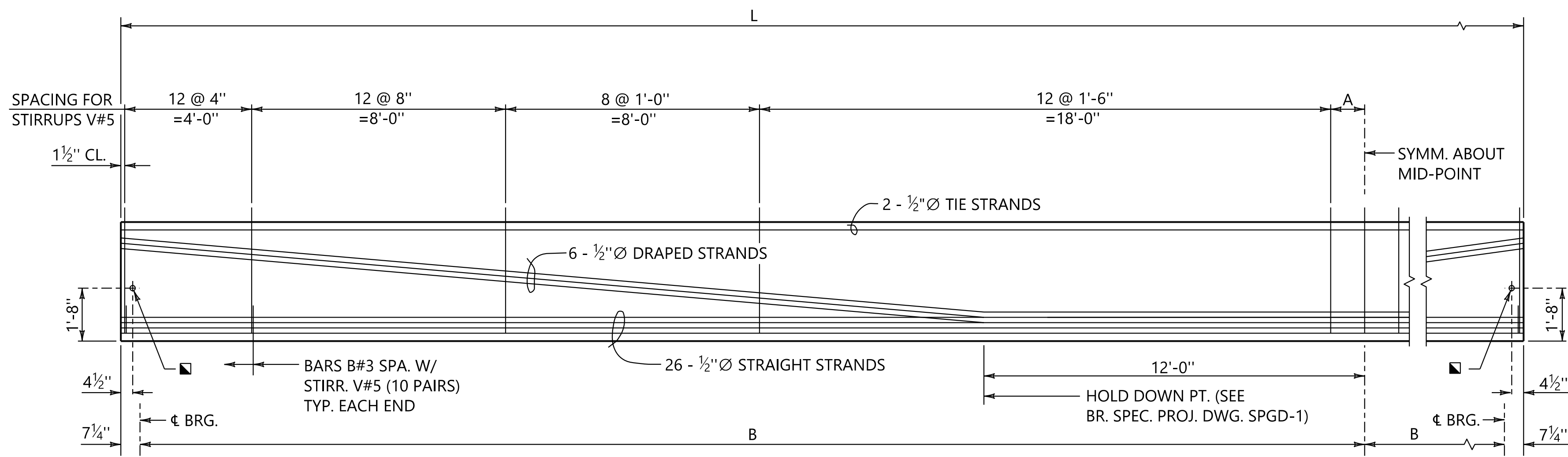
THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
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COUNTY(S) \_\_\_\_\_

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80'-0" SIMPLE AASHTO TYPE III GIRDER SPANS  
HL 93 LOADING  
(24'-0" ROADWAY, 0° SKEW)

PLOTTED: 19-Nov-20 at 13:38





**\* TYPICAL GIRDER ELEVATION**  
SCALE: 3/8" = 1'-0"

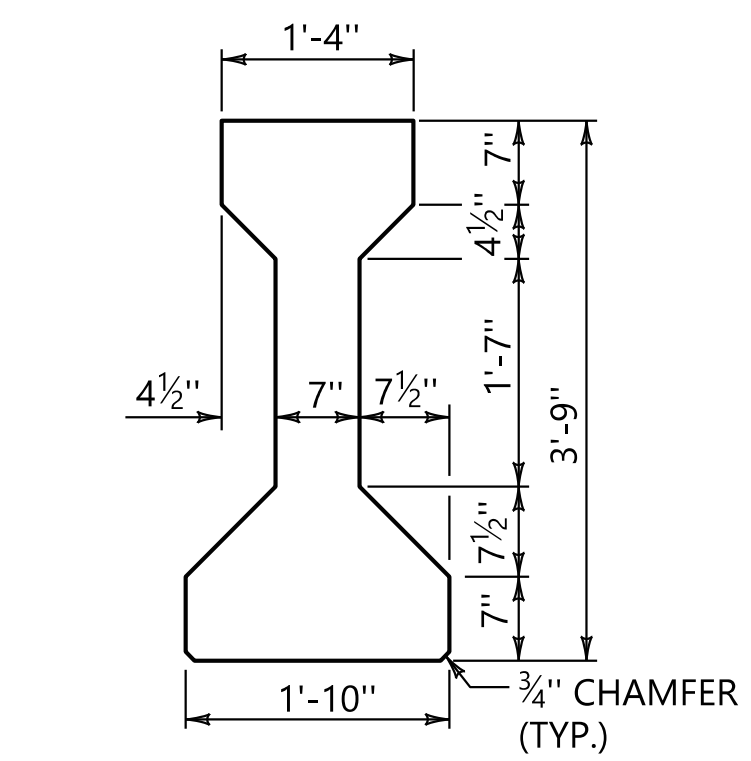
▲ 2 STRAIGHT 1/2" Ø PRESTRESSED STRANDS WITH INITIAL TENSION OF 5,000 LBS. PER STRAND. STIRRUPS V#5 SHALL BE TIED IN PLACE TO THESE STRANDS.

■ 1 1/2" Ø HOLE (GDRS. 2 & 3) OR 1" Ø THREADED INSERT (INSIDE FACE ONLY, GDRS. 1 & 4)  
\* DIMENSIONS SHOWN ARE ALONG CL GIRDER

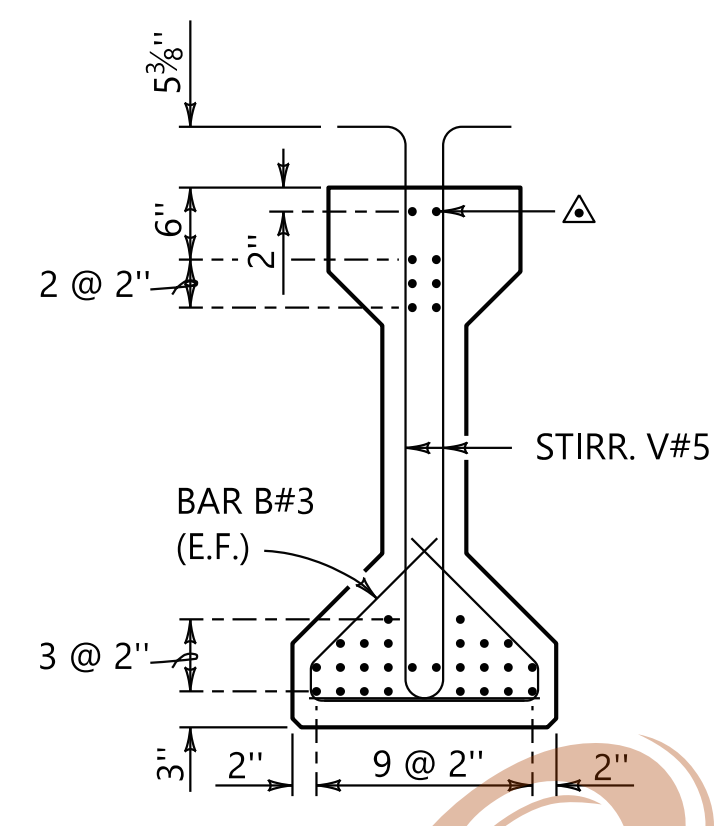
**NOTES**

1. PRESTRESSING STRANDS SHALL BE 1/2" DIAMETER 270,000 PSI LOW RELAXATION WITH AN INITIAL TENSION OF 30,983 LBS./STRAND UNLESS OTHERWISE NOTED.
2. ALL STRANDS NOT TO BE ENCASED IN CONCRETE SHALL BE CUT FLUSH AT EACH END OF THE GIRDER. COAT GIRDER ENDS WHERE STRANDS ARE CUT WITH AN APPROVED EPOXY COATING. STRANDS TO BE ENCASED IN CONCRETE MAY EXTEND 2" FROM THE END OF THE GIRDER.
3. THE GIRDER CONCRETE SHALL HAVE A MINIMUM OF 5,000 PSI COMPRESSIVE STRENGTH PRIOR TO RECEIVING PRESTRESSING FORCE AND A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5,500 PSI.
4. THREADED BARS R2 AND THREADED INSERTS SHALL BE INCLUDED IN THE BID ITEM 513B, PRETENSIONED-PRESTRESSED CONCRETE GIRDERS, TYPE III.
5. GIRDER ENDS SHALL BE VERTICAL IN FINAL ERECTED POSITION.
6. UNLESS OTHERWISE SHOWN, STIRRUPS AND CONFINEMENT STEEL SHALL BE SECURELY TIED TO THE PRESTRESSING STRANDS TO PROVIDE A MINIMUM OF 1" CONCRETE COVER.
7. CONNECTION ANGLES ARE REQUIRED ON BOTH FACES OF ALL GIRDERS AT THE FIXED END AND BOTH FACES OF THE EXTERIOR GIRDERS ONLY AT THE EXPANSION END. SEE BRIDGE SPECIAL PROJECT DWG. SPGD-1 FOR DETAILS.
8. THE ENGINEER WILL CONSIDER ALTERNATE GIRDER REINFORCING UTILIZING WELDED WIRE FABRIC IN LIEU OF TIED REINFORCING FOR BARS B. THE EQUIVALENT AREA OF STEEL AND SPACING OF BARS SHALL BE MAINTAINED.

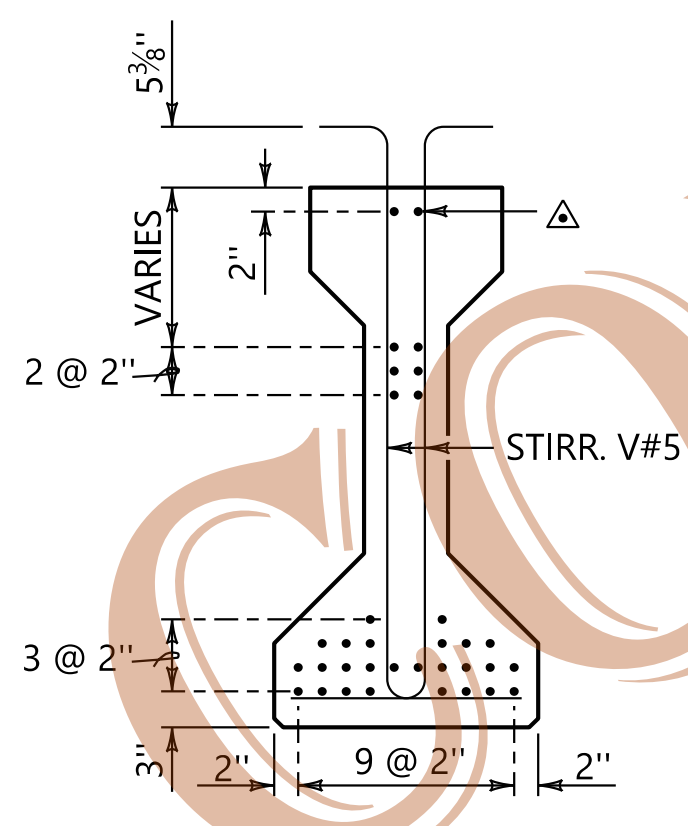
	END SPANS	INT. SPANS
L	78'-4 3/4"	79'-2 1/2"
B	77'-2 1/4"	78'-0"
A	1'-0 7/8"	1'-5 3/4"



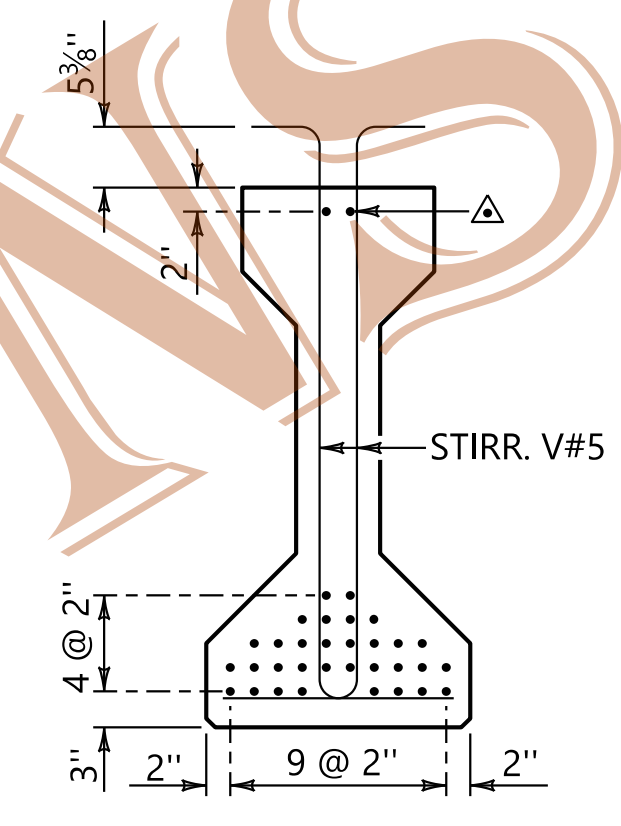
**AASHTO TYPE III GIRDER**  
SCALE: 3/4" = 1'-0"



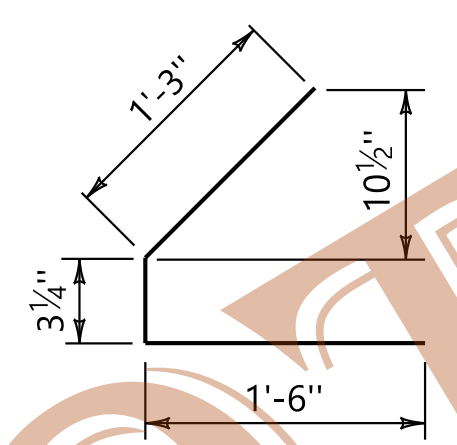
**SECTION @ END OF GIRDER**  
SCALE: 3/4" = 1'-0"



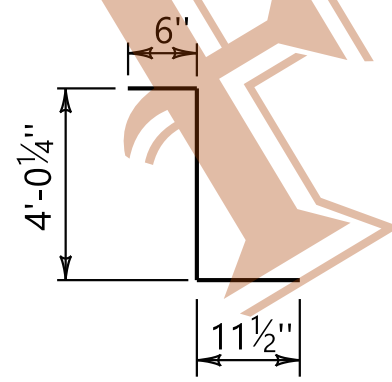
**SECTION BETWEEN END & HOLD DOWN**  
SCALE: 3/4" = 1'-0"



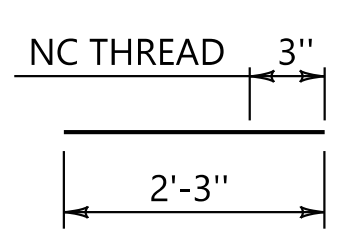
**SECTION BETWEEN HOLD DOWN POINTS**  
SCALE: 3/4" = 1'-0"



**BARS B#3**



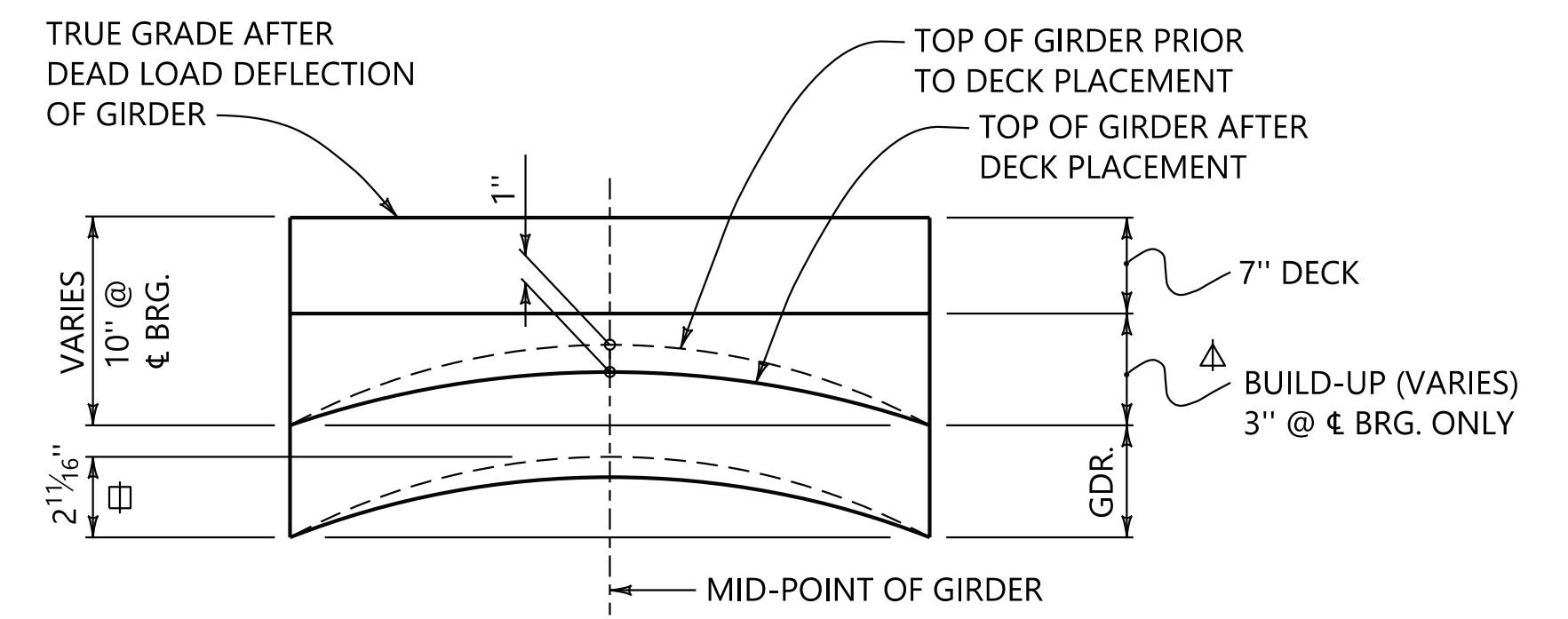
**STIRRUPS V#5**



**BARS R2#8**

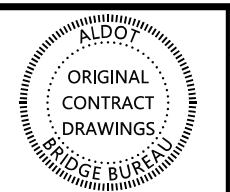
□ THEORETICAL CAMBER (UPWARD DEFLECTION) SHOWN. ACTUAL CAMBER OF GIRDER MAY VARY AND SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS AND SETTING FORMS.

▲ ADJUSTMENT TO BUILD-UP MAY BE REQUIRED IF USED FOR BRIDGES IN EXTREME CREST OR SAG VERTICAL CURVE GRADES.



**DETAIL OF BUILD-UP BETWEEN BOTTOM OF DECK AND TOP OF GDR. (ALONG | GDR.)**  
NTS

PLOTTED: 19-Nov-20 at 13:38



REVISIONS

THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

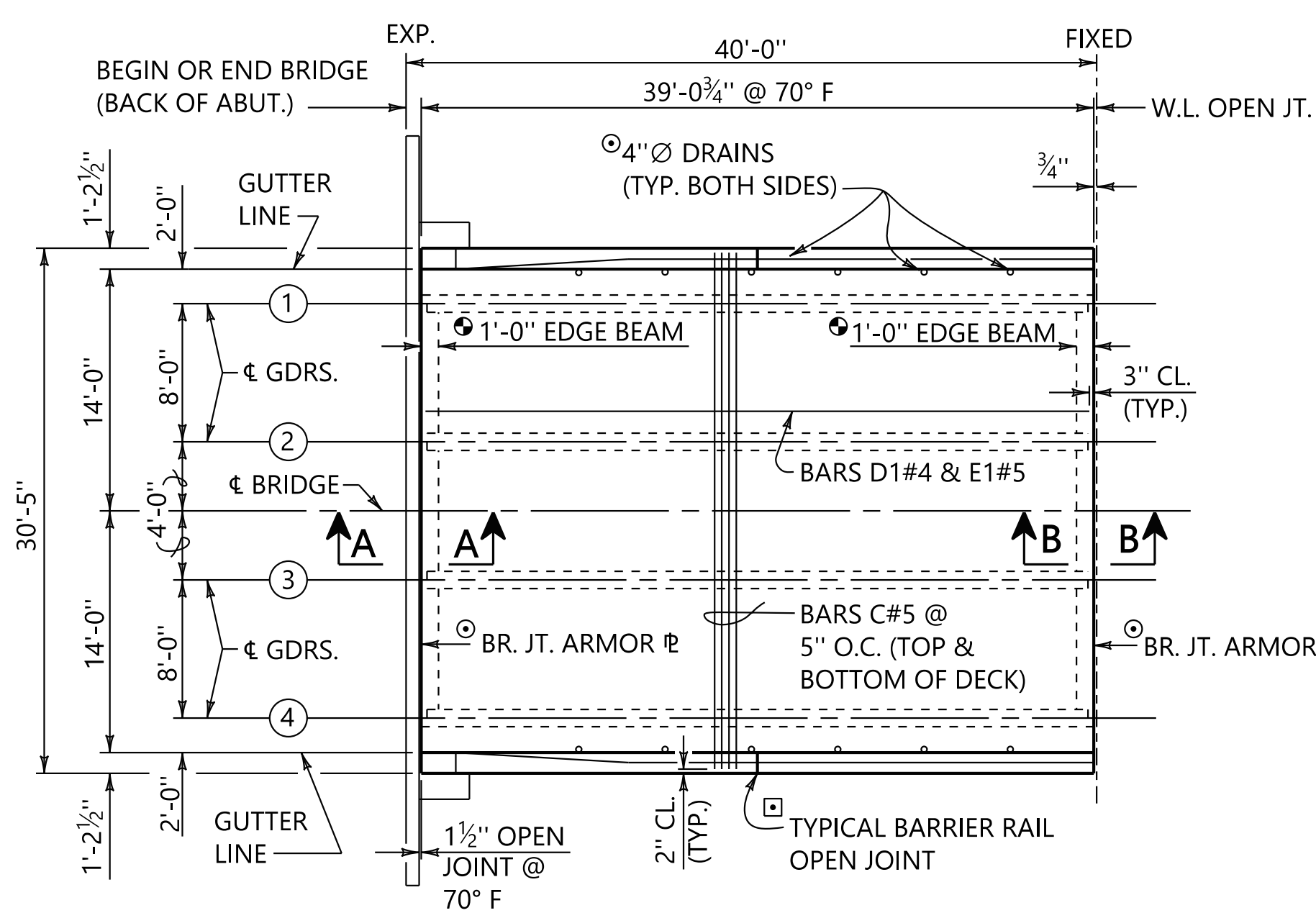
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80'-0" SIMPLE AASHTO TYPE III GIRDER SPANS  
HL 93 LOADING  
(24'-0" ROADWAY, 0° SKEW)

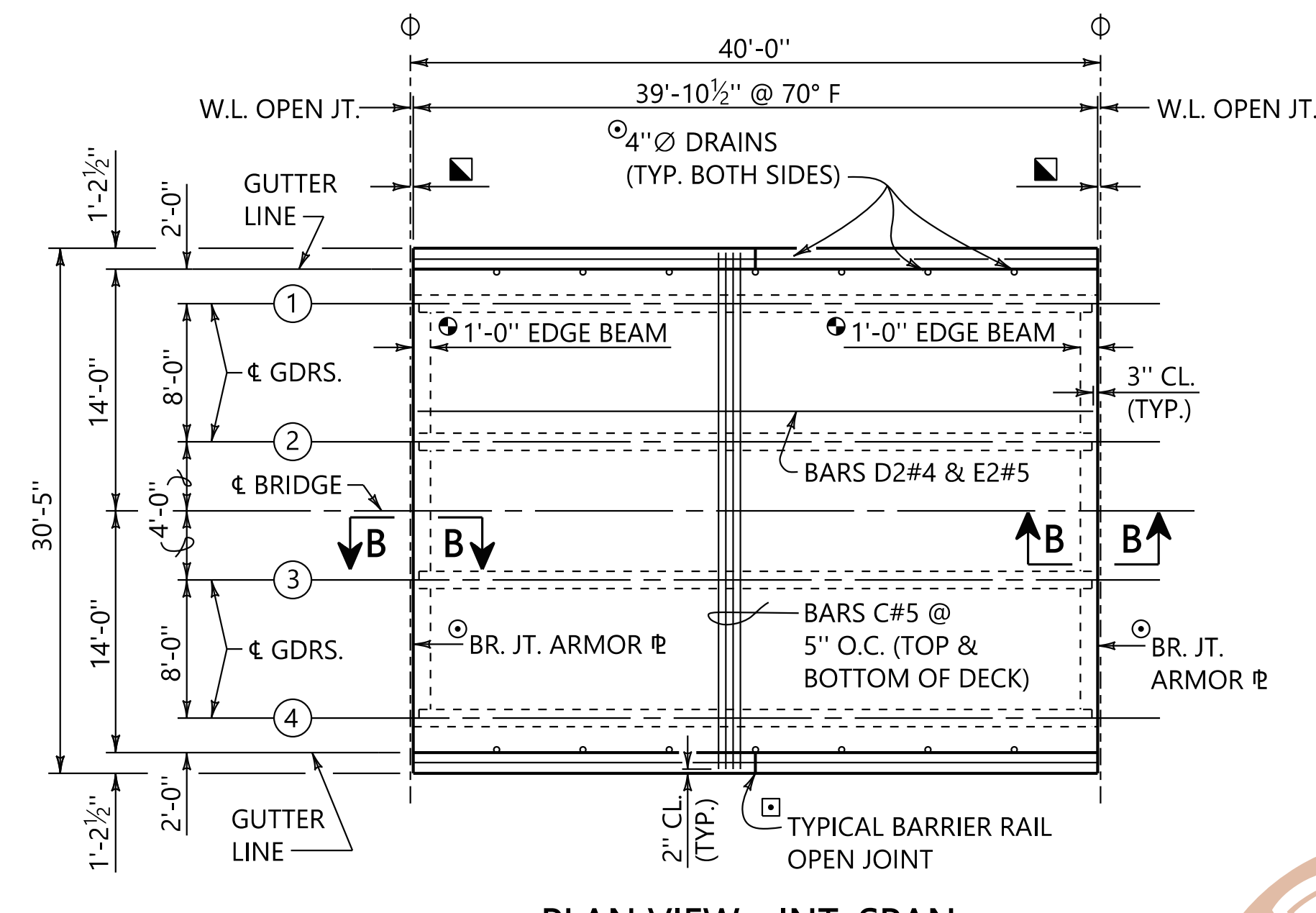


### NOTES

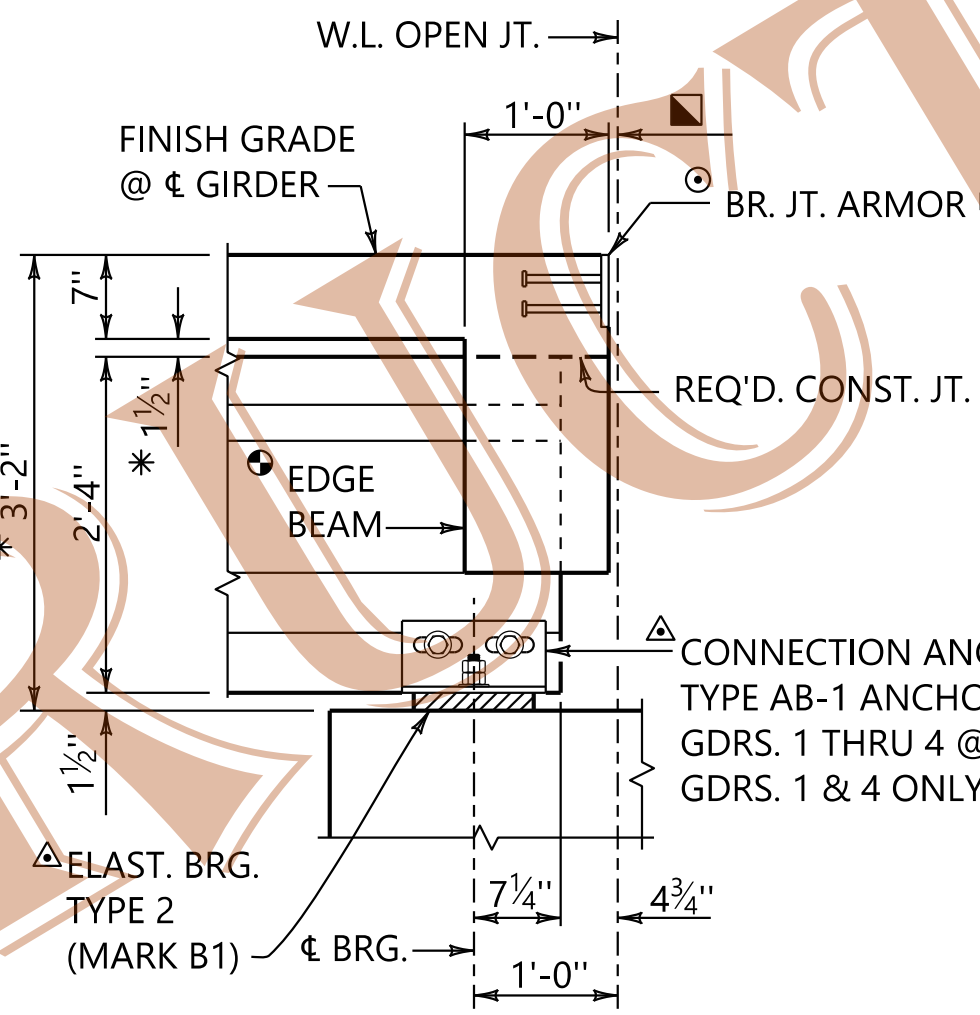
1. FOR LOCATION OF FIXED AND EXPANSION ENDS, SEE THE GENERAL PLAN AND ELEVATION SHEET.
2. DIMENSIONS SHOWN ARE AT BEARING ONLY. (SEE SHT. 2 OF 2)
3. FOR GUARDRAIL ANCHOR REQUIREMENTS, SEE ROADWAY PLANS AND BR. SPEC. PROJ. DWG. BBR-2. QUANTITIES NOT INCLUDED ON THIS SPECIAL DRAWING.
4. SEE BR. SPEC. PROJ. DWG. SBD-1 FOR DETAILS.
5. SEE BR. SPEC. PROJ. DWG. BBR-2 FOR DETAILS.
6. SEE BR. SPEC. PROJ. DWG. EBEW1 FOR DETAILS.
7. SEE BR. SPEC. PROJ. DWG. SPGD-1 FOR DETAILS.
8. STRUCTURAL STEEL QUANTITIES INCLUDE CONNECTION ANGLES, ANCHOR BOLTS AND BRIDGE JOINT ARMOR P'S.



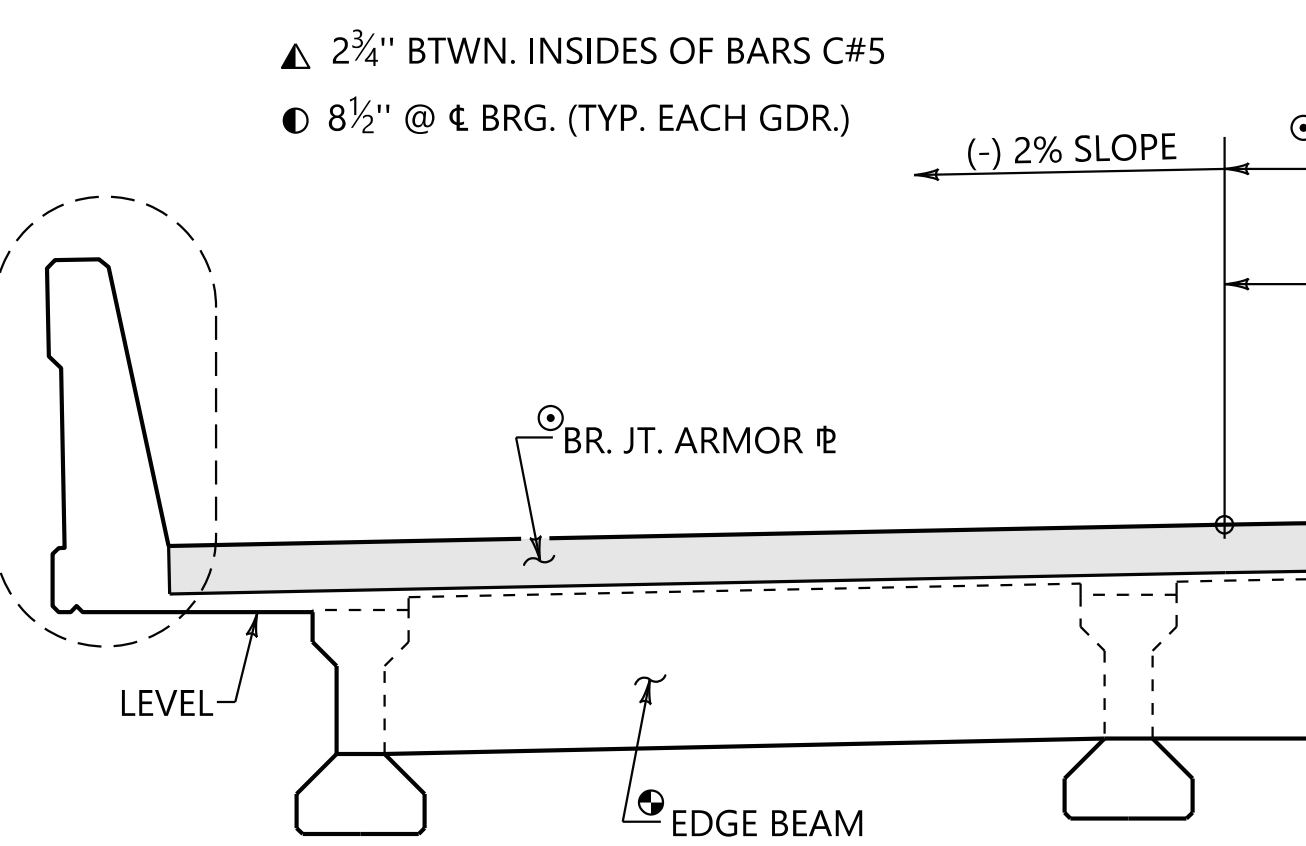
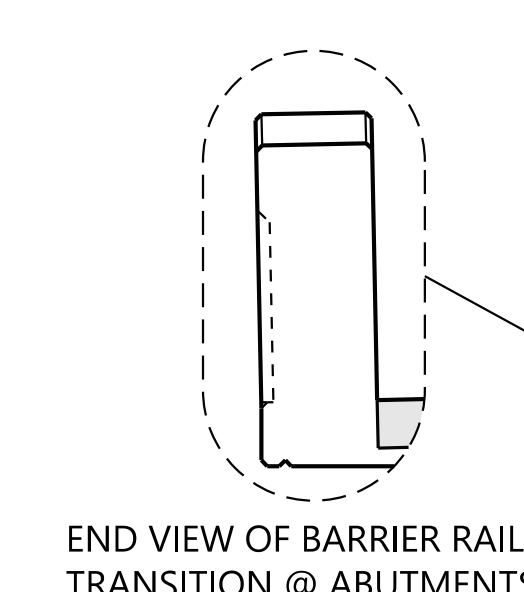
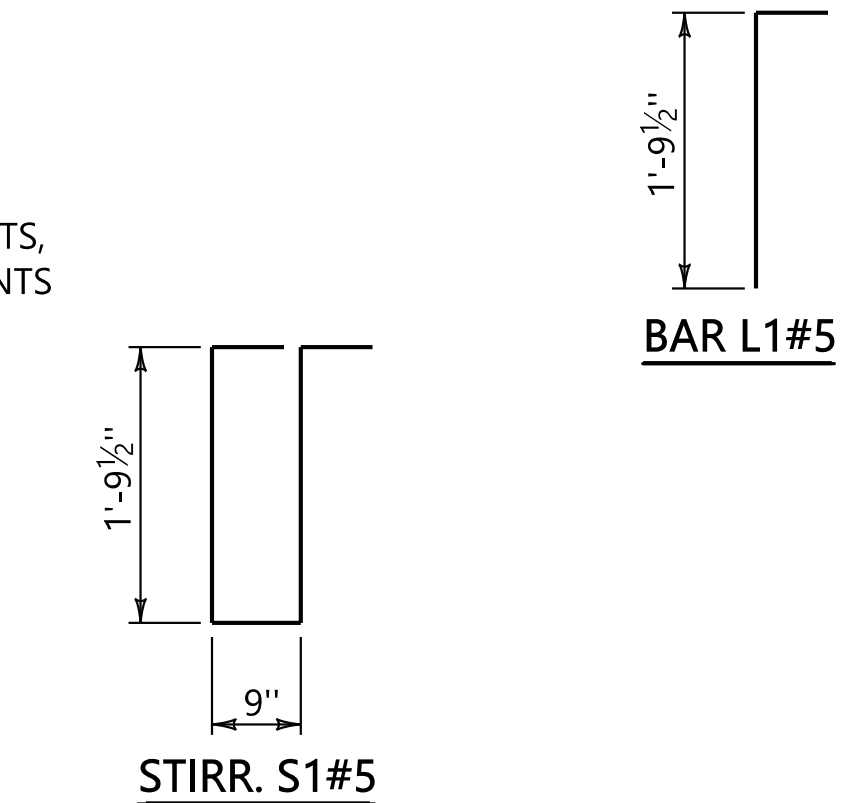
**PLAN VIEW - END SPAN**  
SCALE: 1/8" = 1'-0"



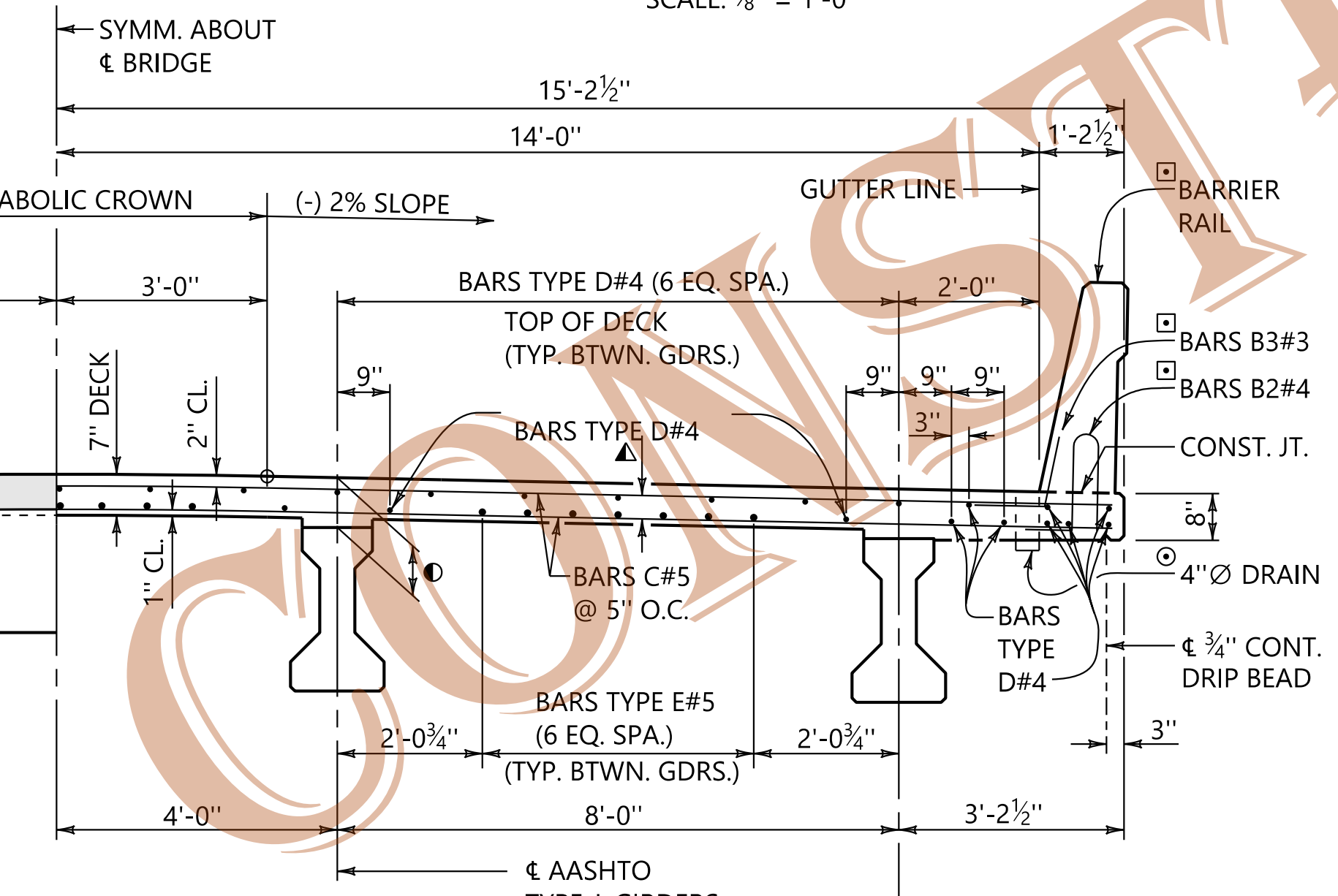
**PLAN VIEW - INT. SPAN**  
SCALE: 1/8" = 1'-0"



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



**TYP. HALF VIEW @ OPEN JTS.**  
SCALE: 1/2" = 1'-0"



**TYPICAL HALF CROSS-SECTION**  
SCALE: 1/2" = 1'-0"

SUPERSTRUCTURE DEADLOAD REACTIONS	
EXTERIOR GIRDERS 1 & 4:	25.1 KIPS
INTERIOR GIRDERS 2 & 3:	27.5 KIPS

**DESIGN PARAMETERS**  
SUPERSTRUCTURE CONCRETE: 4,000 PSI  
STEEL REINFORCEMENT: GRADE 60  
DESIGN CONFORMS TO THE 7TH EDITION OF THE AASHTO LRFD DESIGN SPECIFICATIONS.

**GEOMETRIC PARAMETERS**  
ALIGNMENT: TANGENT GRADE: 0.00%  
CROSS-SLOPE: 2.0% w/ 6' PARABOLIC CROWN  
ADAPTATIONS TO THIS DRAWING MAY BE REQUIRED FOR OTHER GEOMETRIC CONDITIONS.

ESTIMATED QUANTITIES					
END SPAN	INT. SPAN				
9,760	9,960	POUNDS	502B	STEEL REINF. FOR BR. SUPERSTR.	
1,075	1,075	POUND	508A	STRUCTURAL STEEL	
37.7	38.0	CUBIC YARDS	510C	BRIDGE CONCRETE SUPERSTR.	

BILL OF REINFORCEMENT					
MARK	SIZE	NUMBER PER SPAN		LENGTH	BENDING
		END	INT.		
BARRIER RAIL					
BL	4	16	16	□	STRAIGHT
B1	4	156	160	6'-0"	□
B2	4	156	160	3'-8 3/4"	□
B3	3	40	40	2'-0"	□
DECK					
C	5	188	192	30'-1"	STRAIGHT
D1	4	41	---	38'-6 3/4"	STRAIGHT
D2	4	---	41	39'-4 1/2"	STRAIGHT
E1	5	21	---	38'-6 3/4"	STRAIGHT
E2	5	---	21	39'-4 1/2"	STRAIGHT
EDGE BEAM					
L1	5	8	8	2'-3 1/2"	SEE DIAG.
R1	8	4	4	4'-6"	STRAIGHT
S1	5	42	42	5'-4"	SEE DIAG.
W1	5	4	4	24'-2"	STRAIGHT
W2	5	12	12	7'-2"	STRAIGHT

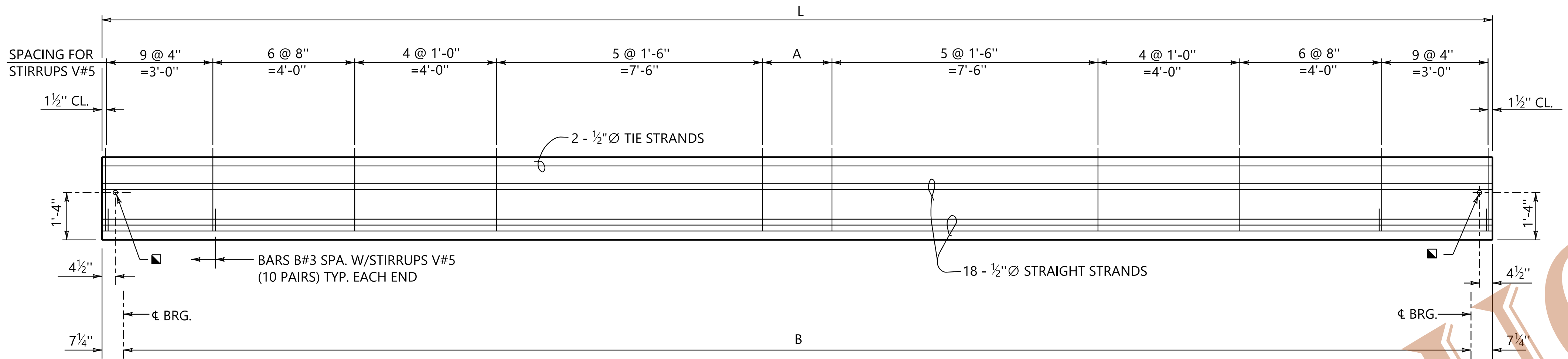
ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> 11/20/2020 DATE	BRIDGE ENGINEER <i>[Signature]</i> 11/20/2020 DATE
--	--

PLOTTED: 19-Nov-20 at 13:43



**NOTES**

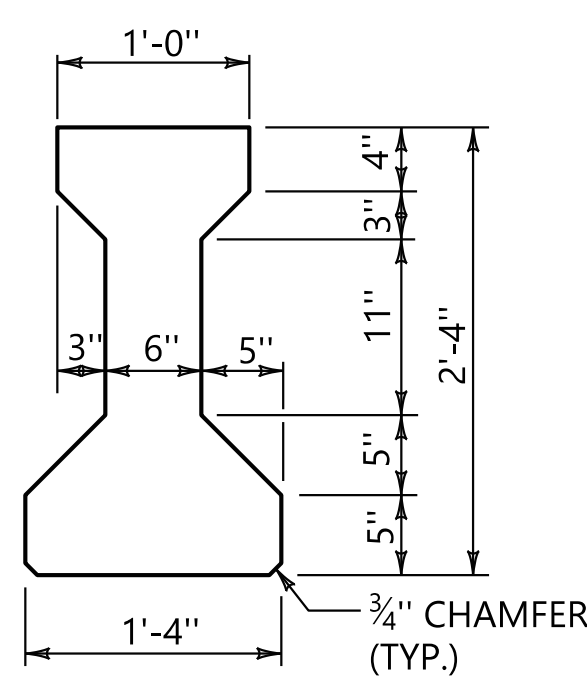
1. PRESTRESSING STRANDS SHALL BE 1/2" DIAMETER 270,000 PSI LOW RELAXATION WITH AN INITIAL TENSION OF 30,983 LBS./STRAND UNLESS OTHERWISE NOTED.
2. ALL STRANDS NOT TO BE ENCASED IN CONCRETE SHALL BE CUT FLUSH AT EACH END OF THE GIRDER. COAT GIRDER ENDS WHERE STRANDS ARE CUT WITH AN APPROVED EPOXY COATING. STRANDS TO BE ENCASED IN CONCRETE MAY EXTEND 2" FROM THE END OF THE GIRDER.
3. THE GIRDER CONCRETE SHALL HAVE A MINIMUM OF 5,000 PSI COMPRESSIVE STRENGTH PRIOR TO RECEIVING PRESTRESSING FORCE AND A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5,500 PSI.
4. THREADED BARS R2 AND THREADED INSERTS SHALL BE INCLUDED IN THE BID ITEM 513B, PRETENSIONED-PRESTRESSED CONCRETE GIRDERS, TYPE I. GIRDER ENDS SHALL BE VERTICAL IN FINAL ERECTED POSITION.
5. STRANDS SHOWN THUS ⊙ SHALL REMAIN UNBONDED BY USING PLASTIC SHEATHES AROUND CABLES FOR A DISTANCE OF 4'-0" FROM THE ENDS OF THE GIRDER.
6. UNLESS OTHERWISE SHOWN, STIRRUPS AND CONFINEMENT STEEL SHALL BE SECURELY TIED TO THE PRESTRESSING STRANDS TO PROVIDE A MINIMUM OF 1" CONCRETE COVER.
7. CONNECTION ANGLES ARE REQUIRED ON BOTH FACES OF ALL GIRDERS AT THE FIXED END AND BOTH FACES OF THE EXTERIOR GIRDERS ONLY AT THE EXPANSION END. SEE BRIDGE SPECIAL PROJECT DWG. SPGD-1 FOR DETAILS.
8. THE ENGINEER WILL CONSIDER ALTERNATE GIRDER REINFORCING UTILIZING WELDED WIRE FABRIC IN LIEU OF TIED REINFORCING FOR BARS B. THE EQUIVALENT AREA OF STEEL AND SPACING OF BARS SHALL BE MAINTAINED.



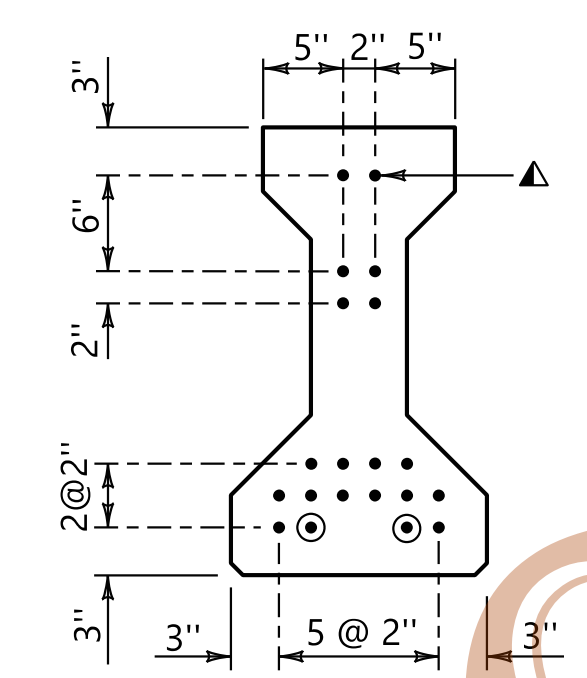
**\* TYPICAL GIRDER ELEVATION**  
SCALE: 1/2" = 1'-0"

▲ 2 STRAIGHT 1/2" Ø PRESTRESSED STRANDS WITH INITIAL TENSION OF 5,000 LBS. PER STRAND. STIRRUPS V#5 SHALL BE TIED IN PLACE TO THESE STRANDS.

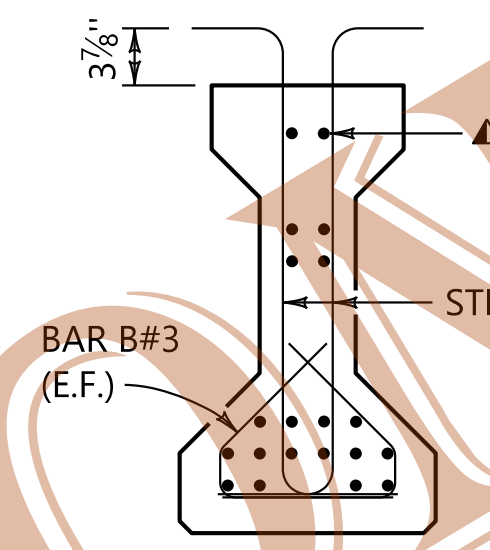
■ 1 1/2" Ø HOLE (GDRS. 2 & 3) OR 1" Ø THREADED INSERT (INSIDE FACE ONLY, GDRS. 1 & 4)  
\* DIMENSIONS SHOWN ARE ALONG CL GIRDER



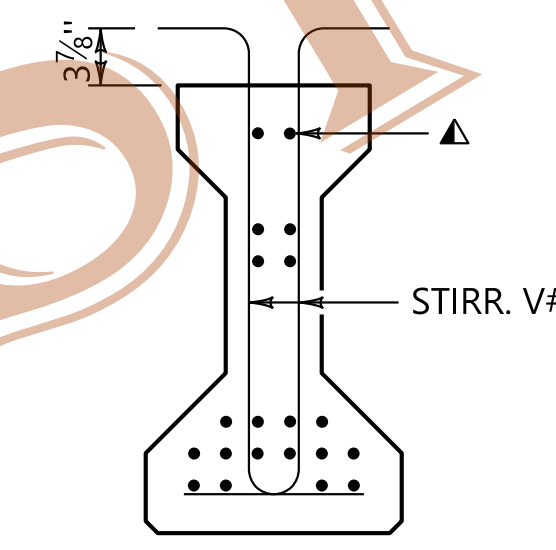
**AASHTO TYPE I GIRDER**  
SCALE: 1" = 1'-0"



**STRAND PATTERN**  
SCALE: 1" = 1'-0"

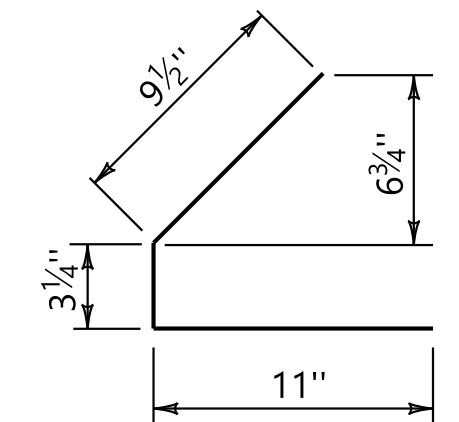


**SECTION @ END OF GIRDER**  
SCALE: 1" = 1'-0"

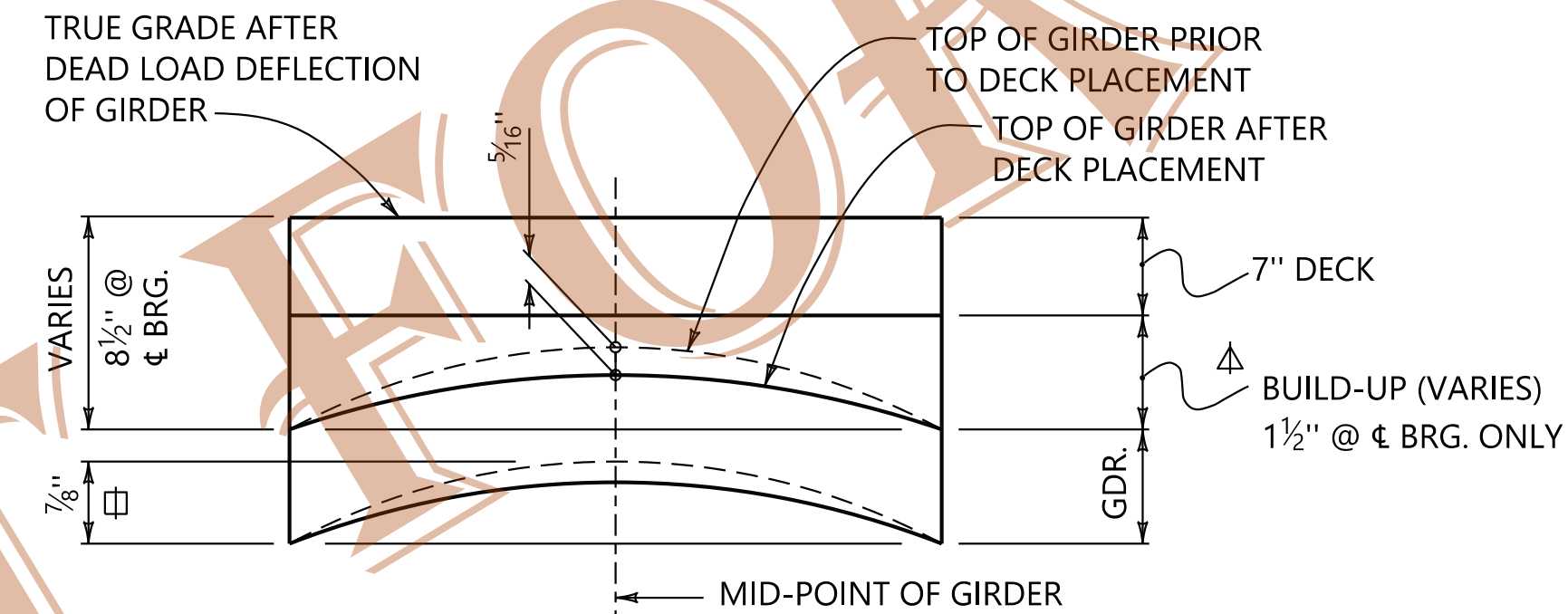


**SECTION ALONG GIRDER**  
SCALE: 1" = 1'-0"

	END SPANS	INT. SPANS
L	38'-4 3/4"	39'-2 1/2"
B	37'-2 1/4"	38'-0"
A	1'-1 3/4"	2 SPA. @ 11 3/4"

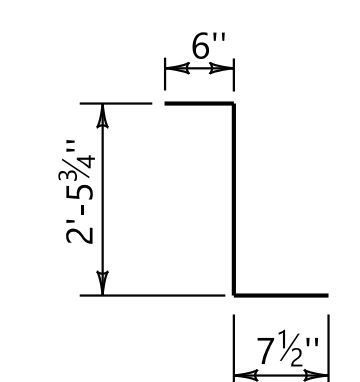


**BARS B#3**

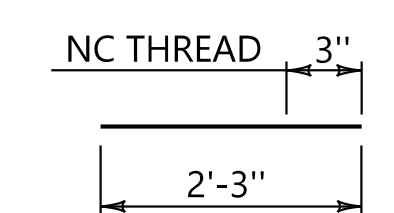


**DETAIL OF BUILD-UP BETWEEN BOTTOM OF DECK AND TOP OF GDR. (ALONG CL GDR.)**  
NO SCALE

□ THEORETICAL CAMBER (UPWARD DEFLECTION) SHOWN. ACTUAL CAMBER OF GIRDER MAY VARY AND SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS AND SETTING FORMS.  
▲ ADJUSTMENT TO BUILD-UP MAY BE REQUIRED IF USED FOR BRIDGES IN EXTREME CREST OR SAG VERTICAL CURVE GRADES.

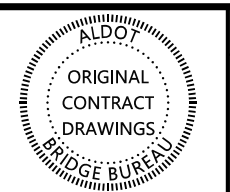


**STIRRUPS V#5**



**BARS R2#8**

PLOTTED: 19-Nov-20 at 13:44



REVISIONS

THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

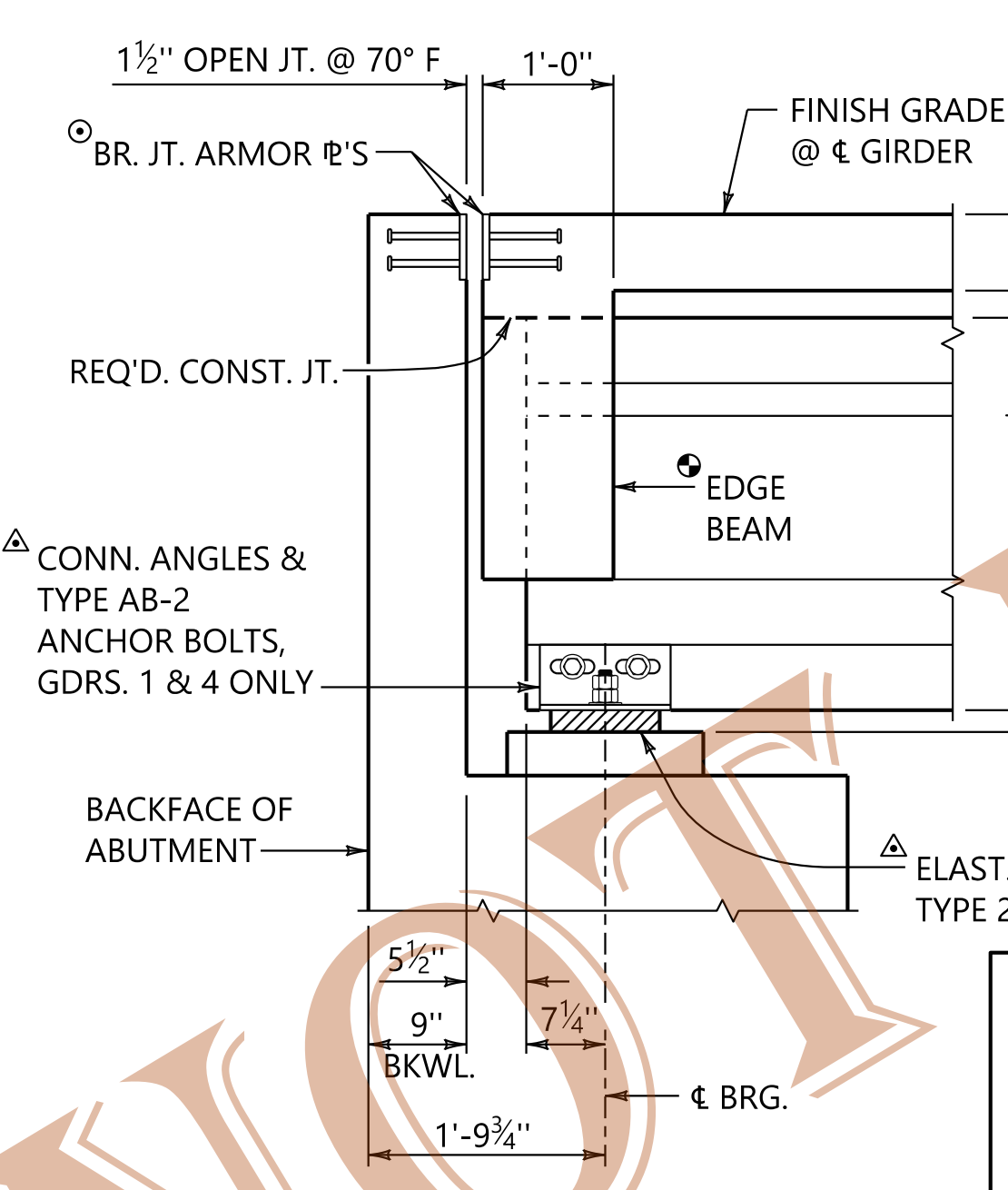
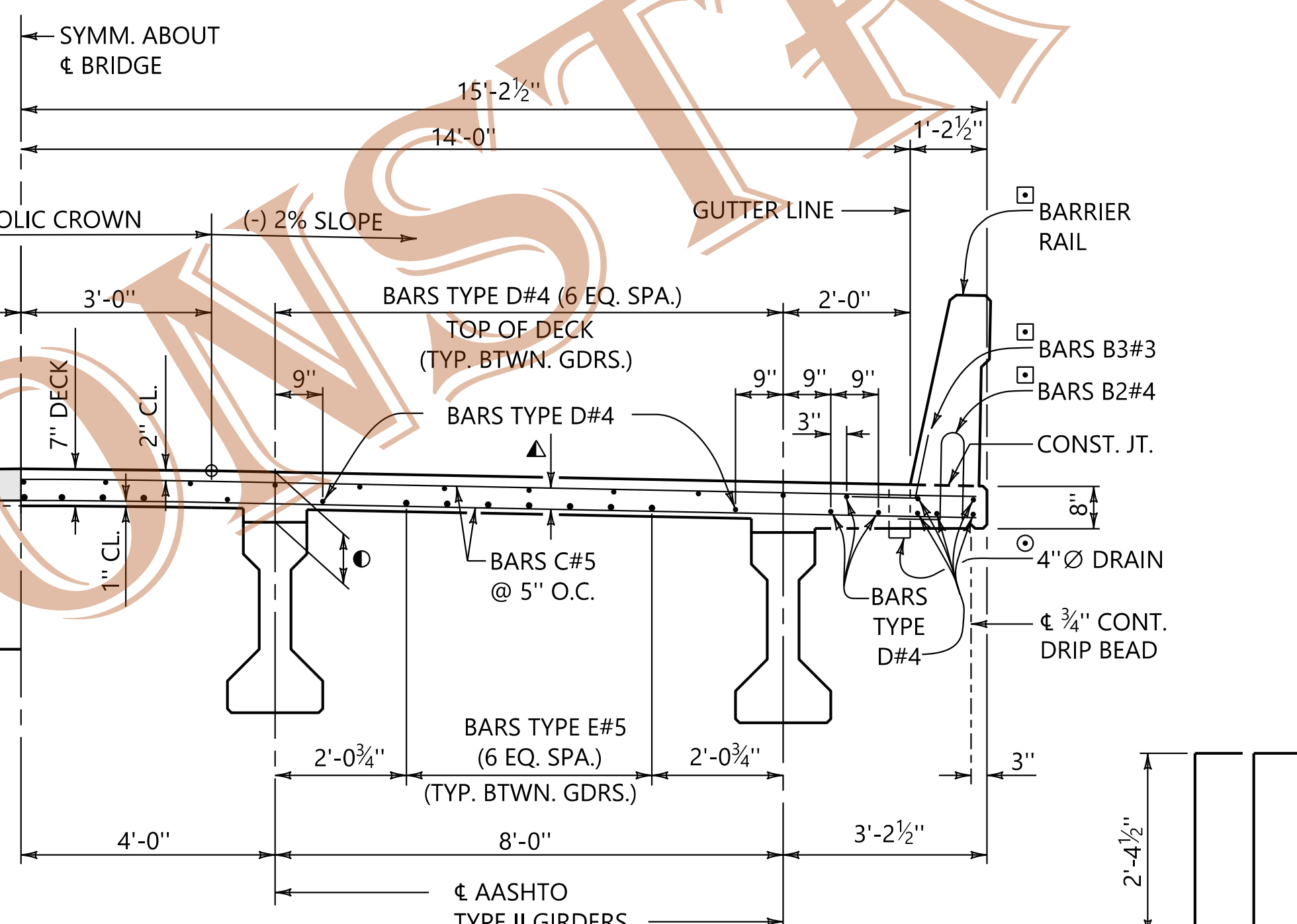
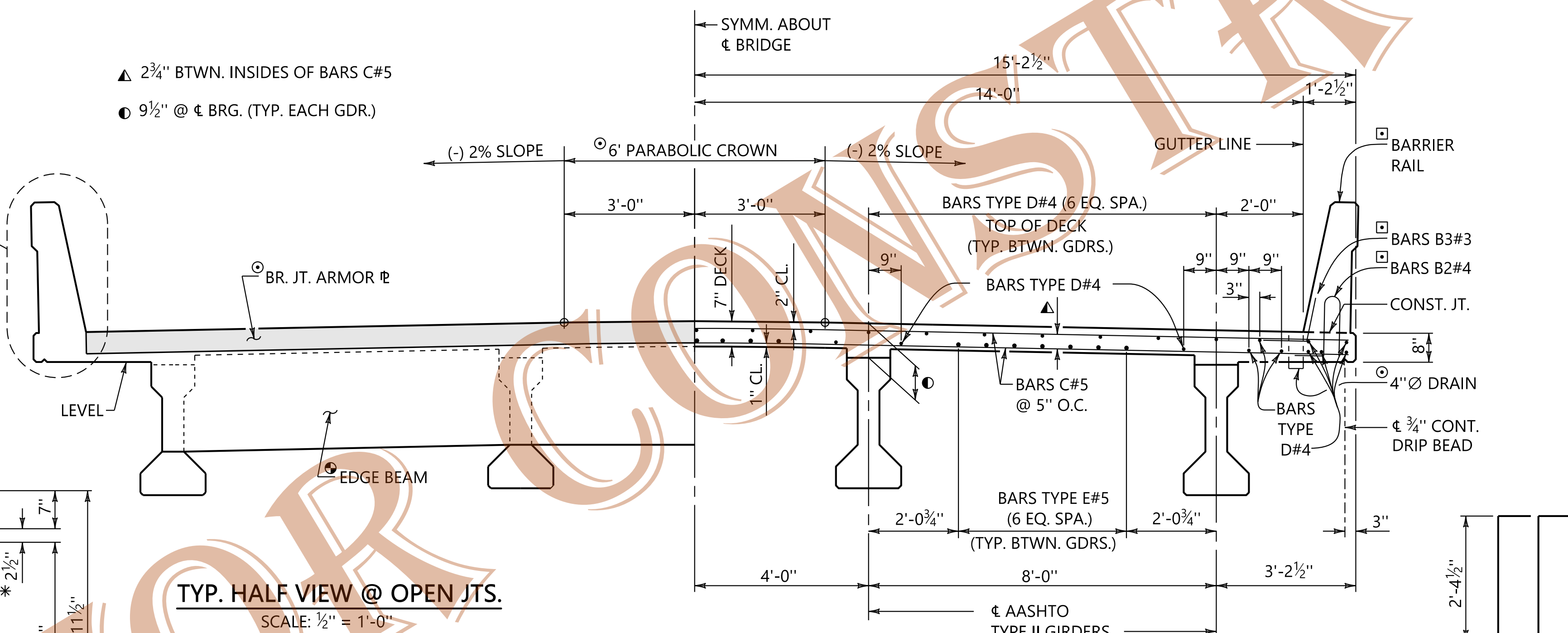
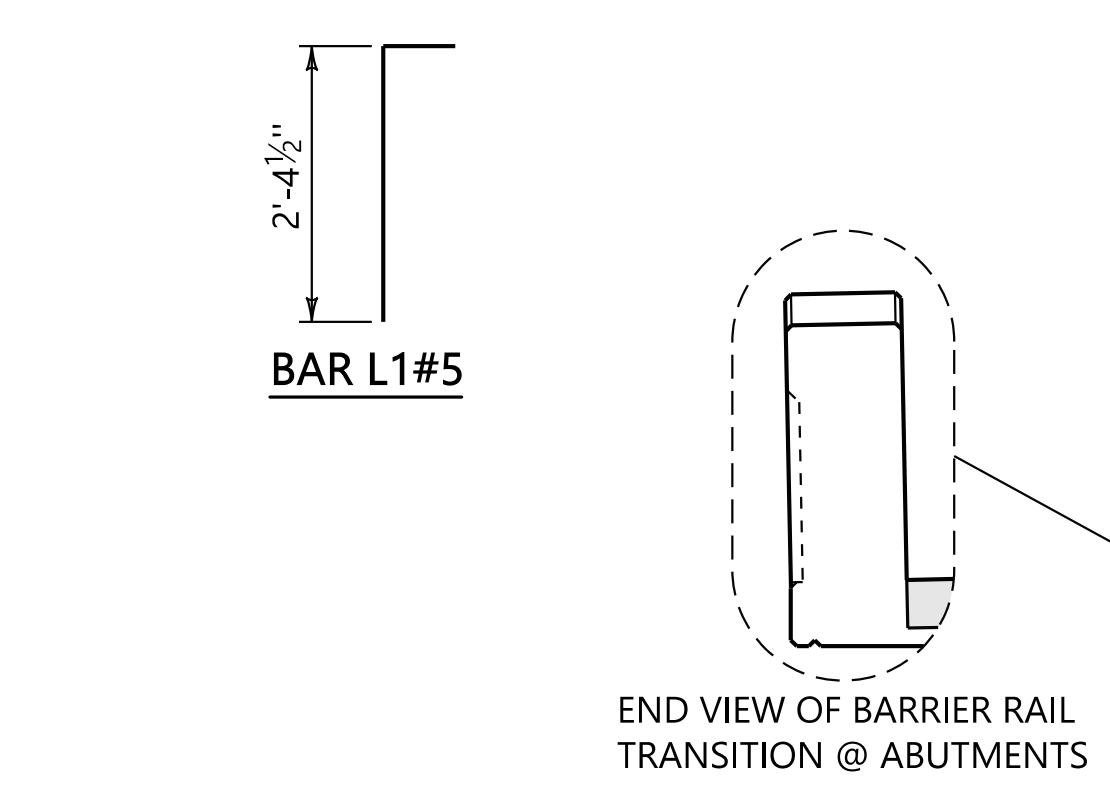
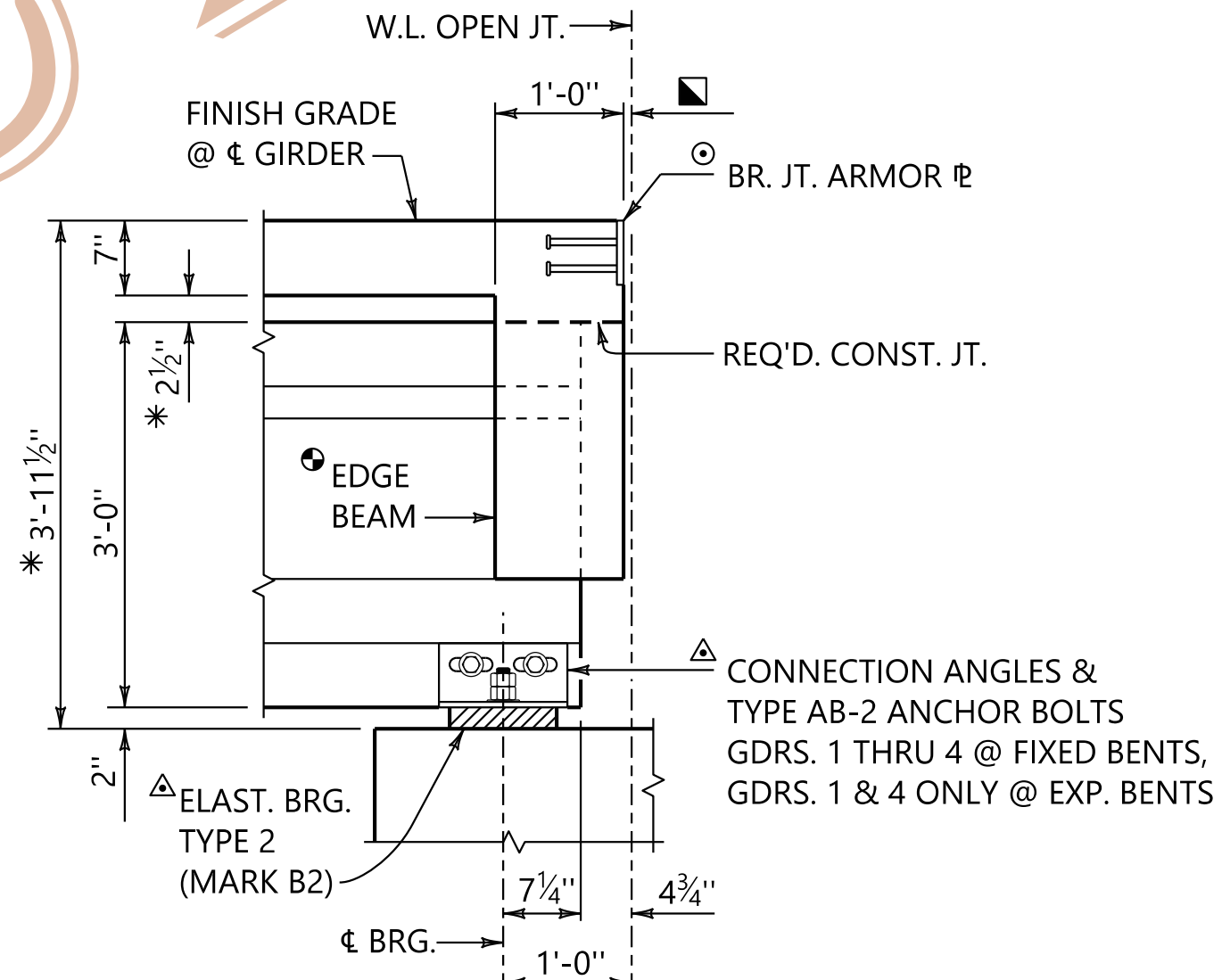
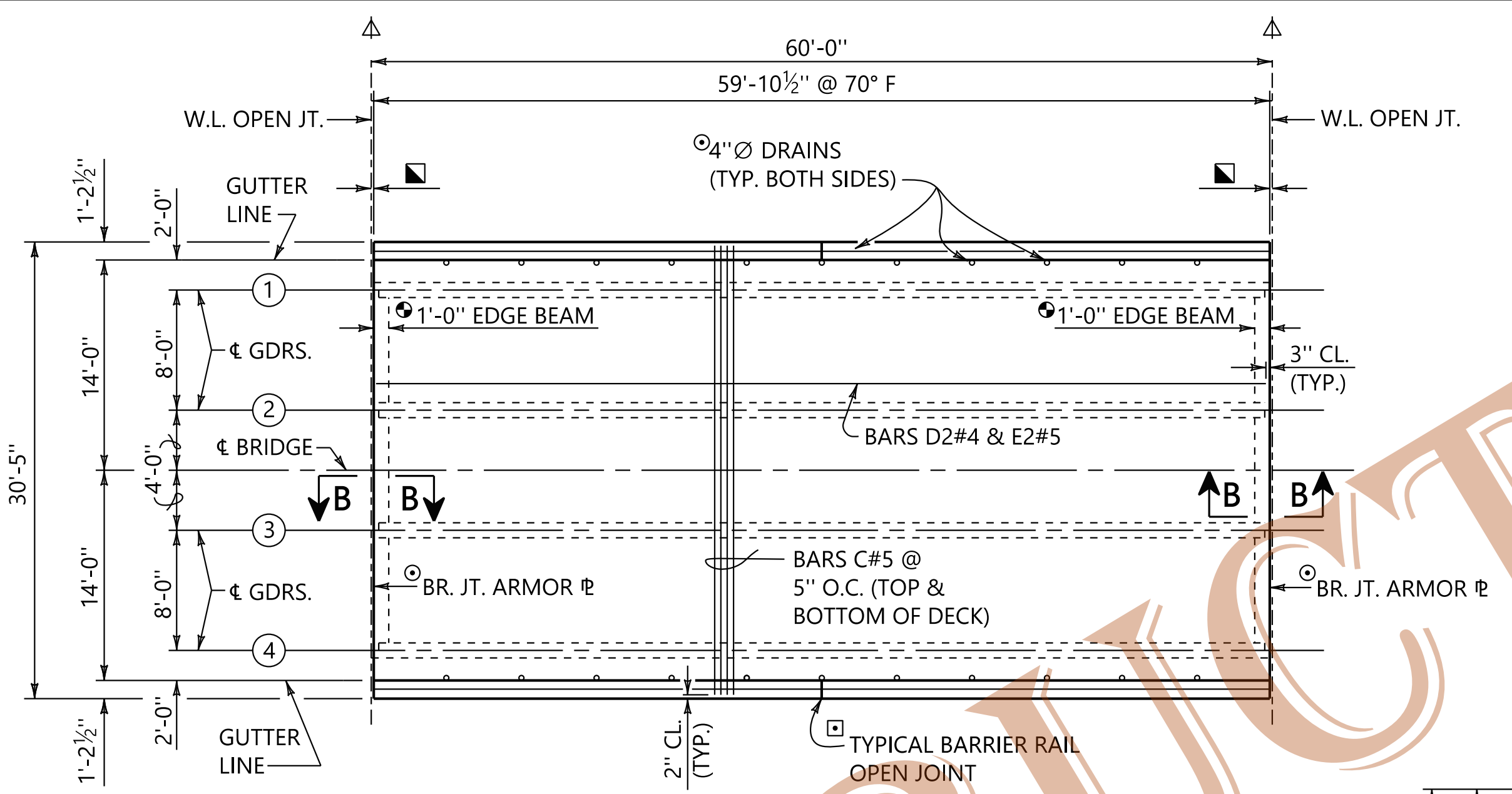
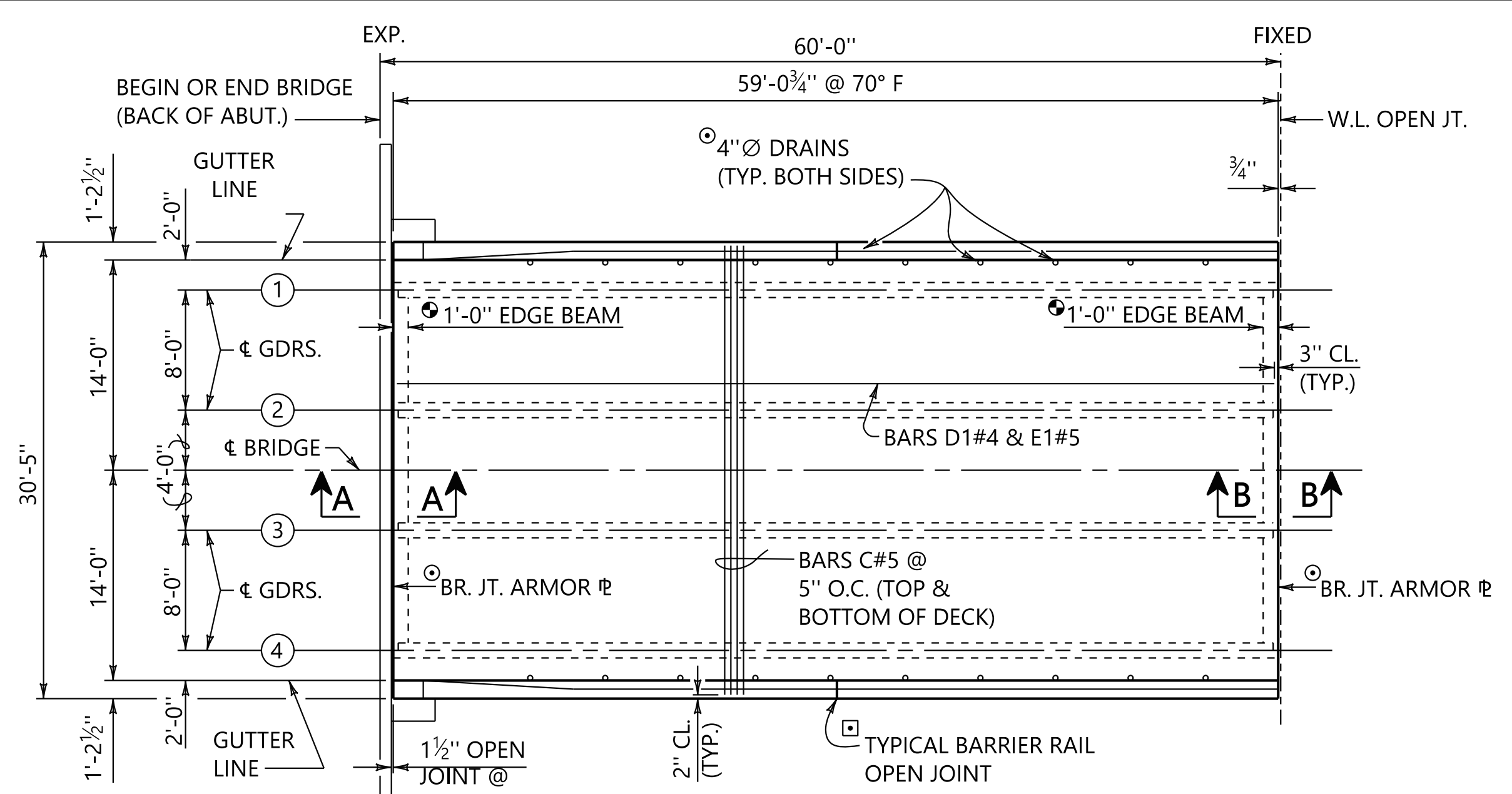
THESE DRAWINGS REPRESENT DESIGNS PREPARED FOR USE BY THE ALABAMA DEPARTMENT OF TRANSPORTATION AND ARE NOT TO BE COPIED, REPRODUCED, ALTERED, OR USED BY ANYONE, OR ANY ORGANIZATION, WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ALABAMA DEPARTMENT OF TRANSPORTATION REPRESENTATIVE AUTHORIZED TO APPROVE SUCH USE. ANYONE MAKING UNAUTHORIZED USE OF THESE DRAWINGS MAY BE PROSECUTED TO THE FULLEST EXTENT OF THE LAW.

40'-0" SIMPLE AASHTO TYPE I GIRDER SPANS  
HL 93 LOADING  
(28'-0" ROADWAY, 0° SKEW)



**NOTES**

- FOR LOCATION OF FIXED AND EXPANSION ENDS, SEE THE GENERAL PLAN AND ELEVATION SHEET.
- DIMENSIONS SHOWN ARE AT  $\epsilon$  BEARING ONLY. (SEE SHT. 2 OF 2)
- FOR GUARDRAIL ANCHOR REQUIREMENTS, SEE ROADWAY PLANS AND BR. SPEC. PROJ. DWG. BBR-2. QUANTITIES NOT INCLUDED ON THIS SPECIAL DRAWING.
- SEE BR. SPEC. PROJ. DWG. SBD-1 FOR DETAILS.
- SEE BR. SPEC. PROJ. DWG. BBR-2 FOR DETAILS.
- SEE BR. SPEC. PROJ. DWG. EBEW2 FOR DETAILS.
- SEE BR. SPEC. PROJ. DWG. SPGD-1 FOR DETAILS.
- AT THE CONTRACTOR'S OPTION, BARS TYPE D & E MAY BE SPLICED 30 DIA. (MIN.). OPTIONAL SPLICE NOT INCLUDED IN BAR DIMENSIONS AND ESTIMATED QUANTITIES SHOWN.
- STRUCTURAL STEEL QUANTITIES INCLUDE CONNECTION ANGLES, ANCHOR BOLTS AND BRIDGE JOINT ARMOR  $\phi$ 'S.



**SUPERSTRUCTURE DEADLOAD REACTIONS**

EXTERIOR GIRDERS 1 & 4:	40.9 KIPS
INTERIOR GIRDERS 2 & 3:	44.2 KIPS

**DESIGN PARAMETERS**

SUPERSTRUCTURE CONCRETE: 4,000 PSI  
STEEL REINFORCEMENT: GRADE 60

DESIGN CONFORMS TO THE 7TH EDITION OF THE AASHTO LRFD DESIGN SPECIFICATIONS.

**GEOMETRIC PARAMETERS**

ALIGNMENT: TANGENT GRADE: 0.00%  
CROSS-SLOPE: 2.0% w/ 6' PARABOLIC CROWN

ADAPTATIONS TO THIS DRAWING MAY BE REQUIRED FOR OTHER GEOMETRIC CONDITIONS.

**ESTIMATED QUANTITIES**

END SPAN	INT. SPAN			
14,560	14,760	POUNDS	502B	STEEL REIN. FOR BR. SUPERSTR.
1,136	1,136	POUND	508A	STRUCTURAL STEEL
57.0	57.3	CUBIC YARDS	510C	BRIDGE CONCRETE SUPERSTR.

**BILL OF REINFORCEMENT**

MARK	SIZE	NUMBER PER SPAN		LENGTH	BENDING
		END	INT.		
BARRIER RAIL					
BL	4	16	16	□	STRAIGHT
B1	4	236	240	6'-0"	□
B2	4	236	240	3'-8 3/4"	□
B3	3	60	60	2'-0"	□
DECK					
C	5	284	288	30'-1"	STRAIGHT
D1	4	41	---	58'-6 3/4"	STRAIGHT
D2	4	---	41	59'-4 1/2"	STRAIGHT
E1	5	21	---	58'-6 3/4"	STRAIGHT
E2	5	---	21	59'-4 1/2"	STRAIGHT
EDGE BEAM					
L1	5	8	8	2'-10 1/2"	SEE DIAG.
R1	8	4	4	4'-6"	STRAIGHT
S1	5	42	42	6'-6"	SEE DIAG.
W1	5	4	4	24'-2"	STRAIGHT
W2	5	12	12	7'-2"	STRAIGHT

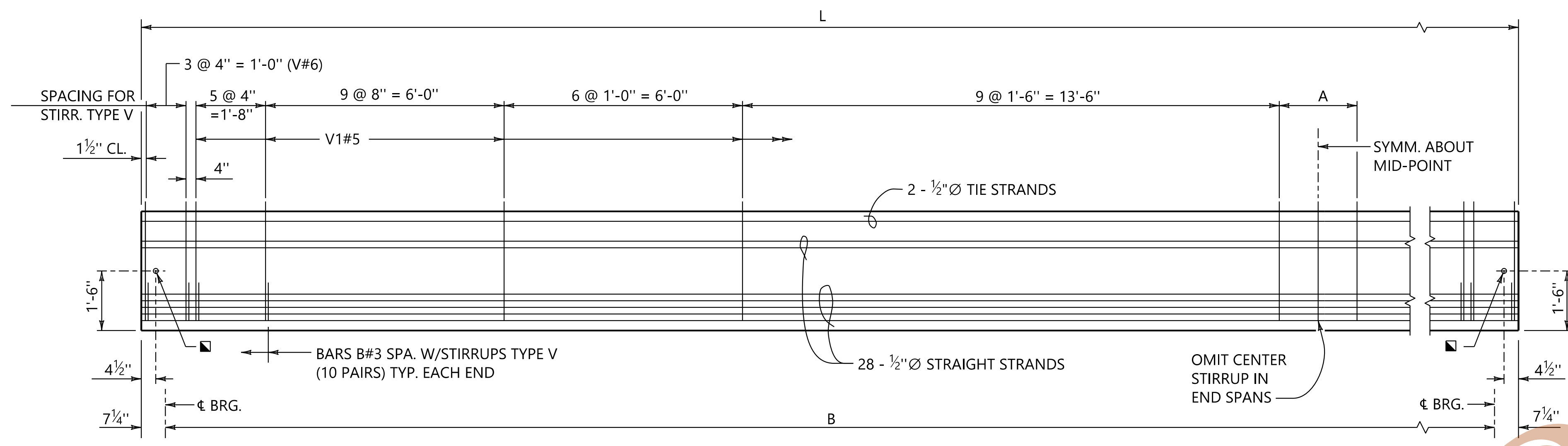
ASSISTANT BRIDGE ENGINEER: *[Signature]* 11/20/2020  
BRIDGE ENGINEER: *[Signature]* 11/20/2020

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**NOTES**

- PRESTRESSING STRANDS SHALL BE 1/2" DIAMETER 270,000 PSI LOW RELAXATION WITH AN INITIAL TENSION OF 30,983 LBS./STRAND UNLESS OTHERWISE NOTED.
- ALL STRANDS NOT TO BE ENCASED IN CONCRETE SHALL BE CUT FLUSH AT EACH END OF THE GIRDER. COAT GIRDER ENDS WHERE STRANDS ARE CUT WITH AN APPROVED EPOXY COATING. STRANDS TO BE ENCASED IN CONCRETE MAY EXTEND 2" FROM THE END OF THE GIRDER.
- THE GIRDER CONCRETE SHALL HAVE A MINIMUM OF 6,500 PSI COMPRESSIVE STRENGTH PRIOR TO RECEIVING PRESTRESSING FORCE AND A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 7,000 PSI.
- THREADED BARS R2 AND THREADED INSERTS SHALL BE INCLUDED IN THE BID ITEM 513B, PRETENSIONED-PRESTRESSED CONCRETE GIRDERS, TYPE II.
- GIRDER ENDS SHALL BE VERTICAL IN FINAL ERECTED POSITION.
- STRANDS SHOWN THUS SHALL REMAIN UNBONDED BY USING PLASTIC SHEATHES AROUND CABLES FOR A DISTANCE OF 6'-0" FROM THE ENDS OF THE GIRDER.
- UNLESS OTHERWISE SHOWN, STIRRUPS AND CONFINEMENT STEEL SHALL BE SECURELY TIED TO THE PRESTRESSING STRANDS TO PROVIDE A MINIMUM OF 1" CONCRETE COVER.
- CONNECTION ANGLES ARE REQUIRED ON BOTH FACES OF ALL GIRDERS AT THE FIXED END AND BOTH FACES OF THE EXTERIOR GIRDERS ONLY AT THE EXPANSION END. SEE BRIDGE SPECIAL PROJECT DWG. SPGD-1 FOR DETAILS.
- THE ENGINEER WILL CONSIDER ALTERNATE GIRDER REINFORCING UTILIZING WELDED WIRE FABRIC IN LIEU OF TIED REINFORCING FOR BARS B. THE EQUIVALENT AREA OF STEEL AND SPACING OF BARS SHALL BE MAINTAINED.

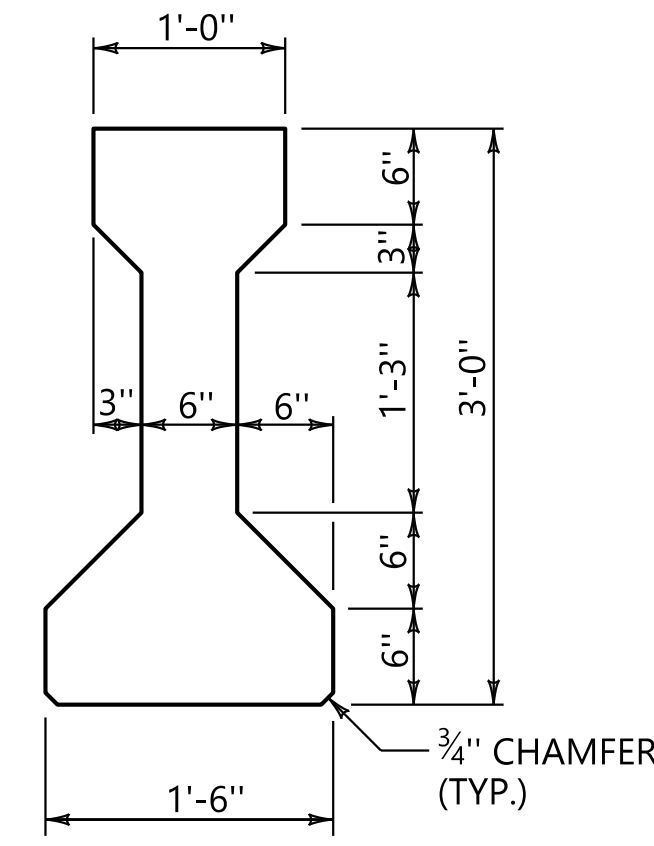


**\* TYPICAL GIRDER ELEVATION**

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

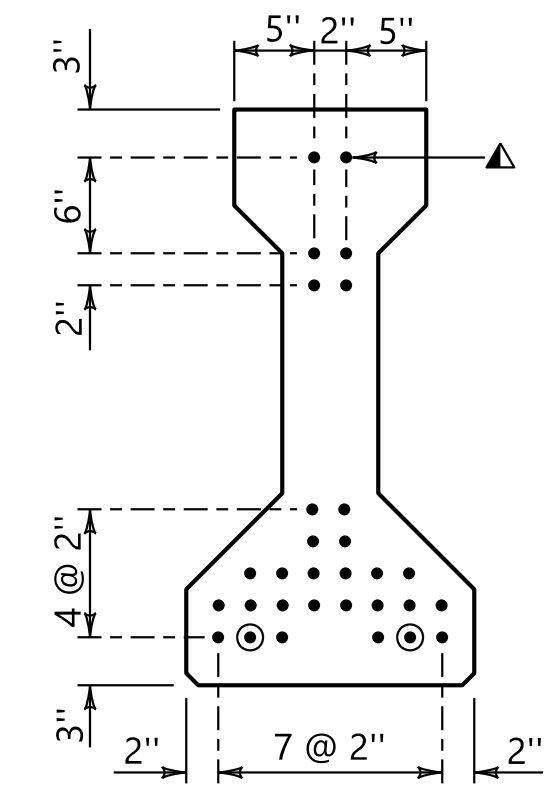
- 1 1/2" Ø HOLE (GDRS. 2 & 3) OR 1" Ø THREADED INSERT (INSIDE FACE ONLY, GDRS. 1 & 4)
- \* DIMENSIONS SHOWN ARE ALONG  $\epsilon$  GIRDER
- 2 STRAIGHT 1/2" Ø PRESTRESSED STRANDS WITH INITIAL TENSION OF 5,000 LBS. PER STRAND. STIRRUPS TYPE V SHALL BE TIED IN PLACE TO THESE STRANDS.

	END SPANS	INT. SPANS
L	58'-4 3/4"	59'-2 1/2"
B	57'-2 1/4"	58'-0"
A	1'-1 3/4"	2 SPA. @ 11 3/4"



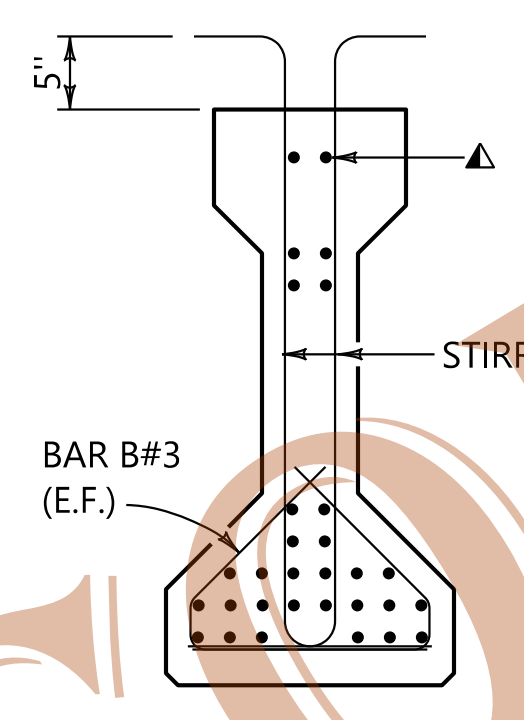
**AASHTO TYPE II GIRDER**

SCALE: 1" = 1'-0"



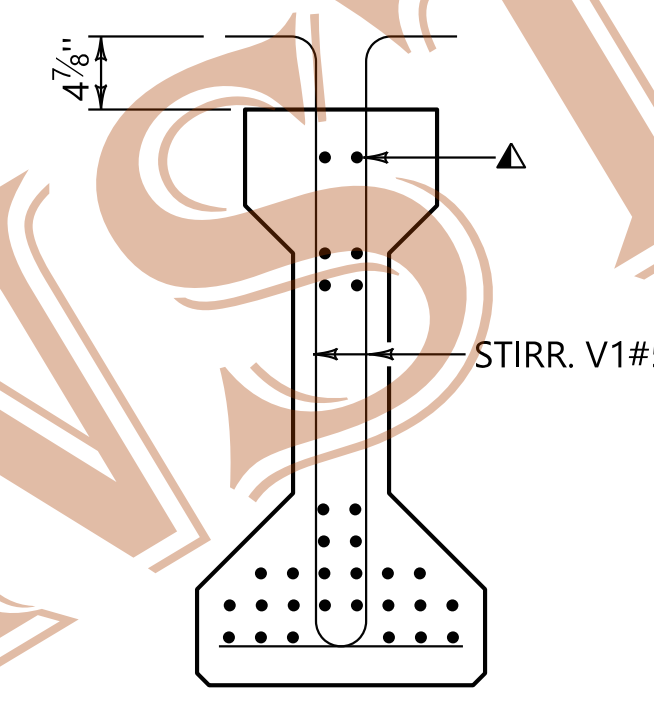
**STRAND PATTERN**

SCALE: 1" = 1'-0"



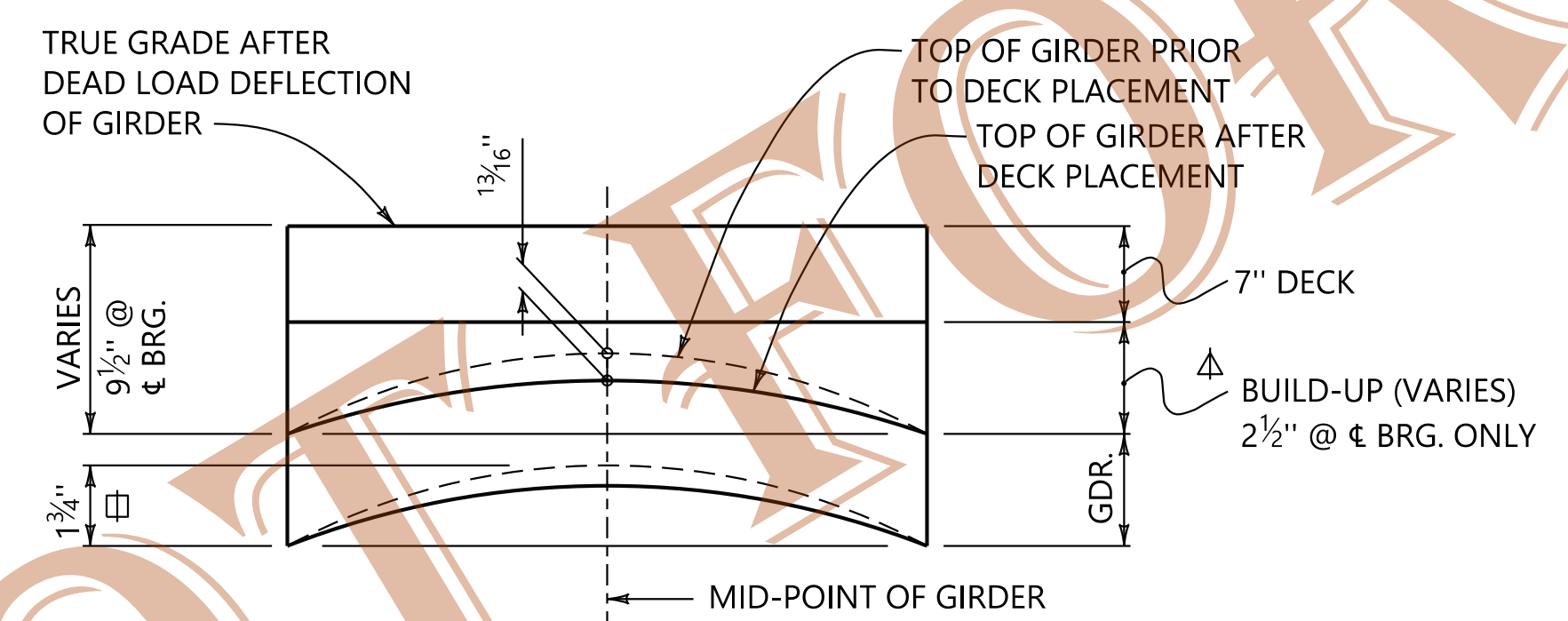
**SECTION @ END OF GIRDER**

SCALE: 1" = 1'-0"



**SECTION ALONG GIRDER**

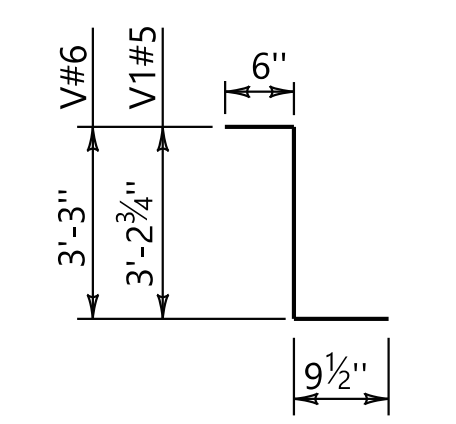
SCALE: 1" = 1'-0"



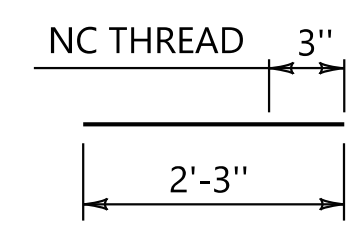
**DETAIL OF BUILD-UP BETWEEN BOTTOM OF DECK AND TOP OF GDR. (ALONG  $\epsilon$  GDR.)**

NTS

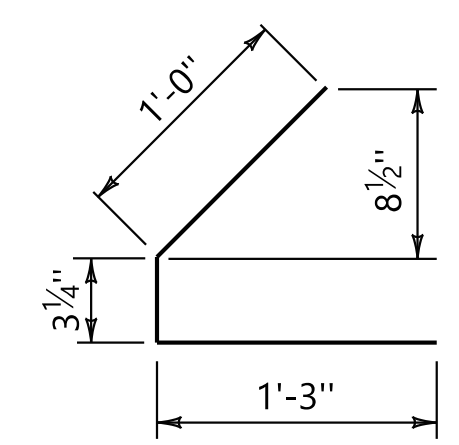
- THEORETICAL CAMBER (UPWARD DEFLECTION) SHOWN. ACTUAL CAMBER OF GIRDER MAY VARY AND SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS AND SETTING FORMS.
- ADJUSTMENT TO BUILD-UP MAY BE REQUIRED IF USED FOR BRIDGES IN EXTREME CREST OR SAG VERTICAL CURVE GRADES.



**STIRRUPS TYPE V**

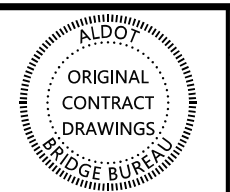


**BARS R2#8**

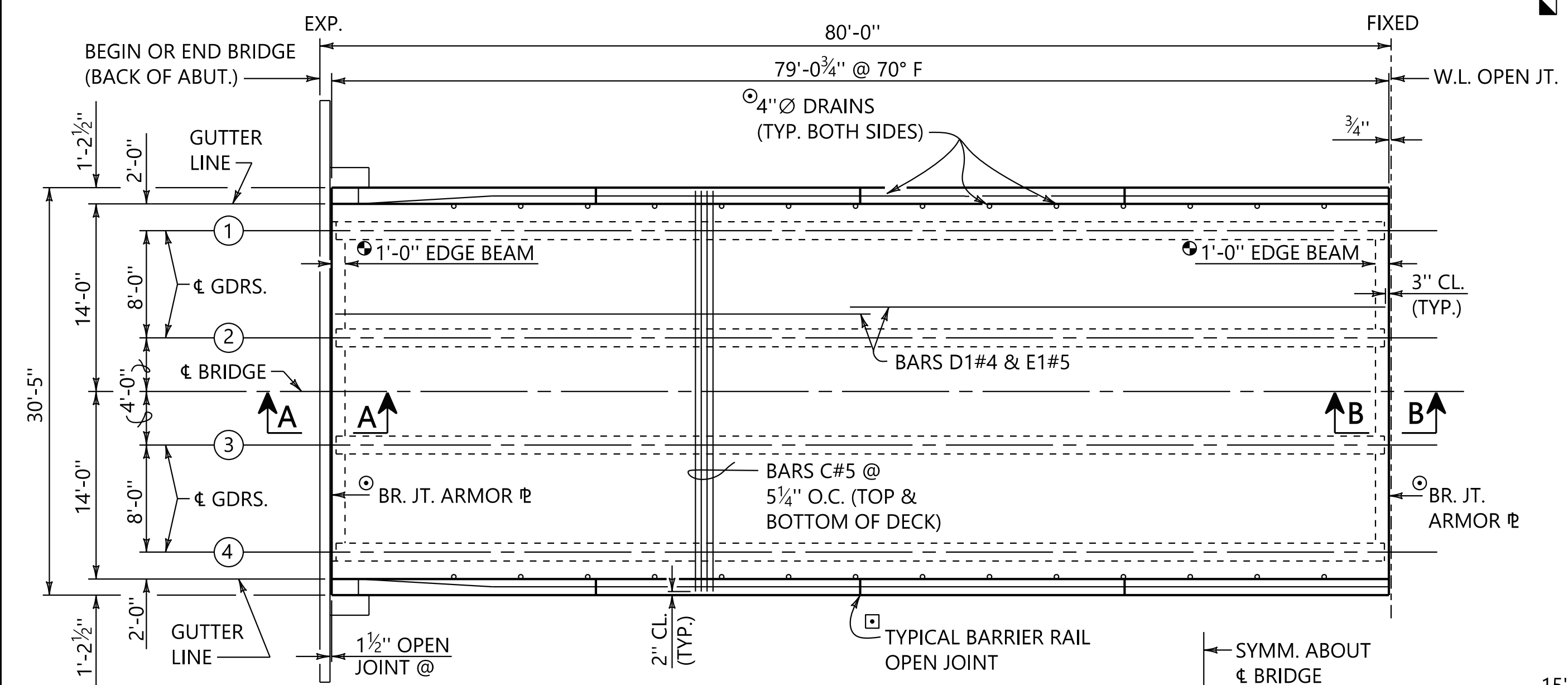


**BARS B#3**

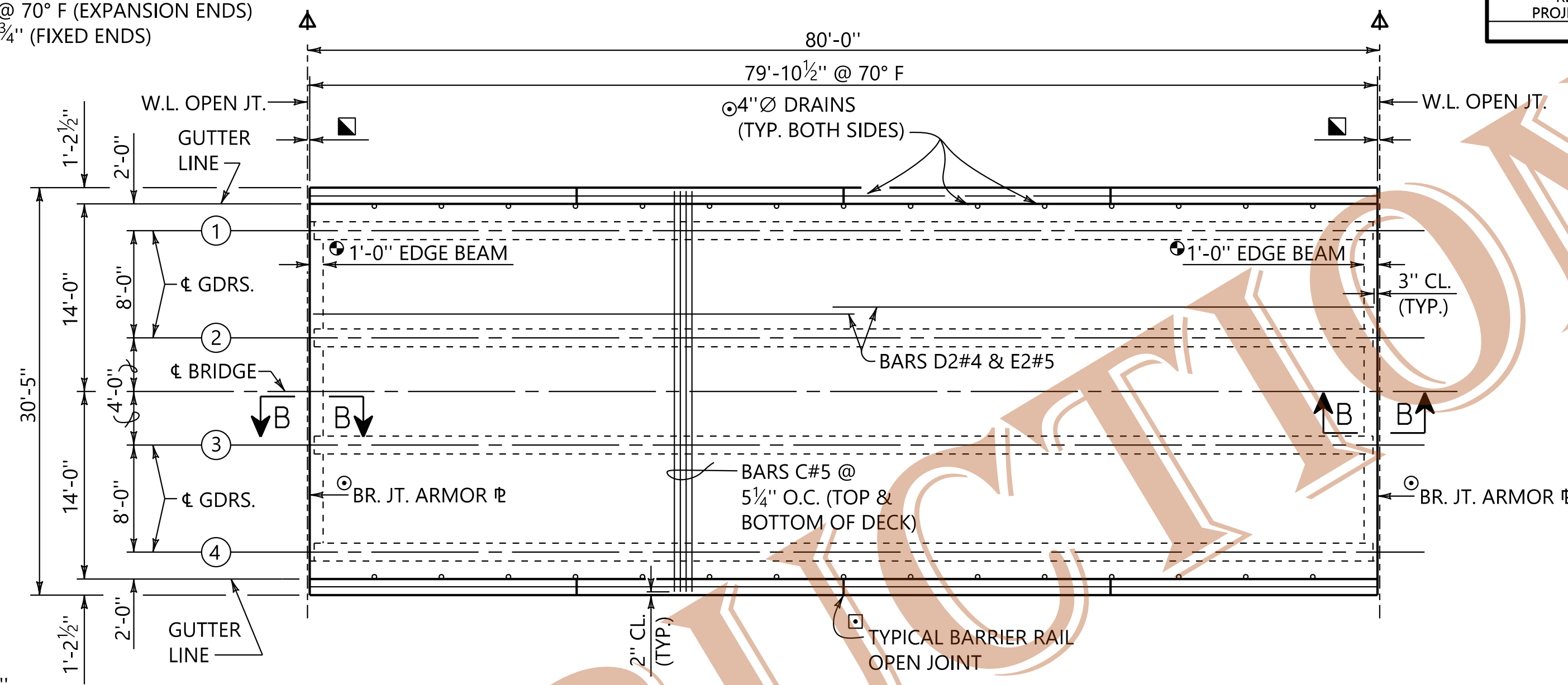
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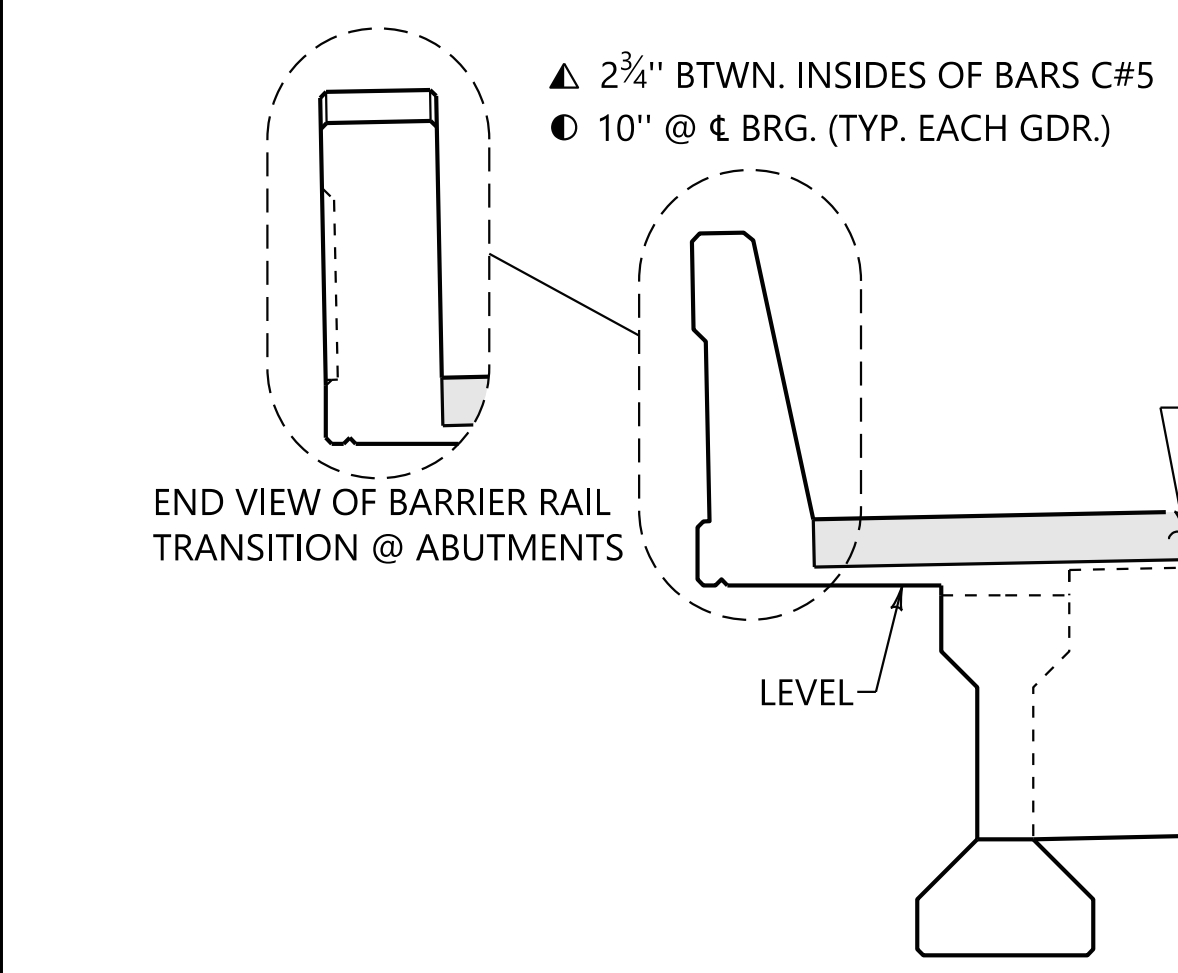
**PLAN VIEW - END SPAN**  
SCALE: 1/8" = 1'-0"



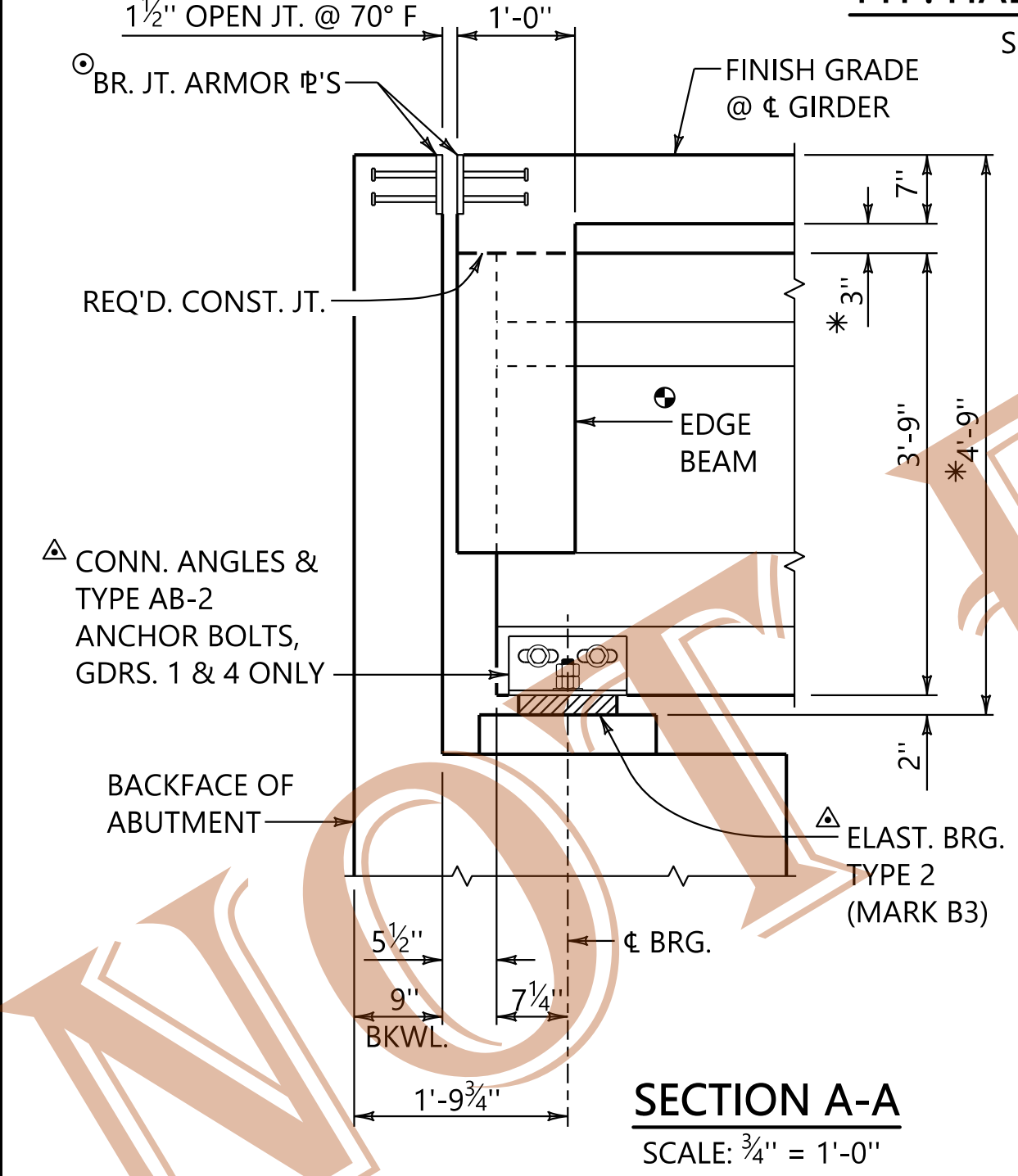
**PLAN VIEW - INT. SPAN**  
SCALE: 1/8" = 1'-0"

**NOTES**

- FOR LOCATION OF FIXED AND EXPANSION ENDS, SEE THE GENERAL PLAN AND ELEVATION SHEET.
- FOR GUARDRAIL ANCHOR REQUIREMENTS, SEE ROADWAY PLANS AND BR. SPEC. PROJ. DWG. BBR-2. QUANTITIES NOT INCLUDED ON THIS SPECIAL DRAWING.
- SEE BR. SPEC. PROJ. DWG. SBD-1 FOR DETAILS.
- SEE BR. SPEC. PROJ. DWG. BBR-2 FOR DETAILS.
- SEE BR. SPEC. PROJ. DWG. EBW3 FOR DETAILS.
- SEE BR. SPEC. PROJ. DWG. SPGD-1 FOR DETAILS.
- BARS TYPE D & E TO BE SPLICED 30 DIA. (MIN.).
- STRUCTURAL STEEL QUANTITIES INCLUDE CONNECTION ANGLES, ANCHOR BOLTS AND BRIDGE JOINT ARMOR Ⓢ.
- DIMENSIONS SHOWN ARE AT Ⓢ BEARING ONLY. (SEE SHT. 2 OF 2)



**TYP. HALF VIEW @ OPEN JTS.**  
SCALE: 1/2" = 1'-0"



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

**SUPERSTRUCTURE DEADLOAD REACTIONS**

EXTERIOR GIRDERS 1 & 4:	62.4 KIPS
INTERIOR GIRDERS 2 & 3:	66.8 KIPS

**DESIGN PARAMETERS**

SUPERSTRUCTURE CONCRETE: 4,000 PSI  
STEEL REINFORCEMENT: GRADE 60

DESIGN CONFORMS TO THE 7TH EDITION OF THE AASHTO LRFD DESIGN SPECIFICATIONS.

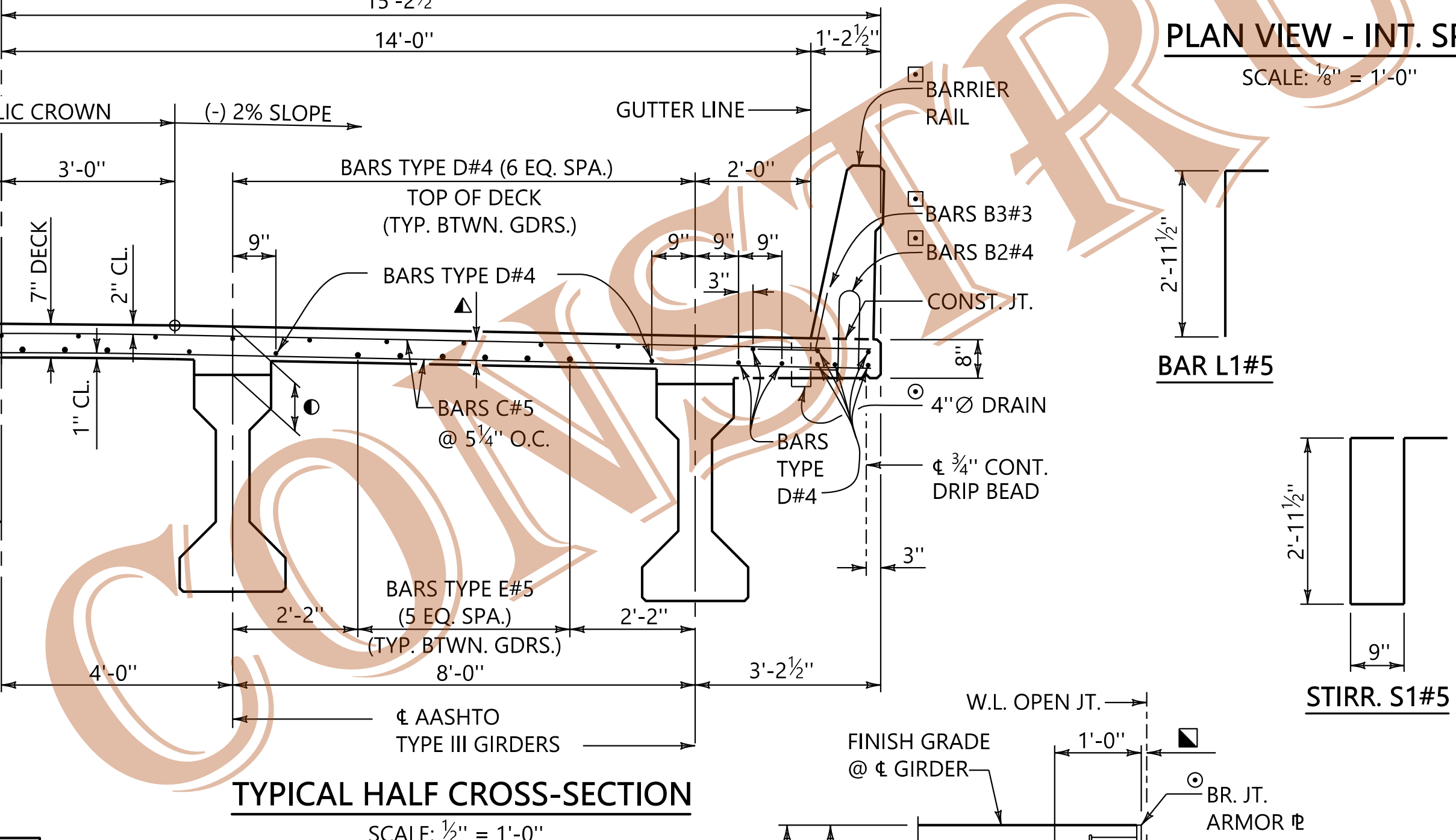
**GEOMETRIC PARAMETERS**

ALIGNMENT: TANGENT GRADE: 0.00%  
CROSS-SLOPE: 2.0% w/ 6' PARABOLIC CROWN

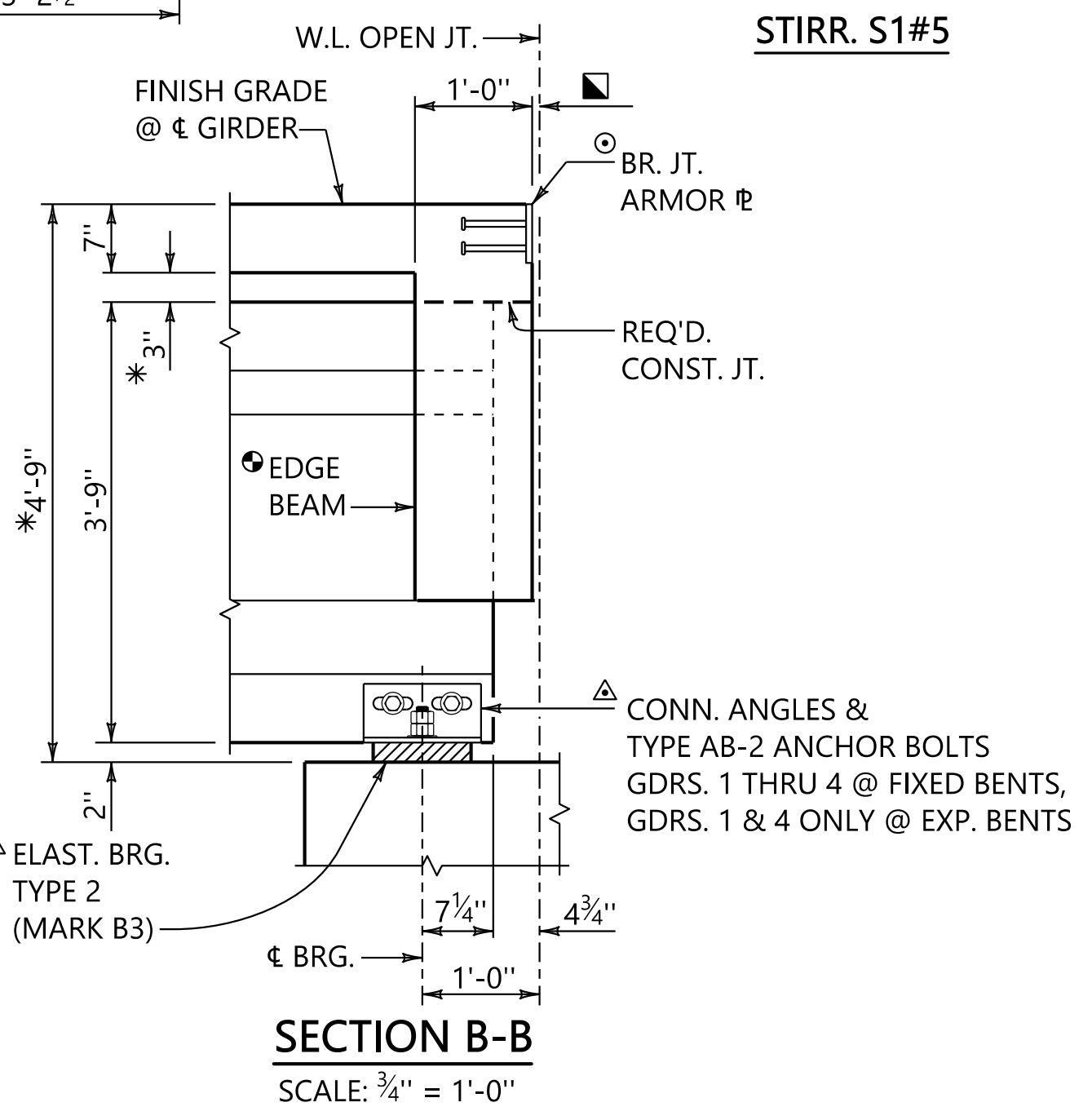
ADAPTATIONS TO THIS DRAWING MAY BE REQUIRED FOR OTHER GEOMETRIC CONDITIONS.

**ESTIMATED QUANTITIES**

END SPAN	INT. SPAN			
18,610	18,810	POUNDS	502B	STEEL REIN. FOR BR. SUPERSTR.
1,133	1,133	POUND	508A	STRUCTURAL STEEL
77.2	77.5	CUBIC YARDS	510C	BRIDGE CONCRETE SUPERSTR.



**TYPICAL HALF CROSS-SECTION**  
SCALE: 1/2" = 1'-0"



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

**BILL OF REINFORCEMENT**

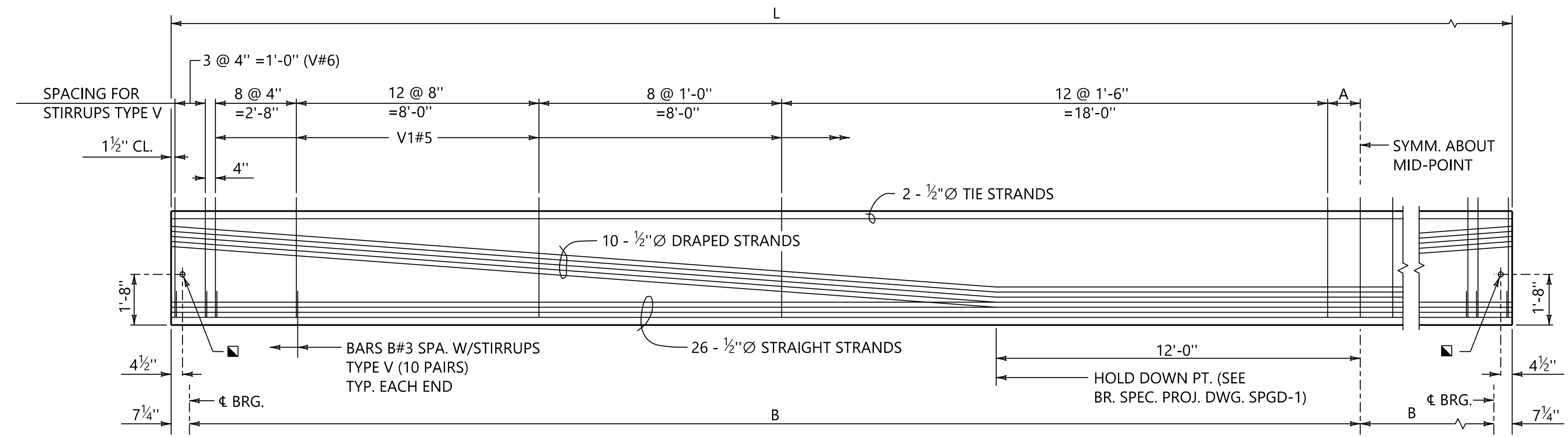
MARK	SIZE	NUMBER PER SPAN		LENGTH	BENDING
		END	INT.		
<b>BARRIER RAIL</b>					
BL	4	16	16	□	STRAIGHT
B1	4	316	320	6'-0"	□
B2	4	316	320	3'-8 3/4"	□
B3	3	80	80	2'-0"	□
<b>DECK</b>					
C	5	362	366	30'-1"	STRAIGHT
D1	4	82	---	39'-11"	STRAIGHT
D2	4	---	82	40'-3 3/4"	STRAIGHT
E1	5	36	---	40'-1"	STRAIGHT
E2	5	---	36	40'-5 3/4"	STRAIGHT
<b>EDGE BEAM</b>					
L1	5	8	8	3'-5 1/2"	SEE DIAG.
R1	8	4	4	4'-7"	STRAIGHT
S1	5	42	42	7'-8"	SEE DIAG.
W1	5	4	4	24'-3"	STRAIGHT
W2	5	12	12	7'-1"	STRAIGHT

ASSISTANT BRIDGE ENGINEER: *[Signature]* 11/20/2020  
BRIDGE ENGINEER: *[Signature]* 11/20/2020

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SHEET REFERENCE  
0 1" 2"

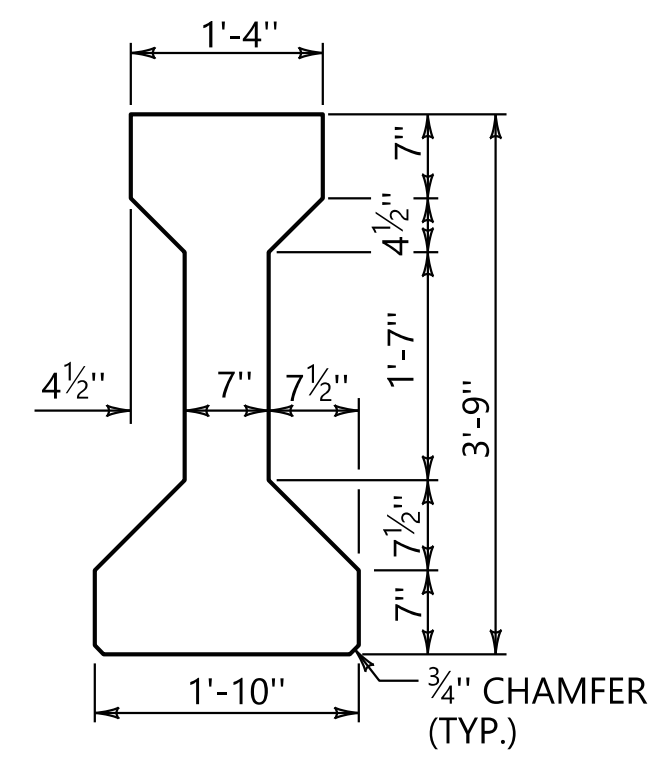


**\* TYPICAL GIRDER ELEVATION**  
SCALE: 3/8" = 1'-0"

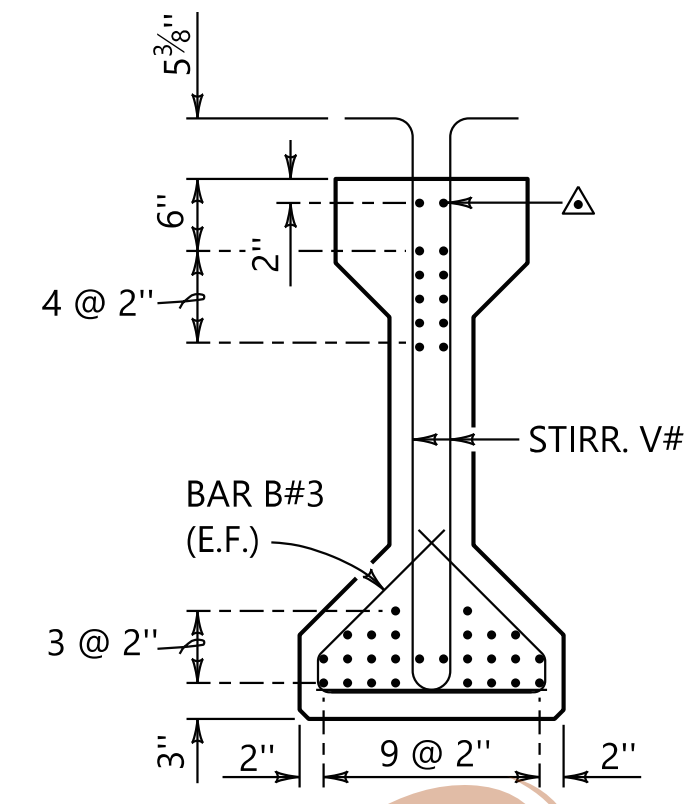
- NOTES**
- PRESTRESSING STRANDS SHALL BE 1/2" DIAMETER 270,000 PSI LOW RELAXATION WITH AN INITIAL TENSION OF 30,983 LBS./STRAND UNLESS OTHERWISE NOTED.
  - ALL STRANDS NOT TO BE ENCASED IN CONCRETE SHALL BE CUT FLUSH AT EACH END OF THE GIRDER. COAT GIRDER ENDS WHERE STRANDS ARE CUT WITH AN APPROVED EPOXY COATING. STRANDS TO BE ENCASED IN CONCRETE MAY EXTEND 2" FROM THE END OF THE GIRDER.
  - THE GIRDER CONCRETE SHALL HAVE A MINIMUM OF 5,500 PSI COMPRESSIVE STRENGTH PRIOR TO RECEIVING PRESTRESSING FORCE AND A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 6,000 PSI.
  - THREADED BARS R2 AND THREADED INSERTS SHALL BE INCLUDED IN THE BID ITEM 513B, PRETENSIONED-PRESTRESSED CONCRETE GIRDERS, TYPE III.
  - GIRDER ENDS SHALL BE VERTICAL IN FINAL ERECTED POSITION.
  - UNLESS OTHERWISE SHOWN, STIRRUPS AND CONFINEMENT STEEL SHALL BE SECURELY TIED TO THE PRESTRESSING STRANDS TO PROVIDE A MINIMUM OF 1" CONCRETE COVER.
  - CONNECTION ANGLES ARE REQUIRED ON BOTH FACES OF ALL GIRDERS AT THE FIXED END AND BOTH FACES OF THE EXTERIOR GIRDERS ONLY AT THE EXPANSION END. SEE BRIDGE SPECIAL PROJECT DWG. SPGD-1 FOR DETAILS.
  - THE ENGINEER WILL CONSIDER ALTERNATE GIRDER REINFORCING UTILIZING WELDED WIRE FABRIC IN LIEU OF TIED REINFORCING FOR BARS B. THE EQUIVALENT AREA OF STEEL AND SPACING OF BARS SHALL BE MAINTAINED.

- ▲ 2 STRAIGHT 1/2" Ø PRESTRESSED STRANDS WITH INITIAL TENSION OF 5,000 LBS. PER STRAND. STIRRUPS TYPE V SHALL BE TIED IN PLACE TO THESE STRANDS.
- 1 1/2" Ø HOLE (GDRS. 2 & 3) OR 1" Ø THREADED INSERT (INSIDE FACE ONLY, GDRS. 1 & 4)
- \* DIMENSIONS SHOWN ARE ALONG C/G GIRDER

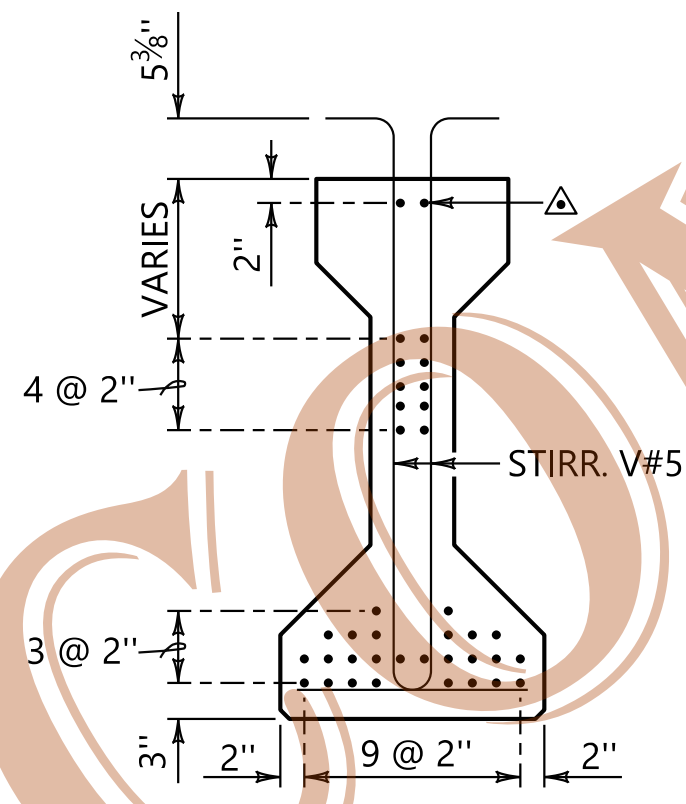
	END SPANS	INT. SPANS
L	78'-4 3/4"	79'-2 1/2"
B	77'-2 1/4"	78'-0"
A	1'-0 7/8"	1'-5 3/4"



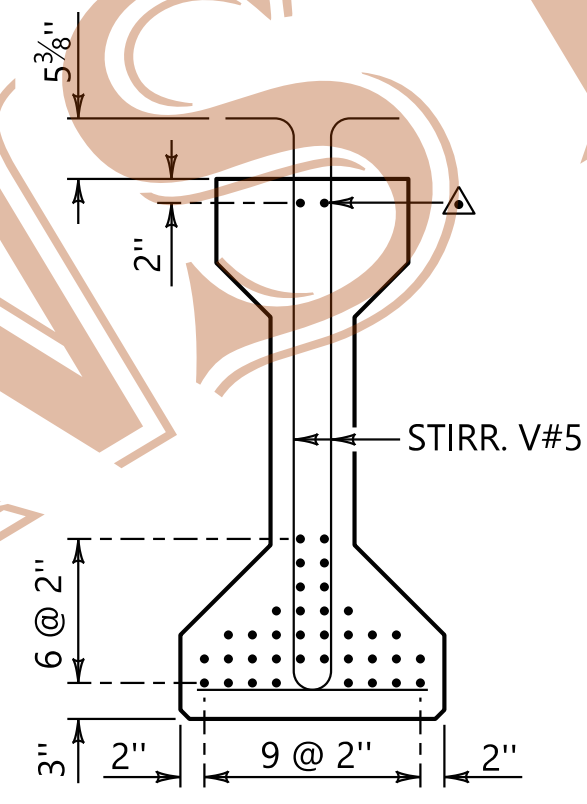
**AASHTO TYPE III GIRDER**  
SCALE: 3/4" = 1'-0"



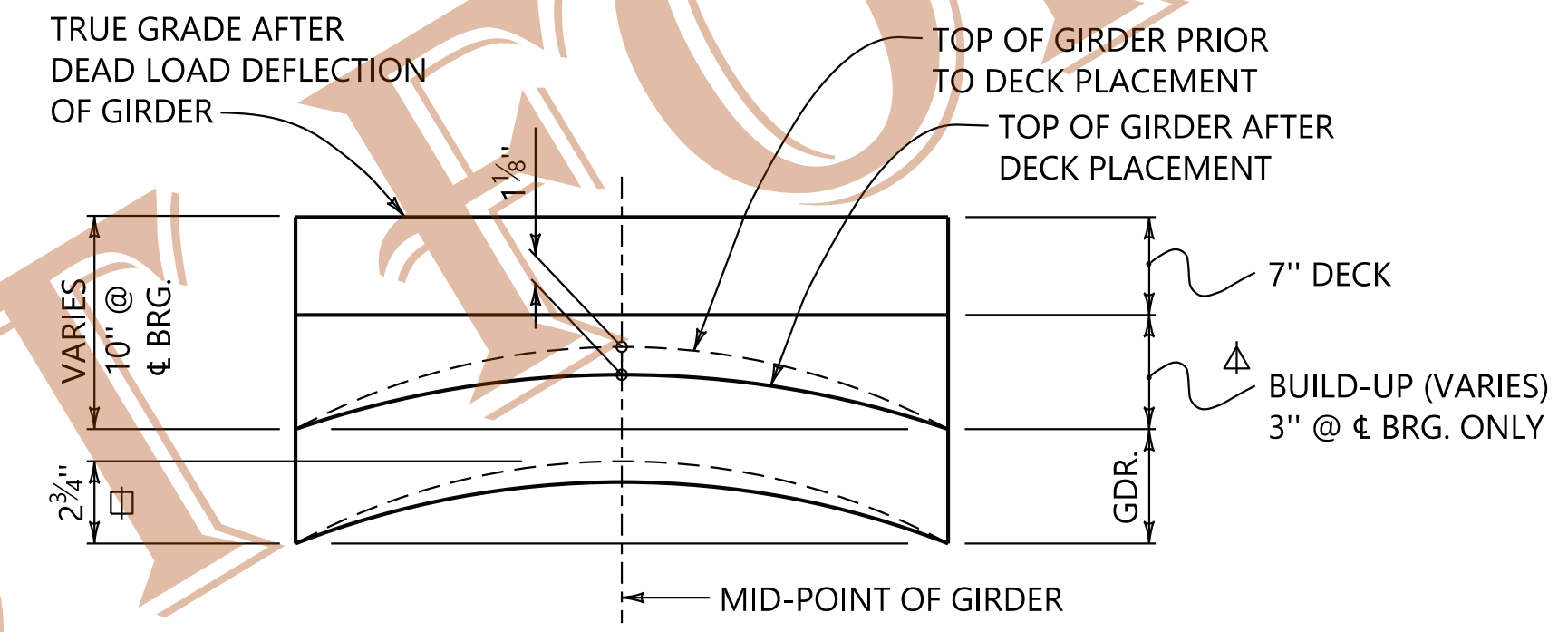
**SECTION @ END OF GIRDER**  
SCALE: 3/4" = 1'-0"



**SECTION BETWEEN END & HOLD DOWN**  
SCALE: 3/4" = 1'-0"

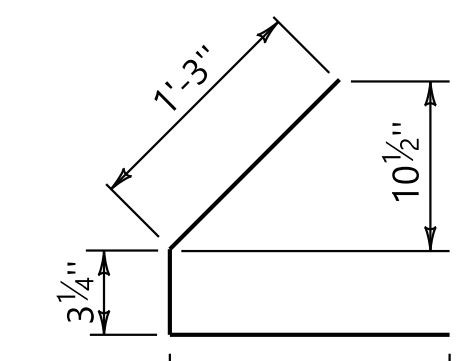


**SECTION BETWEEN HOLD DOWN POINTS**  
SCALE: 3/4" = 1'-0"

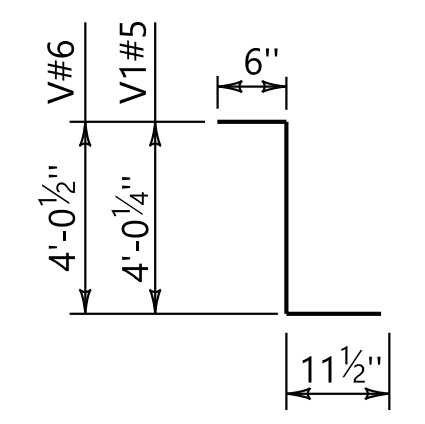


**DETAIL OF BUILD-UP BETWEEN BOTTOM OF DECK AND TOP OF GDR. (ALONG C/GDR.)**  
NTS

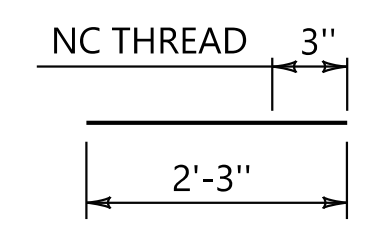
- THEORETICAL CAMBER (UPWARD DEFLECTION) SHOWN. ACTUAL CAMBER OF GIRDER MAY VARY AND SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS AND SETTING FORMS.
- ▲ ADJUSTMENT TO BUILD-UP MAY BE REQUIRED IF USED FOR BRIDGES IN EXTREME CREST OR SAG VERTICAL CURVE GRADES.



**BARS B#3**

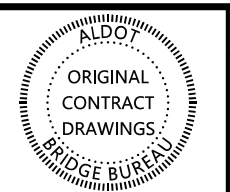


**STIRRUPS TYPE V**



**BARS R2#8**

PLOTTED: 19-Nov-20 at 13:45



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80'-0" SIMPLE AASHTO TYPE III GIRDER SPANS  
HL 93 LOADING  
(28'-0" ROADWAY, 0° SKEW)

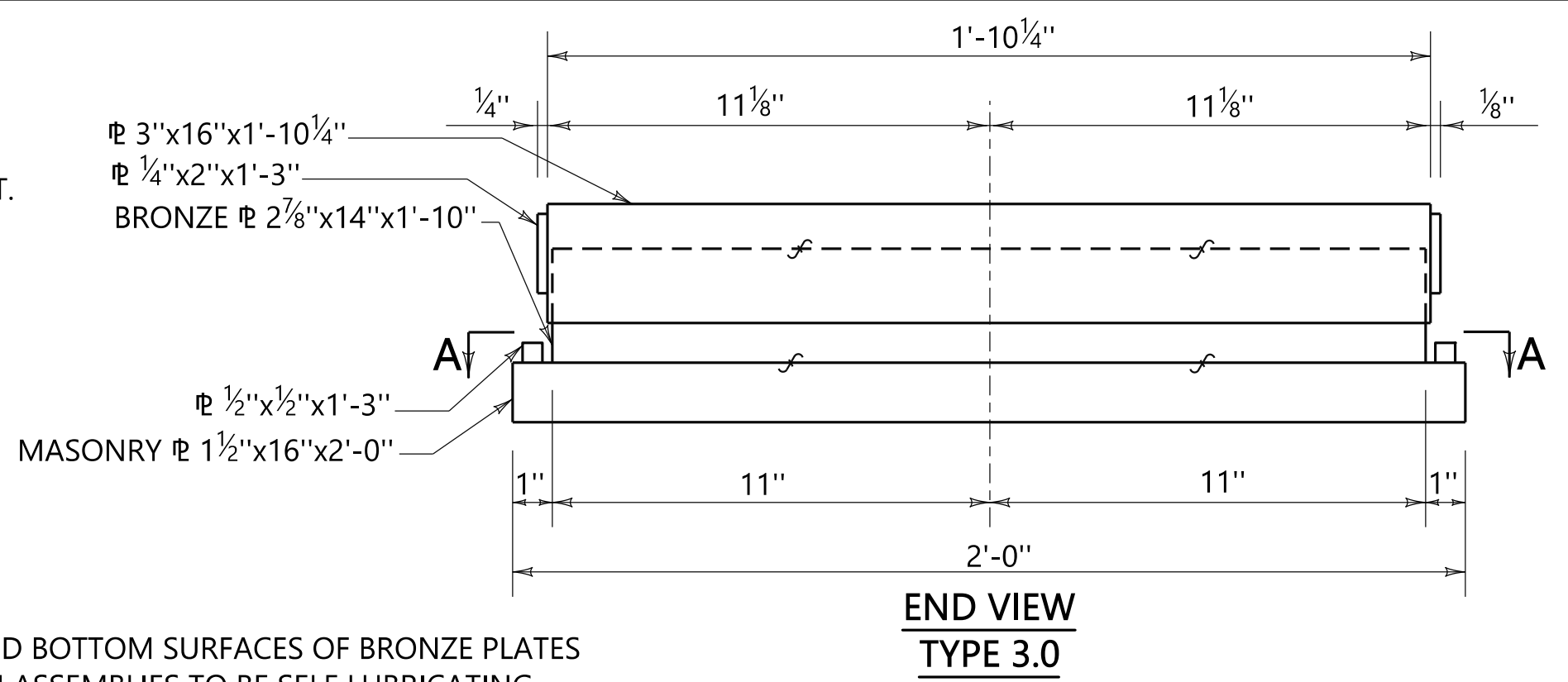
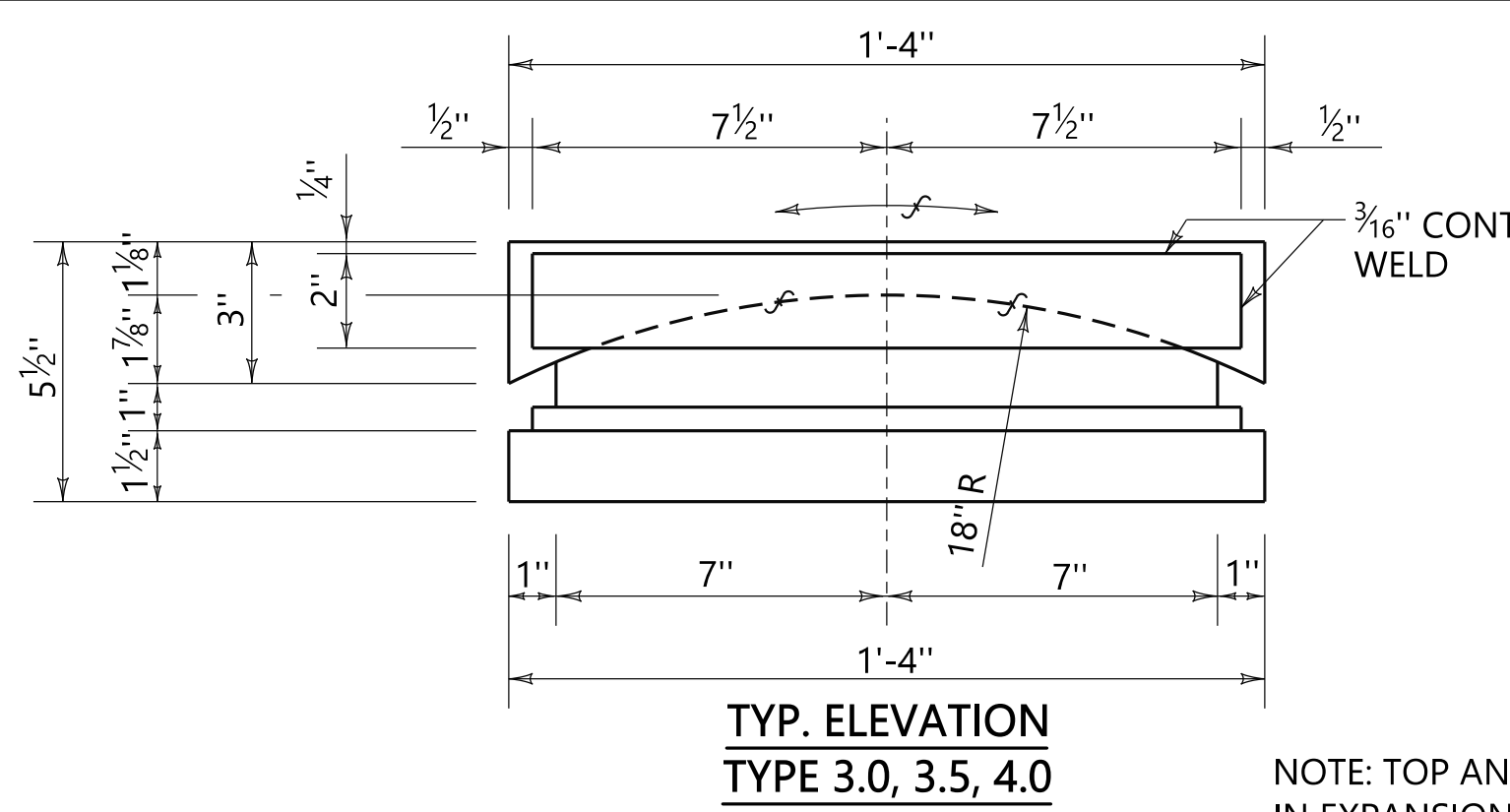






PLOTTED: 19-Nov-20 at 13:17  
 \\brvms002\Bridges\Standards\Special\Bridges\Special DGN Files\2021 DGN\5 Miscellaneous Details\I-100.dgn  
 SHEET REFERENCE  
 0 1" 2"

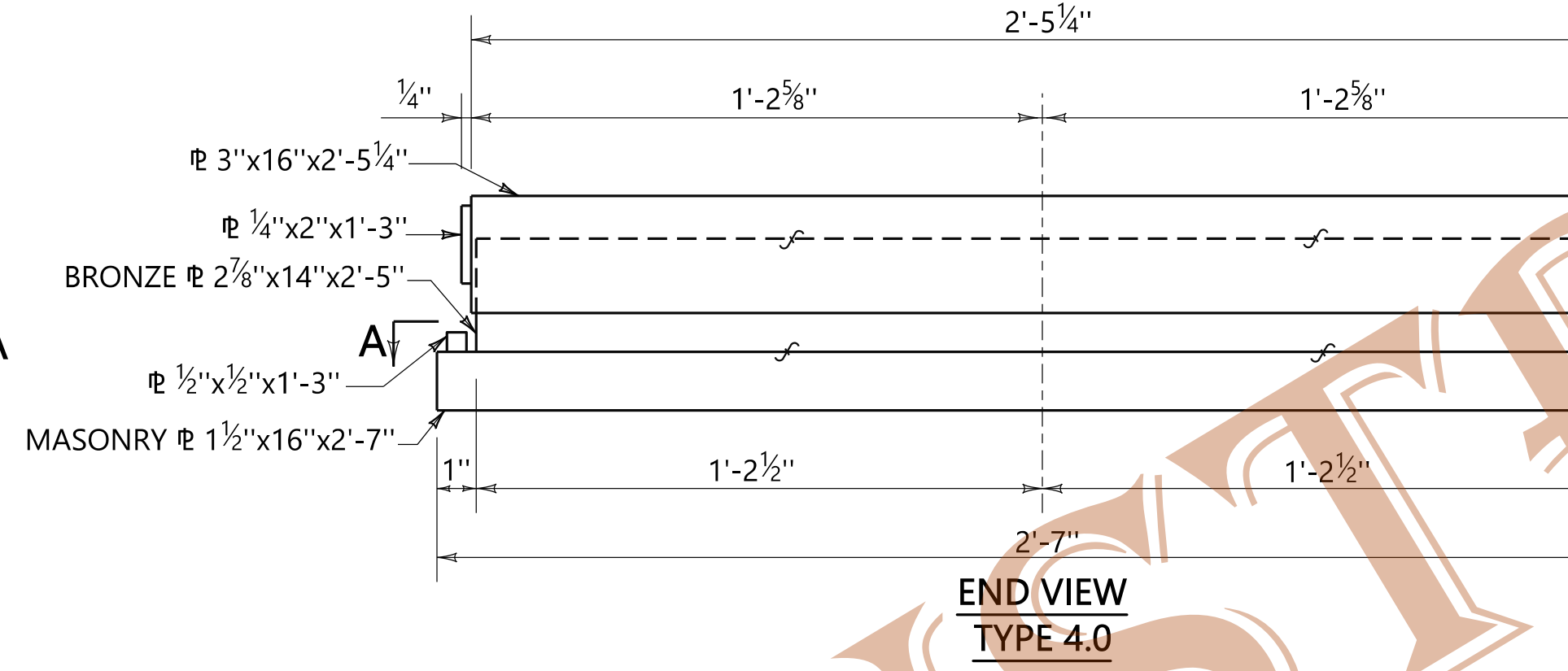
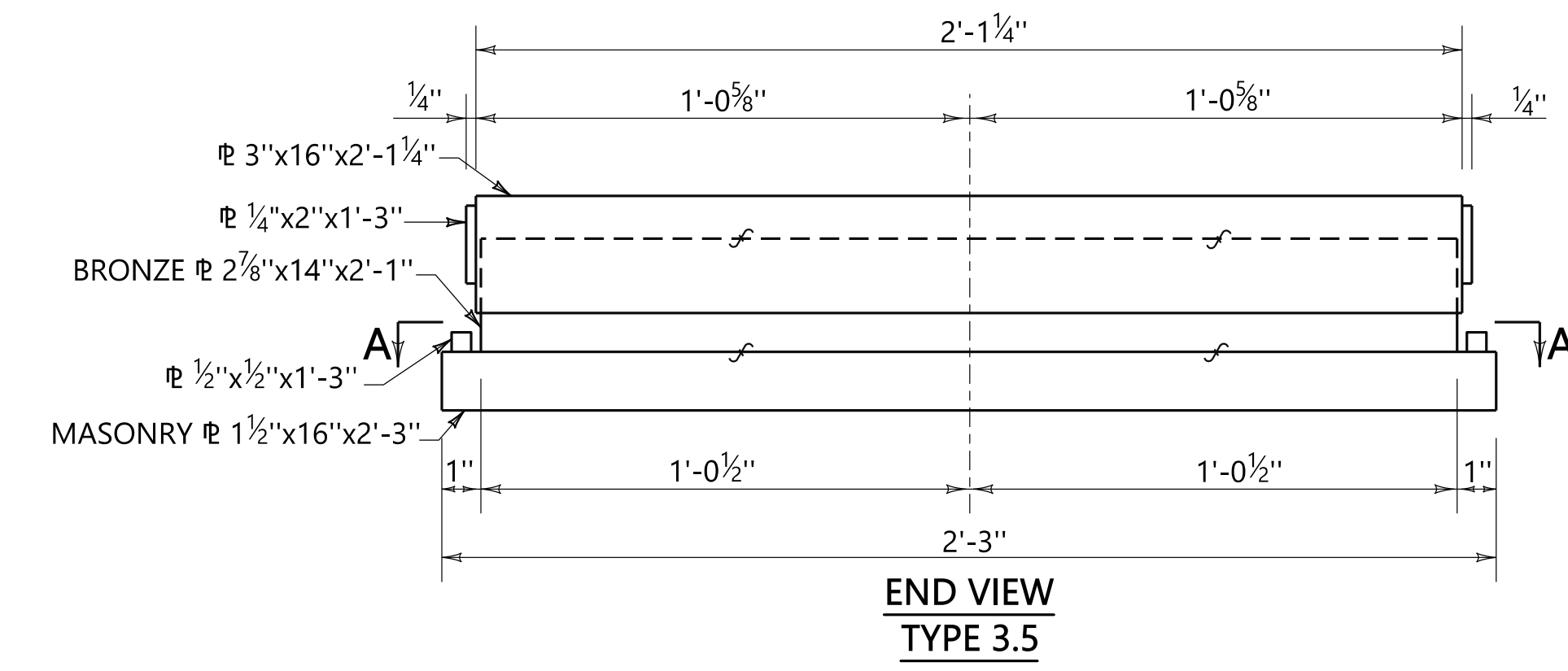
REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER
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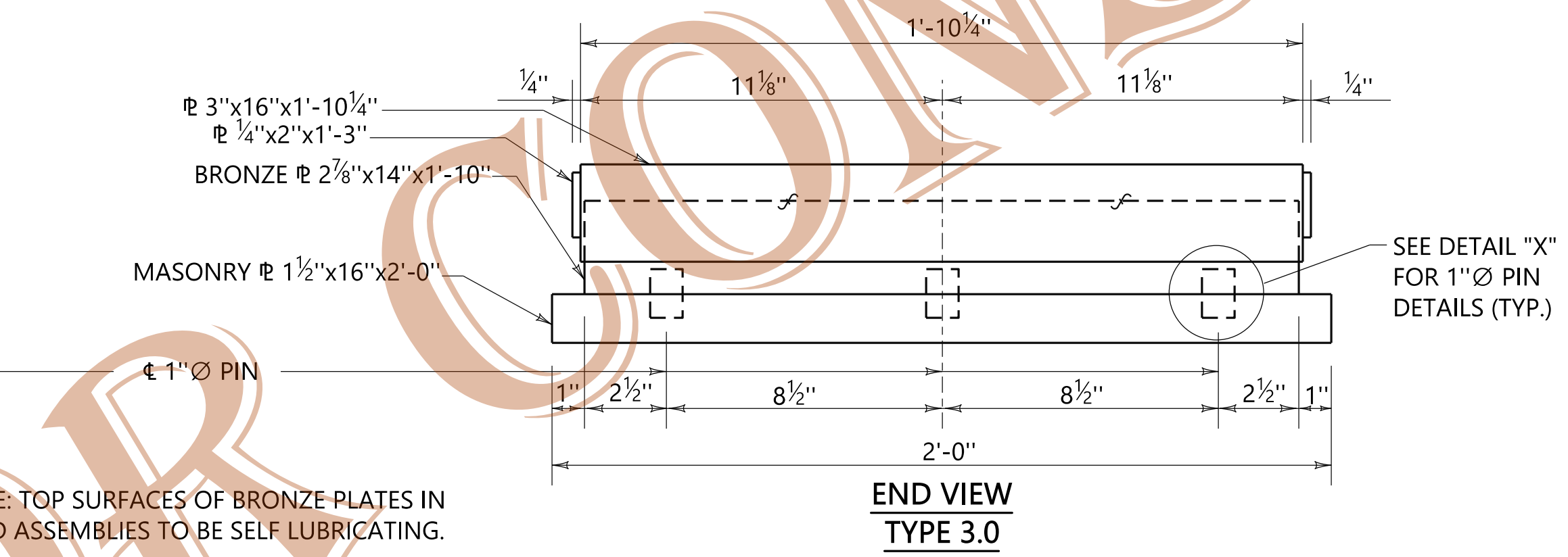
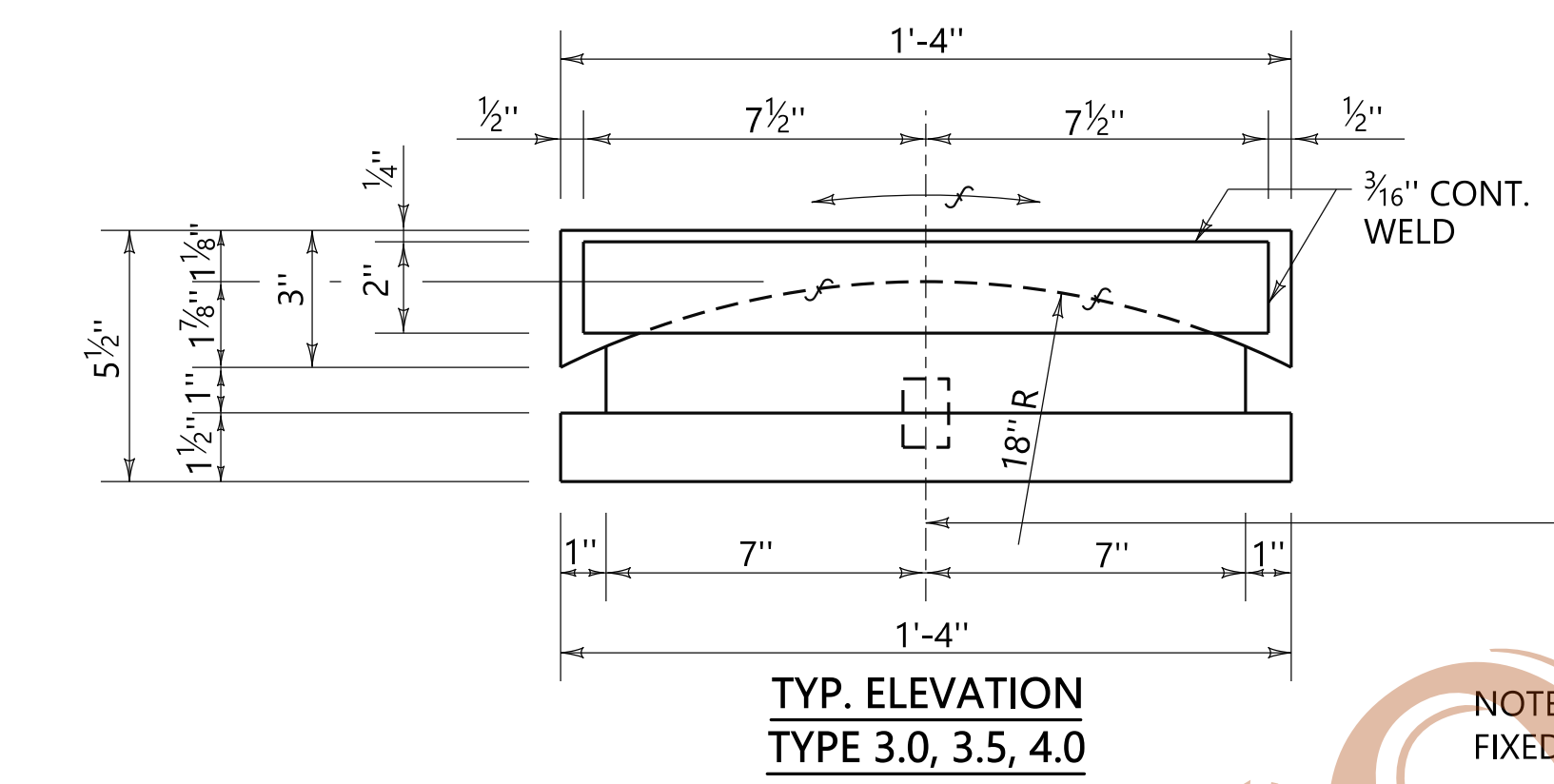
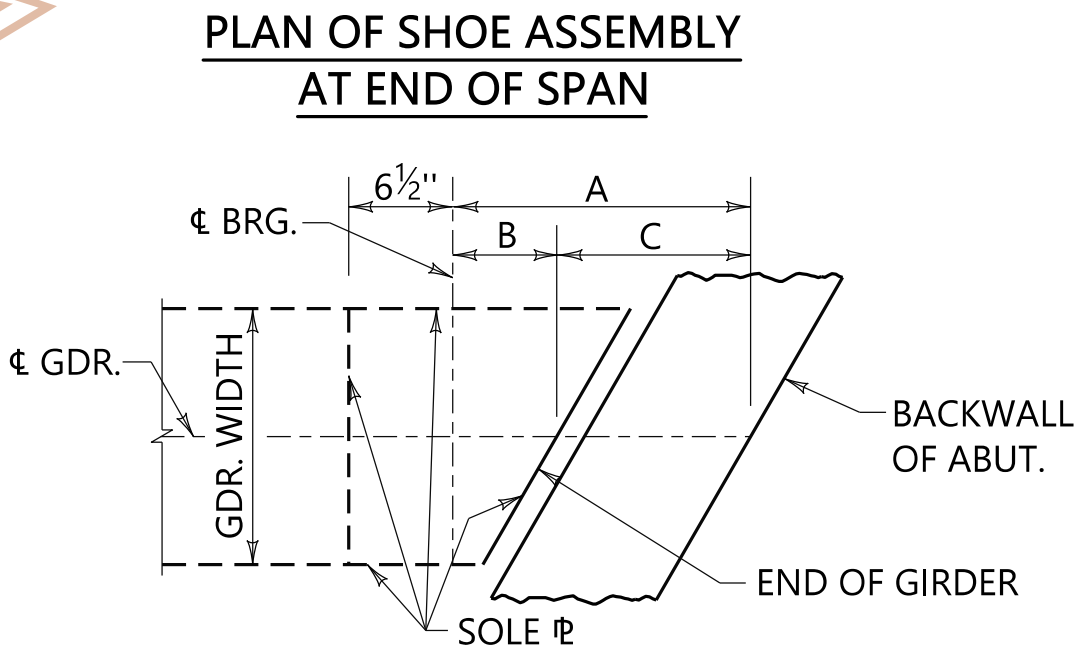
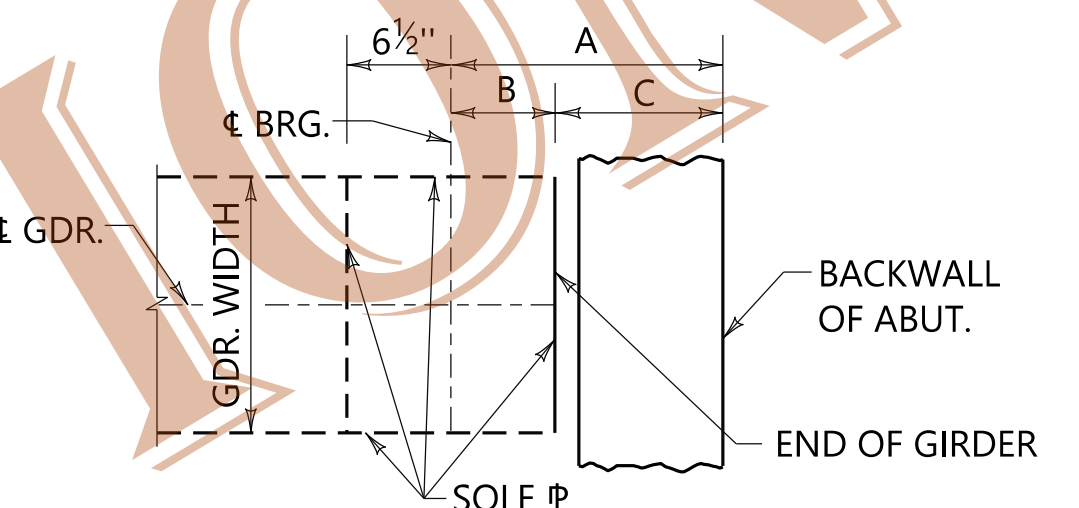
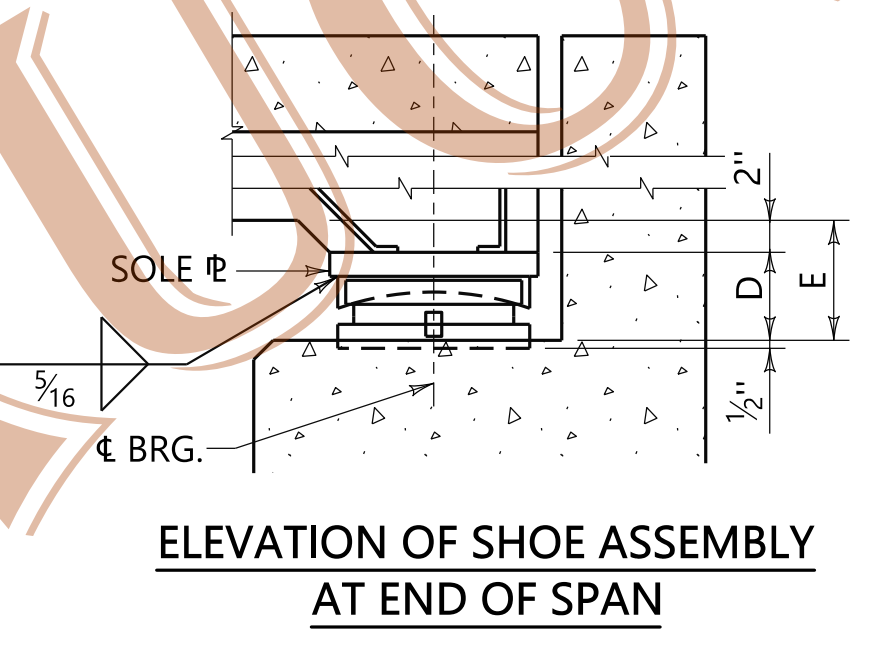
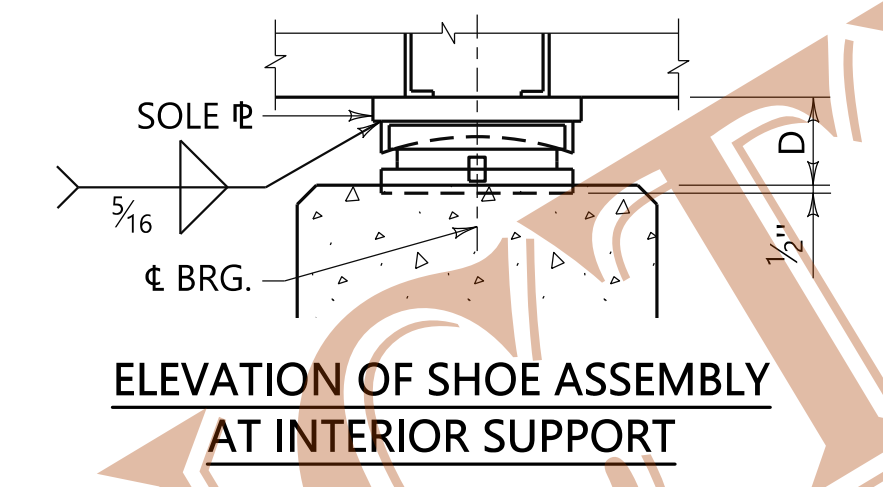
SKEW ANGLE	SHOE TYPE 1.0 DIMENSIONS			SHOE TYPE 1.5 DIMENSIONS		
	▲ A	▲ B	▲ C	▲ A	▲ B	▲ C
0°-00'	1'-5"	6 3/4"	10 1/2"			
0°-00'~22°-30'	1'-5"	6 3/4"	10 1/2"			
22°-30'~30°-00'	1'-7"	7 1/2"	11 1/2"			
30°-00'~37°-30'	1'-9"	8 3/8"	11'-0 3/8"	2'-0"	11 3/8"	1'-0 13/16"
37°-30'~45°-00'	2'-0"	9 3/8"	11'-2 1/16"	2'-3"	11'-0 3/16"	1'-2 13/16"

SHOE TYPE 1.0, 1.5, 2.0, 2.5 DIMENSIONS			SHOE TYPE 3.0, 3.5, 4.0 DIMENSIONS		
D	E	* F	D	E	* F
5 1/2"	7 1/2"	4"	6 1/2"	8 1/2"	5"

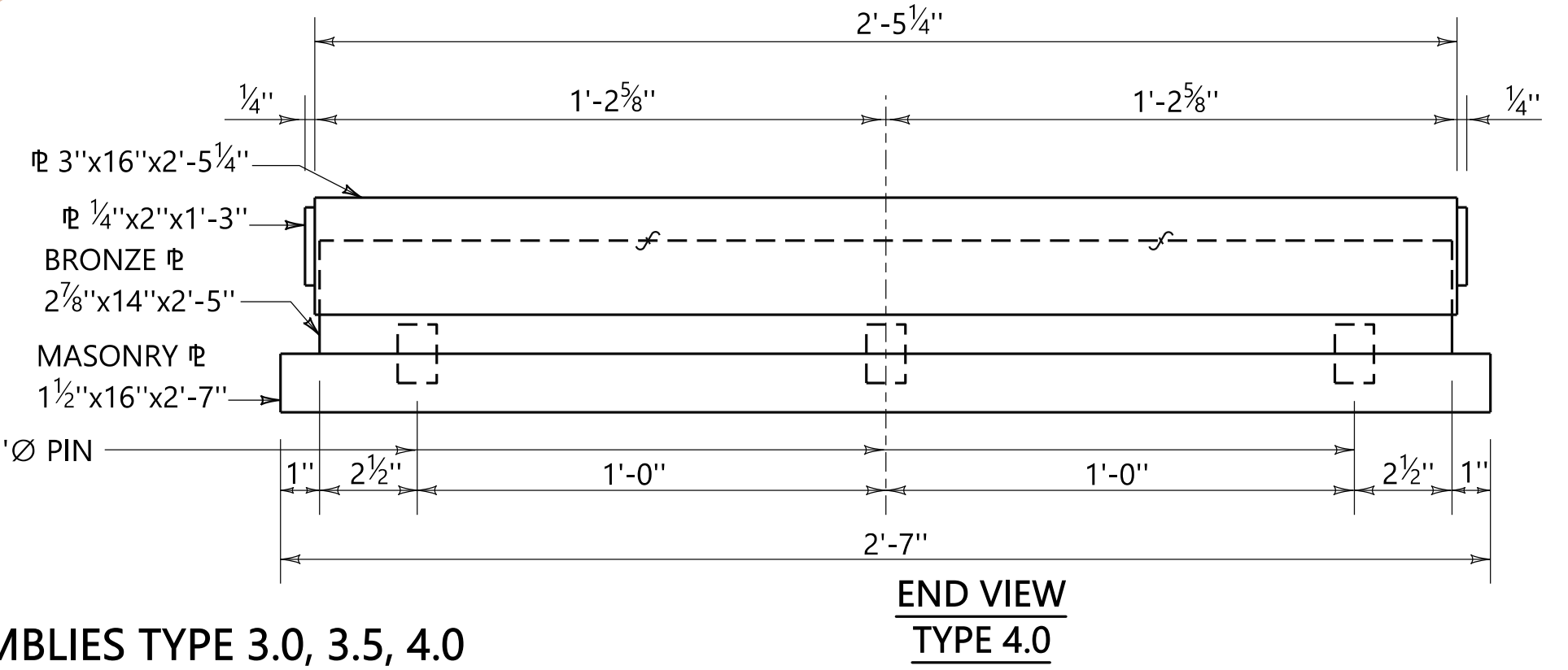
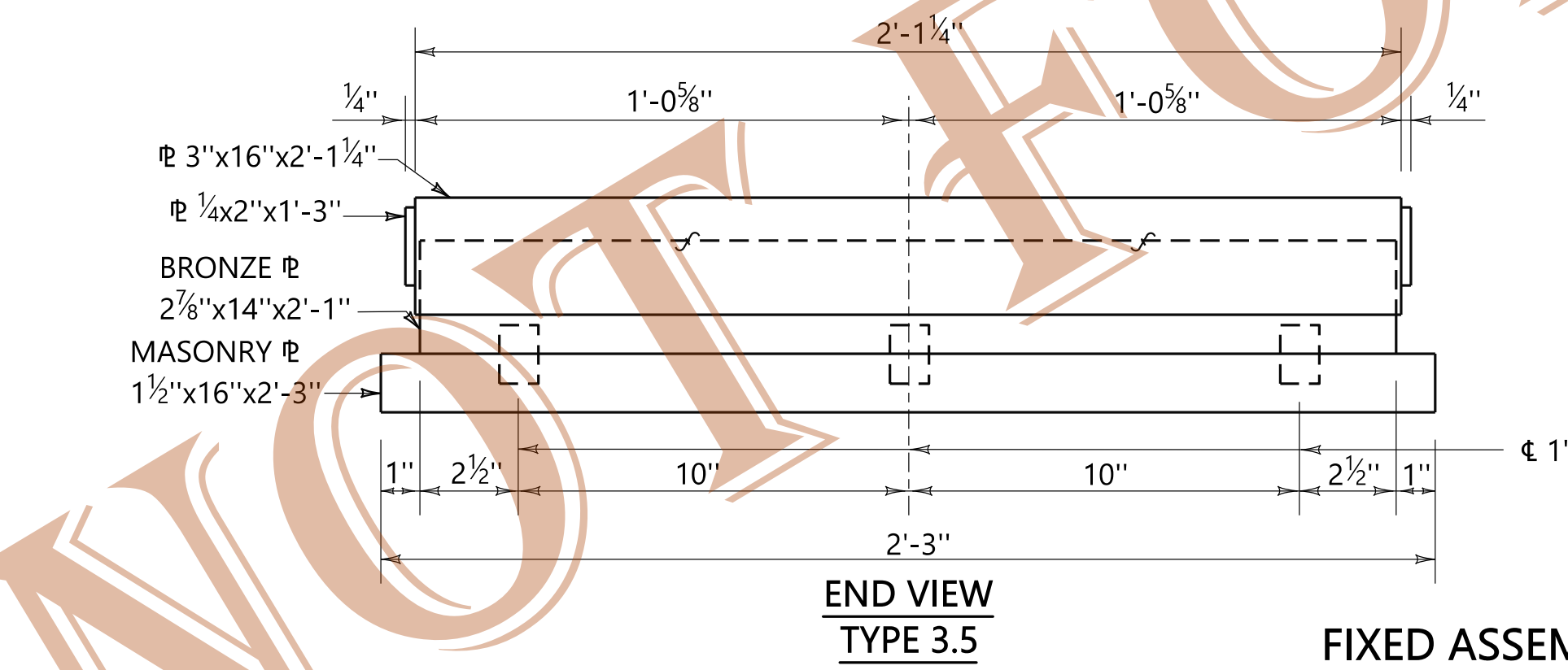
NOTE: TOP AND BOTTOM SURFACES OF BRONZE PLATES IN EXPANSION ASSEMBLIES TO BE SELF LUBRICATING.



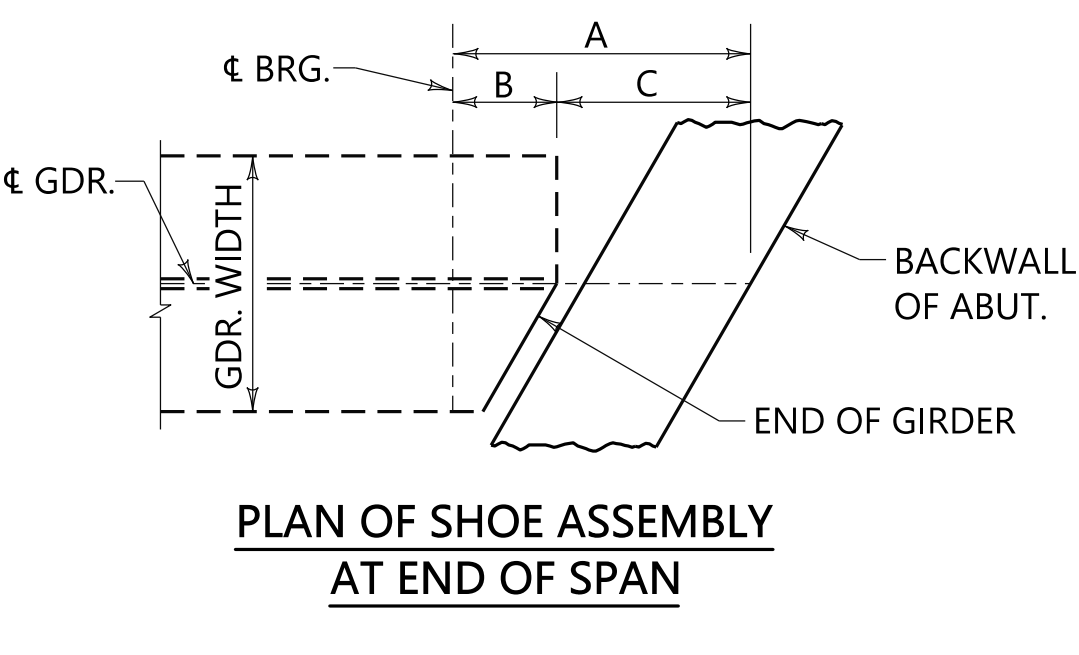
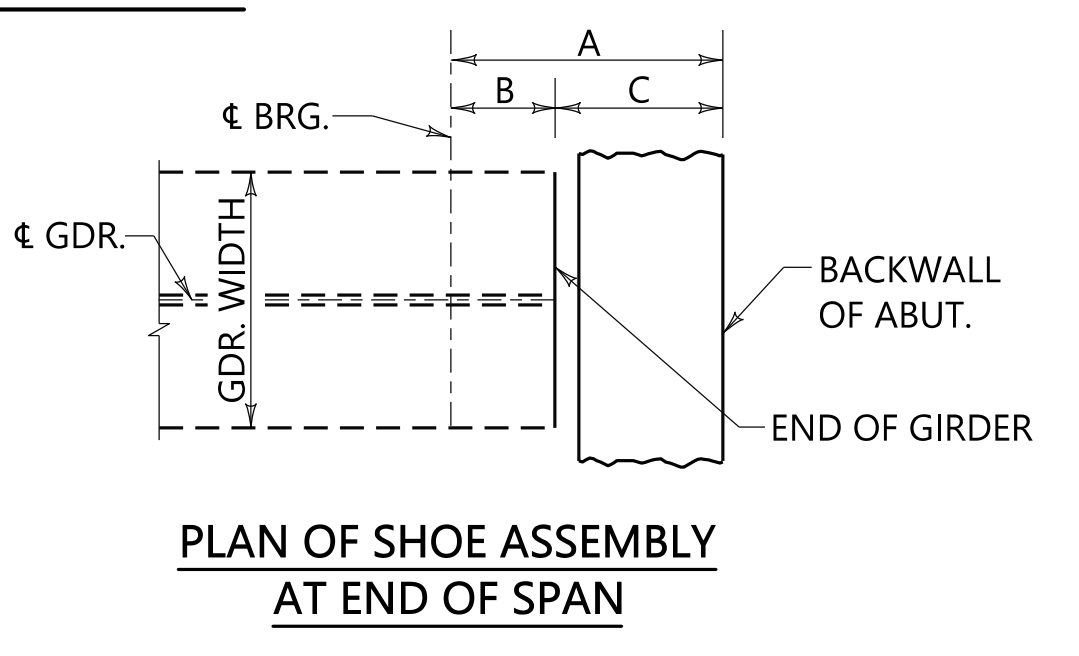
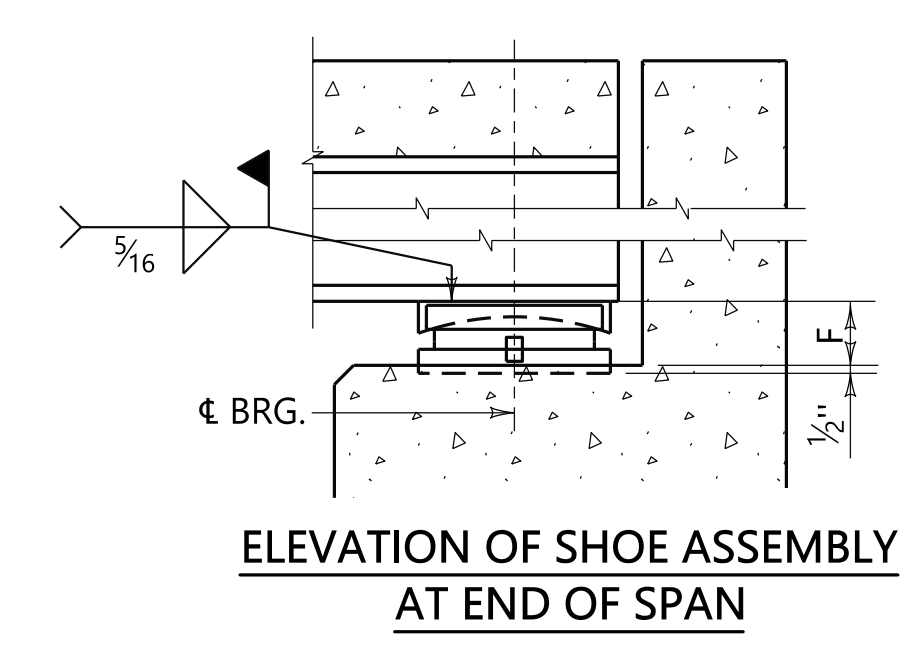
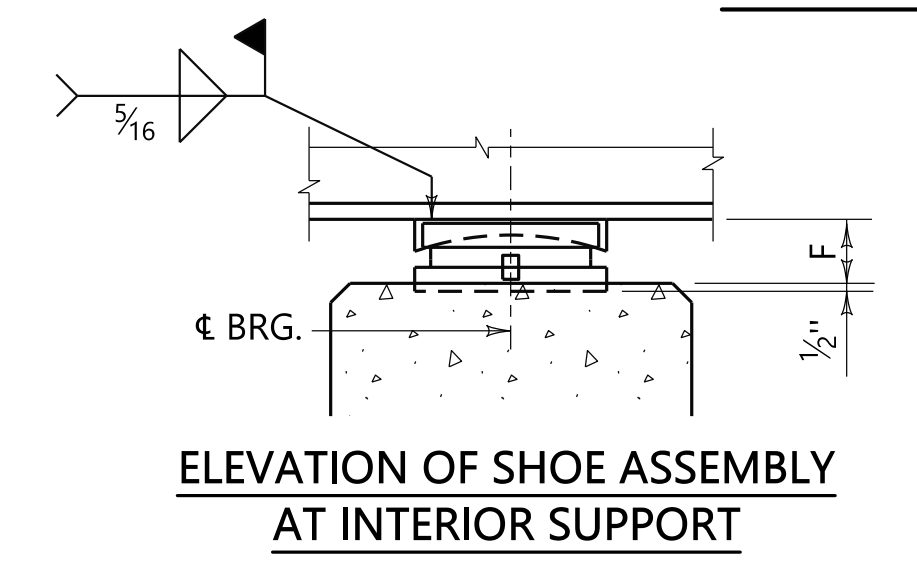
**EXPANSION ASSEMBLIES TYPE 3.0, 3.5, 4.0**



NOTE: TOP SURFACES OF BRONZE PLATES IN FIXED ASSEMBLIES TO BE SELF LUBRICATING.



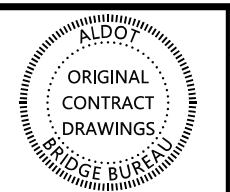
**FIXED ASSEMBLIES TYPE 3.0, 3.5, 4.0**



**CONCRETE GIRDER**

**STEEL GIRDER**

- NOTES**
1. SEE BRIDGE DRAWINGS FOR ANY VARIATIONS TO THESE DIMENSIONS.
  - \* 2. SEE NOTE 2 ON SHEET 1 OF 2 FOR APPLICATION OF DIMENSION F.
  3. SEE SHEET 1 OF 2 FOR DETAIL "X" AND SECTION A-A.
  4. SET ALL MASONRY PLATES 1/2" INTO CAP.
  5. SEE SHEET 1 OF 2 FOR APPROXIMATE QUANTITIES.



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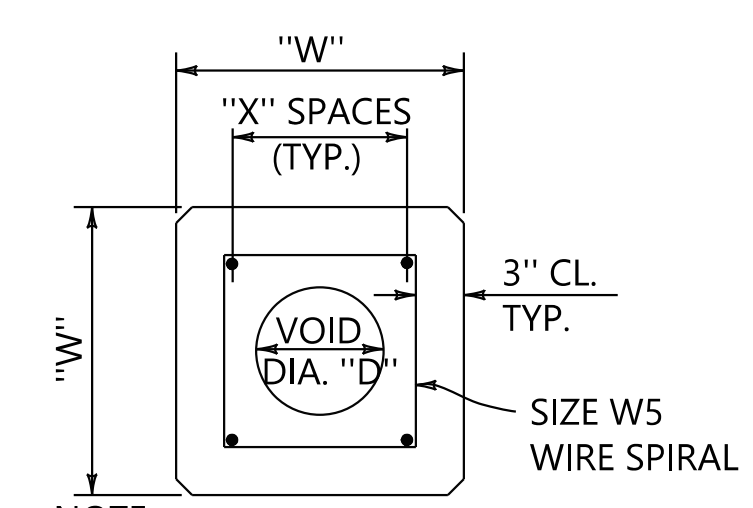
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SHOE ASSEMBLIES WITH BRONZE BEARING PLATE 400,000# MAXIMUM REACTION



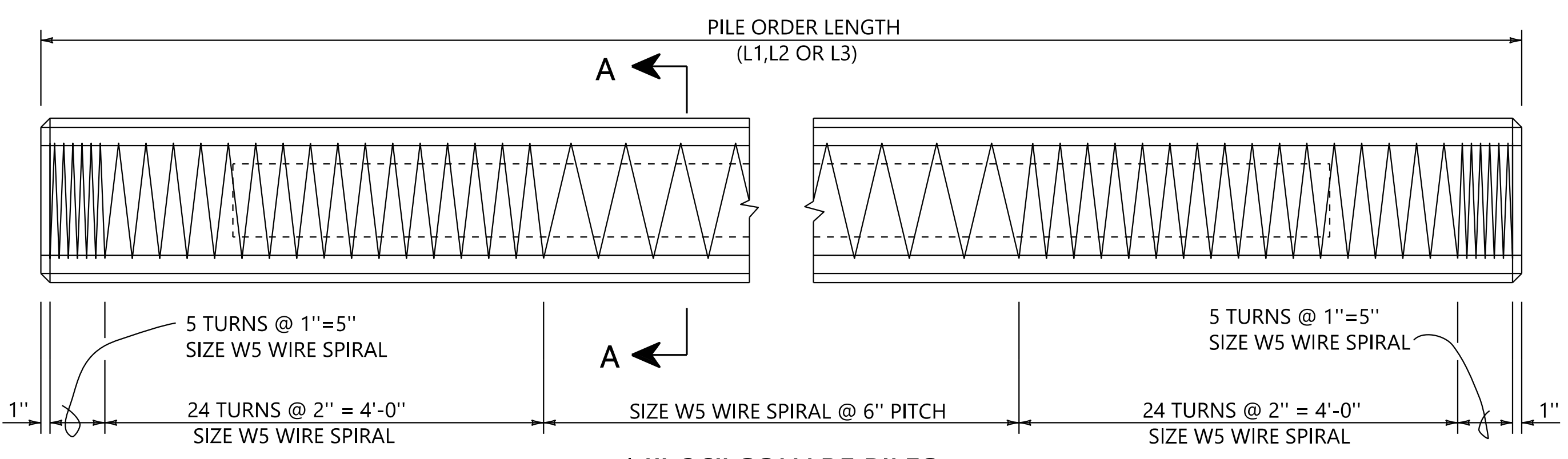
### NOTES

- CONCRETE: THE CONTRACTOR SHALL DESIGN AND SUBMIT FOR APPROVAL A CONCRETE MIX WITH MINIMUM COMPRESSIVE CYLINDER STRENGTH OF 5,000 P.S.I. AT 28 DAYS UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. CONCRETE STRENGTH AT TIME OF TRANSFER OF PRESTRESSING FORCE SHALL BE 4,000 P.S.I. OR GREATER. CEMENT SHALL BE TYPE II EXCEPT WHEN OTHERWISE NOTED ON THE CONTRACT DRAWINGS, SPECIFICATIONS, OR SPECIAL PROVISIONS.
- PRESTRESSING STEEL: STRESSING CABLE SHALL BE 1/2" DIA., SEVEN WIRE, UNCOATED, LOW RELAXATION, GRADE 270, AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 203. AN INITIAL TENSION OF 30,975 LBS. SHALL BE APPLIED TO EACH STRAND.
- REINFORCING BARS: REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL BARS, GRADE 60 AND SHALL MEET THE REQUIREMENTS OF AASHTO-M31.
- SPIRAL REINFORCING STEEL: SPIRAL REINFORCEMENT SHALL BE SIZE W5(MIN.) COLD-DRAWN STEEL WIRE AND SHALL CONFORM TO AASHTO M 336.
- FABRICATION TOLERANCES: MANUFACTURE OF THE PILING AND FABRICATION TOLERANCES SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE DETENSIONING PROCEDURE SHALL BE SUBMITTED TO THE BRIDGE ENGINEER FOR APPROVAL.
- CHAMFERS AND CORNERS: ON PILES 18" OR SMALLER, ALL EXPOSED CONCRETE CORNERS ARE TO HAVE 3/4" CHAMFERS. ON PILES 20" OR LARGER, ALL EXPOSED CONCRETE CORNERS ARE TO HAVE 1 1/2" CHAMFER, A 1" RAD. CURVE WILL BE PERMITTED IN LIEU OF CHAMFERS SHOWN ABOVE. HOWEVER, ALL BENT PILES FURNISHED SHALL BE OF SAME CONFIGURATION.
- PICK-UP AND HANDLING: MAXIMUM LENGTHS FOR PICK-UP HAVE BEEN DETERMINED USING THE FOLLOWING STRESS ASSUMPTIONS:  
LOADING: 1 1/2 TIMES FULL DEAD LOAD. ALLOWABLE TENSILE STRESS EQUALS  $5\sqrt{f_c}$  PSI. THIS STRESS AND LOADING CRITERIA ARE BASED ON CAREFUL HANDLING OF THE PILE. ROTATION OF PILE IN THE SLING IS TO BE PREVENTED UNTIL PILE IS IN VERTICAL POSITION. PICK-UP POINTS FOR ALL PILES TO BE CLEARLY MARKED ON PILE. PICK-UP POINTS SHOWN MAY BE MODIFIED FOR TRANSPORTATION PURPOSES PROVIDED THE TENSILE STRESS BASED ON ABOVE LOADING CRITERIA DOES NOT EXCEED  $5\sqrt{f_c}$  PSI. THE MODIFIED PICK-UP POINTS SHALL BE SENT TO THE BRIDGE DESIGN ENGINEER FOR REVIEW.  
PICK-UP DEVICES: CAST-IN-PLACE LOOPS MAY BE USED AS PICK-UP DEVICES FOR PRESTRESSED PILES. FOR PILE ABUTMENTS AND FOR PILE FOOTINGS THAT ARE TO BE CONSTRUCTED BELOW GROUNDLINE, THE FOLLOWING SHALL APPLY: THE LOOPS SHALL BE CUT OFF FLUSH WITH FACE OF THE PILE AND EXPOSED SURFACES OF THE LOOPS SHALL BE COATED WITH AN APPROVED EPOXY. FOR PILE BENTS AND FOR PILE FOOTINGS THAT ARE TO BE CONSTRUCTED ABOVE POOL (WATERLINE), THE FOLLOWING SHALL APPLY: A 3"x3" BY 1 1/2" DEEP RECESS (BLOCKOUT) SHALL BE PROVIDED AT EACH LOOP PROTRUSION. THE LOOPS SHALL BE CUT OFF FLUSH WITH THE RECESSED FACE OF THE PILE AND THE RECESS SHALL BE FILLED WITH AN APPROVED EPOXY. THE EPOXY SHALL OBTAIN THE 28-DAY STRENGTH SPECIFIED FOR THE PILE PRIOR TO DRIVING THE PILE. THE TYPE OF PICK-UP DEVICE TO BE USED BY THE CONTRACTOR SHALL BE CLEARLY SHOWN ON THE PRESTRESSED CONCRETE PILE SHOP DRAWINGS.
- SHIPPING: PILING SHALL BE HELD AT THE PLANT FOR A MINIMUM OF 21 DAYS PRIOR TO SHIPPING. PILING SHALL NOT BE TRANSPORTED UNTIL THE MINIMUM 28 DAY COMPRESSIVE CONCRETE STRENGTH IS OBTAINED AND VERIFIED BY TEST CYLINDERS.
- DRIVING: PILES SHALL BE DRIVEN TO AT LEAST THE MINIMUM TIP ELEVATION AS SHOWN ON CONTRACT PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- PILE HEAD ATTACHMENT: PROVISION SHALL BE MADE FOR PILE HEAD ATTACHMENT BY STRAND EXTENSION OR DOWEL BAR EXTENSION (SEE DETAIL, THIS SHEET) FOR BENT CAPS AND FOR PILE FOOTINGS WHENEVER FOOTINGS ARE TO BE CONSTRUCTED ABOVE POOL (WATERLINE). THE CONTRACTOR'S PROPOSED METHOD OF PILE HEAD ATTACHMENT SHALL BE CLEARLY SHOWN ON THE PRESTRESSED CONCRETE PILE SHOP DRAWINGS. A PILE HEAD ATTACHMENT IS NOT REQUIRED FOR PILES IN FOOTINGS TO BE CONSTRUCTED BELOW GROUNDLINE.
- BUILD-UP: THE USE OF A BUILD-UP (DRIVING OR NON-DRIVING) SHALL BE SUBJECT TO APPROVAL OF THE BRIDGE ENGINEER. SUBMIT DETAILS TO THE BRIDGE ENGINEER. CONCRETE SHALL BE THE SAME JOB MIX AS THE PRESTRESS CONCRETE.
- JETTING OF PILES: JETTING OF PRESTRESSED CONCRETE PILES IS PERMISSIBLE SUBJECT TO SATISFYING THE CONDITIONS STATED IN ARTICLE 505.03(c)2 OF THE STANDARD SPECIFICATIONS. REFERENCE THIS ARTICLE OF THE SPECIFICATIONS FOR JET TUBE INSTALLATION REQUIREMENTS.

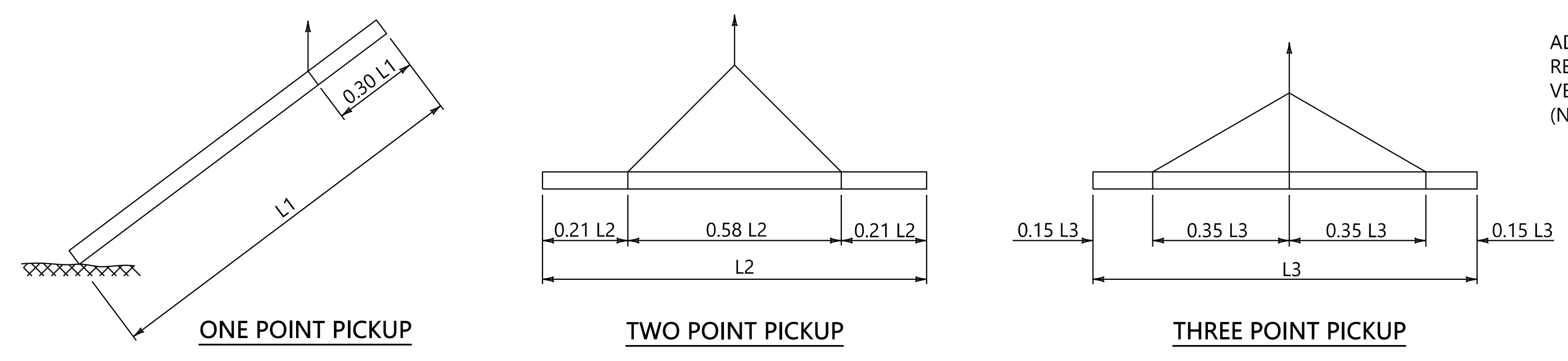


NOTE: STRAND PROTECTION: WHEN STRANDS ARE CUT FLUSH WITH END SURFACES OF PILE, THEY SHALL BE PAINTED WITH AN APPROVED EPOXY IMMEDIATELY AFTER CUTTING.

**SECTION A-A**  
NO SCALE

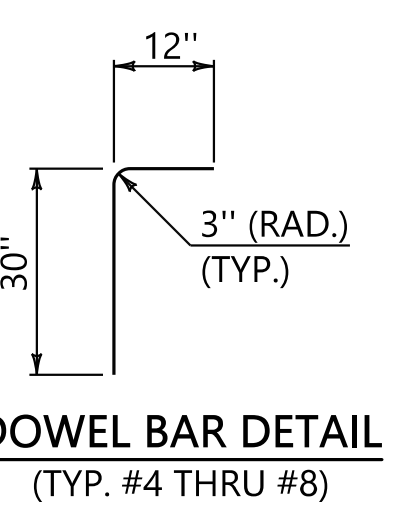


**14"-36" SQUARE PILES**  
NO SCALE

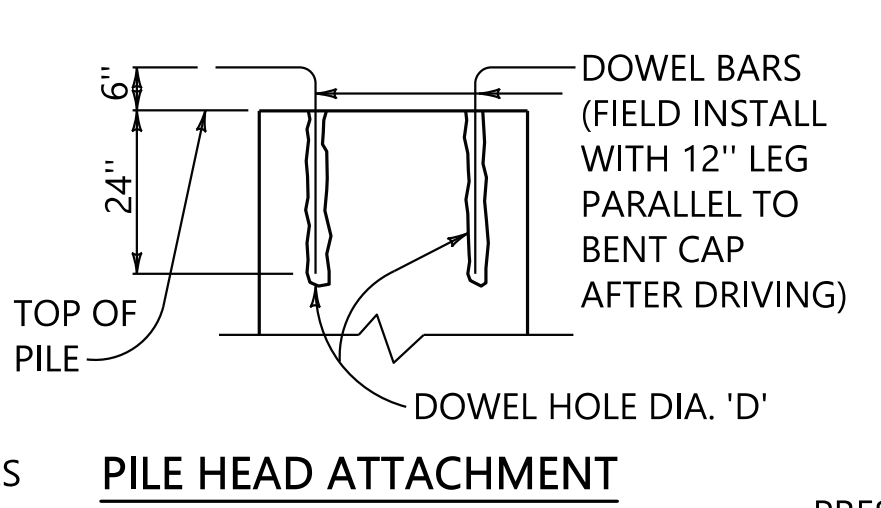


NOTE: PICK-UP POINTS TO BE PLAINLY MARKED ON PILES

**PICKUP DETAILS**  
NO SCALE



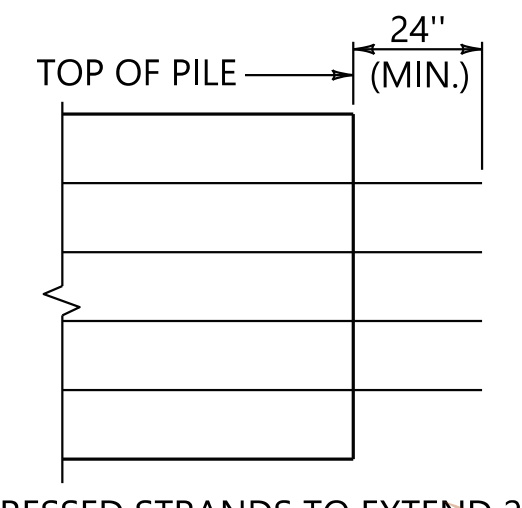
**DOWEL BAR DETAIL**  
(TYP. #4 THRU #8)



**PILE HEAD ATTACHMENT**

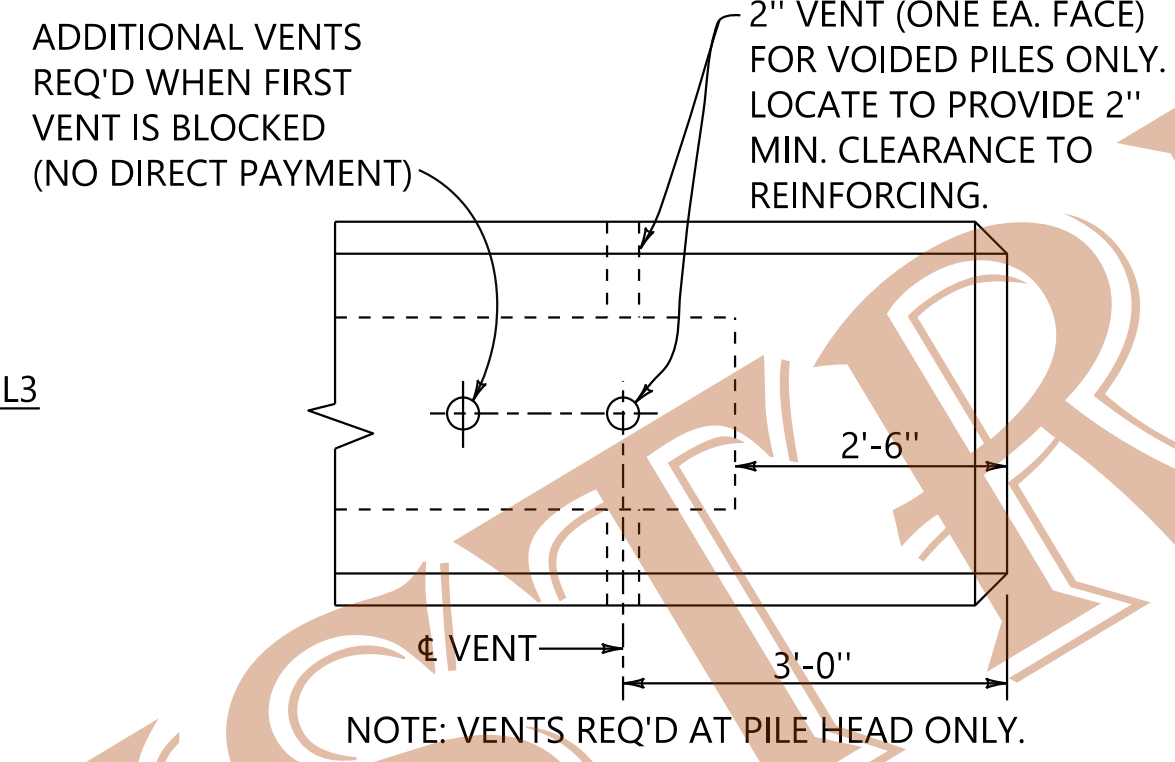
NOTE: DOWEL HOLES SHALL BE DRILLED AFTER DRIVING IS COMPLETE. HOLES SHALL BE CLEANED PRIOR TO SETTING DOWEL BARS AND SHALL BE FREE OF DUST, OIL, WATER AND OTHER CONTAMINANTS. DOWEL BARS SHALL BE SET USING AN APPROVED EPOXY.

**ALTERNATE 'B' (DOWEL BAR EXTENSION)**

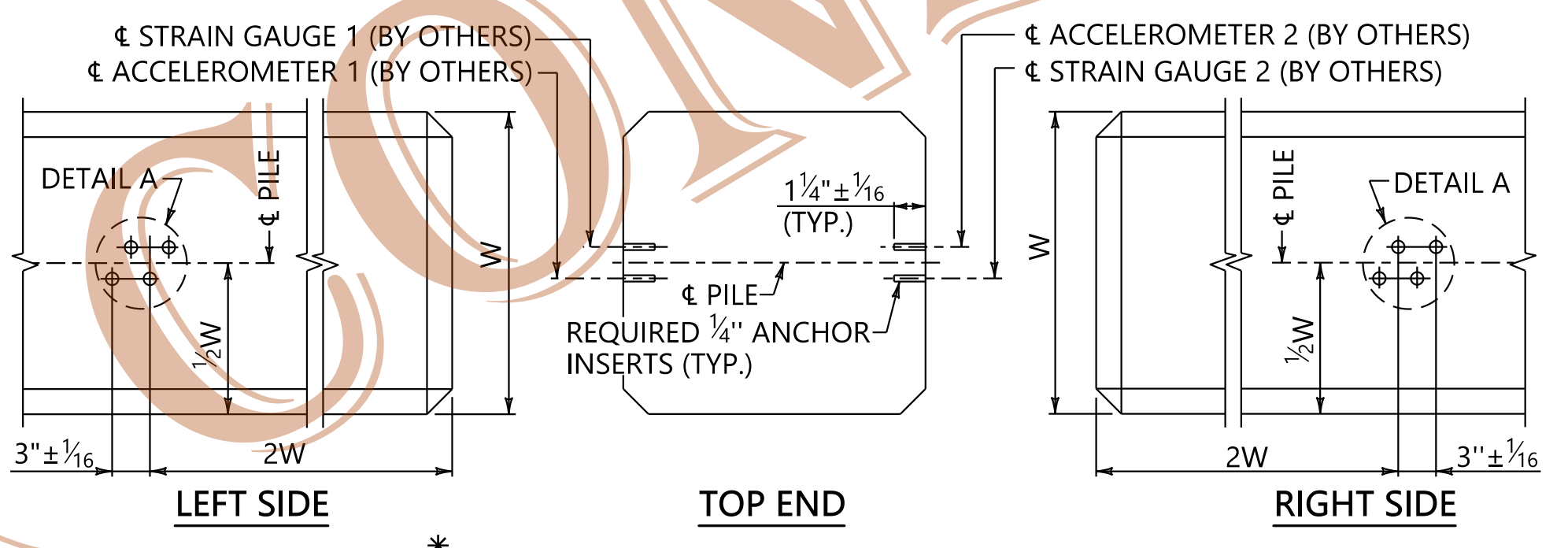


PRESTRESSED STRANDS TO EXTEND 24" BEYOND PILE CUT-OFF TO PROVIDE ATTACHMENT OF PILE TO BENT AND ABUTMENT CAPS (TYP. 14" THRU 36" PILES)

**ALTERNATE 'A' (STRAND EXTENSION)**



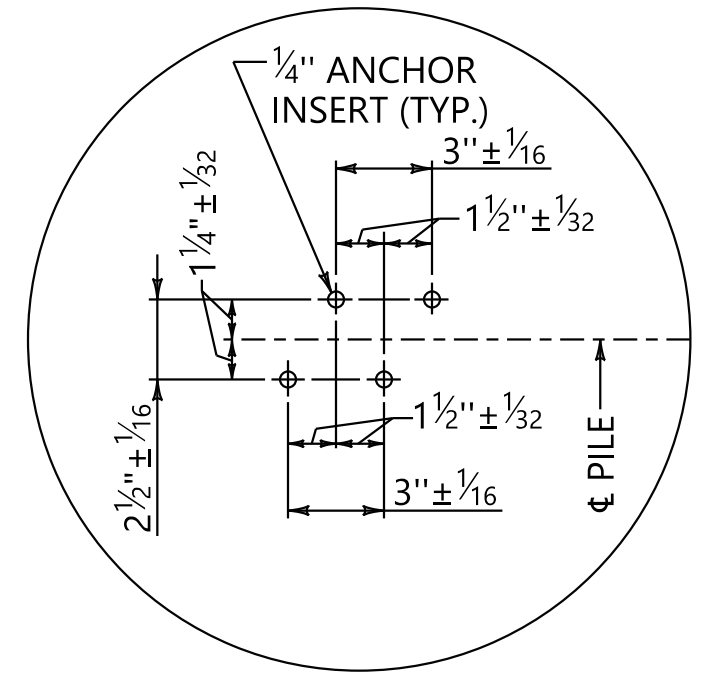
**PILE HEAD DETAIL**  
NO SCALE



**\* LOCATION OF REQUIRED 1/4" INSERTS**  
NO SCALE

\* 1/4" INSERTS: INSERTS FOR ALDOT MATERIALS & TEST BUREAU USE SHALL BE EITHER CAST INTO OR DRILLED INTO ALL PILING.

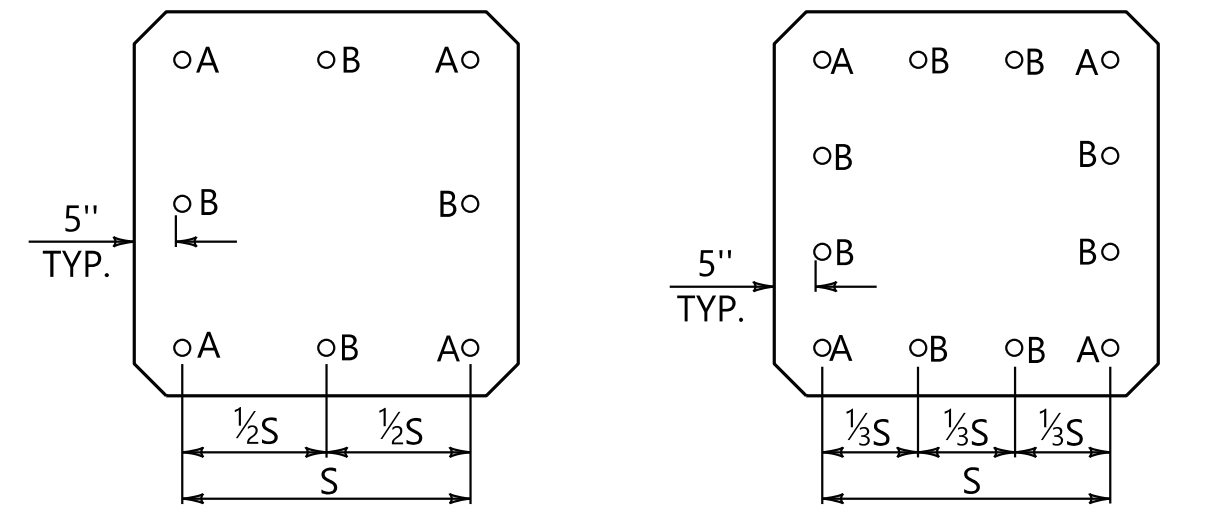
PILE PROPERTIES										
PILE SIZE "W"	WEIGHT PER LIN. FT. (Lbs./Ft.)	SECTION MODULUS OF CROSS SECTION (in. <sup>3</sup> )	AREA OF NORMAL CROSS SECTION (in. <sup>2</sup> )	VOID DIA. "d"	NO. OF STRANDS	STRAND LAYOUT ("X" SPACES)	INITIAL PRESTRESS (PSI)	LOW RELAXATION STRAND		
								MAX. CASTING LENGTH	1 POINT PICK-UP L1	2 POINT PICK-UP L2
14" SOLID	204	457	196	0.00"	8	2	1264	61'-0"	87'-0"	125'-0"
16" SOLID	267	683	256	0.00"	8	2	968	60'-0"	84'-0"	121'-0"
18" SOLID	338	972	324	0.00"	12	3	1147	67'-0"	95'-0"	136'-0"
20" SOLID	417	1,333	400	0.00"	12	3	929	66'-0"	93'-0"	134'-0"
24" VOIDED	510	2,254	489	10.50"	16	4	1013	80'-0"	113'-0"	162'-0"
30" VOIDED	715	4,257	686	16.50"	20	5	903	89'-0"	126'-0"	181'-0"
36" VOIDED	936	7,077	898	22.50"	28	7	966	103'-0"	145'-0"	208'-0"



**DETAIL A**

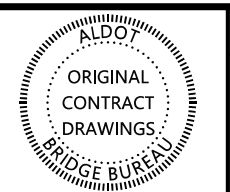
PILE SIZE	DOWEL BAR SIZE	
	LOCATION A	LOCATION B
14"	#7	-
16"	#8	-
18"	#8	#4
20"	#8	#6
24"	#8	#6
30"	#8	#7
36"	#8	#8

DOWEL SIZE	D
#4,#6	1"
#7,#8	1 1/4"



**DOWEL HOLE PATTERN**

ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020	BRIDGE ENGINEER <i>[Signature]</i> DATE: 11/20/2020
---	---



REVISIONS
1. REVISE NOTE 10 KCM 1-17-20

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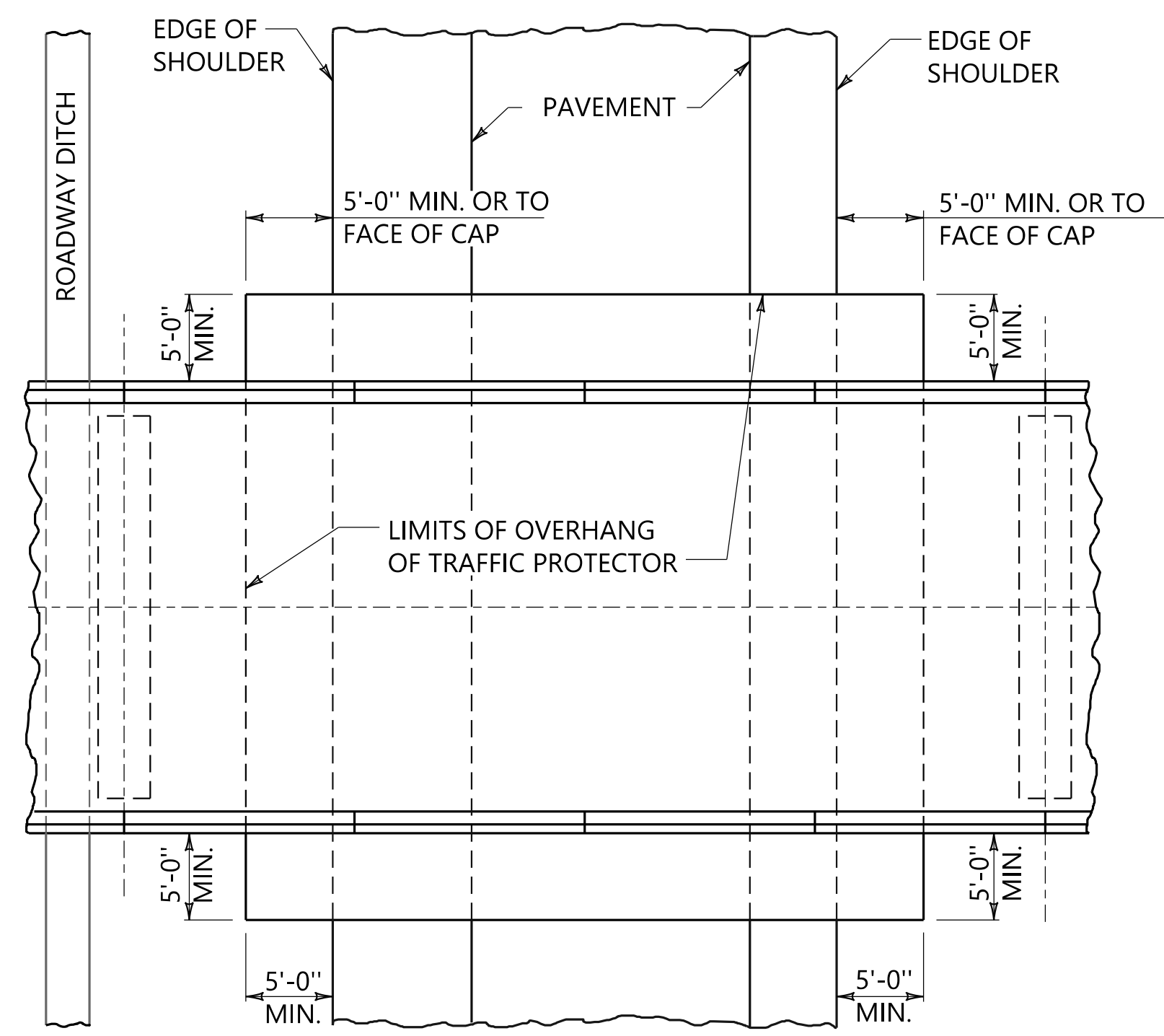
PRECAST PRESTRESSED CONCRETE PILES  
14-16-18-20-24-30-36 INCHES

PLOTTED: 19-Nov-20 at 13:49 \\brvms002\Bridges\Standard\Special\Bridges\Special DGN Files\2021 DGN\5 Miscellaneous Details\PSCP-1.dgn

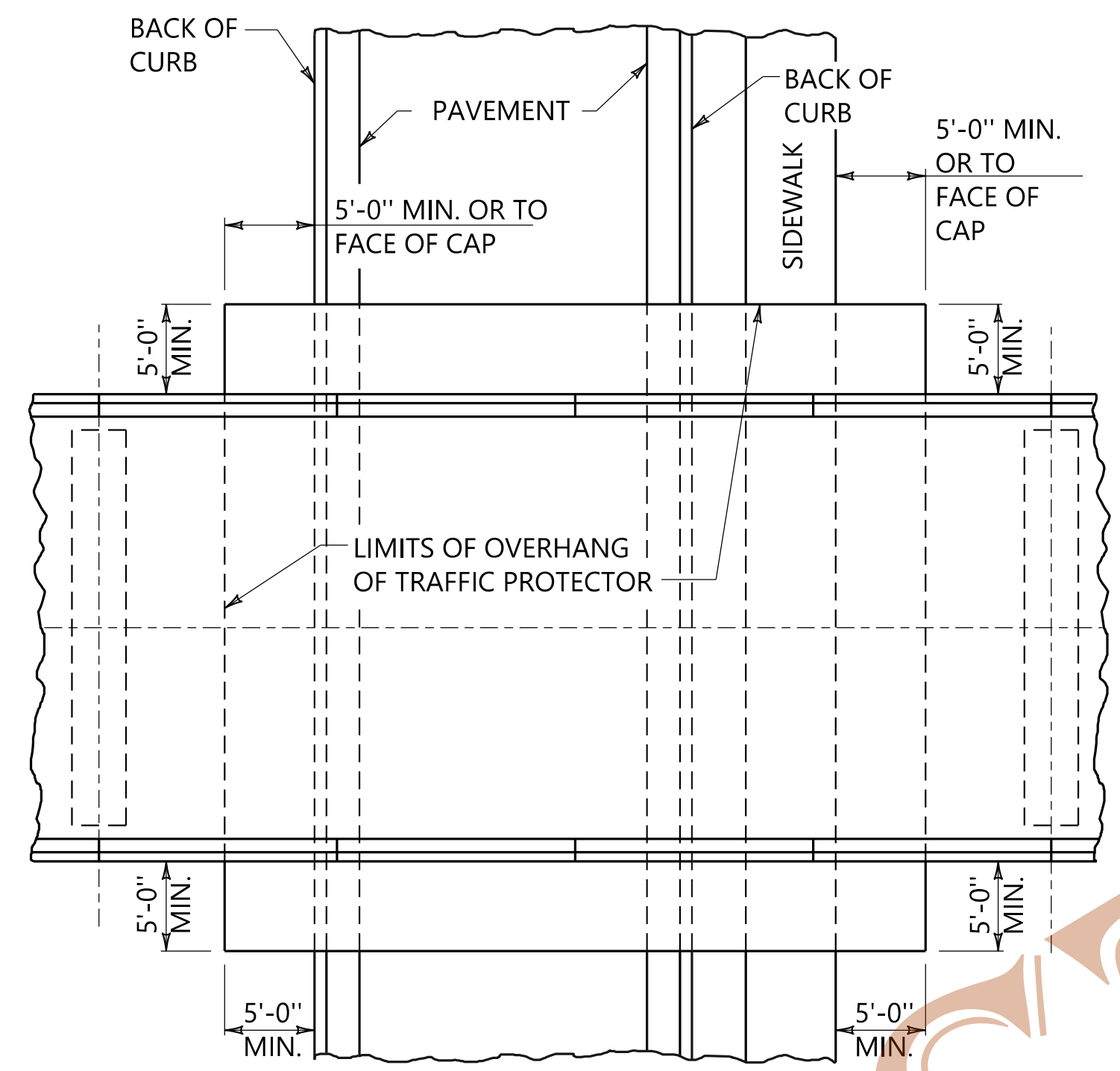


**NOTES**

1. TRAFFIC PROTECTION SHALL BE TYPE 1 OR 2 AS APPROPRIATE. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH STANDARD DRAWING BGN-1 NOTE NO. 13 OR BRIDGE SPECIAL PROJECT DRAWING SBN-1 NOTE NO. 13.
2. CLEARANCE FOR TRAFFIC PROTECTORS: THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE CLEARANCES SUBMITTED UNDER REQUIREMENT OF STANDARD DRAWING BGN-1 NOTE NO. 13 OR BRIDGE SPECIAL PROJECT DRAWING SBN-1 NOTE NO. 13 DURING CONSTRUCTION.
3. TRAFFIC PROTECTORS SHALL BE ERECTED AHEAD OF THE FORMWORK FOR THE SUPERSTRUCTURE AND SHALL REMAIN IN PLACE UNTIL ALL POURING OVER THE PROTECTION HAS BEEN COMPLETED. FLAGMEN SHALL BE USED AS NEEDED TO PROTECT TRAFFIC DURING ERECTION AND REMOVAL OF THE PROTECTORS. FLAGMEN SHALL ALSO BE USED AS NEEDED DURING FINISHING AND PAINTING OPERATIONS OVER THE ROADWAY.

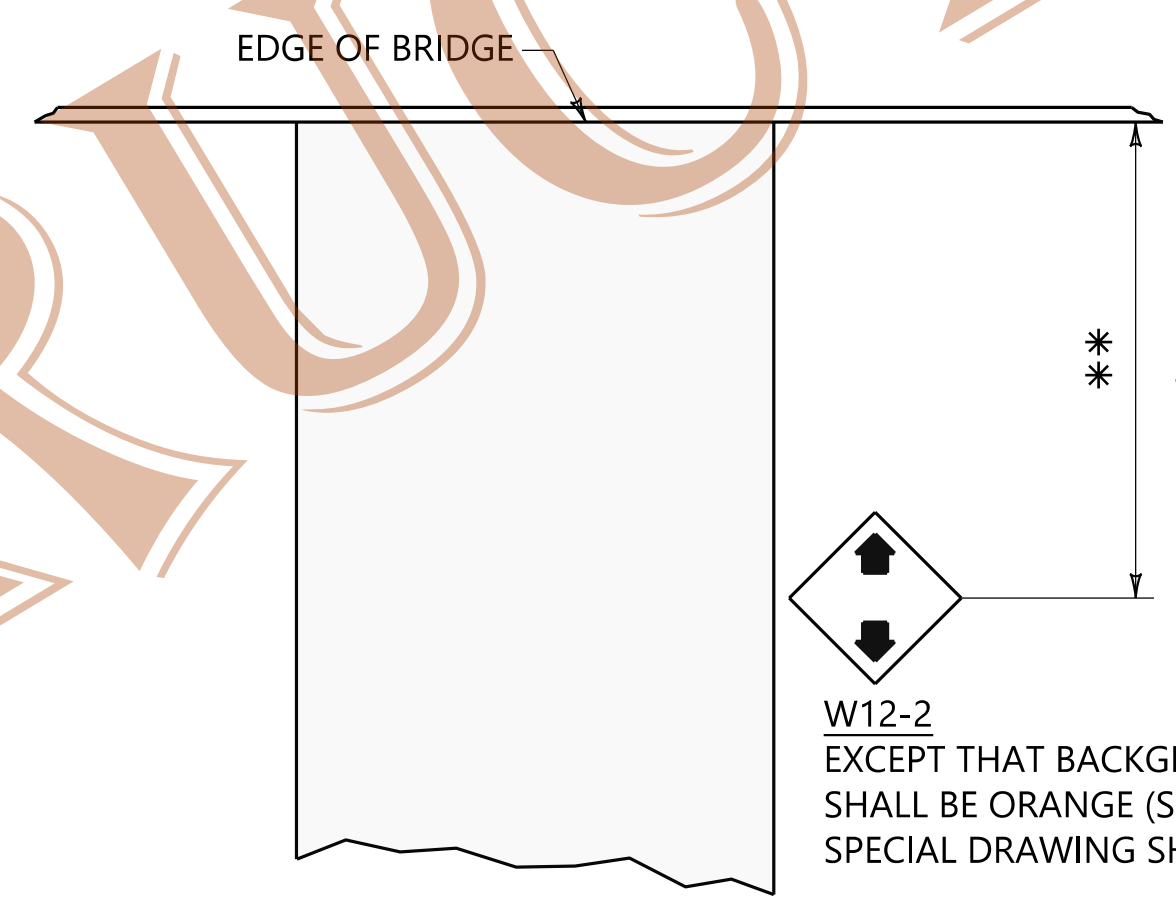


**DITCH SECTION**



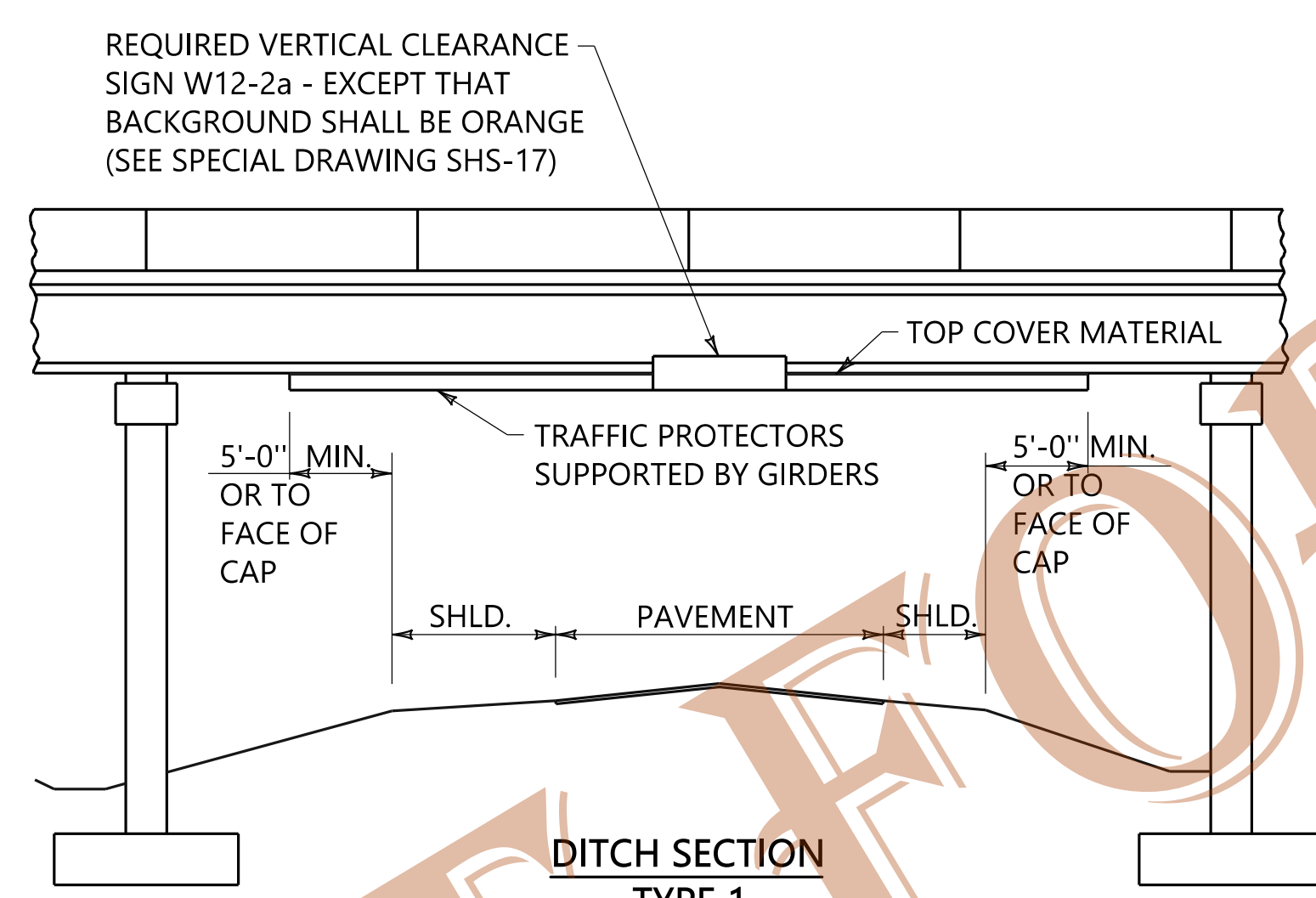
**CURB & GUTTER SECTION**

**PLAN**

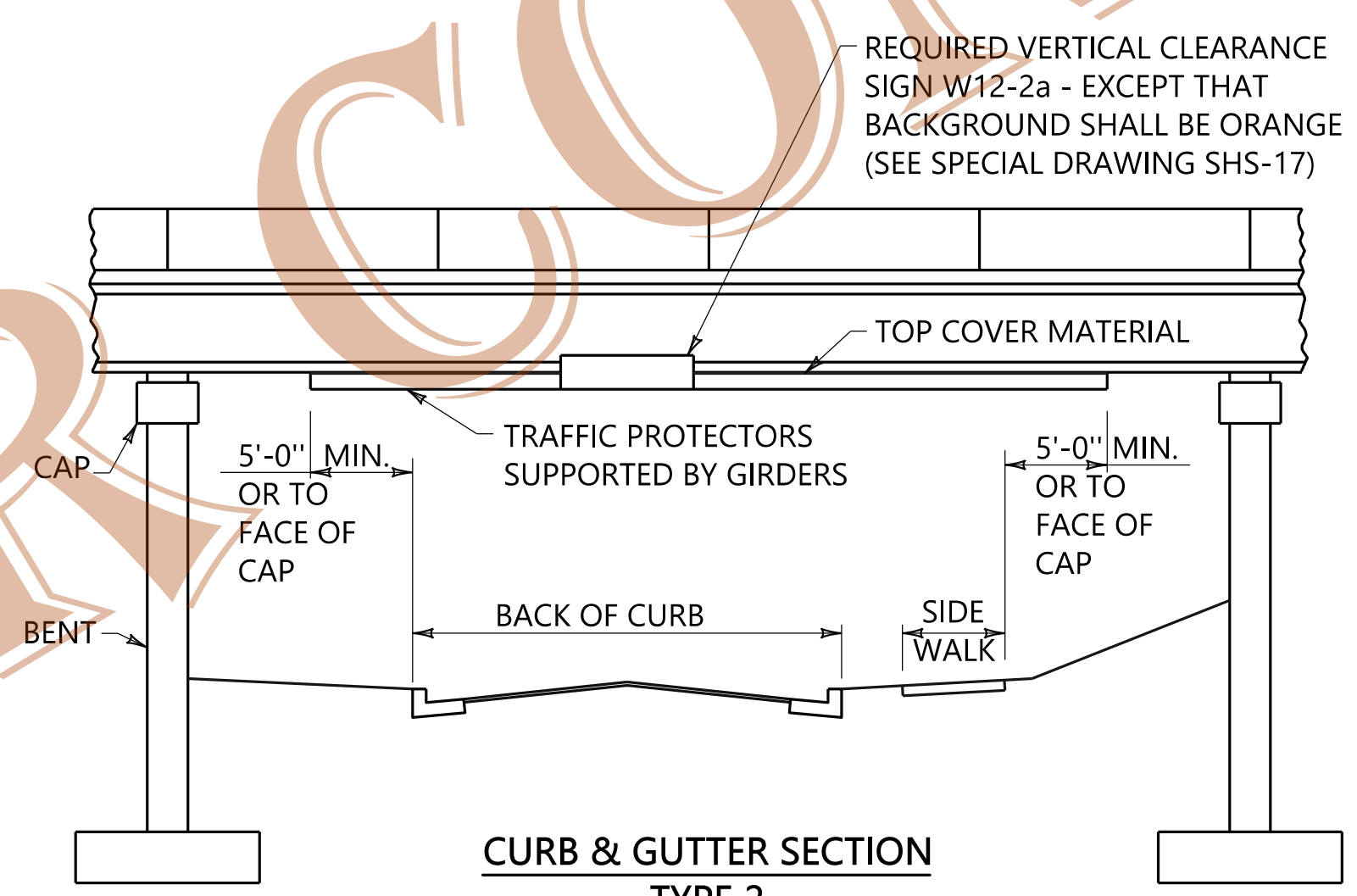


**SIGN LOCATION DETAIL**

NOTE:  
VERTICAL CLEARANCE SIGNS SHOWN AT LEFT SHALL BE INSTALLED IN ADDITION TO THE NORMAL REQUIRED ADVANCE WARNING SIGNS WHEN THE VERTICAL CLEARANCE IS LESS THAN 17'-0".



**DITCH SECTION TYPE 1**

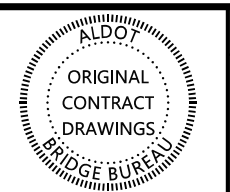


**CURB & GUTTER SECTION TYPE 2**

**TRAFFIC PROTECTION ELEVATION**

**LEGEND**

NO.'s & LETTERS-----BLACK (NON-REFL.)  
BACKGROUND-----ORANGE (REFL.)



REVISIONS

THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:  
PROJECT NO. \_\_\_\_\_  
COUNTY(S) \_\_\_\_\_

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TRAFFIC PROTECTION

ASSISTANT BRIDGE ENGINEER <i>[Signature]</i> DATE 11/29/20	BRIDGE ENGINEER <i>[Signature]</i> DATE 11/20/2020
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BRIDGE SPECIAL PROJECT DRAWING	SHEET 1 OF 1
TP-1	