

Architect 00212, Professional Engineer 000133, Landscape Architect 000025, Professional Land Surveyor 000059

WEST BRIDGE  
(58'-70'-58') PRESTRESSED CONCRETE NU-GIRDER SPANS

SEC/SUR 34

TWP 48N

RGE 32W

Reinforcement shown is approximate and subject to change  
Quantity of piles is approximate. Location and length of piles is approximate and subject to change

"PRELIMINARY  
PLANS NOT  
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9801 Renner Boulevard  
Lenexa, Kansas 66219  
913.492.0400  
www.gbateam.com

DATE: 10-11-19  
DESIGN BY: JJM  
DRAWN BY: DWM  
PROJECT NO.: 12720  
SHEET NO. TOTAL SHEETS

1

33

JOSHUA J. MILLER  
PROFESSIONAL ENGINEER  
PE-2009010386

Bridge Plans  
**Paragon Star Development**  
Kansas City, Missouri

BM #11 Chiseled "L" on top Northeast corner of concrete guardrail at Northeast corner of I-470 Bridge spanning View High Drive. Elev. = 833.80

Notice and Disclaimer Regarding Boring Log Data

"B" Indicates location of borings.

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the Engineer for the design of the bridge, are shown on Sheet(s) No. 1-33. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the Engineer or elsewhere.

The Engineer does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this bridge. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here, or on any other documentation not expressly warranted, which the contractor may obtain from the Engineer.

Hydrologic Data

Drainage Area = 56.8 (sq. mi.)  
Design Flood Frequency = 50 years  
Design Flood Discharge = 4,794 cfs  
Design Flood (D.F.) Elevation = 809.8

Base Flood (100-year)

Base Flood Elevation = 811.28  
Base Flood Discharge = 5,636 cfs  
Estimated Backwater = 0.2 ft  
Average Velocity thru Opening = 2.6 ft/s

Freeboard (50-year)

Design Hig Water = 809.8  
Freeboard = 2.6 ft

Roadway Overtopping

Overtopping Flood Discharge = N/A  
Overtopping Flood Frequency N/A years  
Flood Elevation = N/A

Notes:

Roadway fill shall be completed to the final roadway section and up to the elevation of the concrete beam within the limits of the structure and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.

All bents are parallel.

All longitudinal dimensions shown are horizontal.

ELEVATION

(Looking North)  
(Aesthetics not shown for clarity)

PLAN

BRIDGE: WEST PARAGON PARKWAY OVER LITTLE BLUE RIVER

Note: This drawing is not to scale. Follow dimensions.

West Bridge : 60% Plans

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General Notes:

Design Specifications:  
2012 AASHTO LRFD Bridge Design Specifications (6th Ed.) and 2013 Interim Revisions.  
Seismic Design Category = A  
All referenced specifications shall refer to Missouri Standard Specifications for Highway Construction

Design Loading:  
Vehicular = HL-93  
Future Wearing Surface = 35 lb/sf  
Earth = 120 lb/cf  
Equivalent Fluid Pressure = 45 lb/cf

Design Unit Stresses:  
Class B Concrete (Substructure) f'c = 3,000 psi  
Class B-1 Concrete (Barrier Curb) f'c = 4,000 psi  
Class B-2 Concrete (Superstructure except Barrier Curb) f'c = 4,000 psi  
Reinforcing Steel (Grade 60) fy = 60,000 psi  
Structural Steel HP Pile (ASTM A709 Grade 50S) fy = 50,000 psi  
For Precast Prestressed Panel Stresses, see Sheet No. \_\_\_.  
For Prestressed Girder Stresses, See Sheets No. \_\_ & \_\_.

Neoprene Pads:  
Plain and Laminated Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:  
All joint filler shall be in accordance with Section 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:  
Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.  
  
Minimum clearance between galvanized piles and uncoated (plain) reinforcing steel including bar supports shall be 1 1/2". Nylon, PVC, or other polyethylene spacers shall be used to maintain clearance. Nylon cable ties shall be used to bind the spacers to the reinforcement.

Traffic Handling:  
Structure to be closed during construction. See roadway plans for traffic control.

Miscellaneous:  
City Construction personnel will indicate the type of joint filler option used under the precast panels for this structure:

- ☐ Constant Joint Filler
- ☐ Variable Joint Filler

Reinforcement quantity provided is based on \_\_\_\_\_lbs/cy of concrete.

FOUNDATION DATA					
TYPE	DESIGN DATA	BENT NUMBER			
		1	2	3	4
Load Bearing Pile	Pile Type and Size	HP12x53	HP12x53	HP12x53	HP12x53
	Number ea	8	--	--	8
	Approximate Length per Each ft	--	--	--	--
	Pile Point Reinforcement ea	--	--	--	--
	Min. Galvanized Penetration (Elev.) ft	--	--	--	--
	Minimum Nominal Axial Compressive Resistance kip	--	--	--	--

DT = Dynamic Testing

Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor

HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702.

All piles shall be galvanized down to the minimum galvanized penetration (elevation).

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

GENERAL NOTES AND QUANTITIES

Note: This drawing is not to scale. Follow dimensions.

Estimated Quantities		
Item		Total
Class B-2 Concrete (Superstructure Concrete on NU-Girder)	cu. yard	--
Reinforcing Steel (Epoxy Coated)	pound	--

The table of Estimated Quantities represents the quantities used by the Engineer in preparing the cost estimate. Payment for the Bridge will be considered completely covered by the contract Lump sum price. Variations may be encountered in the estimated quantities but the variations cannot be used for adjustment in the contract Lump sum price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II, or III.

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NO.

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**Paragon Star Development**  
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PLAN OF BEAM

Labels:  $\ell$  Roadway,  $\ell$  Structure,  $\ell$  Aesthetic Girder,  $\ell$  Girder,  $\ell$  Bent &  $\ell$  Key,  $\ell$  Bearing, Key Spa., Step Spa., Laminated Neoprene Bearing Pad 3'-0 1/2" x 5" (Typ.), Fill area under girder with 1/2" joint filler (Typ.), Const. Joint Key 6" x 3" (Typ.), Fill Face of End Bent, Aesthetic Girder (Typ.).

Dimensions: 3'-0", 18", 15", 21", 3", 2'-7", 18", 22", 3'-1 1/2", 9'-4", 9'-4", 9'-4", 9'-4", 9'-4", 3'-1 1/2", 22", 18", 19", 6'-7", 6'-2", 4'-8", 6'-2", 4'-8", 6'-2", 4'-8", 6'-2", 4'-8", 6'-2", 6'-11 3/8".

Reinforcement shown is approximate and subject to change

Quantity of piles is approximate. Location and length of piles is approximate and subject to change

SECTION THRU KEY

Labels:  $\ell$  Key &  $\ell$  Bent.

Dimensions: 6", 3", 3", 3".

Increasing Station

Labels: Tapered Laminated Neoprene Bearing Pad 3'-0 1/2" x 5", Steel Shim Plate 3'-0 1/4" x 4 3/4".

Dimensions: 5", 1/8" (Typ.), 5".

PLAN OF BEAM SHOWING REINFORCEMENT

Labels:  $\ell$  Roadway,  $\ell$  Structure,  $\ell$  Piles, 4-#7-H1 (Top & Bottom), # -V2, 2-#6-H2, Fill Face of End Bent, 2'-6" Min. Lap (Typ.), 60° 0' 0", 120° 0' 0".

Dimensions: 3'-0", 15", 21", 21 1/8", 8'-6", 8'-6", 8'-6", 8'-6", 8'-6", 8'-6", 8'-6", 8'-6", 21 1/8", 7'-3", 4'-6", 24", 4 Spa. @ 12", 5'-0", 6 Spa. @ 12", 4'-6", 4 Spa. @ 12", 5'-0", 3'-0", 6'-0", 2'-9", 7 Spa. @ 6", 7'-6", 2 Spa. @ 12", 6 Spa. @ 12", 7'-6", 2 Spa. @ 12", 2'-9 3/8", 3", 4 Spa. @ 6", 10'-6", 7'-6", 6 Spa. @ 6", 7'-6", 2 Spa. @ 6", 2'-9 3/8", 6 Pr. -#5-V1 (II), 2'-3", 8'-0", 8'-6", 25'-6", 25'-6", 8'-0", 9'-9 3/8", 12", 63'-0 3/8".

ANCHOR BOLT DETAIL

Labels:  $\ell$  Bearing &  $\ell$  Aesthetic Girder Bearing,  $\ell$  Aesthetic Girder at  $\ell$  Bearing,  $\ell$  Anchor Bolt.

Dimensions: 14", 3 1/2", 6", 6", 60° 0' 0".

Notes:

- For details of End Bent No. 1 not shown, see Sheets No. \_ & \_.
- For details of Vertical Drain at End Bents, see Sheet No. \_.
- Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".
- All concrete in the end bent above top of beam and below top of slab shall be Class B-2.
- For reinforcement of Barrier Curb (Type D), see Sheets No. \_ & \_.
- The U-bars and Pairs-V bars shall be placed parallel to  $\ell$  Roadway.
- For details at Aesthetic Girder bearings not shown see Sheet No. \_.

Note: This drawing is not to scale. Follow dimensions.

West Bridge : 60% Plans

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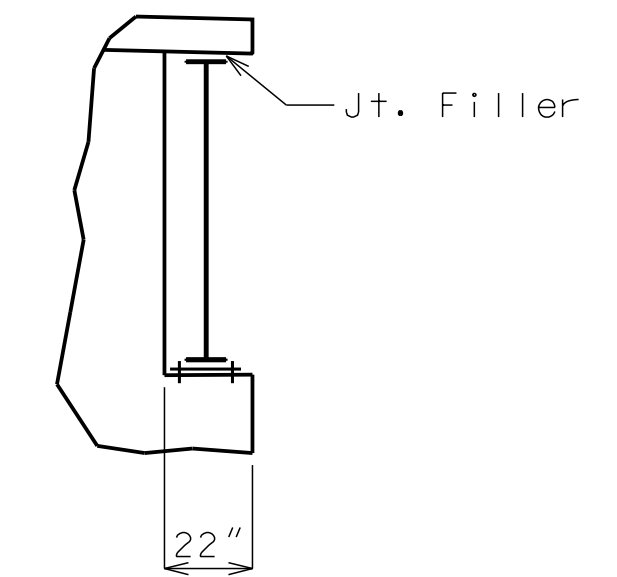
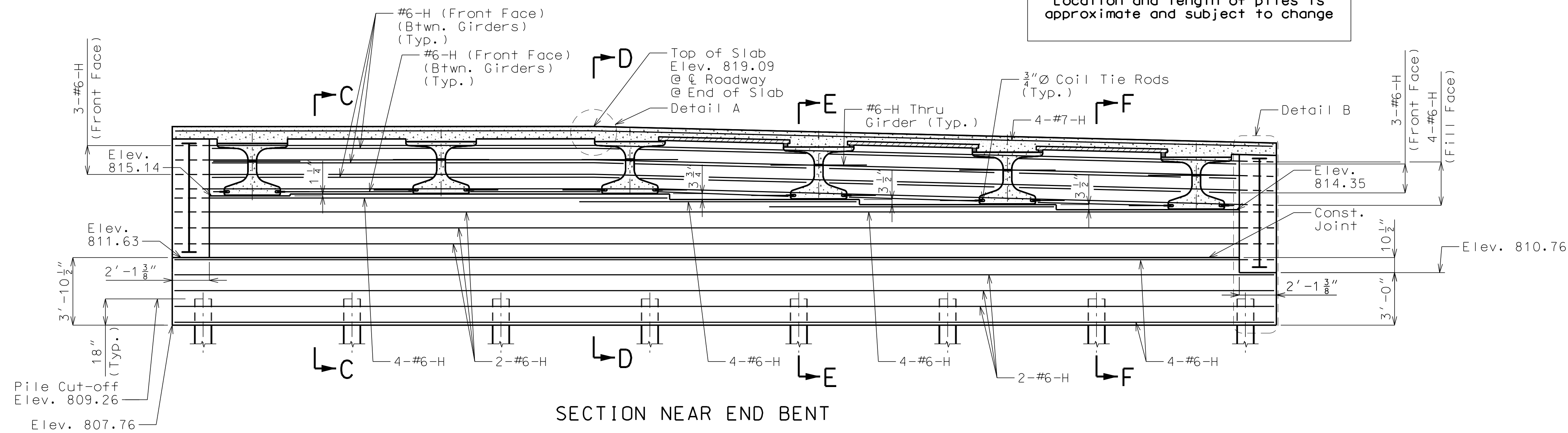
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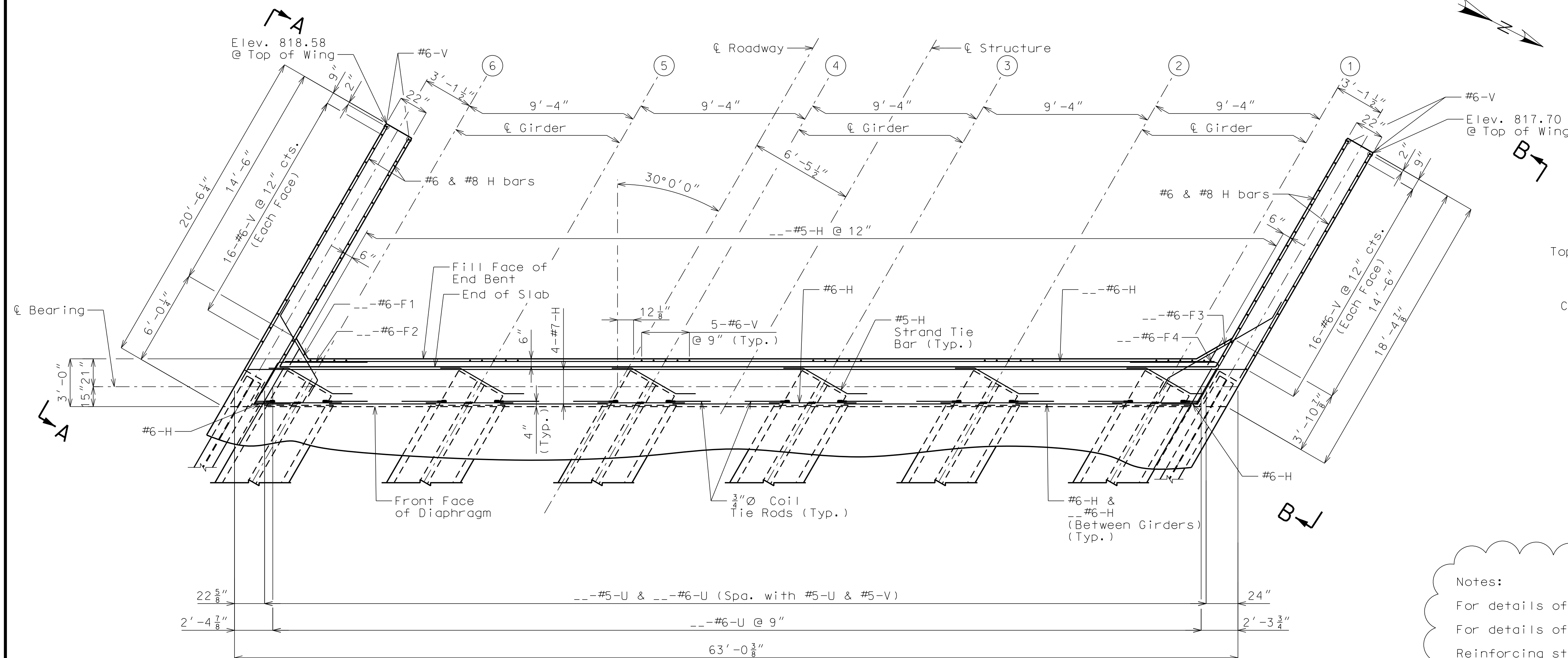
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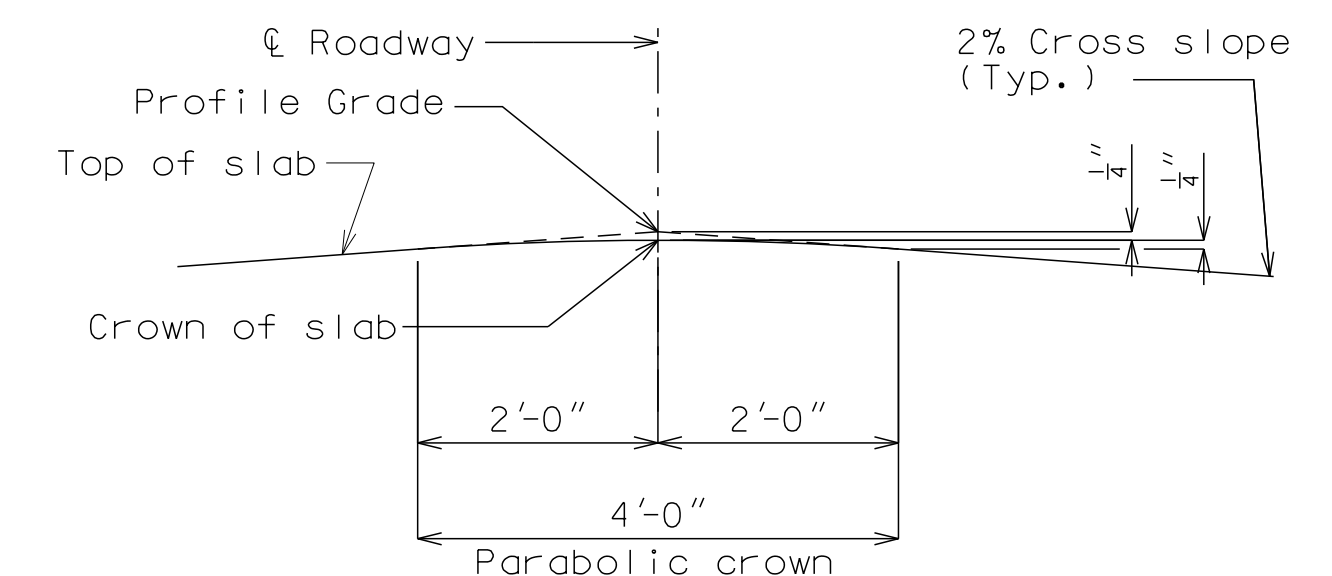
DETAIL B



PART PLAN  
(Note: Steps and keys not shown for clarity)

# DETAILS OF END BENT NO. 1

Note: This drawing is not to scale. Follow dimensions.



DETAIL A

Notes:

For details of End Bent No. 1 not shown, see Sheets No. \_ & \_.

For details of Vertical Drain at End Bents, see Sheet No. \_\_.

Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least  $1\frac{1}{2}"$ .

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

For reinforcement of Barrier Curb (Type D), see Sheets No. \_\_ & \_\_. <

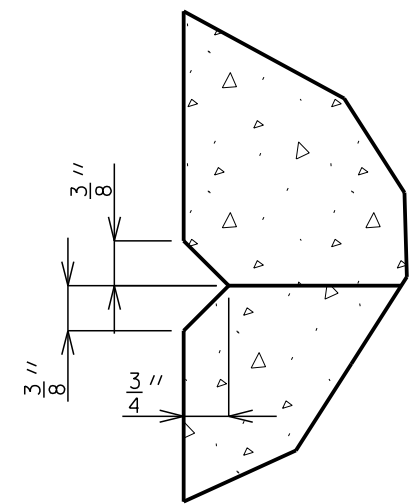
The U-bars and Pairs-V bars shall be placed parallel to  $\mathbb{C}$  Structure.)

For Substructure Quantity Table, see Sheet No. \_.

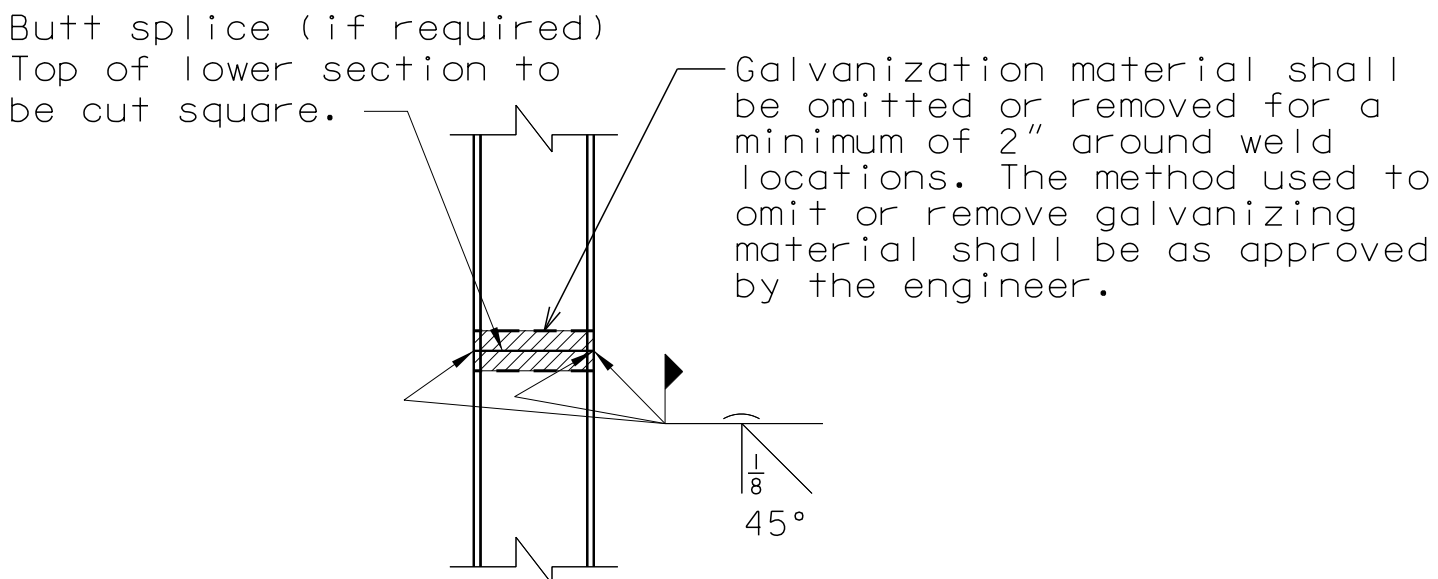
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Quantity of piles is approximate. Location and length of piles is approximate and subject to change

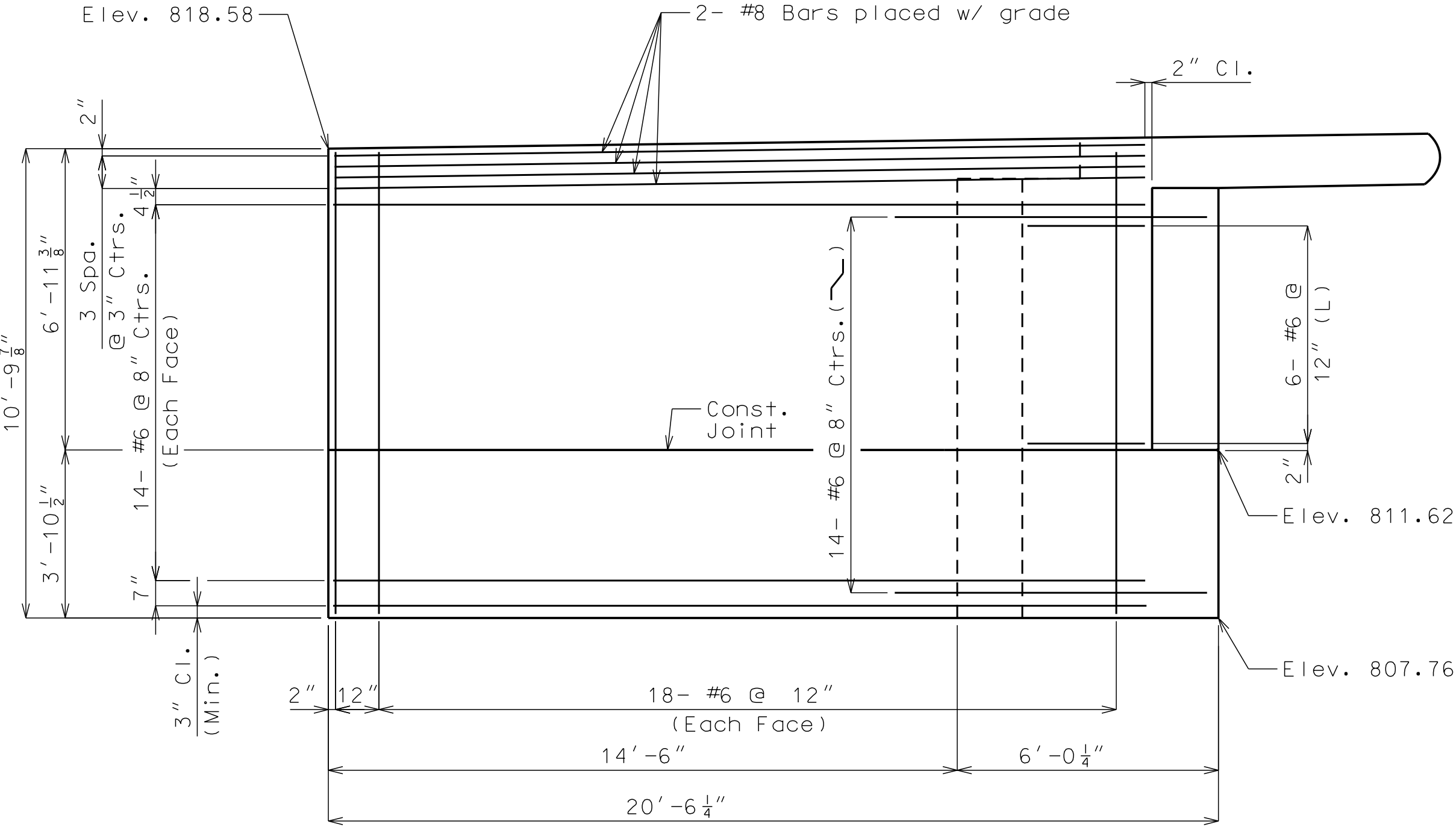


DETAIL G

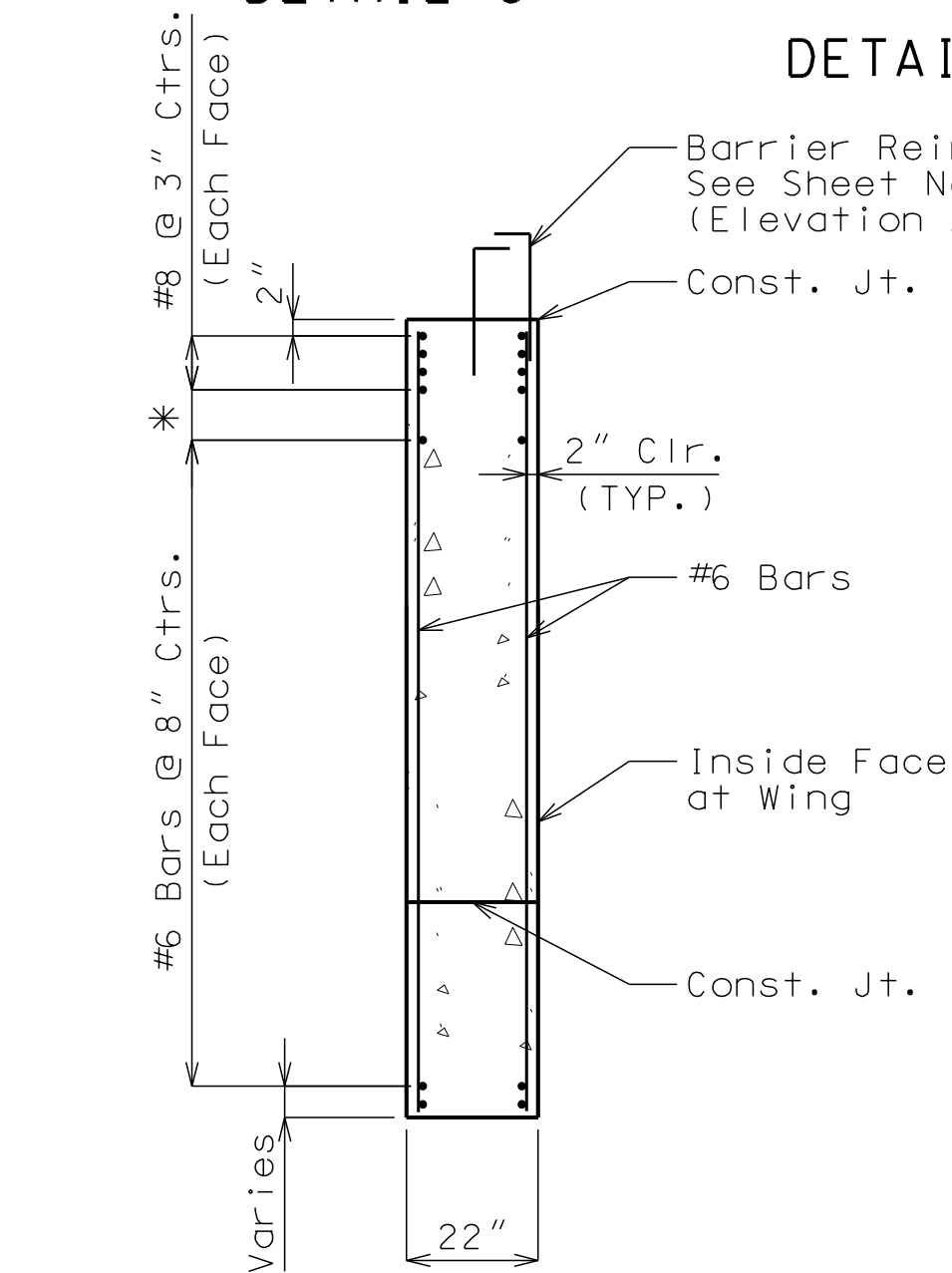


DETAIL OF STEEL PILE SPLICE

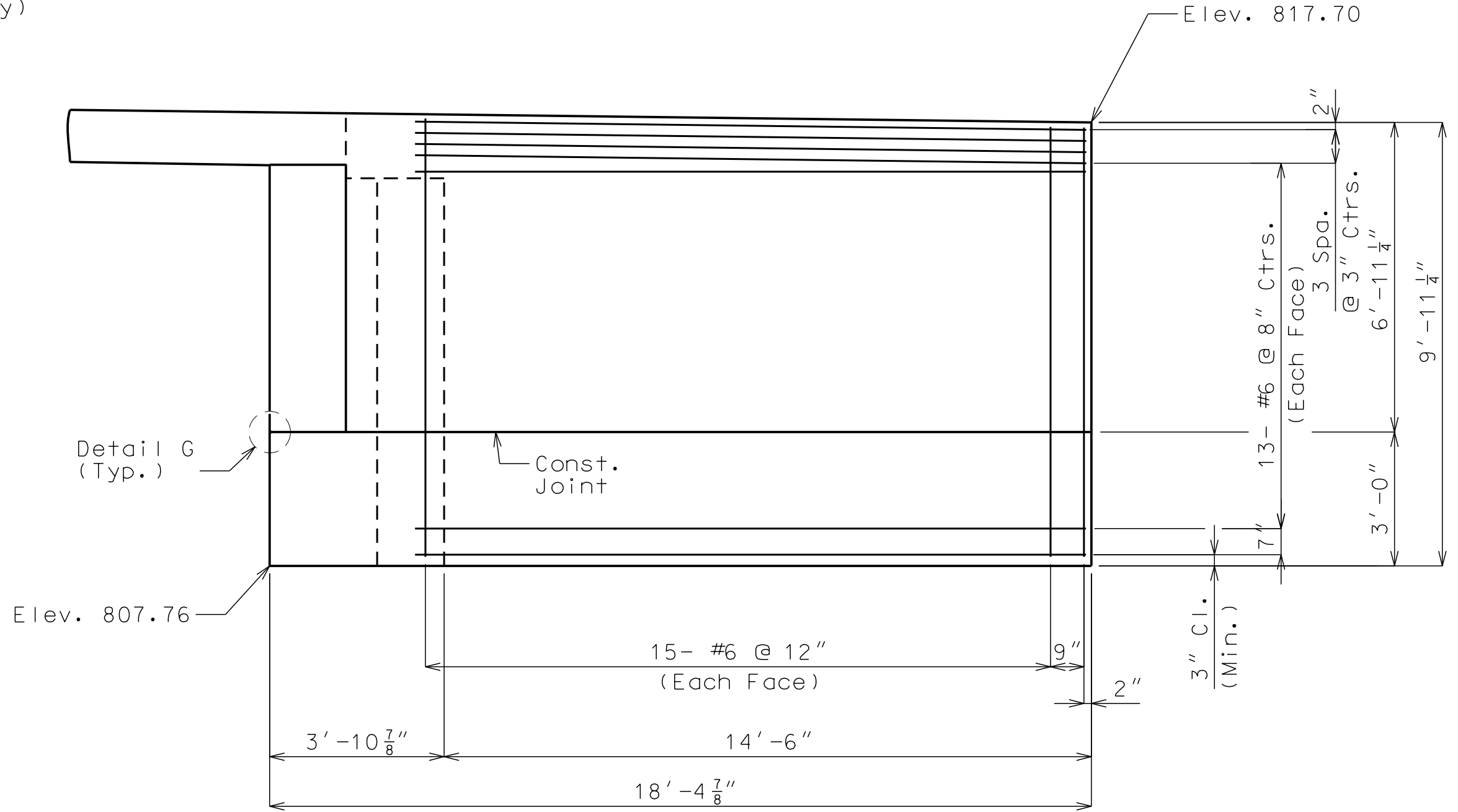
<b>"PRELIMINARY PLANS NOT APPROVED FOR CONSTRUCTION."</b>	<b>GBA</b> architects engineers		DATE: 10-11-19		
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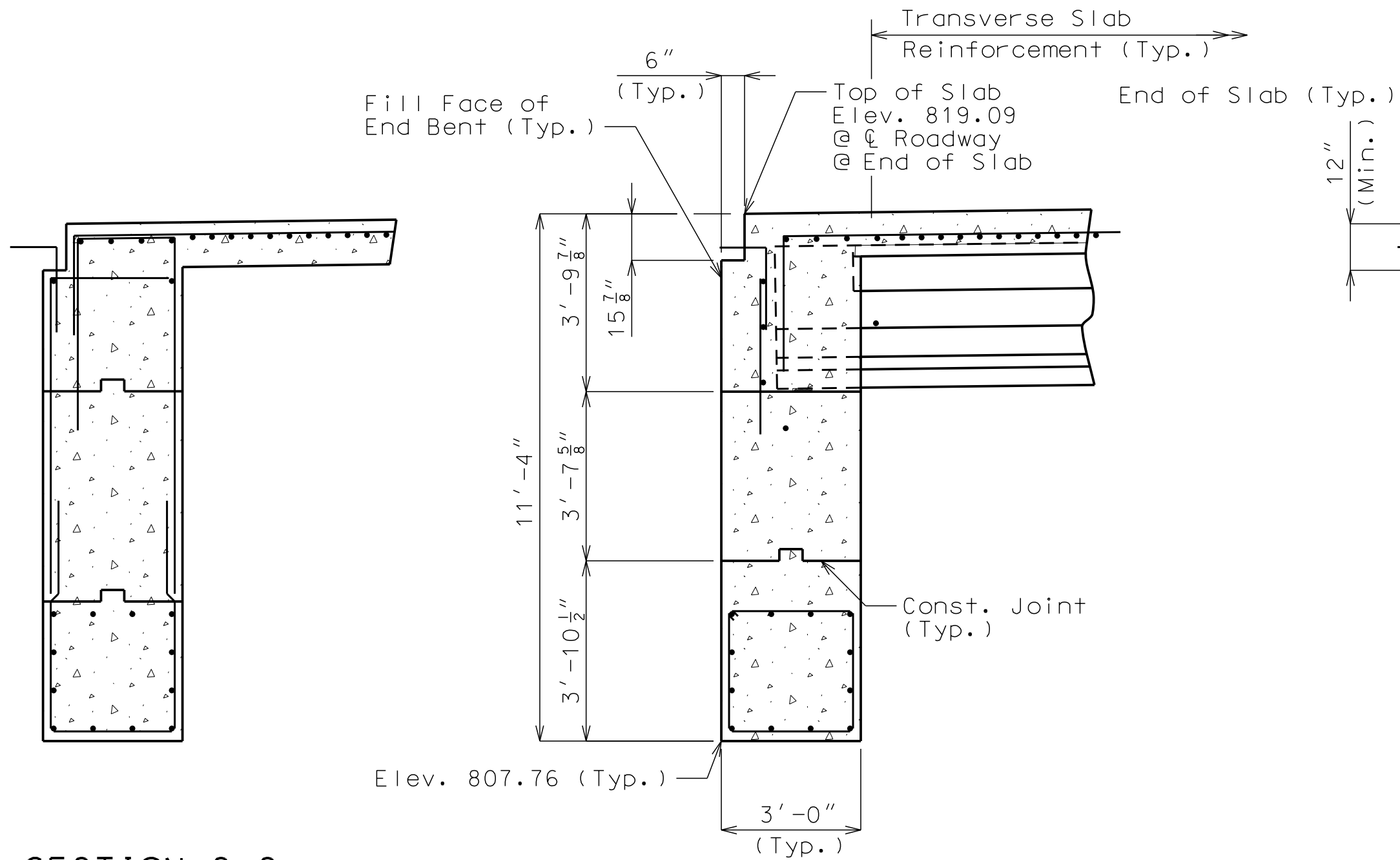
ELEVATION A-A



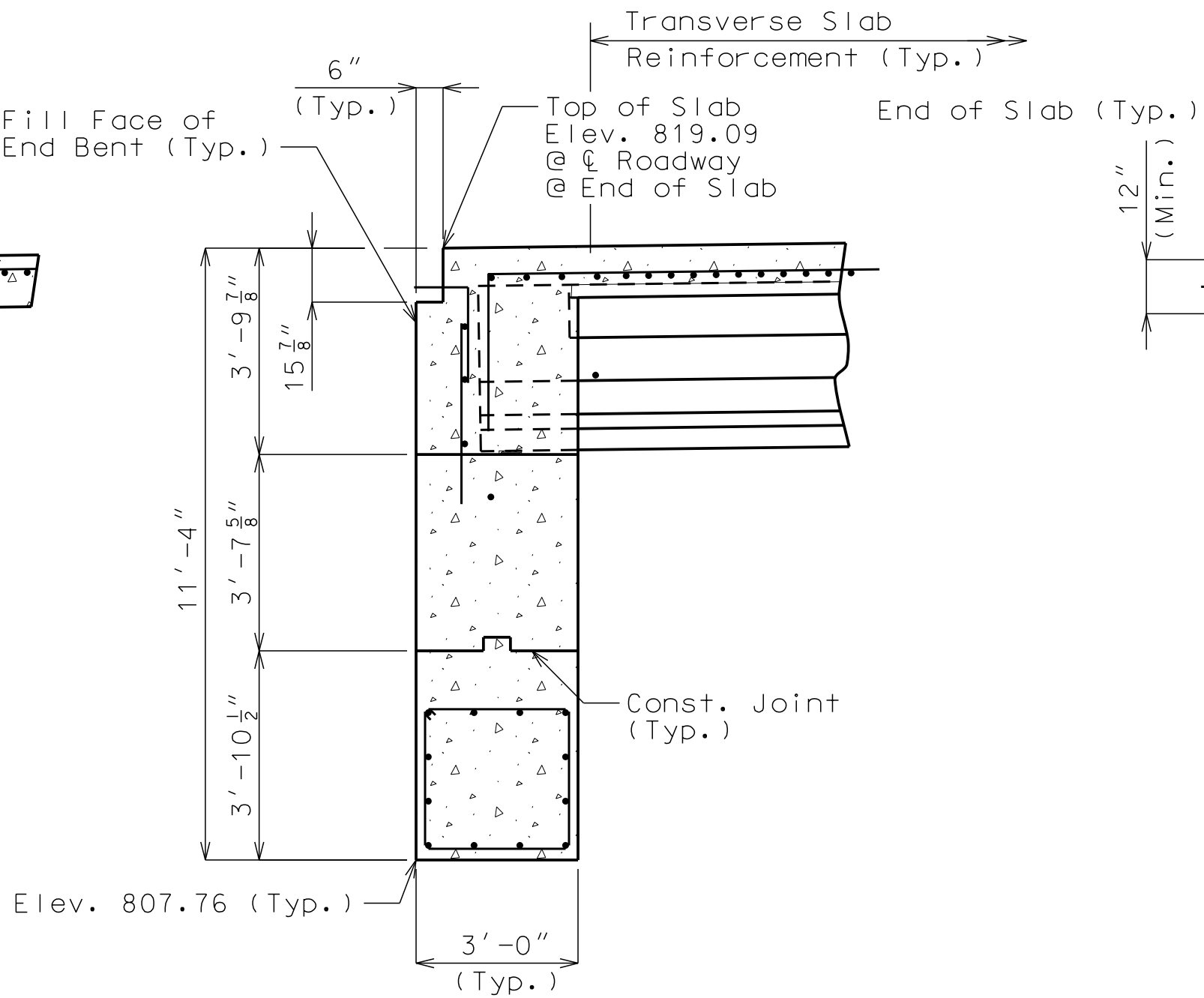
TYPICAL SECTION THRU WING



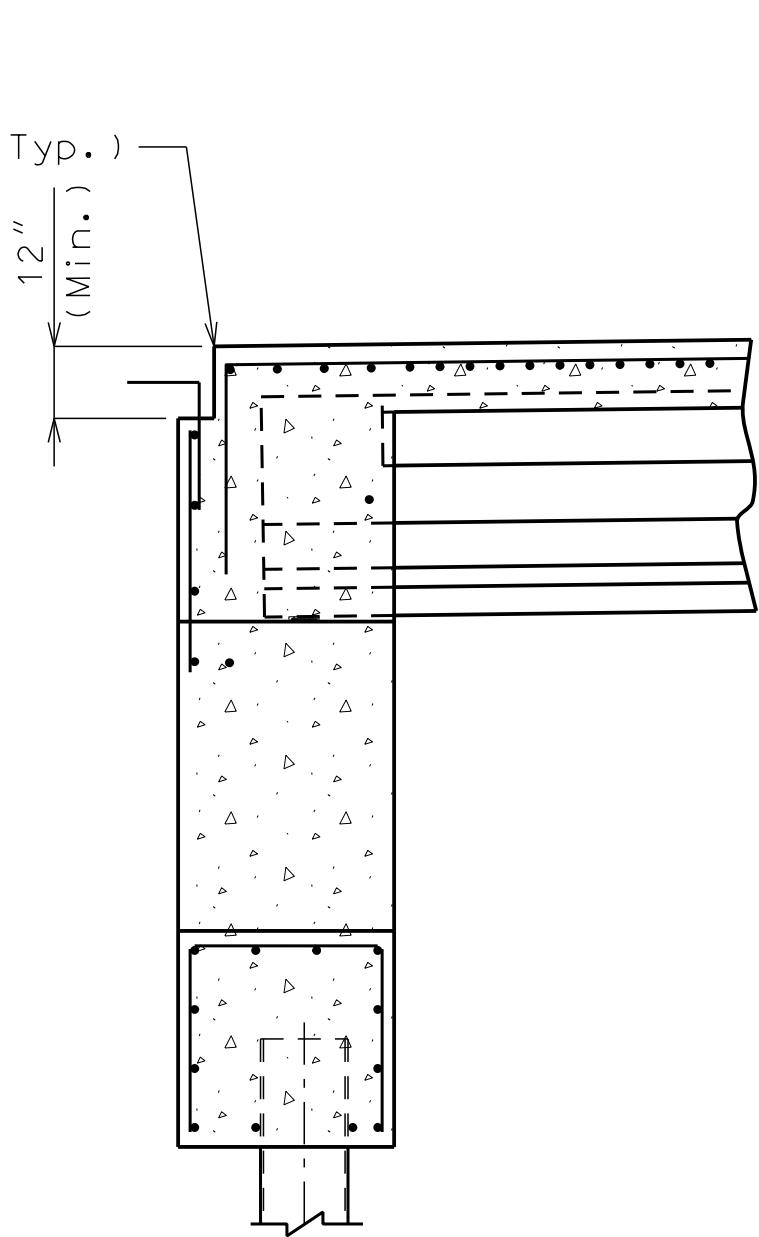
ELEVATION B-B



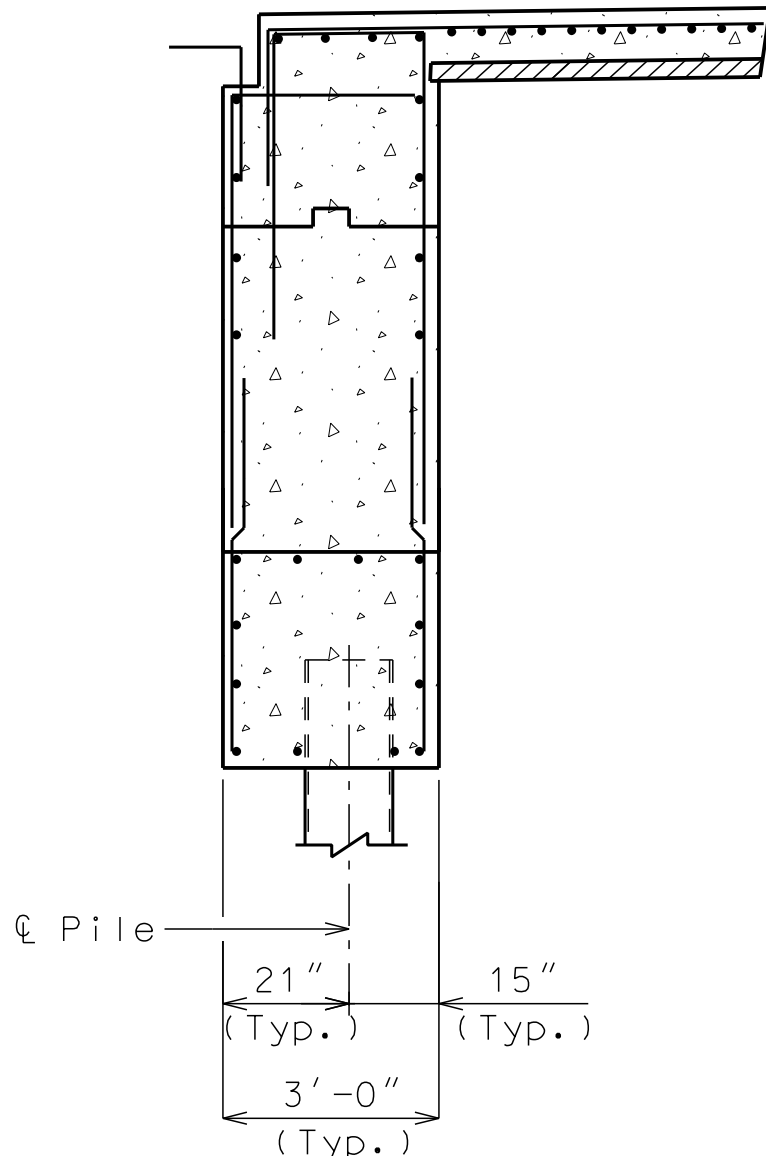
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

Notes:

For details of End Bent No. 1 not shown, See Sheets No. 4 & 5.

For location of Elevations A-A & B-B, See Sheet No. 5.

For location of Sections C-C, D-D, E-E & F-F See Sheet No. 5.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inch.

For reinforcement of Safety Barrier Curb, See Sheets No. -- & --.

For reinforcement of Pedestrian Curb, see Sheet No. --.

HP pile shall be galvanized to the minimum galvanized penetration (elevation) (See Foundation Data).

DETAILS OF END BENT NO. 1

Note: This drawing is not to scale. Follow dimensions.



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ELEVATION OF SOUTH WING

ELEVATION OF END BENT

ELEVATION OF NORTH WING

PLAN OF END BENT

DETAIL A

ELEVATION OF WING

PART PLAN

OPTIONAL TURNED DRAIN  
(Only if rock is encountered outside of wing)

PART SECTION A-A  
(Section thru wing similar)

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

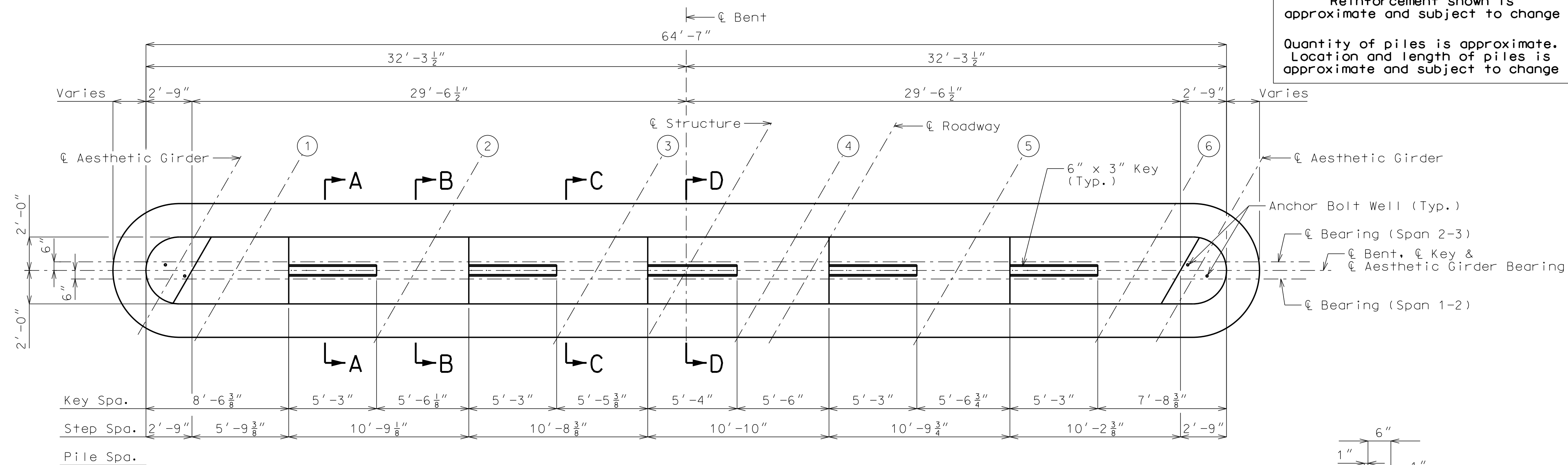
Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

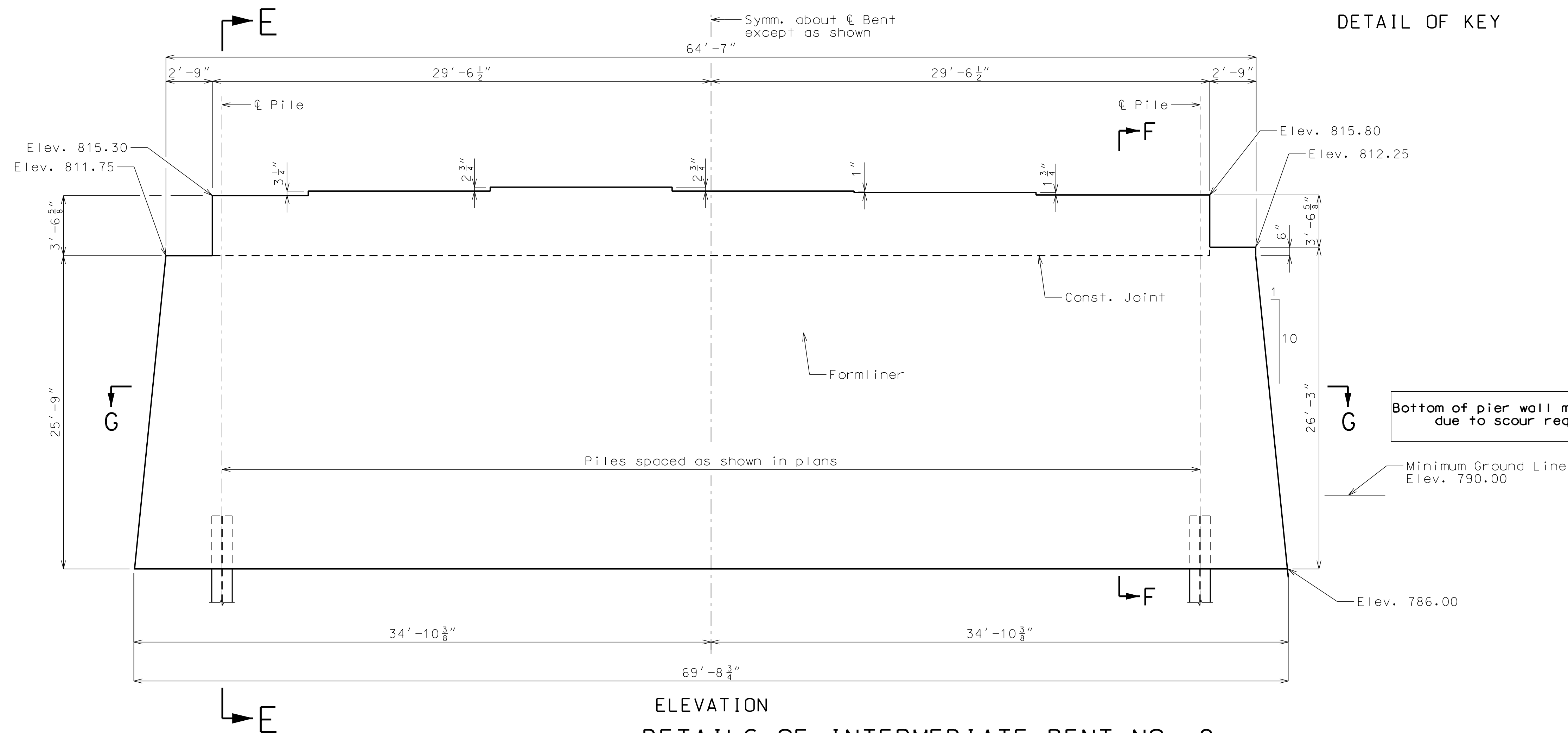
VERTICAL DRAIN AT END BENTS  
(Squared end bent shown, skewed end bent similar)

Note: This drawing is not to scale. Follow dimensions.

West Bridge : 60% Plans



### PLAN OF BEAM SHOWING REINFORCEMENT



ELEVATION  
DETAILS OF INTERMEDIATE BENT NO. 2

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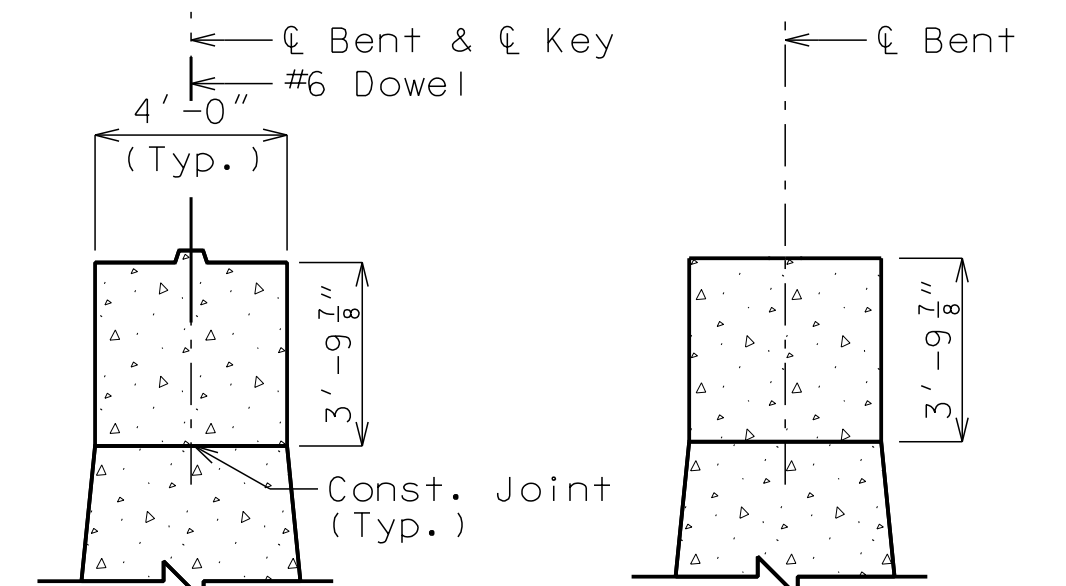
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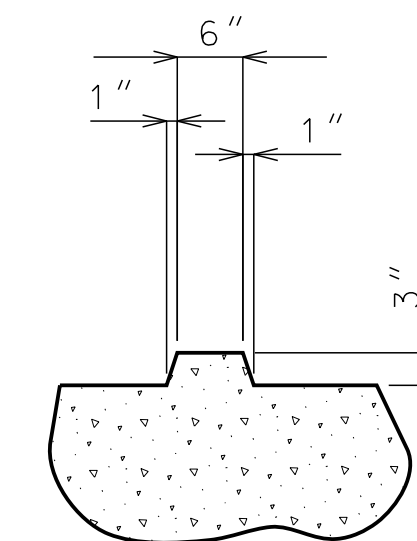


SECTION A-A

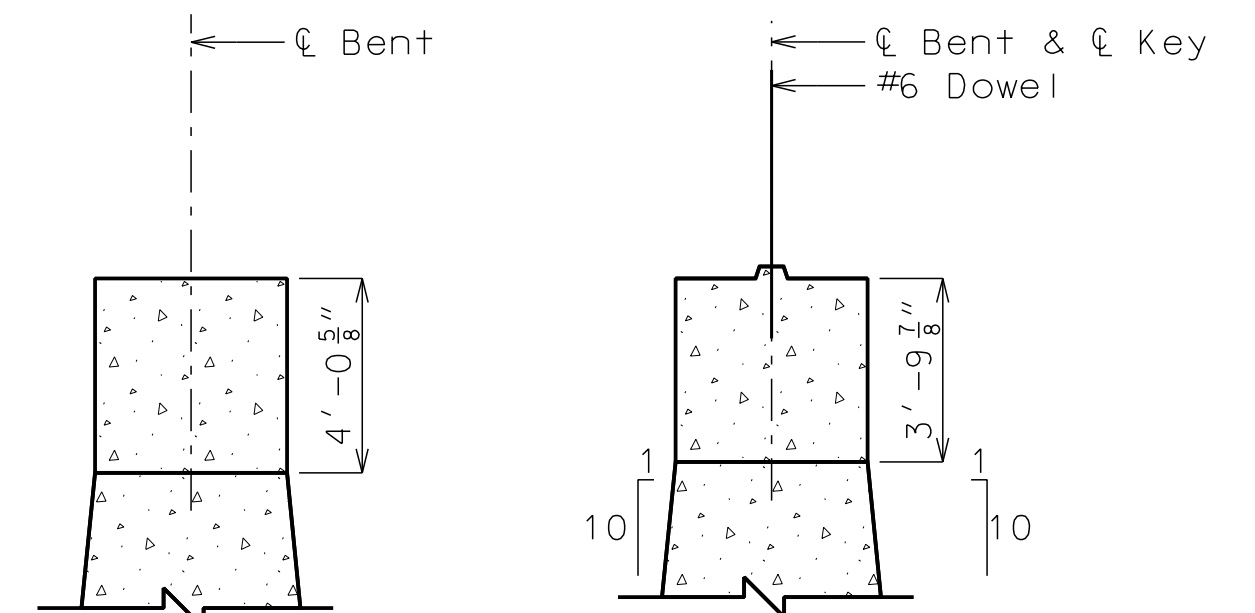
(Reinforcement w/o  
pile and not  
under a girder)

SECTION B-B

(Reinforcement w/o pile  
and under a girder)



### DETAIL OF KEY



SECTION C-C

(Reinforcement with  
pile and not  
under a girder)

SECTION D-D

(Reinforcement with pile  
and under a girder)

Bottom of pier wall may be adjusted  
due to scour requirements

—Minimum Ground Line  
Elev. 790.00

Elev. 786.00

Notes:

For Sections E-E, F-F & G-G, see Sheet No. \_\_.

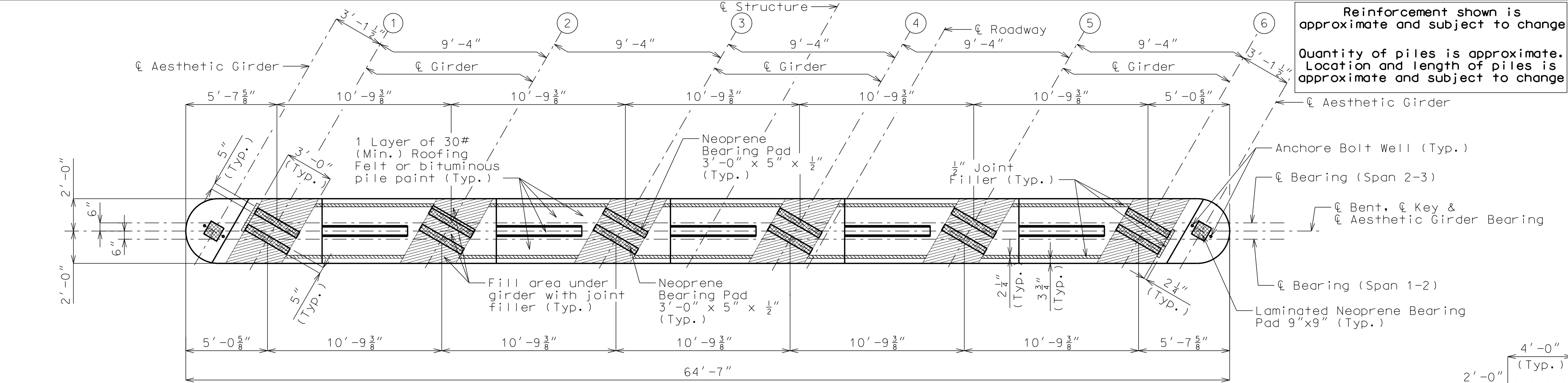
For details of Int. Bent No. 2 not shown,  
see Sheet No. --.

Reinforcing steel shall be shifted to clear piles. U-bars shall clear pile by at least  $1\frac{1}{2}"$ .

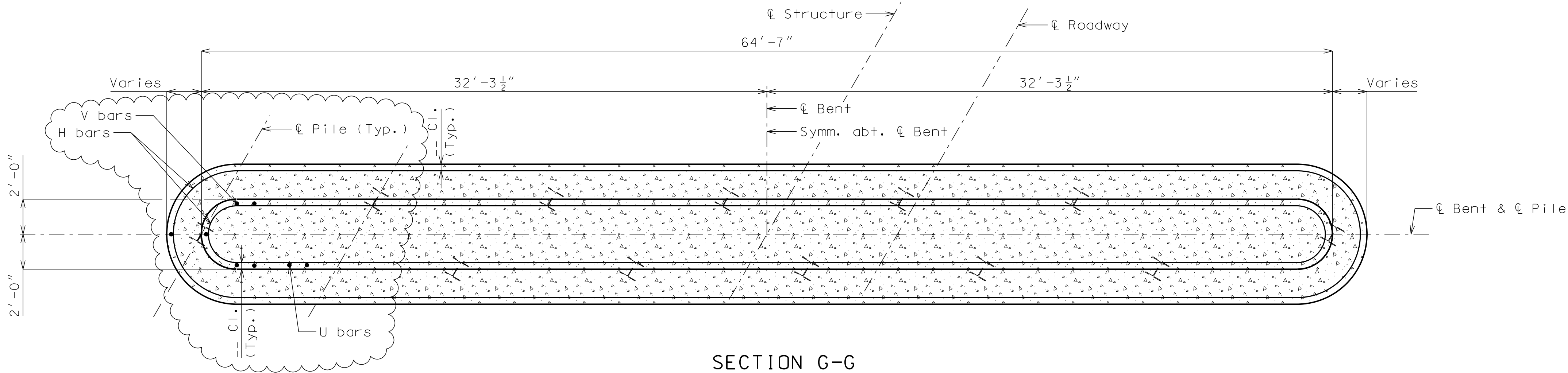
For Substructure Quantity Table, see Sheet No. \_\_.

For steps 2" or more, use  $2\frac{1}{4}" \times \frac{1}{2}"$  joint filler up vertical face.

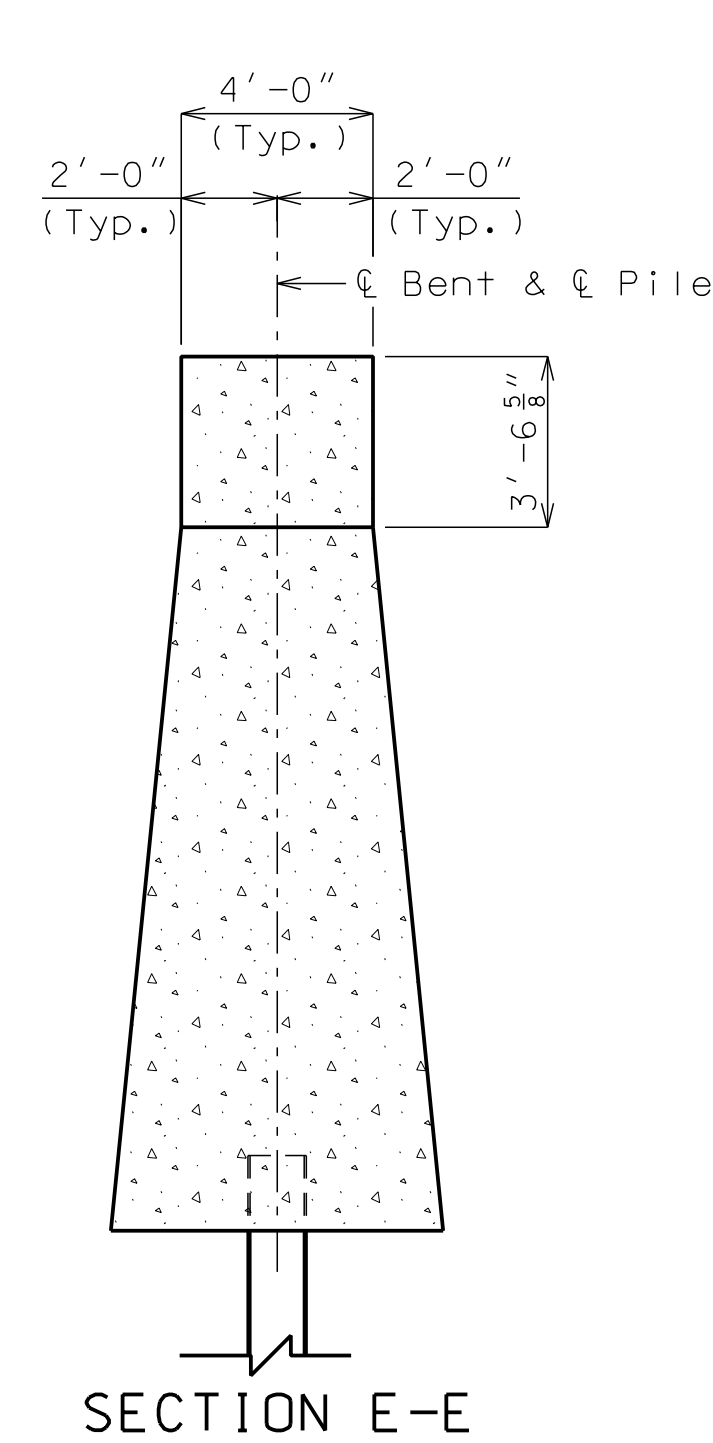
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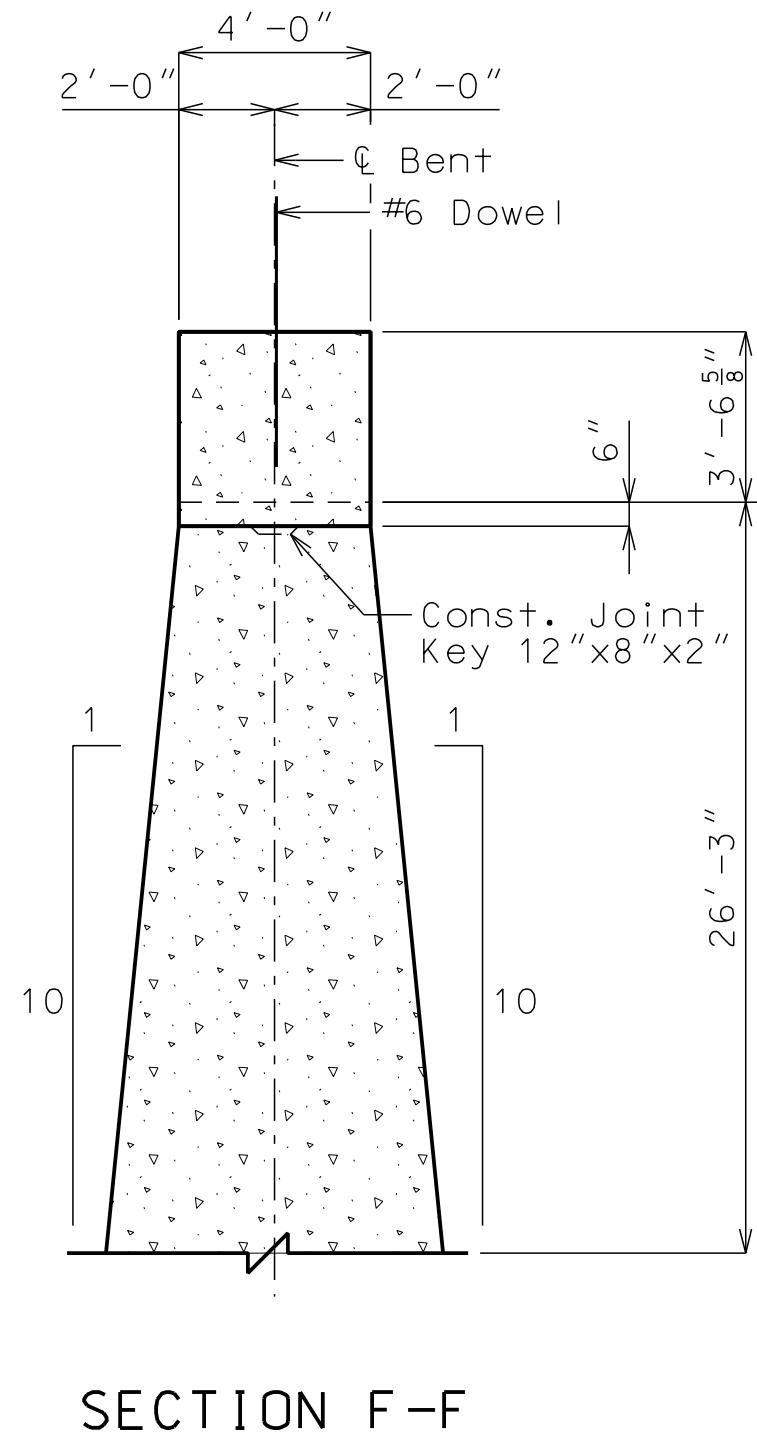
PLAN OF BEAM



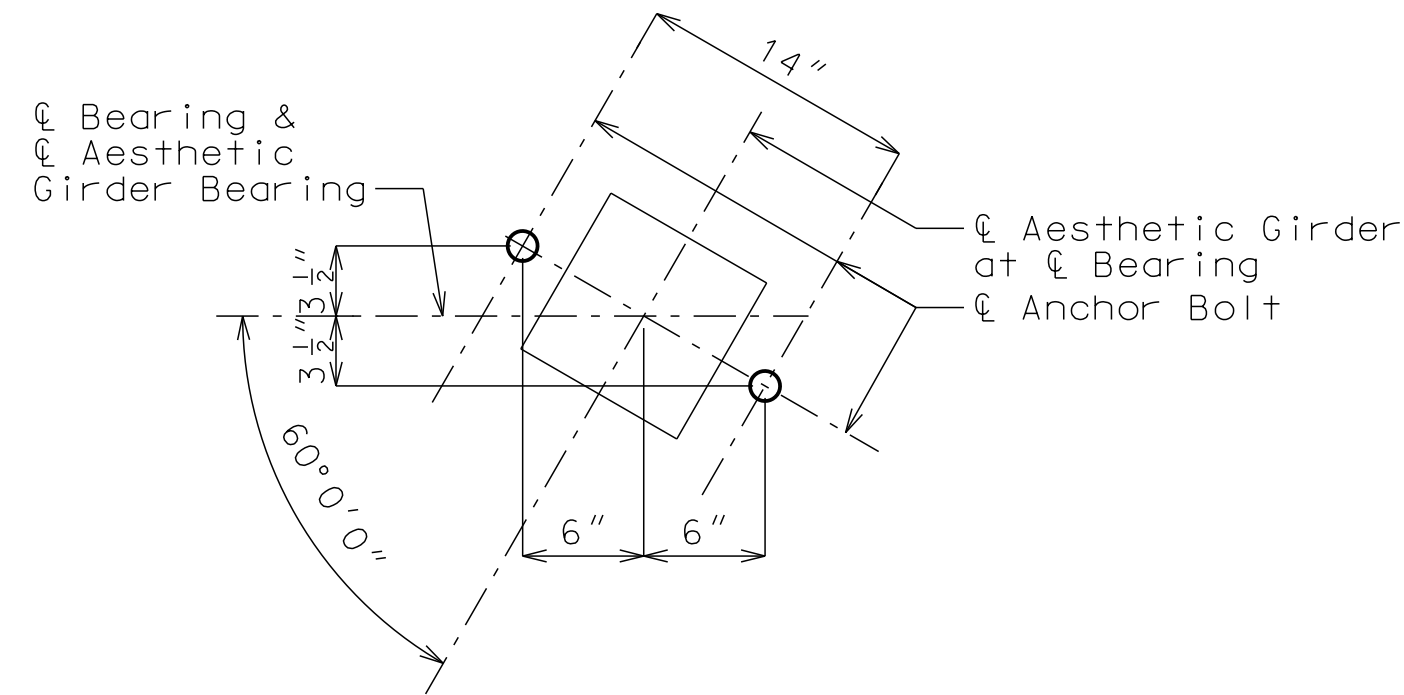
SECTION G-G



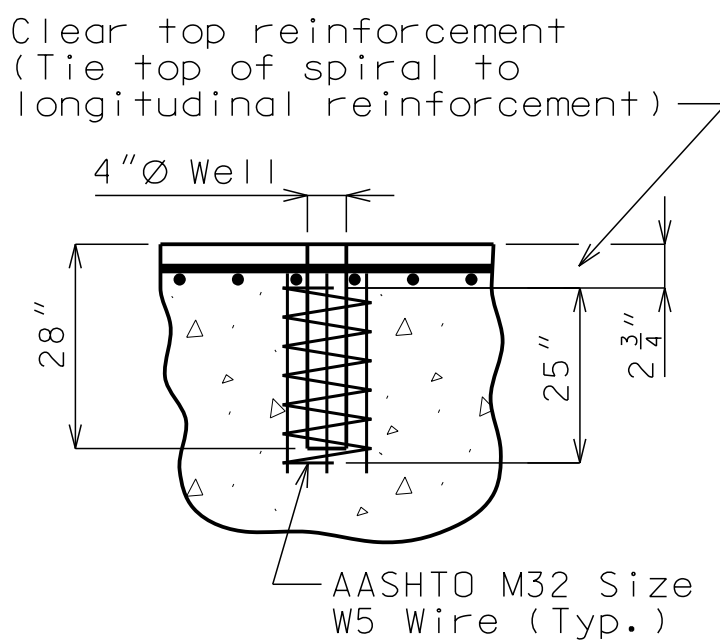
SECTION E-E



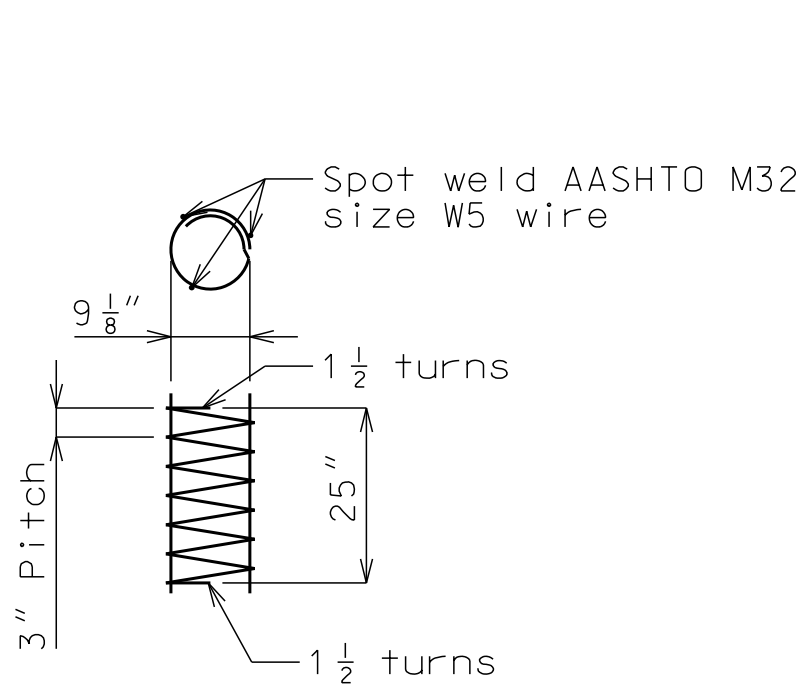
SECTION F-F



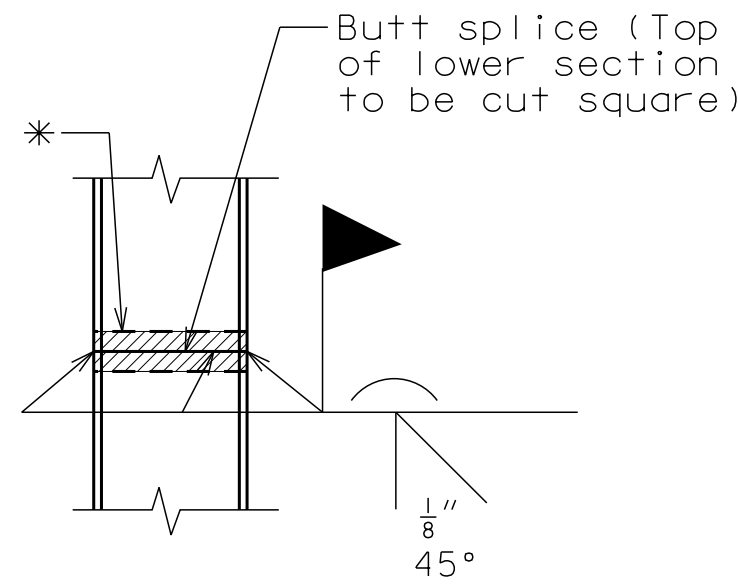
ANCHOR BOLT DETAIL



ANCHOR BOLT WELLS



DETAIL OF SPIRAL REINFORCEMENT



STEEL PILE SPLICE (if required)

\* Galvanizing material shall be omitted or removed 1 inch clear of weld locations. See special provisions.

Notes:  
For details of Int. Bent No. 2 not shown, see Sheet No. \_\_\_\_.  
For location of Section E-E, F-F & G-G, see Sheet No. \_\_\_\_.  
Reinforcing steel shall be shifted to clear piles. U bars shall clear pile by at least 1 1/2 inch.  
Reinforcing steel shall be shifted to clear anchor bolt well by at least 1/2 inch.  
HP pile shall be galvanized to the minimum galvanized penetration (Elevation) (See Foundation Data).  
\* Embed #4-U38 and #4-V30 bars 18" into pile cap. (Min.)

DETAILS OF INTERMEDIATE BENT NO. 2

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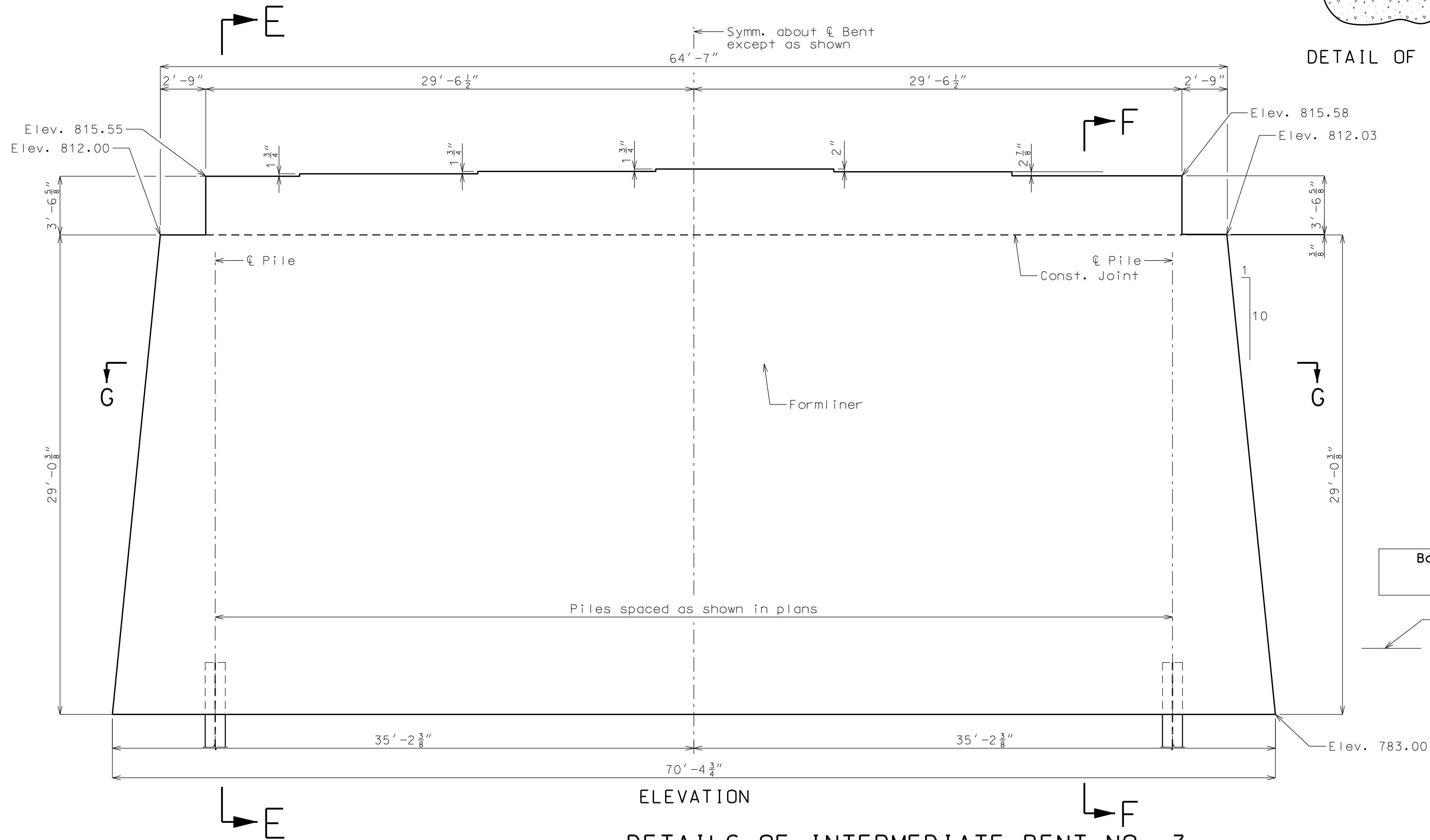
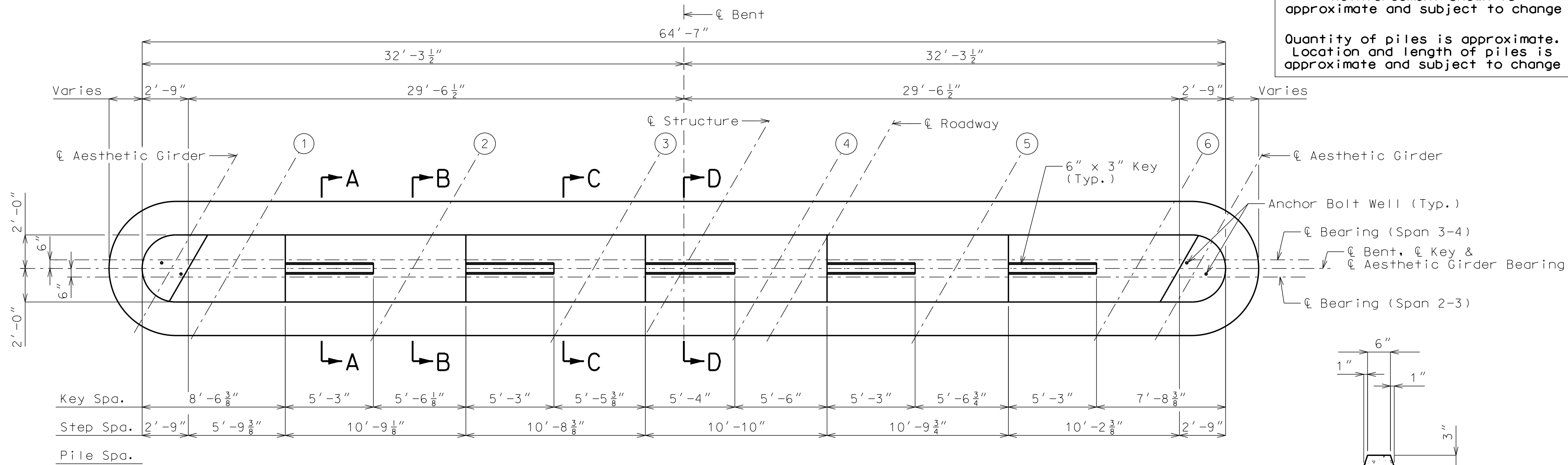
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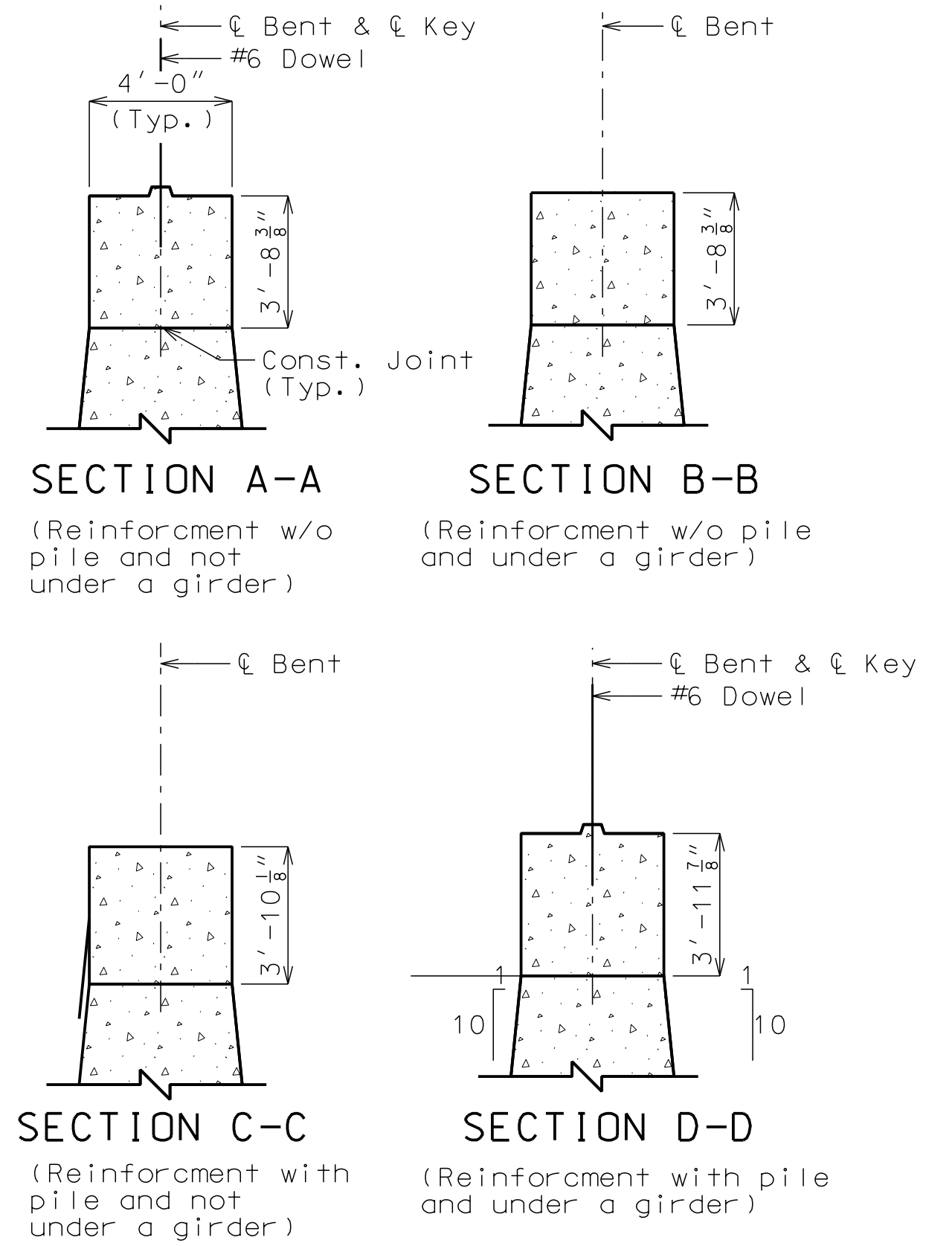


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Note: This drawing is not to scale. Follow dimensions.

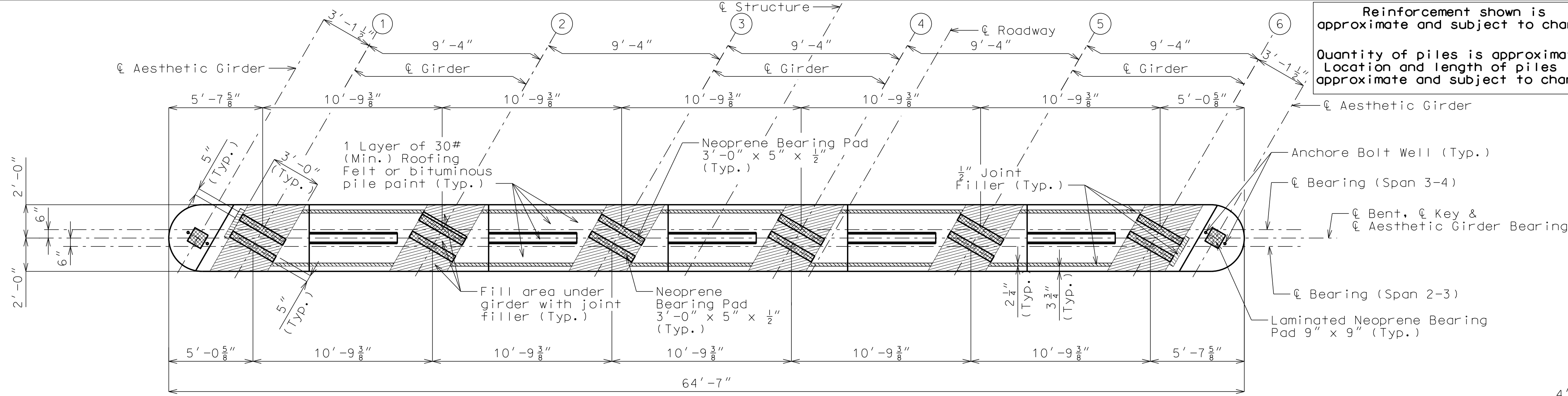
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		933		DRAWN BY: DWM	
				PROJECT NO.: 12720	
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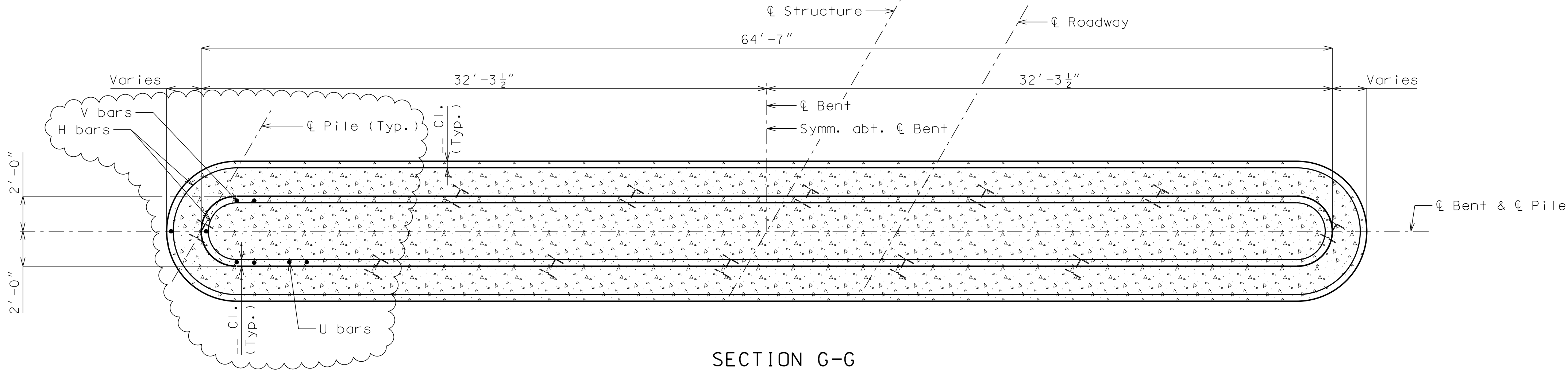
Notes:

- For Sections E-E, F-F & G-G, see Sheet No. ---.
- For details of Int. Bent No. 3 not shown, see Sheet No. ---.
- Reinforcing steel shall be shifted to clear piles. U-bars shall clear pile by at least 1 1/2".
- For Substructure Quantity Table, see Sheet No. ---.
- For steps 2" or more, use 2 1/4"x1/2" joint filler up vertical face.

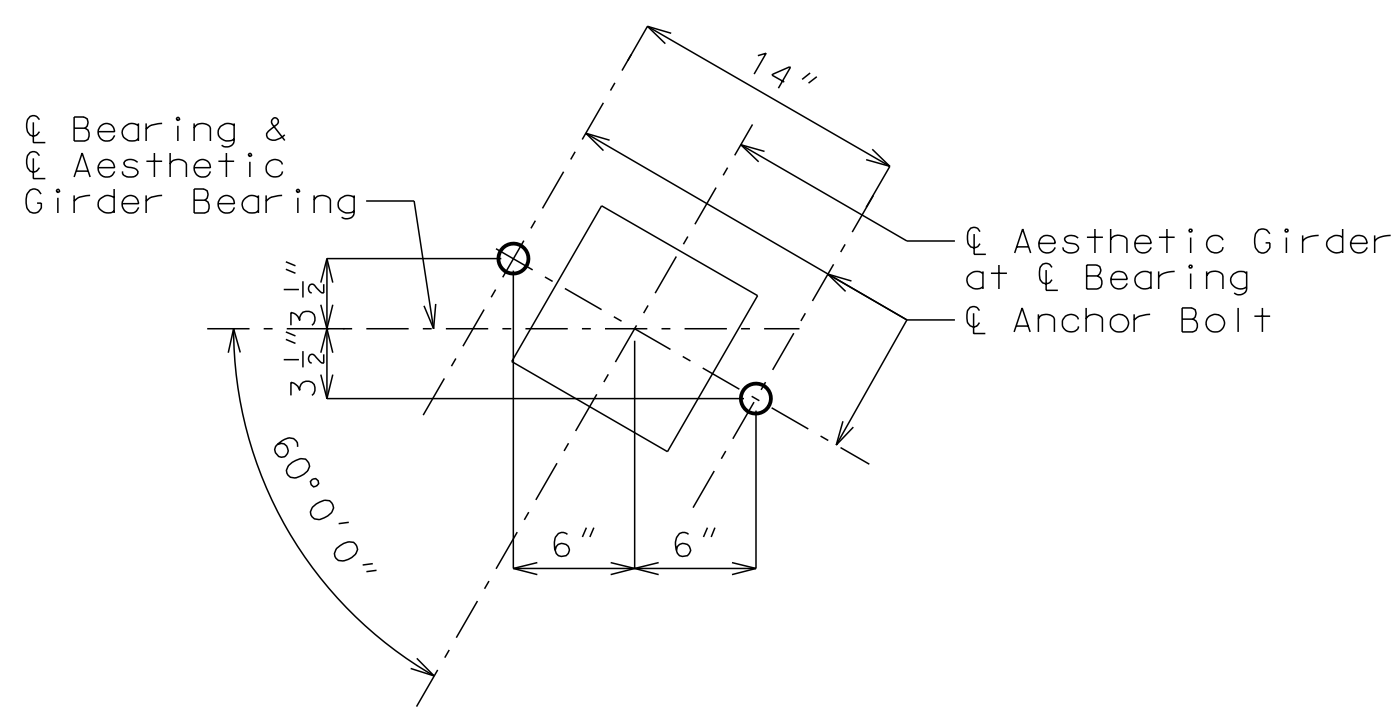
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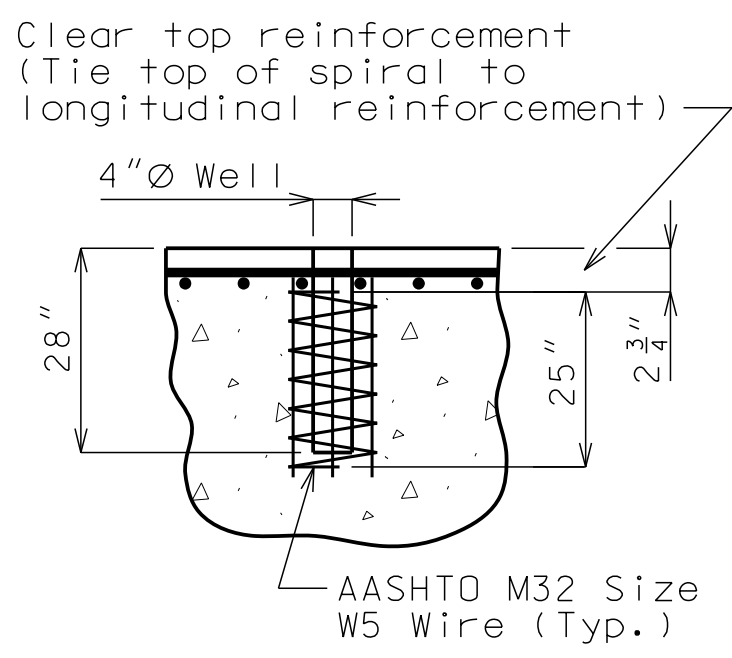
PLAN OF BEAM



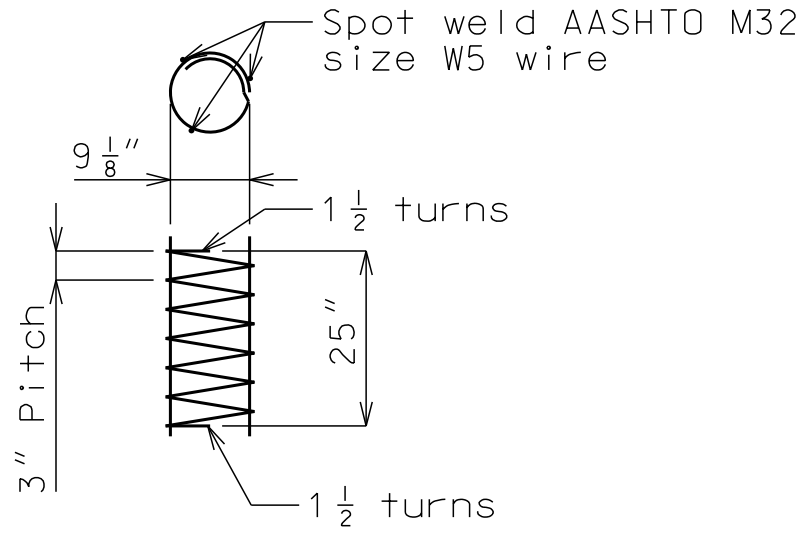
SECTION G-G



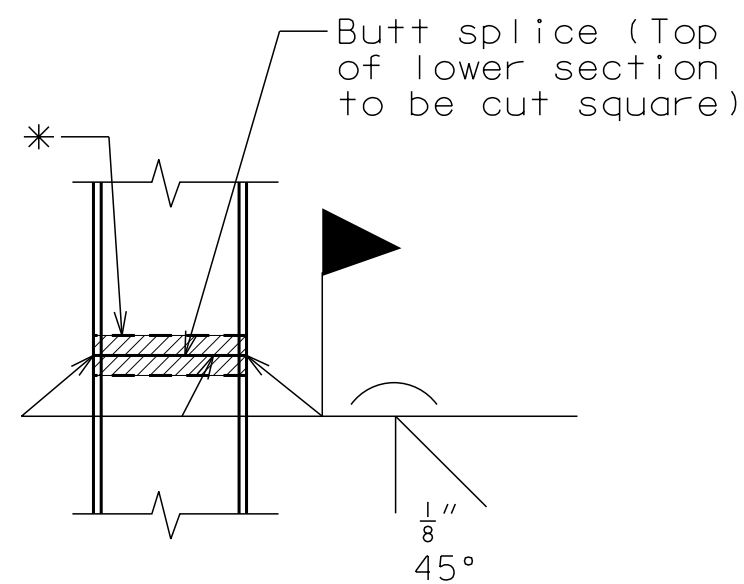
ANCHOR BOLT DETAIL



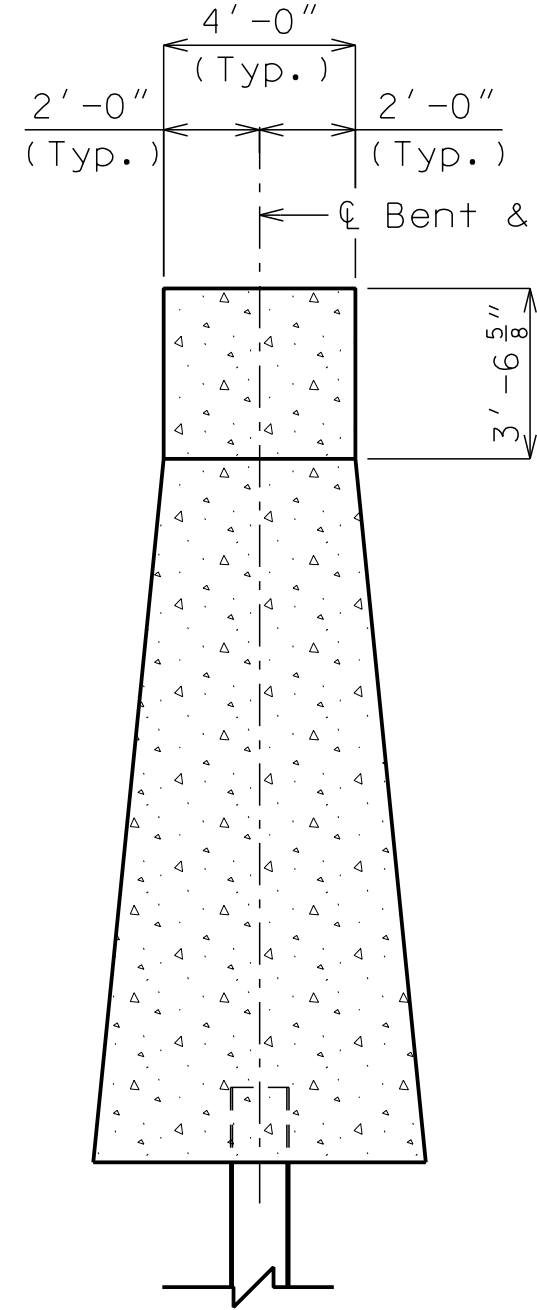
ANCHOR BOLT WELLS



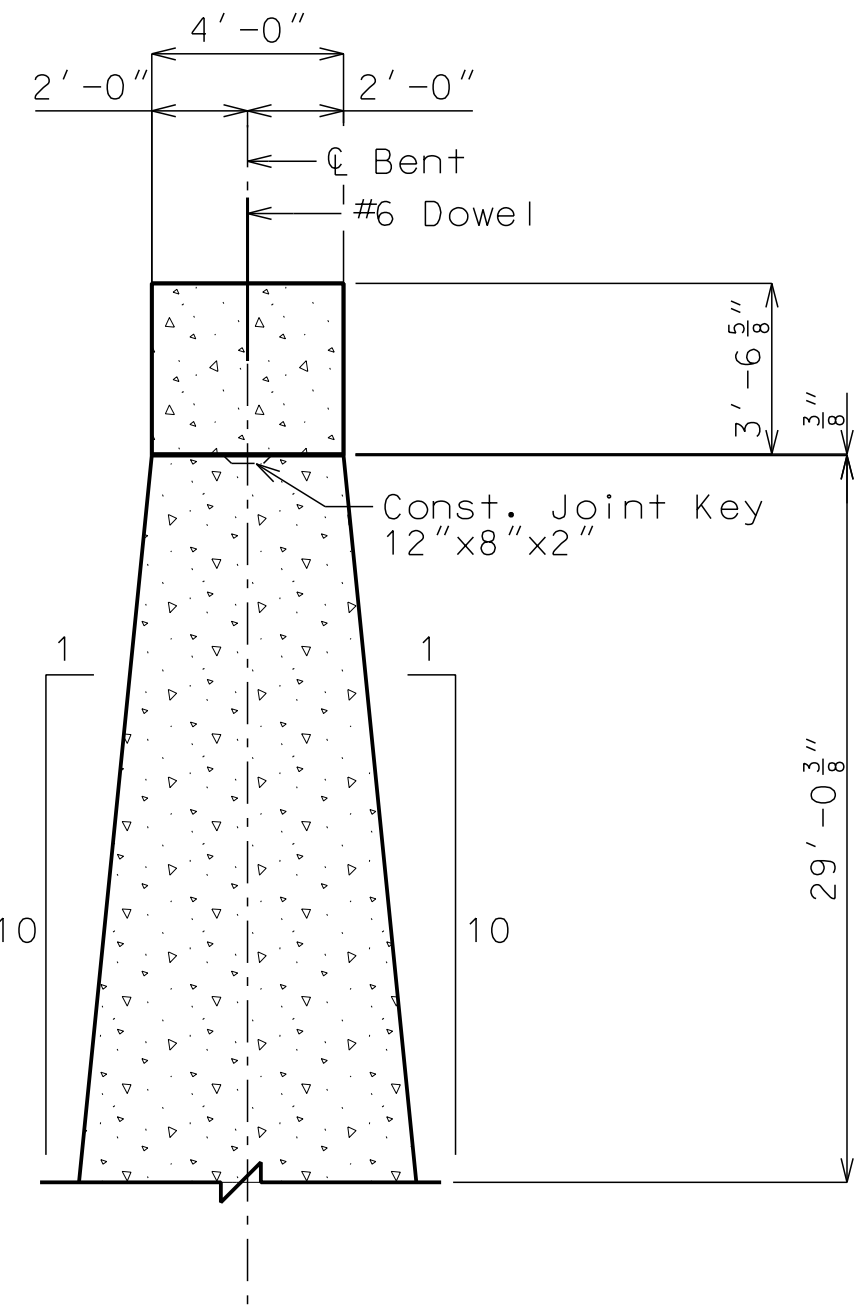
DETAIL OF SPIRAL REINFORCEMENT



STEEL PILE SPLICE  
(if required)



SECTION E-E



SECTION F-F

Notes:

For details of Int. Bent No. 3 not shown, see Sheet No. ...

For location of Section E-E, F-F & G-G, see Sheet No. ...

Reinforcing steel shall be shifted to clear piles. U bars shall clear pile by at least 1 1/2 inch.

Reinforcing steel shall be shifted to clear anchor bolt well by at least 1/2 inch.


HP pile shall be galvanized to the minimum galvanized penetration (Elevation) (See Foundation Data).

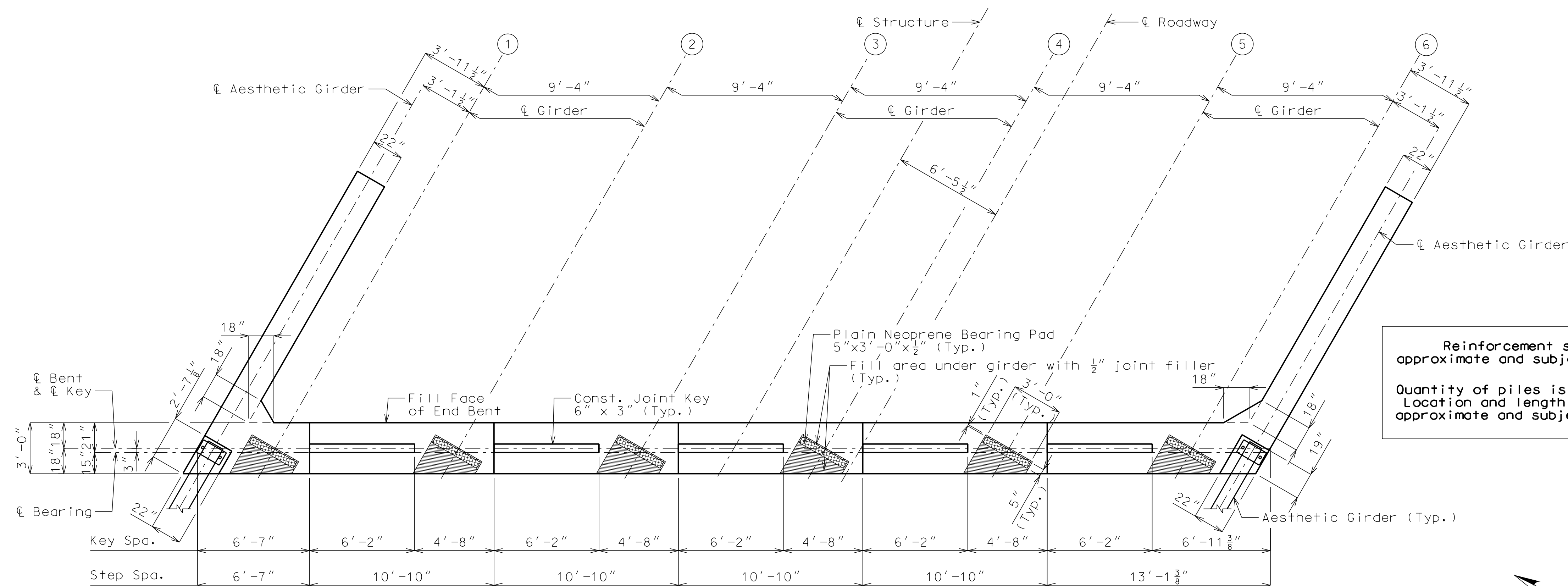
\* Embed #4-U38 and #4-V30 bars 18" into pile cap. (Min.)

DETAILS OF INTERMEDIATE BENT NO. 3

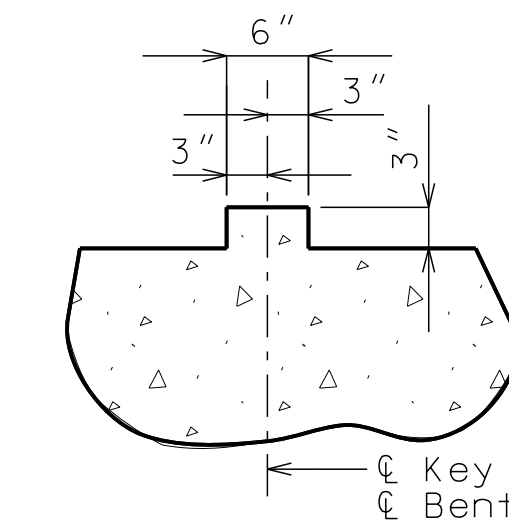
Note: This drawing is not to scale. Follow dimensions.

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		<p>DRAWN BY: DJM</p>	
		<p>PROJECT NO.: 12720</p>	
		<p>SHEET NO.</p>	<p>TOTAL SHEETS</p>
		<p><b>11</b></p>	<p><b>33</b></p>



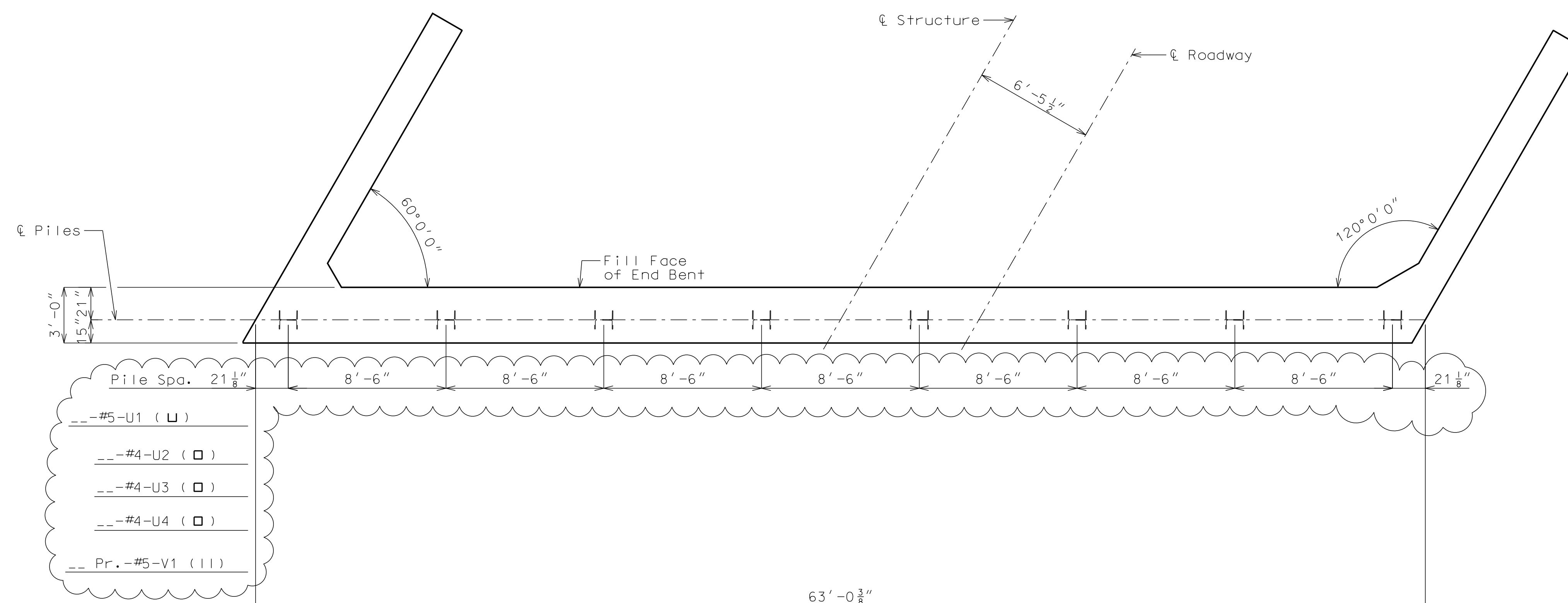
PLAN OF BEAM



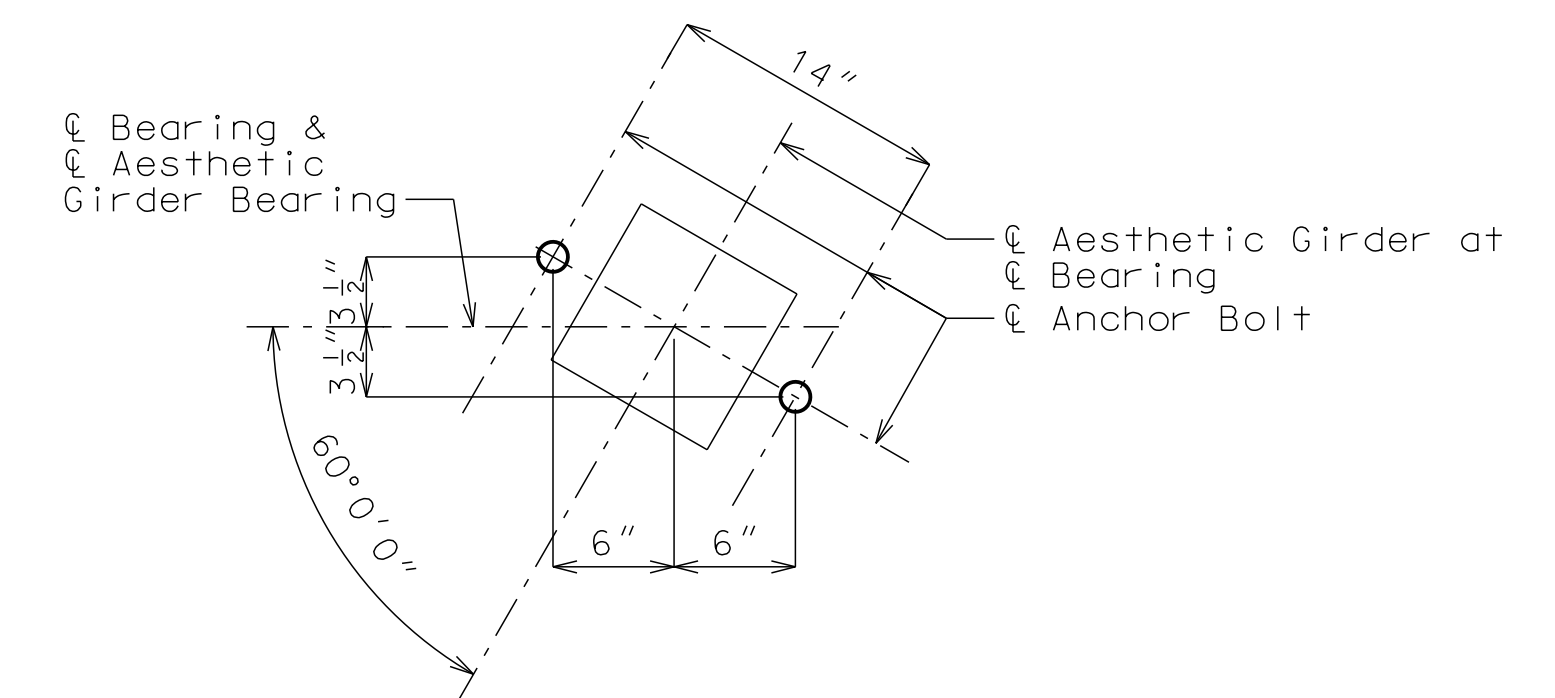
SECTION THRU KEY

Reinforcement shown is approximate and subject to change

Quantity of piles is approximate.  
Location and length of piles is approximate and subject to change



PLAN OF BEAM SHOWING REINFORCEMENT  
(Note: Steps and keys not shown for clarity)



### ANCHOR BOLT DETAIL

For details of Aesthetic Girder bearings not show see Sheet No. \_\_\_\_\_

Notes:

For details of End Bent No. 4 not shown, see Sheets No. \_ & \_.

For details of Vertical Drain at End Bents, see Sheet No.   .

Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least  $1\frac{1}{2}"$ .

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

For reinforcement of Barrier Curb (Type D), see Sheets No. \_\_ & \_\_. <

The U-bars and Pairs-V bars shall be placed parallel to C Roadway.

### DETAILS OF END BENT NO. 4

Note: This drawing is not to scale. Follow dimensions.

Reinforcement shown is  
approximate and subject to change

Quantity of piles is approximate.  
Location and length of piles is  
approximate and subject to change

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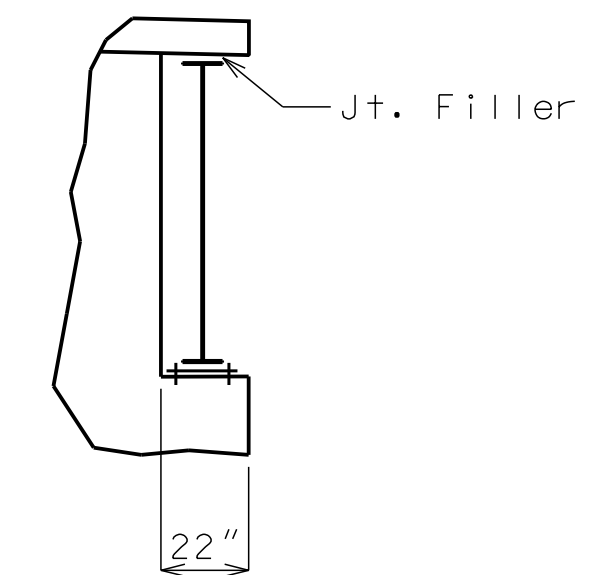
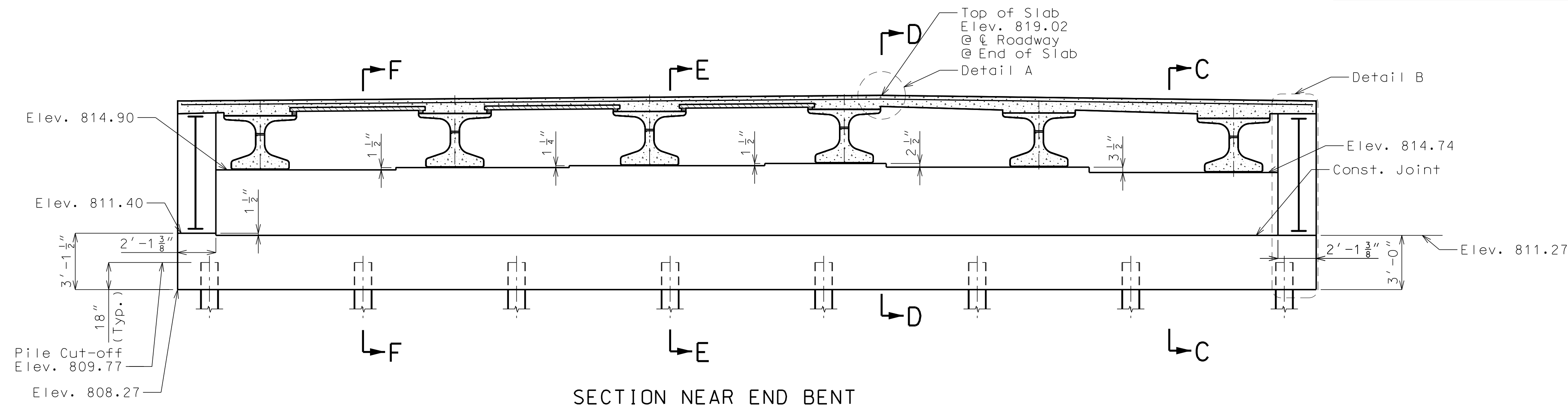
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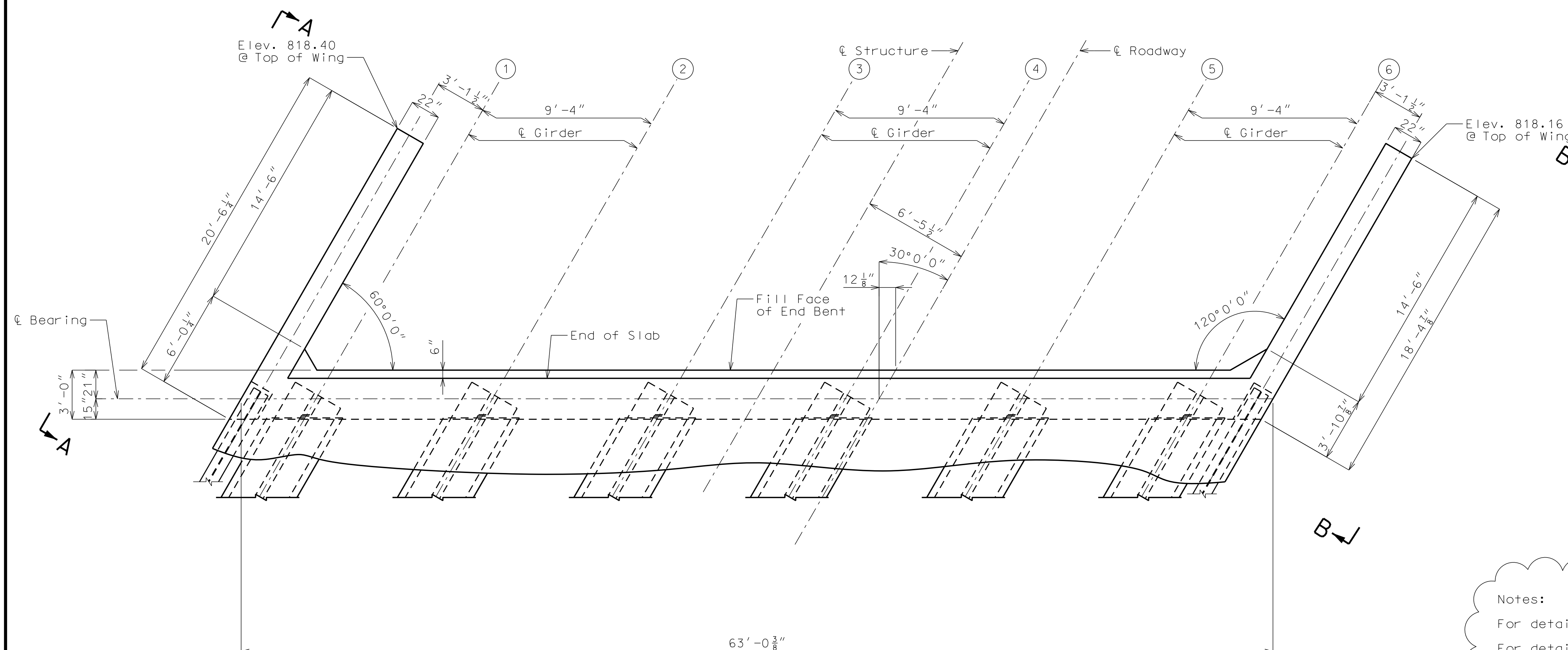
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Measured perpendicular  
to face of wing wall

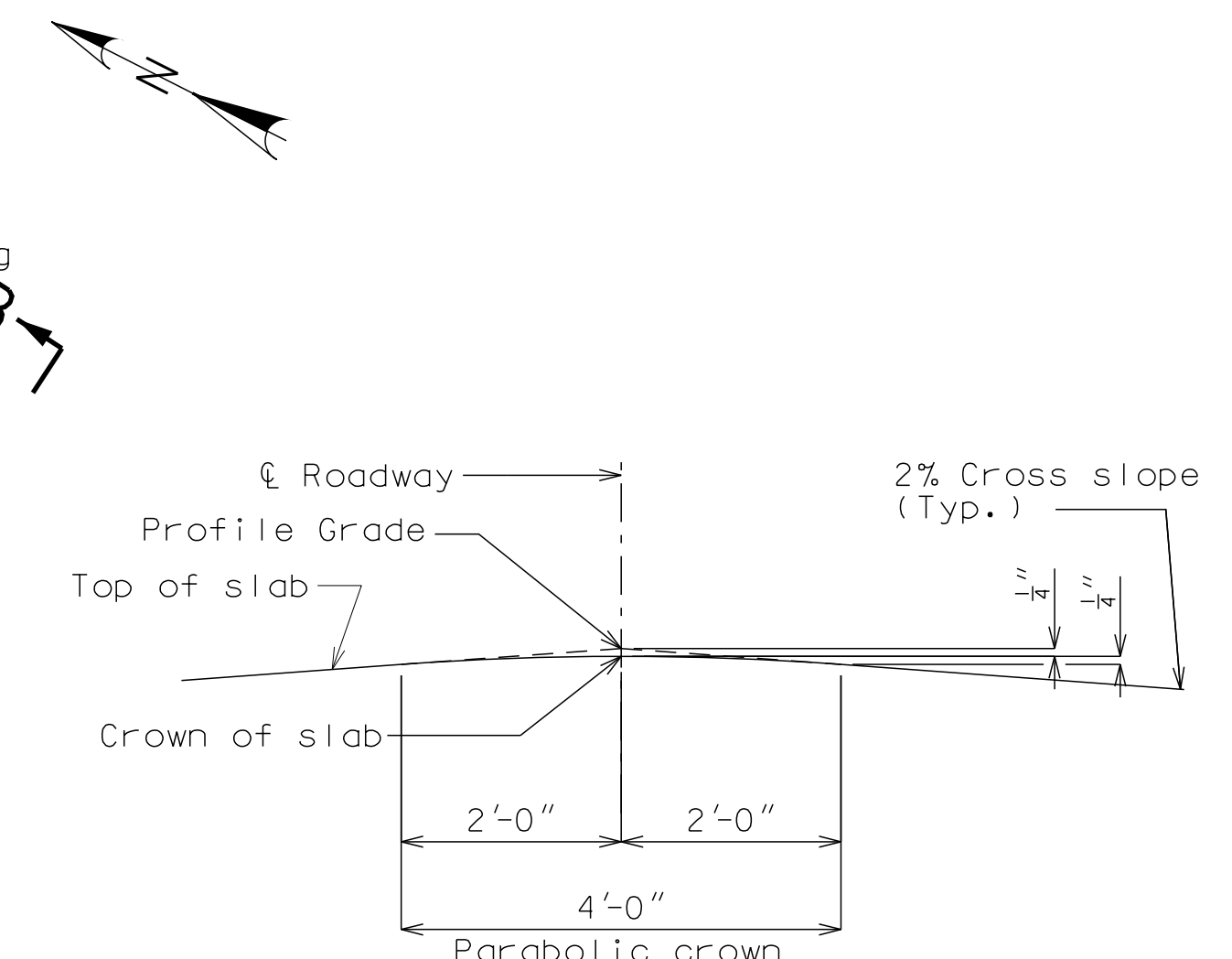
DETAIL B



PART PLAN  
(Note: Steps and keys not shown for clarity)

# DETAILS OF END BENT NO. 4

Note: This drawing is not to scale. Follow dimensions.



Notes:

For details of End Bent No. 4 not shown, see Sheets No. \_ & \_.

For details of Vertical Drain at End Bents, see Sheet No. \_\_.

Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least  $1\frac{1}{2}"$ .

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

For reinforcement of Barrier Curb (Type D), see Sheets No. \_\_ & \_\_.

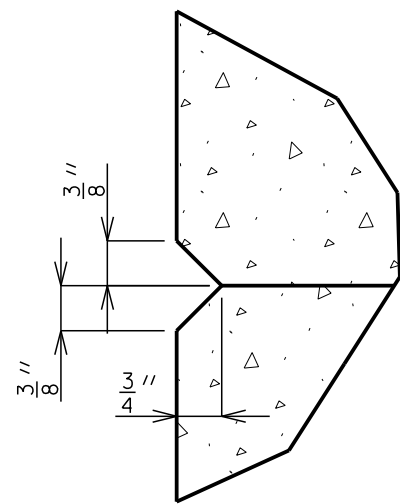
The U-bars and Pairs-V bars shall be placed parallel to C Structure.)

For Substructure Quantity Table, see Sheet No. \_.

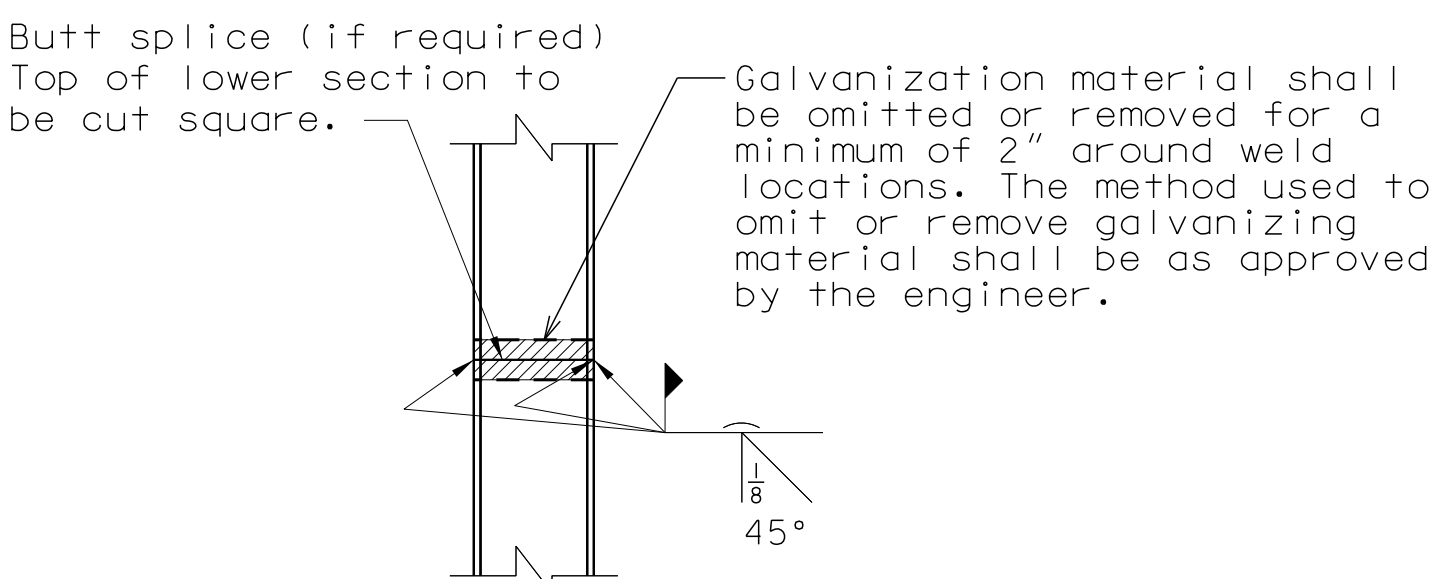
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Reinforcement shown is approximate and subject to change

Quantity of piles is approximate. Location and length of piles is approximate and subject to change

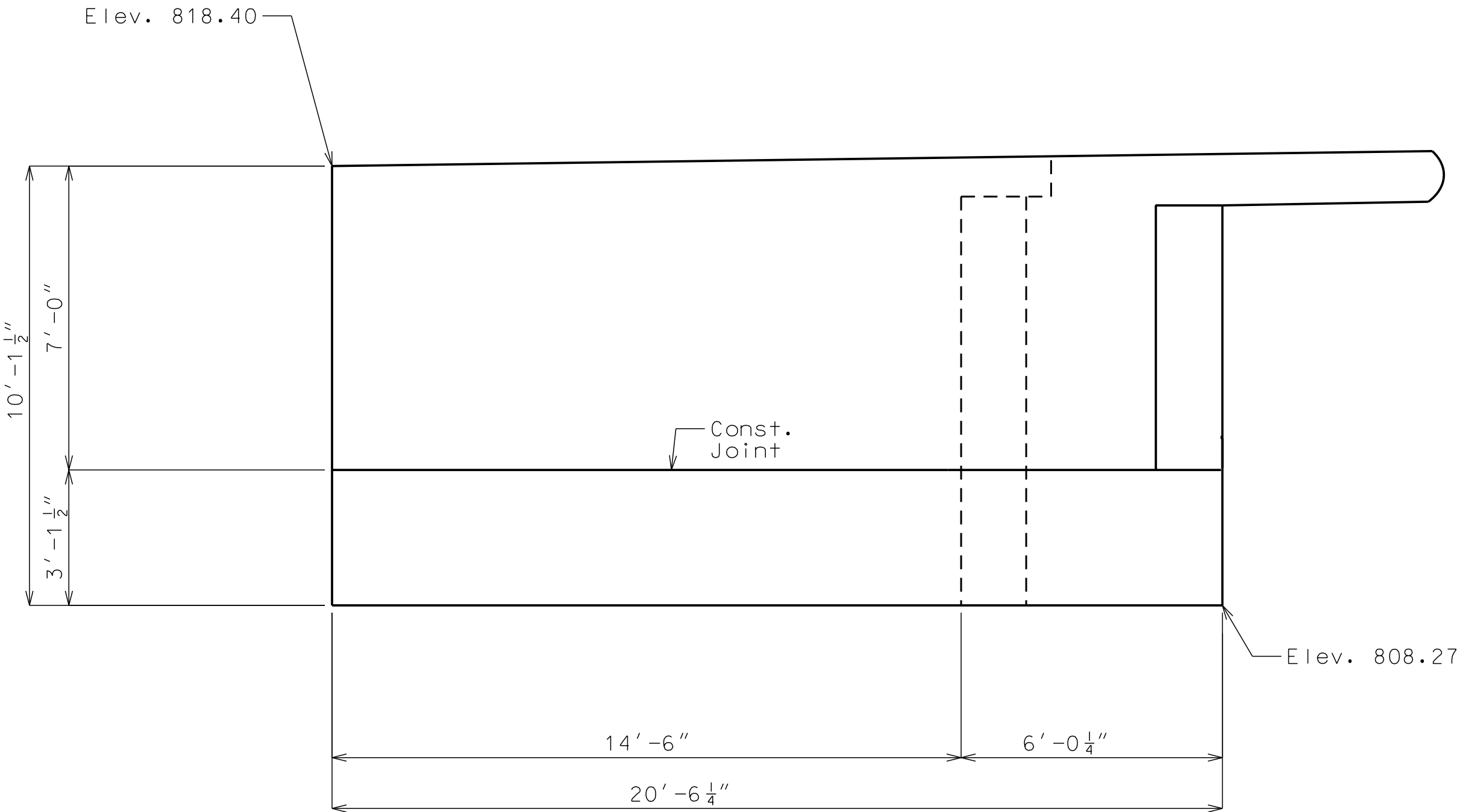


DETAIL G

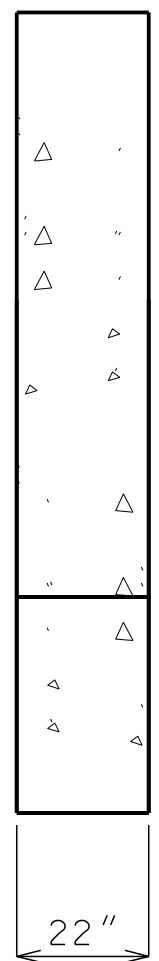


DETAIL OF STEEL PILE SPLICE

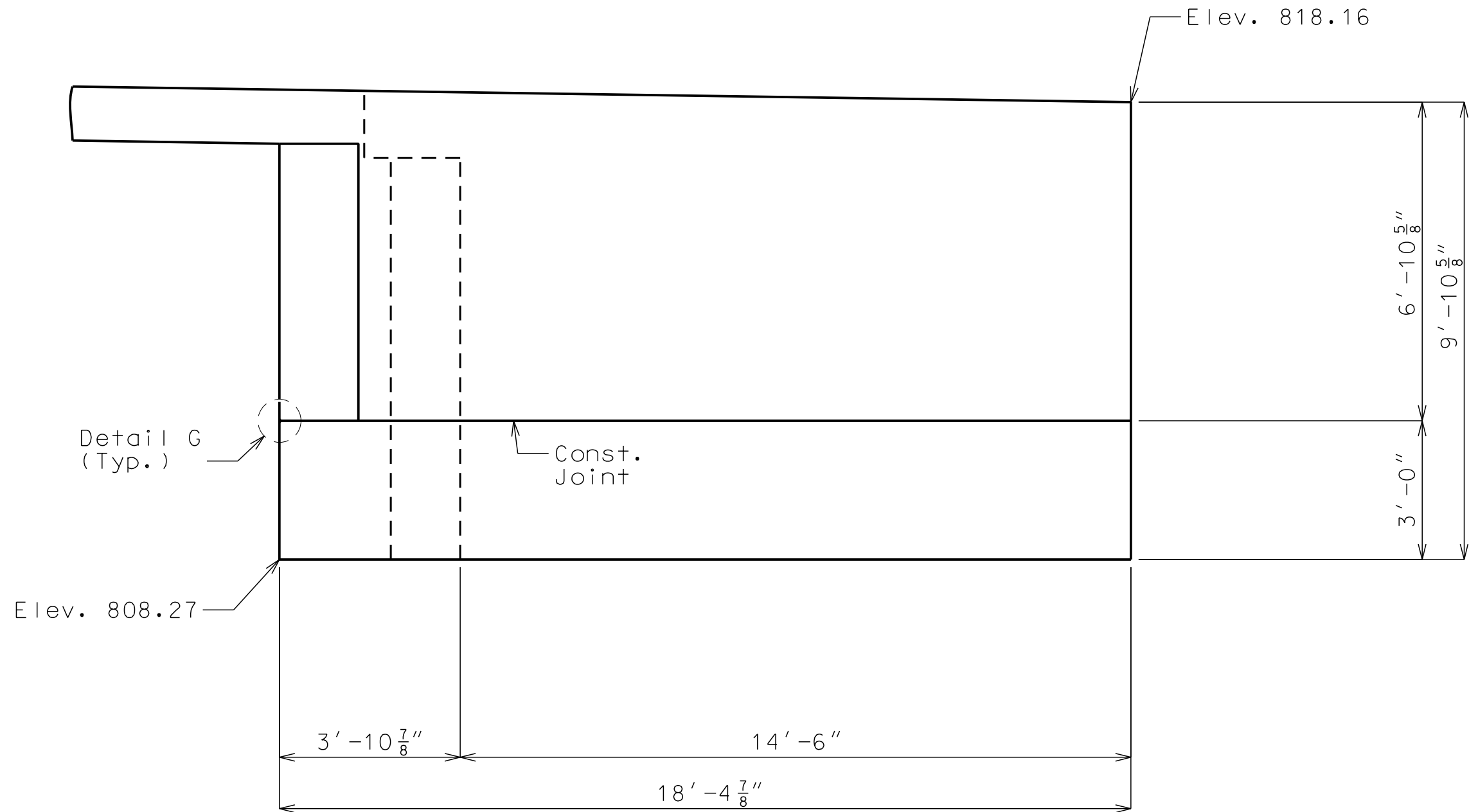
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			DRAWN BY: DWM	
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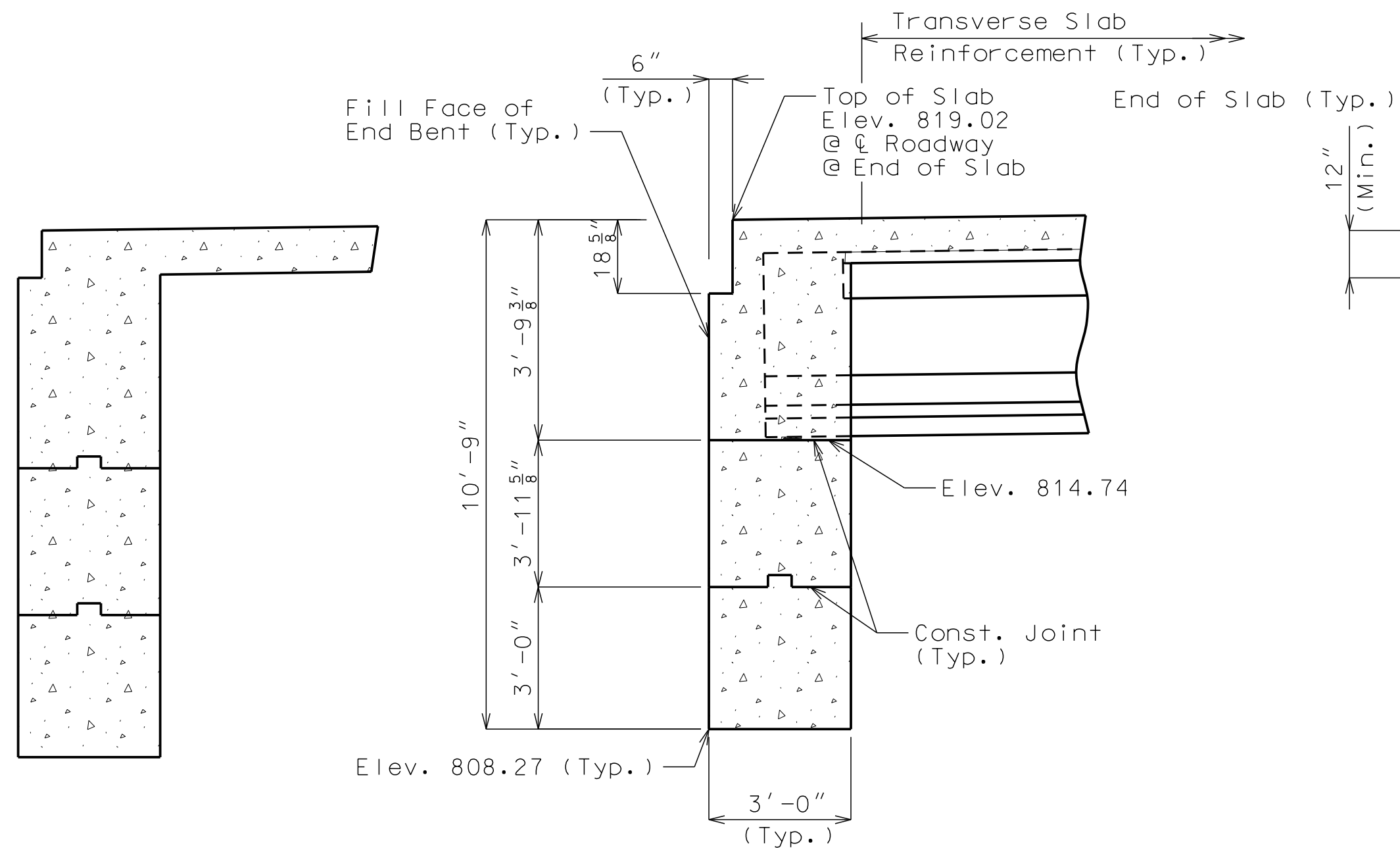
ELEVATION A-A



TYPICAL SECTION THRU WING

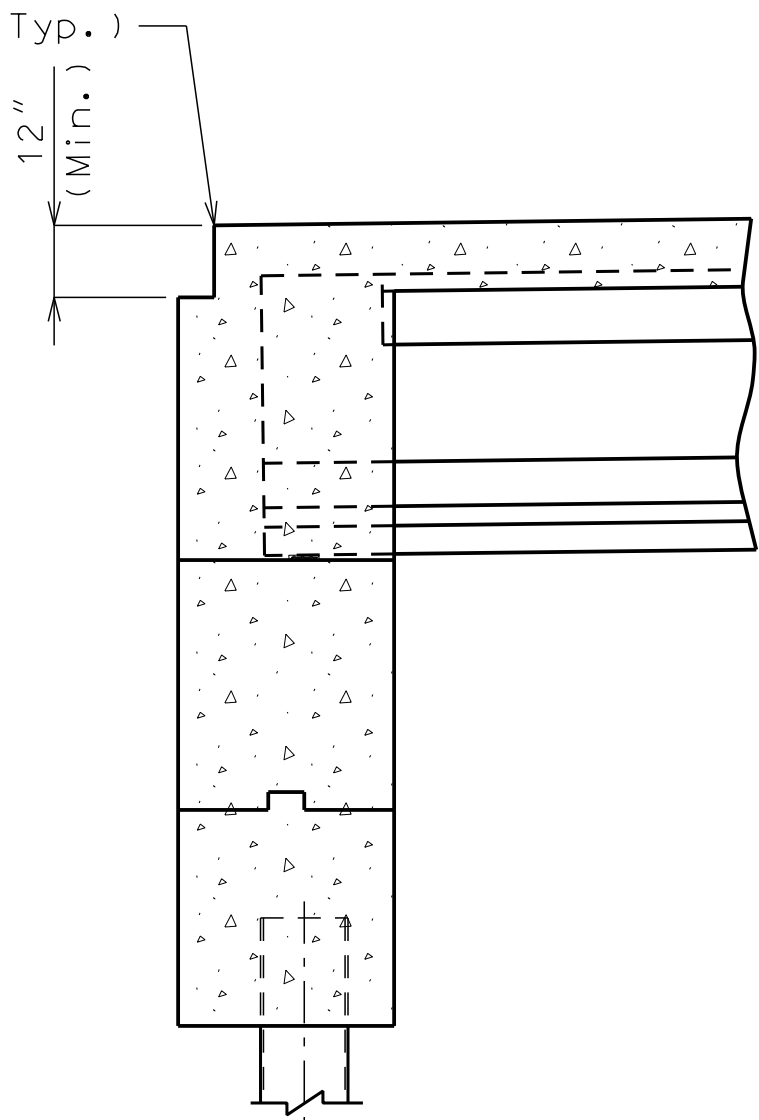


ELEVATION B-B

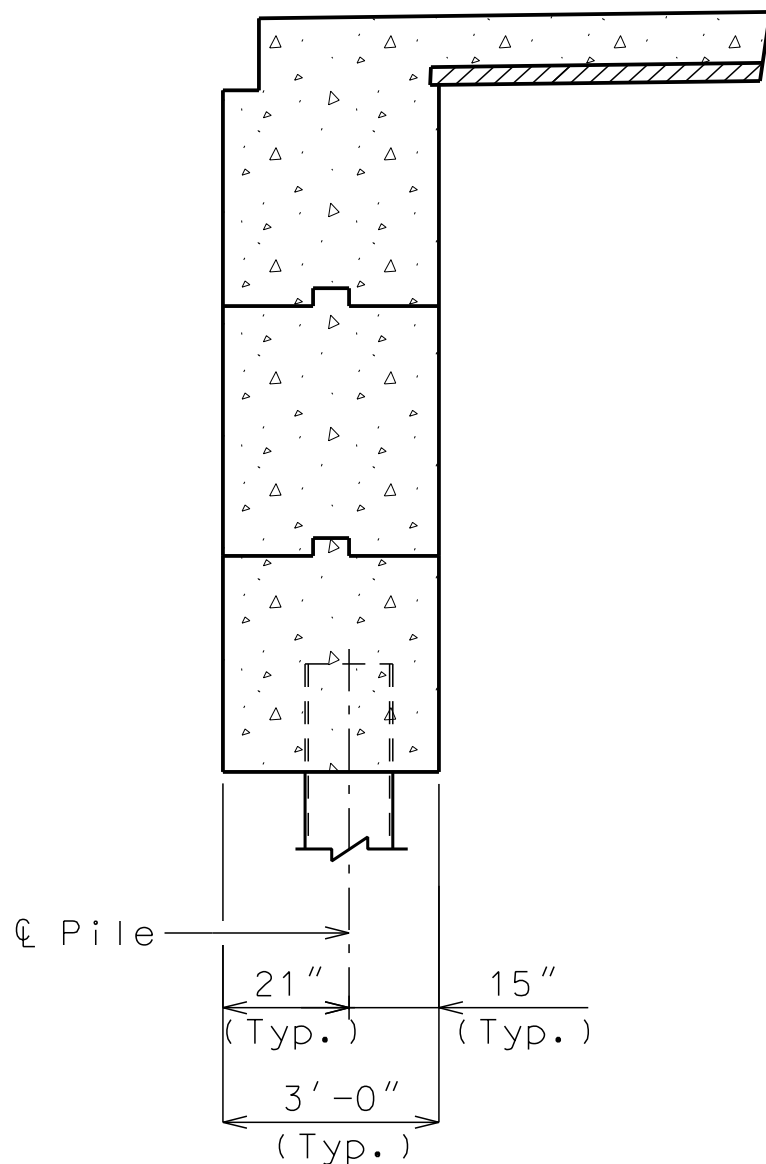


SECTION C-C

SECTION D-D



SECTION E-E



SECTION F-F

DETAILS OF END BENT NO. 4

Note: This drawing is not to scale. Follow dimensions.

Notes:

For details of End Bent No. 4 not shown, See Sheets No. \_ & \_.

For location of Elevations A-A & B-B, See Sheet No. \_.

For location of Sections C-C, D-D, E-E & F-F See Sheet No. \_.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inch.

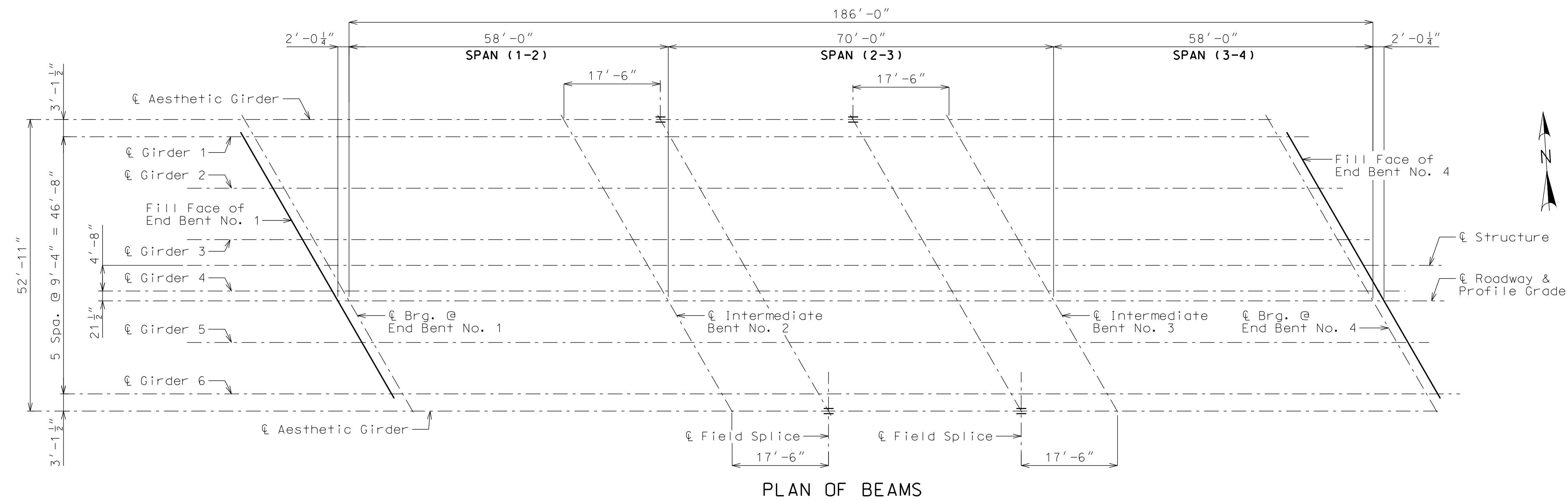
For reinforcement of Safety Barrier Curb, See Sheets No. \_ & \_.

For reinforcement of Pedestrian Curb, see Sheet No. \_.

HP pile shall be galvanized to the minimum galvanized penetration (elevation) (See Foundation Data).







## FRAMING PLAN

Note: This drawing is not to scale. Follow dimensions.

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16

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PART ELEVATION GIRDER NO. 1

(South Elevation Shown)  
(South Girder shown North Girder Similar)  
(Work this sheet with Plan of Structural Steel Sheet)

PART ELEVATION GIRDER NO. 1

(South Elevation Shown)  
(South Girder shown North Girder Similar)  
(Work this sheet with Plan of Structural Steel Sheet)

AESTHETIC STEEL GIRDER ELEVATION

Note: This drawing is not to scale. Follow dimensions.

Diaphragm connection plates on north side of south girder and south side of north girder only.

Diaphragms on north side of south girder and south side of north girder only.

Notes:  
Plate girders shall be fabricated to be in accordance with the camber diagram shown on Sheet No. XX.

\*\*\* Indicates flange plates subject to notch toughness requirements.

All web plates shall be subject to notch toughness requirements.

The flange and web splice plates shall be subject to notch toughness requirements, when notch toughness is required for flanges on both sides of splice.

Intermediate web stiffener plate and diaphragm spacing may vary from plan dimensions by a maximum of 3" for diaphragm to connect to the intermediate web stiffener plate.

Fabricated structural, low alloy steel shall be ASTM A709 Grade 50W, except as noted.

Longitudinal dimensions are horizontal. See Part Longitudinal Sections on Sheet No. XX.

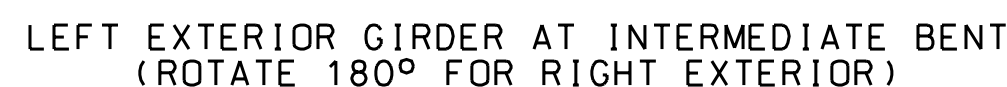
For Details of Bolted Field Splice see Sheet No. XX.

For Details of Intermediate Diaphragms & Bearing Stiffeners see Sheet No. XX.

For Plan of Aesthetic Girder Steel, see Sheet No. XX.

West Bridge : 60% Plans

\* At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



NO.	DATE

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SHEET

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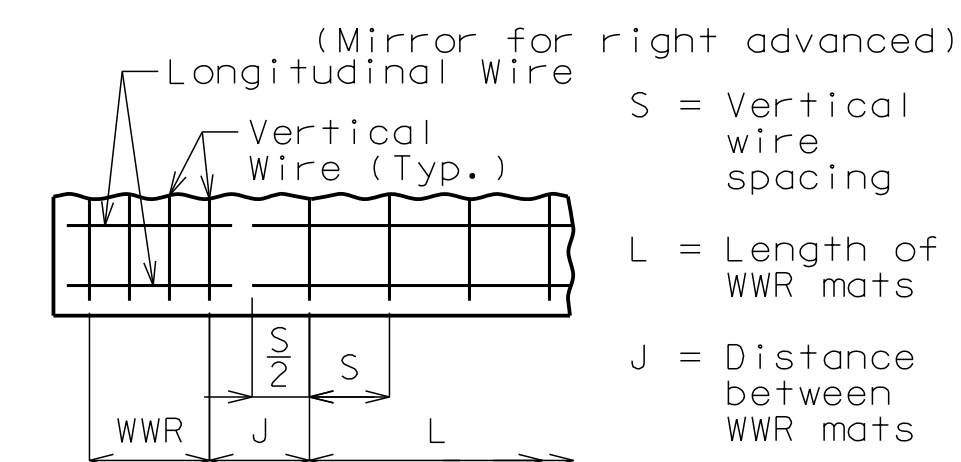
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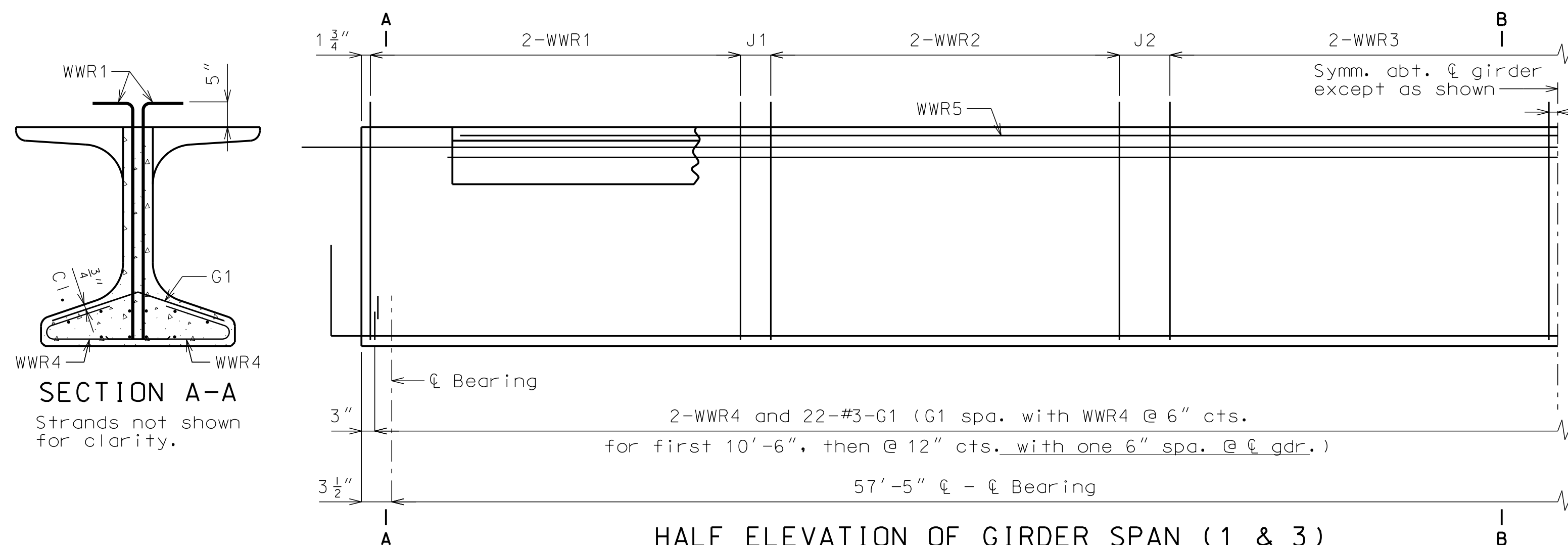
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[illegible]

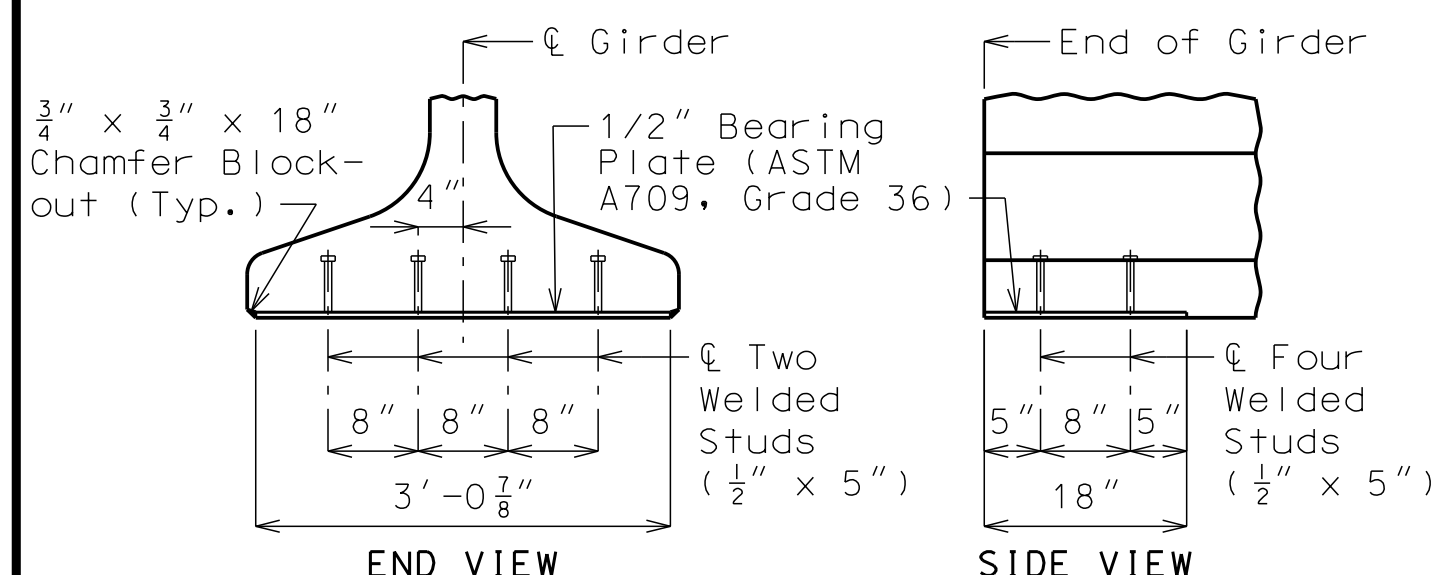
G4 and G5 not required for interior girders. Half no. of G3, G4, G5 and G6 not required for ext. girders of end spans.

[illegible]

## WELDED WIRE PLACEMENT

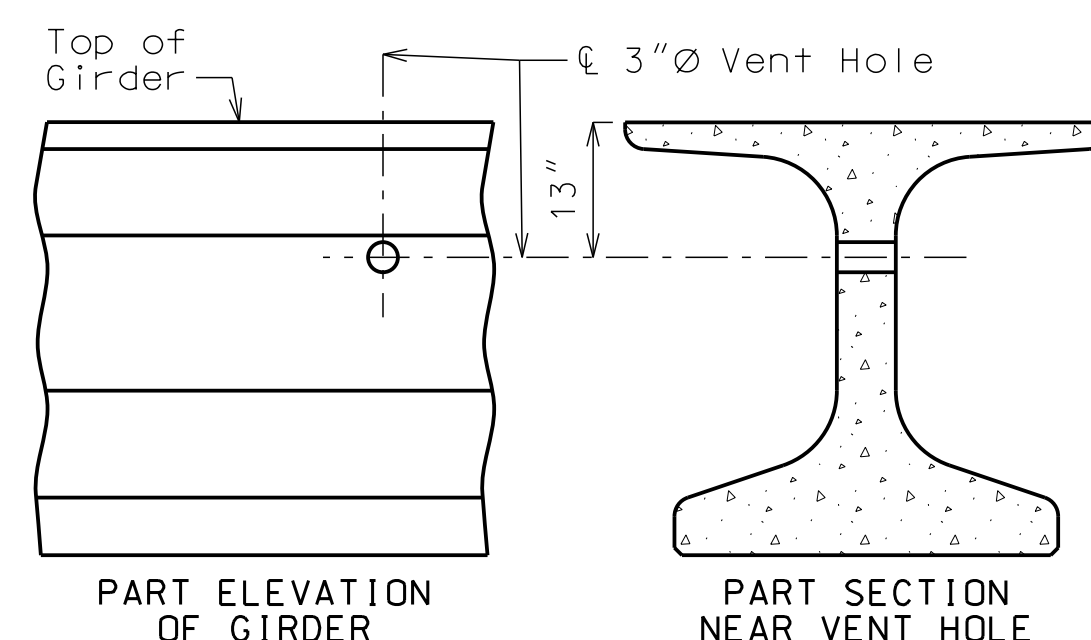


Exterior and interior girders are the same, except for coil ties, and top flange blockout and coil inserts for slab drains. Reinforcement support strands not shown for clarity.



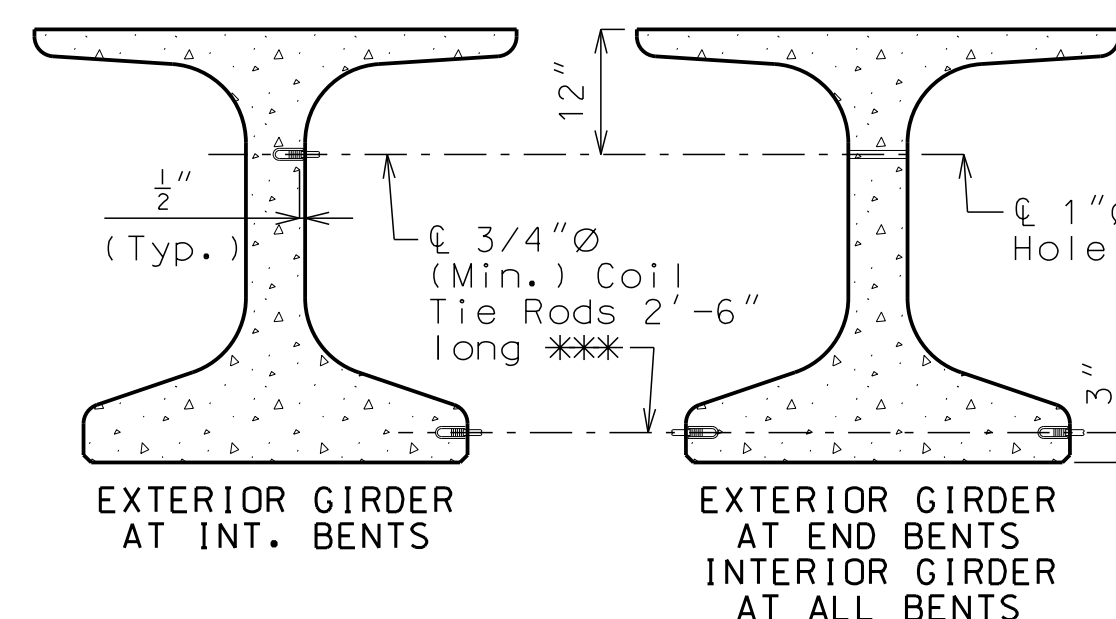
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



### DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel interm. diaphragm bolt connections by 6" minimum.



### DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

\*\*\* Length of coil tie rods at exterior face  
of exterior girders at end bents = ' - ".

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. \_\_.

For location of coil ties and #6 bars at concrete bent diaphragms,  
see Sheets No. -- and --.

The 1 1/2"Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. \_\_.

For Girder Camber Diagram, see Sheet No. \_\_.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

Note: This drawing is not to scale. Follow dimensions.

At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



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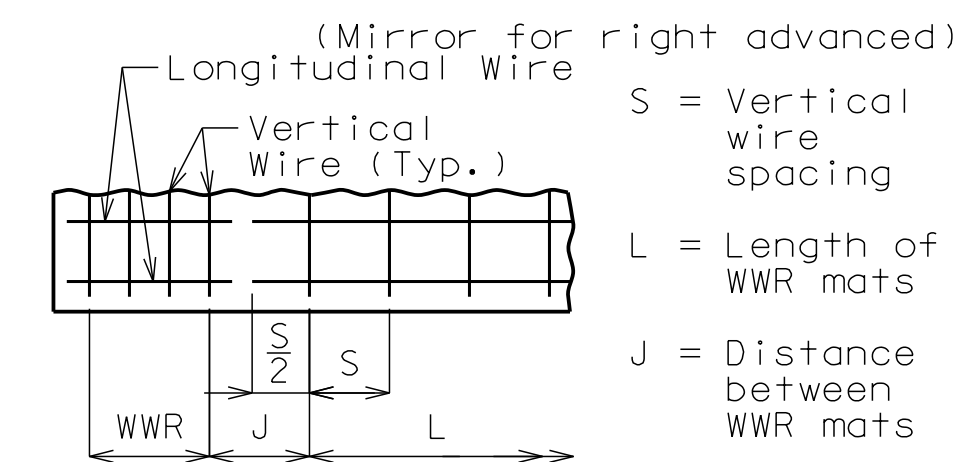
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## STRAND DETAILS AT GIRDER ENDS

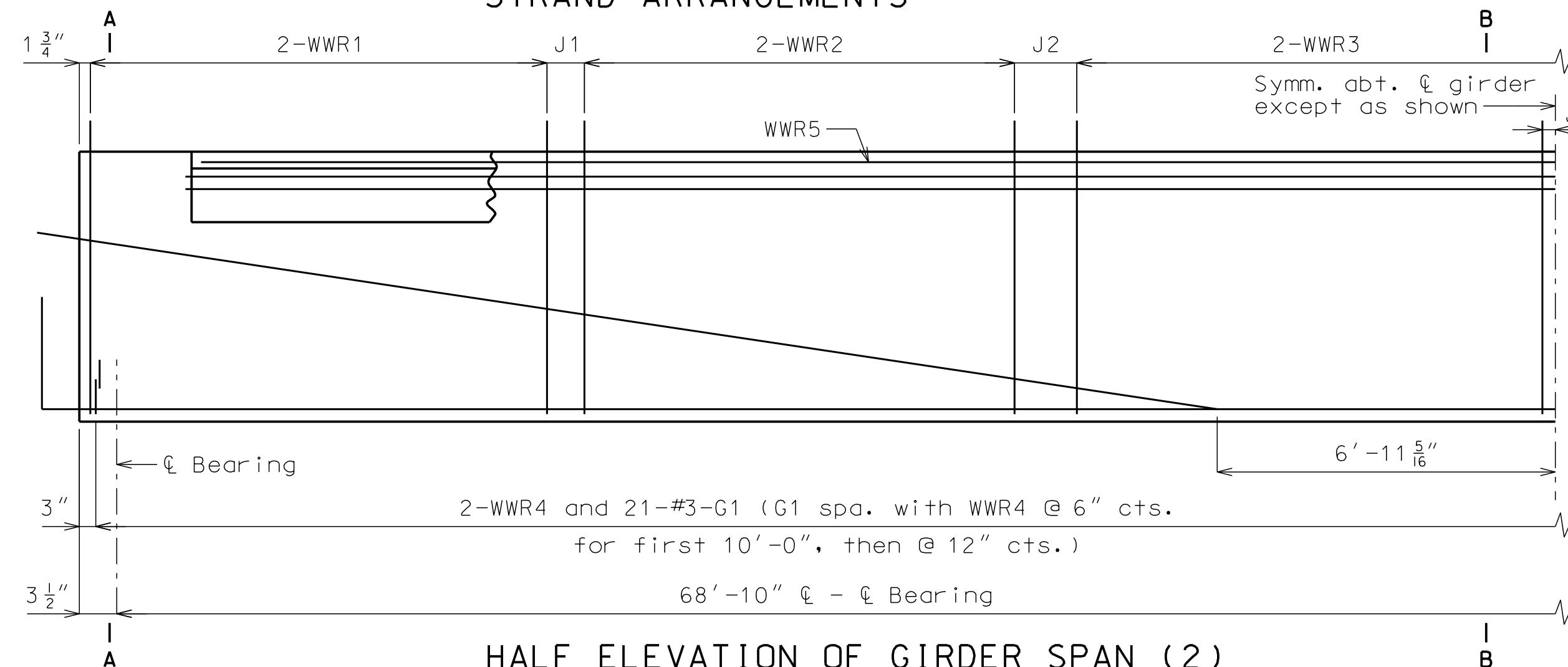
G4 and G5 not required for interior girders. G3 and G6 not required for exterior girders of intermediate spans.

Technical drawings of three wire mesh reinforcement (WWR) sections:

- WWR1, WWR2 & WWR3:** Vertical section. Dimensions include a total height of  $23\frac{5}{8}"$ , top width of  $7\frac{7}{8}"$  and  $5"$ , side width of  $2"$ , and bottom width of  $5\frac{1}{8}"$ . Reinforcement includes D11 bars at  $6"$  spacing, W8 bars, and a wire size of  $3" S$ . A note specifies  $d=2\frac{1}{2}"$ .
- WWR4:** Horizontal section. Total width is  $3'-3\frac{3}{8}"$ . Reinforcement includes D20 bars at  $6"$  spacing, W8 bars, and a wire size of  $3" S$ . A note specifies  $d=2\frac{1}{2}"$ .
- WWR5:** Horizontal section. Total width is  $3'-10\frac{1}{4}"$ . Reinforcement includes D20 bars at  $6"$  spacing, W8 bars, and a wire size of  $3" S$ . A note specifies  $d=2\frac{1}{2}"$ .

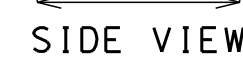


Strands not shown  
for clarity.



HALF ELEVATION OF GIRDER SPAN (2)

Exterior and interior girders are the same, except for coil ties, and top flange blockout and coil inserts for slab drains. Reinforcement support strands not shown for clarity.

PART ELEVATION  
OF GIRDER

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel interm. diaphragm bolt connections by 6" minimum.



Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

\*\*\* Length of coil tie rods at exterior face  
of exterior girders at end bents =  $\frac{1}{2}$ ".

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

Note: This drawing is not to scale. Follow dimensions.



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Reinforcement shown is approximate and subject to change

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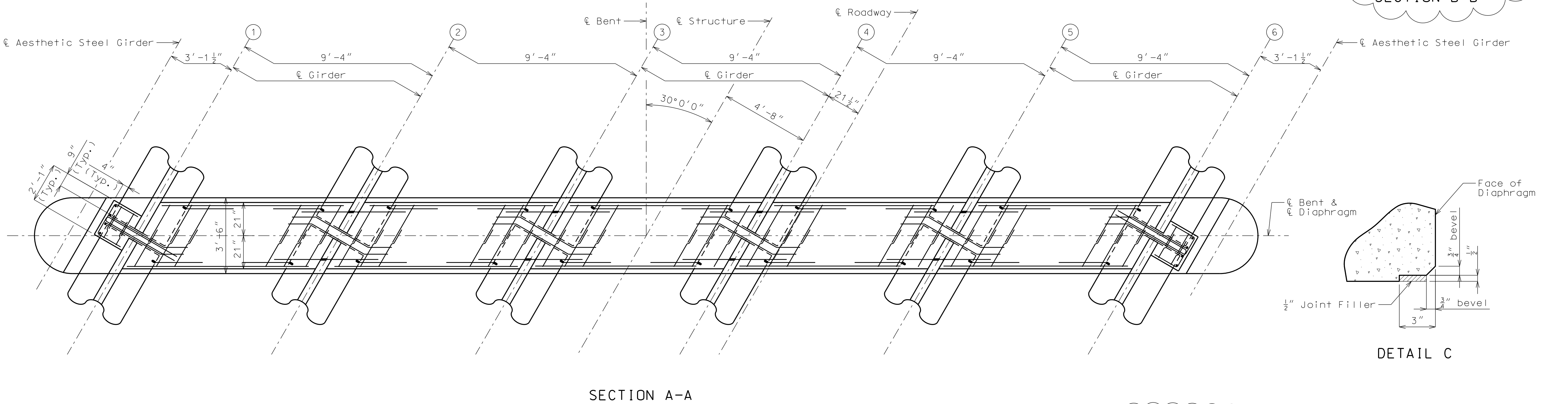
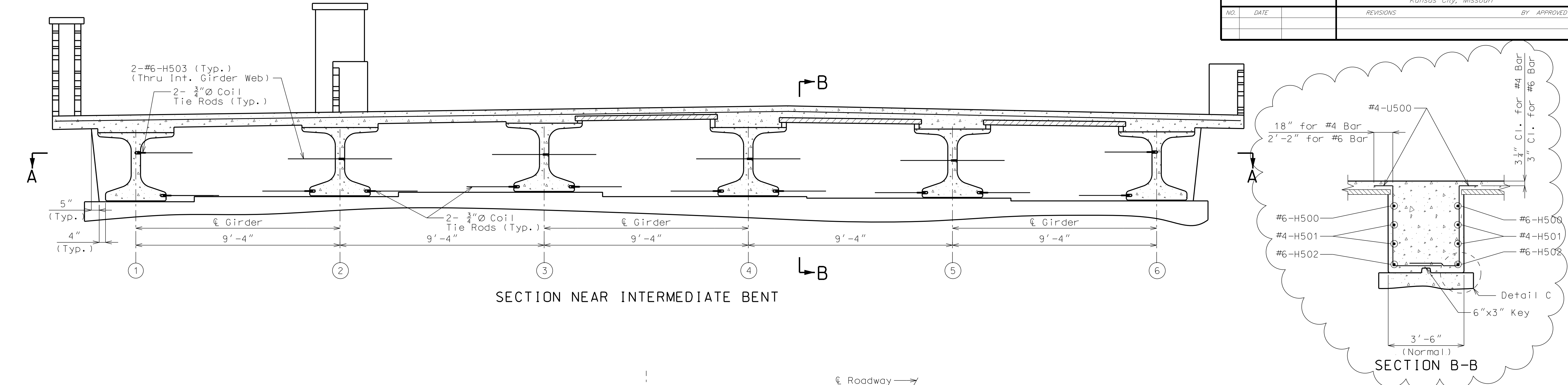
SHEET NO. 19  
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Notes:

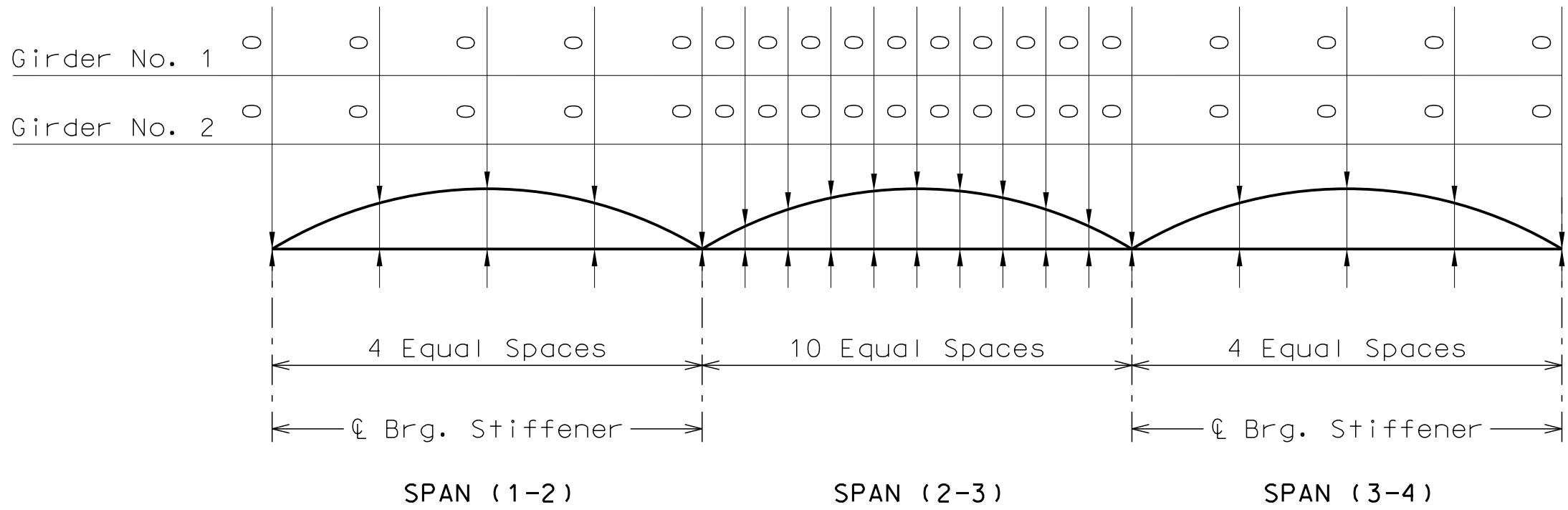
- Diaphragms at Intermediate Bents shall be built vertically.
- All U-bars in the diaphragm are to be placed parallel to  $\ell$  Roadway.
- For locations of Strand Tie Bars, see Sheets No. 14 - 19.
- For locations and details of Coil Tie Rods, see Sheets No. 14 - 19.

DETAILS OF CONCRETE DIAPHRAGMS AT INTERMEDIATE BENTS NO. 2 & 3

Note: This drawing is not to scale. Follow dimensions.

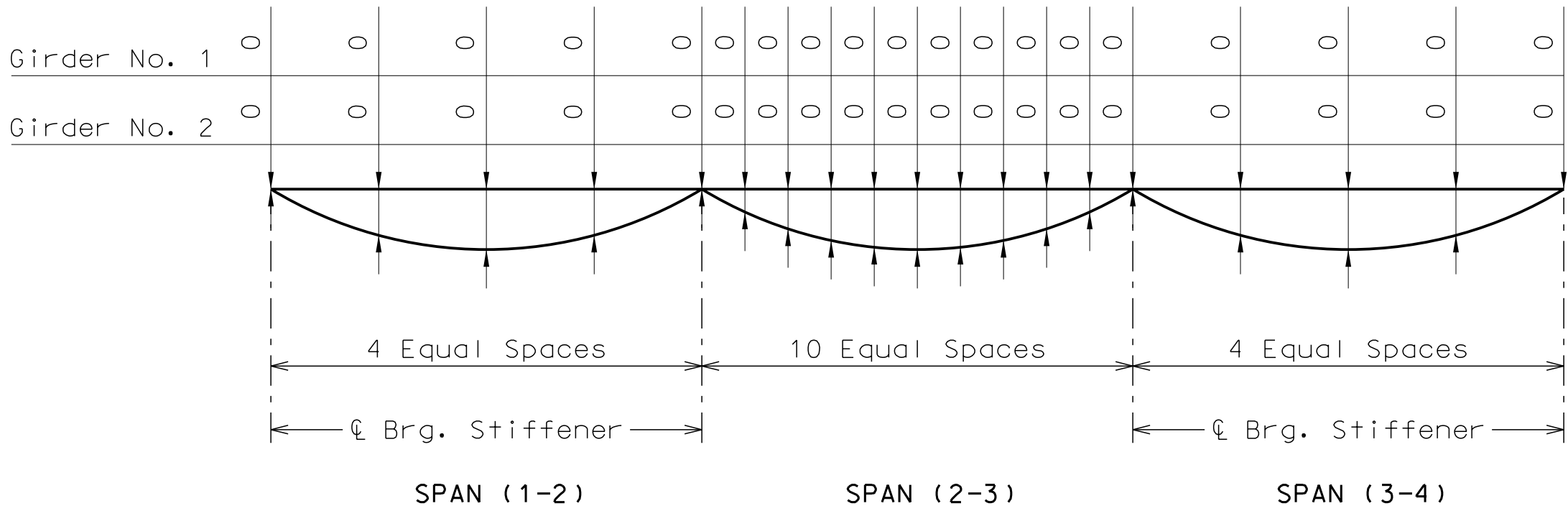


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CAMBER DIAGRAM

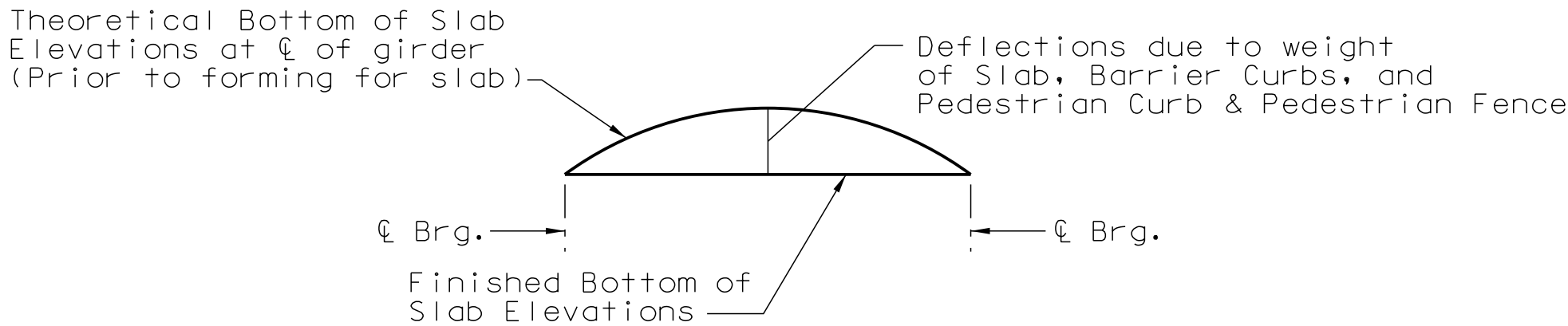
Note:  
Camber includes allowance for vertical curve and for dead load deflection due to concrete slab, barrier curbs, pedestrian curb and structural steel.  
Longitudinal dimensions are measured horizontally.



DEAD LOAD DEFLECTION

Note:  
15% of dead load deflection is due to the weight of structural steel.  
Dead Load deflection includes weight of structural steel, concrete slab, barrier curbs, and pedestrian curb & pedestrian fence.

GIRDER NO.	SPAN LENGTHS (℄ Brg.- ℄ Brg.)		
	Span (1-2)	Span (2-3)	Span (3-4)
1	--'-----	--'-----	--'-----
2	--'-----	--'-----	--'-----



TYPICAL SLAB ELEVATIONS DIAGRAM

\*\*Theoretical Bottom of Slab Elevations at ℄ of Girder (Prior to forming for slab)

			Span 1 (℄ Brg.-℄ Brg.)								
			Gdr. No.	℄ Brg Bent No. 1	.25	.50	.75	℄ Brg Bent No. 2			
			1	---	---	---	---	---			
			2	---	---	---	---	---			
Span 2 (℄ Brg.-℄ Brg.)											
Gdr. No.	℄ Brg Bent No. 2	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg Bent No. 3
1	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---
			Span 3 (℄ Brg.-℄ Brg.)								
			Gdr. No.	℄ Brg Bent No. 3	.25	.50	.75	℄ Brg Bent No. 4			
			1	---	---	---	---	---			
			2	---	---	---	---	---			

\*\* Elevations are based on a constant slab thickness of 8½" and include allowance for theoretical dead load deflections due to weight of Slab, Barrier Curbs, and Pedestrian Curb & Pedestrian Fence.

CAMBER, HAUNCHING, & ELEVATIONS (STEEL)

Note: This drawing is not to scale. Follow dimensions.

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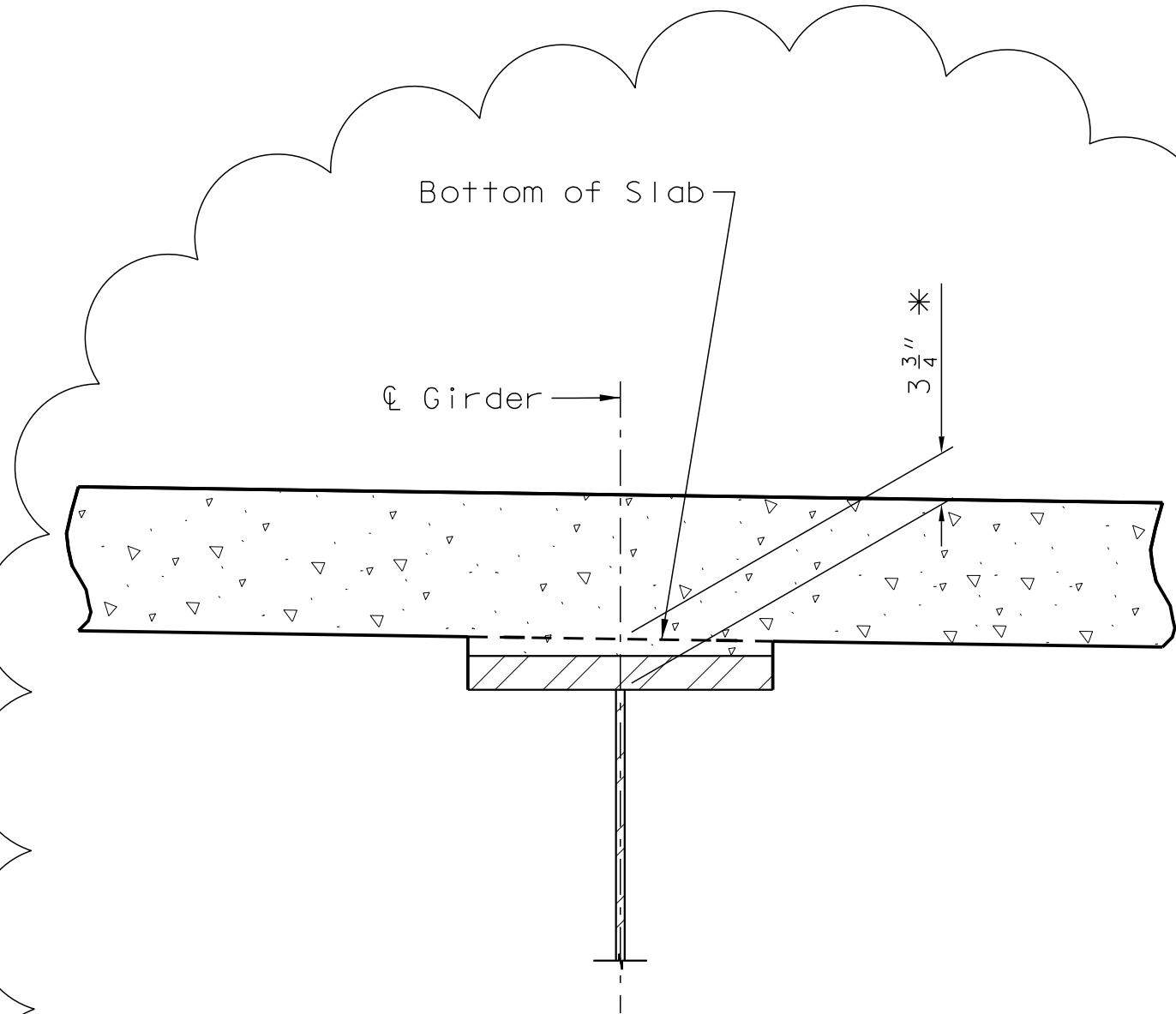
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PROJECT NO.: 12720

SHEET NO.	TOTAL SHEETS
21	33

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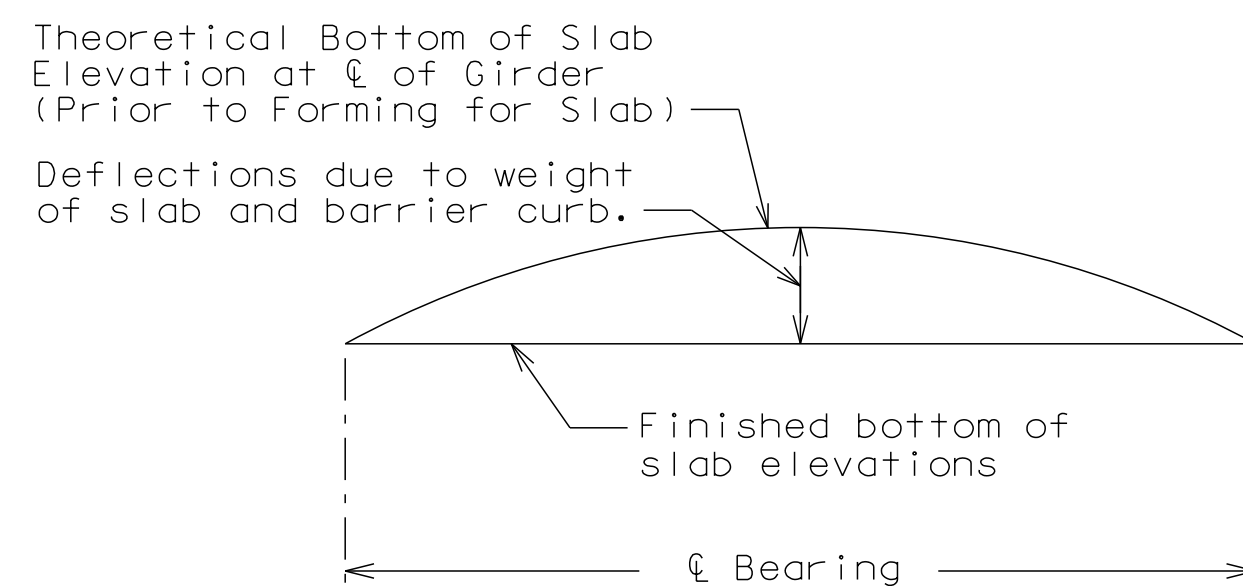
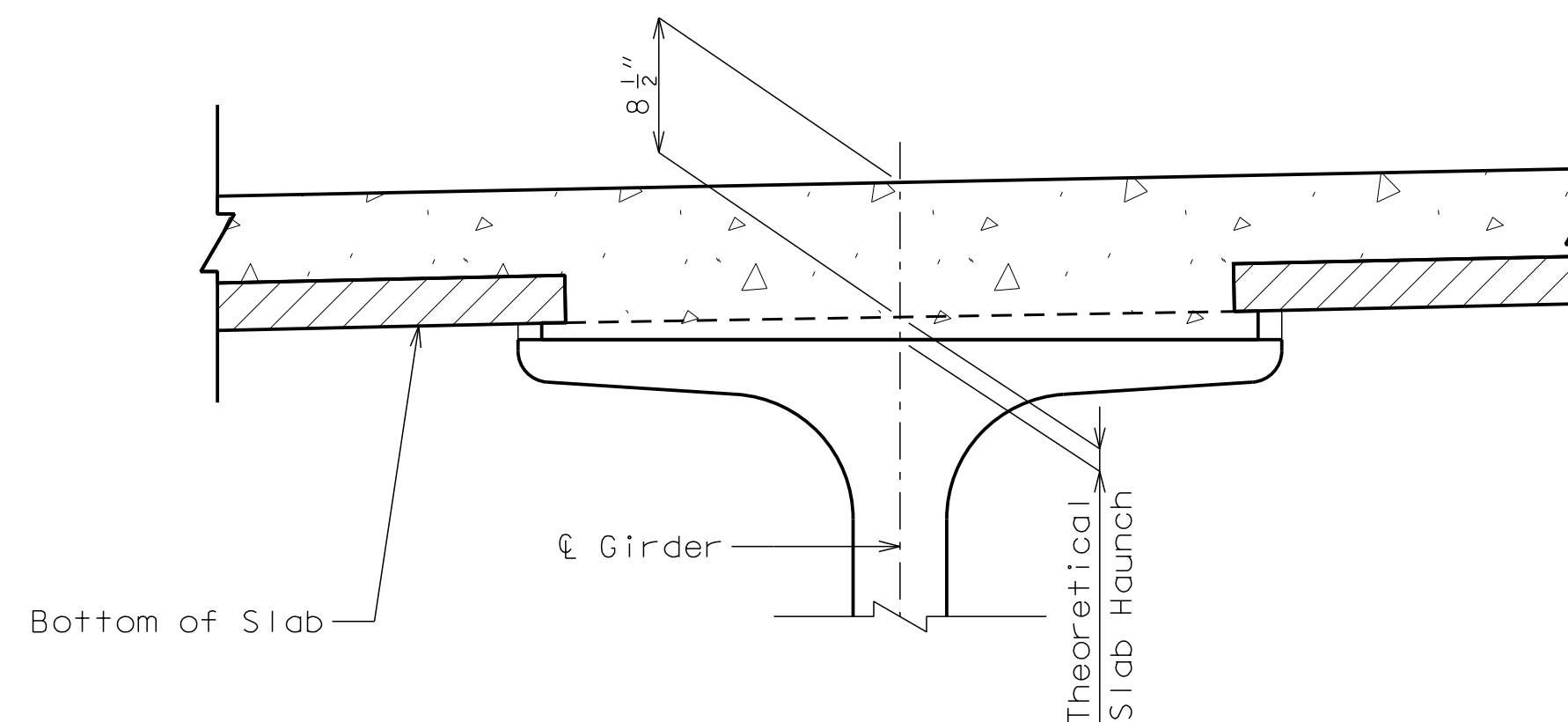
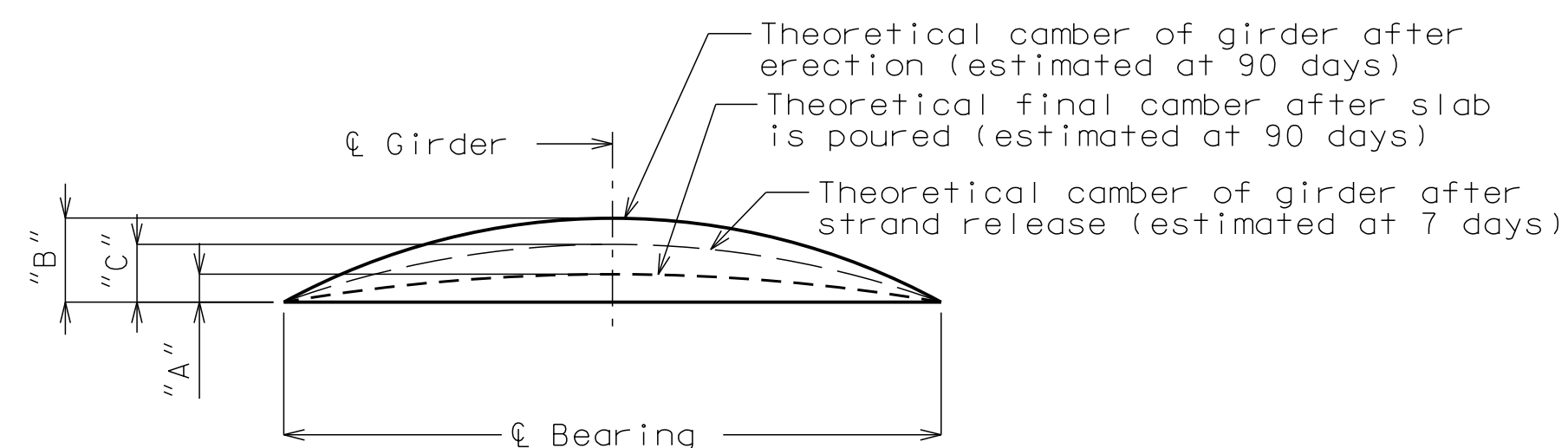
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THEORETICAL SLAB HAUNCH

Notes:  
\* Dimension (bottom of slab to top of web) may vary if girder camber after erection differs from plan camber by more than or less than the % of D.L. deflection due to weight of structural steel. No payment will be made for any adjustment in forming or additional concrete required for variation in haunching.  
Increase the haunch by 1/2 inch ± more than what is required to make one size shear connector work for both CIP and SIP options.



Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab) (Estimated at 90 days)															
	Span (1-2) (57'-5" £ brg - £ brg.)				Span (2-3) (68'-10" £ brg - £ brg.)				Span (3-4) (57'-5" £ brg - £ brg.)						
	£ brg.	.25	.50	.75	£ brg.	£ brg.	0.25	0.50	0.75	£ brg.	£ brg.	.25	.50	.75	£ brg.
Girder No. 1	769.64	769.84	770.03	770.19	770.33	770.34	770.59	770.88	770.99	771.05	771.06	771.20	771.28	771.31	771.28
Girder No. 2	769.73	769.94	770.12	770.29	770.43	770.45	770.71	771.00	771.11	771.18	771.19	771.34	771.43	771.46	771.44
Girder No. 3	769.70	769.91	770.10	770.26	770.41	770.43	770.69	771.00	771.12	771.19	771.20	771.36	771.46	771.49	771.50
Girder No. 4	769.45	769.67	769.86	770.03	770.19	770.21	770.48	770.79	770.91	771.00	771.01	771.17	771.27	771.32	771.35
Girder No. 5	769.21	769.43	769.63	769.80	769.96	769.98	770.25	770.57	770.70	770.80	770.81	770.97	771.09	771.14	771.17
Girder No. 6	769.45	769.67	769.86	770.03	770.19	770.21	770.48	770.79	770.91	771.00	771.01	771.17	771.27	771.32	771.35

Elevations are based on a constant slab thickness of 8½" and include allowance for theoretical dead load deflections due to weight of slab (including precast panel) and barrier curb.

## SLAB DETAILS

Note: This drawing is not to scale. Follow dimensions.

West Bridge : 60% Plans

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23	33

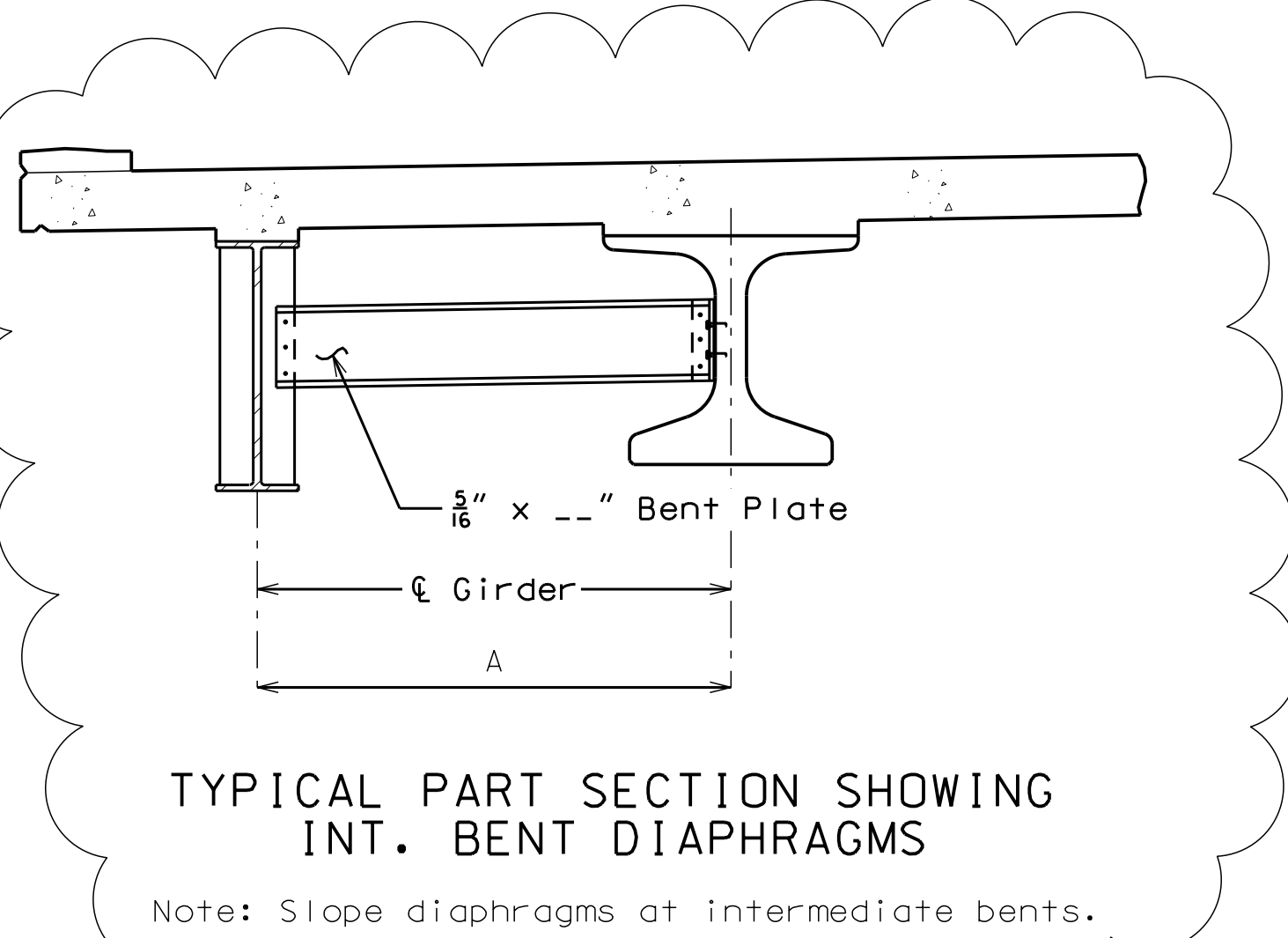
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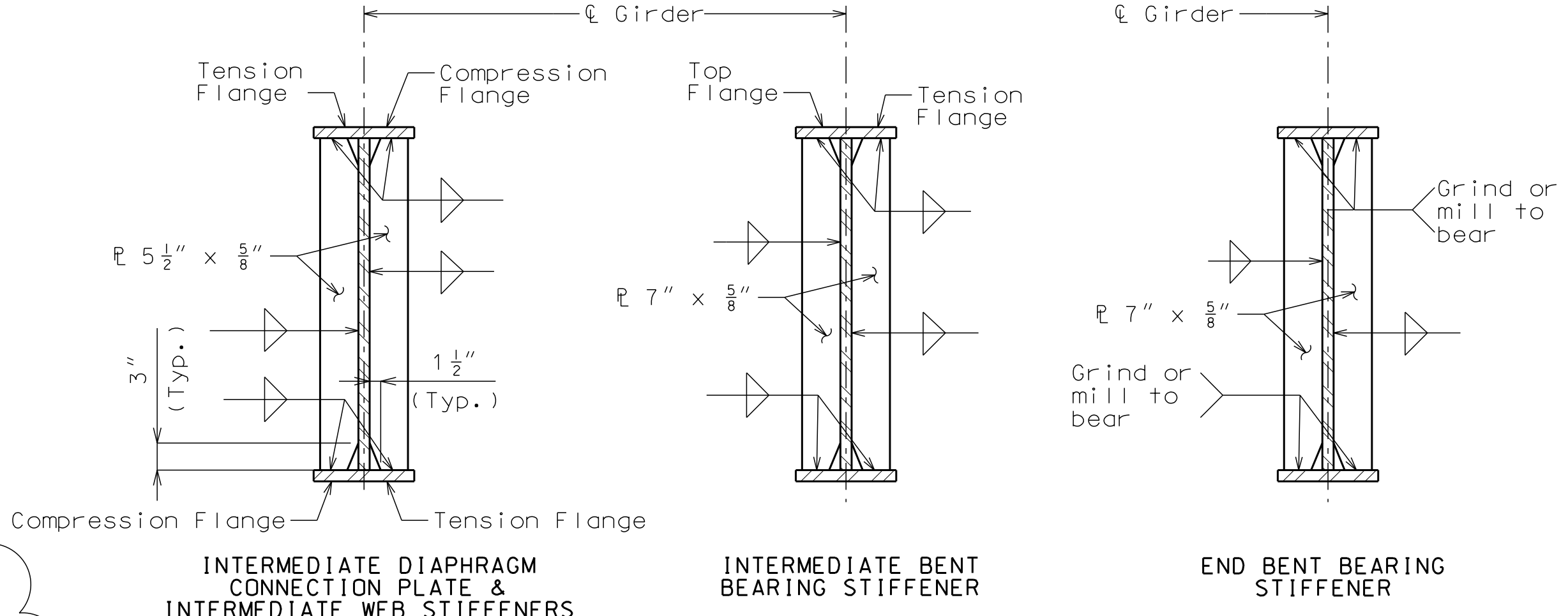
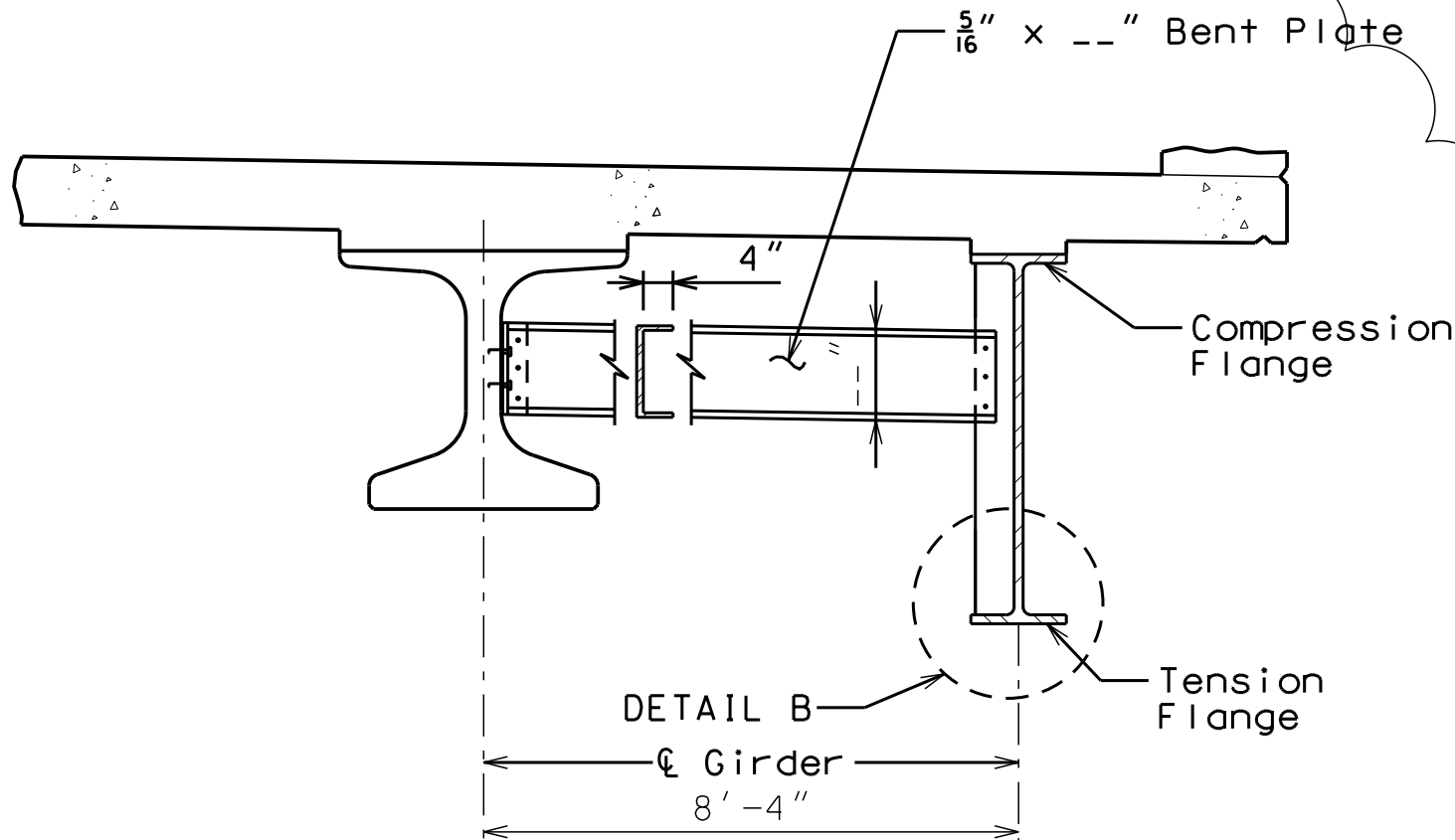
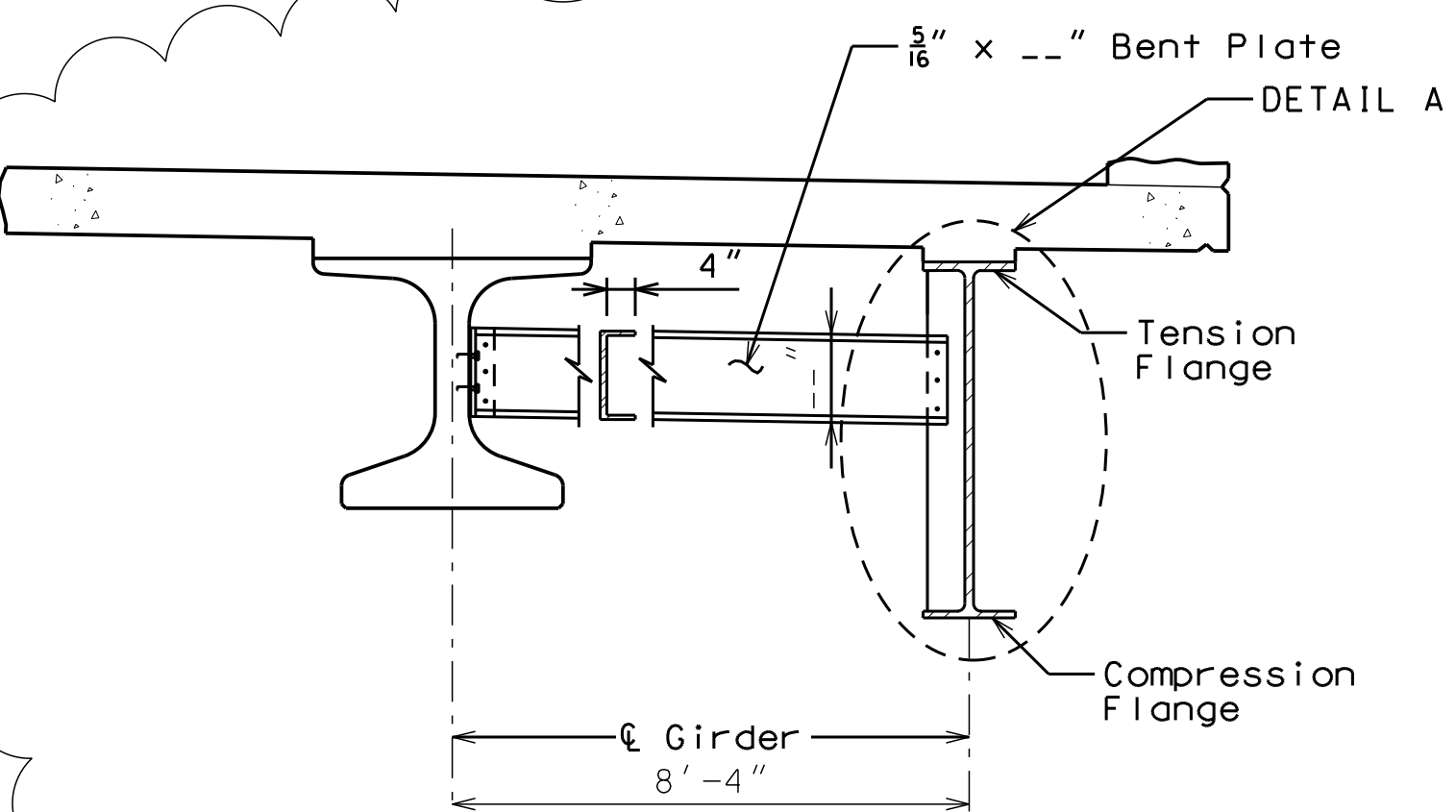
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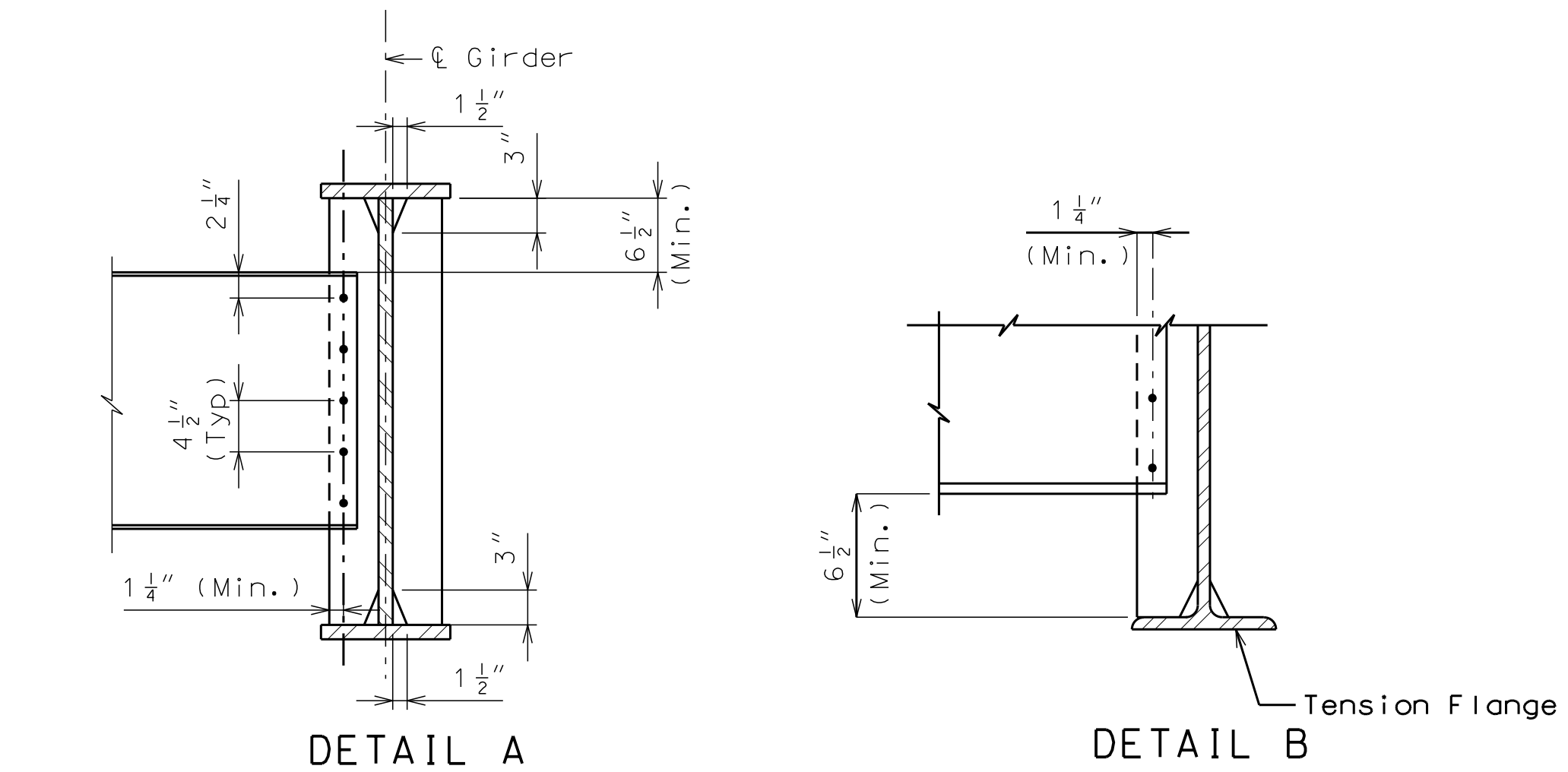
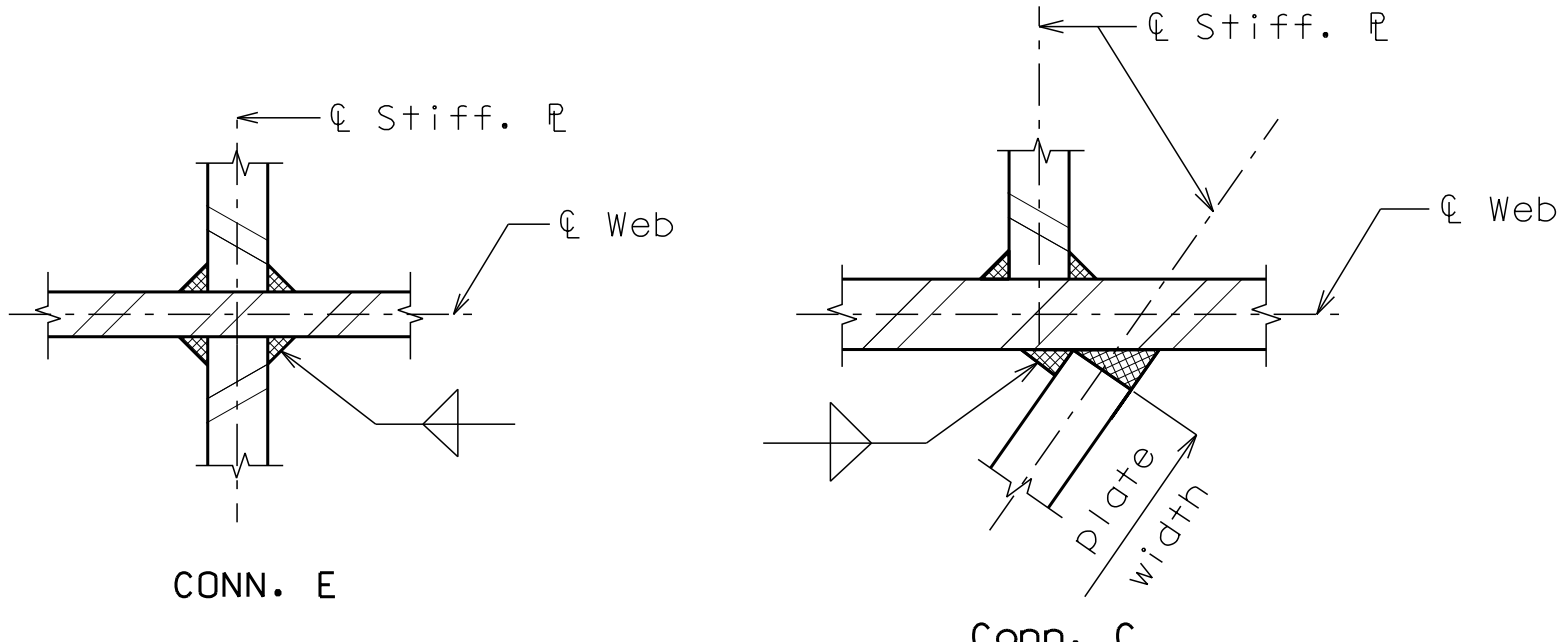
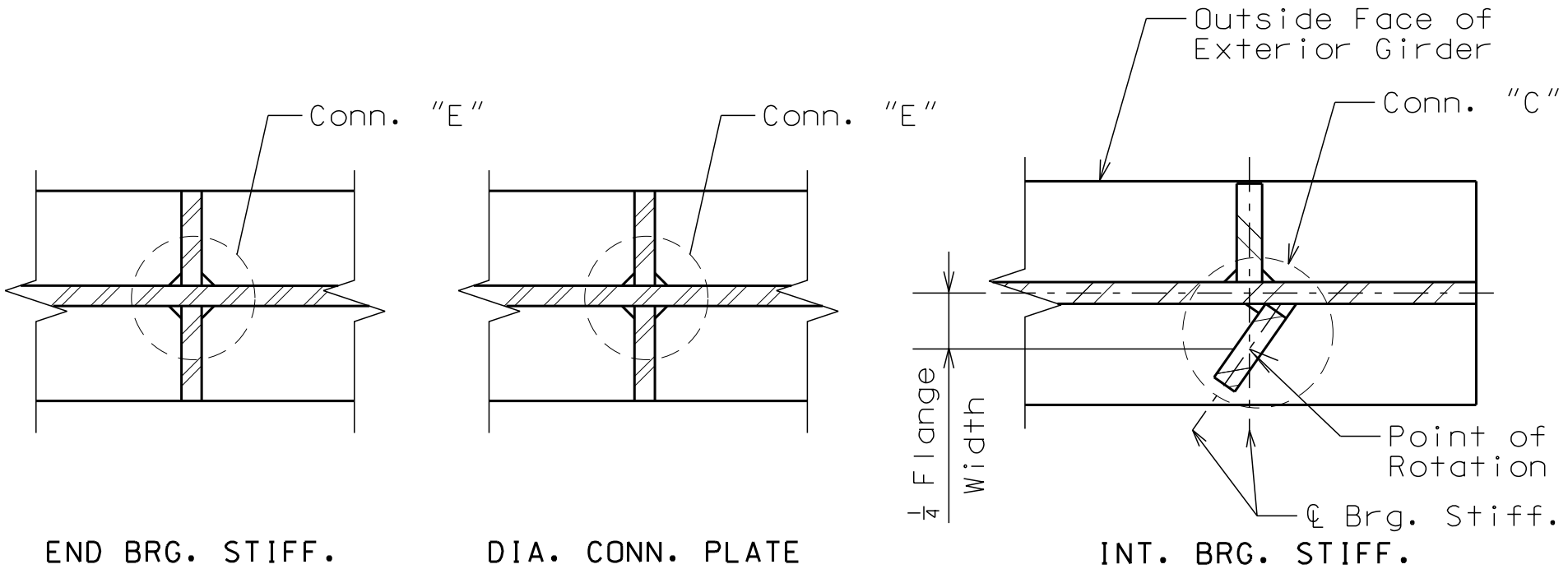


INT. BENT DIAPHRAM DATA	
INT. BENT DIAPHRAM	DIM. A
BENT 2	
GIRDER 1-2	10'-11 <sup>5</sup> / <sub>8</sub> "
GIRDER 2-3	10'-10 <sup>1</sup> / <sub>2</sub> "
GIRDER 3-4	10'-9 <sup>7</sup> / <sub>16</sub> "
GIRDER 4-5	10'-8 <sup>1</sup> / <sub>2</sub> "
BENT 3	
GIRDER 1-2	10'-11 <sup>5</sup> / <sub>8</sub> "
GIRDER 2-3	10'-10 <sup>1</sup> / <sub>2</sub> "
GIRDER 3-4	10'-9 <sup>7</sup> / <sub>16</sub> "
GIRDER 4-5	10'-8 <sup>1</sup> / <sub>2</sub> "



TYPICAL PART SECTION SHOWING  
INTERMEDIATE DIAPHRAGMS  
TOP FLANGE IN TENSION

TYPICAL PART SECTION SHOWING  
INTERMEDIATE DIAPHRAGMS  
BOTTOM FLANGE IN TENSION



## STEEL DIAPHRAGM DETAILS

Note: This drawing is not to scale. Follow dimensions.

Notes:

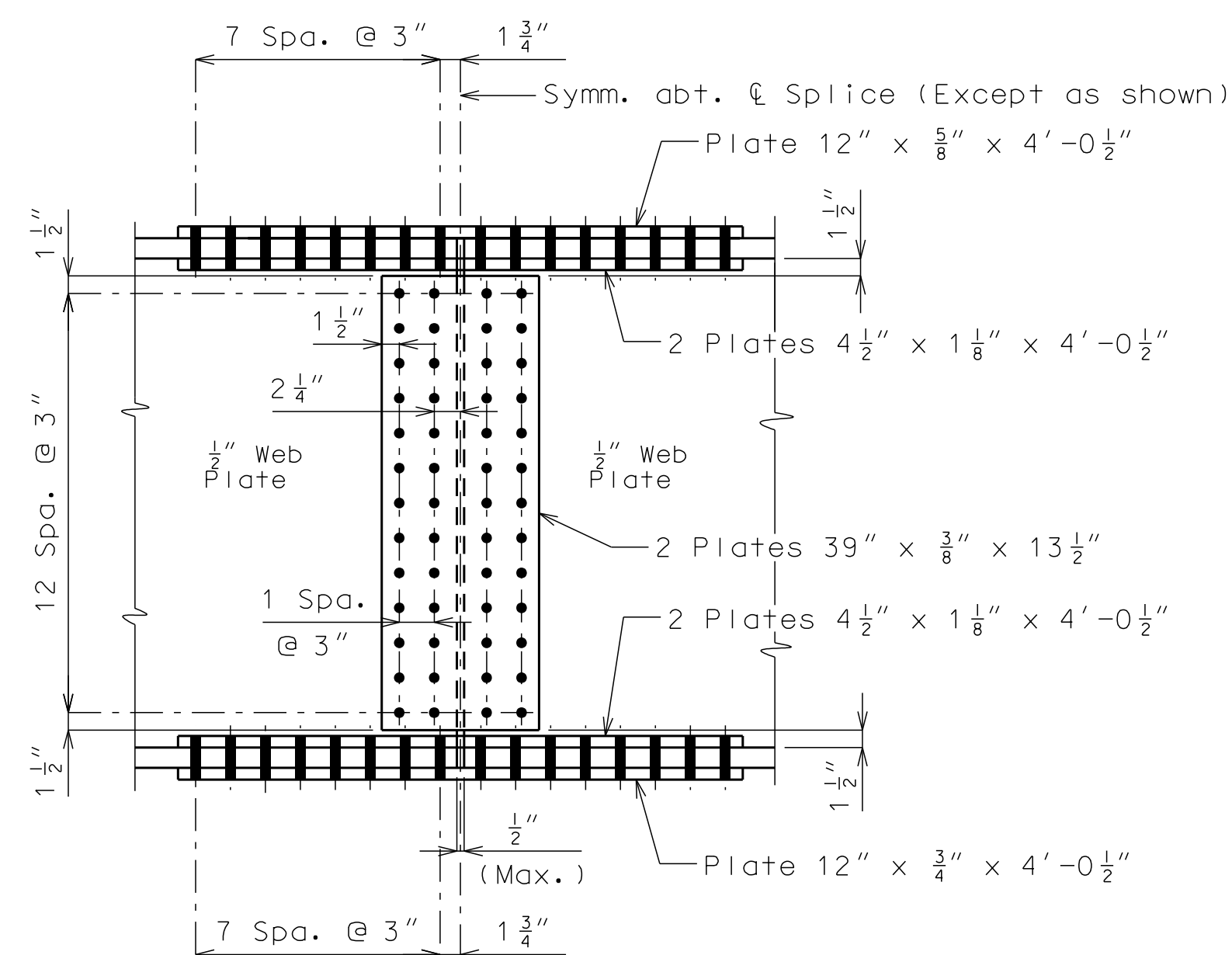
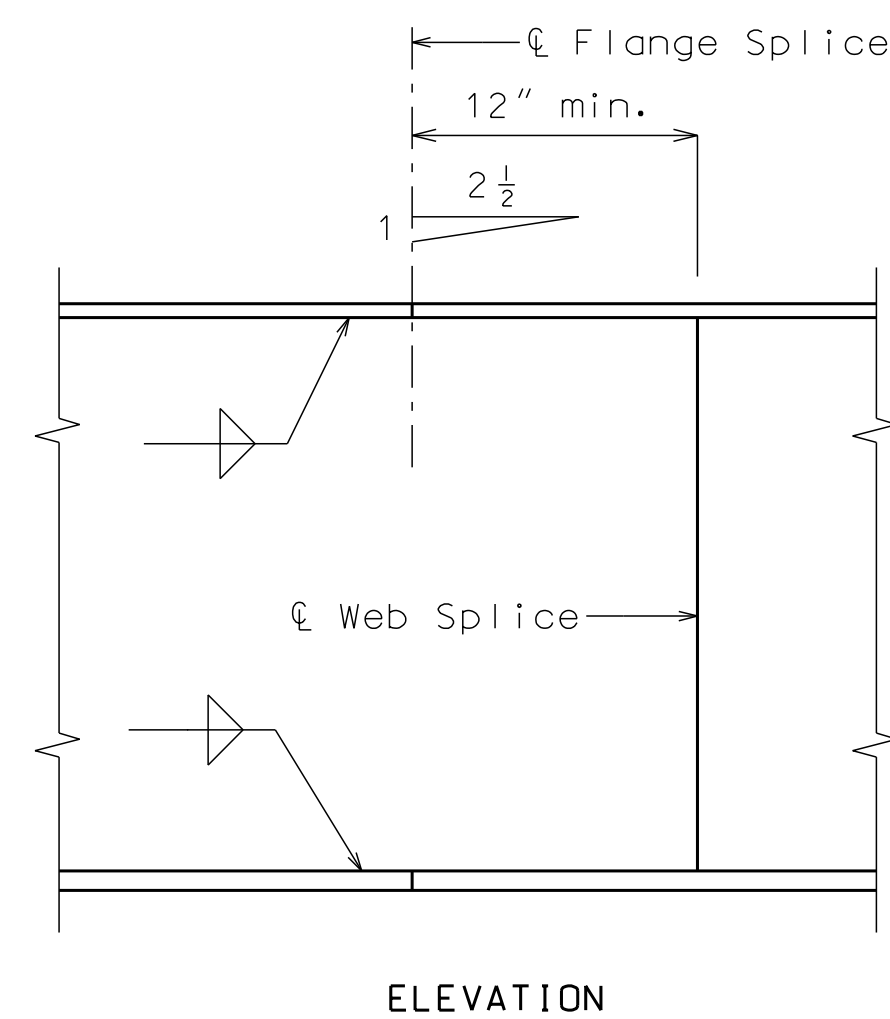
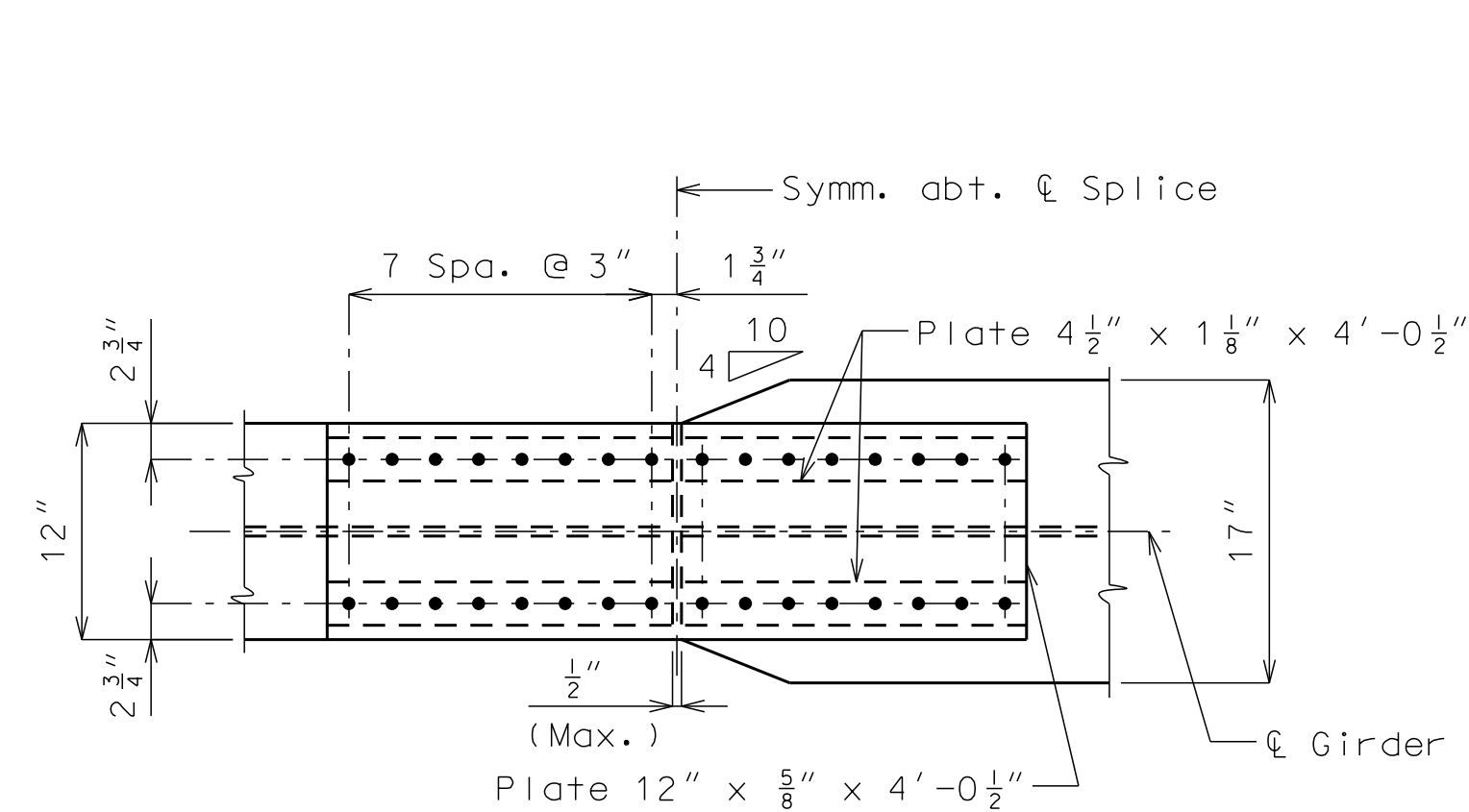
All structural steel for diaphragms shall conform to the requirements of ASTM A709 Grade 50W.

All bolts shall be 3/4 inch high strength steel bolts with 13/16 inch Ø holes.

For locations of diaphragms, see Girder Elevation Sheets No. 17-21.

For Structural Steel Notes, see Plan of Structural Steel Sheet No. 16.

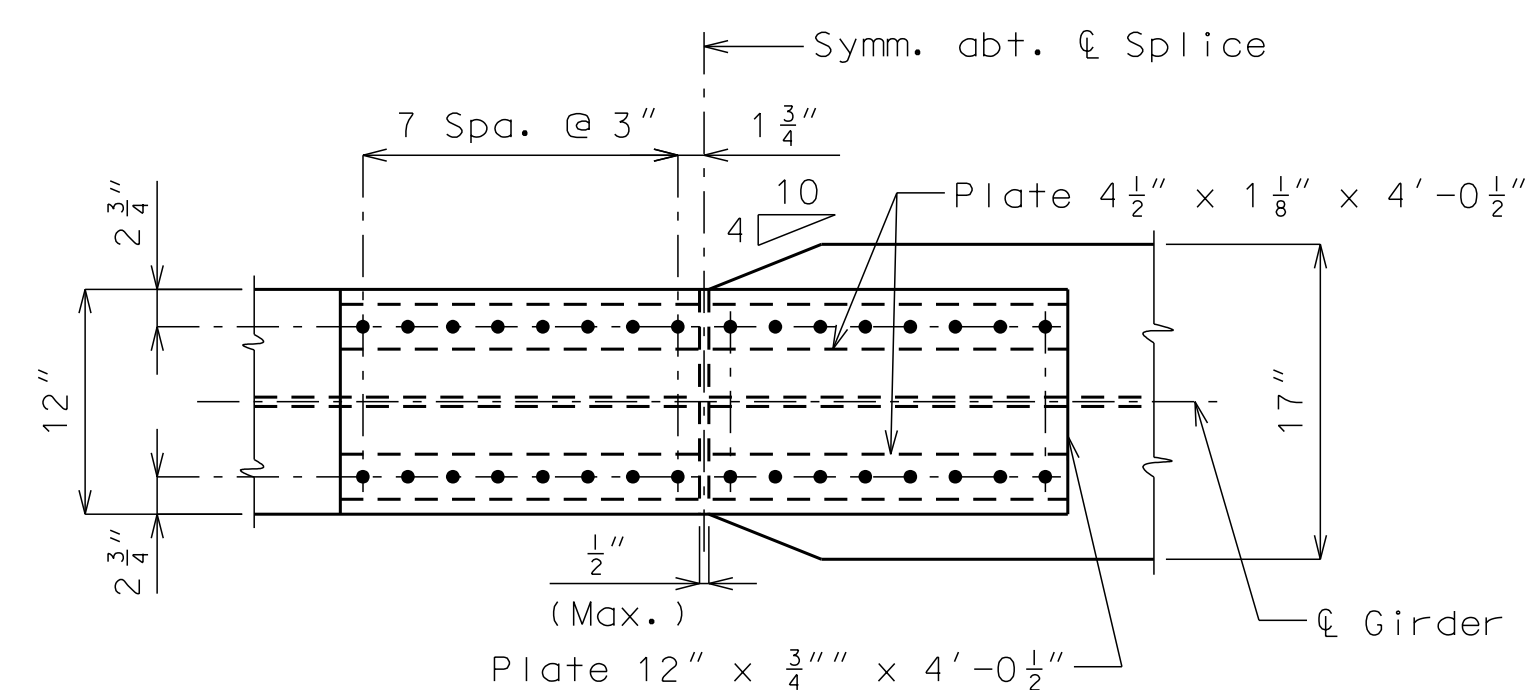




DETAIL OF BOLTED FIELD SPLICE

Use 7/8"Ø high strength bolts with 15/16"Ø holes.

Contact surfaces shall be in accordance with Sec 1081 for surface preparation.



WELDED SHOP WEB AND FLANGE SPLICE

Welded shop web and flange splices may be permitted when detailed on the shop drawings and approved by the engineer. No additional payment will be made for optional welded shop web and flange splices.

Splice detail is  
approximate and subject to change

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	<div>JOSHUA J. MILLER PROFESSIONAL ENGINEER PE-2009010386</div>		<div>Bridge Plans</div> <div>Paragon Star Development</div> <div>Kansas City, Missouri</div>	
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Reinforcement shown is approximate and subject to change

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25	33

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1/4" Joint Filler (Barrier curb only)

Int. Bent

Roadway Face of Barrier Curb

PART PLAN OF BARRIER JOINT ON LEFT BARRIER CURB AT INTERMEDIATE BENT

Roadway Face of Barrier Curb

Int. Bent

1/4" Joint Filler (Barrier curb only)

PART PLAN OF BARRIER JOINT ON RIGHT BARRIER CURB AT INTERMEDIATE BENT

59'-5 3/8" SPAN (1-2) 70'-0" SPAN (2-3) 59'-5 3/8" SPAN (3-4)

60-#6-S1 @ 6" 315-#6-S2 @ 6" 60-#5-S1 @ 6"

25'-1" 35'-8" 35'-8" 8'-0" 9'-11" 25'-1"

9'-11" 8'-0" 35'-8" 8'-0" 9'-11" 25'-1"

5" (Typ.) 15" (Typ.) 5" (Typ.) #5-S3

End of Slab @ End Bent No. 1

Int. Bent No. 3

Int. Bent No. 2

41 Spa. @ 15" 42-#5-S3 4 units @ 15" 43-#8-S4 @ 15" 43-#8-S4 @ 15" 43-#8-S4 @ 15" 43-#8-S4 @ 15"

54'-7" 33'-9" 20'-10" 5" (Typ.)

TOP REINFORCEMENT

End of Slab @ End Bent No. 4

20 3/8"

59'-5 3/8" SPAN (1-2) 70'-0" SPAN (2-3) 59'-5 3/8" SPAN (3-4)

26-#5-S5 @ 6" 315-#5-S6 @ 6" 25-#5-S5 @ 6" 19'-2 3/8"

5" (Typ.) 21 Spa. @ 15" 22-#5-S3 4 units @ 15"

Int. Bent No. 3

Int. Bent No. 2

End of Slab @ End Bent No. 1

End of Slab @ End Bent No. 4

22 3/4" 3-#6-S7 @ 6"

373-#5-S7 @ 6"

3-#6-S7 @ 6" 5" (Typ.) 2 Spa. @ 1'-3" 3-#5-S3 4 units @ 1'-3"

Bottom Reinforcement

PLAN OF SLAB SHOWING REINFORCING

Note: This drawing is not to scale. Follow dimensions.

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TOTAL SHEETS

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Reinforcement shown is approximate and subject to change

Light Posts (Typ.)

10'-0" Sidewalk

2'-11"

15'-0" ±

18'-0"

3- 12'-0" Lanes

18'-0"

17'-0" ±

22"

12" Shy

4'-6"

4'-6"

12" Shy

#8-S4

#5-S3

#5-S3

8 1/2" (Typ.)

℄ Girder

3'-1 1/2"

5 Spa. @ 9'-4" = 46'-8"

54'-7" Bridge Width

2% Slope

Crown Grade

2% Slope

#6-S2

3" Precast P/S Panel (Typ. 3 Bays)

℄ Girder

3'-1 1/2"

#5-S3

#8-S4

#5-S3

#6-S7

Contractor may shift or swap bars as needed to tie R3 bar in barrier (4" min. bar spacing)

Contractor may shift bar as needed to tie R2 bar in barrier

OPTIONAL SHIFTING TOP BARS AT BARRIER

2% Cross Slope

℄ Roadway

Top of Slab

Crown of Slab

2'-0"

2'-0"

4'-0"

Parabolic Crown

DETAIL A

Const. Jt.

3"

8 1/2"

℄ 3/4" Drip Groove (Typ.)

DETAIL B

40'-8"

℄ Bent

℄ Structure

End of Slab @ End Bent No. 4

Const. Joint

End of Slab @ End Bent No. 1

47'-5 3/8"

22'-0"

13'-0"

48'-0"

18'-0"

9'-0"

41'-5 3/8"

69'-5 3/8"

79'-0"

50'-5 3/8"

SPAN (1-2)

SPAN (2-3)

SPAN (3-4)

	Sequence of Pours					Min. Rate of Pour Cu. Yds./Hr.
	Direction					
Basic Sequence	1	2	3	4	5	25
	Either Direction					
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.						
Alternate A Pours	1	5 + 2		4 + 3		25
	End to 5		1 to 4		2 to End	
Alternate B Pours	1 + 5 + 2		4 + 3			25
	End to 4		2 to End			
Alternate C Pours	1 + 5 + 2 + 4 + 3					25
	End to End					

The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

SLAB POURING SEQUENCE

Note: This drawing is not to scale. Follow dimensions.

Finish each side of joint with 1/4" radius edging tool

1"

3 1/2"

2 3/4"

2 1/4"

Key to extend full width of full depth slab

Const. Jt.

FULL DEPTH SLAB

Finish each side of joint with 1/4" radius edging tool

1"

2 3/4"

2 1/4"

Const. Joint (Extend full width of deck)

Panel Joint

\*\* Adjust the construction joint to a clearance of 6 inches minimum from the panel joint.

SLAB ON PANELS

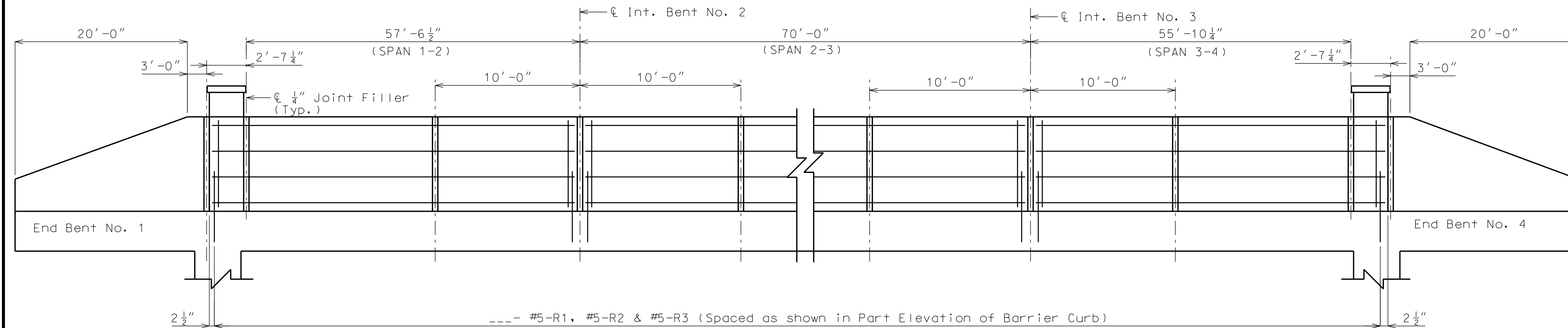
SLAB CONSTRUCTION JOINT

Notes:

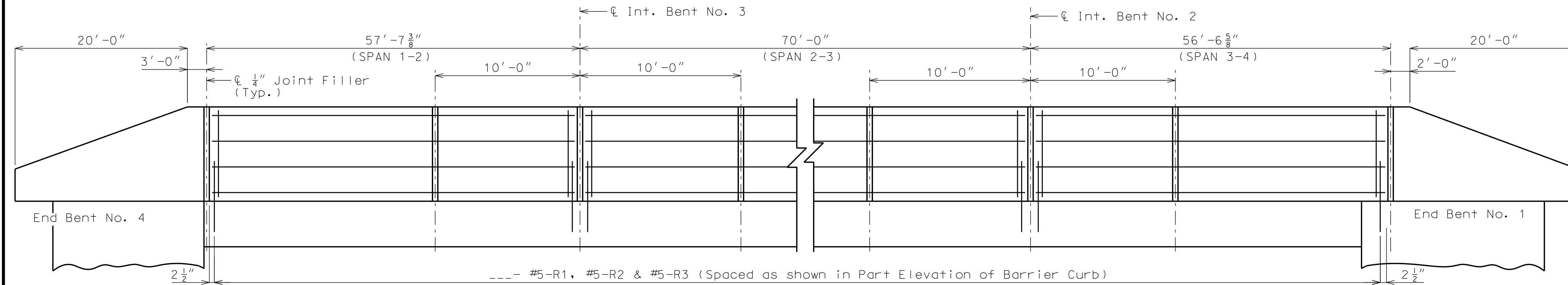
- For details of precast prestressed panels, see Sheet No. 21.
- For reinforcement of safety barrier curb not shown, see Sheets No. 29 & 30.
- For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 24.
- For Plan of Slab Showing Reinforcement, see Sheet No. 25.

SLAB DETAILS

West Bridge : 60% Plans

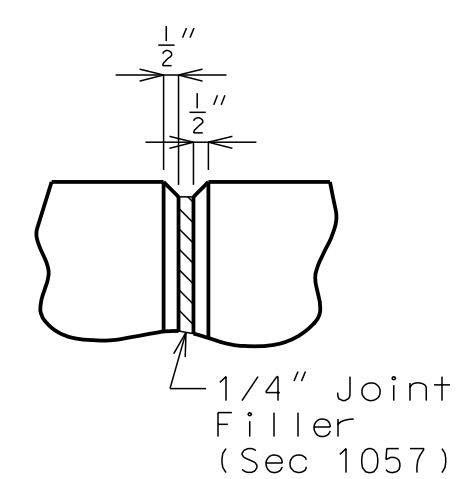


ELEVATION OF BARRIER CURB ON DECK

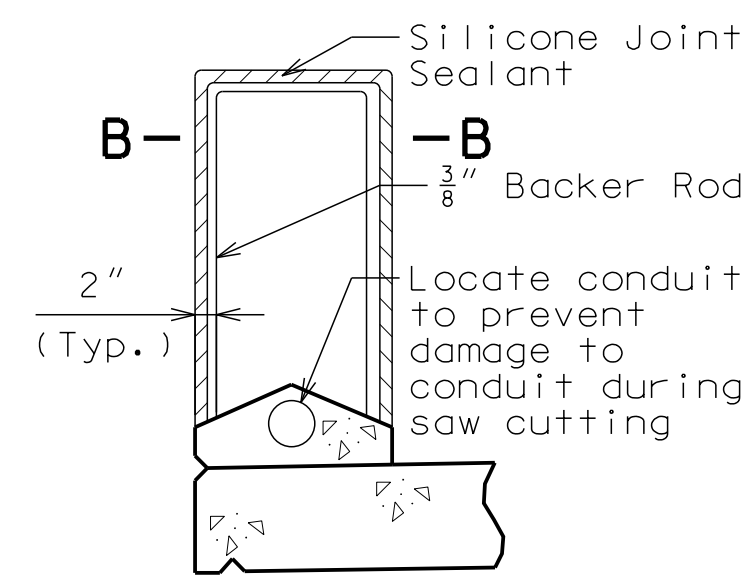


ELEVATION OF RIGHT BARRIER CURB

Longitudinal dimensions are horizontal.

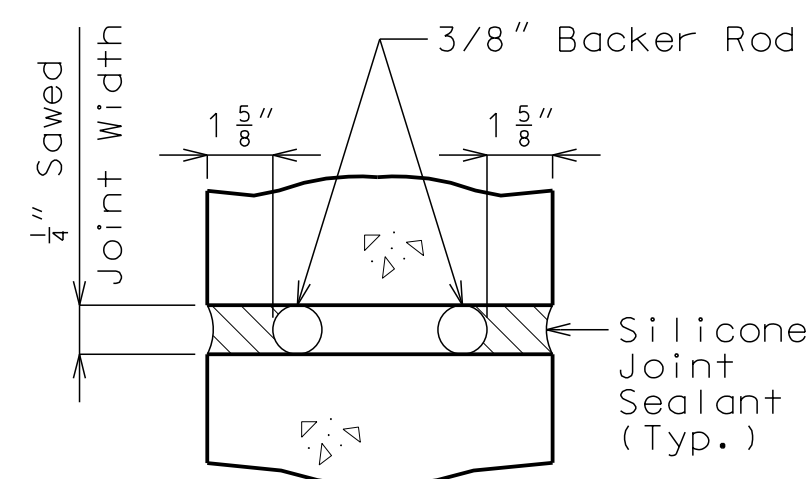


PART ELEVATION  
AT FORMED JOINT

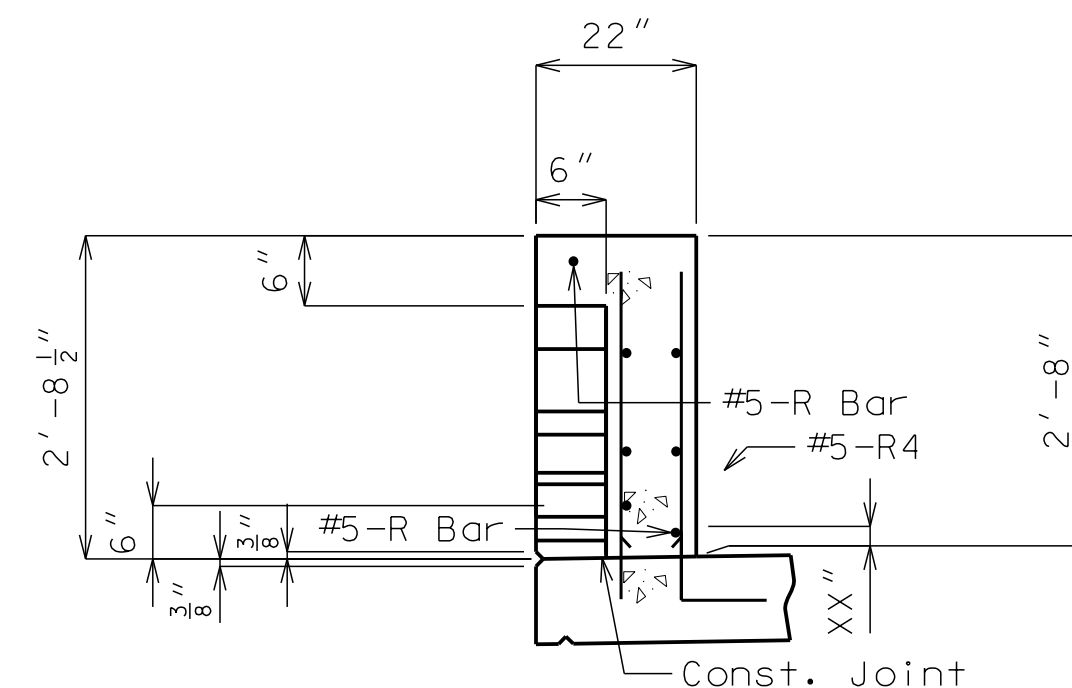


SECTION THRU  
SAW CUT JOINT

(Use when conduit is required)



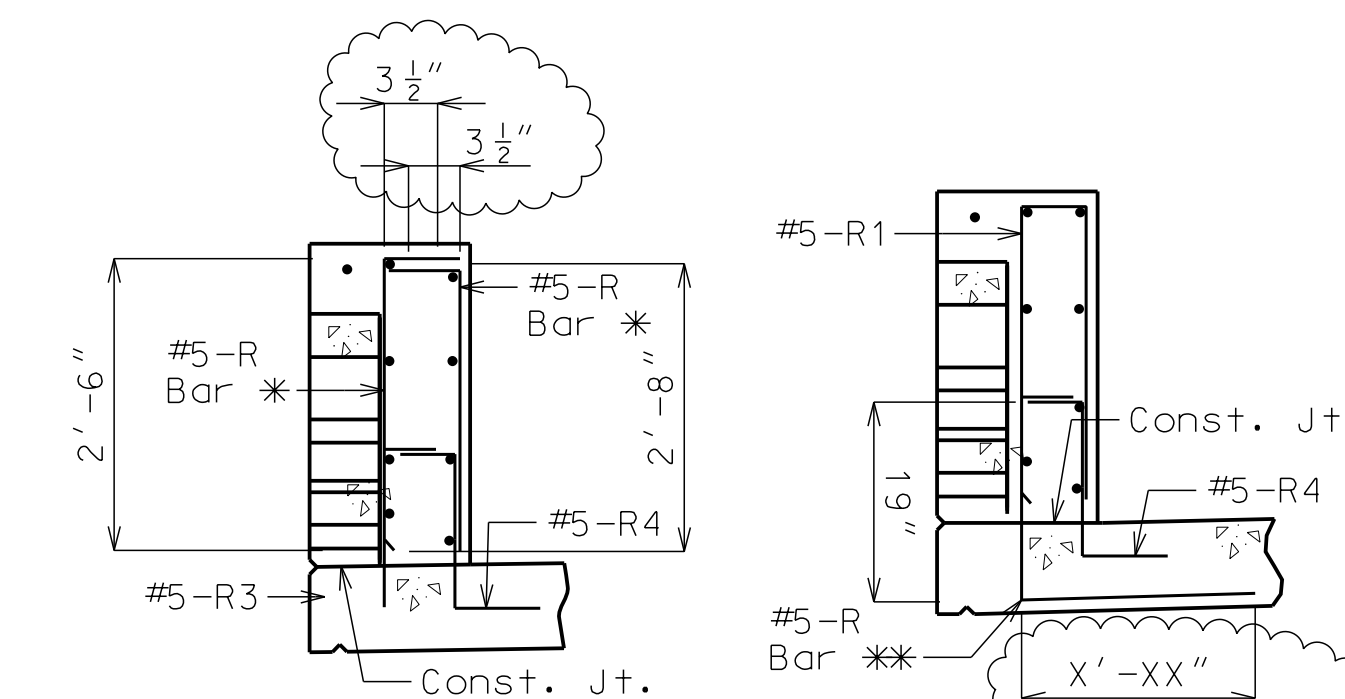
SECTION B-B



SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal safety barrier curb bars.

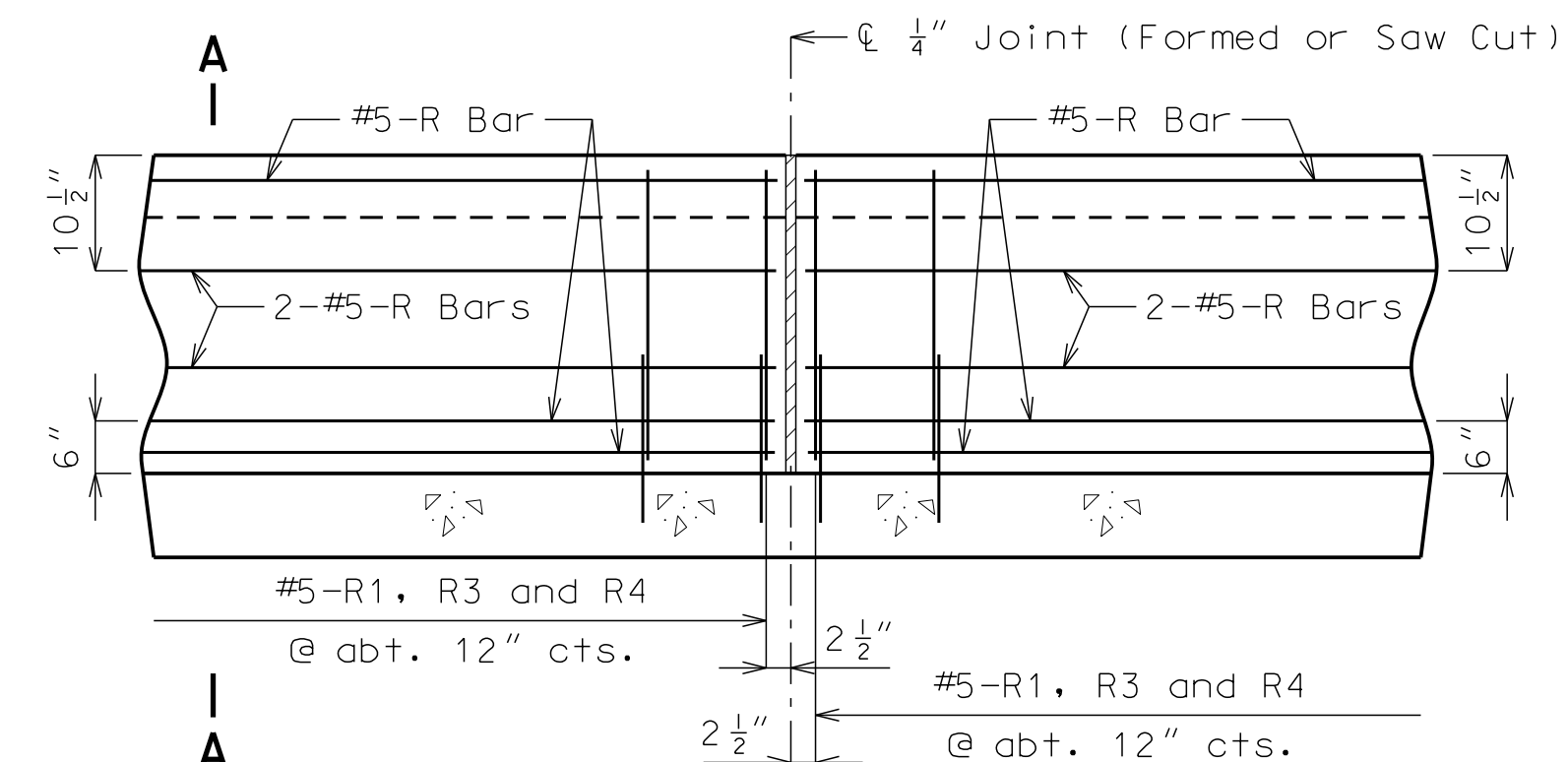
The cross-sectional area above the slab = X.XX sq. ft.



R-BAR PERMISSIBLE ALTERNATE SHAPE

\* The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

\*\* The R3 bar and #5 bottom transverse slab bar in cantilever (P/S panels only) combination may be furnished as one bar as shown, at the contractor's option.



PART ELEVATION OF SAFETY BARRIER CURB

## CONVENTIONAL-FORMED SAFETY BARRIER CURB

Note: This drawing is not to scale. Follow dimensions.

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DRAWN BY: DWM

PROJECT NO.: 12720

SHEET NO. TOTAL SHEETS

27

33

JOSHUA J. MILLER  
PROFESSIONAL ENGINEER  
PE-2009010386

Bridge Plans  
**Paragon Star Development**  
Kansas City, Missouri

NO. DATE

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approximate and subject to change

## General Notes

Top of safety barrier curb shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of safety barrier curb shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

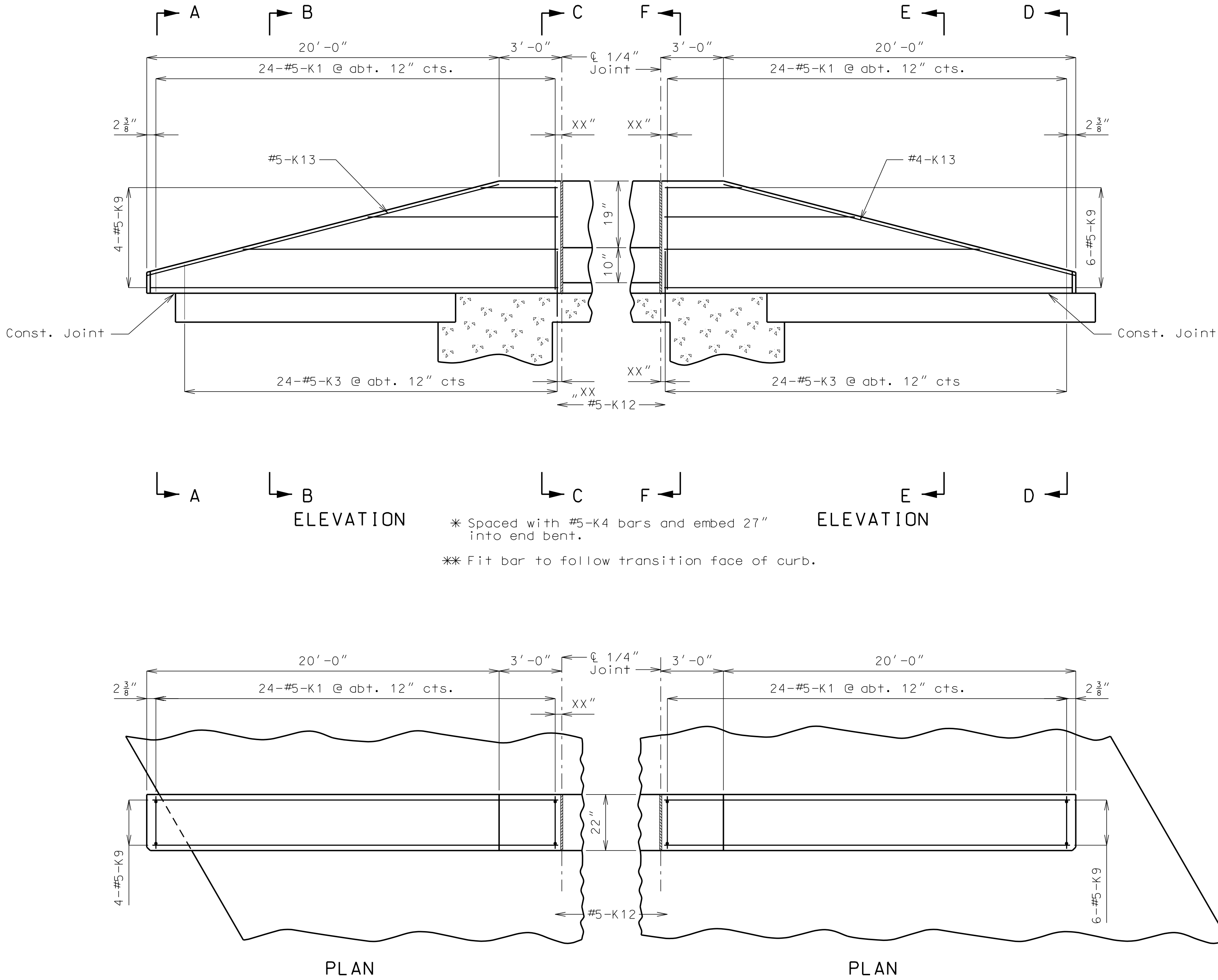
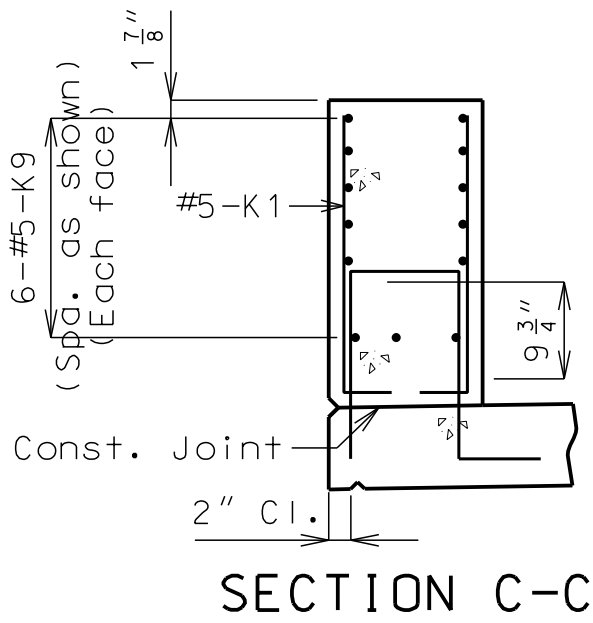
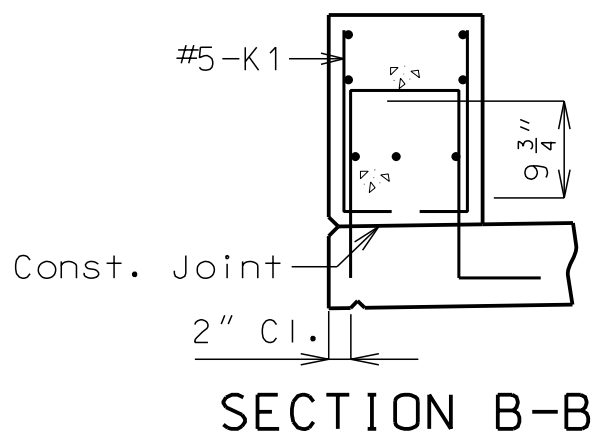
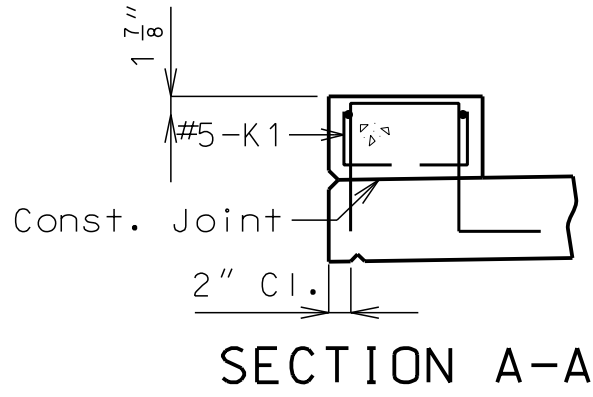
Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Safety Barrier Curb.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Plastic waterstop shall not be used with saw cut joints.

West Bridge : 60% Plans

Architect 00212, Professional Engineer 000133, Landscape Architect 000025, Professional Land Surveyor 000059



General Notes

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two way traffic shall have retrorreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Safety Barrier Curb.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

Use a minimum lap of 2'-7" between K9 and K10 or K13 bars.

CONVENTIONAL-FORMED SAFETY BARRIER CURB  
AT END BENTS ON CONCRETE APPROACH SLAB

(Left barrier curb shown, right barrier curb similar)

Note: This drawing is not to scale. All dimensions are in feet and inches.

Sheet No. of

"PRELIMINARY  
PLANS NOT  
APPROVED FOR  
CONSTRUCTION."

**GBA**  
architects  
engineers

9801 Renner Boulevard  
Lenexa, Kansas 66219  
913.492.0400  
www.gbateam.com

DATE: 10-11-19  
DESIGN BY: JJM  
DRAWN BY: DWM  
PROJECT NO.: 12720

SHEET NO.	TOTAL SHEETS
28	33

JOSHUA J. MILLER  
PROFESSIONAL ENGINEER  
PE-2009010386

Bridge Plans  
**Paragon Star Development**  
Kansas City, Missouri

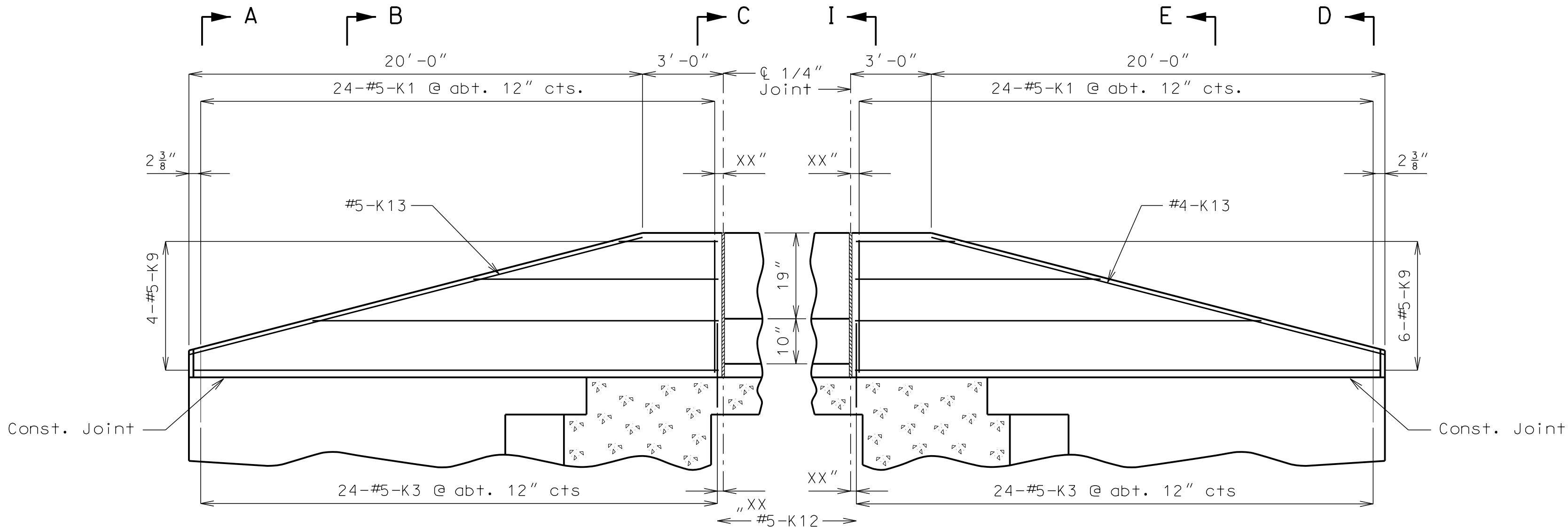
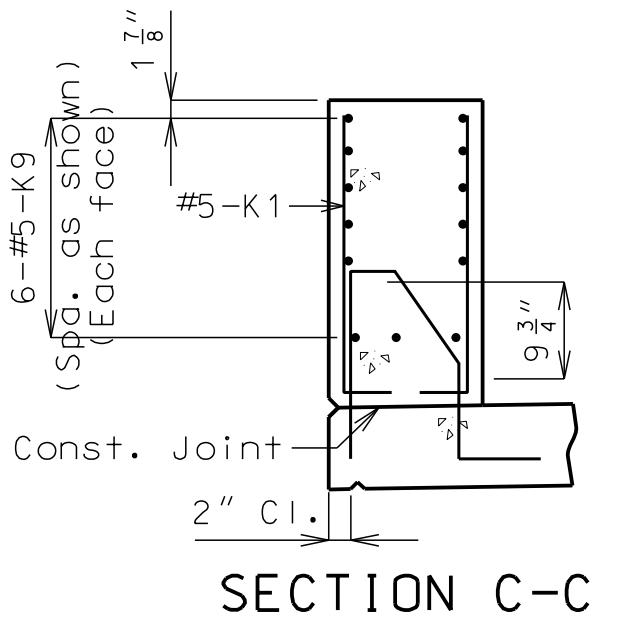
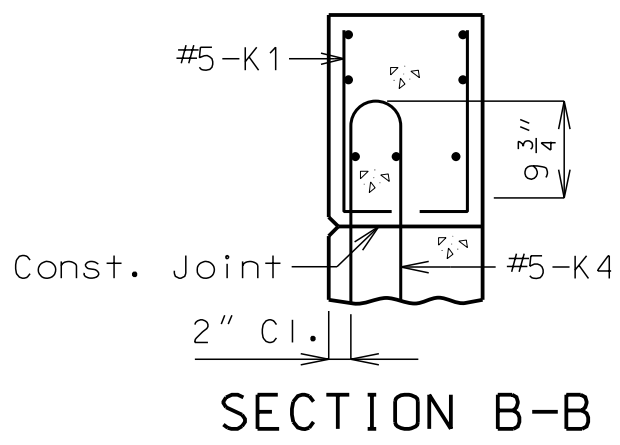
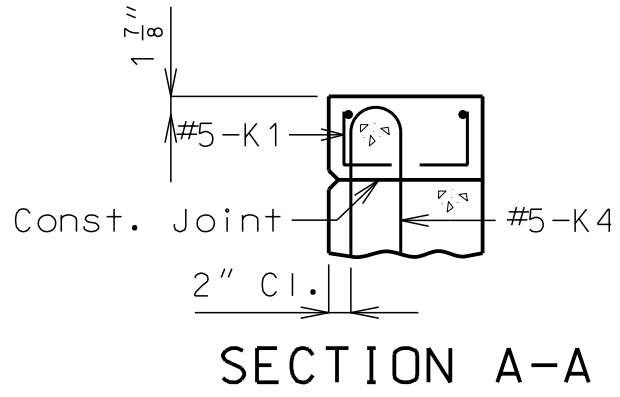
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Reinforcement shown is  
approximate and subject to change

Detailed  
Checked

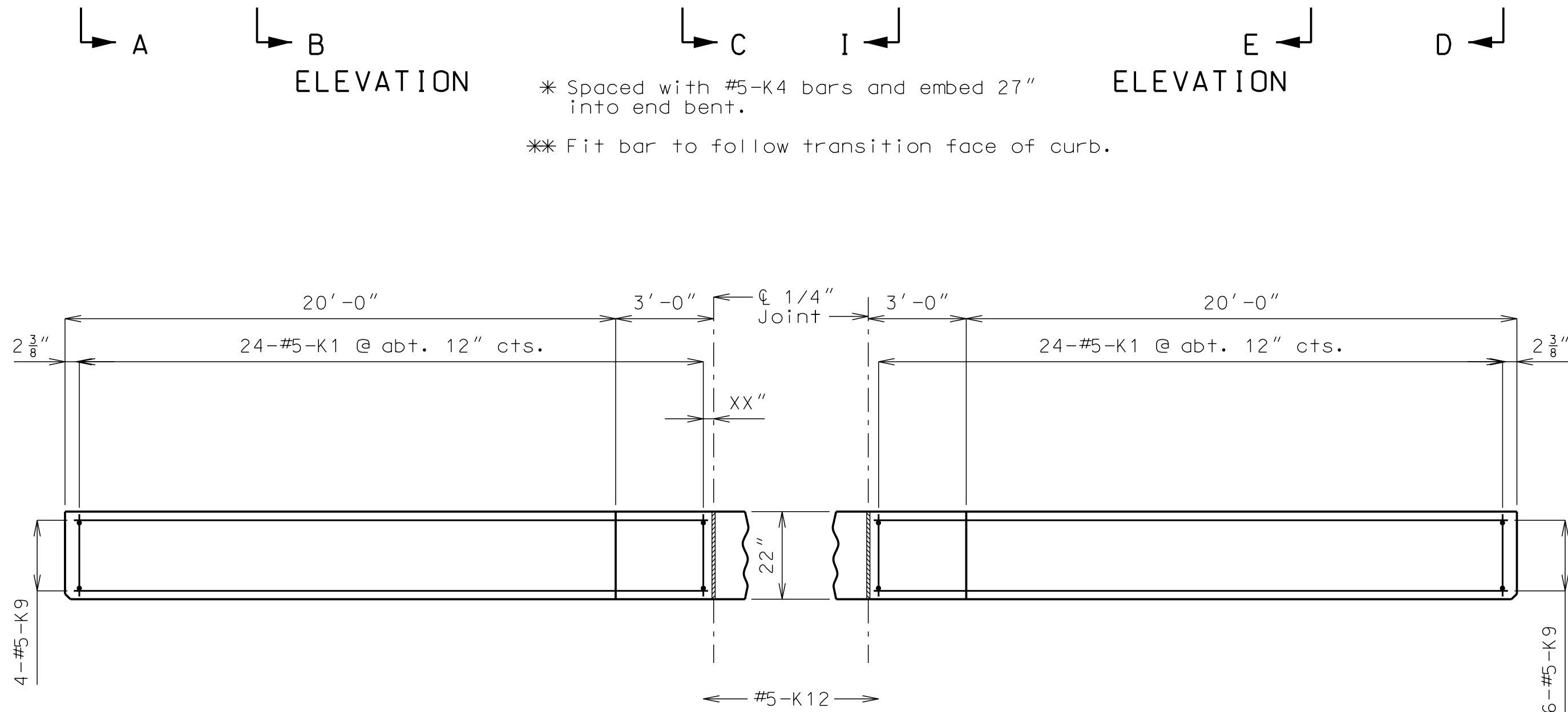


Architect 00212, Professional Engineer 000133, Landscape Architect 000025, Professional Land Surveyor 000059



\* Spaced with #5-K4 bars and embed 27" into end bent.

\*\* Fit bar to follow transition face of curb.



### General Notes

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Safety Barrier Curb.

### Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

Use a minimum lap of 2'-7" between K9 and K10 or K13 bars.

## CONVENTIONAL-FORMED SAFETY BARRIER CURB AT END BENTS ON WING

(Left barrier curb shown, right barrier curb similar)

Note: This drawing is not to scale. All dimensions are in feet and inches.

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**Paragon Star Development**  
Kansas City, Missouri

NO. DATE

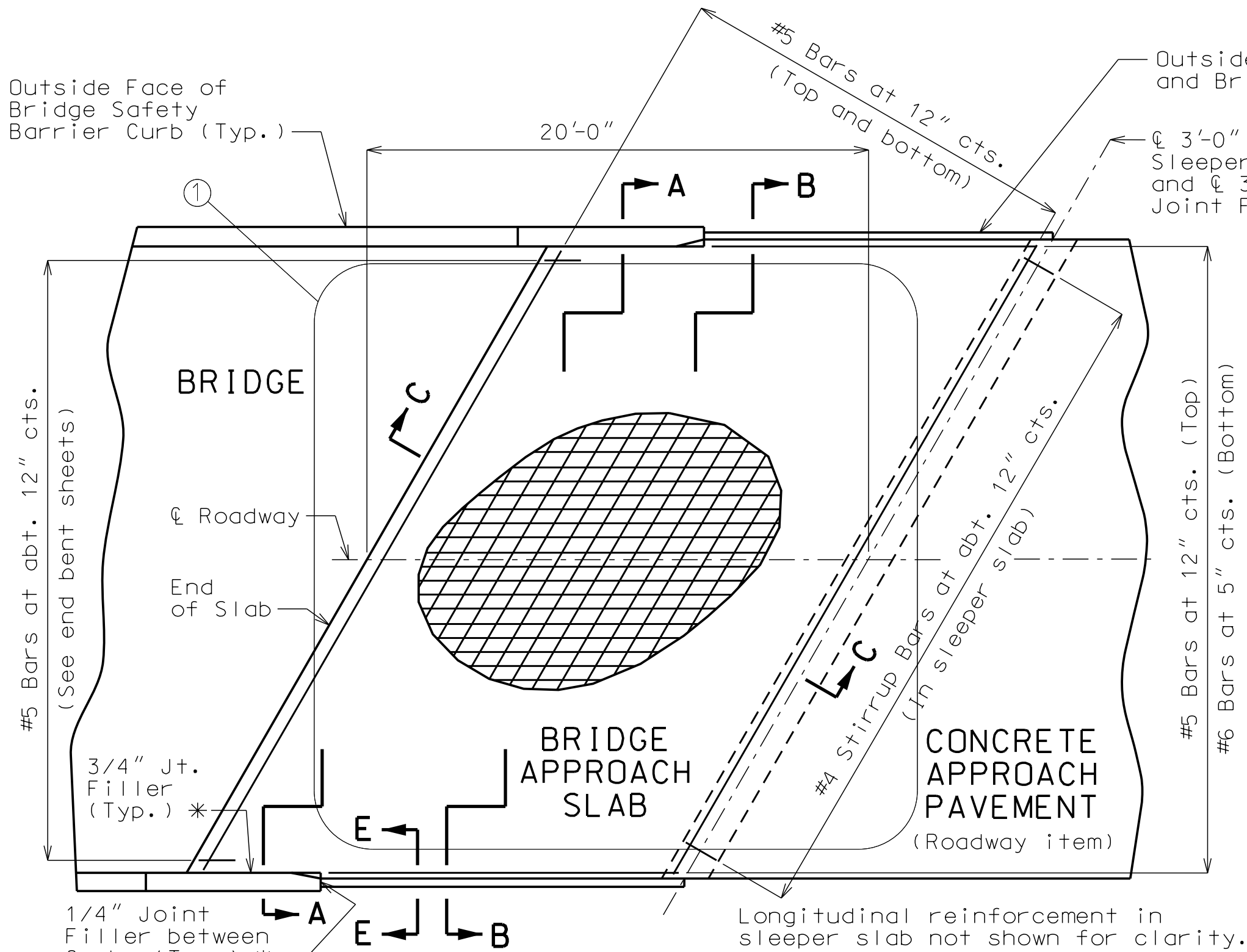
REVISIONS BY APPROVED

Reinforcement shown is  
approximate and subject to change

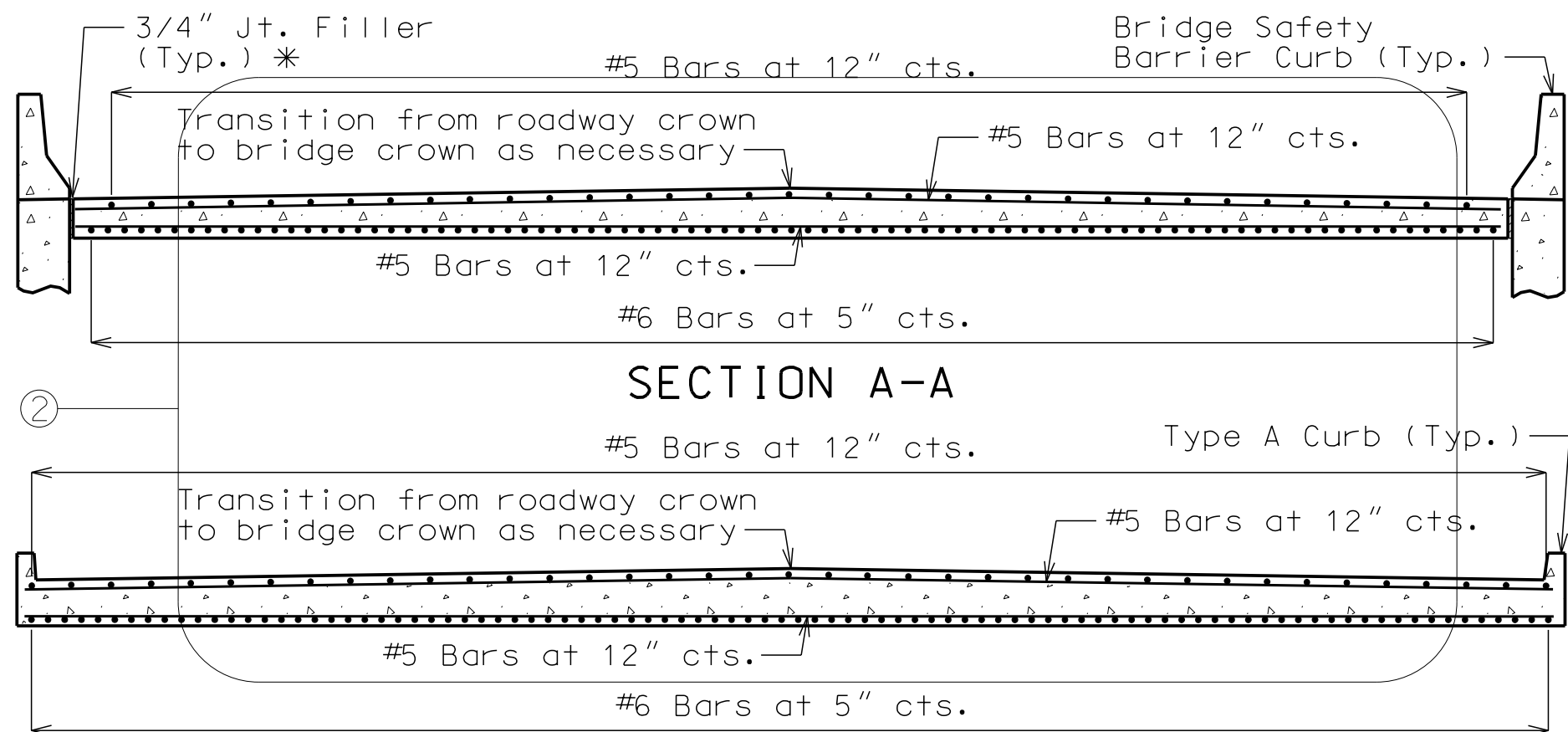
Detailed  
Checked

West Bridge : 60% Plans

Architect 00212, Professional Engineer 000133, Landscape Architect 000025, Professional Land Surveyor 000059

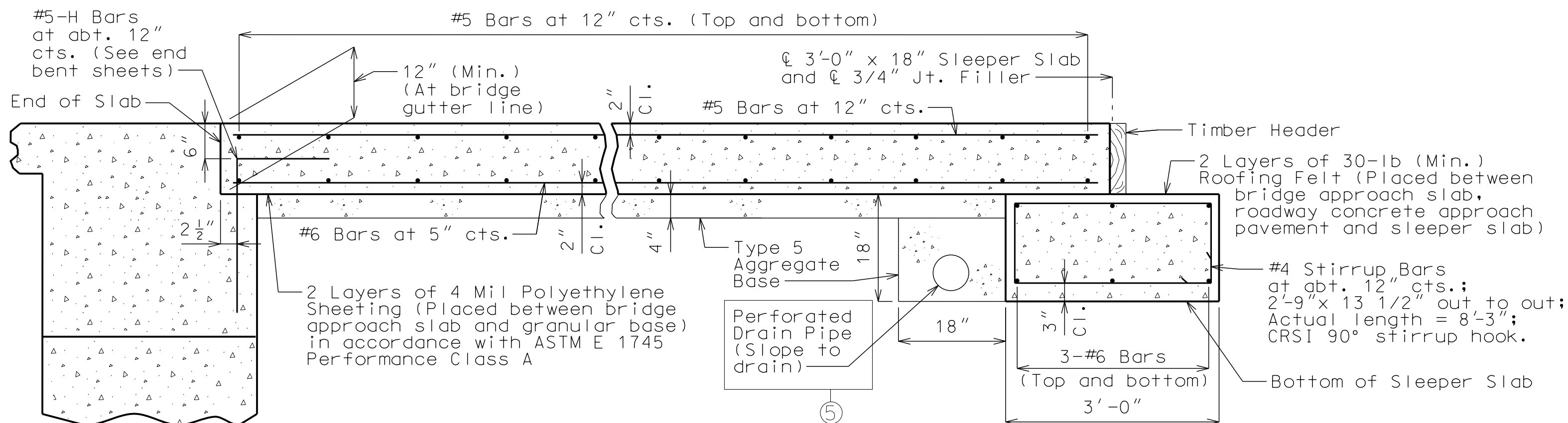


PART PLAN SHOWING REINFORCEMENT



SECTION B-B

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION C-C

## DETAILS OF BRIDGE APPROACH SLAB (MAJOR ROAD)

Note: This drawing is not to scale. Follow dimensions.

Sheet No. of

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PROFESSIONAL ENGINEER  
PE-2009010386

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### General Notes:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #5 bars 29".

Mechanical bar splices shall be in accordance with Sec 710.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

The contractor shall pour and satisfactorily finish the bridge before pouring the bridge approach slab.

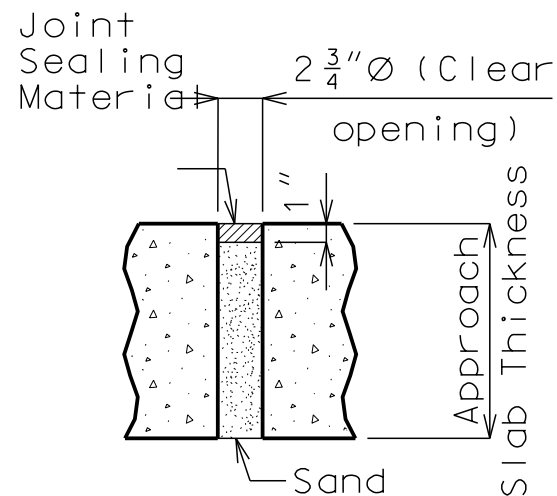
Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

For Concrete Approach Pavement details, see roadway plans.

See Missouri Standard Plans Drawing 609.00 for details of Type A Curb.

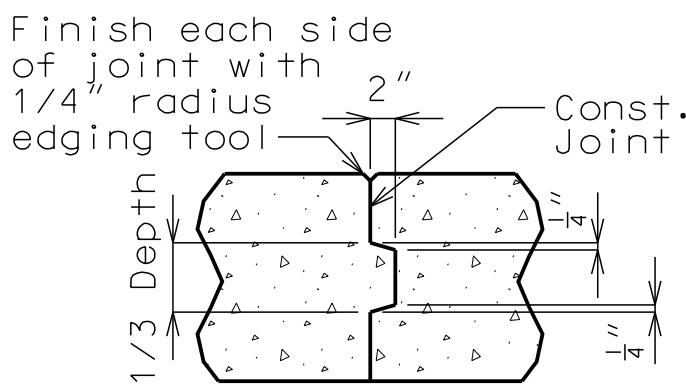
Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Major Road) per square yard.

\* Seal joint between vertical face of approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

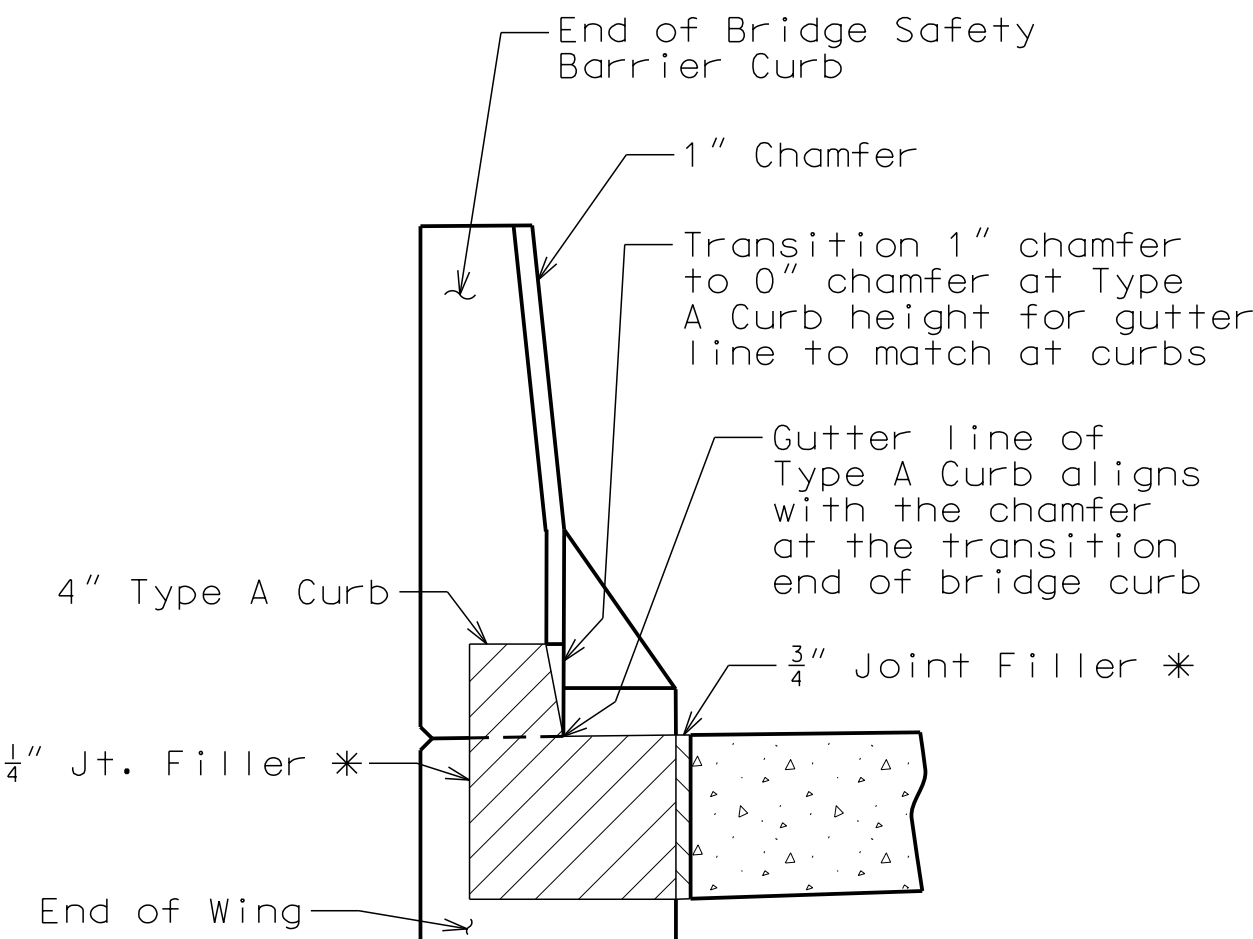


UNDERSEAL ACCESS  
HOLE DETAIL

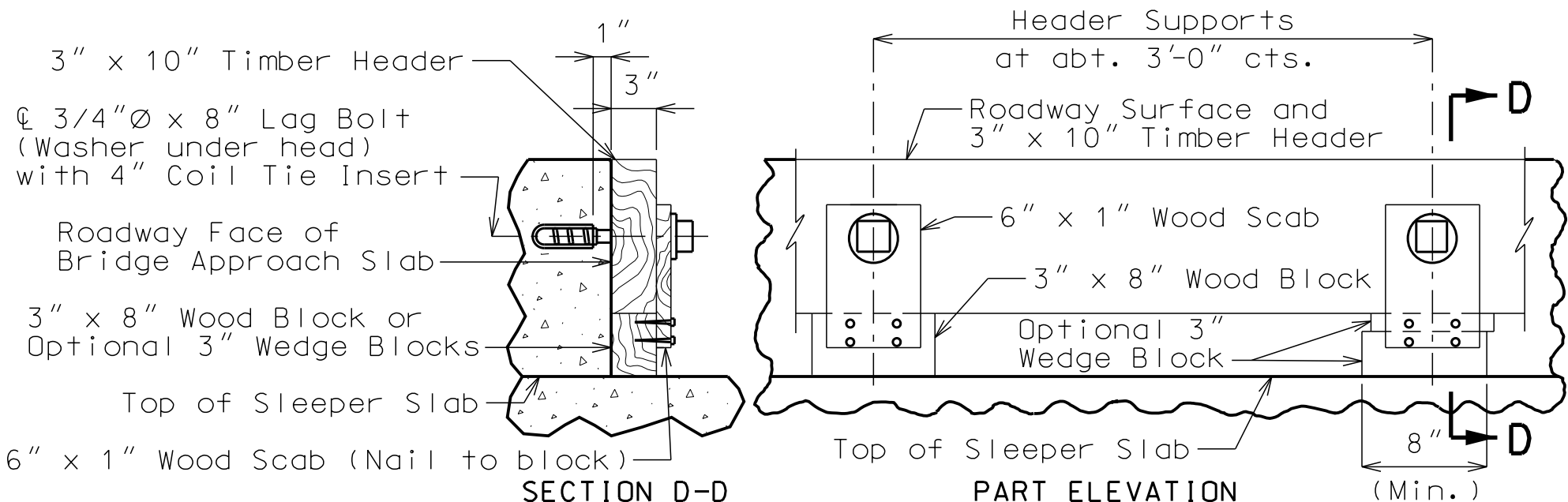
(If required)



CONST. JOINT DETAIL



SECTION E-E  
(Between curbs)



SECTION D-D  
DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

Detailed  
Checked

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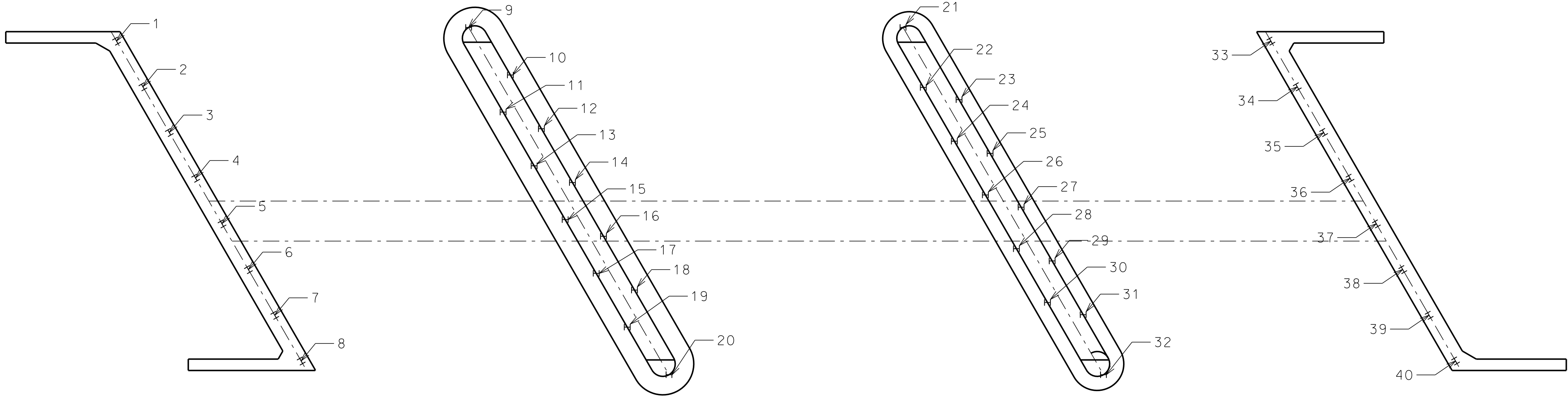
Bridge Plans

Paragon Star Development

Kansas City, Missouri

NO.	DATE	REVISIONS	BY	APPROVED

Quantity of piles is approximate.  
Location and length of piles is  
approximate and subject to change



As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
1					END BENT NO. 1
2					
3					
4					
5					
6					
7					
8					
					INT. BENT NO. 2
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
21					INT. BENT NO. 3
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
					END BENT NO. 4
33					
34					
35					
36					
37					
38					
39					
40					

Note:  
Indicate in remarks column:  
A. Pile type and grade  
B. Batter  
C. Driven to practical refusal  
D. PDA test pile  
E. Minimum tip elevation controlled  
(Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

This sheet to be completed by MoDOT construction personnel.

AS-BUILT PILE DATA

Note: This drawing is not to scale. Follow dimensions.

Architect 00212, Professional Engineer 00025, Landscape Architect 00025, Professional Land Surveyor 000259

WEST BRIDGE  
(58'-70'-58') PRESTRESSED CONCRETE NU-GIRDER SPANS

"PRELIMINARY  
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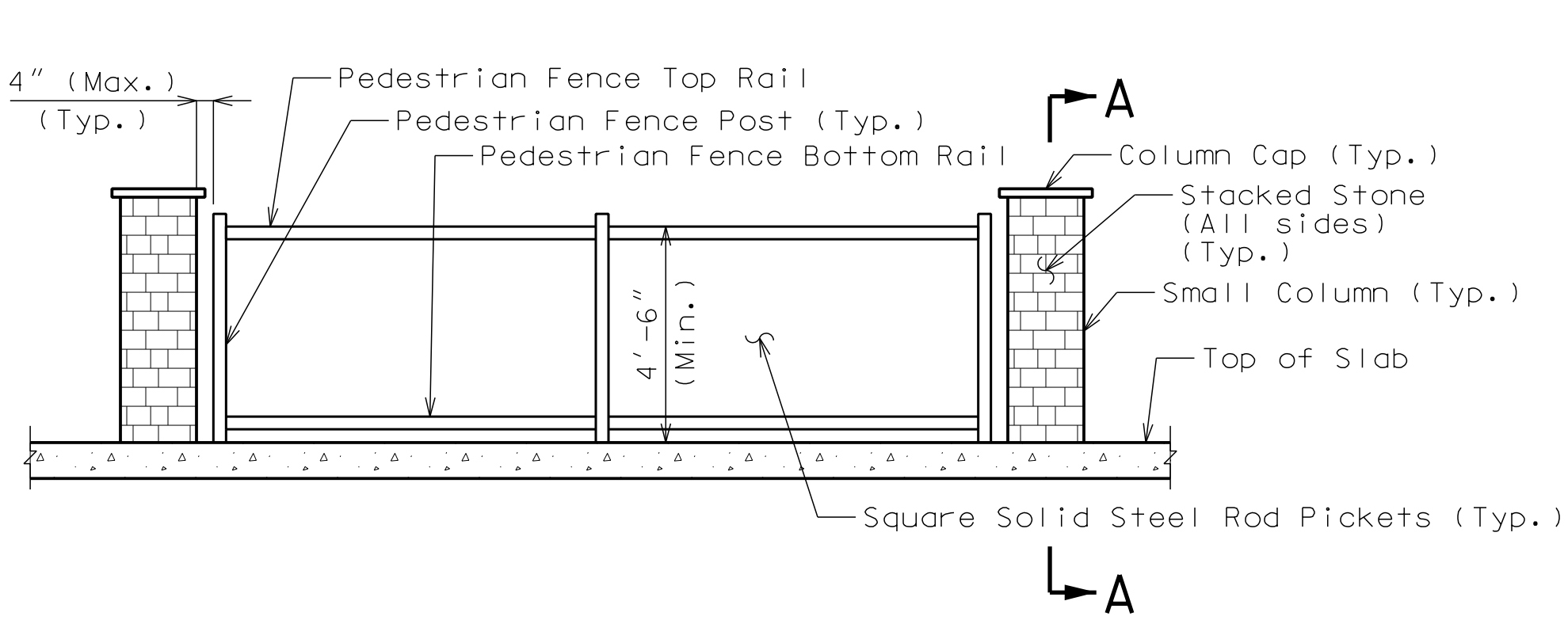
NO.	DATE	REVISIONS	BY	APPROVED

Notes:  
For Detail A, Detail B, Section A-A, B-B & C-C, see Sheet No. 5.

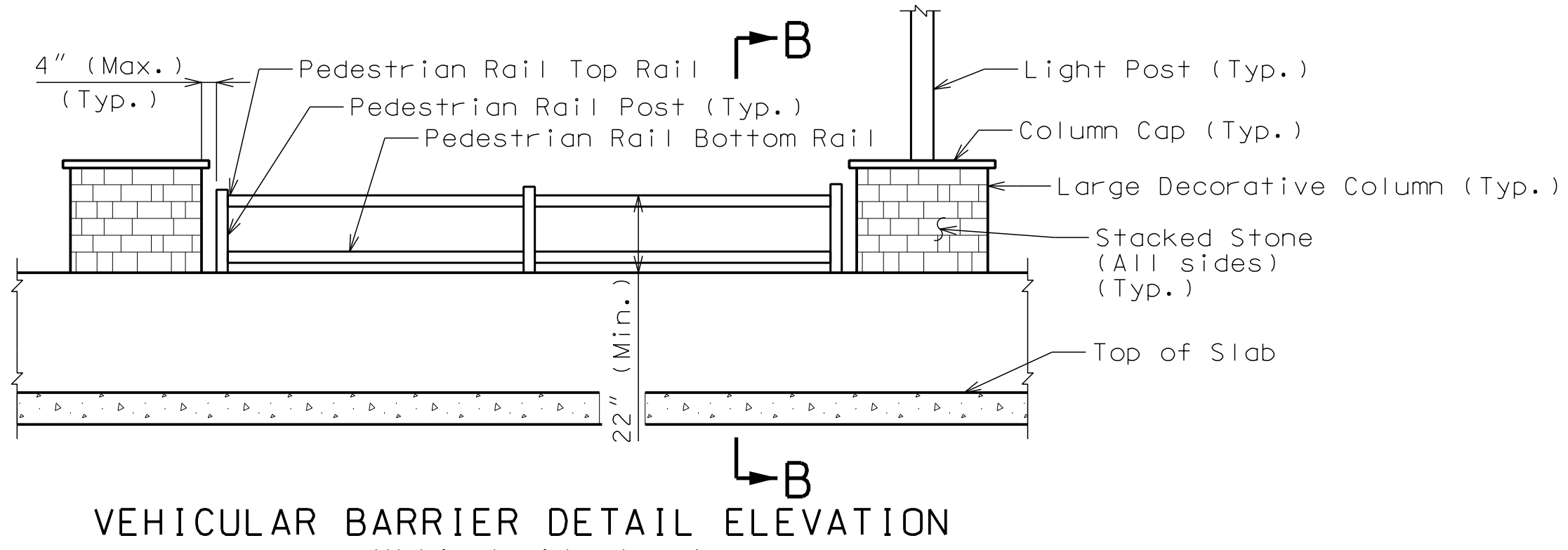
Note: This drawing is not to scale. Follow dimensions.

West Bridge : 60% Plans

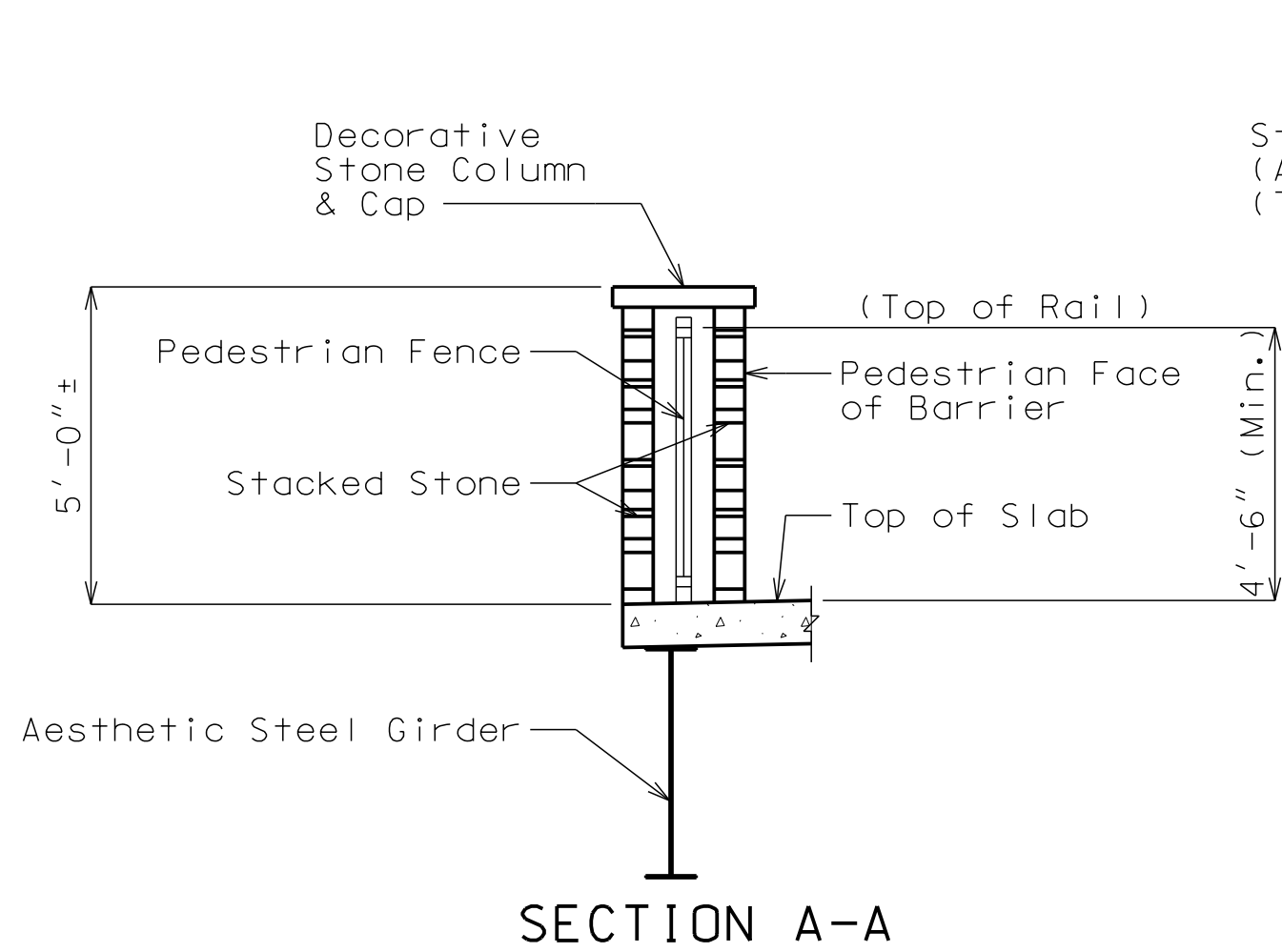
Architect 00212, Professional Engineer 000133, Landscape Architect 000025, Professional Land Surveyor 000059



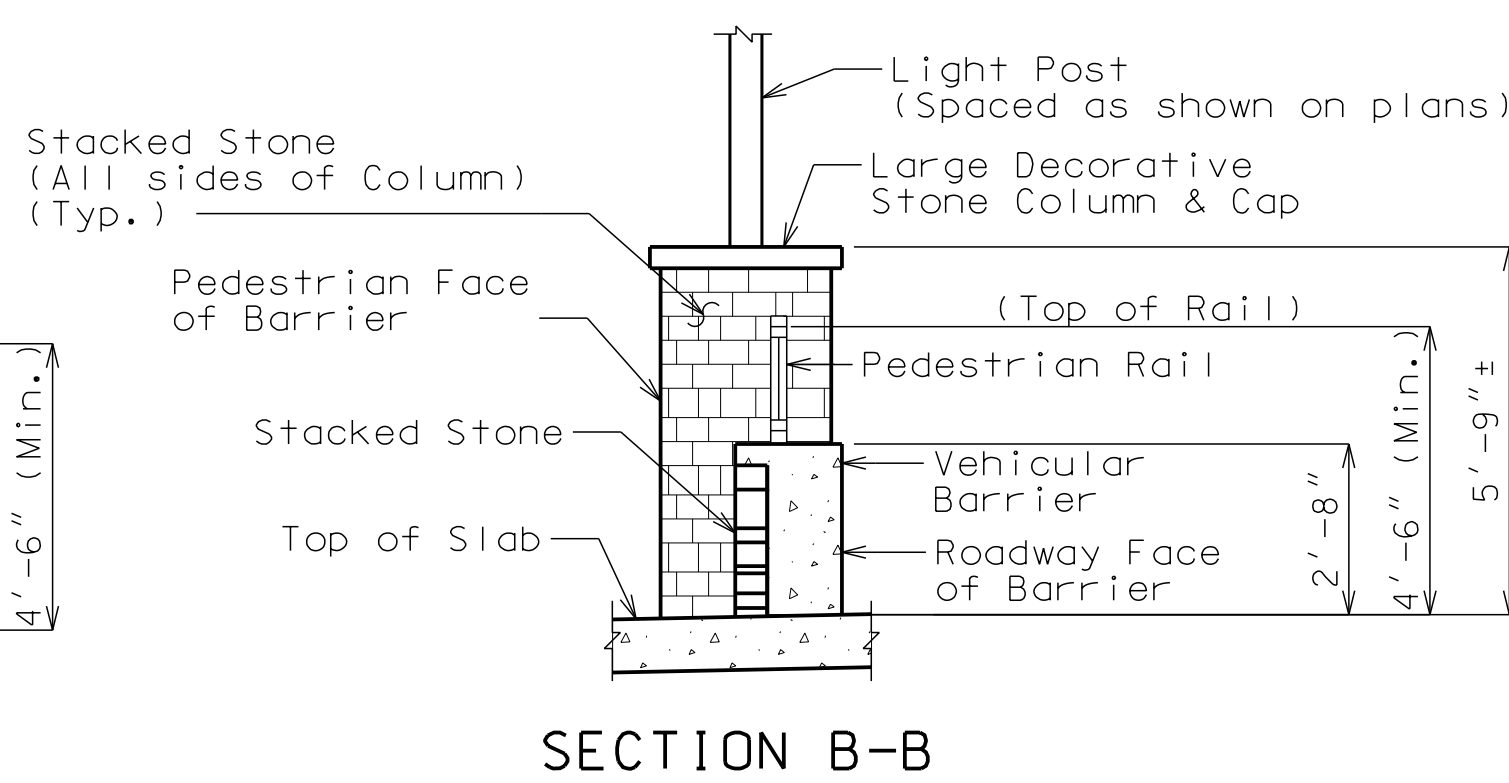
PEDESTRIAN FENCE DETAIL ELEVATION



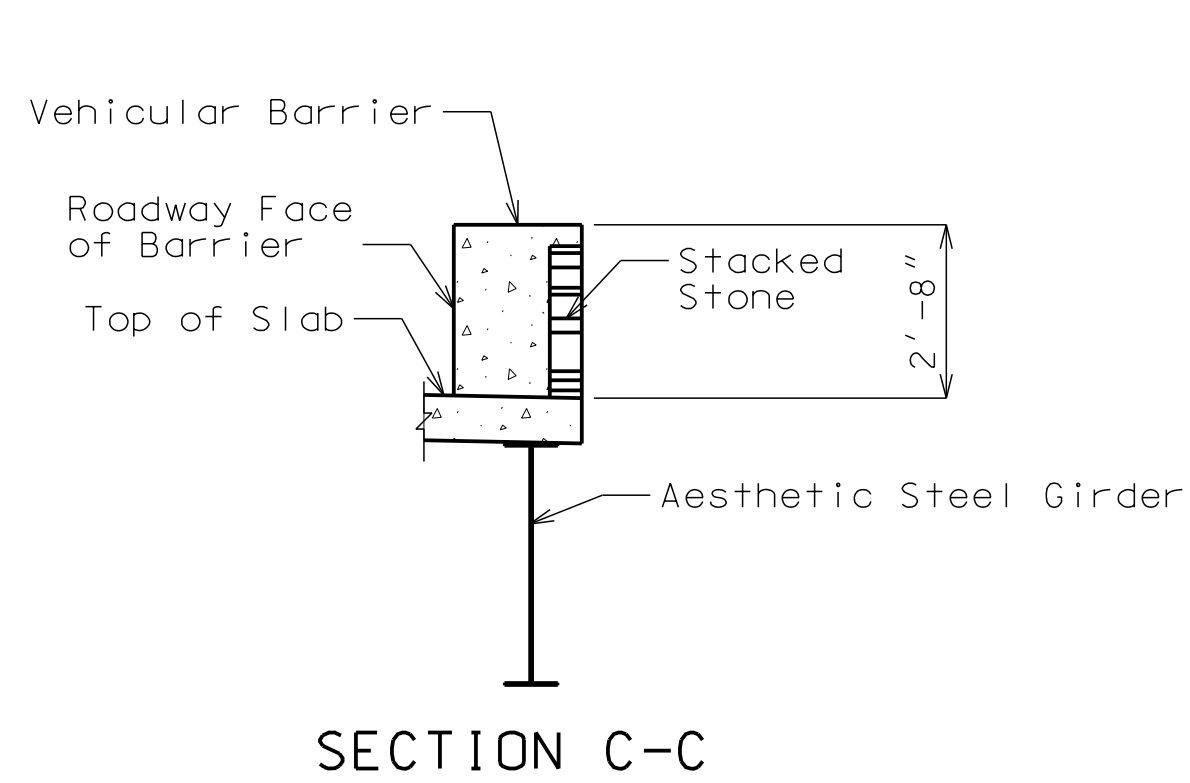
VEHICULAR BARRIER DETAIL ELEVATION  
(Vehical side shown)



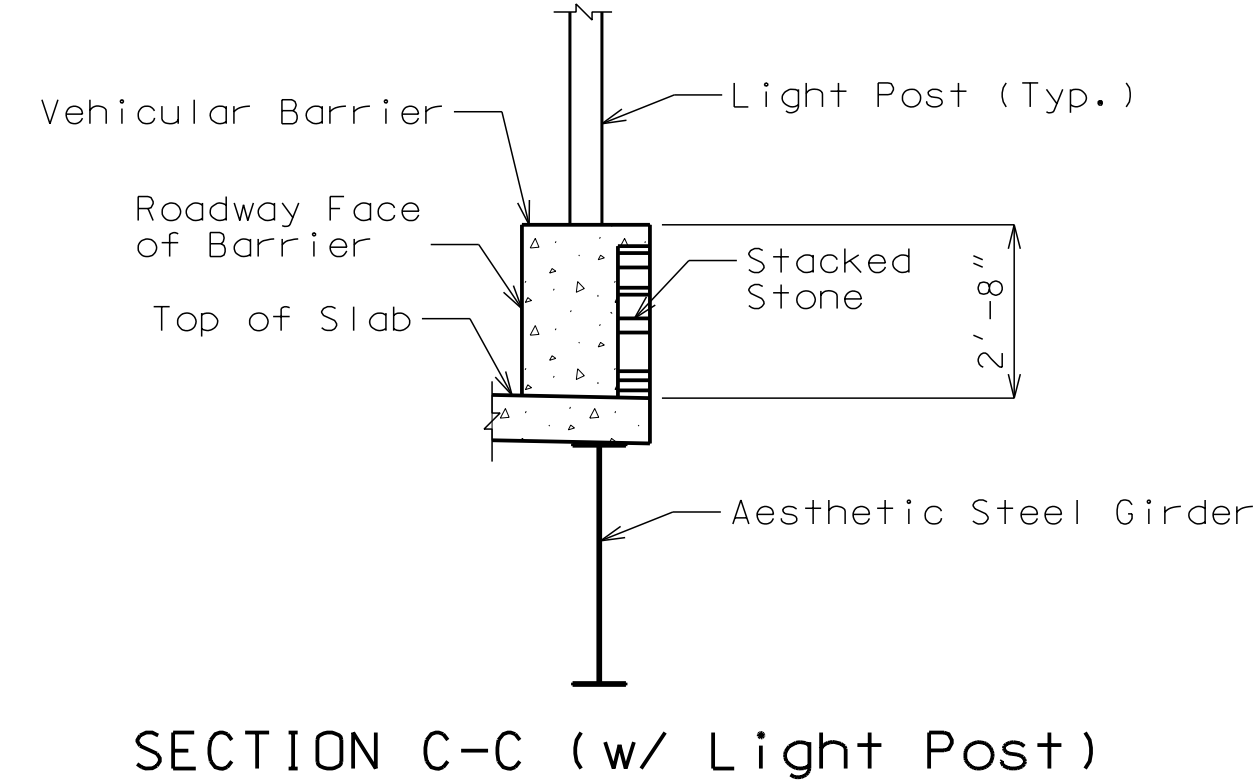
SECTION A-A



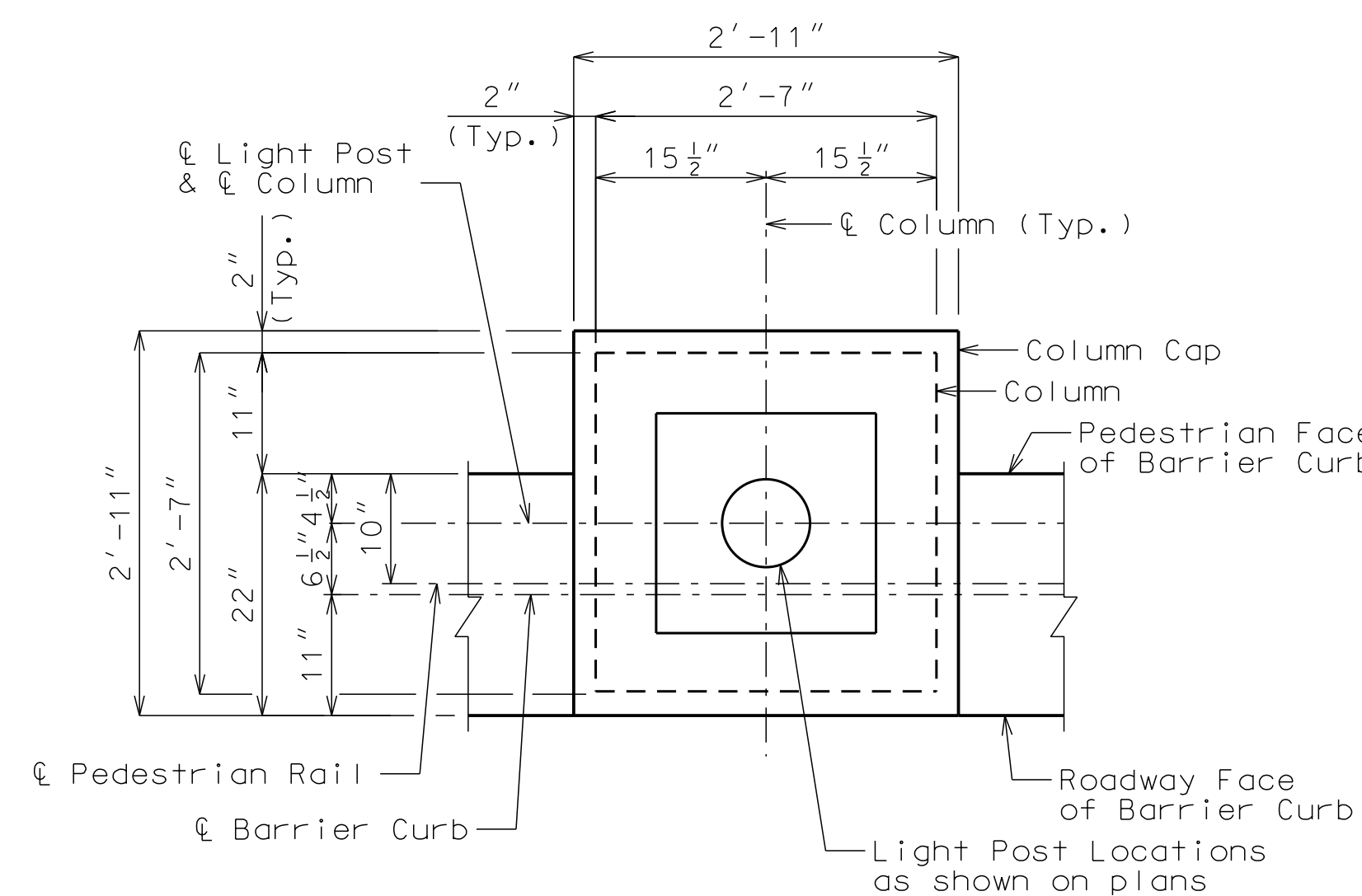
SECTION B-B



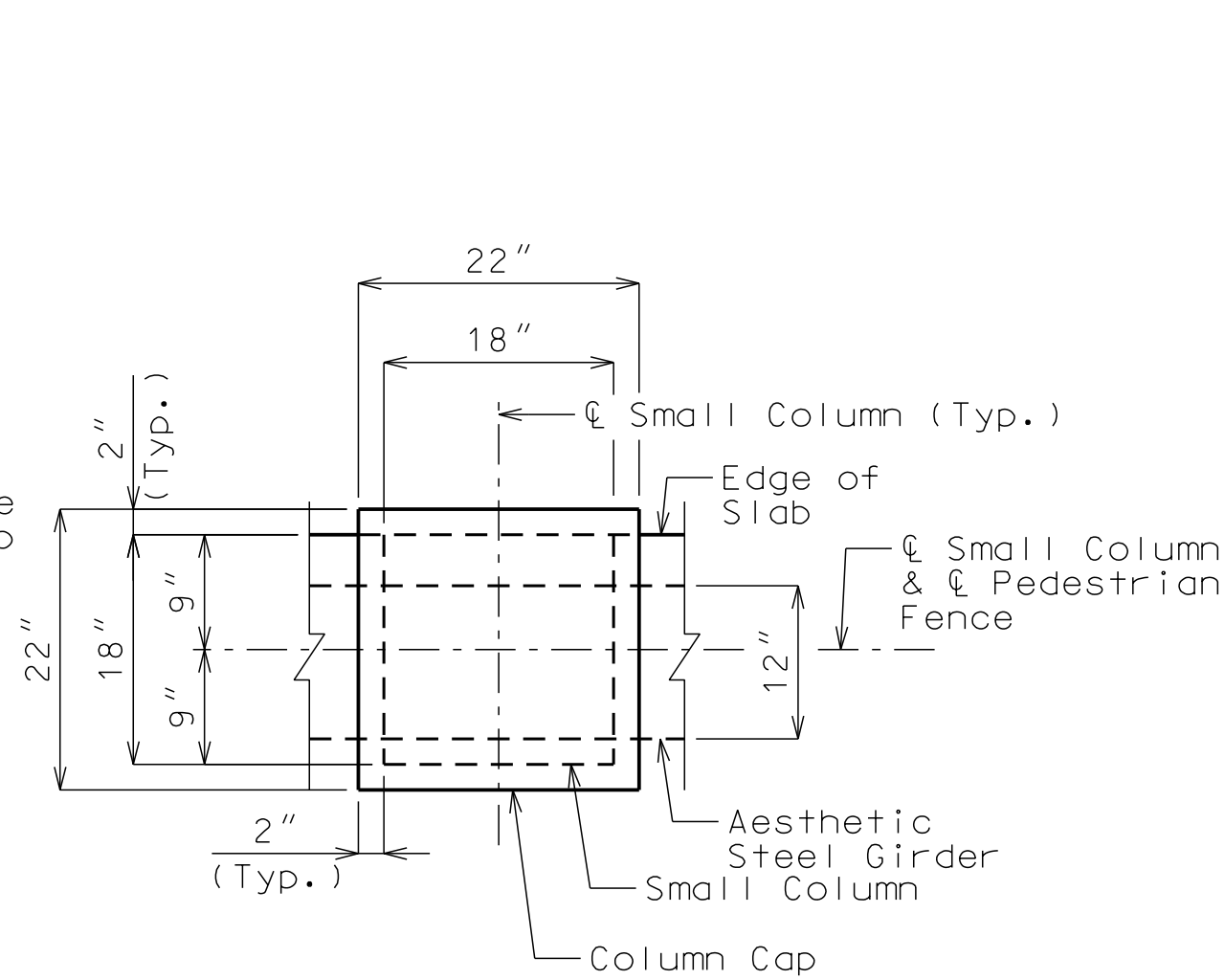
SECTION C-C



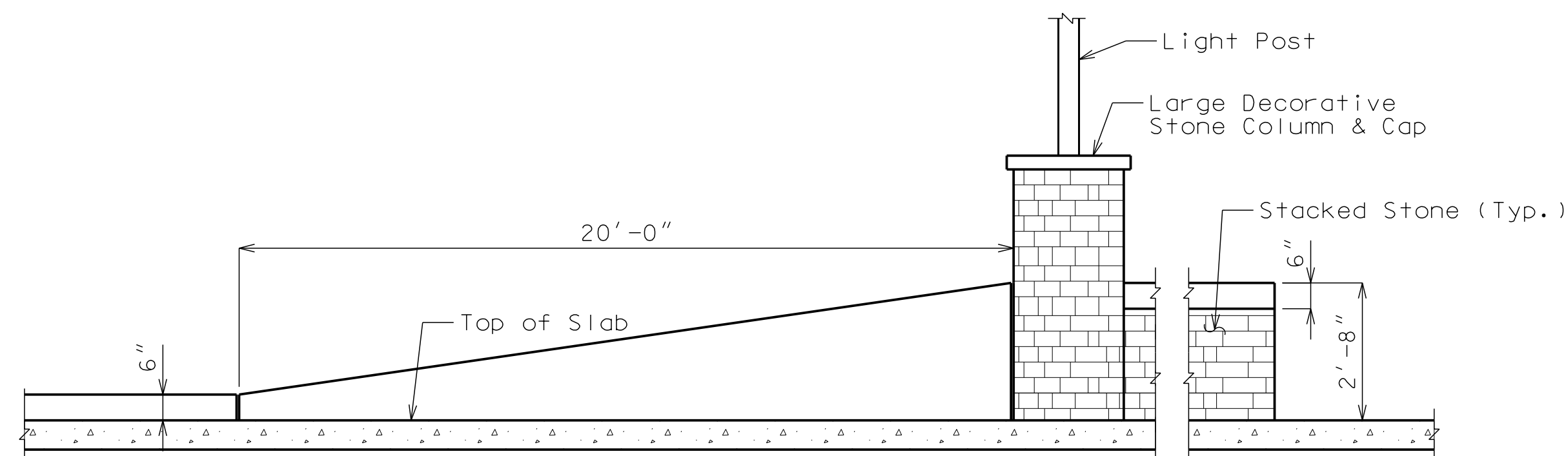
SECTION C-C (w/ Light Post)



DETAIL A



DETAIL B



VEHICULAR BARRIER CURB TRANSITION DETAIL  
(Pedestrian side shown)

Note: This drawing is not to scale. Follow dimensions.

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	PROJECT NO.: 12720	
JOSHUA J. MILLER PROFESSIONAL ENGINEER PE-2009010386	SHEET NO.	TOTAL SHEETS
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	Bridge Plans	
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