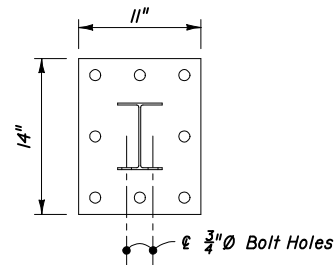
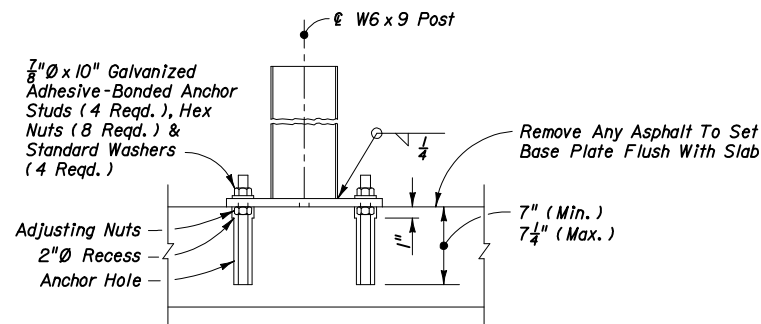


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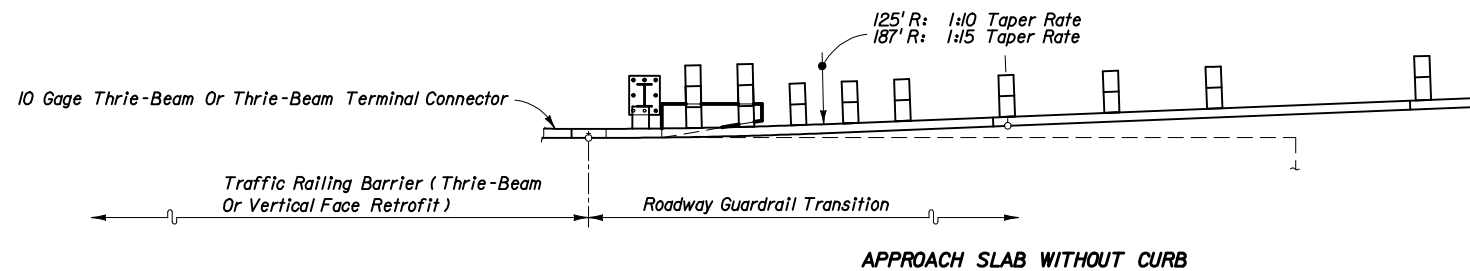


TOP VIEW

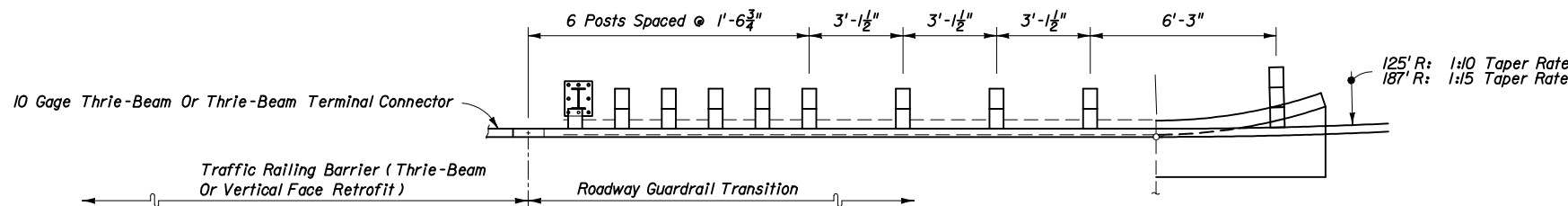


SIDE VIEW

SPECIAL STEEL POST FOR ROADWAY THRIE-BEAM TRANSITIONS TO BRIDGE RETROFIT TRAFFIC RAILINGS



APPROACH SLAB WITHOUT CURB



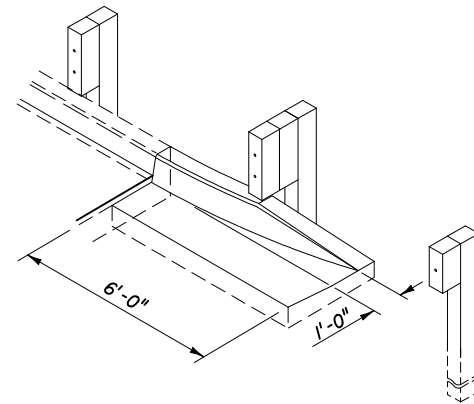
APPROACH SLAB WITH CURB

Longitudinal Location Of Transition Blocks And Curb End Flares Will Vary With Scheme Type

PARTIAL PLAN VIEWS

GUARDRAIL TRANSITION ALIGNMENTS FOR BRIDGE THRIE-BEAM AND VERTICAL FACE BARRIER RETROFIT

CURB TYPE F FLARE WHEN END OF EXISTING APPROACH SLAB CURB EXPOSED



GENERAL NOTES

1. This index provides thrie-beam transition and connection details for approach end guardrail on existing bridges, and anchorage details for trailing end traffic railing barrier retrofits and safety shapes on existing bridges. Sheets 1 through 25 apply to bridges with retrofitted traffic railing barriers. (Sheet 25 shows the trailing end guardrail connections). Sheet 26 applies to bridges with safety shaped traffic railing barriers.
2. The schemes identified by Arabic numerals in this index are complementary to the bridge traffic railing barrier retrofit schemes with like numeral identification in Index Nos. 470, 471 through 476, 480 through 483. The schemes in this index identified by Roman numerals are complementary to bridge safety shaped traffic railing barrier where determined to be in accordance with applications of Index Nos. 790 and 795.
3. For guardrail applications and details of related hardware and accessories that are not provided on this index, refer to Index No. 400.

NOTES FOR GUARDRAIL TRANSITIONS CONNECTING TO TRAFFIC RAILING RETROFITS ON EXISTING BRIDGES

1. The transition detail shown on this sheet shows (a) the standard post spacings within the typical thrie-beam approach transitions connecting to existing bridges with retrofit traffic railing barriers, and (b) depict the typical alignments of the approach transitions.
2. The curb and gutter flare shown on this sheet is typical of flares that are to be constructed when approach slab curbs extend to the beginning of the slab, and where other treatment to curb blunt ends are not in place.
3. The special steel post for roadway thrie-beam transitions detailed on this sheet is specific to all transition applications on this index that require one or more steel posts.

The special steel post and base plate assembly shall be fabricated using ASTM A36 or ASTM A709 Grade 36 steel. Welding shall conform to ANSI/AASHTO/AWS D1.5. The assembly shall be hot-dip zinc coated in accordance with Section 536 of the Specifications.

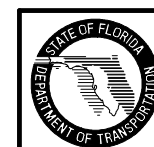
Anchor studs shall be fully threaded rods in accordance with ASTM F1554 Grade 36 or ASTM A193 Grade B7. All nuts shall be heavy hex in accordance with ASTM A563 or ASTM A194. Anchor studs and nuts shall be hot-dip zinc coated in accordance with the Specifications. After the nuts have been snug tightened, the anchor stud threads shall be single punch distorted immediately above the top nuts to prevent loosening of the nuts. Distorted threads shall be coated with a galvanizing compound in accordance with the Specifications.

Adhesive bonding material systems for anchors shall comply with Specification Section 937 and be installed in accordance with Specification Section 416.

4. Nested beam extensions and points for terminal connector attachments will vary for traffic railing barrier vertical face retrofits. The plan views for the vertical face retrofit barriers show the primary configurations for each particular scheme. The associated pictorial views show the variations.
5. For installing thrie-beam terminal connector to traffic railing barrier vertical face retrofits, see notations on Sheets 12 through 15 and the flag notation on Sheet 25.
6. Payment for connections to traffic railing barrier vertical face retrofits are to be made under the contract unit price for Bridge Anchorage Assembly, EA., and shall be full compensation for bolt hole construction, terminal connector, terminal connector plate and bolts, nuts and washers.

DESIGN NOTES FOR GUARDRAIL TRANSITIONS CONNECTING TO TRAFFIC RAILING RETROFITS ON EXISTING BRIDGES

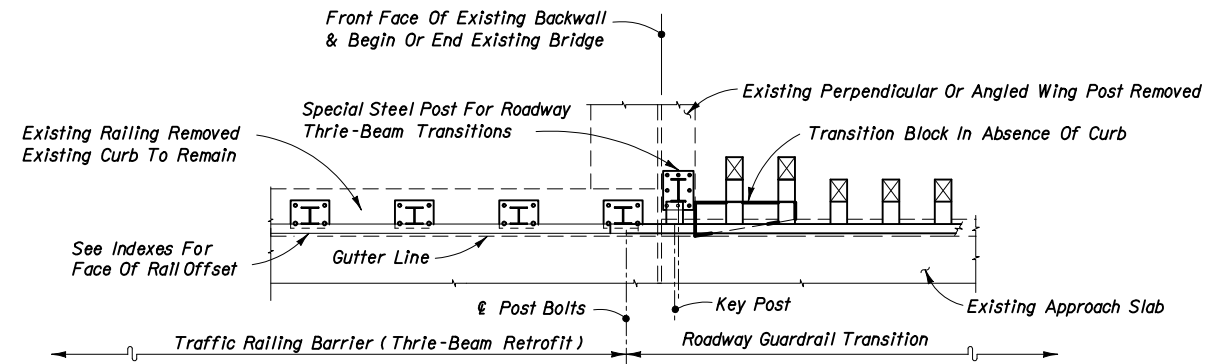
1. For selection of an appropriate transition scheme, see the Structures Manual for instructions to the Structures and Roadway engineers.



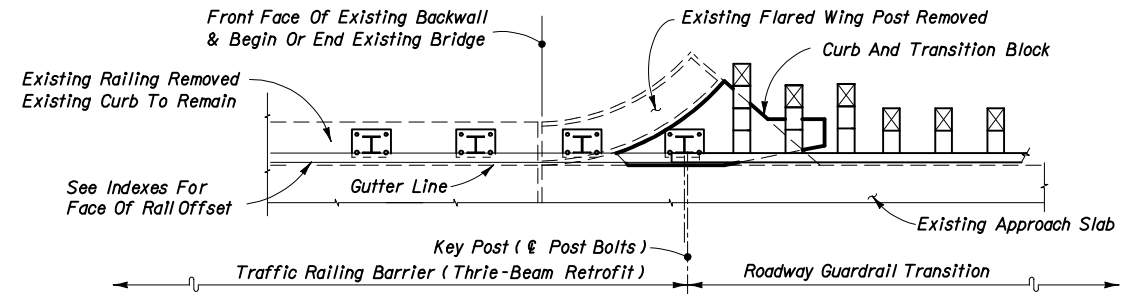
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GUARDRAIL TRANSITIONS AND CONNECTIONS FOR EXISTING BRIDGES

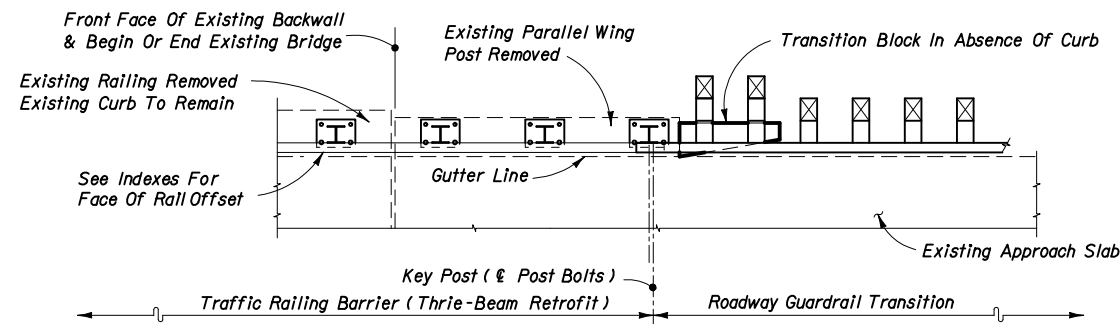
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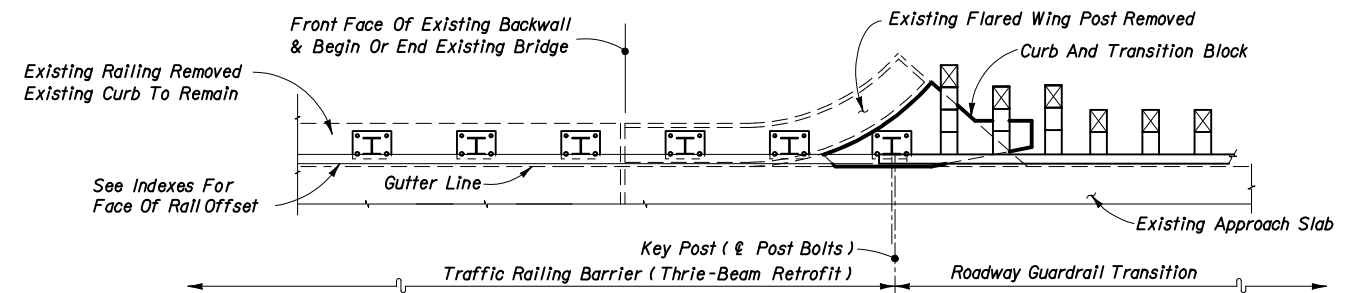
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SEE INDEX NO. 471 - SCHEME 3

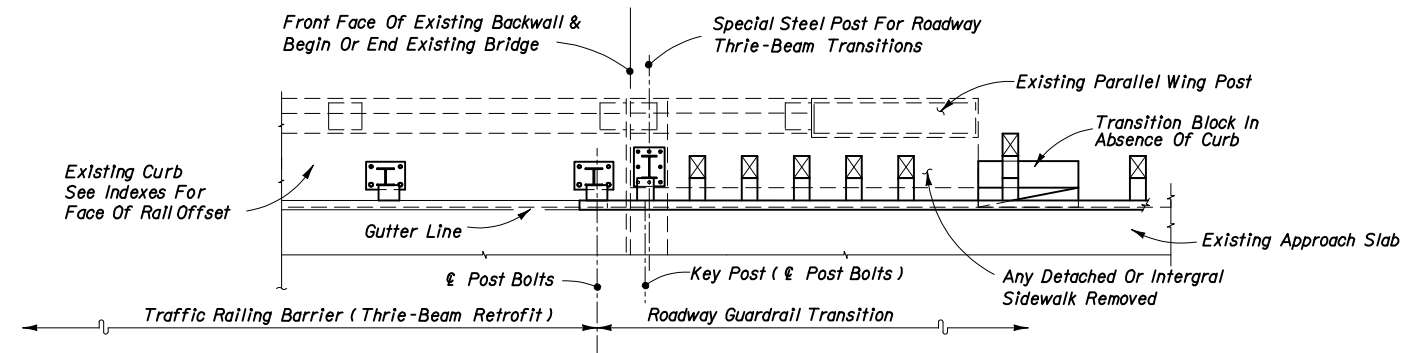
**PARTIAL PLAN VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS
FOR BRIDGE TRAFFIC RAILING BARRIER (THRIE-BEAM RETROFIT)**



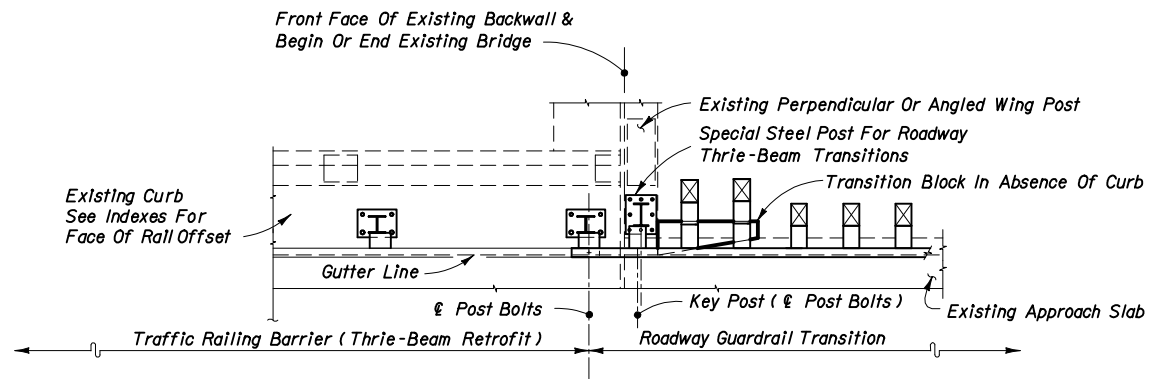
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**GUARDRAIL TRANSITIONS AND
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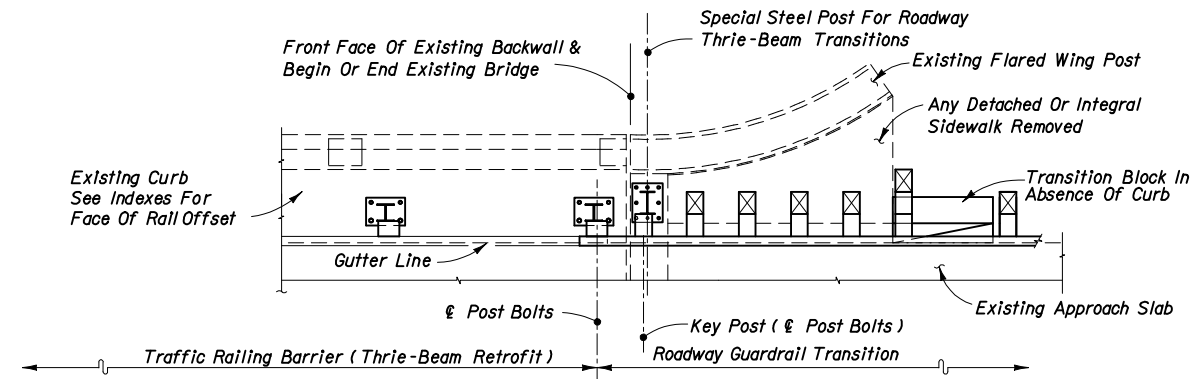
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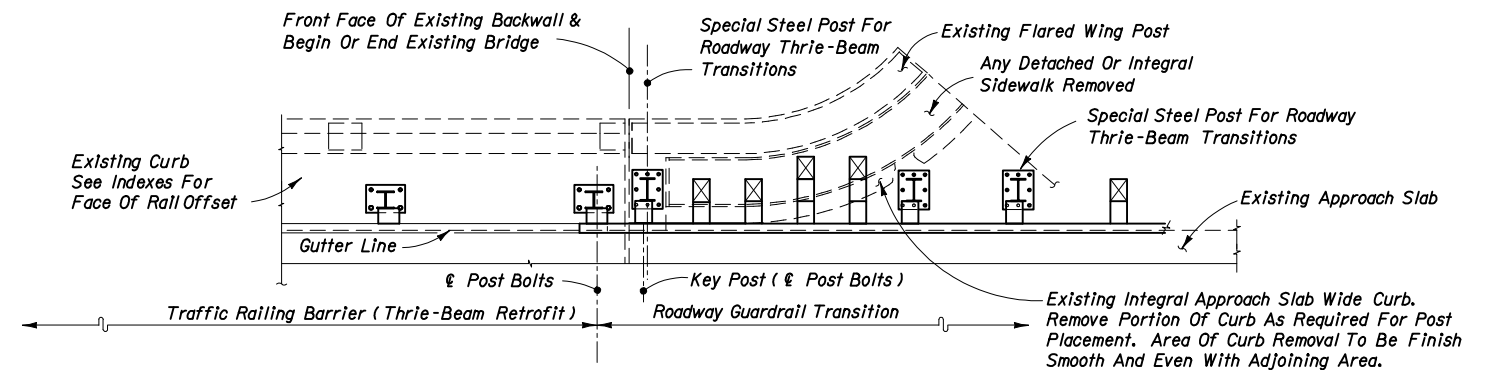
SEE INDEX NOS. 472 & 475 - SCHEME 2



SEE INDEX NOS. 472 & 475 - SCHEME 1

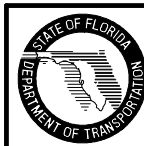


SEE INDEX NOS. 472 & 475 - SCHEME 2



SEE INDEX NOS. 472 & 475 - SCHEME 2

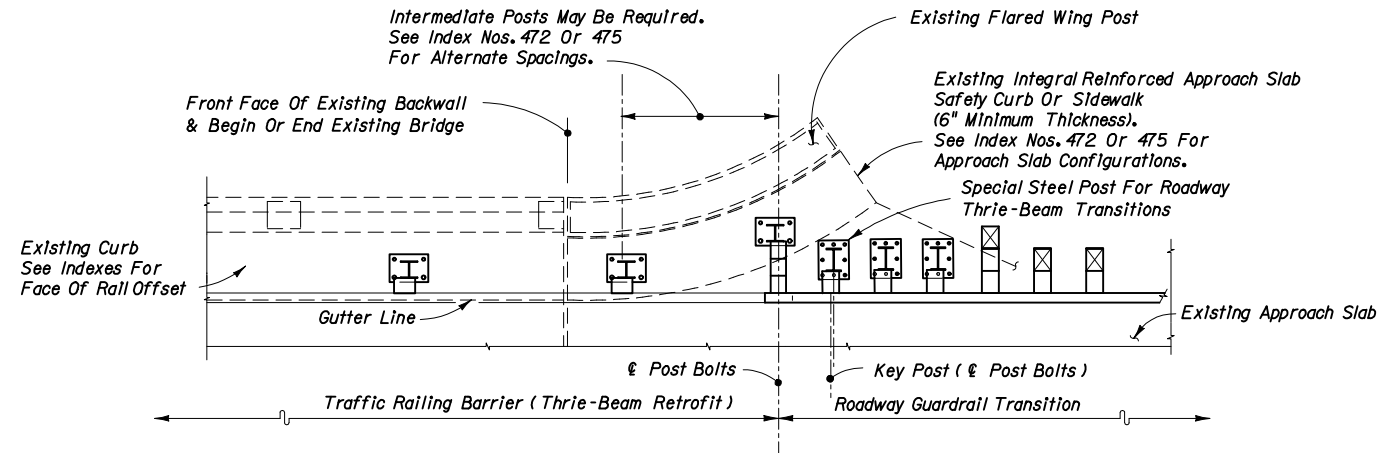
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FOR BRIDGE TRAFFIC RAILING BARRIER (THRIE-BEAM RETROFIT)**



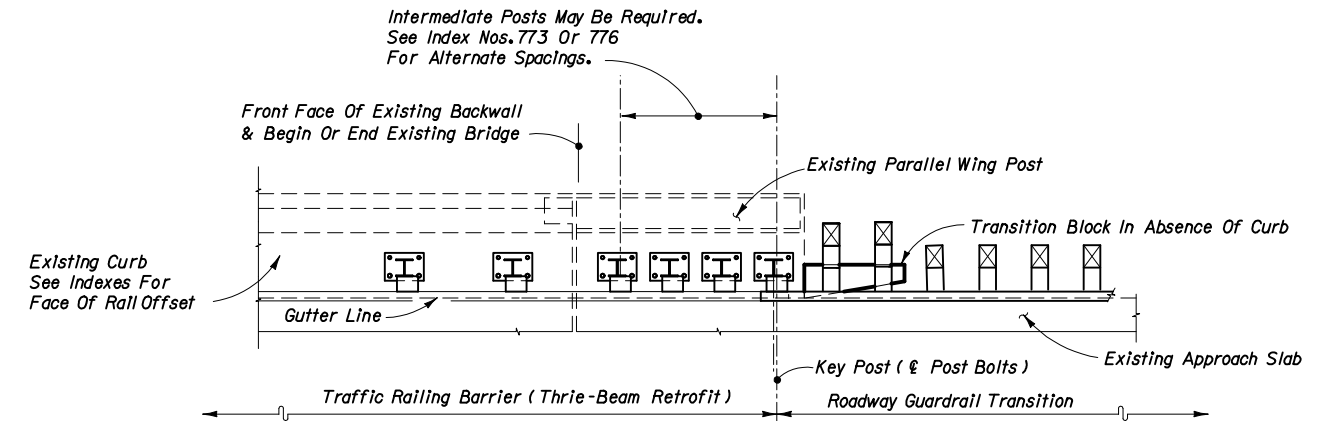
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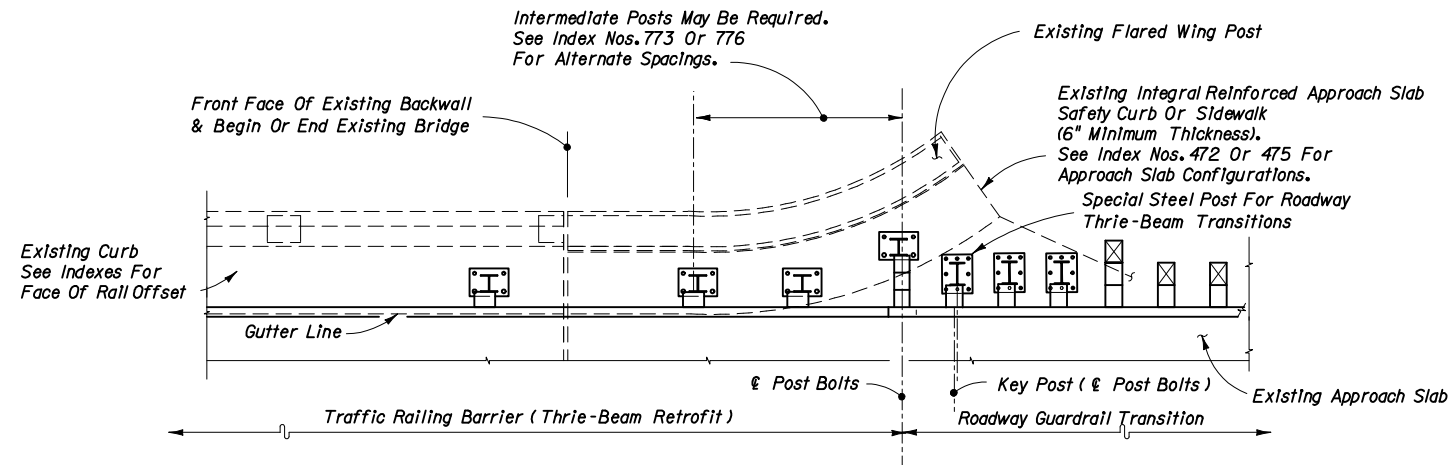
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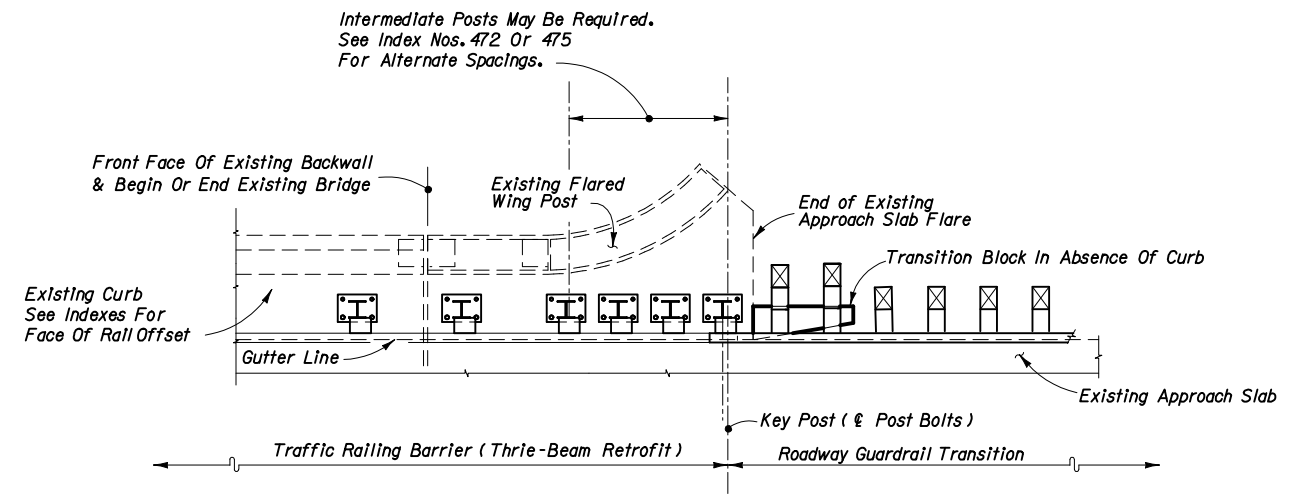
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SEE INDEX NOS. 472 & 475 - SCHEME 5 & 6



SEE INDEX NOS. 472 & 475 - SCHEME 3 & 4



SEE INDEX NOS. 472 & 475 - SCHEME 5 & 6

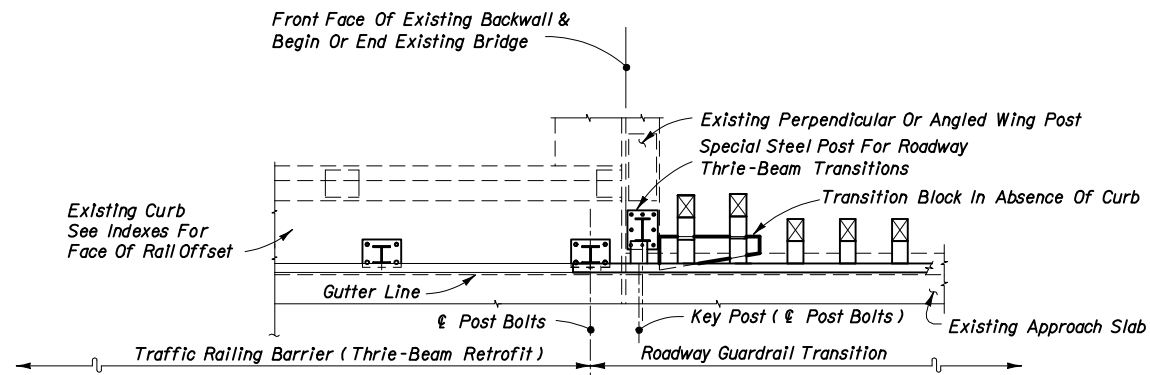
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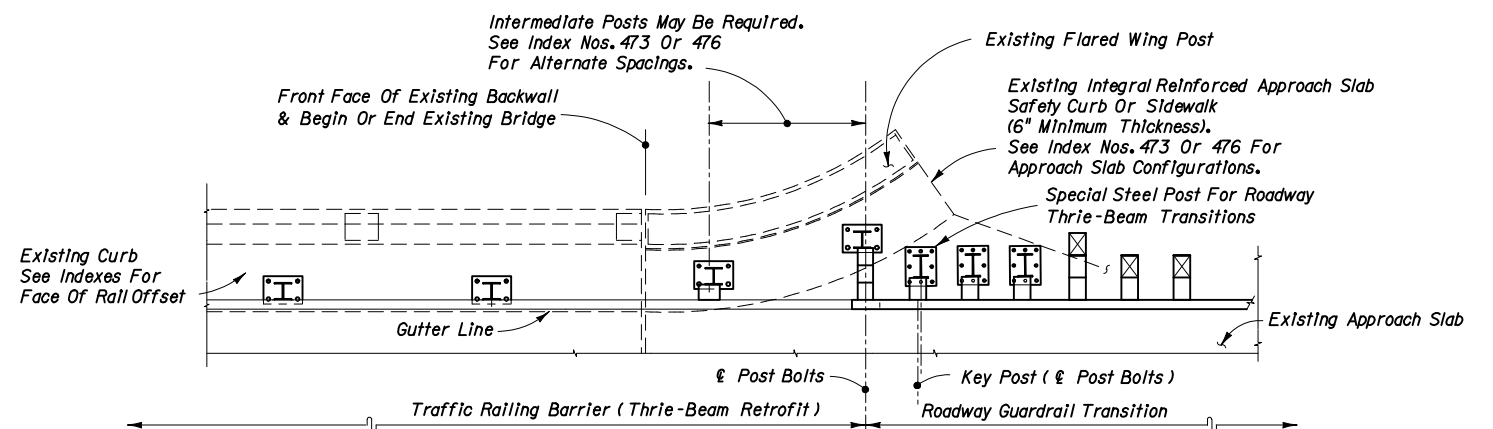
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GUARDRAIL TRANSITIONS AND CONNECTIONS FOR EXISTING BRIDGES

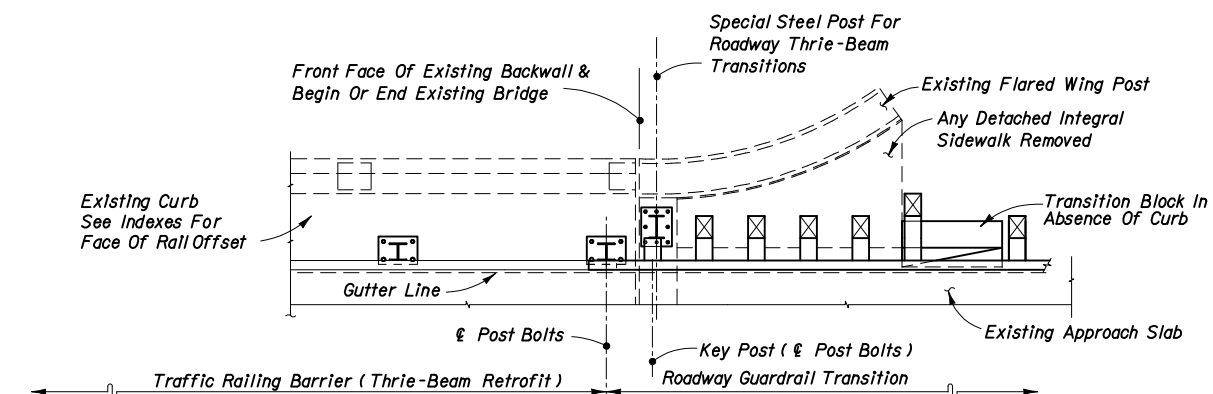
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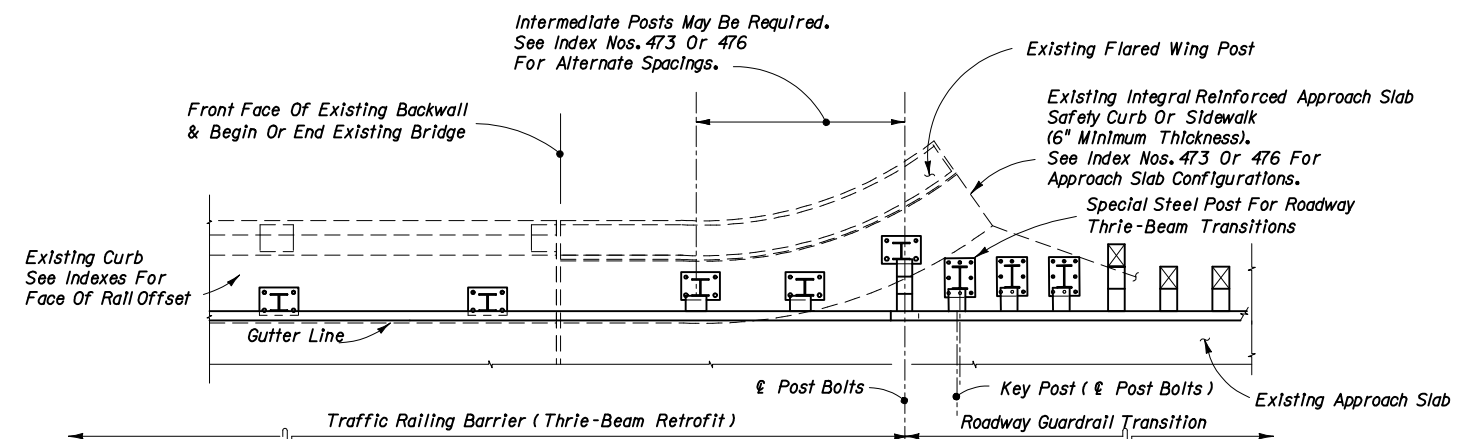
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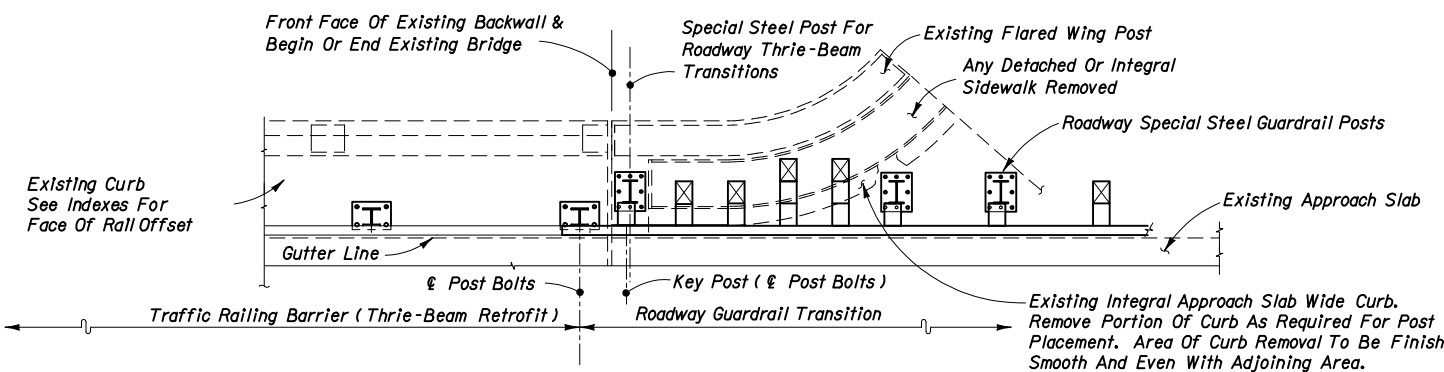
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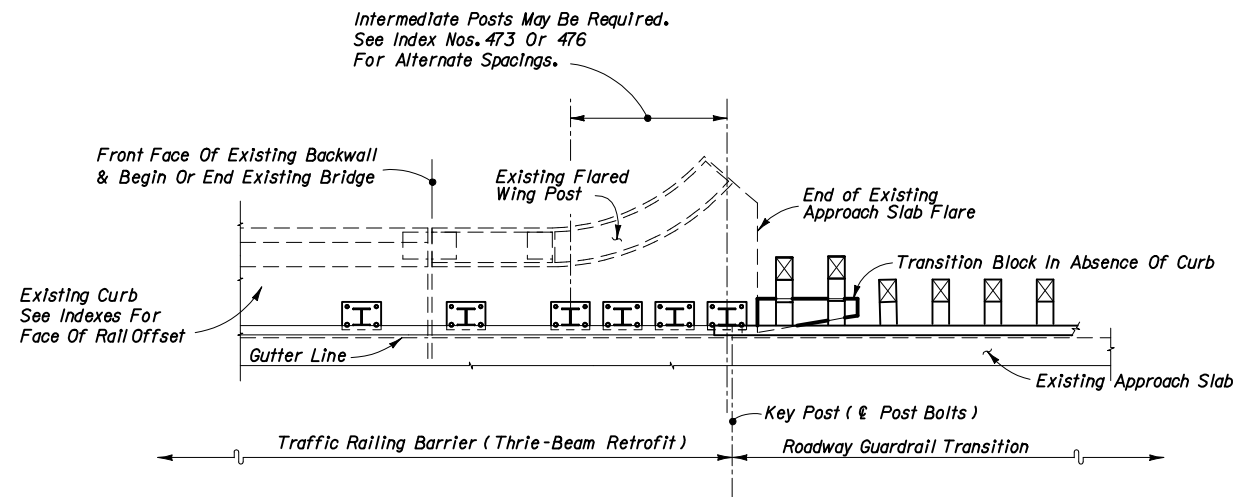
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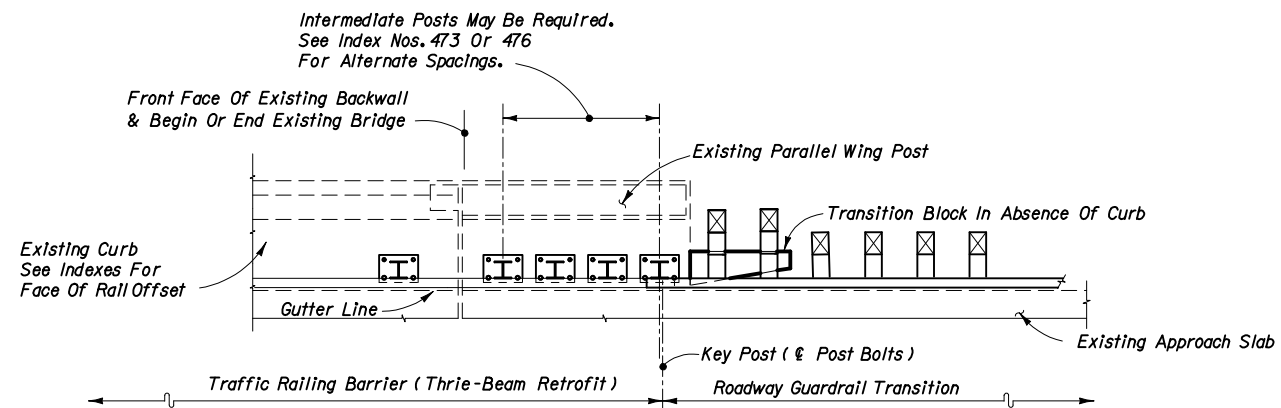
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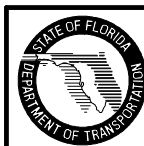


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SEE INDEX NOS. 473 & 476 - SCHEME 5 & 6

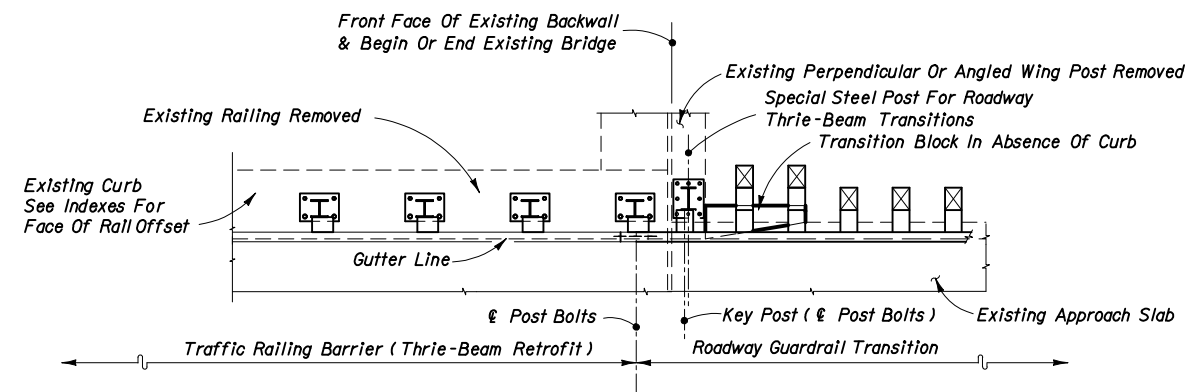
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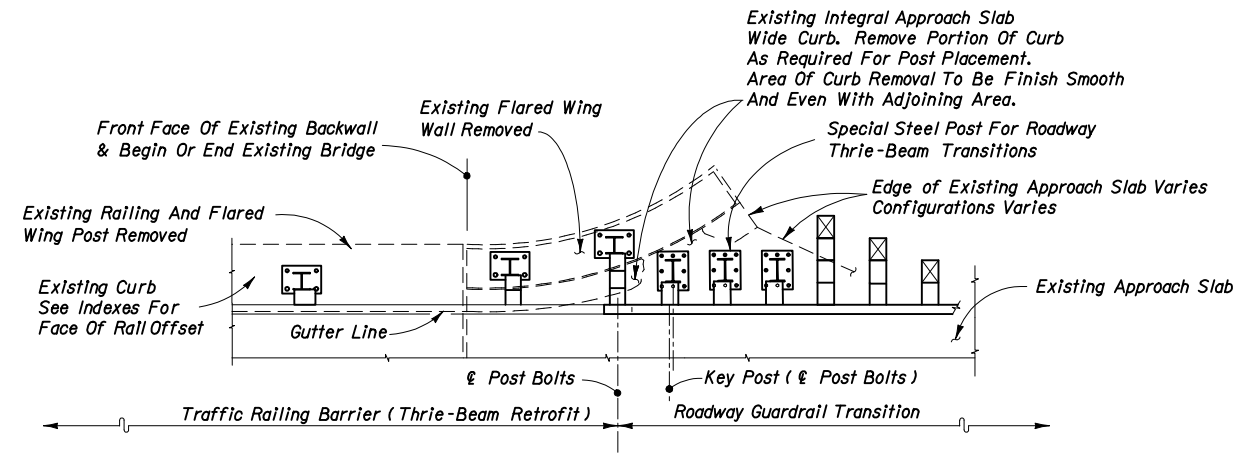
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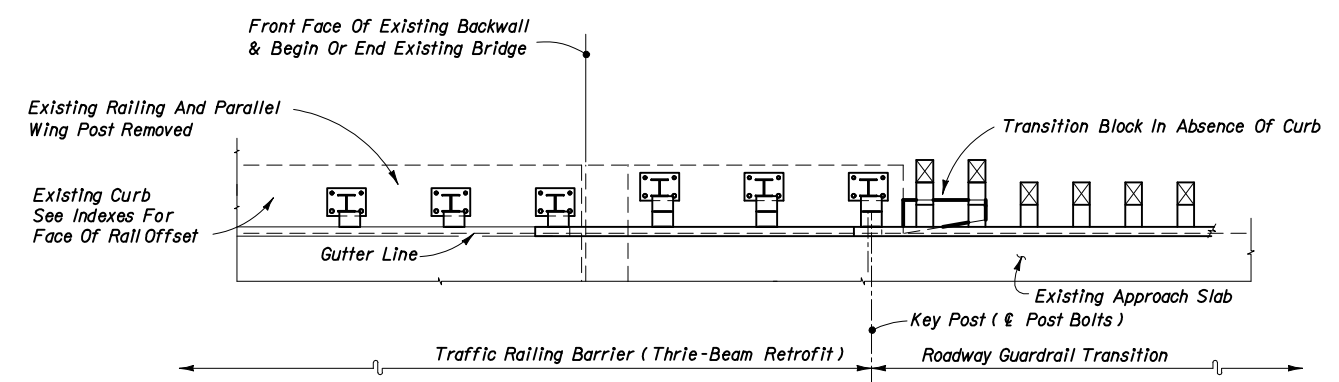
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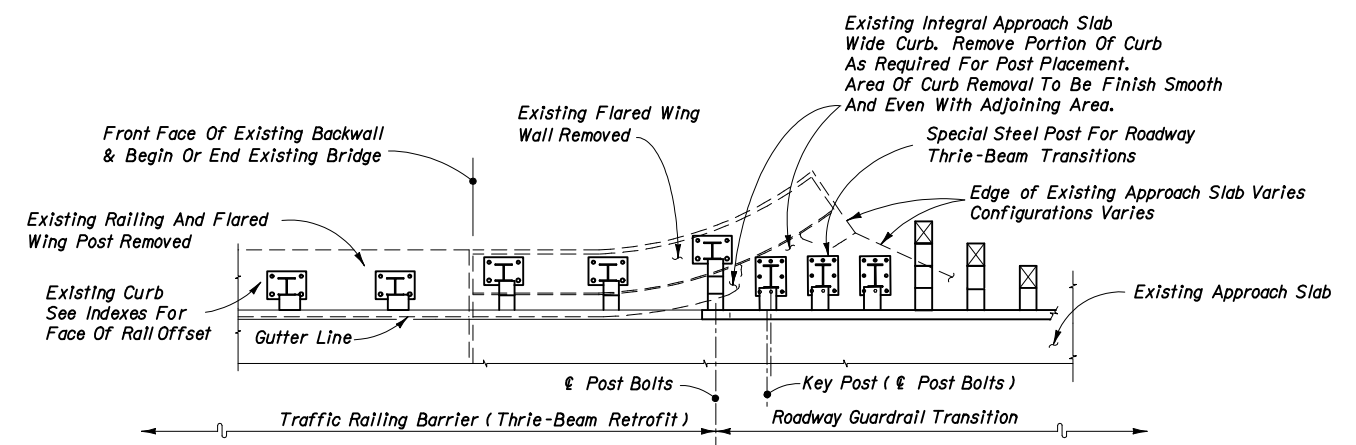
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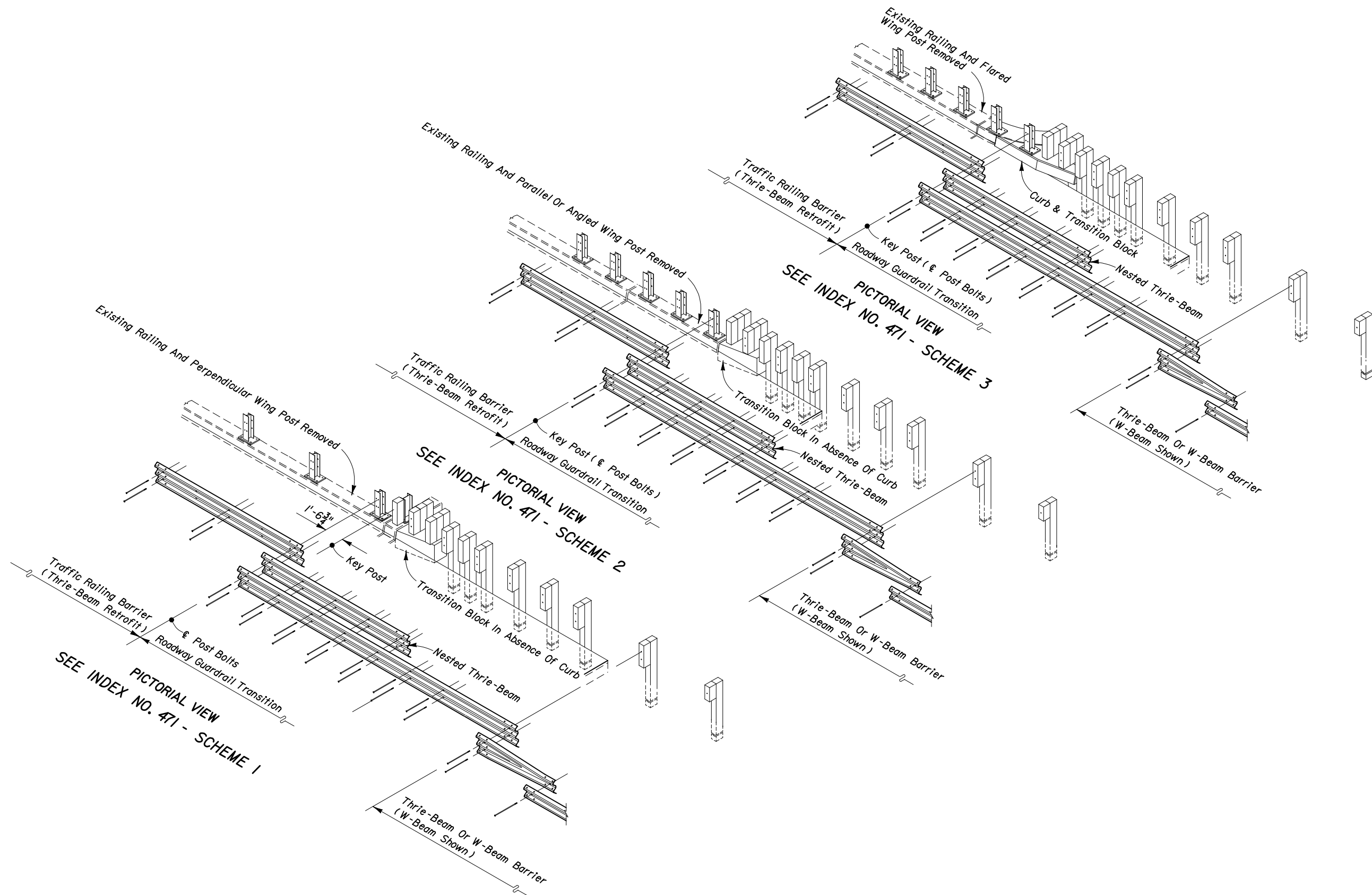


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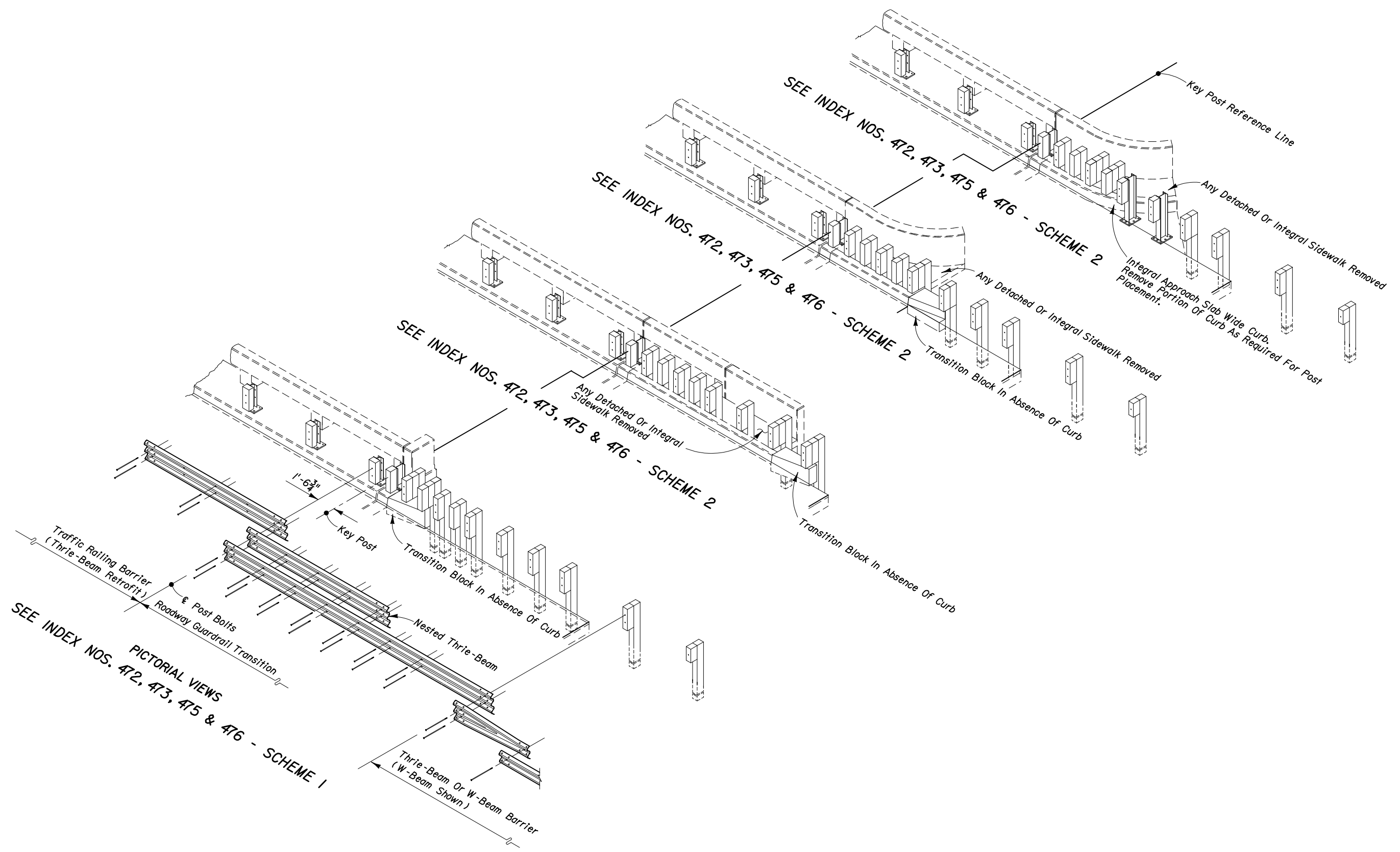
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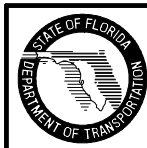
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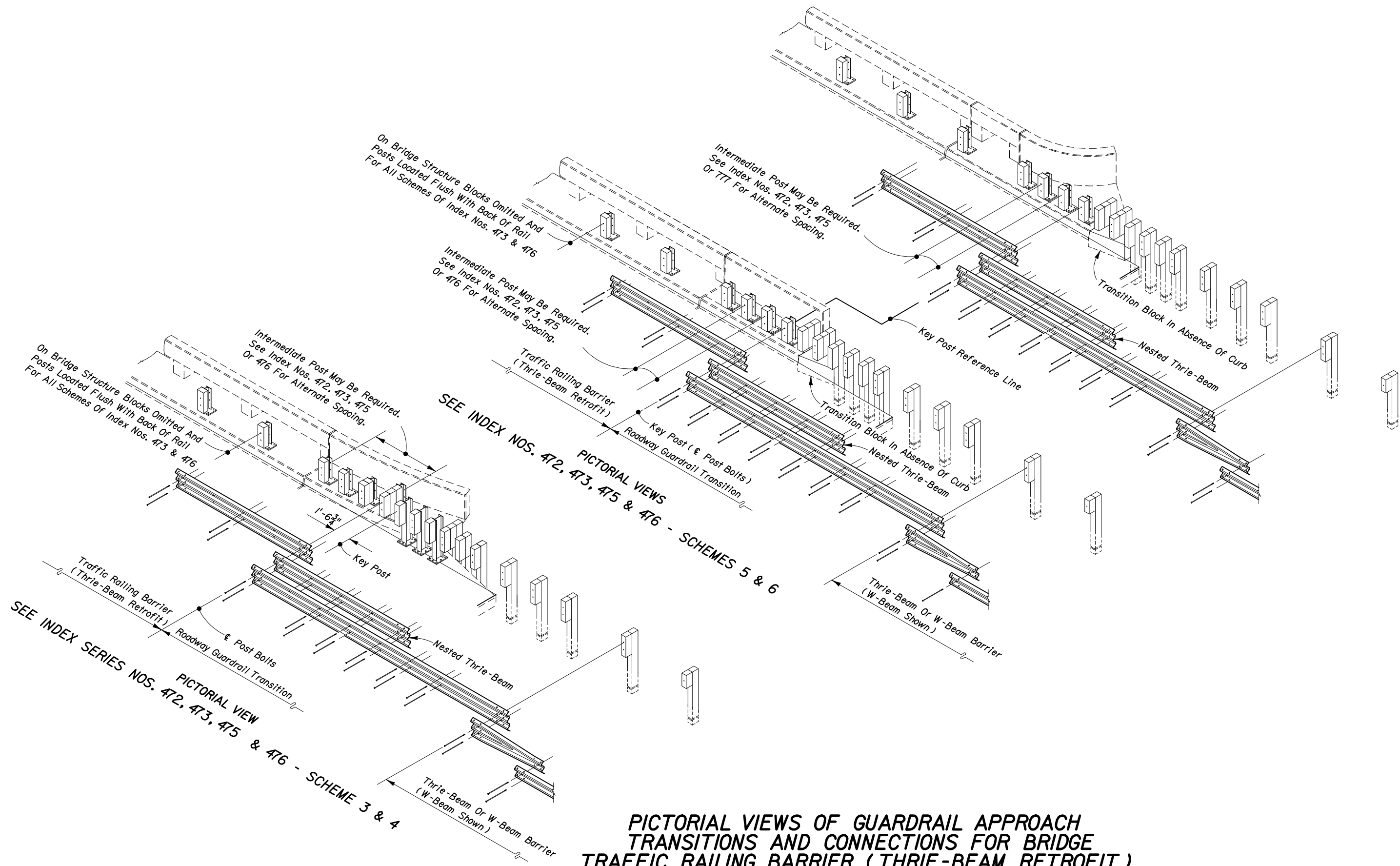
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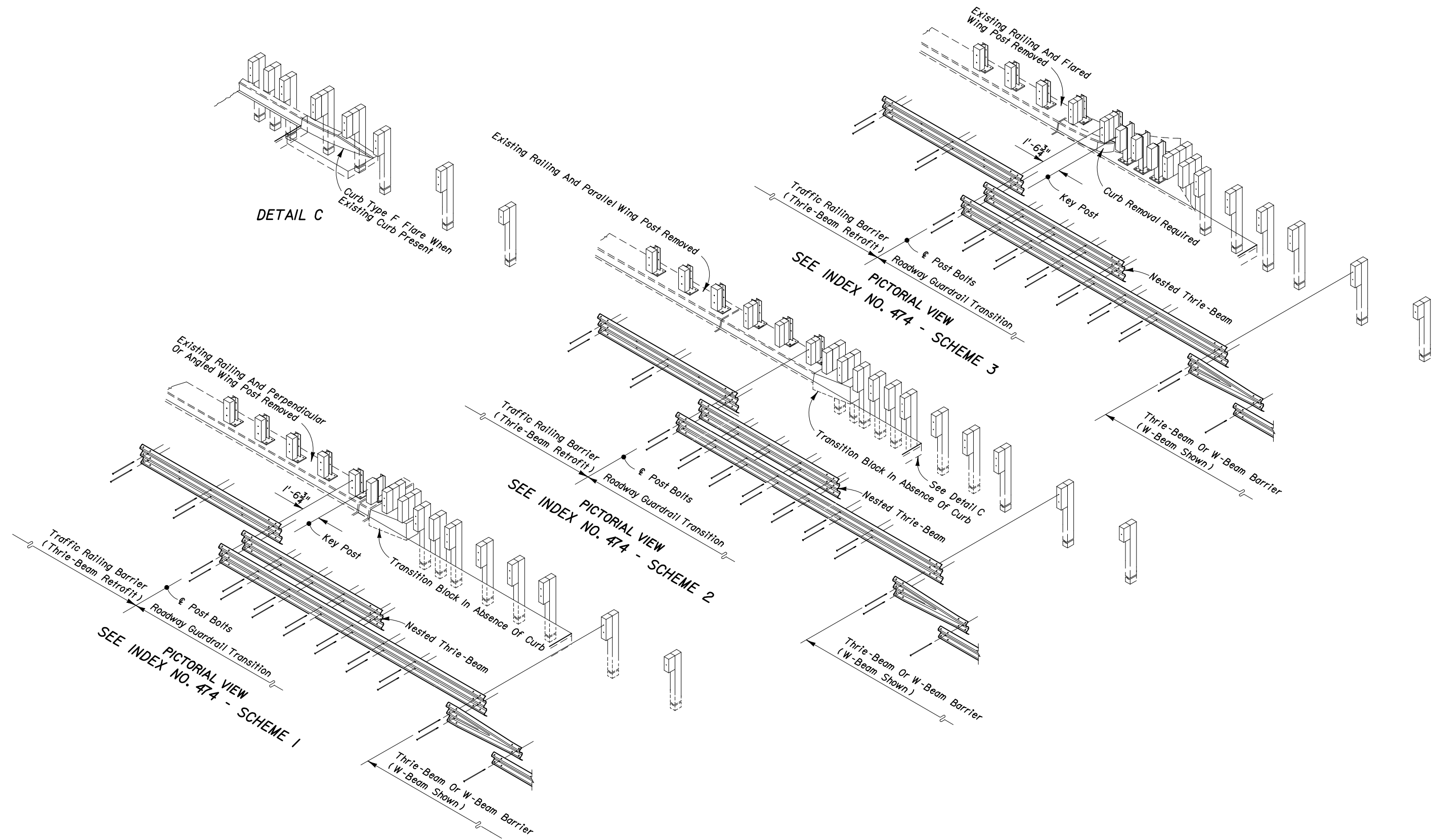
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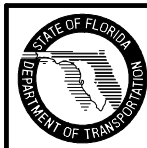
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PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING BARRIER (THRIE-BEAM RETROFIT)



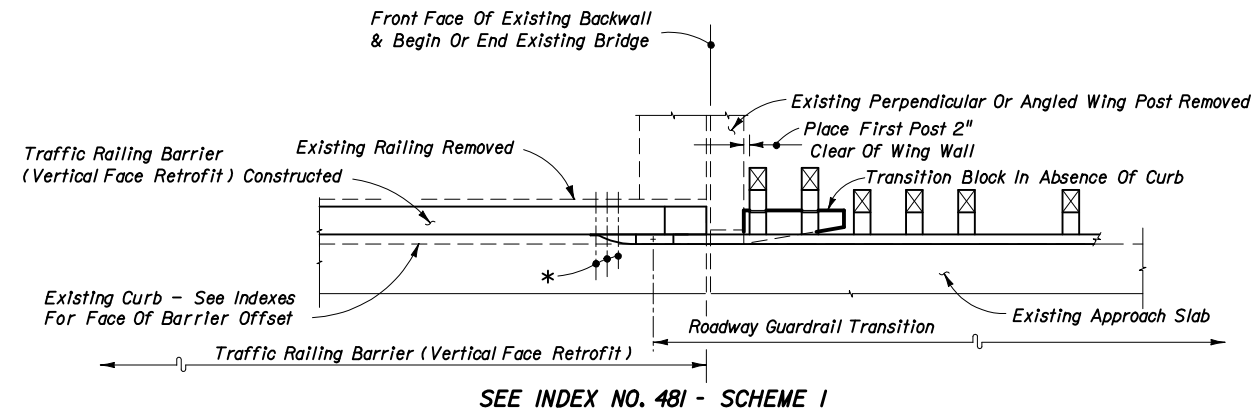
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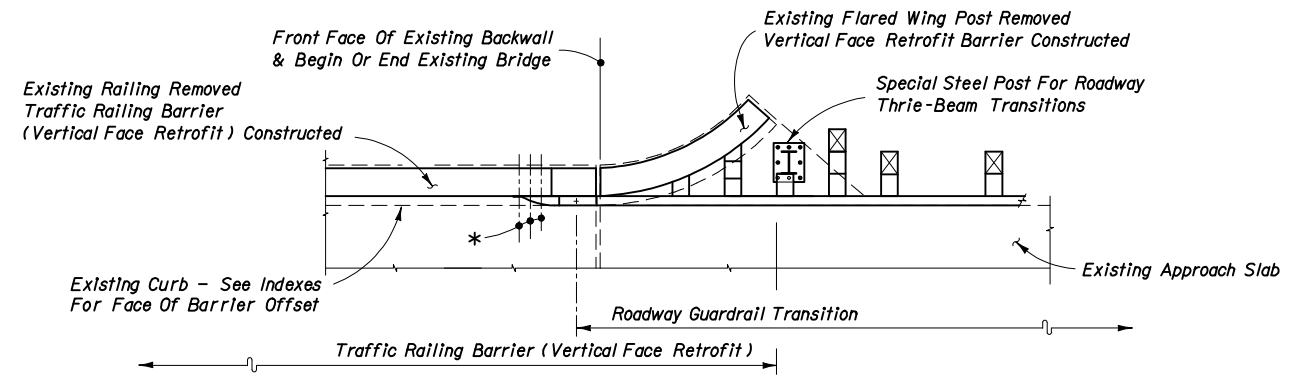
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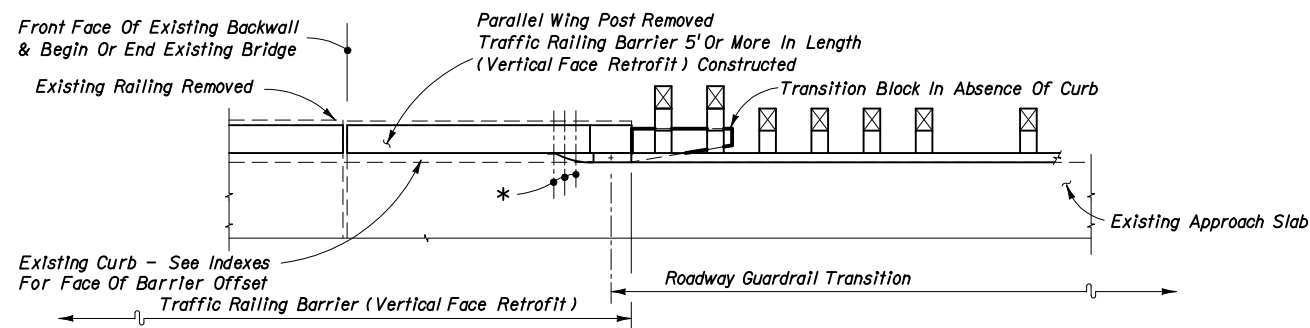
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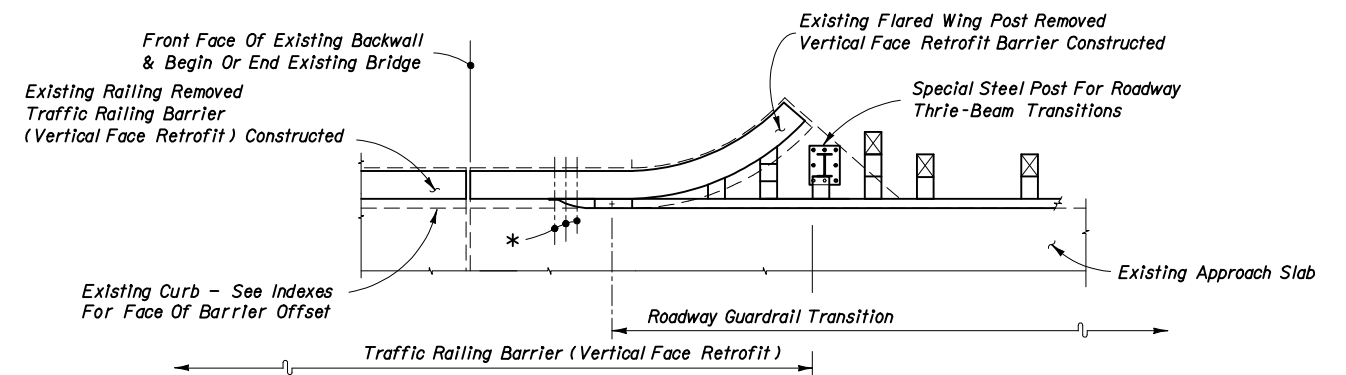
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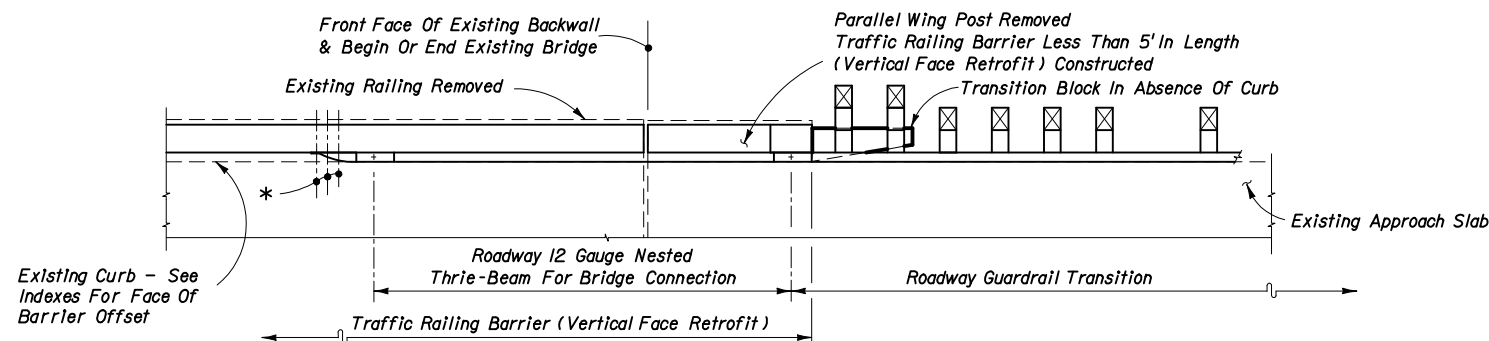
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Note:

*2 1/2" x 12" x 5/8" Thrie-Beam Terminal Connector Plate (Back-Up Plate), And 7/8" Ø x 12" Long HS Hex Bolts And Nuts (5 Req'd.) With 2 1/4" OD Plain Round Washers Under Heads And Nuts

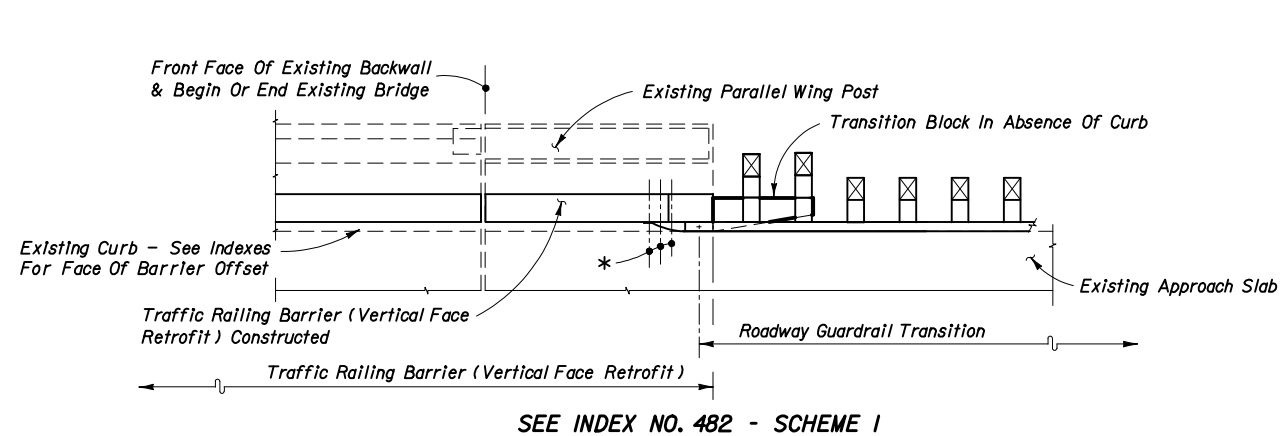
PARTIAL PLAN VIEWS OF TRAFFIC RAILING BARRIER (VERTICAL FACE RETROFIT)



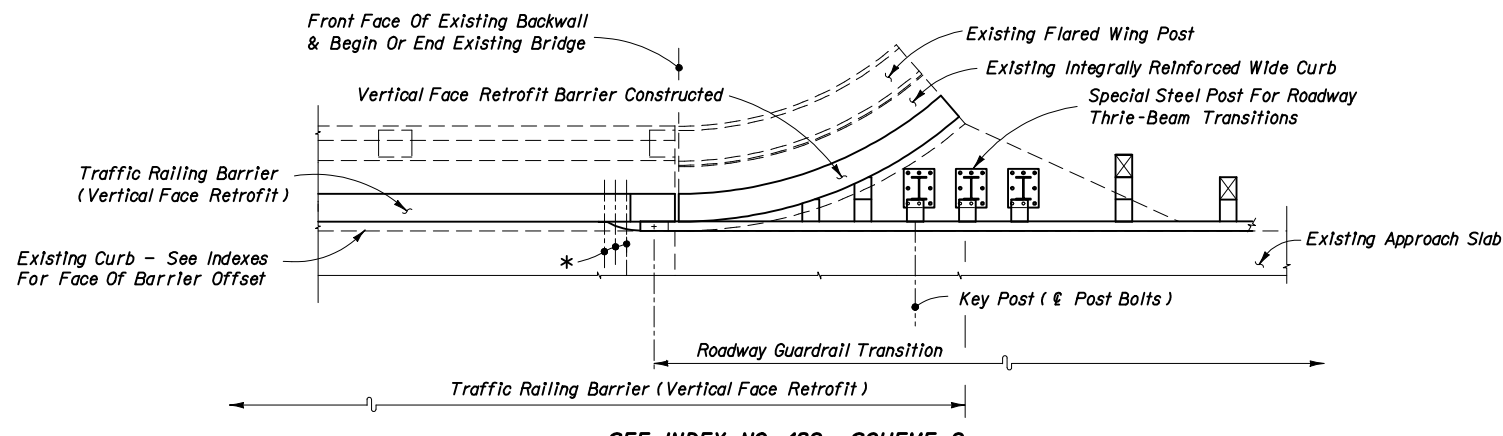
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GUARDRAIL TRANSITIONS AND CONNECTIONS FOR EXISTING BRIDGES

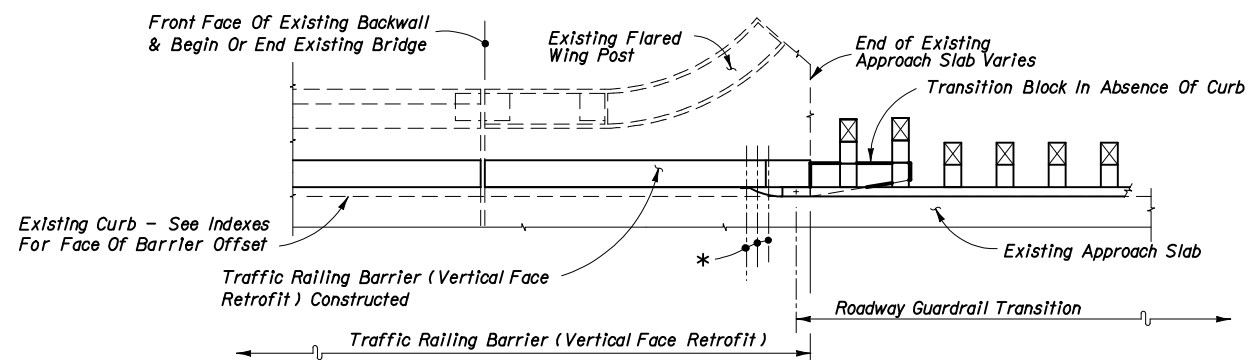
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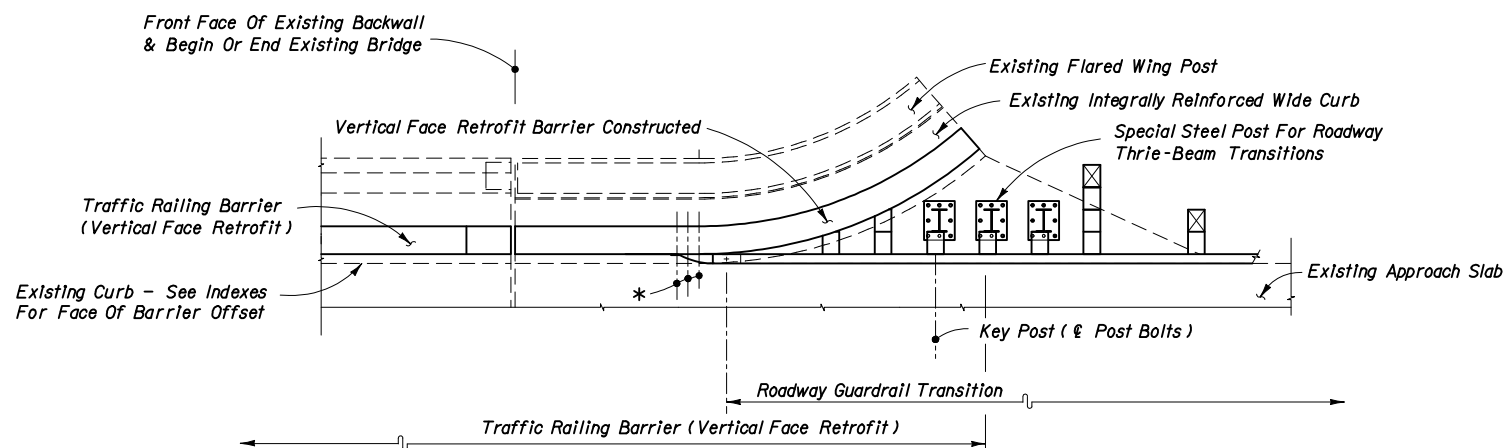
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SEE INDEX NO. 482- SCHEME 2



SEE INDEX NO. 482 - SCHEME 1



SEE INDEX NO. 482- SCHEME 2

Note:
 *2 1/2" x 12" x 5/8" Thrie-Beam Terminal Connector Plate (Back-Up Plate), And 7/8" Ø x 12" Long
 HS Hex Bolts And Nuts (5 Reqd.) With 2 1/4" OD Plain Round Washers Under Heads And Nuts

PARTIAL PLAN VIEWS OF TRAFFIC RAILING BARRIER (VERTICAL FACE RETROFIT)



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