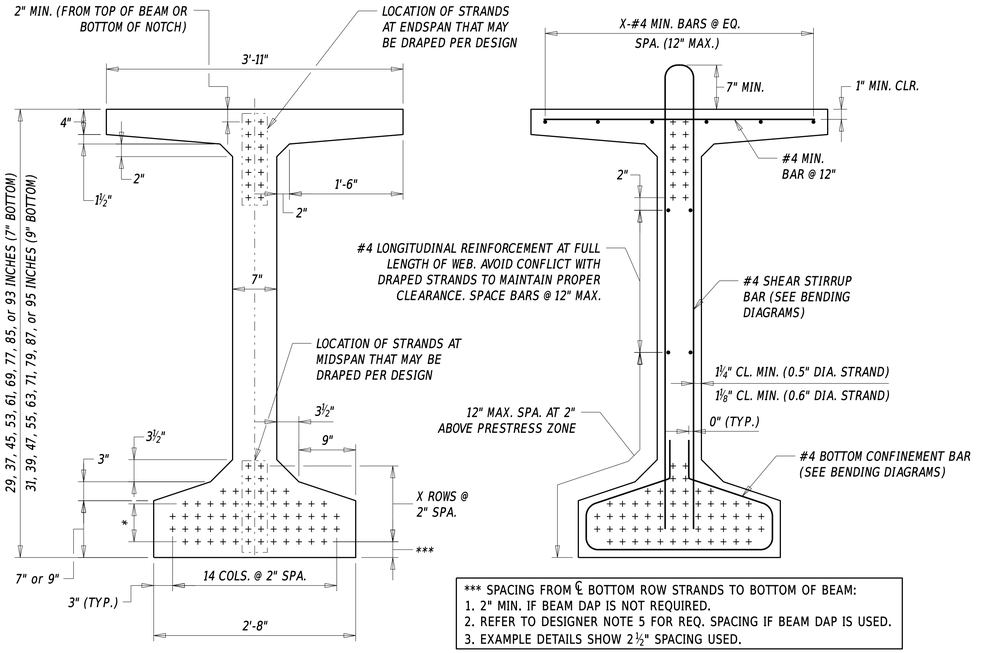


STRAND CONFIGURATION

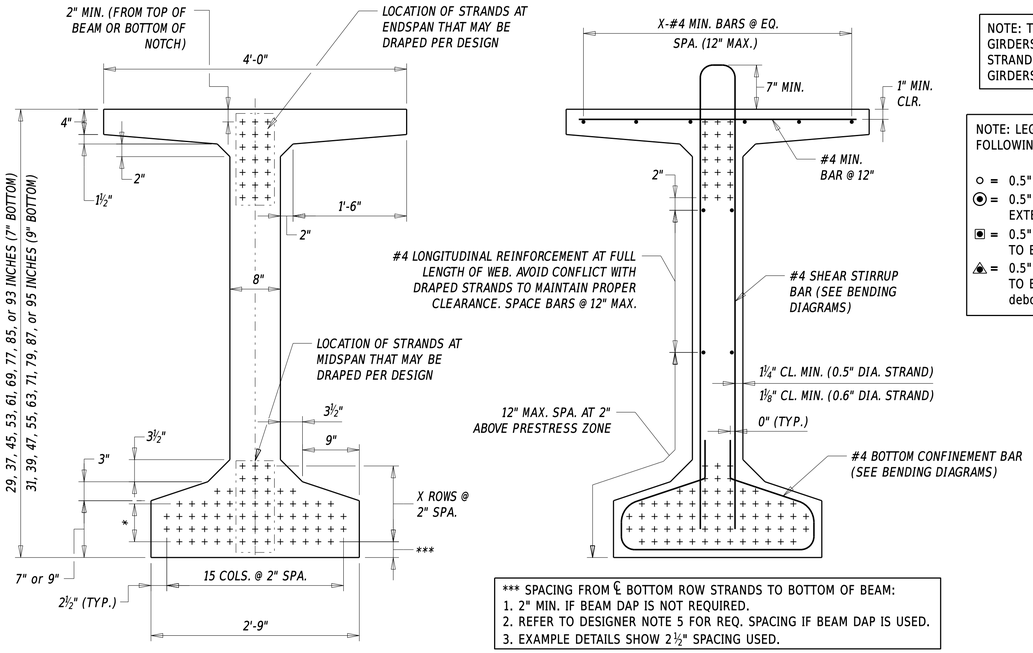
(7" WEB, EXAMPLE SHOWN USING 9" BOTTOM FLANGE)

TYPICAL REINFORCING SECTION

(7" WEB, EXAMPLE SHOWN USING 9" BOTTOM FLANGE)

*** SPACING FROM ℄ BOTTOM ROW STRANDS TO BOTTOM OF BEAM:
1. 2" MIN. IF BEAM DAP IS NOT REQUIRED.
2. REFER TO DESIGNER NOTE 5 FOR REQ. SPACING IF BEAM DAP IS USED.
3. EXAMPLE DETAILS SHOW 2½" SPACING USED.

NOTE: + = DENOTES AVAILABLE LOCATIONS FOR STRAND PLACEMENT.



STRAND CONFIGURATION

(8" WEB, EXAMPLE SHOWN USING 9" BOTTOM FLANGE)

TYPICAL REINFORCING SECTION

(8" WEB, EXAMPLE SHOWN USING 9" BOTTOM FLANGE)

*** SPACING FROM ℄ BOTTOM ROW STRANDS TO BOTTOM OF BEAM:
1. 2" MIN. IF BEAM DAP IS NOT REQUIRED.
2. REFER TO DESIGNER NOTE 5 FOR REQ. SPACING IF BEAM DAP IS USED.
3. EXAMPLE DETAILS SHOW 2½" SPACING USED.

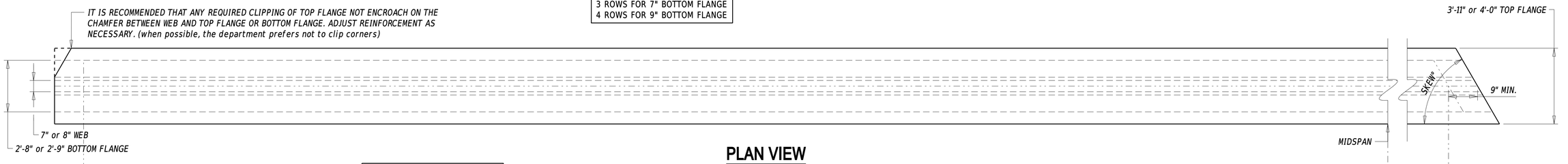
NOTE: + = DENOTES AVAILABLE LOCATIONS FOR STRAND PLACEMENT.

NOTE: THE STRAND CONFIGURATION AS SHOWN FOR PCEF GIRDERS UTILIZING 7" WEBS MAY BE SUBSTITUTED FOR THE STRAND CONFIGURATION AS SHOWN IN DETAILS FOR PCEF GIRDERS UTILIZING 8" WEBS.

NOTE: LEGEND TO BE ADDED ON PLAN SHEETS MUST SHOW THE FOLLOWING (see Designer Note 2):

- ○ = 0.5" or 0.6" DIA., 270 ksi PRESTRESSING STRANDS
- ⦿ = 0.5" or 0.6" DIA., 270 ksi PRESTRESSING STRANDS TO BE EXTENDED INTO THE PIER
- ▣ = 0.5" or 0.6" DIA., 270 ksi PRESTRESSING STRANDS TO BE DEBONDED AT X'-X" @ EACH END
- ◭ = 0.5" or 0.6" DIA., 270 ksi PRESTRESSING STRANDS TO BE DEBONDED AT X'-X" @ EACH END (if more than one debonded length is required)

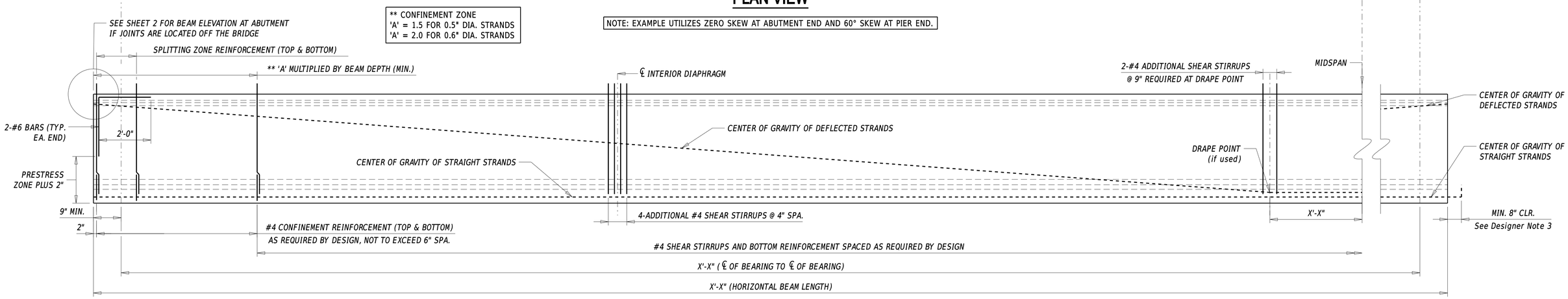
* STRAND LOCATION:
3 ROWS FOR 7" BOTTOM FLANGE
4 ROWS FOR 9" BOTTOM FLANGE



PLAN VIEW

NOTE: EXAMPLE UTILIZES ZERO SKEW AT ABUTMENT END AND 60° SKEW AT PIER END.

** CONFINEMENT ZONE
'A' = 1.5 FOR 0.5" DIA. STRANDS
'A' = 2.0 FOR 0.6" DIA. STRANDS



ELEVATION

NOTE: EXAMPLE ASSUMES JOINT WILL BE AT ABUTMENT (NO NOTCH ON TOP OF BEAM AT ABUTMENT END). LONGITUDINAL BARS NOT SHOWN FOR CLARITY.

NOTE: PRESTRESS ZONE IS DEFINED AS THE DISTANCE FROM THE BOTTOM OF THE BEAM TO THE TOP ROW OF STRAIGHT STRANDS.

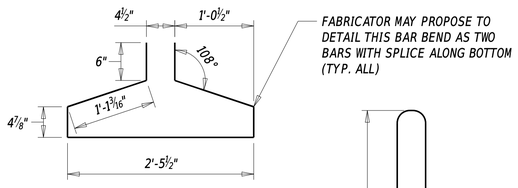
NOTE: ALL REINFORCEMENT FOR THE PCEF BEAM IS INCLUDED IN ITEM (insert appropriate beam item number). THE REINFORCING BAR LIST AND BENDING DIAGRAMS MUST BE SHOWN ON THE PCEF GIRDER SHEETS AND SEPARATE FROM THE BRIDGE REINFORCEMENT BAR SHEET. THE BELOW DIMENSIONS ARE RECOMMENDED. THE DESIGNER IS STILL RESPONSIBLE FOR ENSURING THAT THE DIMENSIONS SHOWN ON PLANS ARE ACCURATE AND PROJECT-SPECIFIC.

REINFORCING BAR LIST

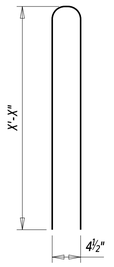
STRAIGHT BARS				BENT BARS			
MARK	SIZE	NUMBER	LENGTH	MARK	SIZE	NUMBER	LENGTH
BMXXXE	----	----	----	BM4XXE	4	----	----
BMXXXE	----	----	----	BM4XXE	4	----	----
BMXXXE	----	----	----	BM4XXE	4	----	----
BMXXXE	----	----	----	BM4XXE	4	----	----

BENDING DIAGRAMS

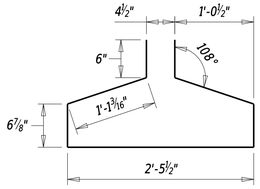
NOTE: ALL DIMENSIONS ARE FROM OUT TO OUT.



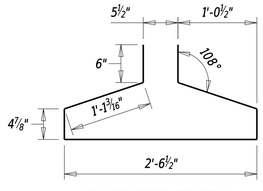
BM4XXE (7" WEB, 7" BOTTOM)



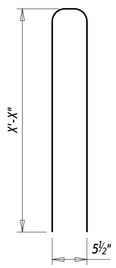
BM4XXE (7" WEB)



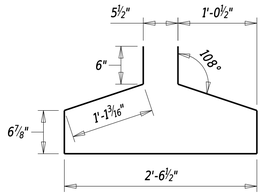
BM4XXE (7" WEB, 9" BOTTOM)



BM4XXE (8" WEB, 7" BOTTOM)

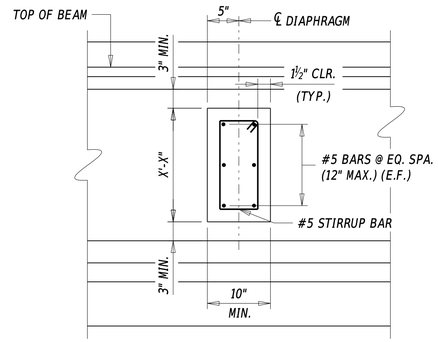


BM4XXE (8" WEB)

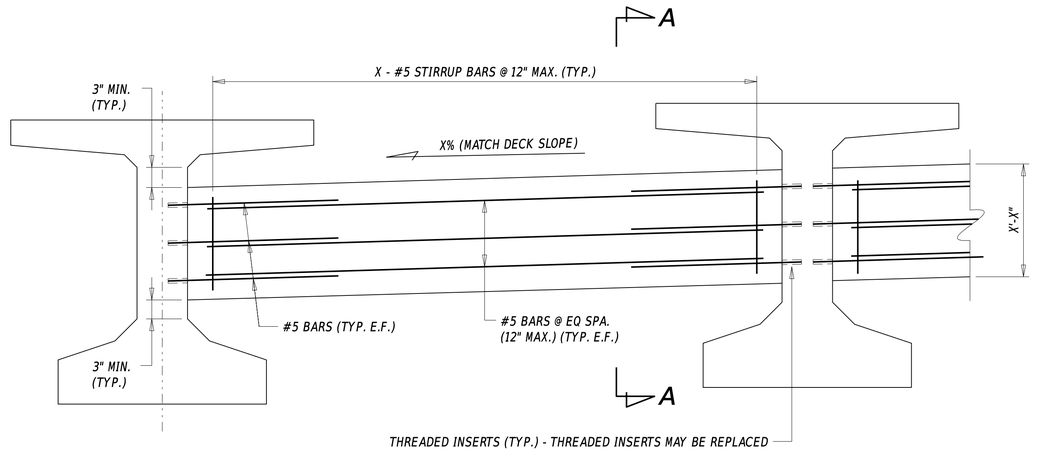


BM4XXE (8" WEB, 9" BOTTOM)

NOTE: REINFORCING BAR LIST COUNT IS PER BEAM



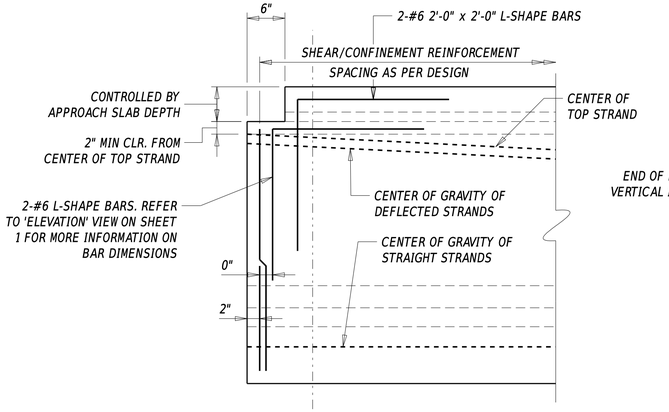
SECTION A-A



THREADED INSERTS (TYP.) - THREADED INSERTS MAY BE REPLACED WITH 1½" DIA. PRE-DRILLED HOLES THROUGH THE BEAM WEBS AND # 5 BARS MADE CONTINUOUS AT INTERIOR BEAMS ONLY.

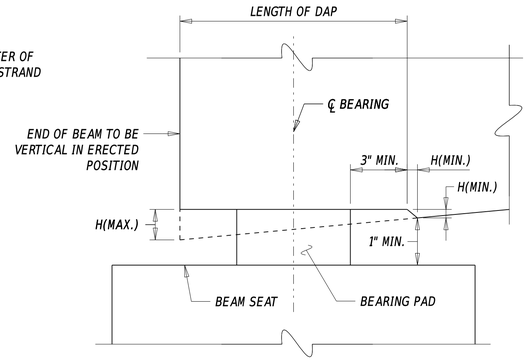
INTERMEDIATE DIAPHRAGM ELEVATION

See Designer Note 6

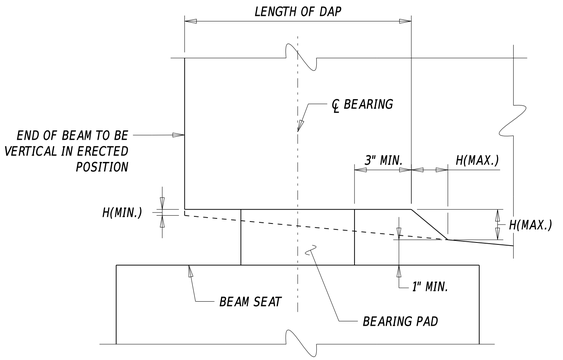


BEAM ELEVATION AT ABUTMENT

NOTE: TYPICAL FOR JOINTS LOCATED OFF THE BRIDGE. REFER TO 'ELEVATION' VIEW ON SHEET 1 FOR MORE INFORMATION ON REINFORCEMENT.



LOW END OF BEAM



HIGH END OF BEAM

BEAM DAP DETAILS

NOTE: THE DAP LENGTH MUST PARALLEL BEARING PAD EDGE. See Designer Note 5.

DESIGNER NOTES

1. REFER TO SECTION 106.9 FOR MORE INFORMATION ON THE DESIGN AND DETAILING OF PRESTRESSED CONCRETE PCEF GIRDERS. ALSO REFER TO SECTION 103.4.1.2 FOR MORE INFORMATION ON WHEN USE OF PCEF GIRDERS IS APPROPRIATE.
2. FOR MORE INFORMATION ON ALLOWABLE PRESTRESSING STRAND TYPE AND SIZES, REFER TO SECTION 205.4.4.
3. FOR MORE INFORMATION ON DESIGN AND DETAILING OF PRESTRESSING STRANDS EXTENDING INTO THE PIER DIAPHRAGM, REFER TO A5.12.3.3.9.
4. EXAMPLES IN THIS DETAIL UTILIZE #4 BARS. THIS IS THE MINIMUM REBAR SIZE. HIGHER BAR SIZES MAY BE REQUIRED AS PER DESIGN.
5. BEAM DAP CALCULATIONS INCLUDE BOTH BEAM CAMBER AND ROADWAY GRADE. BEAM DAP SHOULD BE USED ONLY WHEN H(MAX.) IS ¼" TO 1½". THE MINIMUM DISTANCE FROM BOTTOM OF BEAM TO CENTER OF BOTTOM-MOST STRAND ROW SHALL BE AS FOLLOW:
   -DISTANCE = 2½" WHEN H(MAX.) IS ¼" TO LESS THAN OR EQUAL TO ¾"
   -DISTANCE = 3" WHEN H(MAX.) IS GREATER THAN ¾" TO LESS THAN OR EQUAL TO 1¼"
   -DISTANCE = 3¼" WHEN H(MAX.) IS GREATER THAN 1¼" TO LESS THAN OR EQUAL TO 1½"
   -WHEN H(MAX.) IS GREATER THAN 1½", USE BEVELED SOLE PLATE AND 2" MINIMUM DISTANCE.
   -IF THE BEAM END IS SKEWED, USE OF BEVELED SOLE PLATE IS PREFERRED OVER USE OF BEAM DAP.
6. INTERMEDIATE DIAPHRAGMS FOR PRESTRESSED CONCRETE PCEF GIRDERS SHALL BE CAST-IN-PLACE CONCRETE, PRECAST CONCRETE, OR GALVANIZED STEEL. THE INTERMEDIATE DIAPHRAGM DETAILS DEPICTED ON SHEET 2 SHOWS THE CAST-IN-PLACE CONCRETE OPTION. FURTHER GUIDANCE MAY BE FOUND IN SECTION 106.9.3.
7. DETAILS FOR STAY-IN-PLACE FORMS, PIER DIAPHRAGM, AND END DIAPHRAGM CAN BE FOUND IN DETAIL NO. 325.01 - CONCRETE DECK DETAILS.
8. ENSURE WORKING DRAWINGS MEET ALL REQUIREMENTS AS OUTLINED IN SECTION 612.03(B)&(E) OF THE DELDOT STANDARD SPECIFICATIONS.