

NOTES

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW-RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL SHALL BE GRADE 60.

APPLY EPOXY PROTECTIVE COATING TO END OF GIRDER SURFACES INDICATED IN ELEVATION VIEW.

EMBEDDED PLATE "B-1" SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ANCHOR STUDS SHALL CONFORM TO AASHTO M169 GRADES 1010 THROUGH 1020 OR APPROVED EQUAL, AND SHALL MEET THE TYPE "B" REQUIREMENTS OF SUBSECTION 7.3 OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

AT ENDS OF GIRDERS TO BE EMBEDDED IN CONCRETE DIAPHRAGMS OR END WALLS, PRESTRESSING STRANDS MAY EXTEND A MAXIMUM OF 2" BEYOND THE GIRDER ENDS. OTHERWISE, PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE GIRDER ENDS.

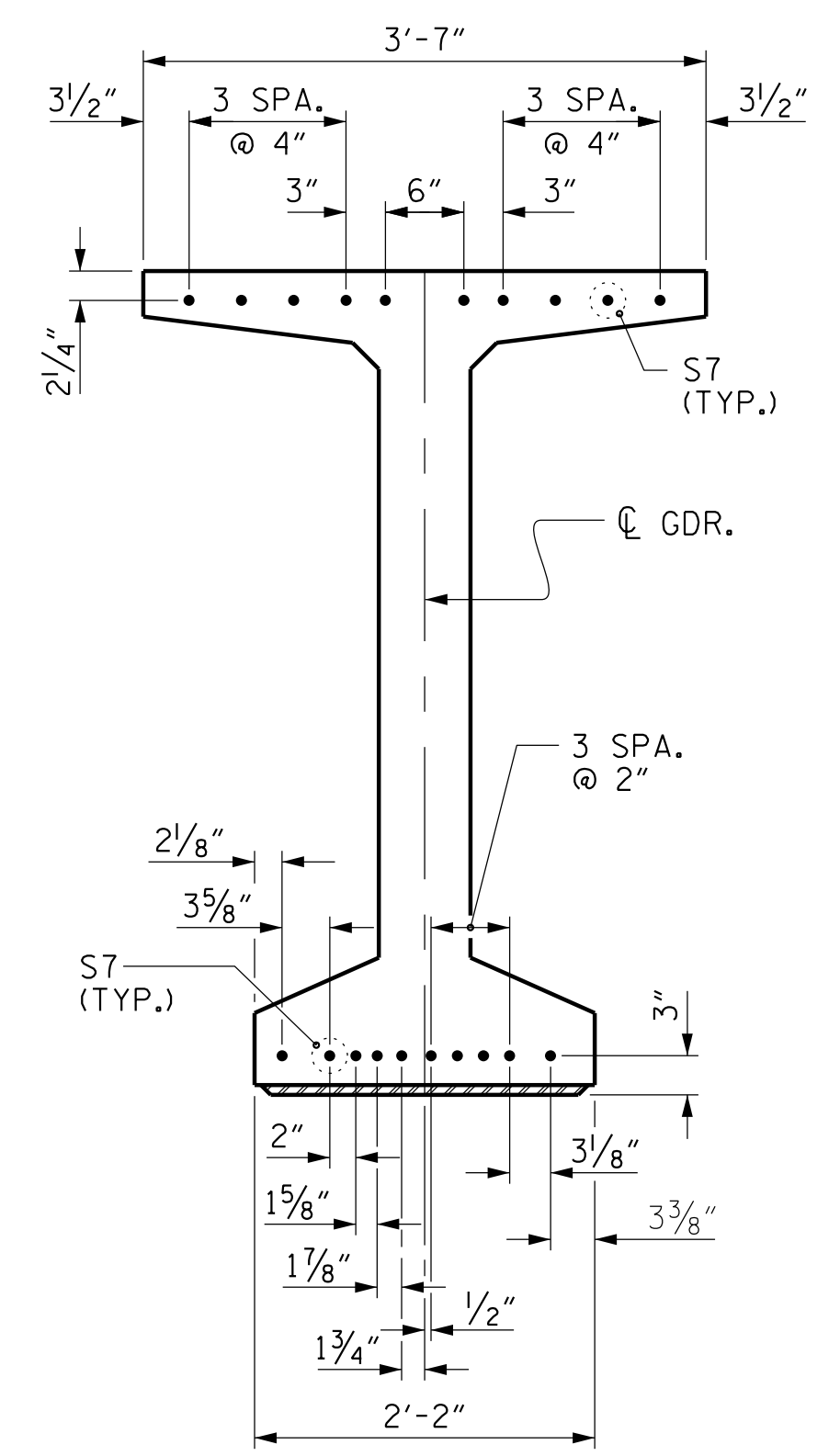
THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE GIRDER SHALL BE DONE WHEN CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 6000 PSI.

DEPENDING ON THE TYPE OF SYSTEM USED TO SUPPORT THE DECK SLAB FORMS, PRESET ANCHORS MAY BE NECESSARY IN THE PRESTRESSED CONCRETE GIRDER.

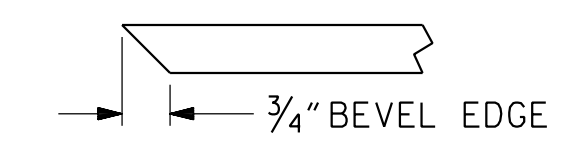
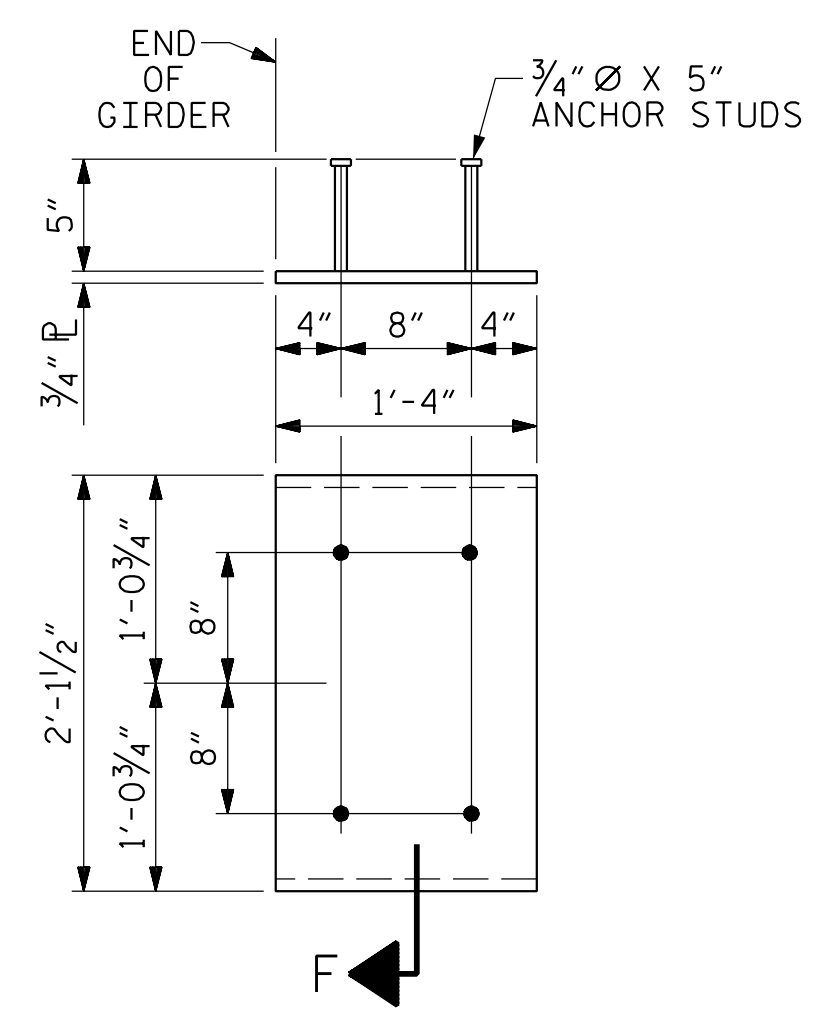
THE TOP SURFACE OF THE GIRDER, EXCLUDING THE OUTSIDE 4", SHALL BE RAKED TO A DEPTH OF 1/4", EXCEPT AS NOTED IN THE LINK SLAB AREAS.

A 2" x 2" CHAMFER IS ALLOWED AT THE INTERSECTION OF THE WEB AND THE BOTTOM FLANGE OF THE 72" MODIFIED BULB TEES ONLY.

THE CONTRACTOR HAS THE OPTION TO PROVIDE, AT NO ADDITIONAL COST TO THE DEPARTMENT, 2 ADDITIONAL STRANDS AT THE TOP OF THE GIRDER TO FACILITATE TYING OF THE REINFORCING STEEL. THESE STRANDS SHALL BE PULLED TO A LOAD OF 4500 lbs.



DETAIL "C"
(FOR 72" MODIFIED BULB TEES)



SECTION "F"
(SEE NOTES)

EMBEDDED PLATE "B-1" DETAILS
FOR 72" MODIFIED BULB TEES
(2 REQ'D PER GIRDER)

DEAD LOAD DEFLECTION TABLE FOR GIRDERS - SPANS A & B

0.6" Ø LOW RELAXATION		GIRDERS 1 & 4																				
FORTIETH POINTS		0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.50
CAMBER (GIRDER ALONE IN PLACE) ↑	0.0	0.019	0.037	0.055	0.073	0.090	0.106	0.122	0.136	0.152	0.165	0.177	0.188	0.198	0.207	0.214	0.220	0.225	0.229	0.231	0.231	
* DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0.0	0.010	0.021	0.031	0.041	0.051	0.061	0.071	0.081	0.089	0.097	0.104	0.112	0.117	0.122	0.127	0.132	0.134	0.135	0.137	0.139	
FINAL CAMBER ↑	0.0	1/8"	3/16"	5/16"	3/8"	7/16"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"	1"	1 1/16"	1 1/16"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	

0.6" Ø LOW RELAXATION		GIRDERS 1 & 4																				
FORTIETH POINTS		.50	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	1.0
CAMBER (GIRDER ALONE IN PLACE) ↑	0.231	0.231	0.229	0.224	0.220	0.214	0.207	0.198	0.188	0.177	0.165	0.152	0.137	0.122	0.106	0.090	0.073	0.055	0.037	0.019	0.0	
* DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0.139	0.137	0.135	0.134	0.132	0.127	0.122	0.117	0.112	0.104	0.097	0.089	0.081	0.071	0.061	0.051	0.041	0.031	0.021	0.010	0.0	
FINAL CAMBER ↑	1 1/8"	1 1/8"	1 1/8"	1 1/16"	1 1/16"	1 1/16"	1"	1"	15/16"	7/8"	13/16"	3/4"	11/16"	5/8"	9/16"	7/16"	3/8"	5/16"	3/16"	1/8"	0.0	

0.6" Ø LOW RELAXATION		GIRDERS 2 & 3																				
FORTIETH POINTS		0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.50
CAMBER (GIRDER ALONE IN PLACE) ↑	0.0	0.019	0.037	0.055	0.073	0.090	0.106	0.122	0.136	0.152	0.165	0.177	0.188	0.198	0.207	0.214	0.220	0.225	0.229	0.231	0.231	
* DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0.0	0.011	0.022	0.033	0.044	0.055	0.065	0.076	0.086	0.095	0.103	0.111	0.120	0.125	0.130	0.136	0.141	0.143	0.144	0.146	0.148	
FINAL CAMBER ↑	0.0	1/8"	3/16"	1/4"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	13/16"	7/8"	15/16"	15/16"	15/16"	1"	1"	1"	1"	

0.6" Ø LOW RELAXATION		GIRDERS 2 & 3																				
FORTIETH POINTS		.50	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	1.0
CAMBER (GIRDER ALONE IN PLACE) ↑	0.231	0.231	0.229	0.224	0.220	0.214	0.207	0.198	0.188	0.177	0.165	0.152	0.137	0.122	0.106	0.090	0.073	0.055	0.037	0.019	0.0	
* DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0.148	0.146	0.144	0.143	0.141	0.136	0.130	0.125	0.120	0.111	0.103	0.095	0.086	0.076	0.065	0.055	0.044	0.033	0.022	0.011	0.0	
FINAL CAMBER ↑	1"	1"	1"	1"	15/16"	15/16"	15/16"	7/8"	13/16"	13/16"	3/4"	11/16"	5/8"	9/16"	1/2"	7/16"	3/8"	1/4"	3/16"	1/8"	0.0	

* INCLUDES FUTURE WEARING SURFACE.

ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

PROJECT NO. R-5820
COLUMBUS COUNTY
 STATION: 38+26.89 -Y1- POT

SHEET 2 OF 3

PLANS PREPARED BY:

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4/12/2022

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 PRESTRESSED CONCRETE GIRDER
 DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-13
1			3			TOTAL SHEETS
2			4			31

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

DRAWN BY: W. B. ALLEN DATE: 4/20
 CHECKED BY: G. F. WILSON DATE: 6/21
 DESIGN ENGINEER OF RECORD: G. F. WILSON DATE: 10/21

4/12/2022 10:28:52 AM G:\P\Project\2016\20160325\CLIENT\Structures\R-5820 (Y1-Y1)R5820_SMU_G2_230424.dgn