GUARDRAIL TRANSITIONS AND CONNECTIONS FOR EXISTING BRIDGES

1. This index provides thrie-beam transition and connection details for approach end guardrail on existing bridges, and exchange details for trailing end and vertical face traffic railing safety shapes for existing bridges. Sheets 1 through 23 apply to bridges with retrofitted traffic railings. Sheet 24 applies to bridges with safety shaped traffic railing.

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, 472 through 475, 480 through 483. The schemes in this index identified by Roman numerals are complementary to bridges safety shaped traffic railing barrier where determined to be in accordance with applications of criteria specified in the Structures Manual.

3. For guardrail 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 thrie-beam approach transitions connecting to existing bridges with trailing end transition, 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 side 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.

4. Nested beam extensions and points for terminal connector attachments will vary for traffic railings 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 selecting thrie-beam terminal connector to traffic railings vertical face retrofits, see notations on Sheets 12 through 15 and the flag notation on Sheet 23.

6. Payment for connections to traffic railing vertical face retrofits are to be made under the contract unit price for Bridge Anchorage Assembly, EA., and shall be full compensation for the anchor stud and nuts.

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.
PARTIAL PLAN VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PARTIAL PLAN VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PARTIAL PLAN VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PARTIAL PLAN VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PARTIAL PLAN VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PARTIAL PLAN VIEWS OF TRAFFIC RAILING (VERTICAL FACE RETROFIT)

Note:
21" x 12" x 5/8" Thrie-Beam Terminal Connector Plate (Back-Up Plate), And 7/8" x 12" Long
1/2" Hex Bolts And Nuts (5 Req'd.) With 2 1/4" OD Plain Round Washers Under Heads And Nuts
PANEL PLAN VIEWS OF TRAFFIC RAILING (VERTICAL FACE RETROFIT)

PARTIAL PLAN VIEWS OF TRAFFIC RAILING (VERTICAL FACE RETROFIT)

Note:
- 9 1/2" x 9 1/2" Thrie-Beam Terminal Connector Plate (Back-Up Plate), And 7/8" x 12" Long
- Special Steel Post For Roadway Thrie-Beam Transitions
- Existing Approach Slab
- Special Steel Post For Roadway Thrie-Beam Transitions
- Existing Flared Wing Post
- Existing Approach Slab
- Existing Approach Slab
- Existing Perpendicular Or Angled Wing Post
- Existing Flared Wing Post
- Existing Flared Wing Post
- Existing Curb - See Indexes For Face Of Railing Offset
- Existing Curb - See Indexes For Face Of Railing Offset
- Existing Curb - See Indexes For Face Of Railing Offset
- Existing Curb - See Indexes For Face Of Railing Offset
- Existing Curb - See Indexes For Face Of Railing Offset
- Existing Curb - See Indexes For Face Of Railing Offset
- Place First Post 2" Clear Of Wing Wall

SEE INDEX NO. 482 - SCHEME 1

SEE INDEX NO. 482 - SCHEME 4

SEE INDEX NO. 482 - SCHEME 5

SEE INDEX NO. 482 - SCHEME 5

SEE INDEX NO. 482 - SCHEME 5

SEE INDEX NO. 482 - SCHEME 5

SEE INDEX NO. 482 - SCHEME 5
PARTIAL PLAN VIEWS OF TRAFFIC RAILING (VERTICAL FACE RETROFIT)

Front Face Of Existing Backwall & Begin Or End Existing Bridge
Existing Railing Removed And Traffic Railing (Vertical Face Retrofit) Constructed

Existing Curb - See Index For Face Of Railing Offset

Traffic Railing (Vertical Face Retrofit) Constructed

SEE INDEX NO. 483 - SCHEME 1

Front Face Of Existing Backwall & Begin Or End Existing Bridge
Existing Railing Removed And Traffic Railing (Vertical Face Retrofit) Constructed

Existing Curb - See Index For Face Of Railing Offset

Traffic Railing (Vertical Face Retrofit) Constructed

SEE INDEX NO. 483 - SCHEME 2

Front Face Of Existing Backwall & Begin Or End Existing Bridge
Existing Railing Removed And Traffic Railing (Vertical Face Retrofit) Constructed

Existing Curb - See Index For Face Of Railing Offset

Traffic Railing (Vertical Face Retrofit) Constructed

SEE INDEX NO. 483 - SCHEME 3

Note:
21" x 12" x 5/8" Thrie-Beam Terminal Connector Plate (Back-Up Plate), And 7/8" HS Hex Bolts And Nuts (12" Long For Schemes 2 And 3 / 15" For Scheme 1) With 2 1/4" OD Plain Round Washers Under Heads And Nuts.
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)

SEE INDEX NO. 481 - SCHEME 1

SEE INDEX NO. 481 - SCHEME 2

GUARDRAIL TRANSITIONS AND CONNECTIONS FOR EXISTING BRIDGES

2008 FDOT Design Standards

Sheet No. 16 of 24
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)

Existing Railing And Flared Wing Post Removed; Traffic Railing (Vertical Face Retrofit) Constructed

Wing Post Less Than 5' In Length; And,

Wing Post 5' In Length That Does Not Meet The Design Criteria For Structural Adequacy Prescribed In The Structures Manual.

Traffic Railing (Vertical Face Retrofit)

Existing Railing And Flared Wing Post Removed; Traffic Railing (Vertical Face Retrofit) Constructed

Traffic Railing (Vertical Face Retrofit)

Existing Railing And Flared Wing Post Removed; Traffic Railing (Vertical Face Retrofit) Constructed

Traffic Railing (Vertical Face Retrofit)

Existing Railing And Flared Wing Post Removed; Traffic Railing (Vertical Face Retrofit) Constructed

Traffic Railing (Vertical Face Retrofit)
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)

---

**2008 FDOT Design Standards**

**GUARDRAIL TRANSITIONS AND CONNECTIONS FOR EXISTING BRIDGES**

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Wing Post Less Than 5' In Length; And,


SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Existing Railing And Parallel Wing Post

Existing Railing And Flared Wing Post

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

---

* Post Bolts At First Standard (3'-1 1/2") Post Hole Location On Bridge (7" Min. From End Of Bridge)

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

---

* Post Bolts At First Standard (3'-1 1/2") Post Hole Location On Bridge (7" Min. From End Of Bridge)

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

---

* Post Bolts At First Standard (3'-1 1/2") Post Hole Location On Bridge (7" Min. From End Of Bridge)

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

---

* Post Bolts At First Standard (3'-1 1/2") Post Hole Location On Bridge (7" Min. From End Of Bridge)

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

---

* Post Bolts At First Standard (3'-1 1/2") Post Hole Location On Bridge (7" Min. From End Of Bridge)

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

---

* Post Bolts At First Standard (3'-1 1/2") Post Hole Location On Bridge (7" Min. From End Of Bridge)

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

---

* Post Bolts At First Standard (3'-1 1/2") Post Hole Location On Bridge (7" Min. From End Of Bridge)

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

---

* Post Bolts At First Standard (3'-1 1/2") Post Hole Location On Bridge (7" Min. From End Of Bridge)

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

---

* Post Bolts At First Standard (3'-1 1/2") Post Hole Location On Bridge (7" Min. From End Of Bridge)

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

---

* Post Bolts At First Standard (3'-1 1/2") Post Hole Location On Bridge (7" Min. From End Of Bridge)

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

---

* Post Bolts At First Standard (3'-1 1/2") Post Hole Location On Bridge (7" Min. From End Of Bridge)

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

End Of Terminal Connector Identified In The Plans By Station Location

---

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

Traffic Railing (Vertical Face Retrofit)

SEE INDEX NO. 482 - SCHEMES 2 & 5

---

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)

Thrie-Beam Or W-Beam Barrier (W-Beam Shown)
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)

Existing Railing And Parallel Wing Post Removed; Traffic Railing (Vertical Face Retrofit) Constructed

Wing Post Less Than 5' In Length; And, Wing Post 5' In Length That Does Not Meet The Design Criteria For Structural Adequacy Prescribed In The Structures Manual.

Traffic Railing (Vertical Face Retrofit) Constructed

End Of Terminal Connector Identified In The Plans By Station Location

12'-6" 12 Gauge Thrie Beam

SEE INDEX NO. 483 - SCHEME 1

SEE INDEX NO. 483 - SCHEME 2

SEE INDEX NO. 483 - SCHEME 2

SEE INDEX NO. 483 - SCHEME 2

PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)
CONNECTIONS FOR EXISTING BRIDGES

GUARDRAIL TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)
NOTES FOR TRAILING END TRAFFIC RAILING
VERTICAL FACE RETROFITS

1. Where Guardrail Extensions Are Required Beyond The Trailing End Of Bridges
With Traffic Railing Vertical Face Retrofits, Guardrail Connections To The Bridge Railing Will Be By SPECIAL END SHOE For W-Beam Guardrail Extensions
And By THREE-BEAM TERMINAL CONNECTOR For Thrie-Beam Guardrail Extensions.

2. Install W-Beam Special End Shoes and Thrie-Beam Terminal Connectors With
Back-Up Plates And 7/8" HS Hex Bolts And Nuts (12" Long) With 5/8" OD Plain
Round Washers Under Nuts And Nuts 14 Required For Special End Shoes And
5 Required For Thrie-Beam Terminal Connectors. Back-Up Plates For Special
End Shoes Are 12" x 12" x 5/8" And For Terminal Connector 12" x 12" x 5/8".

3. Payment For Connecting Trailing End Special End Shoe And Thrie-Beam Terminal
Connectors To Traffic Railing Vertical Face Retrofits Will Be Made Under
The Contract Unit Price For Guardrail Bridge Anchorage Assembly, EA.

THRIE-BEAM RETROFIT NOTES
1. See indexes for bridge thrie-beam traffic railing retrofits.
2. Trailing end guardrail to be paid for under the contract unit price for the parent roadway guardrail,
   end measure includes length of end anchorage assembly; additional payment made for end anchorage
   assembly. No additional payment for connecting roadway thrie-beam to bridge thrie-beam retrofit.

TRAILING END GUARDRAIL AND ANCHORAGE FOR BRIDGE TRAFFIC RAILING (THRIE BEAM RETROFITS)