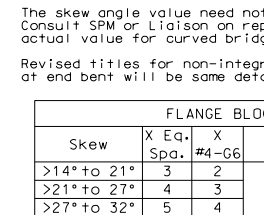
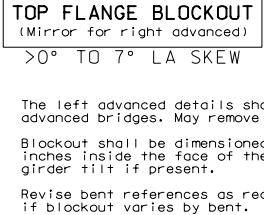
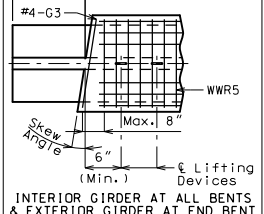
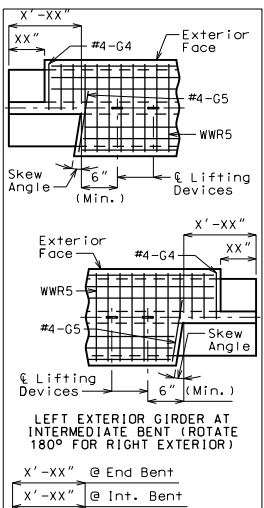
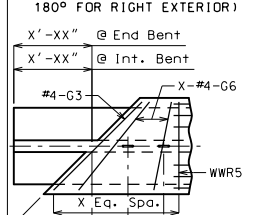
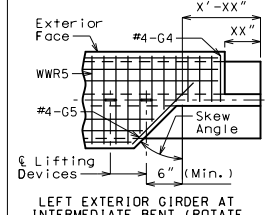
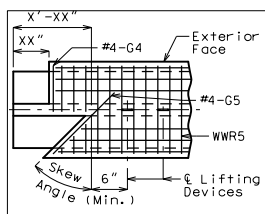
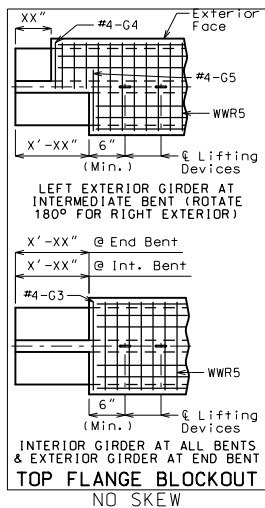
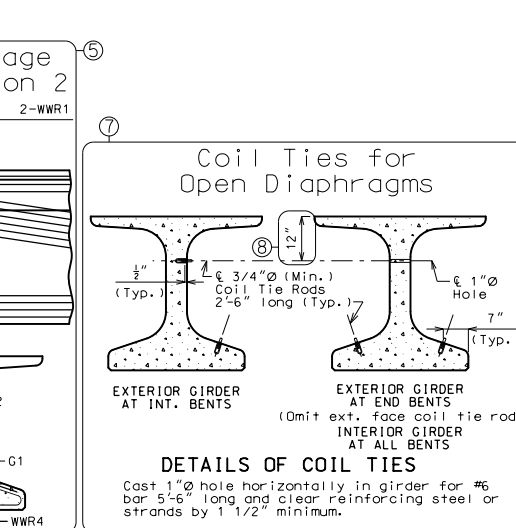


Standard Drawing Guidance (do not show on plans):

① Choose one of the 4 details for the top flange blackout detail and follow the provided detail guidance. For 0-7° skew remove G6 bars from bill of reinforcing.



Skew	X Eq. Spa.	X #4-G6	Bar Lengths
>14° to 21°	3	2	G3 bar = 46.25" / cos(skew)
>21° to 27°	4	3	
>27° to 32°	5	4	G5 bar = 32.125" / cos(skew)
>32° to 37°	6	5	
>37° to 42°	7	6	For skews > 7° to 14°:
>42° to 46°	8	7	G6 bar = G3 bar + 46.25" / 2
>46° to 49°	9	8	
>49° to 52°	10	9	
>52° to 55°	11	10	Report length of G6 bars as "Varies".
>55° to 57°	12	11	
>57° to 60°	13	12	



- ② The maximum strand arrangement is shown in details including top straight strands. Remove unnecessary strands from the four details where shown. Give spacing of top straight strands if used. See 751.22.2 for top straight strand placement criteria.
- ③ This detail only needs to be used if the structure is over water. For all other crossings remove this detail.
- ④ Modify note as necessary. The 10 strands indicated is applicable for NU 35, 43 & 53. Indicate two more strands for NU 63, 70 and 78.
- ⑤ Show G2 bars if required by design otherwise remove from half elevation, bill of reinforcing and section A-A. Option 1 is shown on the sheet and is pairs of #4 or #5 bars used in combination with WWR1. G2 bars shall be subtracted or added as required by design.

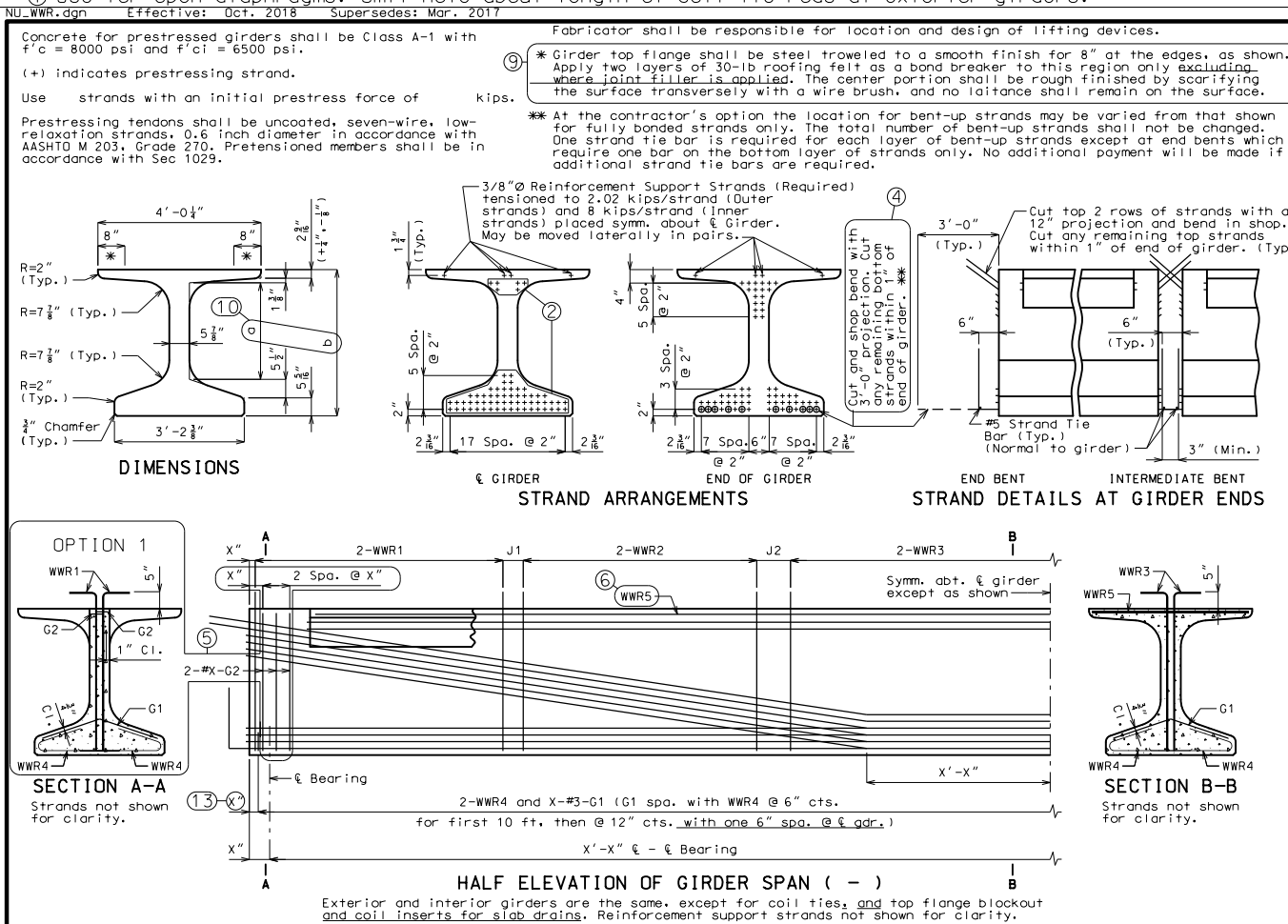
	NU 35	NU 43	NU 53	NU 63	NU 70	NU 78
NO. 4	3'-9"	4'-5"	5'-3"	6'-1"	6'-9"	7'-5"
NO. 5	3'-9"	4'-5"	5'-3"	6'-1"	6'-8"	7'-4"
NO. 6	3'-8"	4'-4"	5'-1"	5'-11"	6'-7"	7'-3"

Option 2 is shown to the left of the sheet and is solely pairs of #6 bars with WWR1 not being extended to end of the girder. G2 bars shall be subtracted or added as required by design.

Use adjacent chart for the actual lengths of the G2 bars reported in the bill of reinforcing.

⑥ A1 reinforcement (temporary camber stresses) shall consist of the four 3/8" reinforcement support strands with deformed bars added only as needed. The WWR5 in the top flange shall not be used for A1 reinforcement because mats can not be spliced (insufficient concrete cover results from layered mats.)

⑦ Use for open diaphragms. Omit note about length of coil tie rods at exterior girders.



- ⑧ Adjust for modified flange thickness.
- ⑨ Remove underline part for CIP slabs.
- ⑩ Substitute following values into drawing.

NU	a	b	c	d
35	20 11/16"	2'-11 7/16"	23 5/8"	2'-9 3/8"
43	2'-4 1/16"	3'-7 5/16"	2'-7 1/2"	3'-5 1/4"
53	3'-2 13/32"	4'-5 5/32"	3'-5 1/4"	4'-3 5/8"
63	4'-0 1/4"	5'-3"	4'-3 1/4"	5'-1"
70	4'-8 5/8"	5'-10 5/8"	4'-11 1/8"	5'-8 1/8"
78	5'-4"	6'-6 3/4"	5'-7"	6'-4 3/4"

- ① Remove note for NU 53, 63, 70 and 78.
- ② Remove notes for NU 35 and 43.
- ③ 1 1/4" min. & 4 1/8" max. If spacing of G1 with WWR4 at 12" cts. leaves an 18" space, add additional G1 bar.

NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE
XXX	3 G1	2'-10"	8
XXX	X G2	X'-X"	11
2	4 G3	X'-X"	20
2	4 G4	2'-1"	20
2	4 G5	X'-X"	20
XXX	4 G6	Varies	20

MARK	SIZE	S	L	J
WWR1	X	X"	X'-X"	X"
WWR2	X	X"	X'-X"	X"
WWR3	X	X"	X'-X"	X"

THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

DATE PREPARED: 10/30/2018

ROUTE: MO

DISTRICT: BR

COUNTY: \*

JOB NO.:

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

NU WWR

DESCRIPTION:

DATE:

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

106 WEST CAPITAL REFERENCE: 1-888-275-6636 1-888-ASK-MODOT

**General Notes:**

**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, Stirrups and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

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

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221. WWR shall not be epoxy coated.

**Miscellaneous:**

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

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

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

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

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

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

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

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

