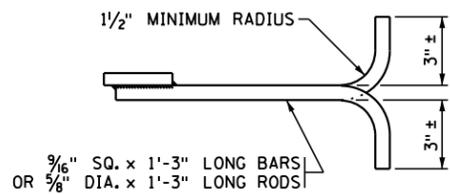
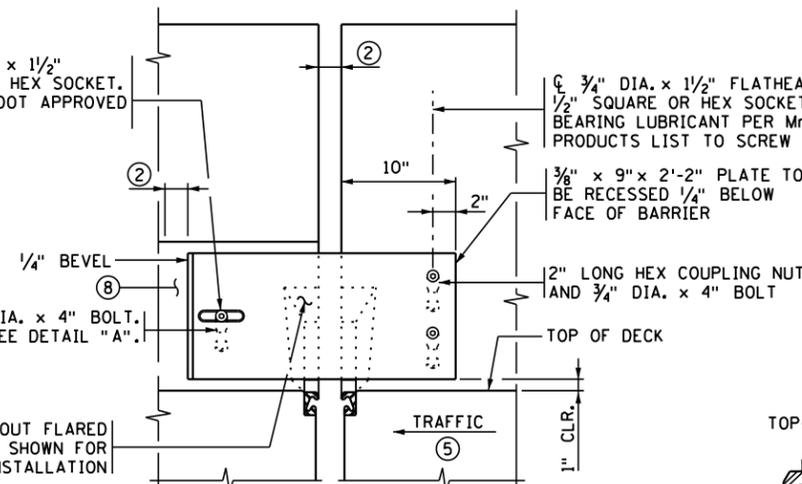


SECTION THROUGH BARRIER  
TYPE S BARRIER

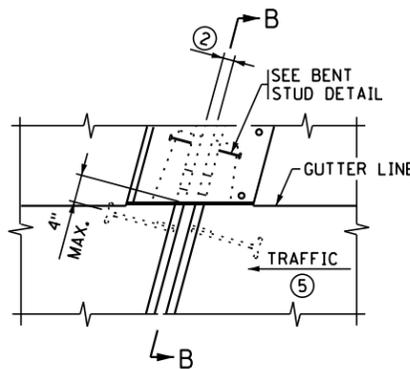


BAR-ROD DETAIL

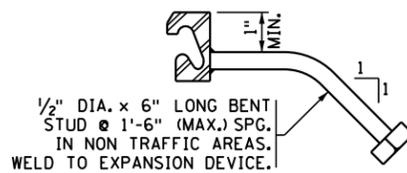
1" x 6" LONG SLOTTED HOLE FOR 3/4" DIA. x 1/2" FLATHEAD CAP SCREW WITH 1/2" SQUARE OR HEX SOCKET. APPLY BRIDGE BEARING LUBRICANT PER MNDOT APPROVED PRODUCTS LIST TO SCREW THREADS. ⑨



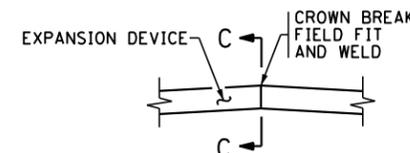
BARRIER ELEVATION



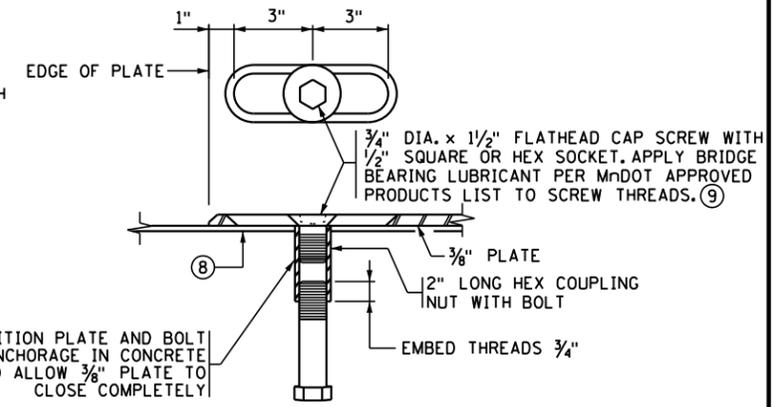
PLAN VIEW @ EXPANSION DEVICE  
MEDIAN OR SIDEWALK ALTERNATE



BENT STUD DETAIL



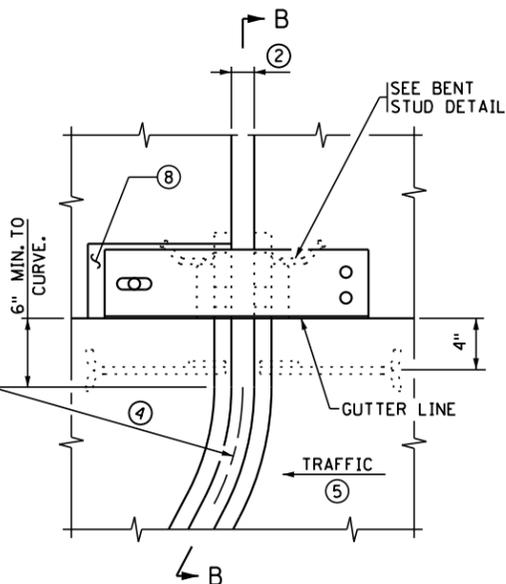
DETAIL "B"



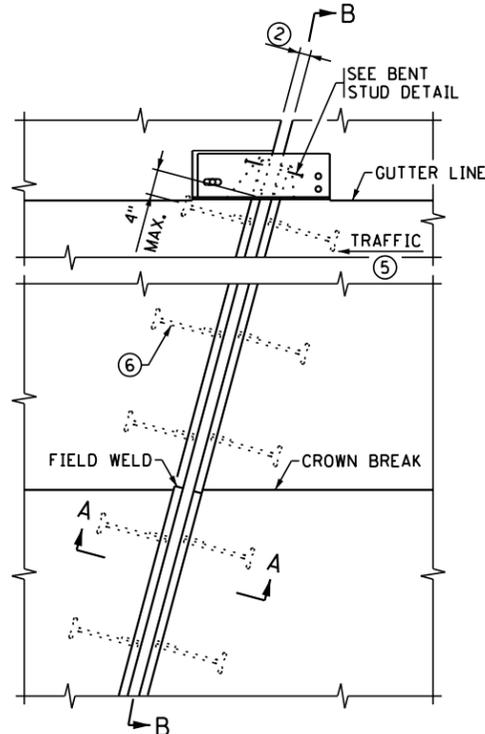
DETAIL "A"

GENERAL NOTES

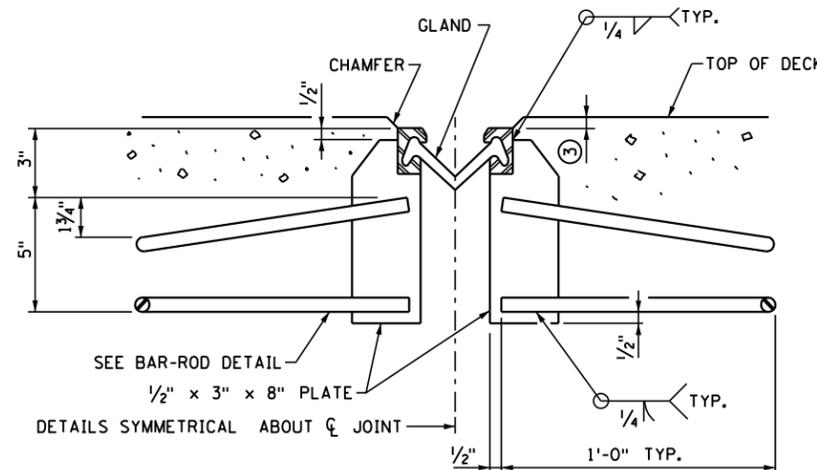
- GALVANIZE STRUCTURAL STEEL AFTER FABRICATION PER SPEC. 3394. GALVANIZE FASTENERS PER SPEC. 3392.
- LOCATE JOINTS IN EXTRUSION AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED, WITH CLOSE FIT, WELDED JOINTS. REPAIR AFTER WELDING PER SPEC. 2471.3.L.
- PROVIDE STRUCTURAL STEEL PER SPEC. 3306 OR SPEC. 3309.
- STRAIGHTEN EXPANSION DEVICE TO A TOLERANCE OF 1/8" IN 10 FT.
- 3/4" DIA. X 1/2" FLATHEAD CAP SCREW WITH 1/2" SQUARE OR HEX SOCKET PER SPEC 3391. COUNTERSINK CAP SCREWS 1/16" BELOW TOP OF PLATE. APPLY BRIDGE BEARING LUBRICANT PER MNDOT APPROVED PRODUCTS LIST TO SCREW THREADS. ⑨
- PAYMENT LENGTH IS BASED ON THE HORIZONTAL DISTANCE BETWEEN THE OUTSIDE EDGES OF THE DECK MEASURED ALONG THE CENTERLINE OF JOINT.



PLAN VIEW @ EXPANSION DEVICE  
WITH CURVED DEVICE ALTERNATE



PLAN VIEW @ EXPANSION DEVICE  
WITH STRAIGHT DEVICE

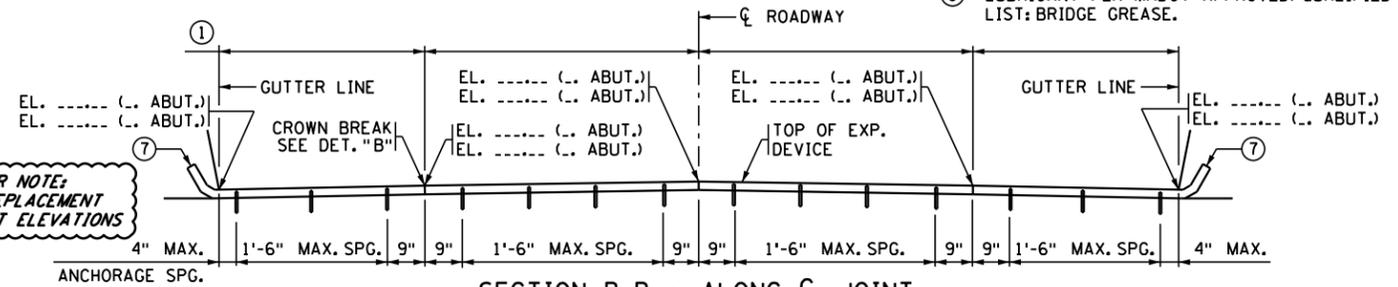


SECTION A-A

DESIGNER NOTE:  
CHOOSE ONE JOINT  
OPENING NOTE AND  
DELETE OTHER.

- ① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.
- ② -- AT 45° F; -- AT 90° F. 2" AT ALL TEMPS.
- ③ 1/8" (1/4" MAX.), 1/2" (5/8" MAX.) WHEN SNOWPLOW FINGERS ARE USED. SNOWPLOW FINGERS ARE REQUIRED FOR SKEWS OVER 15° AND LESS THAN 50°.
- ④ SEE SUPERSTRUCTURE DETAILS FOR RADIUS.
- ⑤ SEE SHEET NO. ... FOR DIRECTION OF TRAFFIC.
- ⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15° AND LESS THAN 50° BEND RODS PARALLEL TO  $\phi$  ROADWAY.
- ⑦ EXTEND GLAND 1" MIN. BEYOND THE TOP OF THE EXTRUSION.
- ⑧ PROVIDE SMOOTH CONCRETE FINISH BENEATH PLATE WITH 0" MIN. TO 1/8" MAX. GAP BETWEEN CONCRETE AND UNDERSIDE OF PLATE. PROVIDE BOND BREAKER (DUCT TAPE, ETC.) TO UNDERSIDE OF COVER PLATE.
- ⑨ LUBRICANT PER MNDOT APPROVED/QUALIFIED PRODUCTS LIST: BRIDGE GREASE.

DESIGNER NOTE:  
ON JOINT REPLACEMENT  
PROJECTS OMIT ELEVATIONS



SECTION B-B ~ ALONG  $\phi$  JOINT

ELEVATIONS SHOWN ARE 1/8" BELOW TOP OF SLAB @  $\phi$  JOINT  
ELEVATIONS SHOWN ARE 1/2" BELOW TOP OF SLAB @  $\phi$  JOINT

REVISION: FEBRUARY 22, 2018

APPROVED: AUGUST 24, 2016

Kevin Westrom  
STATE BRIDGE ENGINEER

CERTIFIED BY \_\_\_\_\_ DATE \_\_\_\_\_  
LICENSED PROFESSIONAL ENGINEER  
NAME: \_\_\_\_\_ LIC. NO. \_\_\_\_\_

TITLE: WATERPROOF  
EXPANSION DEVICE  
(WITH TYPE S BARRIER)

DES: \_\_\_\_\_ DR: \_\_\_\_\_  
CHK: \_\_\_\_\_ CHK: \_\_\_\_\_  
APPROVED: \_\_\_\_\_  
SHEET NO. OF SHEETS BRIDGE NO. \_\_\_\_\_

FIG. 5-397.627(B)