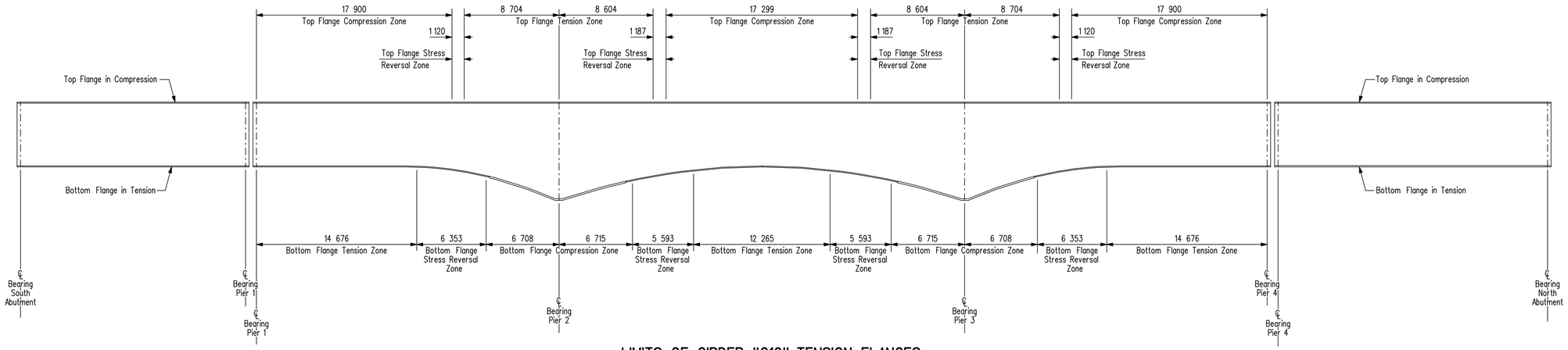

LIMITS OF GIRDER "G10" TENSION FLANGES

NOTES - CONTRACT 1

STRUCTURAL STEEL

1. All structural steel shall conform to CSA G40.21.

2. The new girder for girder line G10 and the bottom coverplates for girder lines G1 to G9 inclusive are designated as primary tension members and shall be Grade 350 WT steel. The steel for primary tension members shall meet the following impact energy requirements:

   - Minimum Average Energy = 27 Joules for a test temperature of -20°C in accordance with Table 10.13 of CSA S6-06 for a minimum service temperature T_S of -38°C.

   All splice plates shall satisfy the Charpy v-notch requirements.

   Charpy v-notch fracture toughness requirements are not considered mandatory for the following items:
   - Intermediate transverse web stiffeners not serving as connection plates.
   - Bearings, sole plates and masonry plates.

   Weld metal for primary tension members shall comply with the impact energy requirements of Table 10.13 of CSA S6-06 for a minimum service temperature T_S of -38°C.

3. All other structural steel shall be Grade 350W including intermediate K-frame bracing, X-frame bracing and jacking diaphragms.

4. All splice plates shall be detailed with the direction of rolling parallel to the stress direction.

5. Shear connectors shall be Nelson S3L Stud shear Connectors or approved equivalent. Stud shear connectors shall conform to ASTM A 108 Grades 1015, 1018 or 1020 and the following properties when tested in accordance with ASTM A 370:
   - Minimum ultimate tensile strength = 450 MPa
   - Minimum yield strength (0.2% offset) = 350 MPa
   - Elongation (% in 50 mm) = 20%
   - Minimum reduction of area = 50%

6. Structural Steel Bolts shall comply with ASTM A 325.

7. Slip critical connections:
   - All new bolted connections are classified as slip critical.
   - Surface conditions of slip critical connections shall conform with a Class A Surface in accordance with AASHTO LRFD Bridge Design Specifications.
   - Existing painted faying surfaces in slip critical connections shall be blast cleaned to a Class A surface.

8. All dimensions shown are horizontal.

9. Intermediate transverse web stiffeners are on the interior face of exterior girders. No welding of intermediate transverse web stiffeners to the tension flange; plates shall be "tight fit".

10. Girders shall be cambered to the values shown in the camber diagram. The camber ordinates include allowances for deflection due to self weight of the structural steel, concrete deck, superimposed dead loads and curvature of the roadway (geometric camber). The Contractor shall provide shop drawings showing adjustments required to the camber diagram resulting from fabrication and erection methods used.

11. The ends of girders, diaphragms and stiffeners shall be truly vertical under full dead load.

12. Bolt heads in field splices shall be located on the exterior face of exterior girders.

13. The Contractor shall ensure the stability of all components and provide temporary structural steel bracing when required during handling, transportation, erection and until the structural steel is in its final location with all its permanent bracing, connections and support in place.

14. No field welding shall be done on the existing girders unless the ambient air temperature is warmer than 0°C.

15. The Contractor shall field verify all critical dimensions of the existing steel work including girder span lengths and girder spacing to ensure that the new steel components fit properly.

16. The paint on the existing structural steel contains lead.

REVISIONS		
10/03/04	J.J.	As built
DATE	BY	DESCRIPTION

PROVINCE OF MANITOBA
Original signed by
M. B. CHISLETT
09/04/20
REGISTERED PROFESSIONAL ENGINEER

STRUCTURAL STEEL DETAILS

RECONSTRUCTION AND STRENGTHENING OF EXISTING BRIDGE
OVER ASSINIBOINE RIVER - CONTRACT ONE
ON P.T.H. No. 100 IN R.L.'S 72, 73 & 94
PARISH OF ST. CHARLES

CITY OF WINNIPEG

Manitoba
Infrastructure and Transportation
Water Control & Structures

RELEASED FOR CONSTRUCTION BY:
Original signed by
Ruth J. Eden
09/05/01
DIRECTOR — DATE
STRUCTURES, DESIGN AND CONSTRUCTION BRANCH

DESIGN	BY: M.B.C.	SCALE: Not To Scale
	CHECKED: M.W.H.	SHEET No. 20
DETAILS	BY: D.P.W.	
	CHECKED: M.B.C.	SITE No. 2924-00