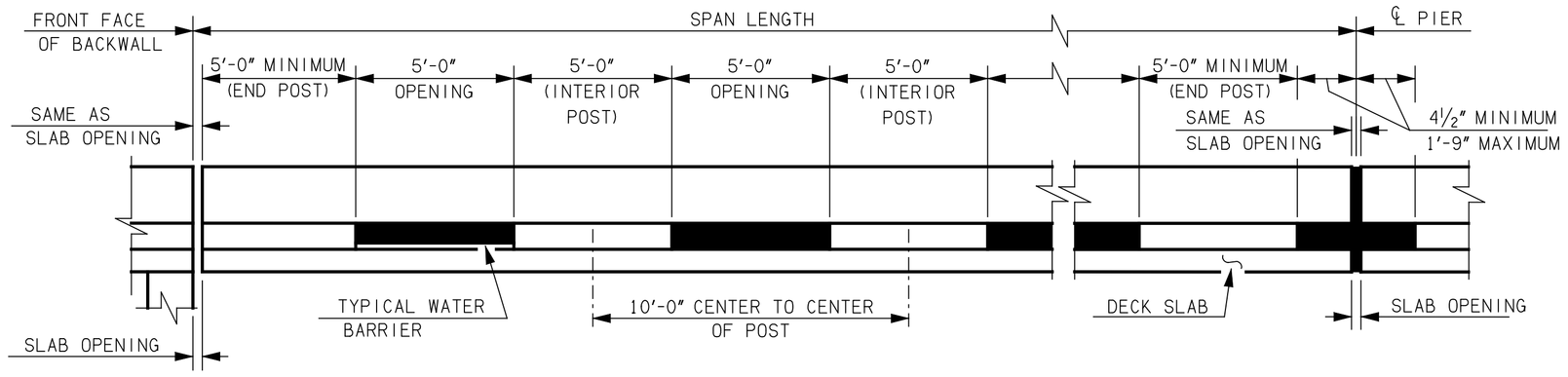
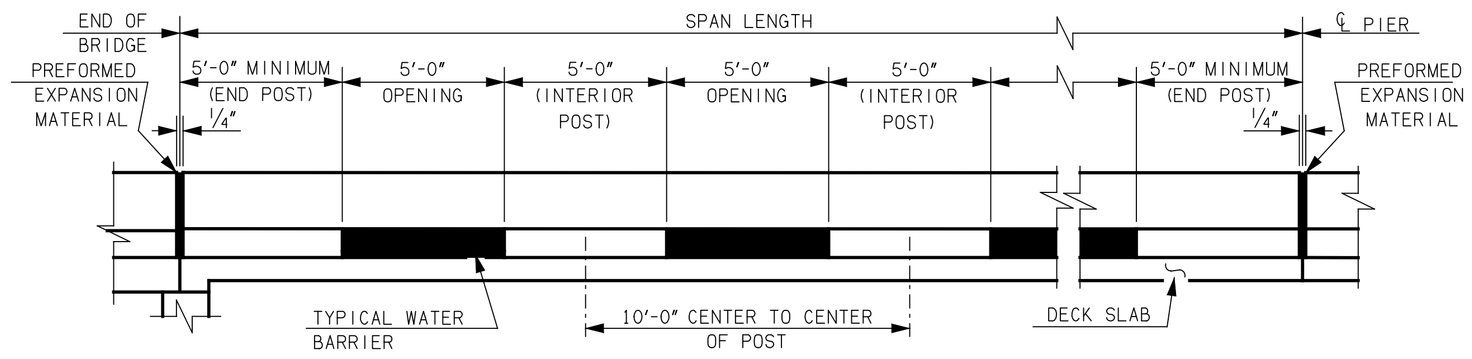
REVISIONS		
DESCRIPTION		DATE
1	REVISED NOTE AND DETAIL	MHK 12/17/04
2	REVISED NOTE AND DETAIL	MHK 10/10/05



AT EXPANSION ABUTMENTS

AT EXPANSION PIERS

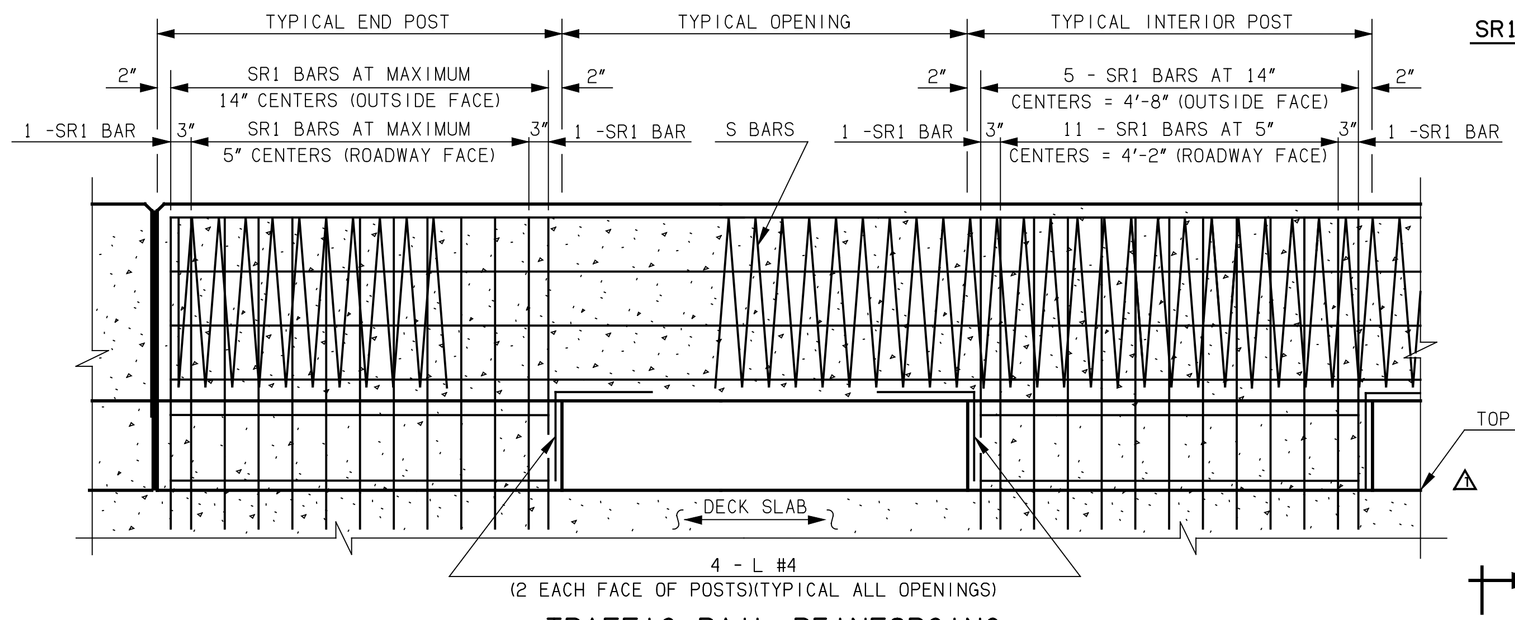
ELEVATION OF RAIL WITH EXPANSION JOINTS



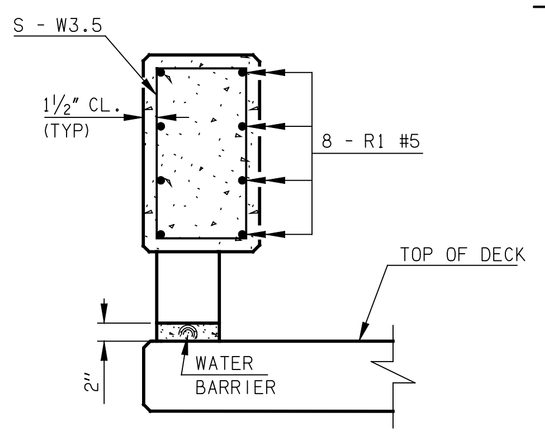
AT FIXED ABUTMENTS

AT FIXED PIERS

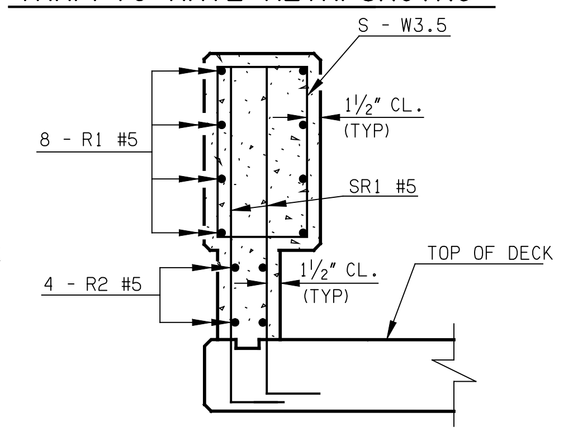
ELEVATION OF RAIL WITH FIXED JOINTS



TRAFFIC RAIL REINFORCING

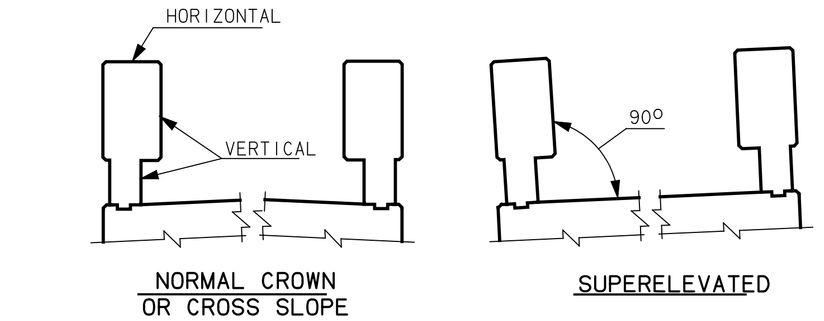


SECTION THRU POST OPENING



SECTION THRU POST

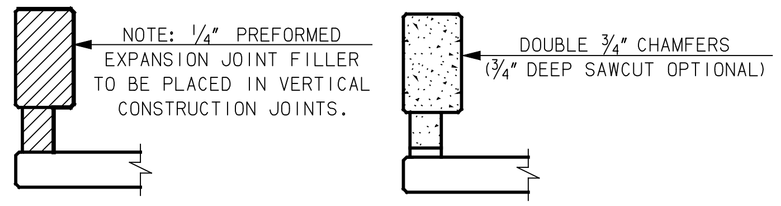
SECTION THRU RAIL AT BRIDGE DECK OR APPROACH SLAB



NORMAL CROWN OR CROSS SLOPE

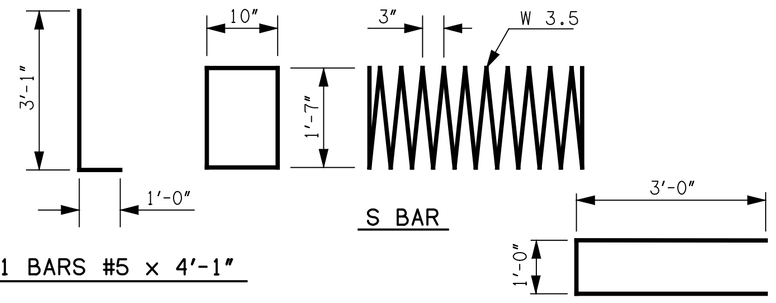
SUPERELEVATED

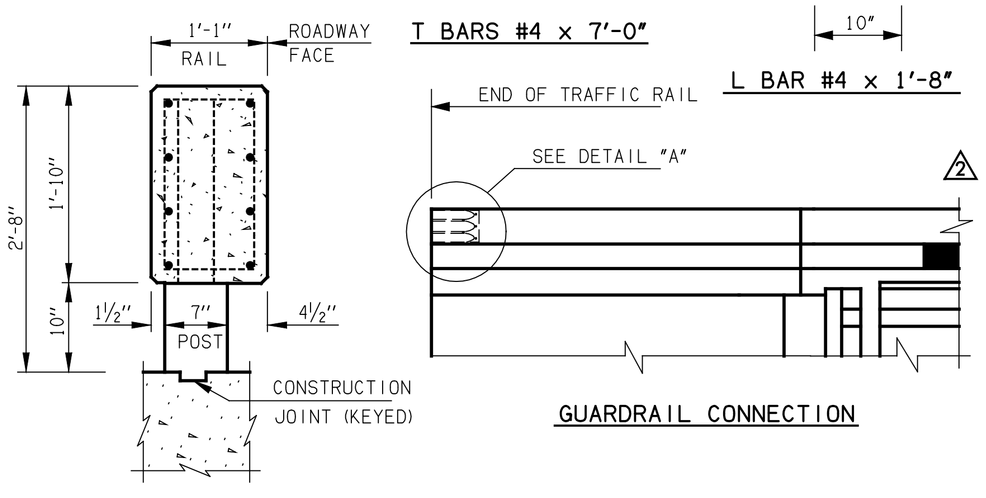
NOTE: WHERE ROADWAY SURFACE TRANSITIONS FROM NORMAL CROWN SLOPE TO FULL SUPERELEVATION, UNIFORMLY VARY THE ANGLE FORMED BY THE FACE OF THE RAILING AND THE ROADWAY BETWEEN THE LIMITS SHOWN ABOVE.



⚠2 CONSTRUCTION JOINT

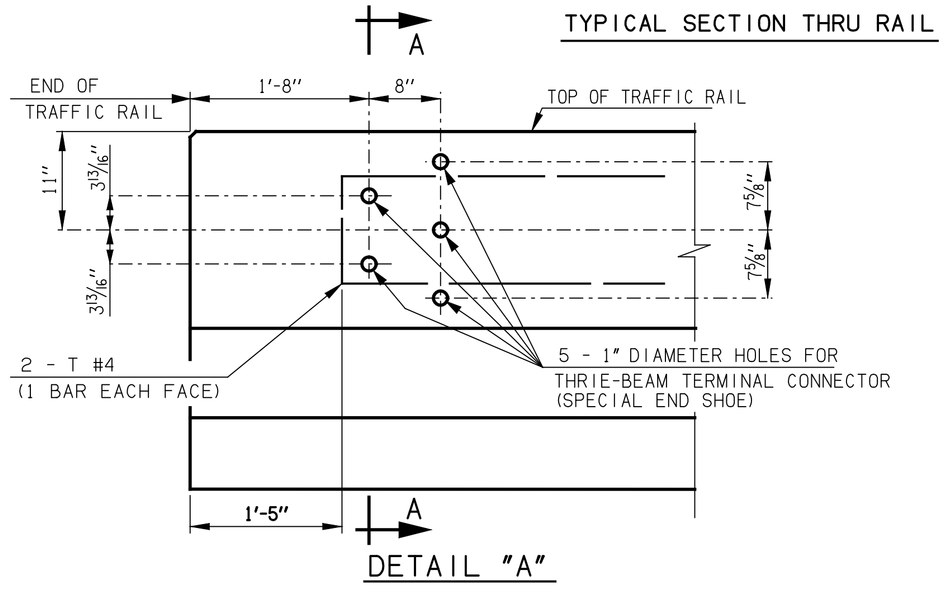
⚠2 CONTROL CRACK JOINT



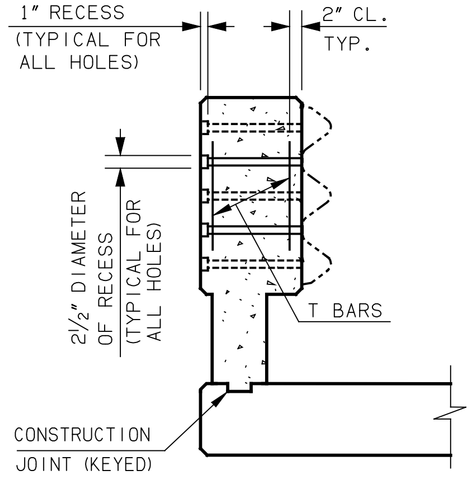


TYPICAL SECTION THRU RAIL

GUARDRAIL CONNECTION



DETAIL "A"



SECTION "A-A"

CONCRETE TRAFFIC RAIL NOTES

Construct the Concrete Traffic Rail to meet the requirements of the Standard Specification For Highway Construction (English) as well as the following requirements.

CLASS AA CONCRETE:

Use Class AA Concrete in the Concrete Traffic Rail. All costs of concrete to be included in the price bid per linear foot of "Concrete Rail (TR4)".

⚠1 **REINFORCING STEEL:**

All reinforcing steel , except for the S-Bar , used in the Concrete Traffic Rail is to be epoxy coated. When two or more S Bars are used in a continuous rail section, butt their ends together within the center 3'-0" of a rail post. Place and tie all SR1 Bars before the concrete is placed in the deckslab and approach slabs. SR1 Bars will be measured and paid for as "EPOXY COATED REINFORCING STEEL". All other reinforcing steel will not be measured for payment.

GUARDRAIL CONNECTION:

Form or drill holes, as shown, for the connection of the Thrie-Beam Guardrail Terminal Connectors (Special End Shoe) at the locations shown in the plans or as directed by the Engineer. It is the responsibility of the Bridge Contractor to provide the holes. The contractor that installs the Guardrail will be responsible for installing the Thrie-Beam Guardrail Terminal Connectors.

⚠2 **CONSTRUCTION JOINTS:**

Place a construction joint at each fixed abutment and fixed pier, and at other locations shown in the plans. Place 1/4" thick preformed expansion material in the construction joint such that it covers the entire area of the rail and post in accordance with the details shown.

EXPANSION JOINTS:

At expansion joints in the deckslab or approach slab, match the width of the opening between the ends of the railing with the opening of the expansion joints. Construct the opening between the end post and the joint as shown on the plans within the maximum and minimum dimensions as shown on this sheet.

CONTROL CRACK JOINTS:

When plans call for a control crack joint provide double ¾" chamfers or ¾" deep sawcut in accordance with the details shown. All bars shall be continuous through the control crack joints.

CONCRETE RAIL CONSTRUCTION:

Locate posts as shown on this sheet unless shown otherwise in the plans. Construct openings such that the face of the posts are perpendicular to the roadway profile grade.

WATER BARRIER:

Provide water barrier at rail openings that would drain onto the undercrossing roadways and sidewalks as shown in plans or as directed by the Engineer. Place the concrete for the water barrier concurrently with the placement of the concrete in the posts. Include all costs of water barriers in the price bid per linear foot of "Concrete Rail (TR4)".

BASIS OF PAYMENT		
ITEM NO.	DESCRIPTION	UNIT
504(E)	CONCRETE RAIL (TR4)	L.F.

APPROVED BY BRIDGE ENGINEER : Robert J. Mach DATE : 10/10/05

OKLAHOMA DEPT. OF TRANSPORTATION
BRIDGE STANDARD (ENGLISH)

CONCRETE TRAFFIC RAIL (TR4)

1999 SPECIFICATIONS

TR4-1 02E

B-03E