

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED	11/20/2020
ROUTE	MO
DISTRICT	BR
COUNTY	1
JOB NO.	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	EXAMPLE

DESCRIPTION	
DATE	

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102  
1-888-ASK-MDOT (1-888-275-6636)

Example\_plans\_001\_2019\_Front.dgn 10:49:05 AM 11/20/2021

These plans are to serve as an example only. They may not necessarily reflect current standards or practices. Contact Development Section with any questions or suggestions.

(59'-93'-59') PRESTRESSED CONCRETE I-GIRDER SPANS

This set of example plans is based on several bridge projects. It is intended to be used for reference only, covering a variety of structural components. Some details on the following sheets may not necessarily match what is shown on this front sheet.

Border is attached as a Reference File, using Place Border option under the MoDOT pull-down menu.

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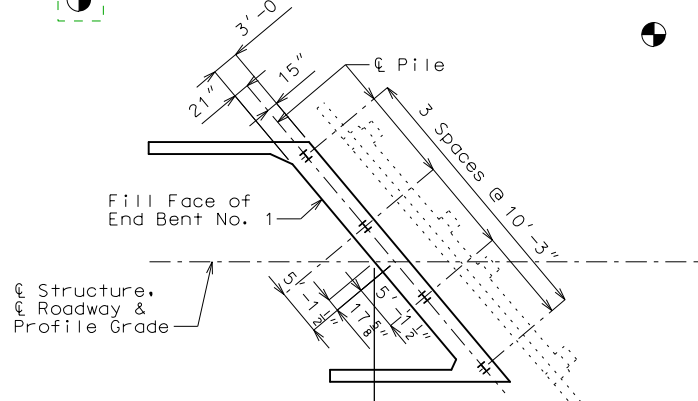
See EPG 751.5 for more information on front sheet details.

All note and dimension text shall be "small". (Use Tasks: General Annotation)

Old roadway fill under the ends of the bridge shall be removed as shown. Removal of old roadway fill will be considered completely covered by the contract unit price for roadway excavation.

Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom 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.

Cell in Tasks: Front Sheets (Boring Symbol)

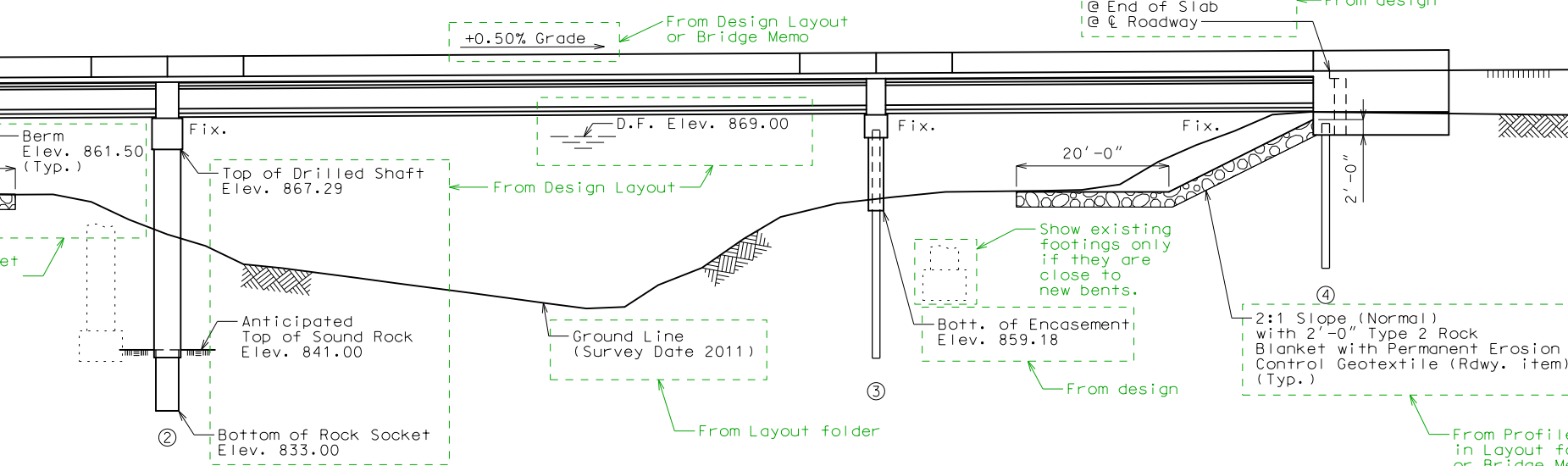


From design. See EPG 751.5.2.1.1

Beg. Sta. 652+93.72 Pr. Gr. Elev. 876.69

Sta. 653+55.00 Pr. Gr. Elev. 877.00

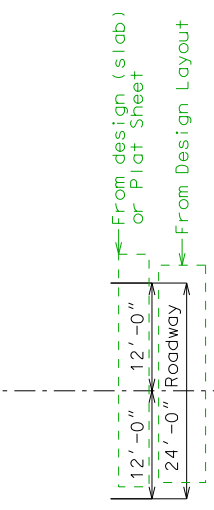
Horizontal Dimensions: 61'-3 3/8", 215'-6 3/4", 93'-0", 61'-3 3/8"



Note E1.1, EPG 751.50 If required (when specified on Design Layout)

Note E1.4, EPG 751.50 if required.

GENERAL ELEVATION



Cell in Tasks: Front Sheets (North Arrow) If Location Sketch is shown on front sheet, North arrow should be shown there.

Skew angle (from Design Layout) (See EPG 751.5.2.1.1)

40° 00' 00"

Always 10.0000

10.0000

13.0547

50° 00' 00"

18.3910

Always 90°

Tasks: General Annotation Small Text (Bold)

PLAN

Front Sheet Text available as a cell in Tasks: General Annotation

Designed Aug. 2019  
Detailed Aug. 2019  
Checked Aug. 2019

Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

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 department for the design of the project, are shown on Sheet No. 30 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. 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 district or elsewhere.

Cell in Tasks: Bridge Detailing Notes (E3.2 Notice and Disclaimer). If the note will not fit on this sheet, keep the "Indicates location of borings." portion and add a line stating "For Notice and Disclaimer Regarding Boring Log Data, see Sheet No. X."

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. 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 those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

From Plat sheet in Layout folder. See EPG 751.5.2.1.3

B.M. 306 = SET "D" SQUARE CUT AT S.E. CORNER OF BRIDGE HEADWALL AT HORSE CREEK BRIDGE ON RTE. B. ELEV. 973.158

BRIDGE: ROUTE B OVER HORSE CREEK

ROUTE B FROM RTE. 71 TO RTE. 97 ABOUT 2.5 MILES WEST OF RTE. 97

BEG. STA. 652+93.72

### Estimated Quantities

Item	Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	80	80
Removal of Bridges (X-186)	lump sum		1
Drilled Shafts (3 ft. 6 in. Dia.)	linear foot	94	94
Rock Sockets (3 ft. 0 in. Dia.)	linear foot	32	32
Video Camera Inspection	each	4	4
Foundation Inspection Holes	linear foot	72	72
Sonic Logging Testing	each	4	4
Galvanized Structural Steel Piles (12 in.)	linear foot	196	196
Pile Point Reinforcement	each	8	8
Class B Concrete (Substructure)	cu. yard	70.4	70.4
Slab on Concrete I-Girder	sq. yard		635
Type D Barrier	linear foot		491
Type 6 (54 in.), Prestressed Concrete I-Girder	linear foot		632
Reinforcing Steel (Bridges)	pound	15,270	15,270
Steel Intermediate Diaphragm for P/S Concrete Girders	each		6
Slab Drain	each		36
Vertical Drain at End Bents	each		2
Plain Neoprene Bearing Pad	each		6
Laminated Neoprene Bearing Pad	each		12

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete I-Girder.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete I-Girder.

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete I-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete I-Girder.

Notes B, EPG 751.50

### Foundation Data

Type	Design Data	Bent Number			
		1	2	3	4
Load Bearing Pile	Pile Type and Size	HP 12x53	---	---	HP 12x53
	Number	ea 4	---	---	4
	Approximate Length Per Each	ft 30	---	---	30
	Pile Point Reinforcement	ea All	---	---	All
	Min. Galvanized Penetration (Elev.)	ft Full length	---	---	Full length
	Pile Driving Verification Method	DF	---	---	DF
	Resistance Factor	0.4	---	---	0.4
Rock Socket	Minimum Nominal Axial Compressive Resistance	kip 505	---	---	505
	Number	ea ---	2	2	---
	Foundation Material	---	Rock	Rock	---
	Elevation Range	ft ---	838-835	844-839	---
	Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf ---	28.6	28.6	---
	Foundation Material	---	Rock	Rock	---
	Elevation Range	ft ---	835-821	839-830	---
Rock Socket	Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf ---	28.6	28.6	---
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf ---	12.0	12.0	---

DF = FHWA-modified Gates Dynamic Formula

$$\text{Minimum Nominal Axial Compressive Resistance} = \frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$$

$$\text{Minimum Nominal Axial Compressive Resistance (Side Resistance + Tip Resistance)} = \frac{\text{Maximum Factored Loads}}{\text{Resistance Factors}}$$

Manufactured pile point reinforcement shall be used on all piles in this structure.

Sonic logging testing shall be performed on all drilled shafts and rock sockets.

Notes E2, EPG 751.50

Border text cell in Tasks: General Annotation (Second Sheet Text)

### General Notes: Notes A, EPG 751.50

#### Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)  
Seismic Performance Category, A ← From Design Layout.  
If not specified, use "A"

#### Design Loading:

Vehicular = HL-93 ← From Design Layout  
Future Wearing Surface = 35 lb/sf (Min.)  
Earth = 120 lb/cf  
Equivalent Fluid Pressure = 45 lb/cf  
Superstructure: Simply-Supported, Non-Composite for dead load.  
Continuous Composite for live load.

#### Design Unit Stresses:

Class B Concrete (Substructure)  $f'c = 3,000$  psi  
Class B-2 Concrete (Drilled Shafts & Rock Sockets)  $f'c = 4,000$  psi  
Class B-1 Concrete (Barrier)  $f'c = 4,000$  psi  
Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier)  $f'c = 4,000$  psi  
Reinforcing Steel (Grade 60)  $fy = 60,000$  psi  
Steel Pile (ASTM A709 Grade 50)  $fy = 50,000$  psi  
For precast prestressed panel stresses, see Sheet No. 18.  
For prestressed girder stresses, see Sheets No. 14 & 15.

#### Neoprene Pads:

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 Sec 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.

#### Traffic Handling:

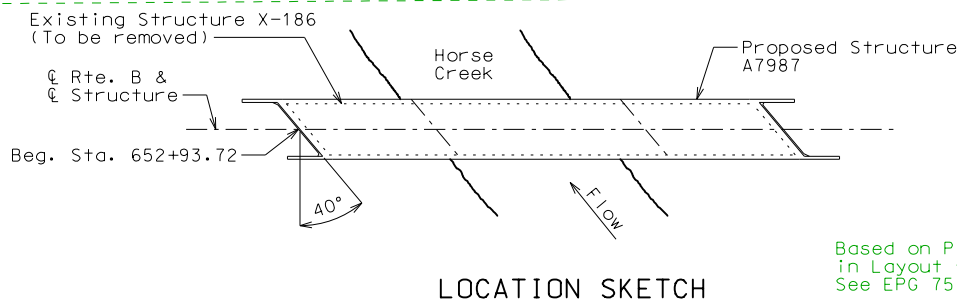
Structure to be closed during construction. Traffic to be maintained on other routes. See roadway plans for traffic control.

#### Miscellaneous:

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

- Constant Joint Filler
- Variable Joint Filler

Cell in Tasks: Bridge Detailing Notes (E2.1 Foundation Data) Info from design & Design Layout



LOCATION SKETCH

### Estimated Quantities for Slab on Concrete I-Girder

Item	cu. yard	Total
Class B-2 Concrete		204
Reinforcing Steel (Epoxy Coated)	pound	49,540

Cell in Tasks: Bridge Detailing Notes (B3.21 "Estimated Quantities For")

Round to nearest 1 cubic yard (see EPG 751.50, notes after B3.21)

Notes B3c, EPG 751.50

The table of Estimated Quantities for represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit 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.

The Estimated Quantities for Slab on Concrete I-Girder are based on skewed precast prestressed end panels.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Concrete I-Girder.

Class B-2 Concrete quantity is based on minimum top flange thickness and minimum joint material thickness.

Cell in Tasks: Front Sheets (Hydrologic Data) See EPG 751.5.2.1.5 Info from Design Layout for stream crossing only.

### Hydrologic Data

Drainage Area = 18 mi <sup>2</sup>	
Design Flood Frequency = 50 years	
Design Flood Discharge = 5,700 cfs	
Design Flood (D.F.) Elevation = 354.4	
Base Flood (100-year)	
Base Flood Elevation = 354.8	
Base Flood Discharge = 6,700 cfs	
Estimated Backwater = 0.77 ft	
Average Velocity thru Opening = 5.7 ft/s	
Freeboard (50-year)	
Freeboard = 1.7 ft	
Roadway Overtopping	
Overtopping Flood Discharge = 3,700 cfs	
Overtopping Flood Frequency = 10 years	
Overtopping Flood Elevation = 354.1	

See EPG 751.50 for General Notes and Estimated Quantities notes. Notes marked with [MS Cell] in EPG are available as cells in Tasks: Bridge Detailing Notes.

"Notice and Disclaimer Regarding Boring Log Data" may be placed on this sheet if it would not fit on the front sheet. Add "For locations of borings, see Sheet No. 1"

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DATE PREPARED: 5/20/2020

ROUTE: \* STATE: MO DISTRICT: BR SHEET NO.: 2 COUNTY: \* JOB NO.: \* CONTRACT ID.: PROJECT NO.: BRIDGE NO.: EXAMPLE

DESCRIPTION

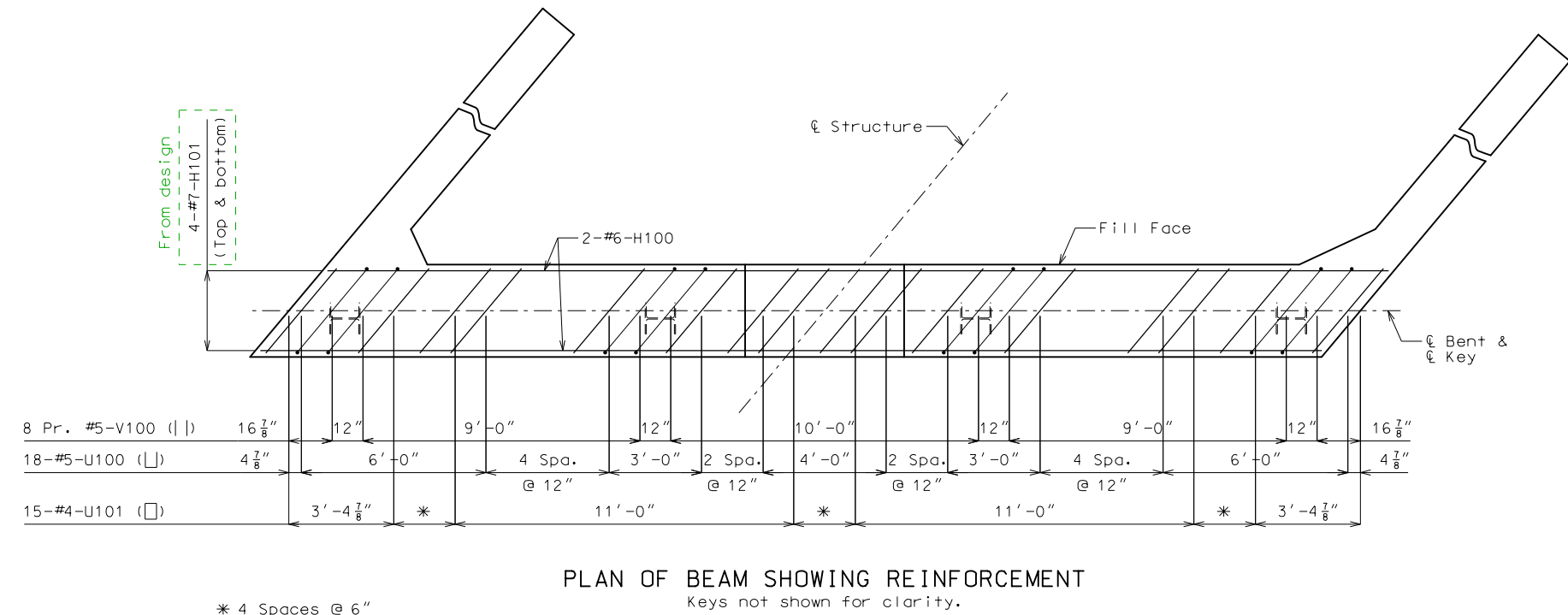
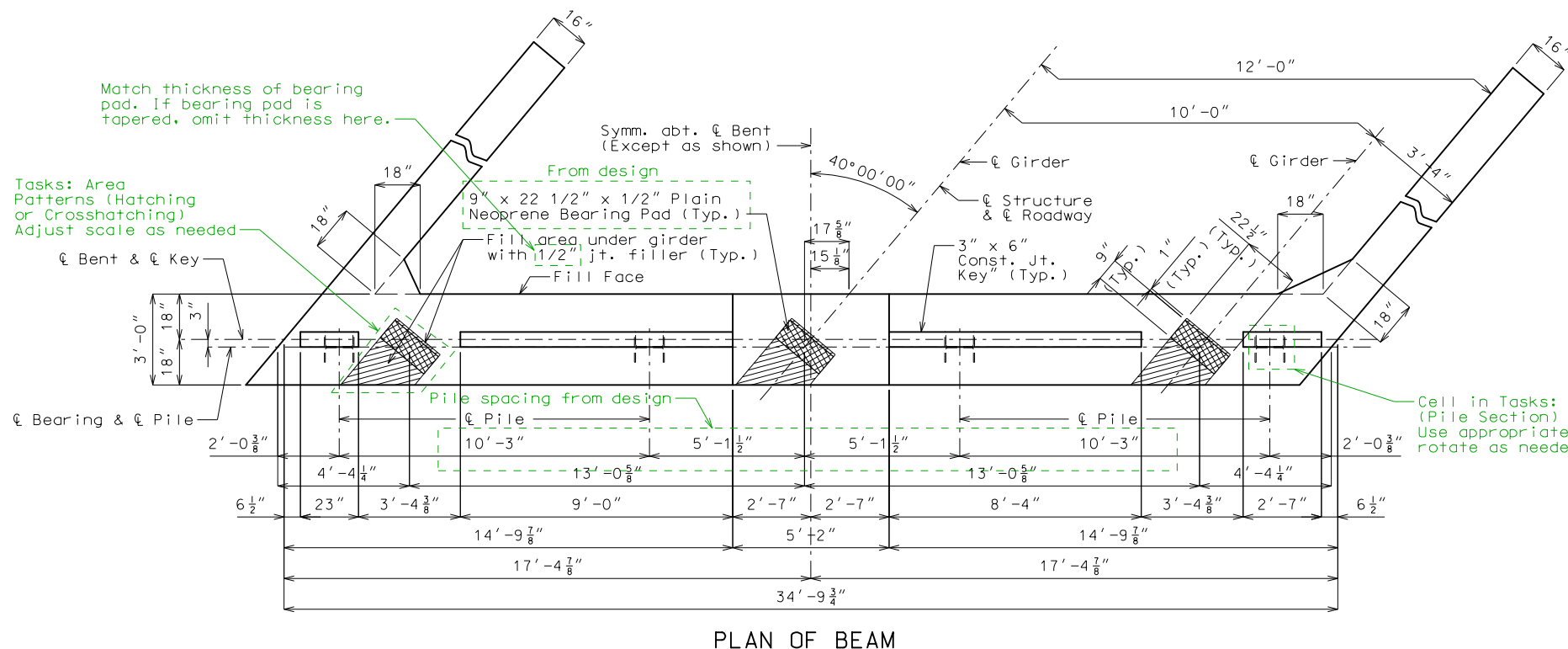
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

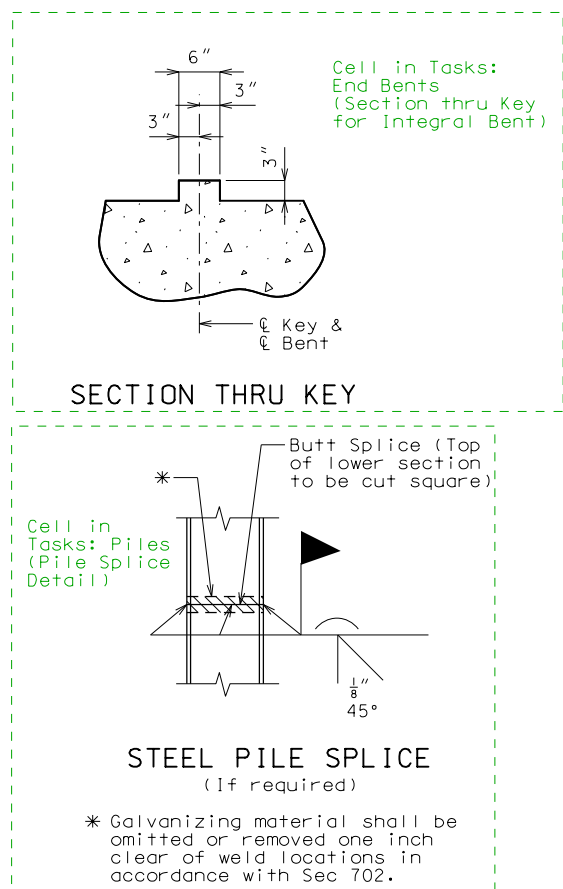
## GENERAL NOTES AND QUANTITIES

End Bent No. 1 is shown looking back-station.  
All other bents are shown looking ahead-station.



PLAN OF BEAM SHOWING REINFORCEMENT  
Keys not shown for clarity.

\* 4 Spaces @ 6"



Notes from EPG 751.50

- General Notes:  
Work this sheet with Sheets No. 4 & 5.
- G1.7.1 All U bars and pairs of V bars shall be placed parallel to centerline of roadway.
  - G1.20 Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

Tasks: Bridge Detailing Notes (G4.1, Substructure Quantity)

Substructure Quantity Table for Bent No. 1			
Item	Unit	Quantity	
Class 1 Excavation	cu. yard	40	
Galvanized Structural Steel Piles (12 in.)	linear foot	120	
Pile Point Reinforcement	each	4	
Class B Concrete (Substructure)	cu. yard	16.7	

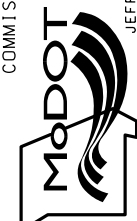
These quantities are included in the estimated quantities table on Sheet No. 12.1  
Note G4.2, EPG 751.50

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DATE PREPARED: 11/25/2019  
ROUTE: \* STATE: MO  
DISTRICT: BR SHEET NO.: 3  
COUNTY: \*  
JOB NO.: \*  
CONTRACT ID.: \*  
PROJECT NO.: \*  
BRIDGE NO.: EXAMPLE

DESCRIPTION	DATE

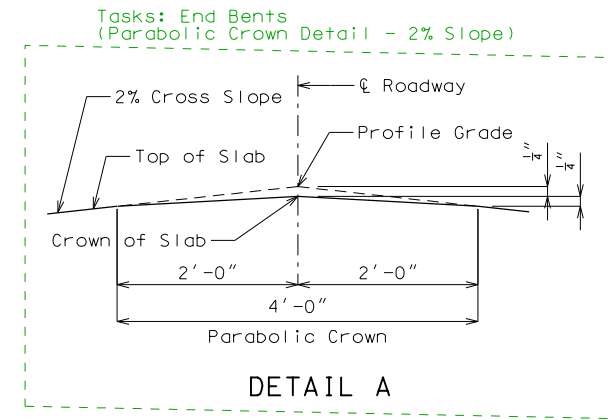
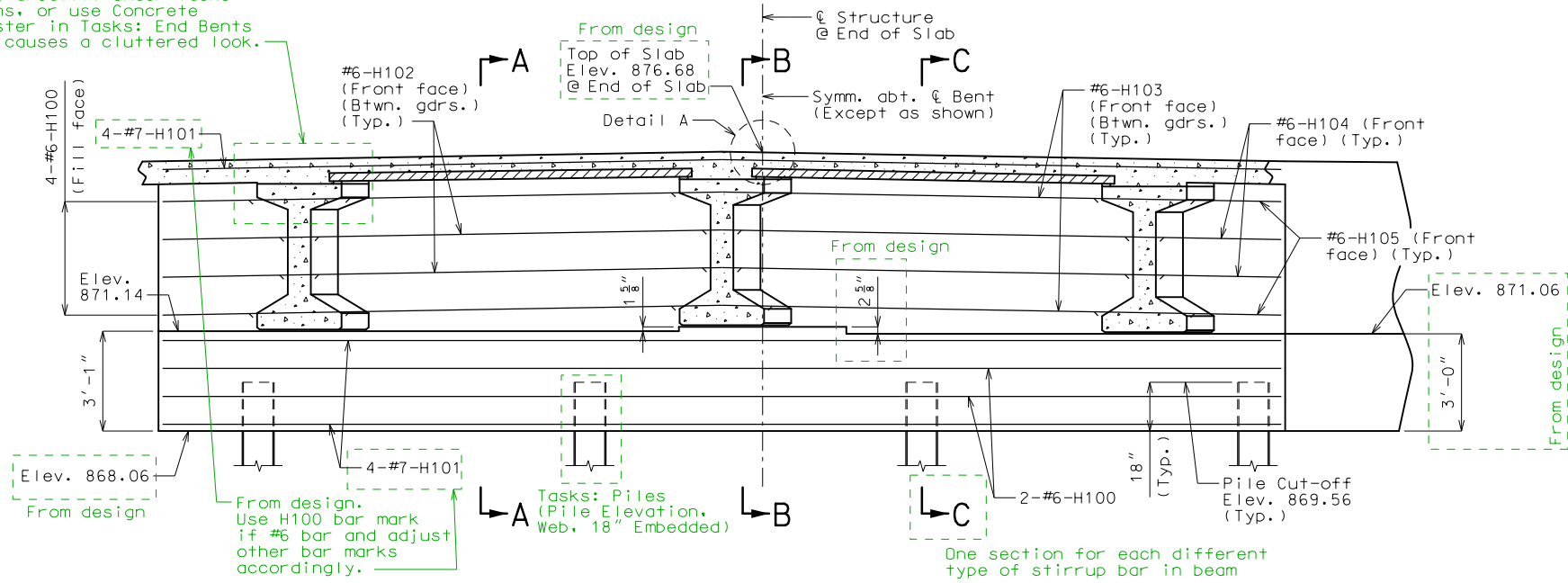
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
105 WEST CAPITOL JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)



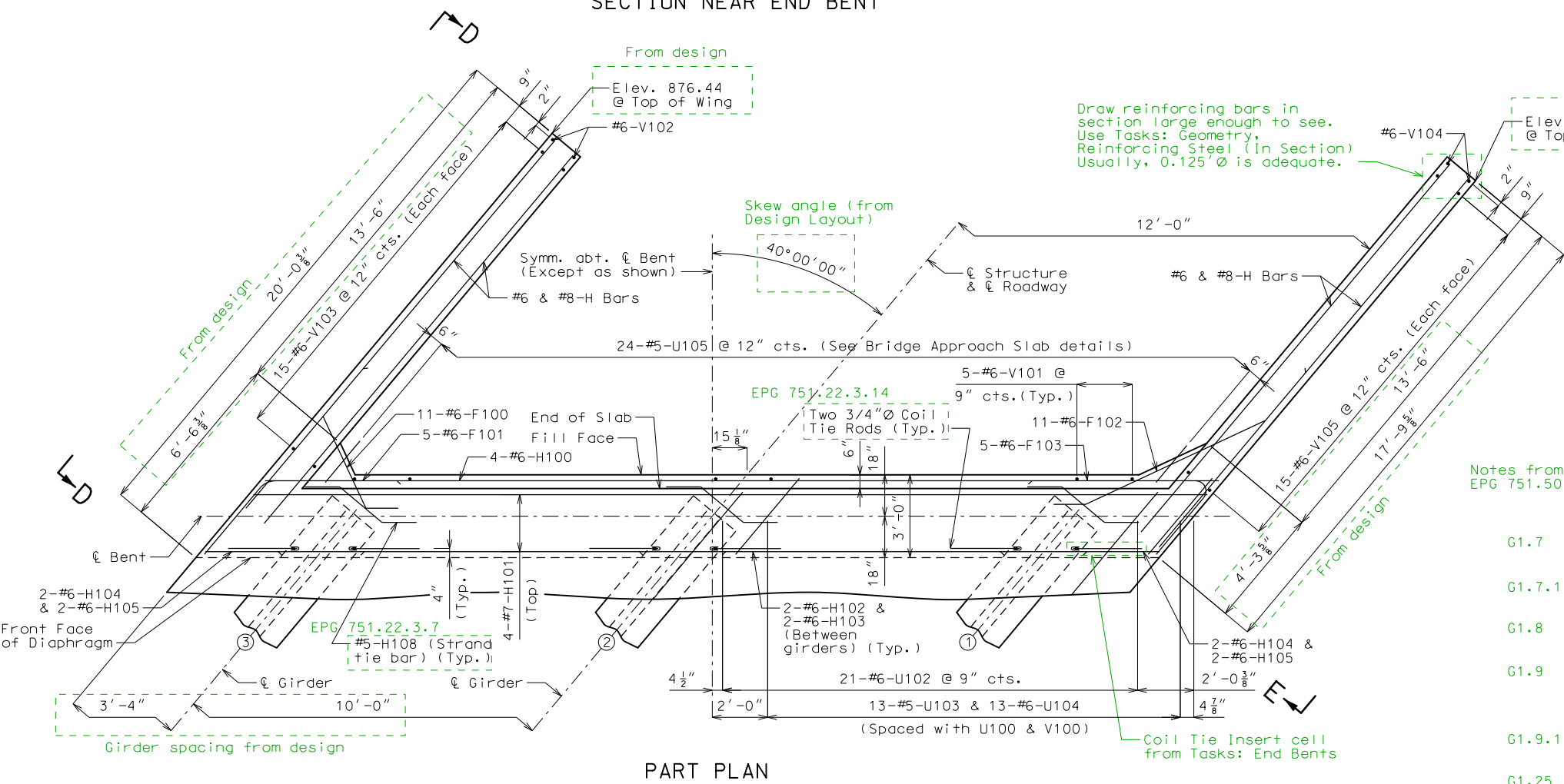
DETAILS OF END BENT NO. 1

Tasks: General Annotation  
Large Text (Sheet Titles)

Use concrete areafill under Tasks: Area Patterns, or use Concrete Pattern Cluster in Tasks: End Bents if areafill causes a cluttered look.



SECTION NEAR END BENT



PART PLAN

DETAILS OF END BENT NO. 1

- General Notes:  
 Work this sheet with Sheets No. 3 & 5.  
 For Sections A-A, B-B & C-C and Elevations D-D & E-E, see Sheet No. 15.
- G1.7 The #6-F100 and #6-F102 bars shall be bent in the field to clear girders.
  - G1.7.1 The U bars shall be placed parallel to centerline of roadway.
  - G1.8 All concrete in the end bent above top of beam and below top of slab shall be Class B-2.
  - G1.9 Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.
  - G1.9.1 For location of coil tie rods and #5-H108 (strand tie bar), see Sheet No. 14.
  - G1.25 For details of vertical drain at end bents, see Sheet No. 6.
  - G1.30 For details of bridge approach slab, see Sheet No. 26.

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DATE PREPARED	11/25/2019
ROUTE	STATE MO
DISTRICT BR	SHEET NO. 4
COUNTY	*
JOB NO.	*
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	EXAMPLE
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

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DATE PREPARED 11/25/2019	
ROUTE *	STATE MO
DISTRICT BR	SHEET NO. 5
COUNTY *	
JOB NO. *	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. EXAMPLE	

DESCRIPTION	
DATE	

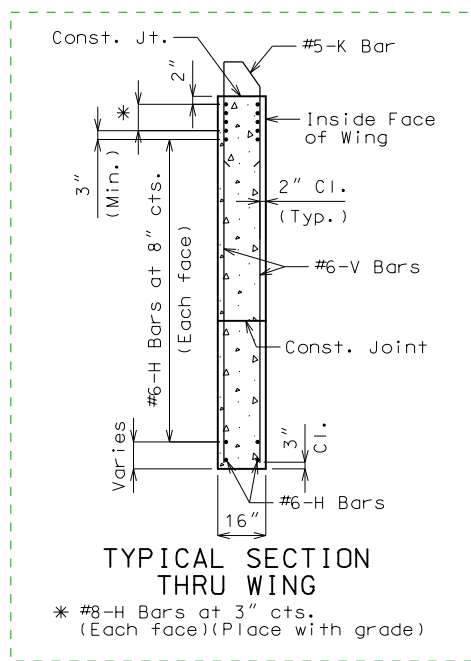
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

**MoDOT**

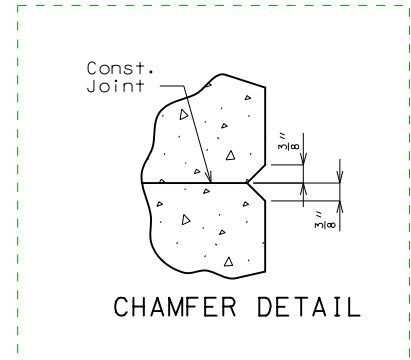
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

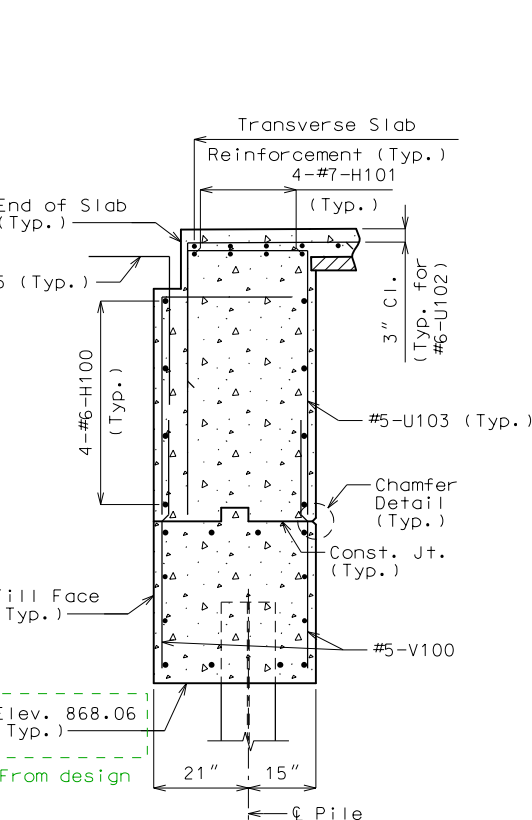
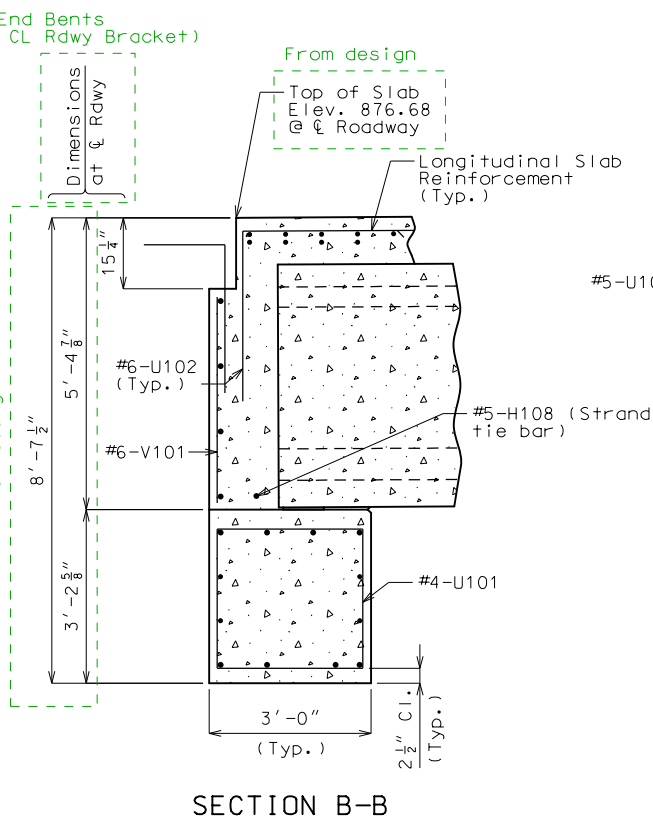
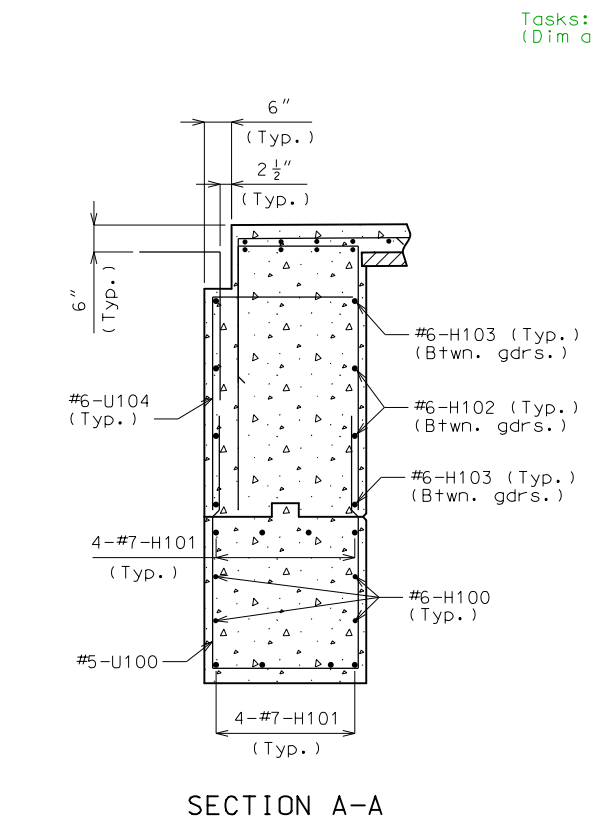
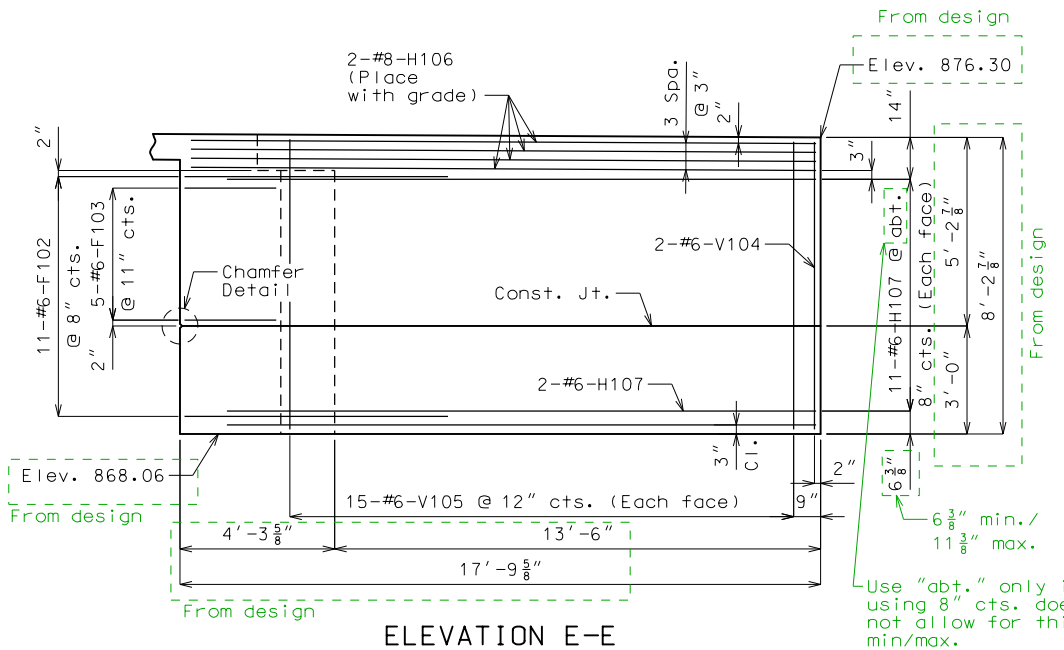
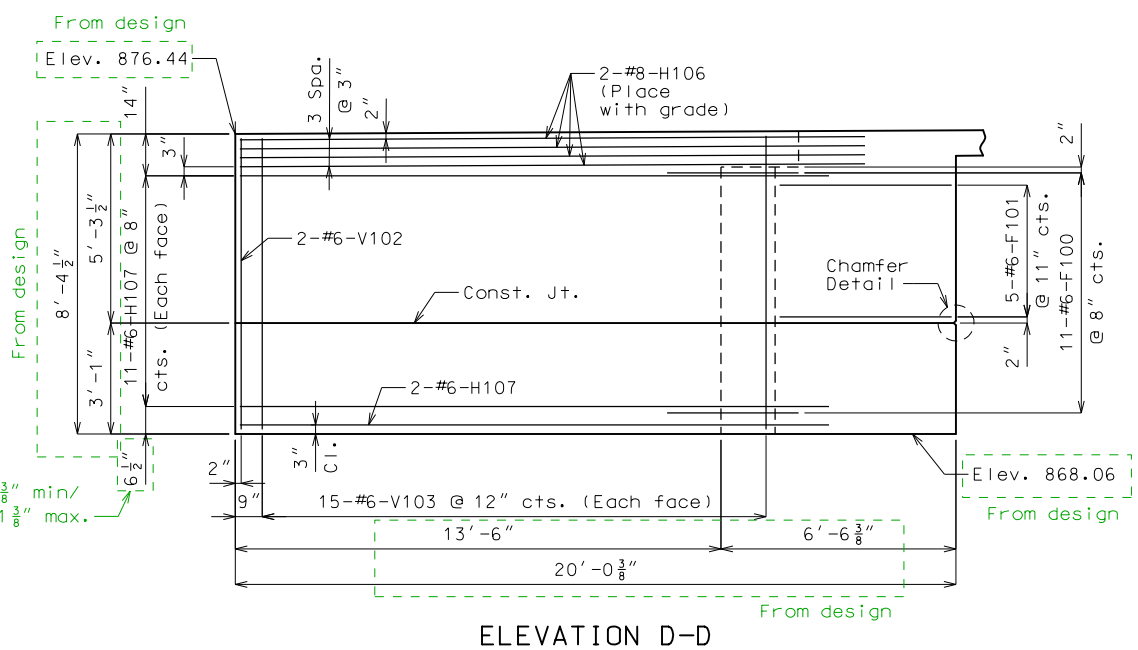
Tasks: End Bents  
(Typical Section thru Square Wing)  
See EPG 751.35.4.3



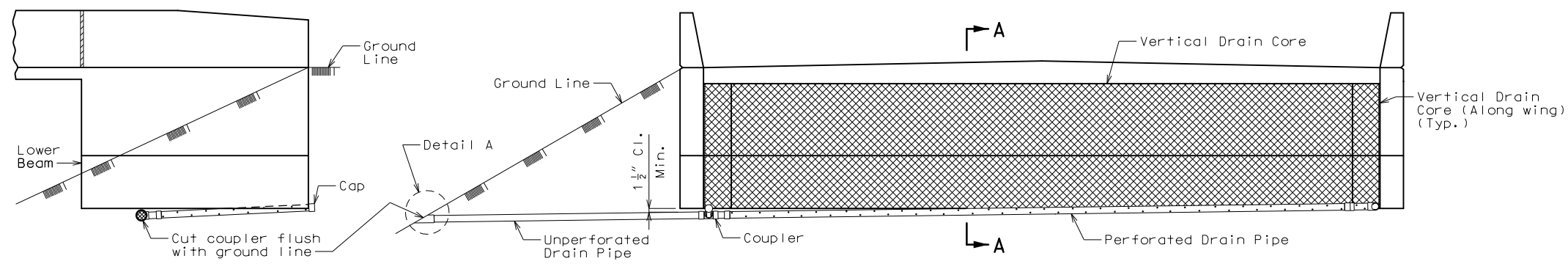
Tasks: End Bents (Chamfer Detail)  
See EPG 751.35.5.3.



**General Notes:**  
Work this sheet with Sheets No. 3 & 4.  
For location of Sections A-A, B-B & C-C and Elevations D-D & E-E, see Sheet No. 4.  
For reinforcement of the safety barrier curb, see Sheet No. 24.

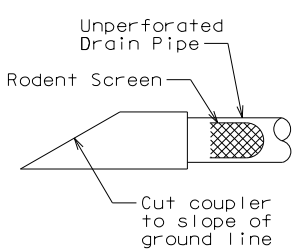


**DETAILS OF END BENT NO. 1**

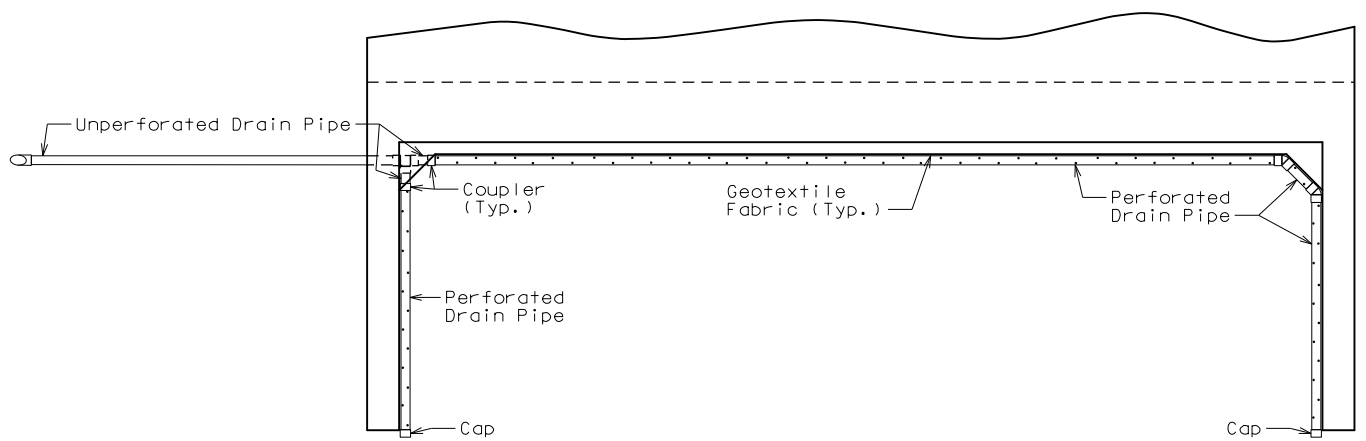


ELEVATION OF WING

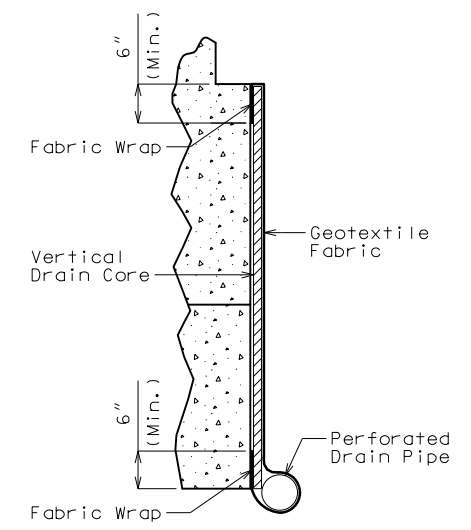
ELEVATION OF END BENT



DETAIL A



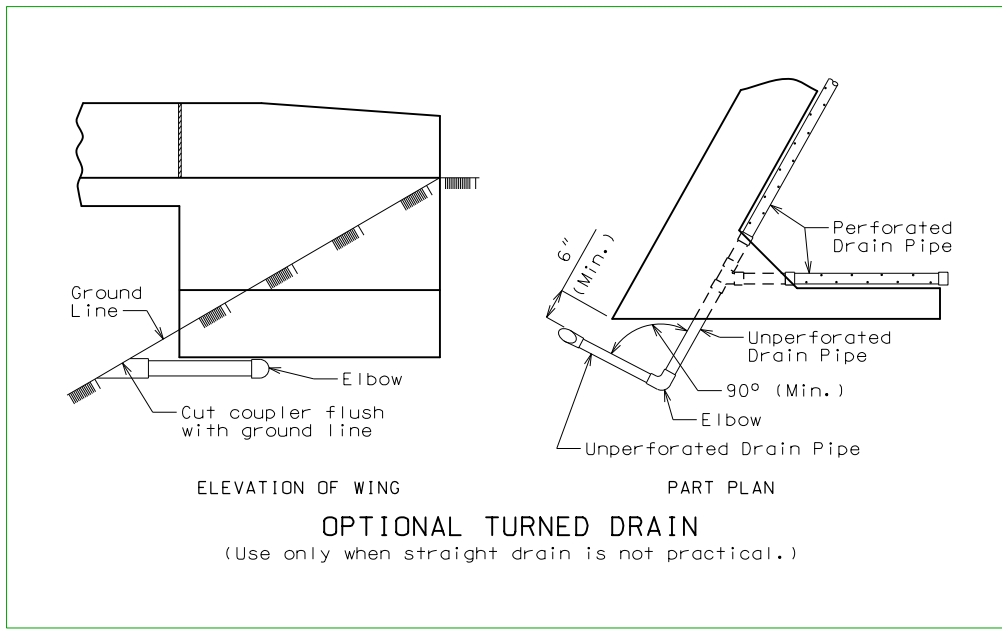
PLAN OF END BENT



PART SECTION A-A  
(Section thru wing similar)

Use current standard sheet, found in ProjectWise under Bridge/A\_BR\_Std\_Dwgs/Drains V\_DRA-S\_DRA/Current/V\_DRA Open Read-only and Save As to your job's folder.

For end bents with intermediate wing, use Bridge Standard Drawing V\_DRA03\_midwing.



OPTIONAL TURNED DRAIN  
(Use only when straight drain is not practical.)

SPM may prefer to remove this if it's not applicable. Needs to be included where rock may be present, or for situations where there is no side slope, such as for a drainage ditch.

### VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)

#### General Notes:

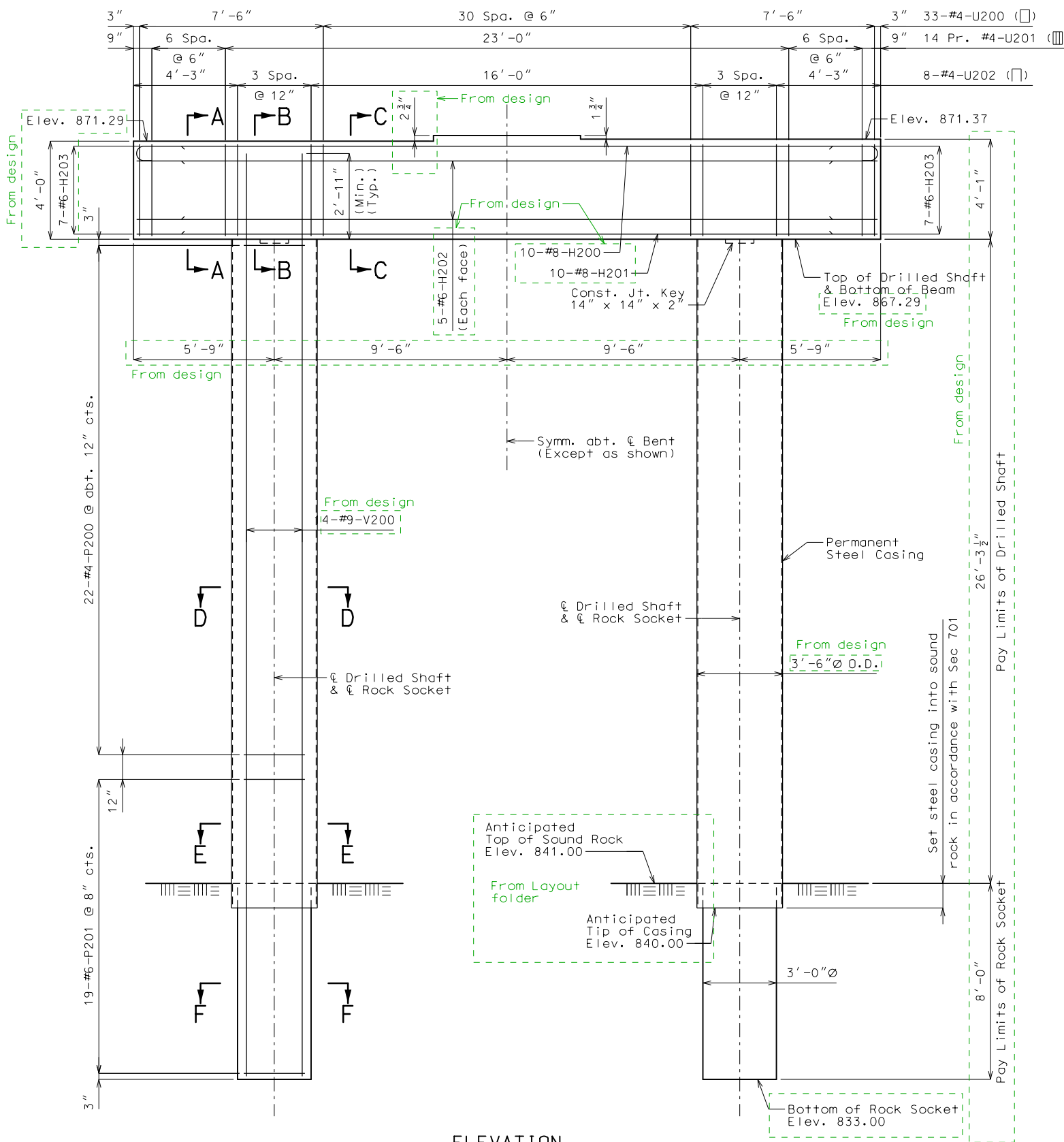
- All drain pipe shall be sloped 1 to 2 percent.
- Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.
- Drain pipe shall be placed at fill 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.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED 7/28/2020	
ROUTE *	STATE MO
DISTRICT BR	SHEET NO. 6
COUNTY *	
JOB NO. *	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. EXAMPLE	
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

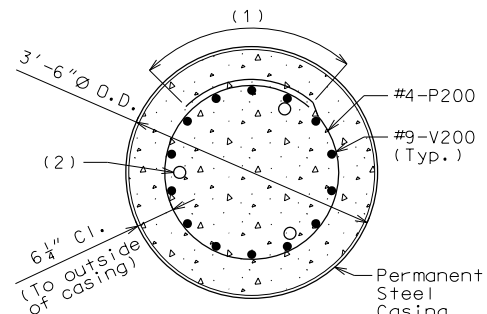


**ELEVATION**  
 Beam keys not shown for clarity.

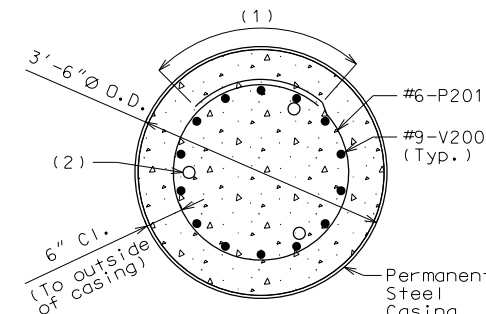
**DETAILS OF INTERMEDIATE BENT NO. 2**

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

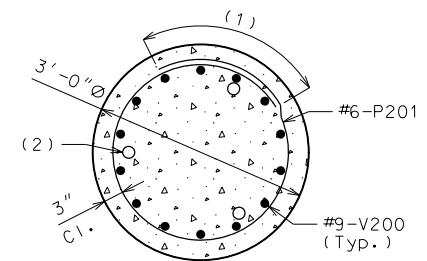
Sheet No. 7 of 30



**SECTION D-D**

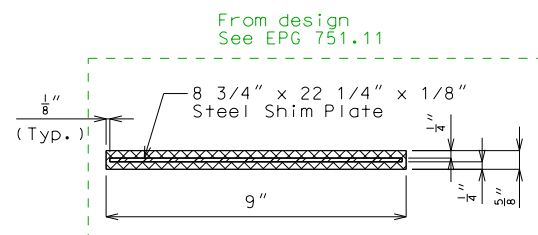


**SECTION E-E**



**SECTION F-F**

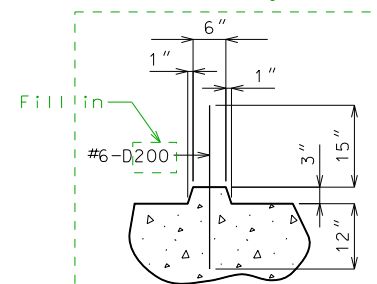
- (1) 2'-1" Min. Lap (#4-P200)  
 3'-1" Min. Lap (#6-P201)  
 (Stagger adjacent bar splices)
- (2) 2"Ø Steel Pipe for sonic logging testing (3 each shaft)



**SECTION THRU LAMINATED NEOPRENE BEARING PAD**

It is preferred that Key and Bearing Pad details are shown on the same sheet as the Plan of Beam if space allows.

Tasks: Intermediate Bents (Section thru Key)



**SECTION THRU KEY**

Tasks: Bridge Detailing Notes (G4.1 Substructure Quantity)

Substructure Quantity Table for Bent No. 2		
Item	Quantity	
Drilled Shafts (3 ft. 6 in. Dia.)	linear foot	53
Rock Sockets (3 ft. 0 in. Dia.)	linear foot	16
Video Camera Inspection	each	2
Foundation Inspection Holes	linear foot	36
Sonic Logging Testing	each	2
Class B Concrete (Substructure)	cu. yard	18.5
Reinforcing Steel (Bridges)	pound	7,820

G4.2 These quantities are included in the estimated quantities table on Sheet No. 2.

G4.3 All reinforcement in drilled shafts and rock sockets is included in the substructure quantities.

Notes from EPG 751.50

**General Notes:**

Work this sheet with Sheet No. 8.

E2.29 Thickness of permanent steel casing shall be in accordance with Sec 701.

E2.30 An additional 4 feet has been added to V-bar lengths and additional 12-#6-P201 bars have been added for possible change in drilled shaft or rock socket length. The additional V-bar length shall be cut off or included in the reinforcement lap if not required. The P bars shall be spaced similarly to that shown in Elevation, if required, or a lesser spacing if not required but not less than 6-inch centers.

E2.31 Sonic logging testing shall be performed on all drilled shafts and rock sockets.

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11/25/2019

ROUTE STATE  
\* MO  
DISTRICT SHEET NO.  
BR 7

COUNTY  
\*  
JOB NO.  
\*  
CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
EXAMPLE

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MDOT (1-888-275-6636)

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DATE PREPARED  
11/25/2019  
ROUTE \* STATE MO  
DISTRICT BR SHEET NO. 8  
COUNTY \*  
JOB NO. \*  
CONTRACT ID.  
PROJECT NO.

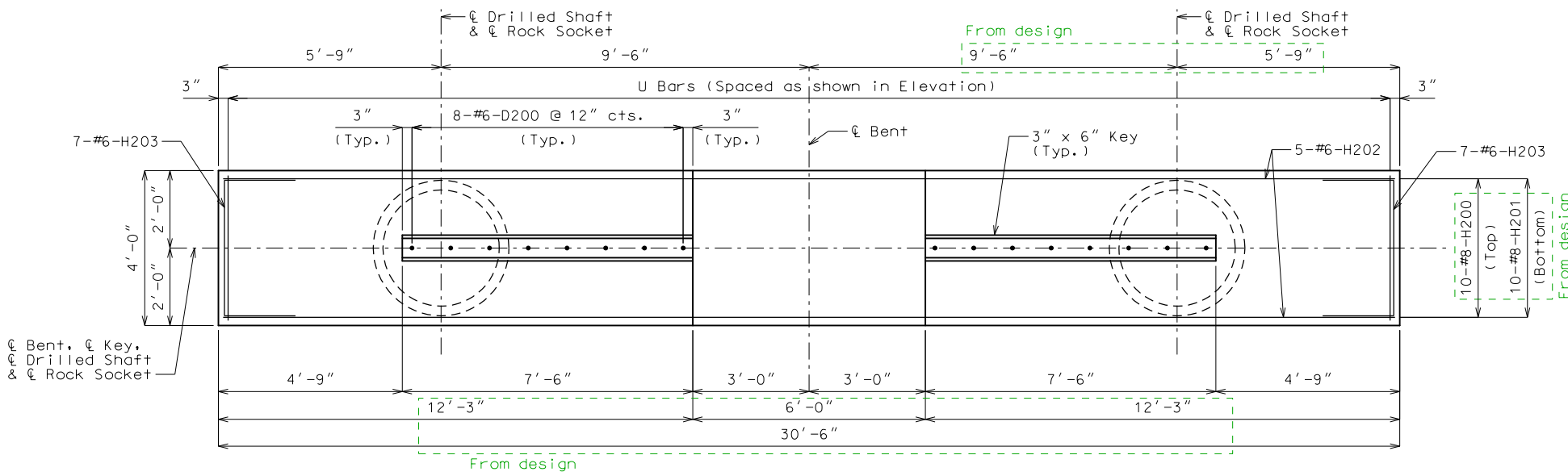
BRIDGE NO.  
EXAMPLE

DESCRIPTION

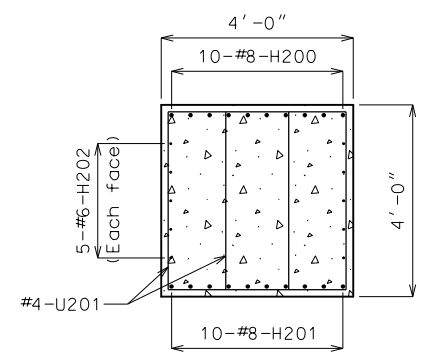
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

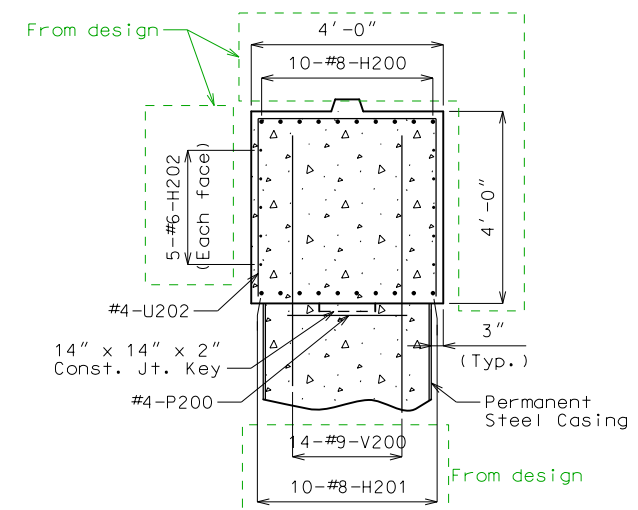
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)



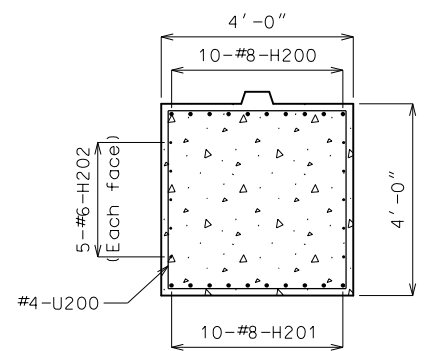
PLAN SHOWING REINFORCEMENT



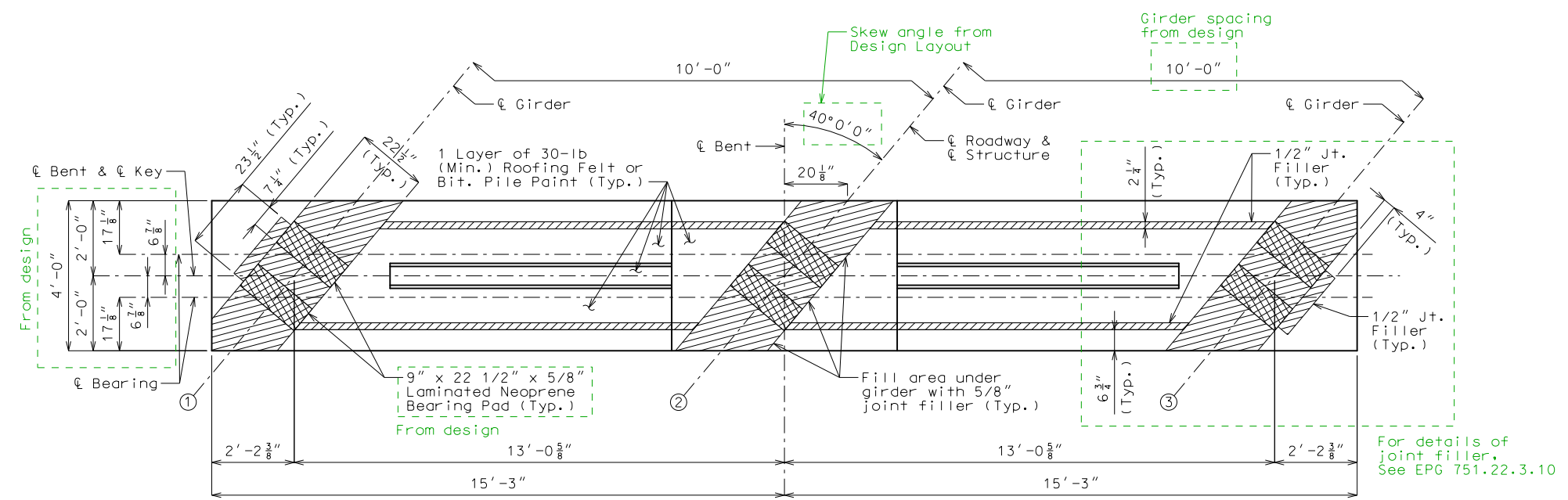
SECTION A-A



SECTION B-B



SECTION C-C



PLAN OF BEAM

General Notes:

Work this sheet with Sheet No. 7.

Note G1.40, EPG 751.50 For steps 2 inches or more, use 2 1/4 x 1/2-inch joint filler up vertical face.

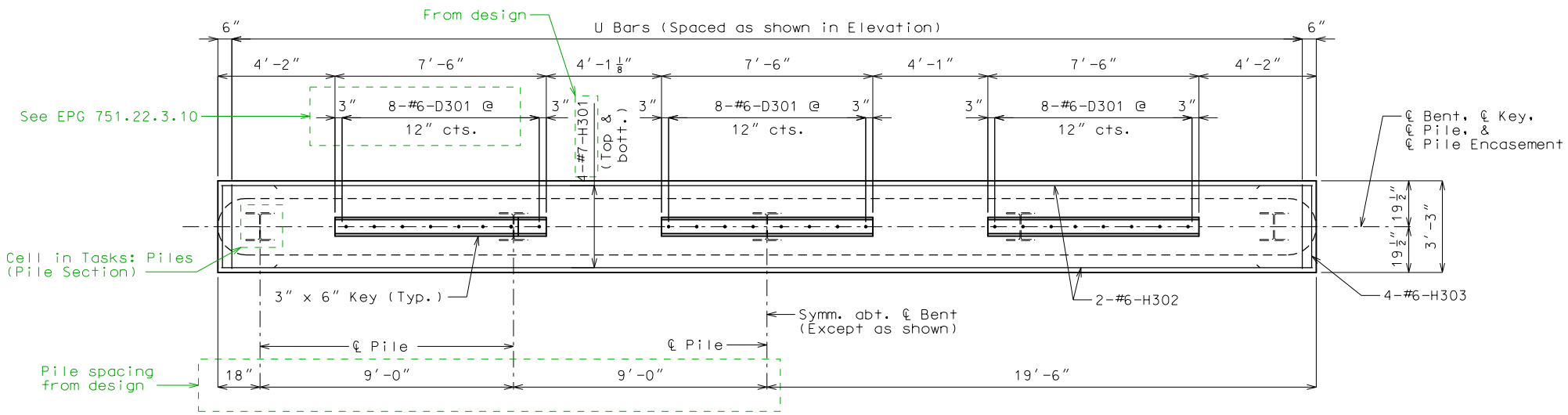
DETAILS OF INTERMEDIATE BENT NO. 2

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



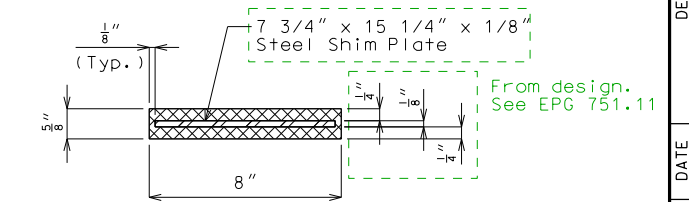
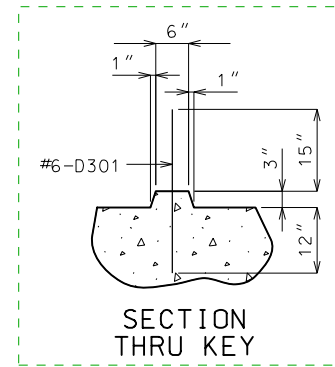
Example plans for Int. Bent No. 3 were taken from a different structure than the rest of the example plans. Therefore, some details may not match information shown on other sheets.

EPG 751.32.3 Concrete Pile Cap Intermediate Bent Details

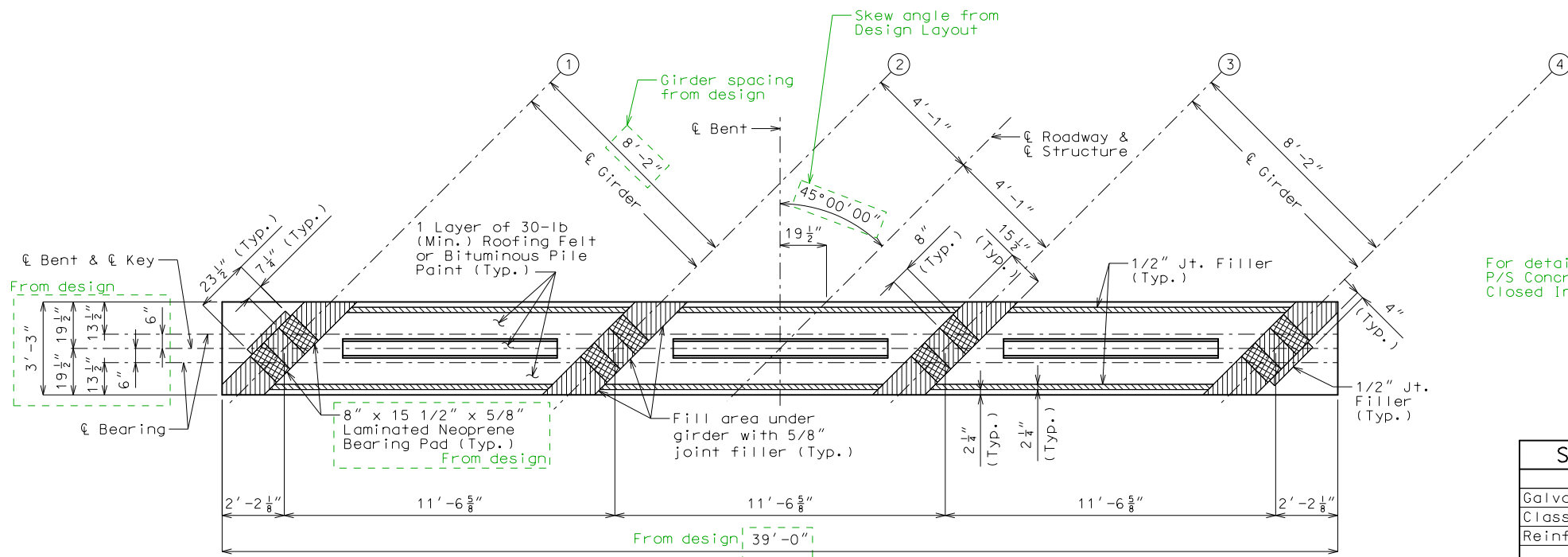


PLAN SHOWING REINFORCEMENT

Cell in Tasks: Intermediate Bents (Section thru Key)



SECTION THRU LAMINATED NEOPRENE BEARING PAD



PLAN OF BEAM

For details of Intermediate Bent No. 3 not shown, see Sheet No. 10.

For details of joint filler, see EPG 751.22.3.10, P/S Concrete I Girders, Closed Intermediate Bent Diaphragms

Cell in Tasks: Bridge Detailing Notes (G4.1 Substructure Quantity)

Item	Quantity	
Galvanized Structural Steel Piles (12 in.)	linear foot	x
Class B Concrete (Substructure)	cu. yard	x
Reinforcing Steel (Bridges)	pound	x

These quantities are included in the estimated quantities table on Sheet No. 12.

General Notes:

Work this sheet with Sheet No. 10.

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DATE PREPARED: 11/25/2019

ROUTE: \* STATE: MO

DISTRICT: BR SHEET NO.: 9

COUNTY: \*

JOB NO.: \*

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: EXAMPLE

DESCRIPTION:

DATE:

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

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EPG 751.32 Concrete Pile Cap Intermediate Bents

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DATE PREPARED  
11/25/2019

ROUTE STATE  
\* MO

DISTRICT SHEET NO.  
BR 10

COUNTY  
\*

JOB NO.  
\*

CONTRACT ID.

PROJECT NO.

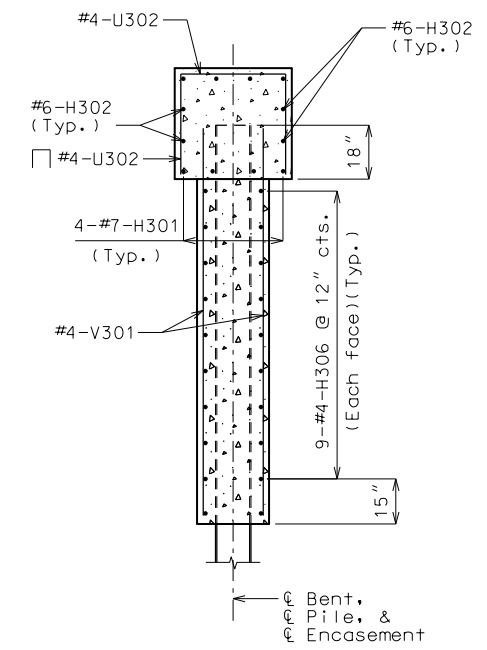
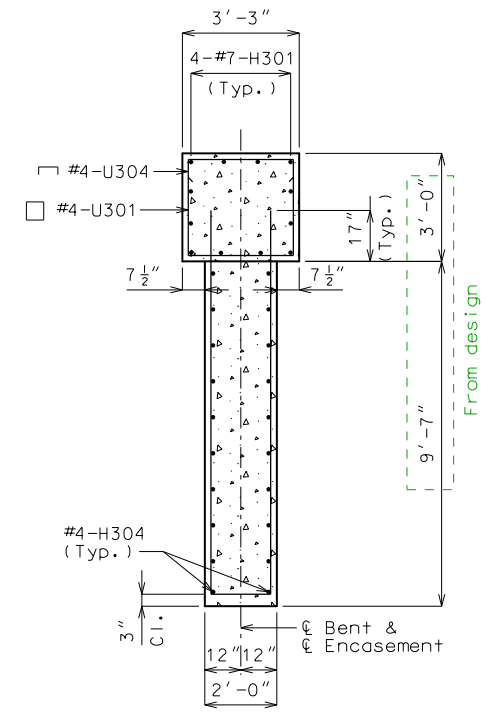
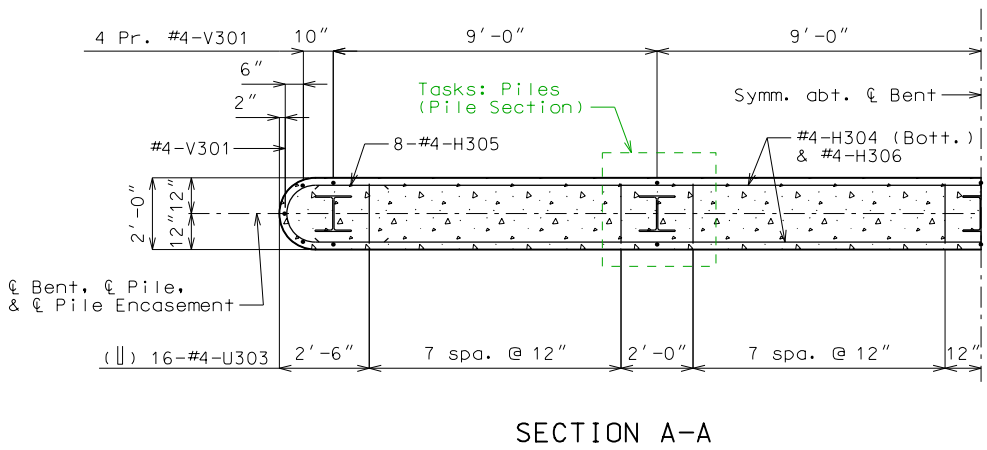
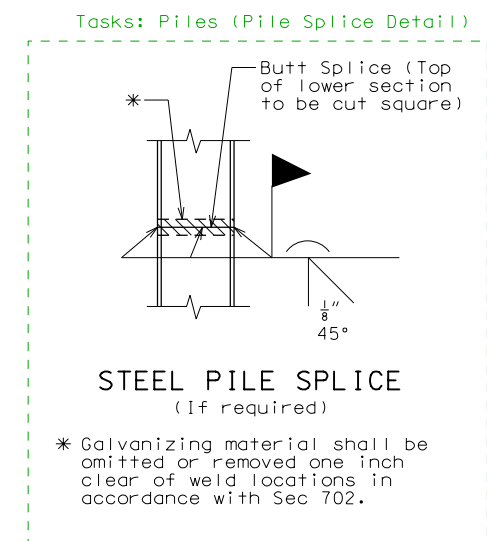
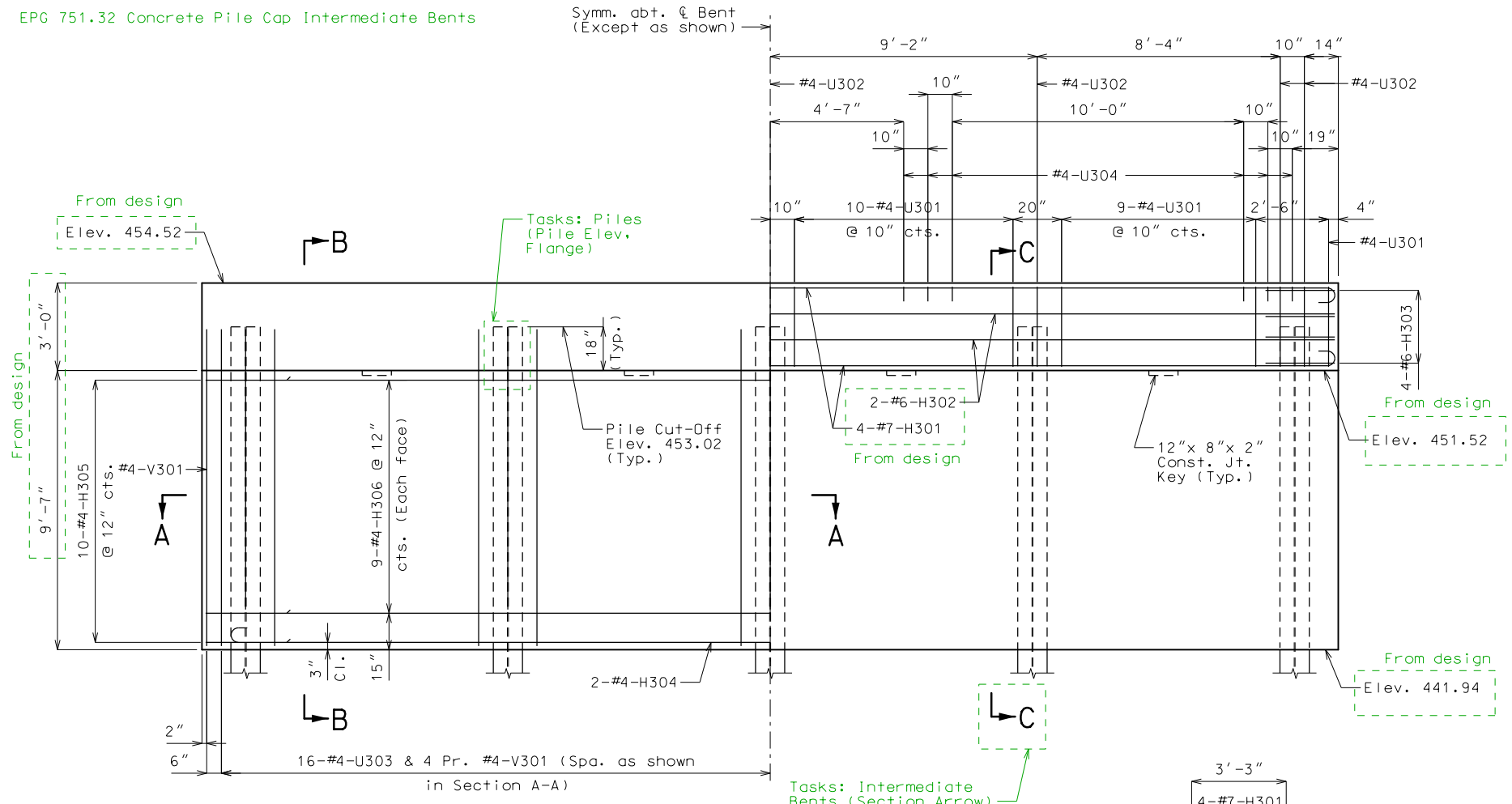
BRIDGE NO.  
EXAMPLE

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
  
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 JEFFERSON CITY, MO 65102  
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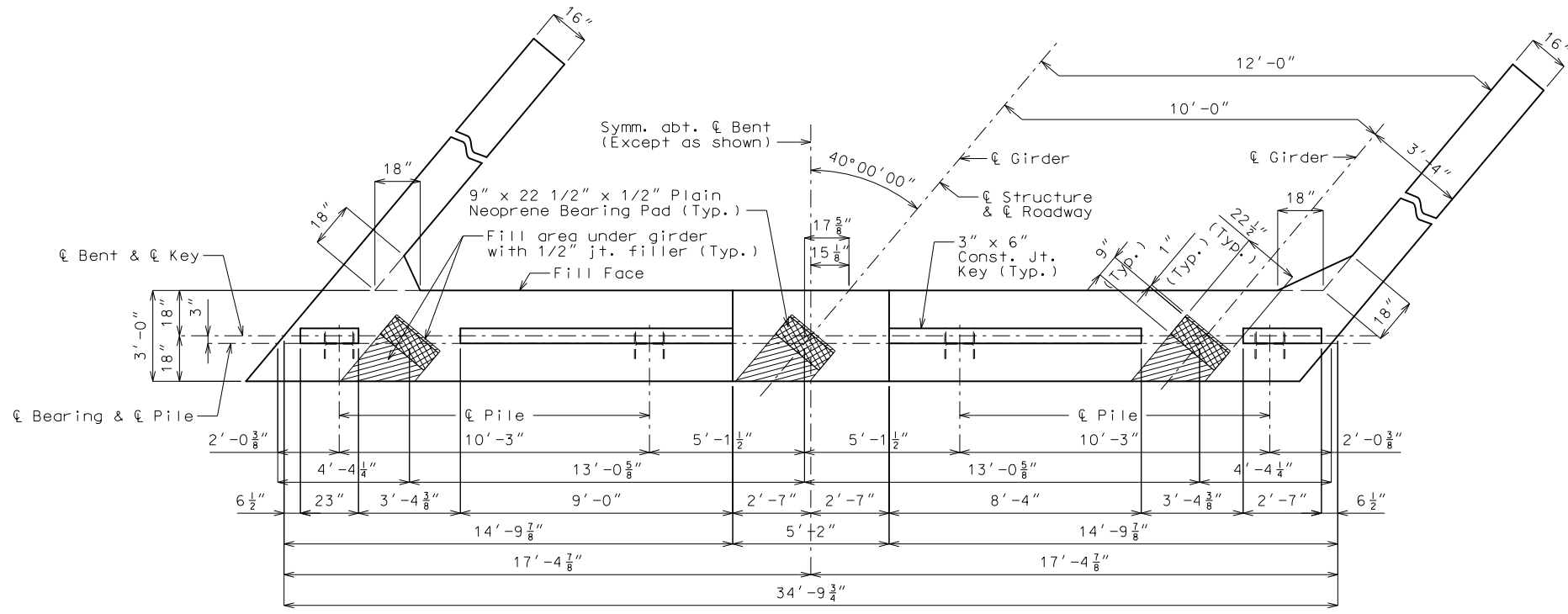


**DETAILS OF INTERMEDIATE BENT NO. 3**

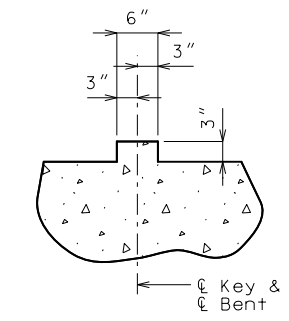
General Notes:  
Work this sheet with Sheet No. 9.

See notations for End Bent No. 1.

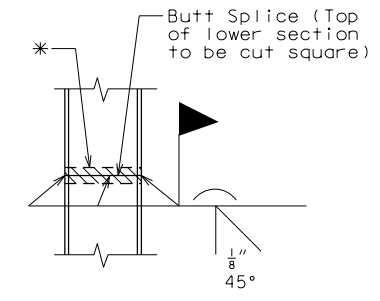
Wing dimensions for End Bent No. 4 may not be the same as End Bent No. 1. See design.



PLAN OF BEAM



SECTION THRU KEY



STEEL PILE SPLICE  
(If required)

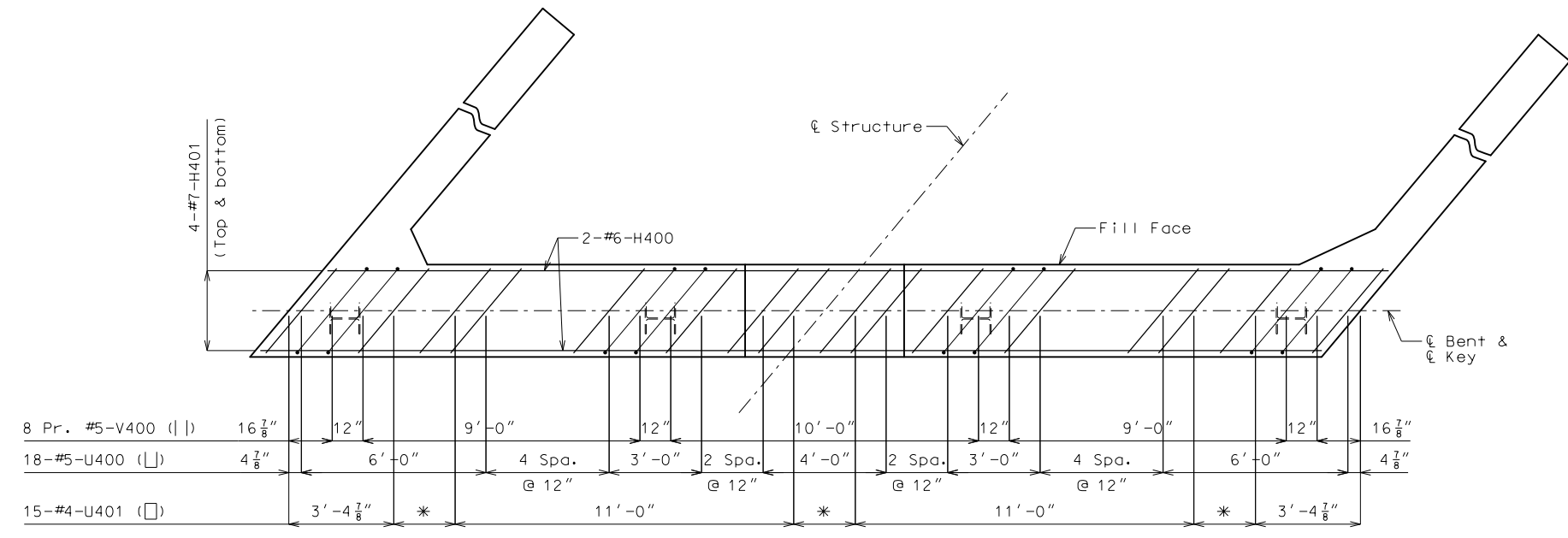
\* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

General Notes:

Work this sheet with Sheets No. 12 & 13.

All U bars and pairs of V bars shall be placed parallel to centerline of roadway.

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



PLAN OF BEAM SHOWING REINFORCEMENT

\* 4 Spaces @ 6"

Keys not shown for clarity.


Substructure Quantity Table for Bent No. 4			
Item	Quantity	Unit	
Class 1 Excavation	40	cu. yard	
Galvanized Structural Steel Piles (12 in.)	120	linear foot	
Pile Point Reinforcement	4	each	
Class B Concrete (Substructure)	16.7	cu. yard	

These quantities are included in the estimated quantities table on Sheet No. 2.

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DATE PREPARED  
11/25/2019  
ROUTE \* STATE MO  
DISTRICT BR SHEET NO. 11  
COUNTY \*  
JOB NO. \*  
CONTRACT ID. \*  
PROJECT NO. \*  
BRIDGE NO. EXAMPLE

DESCRIPTION	DATE

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DATE PREPARED  
11/25/2019

ROUTE STATE  
\* MO

DISTRICT SHEET NO.  
BR 12

COUNTY  
\*

JOB NO.  
\*

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

EXAMPLE

DESCRIPTION

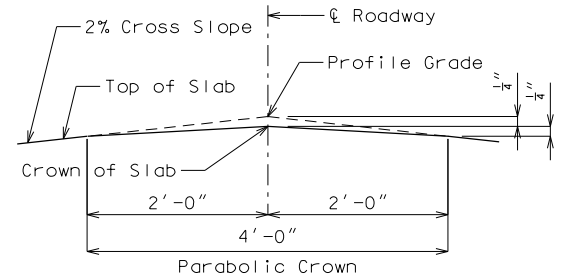
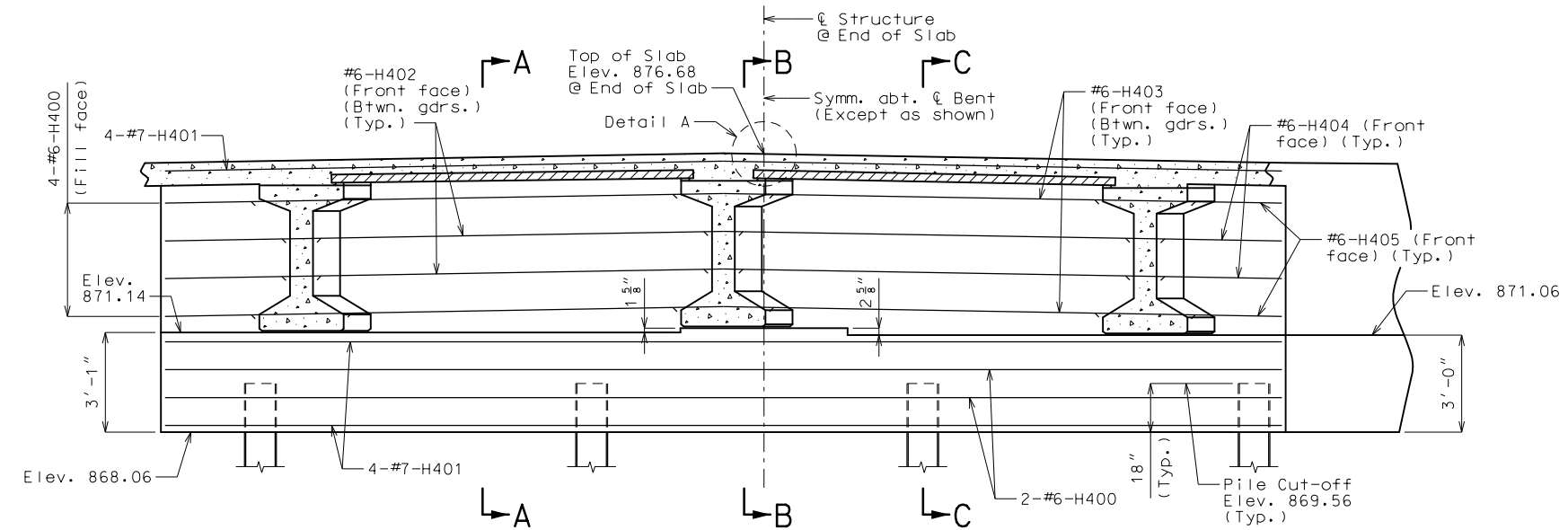
DATE

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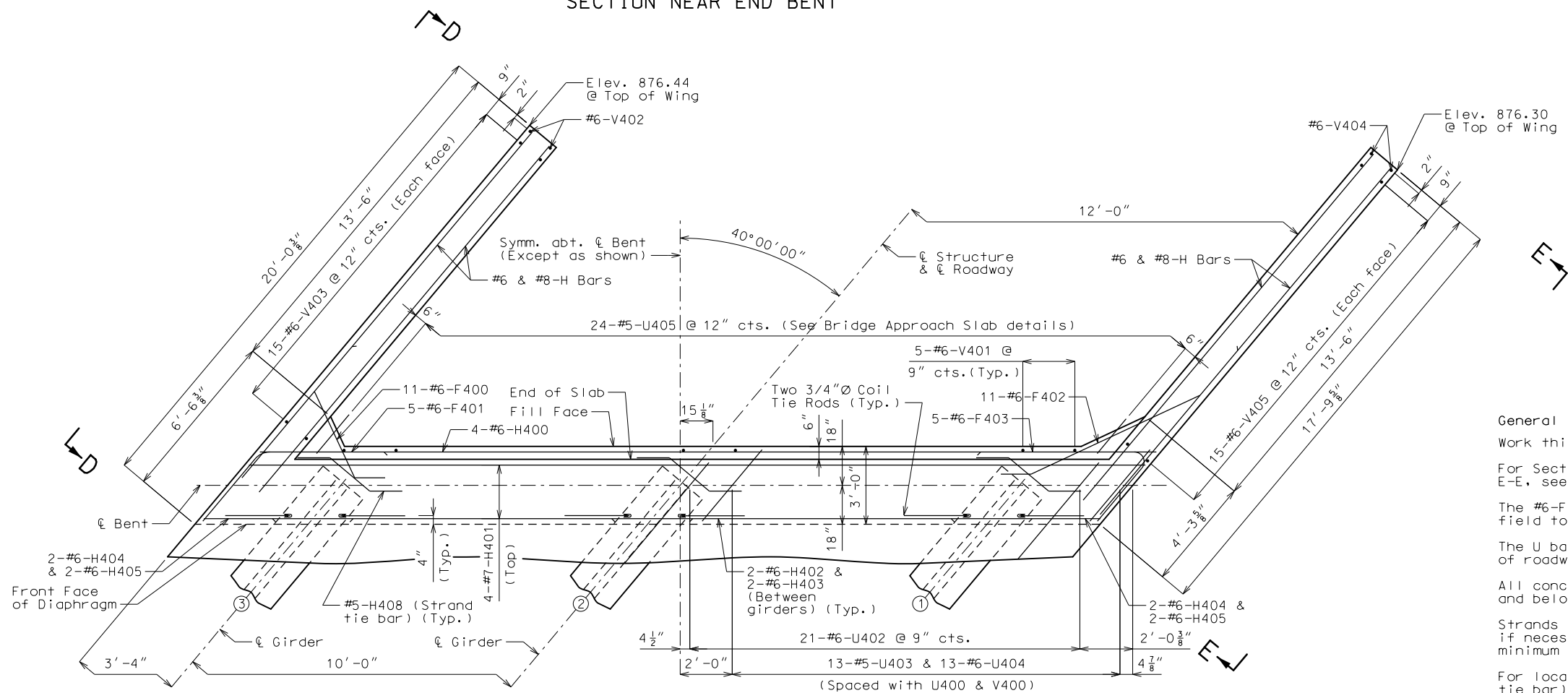
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DETAIL A

SECTION NEAR END BENT



PART PLAN

DETAILS OF END BENT NO. 4

- General Notes:**
- Work this sheet with Sheets No. 11 & 13.
  - For Sections A-A, B-B & C-C and Elevations D-D & E-E, see Sheet No. 13.
  - The #6-F400 and #6-F402 bars shall be bent in the field to clear girders.
  - The U bars shall be placed parallel to centerline of roadway.
  - All concrete in the end bent above top of beam and below top of slab shall be Class B-2.
  - Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.
  - For location of coil tie rods and #5-H408 (strand tie bar), see Sheet No. 14.
  - For details of vertical drain at end bents, see Sheet No. 6.
  - For details of bridge approach slab, see Sheet No. 26.

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DATE PREPARED  
11/25/2019

ROUTE STATE  
\* MO

DISTRICT SHEET NO.  
BR 13

COUNTY  
\*

JOB NO.  
\*

CONTRACT ID.

PROJECT NO.

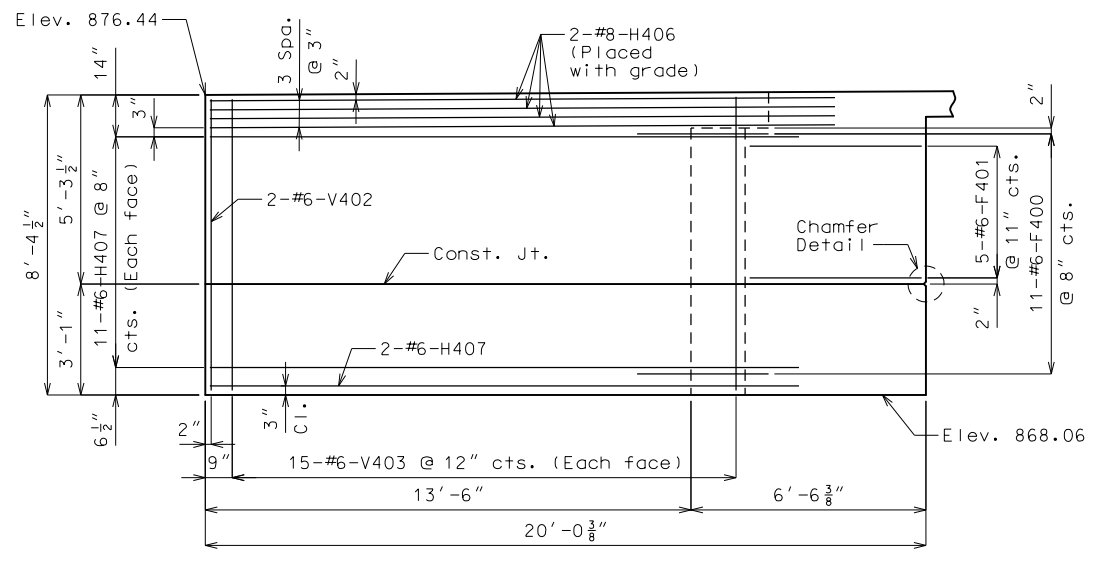
BRIDGE NO.  
EXAMPLE

DESCRIPTION	DATE

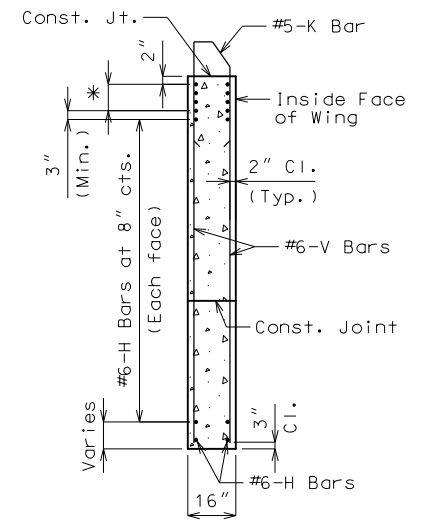
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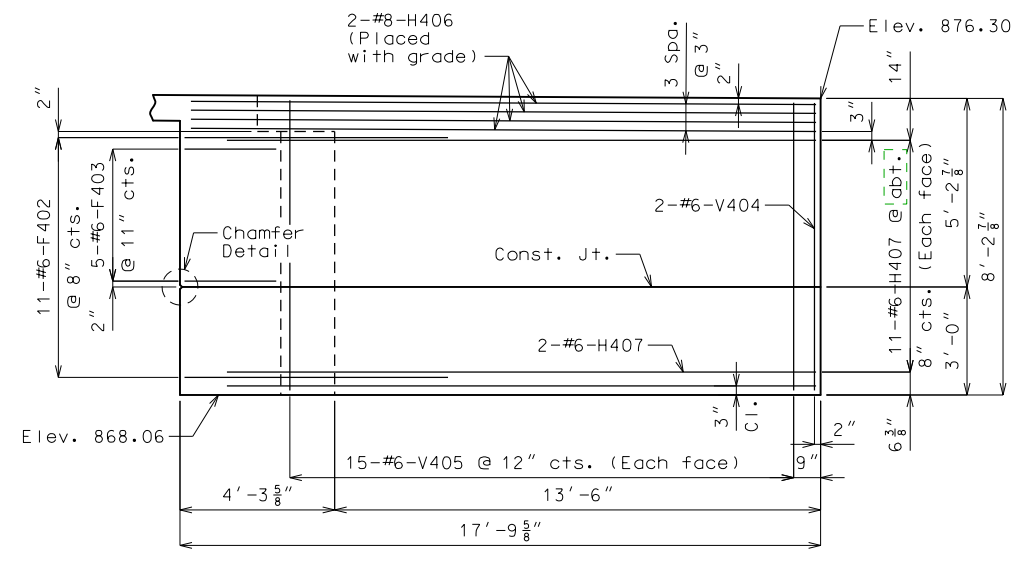


ELEVATION D-D

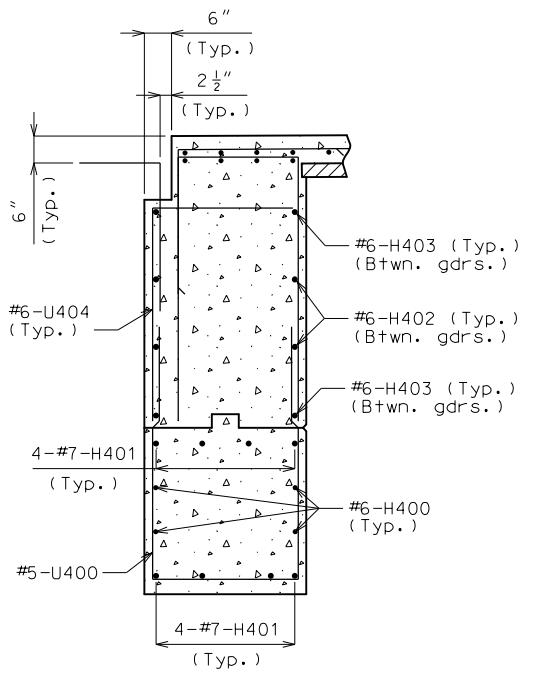


TYPICAL SECTION THRU WING

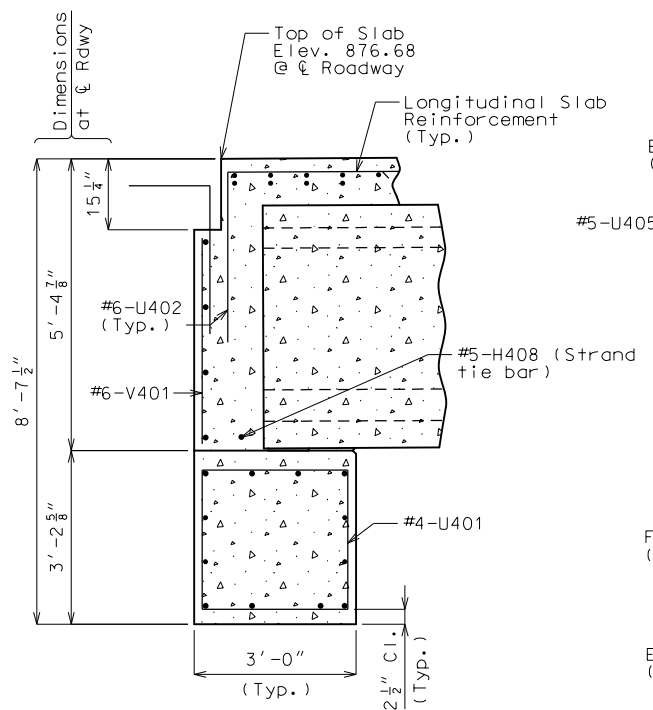
\* #8-H Bars at 3\"/>



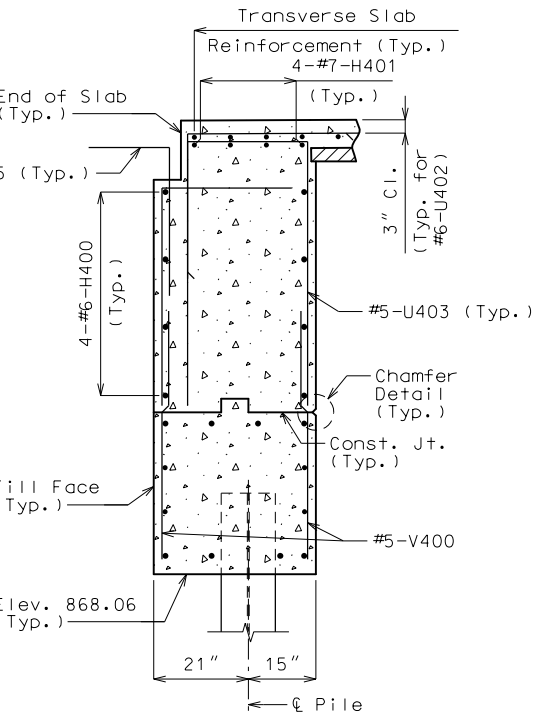
ELEVATION E-E



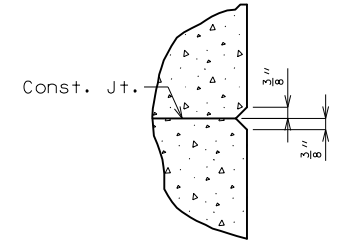
SECTION A-A



SECTION B-B



SECTION C-C



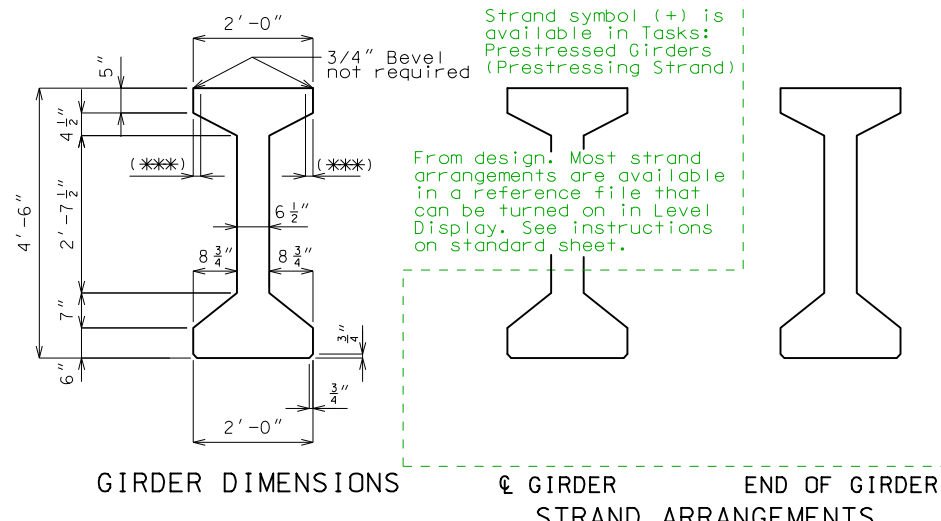
CHAMFER DETAIL

General Notes:  
Work this sheet with Sheets No. 11 & 12.  
For location of Sections A-A, B-B & C-C and Elevations D-D & E-E, see Sheet No. 12.  
For reinforcement of the safety barrier curb, see Sheet No. 24.

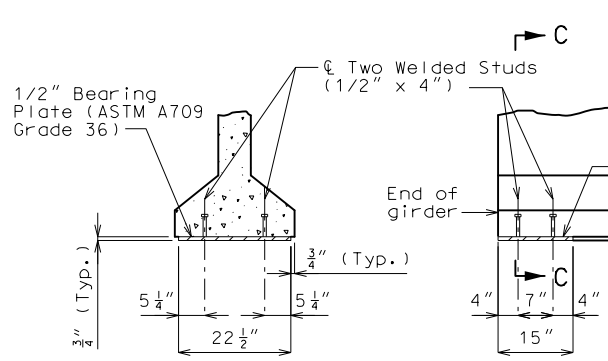
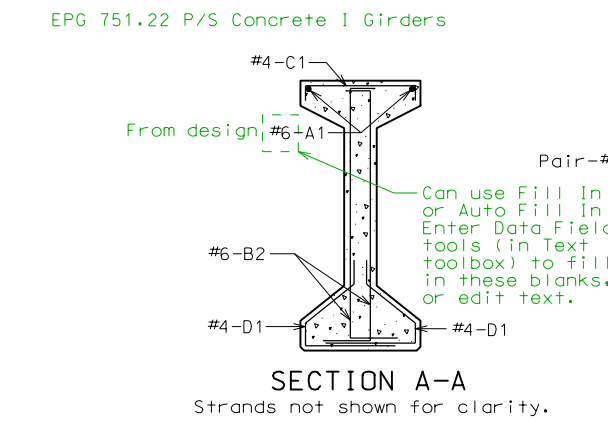
DETAILS OF END BENT NO. 4

Concrete for prestressed girders shall be Class A-1 with  $f'c = 6000$  psi and  $f'ci = 4500$  psi.  
 (+) indicates prestressing strand.  
 Use 18 strands with an initial prestress force of 558 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.



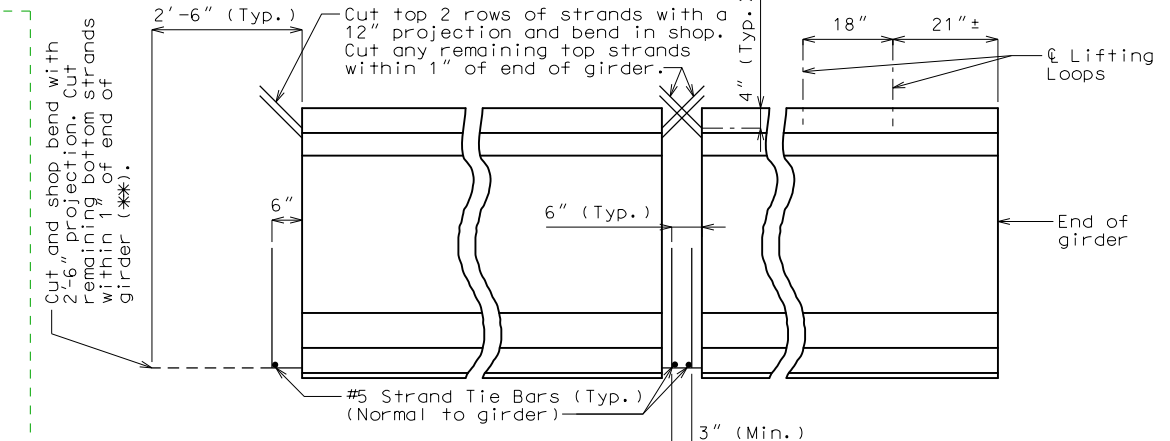
Use current standard sheet, found in ProjectWise under Bridge/A\_Bridge\_Standard\_Drawings/PSI\_Girders\_PSI/Current/ (use appropriate girder type and size)



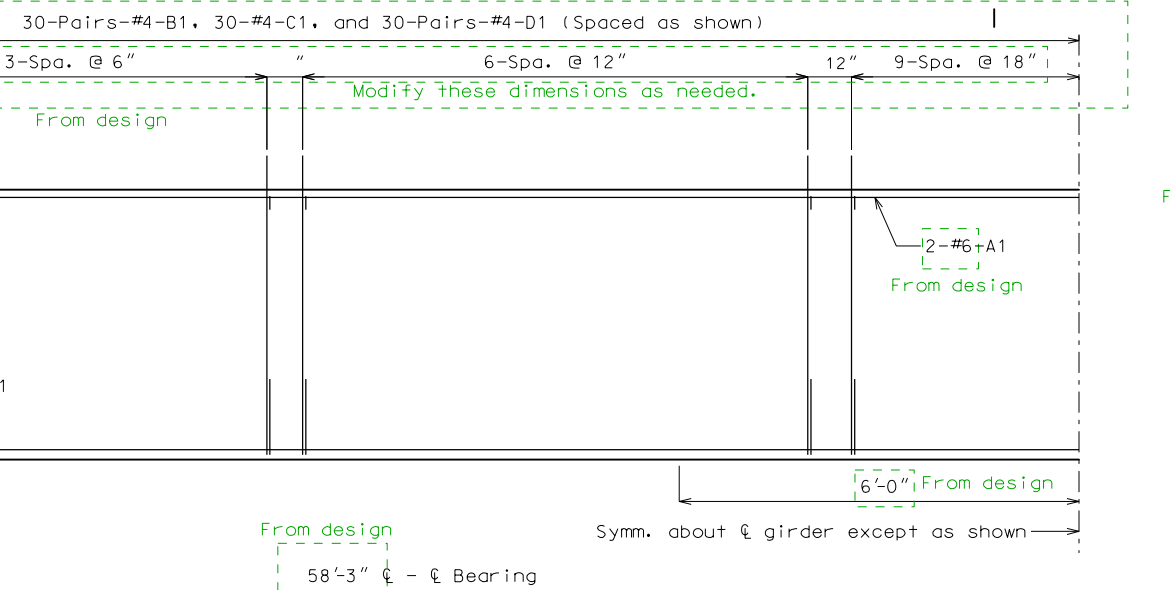
**BEARING PLATE DETAILS**  
 Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.  
 Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete I-Girder.

\*\* At the contractor's option the location for bent-up strands may be varied from that shown. 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.

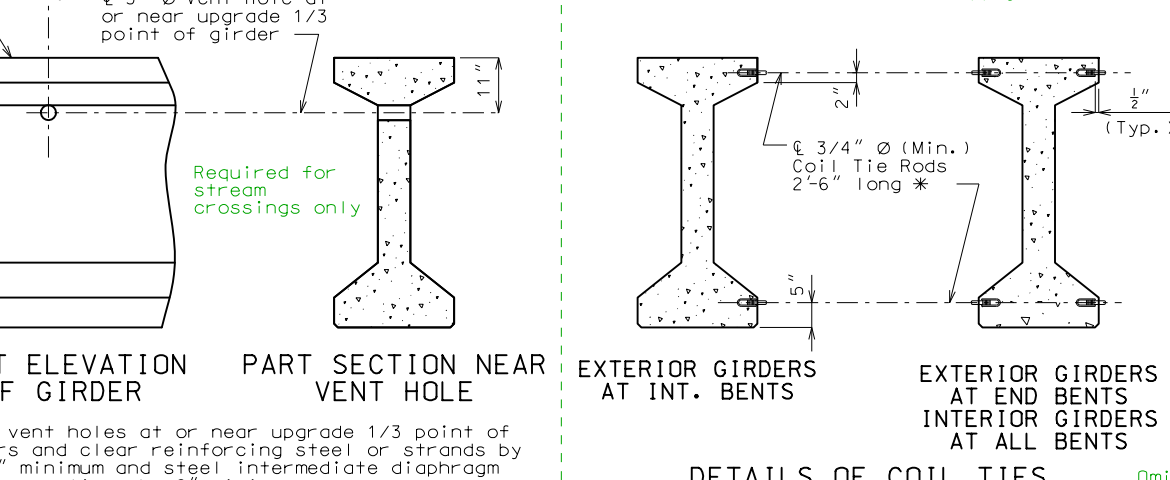
\*\*\* At contractor's option a 3" to 3 1/4" smooth finish strip is permitted to facilitate placement of preformed fiber expansion joint material or expanded or extruded polystyrene bedding material for the prestressed panels.



**END BENT STRAND DETAILS AT GIRDER ENDS** and **INTERMEDIATE BENT STRAND DETAILS AT GIRDER ENDS**



**HALF ELEVATION OF GIRDER SPAN** - Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains and holes for steel intermediate diaphragms.

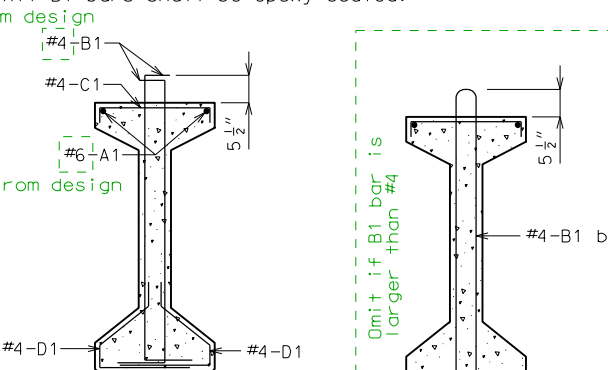


**DETAILS OF COIL TIES** - Exterior girders at int. bents and exterior girders at end bents / interior girders at all bents.

Detailer calculates marked values.

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
2	6 A1	59'-0"	20	
120	X B1	5'-11"	11	
16	6 B2	5'-4"	11	
68	4 C1	2'-2"	10	
136	4 D1	3'-0"	9	

All dimensions are out to out.  
 Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.  
 Actual lengths are measured along centerline of bar to the nearest inch.  
 Minimum clearance to reinforcing shall be 1".  
 All reinforcement shall be Grade 60.  
 The two D1 bars may be furnished as one bar at the fabricator's option.  
 All B1 bars shall be epoxy coated.



**SECTION B-B** - Strands not shown for clarity. **B1 BAR PERMISSIBLE ALTERNATE SHAPE** - Omit if B1 bar is larger than #4.

Cost of 3/4"  $\emptyset$  coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete I-Girder.  
 Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting through forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.  
 For location of coil inserts at slab drains, see Sheet No. [blank].  
 For location of coil ties, see Sheets No. [blank] & [blank].  
 The 1 1/2"  $\emptyset$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.  
 For details of diaphragms, see Sheet No. [blank].  
 For Girder Camber Diagram, see Sheet No. [blank].  
 \* Length of coil tie rods at exterior girders at end bents = 2'-4".  
 Omit if length is  $\geq$  2'-6". See EPG 751.22.3.14.

Detailer calculates

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DATE PREPARED: 11/25/2019  
 ROUTE: MO  
 DISTRICT: BR  
 COUNTY: \*  
 JOB NO.: \*  
 CONTRACT ID.: \*  
 PROJECT NO.: \*  
 BRIDGE NO.: EXAMPLE

DESCRIPTION: [blank]  
 DATE: [blank]

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

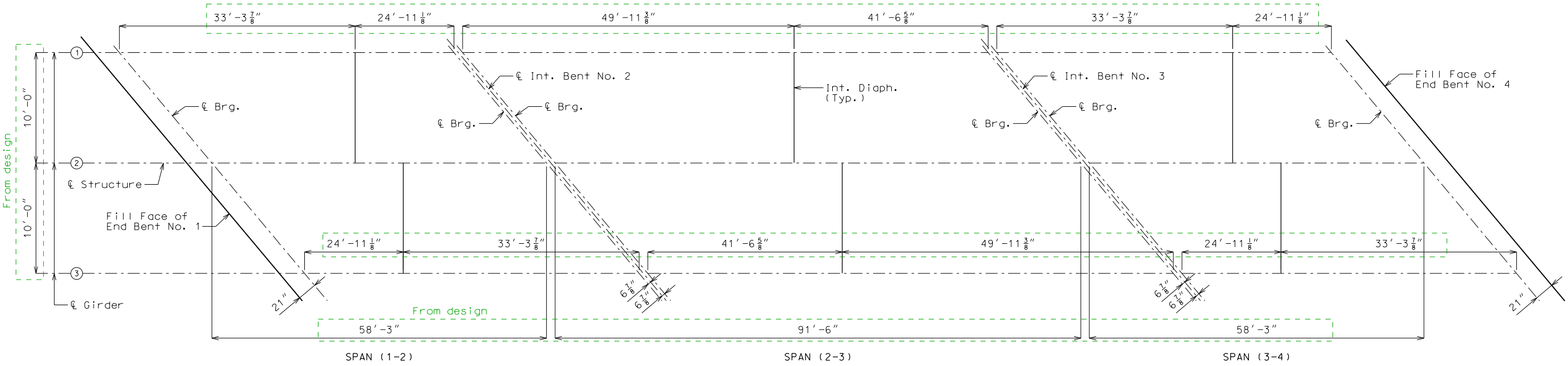
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 1-888-ASK-MODOT (1-888-275-6636)

MoDOT

Omitted Sheet No. 15 (Prestressed Girder) because it is similar to this sheet.

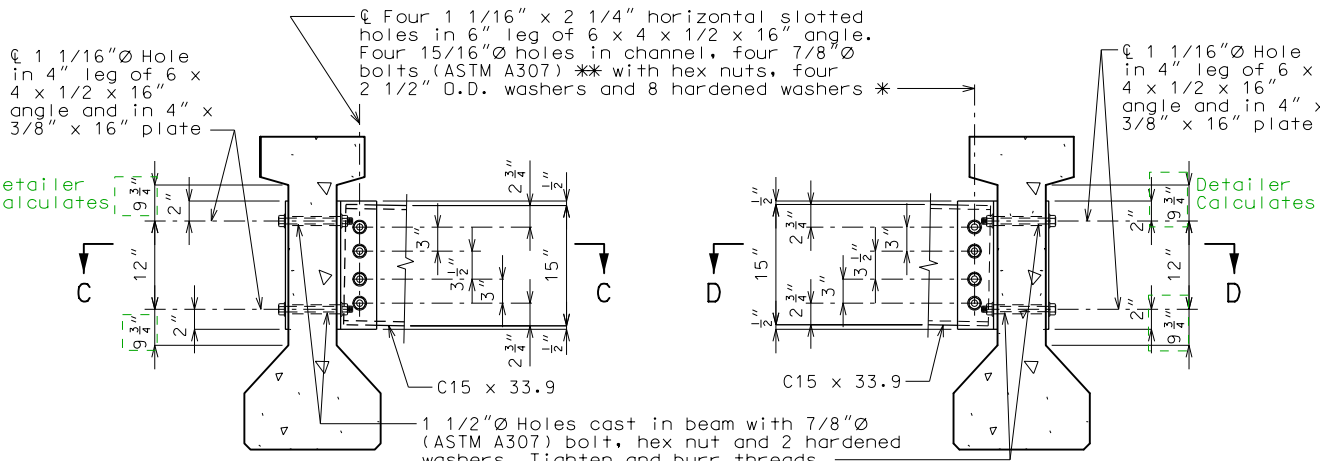
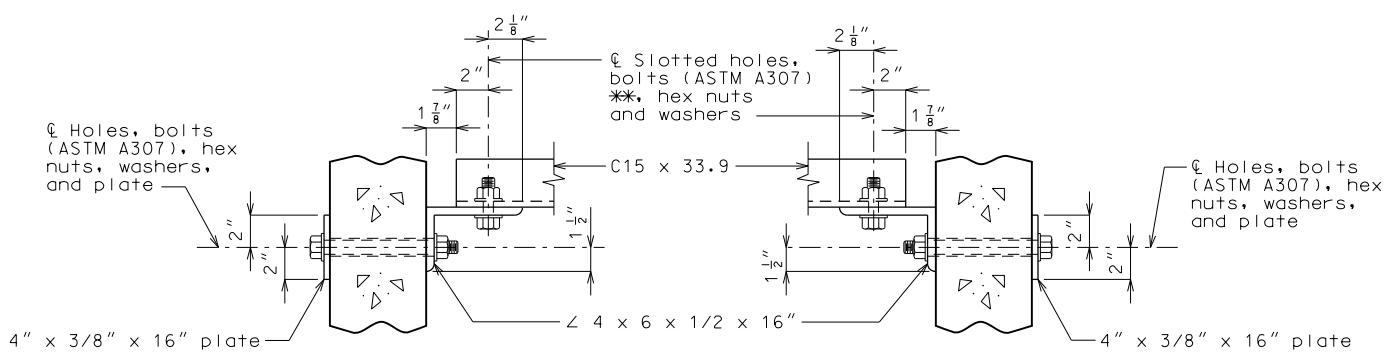
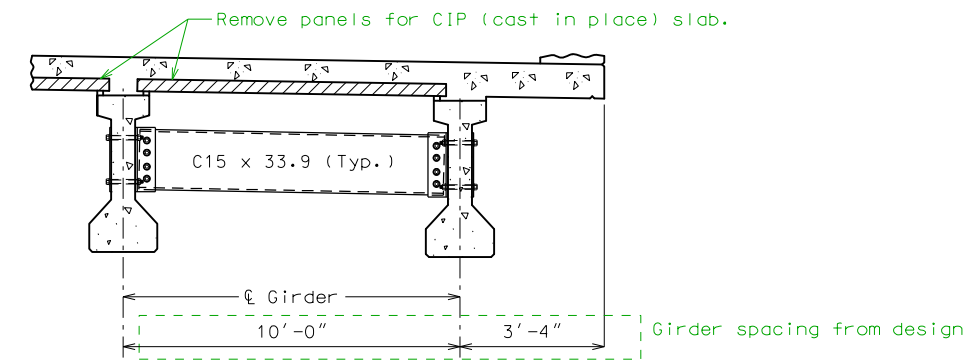
Example\_plans\_014\_2019\_gdr.dgn 3:37:47 PM 11/25/2019

See EPG 751.22.3.13 Intermediate Diaphragms



Use current standard sheet, found in ProjectWise under Bridge/A\_BR\_S+D\_Dwgs/Diaphragms\_DIA/Current/ (Use appropriate version for girder type and skew)

Check that the 1 1/2"Ø holes for the diaphragms shown on the plans will provide a minimum clearance of 1 1/2" to any prestressing strands in concrete girders. Diaphragm spacing may need to be adjusted.



**STEEL DIAPHRAGM NOTES:**

- \* In lieu of 2 1/2" outside diameter washers, contractor may substitute a 3/16" (Min. thickness) plate with four 15/16" Ø holes and one hardened washer per bolt.
- \*\* Bolts shall be tightened to provide a tension of one-half that specified in Sec 712 for high strength bolt installation. ASTM F3125 Grade A325 Type 1 bolts may be substituted for and installed in accordance with the requirements for the specified ASTM A307 bolts.
- All diaphragm materials including bolts, nuts, and washers shall be galvanized.
- Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.
- Payment for furnishing and installing steel intermediate diaphragms will be considered completely covered by the contract unit price for Steel Intermediate Diaphragm for P/S Concrete Girders.
- Shop drawings will not be required for steel intermediate diaphragms and angle connections.

For location of intermediate diaphragms, see Sheet No. .

**STEEL INTERMEDIATE DIAPHRAGMS**

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DATE PREPARED: 7/28/2020

ROUTE: BR DISTRICT: BR STATE: MO SHEET NO.: 16

COUNTY: \* JOB NO.: \* CONTRACT ID.: PROJECT NO.: BRIDGE NO.: EXAMPLE

DESCRIPTION: DATE:

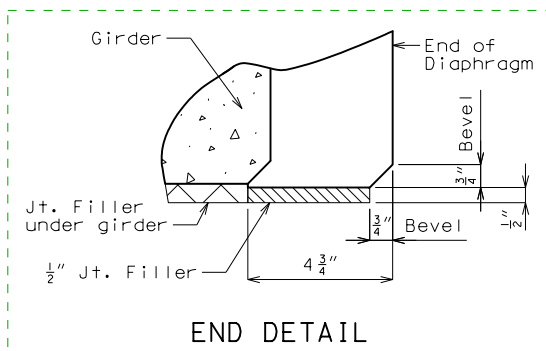
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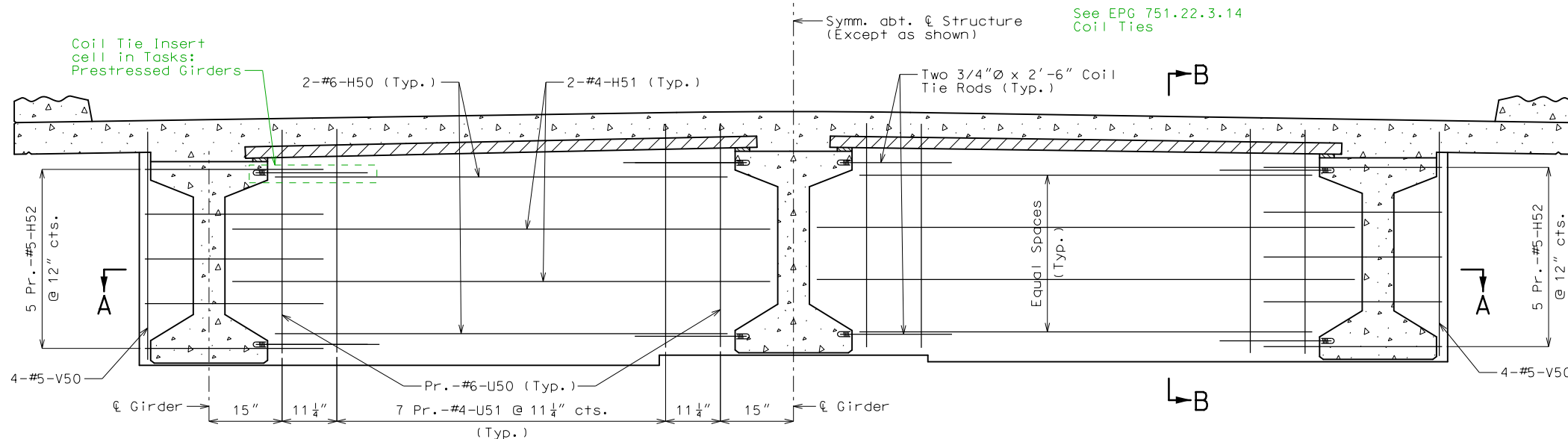
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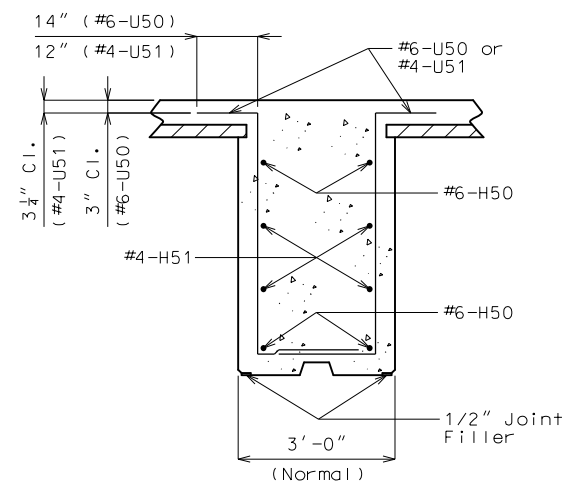
See EPG 751.22.3.10  
Closed Intermediate Bent Diaphragms



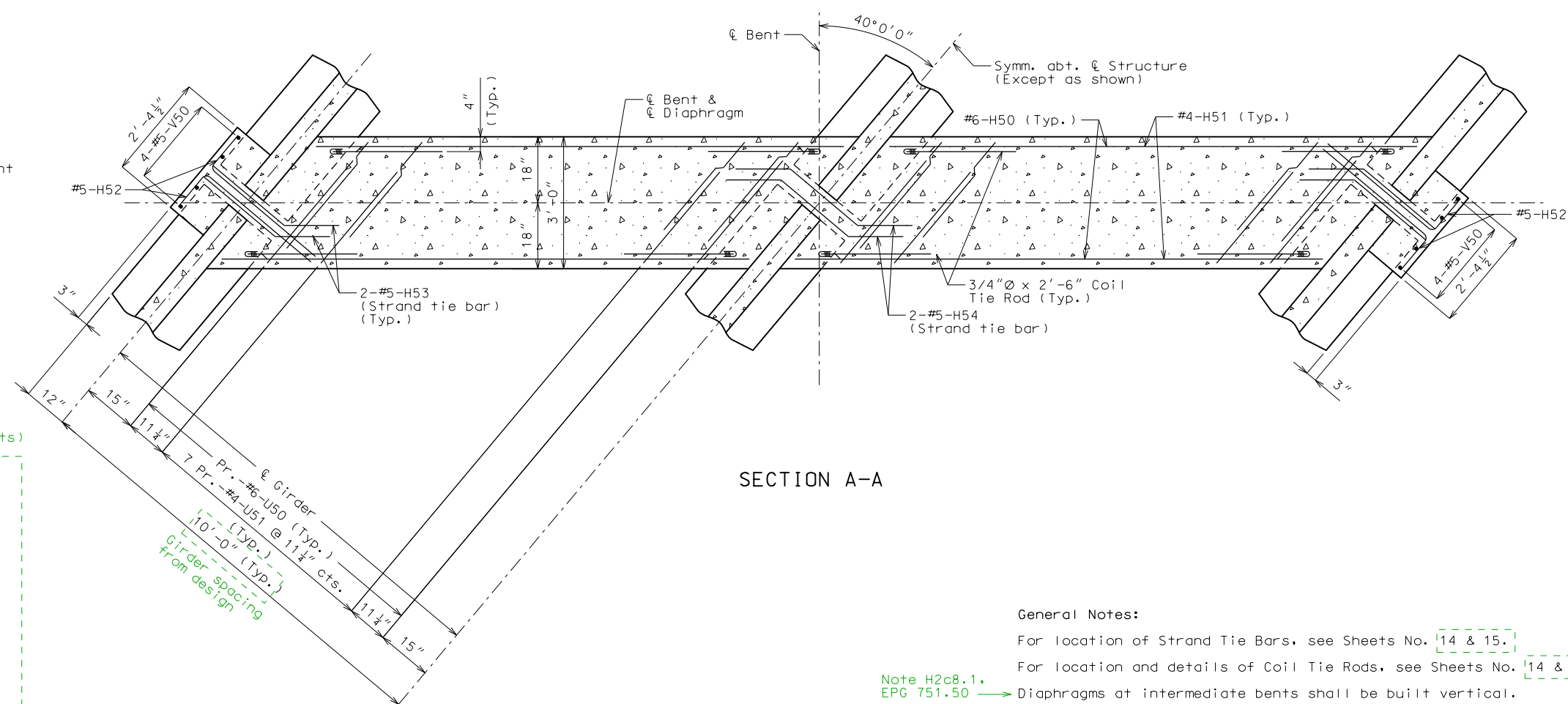
Cell in Tasks: Intermediate Bents  
(Diaphragm End Detail for I-Girders)



SECTION NEAR INTERMEDIATE BENT  
Normal to  $\phi$  Structure

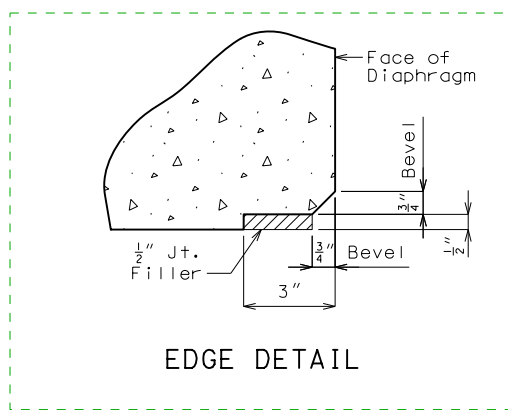


SECTION B-B



SECTION A-A

Cell in Tasks: Intermediate Bents  
(Diaphragm Edge Detail for Fixed Bents)



EDGE DETAIL

- General Notes:
- For location of Strand Tie Bars, see Sheets No. 14 & 15.
  - For location and details of Coil Tie Rods, see Sheets No. 14 & 15.
  - Note H2c8.1, EPG 751.50 → Diaphragms at intermediate bents shall be built vertical.
  - All U-bars in diaphragms are to be placed parallel to  $\phi$  Roadway.

CONCRETE DIAPHRAGMS AT INTERMEDIATE BENTS NO. 2 & 3

Note: This drawing is not to scale. Follow dimensions. Sheet No. 17 of

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DATE PREPARED: 7/28/2020

ROUTE: \* STATE: MO

DISTRICT: BR SHEET NO.: 17

COUNTY: \*

JOB NO.: \*

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: EXAMPLE

DESCRIPTION:

DATE:

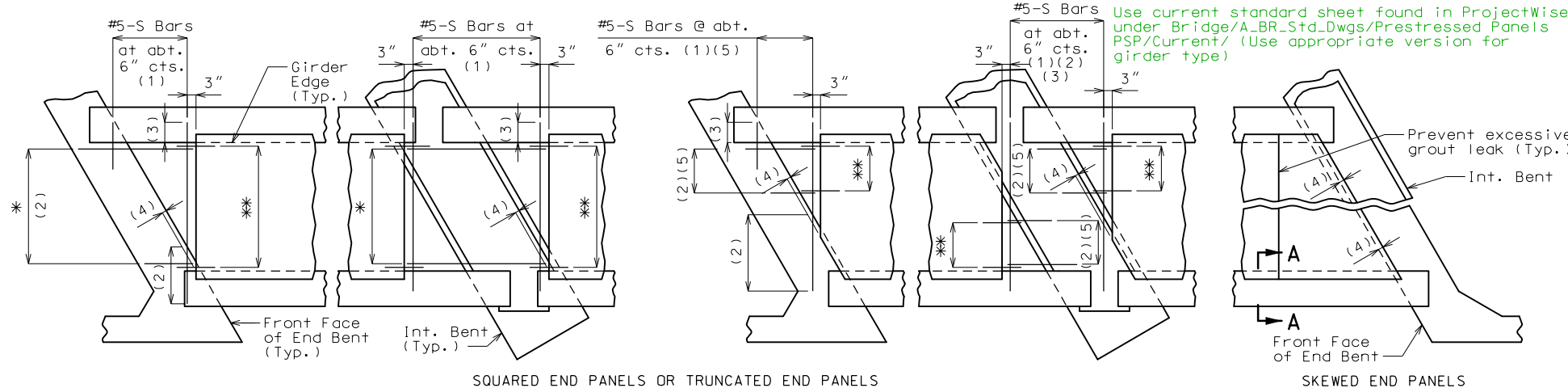
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

MoDOT

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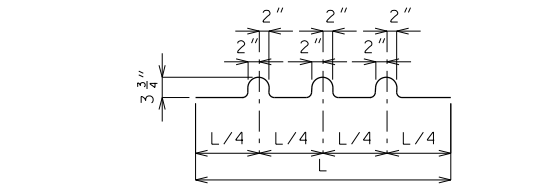




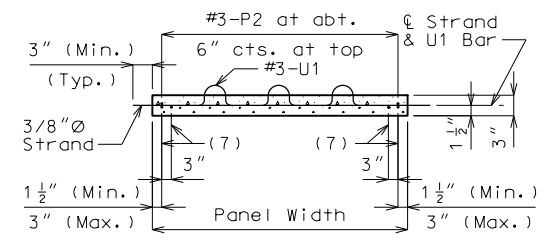
SQUARED END PANELS OR TRUNCATED END PANELS SKewed END PANELS

PLAN SHOWING PANELS PLACEMENT

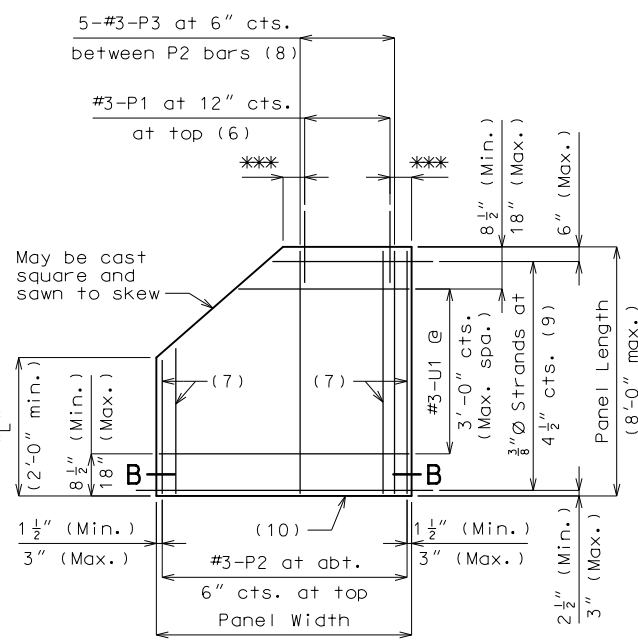
\* #5-S Bars at abt. 9" cts. (1)  
\*\* #3-P1 at 12" cts. (End panels only)



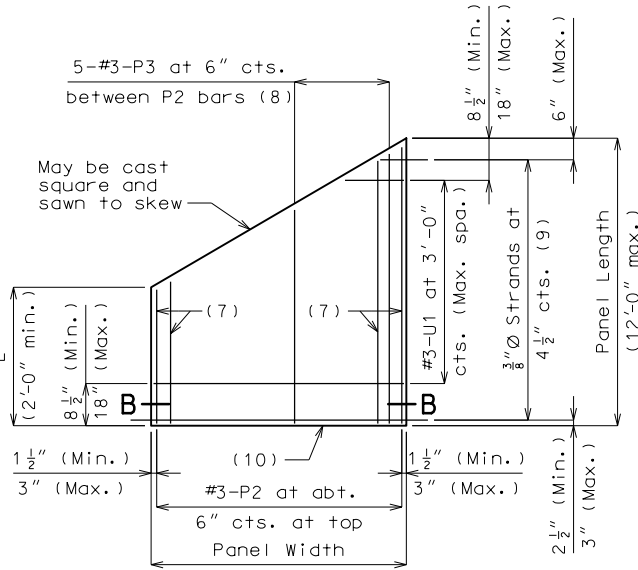
BENDING DIAGRAM FOR U1 BAR



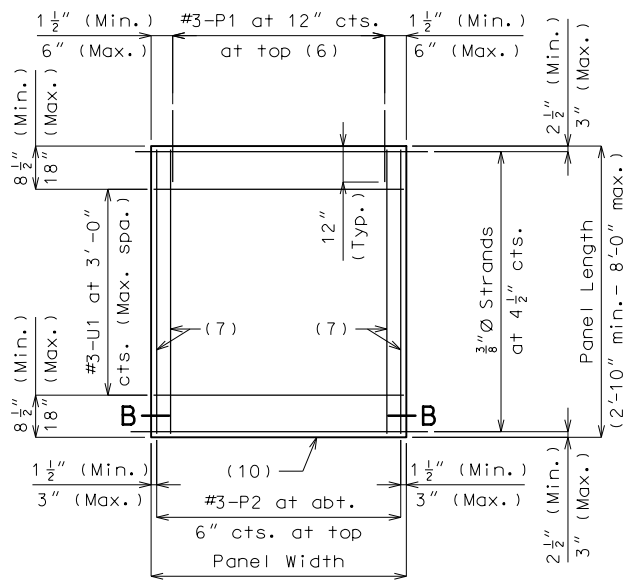
SECTION B-B



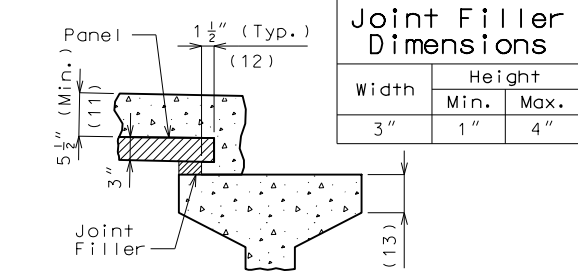
PLAN OF OPTIONAL TRUNCATED END PANEL



PLAN OF OPTIONAL SKEWED END PANEL



PLAN OF SQUARED PANEL



SECTION A-A

Reference Notes:

- Plan of Panels Placement:
- (1) S-bars shown are bottom steel in slab between panels and used with squared and truncated end panels only.
  - (2) Extend S-bars 18 inches beyond the front face of end bents and int. bents for squared and truncated end panels only.
  - (3) Extend S-bars 9 inches beyond edge of girder (Typ.).
  - (4) End panels shall be dimensioned 1/2" min. to 1 1/2" max. from the inside face of diaphragm.
  - (5) For truncated end panels, use a min. of #5-S bars at 6" crossings in openings, or min. 4x4-W7xW7.
  - (6) For end panels only, P1 bars shall be 2'-0" in length and embedded 12". P1 bars will not be required for panels at squared integral end bents.
  - (7) #3-P2 bars near edge of panel at bottom (under strands).
  - (8) Use #3-P3 bars if panel is skewed 45° or greater.
  - (9) Any strand 2'-0" or shorter shall have a #4 reinforcing bar on each side of it, centered between strands. Strands 2'-0" or shorter may then be debonded at the fabricator's option.
  - (10) Optional 1/2" x 45° Chamfer one or both sides at bottom.
- Section A-A:
- (11) Slab thickness over prestressed panels varies due to girder camber. In order to maintain minimum slab thickness, it may be necessary to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for necessary grade adjustment.
  - (12) Contractor shall ensure proper consolidation under and between panels.
  - (13) At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the girder top flange thickness. Dimensions shall be shown on the shop drawings.

General Notes:

Prestressed Panels:  
 Concrete for prestressed panels shall be Class A-1 with  $f'c = 6,000$  psi,  $f'ci = 4,000$  psi.

The top surface of all panels shall receive a scored finish with a depth of scoring of 1/8" perpendicular to the prestressing strands in the panels.

Prestressing tendons shall be high-tensile strength, uncoated, seven-wire, low-relaxation strands for prestressed concrete in accordance with AASHTO M 203 Grade 270, with nominal diameter of strand = 3/8" and nominal area = 0.085 sq. in. and minimum ultimate strength = 22.95 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 kips/strand.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided the devices are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When squared end panels are used at skewed bents, the skewed portion shall be cast full depth. No separate payment will be made for additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3,000 psi compressive strength.

Prestressed panels shall be brought to saturated surface-dry (SSD) condition just prior to the deck pour. There shall be no free standing water on the panels or in the area to be cast.

The prestressed panel quantities are not included in the table of estimated quantities for the slab.

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

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

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Deformed welded wire reinforcement (WWR) providing a minimum area of reinforcing perpendicular to strands of 0.22 sq in./ft, with spacing parallel to strands sufficient to ensure proper handling, may be used in lieu of the #3-P2 bars shown. Wire diameter shall not be larger than 0.375 inch. The above alternative reinforcement criteria may be used in lieu of the #3-P3 bars, when required, and placed over a width not less than 2 feet.

The following reinforcing steel shall be tied securely to the strands with the following maximum spacing in each direction:  
 #3-P2 bars at 16 inches.  
 WWR at 24 inches.

The #3-U1 bars shall be tied securely to #3-P2 bars, to WWR or to strands (when placed between P1 bars) at about 3-foot centers.

Minimum reinforcement steel length shall be 2'-0".

All reinforcement other than prestressing strands shall be epoxy coated.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

S-bars are not listed in the bill of reinforcing.

Cost of S-bars will be considered completely covered by the contract unit price for the slab.

Joint Filler:

Joint filler shall be preformed fiber expansion joint material in accordance with Sec 1057 or expanded or extruded polystyrene bedding material in accordance with Sec 1073. Fill in

Use Slab Haunching Diagram on Sheet No. XX for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

Thicker material may be used on one or both sides of the girder to reduce cast-in-place concrete thickness to within tolerances.

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/4 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

Joint filler shall be glued to the girder. When thickness exceeds 1 1/2 inches, the joint filler shall be glued top and bottom. The glue used shall be the type recommended by the joint filler manufacturer.

Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

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DATE PREPARED		7/28/2020	
ROUTE	STATE	MO	
DISTRICT	SHEET NO.	BR	18
COUNTY			
* JOB NO. *			
CONTRACT ID.			
PROJECT NO.			

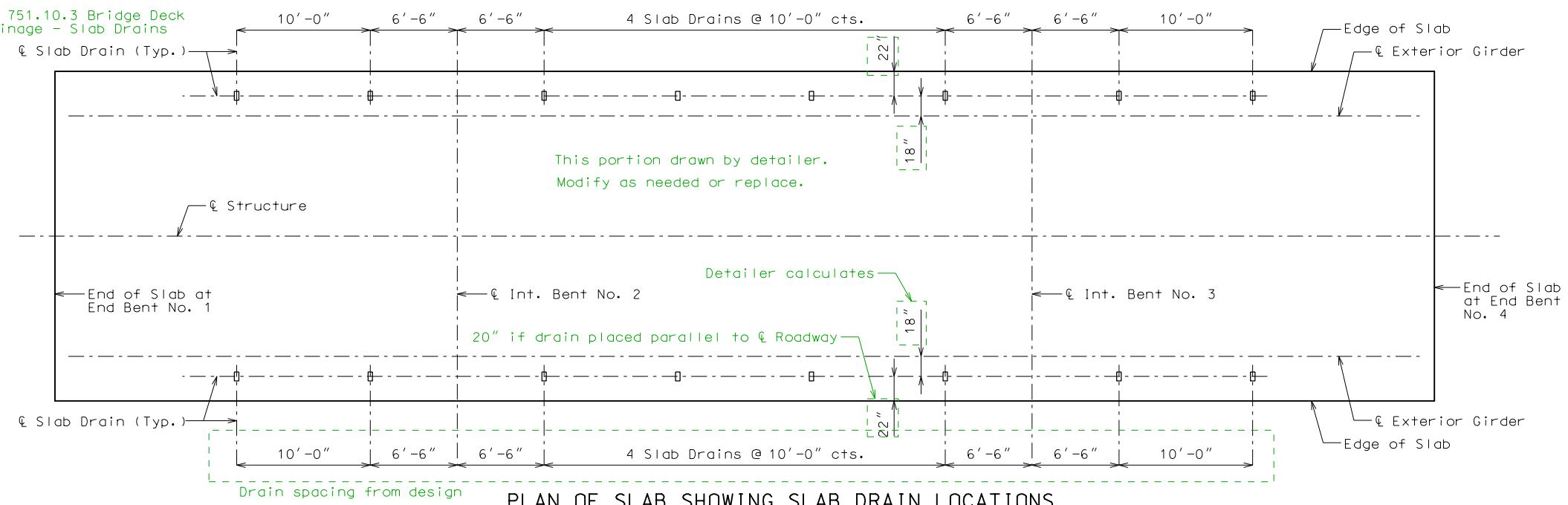
BRIDGE NO. EXAMPLE

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

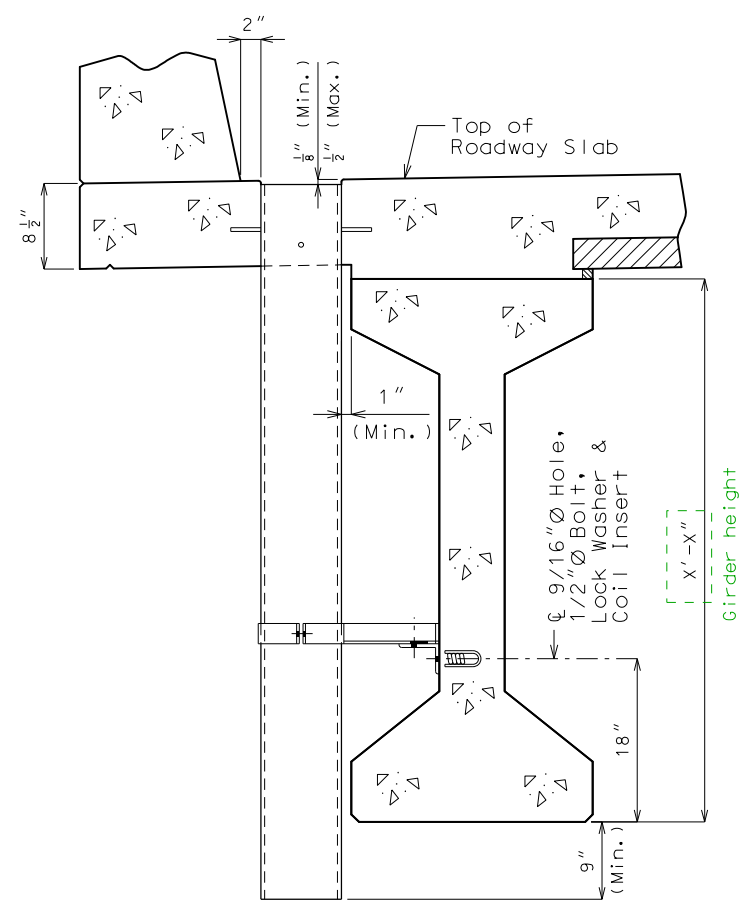
Use current standard sheet found in ProjectWise Bridge/A\_BR\_Std\_Dwgs/Drains\_V\_DRA-S\_DRA/Current/S\_DRA (Use appropriate version for girder type)

EPG 751.10.3 Bridge Deck Drainage - Slab Drains

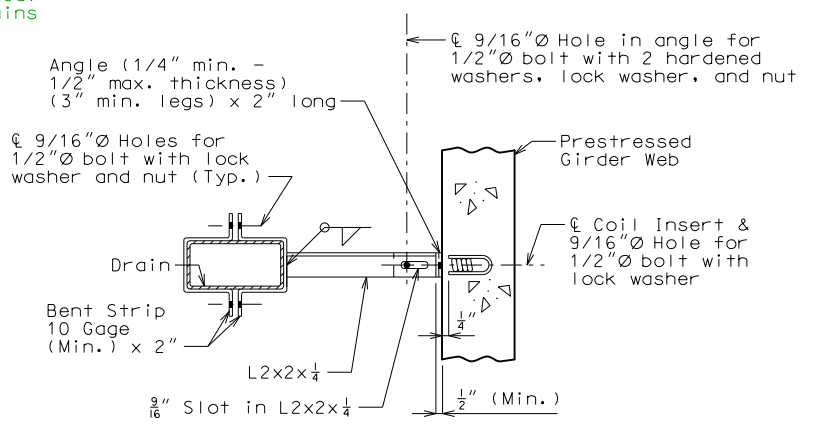


PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS

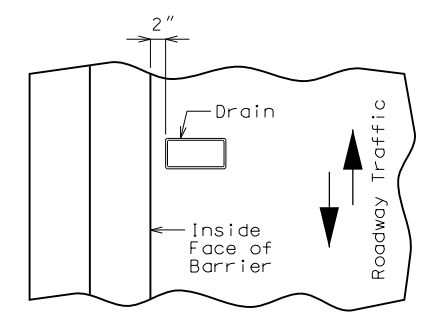
On Standard Drawing, Details of Drains Parallel to Roadway are drawn outside the border. If needed, use those in place of details for transverse drains shown in this example.



PART SECTION NEAR DRAIN

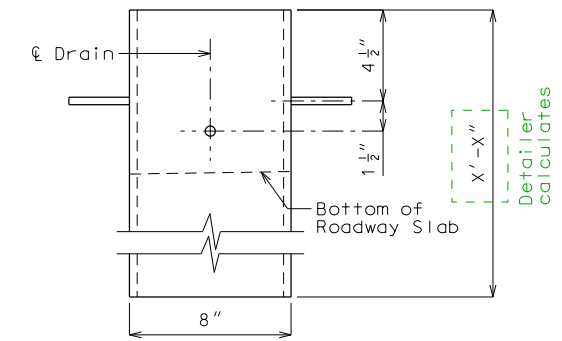


PART SECTION SHOWING BRACKET ASSEMBLY

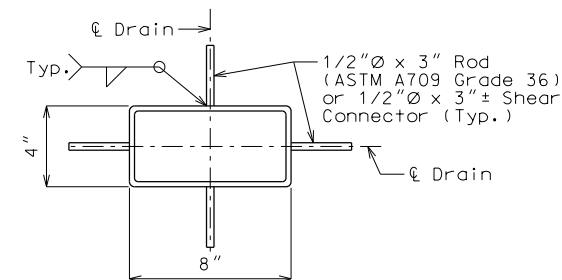


PART PLAN OF SLAB AT DRAIN

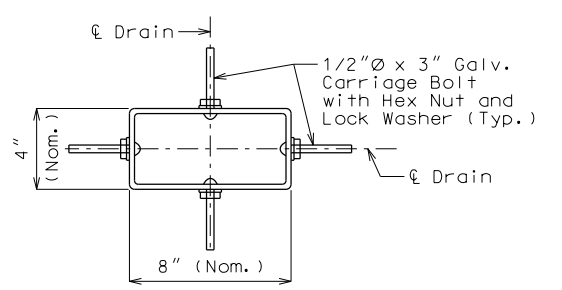
SLAB DRAINS



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil insert required for the bracket assembly attachment shall be located on the prestressed girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed girder fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard 26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

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DATE PREPARED 7/28/2020	
ROUTE *	STATE MO
DISTRICT BR	SHEET NO. 19
COUNTY *	
JOB NO. *	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. EXAMPLE	

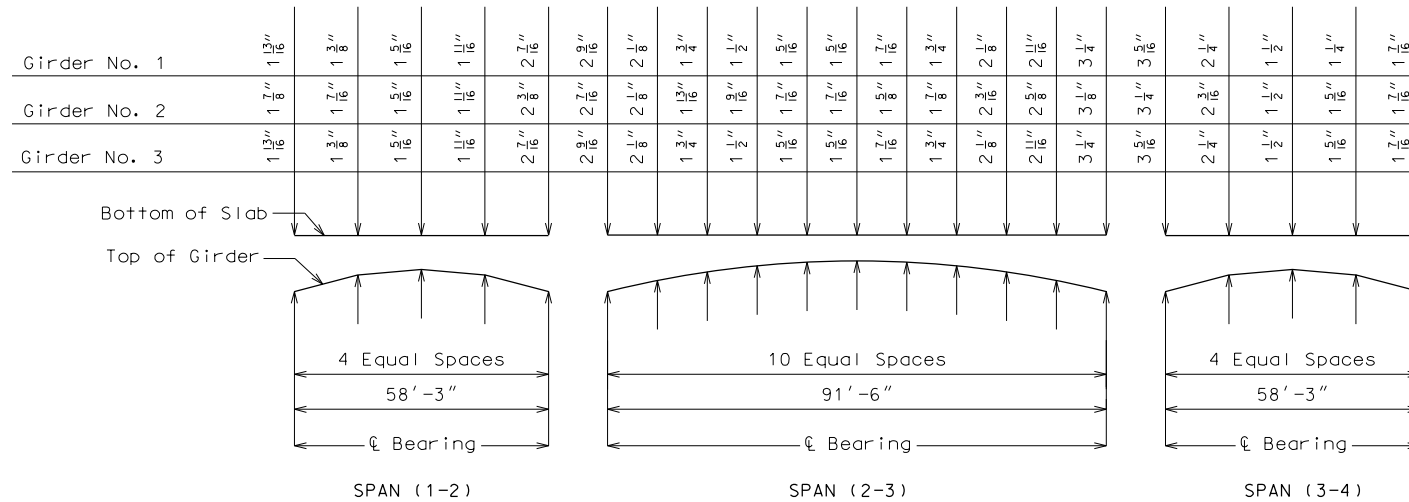
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

Cell in Tasks: Slab Sheet Details (Haunching Diagram - Quarter Pts or Haunching Diagram - Tenth Pts)  
Fill in information from design.



THEORETICAL SLAB HAUNCHING DIAGRAM

Use quarter points for spans less than 75'.  
Use tenth points for spans 75' or more.

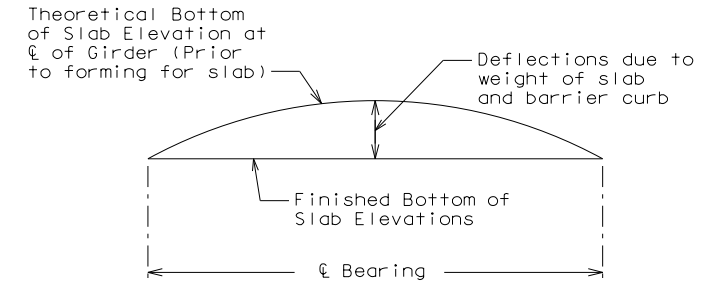
Cell in Tasks: Slab Sheet Details (Bottom of Slab Elevations - Quarter Pts or Bottom of Slab Elevations - Tenth Pts)  
Fill in information from design.

**Theoretical Bottom of Slab Elevations at  $\text{\O}$  of Girder (Prior to forming for slab) \*\***

Girder Number	Span (1-2) (58'-3" $\text{\O}$ brg. - $\text{\O}$ brg.)										
	$\text{\O}$ brg.	.25	.50	.75	$\text{\O}$ brg.						
1	875.75	875.84	875.92	875.99	876.05						
2	875.98	876.06	876.14	876.21	876.27						
3	875.84	875.92	876.00	876.07	876.13						
Span (2-3) (91'-6" $\text{\O}$ brg. - $\text{\O}$ brg.)											
	$\text{\O}$ brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	$\text{\O}$ brg.
1	876.05	876.13	876.21	876.28	876.34	876.39	876.43	876.46	876.48	876.50	876.51
2	876.28	876.36	876.44	876.52	876.58	876.63	876.67	876.70	876.72	876.73	876.73
3	876.14	876.22	876.29	876.36	876.42	876.47	876.51	876.55	876.57	876.58	876.59
Span (3-4) (58'-3" $\text{\O}$ brg. - $\text{\O}$ brg.)											
	$\text{\O}$ brg.	.25	.50	.75	$\text{\O}$ brg.						
1	876.52	876.60	876.68	876.75	876.81						
2	876.74	876.83	876.91	876.97	877.03						
3	876.60	876.69	876.77	876.83	876.89						

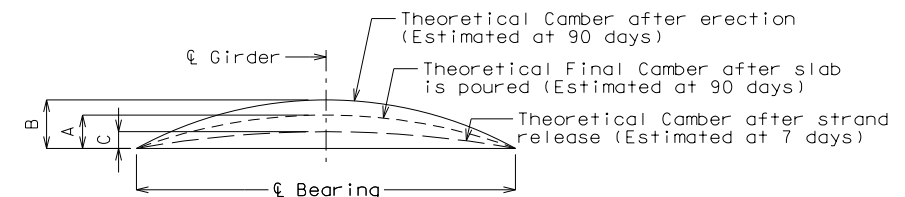
\*\* Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab (including precast panel and barrier curb).

Cell in Tasks: Slab Sheet Details (Bottom of Slab Elevation Diagram)



TYPICAL SLAB ELEVATIONS DIAGRAM

Cell in Tasks: Slab Sheet Details (P/S Girder Camber Diagram)  
Fill in information from design.



Girder	Span (1-2)			Span (2-3)			Span (3-4)		
	A	B	C	A	B	C	A	B	C
Exterior	7/8"	1 1/16"	3/4"	1 3/16"	2 7/8"	1 1/4"	7/8"	1 1/16"	3/4"
Interior	13/16"			1 5/16"			13/16"		

GIRDER CAMBER DIAGRAM

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete I-Girder.

Conversion factors for girder camber (estimated at 90 days)

- 0.1 pt. = 0.314 x 0.5 pt.
- 0.2 pt. = 0.593 x 0.5 pt.
- 0.3 pt. = 0.813 x 0.5 pt.
- 0.4 pt. = 0.952 x 0.5 pt.

0.25 pt. = 0.7125 x 0.5 pt.

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DATE PREPARED  
11/25/2019

ROUTE B STATE MO

DISTRICT BR SHEET NO. 20

COUNTY VERNON

JOB NO. J7S0546

CONTRACT ID.

PROJECT NO.

BRIDGE NO. EXAMPLE

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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JEFFERSON CITY, MO 65102  
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DATE PREPARED  
7/28/2020

ROUTE \* STATE MO  
DISTRICT BR SHEET NO. 21

COUNTY \*  
JOB NO. \*  
CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
EXAMPLE

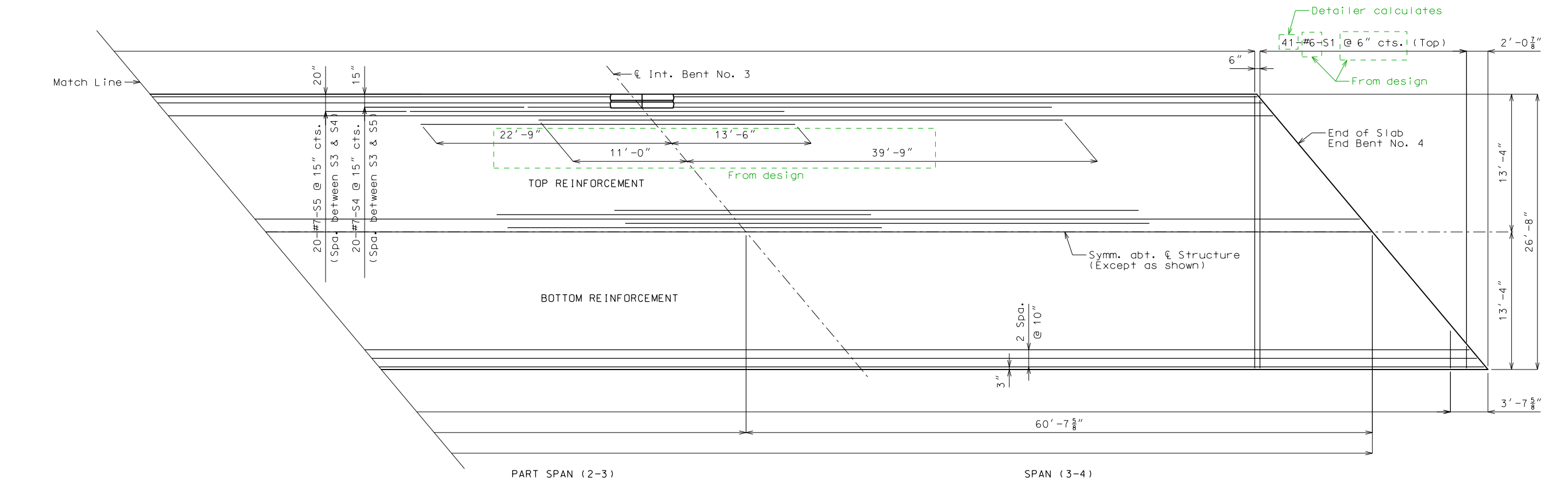
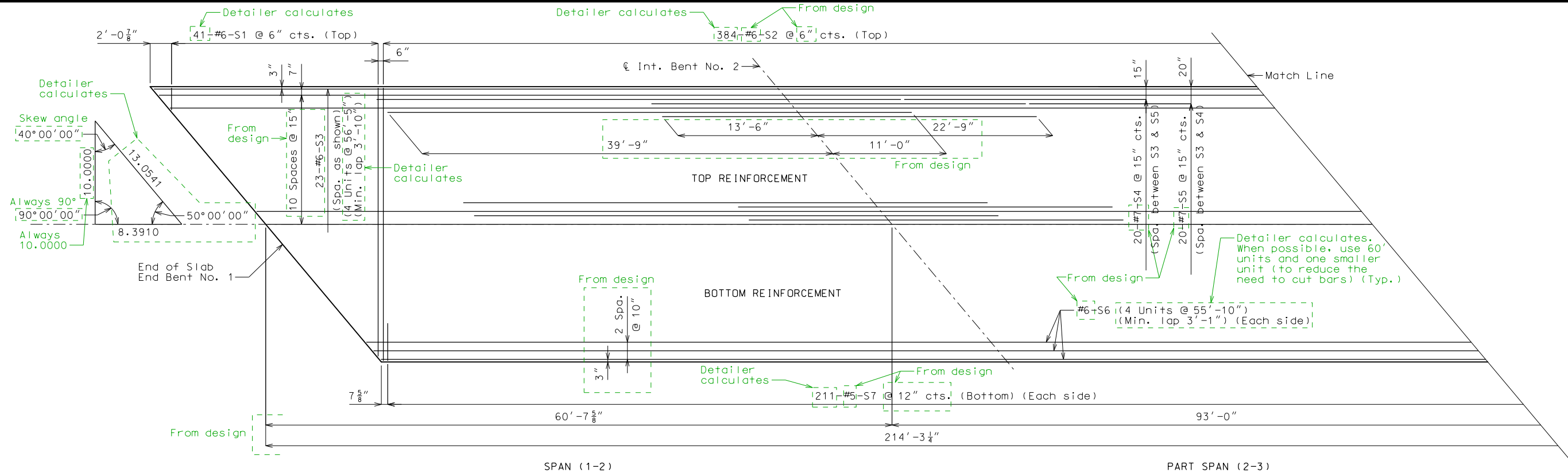
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

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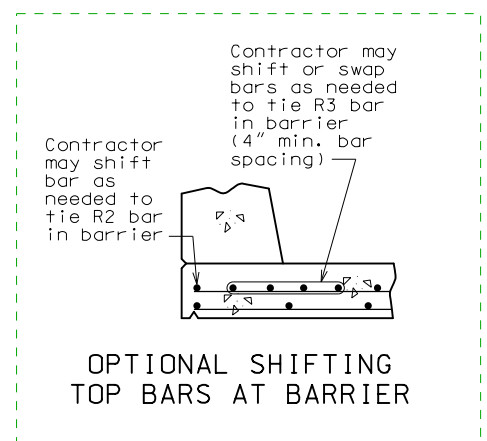
General Notes:

- Note H11.8 (EPG 751.50) Longitudinal slab dimensions are measured horizontally.
- For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 22.
- For Details and Reinforcement of Safety Barrier Curb not shown, see Sheets No. 23, 24 & 25.
- For Theoretical Slab Haunching Diagram, see Sheet No. 20.
- For Details of Precast Prestressed Panels, see Sheet No. 18.
- For Theoretical Bottom of Slab Elevations, see Sheet No. 20.
- For details and locations of Slab Drains, see Sheet No. 19.

EPG 751.10.1.7.2 Standard Partial Depth Precast Prestressed Panel Bridge Deck...

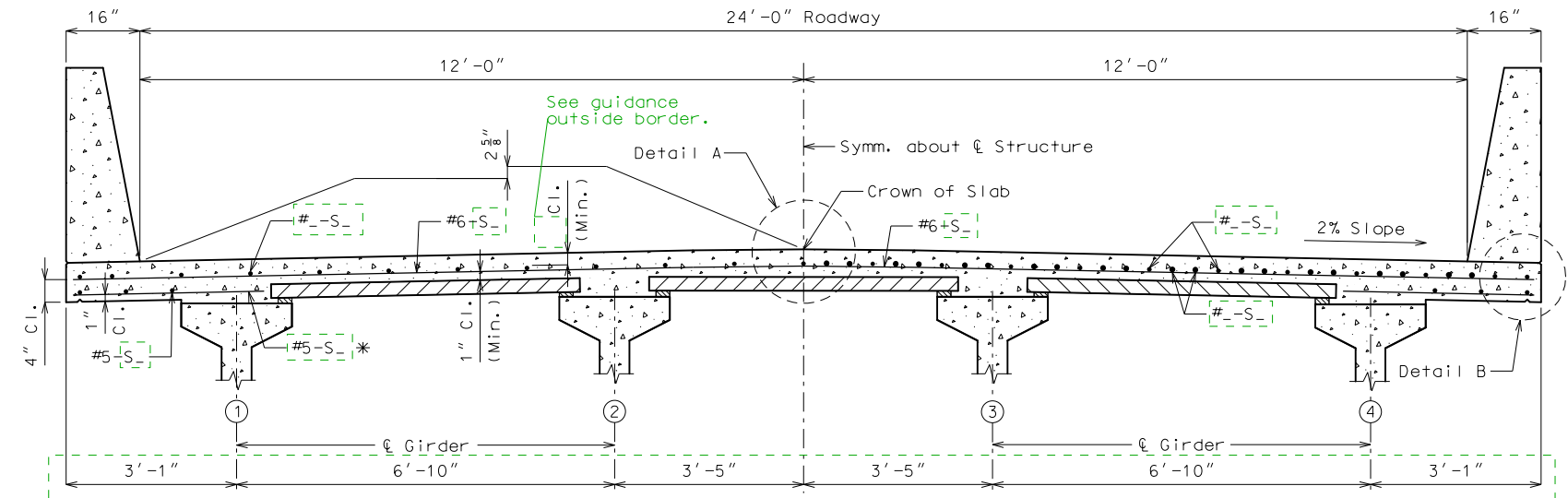
PLAN OF SLAB SHOWING REINFORCEMENT

Use current standard sheet found in ProjectWise Bridge/A\_BR\_Std\_Dwgs/Slab Sections SLAB/Current (Use appropriate version for roadway width)



**OPTIONAL SHIFTING TOP BARS AT BARRIER**

Included on std. dwg., but also available as a cell in Tasks, Slab Sheet Details (Opt Shifting Top Bars at Type D or H Barrier)



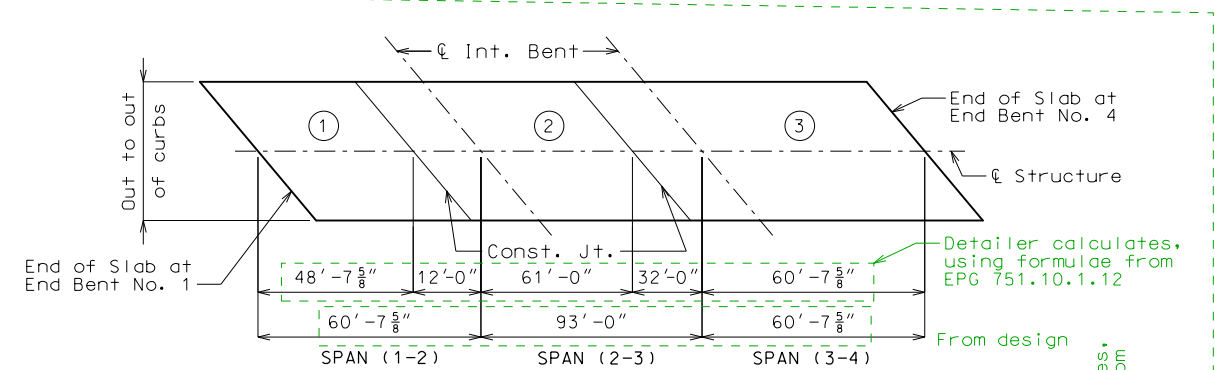
Dimensions may be different. See design.

HALF SECTION NEAR MIDSPAN SECTION THRU SLAB HALF SECTION NEAR INTERMEDIATE BENT

\* Alternate bar shape available, see barrier sheet.

Slab sections for other types of girders are available outside the border of the standard drawing.

Insert cell from Tasks: Slab Pouring Sequences. See EPG 751.10.1.12. If using Case 1 for a prestressed girder bridge, remove "No Retarder" column and see EPG 751.50 (H6) for proper notes. Adjust detail to the appropriate skew.

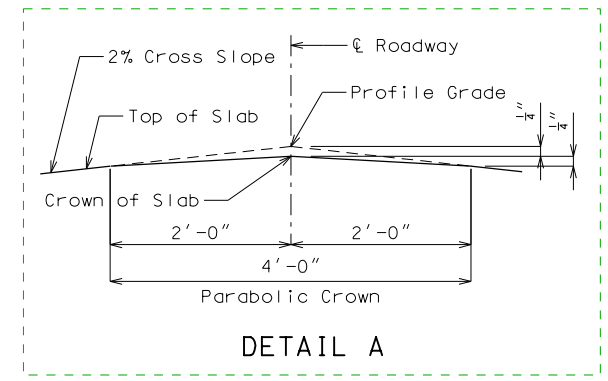


	Sequence of Pours			Min. Rate of Pour Cu. Yds./Hr.
	Direction			
Basic Sequence	1	2	3	25
	End to 2	1 to 3	2 to End	
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate A Pours	1 + 2	3		25
	End to 3	2 to End		
Alternate B Pours	1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

Detailer calculates, using formulae from EPG 751.10.1.12

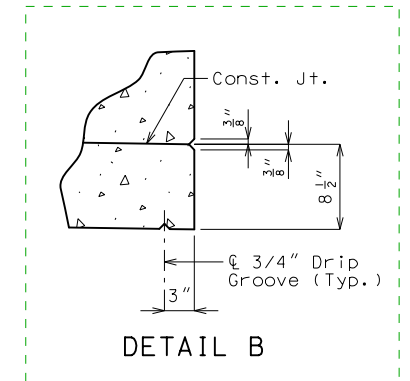
The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given. The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

**SLAB POURING SEQUENCE**



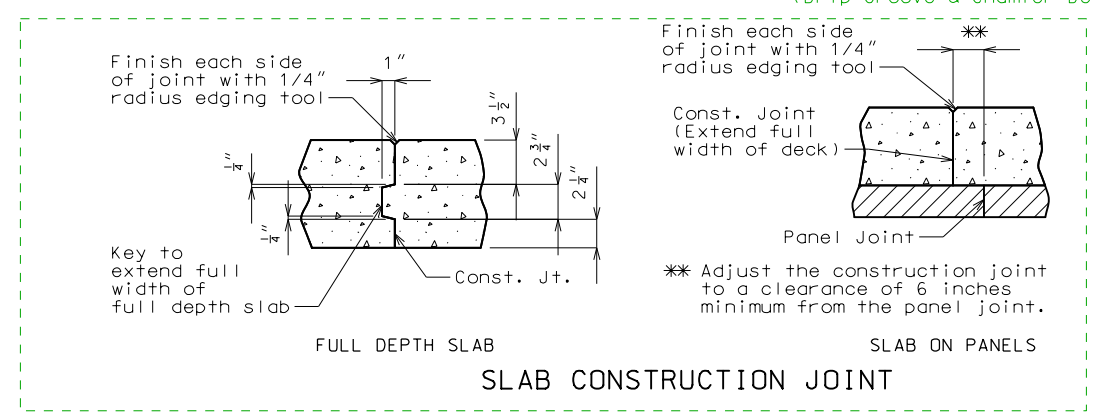
**DETAIL A**

Included on std. dwg., but also available as a cell in Tasks, Slab Sheet Details (Parabolic Crown Detail - 2% Slope)



**DETAIL B**

Included on std. dwg., but also available as a cell in Tasks, Slab Sheet Details (Drip Groove & Chamfer Detail)



**FULL DEPTH SLAB**

**SLAB ON PANELS**

**SLAB CONSTRUCTION JOINT**

Included on std. dwg., but also available as a cell in Tasks, Slab Pouring Sequences (Const. Joint Detail - P/C P/S Panel Deck)

Notes:

- For details of precast prestressed panels, see Sheet No. .
- For reinforcement of barrier not shown, see Sheet No. .
- For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. .
- For Plan of Slab Showing Reinforcement, see Sheet No. .

**SLAB DETAILS**

Sheet No. 22 of

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

Detailed July 2020  
Checked July 2020

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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JEFFERSON CITY, MO 65102  
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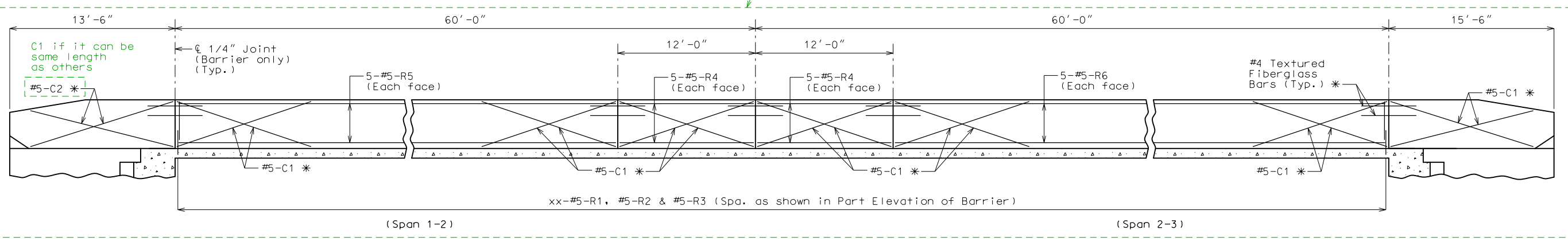
ROUTE: MO DISTRICT: BR SHEET NO.: 22

COUNTY: \* JOB NO.: \* CONTRACT ID.: PROJECT NO.: BRIDGE NO.: EXAMPLE

DESCRIPTION	DATE

Use current standard sheet found in ProjectWise Bridge/A\_BR\_Std\_Dwgs/Barriers BAR-BAC  
 (Use appropriate version for barrier type, noted on Bridge Memo or Design Layout)

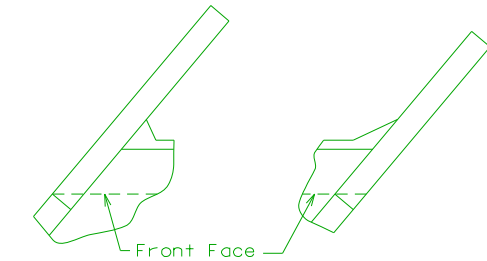
Drawn by detailer



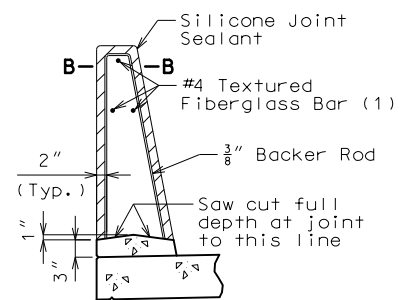
**ELEVATION OF BARRIER**

(Left barrier shown, right barrier similar)  
 Longitudinal dimensions are horizontal.

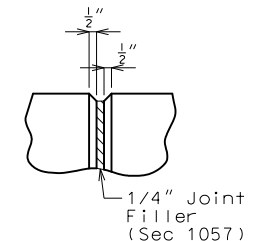
If left and right barriers are different (such as on a curved bridge), two elevations will be needed.



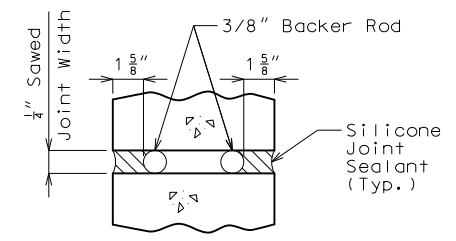
Guidance and additional or alternate details are available outside the border of the standard drawing.



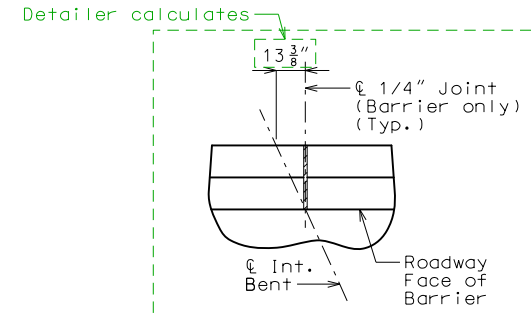
**SECTION THRU SAW CUT JOINT**



**PART ELEVATION AT FORMED JOINT**

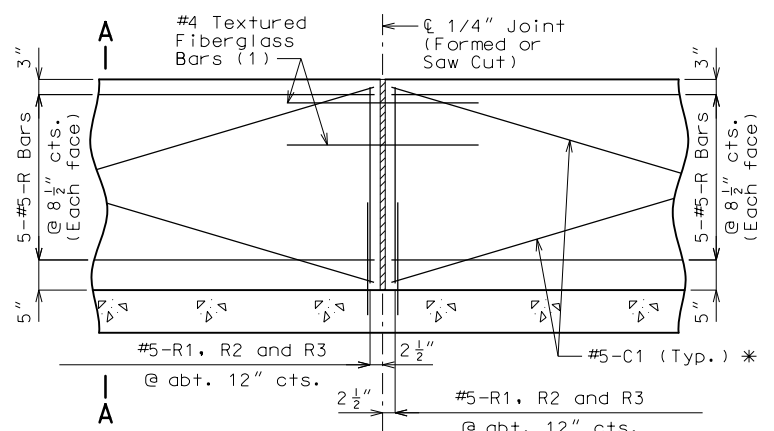


**SECTION B-B**



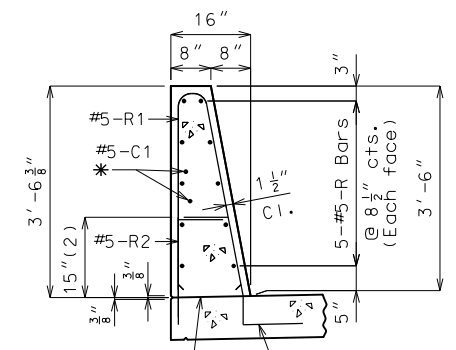
**PART PLAN SHOWING JOINT LOCATION**

This detail is available outside the border, for LA and RA bridges. Detail not required for squared bridges.



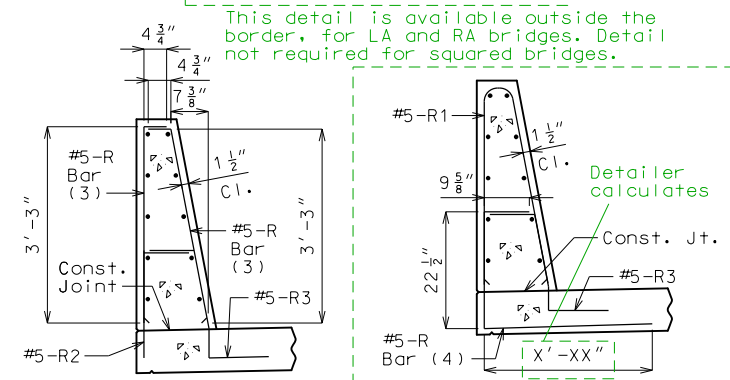
**PART ELEVATION OF BARRIER**

(1) Four feet long, centered on joint, slip-formed option only



**SECTION A-A**

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.  
 The cross-sectional area above the slab is 3.52 square feet.  
 (2) To top of bar



**R-BAR PERMISSIBLE ALTERNATE SHAPE**

- (3) 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.)
- (4) The R2 bar and #5 bottom transverse slab bar in cantilever (prestressed panels only) combination may be furnished as one bar as shown, at the contractor's option.

Remove if precast panels are not used in the slab.

**General Notes:**

- \* Slip-formed option only.
- Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.
- Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.
- All exposed edges of barrier 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 Type D Barrier per linear foot.

Concrete in barrier shall be Class B-1.  
 Measurement of barrier 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 barrier as shown on Missouri Standard Plan 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 Type D Barrier.

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

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

Plastic waterstop shall not be used with saw cut joints.

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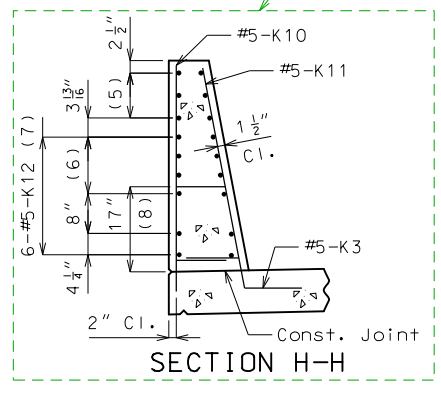
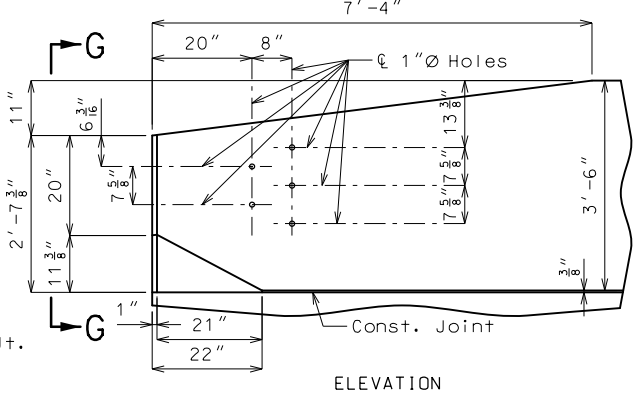
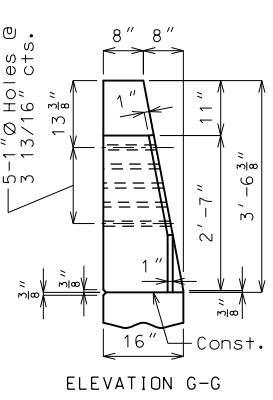
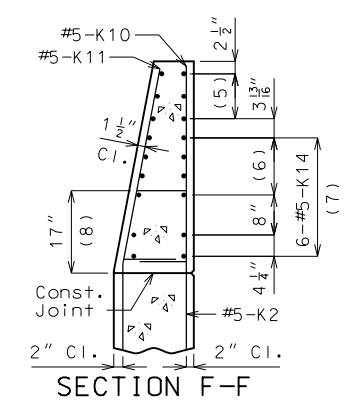
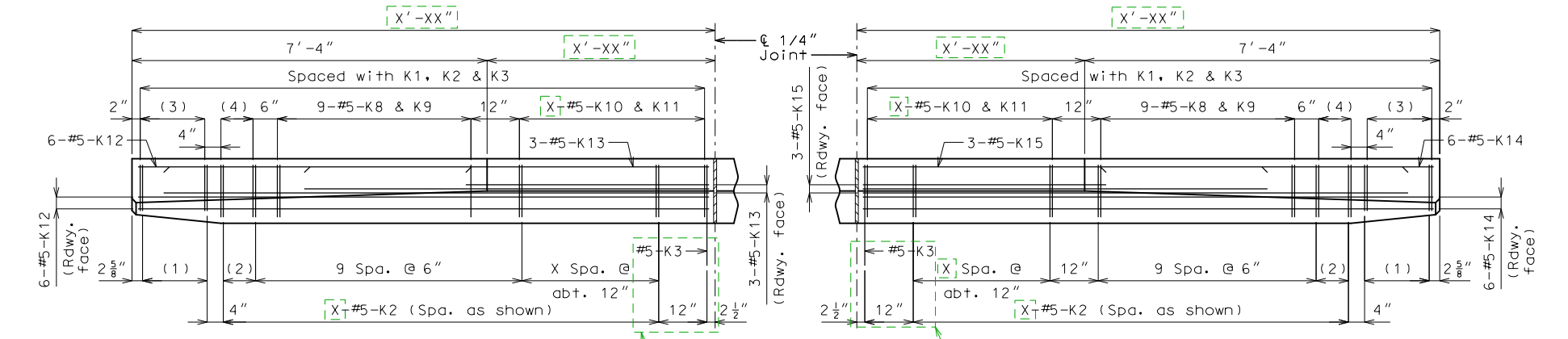
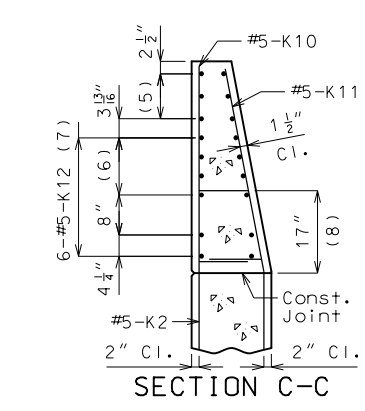
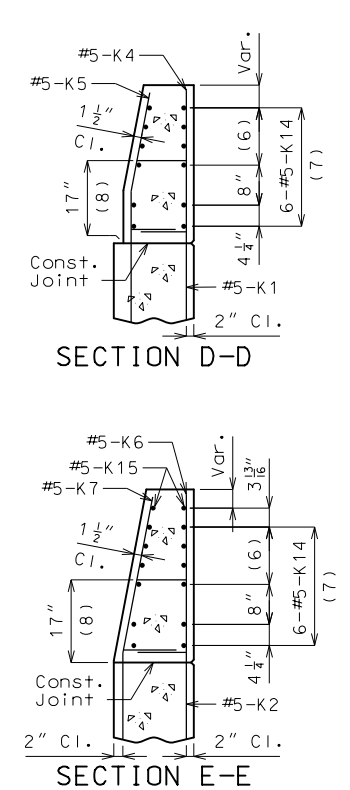
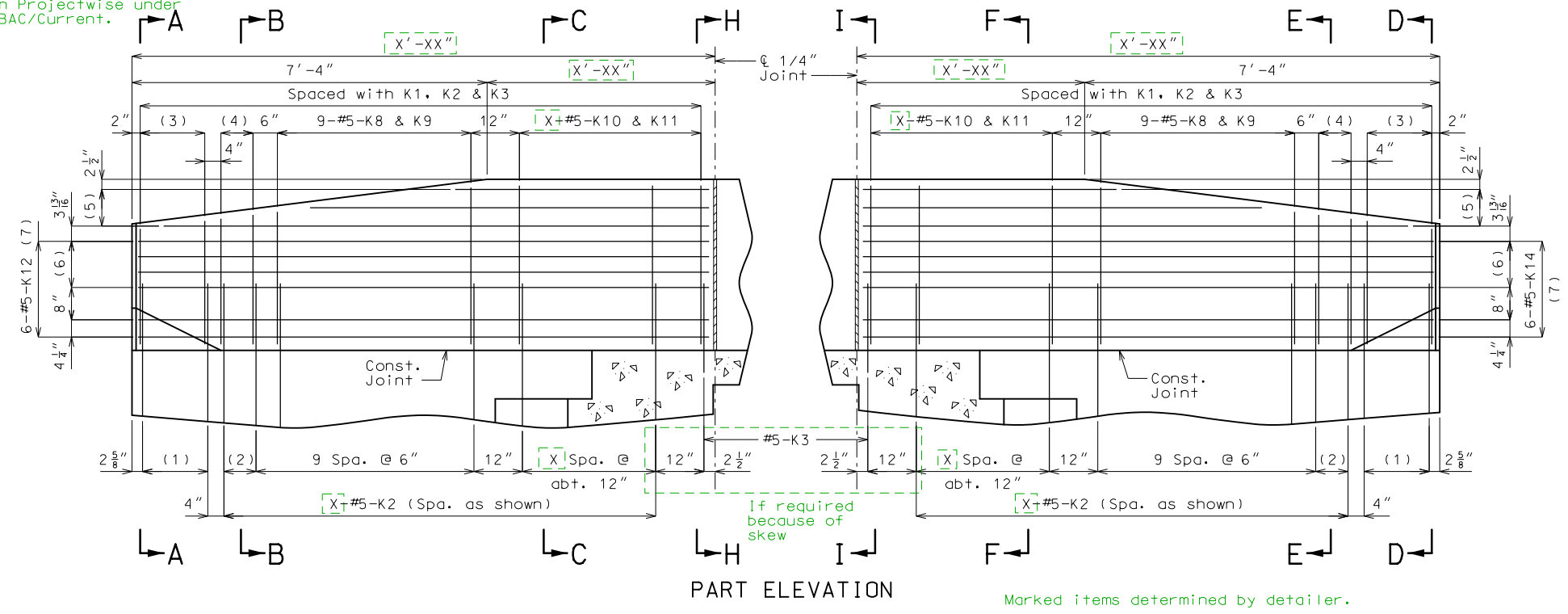
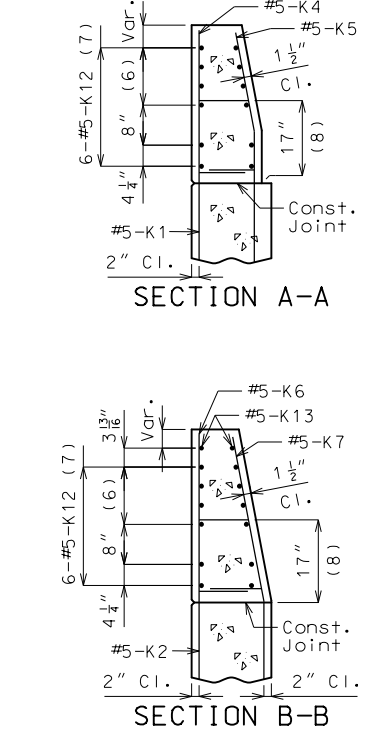
DATE PREPARED	7/28/2020
ROUTE	STATE
* BR	MO
DISTRICT	SHEET NO.
BR	23
COUNTY	*
JOB NO.	*
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	EXAMPLE

DESCRIPTION									
DATE									

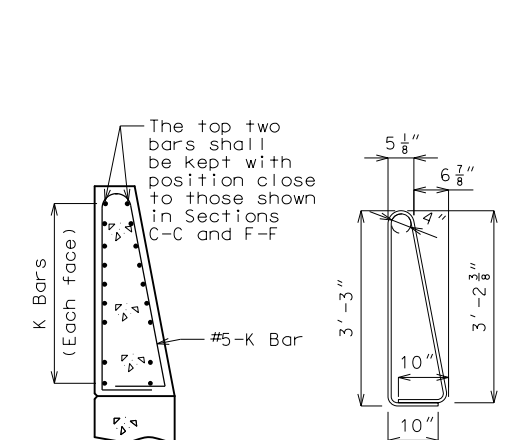
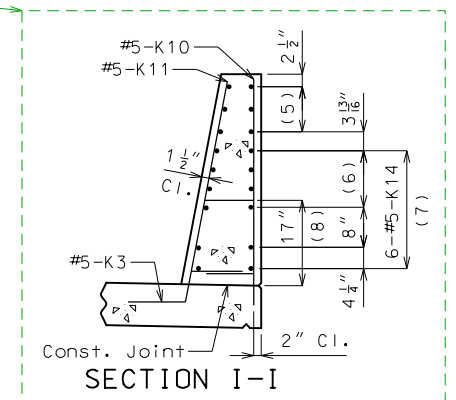
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-275-6636)

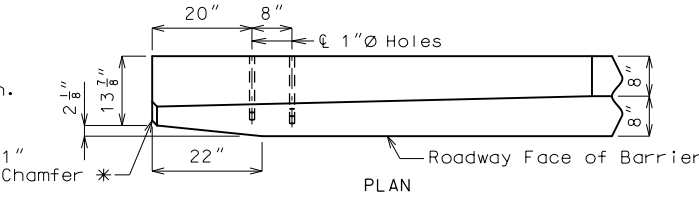
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



- (1) 5-#5-K1 @ 4" cts.
- (2) 2 spaces @ 4"
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 3-#5-K13 or K15 @ 4 1/2" cts., each face
- (6) 3 spaces @ 3 13/16"
- (7) Spaced as shown, each face
- (8) To top of bar



\* Transition to zero at Type A curb for gutter lines to match.



**General Notes:**  
 Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 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 Type D Barrier.

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

**TYPE D BARRIER AT END BENTS**  
 (Left barrier shown, right barrier similar)

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED: 7/28/2020

ROUTE: MO STATE: MO DISTRICT: BR SHEET NO.: 24

COUNTY: \* JOB NO.: \* CONTRACT ID.: PROJECT NO.: BRIDGE NO.: EXAMPLE

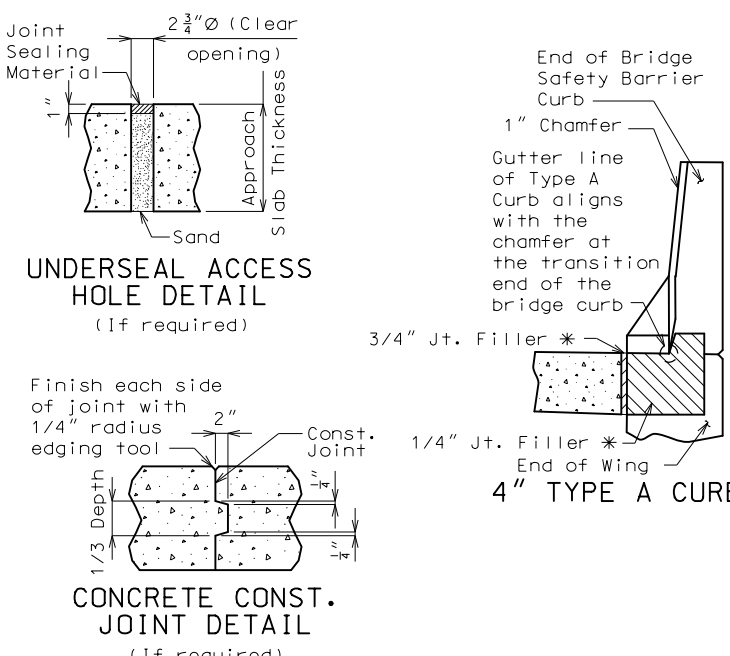
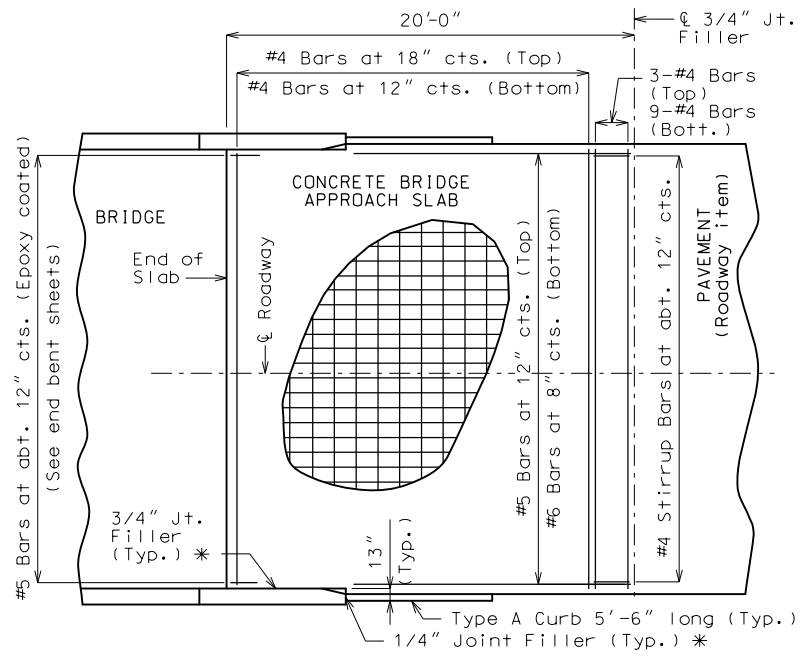
DESCRIPTION: DATE:

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

MoDOT

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



**Notes For Concrete Slab Only:**

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

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

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

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

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 bars 23" or by mechanical bar splice.

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.

Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, 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 (Minor Road) per square yard.

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

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

**General Notes:**

Contractor shall have the option to construct either slab except as noted.

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

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.

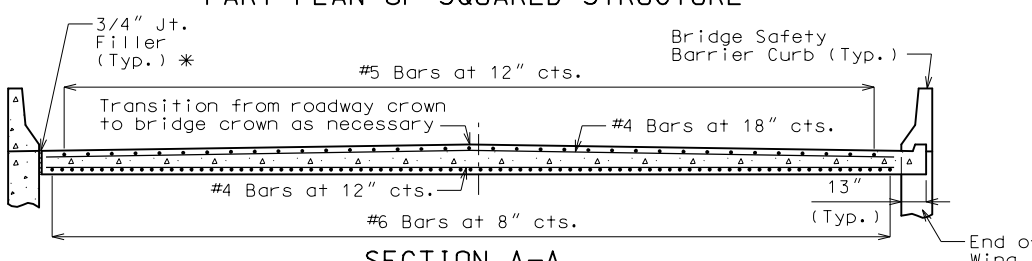
MoDOT Construction personnel will indicate the bridge approach slab used for this structure:

Concrete Bridge Approach Slab  
 Asphalt Bridge Approach Slab

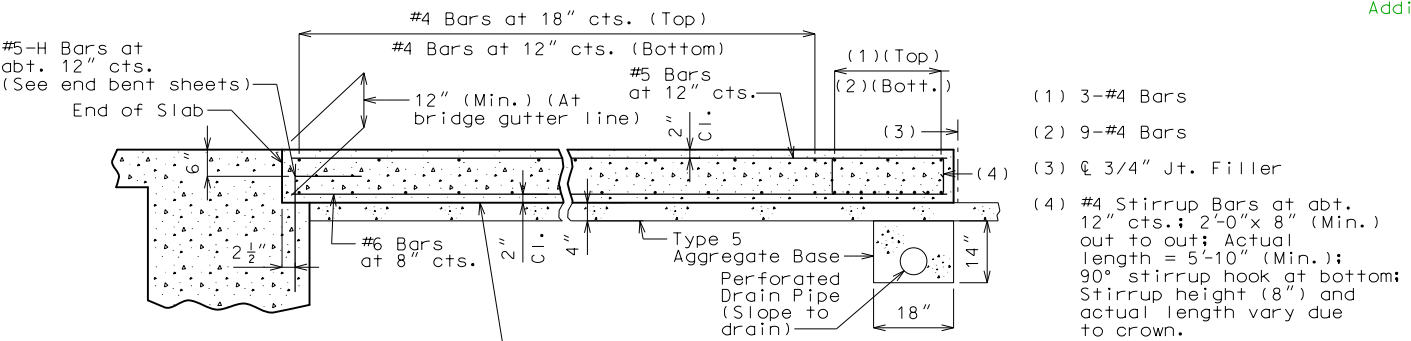
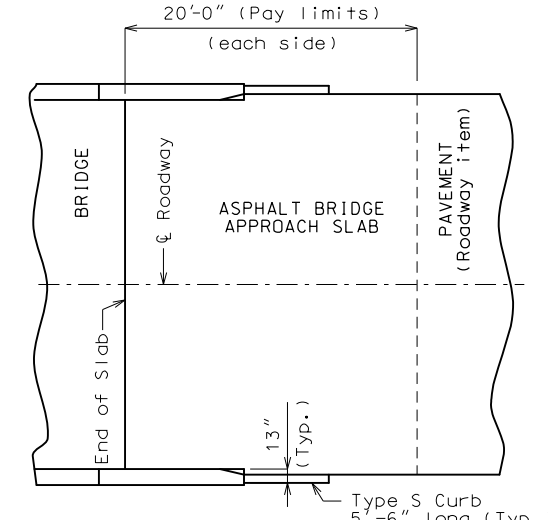
**Notes For Asphalt Slab Only:**

Payment for furnishing all materials, labor and excavation necessary to construct the asphalt bridge approach slab, including tack, curb, underdrain and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor Road) per square yard.

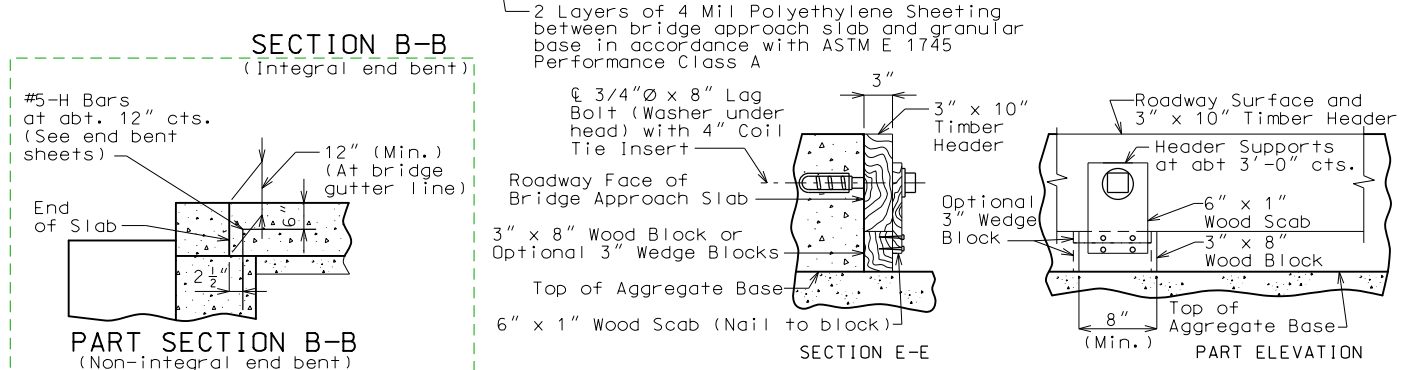
Application of tack is required between lifts per Sec 403.



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

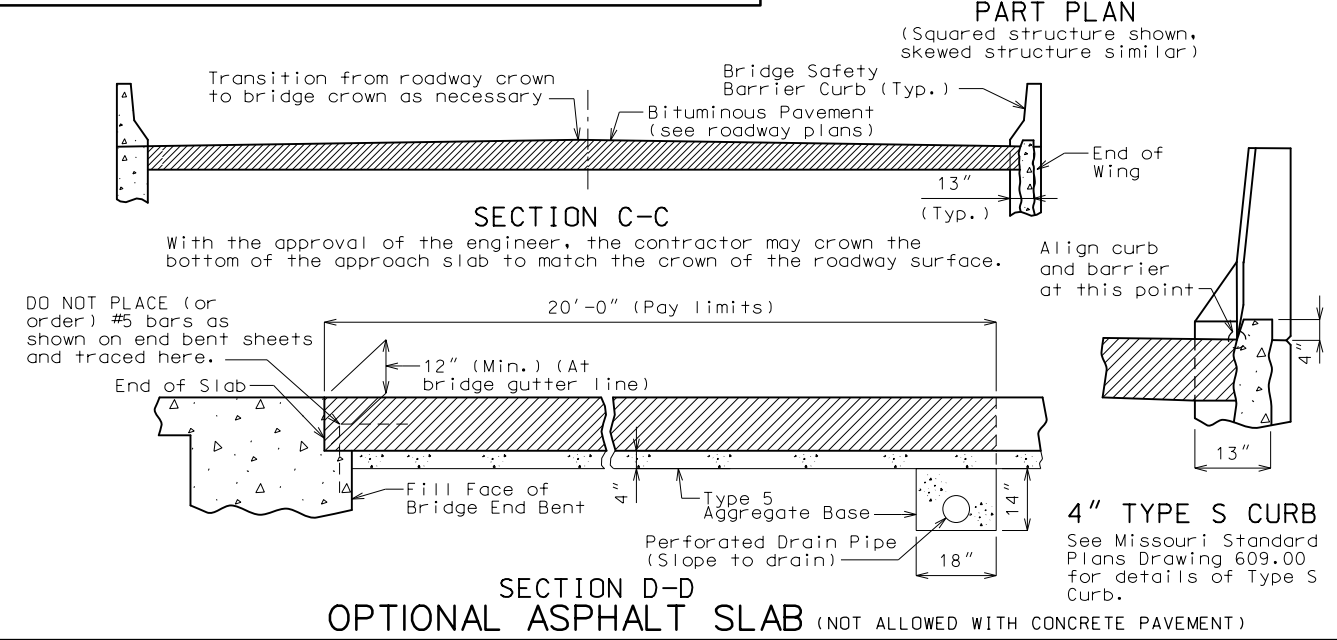


Additional guidance shown outside std dwg border.



**DETAILS OF TIMBER HEADER**  
 Remove timber header when concrete pavement is placed.

**PART SECTION B-B**  
(Non-integral end bent)  
 May be removed if not applicable.



**DETAILS OF BRIDGE APPROACH SLAB (MINOR ROAD)**

Integral end bents shown, non-integral end bent similar. May be removed if not applicable.

Use current standard drawing found in ProjectWise under Bridge/ALBR-Std-Dwgs/Approach Slabs APP/Current

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

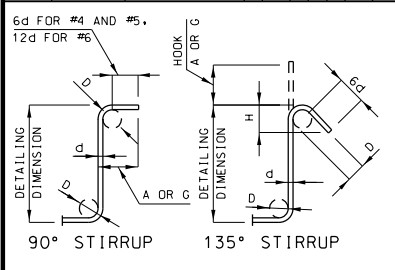
DATE PREPARED		7/28/2020	
ROUTE	STATE	DISTRICT	SHEET NO.
*	MO	BR	25
COUNTY			
*			
JOB NO.			
*			
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			
EXAMPLE			

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."



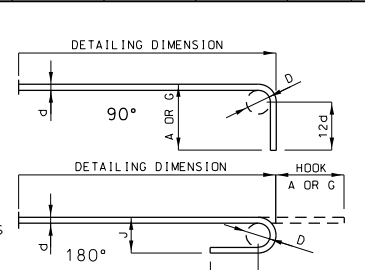
## BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	DIMENSIONS								NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.	
								B	C	D	E	F	H	K					
								FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.					
		SUBSTRUCTURE																	
		INT. BENT 2																	
16	6 D200	KEY		20	X			2	6.000						2	6	60		
10	8 H200	BEAM		18	X			30	3.000						32	1	857		
10	8 H201	BEAM		20	X			30	3.000						30	3	808		
10	6 H202	BEAM		20	X			30	3.000						30	3	454		
14	6 H203	BEAM		10	S	X				22.000	3	8.000			7	4	147		
44	4 P200	SHAFT		16	X			2	5.500	2	1.000				8	7	252		
50	6 P201	SHAFT		16	X			2	6.000	3	1.000				9	2	688		
33	4 U200	BEAM		13	S	X		3	9.000	3	9.000	3	9.000		15	9	342		
28	4 U201	BEAM		13	S	X		2	6.000	3	9.000	2	6.000	3	9.000		13	3	243
8	4 U202	BEAM		10	S	X				3	9.000	3	9.000		11	3	59		
28	9 V200	SHAFT		20	X			41	1.000						41	1	3911		
		INT. BENT 3																	
16	6 D300	KEY		20	X			2	6.000						2	6	60		
10	8 H300	BEAM		18	X			30	3.000						32	1	857		
10	8 H301	BEAM		20	X			30	3.000						30	3	808		
10	6 H302	BEAM		20	X			30	3.000						30	3	454		
14	6 H303	BEAM		10	S	X				22.000	3	8.000			7	4	147		
34	4 P300	SHAFT		16	X			2	5.500	2	1.000				8	7	195		
66	6 P301	SHAFT		16	X			2	6.000	3	1.000				9	2	909		
33	4 U300	BEAM		13	S	X		3	9.000	3	9.000	3	9.000		15	9	342		
28	4 U301	BEAM		13	S	X		2	6.000	3	9.000	2	6.000	3	9.000		13	3	243
8	4 U302	BEAM		10	S	X				3	9.000	3	9.000		11	3	59		
28	9 V300	SHAFT		20	X			35	6.000						35	6	3380		
		SUPERSTR.																	
		END BENT 1																	
11	6 F100	WING		E 15	S			14.000	3	8.000	14.000	12.750	5.875	12.750	5.875	6	0	96	
5	6 F101	DIAPHRAGM		E 23	S			3	5.625	4	11.000				2	7.875	2	2.750	63
11	6 F102	WING		E 15	S			14.000	7	2.000	14.000		5.875	12.750	9	6	157		
5	6 F103	DIAPHRAGM		E 21	S			6	10.125	3	5.625				5	2.875	4	4.750	73
8	6 H100	BEAM & DIAPH		E 20				34	5.000						34	5	414		
12	7 H101	BEAM & DIAPH		E 20				34	5.000						34	5	845		
4	6 H102	DIAPHRAGM		E 20				12	0.000						12	0	72		
4	6 H103	DIAPHRAGM		E 20				10	1.000						10	1	61		
4	6 H104	DIAPHRAGM		E 20				3	8.000						3	8	22		
4	6 H105	DIAPHRAGM		E 20				2	8.000						2	8	16		
16	8 H106	WING		E 20				17	5.000						17	5	744		
48	6 H107	WING		E 20				16	5.000						16	5	1184		
3	5 H108	STRAND TIE		E 23	S			15.000	2	0.000	15.000	9.625	11.500	9.625	11.500	4	6	14	



STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOKS		90° HOOKS
		A OR G	J	A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	2'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

**NOTE:**  
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.  
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.  
E = EPOXY COATED REINFORCEMENT.  
S = STIRRUP.  
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.  
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.  
NO. EA = NUMBER OF BARS OF EACH LENGTH.  
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)  
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.  
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.  
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.  
REINFORCING STEEL (GRADE 60) F<sub>y</sub> = 60,000 PSI.

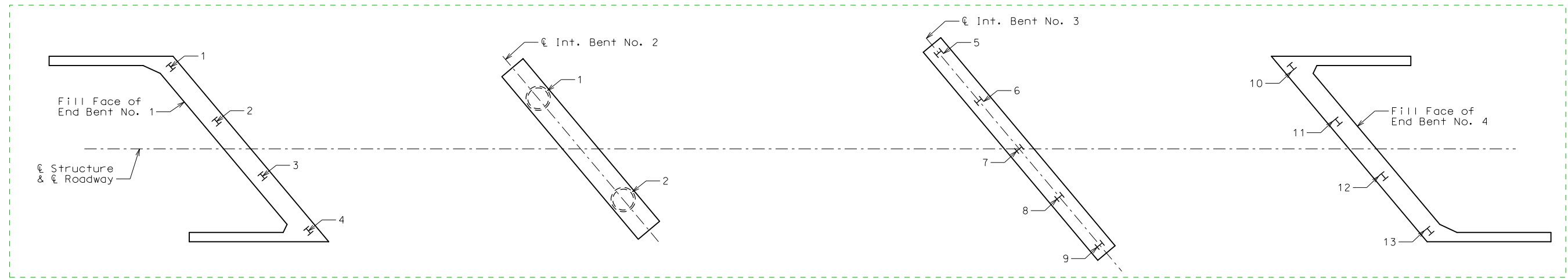
## BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	DIMENSIONS								NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.		
								B	C	D	E	F	H	K						
								FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.						
18	5 U100	BEAM		E 10	S					4	11.000	3	7.000		13	5	249			
15	4 U101	BEAM		E 13	S			3	7.000	2	7.500	3	7.000	2	7.500		13	2	129	
42	6 U102	DIAPHRAGM		E 19	S			2	11.000	5	6.000							8	5	520
26	5 U103	DIAPHRAGM		E 10	S					4	9.500	2	11.000		12	6	334			
26	6 U104	DIAPHRAGM		E 19	S			3	10.500	3	7.000							7	6	286
24	5 U105	DIAPHRAGM		E 20				2	6.000						2	6	63			
16	5 V100	BEAM		E 20				4	11.000						4	11	82			
9	6 V101	DIAPHRAGM		E 20				3	10.000						3	10	52			
2	6 V102	WING		E 20				8	1.000						8	1	24			
30	6 V103	WING		E 20				8	1.000						8	1	364			
2	6 V104	WING		E 20				7	11.000						7	11	24			
30	6 V105	WING		E 20				7	11.000						7	11	357			
		END BENT 4																		
11	6 F400	WING		E 15	S			14.000	3	8.000	14.000	12.750	5.875	12.750	5.875	6	0	96		
5	6 F401	DIAPHRAGM		E 23	S			3	5.625	4	11.000				2	7.875	2	2.750	63	
11	6 F402	WING		E 15	S			14.000	7	2.000	14.000		5.875	12.750	9	6	157			
5	6 F403	DIAPHRAGM		E 21	S			6	10.125	3	5.625				5	2.875	4	4.750	73	
8	6 H400	BEAM & DIAPH		E 20				34	5.000						34	5	414			
12	7 H401	BEAM & DIAPH		E 20				34	5.000						34	5	845			
4	6 H402	DIAPHRAGM		E 20				12	0.000						12	0	72			
4	6 H403	DIAPHRAGM		E 20				10	1.000						10	1	61			
4	6 H404	DIAPHRAGM		E 20				3	8.000						3	8	22			
4	6 H405	DIAPHRAGM		E 20				2	8.000						2	8	16			
16	8 H406	WING		E 20				17	5.000						17	5	744			
48	6 H407	WING		E 20				16	5.000						16	5	1184			
3	5 H408	STRAND TIE		E 23	S			15.000	2	0.000	15.000	9.625	11.500	9.625	11.500	4	6	14		
18	5 U400	BEAM		E 10	S					4	11.000	3	7.000		13	5	249			
15	4 U401	BEAM		E 13	S			3	7.000	2	7.500	3	7.000	2	7.500		13	2	129	
42	6 U402	DIAPHRAGM		E 19	S			2	11.000	5	6.000							8	5	520
26	5 U403	DIAPHRAGM		E 10	S					4	9.500	2	11.000		12	6	334			
26	6 U404	DIAPHRAGM		E 19	S			3	10.500	3	7.000							7	6	286
24	5 U405	DIAPHRAGM		E 20				2	6.000						2	6	63			
16	5 V400	BEAM		E 20				4	11.000						4	11	82			
9	6 V401	DIAPHRAGM		E 20				3	10.000						3	10	52			
2	6 V402	WING		E 20				8	1.000						8	1	24			
30	6 V403	WING		E 20				8	0.000						8	0	360			
2	6 V404	WING		E 20				8	2.000						8	2	25			
30	6 V405																			



Standard sheet found in ProjectWise under Bridge/A\_Bridge\_Standard\_Drawings/PILE\_PILE/Current/PILE03\_dynamic\_formula\_as\_built\_pile\_data.dgn

As Built Drilled Shaft Data standard drawing can be found in ProjectWise under Bridge/A\_Bridge\_Standard\_Drawings/Drilled Shaft with Socket\_DSS/Current/DSS\_01\_as\_built\_dshaft.dgn



This portion drawn by detailer

**PART PLAN SHOWING PILE & DRILLED SHAFT NUMBERING FOR RECORDING AS-BUILT PILE DATA & AS-BUILT DRILLED SHAFT DATA**

Modify tables as needed

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
End Bent No. 1			
1			
2			
3			
4			
Intermediate Bent No. 3			
5			
6			
7			
8			
9			
End Bent No. 4			
10			
11			
12			
13			

As-Built Drilled Shaft Data				
Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
Intermediate Bent No. 2				
1				
2				

Note:  
 Indicate in remarks column:  
 A. Pile type and grade  
 B. Batter  
 C. Driven to practical refusal  
 This sheet to be completed by MoDOT construction personnel.

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED: 11/20/2020

ROUTE: \* STATE: MO DISTRICT: BR SHEET NO. \*

COUNTY: \* JOB NO. \* CONTRACT ID. PROJECT NO. BRIDGE NO. EXAMPLE

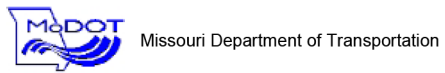
DESCRIPTION

DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)



### SUBSURFACE DIAGRAM

- USCS Low Plasticity Clay
- USCS Poorly-graded Sand
- USCS Poorly-graded Gravel
- USCS High Plasticity Clay

PROJECT NAME Bridge Replacement  
 PROJECT LOCATION Over Gunns Branch  
 CLIENT \_\_\_\_\_  
 PROJECT NUMBER J3P0568-A7640

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED  
11/20/2020

ROUTE *	STATE MO
DISTRICT BR	SHEET NO. 30

COUNTY  
\*

JOB NO.  
\*

CONTRACT ID.  
\*

PROJECT NO.  
\*

BRIDGE NO.  
EXAMPLE

DESCRIPTION

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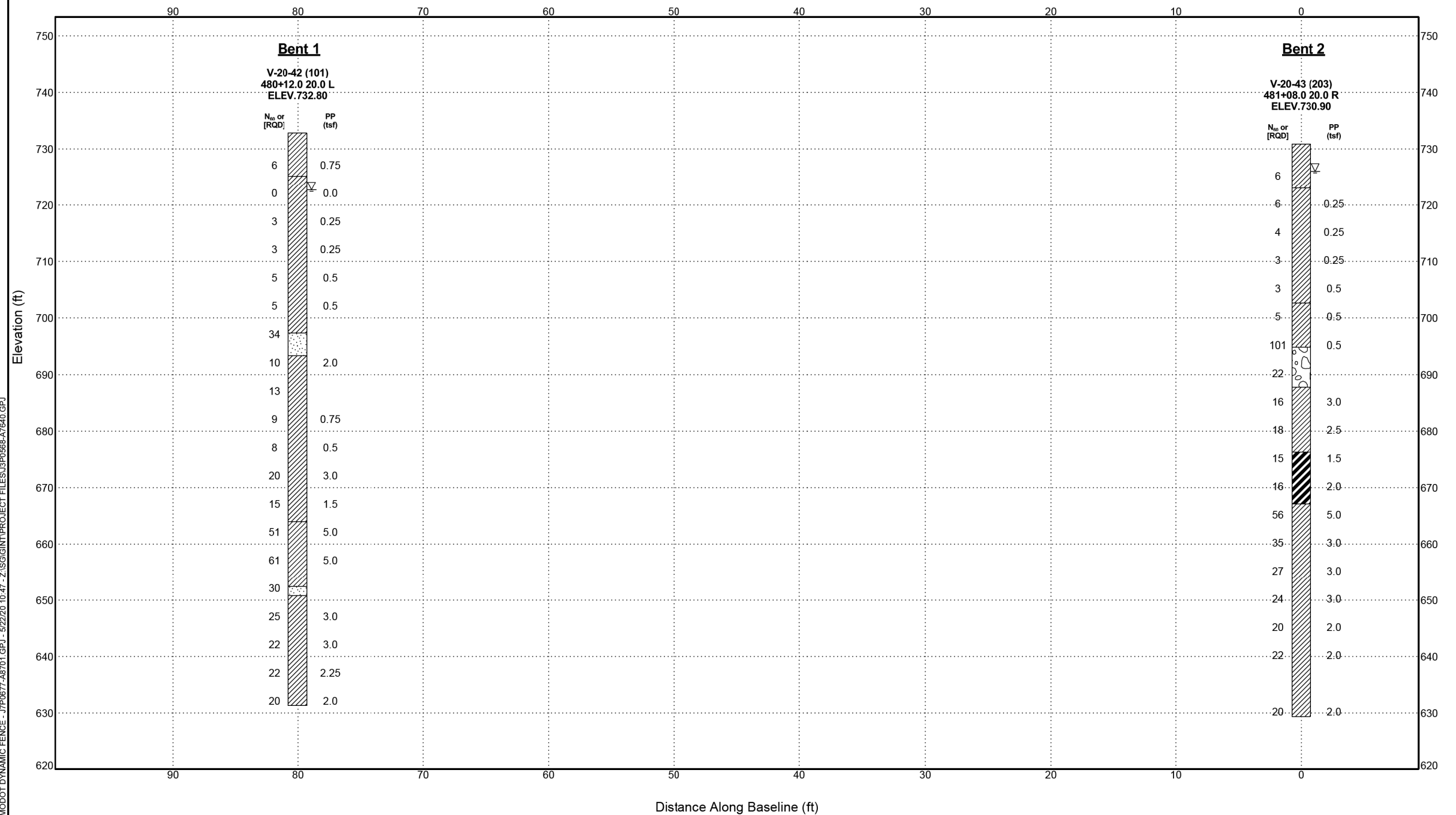
DATE

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DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



MODOT DYNAMIC FENCE - J7P0677-A8701.GPJ - 5/22/20 10:47:21\SGIGINT\PROJECT FILES\J3P0568-A7640.GPJ

Standard sheet found in ProjectWise under  
 Bridge/A\_BR\_Std\_Dwgs/Boring Template BOR/  
 BOR\_01.dgn for two portrait-oriented sheets,  
 BOR\_02.dgn for one landscape-oriented sheet.  
 The magenta box is for ease of placement only and  
 may be ignored and deleted.

### BORING DATA

Note: For locations of borings, see Sheet No. 11.  
 Note: This drawing is not to scale. Follow dimensions.

See EPG 751.5.8.4 for a link to Instructions for Attaching  
 Boring Log PDFs to Final Plans

Showing only one boring sheet in this  
 example, but there may be several.