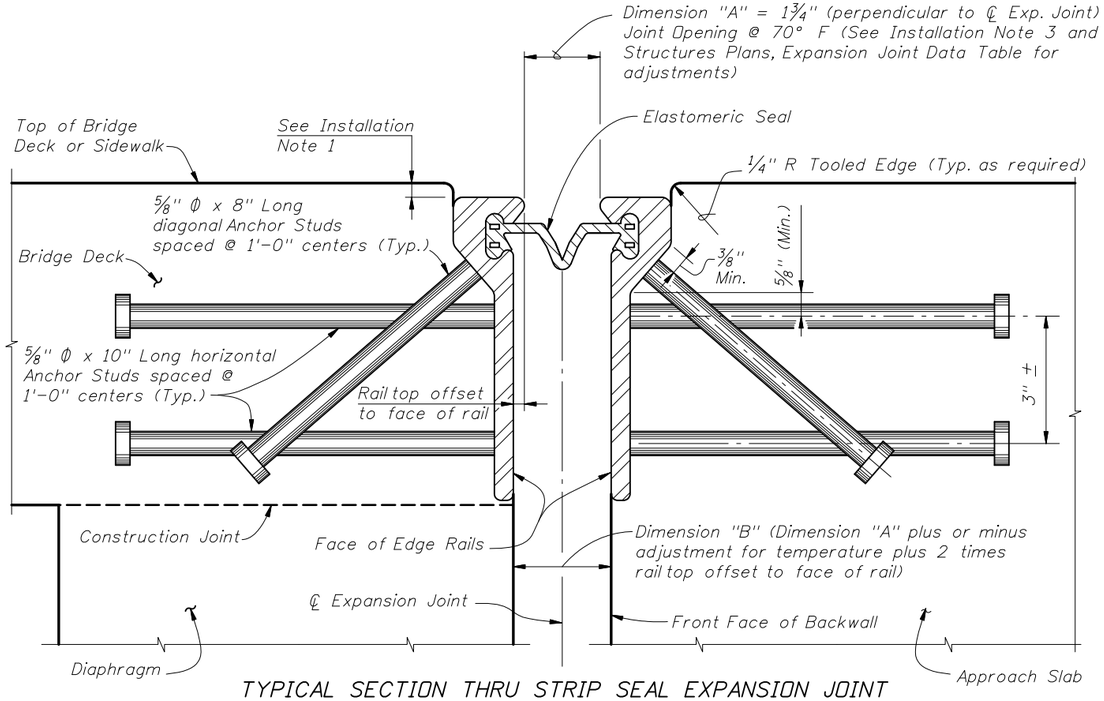
GENERAL AND FABRICATION NOTES:

1. Furnish Strip Seal Expansion Joint Systems in accordance with ASTM D5973 and the AASHTO LRFD Bridge Design Specifications and that are listed on the Qualified Products List. Furnish joint systems consisting of watertight steel Edge Rails, Elastomeric Strip Seals, Sidewalk Cover Plates (as required) and all associated miscellaneous components.
2. Furnish solid steel Edge Rails in accordance with ASTM A709, Grade 36, 50 or 50(W) that are extruded, hot rolled and or machined. Furnish Edge Rails with a minimum mass of 19.2 lb/ft excluding studs, a minimum height of 8", a minimum thickness of ½" and a maximum top surface (riding surface) width of 2". Shape of Edge Rail shown is representative, minor variations depending on manufacturer are permitted. Edge Rails manufactured from bent plate or built up pieces are not acceptable.
3. Furnish Anchor Studs in accordance with ASTM A108. Electric arc end-weld Anchor Studs with complete fusion. Anchor Studs may be piggy backed to achieve required lengths.
4. Furnish continuous heavy duty bridge deck Elastomeric Seals sized to perform satisfactorily for the opening range shown in accordance with the manufacturer's recommendations. Minimum movement classification is 4". Seal shall be supplied by the manufacturer of the Edge Rails. Field vulcanization is not permitted. Shop vulcanization is permitted only on horizontal turns on skewed bridges at upturn ends where the horizontal turn angle is greater than 35°.
5. Furnish ¼" thick slip resistant steel Sidewalk Cover Plates in accordance with ASTM A709, Grade 36 or 50, with a minimum coefficient of friction on the top surface of 0.8 in a dry condition as determined by ASTM F1677 or F1679 and 0.68 or 0.52 in a wet condition as determined by ASTM F1679 or ASTM F1677 (respectively); that incorporate an anti-slip steel surface consisting of a random hatch matrix or other suitable pattern and that are listed as slip-resistant by Underwriters Laboratories. Do not use diamond plate or surface applied slip resistant tapes, films, nonmetallic coatings or other similar materials. Furnish flat head Stainless Steel Sleeve Anchors in accordance with ASTM F593 Group 1 Alloy 304 for attaching Sidewalk Cover Plates. Install Sleeve Anchors in accordance with manufacturer's recommendations.
6. Furnish temporary or sacrificial support brackets, bolts, clamps, etc. that are capable of resisting shipping, handling and construction forces without damage to the Edge Rail Assemblies or galvanized coating and are adjustable to account for variable temperature settings. Do not use temporary or sacrificial support brackets, bolts, clamps, etc. between the faces of the Edge Rails.
7. Perform all shop welding in accordance with the Bridge Welding Code ANSI/AASHTO/AWS D1.5 (current edition). Do not weld to surfaces in contact with the Elastomeric Seal or the top surface (riding surface) except as shown. Do not weld inside seal cavity. See Shop Splice Detail this sheet.
8. Fabricate Edge Rail Assemblies in one piece including upturns, except where length or configuration prohibit shipping or proper installation or where phase construction requires separate assemblies. Shop splice sections of Edge Rail to obtain required length by partial penetration double v-groove welds on prepared beveled edges and seal welds as shown in the Shop Splice Detail. Weld all around the joint as far as practical to achieve a watertight seal. Do not use short pieces of Edge Rail less than 6'-0" long unless required at curbs, sidewalks or phase construction locations. See also Installation Notes.
9. Hot-dip galvanize Edge Rail Assemblies and Sidewalk Cover Plates after shop fabrication in accordance with Section 962 of the Specifications and manufacturer's recommendations.
10. Clearly match mark corresponding Edge Rail Assemblies with joint location and direction of stationing.
11. Submit shop drawings showing all expansion joint materials and project specific details and dimensions. Include name of manufacturer, seal model number, seal movement range and the assigned Qualified Products List Number.
12. Include the cost of all labor and materials for the fabrication and installation of the Elastomeric Strip Seal Joints and Sidewalk Cover Plates in the Contract Unit Price for Expansion Joint Seal (Strip Elast.).
13. Manufacturers seeking approval of Strip Seal Expansion Joint Systems for inclusion on the Qualified Products List as pre-approved designs must submit application along with design documentation showing the expansion joint meets the specification, geometric and material requirements specified herein. Include installation details consisting of temporary or sacrificial support brackets, bolts, clamps, etc. that are compatible with decks constructed with or without blockouts.

INSTALLATION NOTES:

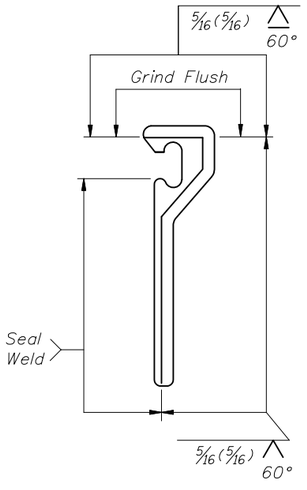
1. Install the Edge Rail Assemblies at proper grade and alignment before or after deck planing following the manufacturer's instructions. When installed after deck planing, install the Edge Rail Assemblies in the blockouts on a profile tangent between the ends of the deck and/or approach slab to within a + 0" and − ¼" variation. When installed before deck planing, install the Edge Rail Assemblies ⅜", plus or minus 1/16", below the top surface of the deck or approach slab to compensate for concrete removal during planing.
2. Bolt, weld or clamp Edge Rail Assemblies in position using temporary or sacrificial brackets as required. For phased construction, install Edge Rail Assemblies in a given subsequent phase so as to align with those installed in an adjacent prior phase after deflection and rotation due to deck casting of adjoining spans has occurred.
3. For installation temperatures other than 70° F, adjust the opening of the joint (Dim. "A") by the amount of the adjustment per 10° F shown in Structures Plans, Expansion Joint Data table. For temperatures above 70° F decrease the opening, for temperatures below 70° F increase the opening.
4. Do not weld to, or within 2" of, Edge Rail surfaces that will be exposed in the completed structure. Do not weld expansion joint components to or electrically ground to reinforcing steel or structural steel. Seal field butt joints and empty shipping and erection holes with caulk before placing deck concrete.
5. Protect galvanized Edge Rail Assemblies during screeding operations per manufacturer's recommendations. Provide temporary blocking material in the Edge Rail seal cavities to prevent concrete intrusion during deck pour and finishing.
6. Loosen any temporary or sacrificial support brackets, bolts, clamps, etc. that span across the joint after initial set of concrete, but not later than two hours after conclusion of concrete placement.
7. Install Elastomeric Seal after completion of deck casting. Remove all joint form material and blocking material prior to installing Elastomeric Seal. Field install Elastomeric Seal in accordance with manufacturer's recommendations. Thoroughly coat all contact surfaces between the Elastomeric Seal and the Edge Rail seal cavities with an adhesive lubricant before setting Elastomeric Seal in place.



TYPICAL SECTION THRU STRIP SEAL EXPANSION JOINT
(Begin or End Concrete Girder Bridge shown,
Intermediate Supports and Steel Girder Bridge similar.
Reinforcing Steel and Girder details not shown for clarity.)

INSTRUCTIONS TO DESIGNER:

Complete the Expansion Joint Data Table in Structures Plans with project specific information.



SHOP SPLICE DETAIL

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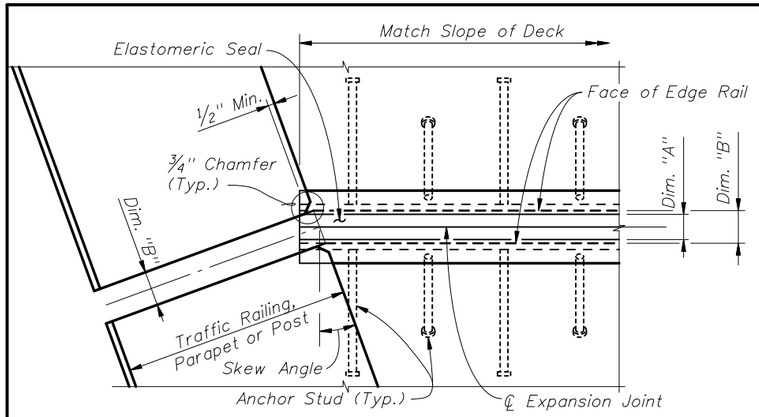
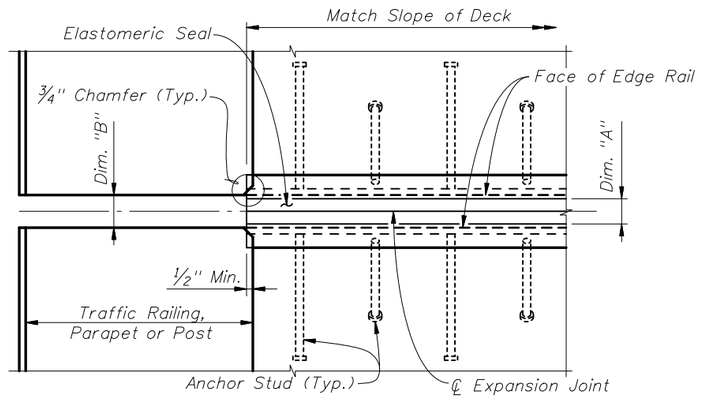
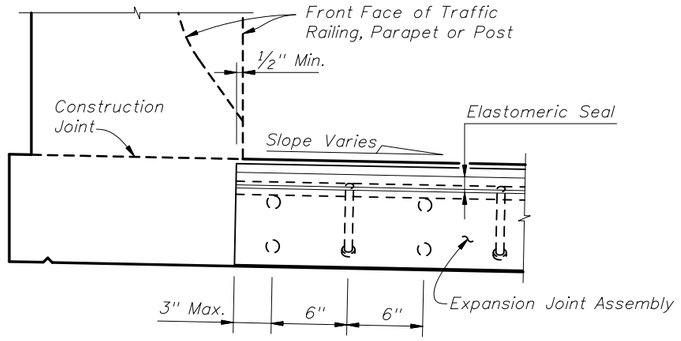


PARTIAL PLAN VIEW OF SKEWED JOINTS



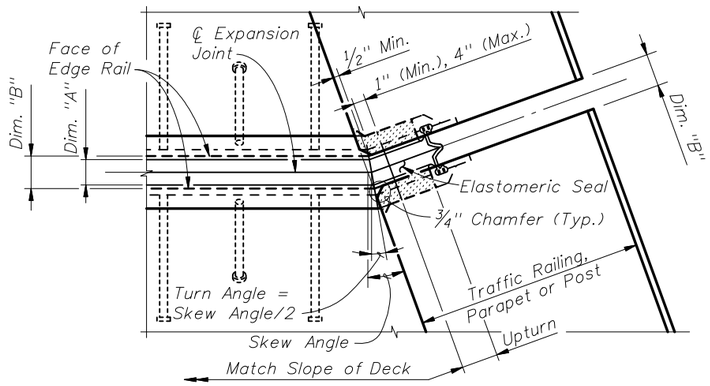
PARTIAL PLAN VIEW OF NONSKEWED JOINTS



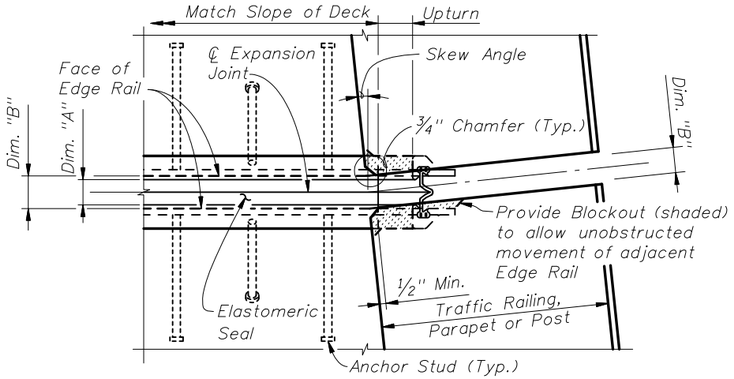
PARTIAL SECTION ALONG ℄ JOINT

JOINT TREATMENT AT HIGH SIDE OF DECK WITH SLOPE ≥ 2%

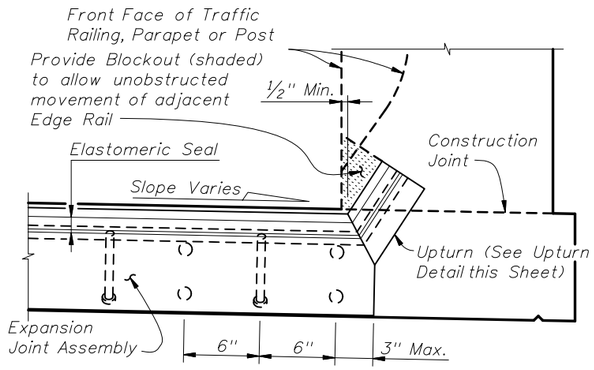
(Sidewalk Cover Plate where applicable not shown for clarity)



PARTIAL PLAN VIEW OF JOINTS SKEWED GREATER THAN 6°



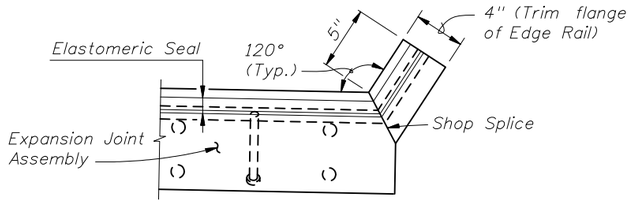
PARTIAL PLAN VIEW OF NONSKEWED JOINTS & JOINTS SKEWED 6° OR LESS



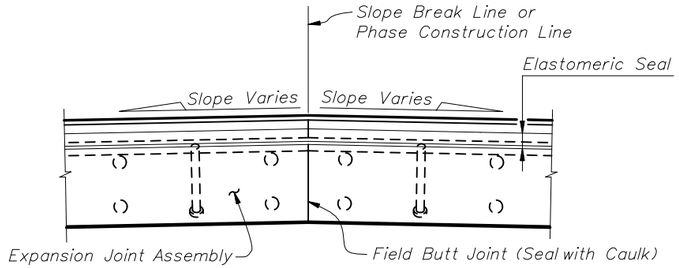
PARTIAL SECTION ALONG ℄ JOINT

JOINT TREATMENT AT LOW SIDE OF DECK & HIGH SIDE OF DECK WITH SLOPE < 2%

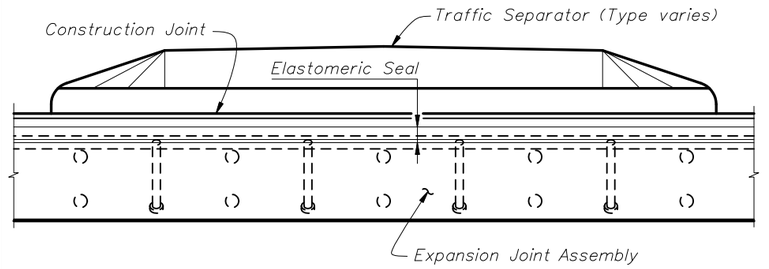
(Sidewalk Cover Plate where applicable not shown for clarity)



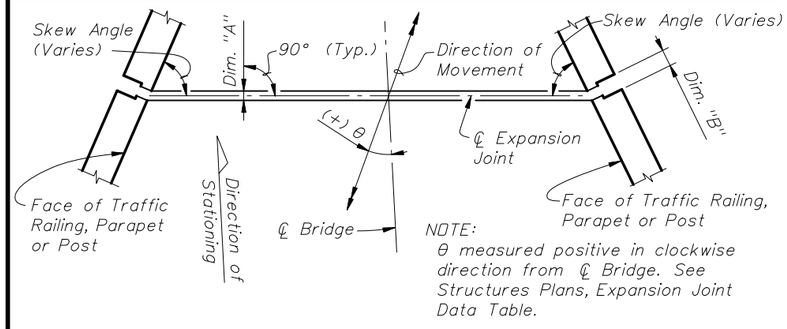
UPTURN DETAIL
(TYPICAL AT TRAFFIC BARRIERS AND PARAPETS)



PARTIAL SECTION ALONG ℄ JOINT AT FIELD BUTT JOINT LOCATION
(CROWNED DECK OR SLAB SHOWN)



PARTIAL SECTION ALONG ℄ JOINT THRU TRAFFIC SEPARATOR



NOTE:
θ measured positive in clockwise direction from ℄ Bridge. See Structures Plans, Expansion Joint Data Table.

MOVEMENT SCHEMATIC

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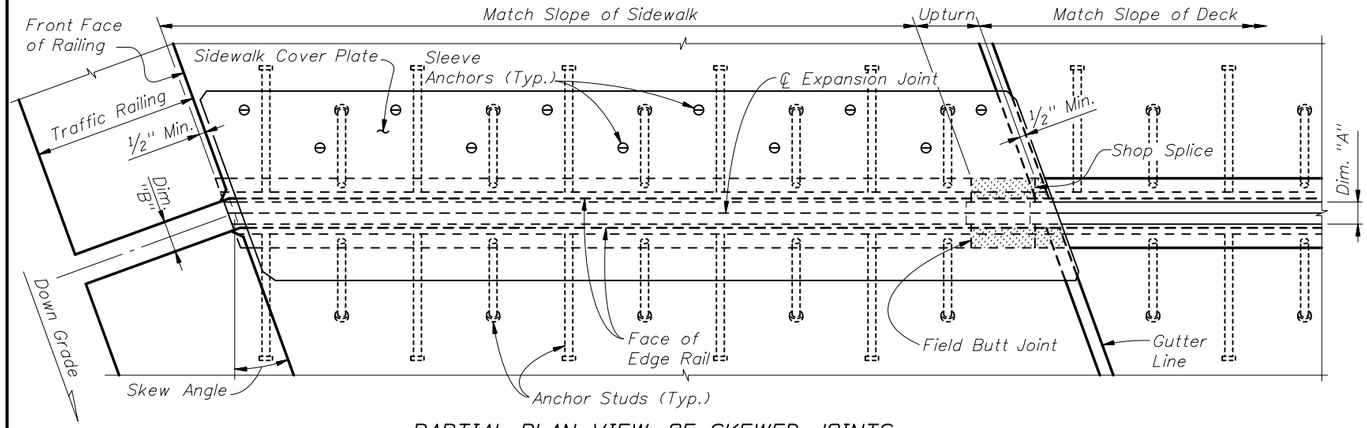
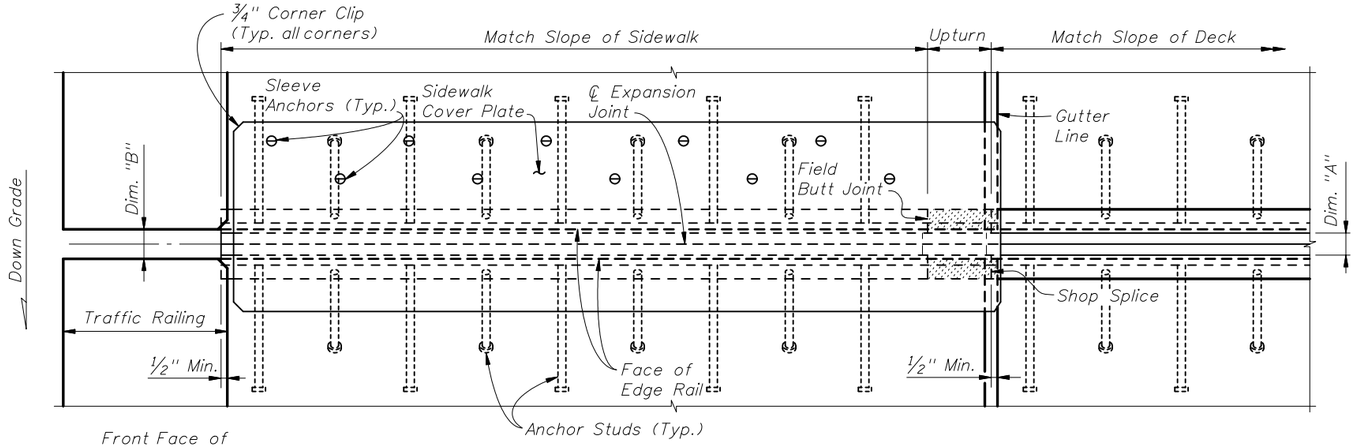
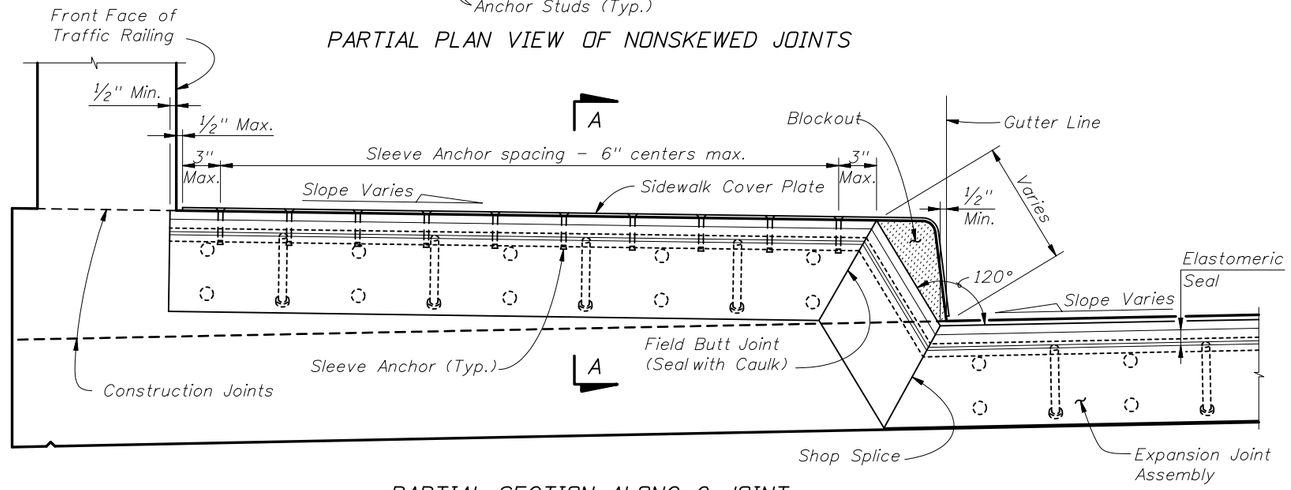


PARTIAL PLAN VIEW OF SKEWED JOINTS

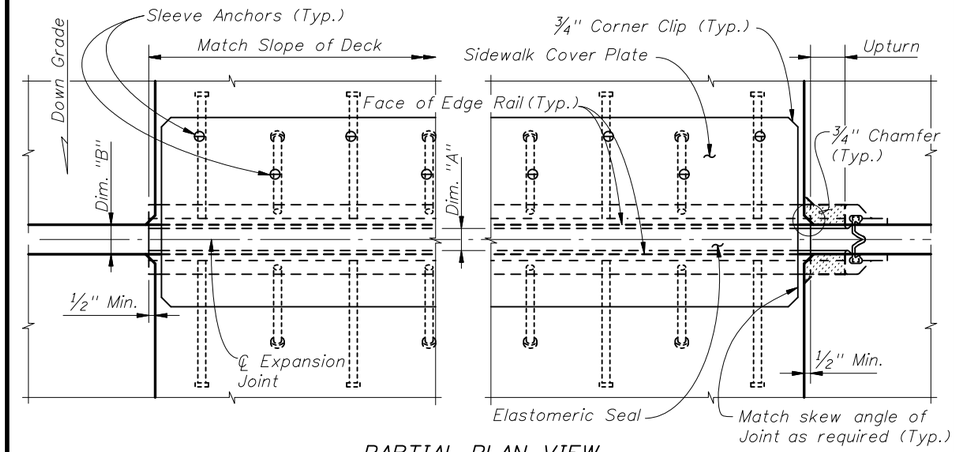


PARTIAL PLAN VIEW OF NONSKEWED JOINTS

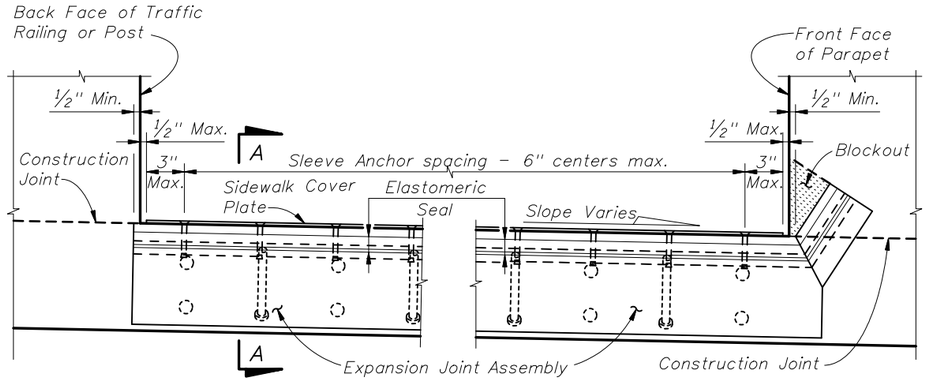


PARTIAL SECTION ALONG ℄ JOINT

RAISED SIDEWALK DETAIL

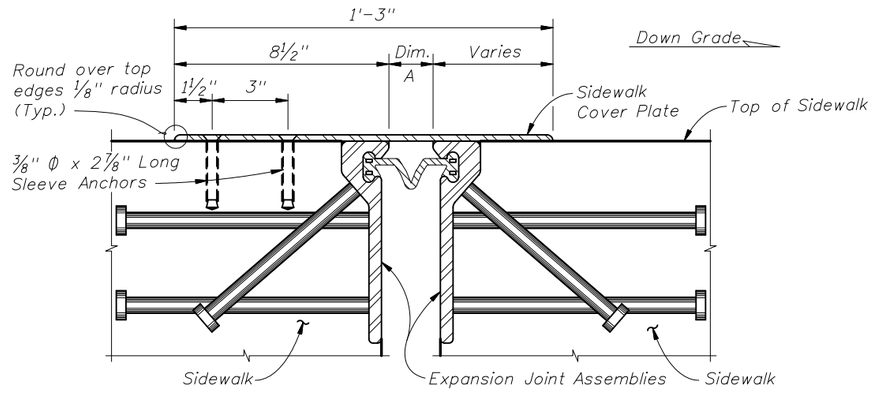


PARTIAL PLAN VIEW



PARTIAL SECTION ALONG ℄ JOINT

FLUSH SIDEWALK DETAIL



SECTION A-A

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