

B408

Cross Frame Intermediate Diaphragm (For Curved Steel Beams)

Approved, and signed, March 26, 2009. Last date revised: June 12, 2019.

Revised 06-12-2019

At the ELEVATION:

- Changed the note pointing to the filler plate *from*: $_$ " Filler Plate *to*: $_$ " Filler Plate 1" wider than angle leg.
- Changed the filler plate size to accommodate the note change.

Under NOTES:

- Changed 1st note *from*: Provide steel per spec. 3309 *to*: Provide steel in accordance with spec. 3309.

Revised 11-03-2015

Under NOTES:

- Changed the first note *from*: All steel shall conform to Mn/DOT spec. 3309 *to* Provide steel per spec. 3309.
- Changed numbered note ① to read: Project neutral axis of member through center of bolt pattern.
- Added ⑤: For diaphragms located beneath deck joint, orient flange of cross frame members away from the deck joint.

At ELEVATION:

- Added numbered note ⑤ to the size designation for the top and bottom L shape members of the diaphragm.

Re-Approved 03-26-2009

This detail has undergone substantial revisions including changing the connection of the diagonal members from bolted to welded.

Under NOTES: Notes and note numbers have changed throughout the sheet.

Removed: Section D-D and the Section D-D arrows were removed from the sheet.

Added: Designer note reading "Designer to specify gusset plate thickness, 1/2" minimum. Filler plate thickness to match gusset".

At ELEVATION:

- Added "(See Detail B410)" to both "TIGHT FIT..." notes and moved the notes from the fascia beam to the interior beam. Removed numbered note ① from "TIGHT FIT..." note at the bottom flange.
- Changed the lower horizontal member from a WT_x_ to L_x_x_.
- Removed the weld symbol from the gusset plate to WT connection at the fascia beam.
- Moved the Section C-C arrows to reflect the view shown.
- Removed the bolting details from the upper and lower cross member to gusset plate connections and at the filler plate location.
- Moved the weld symbol from the interior beam/web location to the fascia beam/web location and removed numbered note ①.
- Added the wording "BEAM SPACING" to the centerline to centerline dimension and changed the numbered note from ④ to ②.
- Added weld symbol to the filler plate/cross frame location.
- Added numbered note ② to the "USE OUTSIDE STIFFENER..." note.
- Removed the 90 degree angle at the bottom of the fascia beam.
- Change note "INTERIOR DIAPHRAGM STIFFENER" to "DIAPHRAGM CONNECTION STIFFENER" and added numbered note ②.
- Changed numbered note at the fascia beam dimension between top and bottom flange from ④ to ②.

At DETAIL "A":

- Removed the bolting details and dimensions from the cross member to gusset plate connection.

- Changed note from "INTERMEDIATE DIAPHRAGM STIFFENER" to "DIAPHRAGM CONNECTION STIFFENER".
- Added a double leader line from the weld symbol to clarify weld locations. Changed the numbered note at the weld symbol from ① to ④.
- Changed note from "NEUTRAL AXIS OF L_x_x_" to "NEUTRAL AXIS OF ANGLES" and changed numbered note from ⑤ to ①.

At DETAIL "B":

- Removed the bolting details and dimensions from the cross member to gusset plate connection.
- Changed note from "INTERMEDIATE DIAPHRAGM STIFFENER" to "DIAPHRAGM CONNECTION STIFFENER".
- Combined notes "NETURAL AXIS OF WT_x_" and "NETURAL AXIS OF L_x_x_" to "NETURAL AXIS OF ANGLES" and changed numbered note from ⑤ to ①. Leader line points to both locations.
- Moved the weld symbol location and added double leader line to clarify weld locations. Changed the numbered note from ① to ④.

At SECTION C-C:

- Removed bolted detail from the cross member to gusset plate connections.
- Removed note "PLATE CONNECTION OPTION SHOWN".
- Changed note from "INTERMEDIATE DIAPHRAGM STIFFENER" to "DIAPHRAGM CONNECTION STIFFENER (7" MIN)" and added numbered note ②.
- Removed notes "L_x_x_" and "WT_x_" and "WT_x_ TO BE COPED TO CLEAR GUSSET PLATE. (TYP.)" and their leader lines.
- Changed note "BEAM FLANGE" to "BOTTOM BEAM FLANGE".
- Changed the connection plates at the bottom flange to show a two bolt pattern on each side of the gusset plate.
- Added weld symbol with "(TYP.)" and numbered note ④ to gusset plate/L-shape connection.
- Added "(BOLTED CONNECTION SHOWN)" under Section C-C title.
- Removed the L-shape cross member on the left side of section C-C to reflect the section arrows in the elevation view.
- Changed note " _" GUSSET PLATE" to " _" GUSSET PLATE (TYP.)".

09-11-2004

At ELEVATION: changed STIFFENER PLATE to INTERMEDIATE DIAPHRAGM STIFFENER

At DETAIL "A": changed STIFFENER PLATE to INTERMEDIATE DIAPHRAGM STIFFENER

At DETAIL "B": changed STIFFENER PLATE to INTERMEDIATE DIAPHRAGM STIFFENER

At SECTION D-D: changed INTERMEDIATE STIFFENER (7" MIN.) to INTERMEDIATE DIAPHRAGM STIFFENER (7" MIN.)

At SECTION C-C: changed INTERMEDIATE STIFFENER to INTERMEDIATE DIAPHRAGM STIFFENER

Approved, and signed, November 22, 2002.