

Drawn By : pqrhan
File : 086064bbrAR81-gn-01
Plotted : 4/28/2026

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	34	120

SUMMARY OF QUANTITIES																							
Item Location	Excavation	Concrete		Reinforcing Steel		Structural Steel			Welded Stud Shear Connectors Each	Bearing (Steel Reinforced Elastomeric) Each	Piles (Steel) (HP12x74) Lin. Ft.	Piles (Steel) (HP14x89) Lin. Ft.	Test Piles (Special) (HP12x74) Lin. Ft.	Test Piles (Special) (HP14x89) Lin. Ft.	Cast Steel Pile Points Each	Abutment Aggregate Drain Cu. Yds.	Bridge Backwall Prot. System Sq. Yds.	Riprap (Reinforced) (Concrete) Cu. Yds.	Falsework Inspection Lump Sum	Bridge Deck Grooving Sq. Yds.	Bridge Handrail (Metal)(10") Lin. Ft.	Bridge Handrail (Metal)(4'-6") Lin. Ft.	Temporary Shoring Lump Sum
	Class III	(Gr. 4.0) (AE)	(Gr. 4.0) (AE)(SA)	(Gr. 60)	(Gr. 60) (Epoxy Coated)	(A709) (Gr. 36)	(A709) (Gr. 50W)	(M270) (Gr. 50WT3)															
	Cu. Yds.	Cu. Yds.	Cu. Yds.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.															
Abutment No. 1	--	30.6	**	--	**	--	--	--	--	--	840.0	--	70.0	--	15	111.5	97.6	27.0	--	--	--	--	
Pier No. 1	128.2	221.3	--	--	**	--	--	--	--	8	--	1,080.0	--	50.0	28	--	--	--	--	--	--	--	
Pier No. 2	102.6	221.3	--	--	**	--	--	--	--	8	--	1,080.0	--	50.0	28	--	--	--	--	--	--	--	
Abutment No. 2	--	31.3	**	--	**	--	--	--	--	--	840.0	--	70.0	--	15	173.2	106.4	29.0	--	--	--	--	
Substr. Total	230.8	504.5	--	10,622	--	--	--	--	--	16	1,680.0	2,160.0	140.0	100.0	86	284.7	204.0	56.0	--	--	--	--	
Superstr. Total	--	--	1,057.3	--	399,760	2,020	465,205	731,270	11,208	--	--	--	--	--	--	--	--	--	1	1,945.0	721.0	807.0	
Total	230.8	504.5	1,057.3	10,622	399,760	2,020	465,205	731,270	11,208	16	1,680.0 ‡	2,160.0 ‡	140.0 ‡	100.0 ‡	86	284.7	204.0	56.0	1	1,945.0	721.0	807.0	1

DESIGN DATA

** Quantities are included in
the Superstructure Total Quantity.

CONSTRUCTION SPECIFICATIONS:

Kansas Department of Transportation, Standard Specifications for State Road and Bridge Construction, 2021 Edition, and Special Provisions.

DESIGN SPECIFICATIONS:

AASHTO Specifications, 9th Edition and 2020 Interim Specifications.
Load and Resistance Factor Design

DESIGN LOADING:

HL-93
Design Dead Load includes an allowance of 15 psf for a future wearing surface, and 350 plf for utilities.
Stay-In-Place Metal Form allowance of 5 psf.

UNIT STRESSES:

	f'c =	4 ksi
Concrete (Grade 4.0)	f'c =	4 ksi
Concrete (Grade 4.0)(AE)	f'c =	4 ksi
Concrete (Grade 4.0)(AE)(SA)	fy =	60 ksi
Reinforcing Steel (Grade 60)	fy =	36 ksi
Structural Steel (A709 Grade 36)	fy =	50 ksi
Structural Steel (A709 Grade 50W)	fy =	50 ksi
Structural Steel (M270 Grade 50WT3)	fy =	50 ksi
Structural Steel Piles		

LRFD DESIGN PILE LOAD:

Design Loading (Tons/Pile)	Extreme I	Strength I	Service I	Phi	Damage Factor
Abutment No. 1	-	138.5	96	0.65	0.50
Pier No. 1	185	-	94	1.00	0.50
Pier No. 2	185	-	94	1.00	0.50
Abutment No. 2	-	138.5	96	0.65	0.50

GENERAL NOTES

EXISTING ELEVATION VERIFICATION:

Elevations of existing First Street are based on existing survey. Verify, by field measurement, the elevations of existing First Street and submit such verification in writing to the Engineer.

GEOLOGY REPORT:

The geotechnical information shown on the plans is the best information available. A copy of the Geotechnical Investigation Report (March 2025) is available from the Kansas Turnpike Authority. These reports are for information only.

PILING:

Drive all piling to bear in the shale formation. Driving shall stop when in the opinion of the Engineer additional driving may damage the piling.
Drive all piling to the Pile Driving Formula Load of:

Abutments No. 1 & No. 2	138.5 Tons
Pier No. 1 & No. 2	185 Tons

As a minimum drive each pile to the load and penetration, but in no case shall the pile be driven to more than 110% of Pile Driving Formula Driving Load. At any location where problems are experienced, pile damage is suspected, or the Pile Driving Formula Load occurs significantly above the design pile tip elevation, the Engineer may request that the Pile Driving Analyzer (PDA) equipment be used. PDA equipment and analysis will be provided by an independent company (if needed) hired by the contractor and be subsidiary to the bid items Piles (Steel) (HP 12x74 & HP 14x89).

TEST PILE SPECIAL:

Drive the test pile special at the locations directed by the Engineer/Geologist or as shown on the Plans. Use Pile Driving Analyzer (PDA) equipment and methods compliant with KDOT Specifications. The test piling shall remain in place as permanent piling. Drive the test pile special piling to the resistance value of the Strength I load divided by Phi shown on the Plans. PDA equipment and analysis will be provided by an independent company hired by the contractor and be subsidiary to the bid items Test Piles (Special) (HP 12x74 & HP 14x89).

PILING SPLICE LOCATION:

Integral pile splice locations and weld testing criteria will follow the "Standard Pile Details" sheet.

ANCHOR BOLTS:

Place the reinforcing steel below the bearing devices to clear the anchor bolts.

Anchor bolts will adhere to KDOT Standard Specification Section 1600 (Grade 36)(Galv.) with the following exception. The threads may be rolled or cut.

BRIDGE EXCAVATION:

All excavation shall be Class III. See the "Bridge Excavation (LFRD)" sheet for the limits of pay excavation.

TEMPORARY SHORING:

Furnish shoring at the location shown on the plans for the temporary bracing of the embankment during excavation. Maintain the temporary shoring until the Engineer authorizes its removal. The temporary shoring plans are to be designed and sealed by a registered Professional Engineer. Submit design calculations and shoring plans to the Field Engineer for review 6 weeks before work is scheduled to begin. Work shall not begin until the Engineer grants approval.

PREFORMED ANCHOR BOLT HOLES:

Preform 3" diameter holes using only corrugated polyethylene tubing (Type C) at the locations shown. When temperatures are expected to go below freezing, seal the preformed holes or fill them with a propylene glycol-based antifreeze to prevent expansion damage. The holes will be free of water, antifreeze or foreign materials at the time of grouting the anchor bolts. The polyethylene tubing may remain in-place. Trim the tubing flush with the top of concrete. This work shall be subsidiary to Concrete Grade 4.0 (AE).

REMOVAL OF EXISTING STRUCTURE:

Removal of existing structure is included in the Road bid item, "Removal of Existing Structures", Lump Sum. All materials removed from the existing structure shall become the property of the Contractor. Remove this material from the site.

BROKEN CONCRETE:

Waste the broken concrete from the existing bridge on sites provided by the Contractor and approved by the Engineer.

BEARINGS (STEEL REINFORCED ELASTOMERIC):

Elastomeric Bearing Device shall be factory bonded to the steel sole plate by a vulcanization process. All exposed surfaces of the sole plate shall be painted with an inorganic zinc primer and water borne acrylic top coat. Repair painted surfaces damaged by welding operations. The steel sole plate and swedge anchor bolt are subsidiary to the bid item, "Bearing (Steel Reinforced Elastomeric)" and shall be furnished by the bearing device fabricator.

BEARING (Steel Reinforced Elastomeric) (Method A):

Bearing devices at Pier No. 1 and No. 2 shall be fabricated with an elastomer satisfying:
-Shore A Durometer Hardness of 60
-Low Temperature Grade 3 requirements
-Type A certification for elastomeric bearing device acceptance is required
-Include design method and all material properties on shop drawings.

ABUTMENT AGGREGATE DRAIN:

See the General Notes on the "Abutment Aggregate Drain" sheet.

BRIDGE BACKWALL PROTECTION SYSTEM:

See the General Notes on the "Abutment Aggregate Drain" sheet.

BACKFILL COMPACTION:

Compact backfill at the abutments.
Pier excavation will be backfilled with sand, flushed and vibrated to the elevation of the sub base. The bid item "Excavation Class III" is full compensation for flushing and vibrating backfill.

RIPRAP (REINFORCED CONCRETE):

Place Riprap (Reinforced Concrete)(5") to the limits shown on the plans or as directed by the Engineer.

FALSEWORK PLANS:

A licensed Professional Engineer shall design the falsework details. Details shall bear the seal of a licensed Professional Engineer. See the Bridge Design Manual, Section 16.1 "Review and Approval of Falsework Plans", for a listing of items to be included on the falsework plan. Submit electronic plans conforming to Section 105 of the Standard Specification with details in compliance with KDOT Specifications to the Field Engineer for review.

FALSEWORK INSPECTION:

This project has falsework plan requirements which are considered "Category 1" by KDOT specifications. The falsework designer of record will conduct an inspection of the as-built falsework. The bid item, "Falsework Inspection" is full compensation for all materials, labor and equipment. See KDOT specifications.

FALSEWORK PLANS AND SHOP DRAWINGS:

Use the U.S. Customary system of units on falsework plans and shop drawing details.

CONCRETE:

Superstructure concrete is bid as Concrete (Grade 4.0)(AE)(SA). Substructure concrete is bid as Concrete (Grade 4.0)(AE). If desired, the Contractor may use Concrete (Grade 4.0) in the footings and in the abutments below the construction joint. Bevel all exposed edges of all concrete with a ¾" triangular molding, except where noted on the plans. Construction joints are optional, but if used, place only at locations shown, or at locations approved by the Engineer.

‡ Summary of Piling

Abutment No. 1	14 @ 60 ft. 1 @ 70 ft. (Test Piles)
Pier No. 1	27 @ 60 ft. 1 @ 50 ft. (Test Piles)
Pier No. 2	27 @ 40 ft. 1 @ 50 ft. (Test Piles)
Abutment No. 2	14 @ 60 ft. 1 @ 70 ft. (Test Piles)

CONTRACTOR CONSTRUCTION STAKING:
Contractor Construction Staking for clear span bridges requires two independent surveys.
See KDOT Specifications.

TRAFFIC DATA	
AADT (2022)	XXX
AADT (2042)	X,XXX
DHV	XX%
D	XX%
T	XX%

LFD & LRFR RATING FACTORS		
Rating Level	Inventory	Operating
	Truck HS-20 (36T)	X.XXX X.XXX
Type HET (110T)		X.XXX
2002 LFD Rating. 17th Edition AASHTO		
HL-93 Loading	X.XXX	X.XXX
2021 Manual for Bridge Evaluation		

INDEX OF BRIDGE DRAWINGS	
Sheet No.	Drawing Title
34 & 35	General Notes and Quantities
36	Contour Map
37	Construction Layout
38	Footing Layout
39	Engineering Geology
40 to 44	Abutment Details
45	Abutment Aggregate Drain
46	Reinforced Concrete Riprap
47 to 50	Pier Details
51	Bearing Device Details
52	Steel Erection, Fit-Up and Bolting Procedure
53	Framing Plan
54 to 56	Girder Details
57 & 58	Diaphragm Details
59	Field Splice Details
60	Miscellaneous Steel Details
61	Electrical Conduit Support Details
62 & 63	Lighting Layout & Details
64	Slab Plan
65	Slab Details
66	Roadway Surface Elevations
67	Dead Load Deflections
68 & 70	Corral Rail Details
71 & 72	Corral Rail Transition Details
73	Handrail Details
74 & 75	Pedestrian Fence Details
76 & 77	Retaining Wall Sheets
78	Bill of Reinforcing
	Standards
79	Bridge Excavation
80	Standard Pile Details
81	Supports and Spacers for Reinforcing Steel

NO.	DATE	REVISIONS	BY	APP'D
CITY OF WICHITA				
Br. No. 5304008700AR81			Sta. 93+44.79	
GENERAL NOTES AND QUANTITIES				
FIRST STREET OVER ARKANSAS RIVER				
Proj. No. 472-2024-086064			Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D	
DESIGNED	X.X.X	DETAILED	P.M.Y.	QUANTITIES S.J.J. CADD X.X.X
DESIGN CK.	X.X.X	DETAIL CK.	M.J.J.	QUAN.CK. M.A.S. CADD CK. X.X.X

Drawn By : pqnhan
File : 086064bbrAR81-gn-02
Plotted : 4/28/2026

GENERAL NOTES (CONT.)

REINFORCING STEEL:

All reinforcing steel dimensions are to the centerline of bars unless otherwise noted. All reinforcing steel, except the spiral bars, shall conform to the requirements of ASTM A615, Grade 60. Spiral bars may meet the requirements of either ASTM A615 (Gr. 40 or 60) or A82, and are included in the bid item "Reinforcing Steel (Gr. 60)". Where non-coated bars come in contact with epoxy coated bars, they need not be coated.

BRIDGE DECK GROOVING:

After the bridge deck has cured, transversely groove the deck in accordance with KDOT Specifications. For phased construction groove each completed phase before opening to traffic. Align the grooves from each adjacent phase across the bridge deck without jogs or discontinuities. For skewed bridges all grooving will be perpendicular to the centerline of the bridge.

COLUMN CONSTRUCTION:

Cure the pier footing as required by the KDOT Specifications before beginning the column construction (placing resteel or formwork). Do not place cast in place shear bolts, coil inserts or other devices used as falsework support in the column without the approval of the Engineer. Do not remove the column formwork without the approval of the Engineer. Curing shall continue after the formwork is removed as required by the KDOT Specifications.

PIER BEAM CONSTRUCTION:

Cure the columns as required by the KDOT Specifications before beginning the pier beam construction (placing resteel or formwork). Do not drill and grout bolts or other devices into the columns used for falsework support unless shown on the plans. Cure the columns as required by the KDOT Specifications before placing pier beam concrete. Do not remove falsework used to support the pier beam until the pier beam concrete has cured as required by the KDOT Specifications. Do not set girders or beams on the pier beam until after the falsework is removed and the pier beam concrete has 0.75 f'c strength as tested.

CONCRETE PLACING SEQUENCE:

The Contractor will adhere to the placing direction/sequence shown on the plans. Changes will be accepted only if the Contractors Engineer adjusts the camber diagram so the fabricator can adjust the web camber and headed stud anchor heights accordingly. This revised diagram will be approved by the design Engineer prior to deck forming. If profile grinding decreases the clearance to the top mat of reinforcement to less than 2½" a polymer overlay will be placed at no cost to the State. At the Contractor's option, the finishing machine may be set normal to the centerline of the structure; however, the concrete must be placed along the skew. This requires placing concrete ahead of the finishing machine; consequently, a set retarder may be advisable. Note both requirements on any alternate placing sequence.

Place and hand vibrate all concrete for the abutments above the construction joint to the bottom of deck elevation just prior to the normal paving train operations. Do this work in a manner to avoid cold joints in either the slab or in the abutment. See Concrete Placing Sequence Notes on Sheet 65 for additional information.

CONSTRUCTION JOINTS:

The construction joints shown are optional with the Contractor. If used, place the construction joints only at locations shown or at locations approved by the Engineer.

SUBSTRUCTURE CONCRETE STAIN PROTECTION AND SANDBLASTING:

Protect the exposed surface of the piers and the front face of the abutments (by covering with polyethylene sheeting or other approved method) prior to erecting the structural steel and until after the deck slab has been placed. After the bridge is completed and prior to acceptance; sandblast the piers and front face of the abutment to a uniform appearance by removing all laitance, staining, any visible form lines, etc. This work will be subsidiary to structural steel.

TEMPERATURE:

The design temperature for all dimensions is 60°F.

QUANTITIES:

Items not listed separately in the Summary of Quantities are subsidiary to other items in the proposal.

DIMENSIONS:

All dimensions shown on the design plans are horizontal dimensions unless otherwise noted. Make necessary allowances for roadway grade and cross slope.

GOVERNMENT BENCH MARKS:

Preserve any National Geodetic Survey bench marks that are located on the project. Notify the NGS Information Center at (301)-731-3242, if any government bench marks are in danger of being destroyed due to construction. Notification shall be given 30 days prior to the start of construction. The National Geodetic Survey will send personnel to relocate the bench mark or issue instructions concerning its relocation.

CONSTRUCTION LOADS:

Limited traffic is permitted on the new sub-deck, one-course deck or any concrete overlay during the curing period, keep any exposed deck wet during the curing period. See KDOT Specifications Section 710 Tables 710-1 & 710-2 for additional information.

EXISTING STRUCTURE:

Plans of the existing structure are on file and available for inspection by qualified bidders at the KTA.

DEMOLITION PLANS:

This is a Category B Demolition. Submit detailed Demolition Plans to the Field Engineer at least 2 weeks before the demolition meeting. Identify, on the plans, the Demolition Supervisor meeting the requirements of the KDOT Specifications. No Demolition work will begin without approved Demolition Plans. A Licensed Professional Engineer is not required.

Coordination with the KTA required prior to demolition and erection over I-35. KTA will provide rolling roadblocks on I-35 to facilitate demolition and girder erection. Contact Cody Vandevord (785)409-4737 for coordination.

DECK PROTECTIVE SYSTEM:

Epoxy coat all reinforcing steel in the deck slab and rails.

STAY-IN-PLACE FORMS:

Stay-in-place form work will not be allowed.

DECK FORMS:

Steel or prestressed concrete stay-in-place forms will not be allowed.

STRUCTURAL STEEL NOTES

ERECTION ELEVATION CHECKS:

After the abutment and pier concrete has cured and before setting any structural steel, present verification to the Engineer that the elevations at the bearings match plan elevation (±¼"). Present verification to the Engineer that the elevations at all field splice locations match the elevations (±½") in the plans before any connection is fully tightened. (For steel girders blocked on the ground, fully tighten the bolted connections prior to erection.)

STRUCTURAL STEEL:

Girder flange plates, bearing stiffeners, connection stiffeners, flange splice plates and flange fill plates shall meet AASHTO M270 Grade 50WT3 requirements except as noted. Girder web plates, diaphragms, web splice plates and drip plates shall meet ASTM A709 Grade 50W requirements except as noted. All other structural steel shall meet ASTM A709 Grade 36, unless noted otherwise. Shop and Field Splices shall be made only where shown on the Contract Plans as a "splice" or as an "optional splice." Elimination of any "splice" may be requested.

MISCELLANEOUS STEEL: A36 Steel may be substituted for the A709 Grade 36 Steel specified for use in the Abutment Beam Supports.

FABRICATION OF FIELD SPLICES:

Prepare joints for the field splices in accordance with KDOT Specifications. Use Type "A" shop laydown.

WELDING:

Material, Fabrication and Construction shall conform to KDOT Specifications. On the shop drawings, show a code or symbol in the tail of the weld symbol that refers to an approved, pre-qualified weld procedure.

WELDED STUD SHEAR CONNECTORS:

Weld Shear Stud Connectors with automatically timed stud welding equipment connected to a suitable power source. All stud welding shall conform to KDOT Specifications.

SHOP DETAILS:

Reference blocking diagrams on the shop details to a level line running the entire length of the girder.

FILLETS:

Camber the steel girders for the total dead load deflection and the vertical curvature, if necessary. The ordinates shown for concrete dead load deflection represent the amount of camber that should be in the girders after they are erected and bolted but prior to placing the floor forms. After the structural steel is completely erected and the falsework bents are removed, measure the camber in the field by taking a profile of each girder. Correct any variation between the actual camber and the concrete dead load deflection shown in the plans by varying the depth of the concrete fillets over the girders so that the finished floor is constructed to the theoretical grade. The minimum depth of the slab over the girder shall be 9½ inches.

The theoretical amount of concrete required for the fillet is 2.60 C.Y. This amount of concrete is included in the Summary of Quantities. Any additional concrete required to construct the fillets will be subsidiary.

BOLTS:

All bolts, nuts and hardened flat washers shall conform to the heavy hex structural requirements of ASTM A325, Type 3, and KDOT Specifications unless otherwise noted. Direct Tension Indicators (DTIs) are to comply with the requirements of the latest edition of ASTM F959. No allowance will be made for high strength bolts used for permanent or temporary connections. This work is subsidiary to the bid item, "Structural Steel". The number of bolts is shown for the convenience of the Contractor.

BOLTED CONNECTIONS:

Girder Connections: Use ⅞" diameter heavy hex structural bolts for the main member connections. Use 1⅝" diameter bolt holes. Do not ream during field erection. Accurately align all connections by driving 1⅝" diameter drift pins in all corners and in one-fourth of the remaining holes in each plate. See KDOT Specifications.

Secondary Member Connections: Use ⅞" diameter heavy hex structural bolts for the secondary member connections. Use 1⅝" diameter bolt holes. Oversized and/or slotted holes, as specified in the KDOT Specifications, may be used in only one of the two members connected and must be shown in the approved shop drawings. Oversized and/or slotted holes may require additional standard hardened washers or plate washers. Report to the Engineer prior to any required field reaming that will remove more than ¼" of material from one ply of the connected parts.

Use Direct Tension Indicators (DTIs) on all high strength bolts. Place the DTI under the bolt head and turn the nut to tighten. This method is preferred whenever possible. Face the protrusions on the DTI to the underside of the bolt head. Place a hardened flat washer under the nut. See KDOT Specifications.

ERECTION:

Bring each line of girders to the correct line, grade (or relative grade) and camber, and secure in place prior to connection of the girder field splices. Provide falsework bents as necessary to maintain the correct line and elevation. Leave the falsework bents in place until all girder splice connections are completed. Submit information which clearly shows the proposed layout and use of falsework bents. The Engineer shall approve such information prior to erection of structural steel.

ERECTION PLANS:

This is a Category C Structure. Submit detailed Erection Plans to the Engineer at least 4 weeks before beginning the erection process. Portions of the submitted details shall bear the seal of a licensed Professional Engineer. Identify, on the Erection Plans, the Erection Supervisor required by KDOT Specifications. The Erection Supervisor will attend the required pre-erection meeting before these operations begin as described in KDOT Specifications. No structural erection work will begin without approved erection plans.

PAINTING:

Blast clean all surfaces of all weathering steel, including all contact surfaces of bolted connections, to meet SSPC-SP6 Specifications (latest Revision). Blast clean to meet SSPC-SP10 Specifications and prime coat the embedded portion of the girders, including the abutment diaphragms; the top flanges, including the shear studs; and the top flange splice plates.

The shop and field coats applied to Structural Steel shall conform to an inorganic zinc primer with a waterborne acrylic finish coat. The finish coat will be Kansas (Brown), this color will match Federal Standard #(30045).

TOUCH-UP:

Prepare and paint all bolts, nuts, studs and other small areas of damaged paint (1 y² or less), requiring touch-up, with an approved organic zinc primer.

PAINTING TOP FLANGES:

(Studs applied in the shop) Apply a 3 mil primer coat of an approved inorganic zinc primer to the tops of the top flanges and to the studs.

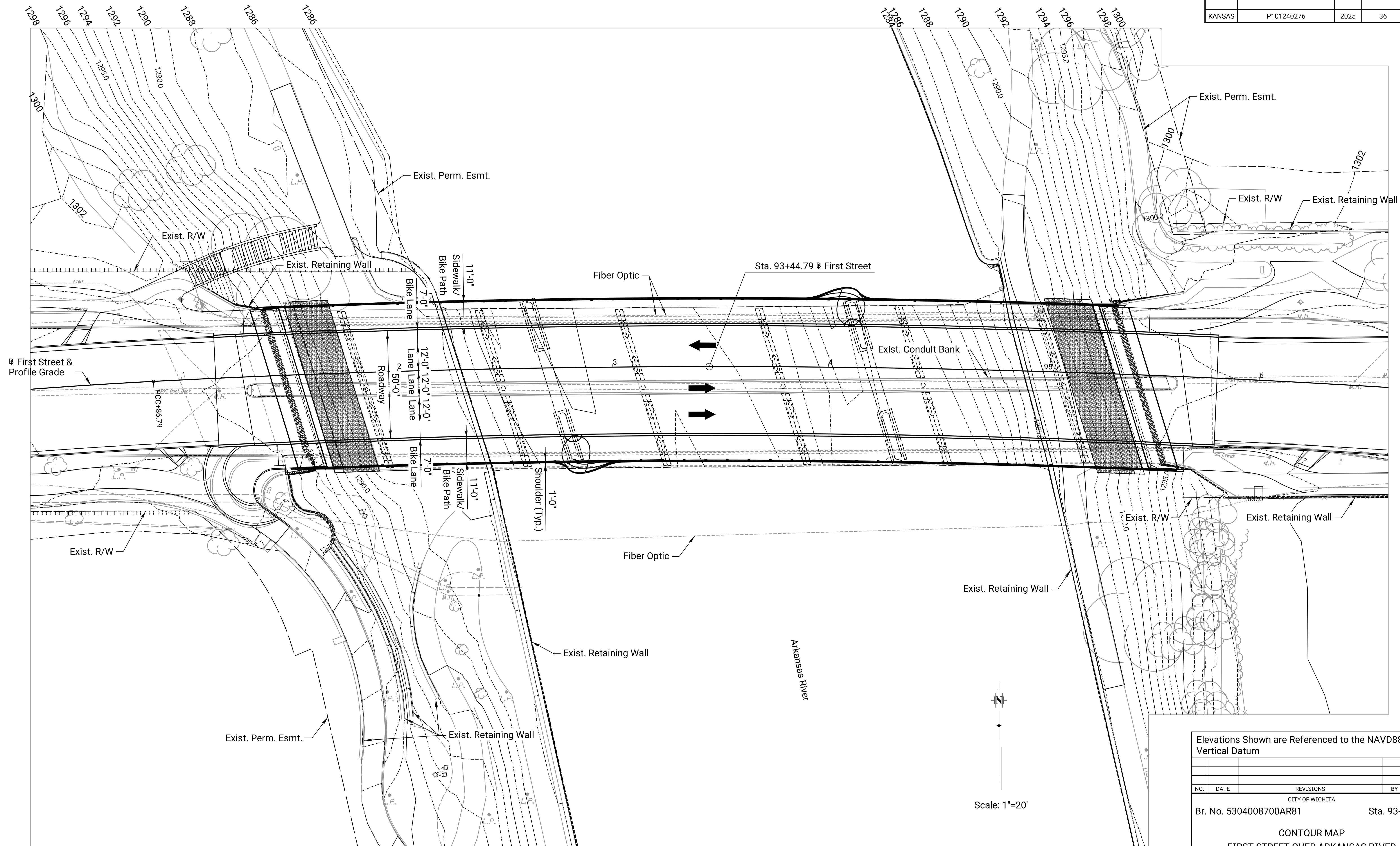
(Studs applied in the field) Shop Work - Blast clean the tops of the top flanges to SSPC-SP10 Specifications (latest Revision).

Field Work - Blast clean the tops of the top flanges to SSPC-SP6 Specifications (latest Revision) before the studs are applied. After the studs are applied, blast clean the tops of the top flanges and the studs to SSPC-SP6 Specifications and paint with an approved organic zinc primer to a minimum dry film thickness of 3 mils.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	35	120

NO.	DATE	REVISIONS	BY	APPD
CITY OF WICHITA				
Br. No. 5304008700AR81			Sta. 93+44.79	
GENERAL NOTES (CONTINUED)				
FIRST STREET OVER ARKANSAS RIVER				
Proj. No. 472-2024-086064			Sedgwick Co.	
SHEET NO.	OF	SCALE	APPD	
DESIGNED	X.X.X.	DETAILED	P.M.Y.	QUANTITIES S.J.J.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK. M.A.S.
			CADD	X.X.X.
			CADD CK.	X.X.X.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	36	120



Elevations Shown are Referenced to the NAVD88
Vertical Datum

NO.	DATE	REVISIONS	BY	APP'D

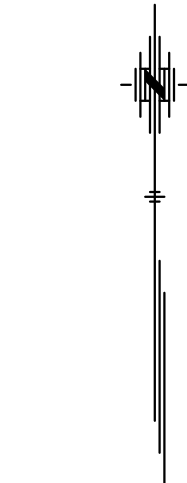
CITY OF WICHITA
Br. No. 5304008700AR81 Sta. 93+44.79

CONTOUR MAP
FIRST STREET OVER ARKANSAS RIVER
Proj. No. 472-2024-086064 Sedgwick Co.

SHEET NO.	OF	SCALE		APP'D			
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.	CADD	X.X.X.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S.	CADD CK.	X.X.X.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	38	120

REVISED SHEET



Scale: 1" = 15'

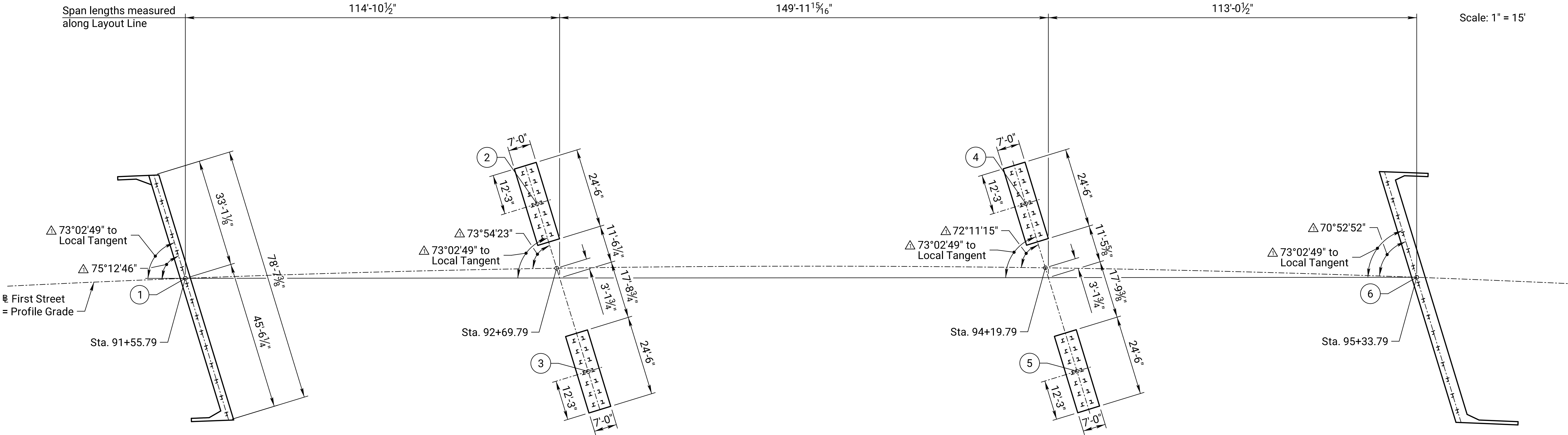


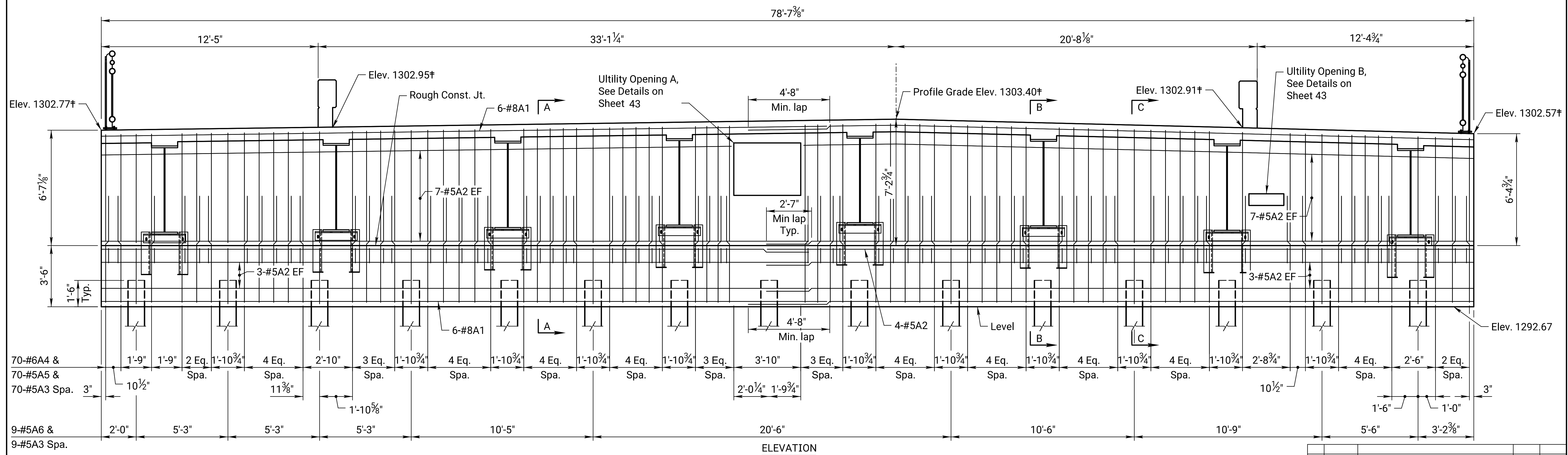
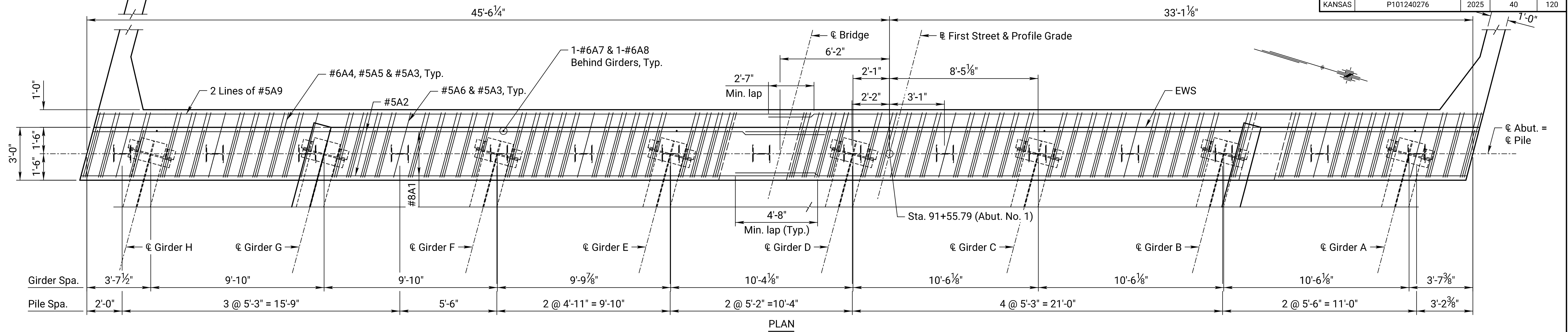
TABLE OF COORDINATES		
Point	Northing	Easting
1	371371.257	17544881.299
2	371394.089	17544989.223
3	371342.689	17545004.937
4	371394.157	17545139.234
5	371342.757	17545154.948
6	371371.567	17545259.209

Notes:
Layout Line intersects Ⓜ First Street at each
Ⓜ Brg. Abutment.
All pier and abutment centerlines are parallel.

	02/20/2026	ANGLES CORRECTIONS	MAS	MJJ
NO.	DATE	REVISIONS	BY	APP'D
CITY OF WICHITA				
Br. No. 5304008700AR81			Sta. 93+44.79	
FOOTING LAYOUT				
FIRST STREET OVER ARKANSAS RIVER				
Proj. No. 472-2024-086064			Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D	
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES S.J.J.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK. M.A.S.
			CADD	X.X.X.
			CADD CK.	X.X.X.

Drawn By : pqrhan
File : 086064bbrAR81-fl-01
Plotted : 4/28/2026

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	40	120



GIRDER SEAT ELEVATIONS AT ABUTMENT **								
Girder	A	B	C	D	E	F	G	H
Abutment No. 1	1296.67	1296.94	1297.20	1297.38	1297.24	1297.10	1296.97	1296.83

†† Elevations given are at top of horizontal support angle of abutment girder supports.

LFRD Foundation Notes:
Maximum Factored Design Pile Loads = 138.5 tons/pile (Strength I)
Use HP12x74 Gr. 50 Steel Piles

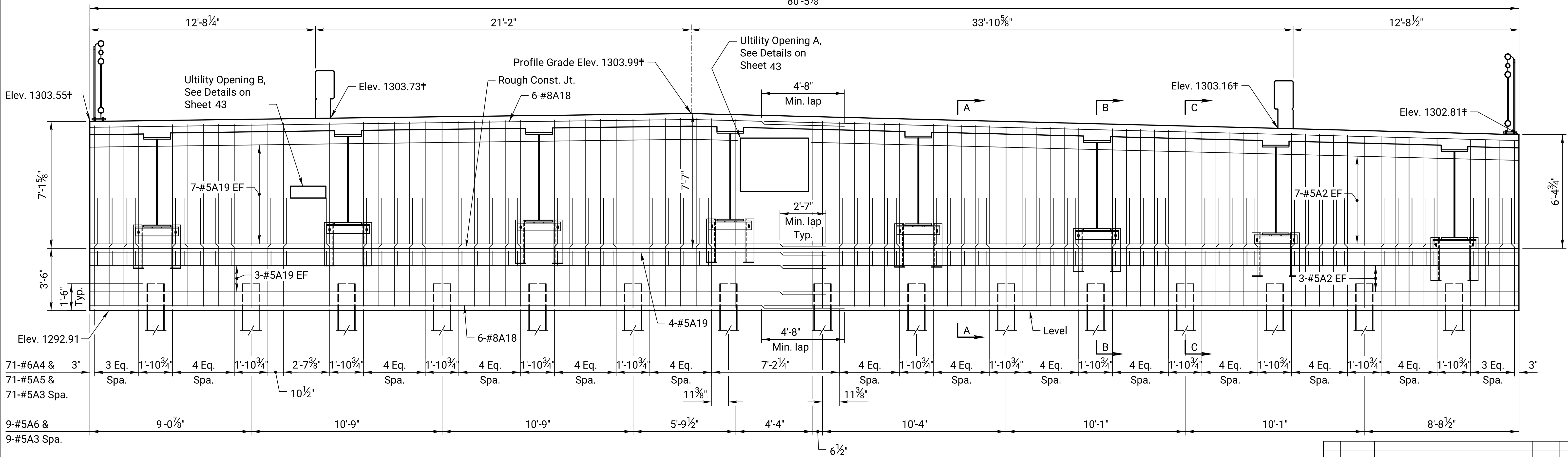
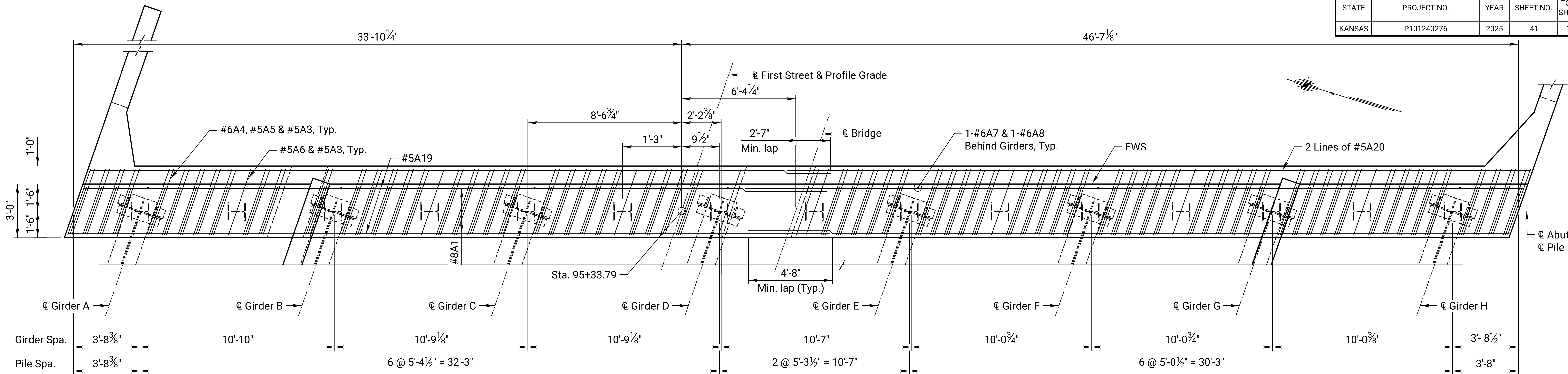
Notes:

- For Sections A-A, B-B & C-C, see Sheet 42 .
- EF denotes each face.
- For Wingwall Details, see Sheet 44 .
- † Elevations are given along @ Brg Abut
- Piles may be shifted up to 2 ft along the @
- Abutment to miss existing piles. Respace
- rebar accordingly.

NO.	DATE	REVISIONS						BY	APP'D
CITY OF WICHITA									
Br. No. 5304008700AR81								Sta. 93+44.79	
ABUTMENT NO. 1 DETAILS									
FIRST STREET OVER ARKANSAS RIVER									
Proj. No. 472-2024-086064								Sedgwick Co.	
SHEET NO.	OF	SCALE			APP'D				
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES		S.J.J.	CADD	X.X.X.	
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.		M.A.S.	CADD CK.	X.X.X.	

Drawn By : paphan
File : 086064bbrAR81-ab-02
Plotted : 4/28/2026

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	41	120



GIRDER SEAT ELEVATIONS AT ABUTMENT ††								
Girder	A	B	C	D	E	F	G	H
Abutment No. 2	1297.61	1297.75	1297.89	1297.95	1297.68	1297.43	1297.17	1296.91

†† Elevations given are at top of horizontal support angle of abutment girder supports.

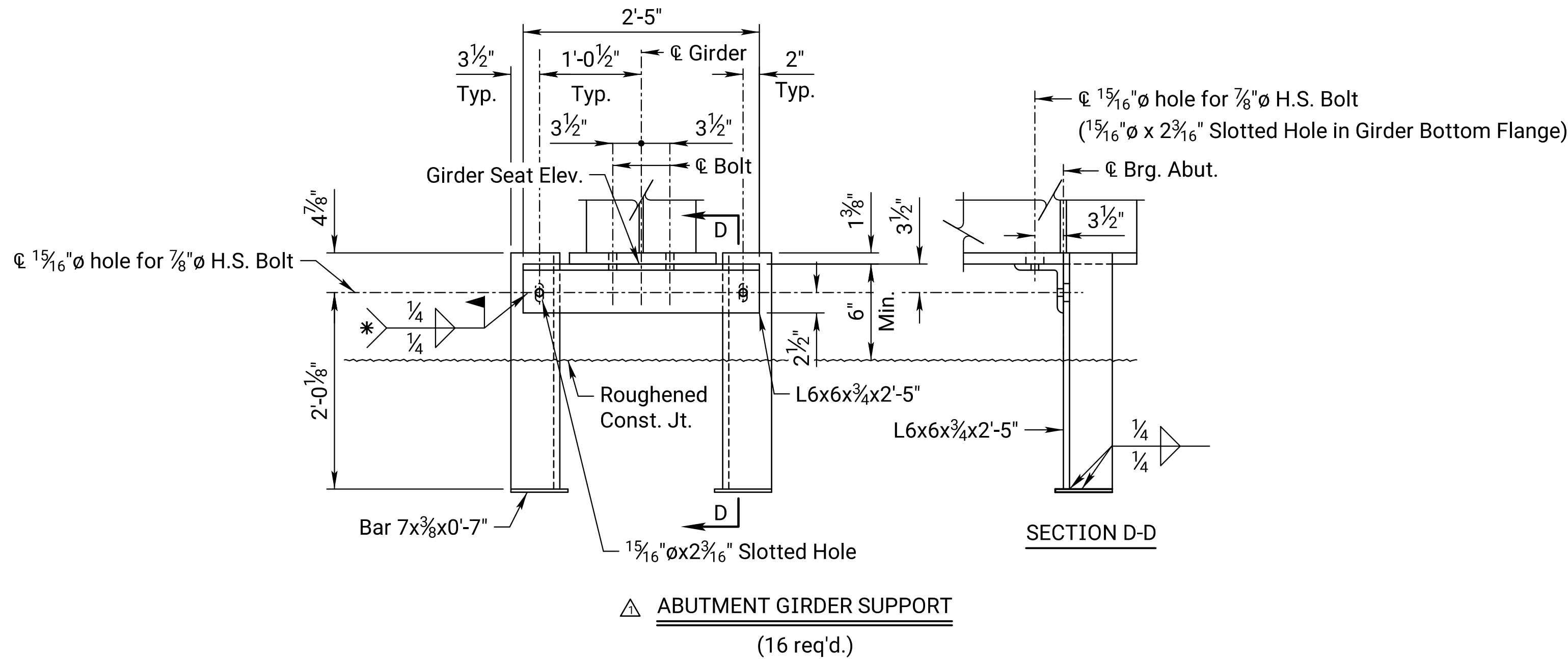
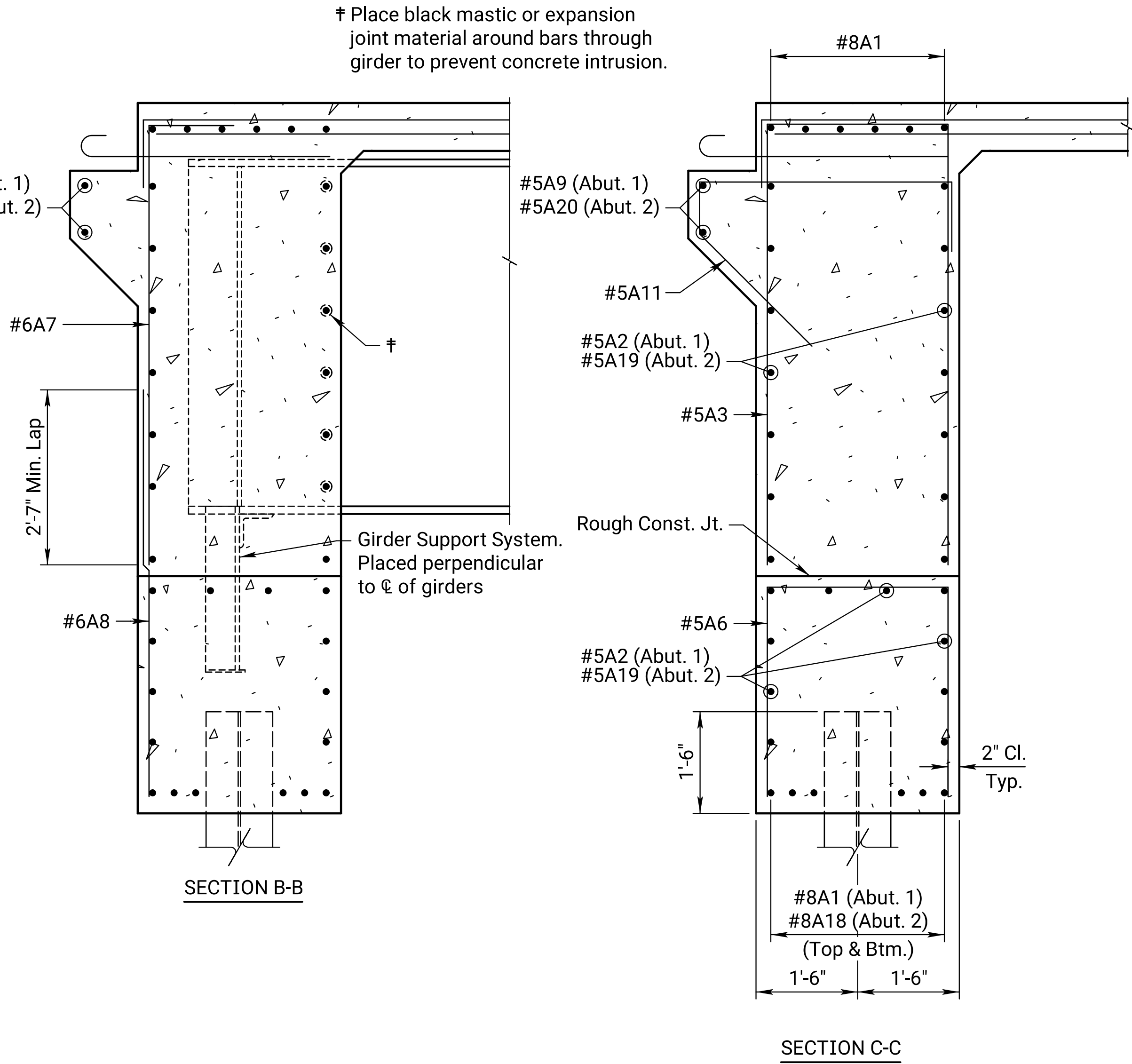
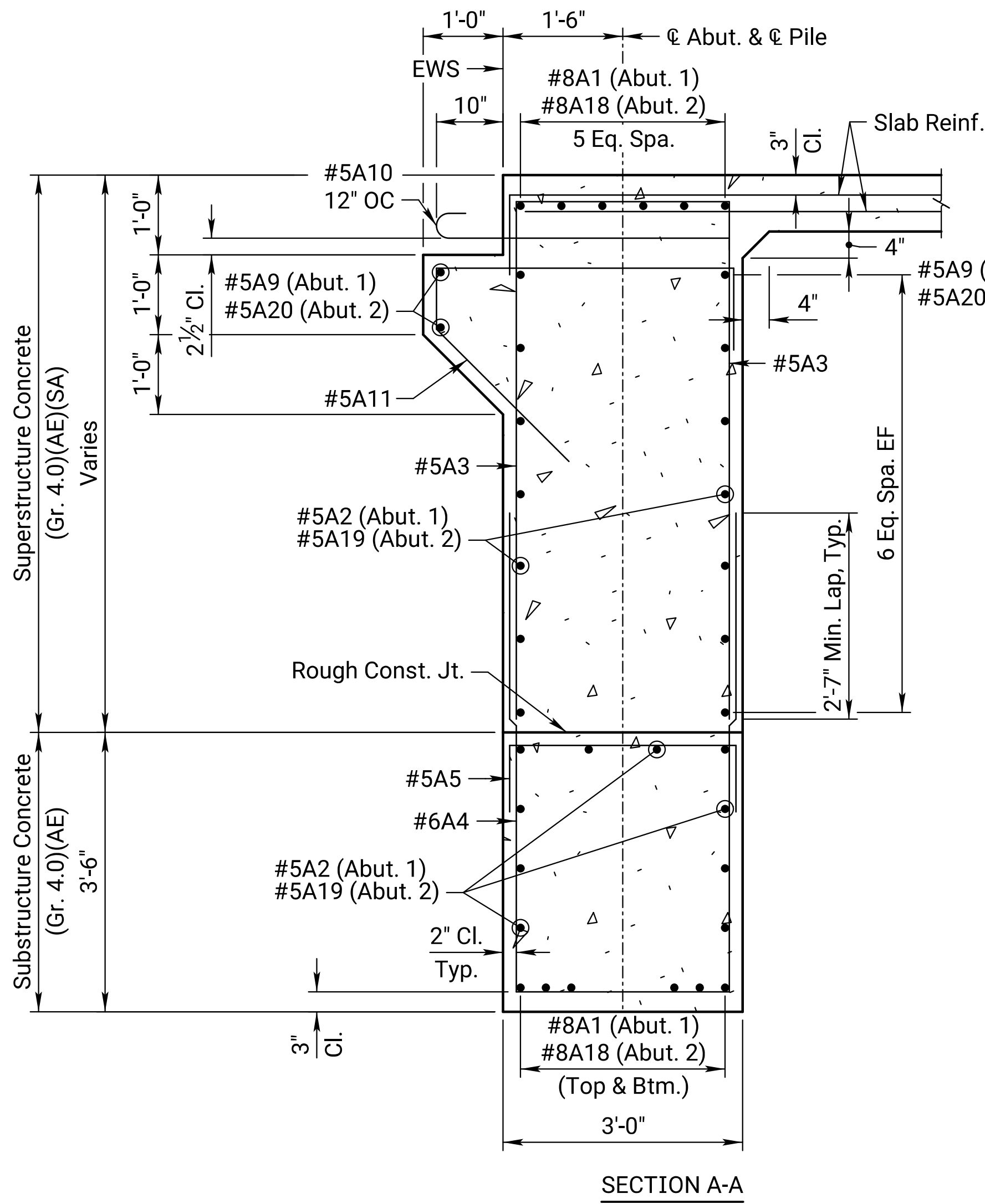
LFRD Foundation Notes:
Maximum Factored Design Pile Loads = 138.5 tons/pile (Strength I)
Use HP12x74 Gr. 50 Steel Piles

Notes:
For Sections A-A, B-B & C-C, see Sheet 42 .
EF denotes each face.
For Wingwall Details, see Sheet 44 .
† Elevations are given along ¢ Brg Abut
Piles may be shifted up to 2 ft along the ¢
Abutment to miss existing piles. Respace
rebar accordingly.

NO.	DATE	REVISIONS	BY	APP'D
CITY OF WICHITA				
Br. No. 5304008700AR81			Sta. 93+44.79	
ABUTMENT NO. 2 DETAILS				
FIRST STREET OVER ARKANSAS RIVER				
Proj. No. 472-2024-086064			Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D	
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.
			S.J.J.	CADD
			M.A.S.	CADD CK.
				X.X.X.

Drawn By : pqrhan
File : 086064bbrAR81-ab-03
Plotted : 4/28/2026

Notes:
Abutment Girder Supports shall be paid for as ASTM
A709 Gr. 36 Structural Steel. (Painted) prime coat.
ASTM A36 Steel may be substituted.
* After verifying girder seat elevations, the angles shall
be welded as shown.

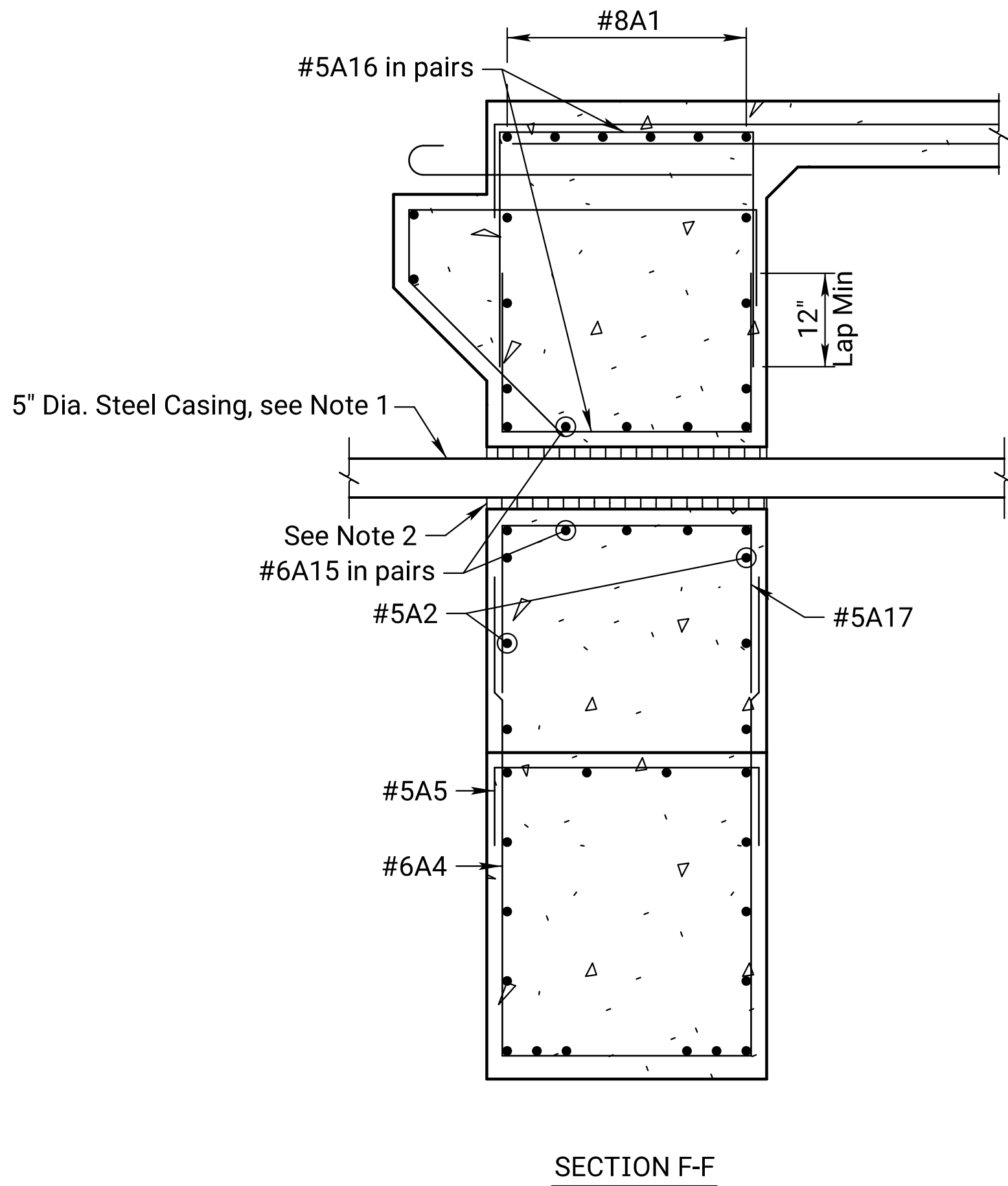
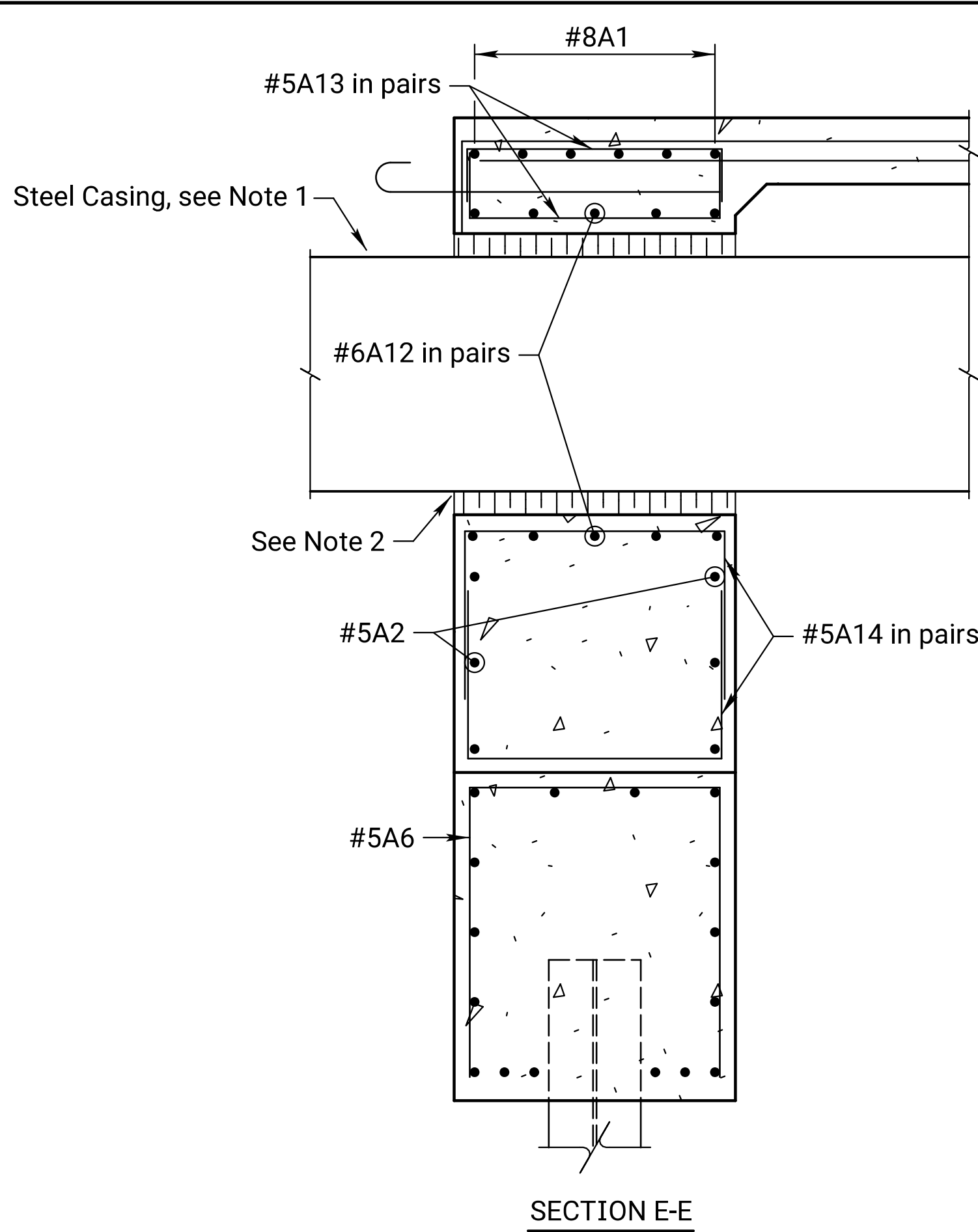
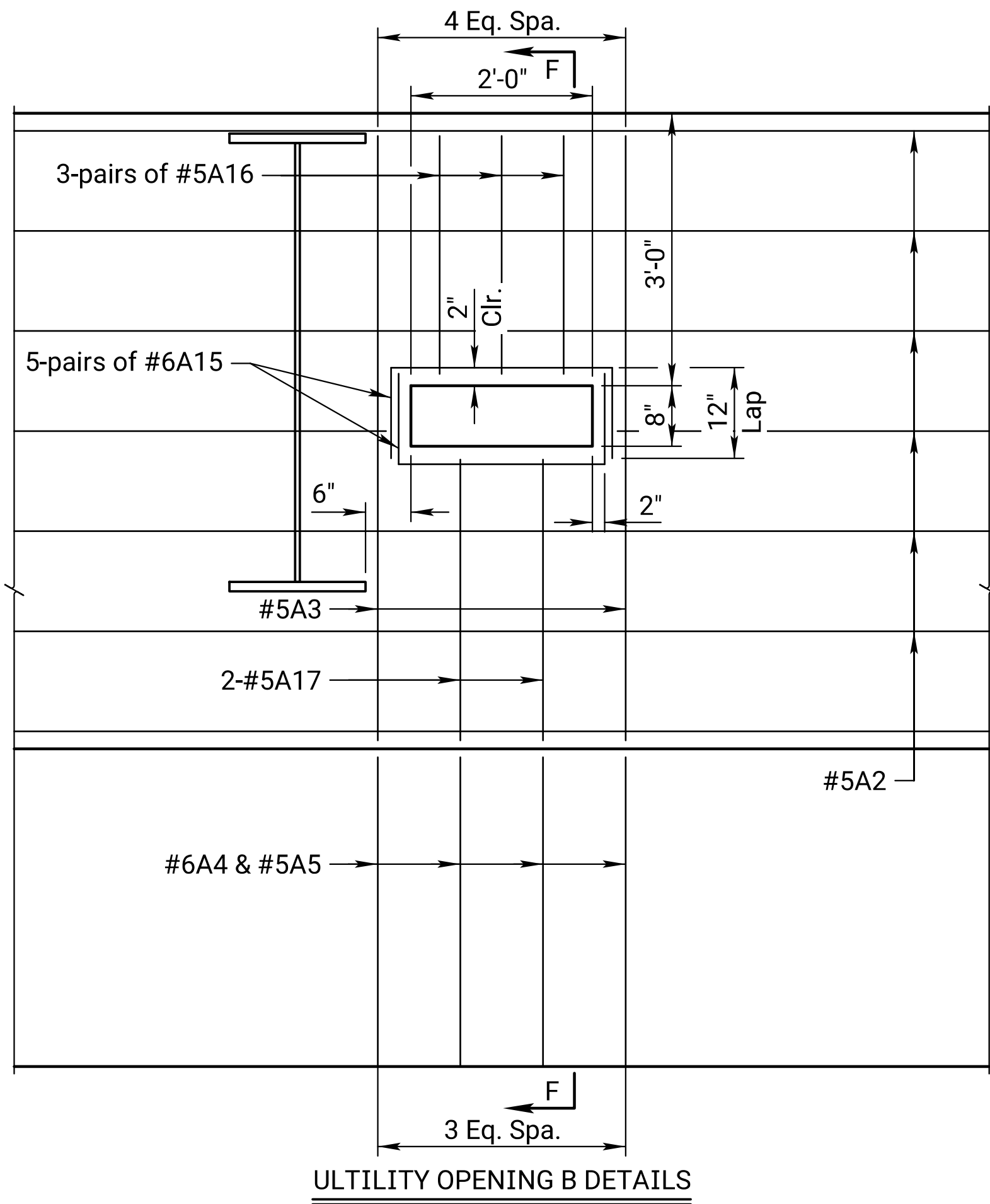
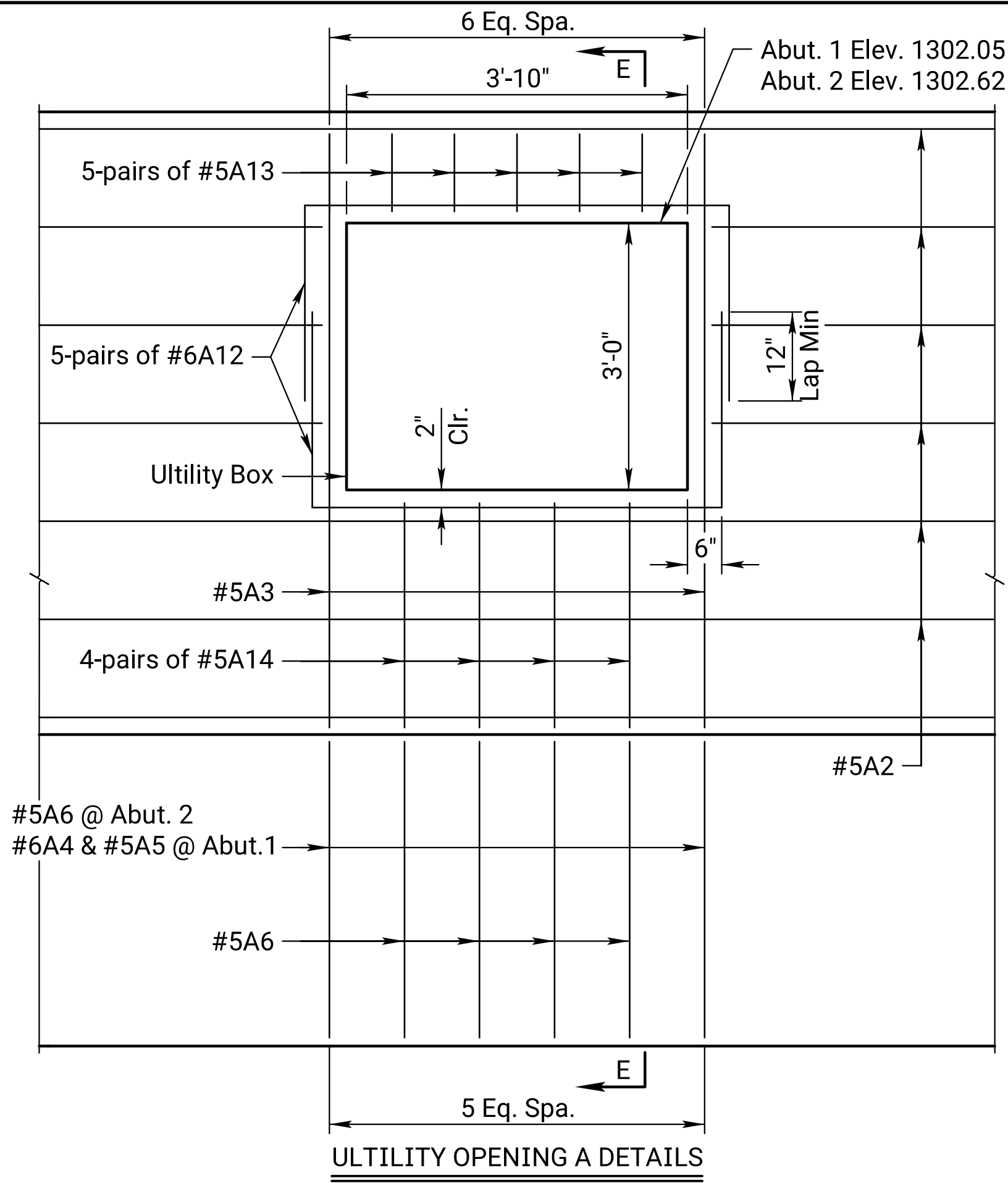


△ ABUTMENT GIRDER SUPPORT
(16 req'd.)

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	42	120

△	03/16/2026	ADJUSTED SIZE OF GIRDER SUPPORT FLANGES	MAS	MJJ	
NO.	DATE	REVISIONS	BY	APP'D	
CITY OF WICHITA					
Br. No. 5304008700AR81			Sta. 93+44.79		
ABUTMENT DETAILS					
FIRST STREET OVER ARKANSAS RIVER					
Proj. No. 472-2024-086064			Sedgwick Co.		
SHEET NO.	OF	SCALE	APP'D		
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.
DESIGN CK	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S.
				CADD CK.	X.X.X.

Drawn By : paphan
File : 086064bbrAR81-ab-04
Plotted : 4/28/2026



Notes:

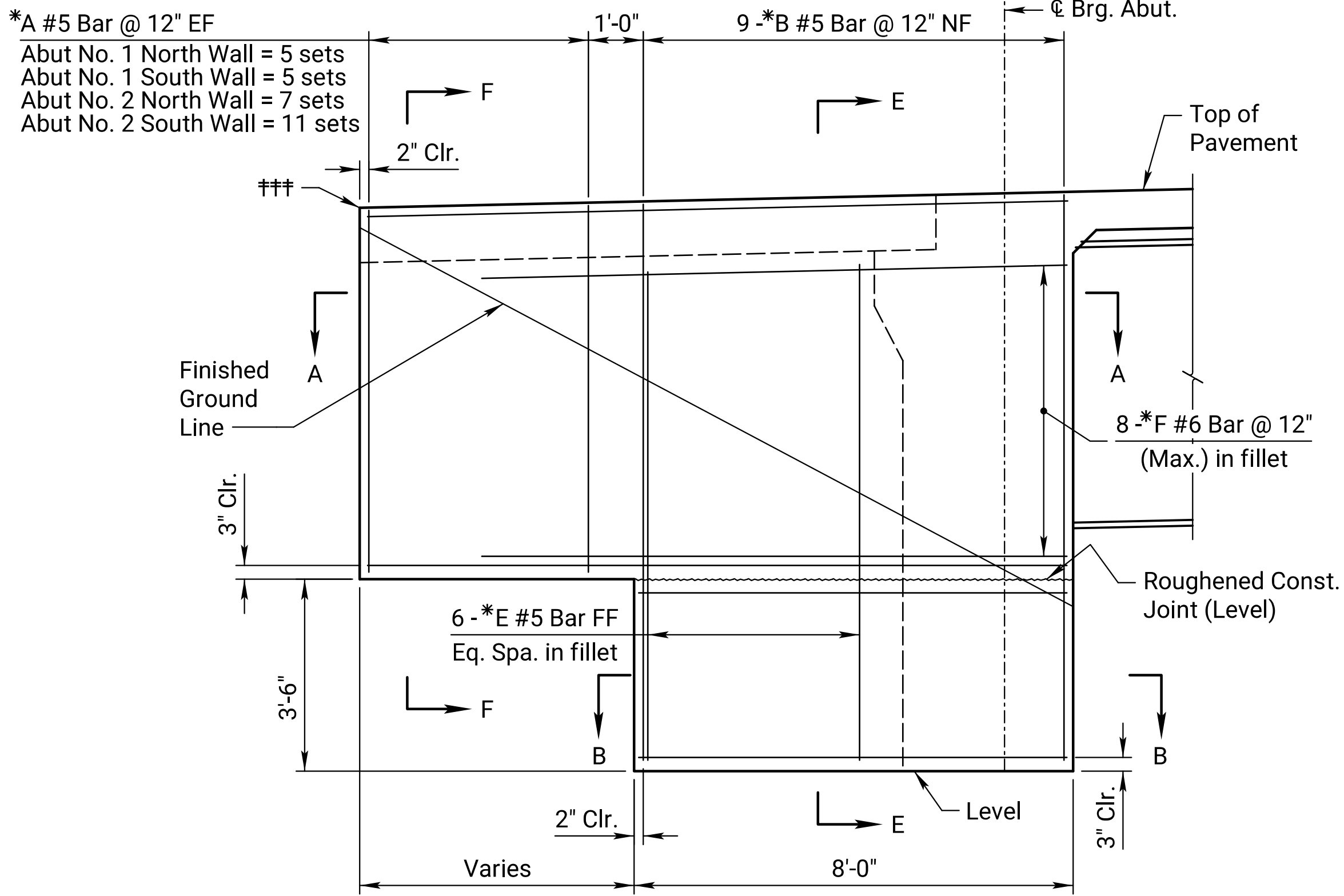
1. Casing shall extend to 5'-0" beyond the end of approach slab.
2. Seal utilities at abutments with concrete or mortar, after tightly wrapping utility with 2 layers of 15 lbs building paper.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	43	120

NO.	DATE	REVISIONS	BY	APP'D
CITY OF WICHITA				
Br. No. 5304008700AR81			Sta. 93+44.79	
ABUTMENT UTILITY OPENING DETAILS				
FIRST STREET OVER ARKANSAS RIVER				
Proj. No. 472-2024-086064			Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D	
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES S.J.J.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK. M.A.S.
			CADD CK.	X.X.X.

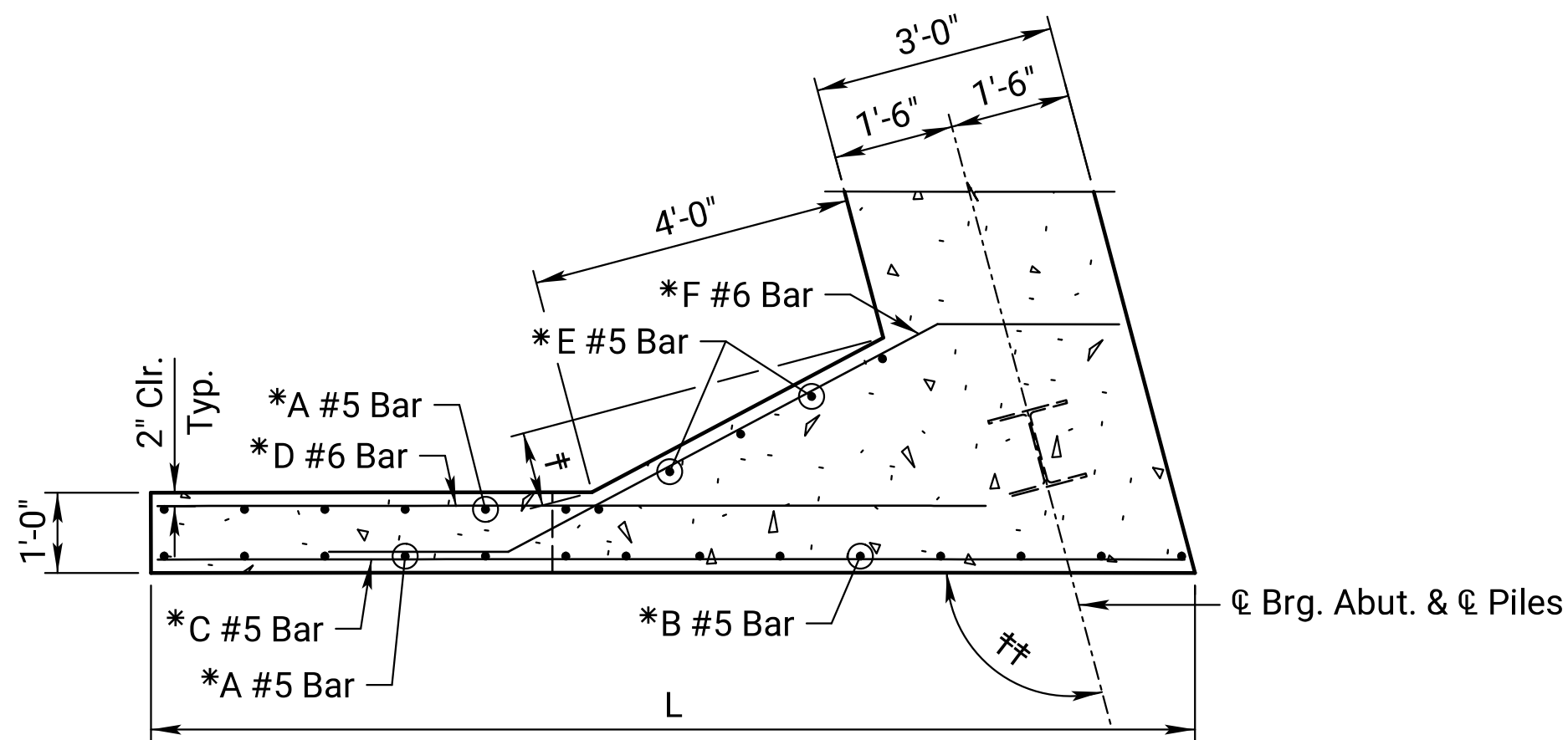
Drawn By : pqrhan
File : 086064bbrAR81-ab-05
Plotted : 4/28/2026

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	44	120

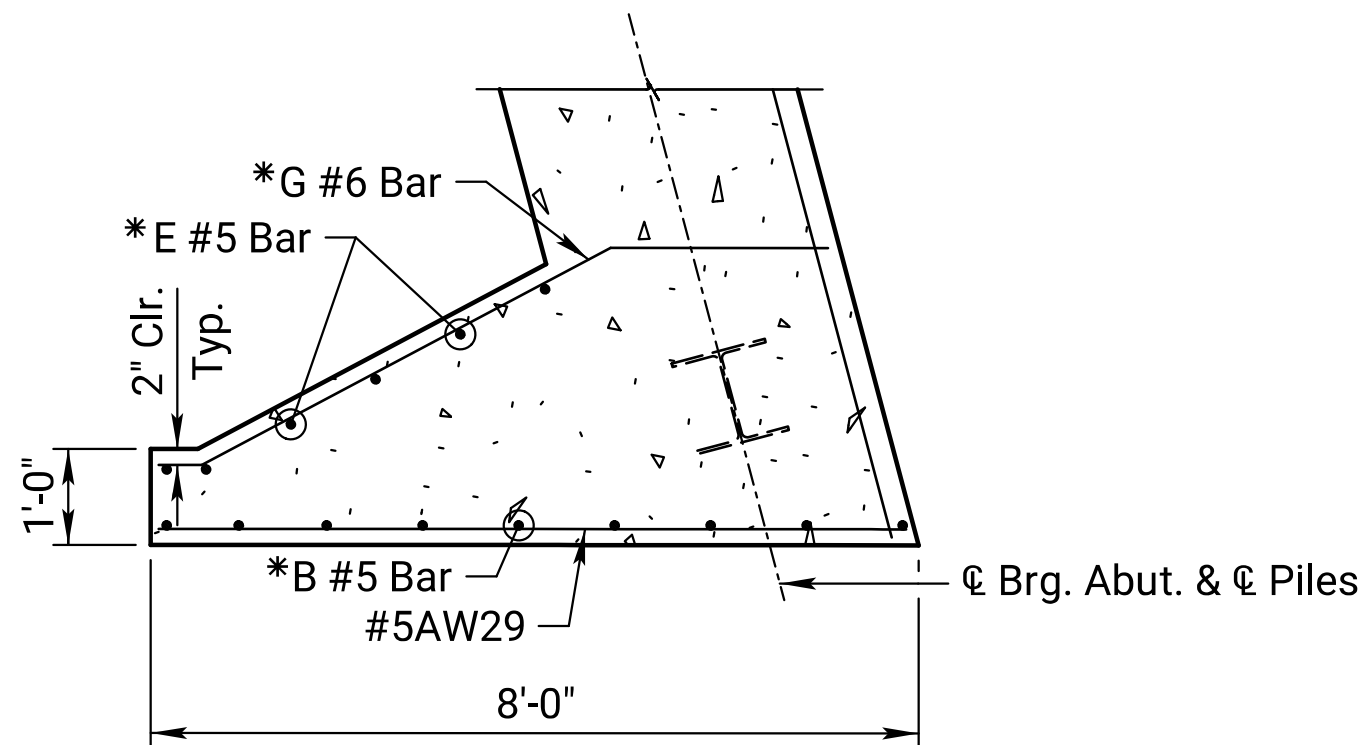


WINGALL ELEVATION

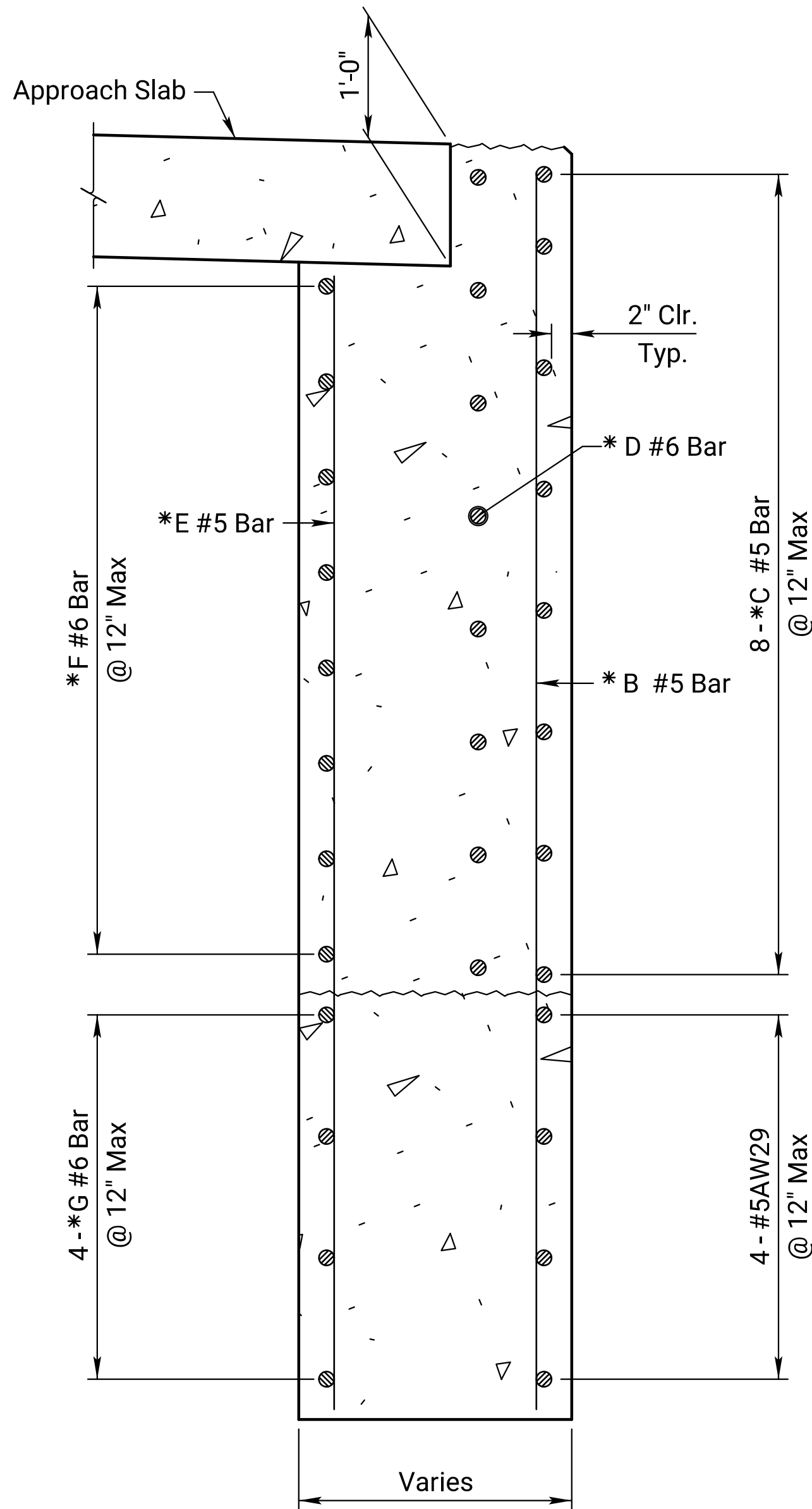
(Outside Face of Abut. No. 1 South Wall shown, others similar)



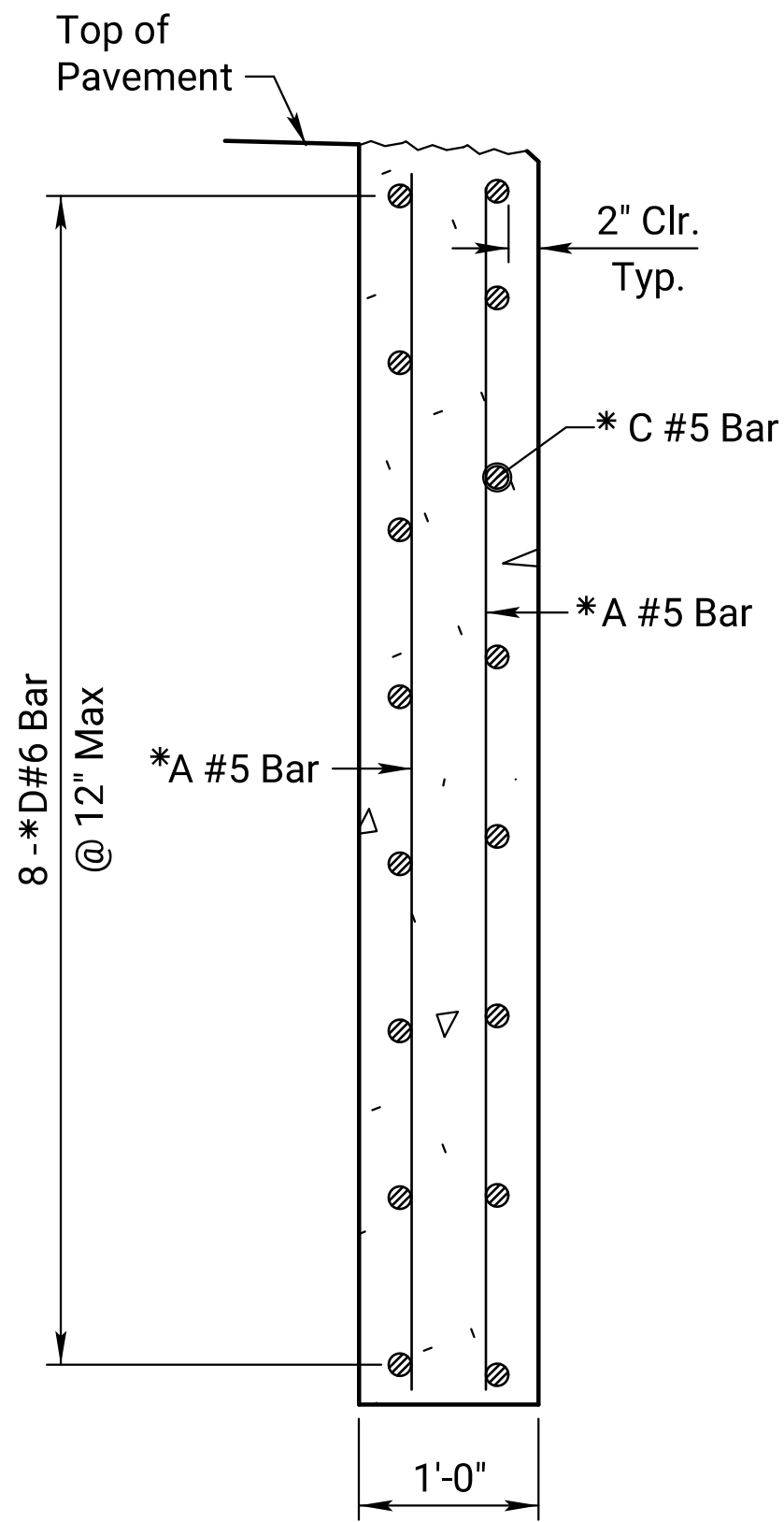
SECTION A-A



SECTION B-B



SECTION E-E



SECTION F-F

Notes:

	Abut No. 1 North Wall	Abut No. 1 South Wall	Abut No.2 North Wall	Abut No.2 South Wall
†	3'-0 1/2"	11 1/4"	7 3/8"	3'- 4 7/8"
††	75° 18' 32"	104° 55' 18"	108° 59' 33"	70° 42' 17"
†††	1302.34	1302.54	1303.25	1302.47
*A	#5AW1	#5AW2	#5AW3	#5AW4
*B	#5AW5	#5AW6	#5AW7	#5AW8
*C	#5AW9	#5AW10	#5AW11	#5AW12
*D	#6AW13	#6AW14	#6AW15	#6AW16
*E	#5AW17	#5AW18	#5AW19	#5AW20
*F	#6AW21	#6AW22	#6AW23	#6AW24
*G	#6AW25	#6AW26	#6AW27	#6AW28
L	13'-0"	13'-0"	15'-0"	19'-0"

LEGEND

EF = Each Face.
FF = Far Face.
NF = Near Face.

NO.	DATE	REVISIONS		BY	APP'D
CITY OF WICHITA					
Br. No. 5304008700AR81			Sta. 93+44.79		
ABUTMENT WINGWALL DETAILS					
FIRST STREET OVER ARKANSAS RIVER					
Proj. No. 472-2024-086064			Sedgwick Co.		
SHEET NO.	OF	SCALE	APP'D		
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S.
				CADD	X.X.X.
				CADD CK.	X.X.X.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	45	120

GENERAL NOTES

GEOSYNTHETICS: Use material that complies with KDOT Specification Section 1710 Class 2 subsurface drainage fabric. Place the Class 2 subsurface drainage fabric on graded and compacted material shaped as shown. Allow for enough material so that the sides can be overlapped and that the ends fully separate the aggregate drain from the embankment soils. Place the perforated drain pipe and couple to non-perforated pipe as shown. Allow the non-perforated pipe to pass through a hole carefully cut in fabric. Place aggregate within fabric to just leave the top of the pipe visible. Verify the slope of the pipe, that it is not damaged or displaced and that the couplers are firmly coupled. Continue to backfill to the elevation and shape shown.

AGGREGATE: Use aggregates that complies with KDOT Specifications for SB-1 or SB-2.

BASE COURSE REINFORCEMENT: Use "Base Course Reinforcement" that complies with KDOT Specification Division 1700 or approved material. Place this material in uniform layers without gaps or sags per the manufacturer's recommendations.

GEOFOAM: Use "Geofoam" that complies with ASTM D6817 EPS 12. Acceptance according to Type "C" certification. Bond this material to the backwall protection using materials recommended by the manufacturer.

PIPE: Place perforated pipe within the limits and use non-perforated pipe outside the limits of the Abutment Aggregate Drain.

ABUTMENT AGGREGATE DRAIN: The Bridge Contractor shall excavate to the limits shown on the Bridge Excavation Sheet. Backfill, compact & grade the cohesive soil to the limits shown. Place the bridge backwall protection, geofoam, geotextile, perforated pipe, alternating layers of aggregate and base course reinforcement as shown. Place the outlet pipe, the CMP, and the backfill. Guidepost and coarse aggregate are subsidiary to this bid item. Guidepost and coarse aggregate are not required if the CMP empties onto Slope Protection. Separate as shown the entire Abutment Aggregate Drain with the geotextile.

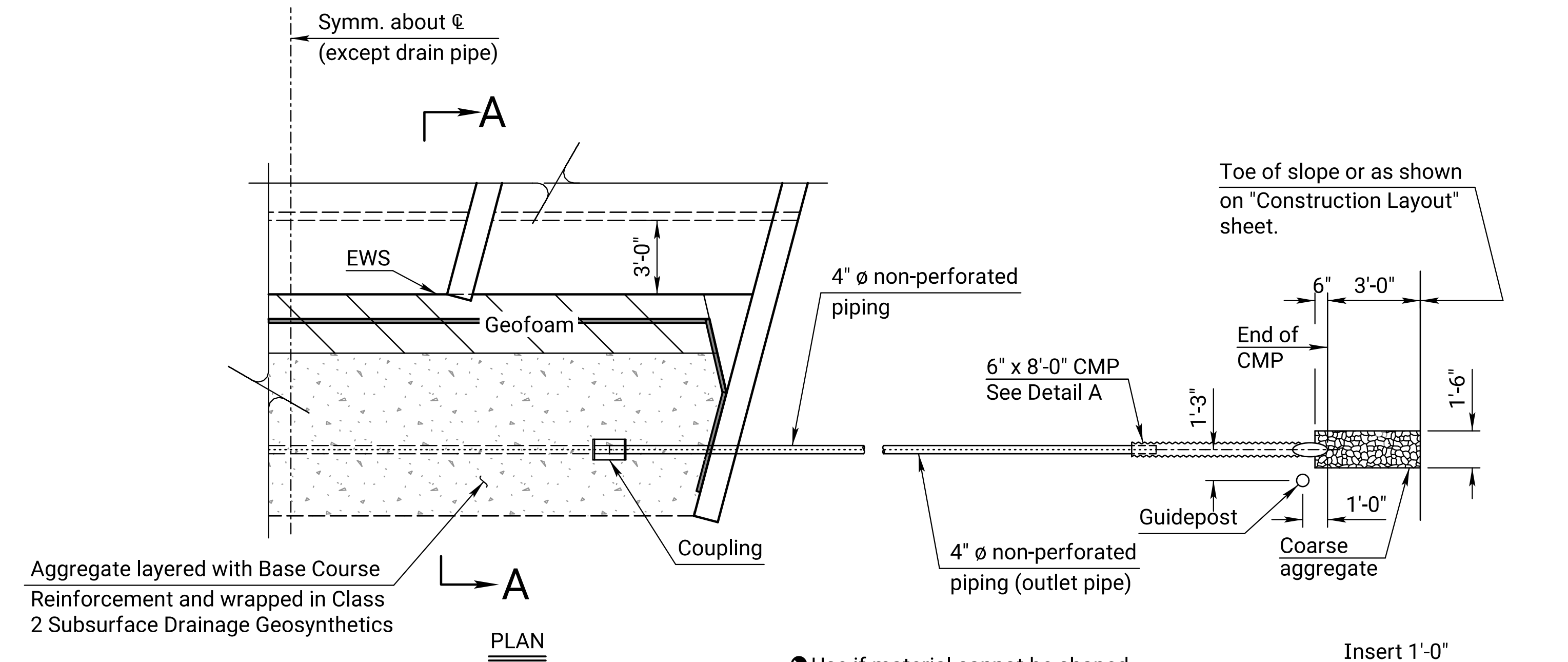
BRIDGE BACKWALL PROTECTION SYSTEM: Apply a non coal-tar Bridge Backwall Protection System to the approach side of the abutments and the wings in accordance with KDOT Specifications and the manufacturer's recommendations. Cover the abutments and wings to the limits shown on the details. Repair any damage done at no charge to the state.

Compact the abutment backfill. See the KDOT Specifications.

Perforated pipe and non-perforated outlet pipe shall be corrugated polyethylene tubing conforming to the KDOT Specifications.

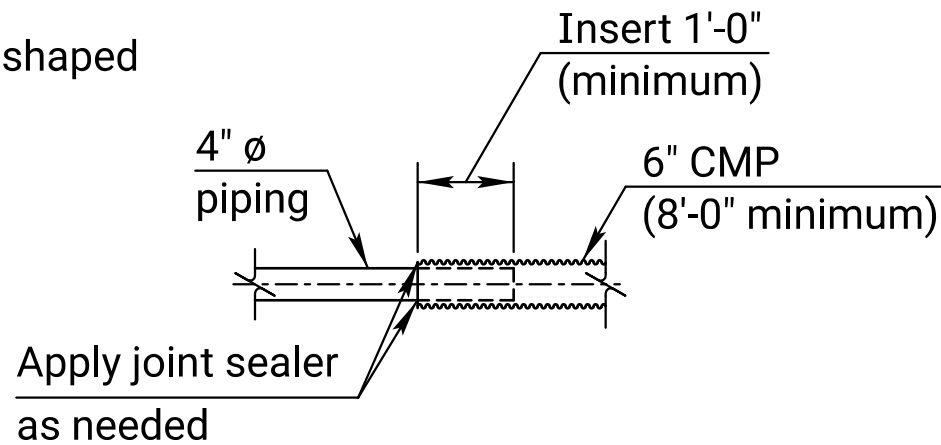
Fit the CMP end section with ¼" galvanized mesh screen to prevent the entrance of rodents. Seal the joint between the outlet pipe and the end section with a joint sealer. Place Coarse aggregate at the outlet end as shown.

COHESIVE SOILS: Grade the bottom surface of the excavated area to drain as shown. Backfill this area with a cohesive type of soil. The soil will have a Unified Soil Classification of CL, CH, ML or MH according to ASTM D2487 Classification System with a minimum plasticity index of 13. Compact the material to Type A, MR-90 specifications. If the plasticity index cannot be met add and mix Bentonite, to the soil prior to placement and compaction so that the PI ≥ 13.

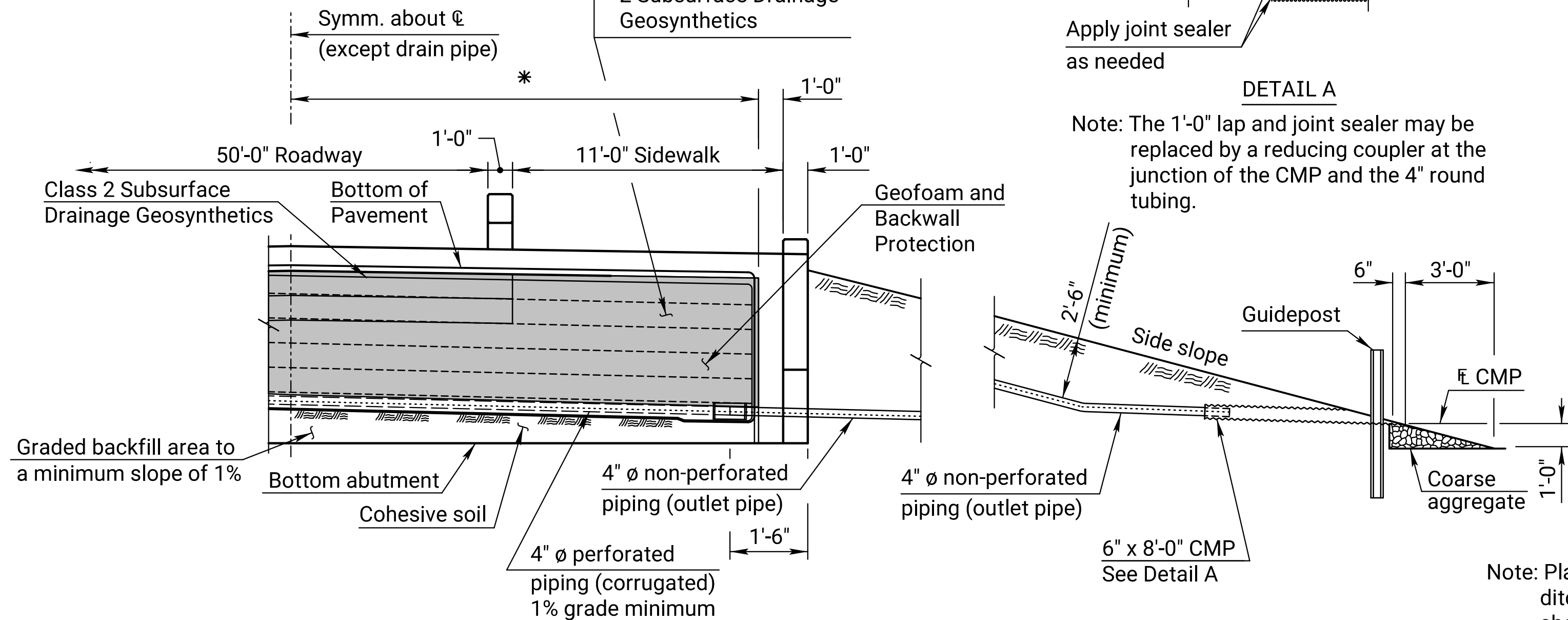


● Use if material cannot be shaped and compacted per plan

● Wrap 3'-0" of the ends of each layer with Class 2 Subsurface Drainage Geosynthetics

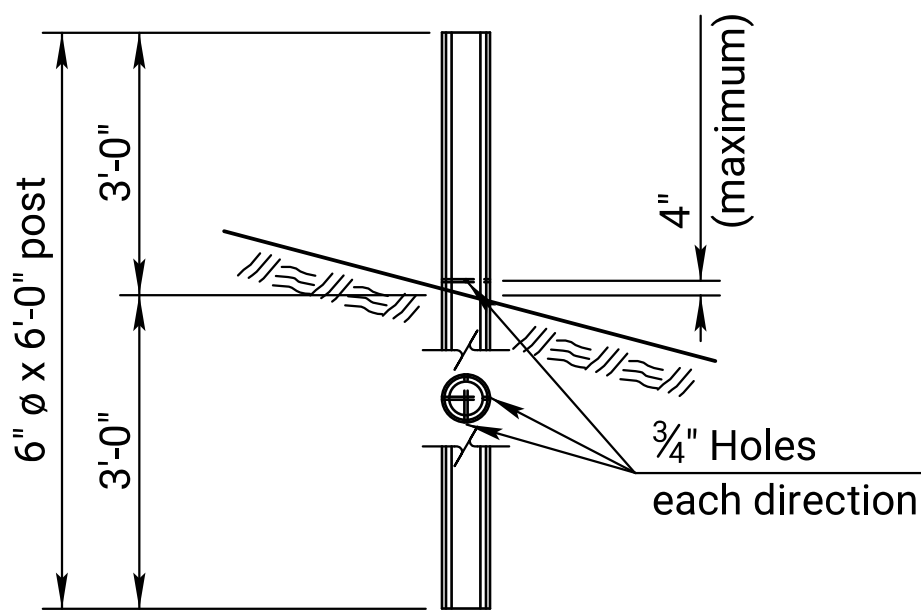


Note: The 1'-0" lap and joint sealer may be replaced by a reducing coupler at the junction of the CMP and the 4" round tubing.

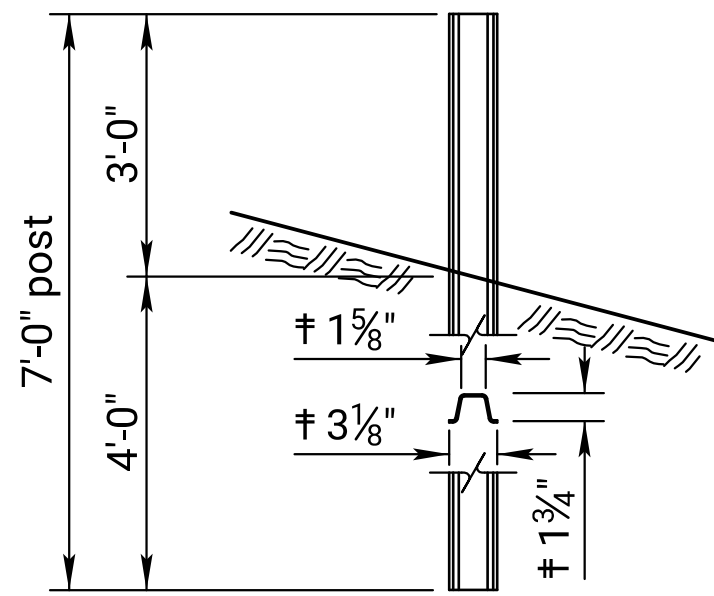


* Limits of Bridge Backwall Protection System & Geofoam

ELEVATION

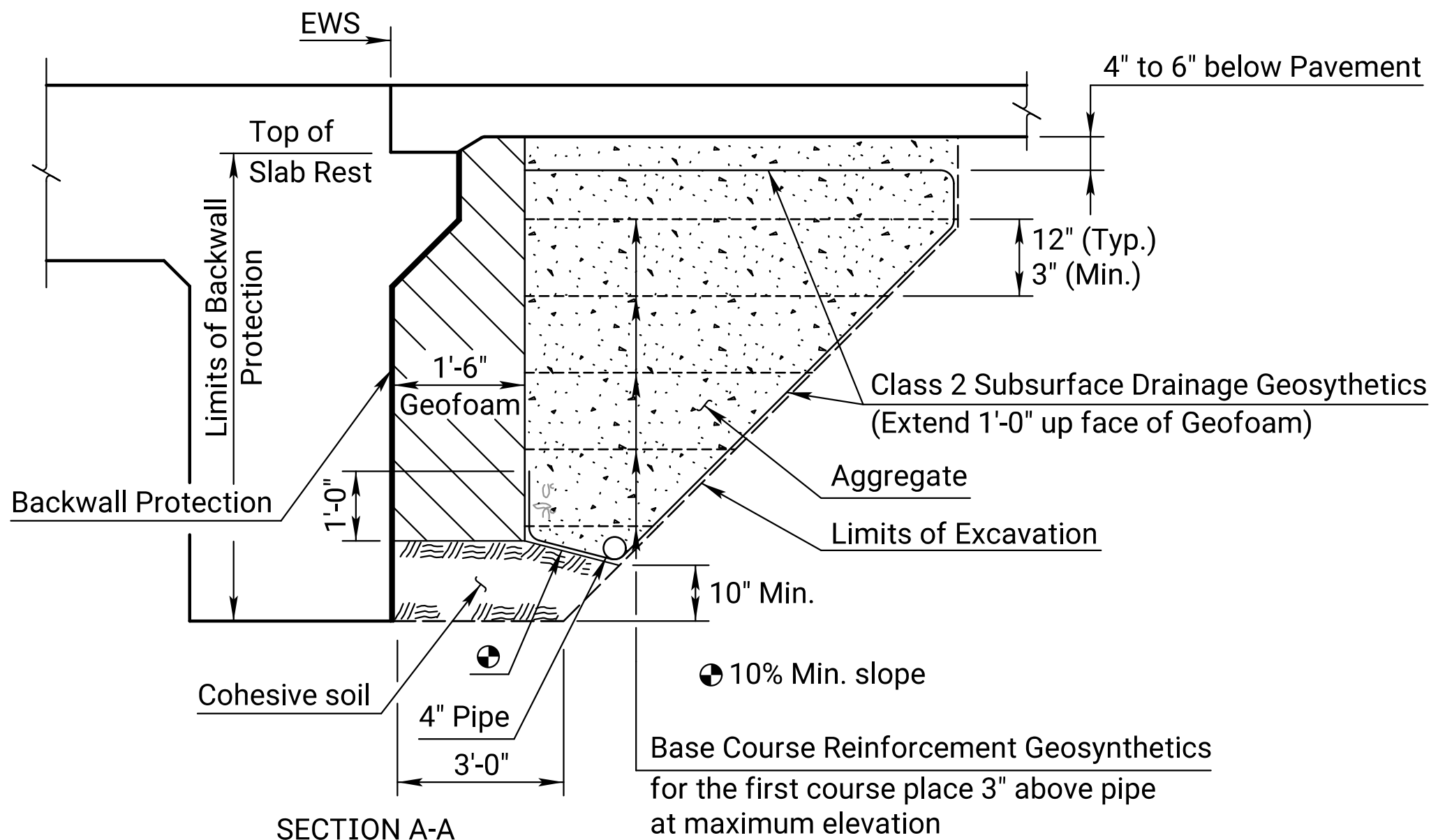


Wood Guidepost Option
(6" ø x 6'-0")



Metal Guidepost Option
7'-0" at 3.0 lbs/ft
flanged channel

GUIDEPOST



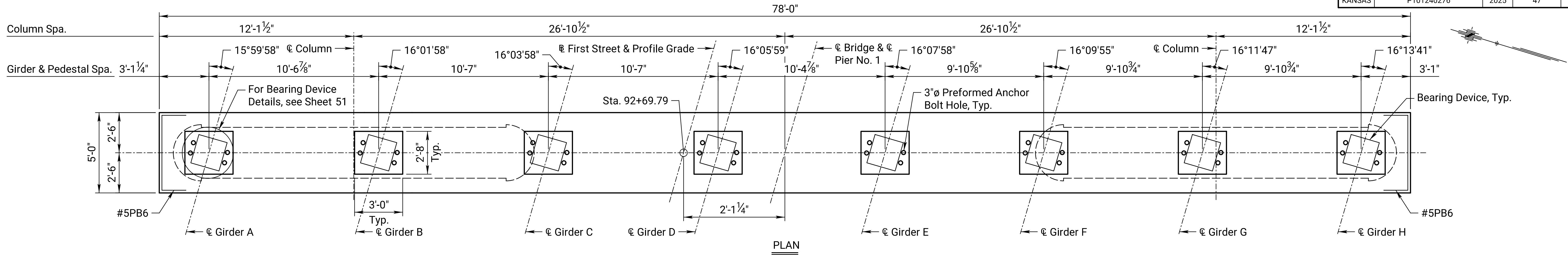
SECTION A-A
(Abutment Aggregate Drain)
Taken at centerline

SUMMARY OF QUANTITIES (2 Abutments)			
Abutment Aggregate Drain	284.7	Cu. Yds.	
Bridge Backwall Protection System	204.0	Sq. Yds.	
Items subsidiary to Abutment Aggregate Drain			
4" ø Perforated Pipe	155.0	Lin. Ft.	
4" ø Outlet Pipe	30.0	Lin. Ft.	
6" ø CMP	16.0	Lin. Ft.	
Guidepost	2	Each	
Geosynthetics (Class 2 Subsurface Drainage)	587.1	Sq. Yds.	
Geosynthetics (Base Course Reinforcement)	763.7	Sq. Yds.	
Geofoam	71.0	Cu. Yds.	

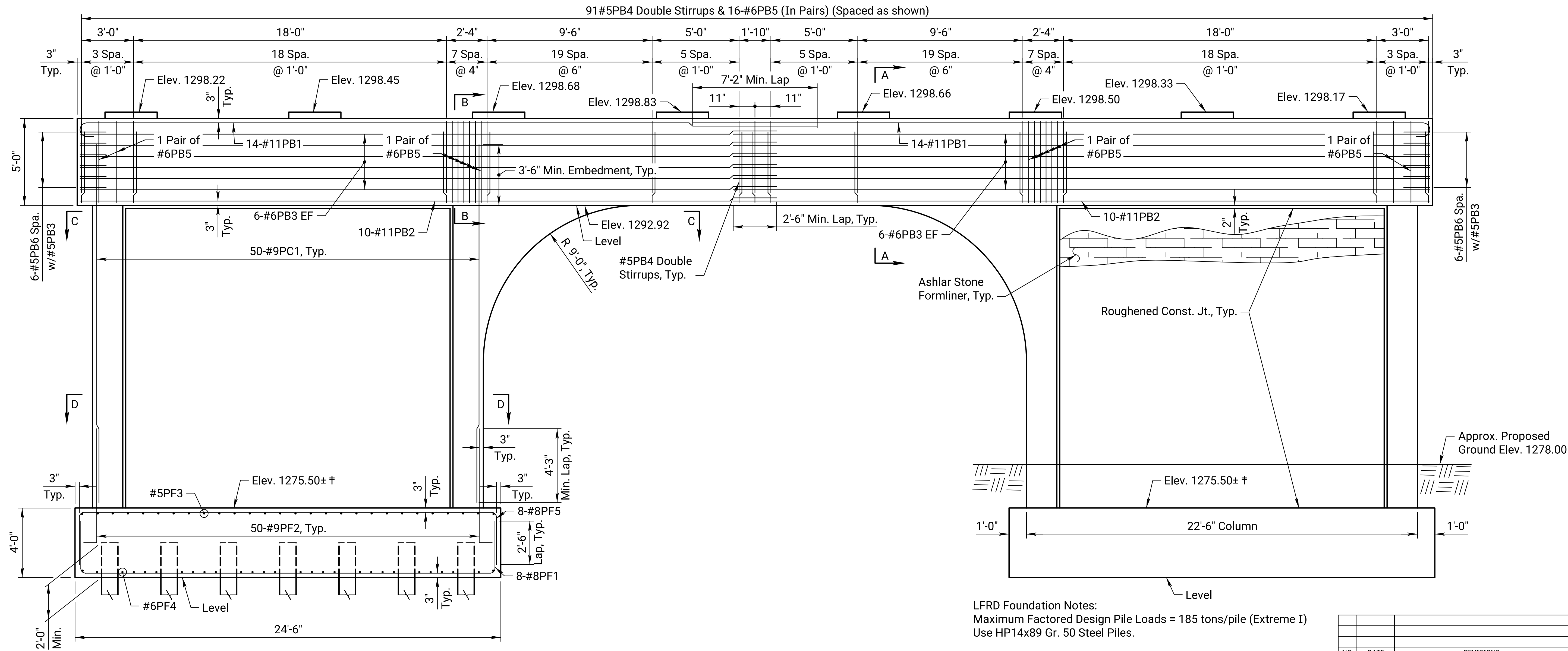
NO.	DATE	REVISIONS	BY	APP'D
CITY OF WICHITA				
Br. No. 5304008700AR81			Sta. 93+44.79	
ABUTMENT AGGREGATE DRAIN				
FIRST STREET OVER ARKANSAS RIVER				
Proj. No. 472-2024-086064			Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D	
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES P.M.Y.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK. X.X.X. CADD CK. X.X.X.

Drawn By : paphan
File : 086064bbrAR81-pr-01
Plotted : 4/28/2026

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	47	120



PLAN



ELEVATION

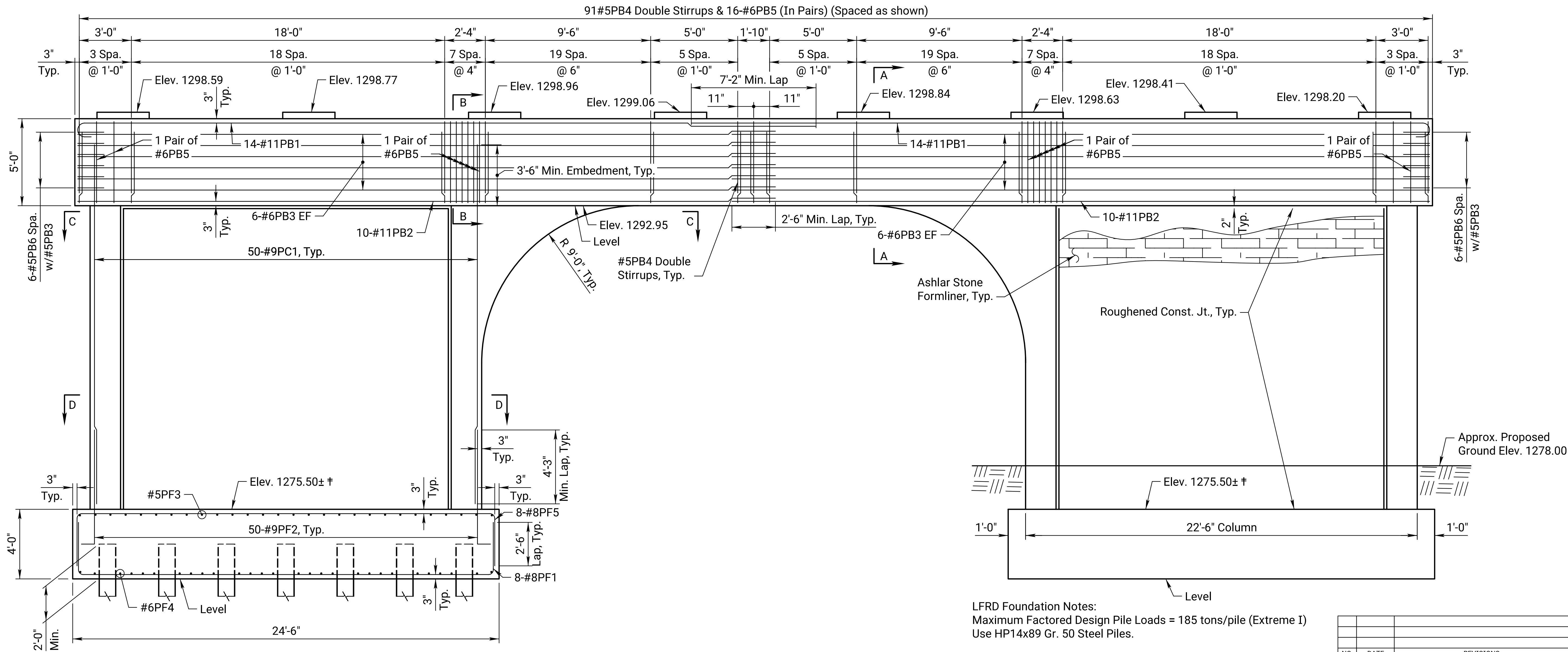
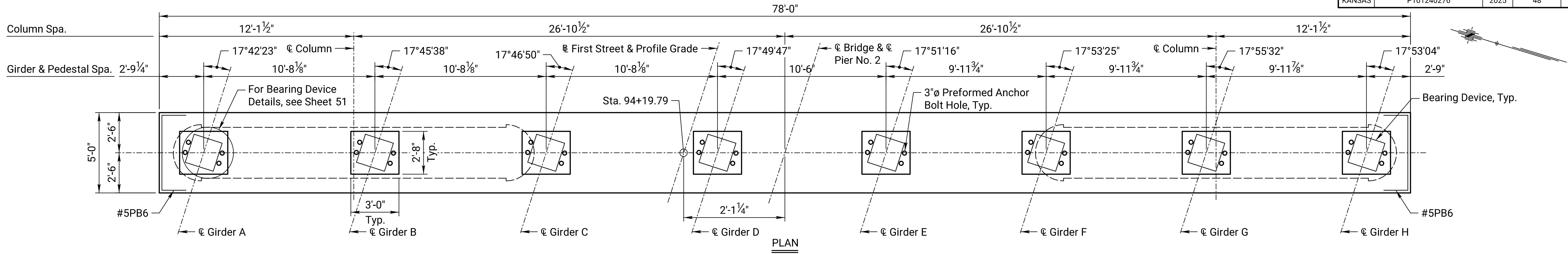
LFRD Foundation Notes:
Maximum Factored Design Pile Loads = 185 tons/pile (Extreme I)
Use HP14x89 Gr. 50 Steel Piles.

† Elevation and height are based on existing survey and shall be adjusted based on survey verification. See General Notes.

Notes:
For Sections A-A, B-B, C-C and D-D and Flair Reinforcement Detail see Sheet 49.
For Footing and Girder Seat Details see Sheet 50.
EF denotes each face.

NO.	DATE	REVISIONS			BY	APP'D
CITY OF WICHITA						
Br. No. 5304008700AR81					Sta. 93+44.79	
PIER NO. 1 DETAILS						
FIRST STREET OVER ARKANSAS RIVER						
Proj. No. 472-2024-086064					Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D			
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.	X.X.X.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S.	CADD CK. X.X.X.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	48	120



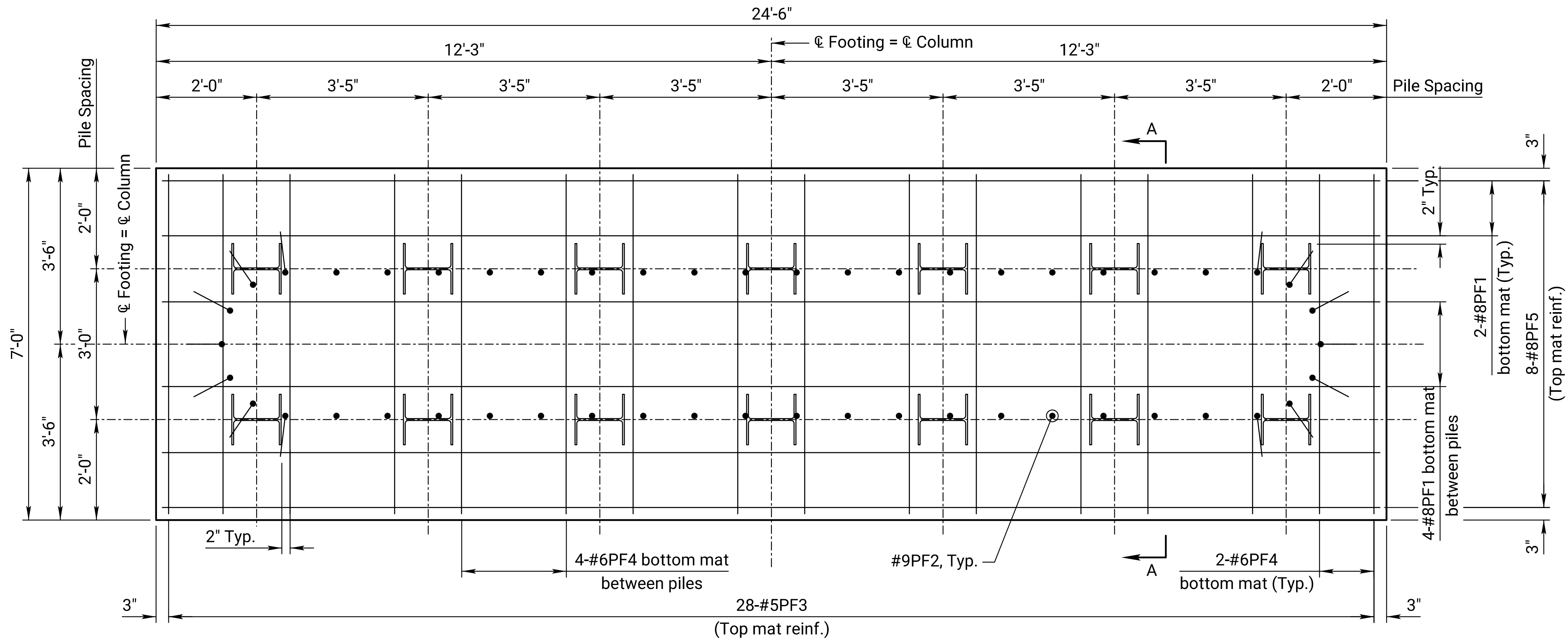
LFRD Foundation Notes:
Maximum Factored Design Pile Loads = 185 tons/pile (Extreme I)
Use HP14x89 Gr. 50 Steel Piles.

† Elevation and height are based on existing survey and shall be adjusted based on survey verification. See General Notes.

Notes:
For Sections A-A, B-B, C-C and D-D and Flair Reinforcement Detail see Sheet 49.
For Footing and Girder Seat Details see Sheet 50.
EF denotes each face.

NO.	DATE	REVISIONS		BY	APP'D
CITY OF WICHITA					
Br. No. 5304008700AR81				Sta. 93+44.79	
PIER NO. 2 DETAILS					
FIRST STREET OVER ARKANSAS RIVER					
Proj. No. 472-2024-086064				Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D		
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN CK.	M.A.S.
				CADD	X.X.X.
				CADD CK.	X.X.X.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	50	120

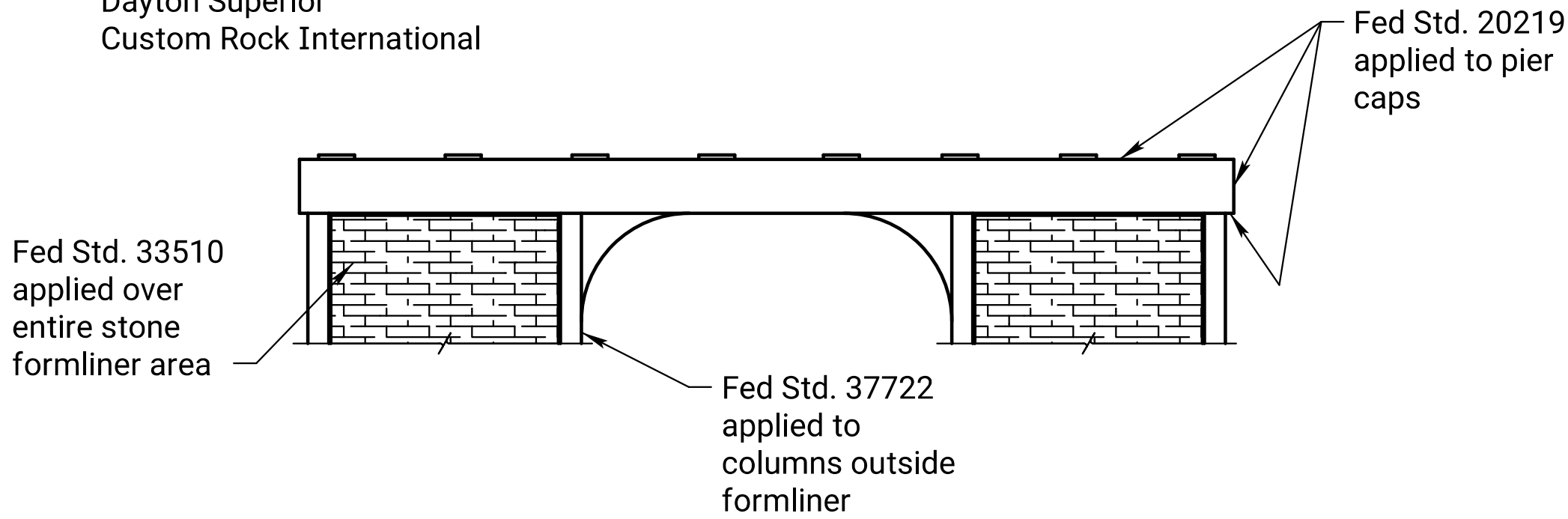


ALL PIERS - PLAN OF FOOTING

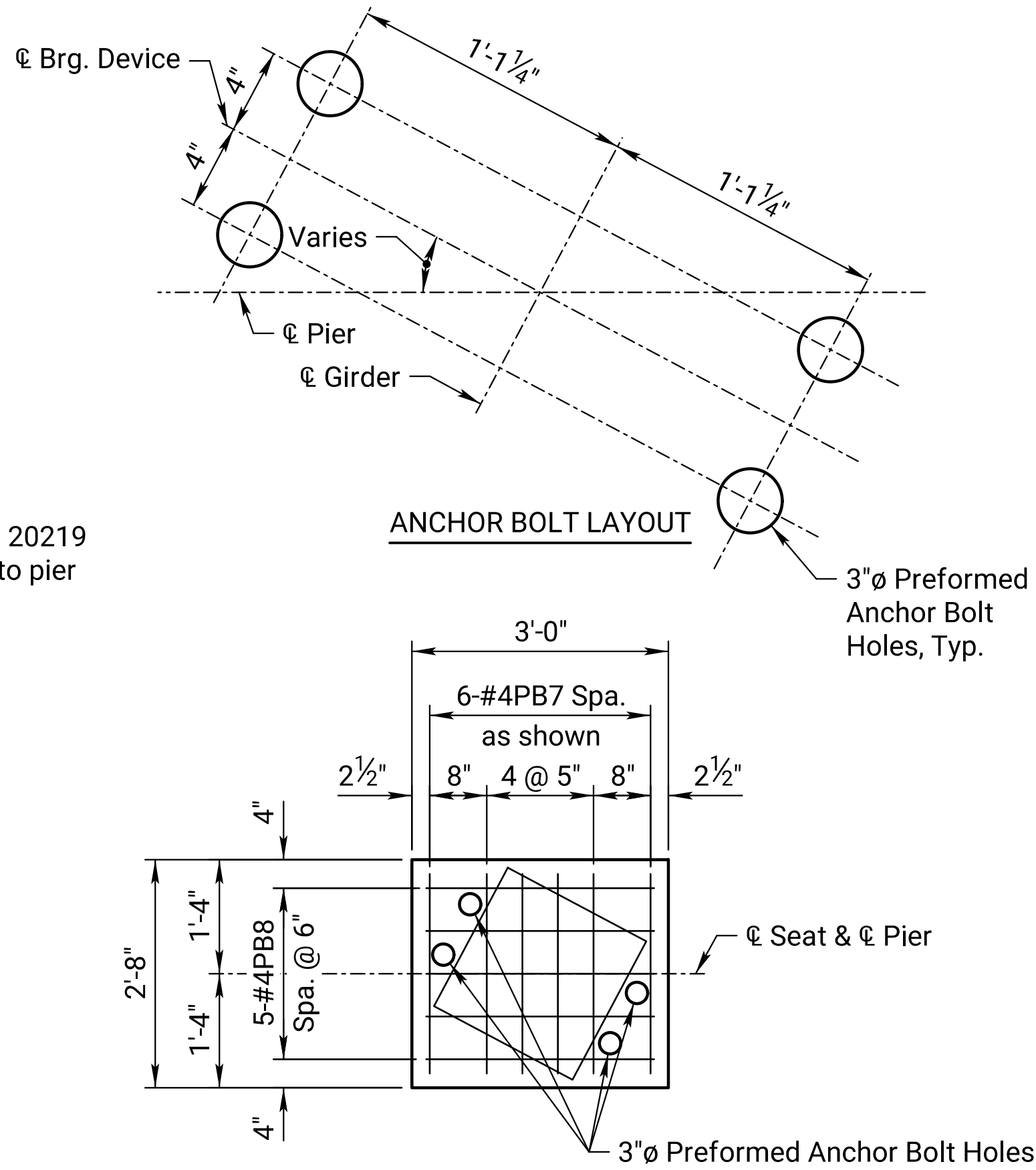
The Contractor shall submit his proposed formliner to the Engineer for review and approval prior to placing concrete. The following is a list of formliner manufacturers that may be used.

The depth of the formliner shall be Ashlar Stone type with a maximum depth of 1". The height of any single "stone" shall be 15" maximum.

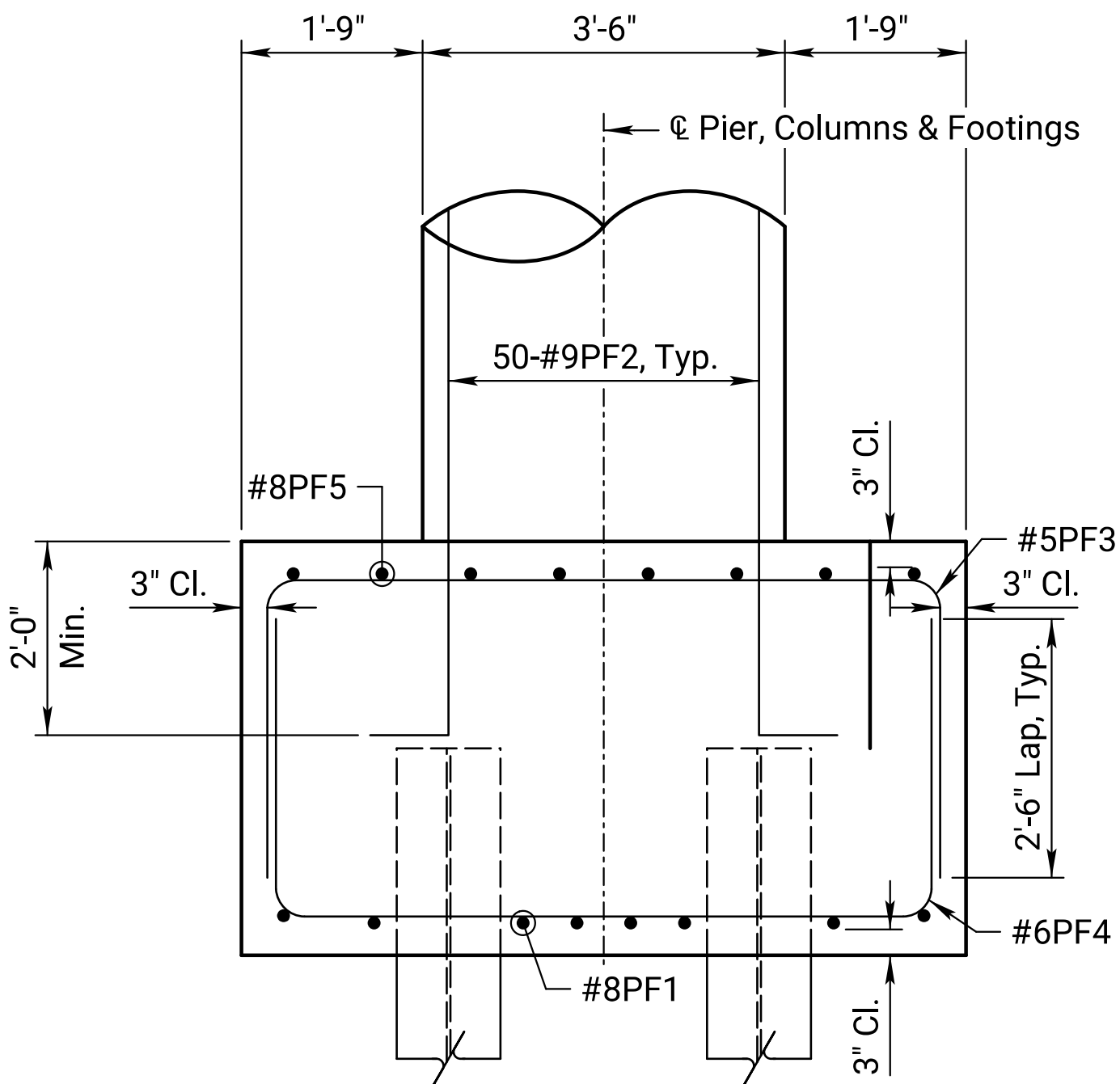
Scott Systems, Inc.
Fitzgerald Formliners
Dayton Superior
Custom Rock International



STAIN TREATMENT DETAIL



GIRDER SEAT DETAIL

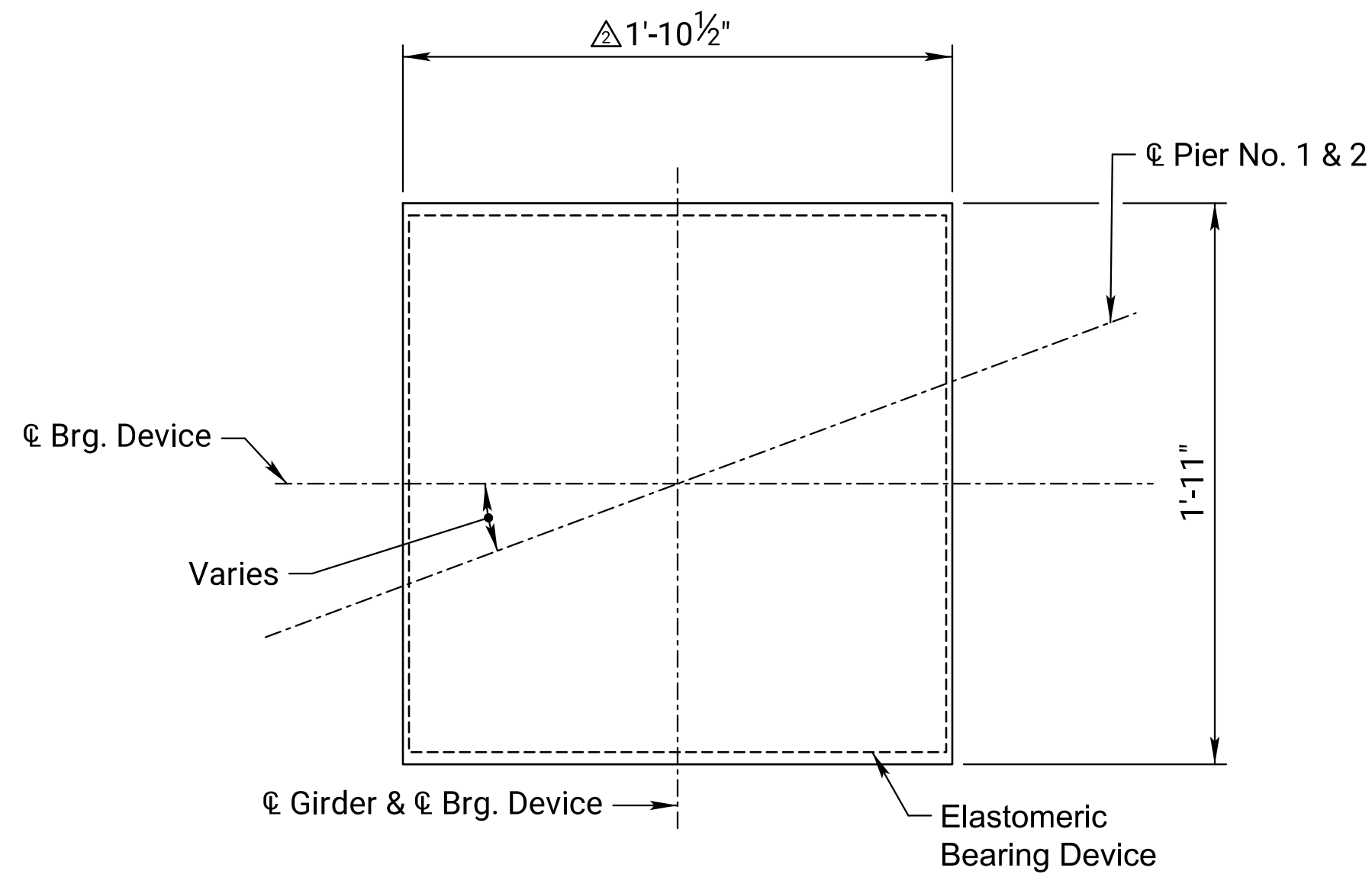


SECTION A-A

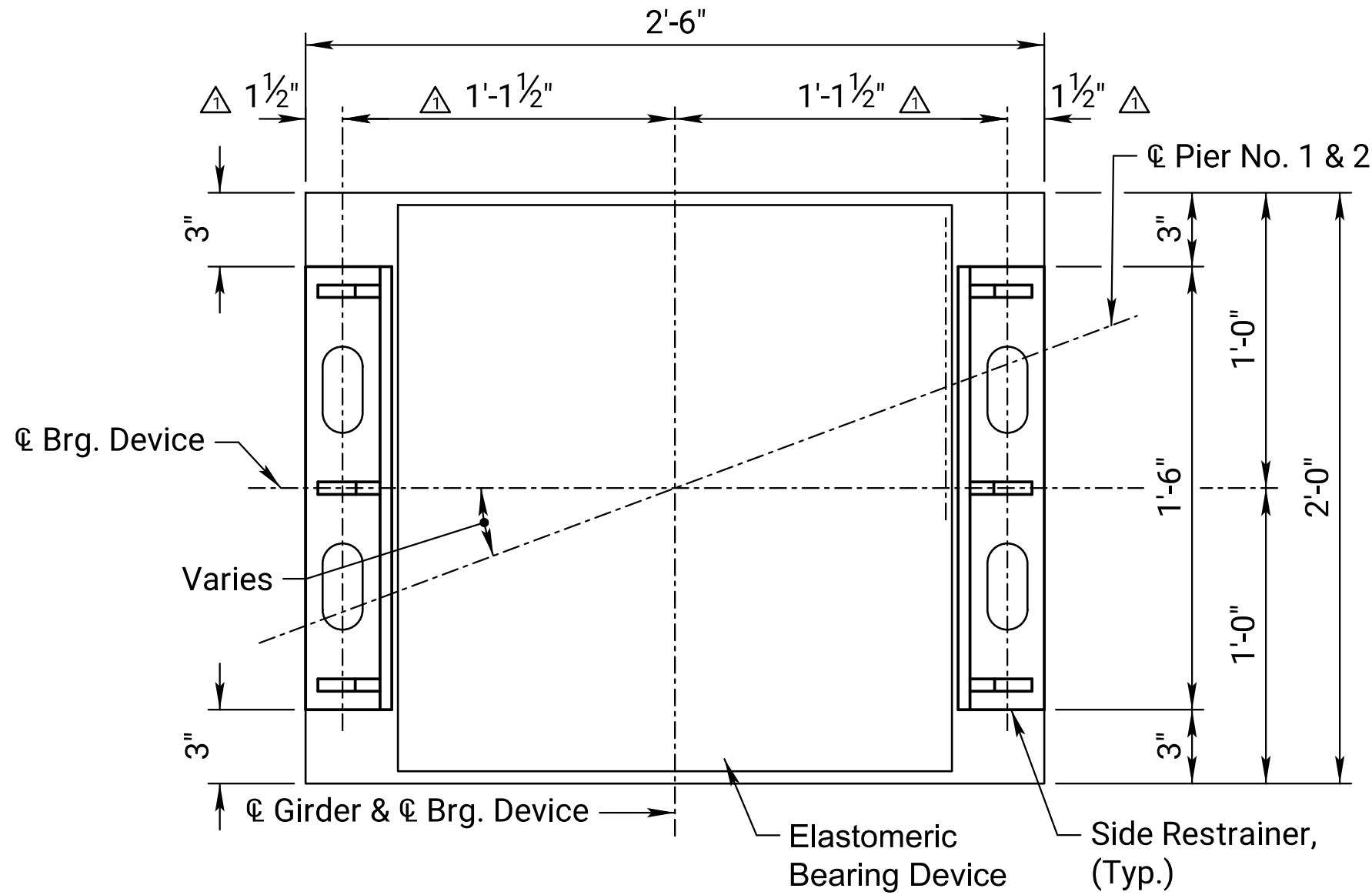
Notes:
For angles of Anchor Bolt Holes,
See Sheets 47 & 48 .
EF denotes each face.

NO.	DATE	REVISIONS			BY APP'D
CITY OF WICHITA					
Br. No. 5304008700AR81				Sta. 93+44.79	
GIRDER SEAT & FOOTING DETAILS					
FIRST STREET OVER ARKANSAS RIVER					
Proj. No. 472-2024-086064				Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D		
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S.
				CADD	X.X.X.
				CADD CK.	X.X.X.

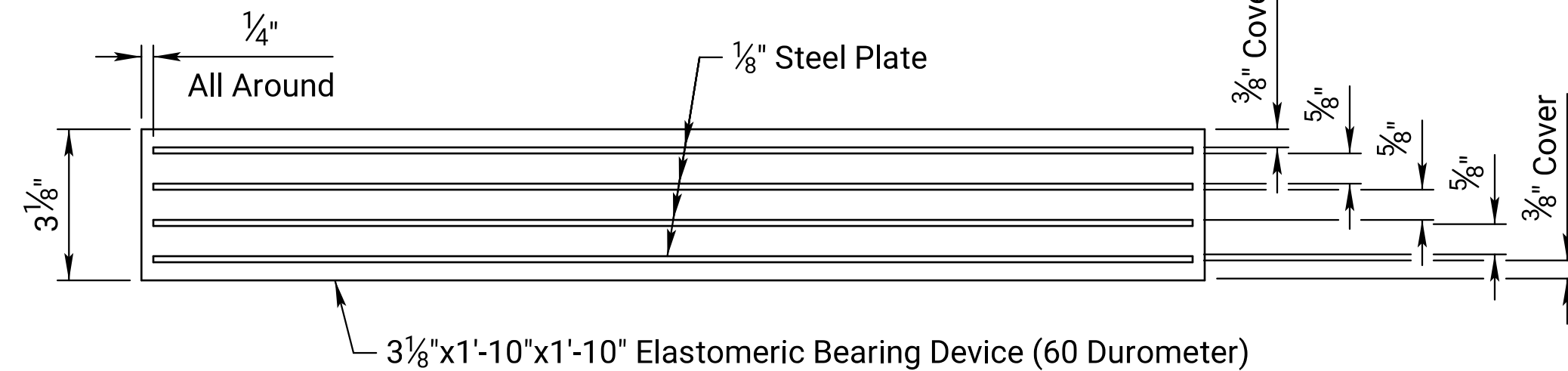
Drawn By : pqrhan
File : 086064bbrAR81-bd-01
Plotted : 4/28/2026



SOLE PLATE PLAN
(8 Required at each Pier)



BASE PLATE PLAN
(8 Required at each Pier)



ELASTOMERIC BEARING DEVICE
(8 Required at each Pier)

BEARING NOTES:
BEARINGS (STEEL REINFORCED ELASTOMERIC): Elastomeric Bearing Device shall be factory bonded to the steel sole plate by a vulcanization process. The steel sole plate and swedge anchor bolt are subsidiary to the bid item, "Bearing (Steel Reinforced Elastomeric)" and shall be furnished by the bearing device fabricator.

BEARING (Steel Reinforced Elastomeric) (Method A):
Bearing devices at Pier No. 1 and No. 2, shall be fabricated with an elastomer satisfying:

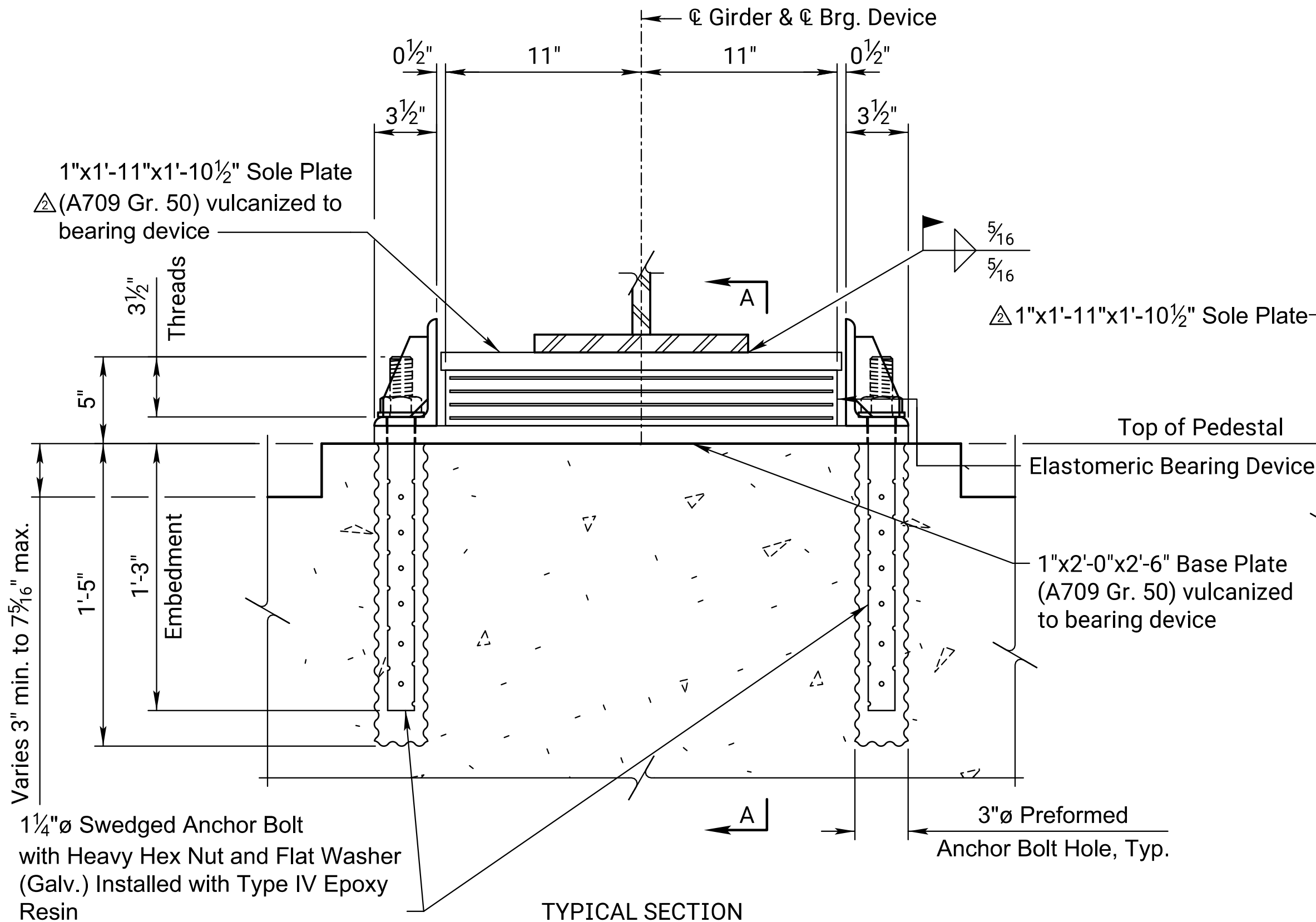
- Shore A Durometer Hardness of 60
- Low Temperature Grade 3 requirements
- Type A certification for elastomeric bearing device acceptance is required
- Include design method and all material properties on shop drawings.

ANCHOR BOLTS:
Place the reinforcing steel below the bearing devices to clear the anchor bolts.

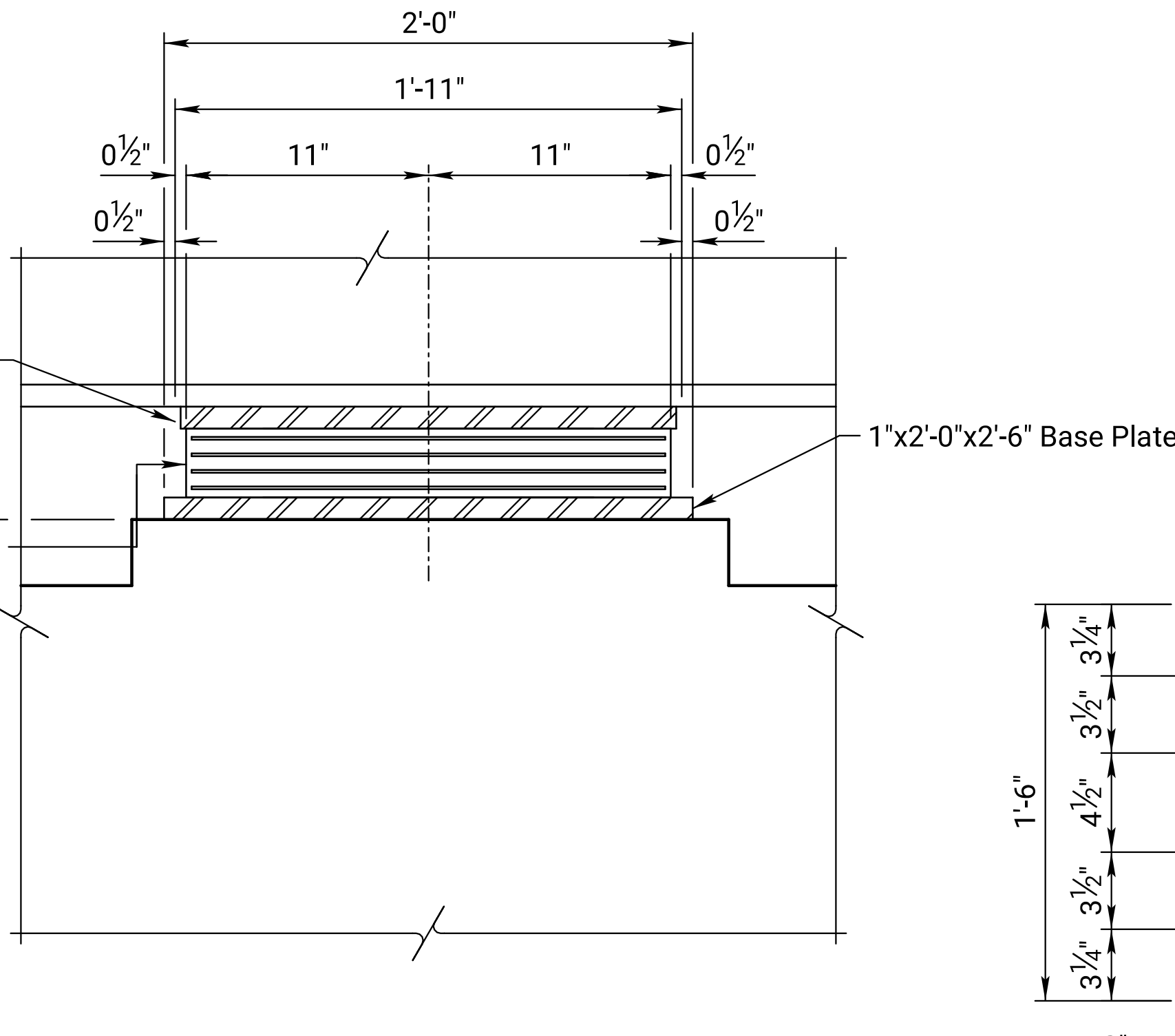
Anchor bolts will adhere to KDOT Standard Specification Section 1600 (Grade 36)(Galv.) with the following exception. The threads may be rolled or cut.

PREFORMED ANCHOR BOLT HOLES:
Preform 3 inch diameter holes using only corrugated polyethylene tubing (Type C) at the locations shown. When temperatures are expected to go below freezing, seal the preformed holes or fill them with a propylene glycol-based antifreeze to prevent expansion damage. The holes will be free of water, antifreeze or foreign materials at the time of grouting the anchor bolts. The polyethylene tubing may remain in-place. Trim the tubing flush with the top of concrete. This work shall be subsidiary to Concrete Grade 4.0 (AE).

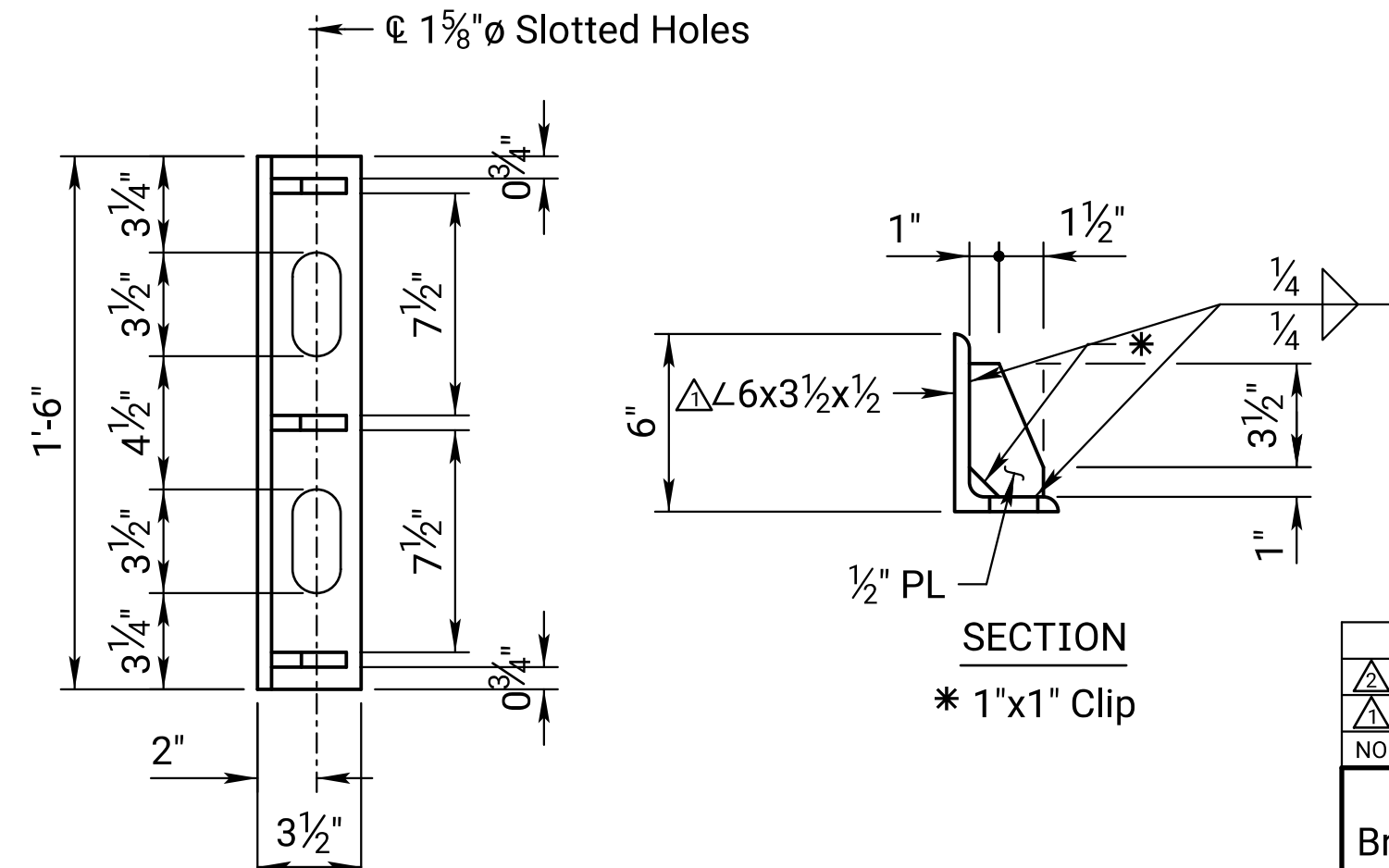
PAINTING BEARINGS:
Blast clean the bearings, in the shop. Repair painted surfaces damaged by welding operations. Paint the bridge bearings repaired surfaces with an Inorganic Zinc Primer. After erection, apply the water-borne acrylic finish coat to all exposed surfaces.



TYPICAL SECTION
(Reinforcing steel not shown for clarity)



SECTION A-A



PLAN
SIDE RESTRAINER
2 req'd. per Bearing Device

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	51	120

	04/13/2026	REDUCED SOLE PLATE WIDTH	MAS	MJJ
	03/18/2026	ANGLES CORRECTIONS	MAS	MJJ
NO.	DATE	REVISIONS	BY	APPD
CITY OF WICHITA				
Br. No. 5304008700AR81			Sta. 93+44.79	
BEARING DEVICE DETAILS				
FIRST STREET OVER ARKANSAS RIVER				
Proj. No. 472-2024-086064			Sedgwick Co.	
SHEET NO.	OF	SCALE	APPD	
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES
DESIGN CK	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.
			M.A.S.	CADD CK.
				X.X.X.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	52	120

Production Bolt Tightening

1. Install bolts and tighten to "snug tight" in a pattern, starting at the center of the splice and working toward the edge. On large girders this may have to be done twice, as the center bolts will become loose as plates are "Ironed out". This step is important because typically, any variation in results during production bolting is the result of a change in the materials, lubricant or equipment used to take the bolts to a "snug tight" condition during the calibration process.
2. Mark all of the bolts, nuts and the plate as shown in the marking detail. Mark the socket with a start and stop point. The stop point corresponds to the target rotation determined earlier.
3. Align the start mark on the socket with the line on the plate. While the bolt is being backed up, turn the nut until the stop mark on the socket lines up with the start mark on the plate.

4. Repeat with all bolts of the same length in the splice.

Acceptance and Rejection of Bolts

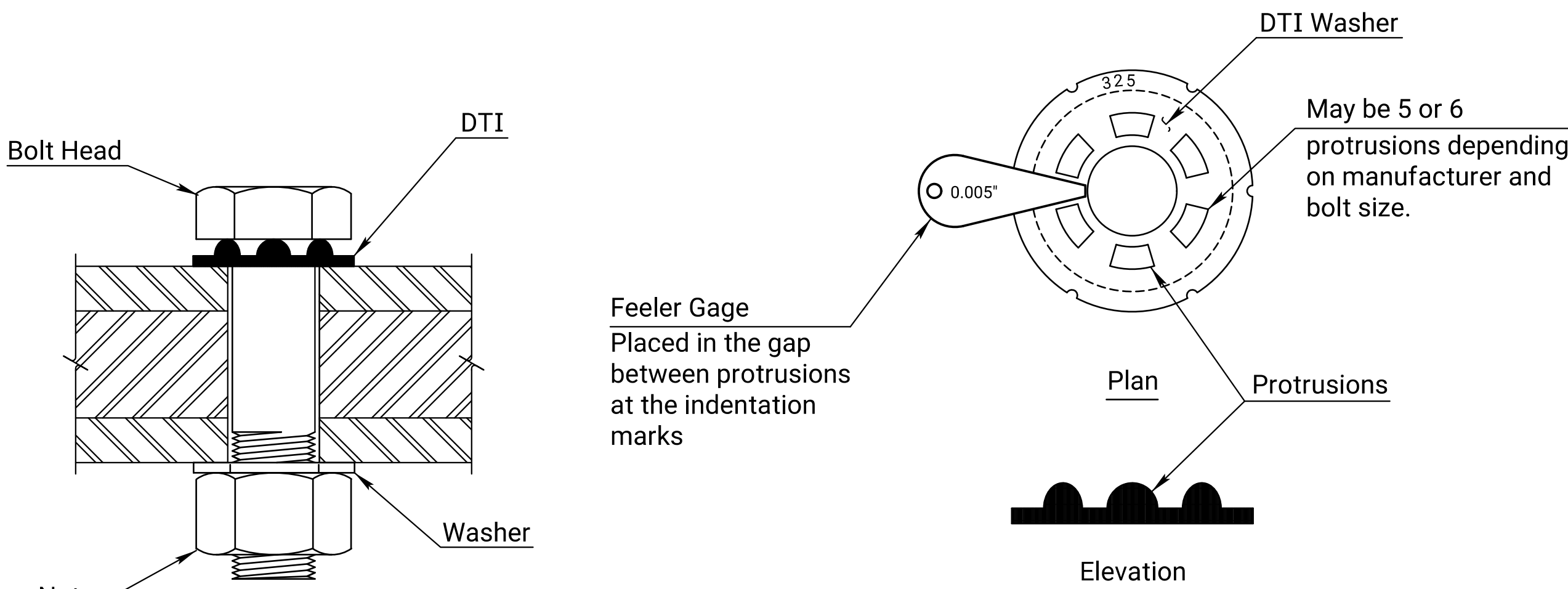
1. The Engineer will check all bolts with a feeler gage.
2. All nuts must be turned at least the target rotation beyond "snug tight".
3. All DTI's must have at least 3 refusals of the 0.005" gage.
4. If all gaps refuse the 0.005" gage, and the nut, plate and bolt are not marked, reject the bolt.
5. If all gaps refuse the 0.005" gage, and the turned element has not been rotated more than 45° beyond the calibrated turn, accept the bolt.
6. If all gaps refuse the 0.005" gage, and the turned element has been rotated more than 45° beyond the calibrated turn, reject the bolt.

For additional information see the structural steel section of the Bridge Construction Manual.

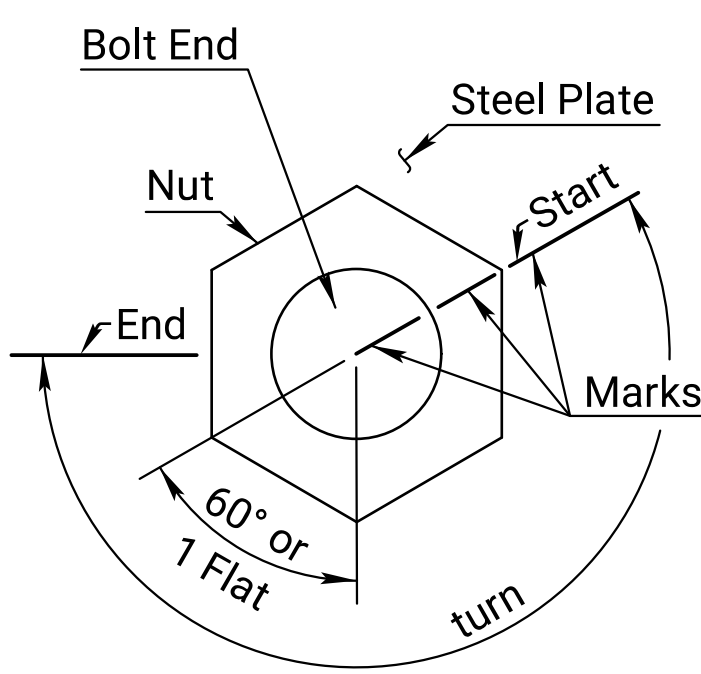
Suggested Impact wrench models:

CP 611
IR 2940
Cleco WS2110
ATP 1011/1040
Norbar PT1500

03					
02					
01	04-25-05	Current Release		R.A.M.	K.F.H.
NO.	DATE	REVISIONS		BY	APPD
KANSAS DEPARTMENT OF TRANSPORTATION					
STEEL ERECTION, FIT-UP AND BOLTING PROCEDURE					
FHWA APPROVAL			APPD		
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S.
				CADD	CADD CK.
					X.X.X.

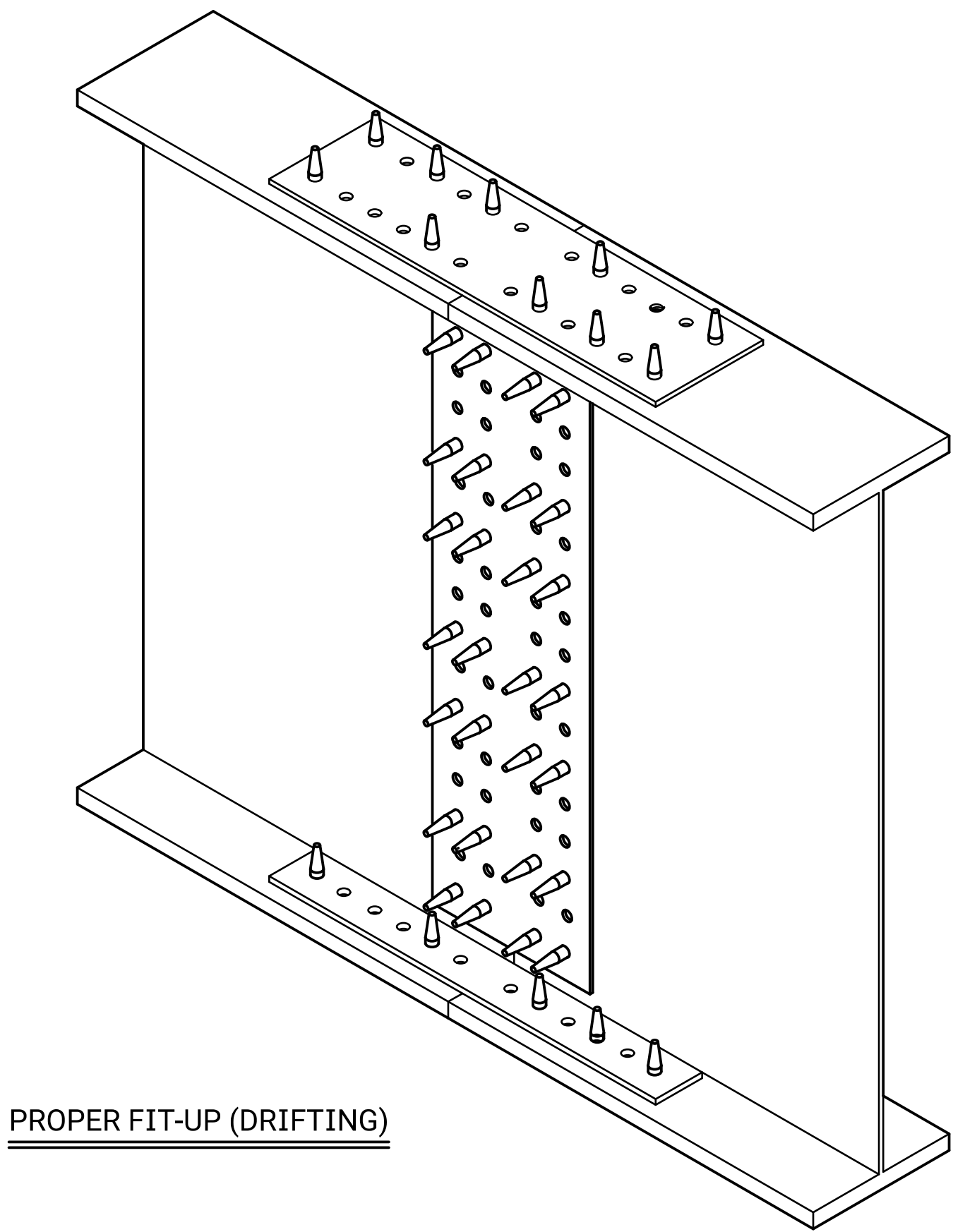


TYPICAL DIRECT TENSION INDICATOR (DTI)



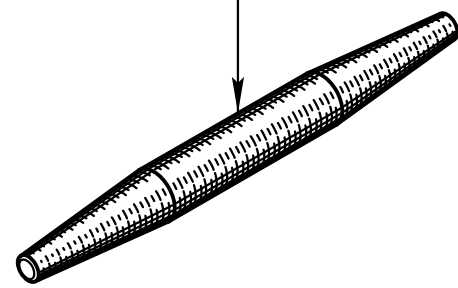
REQUIRED MARKING DETAIL

(shows calibrated turn = 3½ flats from snug tight condition.)
Example only, calibrated turn may be more or less than shown.

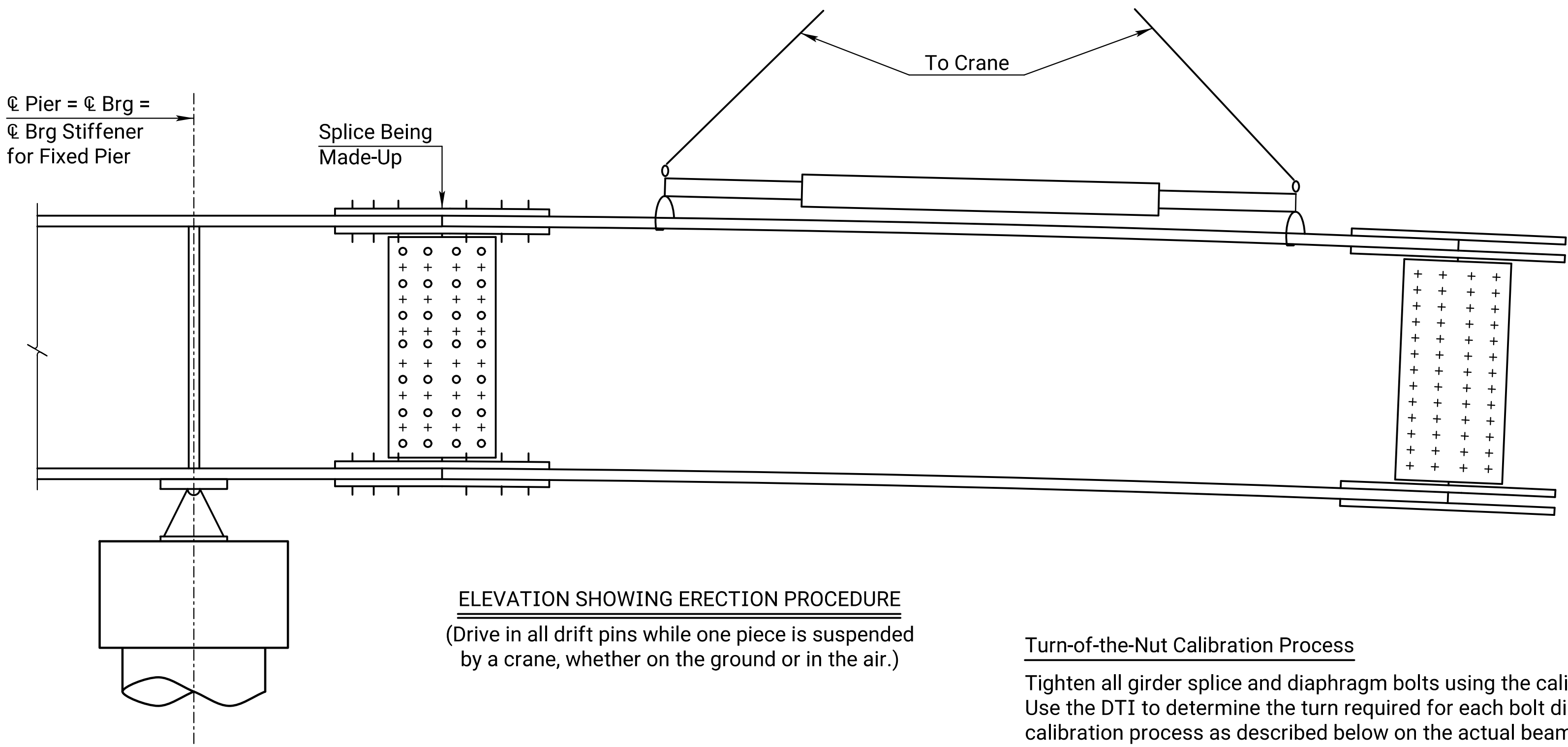


PROPER FIT-UP (DRIFTING)

Drift Pin Diameter = Hole Diameter
Hole ϕ = $\frac{15}{16}$ " for girder splice.
Hole ϕ = $\frac{13}{16}$ " for X-frame or diaphragm connection.



DRIFT PIN



ELEVATION SHOWING ERECTION PROCEDURE

(Drive in all drift pins while one piece is suspended by a crane, whether on the ground or in the air.)

Fit Up

During the fit up, install drift pins in all corner bolt holes, plus 25 percent of the bolt holes (as a min.), evenly distributed throughout the splice. Fill at least 25 percent of the bolt holes with high strength bolts. Fully tighten these bolts by the calibrated turn-of-the-nut method before removing any drift pins or moving the members. These bolts may be either erection bolts or production bolts. Erection bolts are used during fit up, to compress the plies of the splice to achieve a snug condition. Erection bolts are the property of the Contractor and do not remain in the bridge permanently. Erection bolts must be A325, and can be reused. Erection bolts are required when the abutting plates are of different thickness and no fill plate is provided. This situation usually results in a slight bending of the splice plates. If erection bolts are not used, the DTI's may fully compress before the plates are in firm contact. This would be cause for rejecting the splice. Clearly mark the erection bolts so that they are not left in the splice.

Erection

Two independent crews will survey the bearing seat elevations. The Engineer will verify that the results of those surveys show that the bearing seat elevations are within $\pm\frac{1}{4}$ inch of the plan elevations before erection begins. Use the blocking diagram, as shown on the shop drawings, when erecting the beams/girders on the ground. Do not lift the assembled pieces into position until at least 25 percent of the holes are filled with fully tightened bolts. Locate the centerline of the bearing stiffener with the centerline of bearing device. Secure the beams/girders to the top of the pier cap prior to placement of the bearing device anchor bolts.

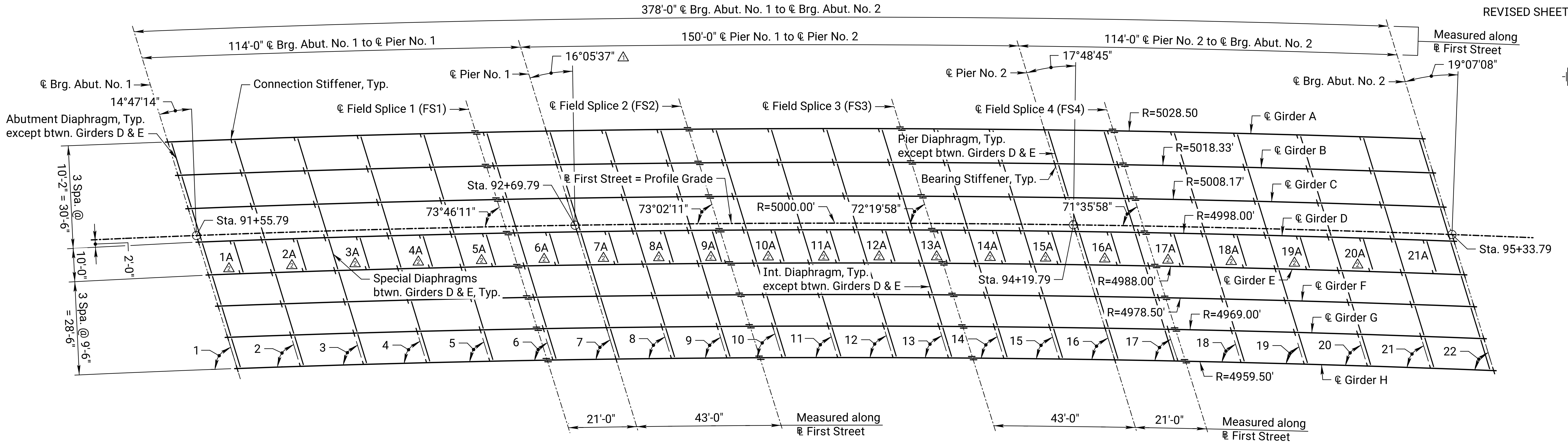
Turn-of-the-Nut Calibration Process

Tighten all girder splice and diaphragm bolts using the calibrated turn-of-the-nut method. Use the DTI to determine the turn required for each bolt diameter & length. Perform the calibration process as described below on the actual beam splice or using 3 plies of steel plate with the same thickness as the actual splice.

1. Bring at least 25 percent of the bolts in the splice to a "snug-tight-condition". "Snug tight condition" is defined as (with all plies in firm contact) "the full effort of a man on a spud wrench". Usually a smaller impact gun ($\frac{1}{2}$ " drive) is used to snug the splice and a larger impact gun (1" drive) is used for final tightening. This is preferred over the use of a spud wrench. Production bolting and calibration must use the same tools and lubricating procedures. If an impact wrench is used to "iron the plates" and snug the bolts for calibration, then an impact wrench must be used during the snugging process during production bolting.
2. See "Required Marking Detail" (choose a bolt at the center of the splice and recheck snug on adjacent bolts).
 - a. Mark the outside of the socket at one of the corners.
 - b. Mark the bolt, plate, and nut at a corner with a start line.
 - c. Align the mark on the socket with the start mark on the bolt end.
 - d. While holding a backup wrench on the head of the bolt, turn the nut 1/2 turn (3 flats).
 - e. Record the number of refusals.
 - f. If all of the gaps refuse, go to another bolt and turn the nut 2 flats (1/3 turn).
 - g. If there are fewer than 3 refusals turn the nut an additional 1/4 of a flat (15 degrees).
 - h. Repeat step g., turning the nut 1/3 of a flat or less each time, until all of the gaps refuse the feeler gage. Record the amount required to cause all of the gaps to refuse the feeler gage. This is the target amount.

3. Repeat this process for each bolt diameter and length.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	53	120



REVISED SHEET

FRAMING PLAN

STRUCTURAL STEEL QUANTITIES			
Member	ASTM A709 (Gr. 36) (Lbs)	ASTM A709 (Gr. 50W) (Lbs)	AASHTO M270 (Gr. 50WT3) (Lbs)
Girder Web Plates	--	374,533	--
Girder Flange Plates	--	--	673,527
Bearing Stiffeners	--	--	9,451
Connection Stiffeners	--	--	26,443
Web Splice Plates	--	8,729	--
Flange Splice Plates	--	--	16,719
Flange Fill Plates	--	--	5,130
Special Diaphragms	--	Δ 9,403	--
Pier Diaphragms	--	Δ 6,977	--
Intermediate Diaphragms	--	Δ 65,160	--
Abutment Diaphragms	--	403	--
Abutment Girder Supports	2,020	--	--
Total Structural Steel	2,020	Δ 465,205	731,270

STIFFENER ANGLES AT INTERMEDIATE SPECIAL DIAPHRAGMS		
Δ	LOCATION	Girder D Girder E
	Stiffener 1A	104°54'08" 75°04'02"
	Stiffener 2A	105°07'12" 74°50'56"
	Stiffener 3A	105°20'16" 74°37'50"
	Stiffener 4A	105°33'21" 74°24'44"
	Stiffener 5A	105°46'25" 74°11'38"
	Stiffener 6A	105°59'29" 73°58'33"
	Stiffener 7A	106°11'45" 73°46'15"
	Stiffener 8A	106°23'12" 73°34'46"
	Stiffener 9A	106°34'40" 73°23'17"
	Stiffener 10A	106°46'08" 73°11'47"
	Stiffener 11A	106°57'36" 73°00'17"
	Stiffener 12A	107°09'05" 72°48'47"
	Stiffener 13A	107°20'32" 72°37'19"
	Stiffener 14A	107°32'00" 72°25'51"
	Stiffener 15A	107°43'27" 72°14'20"
	Stiffener 16A	107°55'43" 72°02'03"
	Stiffener 17A	108°08'48" 71°48'57"
	Stiffener 18A	108°21'52" 71°35'51"
	Stiffener 19A	108°34'56" 71°22'45"
	Stiffener 20A	108°48'01" 71°09'38"
	Stiffener 21A	109°01'10" 70°56'27"

STIFFENER ANGLES								
LOCATION	Girder A	Girder B	Girder C	Girder D	Girder E	Girder F	Girder G	Girder H
Stiffener 1	75°17'55"	75°16'05"	75°14'15"	75°12'24"	75°10'35"	75°08'51"	75°07'06"	75°05'21"
Stiffener 2	75°04'55"	75°03'04"	75°01'12"	74°59'20"	74°57'29"	74°55'43"	74°53'57"	74°52'10"
Stiffener 3	74°51'56"	74°50'03"	74°48'10"	74°46'16"	74°44'23"	74°42'36"	74°40'48"	74°39'00"
Stiffener 4	74°38'57"	74°37'03"	74°35'07"	74°33'12"	74°31'18"	74°29'29"	74°27'39"	74°25'49"
Stiffener 5	74°25'58"	74°24'02"	74°22'05"	74°20'08"	74°18'12"	74°16'21"	74°14'30"	74°12'38"
Stiffener 6	74°12'59"	74°11'01"	74°09'03"	74°07'03"	74°05'06"	74°03'14"	74°01'21"	73°59'28"
Stiffener 7	74°00'00"	73°58'01"	73°56'00"	73°54'00"	73°52'00"	73°50'06"	73°48'12"	73°46'17"
Stiffener 8	73°48'37"	73°46'36"	73°44'34"	73°42'31"	73°40'31"	73°38'35"	73°36'40"	73°34'43"
Stiffener 9	73°37'14"	73°35'11"	73°33'08"	73°31'04"	73°29'01"	73°27'05"	73°25'07"	73°23'10"
Stiffener 10	73°25'50"	73°23'46"	73°21'41"	73°19'36"	73°17'32"	73°15'34"	73°13'35"	73°11'36"
Stiffener 11	73°14'27"	73°12'21"	73°10'15"	73°08'08"	73°06'03"	Δ 73°04'03"	Δ 73°02'03"	73°00'02"
Stiffener 12	73°03'04"	73°00'56"	72°58'49"	72°56'40"	72°54'33"	72°52'32"	72°50'31"	Δ 72°48'29"
Stiffener 13	72°51'41"	72°49'32"	72°47'22"	72°45'12"	72°43'04"	Δ 72°41'01"	72°38'58"	72°36'55"
Stiffener 14	72°40'17"	72°38'07"	72°35'56"	72°33'44"	72°31'34"	72°29'31"	72°27'26"	72°25'21"
Stiffener 15	72°28'54"	72°26'42"	72°24'30"	72°22'17"	72°20'05"	72°18'00"	72°15'54"	72°13'48"
Stiffener 16	72°17'31"	72°15'17"	72°13'03"	72°10'49"	72°08'36"	72°06'29"	72°04'22"	72°02'14"
Stiffener 17	72°04'32"	72°02'17"	72°00'01"	71°57'45"	71°55'30"	71°53'21"	71°51'12"	71°49'03"
Stiffener 18	71°51'33"	71°49'16"	71°46'58"	71°44'40"	71°42'24"	71°40'14"	71°38'03"	71°35'52"
Stiffener 19	71°38'34"	71°36'15"	71°33'56"	71°31'36"	71°29'18"	71°27'06"	71°24'54"	71°22'41"
Stiffener 20	71°25'35"	71°23'15"	71°20'54"	71°18'32"	71°16'12"	71°13'59"	71°11'45"	71°09'30"
Stiffener 21	71°12'36"	71°10'14"	71°07'51"	71°05'28"	71°03'06"	71°00'51"	70°58'35"	70°56'19"
Stiffener 22	70°59'37"	70°57'14"	70°54'49"	70°52'24"	70°50'00"	70°47'44"	70°45'26"	70°43'08"

Note: Connection Stiffeners for Intermediate Special Diaphragms are only needed at interior bays.

Notes:

All girder flange plates, flange splice plates, flange fill plates, connection stiffeners and bearing stiffeners shall meet AASHTO M270 Grade 50WT3 requirements.

Girder web plates, web splice plates, diaphragms shall conform to the requirements of ASTM A709 Grade 50W.

Unless otherwise noted, all longitudinal dimensions are measured horizontally along girder centerlines.

Correct length of girders as required for grade and vertical curvature.

Place bearing stiffeners vertical and perpendicular to the girder web unless shown otherwise.

All diaphragm connection stiffener bars shall be $8\frac{3}{4} \times \frac{5}{8}$ unless shown otherwise.

Place intermediate diaphragm connection stiffeners on the side of the web indicated on the Framing Plan, normal to the girder top flange and perpendicular to the web unless shown otherwise.

For additional structural steel notes, see General Notes Sheet 35.

For Girder Details, see Sheets 54 thru 56.

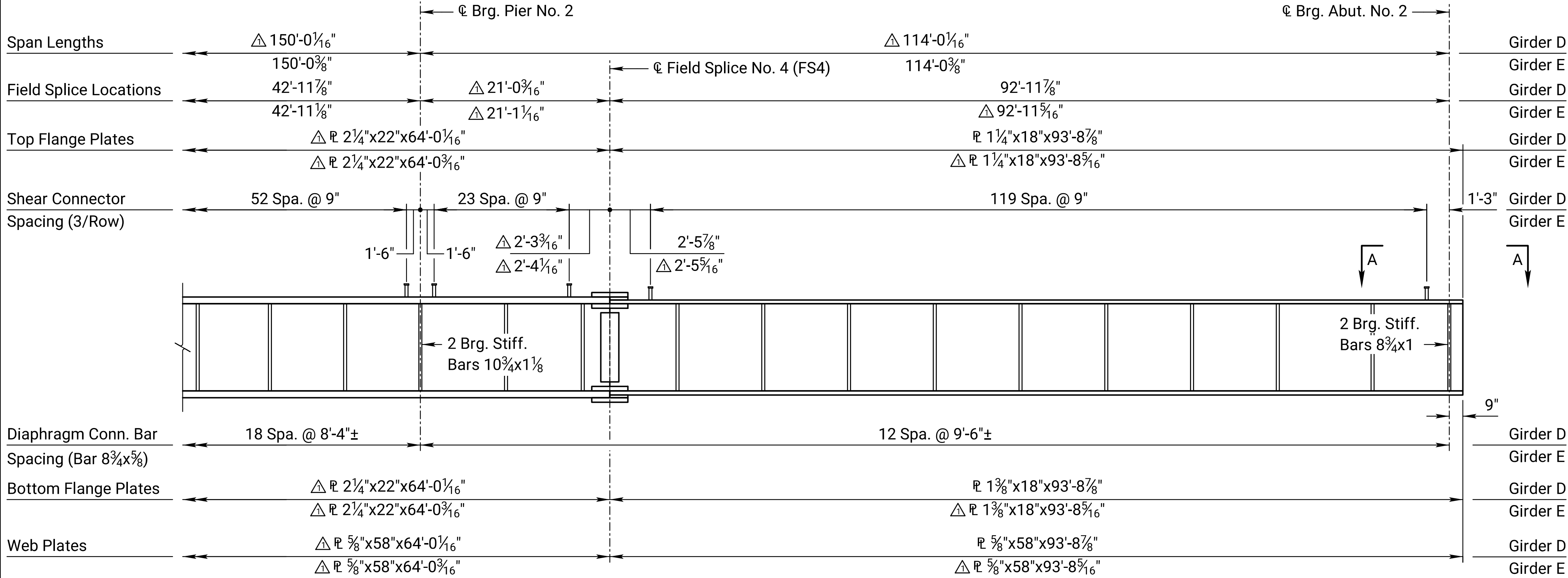
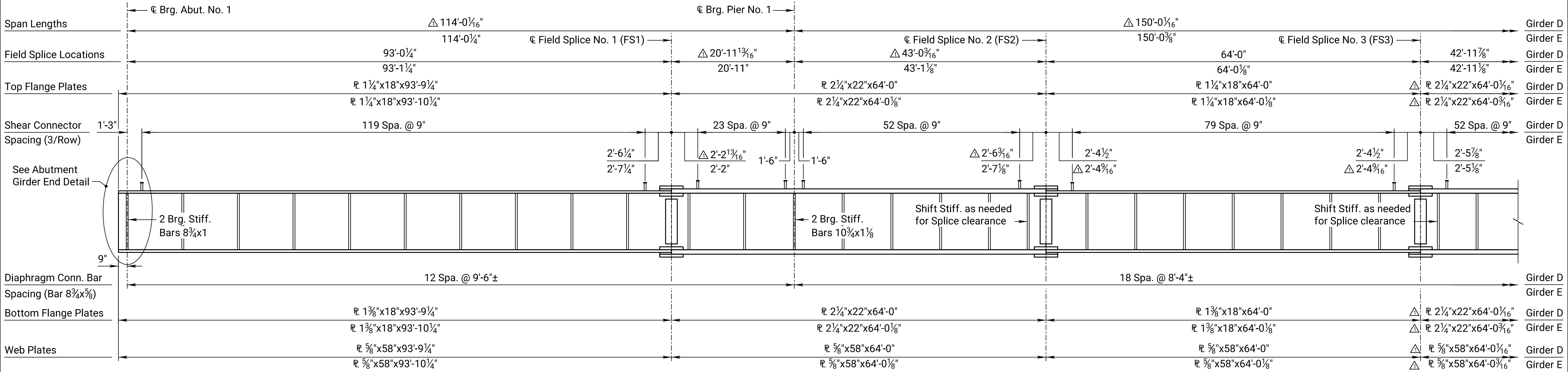
For Field Splice and Misc. Steel Details, see Sheets 59 thru 60.

For Abutment, Intermediate & Pier Diaphragms Details, see Sheet 57.

	03/11/2026	CLARIFICATION OF SPECIAL DIAPHRAGM ANGLES	MAS	MJJ
	02/20/2026	PIER NO. 1 ANGLE CORRECTION	MAS	MJJ
NO.	DATE	REVISIONS	BY	APP'D
CITY OF WICHITA				
Br. No. 5304008700AR81			Sta. 93+44.79	
FRAMING PLAN				
FIRST STREET OVER ARKANSAS RIVER				
Proj. No. 472-2024-086064			Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D	
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES S.J.J.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK. M.A.S.
			CADD	CADD CK. X.X.X.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	55	120

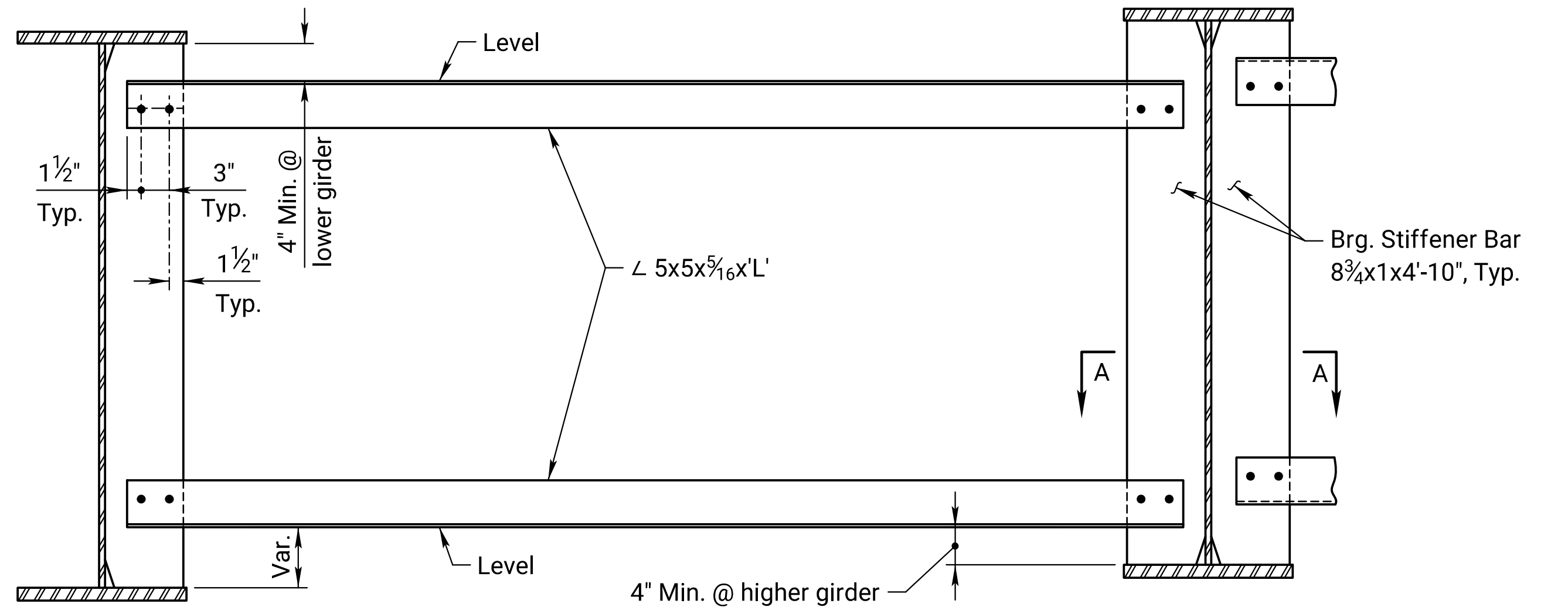
REVISED SHEET



Notes:
For Girder Notes, see Sheet 53.
For Structural Steel Notes, see Sheet 53.
For Abutment Girder End Detail & View A-A, see Sheet 60.

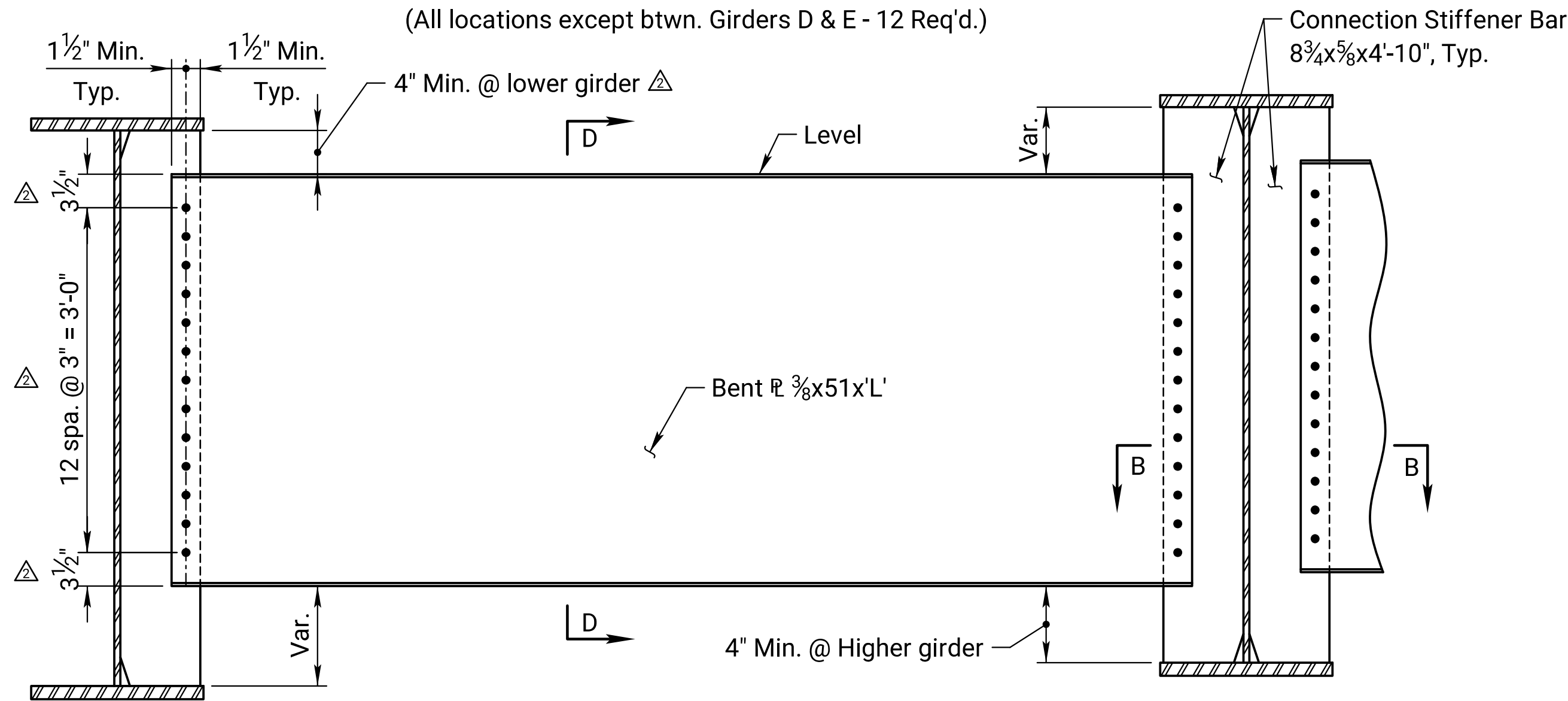
Δ	02/20/2026	ROUNDING ADJUSTED TO 1/16"		MAS MJJ
NO.	DATE	REVISIONS		BY APP'D
CITY OF WICHITA				
Br. No. 5304008700AR81			Sta. 93+44.79	
GIRDER D & E DETAILS				
FIRST STREET OVER ARKANSAS RIVER				
Proj. No. 472-2024-086064			Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D	
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES S.J.J. CADD X.X.X.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK. M.A.S. CADD CK. X.X.X.

Drawn By : pqrhan
File : 086064bbrAR81-dd01
Plotted : 4/28/2026



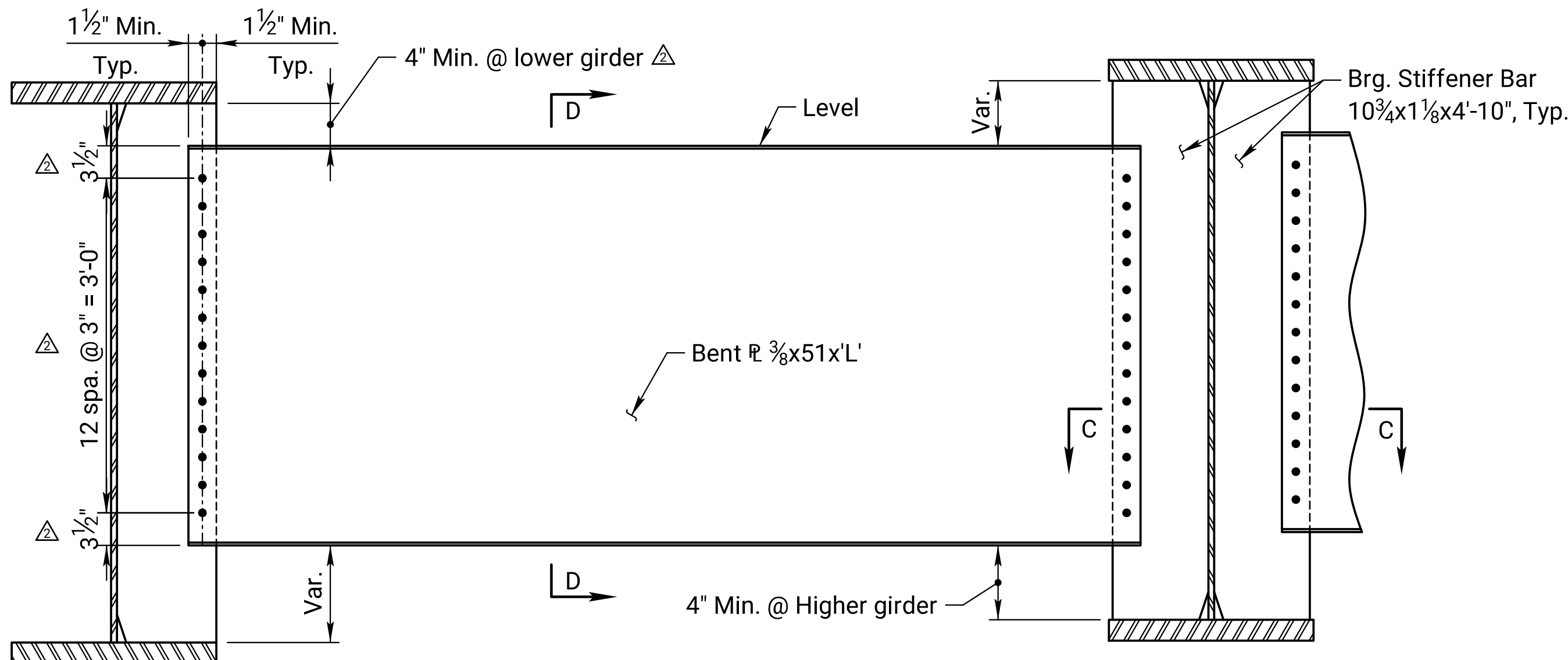
ABUTMENT DIAPHRAGMS

(All locations except btwn. Girders D & E - 12 Req'd.)



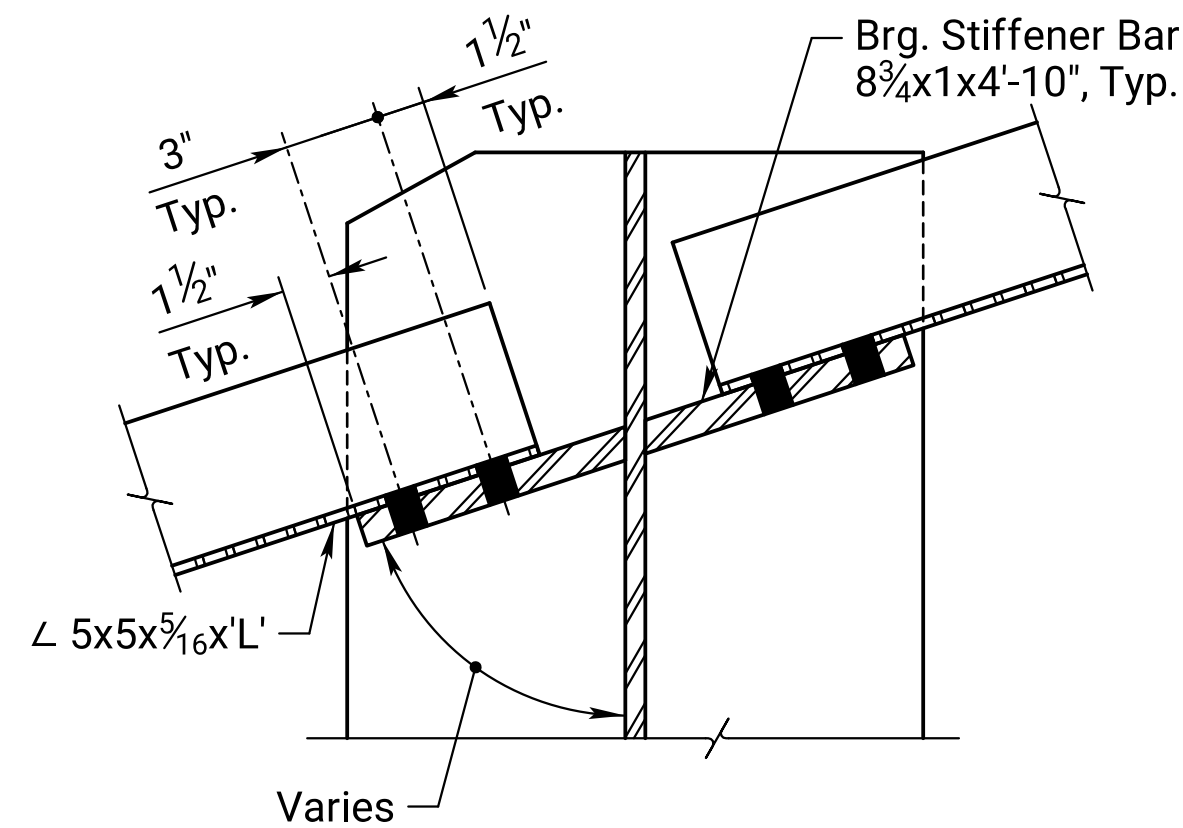
INTERMEDIATE DIAPHRAGMS

(All locations except btwn. Girders D & E - 108 Req'd.)

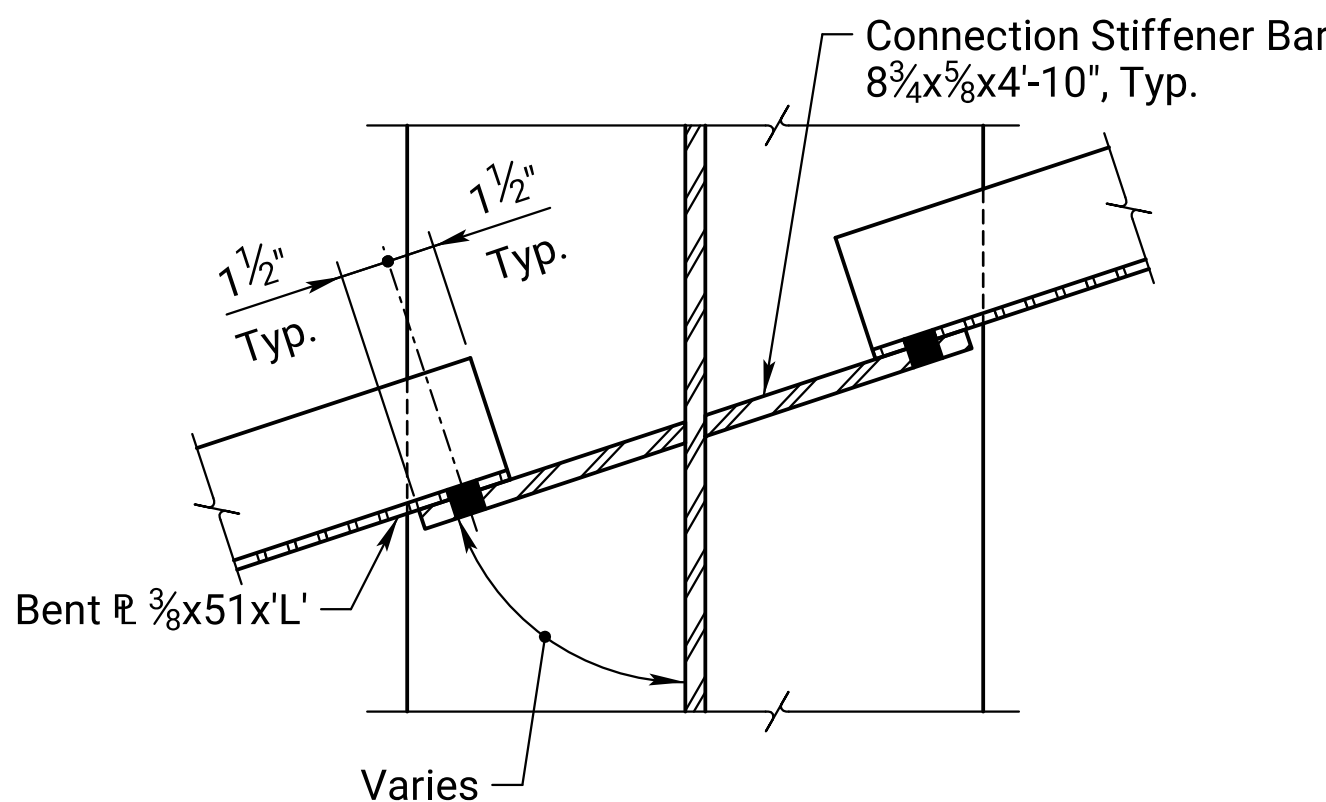


PIER DIAPHRAGMS

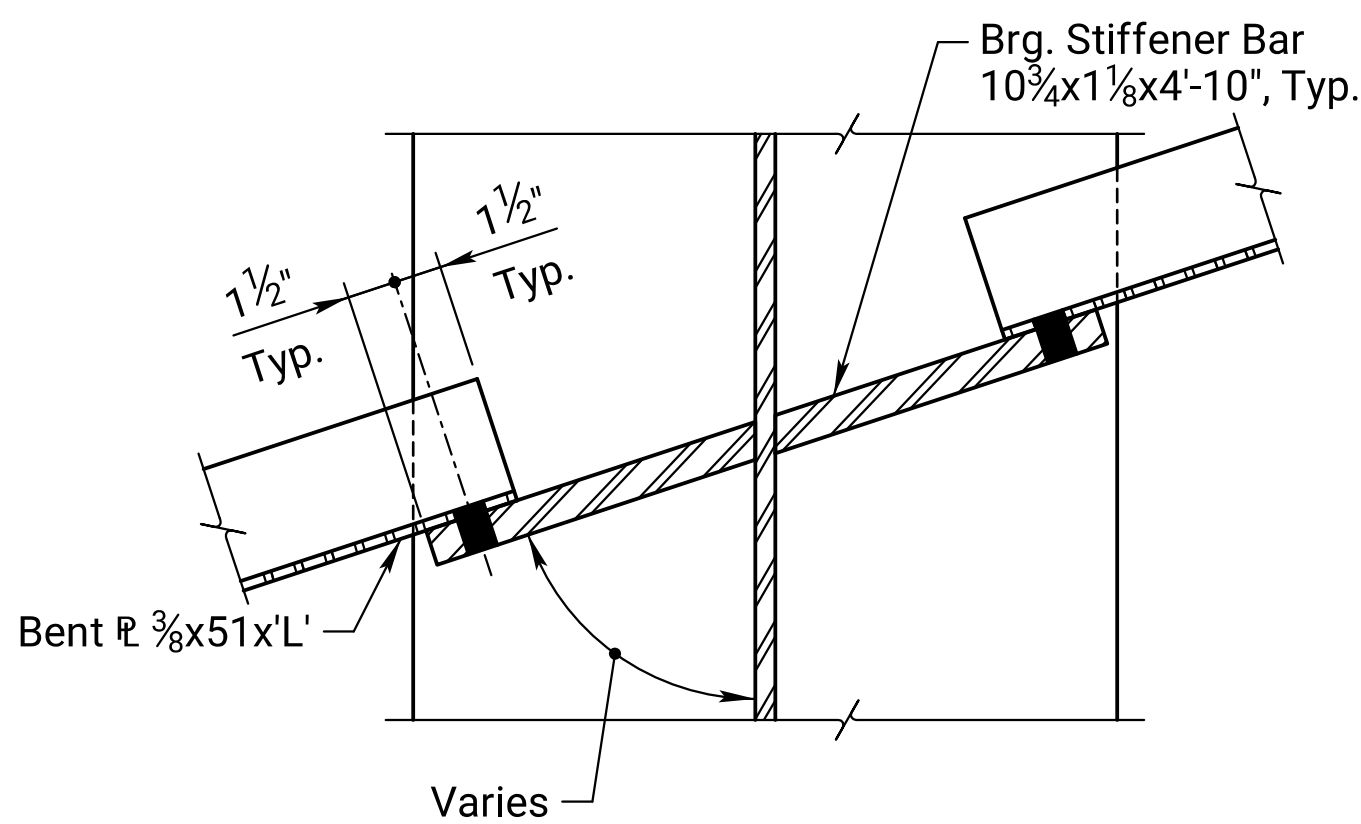
(All locations except btwn. Girders D & E - 12 Req'd.)



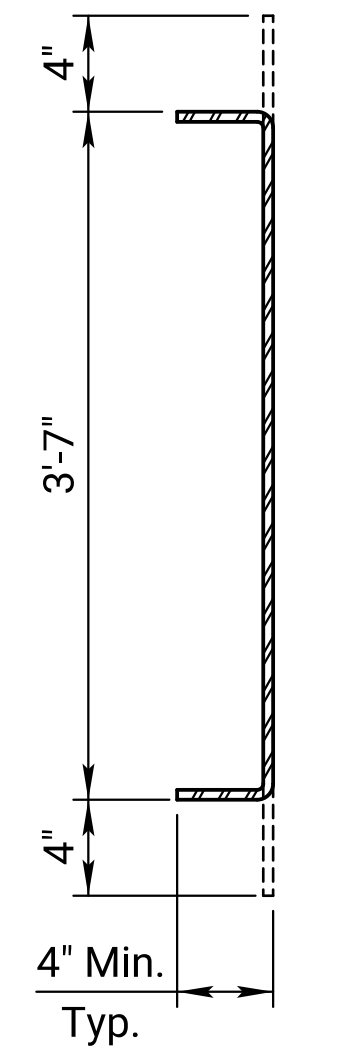
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

Notes:
Diaphragms shall be detailed, fabricated and installed so that girder webs are vertical under full steel dead load prior to deck placement.
Structural steel for diaphragms shall conform to the requirements of ASTM A709 Grade 50W.
All bolts shall be 7/8" high strength steel bolts, ASTM A325 (Type 3).
For location of diaphragms, stiffeners and angles of stiffeners, see Sheet 53 .
For Structural Steel Notes, see Sheet 35 .
For details of Special Diaphragms between Girders D & E, see Sheet 58 .

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	57	120

REVISED SHEET

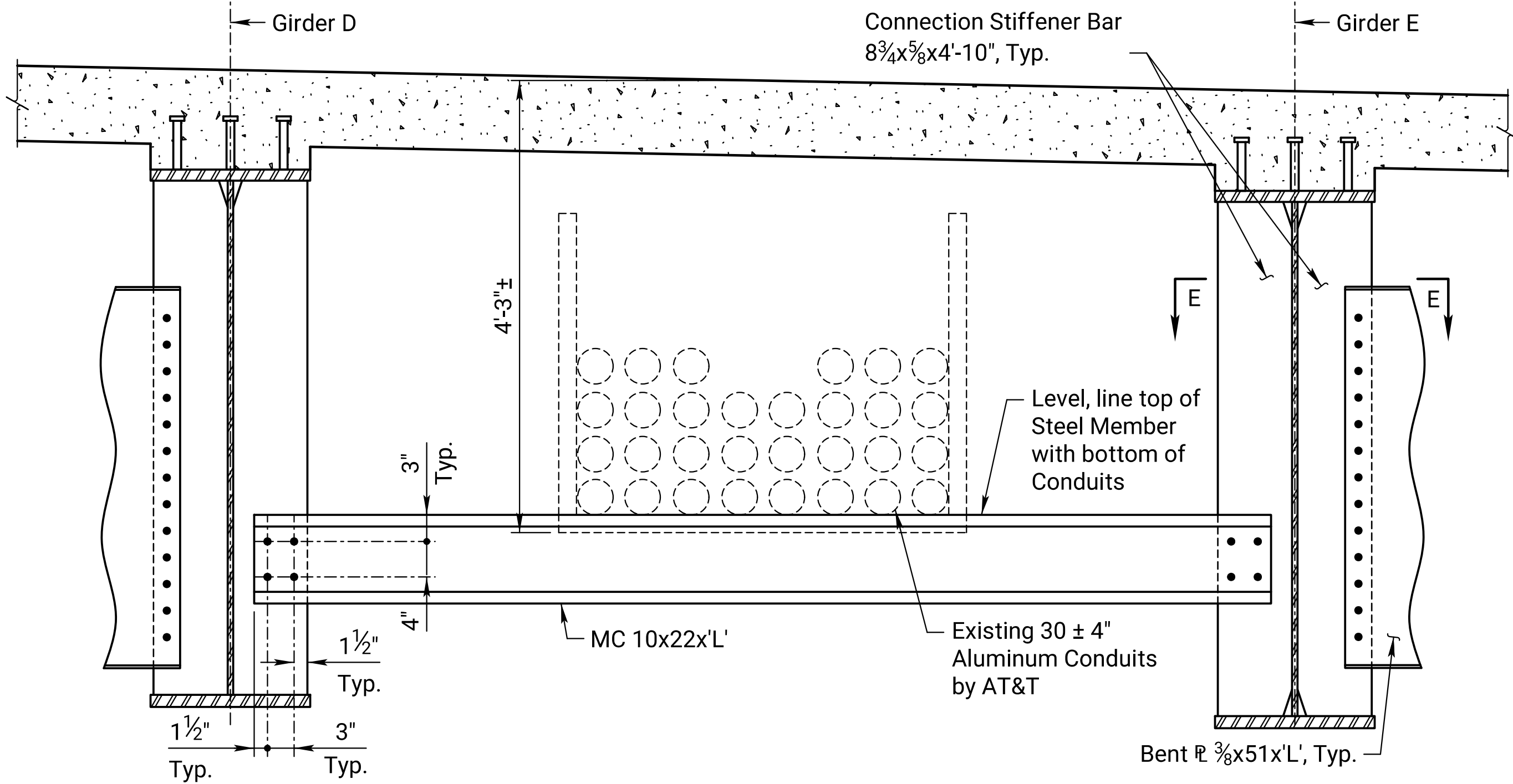
DIMENSION 'L'		
Location	Girder A and B Girder B and C Girder C and D	Girder E and F Girder F and G Girder G and H
Stiffener 1	10'-0"	9'-3 13/16"
Stiffener 2	9'-6 1/8"	△ 8'-9 15/16"
Stiffener 3	9'-6 1/4"	△ 8'-10 1/16"
Stiffener 4	9'-6 5/8"	△ 8'-10 3/16"
Stiffener 5	9'-6 1/2"	△ 8'-10 5/16"
Stiffener 6	9'-6 5/8"	△ 8'-10 7/16"
Stiffener 7	9'-2 3/4"	△ 8'-6 3/16"
Stiffener 8	9'-6 7/8"	△ 8'-10 1 1/16"
Stiffener 9	9'-7"	△ 8'-10 1 3/16"
Stiffener 10	9'-7 1/8"	△ 8'-10 1 5/16"
Stiffener 11	9'-7 1/4"	△ 8'-11 1/16"
Stiffener 12	9'-7 3/8"	△ 8'-11 3/16"
Stiffener 13	9'-7 1/2"	△ 8'-11 5/16"
Stiffener 14	△ 9'-7 1 1/16"	△ 8'-11 7/16"
Stiffener 15	△ 9'-7 1 3/16"	△ 8'-11 9/16"
Stiffener 16	△ 9'-3 1 5/16"	△ 8'-7 1 1/16"
Stiffener 17	△ 9'-8 1/16"	△ 8'-11 1 3/16"
Stiffener 18	9'-8 1/4"	9'-0"
Stiffener 19	9'-8 3/8"	9'-0 1/8"
Stiffener 20	△ 9'-8 5/16"	9'-0 1/4"
Stiffener 21	9'-8 3/4"	△ 9'-0 1/16"
Stiffener 22	10'-2 1/8"	9'-6 3/8"

	04/03/2026	SPLIT SPECIAL DIAPHRAGMS DETAILS TO NEW SHEET		MAS	MJJ
	03/04/2026	INT. DIAPHRAGM HOLES SPACING AND QUANTITY		MAS	MJJ
	02/20/2026	ROUNDING ADJUSTED TO 1/16"		MAS	MJJ
NO.	DATE	REVISIONS		BY	APP'D
CITY OF WICHITA					
Br. No. 5304008700AR81				Sta. 93+44.79	
DIAPHRAGM DETAILS					
FIRST STREET OVER ARKANSAS RIVER					
Proj. No. 472-2024-086064				Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D		
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S.
				CADD	CADD CK.
					X.X.X.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	58	120

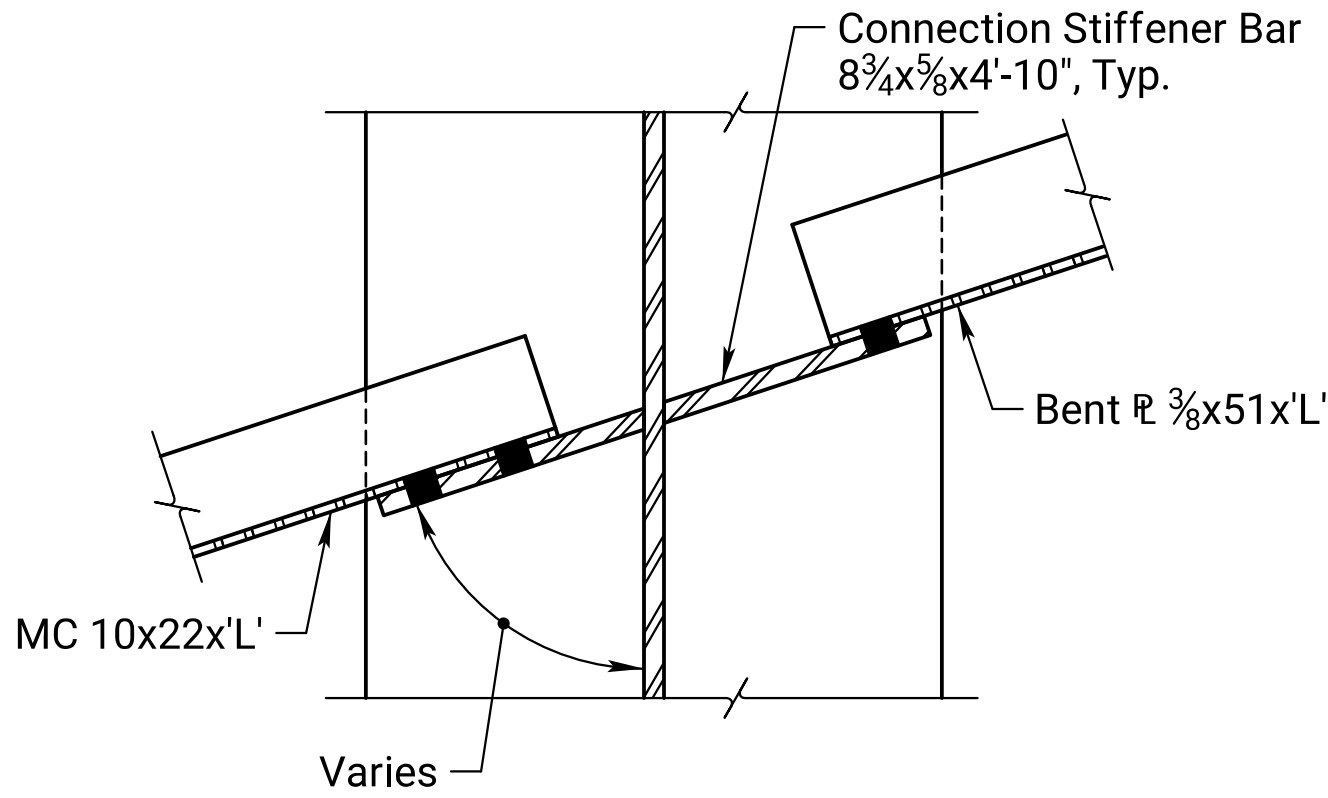
REVISED SHEET

DIMENSION 'L'			
Location	Girder D and E	Location	Girder D and E
Stiffener 1	9'-10"	Stiffener 1A	9'-10 $\frac{1}{16}$ "
Stiffener 2	9'-10 $\frac{1}{8}$ "	Stiffener 2A	9'-10 $\frac{3}{16}$ "
Stiffener 3	9'-10 $\frac{1}{4}$ "	Stiffener 3A	9'-10 $\frac{5}{16}$ "
Stiffener 4	9'-10 $\frac{3}{8}$ "	Stiffener 4A	9'-10 $\frac{7}{16}$ "
Stiffener 5	9'-10 $\frac{1}{2}$ "	Stiffener 5A	9'-10 $\frac{9}{16}$ "
Stiffener 6	9'-10 $\frac{5}{8}$ "	Stiffener 6A	9'-10 $\frac{11}{16}$ "
Stiffener 7	9'-6 $\frac{3}{4}$ "	Stiffener 7A	9'-10 $\frac{13}{16}$ "
Stiffener 8	9'-10 $\frac{7}{8}$ "	Stiffener 8A	9'-10 $\frac{15}{16}$ "
Stiffener 9	9'-11"	Stiffener 9A	9'-11 $\frac{1}{16}$ "
Stiffener 10	9'-11 $\frac{1}{8}$ "	Stiffener 10A	9'-11 $\frac{3}{16}$ "
Stiffener 11	9'-11 $\frac{1}{4}$ "	Stiffener 11A	9'-11 $\frac{5}{16}$ "
Stiffener 12	9'-11 $\frac{3}{8}$ "	Stiffener 12A	9'-11 $\frac{7}{16}$ "
Stiffener 13	9'-11 $\frac{1}{2}$ "	Stiffener 13A	9'-11 $\frac{9}{16}$ "
Stiffener 14	9'-11 $\frac{5}{8}$ "	Stiffener 14A	9'-11 $\frac{11}{16}$ "
Stiffener 15	9'-11 $\frac{3}{4}$ "	Stiffener 15A	9'-11 $\frac{13}{16}$ "
Stiffener 16	9'-7 $\frac{7}{8}$ "	Stiffener 16A	10'-0"
Stiffener 17	△ 10'-0 $\frac{1}{16}$ "	Stiffener 17A	10'-0 $\frac{1}{8}$ "
Stiffener 18	△ 10'-0 $\frac{3}{16}$ "	Stiffener 18A	10'-0 $\frac{5}{16}$ "
Stiffener 19	10'-0 $\frac{1}{8}$ "	Stiffener 19A	10'-0 $\frac{1}{4}$ "
Stiffener 20	△ 10'-0 $\frac{1}{16}$ "	Stiffener 20A	10'-0 $\frac{5}{8}$ "
Stiffener 21	△ 10'-0 $\frac{1}{16}$ "	Stiffener 21A	10'-0 $\frac{3}{4}$ "
Stiffener 22	△△ 10'-3 $\frac{3}{8}$ "	△	△

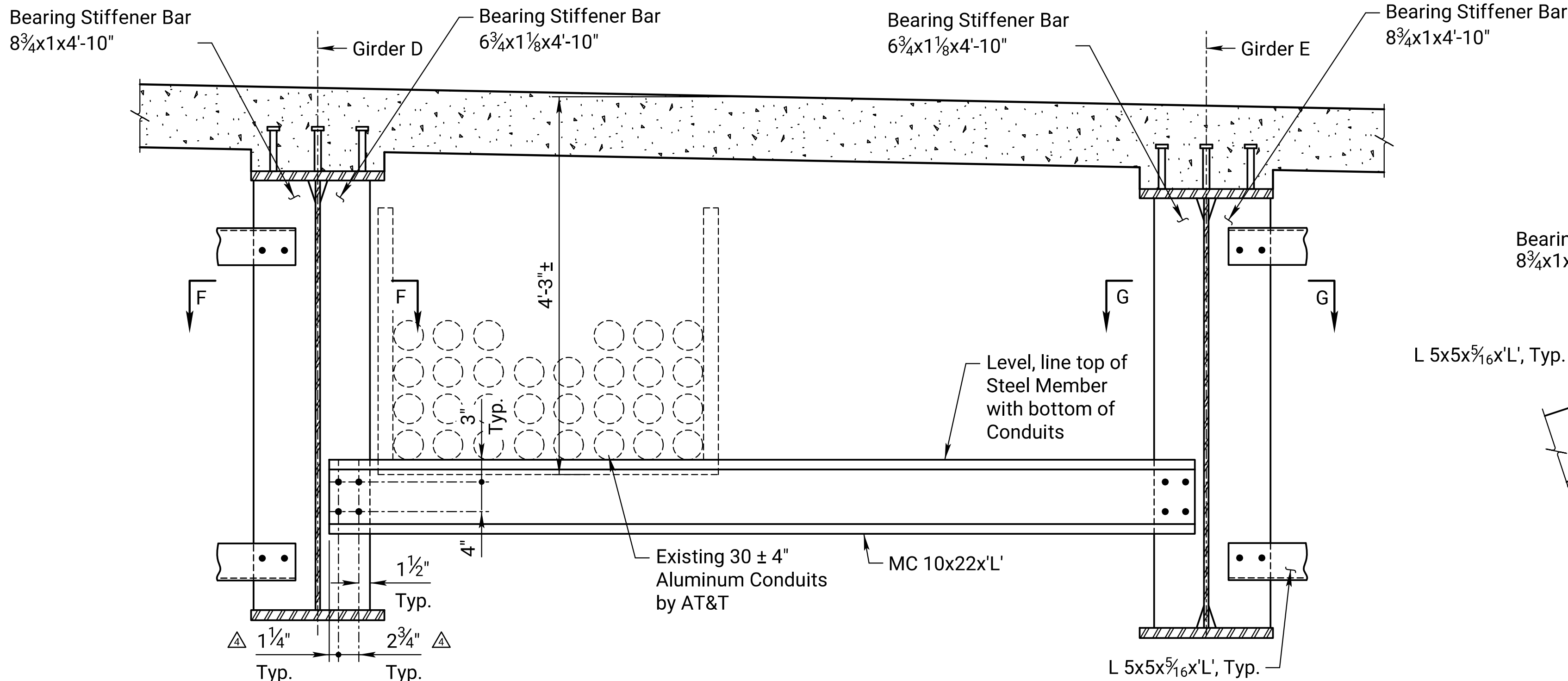


SPECIAL DIAPHRAGMS (GIRDERS D & E) - ALL LOCATIONS EXCEPT STIFFENER 22

(Intermediate Diaphragms section shown, Abutment & Pier Diaphragms section similar - 42 Req'd.)

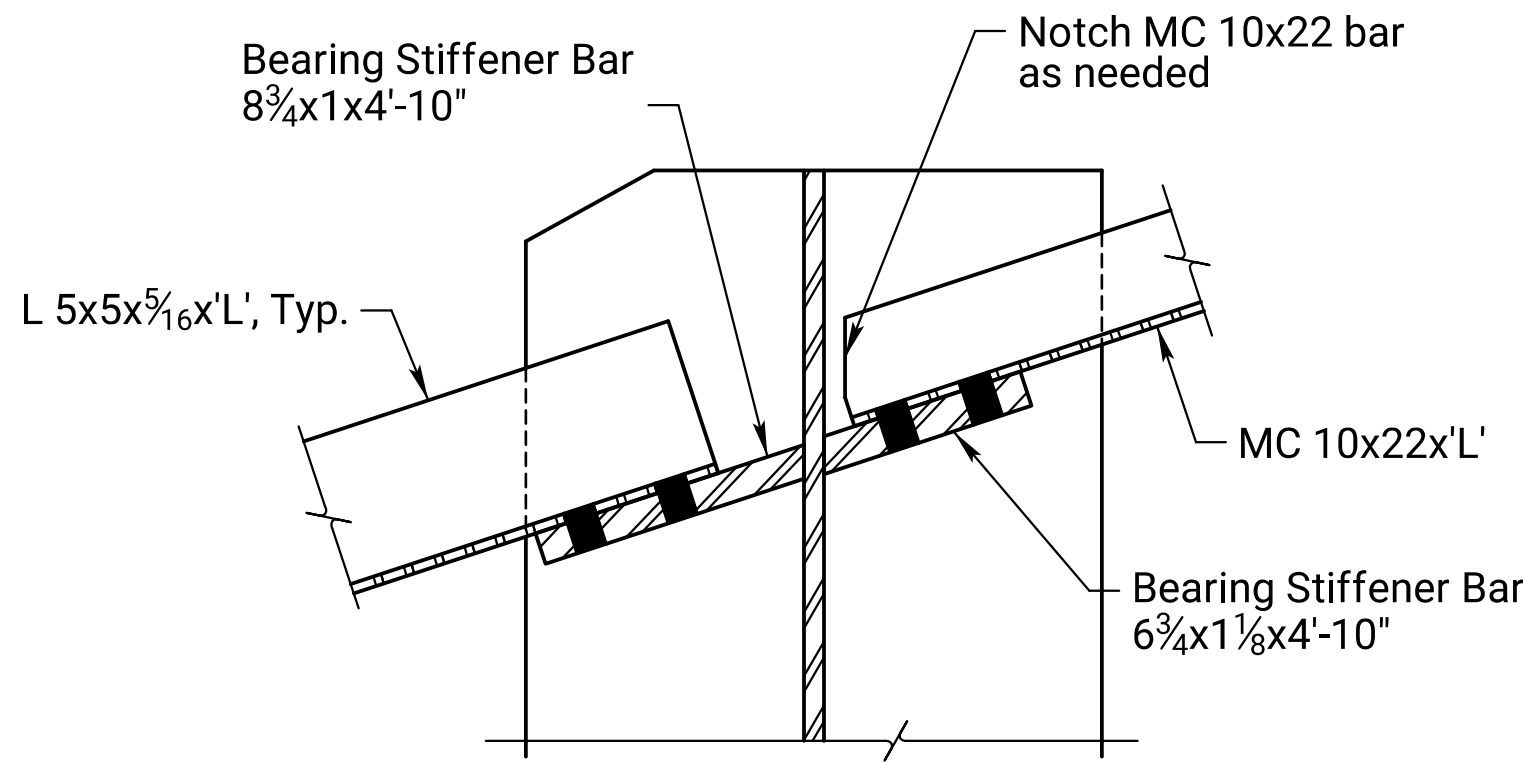


SECTION E-E

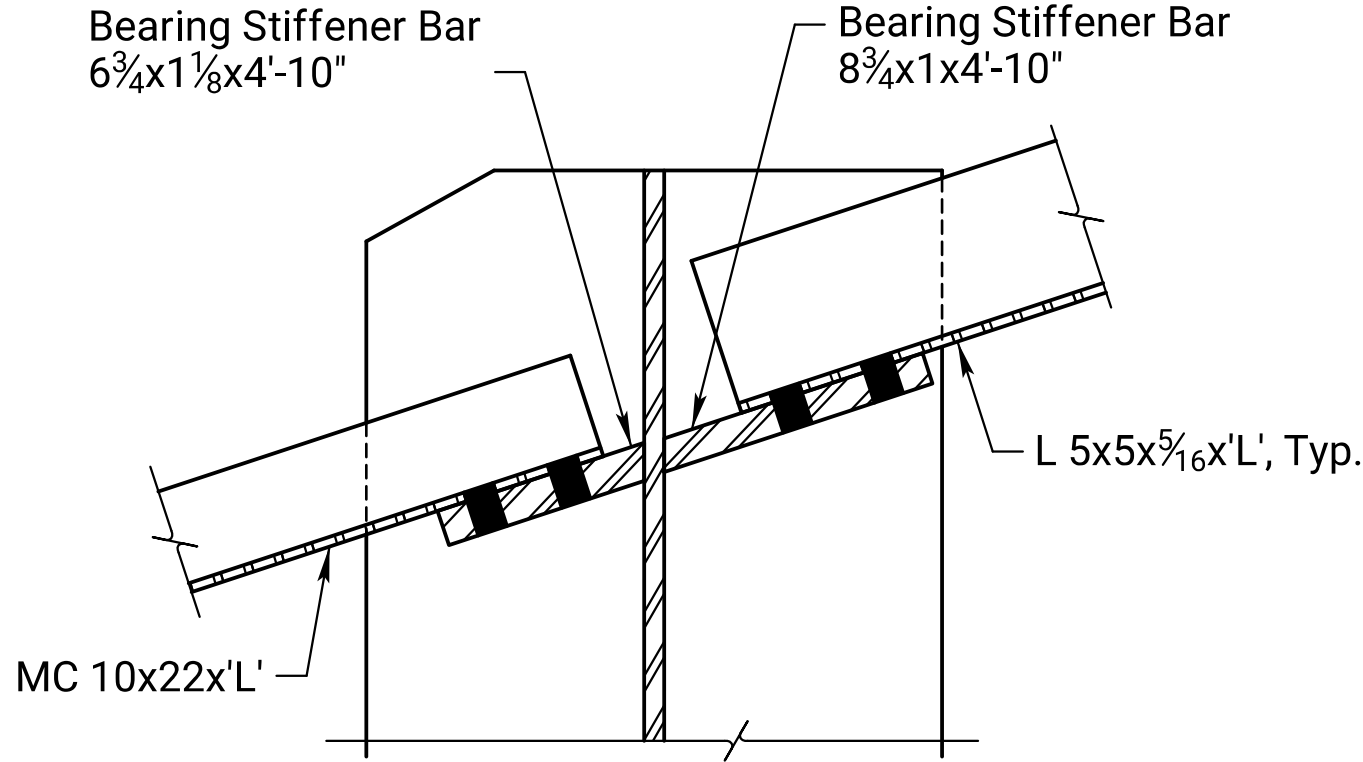


SPECIAL DIAPHRAGMS (GIRDERS D & E) - STIFFENER 22

(Abutment 2 - 1 Req'd.)



SECTION F-F



SECTION G-G

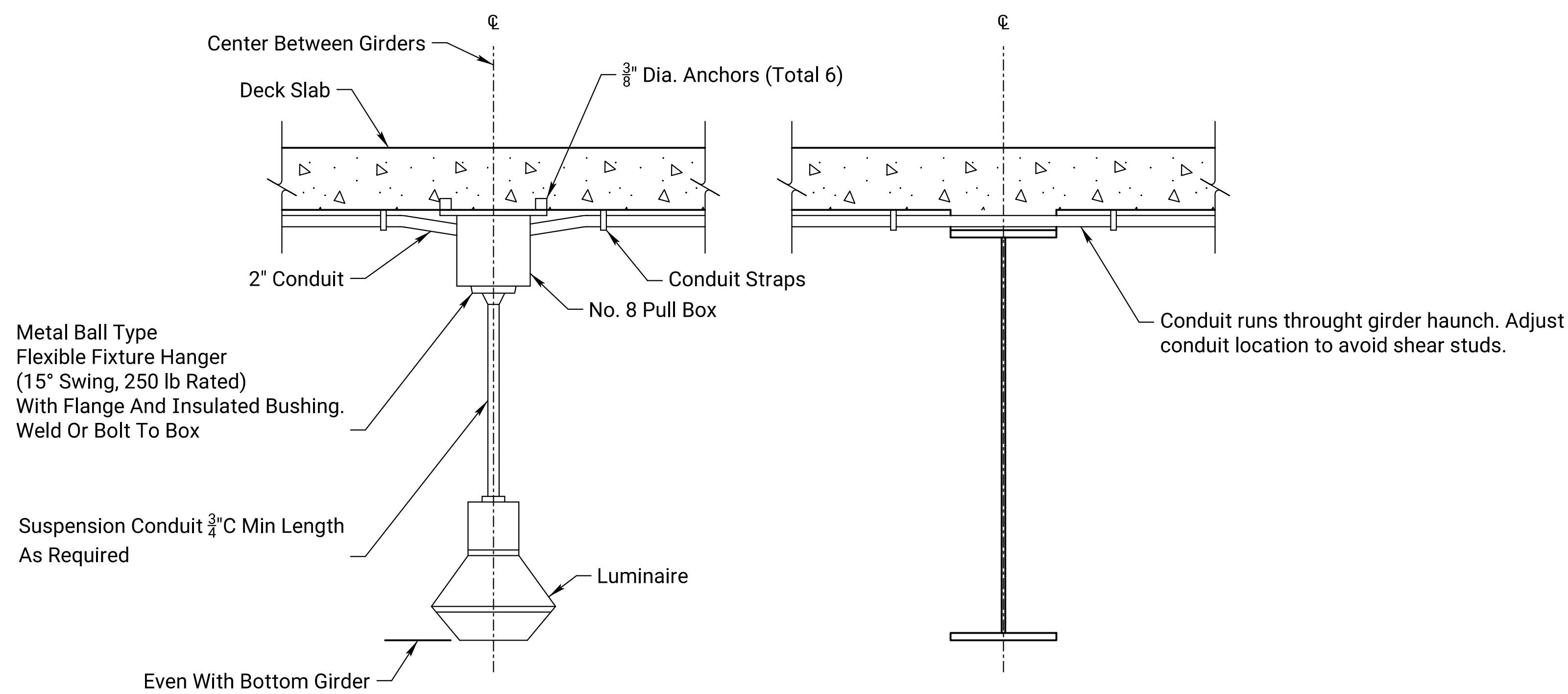
Notes:

- Diaphragms shall be detailed, fabricated and installed so that girder webs are vertical under full steel dead load prior to deck placement.
- Structural steel for diaphragms shall conform to the requirements of ASTM A709 Grade 50W.
- All bolts shall be $\frac{7}{8}$ " high strength steel bolts, ASTM A325 (Type 3).
- For location of diaphragms, stiffeners and angles of stiffeners, see Sheet 53 .
- For Structural Steel Notes, see Sheet 35 .
- For details of Abutment and Pier Diaphragms, see Sheet 57 .

	04/24/2026	LENGTH OF SPECIAL DIAPHRAGM AT STIFFENER 22	MAS	MJJ	
	04/03/2026	LENGTH OF SPECIAL DIAPHRAGM AT STIFFENER 22	MAS	MJJ	
	03/11/2026	CHART FOR INTERMEDIATE SPECIAL DIAPHRAGM	MAS	MJJ	
	02/20/2026	ROUNDING ADJUSTED TO 1/16"	MAS	MJJ	
NO.	DATE	REVISIONS		BY	APPD
CITY OF WICHITA					
Br. No. 5304008700AR81				Sta. 93+44.79	
DIAPHRAGM DETAILS					
FIRST STREET OVER ARKANSAS RIVER					
Proj. No. 472-2024-086064				Sedgwick Co.	
SHEET NO.		OF	SCALE	APPD	
DESIGNED	X.X.X	DETAILED	P.Q.N.	QUANTITIES	S.J.J.
DESIGN CK.	X.X.X	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S.
				CADD	X.X.X
				CADD CK.	X.X.X

Drawn By : pqrhan
File : 086064bbrAR81-1I-02
Plotted : 4/28/2026

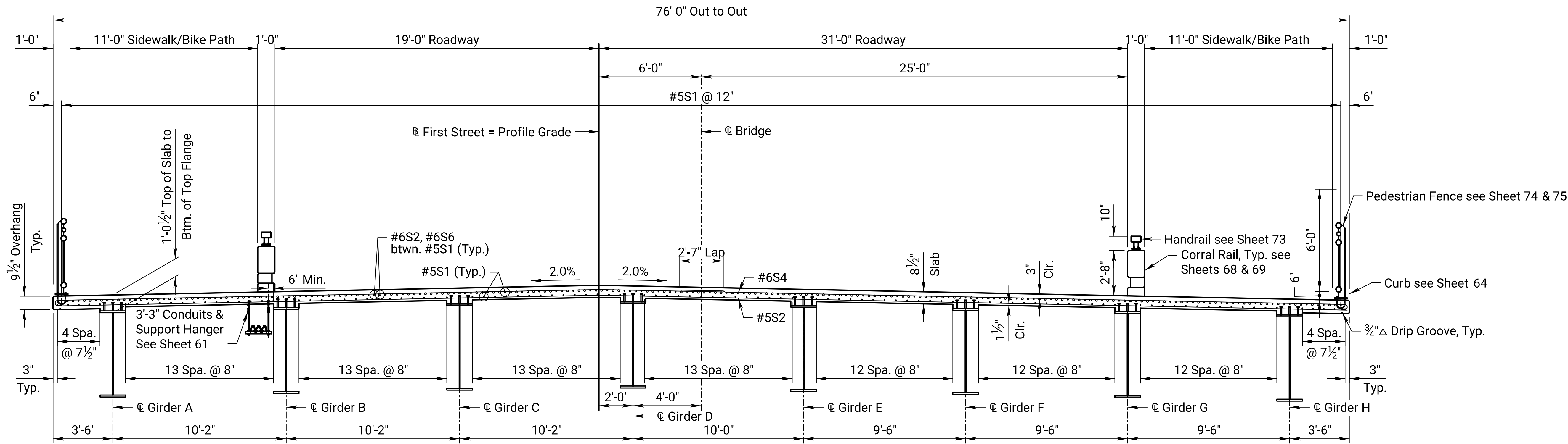
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	63	120



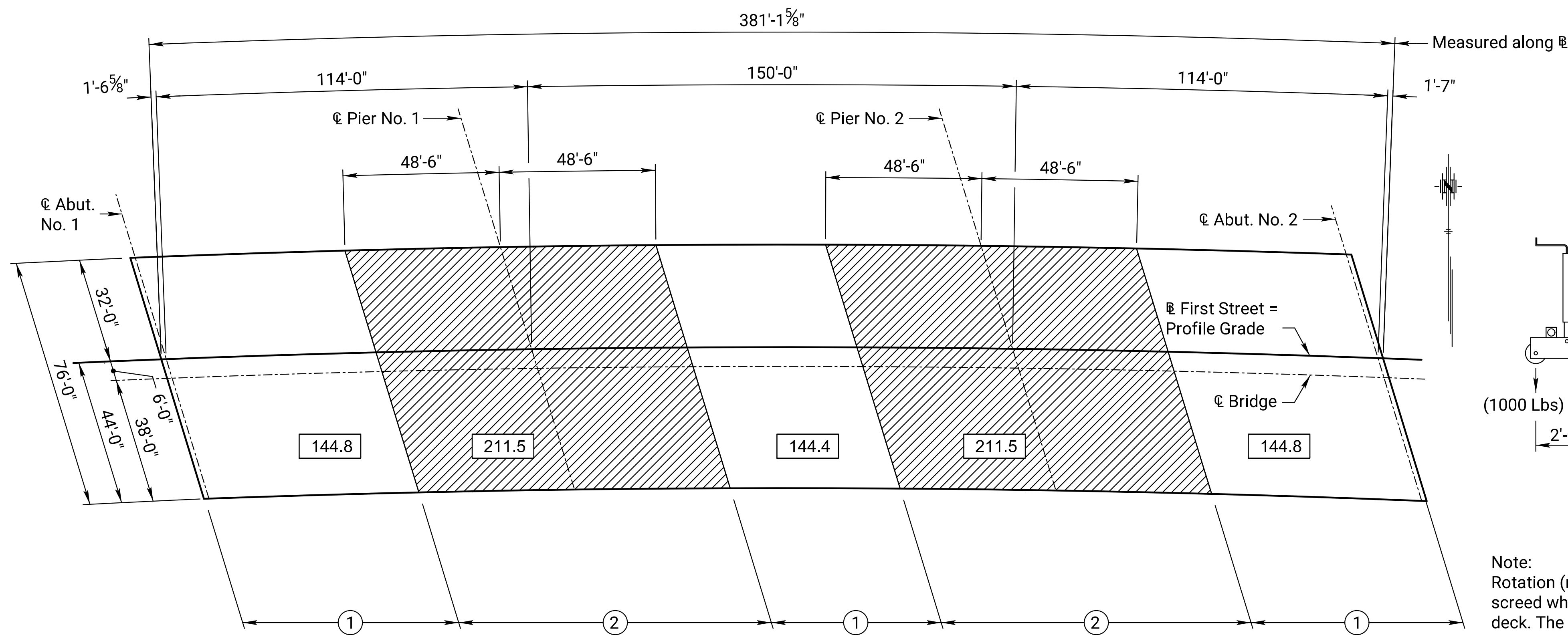
UNDER BRIDGE PENDANT LIGHTING FIXTURE

NO.	DATE	REVISIONS				BY	APP'D
CITY OF WICHITA							
Br. No. 5304008700AR81					Sta. 93+44.79		
UNDER BRIDGE PENDANT LIGHTING FIXTURE DETAILS FIRST STREET OVER ARKANSAS RIVER							
Proj. No. 472-2024-086064					Sedgwick Co.		
SHEET NO.	OF	SCALE	APP'D				
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.	CADD	X.X.X.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S.	CADD CK.	X.X.X.

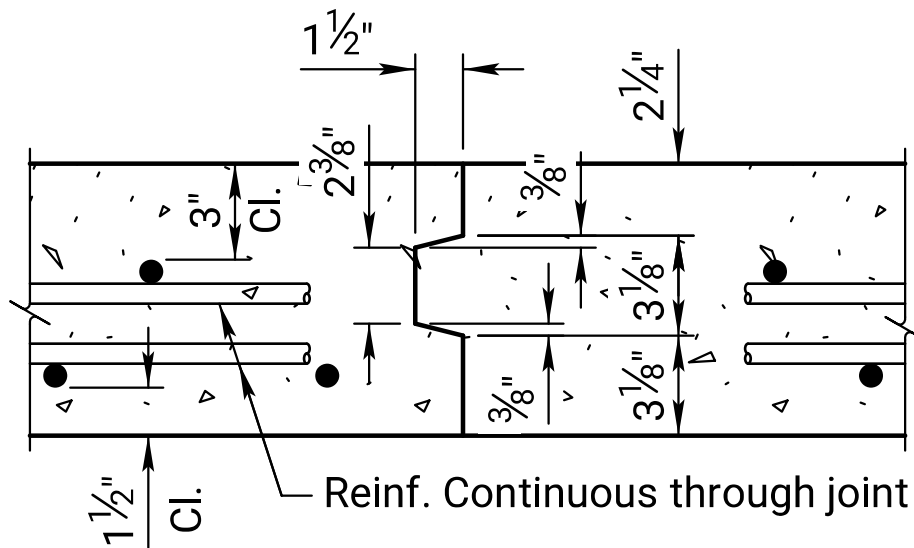
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	65	120



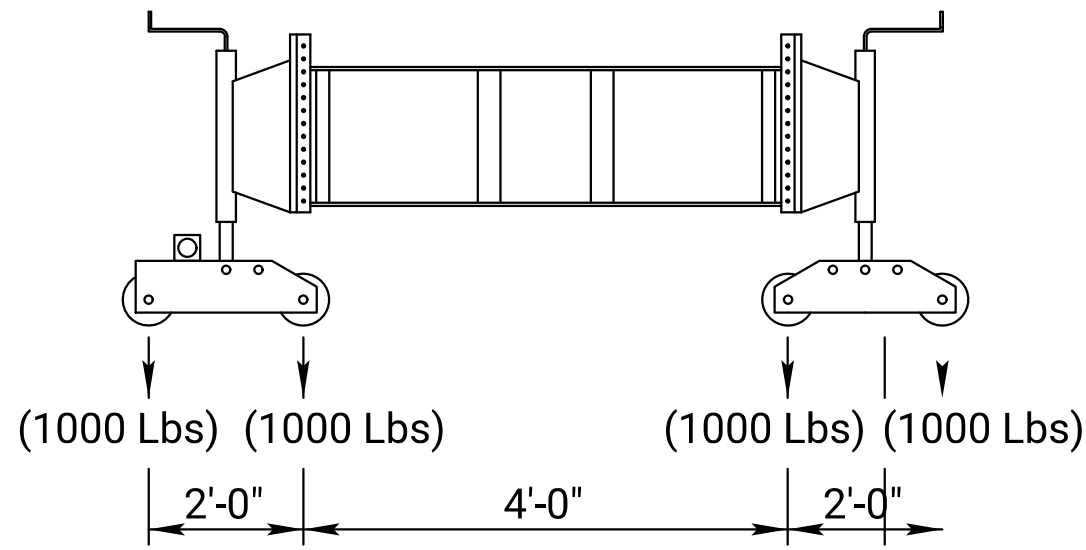
TYPICAL SECTION



CONCRETE POURING SEQUENCE



TRANSVERSE CONSTRUCTION JOINT



ASSUMED FINISHING MACHINE
VALUES LOADING DIAGRAM

Note:
Rotation (maximum = 1°) in the exterior girder was calculated assuming screed wheel loads as shown and placed 3" beyond the outside of the deck. The maximum overhang bracket spacing was assumed at 3 ft. The actual screed loadings or bracket spacing will be reflected in the design calculations for a torsional analysis of the exterior girder and bracing. The design calculations shall bear the seal of a licensed Professional Engineer. Submit according to KDOT Specifications Section 700 for falsework and formwork.

Notes:
① Indicate placing sequence. Segmental or combined pours are allowed by an approved alternate placing sequence. A continuous pour is allowed. Any discontinuous pour must stop at a construction joint short of a pier. See General Notes, Sheet 35, for "Concrete Placing Sequence" note.
Transverse construction joints shall be set parallel to ϕ Pier.
The Contractor may place the corral rail and curb continuously from one end of the bridge to the other.
[XXX.X] Indicate quantity (cu. yds.) of Concrete (Grade 4.0)(AE)(SA) required to pour abutments and slab, including fillets (for information only).

NO.	DATE	REVISIONS					BY	APP'D	
CITY OF WICHITA									
Br. No. 5304008700AR81						Sta. 93+44.79			
SLAB DETAILS									
FIRST STREET OVER ARKANSAS RIVER									
Proj. No. 472-2024-086064						Sedgwick Co.			
SHEET NO.	OF	SCALE		APP'D					
DESIGNED	X.X.X.	DETAILED		P.Q.N.	QUANTITIES	S.J.J.	CADD	X.X.X.	
DESIGN CK.	X.X.X.	DETAIL CK.		M.J.J.	QUAN.CK.	M.A.S.	CADD CK.	X.X.X.	

Drawn By : pqrhan
File : 086064bbrAR81-se01
Plotted : 4/28/2026

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	66	120

† FINISHED TOP OF DECK ELEVATIONS																								
	Point	Left Fascia		℄ Girder A		℄ Girder B		℄ Girder C		Crown		℄ Girder D		℄ Girder E		℄ Girder F		℄ Girder G		℄ Girder H		Right Fascia		Point
		Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	
℄ Abut. No. 1	0	91+47.39	1302.57	91+48.28	1302.66	91+50.94	1302.92	91+53.61	1303.19	91+55.79	1303.40	91+56.31	1303.36	91+58.96	1303.23	91+61.49	1303.09	91+64.02	1302.95	91+66.57	1302.82	91+67.51	1302.77	0
	1	91+58.71	1302.82	91+59.61	1302.91	91+62.30	1303.17	91+64.99	1303.43	91+67.19	1303.64	91+67.72	1303.60	91+70.39	1303.47	91+72.94	1303.33	91+75.50	1303.19	91+78.07	1303.05	91+79.02	1303.00	1
	2	91+70.03	1303.06	91+70.95	1303.15	91+73.66	1303.41	91+76.37	1303.66	91+78.59	1303.87	91+79.12	1303.83	91+81.82	1303.69	91+84.40	1303.55	91+86.97	1303.41	91+89.57	1303.27	91+90.53	1303.21	2
	3	91+81.36	1303.28	91+82.28	1303.37	91+85.01	1303.63	91+87.76	1303.88	91+89.99	1304.08	91+90.53	1304.04	91+93.25	1303.90	91+95.85	1303.76	91+98.45	1303.61	92+01.07	1303.47	92+02.04	1303.42	3
	4	91+92.68	1303.49	91+93.61	1303.58	91+96.37	1303.83	91+99.14	1304.08	92+01.39	1304.28	92+01.93	1304.24	92+04.68	1304.10	92+07.30	1303.95	92+09.93	1303.81	92+12.57	1303.66	92+13.55	1303.60	4
	5	92+04.00	1303.69	92+04.95	1303.77	92+07.73	1304.02	92+10.52	1304.27	92+12.79	1304.47	92+13.34	1304.43	92+16.11	1304.28	92+18.76	1304.13	92+21.41	1303.98	92+24.07	1303.83	92+25.06	1303.78	5
	6	92+15.32	1303.87	92+16.28	1303.96	92+19.09	1304.20	92+21.90	1304.45	92+24.19	1304.64	92+24.74	1304.60	92+27.54	1304.45	92+30.21	1304.30	92+32.88	1304.15	92+35.57	1303.99	92+36.56	1303.93	6
	7	92+26.64	1304.04	92+27.61	1304.12	92+30.45	1304.37	92+33.28	1304.61	92+35.59	1304.80	92+36.15	1304.76	92+38.97	1304.61	92+41.66	1304.45	92+44.36	1304.29	92+47.07	1304.14	92+48.07	1304.08	7
	8	92+37.97	1304.19	92+38.94	1304.28	92+41.80	1304.52	92+44.67	1304.75	92+46.99	1304.95	92+47.55	1304.91	92+50.40	1304.75	92+53.11	1304.59	92+55.84	1304.43	92+58.57	1304.27	92+59.58	1304.21	8
	9	92+49.29	1304.33	92+50.28	1304.42	92+53.16	1304.65	92+56.05	1304.89	92+58.39	1305.08	92+58.96	1305.04	92+61.83	1304.87	92+64.57	1304.71	92+67.31	1304.55	92+70.07	1304.39	92+71.09	1304.33	9
℄ Pier No. 1	10	92+60.61	1304.46	92+61.61	1304.54	92+64.52	1304.78	92+67.43	1305.01	92+69.79	1305.19	92+70.36	1305.15	92+73.26	1304.99	92+76.02	1304.82	92+78.79	1304.66	92+81.57	1304.49	92+82.60	1304.43	10
℄ Pier No. 1	0	92+60.61	1304.46	92+61.61	1304.54	92+64.52	1304.78	92+67.43	1305.01	92+69.79	1305.19	92+70.36	1305.16	92+73.26	1304.99	92+76.02	1304.82	92+78.79	1304.66	92+81.57	1304.49	92+82.60	1304.43	0
	1	92+75.51	1304.61	92+76.52	1304.69	92+79.46	1304.92	92+82.40	1305.14	92+84.79	1305.33	92+85.37	1305.29	92+88.30	1305.11	92+91.09	1304.94	92+93.89	1304.77	92+96.70	1304.60	92+97.75	1304.54	1
	2	92+90.40	1304.73	92+91.42	1304.81	92+94.40	1305.03	92+97.38	1305.26	92+99.79	1305.43	93+00.37	1305.40	93+03.34	1305.22	93+06.16	1305.04	93+08.99	1304.87	93+11.84	1304.69	93+12.89	1304.63	2
	3	93+05.30	1304.83	93+06.33	1304.90	93+09.34	1305.12	93+12.35	1305.34	93+14.79	1305.52	93+15.38	1305.48	93+18.38	1305.29	93+21.23	1305.12	93+24.10	1304.94	93+26.97	1304.76	93+28.04	1304.69	3
	4	93+20.19	1304.90	93+21.24	1304.98	93+24.28	1305.19	93+27.33	1305.41	93+29.79	1305.58	93+30.39	1305.54	93+33.42	1305.35	93+36.30	1305.17	93+39.20	1304.98	93+42.11	1304.80	93+43.18	1304.73	4
	5	93+35.09	1304.95	93+36.15	1305.03	93+39.22	1305.24	93+42.30	1305.45	93+44.79	1305.61	93+45.40	1305.57	93+48.46	1305.38	93+51.38	1305.19	93+54.30	1305.00	93+57.24	1304.81	93+58.33	1304.74	5
	6	93+49.99	1304.98	93+51.05	1305.05	93+54.16	1305.26	93+57.27	1305.46	93+59.79	1305.62	93+60.40	1305.58	93+63.49	1305.38	93+66.45	1305.19	93+69.40	1305.00	93+72.37	1304.81	93+73.48	1304.73	6
	7	93+64.88	1304.98	93+65.96	1305.05	93+69.10	1305.25	93+72.25	1305.45	93+74.79	1305.61	93+75.41	1305.57	93+78.53	1305.36	93+81.52	1305.17	93+84.50	1304.97	93+87.51	1304.77	93+88.62	1304.70	7
	8	93+79.78	1304.96	93+80.87	1305.03	93+84.04	1305.23	93+87.22	1305.42	93+89.79	1305.57	93+90.42	1305.53	93+93.57	1305.32	93+96.59	1305.12	93+99.61	1304.92	94+02.64	1304.71	94+03.77	1304.64	8
	9	93+94.67	1304.92	93+95.77	1304.98	93+98.98	1305.17	94+02.20	1305.36	94+04.79	1305.51	94+05.42	1305.47	94+08.61	1305.25	94+11.66	1305.05	94+14.71	1304.84	94+17.78	1304.63	94+18.91	1304.55	9
℄ Pier No. 2	10	94+09.57	1304.85	94+10.68	1304.91	94+13.92	1305.10	94+17.17	1305.28	94+19.79	1305.43	94+20.43	1305.38	94+23.65	1305.16	94+26.73	1304.95	94+29.81	1304.74	94+32.91	1304.52	94+34.06	1304.44	10
℄ Pier No. 2	0	94+09.57	1304.85	94+10.68	1304.91	94+13.92	1305.10	94+17.17	1305.28	94+19.79	1305.43	94+20.43	1305.38	94+23.65	1305.16	94+26.73	1304.95	94+29.81	1304.74	94+32.91	1304.52	94+34.06	1304.44	0
	1	94+20.89	1304.78	94+22.01	1304.84	94+25.27	1305.02	94+28.55	1305.20	94+31.19	1305.35	94+31.84	1305.30	94+35.08	1305.08	94+38.18	1304.86	94+41.29	1304.64	94+44.41	1304.43	94+45.57	1304.34	1
	2	94+32.21	1304.70	94+33.34	1304.76	94+36.63	1304.94	94+39.93	1305.11	94+42.59	1305.25	94+43.24	1305.21	94+46.51	1304.98	94+49.64	1304.76	94+52.77	1304.54	94+55.92	1304.31	94+57.08	1304.23	2
	3	94+43.53	1304.60	94+44.67	1304.66	94+47.98	1304.84	94+51.31	1305.01	94+53.99	1305.14	94+54.65	1305.10	94+57.94	1304.86	94+61.09	1304.64	94+64.25	1304.41	94+67.42	1304.19	94+68.60	1304.10	3
	4	94+54.85	1304.49	94+56.00	1304.55	94+59.34	1304.72	94+62.69	1304.89	94+65.39	1305.02	94+66.05	1304.97	94+69.37	1304.73	94+72.55	1304.51	94+75.73	1304.28	94+78.93	1304.05	94+80.11	1303.96	4
	5	94+66.17	1304.37	94+67.33	1304.43	94+70.69	1304.59	94+74.07	1304.75	94+76.79	1304.88	94+77.46	1304.83	94+80.81	1304.59	94+84.00	1304.36	94+87.21	1304.13	94+90.43	1303.89	94+91.62	1303.80	5
	6	94+77.49	1304.23	94+78.65	1304.29	94+82.04	1304.45	94+85.44	1304.61	94+88.19	1304.73	94+88.86	1304.68	94+92.24	1304.43	94+95.45	1304.20	94+98.68	1303.96	95+01.93	1303.72	95+03.13	1303.63	6
	7	94+88.81	1304.08	94+89.98	1304.14	94+93.40	1304.29	94+96.82	1304.44	94+99.59	1304.57	95+00.27	1304.52	95+03.67	1304.26	95+06.91	1304.02	95+10.16	1303.78	95+13.44	1303.54	95+14.64	1303.45	7
	8	95+00.13	1303.92	95+01.31	1303.97	95+04.75	1304.12	95+08.20	1304.27	95+10.99	1304.39	95+11.67	1304.34	95+15.10	1304.08	95+18.36	1303.83	95+21.64	1303.59	95+24.94	1303.34	95+26.16	1303.25	8
	9	95+11.45	1303.74	95+12.64	1303.79	95+16.11	1303.94	95+19.58	1304.08	95+22.39	1304.20	95+23.08	1304.14	95+26.53	1303.88	95+29.82	1303.63	95+33.12	1303.38	95+36.45	1303.13	95+37.67	1303.03	9
℄ Abut. No. 2	10	95+22.77	1303.55	95+23.97	1303.60	95+27.46	1303.74	95+30.96	1303.88	95+33.79	1303.99	95+34.48	1303.94	95+37.96	1303.67	95+41.27	1303.41	95+44.60	1303.16	95+47.95	1302.90	95+49.18	1302.81	10

† Elevations are at top of deck over ℄ Girder.

⚠ GIRDER FIELD SPLICE ELEVATIONS													
Girder	Field Splice	Station	Finished Top of Slab at Ⓢ Girder	Dead Load Deflection (ft.)		⦿ Elevation	Girder	Field Splice	Station	Finished Top of Slab at Ⓢ Girder	Dead Load Deflection (ft.)		⦿ Elevation
				Concrete	Total						Concrete	Total	
A	1	92+40.55	1304.30	0.23	0.25	1303.52	E	1	92+52.29	1304.77	0.21	0.22	1304.00
	2	93+04.14	1304.89	1.04	1.46	1304.19		2	93+16.46	1305.29	1.16	1.62	1304.59
	3	93+67.77	1305.05	1.08	1.51	1304.35		3	93+80.62	1305.36	1.19	1.66	1304.67
	4	94+31.36	1304.78	0.20	0.21	1304.00		4	94+44.79	1304.99	0.22	0.22	1304.22
B	1	92+43.48	1304.54	0.25	0.26	1303.77	F	1	92+55.08	1304.61	0.20	0.20	1303.84
	2	93+07.22	1305.11	1.17	1.62	1304.42		2	93+19.38	1305.11	1.15	1.61	1304.41
	3	93+70.97	1305.25	1.21	1.67	1304.56		3	93+83.67	1305.16	1.18	1.65	1304.47
	4	94+34.71	1304.95	0.23	0.24	1304.18		4	94+47.97	1304.77	0.21	0.22	1304.00
C	1	92+46.42	1304.78	0.24	0.25	1304.00	G	1	92+57.87	1304.45	0.19	0.19	1303.68
	2	93+10.30	1305.33	1.18	1.63	1304.64		2	93+22.31	1304.93	1.16	1.62	1304.24
	3	93+74.19	1305.45	1.21	1.68	1304.76		3	93+86.73	1304.96	1.19	1.65	1304.27
	4	94+38.07	1305.13	0.22	0.23	1304.35		4	94+51.17	1304.55	0.21	0.22	1303.78
D	1	92+49.37	1304.94	0.22	0.23	1304.16	H	1	92+60.68	1304.29	0.16	0.17	1303.51
	2	93+13.40	1305.47	1.18	1.63	1304.78		2	93+25.25	1304.75	1.07	1.51	1304.05
	3	93+77.43	1305.57	1.21	1.68	1304.88		3	93+89.81	1304.76	1.09	1.53	1304.06
	4	94+41.45	1305.22	0.22	0.23	1304.45		4	94+54.38	1304.33	0.19	0.20	1303.55

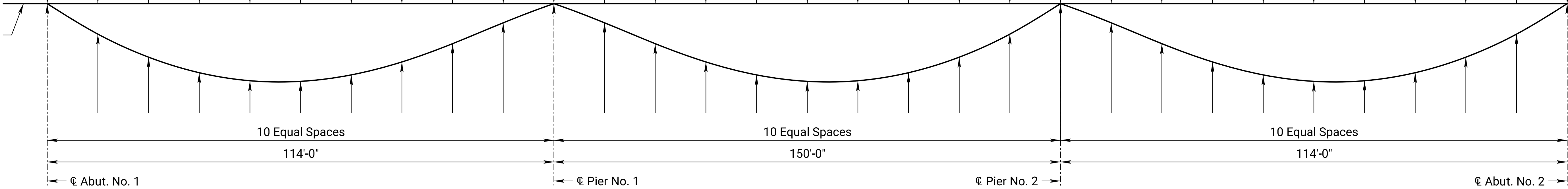
Drawn By : pqrhan
File : 086064bbrAR81-dl-01
Plotted : 4/28/2026

																														STATE	PROJECT NO.		YEAR	SHEET NO.	TOTAL SHEETS
																														KANSAS	P101240276		2025	67	120
Dead Load Steel	Girder	Abut. 1	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	Pier 1	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	Pier 2	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	Abut. 2			
	A	0.00	0.10	0.19	0.24	0.24	0.21	0.15	0.08	0.02	0.01	0.00	0.11	0.28	0.45	0.58	0.62	0.58	0.45	0.28	0.11	0.00	0.01	0.01	0.07	0.14	0.20	0.22	0.22	0.17	0.10	0.00			
	B	0.00	0.11	0.19	0.25	0.25	0.22	0.16	0.08	0.02	0.01	0.00	0.12	0.29	0.48	0.61	0.66	0.61	0.48	0.30	0.12	0.00	0.02	0.01	0.07	0.15	0.21	0.24	0.23	0.18	0.10	0.00			
	C	0.00	0.11	0.19	0.24	0.25	0.22	0.15	0.08	0.02	0.02	0.00	0.12	0.30	0.48	0.62	0.67	0.62	0.48	0.30	0.12	0.00	0.02	0.01	0.07	0.15	0.21	0.24	0.23	0.18	0.10	0.00			
	D	0.00	0.10	0.19	0.23	0.24	0.21	0.15	0.07	0.01	0.02	0.00	0.12	0.30	0.48	0.62	0.67	0.62	0.48	0.30	0.12	0.00	0.02	0.01	0.07	0.15	0.21	0.24	0.23	0.18	0.10	0.00			
	E	0.00	0.10	0.18	0.23	0.23	0.20	0.14	0.07	0.01	0.02	0.00	0.12	0.30	0.48	0.62	0.67	0.62	0.48	0.30	0.12	0.00	0.02	0.01	0.07	0.14	0.21	0.24	0.23	0.18	0.10	0.00			
	F	0.00	0.10	0.18	0.22	0.23	0.20	0.14	0.07	0.01	0.02	0.00	0.12	0.30	0.48	0.62	0.67	0.62	0.48	0.30	0.12	0.00	0.02	0.01	0.07	0.14	0.20	0.23	0.23	0.18	0.10	0.00			
	G	0.00	0.10	0.17	0.22	0.22	0.19	0.13	0.06	0.01	0.02	0.00	0.12	0.30	0.49	0.62	0.67	0.62	0.48	0.30	0.12	0.00	0.02	0.01	0.07	0.14	0.20	0.23	0.23	0.18	0.10	0.00			
	H	0.00	0.09	0.16	0.20	0.20	0.18	0.12	0.06	0.00	0.02	0.00	0.12	0.29	0.46	0.59	0.64	0.59	0.46	0.28	0.12	0.00	0.02	0.01	0.07	0.14	0.19	0.22	0.22	0.17	0.10	0.00			

Dead Load Concrete	A	0.00	0.45	0.81	1.04	1.12	1.04	0.83	0.54	0.26	0.06	0.00	0.23	0.64	1.11	1.47	1.60	1.47	1.12	0.65	0.23	0.00	0.05	0.23	0.49	0.76	0.96	1.05	0.98	0.76	0.42	0.00
	B	0.00	0.49	0.89	1.15	1.23	1.13	0.90	0.58	0.27	0.06	0.00	0.26	0.73	1.25	1.65	1.80	1.65	1.25	0.73	0.26	0.00	0.05	0.25	0.55	0.85	1.08	1.17	1.09	0.85	0.47	0.00
	C	0.00	0.48	0.87	1.12	1.20	1.11	0.87	0.56	0.26	0.06	0.00	0.26	0.73	1.25	1.66	1.81	1.66	1.25	0.74	0.26	0.00	0.05	0.25	0.54	0.85	1.07	1.16	1.09	0.85	0.47	0.00
	D	0.00	0.47	0.85	1.09	1.17	1.07	0.85	0.54	0.25	0.05	0.00	0.26	0.74	1.26	1.66	1.81	1.66	1.25	0.74	0.26	0.00	0.05	0.25	0.54	0.84	1.07	1.16	1.08	0.84	0.46	0.00
	E	0.00	0.45	0.81	1.05	1.12	1.03	0.81	0.52	0.23	0.05	0.00	0.26	0.73	1.24	1.63	1.78	1.63	1.23	0.72	0.26	0.00	0.05	0.24	0.52	0.82	1.04	1.13	1.06	0.82	0.45	0.00
	F	0.00	0.43	0.79	1.01	1.08	0.99	0.78	0.49	0.22	0.04	0.00	0.26	0.72	1.23	1.62	1.76	1.61	1.22	0.72	0.26	0.00	0.05	0.23	0.51	0.80	1.02	1.11	1.04	0.81	0.44	0.00
	G	0.00	0.43	0.77	0.99	1.06	0.97	0.76	0.48	0.21	0.04	0.00	0.27	0.73	1.24	1.63	1.77	1.62	1.23	0.72	0.26	0.00	0.05	0.23	0.52	0.81	1.02	1.11	1.04	0.81	0.45	0.00
	H	0.00	0.38	0.69	0.88	0.94	0.86	0.67	0.42	0.18	0.03	0.00	0.25	0.68	1.14	1.50	1.63	1.49	1.13	0.66	0.24	0.00	0.04	0.21	0.47	0.73	0.93	1.01	0.95	0.74	0.40	0.00

Total Dead Load	A	0.00	0.55	1.00	1.28	1.36	1.25	0.98	0.62	0.28	0.07	0.00	0.34	0.92	1.55	2.04	2.23	2.05	1.57	0.93	0.35	0.00	0.06	0.24	0.56	0.90	1.16	1.27	1.20	0.93	0.51	0.00
	B	0.00	0.60	1.09	1.39	1.48	1.36	1.06	0.67	0.29	0.07	0.00	0.38	1.02	1.72	2.26	2.46	2.27	1.73	1.03	0.38	0.00	0.07	0.26	0.62	1.00	1.29	1.41	1.32	1.03	0.57	0.00
	C	0.00	0.58	1.06	1.36	1.44	1.32	1.03	0.64	0.28	0.07	0.00	0.38	1.03	1.73	2.27	2.47	2.28	1.73	1.03	0.38	0.00	0.07	0.26	0.62	0.99	1.28	1.40	1.32	1.03	0.57	0.00
	D	0.00	0.57	1.03	1.32	1.41	1.28	1.00	0.62	0.26	0.07	0.00	0.38	1.03	1.74	2.28	2.48	2.28	1.74	1.03	0.39	0.00	0.07	0.26	0.61	0.99	1.27	1.39	1.31	1.03	0.56	0.00
	E	0.00	0.55	1.00	1.27	1.35	1.23	0.95	0.59	0.24	0.06	0.00	0.38	1.03	1.72	2.25	2.45	2.25	1.71	1.02	0.38	0.00	0.07	0.25	0.60	0.96	1.25	1.37	1.29	1.00	0.55	0.00
	F	0.00	0.53	0.96	1.23	1.30	1.19	0.91	0.56	0.23	0.06	0.00	0.38	1.02	1.71	2.24	2.43	2.23	1.70	1.02	0.38	0.00	0.06	0.24	0.59	0.95	1.23	1.34	1.27	0.99	0.55	0.00
	G	0.00	0.52	0.95	1.21	1.28	1.16	0.89	0.54	0.22	0.06	0.00	0.39	1.03	1.72	2.25	2.44	2.24	1.71	1.02	0.38	0.00	0.06	0.24	0.59	0.95	1.23	1.35	1.27	0.99	0.55	0.00
	H	0.00	0.47	0.85	1.08	1.15	1.04	0.79	0.48	0.19	0.05	0.00	0.37	0.96	1.60	2.09	2.26	2.08	1.58	0.95	0.35	0.00	0.06	0.22	0.54	0.87	1.12	1.23	1.16	0.91	0.50	0.00

Reference Line
(Parallel to Grade)



DEAD LOAD DEFLECTIONS AND DEAD LOAD CAMBER

Ordinates are in foot and are at 10th points of girders

DEFLECTION AND CAMBER NOTES:

The girder shall be fabricated such that under full dead load the top of the girder web will parallel the finished slab grade defined by the Table of Finished Top of Deck Elevations on Sheet 66 .

"Dead Load Concrete" ordinates represent the amount of deflection due to the slab pour as shown on the plans, 6" curb and corral rails. These ordinates represent the amount of camber that should be in the girders after they are erected and prior to placing slab formwork.

"Total Dead Load" ordinates represent the total deflection which is the sum of the steel deflections and the concrete deflections.

The distance from the top of slab to the top of girder web shall be 12.5" measured at i Girder.

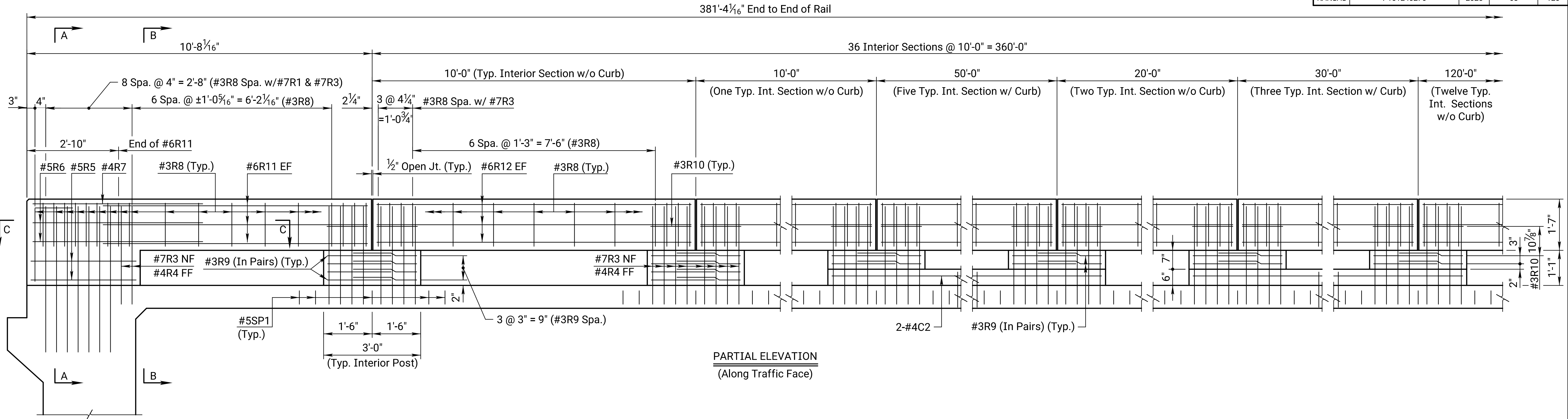
FILLETS:

Camber the steel girders for the total dead load deflection and the vertical curvature, if necessary. The ordinates shown for concrete dead load deflection represent the amount of camber that should be in the girders after they are erected and bolted but prior to placing the floor forms. After the structural steel is completely erected and the falsework bents are removed, measure the camber in the field by taking a profile of each girder. Correct any variation between the actual camber and the concrete dead load deflection shown in the plans by varying the depth of the concrete fillets over the girders so that the finished floor is constructed to the theoretical grade. The minimum depth of the slab over the girder shall be 9½ inches.

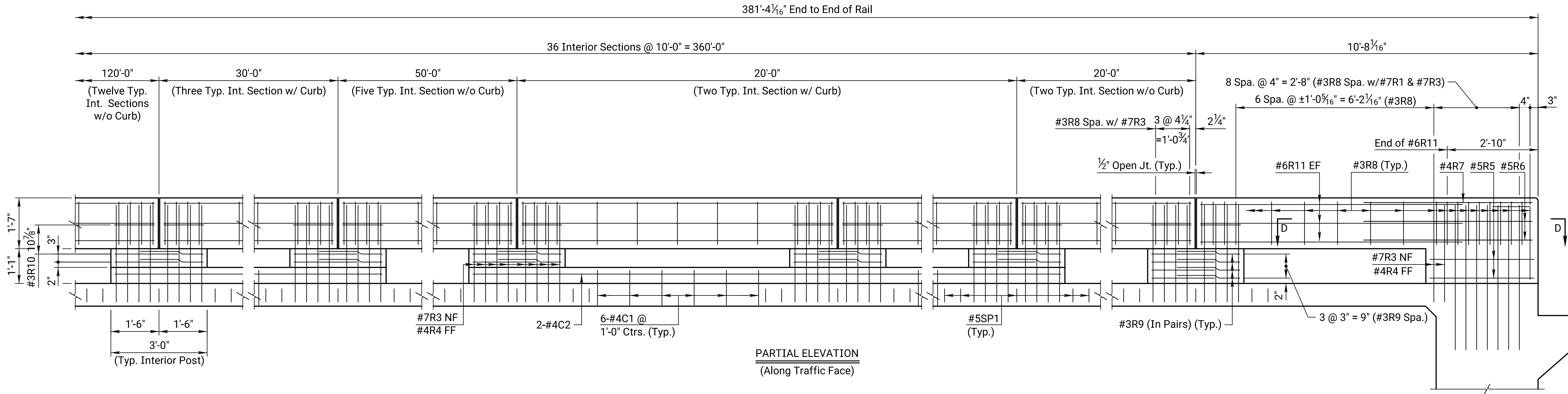
The theoretical amount of concrete required for the fillet is 13.89 C.Y. This amount of concrete is included in the Summary of Quantities. Any additional concrete required to construct the fillets will be subsidiary.

NO.	DATE	REVISIONS		BY	APP'D
CITY OF WICHITA					
Br. No. 5304008700AR81				Sta. 93+44.79	
DEAD LOAD DEFLECTIONS					
FIRST STREET OVER ARKANSAS RIVER					
Proj. No. 472-2024-086064				Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D		
DESIGNED	X.X.X.	DETAILED	P.M.Y.	QUANTITIES	S.J.J. CADD
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S. CADD CK.
					X.X.X.
					X.X.X.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	68	120



PARTIAL ELEVATION
(Along Traffic Face)



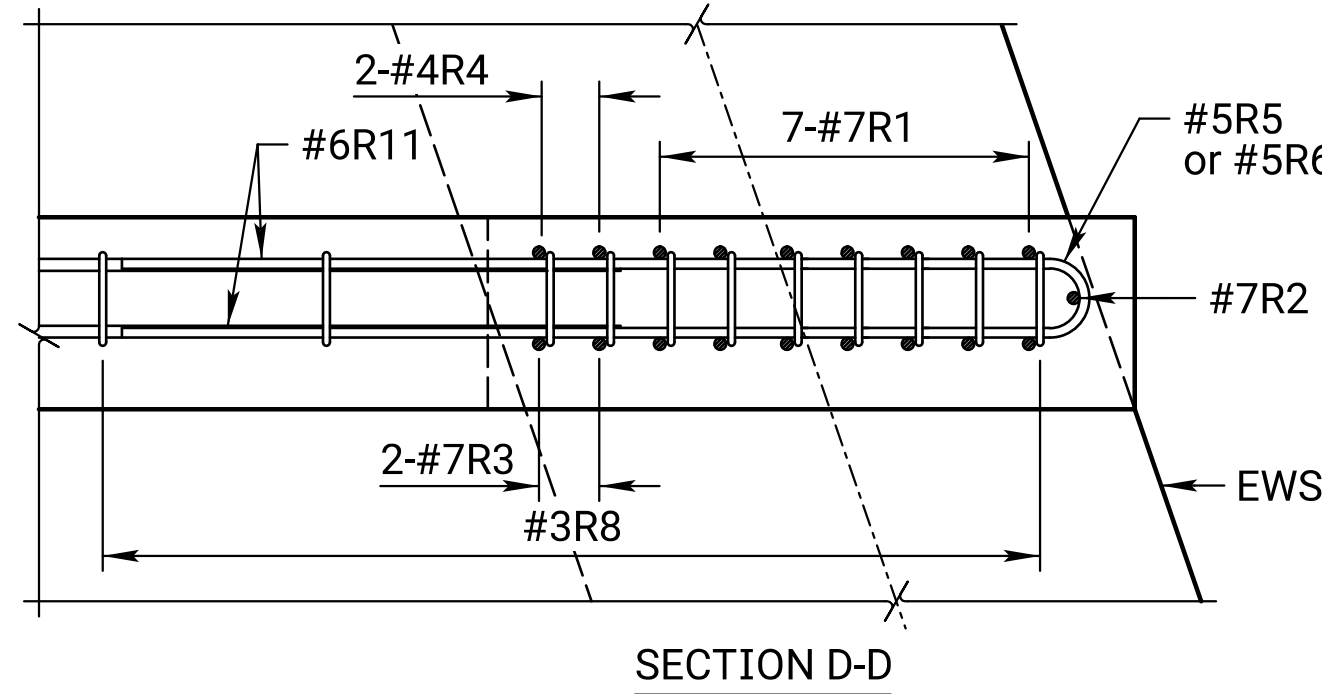
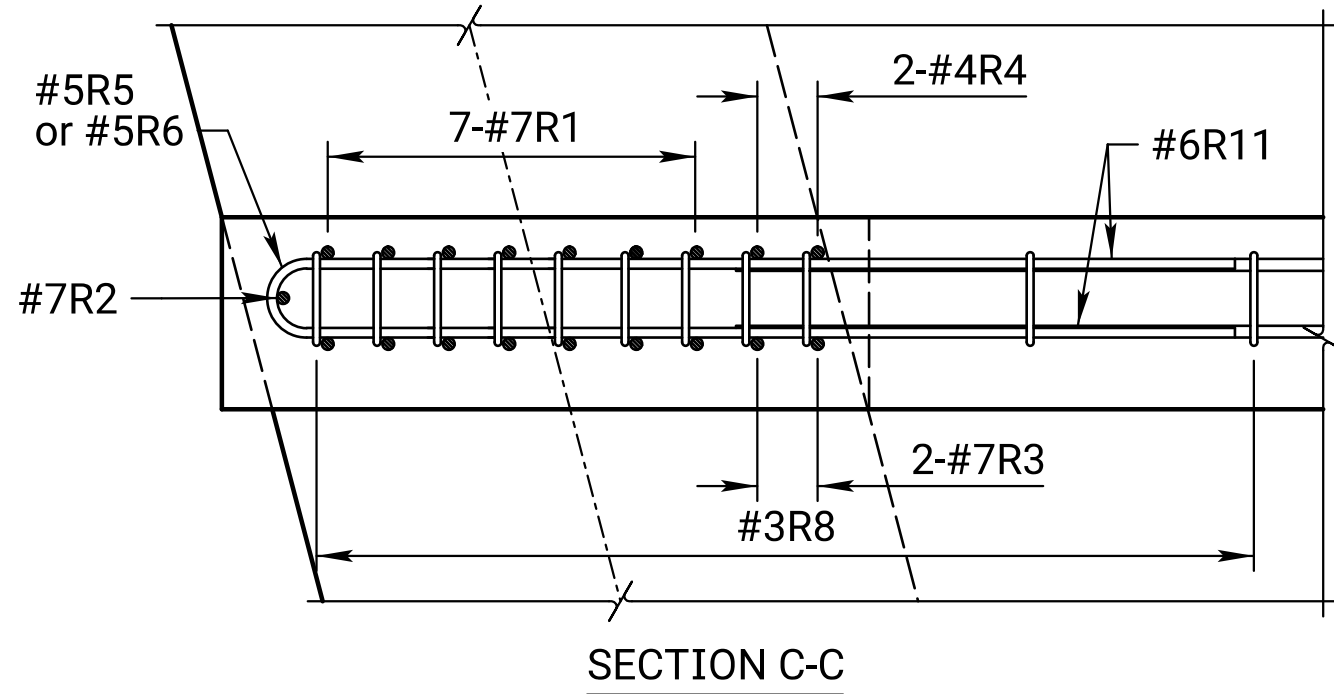
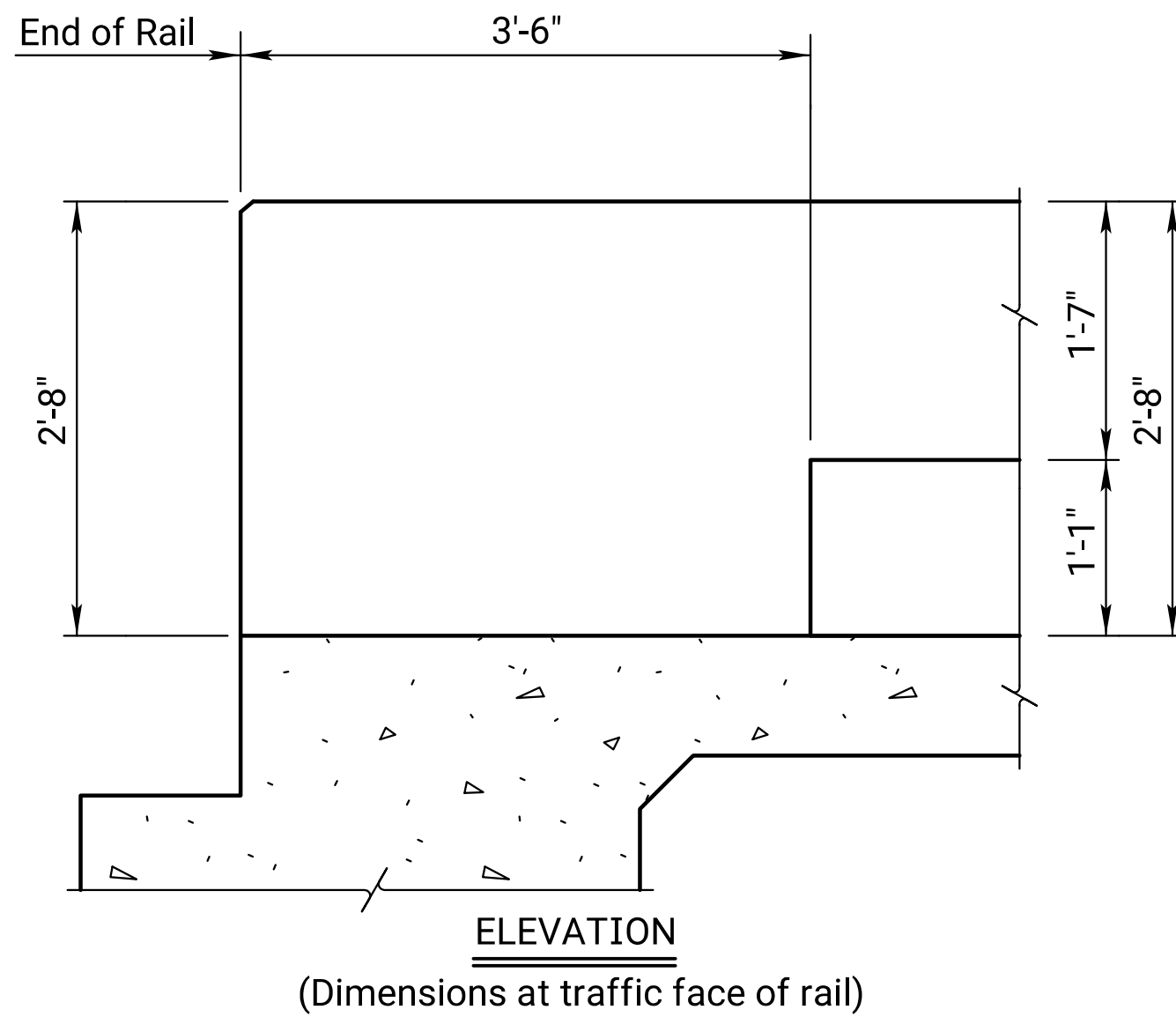
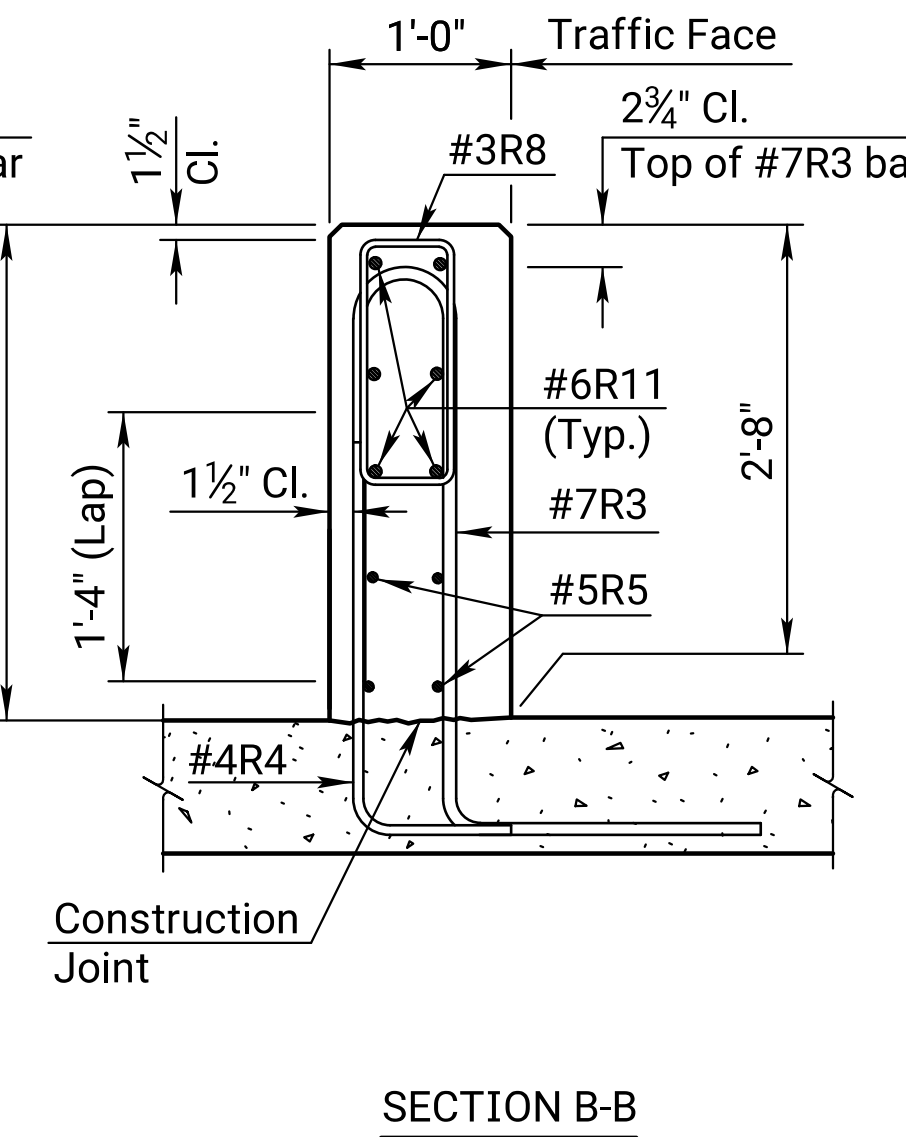
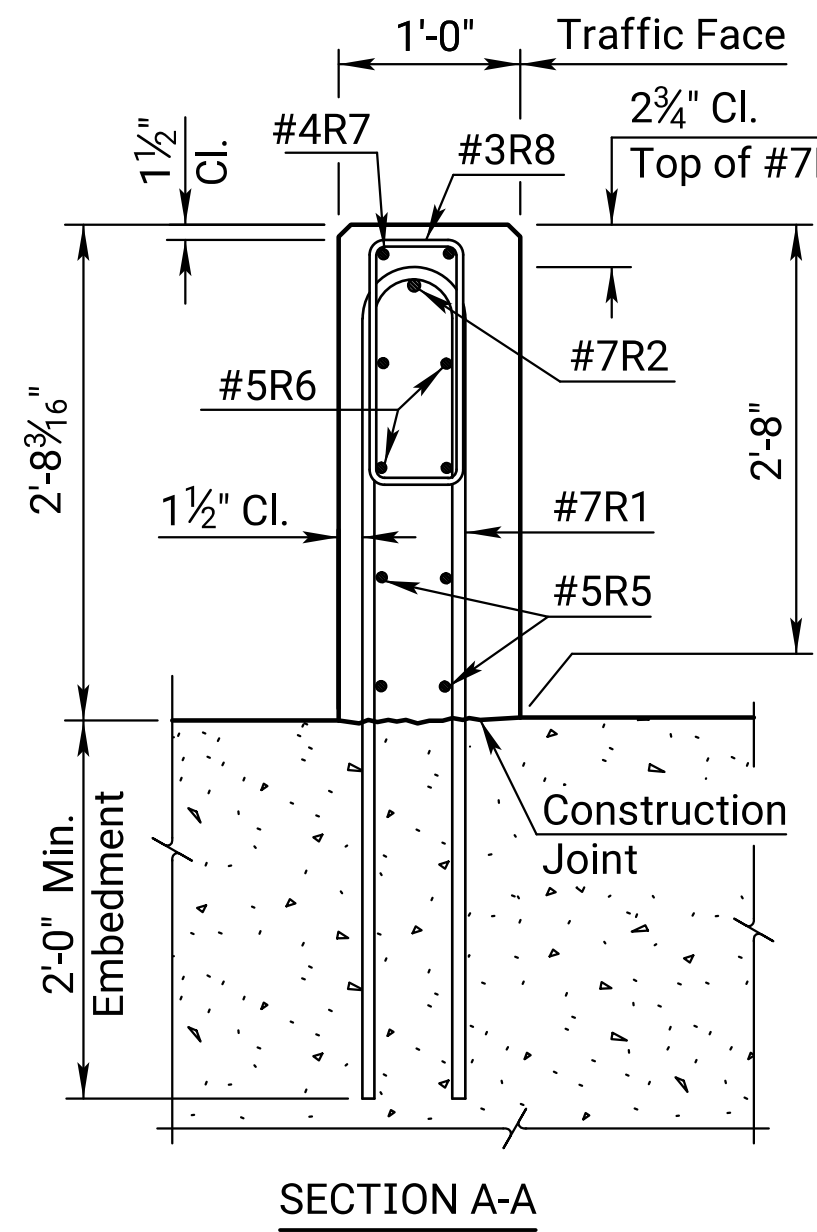
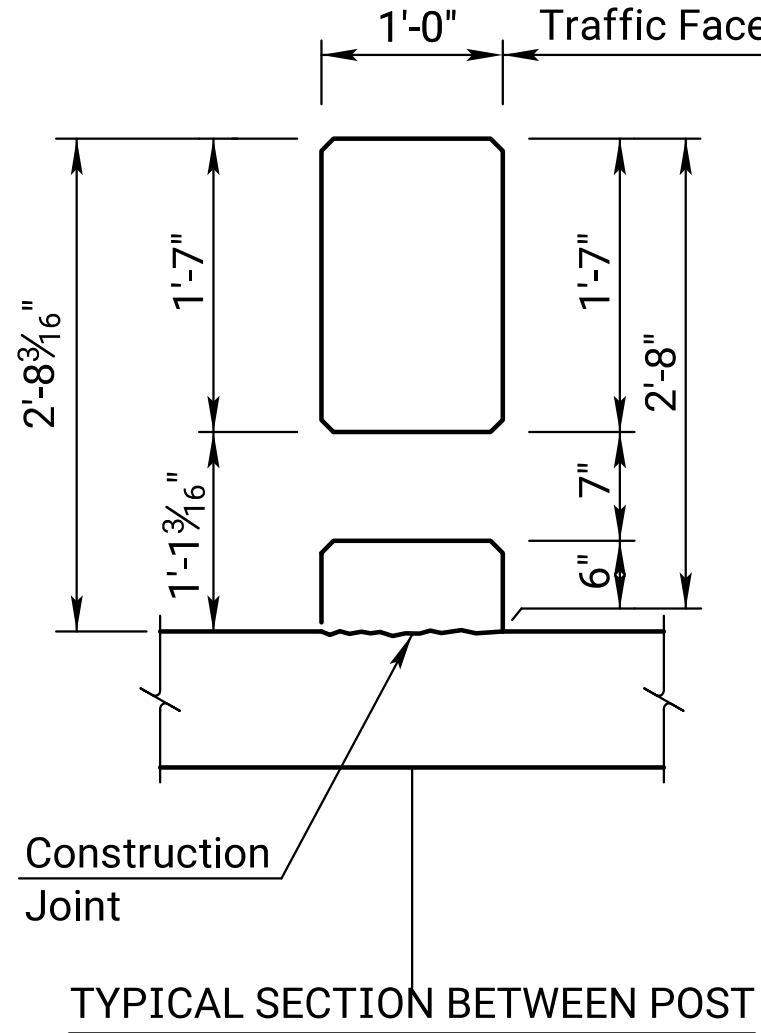
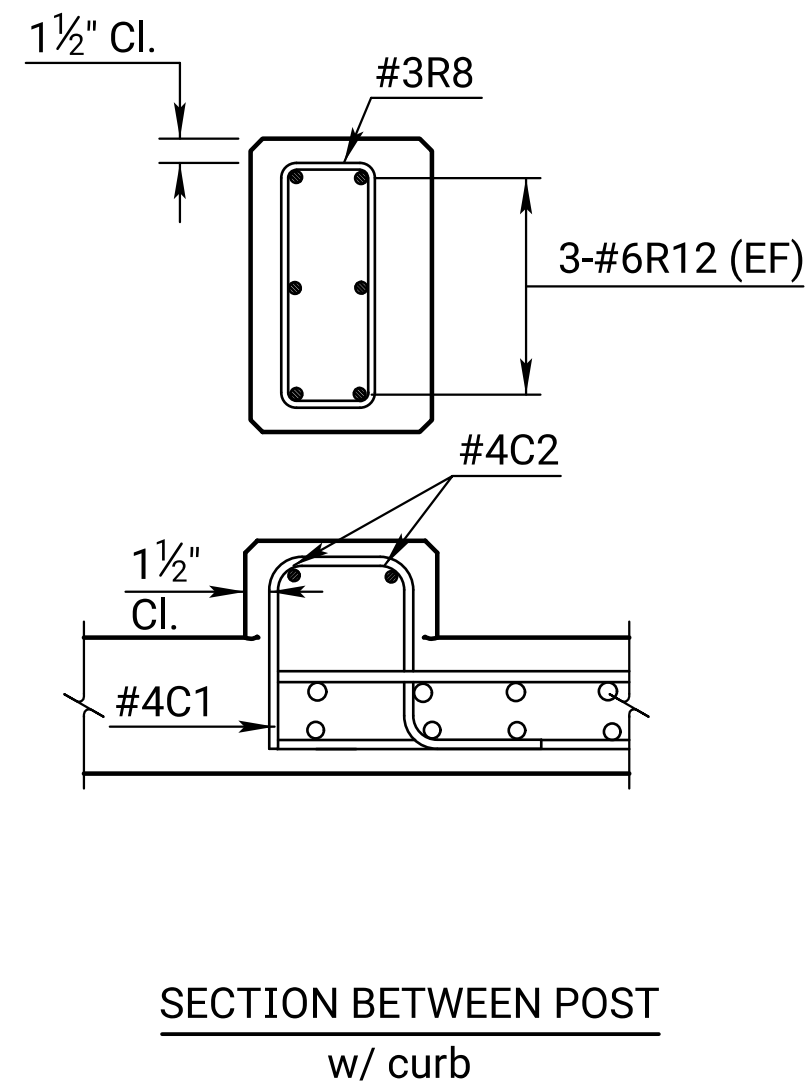
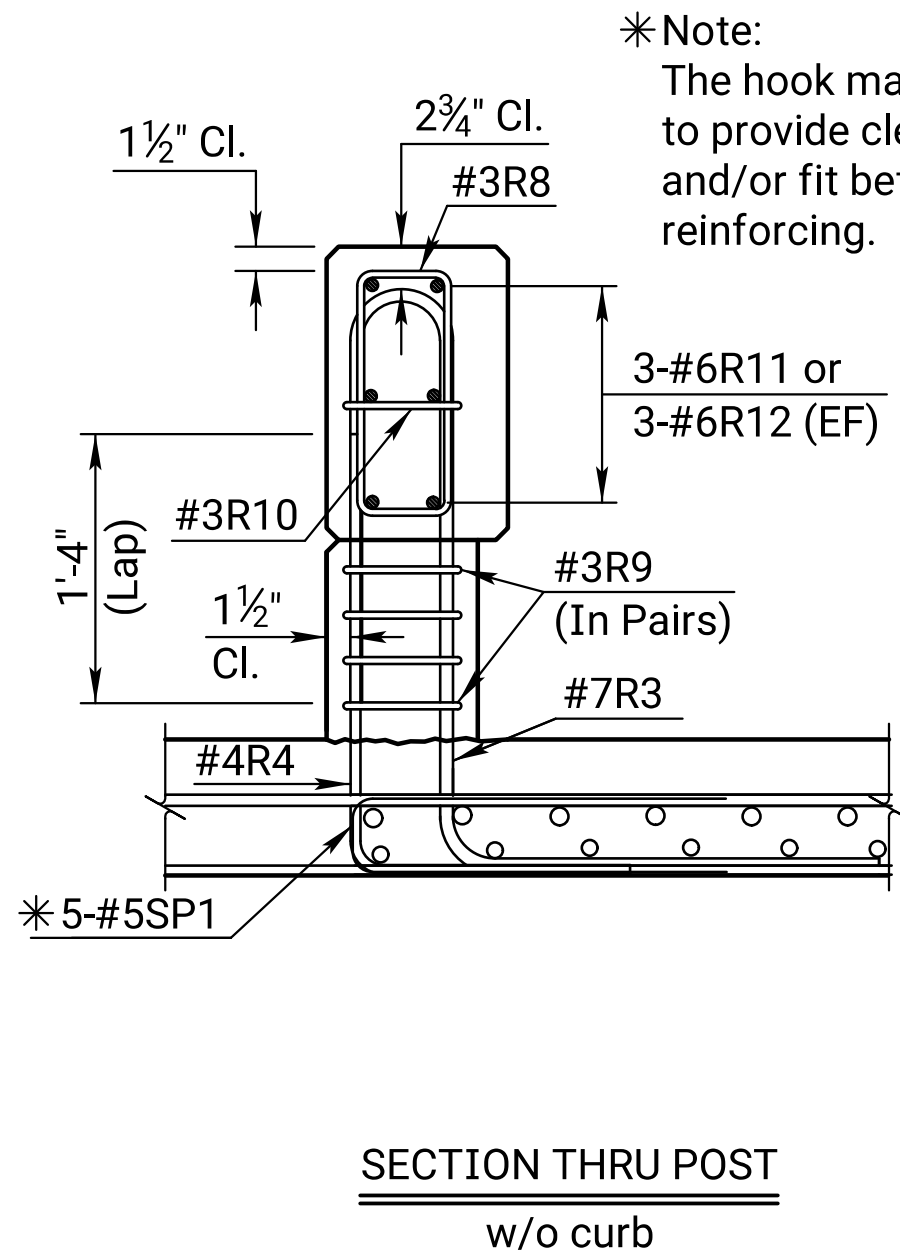
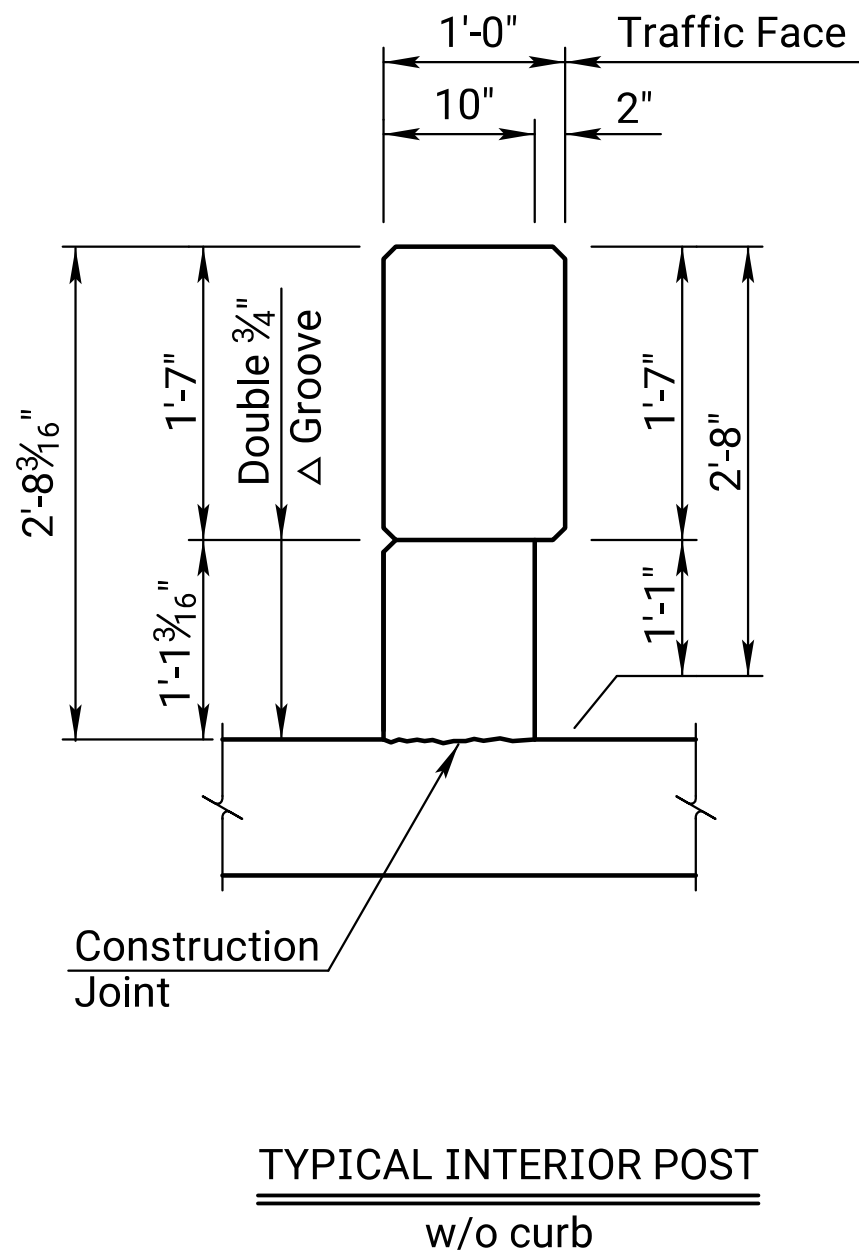
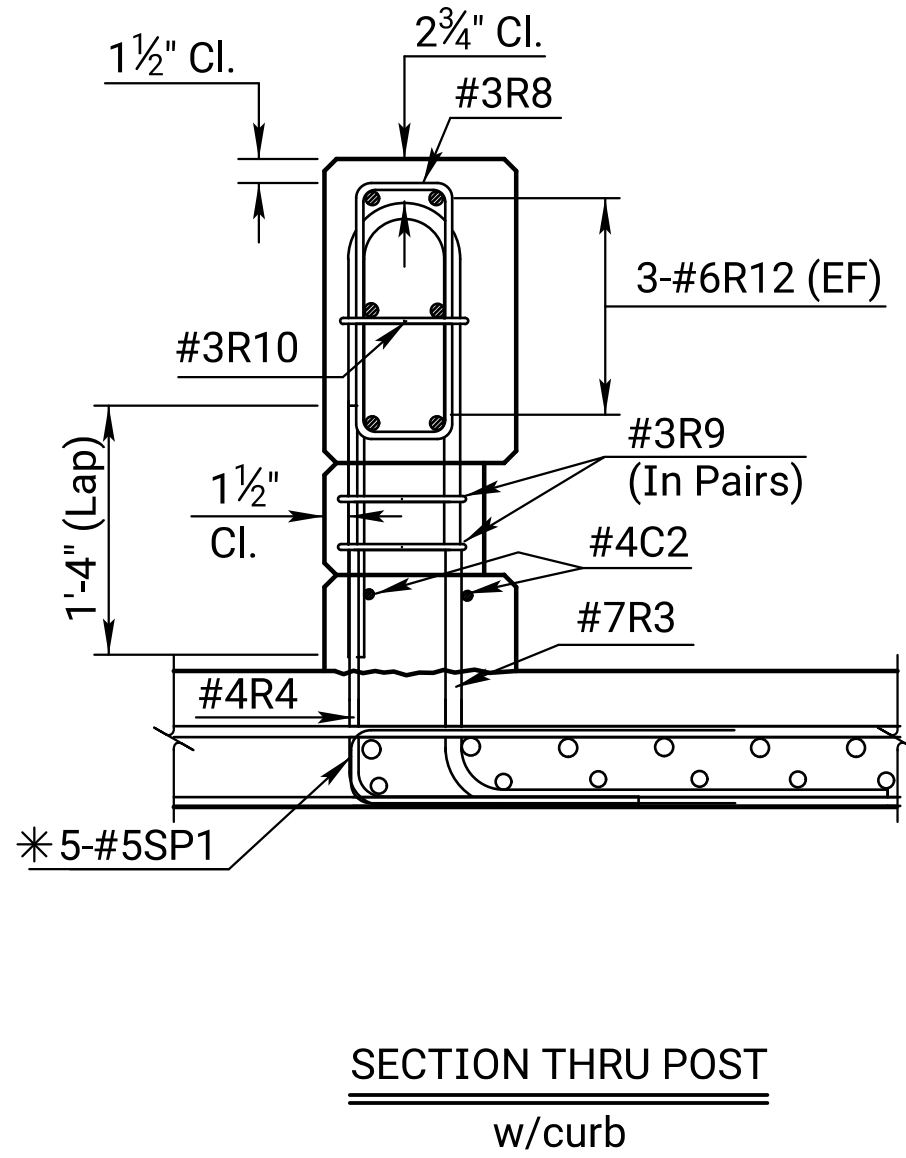
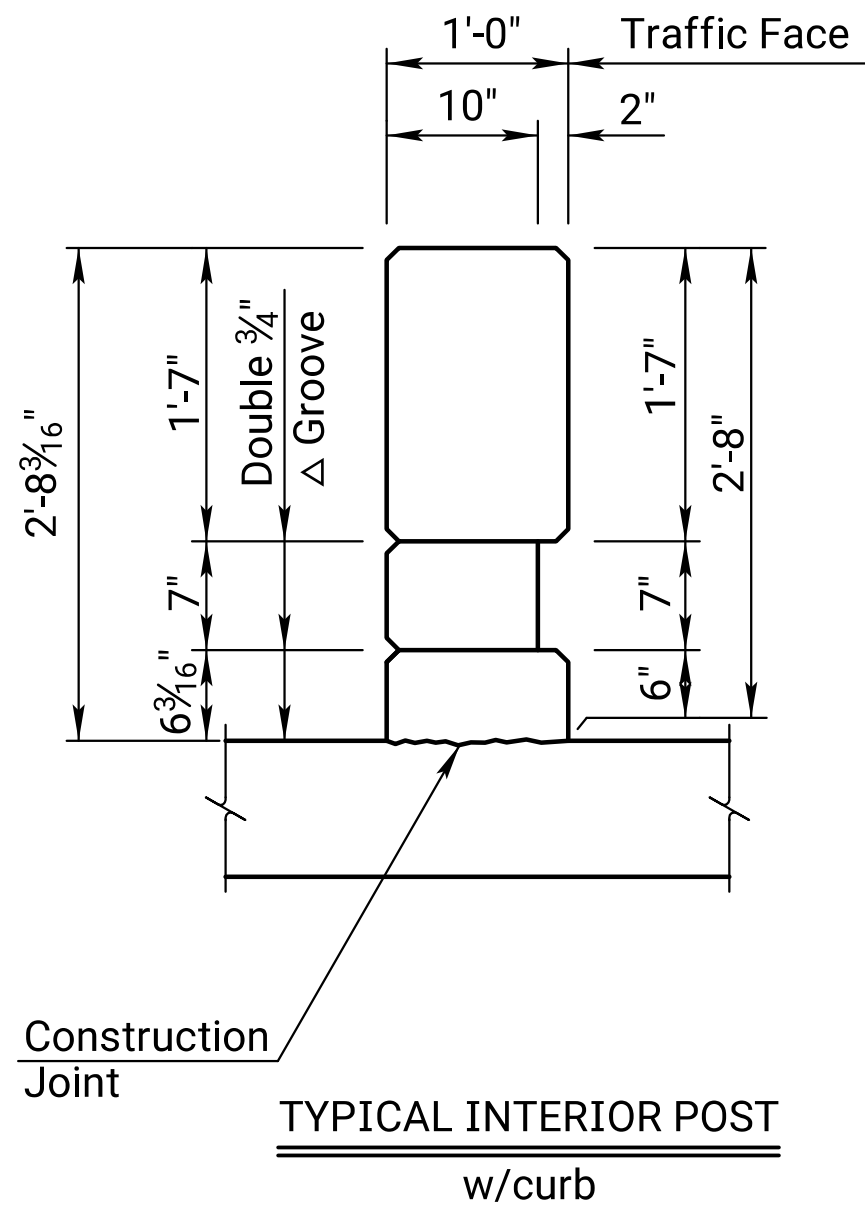
PARTIAL ELEVATION
(Along Traffic Face)

LEGEND
NF = Near Face
FF = Far Face
EF = Each Face

Note: For Sections A-A thru D-D see Sheet 70

NO.	DATE	REVISIONS					BY	APP'D	
CITY OF WICHITA									
Br. No. 5304008700AR81							Sta. 93+44.79		
NORTH CORRAL RAIL ELEVATION									
FIRST STREET OVER ARKANSAS RIVER									
Proj. No. 472-2024-086064							Sedgwick Co.		
SHEET NO.	OF	SCALE	APP'D						
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.	CADD	X.X.X.		
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN CK.	M.A.S.	CADD CK.	X.X.X.		

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	70	120

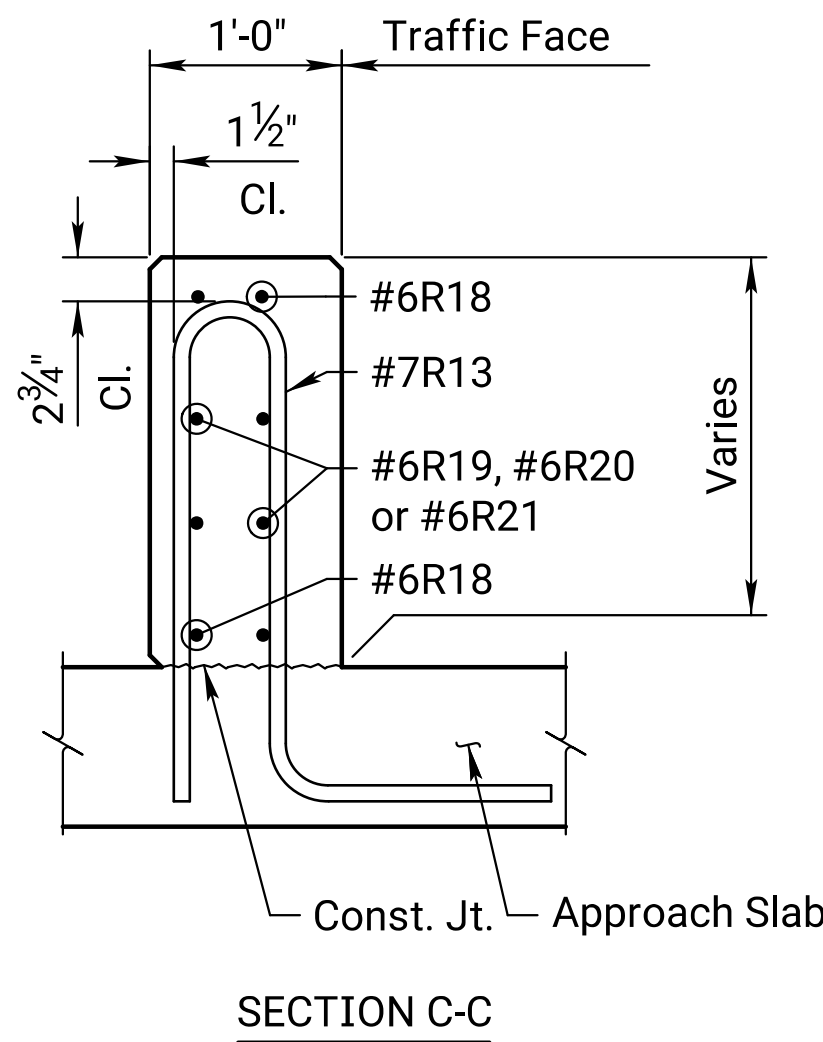
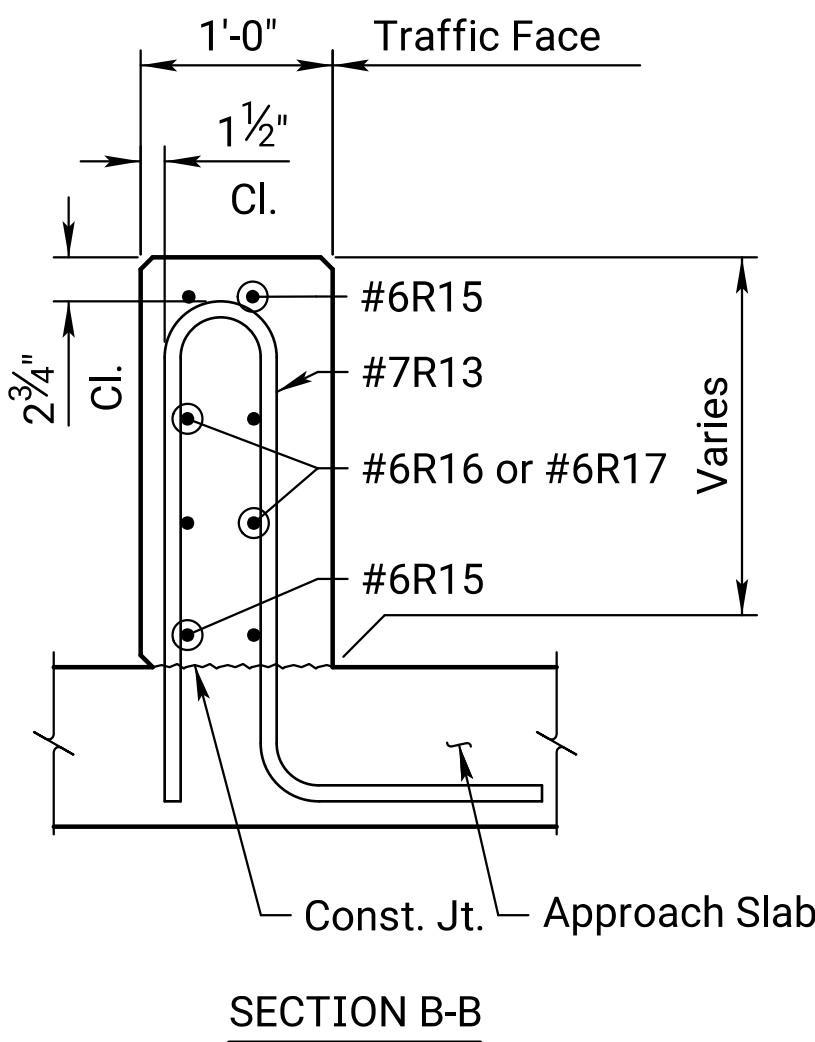
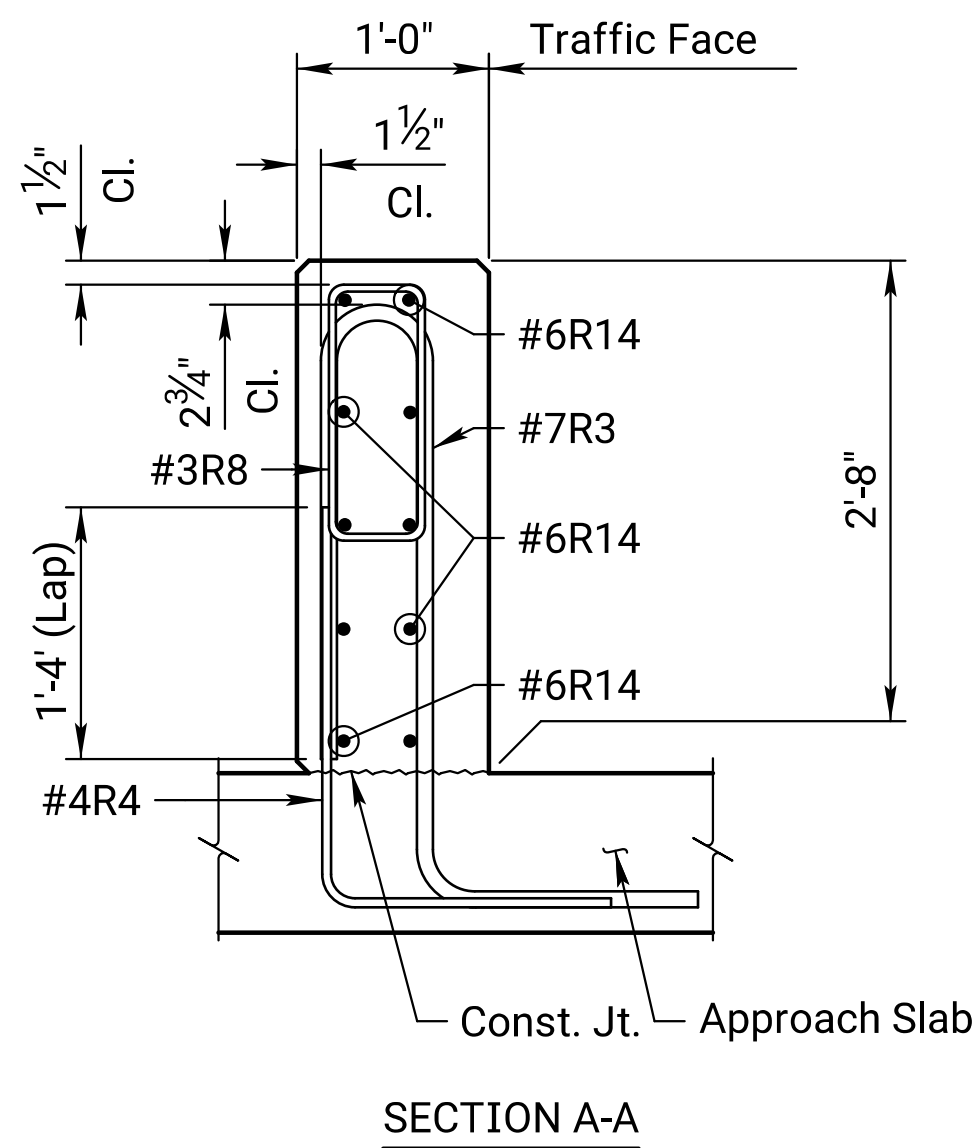
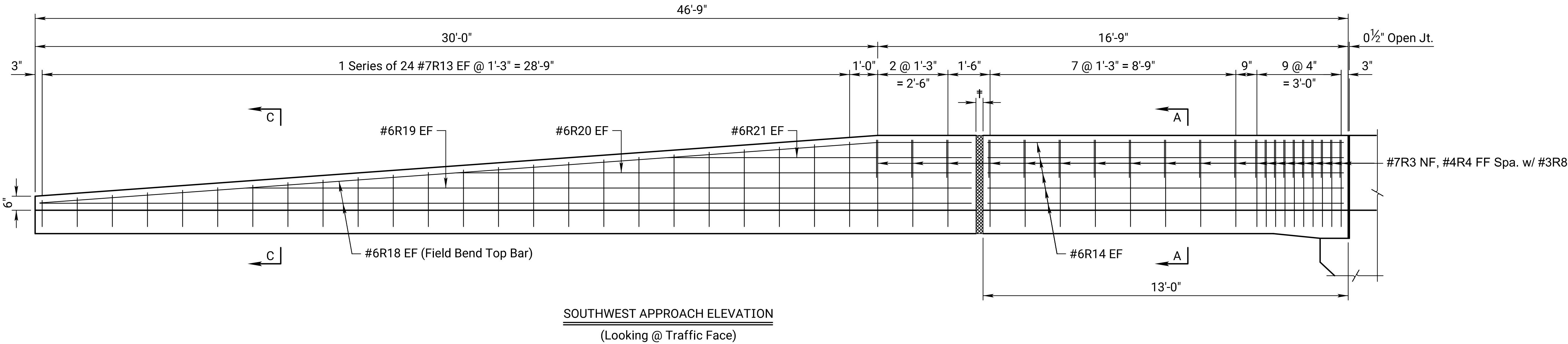
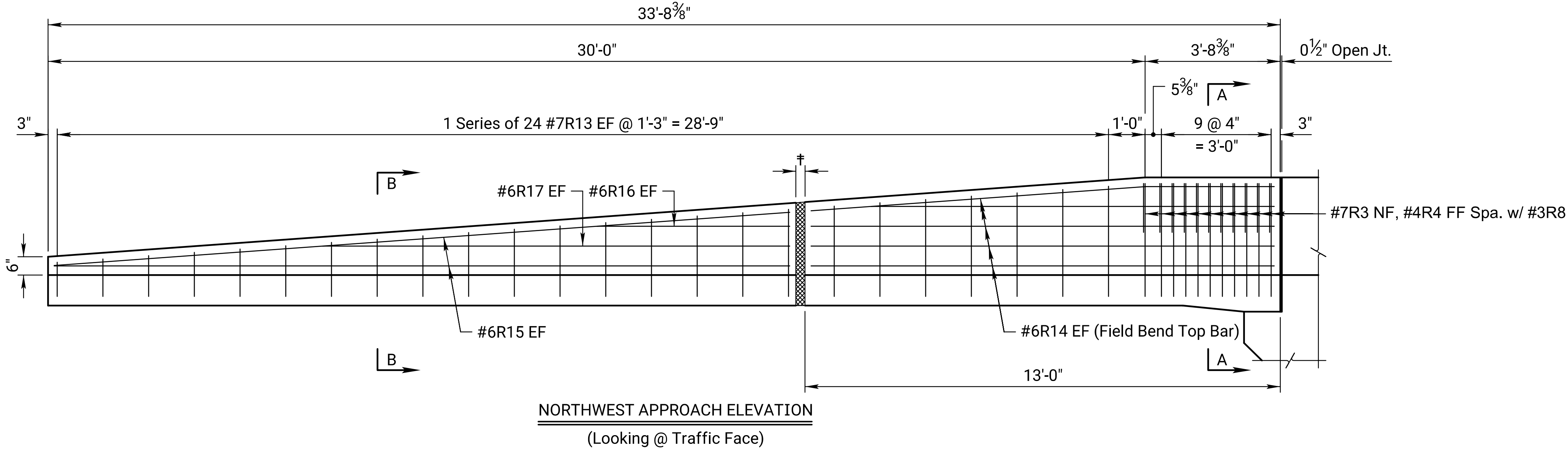


LEGEND
NF = Near Face
FF = Far Face
EF = Each Face

NO.	DATE	REVISIONS			BY APPD
CITY OF WICHITA					
Br. No. 5304008700AR81				Sta. 93+44.79	
CORRAL RAIL DETAILS					
FIRST STREET OVER ARKANSAS RIVER					
Proj. No. 472-2024-086064				Sedgwick Co.	
SHEET NO.	OF	SCALE	APPD		
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES S.J.J.	CADD X.X.X.
DESIGN CK	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK. M.A.S.	CADD CK X.X.X.

Note: For Location of Sections A-A thru D-D see Sheet 68 & 69

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	71	120



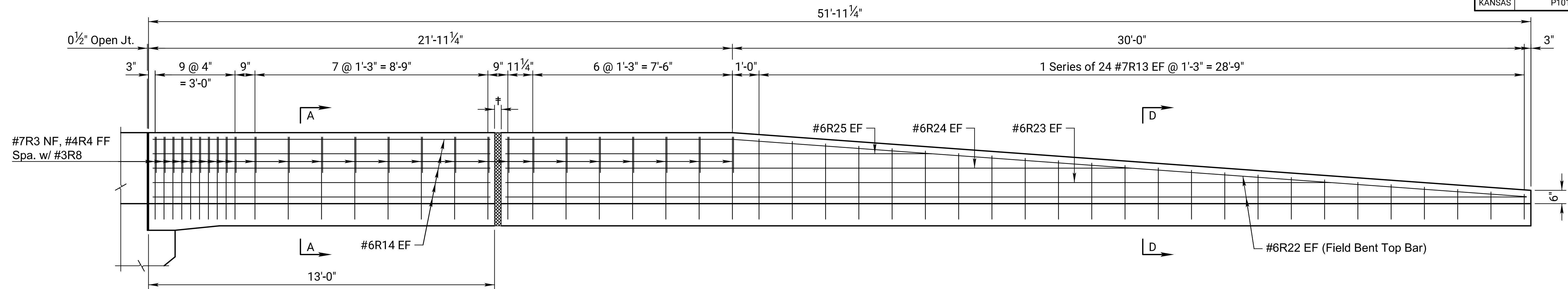
Notes:
Corral Rail Transitions are paid for as Concrete (Grade 4.0)(AE)(SA) and Reinforcing Steel (Grade 60) (Epoxy Coated). These are included in the Summary of Quantities.

EF denotes each face
FF denotes far face
NF denotes near face

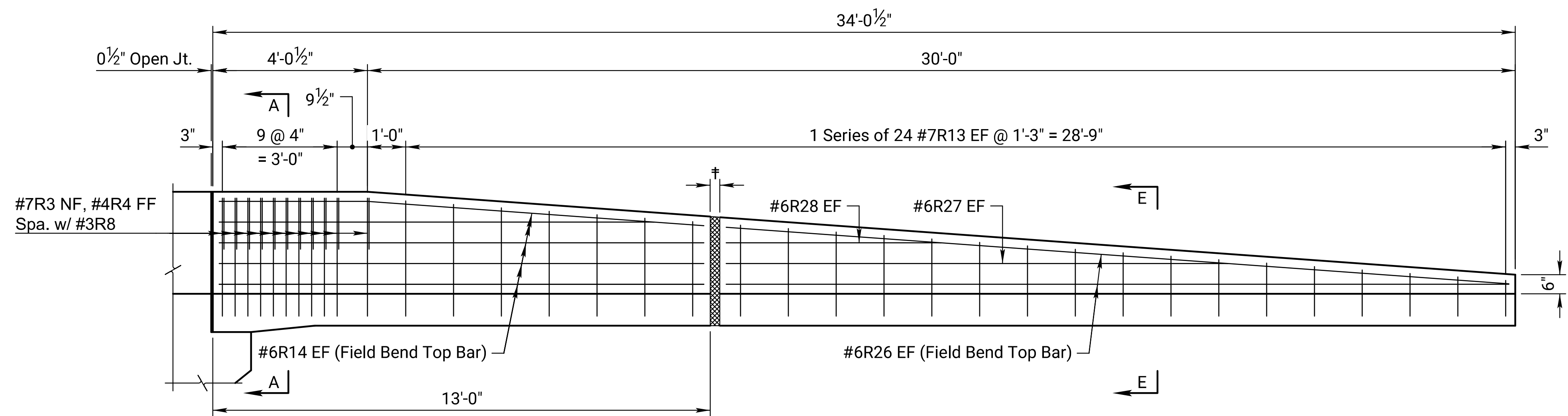
* For size of open joint, see Sheet 37.
Adjust reinforcement in corral rail to miss open joint.

NO.	DATE	REVISIONS				BY	APP'D
CITY OF WICHITA							
Br. No. 5304008700AR81						Sta. 93+44.79	
CORRAL RAIL TRANSITION DETAILS							
FIRST STREET OVER ARKANSAS RIVER							
Proj. No. 472-2024-086064						Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D				
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.	CADD	X.X.X.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN CK.	M.A.S.	CADD CK.	X.X.X.

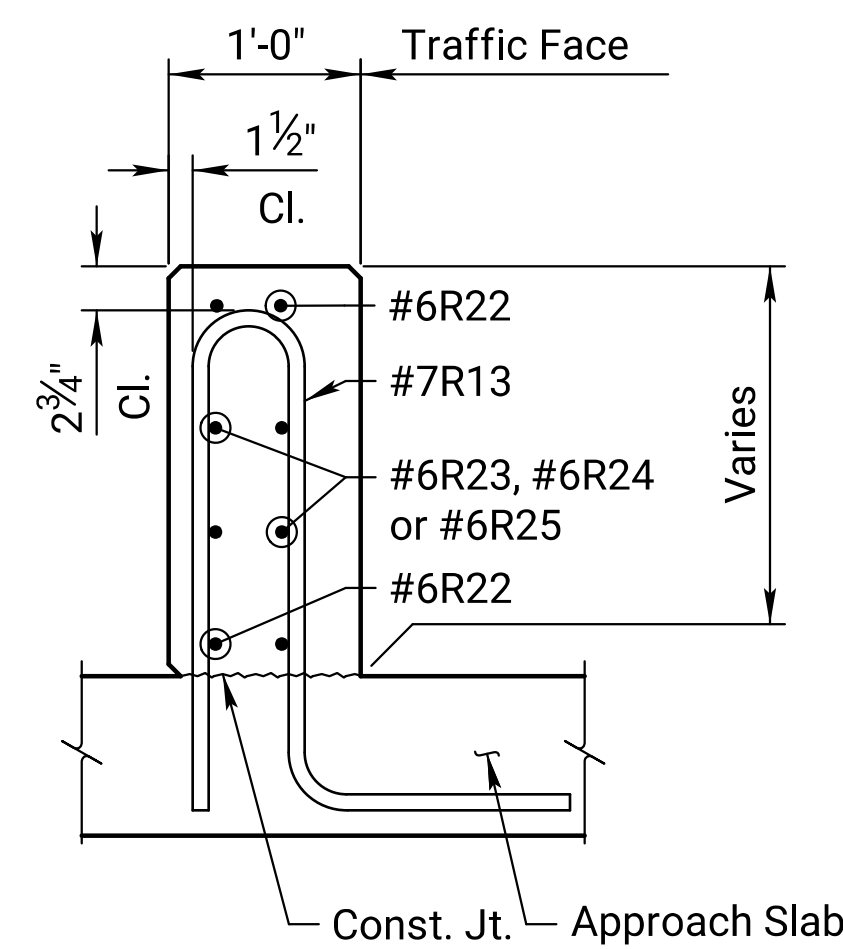
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	72	120



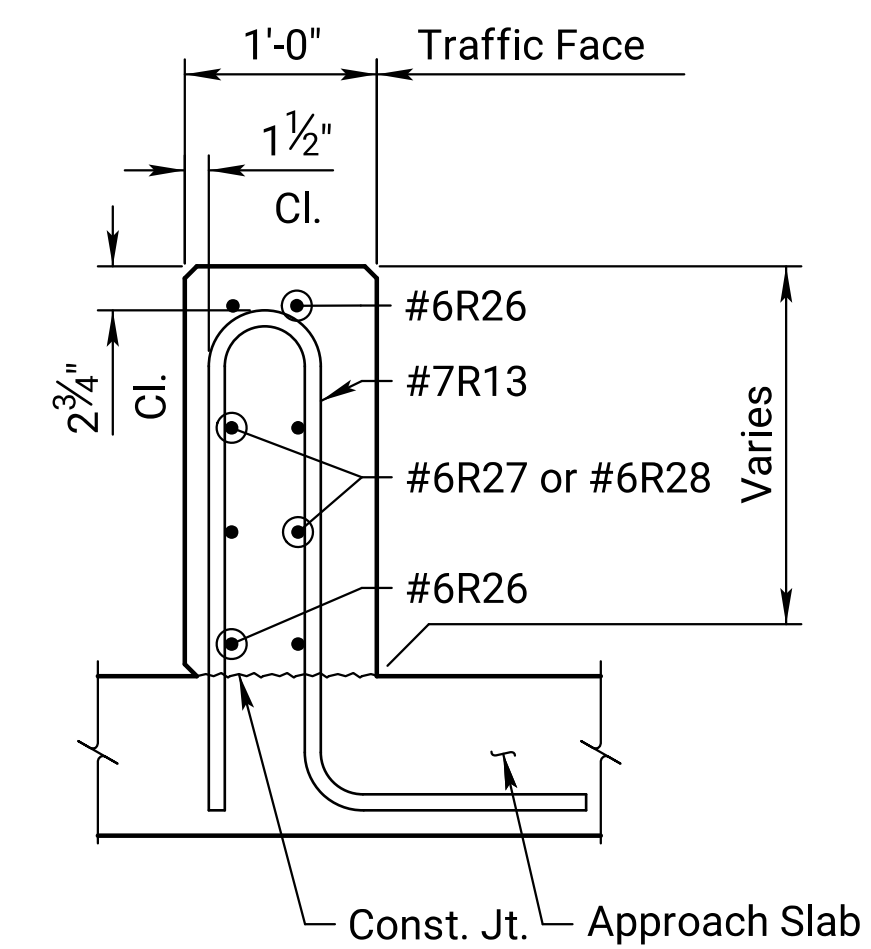
NORTHEAST APPROACH ELEVATION
(Looking @ Traffic Face)



SOUTHEAST APPROACH ELEVATION
(Looking @ Traffic Face)



SECTION D-D



SECTION E-E

Notes:
Corral Rail Transitions are paid for as Concrete (Grade 4.0)(AE)(SA) and Reinforcing Steel (Grade 60) (Epoxy Coated). These are included in the Summary of Quantities.

EF denotes each face
FF denotes far face
NF denotes near face

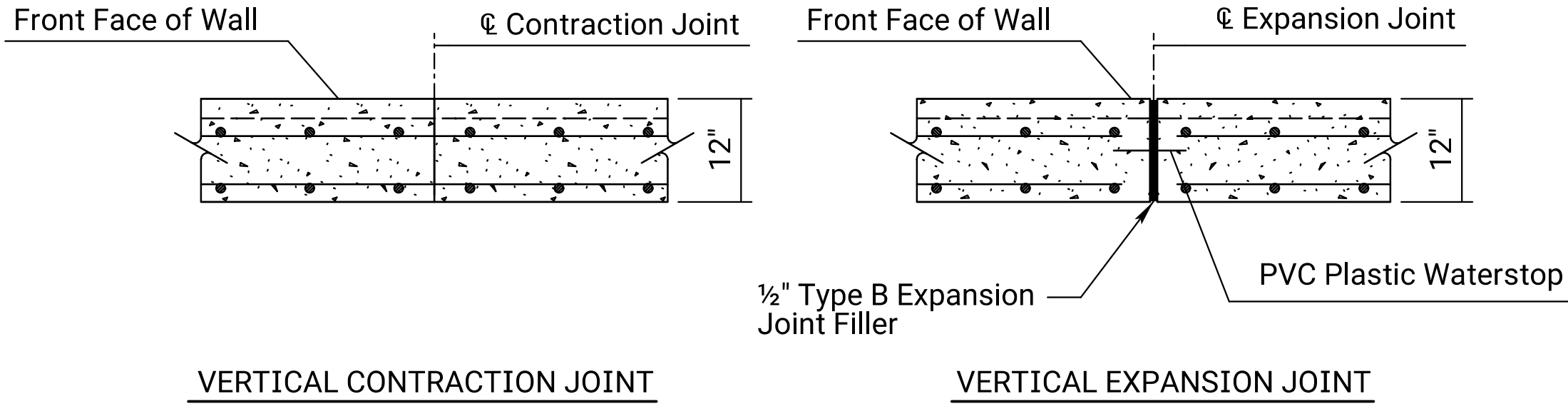
† For size of open joint, see Sheet 37.
Adjust reinforcement in corral rail to miss open joint.

For Section A-A, see Sheet 71.

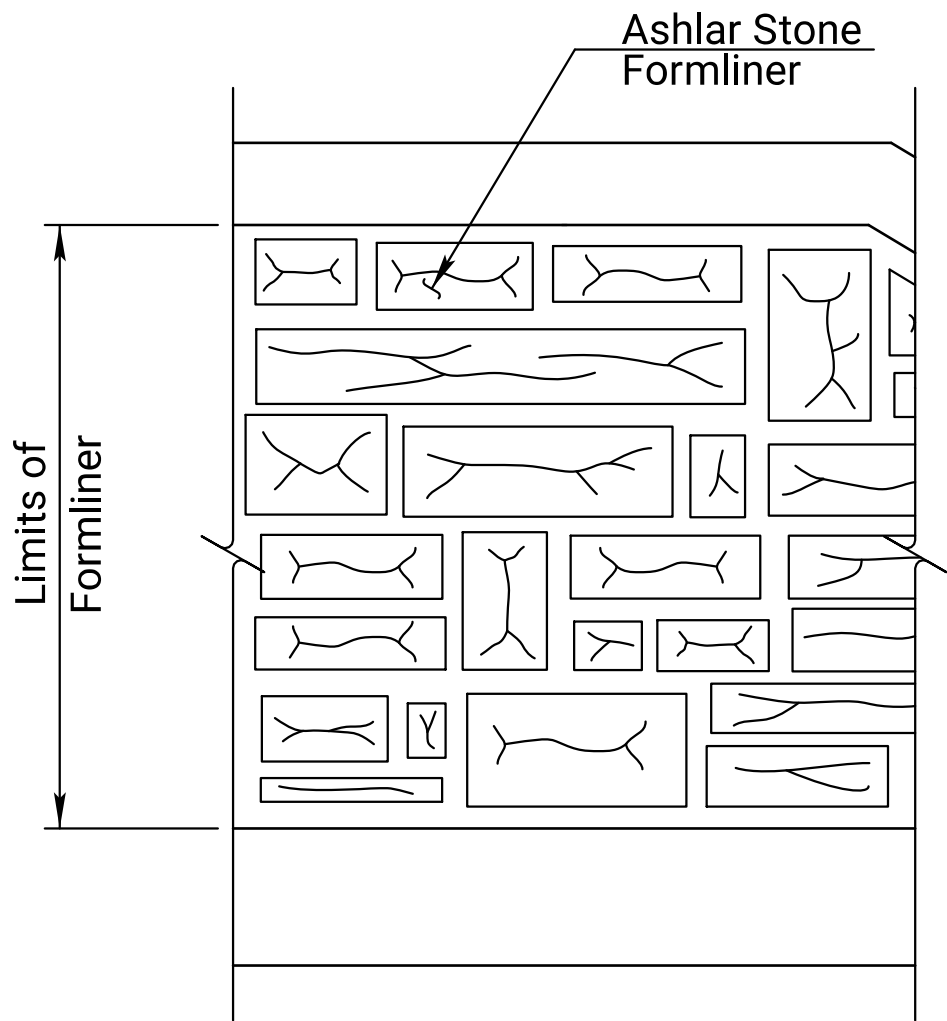
NO.	DATE	REVISIONS						BY	APP'D
CITY OF WICHITA									
Br. No. 5304008700AR81							Sta. 93+44.79		
CORRAL RAIL TRANSITION DETAILS									
FIRST STREET OVER ARKANSAS RIVER									
Proj. No. 472-2024-086064							Sedgwick Co.		
SHEET NO.	OF	SCALE	APPD						
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.	CADD	X.X.X.		
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN CK.	M.A.S.	CADD CK.	X.X.X.		

Drawn By : pqrhan
File : 086064bbrAR81-rw-01
Plotted : 4/28/2026

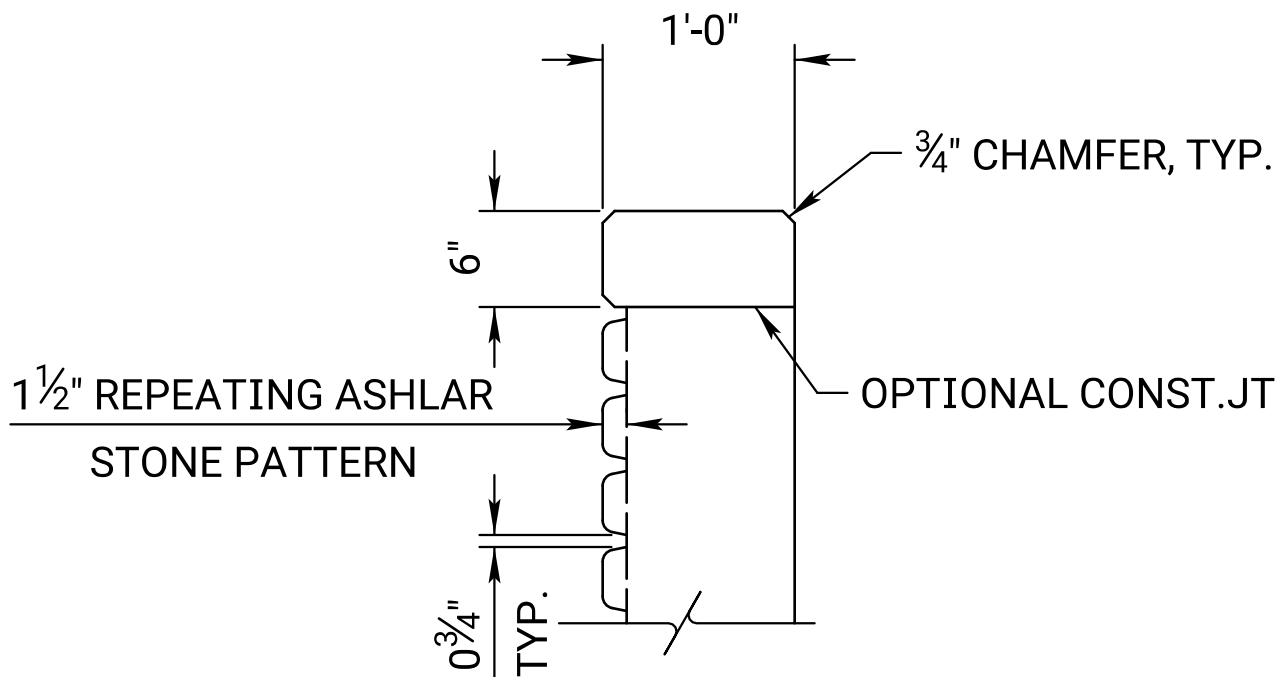
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	76	120



JOINT DETAILS



STAIN TREATMENT DETAIL



WALL CAP DETAIL

GENERAL NOTES

SPECIFICATIONS

Design Specifications - AASHTO Specifications, 9th Edition, 2020, and Interim Specifications, Load and Resistance Factor Design.

UNIT STRESSES

Concrete (Grade 4.0)(AE) f'c = 4.0 ksi
Reinforcing Steel (Grade 60) fy = 60 ksi

NOTES

All concrete for retaining walls, including sidewalk and toe walls, is bid as Concrete (Grade 4.0)(AE).

All reinforcing steel shall conform to the requirements of ASTM A615 Grade 60. The clear distance from the face of concrete to near edge or end of reinforcing bars shall be 2 inches unless noted otherwise.

Galvanized Hardware Cloth shall not be paid for directly but shall be subsidiary to the bid item "Granular Backfill."

Foundation Stabilization shall consist of aggregate that complies with KDOT specifications for SB-3.

Joints shall be sawed at right angles to the alignment of the sidewalk and to the depths indicated below. All vertical joints shall align with the sidewalk Contraction Joints.

Contraction Joints shall be one-eighth (1/8) inch wide by one (1) inch deep and formed by tooling or by use of concrete saw.

Expansion Joints shall be formed by a one-half (1/2) inch thick preformed joint filler, extending full depth of the slab and wall thickness and be secured so that they are not moved by depositing and compacting concrete at these joints.

Contraction joints shall be placed at a maximum of 30 ft. spacing and expansion joints at a maximum of 90 ft. spacing in the retaining wall. Sidewalk contraction and expansion joint placement locations shall match those in the retaining wall.

Min. Lap Lengths

Bar Size	Lap Length
#3	1'-5"
#4	2'-1"
#5	2'-7"

SUMMARY OF QUANTITIES		
Item	Unit	Quantity
Concrete (Grade 4.0)(AE)	Cu.Yd.	5.8
Reinforcing Steel (Grade 60)	Lb.	589

NO.	DATE	REVISIONS		BY APP'D
CITY OF WICHITA				
Br. No. 5304008700AR81			Sta. 93+44.79	
RETAINING WALL				
FIRST STREET OVER ARKANSAS RIVER				
Proj. No. 472-2024-086064			Sedgwick Co.	
SHEET NO.	OF	SCALE	APP'D	
DESIGNED	X.X.X.	DETAILED	P.M.Y.	QUANTITIES S.J.J. CADD X.X.X.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK. M.A.S. CADD CK. X.X.X.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	78	120

BILL OF REINFORCING STEEL Epoxy Coated - Grade 60								
Straight Bars					Bent Bars			
Mark	Size	Number	Length	Mark	Size	Number	Length	
Abutment - Deck - Rail	A1	#8	24	41'-5"	A3	#5	159	16'-8"
	A18	#8	24	42'-4"	A4	#6	145	14'-8"
	A2	#5	48	40'-4"	A5	#5	145	4'-4"
	A19	#5	48	41'-3"	A6	#5	26	9'-0"
	A8	#6	16	6'-0"	A7	#6	16	8'-0"
	A9	#5	8	40'-4"	A10	#5	160	4'-5"
	A20	#5	8	41'-3"	A11	#5	121	7'-6"
					A12	#6	20	9'-4"
	AW1	#5	10	6'-0"	A13	#5	20	4'-4"
	AW5	#5	9	9'-7"	A14	#5	16	6'-4"
	AW9	#5	8	12'-8"	A15	#6	20	4'-4"
	AW13	#6	8	10'-0"	A16	#5	12	6'-4"
	AW17	#5	6	8'-7"	A17	#5	4	8'-10"
	AW2	#5	10	6'-2"				
	AW6	#5	9	9'-9"	AW21	#6	8	10'-5"
	AW10	#5	8	12'-8"	AW25	#6	4	8'-9"
	AW14	#6	8	10'-0"	AW22	#6	8	9'-3"
	AW18	#5	6	8'-9"	AW26	#6	4	7'-4"
	AW3	#5	14	6'-8"	AW23	#6	8	9'-3"
	AW7	#5	9	10'-3"	AW27	#6	4	7'-2"
	AW11	#5	8	14'-8"	AW24	#6	8	10'-10"
	AW15	#6	8	12'-1"	AW28	#6	4	9'-1"
	AW19	#5	6	9'-3"				
	AW4	#5	22	6'-0"	C1	#4	144	3'-4"
	AW8	#5	9	9'-7"				
	AW12	#5	8	18'-8"	SP1	#5	370	4'-5"
	AW16	#6	8	16'-1"				
	AW20	#5	6	8'-7"	R1	#7	28	9'-3"
	AW29	#5	16	7'-8"	R2	#7	4	5'-7"
					R3	#7	669	7'-6"
	C2	#4	30	22'-9"	R4	#4	669	3'-11"
					R5	#5	8	6'-6"
	R11	#6	24	24	R6	#5	8	10'-8"
	R12	#6	432	432	R7	#4	4	10'-8"
	R14	#6	40	40	R8	#3	1077	4'-4"
	R15	#6	4	4	R9	#3	592	4'-6"
	R16	#6	2	2	R10	#3	148	4'-6"
	R17	#6	2	2	R13	#7	96	Var.
	R18	#6	4	4				
	R19	#6	2	2	S3	#6	304	11'-10"
	R20	#6	2	2	S4	#6	1484	40'-3"
	R21	#6	2	2				
	R22	#6	4	4				
	R23	#6	2	2				
R24	#6	2	2					
R25	#6	2	2					
R26	#6	4	4					
R27	#6	2	2					
R28	#6	2	2					
S1	#6	1267	56'-0"					
S2	#6	152	59'-0"					
S5	#5	1484	39'-8"					
S6	#6	152	36'-0"					

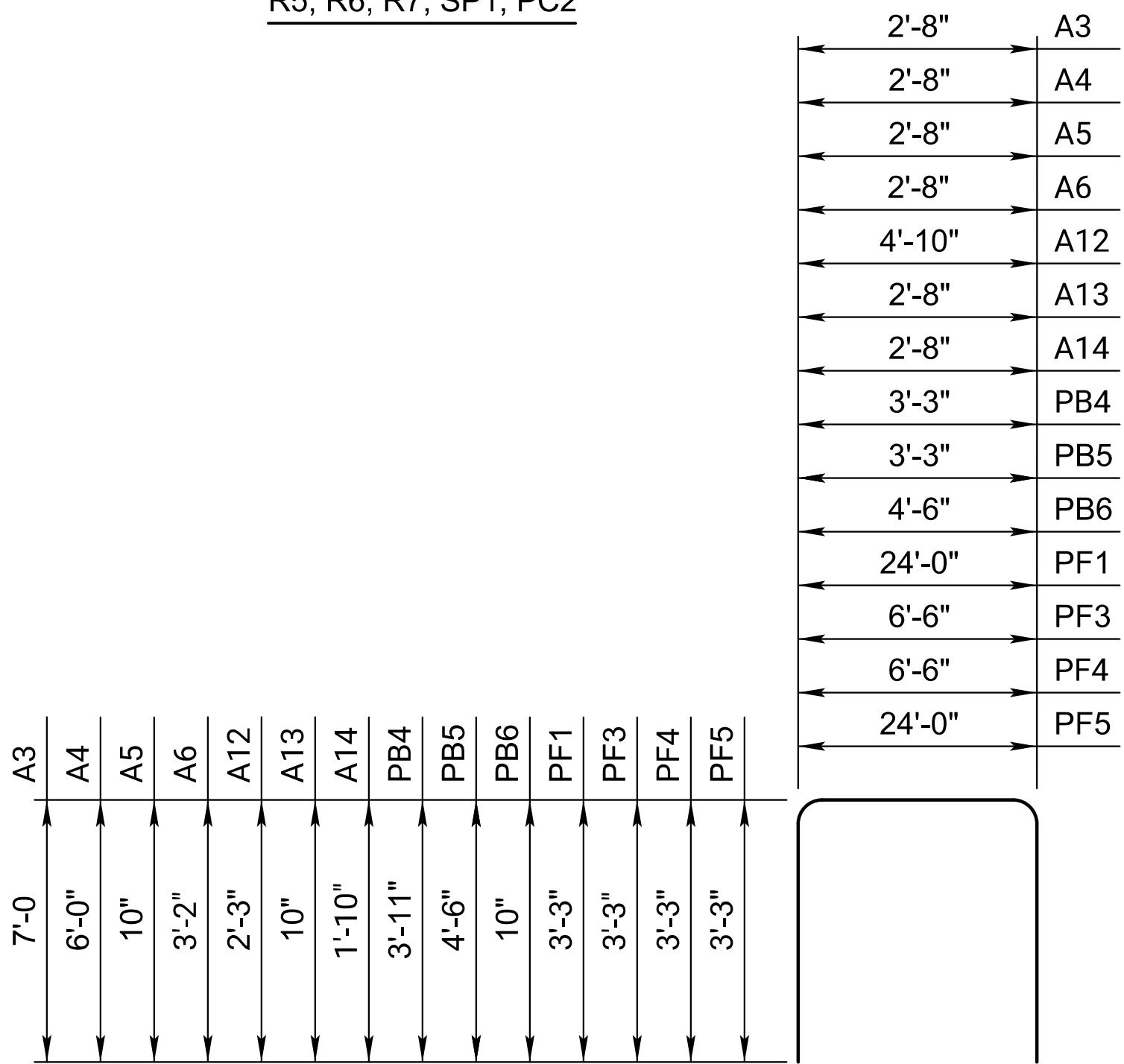
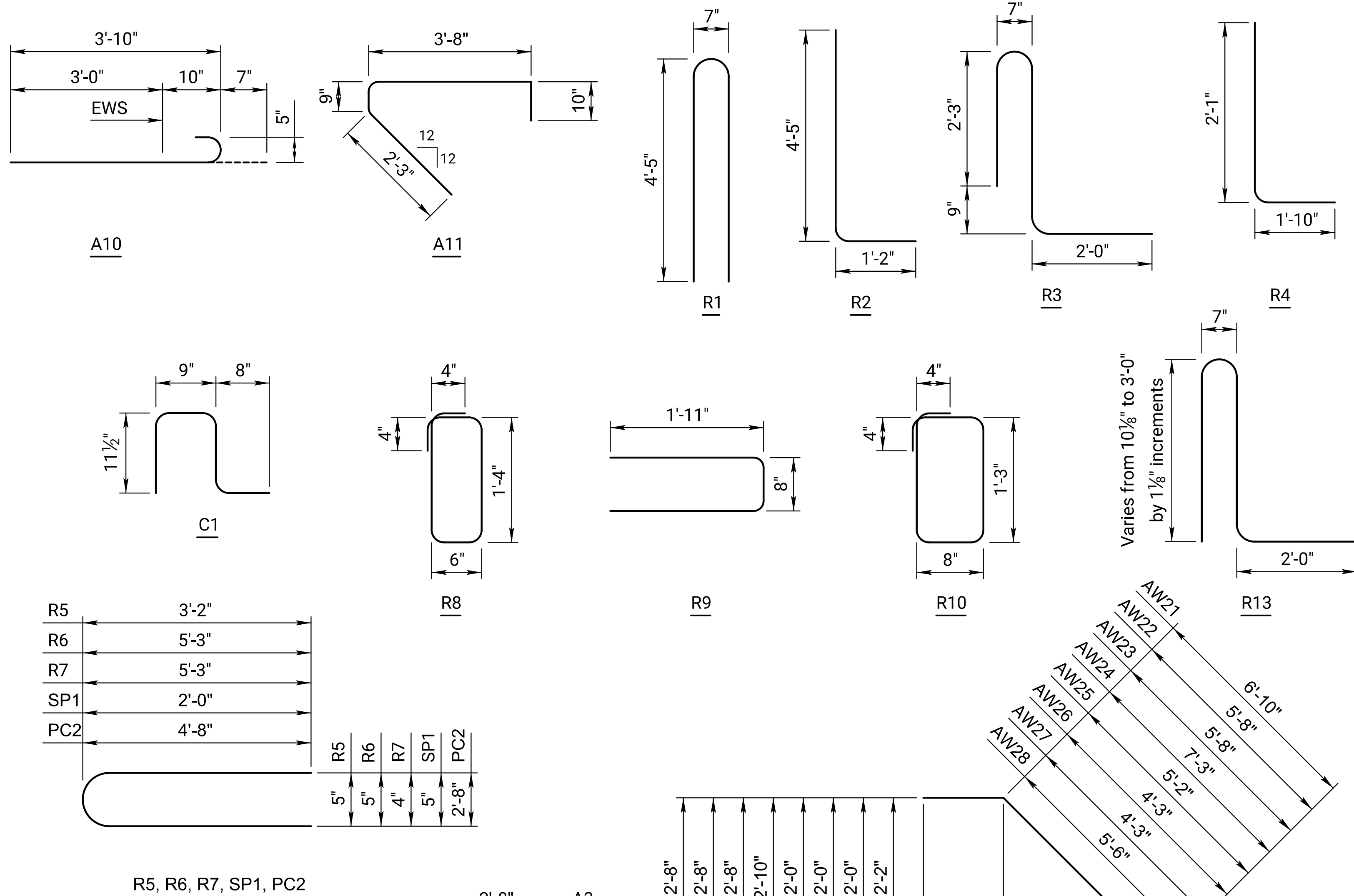
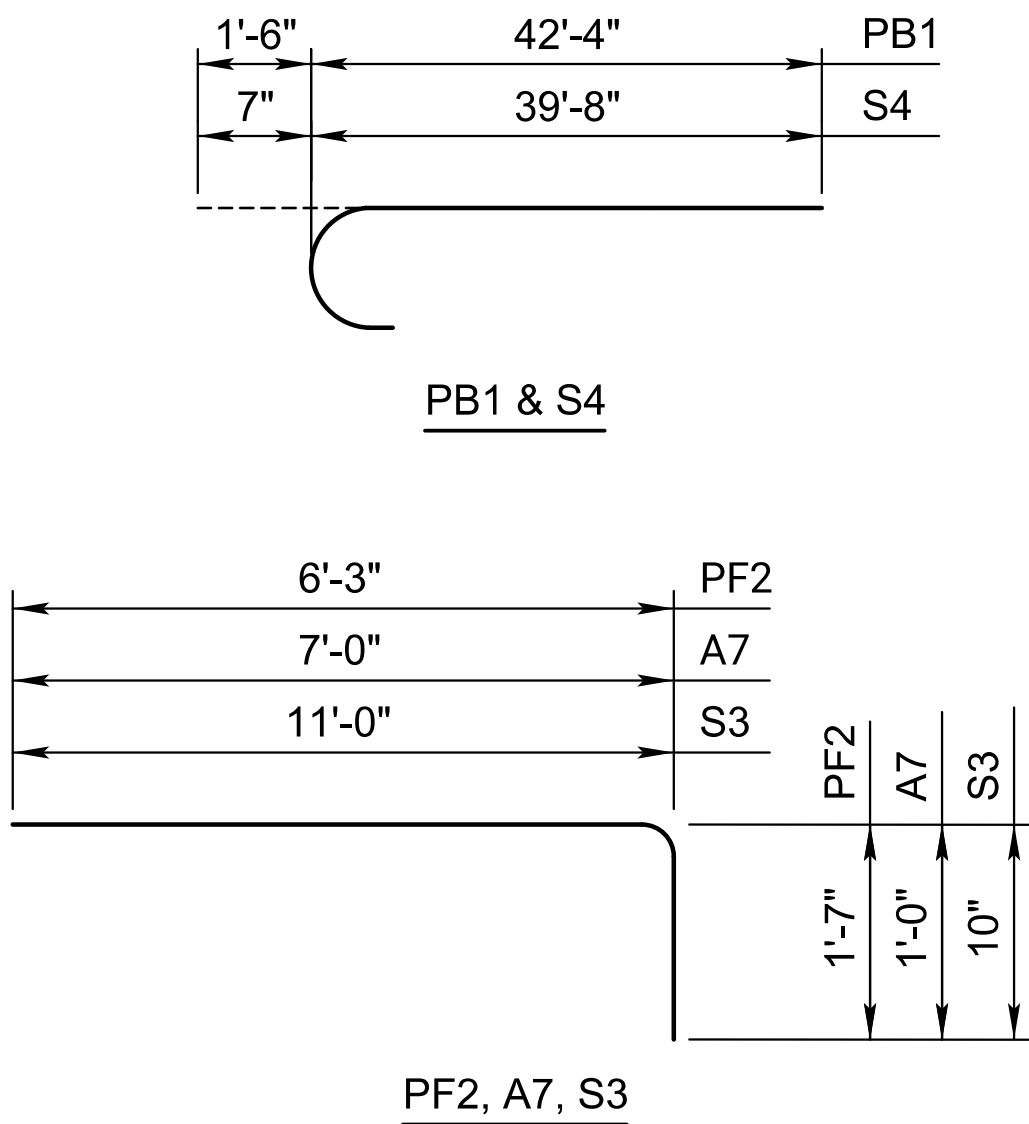
Notes:

A denotes bending mark. Dimensions are out to out unless noted otherwise.

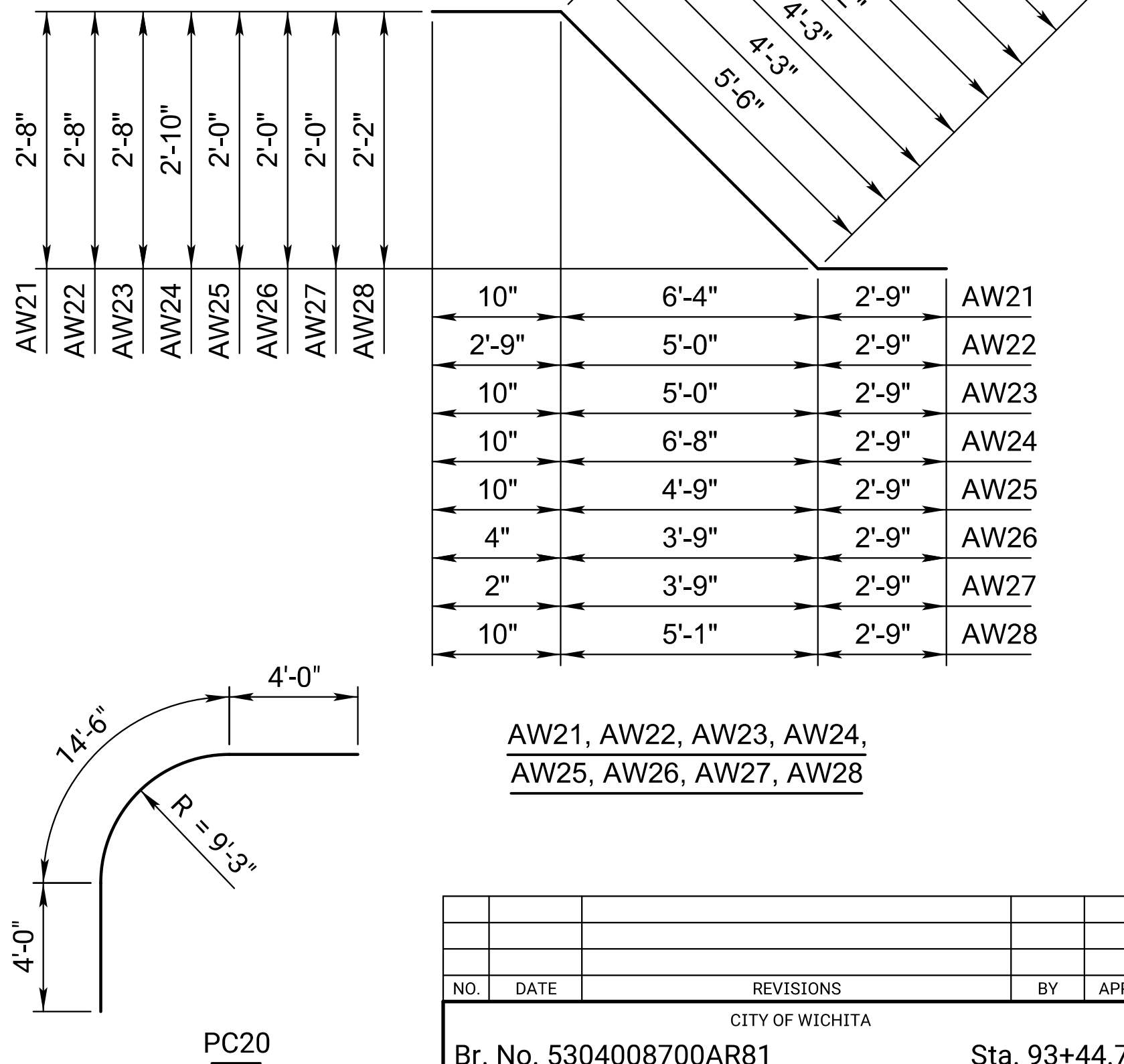
No allowance for bend curvature is to be made except for standard hook and radii in excess of the same.

BILL OF REINFORCING STEEL Epoxy Coated - Grade 60							
Straight Bars				Bent Bars			
Mark	Size	Number	Length	Mark	Size	Number	Length
PB2	#11	40	40'-0"	PB1	#11	56	43'-10"
PB3	#6	48	40'-0"	PB4	#5	728	11'-2"
PB7	#4	96	2'-4"	PB5	#6	64	12'-4"
PB8	#4	80	2'-8"	PB6	#5	24	6'-2"
PC1	#9	200	20'-8"	PC2	#6	144	10'-8"
PC3	#6	72	18'-0"	PC20	#6	28	22'-6"
PC9	#6	28	11'-0"				
PC10	#6	28	9'-10"				
PC11	#6	28	8'-9"				
PC12	#6	28	7'-9"				
PC13	#6	28	6'-9"				
PC14	#6	28	5'-8"				
PC15	#6	28	4'-8"				
PC16	#6	28	3'-8"				
PC21	#6	8	18'-9"				
PC22	#6	8	18'-11"				
PC23	#6	8	19'-2"				
PC24	#6	8	19'-6"				
PC25	#6	8	20'-1"				
PC26	#6	8	20'-9"				
PC27	#6	8	21'-8"				
PC28	#6	8	22'-11"				
PC29	#6	8	25'-0"				
PF2	#9	200	7'-10"				

BILL OF REINFORCING STEEL Non-Epoxy Coated - Grade 60								
Straight Bars					Bent Bars			
Mark	Size	Number	Length	Mark	Size	Number	Length	
Pier				PF1	#8	32	30'-6"	
				PF3	#5	112	13'-0"	
				PF4	#6	112	13'-0"	
				PF5	#8	32	30'-6"	

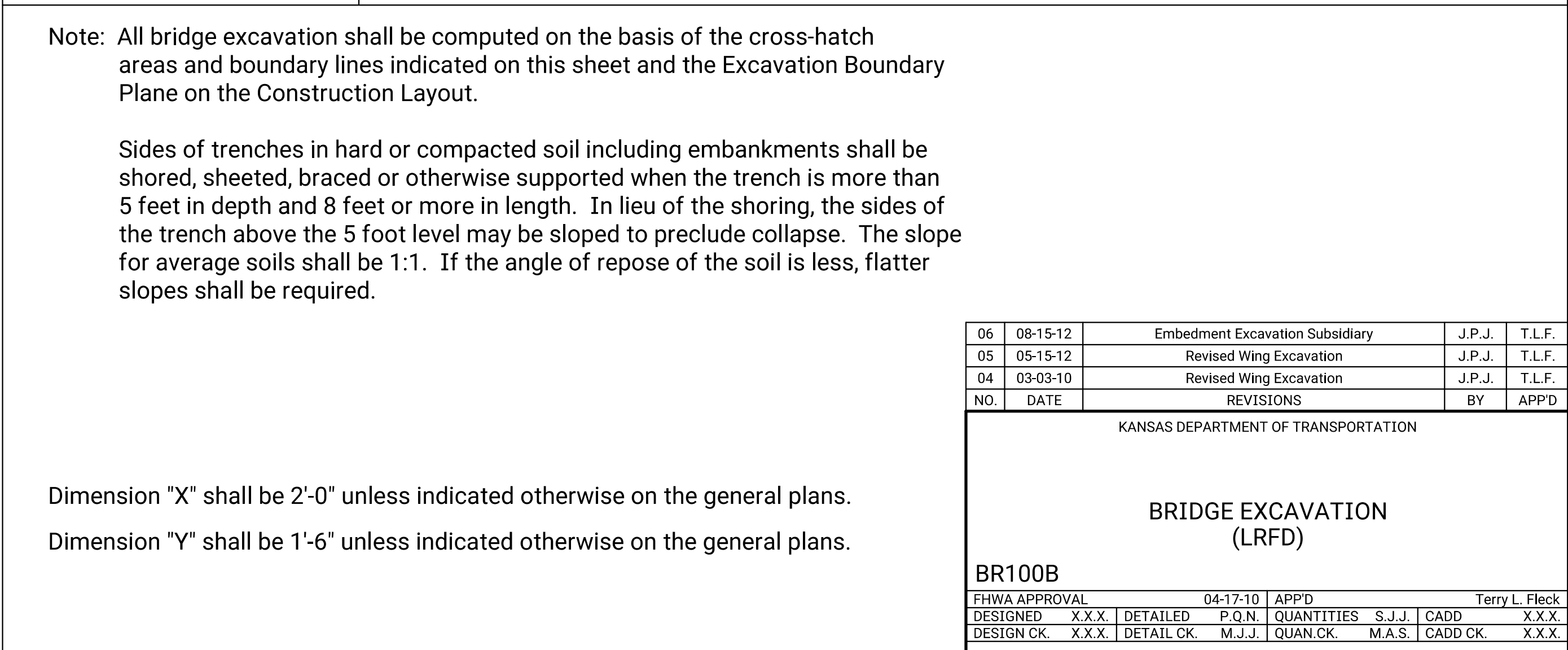
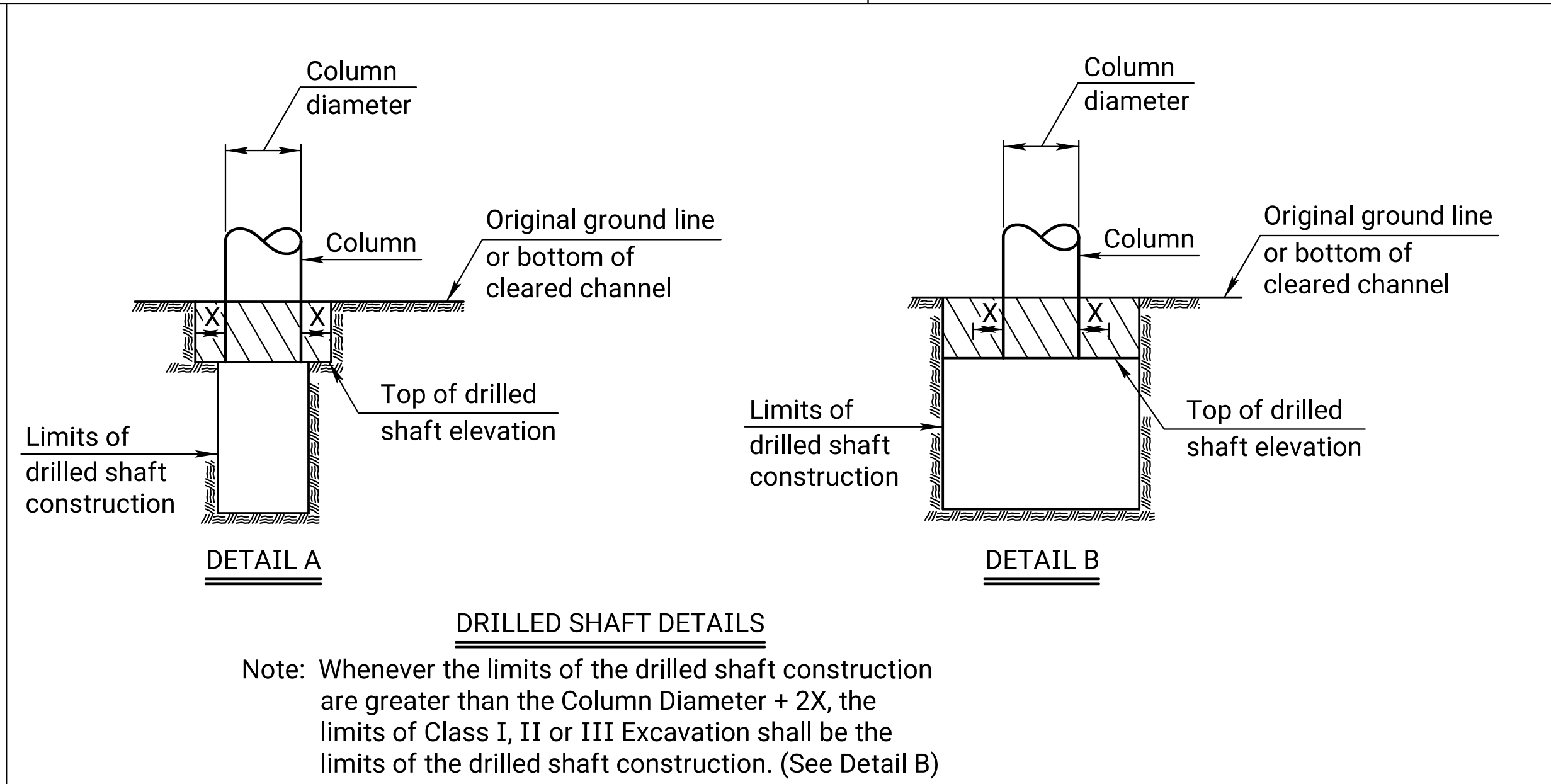
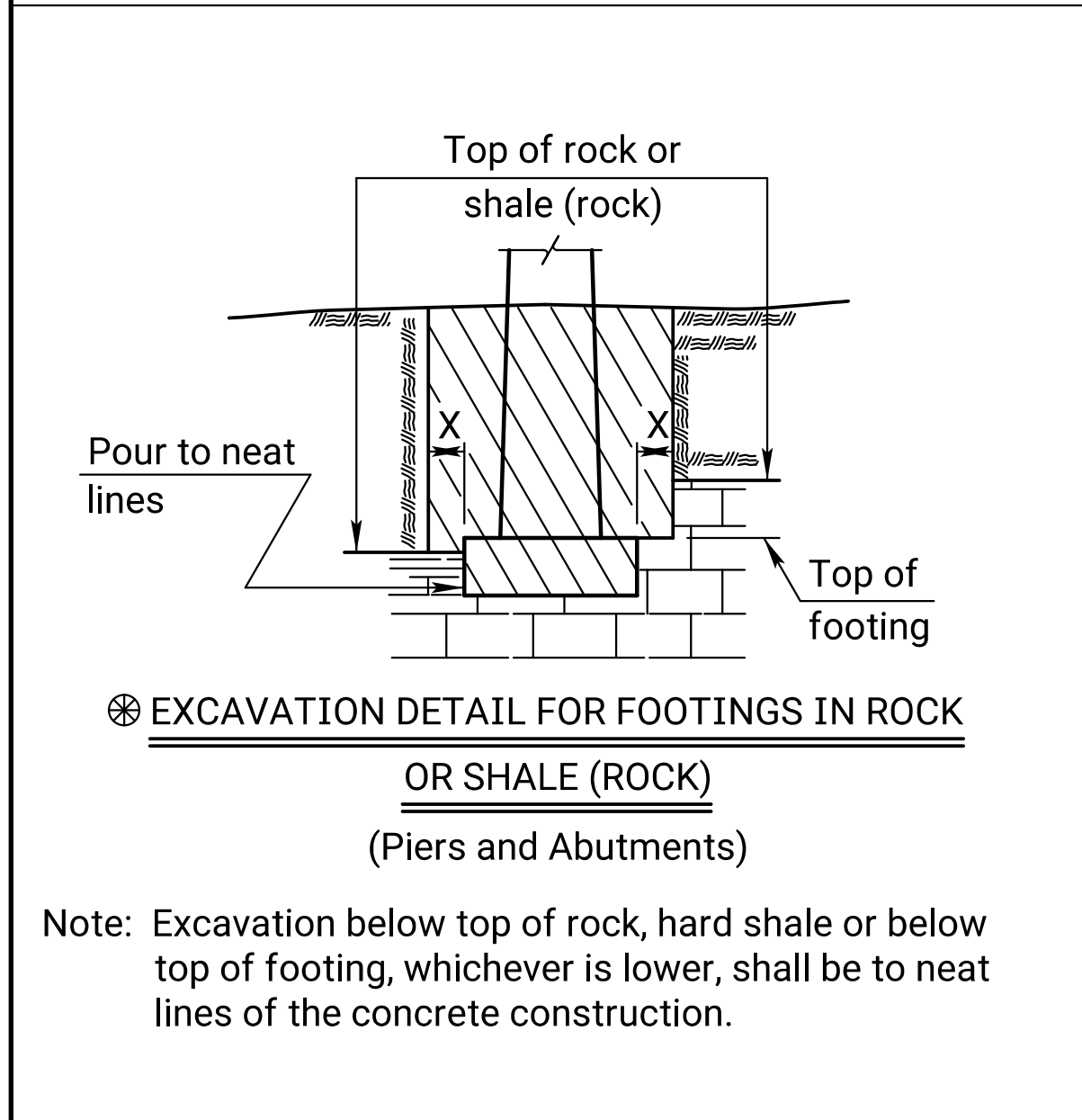
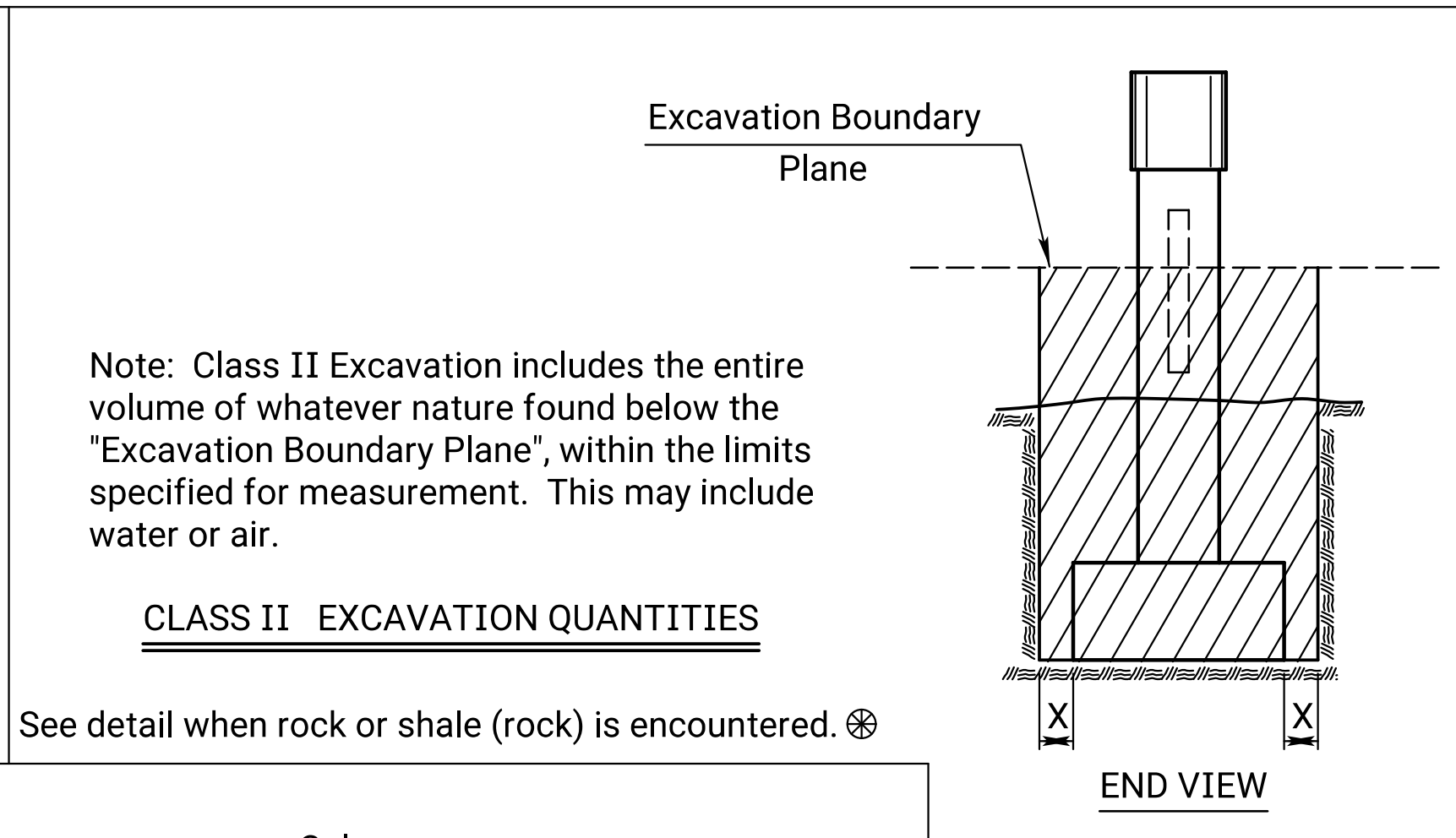
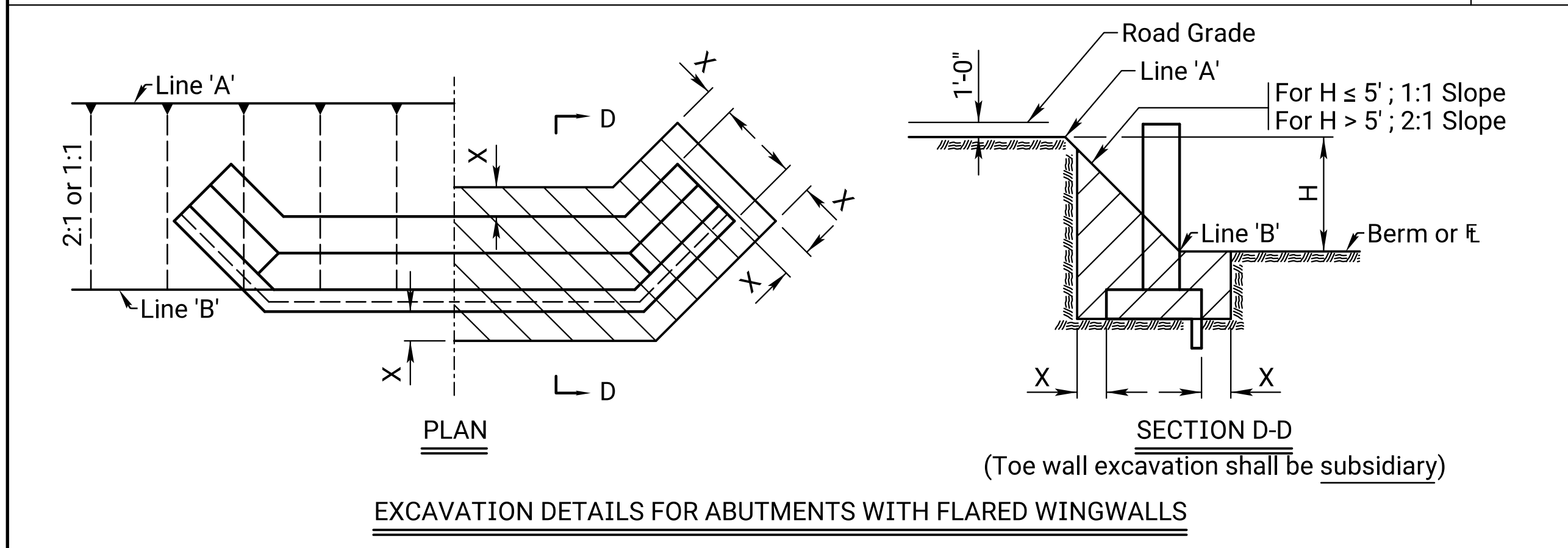
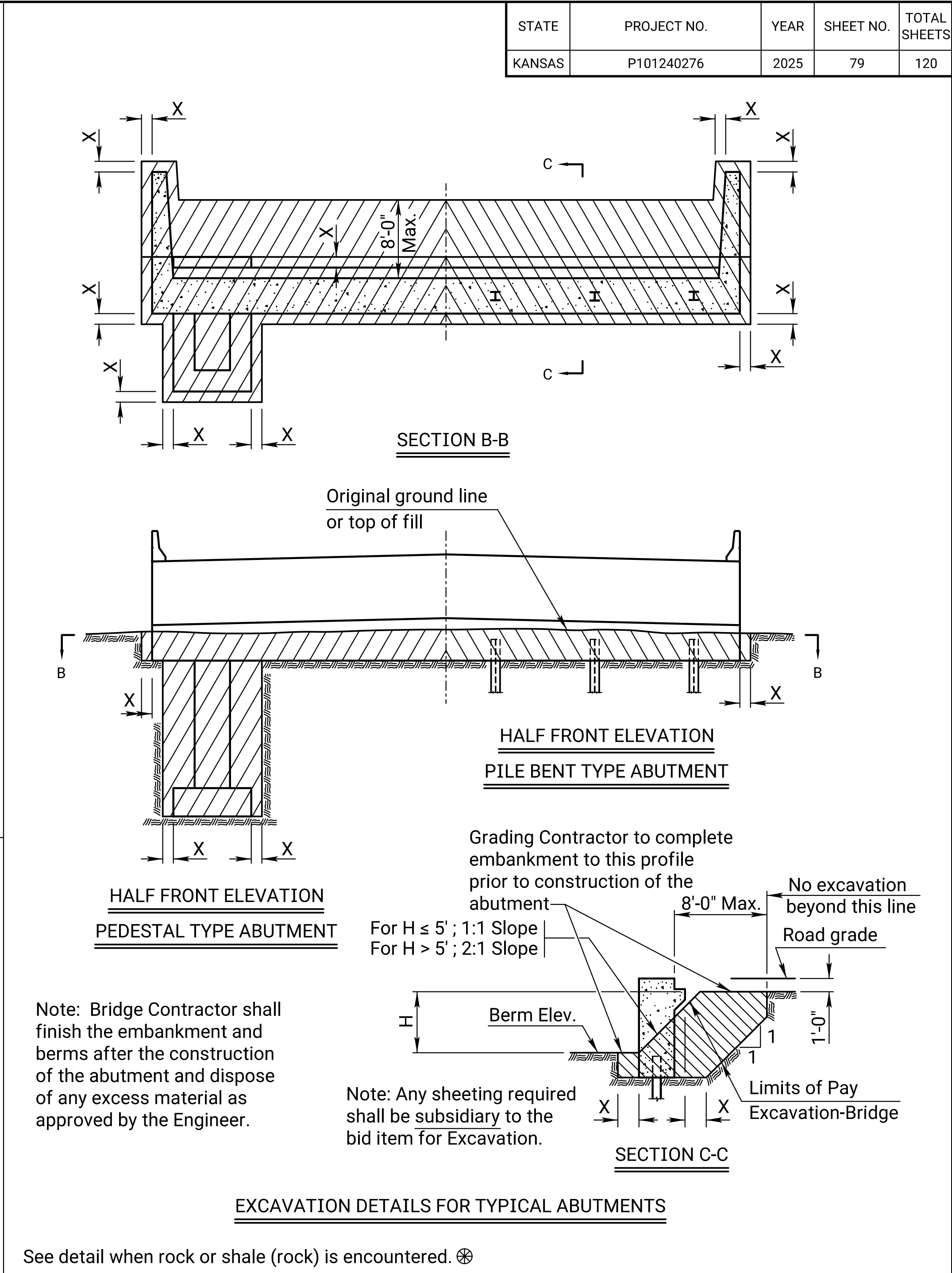
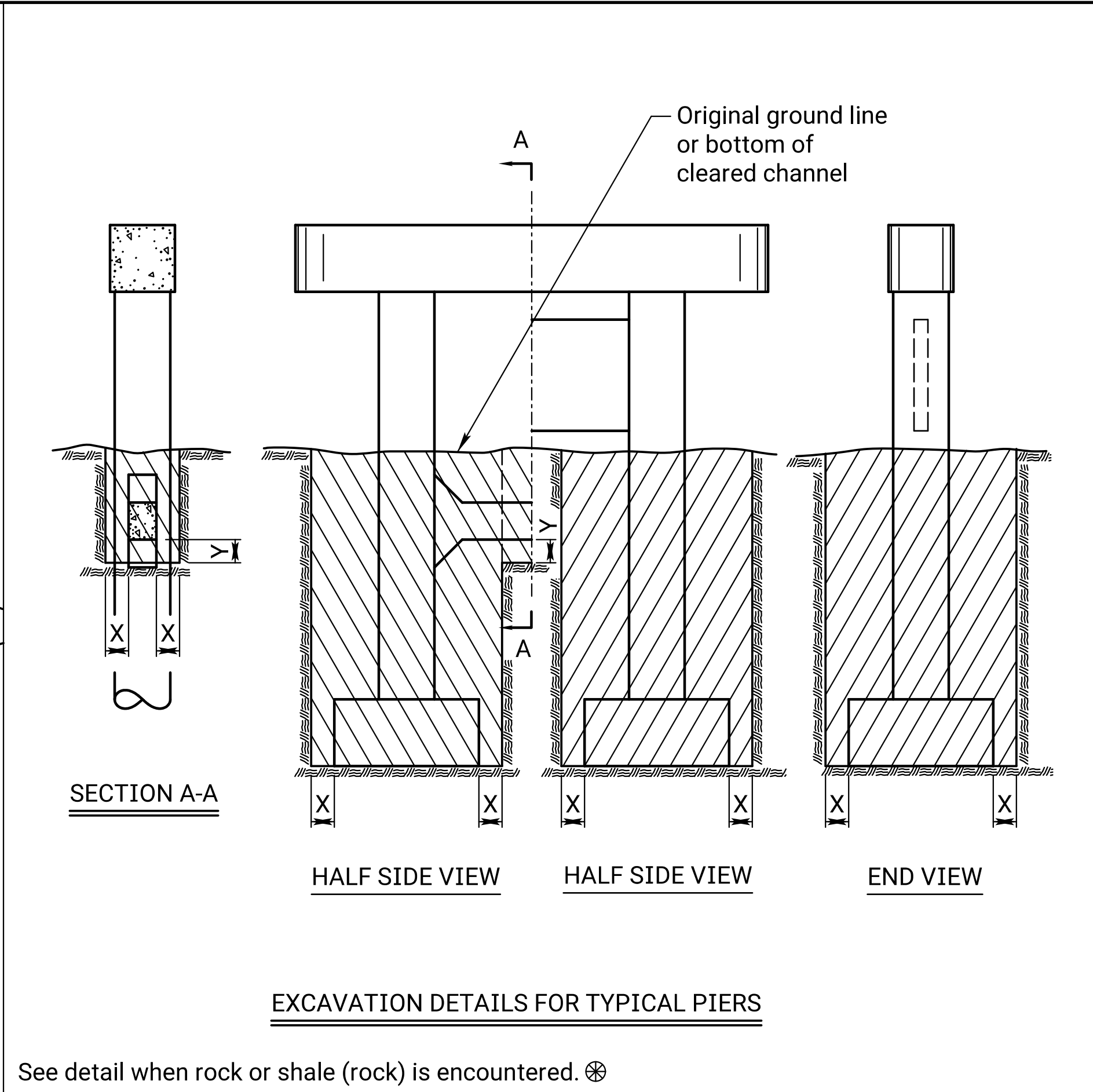
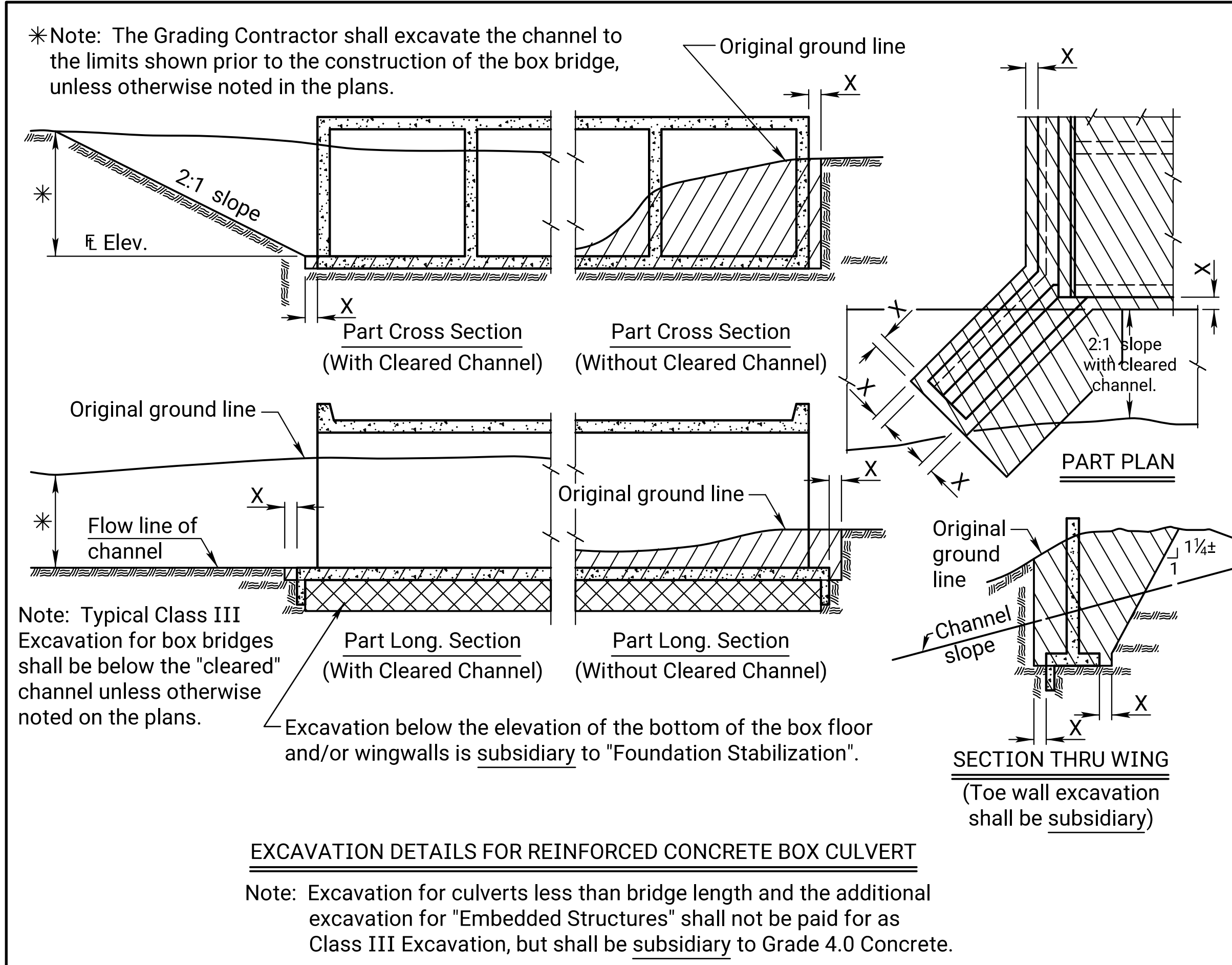


A3, A4, A5, A6, A12, A13, A14,
PB4, PB5, PB6, PF1, PF3, PF4, PF5



NO.	DATE	REVISONS						BY	APP'D
CITY OF WICHITA									
Br. No. 5304008700AR81								Sta. 93+44.79	
BILL OF REINFORCING STEEL									
FIRST STREET OVER ARKANSAS RIVER									
Proj. No. 472-2024-086064								Sedgwick Co.	
SHEET NO.	OF	SCALE			APPD				
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.	CADD	X.X.X.		
DESIGN CK	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S.	CADD CK.	X.X.X.		

Drawn By : pqrhan
File : 086064bss-br100B
Plotted : 4/28/2026



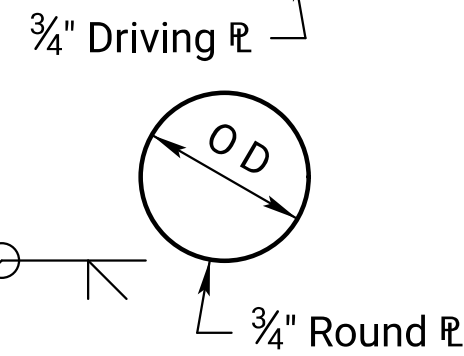
Drawn By : pqrhan
File : 086064bss-b110
Plotted : 4/28/2026

OD	10¾"	T. = ‡‡
OD	12¾"	T. = ‡‡
OD	14"	T. = ‡‡

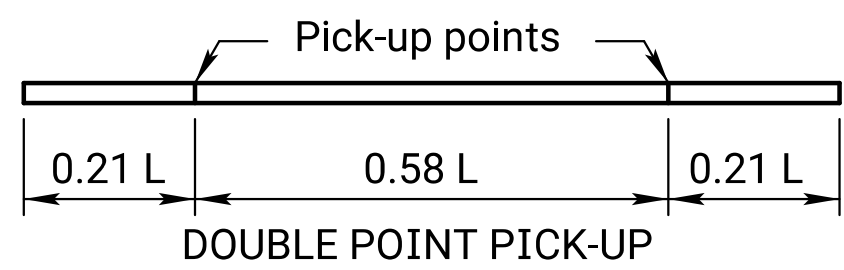
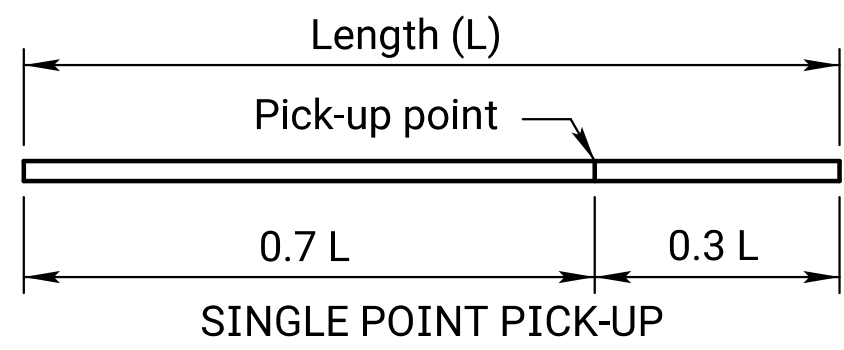
‡‡ See the Geology Report or "Summary of Quantities" for Pipe Pile wall thickness

Note:
Pile shall be driven with a steel head having a projecting ring fitting inside the pipe. Clearance between ring and pipe should be ¼".

Note:
Pile pipe may be spiral welded, longitudinal welded, or seamless steel pipe.



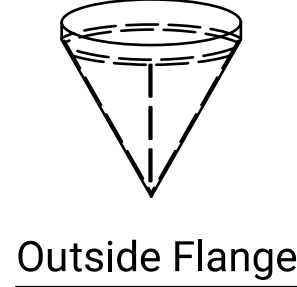
PLAIN ROUND CAST-IN-PLACE CONCRETE PILES



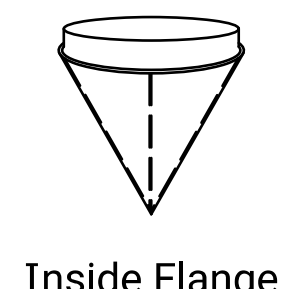
PICK-UP POINTS FOR PRESTRESSED PILING

Max. length - 55' single point pick-up
Max. length - 80' double point pick-up

Note: Piles shall be marked at Pick-up points to indicate proper points for attaching handling lines.

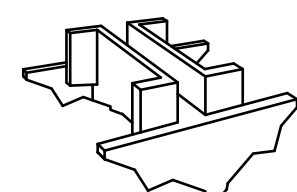


Outside Flange



Inside Flange

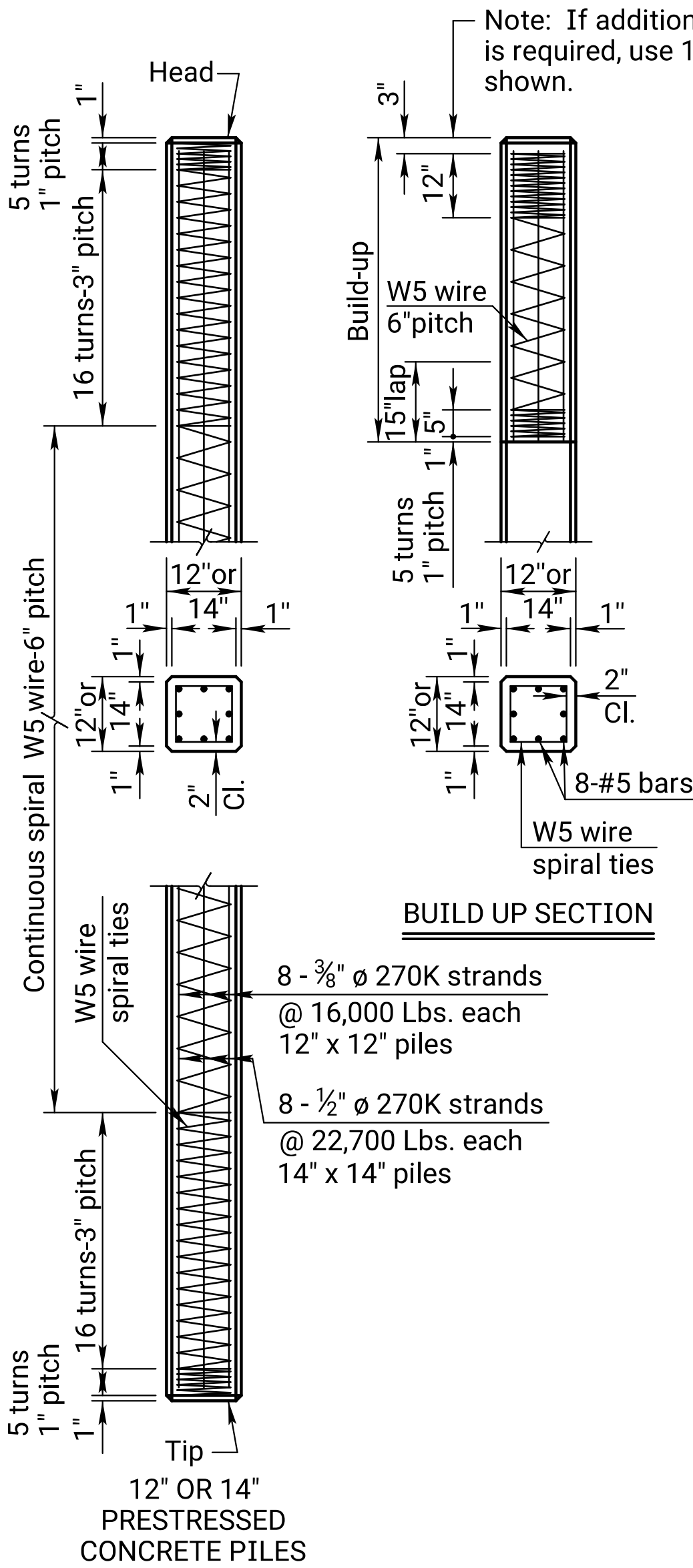
SHELL PILE POINT



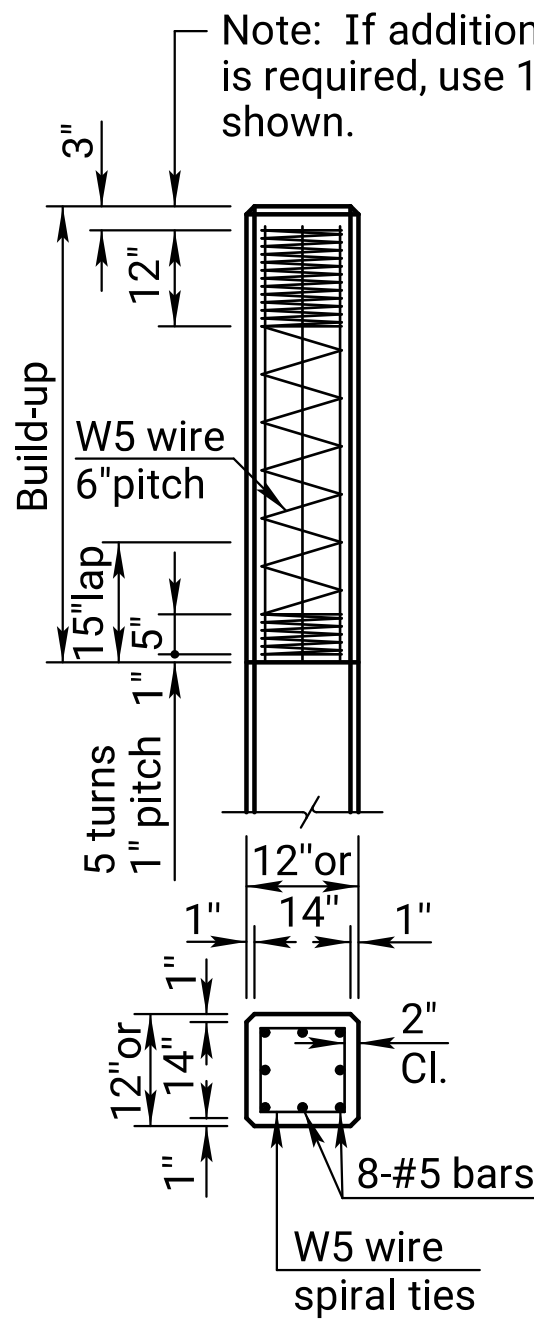
H-Pile Point

CAST STEEL PILE POINT

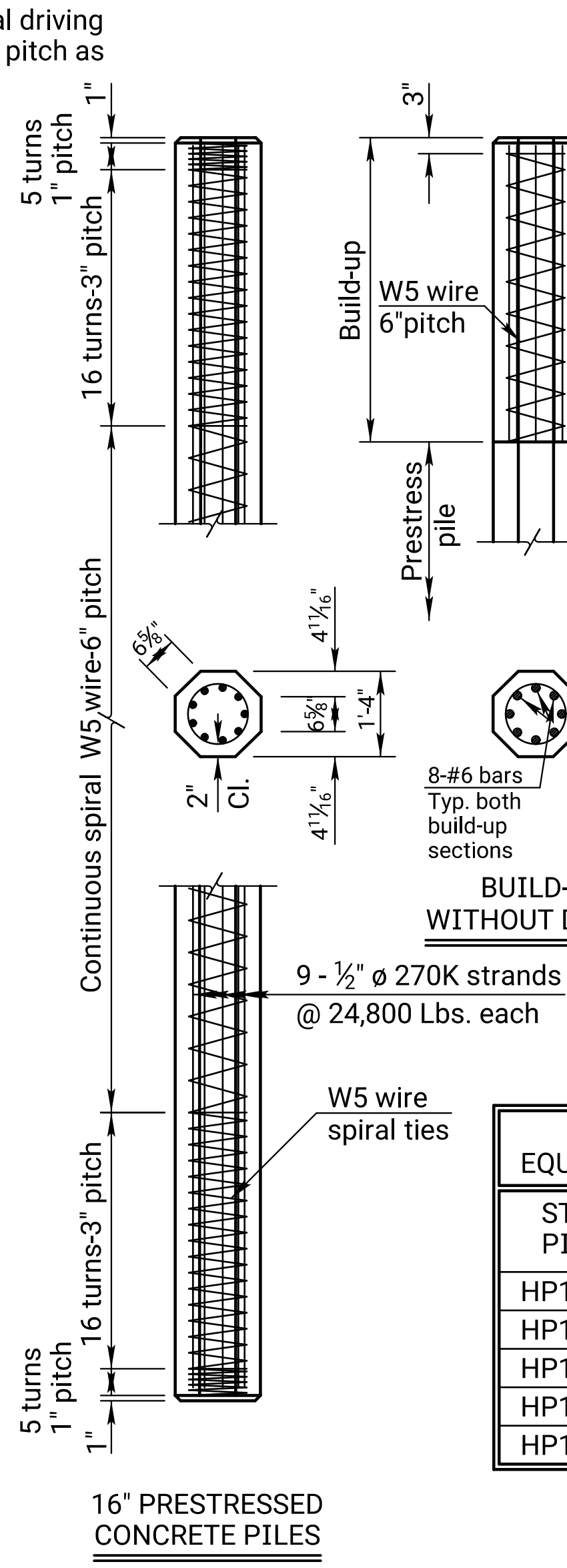
The pile point shall be a one-piece unit of cast steel. Weld pile points in accordance with manufacturer's recommendations to each steel pile before driving.



BUILD UP SECTION



BUILD UP SECTION



16" PRESTRESSED CONCRETE PILES

FOR INFORMATION ONLY EQUIVALENT POINT BEARING PILES		
STEEL PILES	CONCRETE PILES	
	Pipe	Pre-stress
HP10x42	10¾"	
HP12x53	12¾"	
HP14x73	14	12
HP14x102		14
HP14x117		16

SPICES: Splices for steel piles and shell piling shall be in accordance with details shown on this sheet and the Standard Specifications.

For integral pile bent abutments and piers, if a pile splice is required, do not locate the pile splice within a region extending 2'-0" above and 10'-0" below the bottom of the concrete web wall. For abutments, locate the pile splice at least 10'-0" below top of fill.

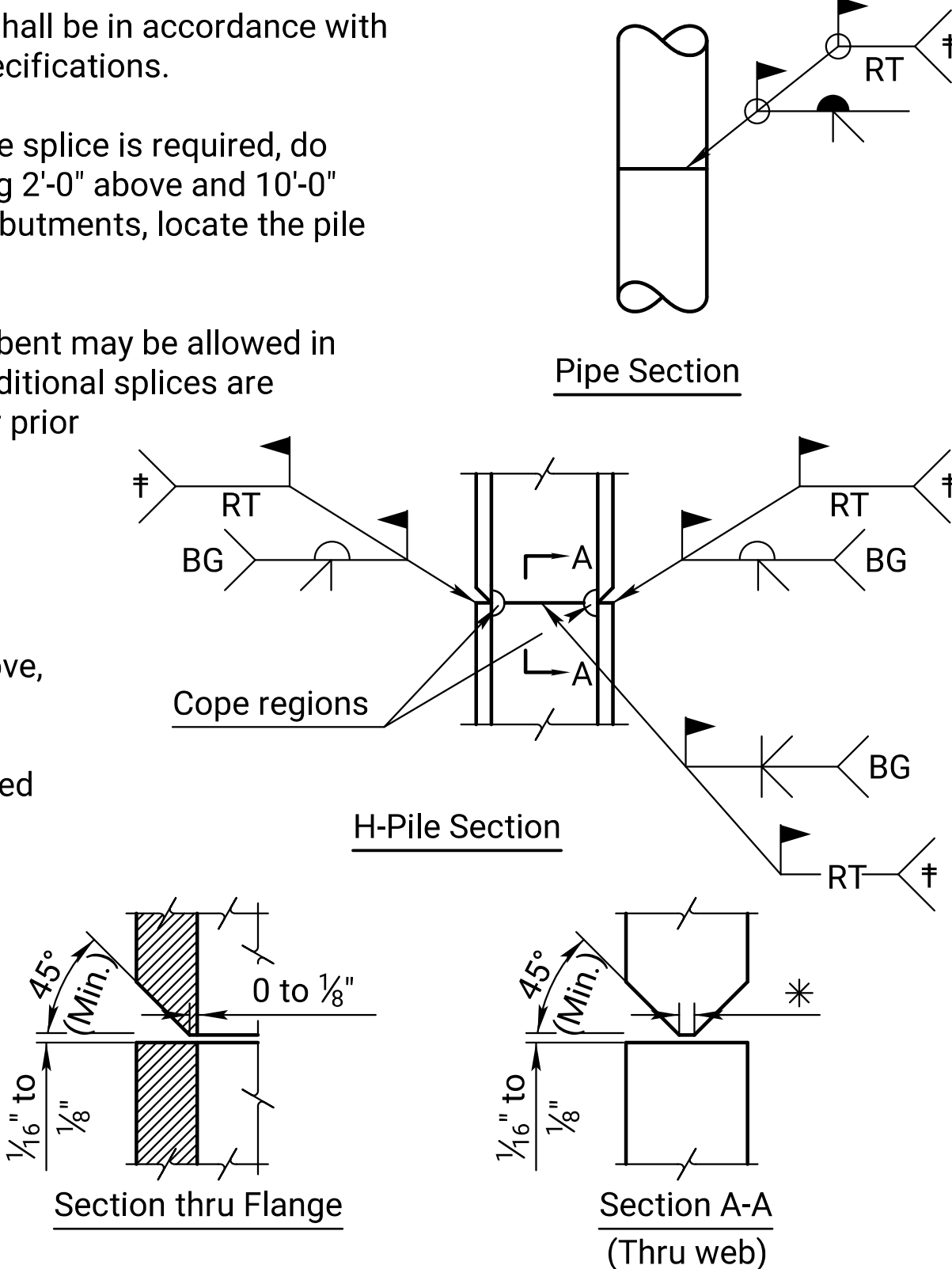
With the approval of the Engineer, one splice per bent may be allowed in the region described above without testing. If additional splices are anticipated, based on the geology, the Contractor prior to driving, will locate the splice so that the splice will not fall within the regions described above.

‡ For integral pile bent abutments and piers, if a splice is located within the regions described above, then the Contractor will test the welds by Radiograph (RT) test methods. Repair and retest any welds not passing the test(s). Each weld tested will have written confirmation of results. Report these results to the Engineer. This work is not paid for directly, but is subsidiary to "Piles".

* Minimum as required by welding process.

BG = Backgouge

PILE SPLICE DETAILS



GENERAL NOTES

PRESTRESSED PILES: Fabricate prestressed concrete pile splices in accordance with the Manufacturer's recommendations subject to the approval of the Engineer.

Method of attachment of pile to build-up may be by any of the methods given in the notes on "Alternate Methods." If mild reinforcing steel is used for attachment, the area shall be no less than that used in the build-up.

ALTERNATE METHODS: Method of attachment of a pile to build-up may be by any of the following methods:

1. Cut off at least 2'-0" of pile and expose a minimum of 2'-0" of strands.
2. Cast 8-#6, or 8-#5 bars (equally spaced) into pile head. All bars shall extend into pile head and project from pile head a minimum of 2'-0".
3. Drill 8 holes in pile head (equally spaced) for installation of 8 grouted dowel bars of same size and length as in 2.
4. Provide cored holes for bars as in 3.

No bars or strands are to extend from head of pile or build-up into footing or pile cap unless approved by the Engineer.

TEST PILES: Drive test piles where called for on the bridge plans. The test piles located within the limits of the substructure will become a part of the bridge pile system.

DRIVING FORMULA: Driving formula shall conform to the Standard Specifications.

MEASUREMENT AND PAYMENT: Measurement and payment for all piles shall comply with the Standard Specifications.

REINFORCEMENT: Use reinforcing steel conforming to ASTM A615, Grade 60. Hoops and spirals may be either plain or deformed bars.

PRESTRESSING STEEL: Use uncoated seven-wire low relaxation prestressing strand conforming to ASTM A416, Gr. 270.

STEEL PILE: Steel pile shall conform to the requirements of the Standard Specifications.

PILE POINTS: Pile points shall conform to the dimensions shown and to requirements of the Standard Specifications.

SPECIFICATIONS: Standard Specifications for State Road and Bridge Construction as currently used by the Kansas Department of Transportation.

CONCRETE: Concrete for cast-in-place shall be f'c = 3,500 PSI. Concrete for prestressed shall be f'c = 5,000 PSI.

WELDING: All field welding shall meet the requirements of the Standard Specifications.

Use only Shielded Metal Arch Welding SMAW (stick welding) for pile splices.

Use only low hydrogen E7018, 7016, or 7015 series welding rod (electrode) for all welding applications during pile splicing.

New electrodes are to be purchased for each KDOT project. The electrodes shall arrive on the project in factory hermetically sealed containers, opened and labeled with indelible ink in front of the engineer. The label shall include the current date and the project number. If the container seal is questionable or shows signs of damage the electrode is to be dried in an oven at least one hour at a temperature of 700°F to 800°F.

Upon removal from intact hermetically sealed factory packaging or the drying oven the electrode is to be placed in a storage oven with a minimum temperature of 250°F.

When electrodes are removed from the hermetically sealed container or storage oven and exposed to the atmosphere for less than 4 hours place into the storage oven for at least 4 hours before removing for use.

If electrode is exposed to the atmosphere for 4 hours or more (or 9 hours for moisture resistant electrodes designated with an R in their labeling) then electrode can be dried in a drying oven at a temperature of 450°F to 550°F.

If the electrode is exposed to the atmosphere for 4 hours or more a second time or the rod becomes wet discard rod.

CAST-IN-PLACE SHELLS: Steel shells for cast-in-place concrete piles shall conform to the requirements of the Standard Specifications.

All piles driven without a mandrel shall be of the minimum thicknesses shown. Piles driven with a mandrel shall be of sufficient strength and thickness to withstand driving without injury and to resist harmful distortion and/or buckling due to soil pressure after the mandrel is removed.

Remove, replace or correct to the satisfaction of the Engineer improperly driven, broken or otherwise defective pipe piles. Otherwise drive an additional pile at no extra cost.

The Contractor shall maintain a light suitable for visual inspection of the pile on the job at all times prior to and during the filling of the pipe.

PAINT: All paint shall comply with the Standard Specifications, or as specified on the plans.

MILL TEST REPORTS: Steel piles test reports and steel shell test reports shall comply with the Standard Specifications.

04	08-16-18	Add splice web section, clarify note	M.L.L.	J.P.J.
03	09-15-15	Clarify Notes	J.P.J.	C.E.R.
02	06-18-12	Clarify f'c, rod type, use and weld	J.P.J.	T.L.F.

NO.	DATE	REVISIONS	BY	APPD
-----	------	-----------	----	------

KANSAS DEPARTMENT OF TRANSPORTATION

STANDARD PILE DETAILS

BR110							
FHWA APPROVAL		10-04-12		APP'D		Terry L. Fleck	
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.	CADD	X.X.X.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN.CK.	M.A.S.	CADD CK.	X.X.X.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P101240276	2025	81	120

GENERAL NOTES

Reference is made to the latest edition of the CRSI "Manual of Standard Practice" for recommended industry practices concerning reinforcing steel.

Use only the following types of bar supports:

- 1) Wire Bar Supports:
 - a) Epoxy coated reinforcing: Class 1 Protection
 - b) Non-epoxy coated reinforcing: Class 1, 2, or 3 Protection
- 2) Plastic Bar Supports
- 3) Supplementary bars

When securing epoxy coated reinforcement, use tie wires or metal clips that are epoxy or plastic coated.

Do not weld reinforcing steel to bar supports or to other reinforcing steel. Shop weld spacer frames for haunched slabs.

Tie bars at all intersections around the perimeter of each mat and at not less than 2'-0" centers or at every intersection, whichever is greater.

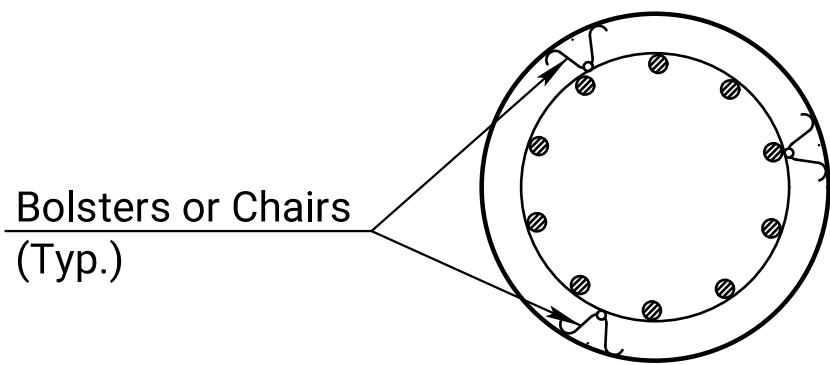
Where more than one length of bar support is required, lap the end legs so they are locked or tied together.

Use proper height supports to maintain the distance between the reinforcing and the formed surface or the top surface of deck slabs within 1/4" of that indicated on the plans.

Spacings shown are maximums. Use sufficient supports, as determined by the Engineer, to retain the reinforcing steel in position.

Construct any platforms, required for the support of workers and/or equipment during concrete placement, directly on the forms and not on the reinforcing steel.

Designs and arrangements of Supports or Spacers other than as shown on this sheet, may be used with the permission of the Engineer.



SECTION A-A

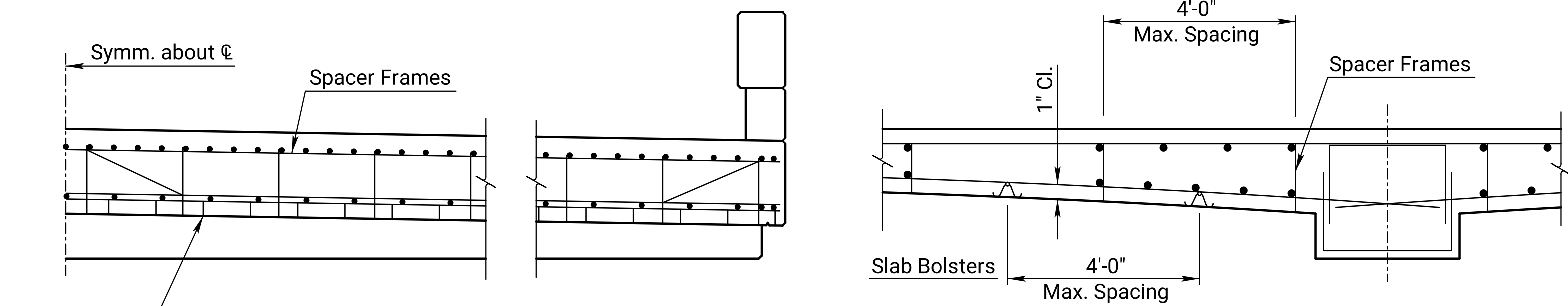
05	11-10-10	Column Bar Supports Required	J.P.J.	T.L.F.
04	12-01-05	Drilled Shaft Spiral Steel Placement	J.P.J.	K.F.H.
03	08-12-00	Added Pre-Cast Panel Detail	R.A.M.	K.F.H.
NO.	DATE	REVISIONS	BY	APPD

KANSAS DEPARTMENT OF TRANSPORTATION

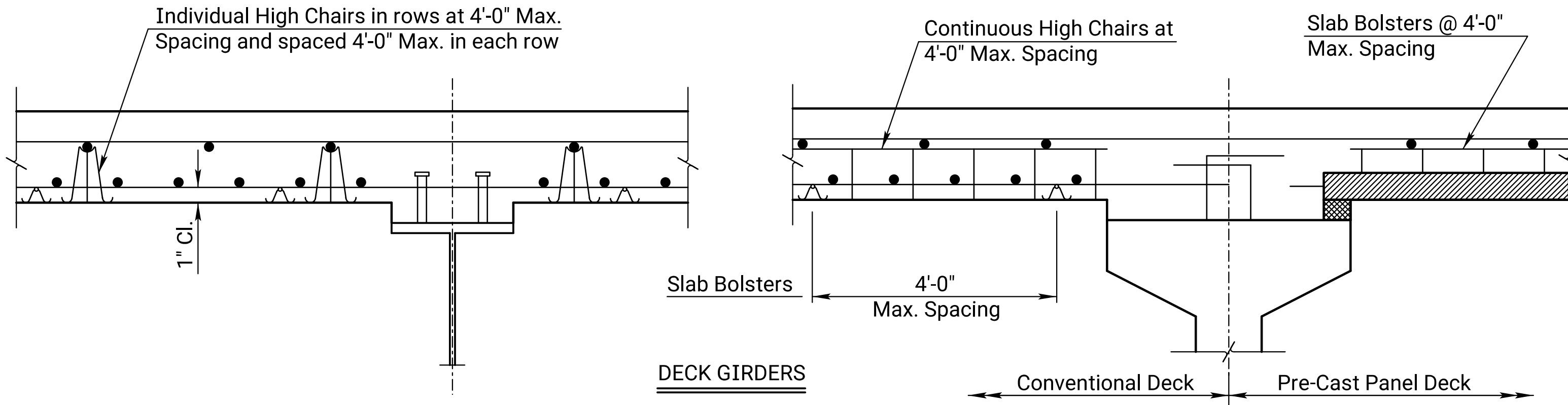
SUPPORTS AND SPACERS FOR REINFORCING STEEL

BR120

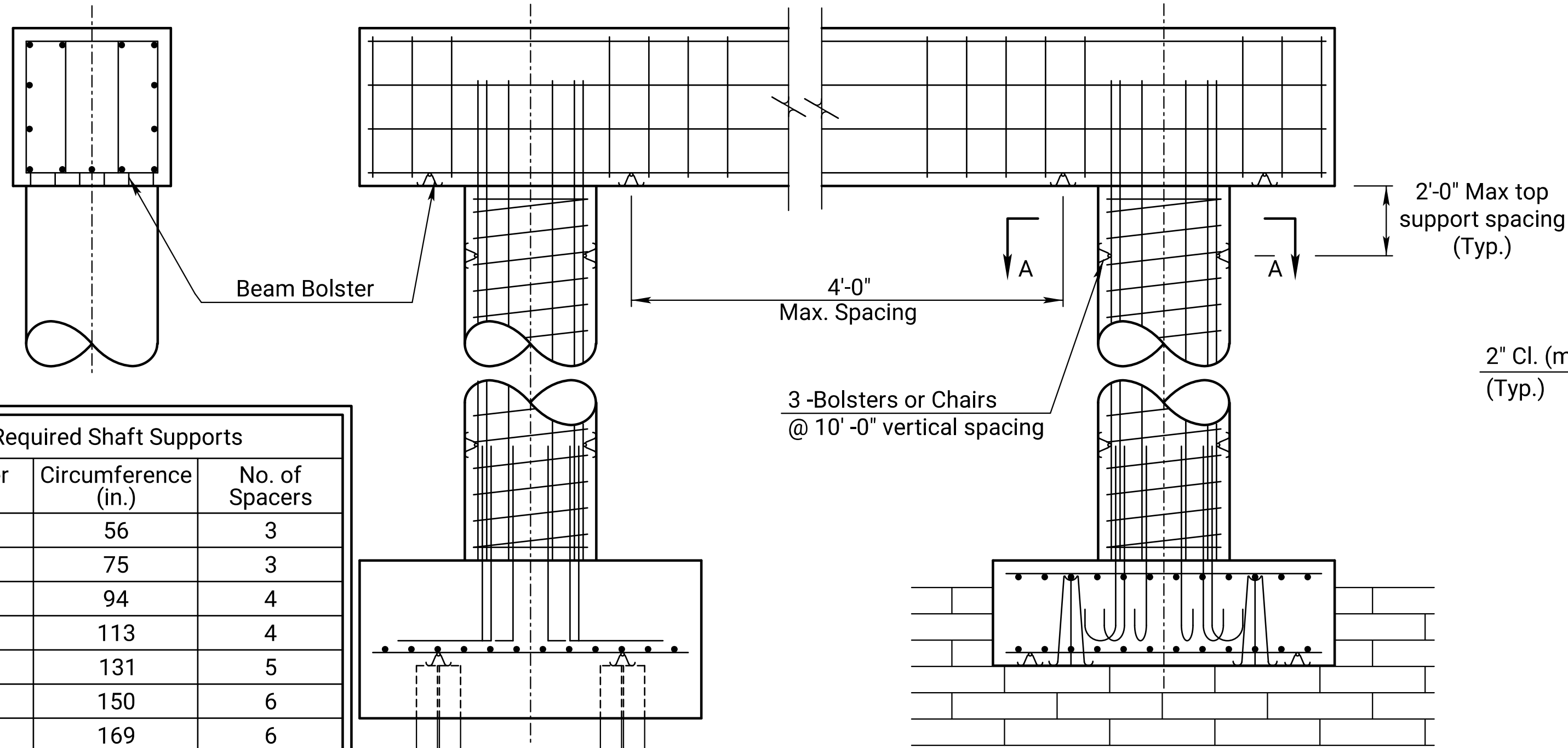
FHWA APPROVAL		11-17-10	APPD	Terry L. Fleck	
DESIGNED	X.X.X.	DETAILED	P.Q.N.	QUANTITIES	S.J.J.
DESIGN CK.	X.X.X.	DETAIL CK.	M.J.J.	QUAN. CK.	M.A.S.
		CADD		X.X.X.	
		CADD CK.		X.X.X.	



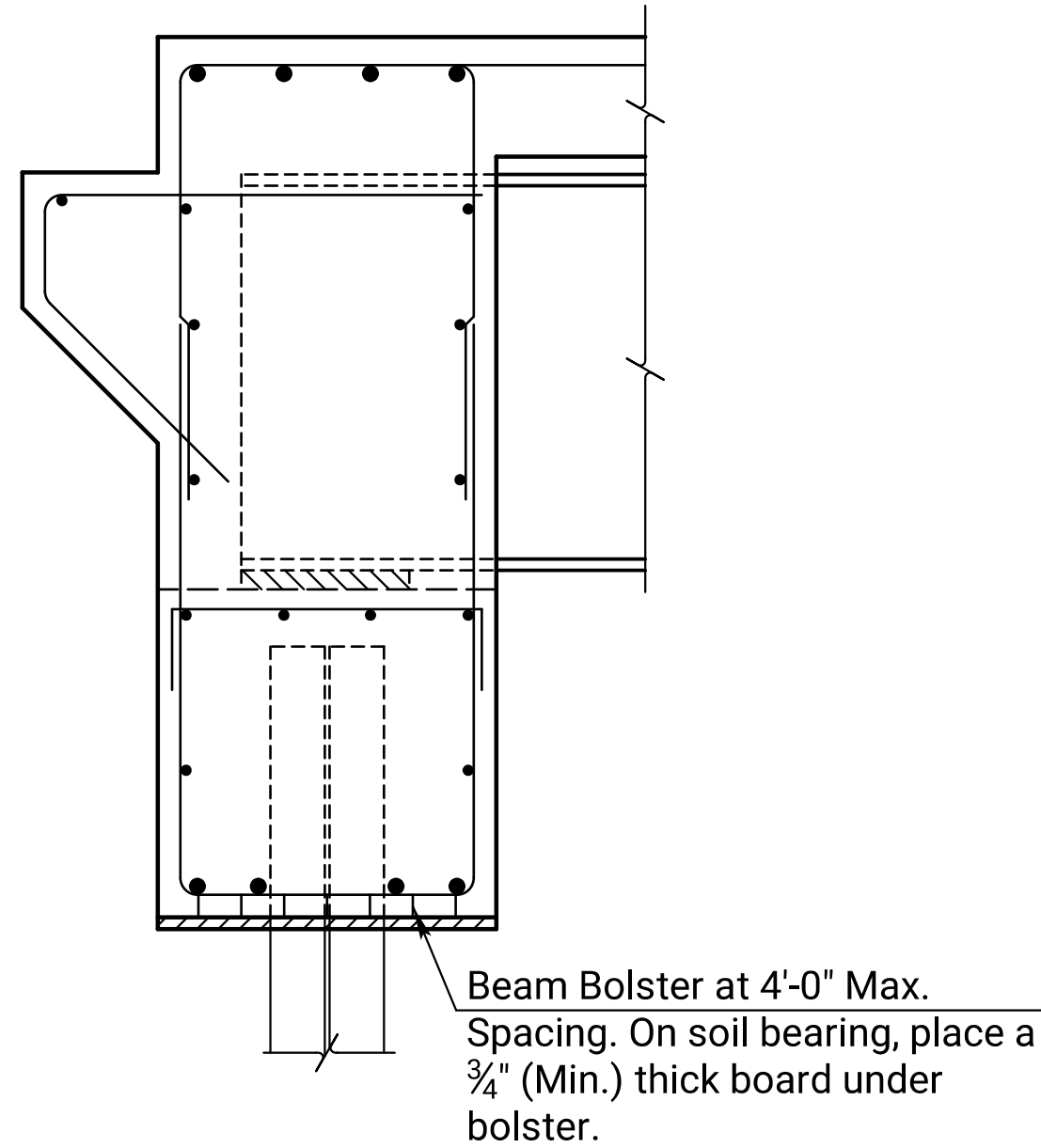
CONTINUOUS HAUNCHED SLAB



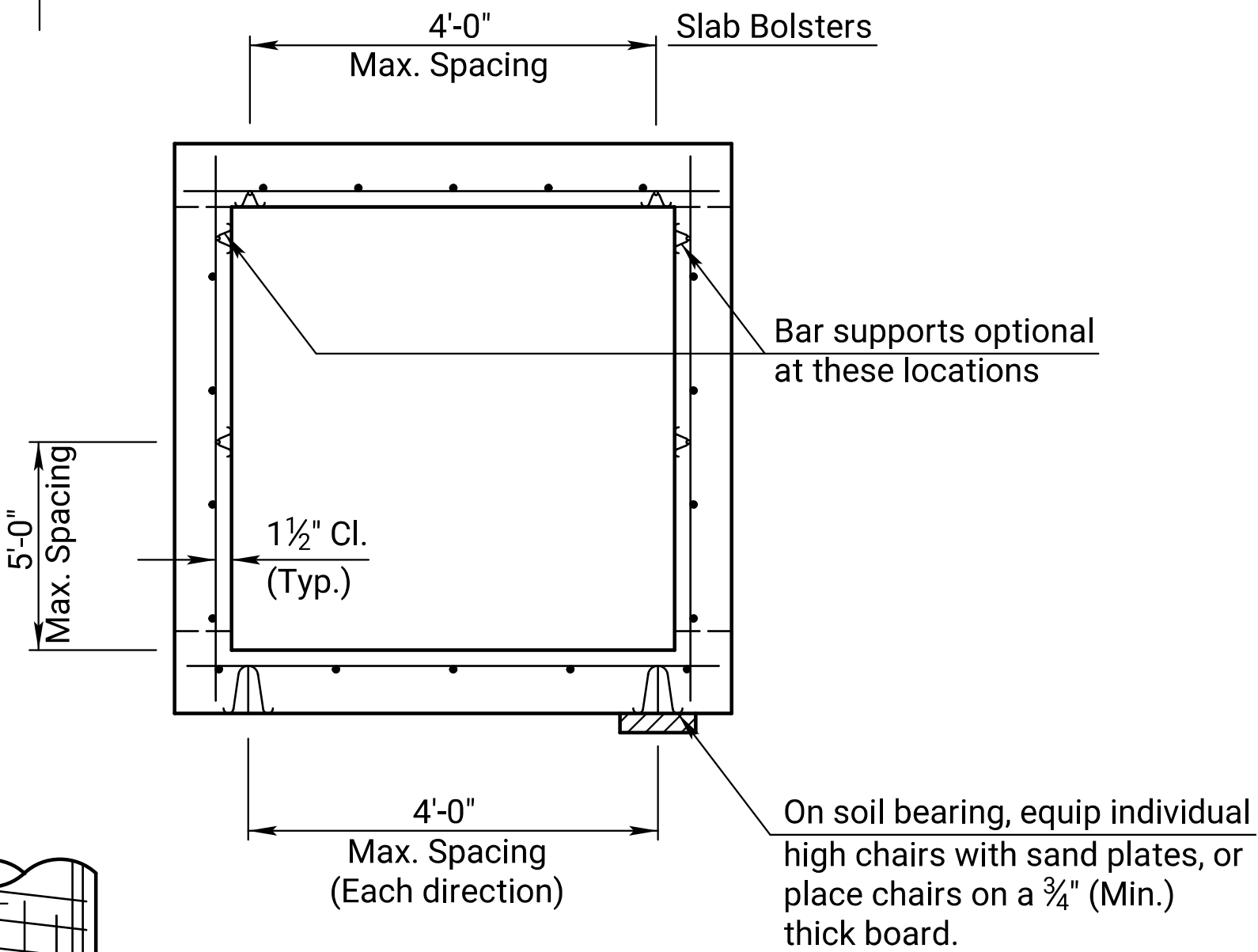
DECK GIRDERS



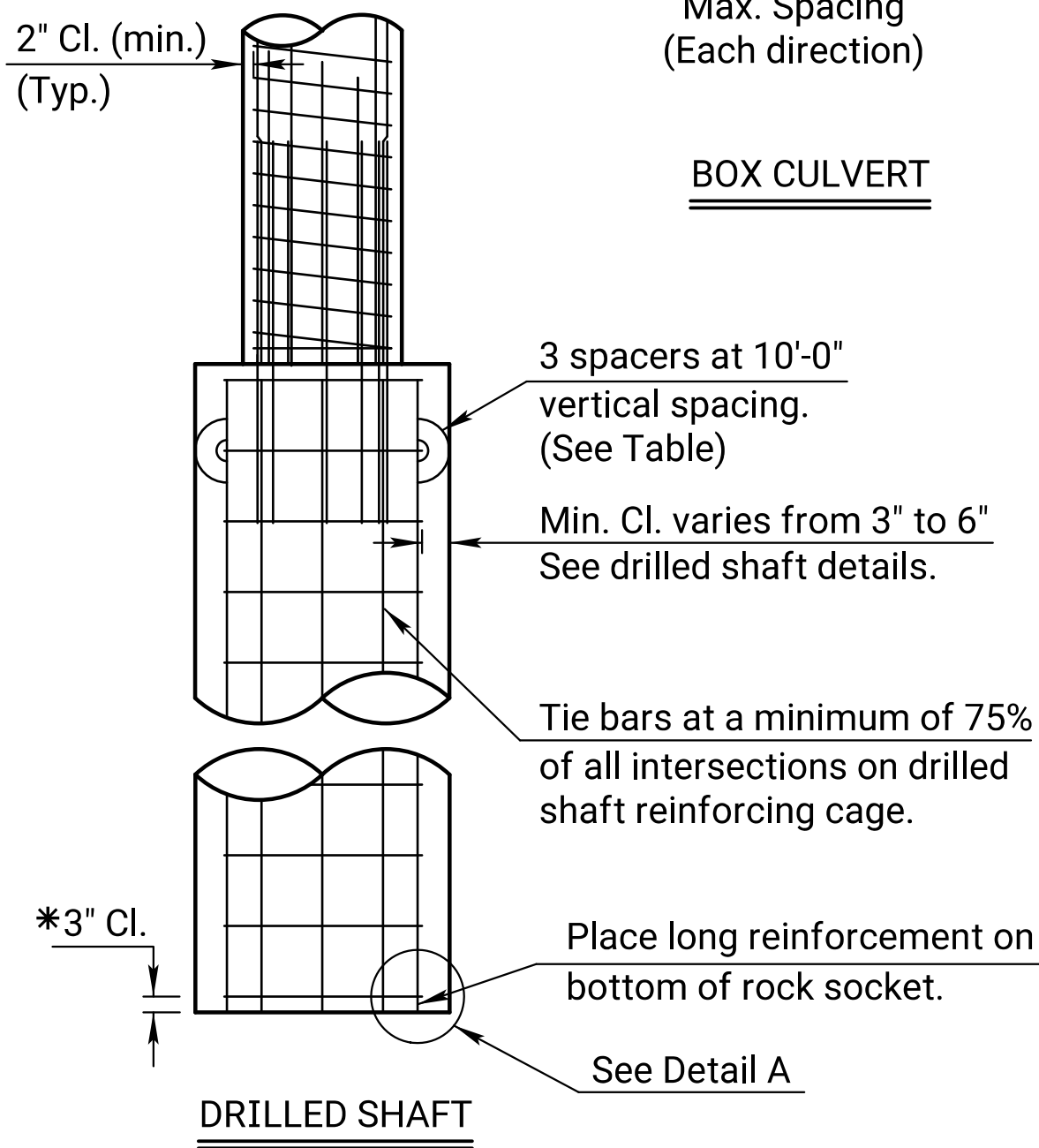
PIER



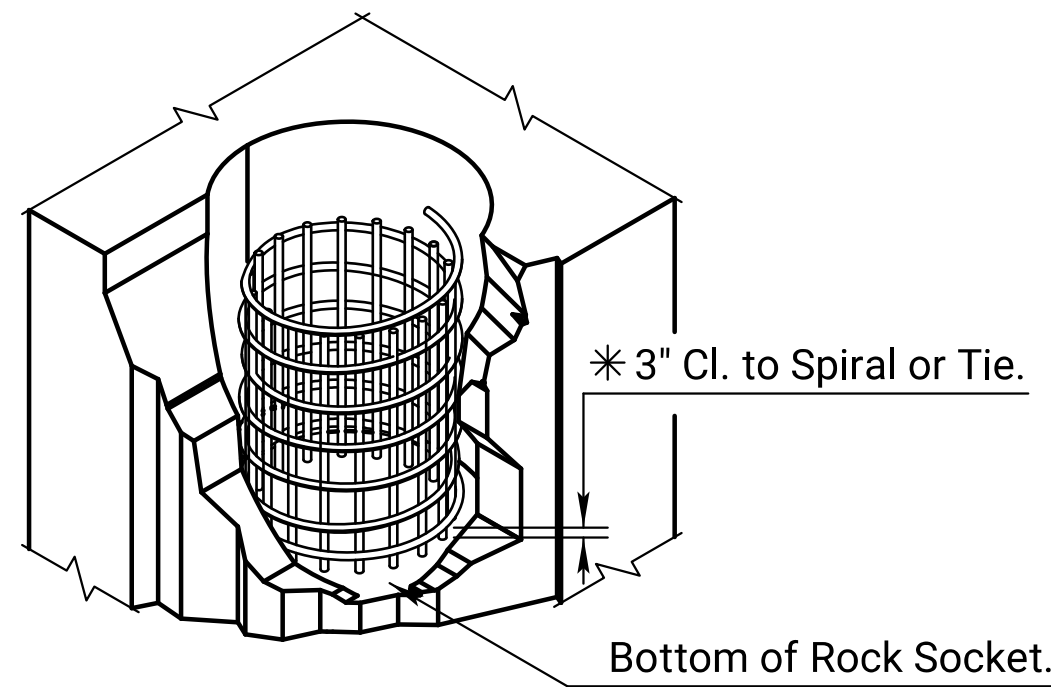
ABUTMENT



BOX CULVERT



DRILLED SHAFT



DETAIL A

* Note: Longitudinal reinforcing steel is placed on the bottom of the rock socket. Maintain 3" clearance from the bottom of rock socket to the first spiral or tie bar.

Required Shaft Supports		
Diameter (in.)	Circumference (in.)	No. of Spacers
18	56	3
24	75	3
30	94	4
36	113	4
42	131	5
48	150	6
54	169	6
60	188	7
66	207	7
72	226	8
78	244	9
84	263	9
90	282	10
96	301	11
102	320	11
108	339	12

Plotted : 4/28/2026

Drawn By : pqrhan
File : 086064bss-br120