



Illinois Department of Transportation

Memorandum

To: ALL BRIDGE DESIGNERS
From: D. Carl Puzey
Subject: Aesthetic TL-4 Concrete Bridge Railing
Date: January 29, 2015

15.1

A handwritten signature in blue ink, reading "D. Carl Puzey".

The Department currently has an aesthetic concrete bridge railing that was modeled from the Texas T411 and C411 railings. This railing is crashworthy for TL-2, and various applications of it are depicted on IDOT base sheets R-35, R-36, and R-37. This railing configuration also satisfies the State Historic Preservation Office aesthetic objectives for certain routes and applications throughout the State; however, there are many locations on these routes where a comparable TL-4 crashworthy railing is required.

To meet the TL-4 crashworthy requirements for a similar aesthetic concrete railing, the Department has developed base sheet R-38 which is modeled from the Texas C412 railing. It may be used for bridge decks, slab bridges and sidewalk applications. Since the majority of new Illinois structures are integral abutment design, the new base sheet has been detailed to extend the railing 15 feet onto a bridge approach slab with a Type 6 railing connection. Similarly, we also developed a new superstructure detail sheet, SI-D-TXR-0, to complement the new TL-4 Concrete Bridge Railing for integral structure applications. These base sheets may be modified and used for other structure type applications, provided the typical railing geometry and reinforcement are not modified.

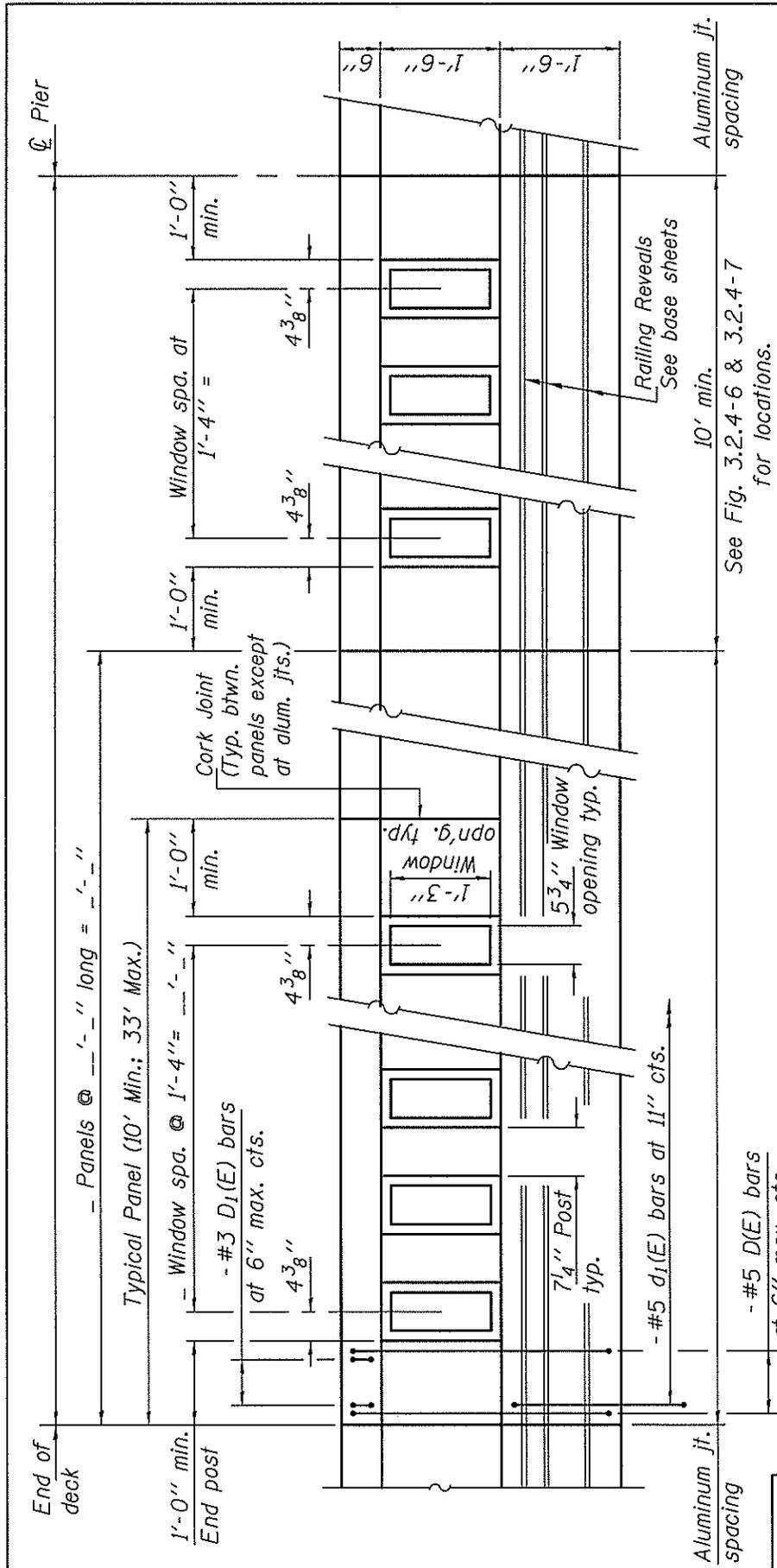
The following design limitations shall be adhered to when utilizing this railing. These limitations are also illustrated on the attached figure. The connection of the railing to the superstructure shall be #5 d1(E) bars at 11" cts. The typical panel length shall be a minimum of 10 feet and a maximum of 33 feet. The minimum end post length of a typical panel or a panel adjacent to a pier shall be 1'-0" and the maximum spacing of the #5 D(E) bars in these end posts shall be 6". The panel length adjacent to a pier shall be determined similar to Figures 3.2.4-6 and 3.2.4-7 of the Bridge Manual except that the minimum panel length shall be 10 feet. The average weight of the railing is 560 pounds per lineal foot.

The R-38 railing base sheets and base sheet SI-D-TXR-0 may be found in the CADD Superstructure Library.

If you have any questions regarding this new railing please contact Gary Kowalski of our Policies, Standards and Specifications Unit at (217) 785-2914.

Attachment

KLR/kktABD15.1-20150129



See Fig. 3.2.4-6 & 3.2.4-7 for locations.

INSIDE ELEVATION OF RAILING

CONCRETE BRIDGE RAILING, TL-4