

**TABLE A - DECK PANEL DESIGN (STEEL-GIRDER)**

C-C GIRDER SPACING	PANEL THICKNESS	f'ci (PSI)	f'c (PSI)	STRAND SPACING	TOTAL STRANDS PER 8 FT. PANEL
≤ 8'-0"	3 1/2"	4000	6000	8"	12
8'-6"	3 1/2"	4800	6000	6"	16
9'-0"	3 1/2"	4800	6000	6"	16
9'-6"	3 1/2"	6000	8000	5"	19
10'-0"	3 1/2"	6000	8000	5"	19

**DESIGN CRITERIA USED TO DEVELOP TABLE A:**

DESIGN CODE = AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 2020 W/ INTERIMS  
 LIVE LOAD = HL-93 OR HS25  
 ALLOWABLE TENSION IN CONCRETE =  $0.19 \sqrt{f'c}$   
 MAXIMUM INITIAL COMPRESSION =  $0.19 f'ci$   
 C-I-P DECK THICKNESS = 5" (W/ ASPHALT OVERLAY) TO 6 1/2" MAX. (NO OVERLAY)  
 PAVEMENT THICKNESS = 2 1/2" or 0" (BARE DECK)  
 STEEL FLANGE WIDTH = 12"  
 GROUT DAM WIDTH = 1 1/2"  
 GROUT BED THICKNESS = 2 1/2"

**PRESTRESSED CONCRETE DECK PANEL NOTES**

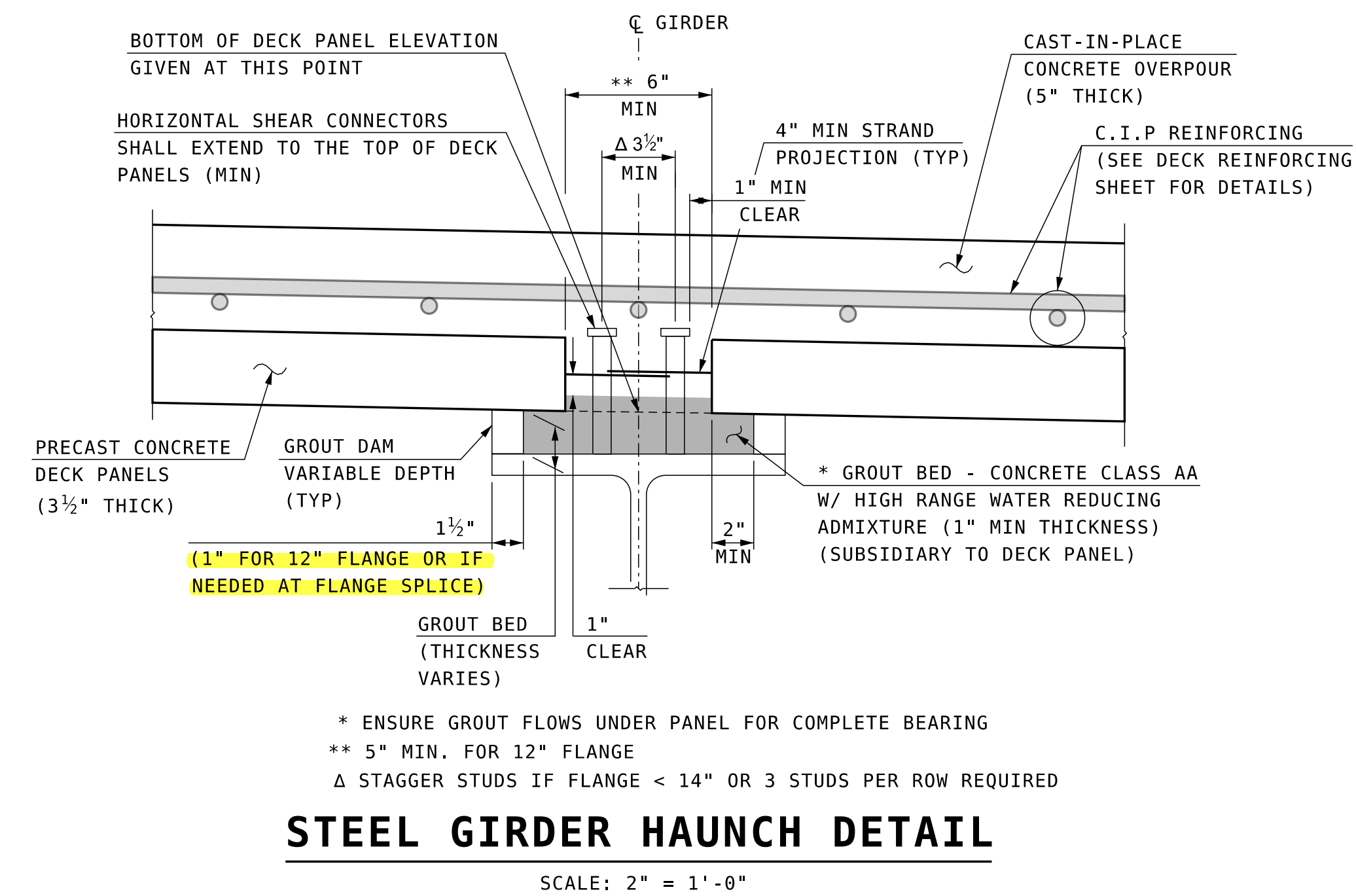
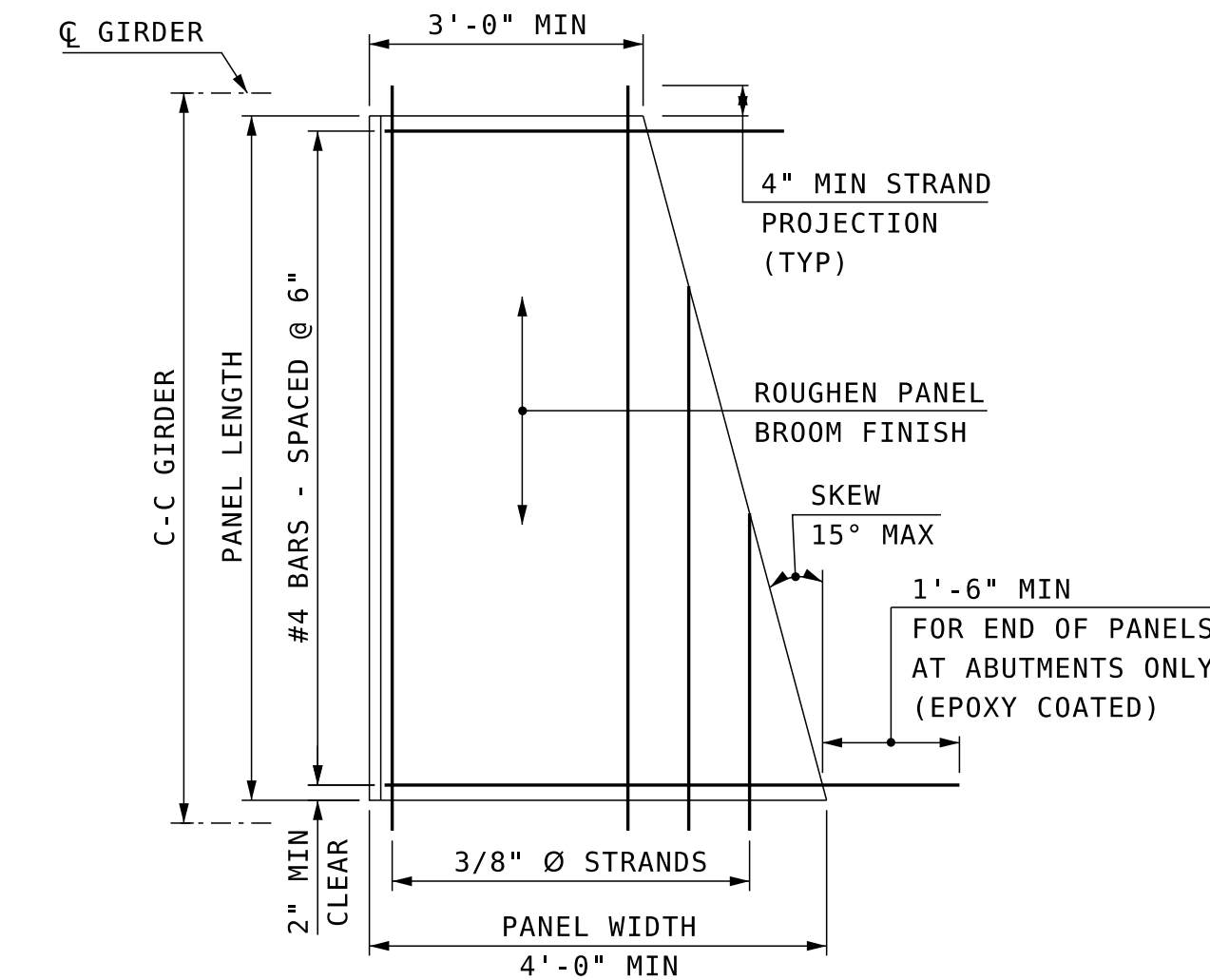
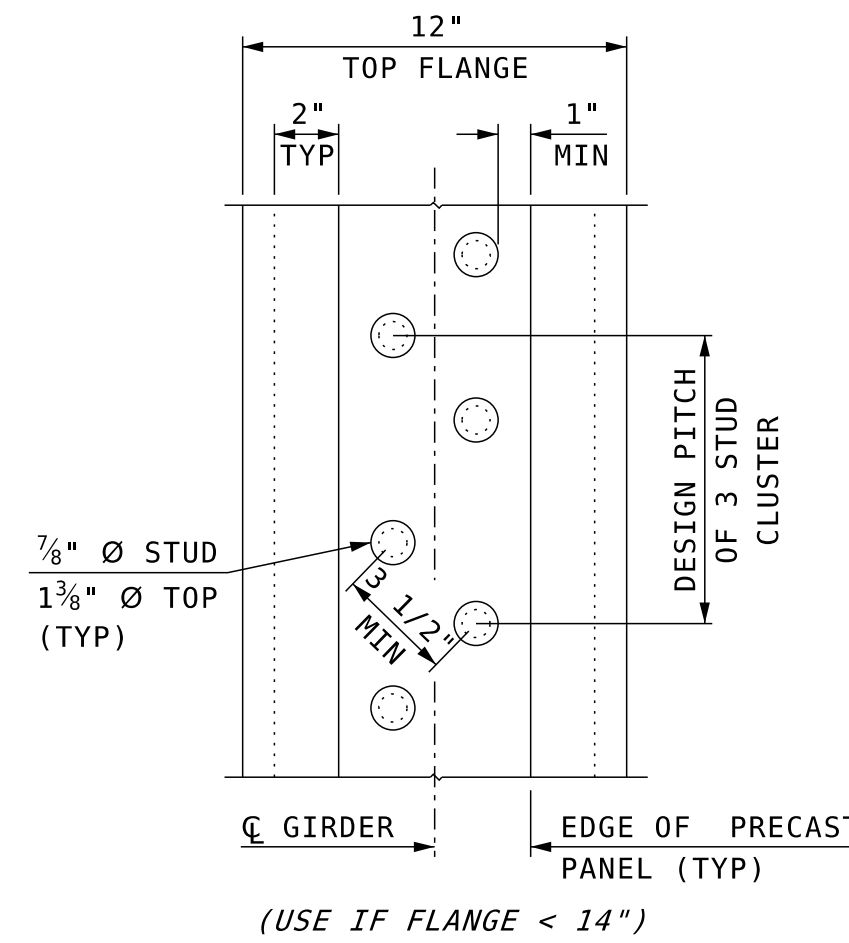
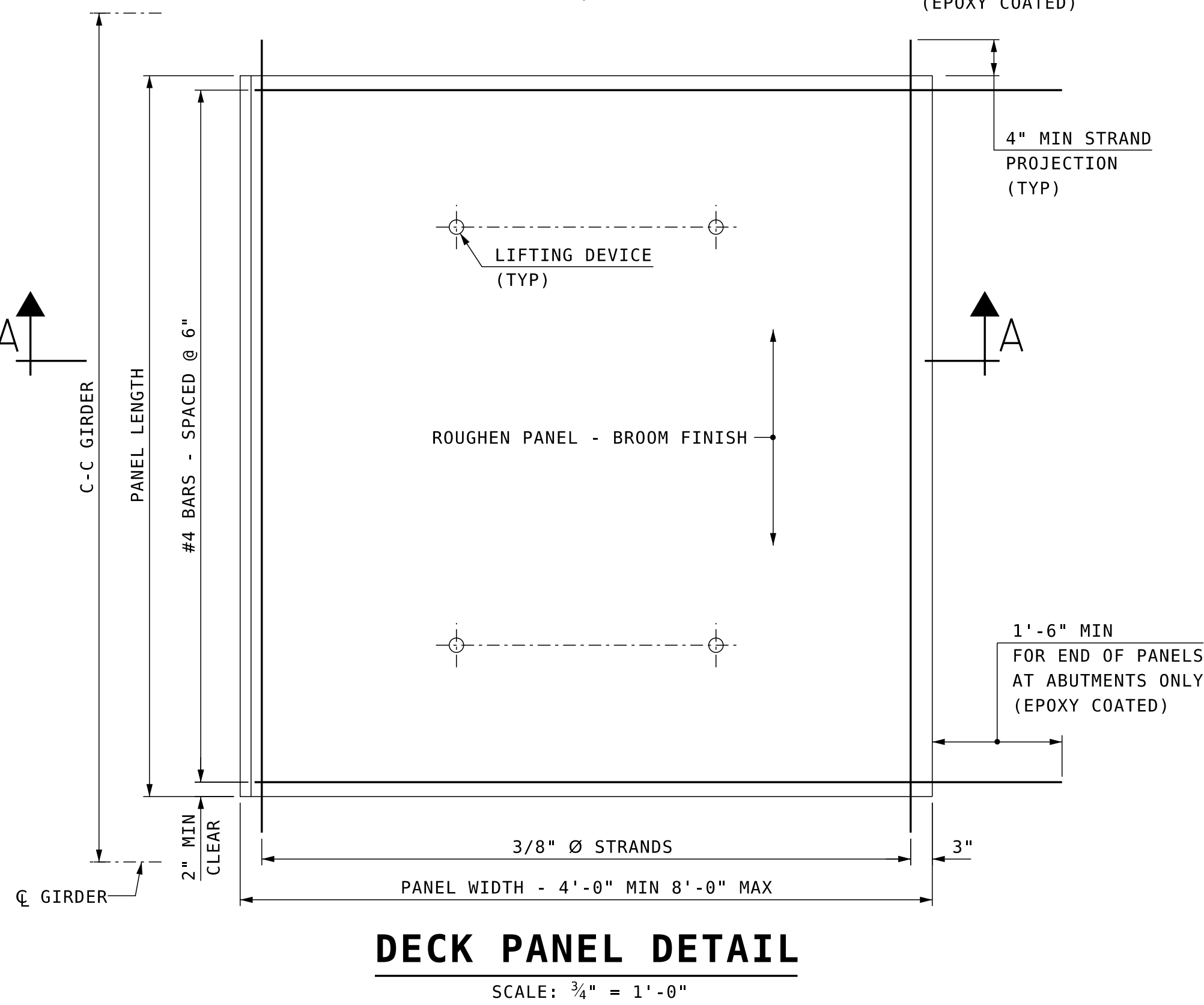
- PRESTRESSING STRANDS SHALL BE 3/8 in. DIAMETER, GRADE 270 SEVEN WIRE LOW-RELAXATION TYPE, CONFORMING TO THE REQUIREMENTS OF ASTM A416. ALL STRANDS SHALL BE PULLED TO HAVE A NET TENSION OF 17.2 KIPS PER STRAND AFTER ALLOWING FOR CHUCK SLIPPAGE.
- THE MILD REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 (ASTM A615) GRADE 60. MILD REINFORCEMENT FOR THE END PANELS SHALL BE EPOXY COATED AND CONFORM TO THE REQUIREMENTS OF ASTM A775 AND D3963.
- THE TOP SURFACE OF THE DECK PANELS SHALL BE BROOMED TO A SURFACE ROUGHNESS OF 0.06 in. BROOM THE SURFACE PARALLEL TO THE STRAND.
- THE GROUT DAM SHALL BE A RIGID MATERIAL THAT PROVIDES A VARIABLE DEPTH AND IS BONDED TO THE BEAM TO RETAIN THE GROUT DURING PLACEMENT. THE MATERIAL AND ADHESIVE SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR. SEE SECTION 528.
- PANEL LIFTING LOCATIONS SHOWN ARE ADVISORY ONLY. ACTUAL LIFTING LOCATIONS SHALL BE DETERMINED BY THE FABRICATOR AND INDICATED ON THE SHOP DRAWINGS.
- CORROSION INHIBITOR (CALCIUM NITRITE) ADMIXTURE SHALL BE USED.
- SEE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS FOR SECTIONS 520 AND 528 FOR ADDITIONAL INFORMATION.
- IF LEVELING SCREWS ARE USED, THEY SHALL BE COMPLETELY REMOVED AFTER THE GROUTING OPERATIONS AND PRIOR TO DECK PLACEMENT. HOLES LEFT BY LEVELING SCREWS SHALL BE FILLED WITH AN APPROVED GROUT PRIOR TO DECK PLACEMENT. THE LEVELING SCREW LOCATIONS SHALL NOT INTERFERE WITH THE LOCATION OF THE GROUT DAM.
- TEMPORARY BRACING BETWEEN ENDS OF PANELS SHALL BE INSTALLED AS REQUIRED TO PREVENT PANEL MOVEMENT TRANSVERSE TO THE GIRDERS.
- SHOP DRAWINGS SHOWING THE LAYOUT AND CONSTRUCTION DETAILS OF THE DECK PANELS SHALL BE SUBMITTED FOR APPROVAL IN ACCORDANCE WITH THE SPECIAL PROVISION.
- THE FOLLOWING DECK PANEL DESIGN INFORMATION SHALL BE USED FOR THIS PROJECT:

C-C GIRDER SPACING = XX  
 GIRDER FLANGE WIDTH = XX  
 ASSUMED GROUT DAM WIDTH = XX  
 PANEL LENGTH = XX (NOTE: IF THE CONTRACTOR PROPOSES A GROUT DAM WIDTH THAT EXCEEDS THE ASSUMED WIDTH, PANEL LENGTH SHALL BE INCREASED AS REQUIRED TO PROVIDE A 2" MIN. GROUT BED WIDTH.)

PANEL THICKNESS = 3.5"  
 CONCRETE STRENGTH f'c = XX AT 28 DAYS  
 f'ci = XX AT RELEASE  
 STRAND SPACING = XX  
 TOTAL NUMBER OF STRANDS REQUIRED PER 8' PANEL WIDTH = XX

**CAST-IN-PLACE CONCRETE NOTES**

- CAST-IN-PLACE CONCRETE STRENGTH f'c = 4,000 PSI AT 28 DAYS
- CAST-IN-PLACE REINFORCING SHALL FOLLOW THE LAYOUT SHOWN ON THE DECK REINFORCING SHEET.



**NOTES TO DESIGNER:**

- A HAUNCH THICKNESS SHALL BE PROVIDED THAT ACCOUNTS FOR GIRDER CAMBER TOLERANCE, ADDITIONAL DECK THICKNESS DUE TO DECK PANELS, FIELD SPLICE PLATES AND ANY OTHER DETAIL THAT MIGHT IMPACT THE 1" MINIMUM HAUNCH THICKNESS REQUIREMENT. THE INTENT IS TO HOLD FINISHED GRADE ELEVATIONS AND TAKE UP CHANGES IN DECK THICKNESS WITHIN THE HAUNCH PROVIDED.
- THE DECK PANEL DESIGN INFORMATION FOR NOTE #11 SHALL BE OBTAINED FROM TABLE A USING THE PROJECT SPECIFIC C-C GIRDER SPACING. WHEN THE GIRDER SPACING DIFFERS FROM THOSE LISTED IN THE TABLE, THE PANEL DESIGN INFORMATION SHALL BE BASED ON THE NEXT LONGER TABULATED GIRDER SPACING. IF THE PROPOSED PROJECT HAS DESIGN CRITERIA EXCEEDING WHAT IS NOTED ON THIS SHEET, THEN THE DECK PANEL SHALL BE RE-DESIGNED AND A NEW SHEET DRAWN WITH THE DESIGNER NOTED IN THE TITLE BOX.
- PROJECT SPECIFIC PANEL LENGTH SHALL BE CALCULATED BASED ON GIRDER FLANGE WIDTH AND TO PROVIDE A 2" MINIMUM GROUT BED WIDTH UNDER PANEL ENDS WHEN ACCOUNTING FOR THE NECESSARY GROUT DAM MATERIAL. PROJECT PANEL LENGTH MAY VARY IF GIRDER FLANGE WIDTH VARIES.
- SHEAR CONNECTOR STUD HEIGHTS AND SPACING MAY NEED ADJUSTMENT TO ACCOMMODATE THE PRECAST PANEL.

NHDOT Bridge Design  
7/31/2023

Revisions made to Bridge Detail Sheet are highlighted.  
Go to website for current Detail Sheet.

NO MODIFICATIONS SHALL BE MADE TO THIS SHEET EXCEPT FOR NOTE #11

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN		BRIDGE NO.				STATE PROJECT			
LOCATION									
PRECAST DECK PANEL - STEEL GIRDER								BRIDGE SHEET	
REVISIONS AFTER PROPOSAL		BY	DATE	BY	DATE	XX OF			
		DESIGNED	NHDOT 4/02	CHECKED	NHDOT 12/17	FILE NUMBER			
		DRAWN	NHDOT 12/10	CHECKED	NHDOT 12/17				
		QUANTITIES	xxx	xx/xx	CHECKED	xxx	xx/xx		
		ISSUE DATE	4/02	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS			
		REV. DATE	7/31/23						

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
DECK PANELS	STEEL GIRDER DECK	AS NOTED

**TABLE A - DECK PANEL DESIGN  
(BULB-TEE GIRDER)**

C-C GIRDER SPACING	PANEL THICKNESS	f'ci (PSI)	f'c (PSI)	STRAND SPACING	TOTAL STRANDS PER 8 FT. PANEL
≤ 11'-0"	3½"	4800	6000	6"	16
11'-6"	3½"	6000	8000	5"	19
12'-0"	3½"	6000	8000	5"	19

**DESIGN CRITERIA USED TO DEVELOP TABLE A:**

DESIGN CODE = AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 2020 W/ INTERIMS  
 LIVE LOAD = HL-93 OR HS25  
 ALLOWABLE TENSION IN CONCRETE =  $0.19\sqrt{f'c}$   
 MAXIMUM INITIAL COMPRESSION =  $0.19f'ci$   
**C-I-P DECK THICKNESS = 5" (W/ ASPHALT OVERLAY) TO 6½" MAX. (NO OVERLAY)**  
 PAVEMENT THICKNESS = 2½" or 0" (BARE DECK)  
 GIRDER FLANGE WIDTH = 47.24"  
 GROUT DAM WIDTH = 1½"  
 GROUT BED THICKNESS = 2½"

**PRESTRESSED CONCRETE DECK PANEL NOTES**

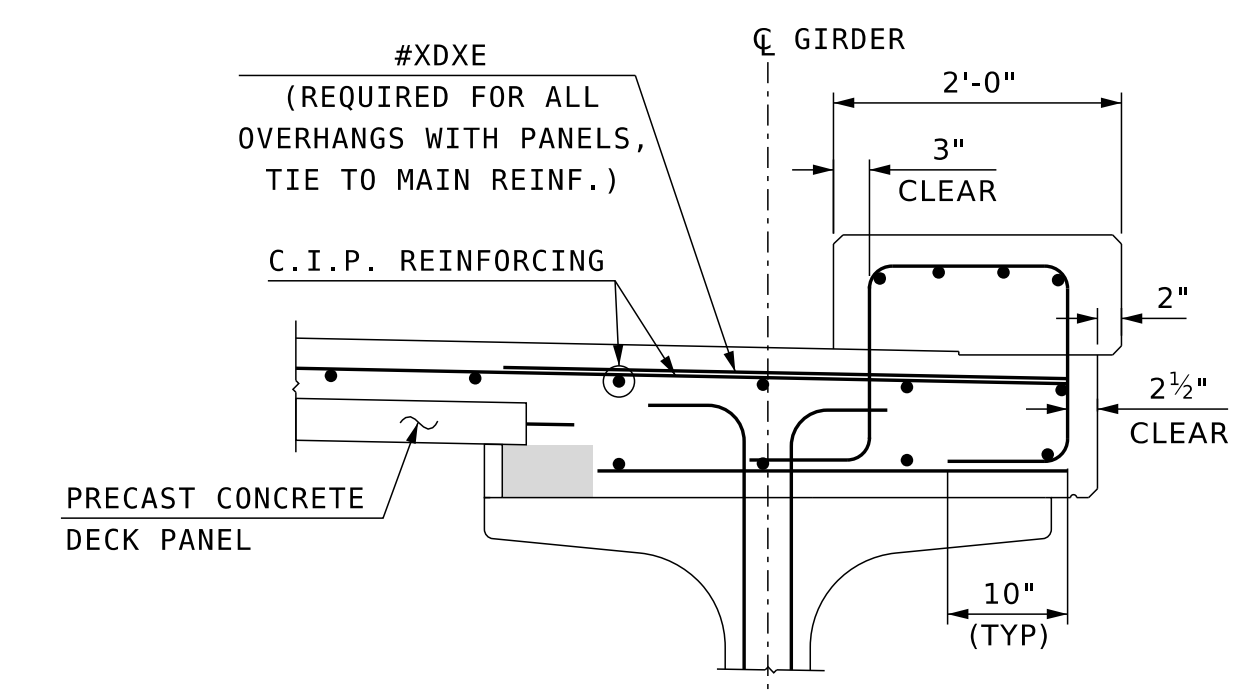
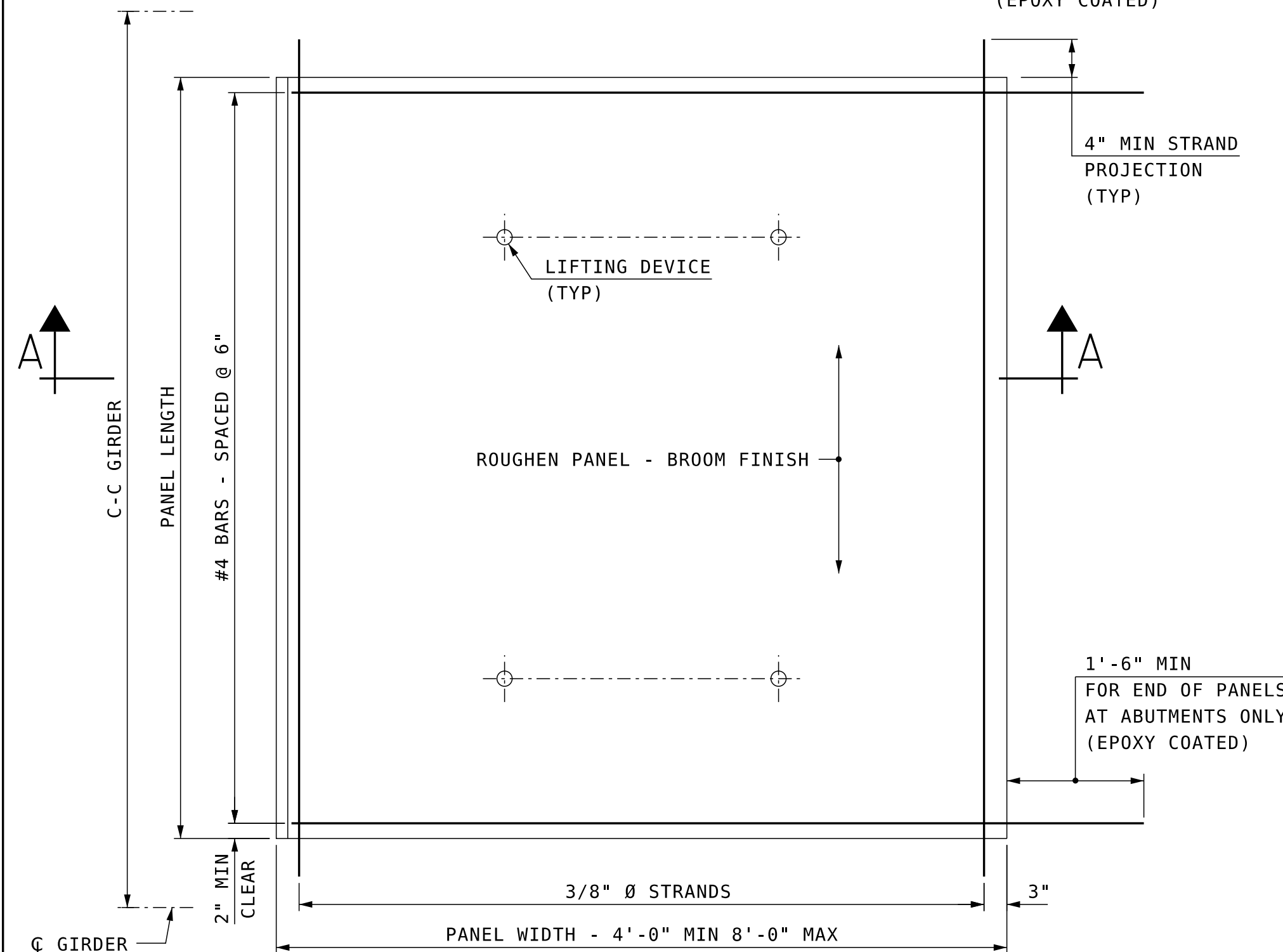
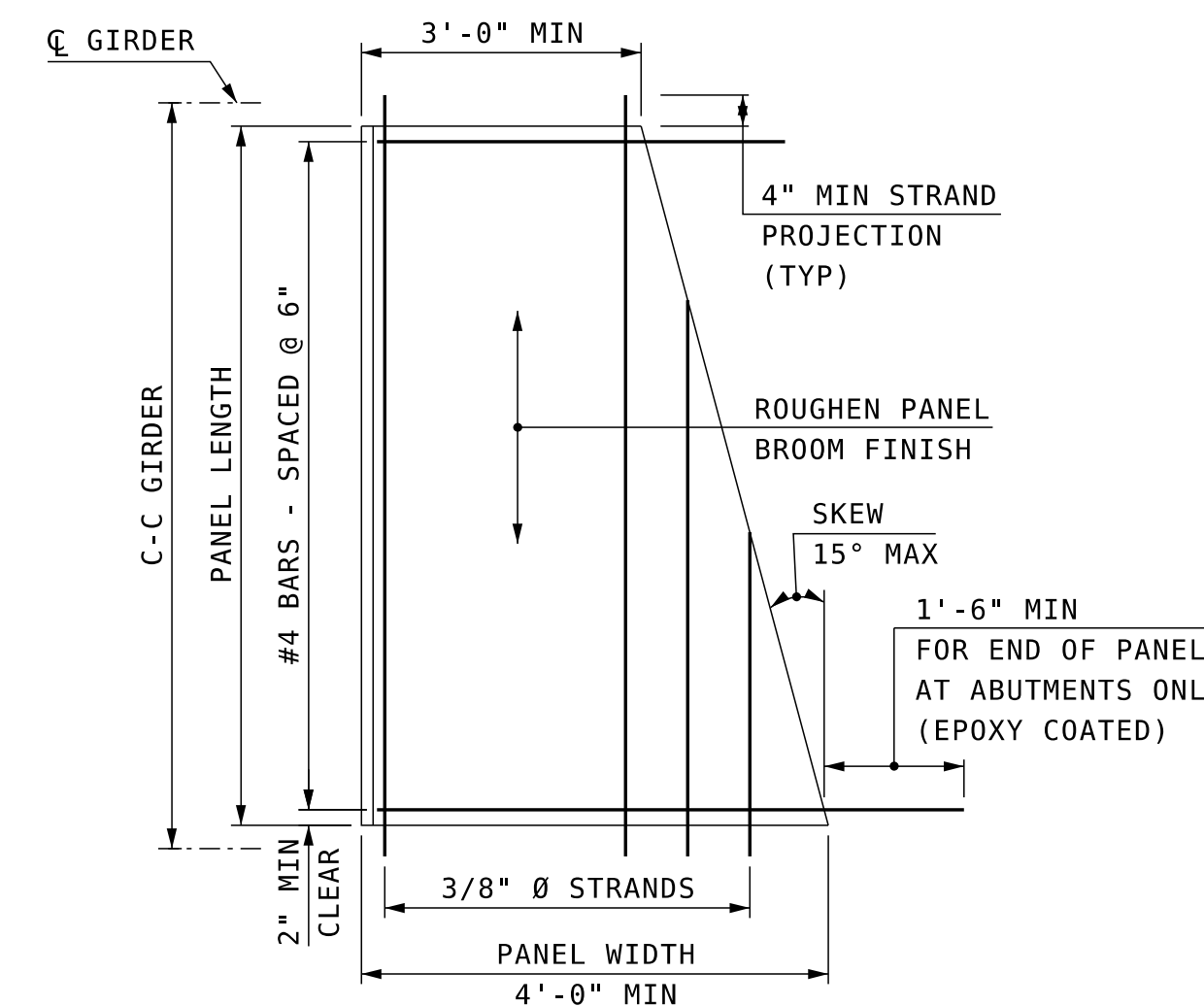
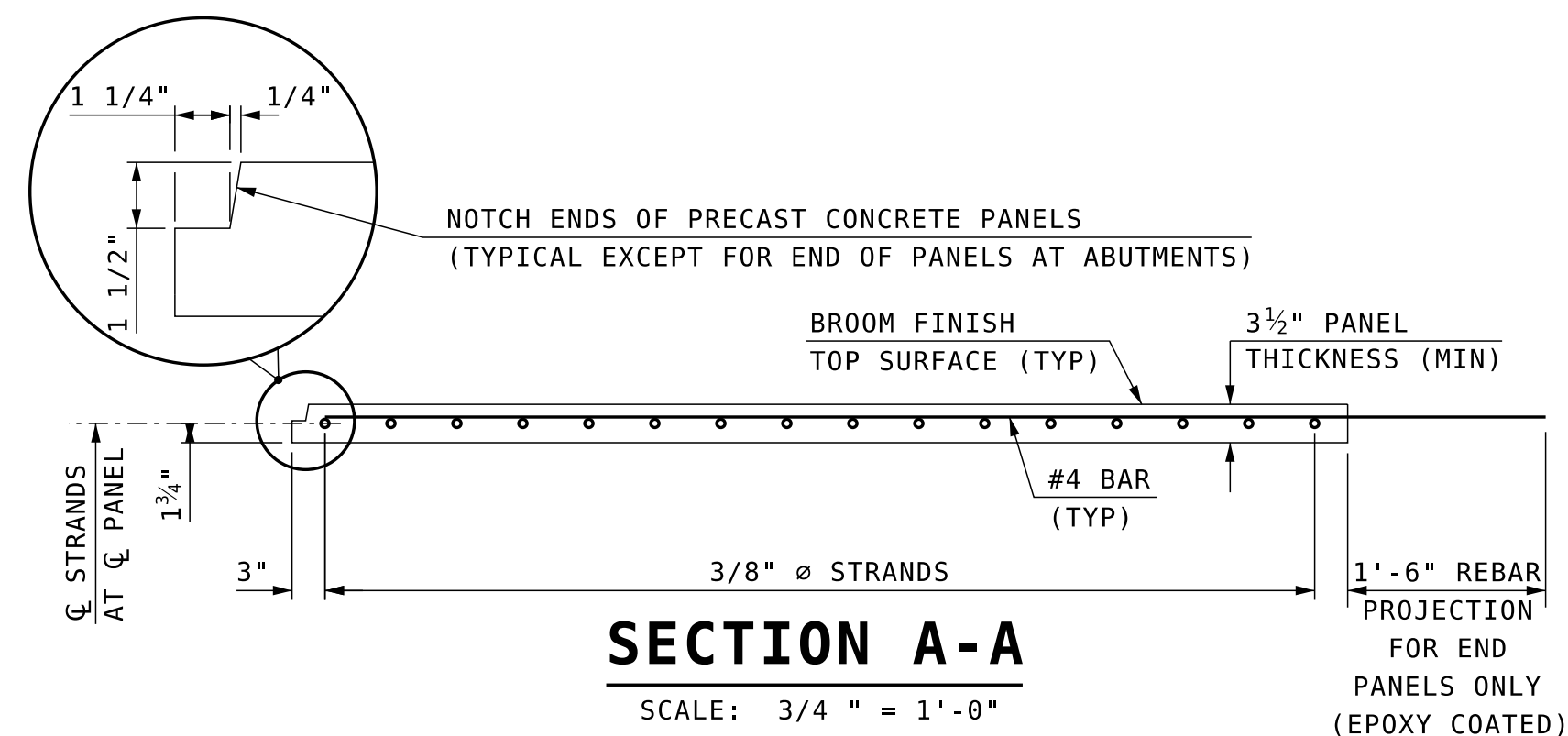
- PRESTRESSING STRANDS SHALL BE ¾ in. DIAMETER, GRADE 270 SEVEN WIRE LOW-RELAXATION TYPE, CONFORMING TO THE REQUIREMENTS OF ASTM A416. ALL STRANDS SHALL BE PULLED TO HAVE A NET TENSION OF 17.2 KIPS PER STRAND AFTER ALLOWING FOR CHUCK SLIPPAGE.
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- THE TOP SURFACE OF THE DECK PANELS SHALL BE BROOMED TO A SURFACE ROUGHNESS OF 0.06 in. BROOM THE SURFACE PARALLEL TO THE STRAND.
- THE GROUT DAM SHALL BE A RIGID MATERIAL THAT PROVIDES A VARIABLE DEPTH AND IS BONDED TO THE BEAM TO RETAIN THE GROUT DURING PLACEMENT. THE MATERIAL AND ADHESIVE SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR. SEE SECTION 528.
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- THE FOLLOWING DECK PANEL DESIGN INFORMATION SHALL BE USED FOR THIS PROJECT:

C-C GIRDER SPACING = XX  
**GIRDER FLANGE WIDTH = 47.24"**  
 ASSUMED GROUT DAM WIDTH = XX  
 PANEL LENGTH = XX (NOTE: IF THE CONTRACTOR PROPOSES A GROUT DAM WIDTH THAT EXCEEDS THE ASSUMED WIDTH, PANEL LENGTH SHALL BE INCREASED AS REQUIRED TO PROVIDE A 2" MIN. GROUT BED WIDTH.)

PANEL THICKNESS = 3.5"  
 CONCRETE STRENGTH f'c = XX AT 28 DAYS  
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 STRAND SPACING = XX  
 TOTAL NUMBER OF STRANDS REQUIRED PER 8' PANEL WIDTH = XX

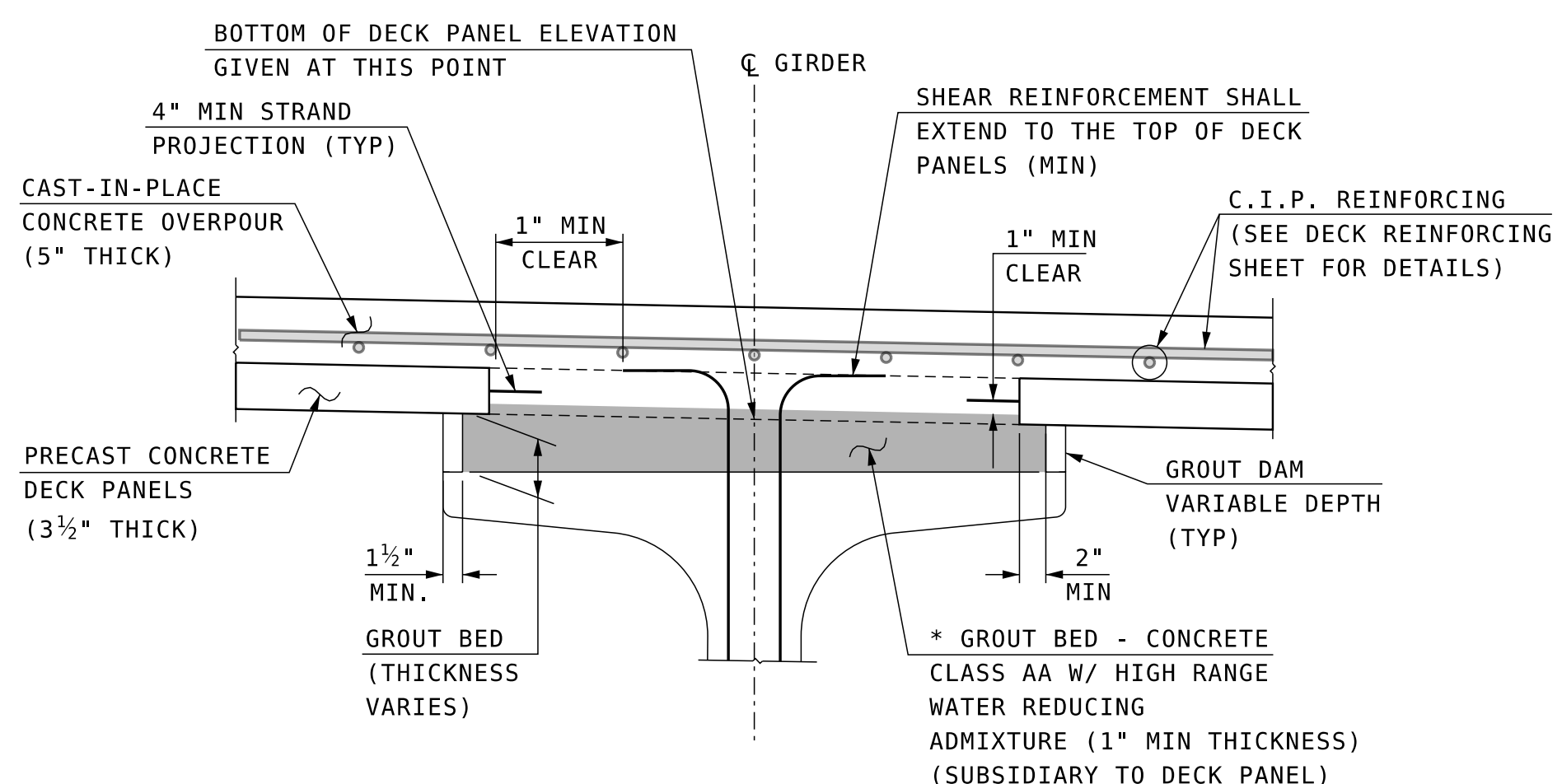
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- CAST-IN-PLACE CONCRETE STRENGTH f'c = 4,000 PSI AT 28 DAYS
- CAST-IN-PLACE REINFORCING SHALL FOLLOW THE LAYOUT SHOWN ON THE DECK REINFORCING SHEET.**



**DECK PANEL DETAIL**  
SCALE: 3/4" = 1'-0"

**BULB-TEE OVERHANG DETAIL**  
SCALE: 3/4" = 1'-0"



**NOTES TO DESIGNER:**

- A HAUNCH THICKNESS SHALL BE PROVIDED THAT ACCOUNTS FOR GIRDER CAMBER TOLERANCE, ADDITIONAL DECK THICKNESS DUE TO DECK PANELS, AND ANY OTHER DETAIL THAT MIGHT IMPACT THE 1" MINIMUM HAUNCH THICKNESS REQUIREMENT. THE INTENT IS TO HOLD FINISHED GRADE ELEVATIONS AND TAKE UP CHANGES IN DECK THICKNESS WITHIN THE HAUNCH PROVIDED.
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NHDOT Bridge Design  
7/31/2023

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STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN		BRIDGE NO.			STATE PROJECT				
LOCATION									
<b>PRECAST DECK PANEL - BULB-TEE GIRDER</b>									
REVISIONS AFTER PROPOSAL		BY	DATE	BY	DATE	BRIDGE SHEET XX OF			
		DESIGNED	NHDOT 4/02	CHECKED	NHDOT 12/17	FILE NUMBER			
		DRAWN	NHDOT 12/10	CHECKED	NHDOT 12/17				
		QUANTITIES	XXX XX/XX	CHECKED	XXX XX/XX				
		ISSUE DATE	4/02	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS			
		REV. DATE	7/31/23						

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
DECK PANELS	Bulb Tee Deck	AS NOTED

\* ENSURE GROUT FLOWS UNDER PANEL FOR COMPLETE BEARING