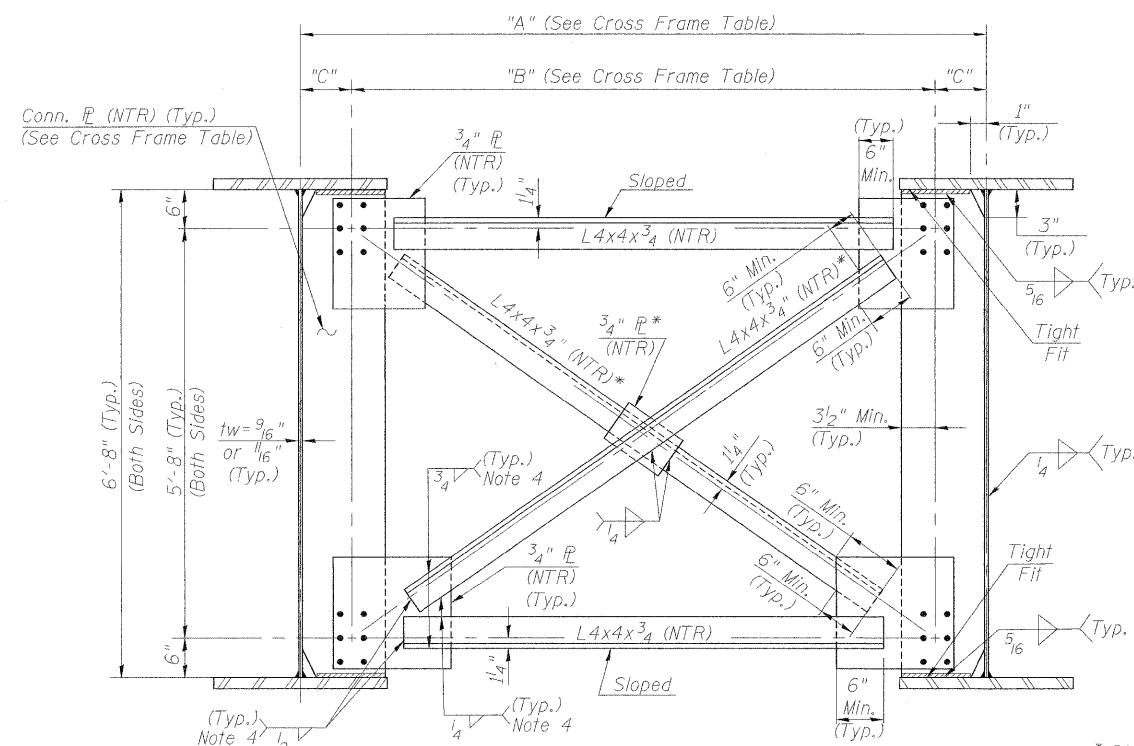


CROSS FRAME TABLE

Name	Quantity	"A"	"B"	"C"	Connection or Brg. Plate
CF1	90	7'-4"	6'-7 1/2"	4 1/4"	3/4" x 7 1/2"
CF2	20	7'-4"	6'-3 1/2"	6 1/4"	3/4" x 9 1/2"
CF3	175	6'-2"	5'-5 1/2"	4 1/4"	3/4" x 7 1/2"
CF4	90	6'-2"	5'-1 1/2"	6 1/4"	3/4" x 9 1/2"
CF5	78	7'-9"	7'-0 1/2"	4 1/4"	3/4" x 7 1/2"
CF6	42	7'-9"	6'-8 1/2"	6 1/4"	3/4" x 9 1/2"
CF7	60	7'-9"	6'-4 1/2"	8 1/4"	3/4" x 11 1/2"
CF8	1	7'-7 1/16"	6'-10 9/16"	4 1/4"	3/4" x 7 1/2"
CF9	1	7'-5 1/4"	6'-8 3/4"	4 1/4"	3/4" x 7 1/2"
CF10	1	7'-3 7/16"	6'-6 15/16"	4 1/4"	3/4" x 7 1/2"
CF11	1	7'-1 5/8"	6'-5 1/8"	4 1/4"	3/4" x 7 1/2"
CF12	1	6'-11 13/16"	6'-3 5/16"	4 1/4"	3/4" x 7 1/2"
CF13	1	6'-8 1/4"	5'-11 3/4"	4 1/4"	3/4" x 7 1/2"
CF14	1	6'-6 1/2"	5'-10"	4 1/4"	3/4" x 7 1/2"
CF15	1	6'-4 3/4"	5'-8 1/4"	4 1/4"	3/4" x 7 1/2"
CF16	1	6'-3"	5'-6 1/2"	4 1/4"	3/4" x 7 1/2"
CF17	1	6'-1 1/4"	5'-4 3/4"	4 1/4"	3/4" x 7 1/2"
CF18	1	5'-11 1/2"	4'-7"	8 1/4"	3/4" x 11 1/2"
CF19	1	5'-9 3/4"	4'-5 1/4"	8 1/4"	3/4" x 11 1/2"
CF20	1	5'-8"	4'-3 1/2"	8 1/4"	3/4" x 11 1/2"
CF21	1	5'-4 1/2"	4'-0"	8 1/4"	3/4" x 11 1/2"
CF22	1	5'-2 3/4"	3'-10 1/4"	8 1/4"	3/4" x 11 1/2"
CF23	1	5'-1"	4'-0 1/2"	6 1/4"	3/4" x 9 1/2"
CF24	1	4'-11 1/4"	3'-10 3/4"	6 1/4"	3/4" x 9 1/2"
CF25	1	4'-9 1/2"	3'-9"	6 1/4"	3/4" x 9 1/2"
CF26	1	4'-7 13/16"	3'-7 5/16"	6 1/4"	3/4" x 9 1/2"
CF27	1	4'-6 1/16"	3'-5 9/16"	6 1/4"	3/4" x 9 1/2"
CF28	1	4'-4 5/16"	3'-3 13/16"	6 1/4"	3/4" x 9 1/2"
CF29	1	4'-2 9/16"	3'-2 1/16"	6 1/4"	3/4" x 9 1/2"
CF30	1	4'-0 7/8"	2'-8 3/8"	8 1/4"	3/4" x 11 1/2"
CF31	1	3'-11 1/8"	2'-6 5/8"	8 1/4"	3/4" x 11 1/2"
CF32	1	3'-7 5/8"	2'-3 1/8"	8 1/4"	3/4" x 11 1/2"
CF33*	1	3'-5 7/8"	2'-1 3/8"	8 1/4"	3/4" x 11 1/2"
CF34	1	6'-3 3/16"	5'-6 11/16"	4 1/4"	3/4" x 7 1/2"
CF35	1	5'-11 1/8"	5'-2 5/8"	4 1/4"	3/4" x 7 1/2"
CF36	1	5'-7 1/8"	4'-10 5/8"	4 1/4"	3/4" x 7 1/2"
CF37	1	7'-5 3/4"	6'-9 1/4"	4 1/4"	3/4" x 7 1/2"
CF38	1	7'-2 1/2"	6'-6"	4 1/4"	3/4" x 7 1/2"
CF39	1	6'-11 5/16"	6'-2 13/16"	4 1/4"	3/4" x 7 1/2"
CF40	1	6'-8 1/8"	5'-11 5/8"	4 1/4"	3/4" x 7 1/2"
CF41	1	6'-4 15/16"	5'-8 7/16"	4 1/4"	3/4" x 7 1/2"
CF42	1	5'-10 5/8"	5'-2 1/8"	4 1/4"	3/4" x 7 1/2"
CF43	1	5'-7 9/16"	4'-11 1/16"	4 1/4"	3/4" x 7 1/2"
CF44	1	5'-4 1/2"	4'-8"	4 1/4"	3/4" x 7 1/2"
CF45	1	5'-1 3/8"	4'-4 7/8"	4 1/4"	3/4" x 7 1/2"
CF46	1	4'-10 5/16"	4'-1 13/16"	4 1/4"	3/4" x 7 1/2"
CF47	1	4'-7 1/4"	3'-2 3/4"	8 1/4"	3/4" x 11 1/2"
CF48	1	4'-4 1/8"	2'-11 5/8"	8 1/4"	3/4" x 11 1/2"
CF49	1	4'-1 1/16"	2'-8 9/16"	8 1/4"	3/4" x 11 1/2"
CF50	1	3'-6 15/16"	2'-2 7/16"	8 1/4"	3/4" x 11 1/2"
CF51*	1	3'-3 7/8"	1'-11 3/8"	8 1/4"	3/4" x 11 1/2"

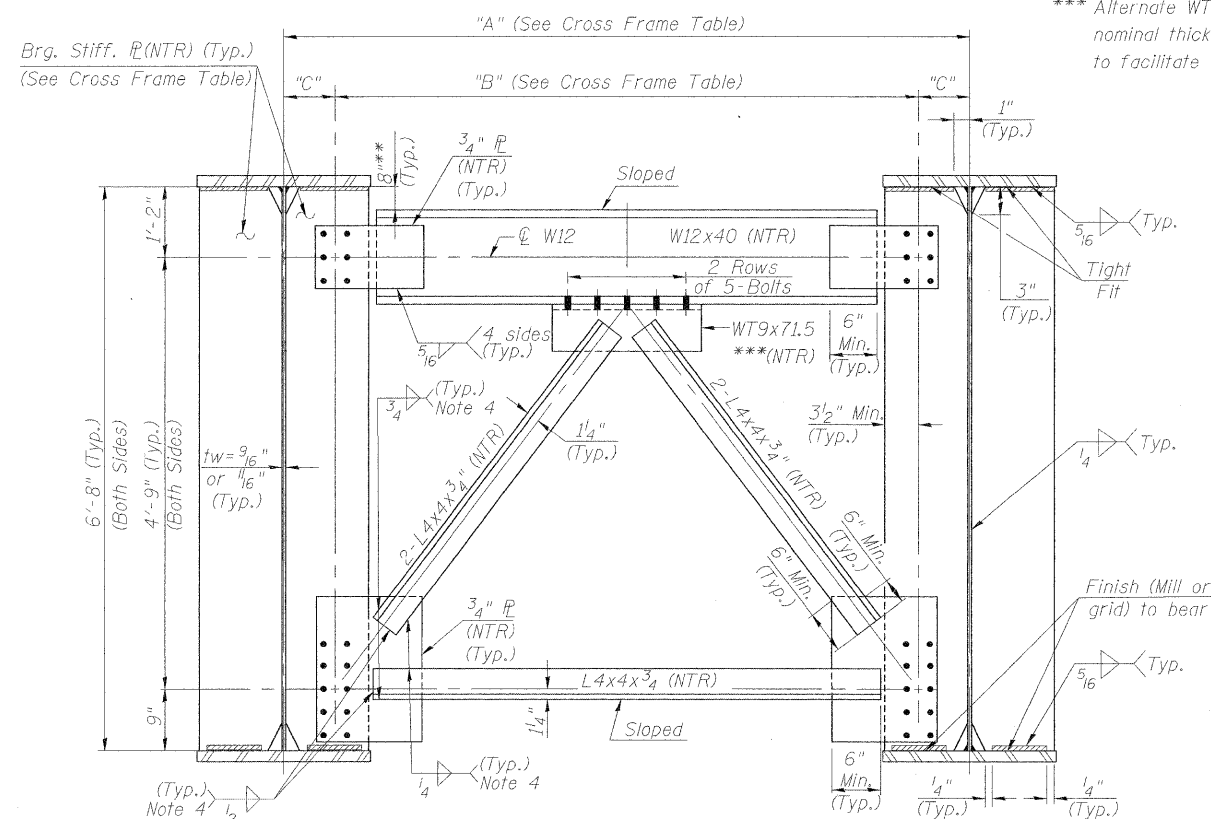
CROSS FRAME TABLE (CONT.)

Name	Quantity	"A"	"B"	"C"	Connection or Brg. Plate
CF52	1	5'-10 3/16"	4'-9 11/16"	6 1/4"	3/4" x 9 1/2"
CF53	1	5'-7"	4'-6 1/2"	6 1/4"	3/4" x 9 1/2"
CF54	1	5'-3 7/8"	4'-3 3/8"	6 1/4"	3/4" x 9 1/2"
CF55	1	5'-0 7/8"	4'-0 3/8"	6 1/4"	3/4" x 9 1/2"
CF56	1	4'-9 15/16"	3'-9 7/16"	6 1/4"	3/4" x 9 1/2"
CF57	1	4'-7"	3'-6 1/2"	6 1/4"	3/4" x 9 1/2"
CF58	1	4'-4 1/4"	2'-11 3/4"	8 1/4"	3/4" x 11 1/2"
CF59	1	4'-1 1/2"	2'-9"	8 1/4"	3/4" x 11 1/2"
CF60	1	3'-8 1/4"	2'-3 3/4"	8 1/4"	3/4" x 11 1/2"
CF61*	1	3'-5 11/16"	2'-1 3/16"	8 1/4"	3/4" x 11 1/2"
CF62	1	7'-1 1/16"	6'-4 9/16"	4 1/4"	3/4" x 7 1/2"
CF63	1	6'-5"	5'-8 1/2"	4 1/4"	3/4" x 7 1/2"
CF64	1	5'-8 15/16"	5'-0 7/16"	4 1/4"	3/4" x 7 1/2"
CF65	1	5'-0 7/8"	4'-4 3/8"	4 1/4"	3/4" x 7 1/2"
CF66	1	4'-4 13/16"	3'-8 5/16"	4 1/4"	3/4" x 7 1/2"
CF67*	1	3'-0 15/16"	2'-4 7/16"	4 1/4"	3/4" x 7 1/2"
CF68	1	4'-2 3/8"	3'-5 7/8"	4 1/4"	3/4" x 7 1/2"
CF69	1	3'-7 7/16"	2'-10 15/16"	4 1/4"	3/4" x 7 1/2"
CF70	1	3'-4 3/16"	2'-7 11/16"	4 1/4"	3/4" x 7 1/2"
CF71	1	3'-3 7/16"	1'-10 15/16"	8 1/4"	3/4" x 11 1/2"
CF72	1	3'-2 13/16"	1'-10 5/16"	8 1/4"	3/4" x 11 1/2"
CF73	1	3'-2 1/4"	1'-9 3/4"	8 1/4"	3/4" x 11 1/2"
CF74	1	3'-1 5/16"	1'-8 13/16"	8 1/4"	3/4" x 11 1/2"
CF75*	1	3'-0 15/16"	1'-8 7/16"	8 1/4"	3/4" x 11 1/2"
CF76	1	6'-11 3/16"	6'-2 11/16"	4 1/4"	3/4" x 7 1/2"
CF77	1	5'-10 1/4"	5'-1 3/4"	4 1/4"	3/4" x 7 1/2"
CF78	1	4'-11 1/16"	4'-2 9/16"	4 1/4"	3/4" x 7 1/2"
CF79	1	4'-1 11/16"	3'-5 3/16"	4 1/4"	3/4" x 7 1/2"
CF80	1	3'-6 1/16"	2'-9 9/16"	4 1/4"	3/4" x 7 1/2"
CF81*	1	2'-8 3/16"	1'-11 11/16"	4 1/4"	3/4" x 7 1/2"
CF101	15	7'-4"	6'-7 1/2"	4 1/4"	1" x 7 1/2"
CF102	5	7'-4"	6'-3 1/2"	6 1/4"	1" x 9 1/2"
CF103	25	6'-2"	5'-5 1/2"	4 1/4"	1" x 7 1/2"
CF104	20	6'-2"	5'-1 1/2"	6 1/4"	1" x 9 1/2"
CF105	17	7'-9"	7'-0 1/2"	4 1/4"	1" x 7 1/2"
CF106	1	7'-9 3/16"	7'-0 11/16"	4 1/4"	1" x 7 1/2"
CF107	12	7'-9"	6'-4 1/2"	8 1/4"	1" x 11 1/2"
CF108	1	7'-9 5/16"	7'-0 13/16"	4 1/4"	1" x 7 1/2"
CF109	1	7'-9 1/8"	7'-0 5/8"	4 1/4"	1" x 7 1/2"
CF110	1	7'-8 11/16"	7'-0 3/16"	4 1/4"	1" x 7 1/2"
CF111	1	7'-11 15/16"	7'-3 7/16"	4 1/4"	1" x 7 1/2"
CF112	1	6'-10"	6'-1 1/2"	4 1/4"	1" x 7 1/2"
CF113	1	6'-1 3/4"	5'-5 1/4"	4 1/4"	1" x 7 1/2"
CF114	1	3'-8 3/4"	3'-0 1/4"	4 1/4"	1" x 7 1/2"
CF115	1	3'-0 3/16"	2'-3 11/16"	4 1/4"	1" x 7 1/2"
CF116	1	5'-6 1/4"	4'-1 3/4"	8 1/4"	1" x 11 1/2"
CF117	1	3'-10"	2'-5 1/2"	8 1/4"	1" x 11 1/2"
CF118	1	3'-1 3/4"	1'-9 1/4"	8 1/4"	1" x 11 1/2"
CF119	1	3'-9 3/8"	2'-4 7/8"	8 1/4"	1" x 11 1/2"
CF120	1	3'-10 7/8"	2'-6 3/8"	8 1/4"	1" x 11 1/2"
CF121	1	5'-3 1/4"	4'-6 3/4"	4 1/4"	1" x 7 1/2"



INTERIOR CROSS FRAME CF1 THRU CF81  
(629 Required)

\* Diagonals omitted for the C.F.'s downstation of Header Girders.  
\*\* Contractor to coordinate with Modular Joint Manufacturer.  
\*\*\* Alternate WT shapes utilizing 3/4 inch nominal thickness are permitted to facilitate material acquisition.



END CROSS FRAME CF101 THRU CF121  
(109 Required)

Cross Frame Notes:

- See Sheets S-64 thru S-68 for location of girder cross frames.
- AASHTO M270 Grade 50 steel shall be used for all cross frames, connection plates, and bearing stiffeners, unless otherwise noted.
- Intermediate transverse stiffeners shall use the same size clips & fillet welds as connection plates. Likewise, jacking stiffeners shall use the same size clips & fillet welds as the bearing stiffeners.
- Fillet welds to L4x4x3/4 angles are balanced such that forces pass through the centroid of the angle to achieve a Fatigue Category E. If changes to size or length are required, welds must be balanced. Fillet welds of 3/4 inch shall be built out to obtain full throat thickness.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness (Zone 2).
- Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 7/8 inch in diameter shall have 15/16 inch in diameter holes unless otherwise noted. Bolt spacing shall be 3 inch min. & edge distances shall be 2 inch min.
- Field reaming shall not exceed that permitted in Article 505.08(I) of the Standard Specifications. If any field reaming is required, two hardened washers are required for each oversized bolt hole.
- The Contractor is alerted that differences in web thickness across the splice create a slight misalignment of the webs that may need to be accounted for when detailing cross frames in shop drawings in order to properly control geometry and avoid any fit-up issues.

Steel Erection Notes:

- Erection shall be accomplished by a steel erection contractor or sub-contractor certified as an Advanced Certified Steel Erector (ACSE) by the American Institute of Steel Construction (AISC). See special provision for "Erection of Complex Steel Structures".
- All cross frames between girders shall be installed with erection pins and bolts in accordance with erection plan submitted to and approved by the Engineer. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
- The calculated deflections of the primary girders under steel self-weight shall be used to detail the cross frame connections, and to erect the structural steel such that girders will be plumb within a tolerance of ± 1/8 inch per vertical foot throughout the length of the girder system when supporting their own weight.
- The Contractor shall either:
  - Ream cross frame connection holes during shop assembly, or
  - Provide detailing and fabrication controls acceptable to the Engineer which ensures accuracy such that field reaming will not exceed the amount permitted in Article 505.08(I) of the Standard Specifications.



USER NAME - floresg	DESIGNED - CLS	REVISED -
PLOT SCALE - 1/8" = 1'-0"	DRAWN - JHR	REVISED -
PLOT DATE - 05/17/2011	CHECKED - CHY	REVISED -
	DATE - 05-17-2011	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GIRDER CROSS FRAME DETAILS  
I-70W OVER I-55, CSX & KCS RAILROADS  
SCALE: NONE SHEET NO. S-82 OF S-138 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	197
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. T6C75		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				