PARTIAL PLAN OF RAILING

PARTIAL ELEVATION OF INSIDE FACE OF RAILING
(Existing Traffic Railing not shown for clarity)

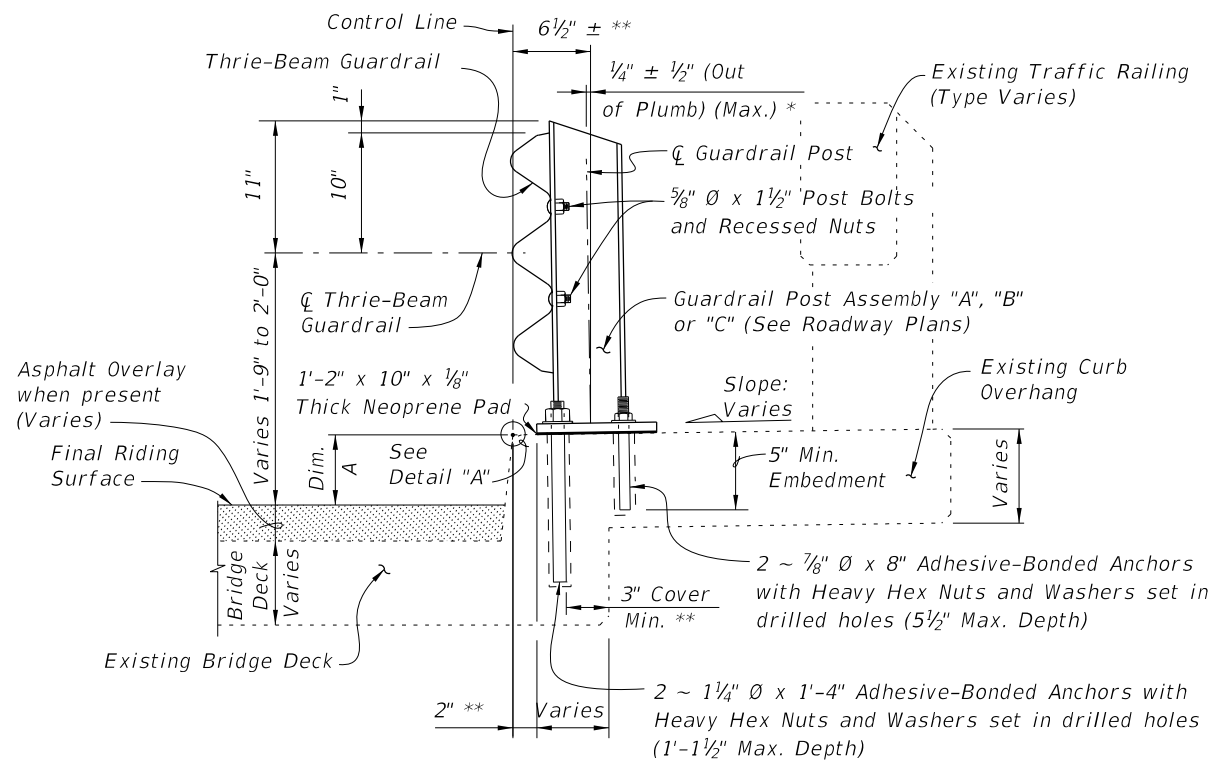═══ TYPICAL TREATMENT OF RAILING ALONG BRIDGE ═══

NOTES:

1. On approach end provide Index 536-002 (as shown) or other site specific treatment, see Roadway Plans. For treatment of trailing end see Roadway Plans.

2. Actual joint dimension and orientation vary. For Intermediate Deck Joints use the Modified Post Spacing at Intermediate Deck Joints Detail, Index 460-470, Sheet 2, as required.

3. Areas where existing structure has been removed shall match adjoining areas and shall be finished flat by grouting or grinding as required. Exposed existing reinforcing steel shall be burned off 1" below existing concrete and grouted over.

CROSS REFERENCES:
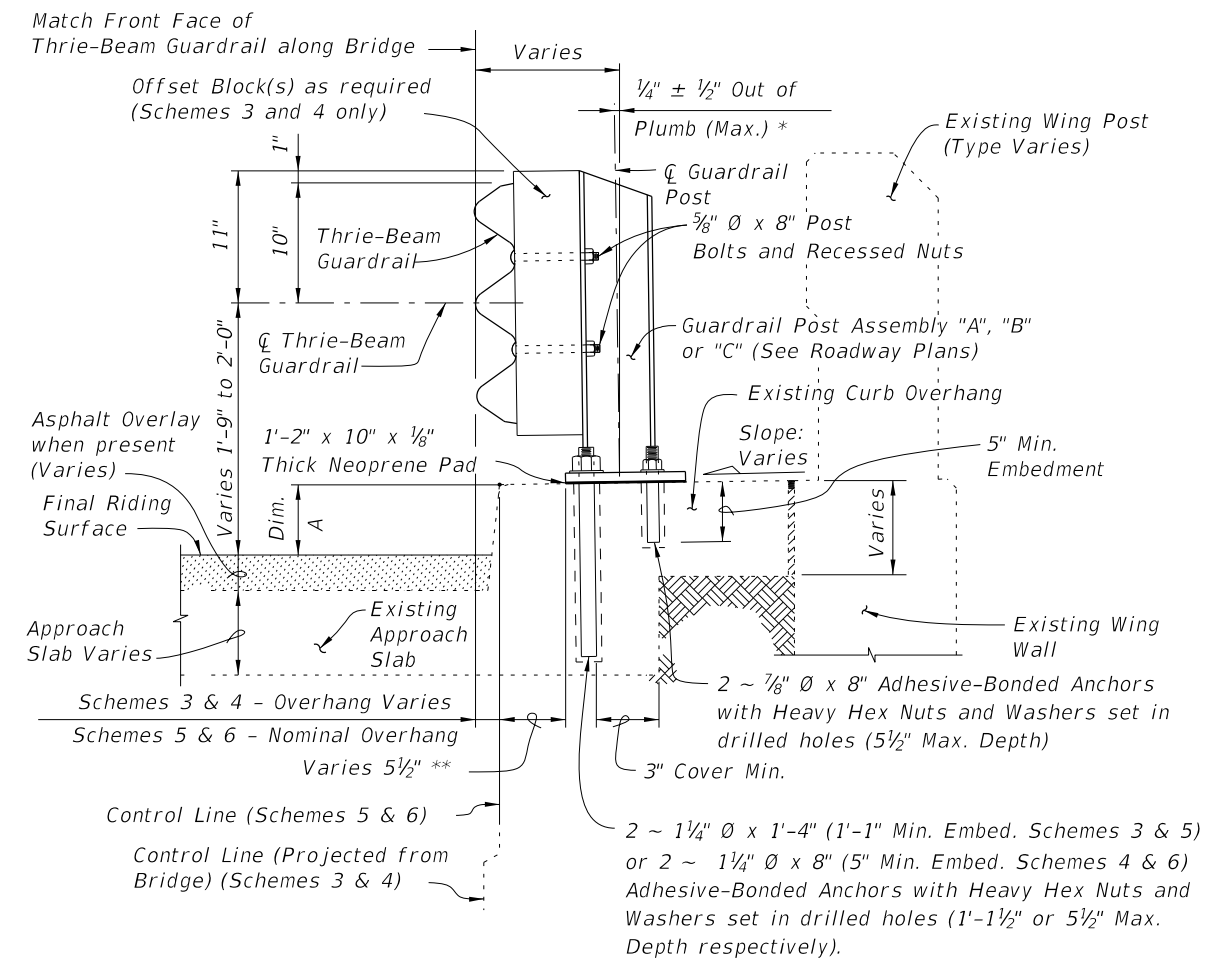For Section A-A see Sheet 2.
For Traffic Railing Notes and Details see Index 460-470.

LAST REVISION 01/01/08

REVISION

DESCRIPTION:

FDOT

FY 2021-22 STANDARD PLANS

TRAFFIC RAILING - (THRIE-BEAM RETROFIT) WIDE STRONG CURB TYPE 2

INDEX 460-473

SHEET 1 of 4

SECTION A-A
TYPICAL SECTION THRU RAILING ON BRIDGE DECK

Labels (Section A-A):
- Control Line
- Thrie-Beam Guardrail
- 6½" ± **
- ¼" ± ½" (Out of Plumb) (Max.) *
- Existing Traffic Railing (Type Varies)
- Ç Guardrail Post
- ⅝" Ø x 1½" Post Bolts and Recessed Nuts
- 1"
- 11"
- 10"
- Ç Thrie-Beam Guardrail
- Guardrail Post Assembly "A", "B" or "C" (See Roadway Plans)
- Asphalt Overlay when present (Varies)
- 1'-2" x 10" x ⅛" Thick Neoprene Pad
- Slope: Varies
- Existing Curb Overhang
- Varies 1'-9" to 2'-0"
- Final Riding Surface
- See Detail "A"
- 5" Min. Embedment
- Dim.
- A
- Bridge Deck Varies
- Varies
- 3" Cover Min. **
- 2 ~ ⅞" Ø x 8" Adhesive-Bonded Anchors with Heavy Hex Nuts and Washers set in drilled holes (5½" Max. Depth)
- Existing Bridge Deck
- 2" **
- Varies
- 2 ~ 1¼" Ø x 1'-4" Adhesive-Bonded Anchors with Heavy Hex Nuts and Washers set in drilled holes (1'-1½" Max. Depth)

SECTION B-B
TYPICAL SECTION THRU RAILING ALONG APPROACH SLAB
(SCHEMES 5 AND 6 SHOWN, SCHEMES 3 AND 4 SIMILAR)

Labels (Section B-B):
- Match Front Face of Thrie-Beam Guardrail along Bridge
- Varies
- Offset Block(s) as required (Schemes 3 and 4 only)
- ¼" ± ½" Out of Plumb (Max.) *
- Existing Wing Post (Type Varies)
- 1"
- Thrie-Beam Guardrail
- Ç Guardrail Post
- ⅝" Ø x 8" Post Bolts and Recessed Nuts
- 11"
- 10"
- Ç Thrie-Beam Guardrail
- Guardrail Post Assembly "A", "B" or "C" (See Roadway Plans)
- Existing Curb Overhang
- Asphalt Overlay when present (Varies)
- 1'-2" x 10" x ⅛" Thick Neoprene Pad
- Slope: Varies
- 5" Min. Embedment
- Varies 1'-9" to 2'-0"
- Final Riding Surface
- Dim.
- A
- Varies
- Approach Slab Varies
- Existing Approach Slab
- Existing Wing Wall
- Existing Wall
- 2 ~ ⅞" Ø x 8" Adhesive-Bonded Anchors with Heavy Hex Nuts and Washers set in drilled holes (5½" Max. Depth)
- Schemes 3 & 4 - Overhang Varies
- Schemes 5 & 6 - Nominal Overhang
- Varies 5½" **
- 3" Cover Min.
- Control Line (Schemes 5 & 6)
- Control Line (Projected from Bridge) (Schemes 3 & 4)
- 2 ~ 1¼" Ø x 1'-4" (1'-1" Min. Embed. Schemes 3 & 5) or 2 ~ 1¼" Ø x 8" (5" Min. Embed. Schemes 4 & 6) Adhesive-Bonded Anchors with Heavy Hex Nuts and Washers set in drilled holes (1'-1½" or 5½" Max. Depth respectively).

BILL OF REINFORCING STEEL

MARK	SIZE	LENGTH
D	4	3'-7"
L	4	4'-1"
M	4	2'-8"

NOTE: All bar dimensions are out to out.

BAR BENDING DIAGRAMS
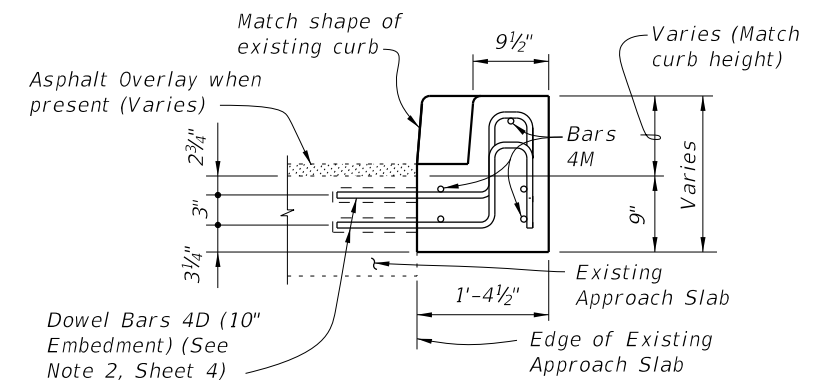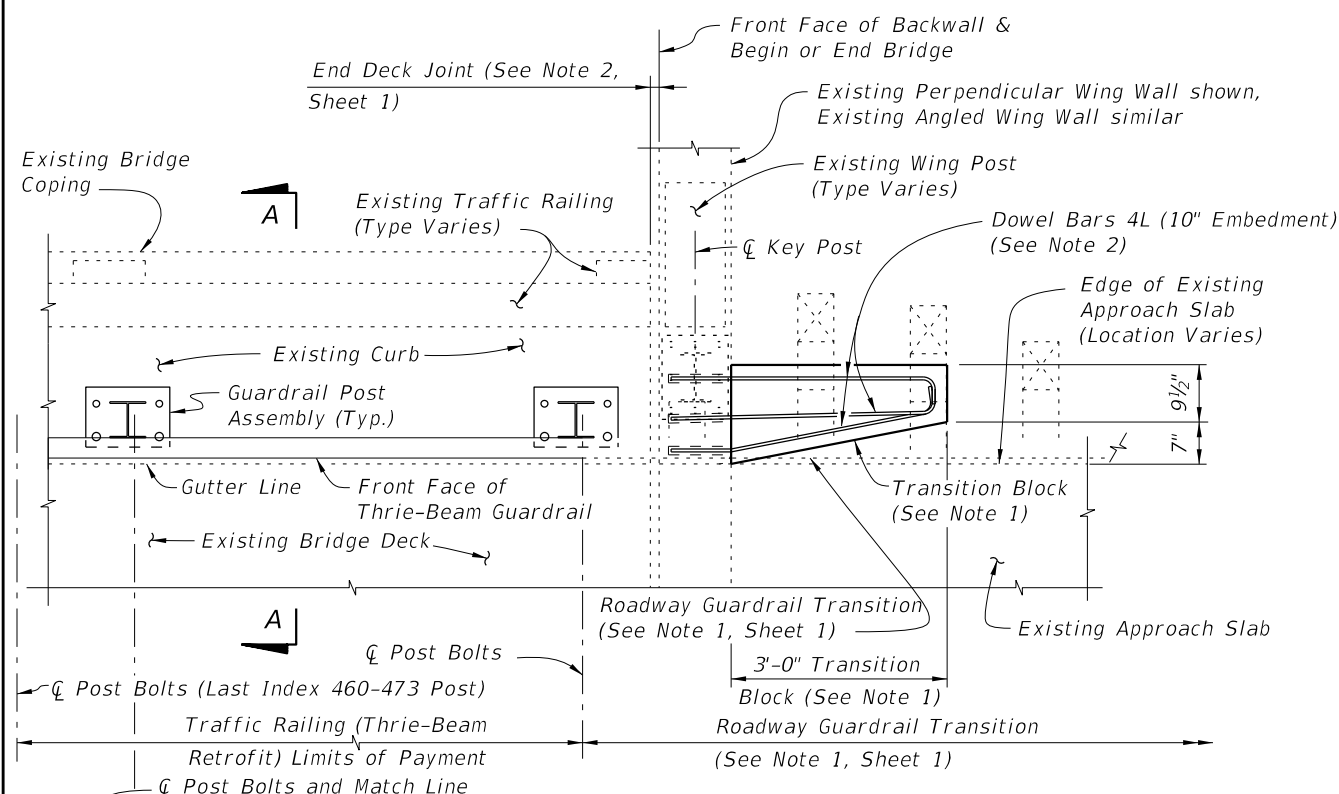
DOWEL BAR 4D
- 1'-7½"
- 5"
- 9"
- 2'-0½"

DOWEL BAR 4L
- 3'-8"
- 4½"

BAR 4M
- 2'-8"

* Shim with washers around Anchor Bolts and Anchors as required to maintain tolerance.

** Offset may vary ± 1" for Adhesive-Bonded Anchors and Anchor Bolts to clear existing curb reinforcing and provide minimum edge clearance. Offset shall be consistent along length of bridge.

DETAIL "A"

Labels:
- Control Line
- Top of Curb
- Front of Curb along Bridge

VIEW C-C

Labels:
- Match shape of existing curb
- 9½"
- Varies (Match curb height)
- Asphalt Overlay when present (Varies)
- 2¾"
- Bars 4M
- 3"
- Varies
- 9"
- 3¼"
- Dowel Bars 4D (10" Embedment) (See Note 2, Sheet 4)
- 1'-4½"
- Existing Approach Slab
- Edge of Existing Approach Slab
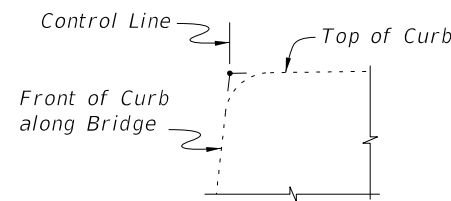
CROSS REFERENCES:
For location of Section A-A see Sheet 1, 3 and 4.
For location of Section B-B see Sheet 4.
For location of View C-C see Sheet 3.
For Traffic Railing Notes and Details see Index 460-470.
For application of Dim. A see Post Dimension Table on Index 460-470, Sheet 3.

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SCHEME 1 (left side)

PARTIAL PLAN OF RAILING

- Front Face of Backwall & Begin or End Bridge
- End Deck Joint (See Note 2, Sheet 1)
- Existing Perpendicular Wing Wall shown, Existing Angled Wing Wall similar
- Existing Wing Post (Type Varies)
- Existing Bridge Coping
- Existing Traffic Railing (Type Varies)
- ₡ Key Post
- Dowel Bars 4L (10" Embedment) (See Note 2)
- Edge of Existing Approach Slab (Location Varies)
- Existing Curb
- Guardrail Post Assembly (Typ.)
- 9½"
- 7"
- Gutter Line
- Front Face of Thrie-Beam Guardrail
- Transition Block (See Note 1)
- Existing Bridge Deck
- A
- Roadway Guardrail Transition (See Note 1, Sheet 1)
- Existing Approach Slab
- ₡ Post Bolts (Last Index 460-473 Post)
- Traffic Railing (Thrie-Beam Retrofit) Limits of Payment
- 3'-0" Transition Block (See Note 1)
- Roadway Guardrail Transition (See Note 1, Sheet 1)
- ₡ Post Bolts and Match Line (Approach or Trailing End) (See Sheet 1)
- Direction of Traffic

PARTIAL ELEVATION OF INSIDE FACE OF RAILING
(Existing Wing Post and Traffic Railing not shown for clarity)

- Varies (6'-3" Max., 3'-1½" Min.)
- 11"
- Post Spacing as measured to ₡ Post Bolts
- ₡ Post
- End Deck Joint (See Note 2, Sheet 1)
- Asphalt Overlay when present (Varies)
- Thrie-Beam Guardrail
- 1⅛" 1'-6¾" 1⅜"
- ₡ Post Bolts
- ₡ Key Post
- Guardrail Post Assembly (Typ.)
- Roadway Guardrail Transition (See Note 1, Sheet 1)
- Final Riding Surface
- Existing Curb
- Transition Block (See Note 1)
- 1'-0"
- Existing Bridge Deck
- Front Face of Backwall & Begin or End Bridge
- Match Existing Curb Height
- Existing Approach Slab
- Dowel Bars 4L (10" Embedment) (See Note 2)

SCHEME 1
RAILING END TREATMENT FOR PERPENDICULAR OR ANGLED WING WALLS

SCHEME 1 NOTES:
1. Provide Transition Block (as shown) or Curb if existing Approach Slab does not have a curb, see Roadway Plans. Shape and height of Transition Block or Curb shall match existing bridge curb. Transition Block may be omitted on trailing ends with no opposing traffic.

2. Field bend Dowel Bars 4L within Transition Block as required to maintain 2" top and side clearance and 3" bottom clearance.

SCHEME 2 (right side)

PARTIAL PLAN OF RAILING

- Front Face of Backwall & Begin or End Bridge
- Existing Detached Sidewalk or Integral Sidewalk less than 6" thick to be removed. See Roadway Plans for Details of Sidewalk replacement.
- End Deck Joint (See Note 2, Sheet 1)
- Existing Flared Wing Wall shown, Existing Parallel Wing Wall similar
- Existing Wing Post (Type Varies)
- Approach Slab Curb to remain (Parallel Curb shown, Flared Curb similar)
- Existing Bridge Coping
- Existing Traffic Railing (Type Varies)
- Existing Wing Post (Type Varies)
- A
- C
- 5 Bars 4M
- Existing Curb
- Guardrail Post Assembly (Typ.)
- 9½"
- 7"
- Double Dowel Bars 4D (10" Embedment) (See Note 2)
- Gutter Line
- Front Face of Thrie-Beam Guardrail
- ₡ Key Post
- Existing Approach Slab
- Existing Bridge Deck
- Roadway Guardrail Transition (See Note 1, Sheet 1)
- C
- 3" 2 sp. @ 1'-3" 3"
- 3'-0"
- Transition Block (See Note 1)
- ₡ Post Bolts (Last Index 460-473 Post)
- ₡ Post Bolts
- Roadway Guardrail Transition (See Note 1, Sheet 1)
- Traffic Railing (Thrie-Beam Retrofit) Limits of Payment
- Edge of Existing Approach Slab (Location Varies)
- ₡ Post Bolts and Match Line (Approach or Trailing End) (See Sheet 1)
- Direction of Traffic

PARTIAL ELEVATION OF INSIDE FACE OF RAILING
(Existing Wing Post and Traffic Railing not shown for clarity)

- Varies (6'-3" Max., 3'-1½" Min.)
- 11"
- Post Spacing as measured to ₡ Post Bolts
- Thrie-Beam Guardrail
- ₡ Post
- End Deck Joint (See Note 2, Sheet 1)
- Guardrail Post Assembly (Typ.)
- Asphalt Overlay when present (Varies)
- 1⅛" 1'-6¾" 1⅜"
- ₡ Post Bolts
- ₡ Key Post
- Roadway Guardrail Transition (See Note 1, Sheet 1)
- Transition Block (See Note 1)
- Varies (Match Curb Height)
- Bars 4M
- Final Riding Surface
- Existing Curb
- Double Dowel Bars 4D (10" Embedment) (See Note 2)
- Existing Bridge Deck
- Front Face of Backwall & Begin or End Bridge
- Existing Approach Slab
- 9"
- Varies

SCHEME 2
RAILING END TREATMENT FOR PARALLEL OR FLARED CURBS WITH DETACHED SIDEWALKS OR INTEGRAL SIDEWALK LESS THAN 6" THICK

SCHEME 2 NOTES:
1. Provide Transition Block (as shown) or Curb if existing Approach Slab Curb does not extend to end of Approach Slab. Shape and height of Transition Block or Curb shall match existing bridge curb. Transition Block may be omitted on trailing ends with no opposing traffic and on bridges with flared Approach Slab Curbs.

2. Field bend or tilt Dowel Bars 4D and Bars 4M within Transition Block as required to maintain 2" top and side clearance and 3" bottom clearance.
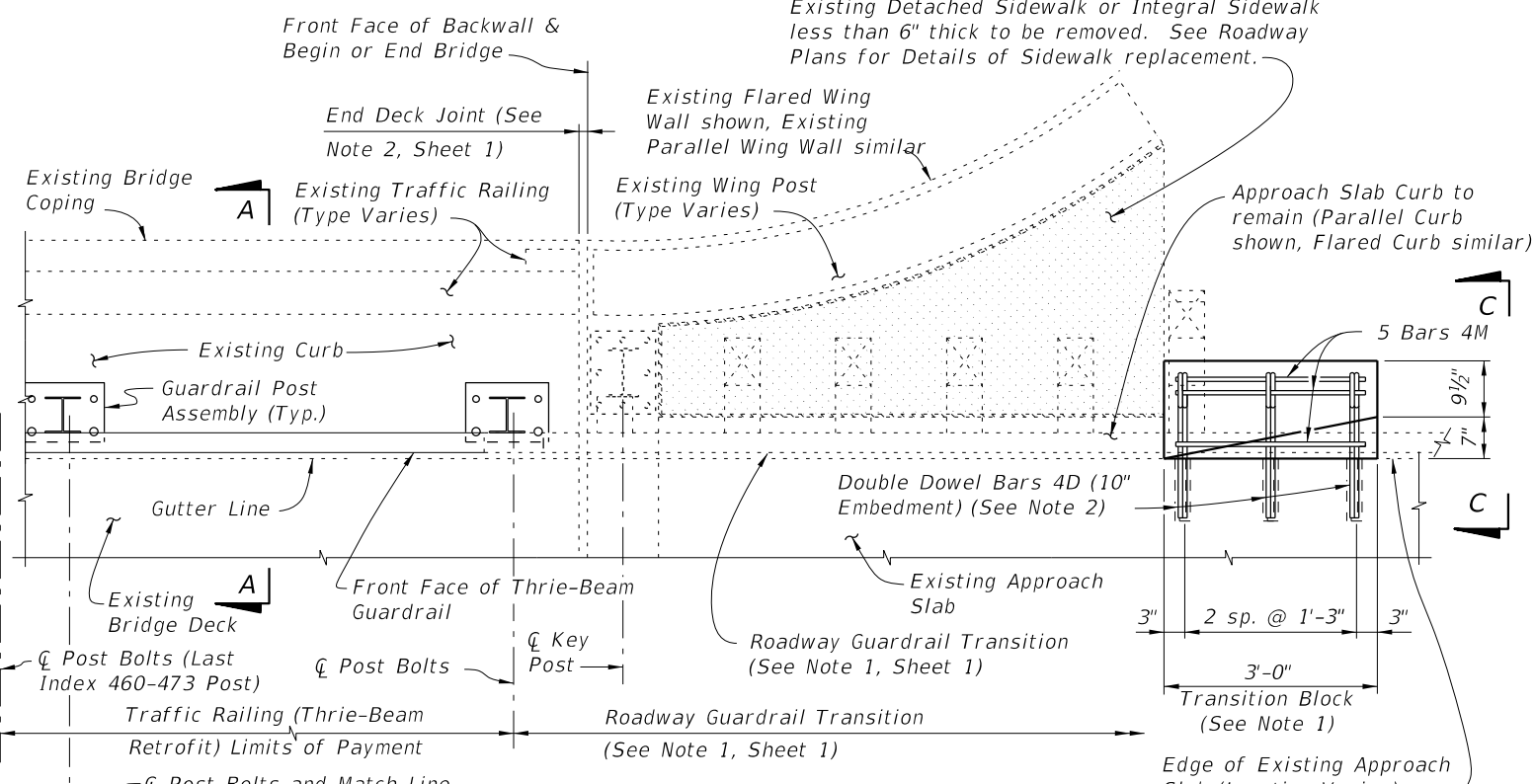
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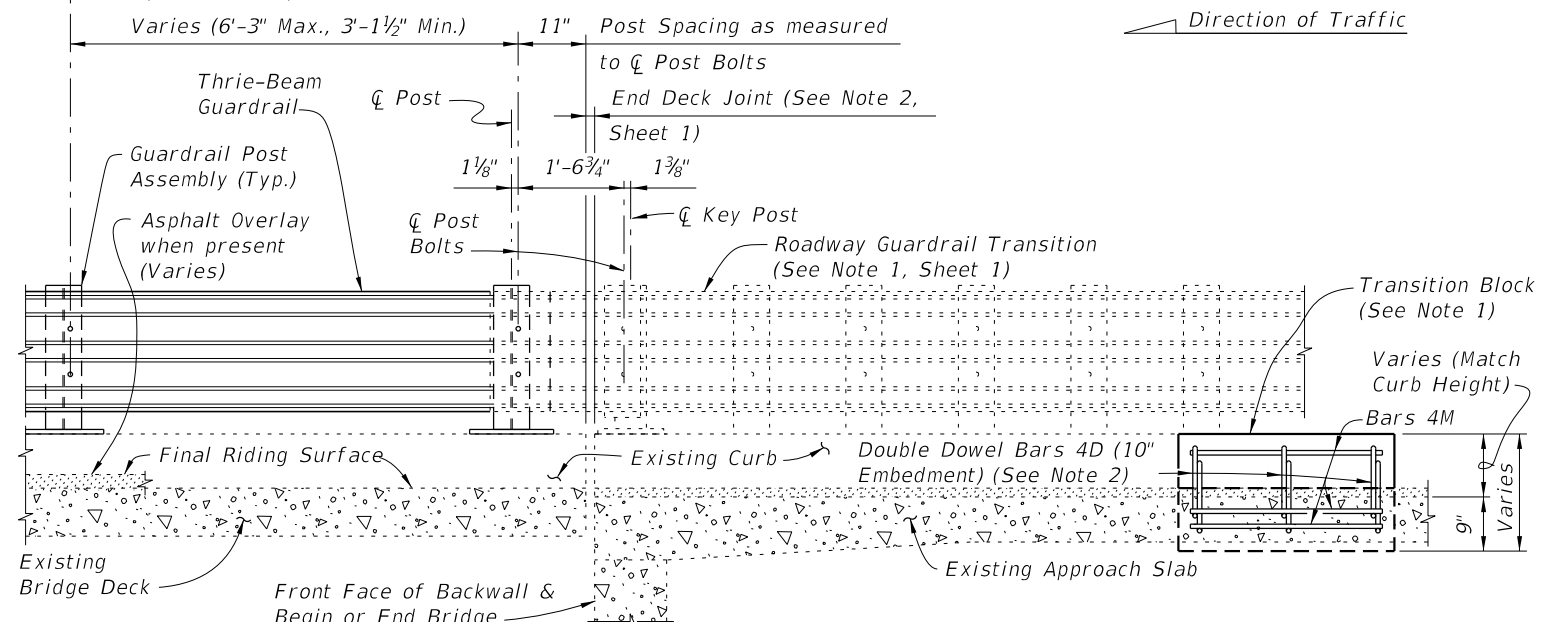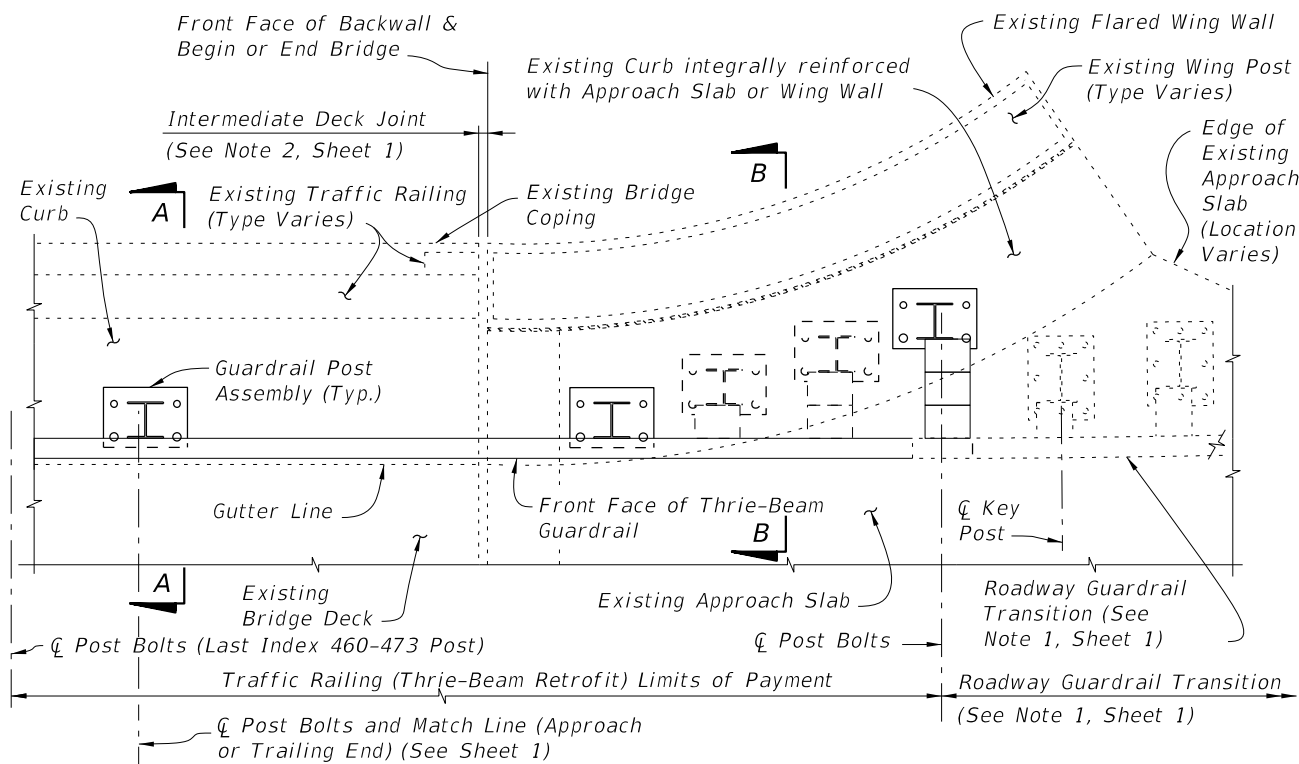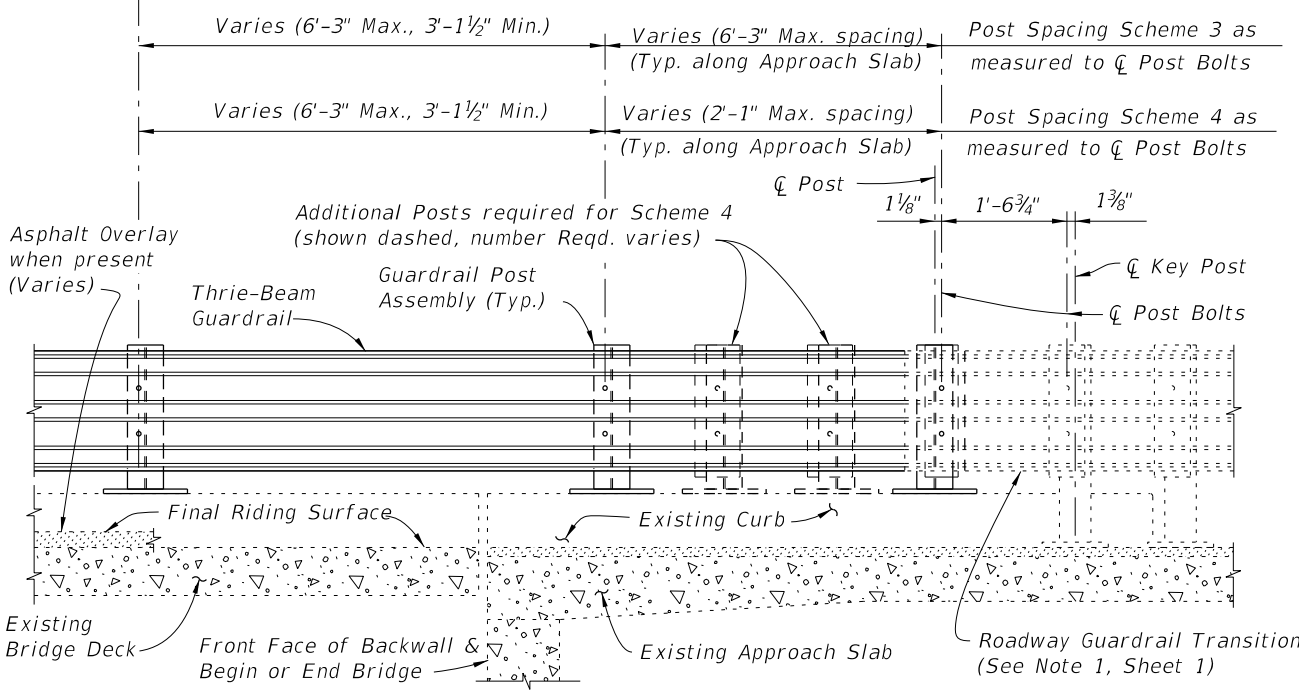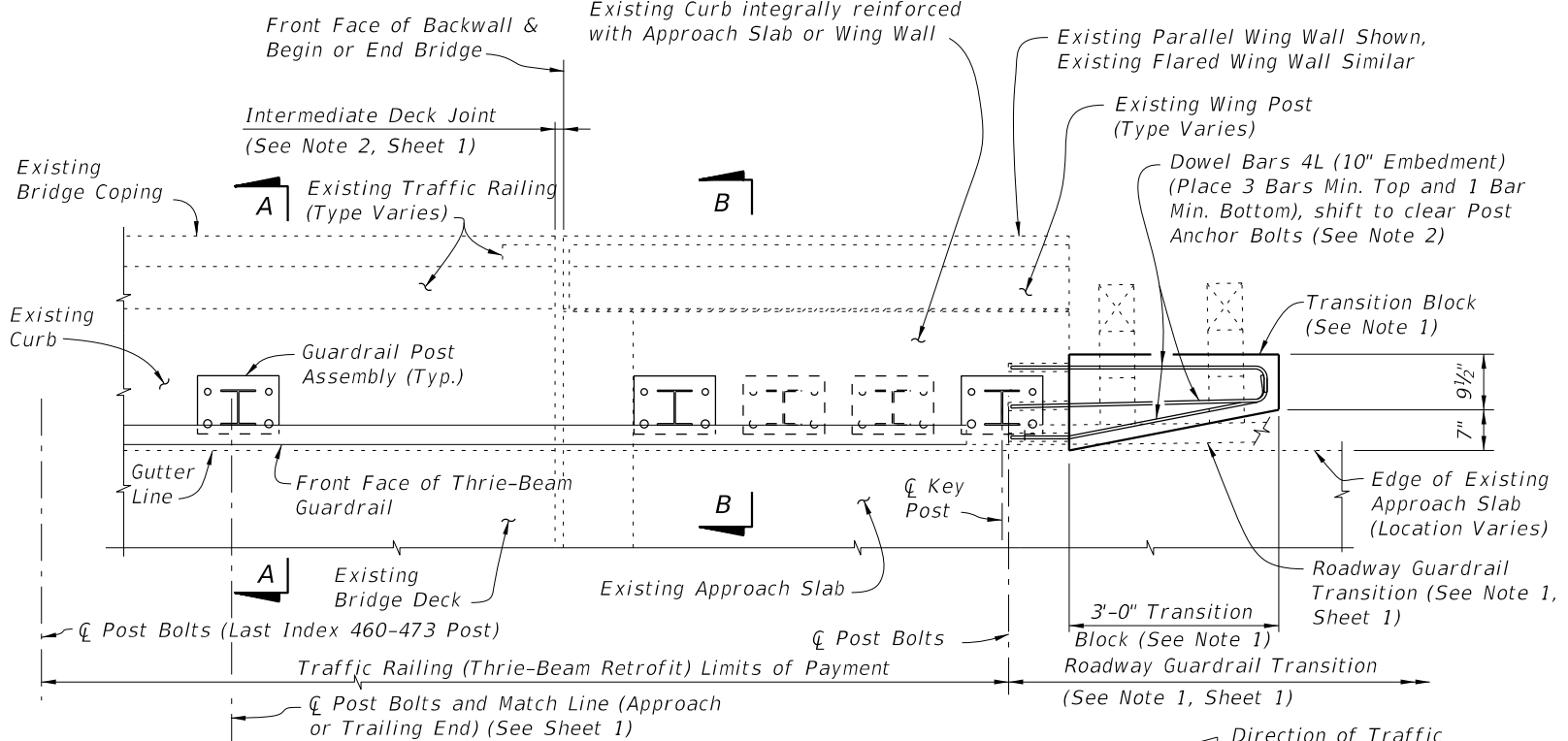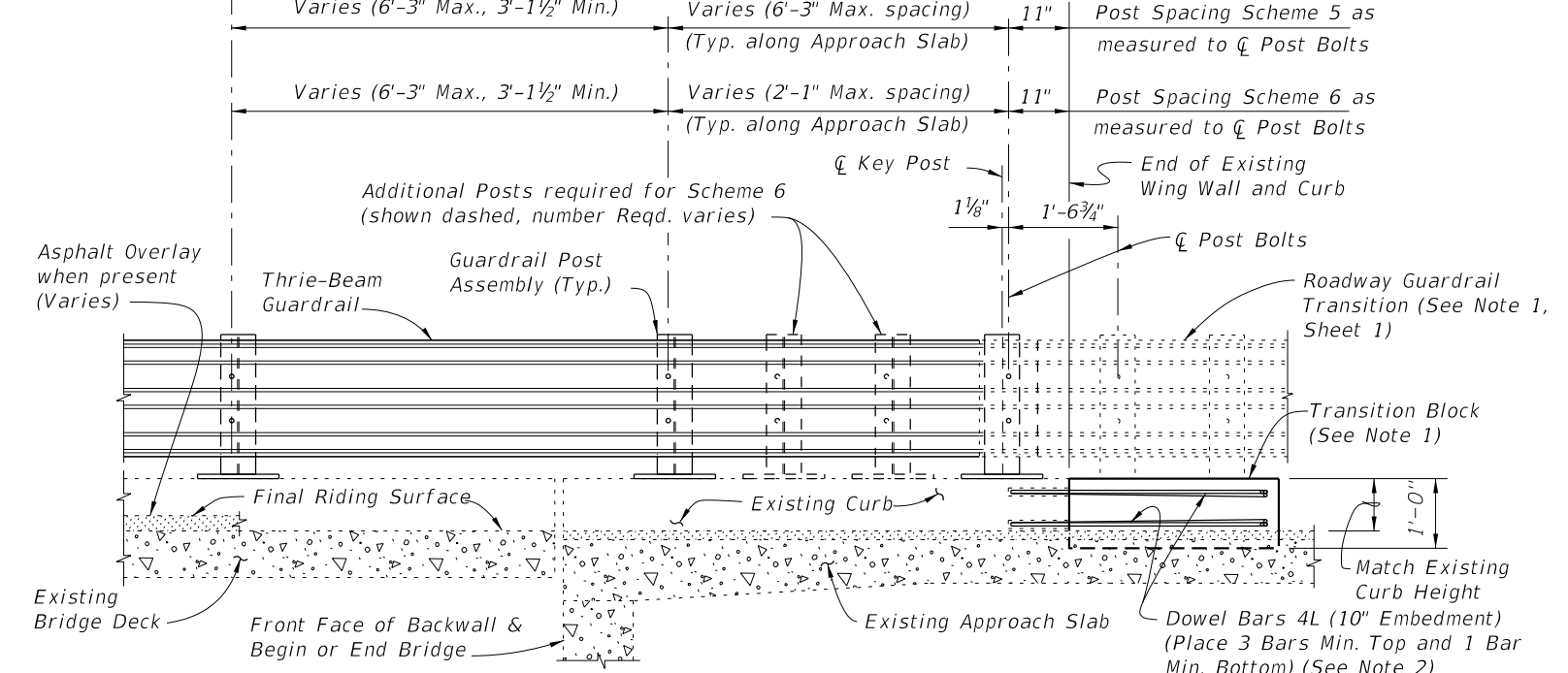
PARTIAL PLAN OF RAILING

PARTIAL ELEVATION OF INSIDE FACE OF RAILING
(Existing Wing Post and Traffic Railing not shown for clarity)

═══ SCHEMES 3 AND 4 ═══
RAILING END TREATMENT FOR FLARED INTEGRAL CURBS

PARTIAL PLAN OF RAILING

PARTIAL ELEVATION OF INSIDE FACE OF RAILING
(Existing Wing Post and Traffic Railing not shown for clarity)

═══ SCHEMES 5 AND 6 ═══
RAILING END TREATMENT FOR PARALLEL INTEGRAL CURBS

SCHEMES 5 AND 6 NOTES:
1. Provide Transition Block (as shown) or Curb if existing Approach Slab Curb does not extend to end of Approach Slab.
   Shape and height of Transition Block or Curb shall match existing bridge curb. Transition Block may be omitted on trailing
   ends with no opposing traffic.

2. Field bend Dowel Bars 4L within Transition Block as required to maintain 2" top and side clearance and 3" bottom clearance.