PART PLAN AT ABUTMENT
FOR BRIDGES WITH DEFLECTOR PARAPET RAILING
(SH-1 RAILING SHOWN, SHN-1-DOO SMALL ID [SH-N])

SECTION C-C
WITH ROADWAY GRADE OF 2% OR LESS SHOWN

NOTE: FOR DIMENSIONS NOT SHOWN, ADDITIONAL NOTES AND
DETAILS SEE SHEET 2/4.

SECTION A-A
SECTION B-B

LEGEND:
A = PARADOX

END OF SUPERSTRUCTURE WITHOUT CURBS OR PARAPETS

NOTES:
- WHERE THE TOTAL WIDTH OUT TO OUT OF BOX BEAMS IS EQUAL TO THE BRIDGE ROADWAY
  WIDTH, JOINT ADJACENT SHALL BE SUFFICIENT LENGTH TO ALLOW FOR FIT-UP OF BEAMS. SEE
  FORMULA FOR LENGTH "L".
- LENGTH OF JOINT, EDGE TO EDGE OF DECK (FAST)
  = (L - (2 x 6" DECK SPLAY)) / 12" (DEG)
- NUMBER OF BEAMS
- NOMINAL WIDTH OF BEAMS (INCHES)

SEE SHEET 2/4 FOR NOTES AND PLATES A & B
PART PLAN AT ABUTMENT FOR FULL WIDTH STRUCTURES

SEE SHEET ___ FOR SECTION J-J

SECTION J-J

NOTES:

- SEE SHEET ___ FOR DEFINITION OF DIMENSION "L".
- SEALANT SHALL BE TMY TYPE 5
- SEE STEEL DRAIN STRIP STANDARD DETAILS DRAWING (NOT INCLUDED WITH EXPANSION JOINT FOR PAYMENT.)

APPROACH SLAB

COMPRESSION SEAL

WEARING SURFACE (ASPHALT SHOWN)

STEELED BEAMS

STEEL DRAIN STRIP

STEEL DEFLECTOR, INCLUDE EXPANSION JOINT FOR PAYMENT.

SEE SHEET ___ FOR NOTES AND PLATES A & B.
CONSTRUCTION SEALS: Furnish material conforming to Fig. 11. The seal configuration should be similar to the details shown herein. Accepted manufacturers are: L.S. Brown (Model CV-RD2), Watson-Dowden-Ash (Model W360S) or an approved equivalent. Install the seal according to the manufacturer’s specifications and under the supervision of the manufacturer’s designated representative.

JOINTS IN COMPRESSION SEALS: Furnish seals in one continuous piece unless otherwise approved by the engineer.

ARMOR STEEL: All angle shapes shall be ASTM A572, Grade 50 or S62. All other steel parts including fasteners, shall be ASTM A572, Grade 36, 50 or S62.

JOINTS IN ARMOR STEEL: Shop or field joints in the armor shall be complete penetration welds ground flush where in contact with the seal and the repairer.

ARMOR COATING: Coat all steel parts of the joint assembly according to S6.6.

TEMPORARY SUPPORTS: The fabricator shall design and install temporary supports to resist shearing, erection and construction forces. Remove supports immediately after the application of the armor. These supports shall be located in the field to account for variable temperature settings. Install the supports after the fabrication and coating is complete.

STEEL DEFLECTORS: Furnish Z2 cage stainless steel conforming to ASTM A240, Type 304 or equivalent, with a #1 finish.

NON-SHRINKING GROUT: Furnish material conforming to Fig. XX. (Note the batch size such that placement can be completed within 30 minutes. Do not add water to increase fluidity which has been decreased by delayed use or mixing. Include with superstructure concrete for payment."

THREADED BOLTS: Furnish 1/2" diameter threaded rods and nuts conforming to ASTM A490, Grade 36 or 43B, galvanized according to F155. Include with the box beams for payment.

BASIS OF PAYMENT: The department will pay for concrete placed in the box beam width separately under Item 51.

NOTES TO DESIGNER:

CONSTRUCTION PROCEDURE:

1. Place joint assembly so the two (2) 17 1/4° angles remain parallel to each other and perpendicular to the roadway gradie.

2. For structures with a composite concrete wearing surface, place the superstructure concrete in the span adjacent to the adjustment prior to the placement of the armor backwall concrete.

3. Not more than four hours prior to the day’s peak ambient temperature, set adjustable expansion joint width to dimension "A" which shall be determined as follows:

   - A = (D - D<sub>0</sub>) / D<sub>0</sub> 
   - A = joint width (inches) measured normal to joint
   - D<sub>0</sub> = joint adjustment (inches) for a peak ambient temperature other than 70°F (see chart)
   - D = actual distance, in feet, to the thermal neutral expansion joint of the superstructure along the centerline of the roadway. The thermal neutral point of the superstructure is the point that has zero horizontal movement during temperature changes.
   - D<sub>0</sub> = modified distance for determining joint adjustment (feet).

4. Place the backwall concrete during stable or rising ambient temperatures. Conclude placement at or immediately before the day’s peak ambient temperature.

5. Hand place and vibrate concrete under joint armor to achieve complete consolidation.

6. Remove any temporary joint armor supports after initial set of the concrete, preferably no later than two hours after conclusion of the concrete placement.

7. For structures with a noncomposite asphalt wearing surface, place the concrete in the box beam width according to Step 2 and after the backwall concrete has been placed. Texture the surface parallel to the joint. Concrete min. compressive strength: 4.5 ksi.

DIMENSION "A" ADJUSTMENT D<sub>0</sub>

LOCATION OF SEAL RETAINER BARS

COMPRESSION SEAL DETAIL

SEE THE MANUFACTURER'S CATALOGUE FOR THE SEAL ACTUALLY CHESWIRE FOR USE.

ARMOR ANCHOR PLATE "A"

PLATE "B" PLAN

SUPERSTRUCTURE SIDE

PRESTRESSED CONCRETE BOX BEAMS: shall be modified as follows for compression seal installation:

1. Stump up reinforcing steel in notched areas at ends on composite beams shall not project above the top of concrete.

2. Ends of posttension cables shall be notched full width on beams.

3. 1/2" inch deep beams require a special design.

4. Hoists for anchor bars shall be 1/2" diameter.

5. Beam ends for structures on grades over 10% shall be made vertical.

<Diagram of compression seal installation>