

RAIL SECTION
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C=150 FOR 90mm ACP WEARING SURFACE
=200 FOR FINISHED CONCRETE TO GRADE
UNLESS NOTED OTHERWISE ON
SITE SPECIFIC DRAWINGS.

GENERAL NOTES

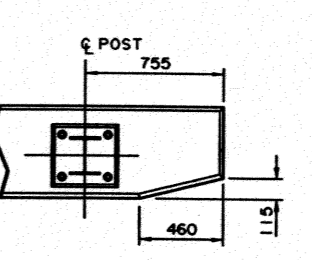
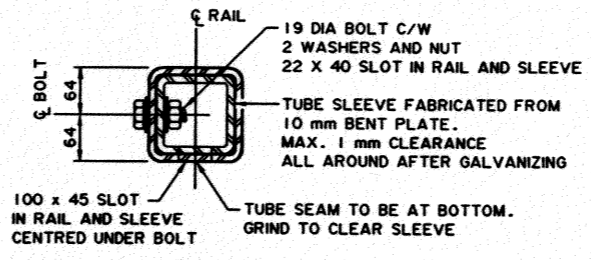
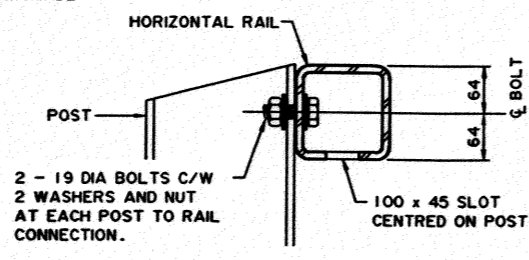
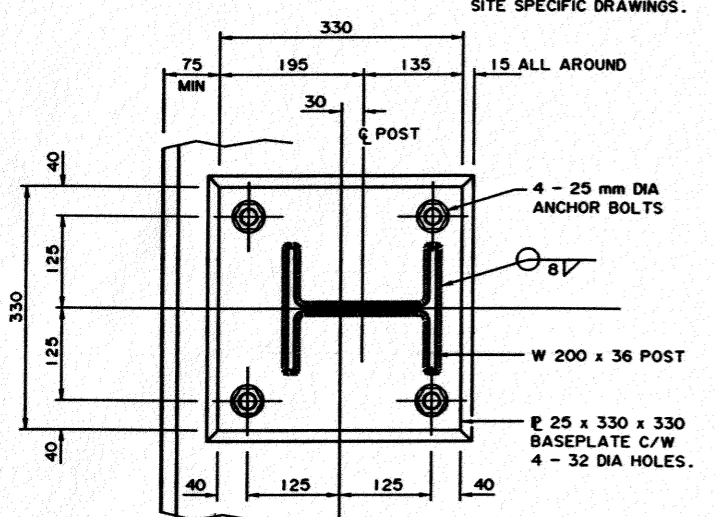
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
2. RAILING CONFIGURATION IS BASED ON A RAILING CONFIGURATION THAT HAS BEEN CRASH TESTED AND MEETS THE REQUIREMENTS OF NCHRP 350, TEST LEVEL 4. (EQUIVALENT TO PERFORMANCE LEVEL 2 OF AASHTO GUIDE SPECIFICATIONS FOR BRIDGE RAILING, 1989).
3. RAILING SHALL BE USED WITH CURB CONFIGURATION SHOWN.
4. DESIGN OF DECK AND CURB REBAR SHALL BE CARRIED OUT ON A SITE SPECIFIC BASIS TO DEVELOP THE CAPACITY OF THE BRIDGERAIL POSTS.

FABRICATION

1. BRIDGERAIL INCLUDING APPROACH RAIL TRANSITION SHALL CONFORM TO CURRENT REQUIREMENTS OF THE SPECIFICATIONS FOR BRIDGE CONSTRUCTION SECTION 12 - BRIDGERAIL AND SECTION 14 - GUARDRAIL.
2. ALL PLATE STEEL AND STRUCTURAL SHAPES SHALL CONFORM TO CSA G40.21 GRADE 300W OR ASTM A36 EXCEPT STRUCTURAL TUBING SHALL CONFORM TO ASTM A500B.
3. ALL ANCHOR BOLTS SHALL CONFORM TO AISI 4340 ANNEALED AND SHALL HAVE A MINIMUM YIELD STRENGTH (AT 0.2% OFFSET) OF 420 MPa AND A MINIMUM ULTIMATE TENSILE STRENGTH OF 650 MPa. ALL NUTS AND WASHERS SHALL CONFORM TO A325.
4. ALL W-BEAM AND THRIE BEAM GUARDRAIL (INCLUDING W-THRIE BEAM TRANSITION SECTION) SHALL HAVE A MINIMUM YIELD STRENGTH OF 345 MPa.
5. ALL WELDING SHALL CONFORM TO CURRENT AWS SPECIFICATION D1.5.
6. POST BASEPLATES SHALL BE PLACED ON BEVEL IF ROADWAY GRADE EXCEEDS 2% (SEE POST BEVEL DETAIL).
7. IF THE ROADWAY GRADE EXCEEDS 1%, AN ADJUSTMENT OF THE RAIL LENGTH SHALL BE MADE BY VARYING THE 655 mm DIMENSION AT THE ENDS OF THE BRIDGERAIL.
8. TUBE SECTIONS SHALL BE FABRICATED IN THE CONFIGURATIONS SHOWN IN "TUBE SECTION TYPES".
9. ALL MATERIALS SHALL BE HOT DIP-GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH CSA G164 UNLESS NOTED OTHERWISE.
10. THE BOTTOM SURFACE OF THE BASEPLATES SHALL BE COATED WITH AN APPROVED COATING SYSTEM, SUITABLE FOR APPLICATION ON GALVANIZED STEEL, TO PREVENT CONTACT BETWEEN THE ZINC AND THE GROUT. THE COLOUR SHALL BE MEDIUM GREY.
11. TIMBER POSTS AND SPACERS SHALL BE COAST DOUGLAS FIR OR PACIFIC COAST HEMLOCK CONFORMING TO THE STRESS GRADE "SELECT STRUCTURAL POSTS AND TIMBERS" (NLGA PARAGRAPH 131 a).

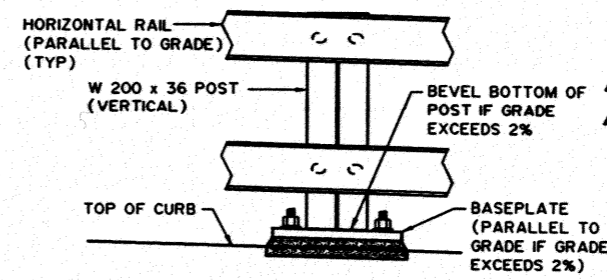
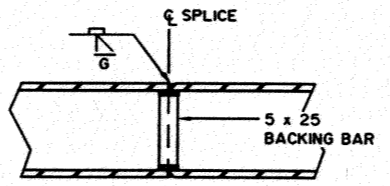
ERECTION

1. ALL A325 BOLTS SHALL BE TIGHTENED AN ADDITIONAL 1/3 TURN OF THE NUT PAST THE "SNUG-TIGHT" CONDITION EXCEPT FOR ANCHOR BOLTS WHICH SHALL BE TIGHTENED AN ADDITIONAL 1/2 TURN OF THE NUT PAST THE "SNUG-TIGHT" CONDITION.
 2. ALL POST SHALL BE VERTICAL.
 3. ALL DIMENSIONS ARE MEASURED PARALLEL TO TOP OF CURB AND ALONG THE CENTRELINE OF ANCHOR BOLT ASSEMBLIES.
 4. LINE AND ELEVATION OF RAIL SHALL BE SET BY INSTRUMENT.
- WORK THESE DRAWINGS TOGETHER: S-1642-00 AND S-1643-00

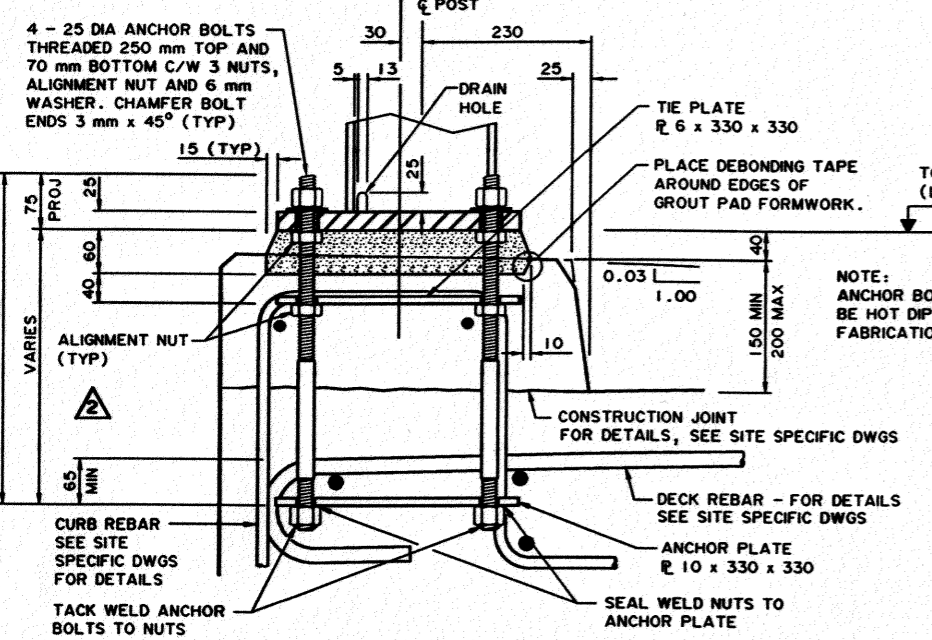
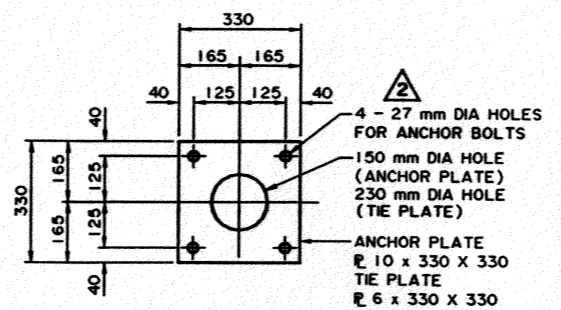


RAIL SHOP SPLICE DETAIL
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NOTE:
RAIL SPLICES IF REQUIRED SHALL CONFORM TO THE ABOVE DETAIL AND BE CLEAR OF JOINTS AND CONNECTIONS. NOT MORE THAN ONE SPLICE PER TUBE SECTION.

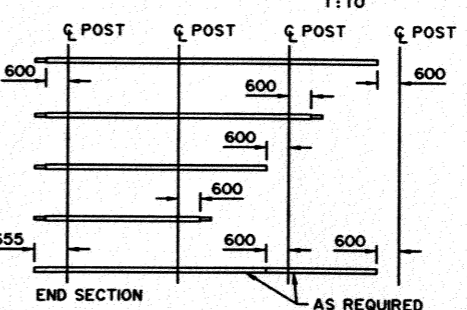


ANCHOR PLATE AND TIE PLATE DETAIL
1:10



ANCHOR BOLT ASSEMBLY DETAIL
(ANCHOR BOLT ASSEMBLY SHALL BE MINIMUM 25 CLEAR FROM BOTTOM OF DECK)
1:5

TUBE SECTION TYPES
(DIMENSIONS ARE TO REFERENCE LINES) NTS



<p>UMA Engineering Ltd. Engineers, Planners & Surveyors</p>	<p>PERMIT TO PRACTICE UMA ENGINEERING LTD. PERMIT NUMBER P 5778 ORIGINAL SIGNED AND STAMPED BY: ART WASHITA ON: NOVEMBER 21, 2000 The Association of Professional Engineers, Geologists and Geophysicists of Alberta</p>	<p>DESIGNER CHECKER</p> <p>PROFESSIONAL ENGINEER ALBERTA ORIGINAL STAMPED AND SIGNED BY: R. J. RAMSAY ON: NOV 21, 2000</p> <p>PROFESSIONAL ENGINEER ALBERTA ORIGINAL STAMPED AND SIGNED BY: D. B. SERINK ON: NOV 21, 2000</p>	<p>2001-12-03 GEN NOTES, RAIL SECTION DETAIL, ANCHOR PLATE & ASSEMBLY</p>	<p>2000.09.20 ANCHOR BOLTS, NOTES, MISC</p>	<p>NSP</p>	<p>RECOMMENDED DIRECTOR BRIDGE ENGINEERING</p>	<p>ORIGINAL SIGNED BY REG QUINTON</p>	<p>Alberta INFRASTRUCTURE</p> <p>PL-2 DOUBLE TUBE TYPE BRIDGERAIL BRIDGERAIL DETAILS</p>
			<p>REV DATE REVISIONS BY</p>	<p>DATE NOV 22, 2000</p>	<p>APPROVED EXECUTIVE DIRECTOR TECHNICAL STANDARDS BRANCH</p> <p>ORIGINAL SIGNED BY TIM HAWNT</p>	<p>AI BAR CODE DATE SHEET DRAWING 2000-03-30 1 of 2 S-1642-00</p>		