DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE:

FILE:

REVISIONS:

TxDOT:

COUNTY:

JOB:

SHEET NO.

HIGHWAY:

DIVISION:

Standard

Bridge

Section

Traffic Rail

REETAIL Tossed

TRAFFIC RAIL

SECTION THRU OPTIONAL SIDE SLOT DRAIN

Note: Side Slot Drains may be used where shown elsewhere on the plans or as directed by the Engineer. Do not place drains over railroad tracks, lower roadways, or sidewalks. When this rail is used as a separator between a roadway surface and a sidewalk surface, side drain slots will not be permitted.

OPTIONAL SIDE SLOT DRAIN DETAIL

1. Increase 2" for structures with overlay.
2. Bars RH(#5) are part of rail reinforcing and are included in unit price bid for railing. Bars RH(#5) are in addition to slab reinforcing shown elsewhere. Extend side slots to traffic side slab. RD(#8) bars are shown at rail joint locations with 1 1/2" RD(#8) bars located at rail joints are not shown for clarity.
3. When vertical reinforcing has closer clear cover over horizontal reinforcing in abutment wingwalls on traffic side of wall.
4. RD(#6) bars located at rail joints.
5. 3 Bars RD(#8) placed at each joint. Center RD(#8) bar at joint locations with 1 1/2" PVC pipe Sch 80 sleeve on one side of joint. See "Bar RD(#8) Assembly Details".
6. Top longitudinal slab bar may be adjusted laterally 3" plus or minus 3" for reinforcing.
7. Mounting this rail to retaining walls requires additional details not covered by this standard.

ON ABUTMENT WINGWALLS

SECTION THRU RAIL

ON BRIDGE SLAB

REVEAL PLACEMENT

(Showing location of Reveal)
CONSTRUCTION NOTES:
This railing may be constructed by the slipform process when approved by the Engineer, with equipment approved by the Engineer. Provide sensor control for both line and grade. Task welding to provide bracing for slipform operations is acceptable. Welding may be performed at a minimum spacing of 3 ft between the cage and the anchorages. It is permissible to weld to bars ≥ 3/8" when additional reinforcing bars are permitted at any location on the cage. Provide additional anchorage devices and weld in the upper two-thirds of the cage. Rail weld test areas are to be coated and/or galvanized reinforcing with an organic zinc rich paint in accordance with Item 559 "Calculation".

If rail is slipformed, apply an epoxy bead "Y" behind toe of traffic side of rail to concrete deck, just prior to stop forming. Provide a "Y" with a "5" heavy epoxy bead with Type II, Class C or a Type V epoxy.

This rail has been evaluated and accepted to be of equal strength to railings with like geometry, which have been crash tested to meet MASH TL-5 criteria. This rail can be used for speeds of 50 mph and greater when a TL-13 rated guard fence is used. When a TL-13 rated guard fence is used, this rail can only be used for speeds of 40 mph and less. Do not use this rail on bridges with expansion joints providing more than 5" movement.

Rail anchorage details shown on this standard may require modifications for specific structure types. Shop drawings are not required for this rail. Shop drawings are not required for these modifications. This railing may be constructed by the slipform process when approved by the Engineer, with equipment approved by the Engineer. Provide sensor control for both line and grade. Task welding to provide bracing for slipform operations is acceptable. Welding may be performed at a minimum spacing of 3 ft between the cage and the anchorages. It is permissible to weld to bars ≥ 3/8" when additional reinforcing bars are permitted at any location on the cage. Provide additional anchorage devices and weld in the upper two-thirds of the cage. Rail weld test areas are to be coated and/or galvanized reinforcing with an organic zinc rich paint in accordance with Item 559 "Calculation".

MATERIAL NOTES:
Galvanized RD(#8) bar is shown. Provide Class C concrete. Provide Class C(H) if required elsewhere.
Produce Grade 60 reinforcing steel. Galvanized or epoxy coated reinforcing steel is preferred. Deformed Welded Wire Reinforcement (WWR) (ASTM A464) of equal size and spacing may be substituted for Bars U and WU unless noted otherwise. Deformed WWR (ASTM A464) may be substituted for Bars A and S, as shown. Combinations of reinforcing steel and WWR or configurations of WWR other than those shown are permitted if conditions in the code are satisfied. Rebar lap must be at least equal to that required for the reinforcing steel. Provide bar laps, where required, as follows: uncoated or galvanized ~ #6 = 2'-5". Epoxy coated ~ #6 = 3'-7". Galvanize RD(#8) bar as shown.

Provide Grade 60 reinforcing steel.

GENERAL NOTES:

This rail has been evaluated and accepted to be of equal strength to railings with like geometry, which have been crash tested to meet MASH TL-5 criteria. This rail can be used for speeds of 50 mph and greater when a TL-13 rated guard fence is used. When a TL-13 rated guard fence is used, this rail can only be used for speeds of 40 mph and less. Do not use this rail on bridges with expansion joints providing more than 5" movement.

Rail anchorage details shown on this standard may require modifications for specific structure types. Shop drawings are not required for these modifications. Shop drawings are not required for this rail. Average weight of railing is 136 lb.

Clear dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.