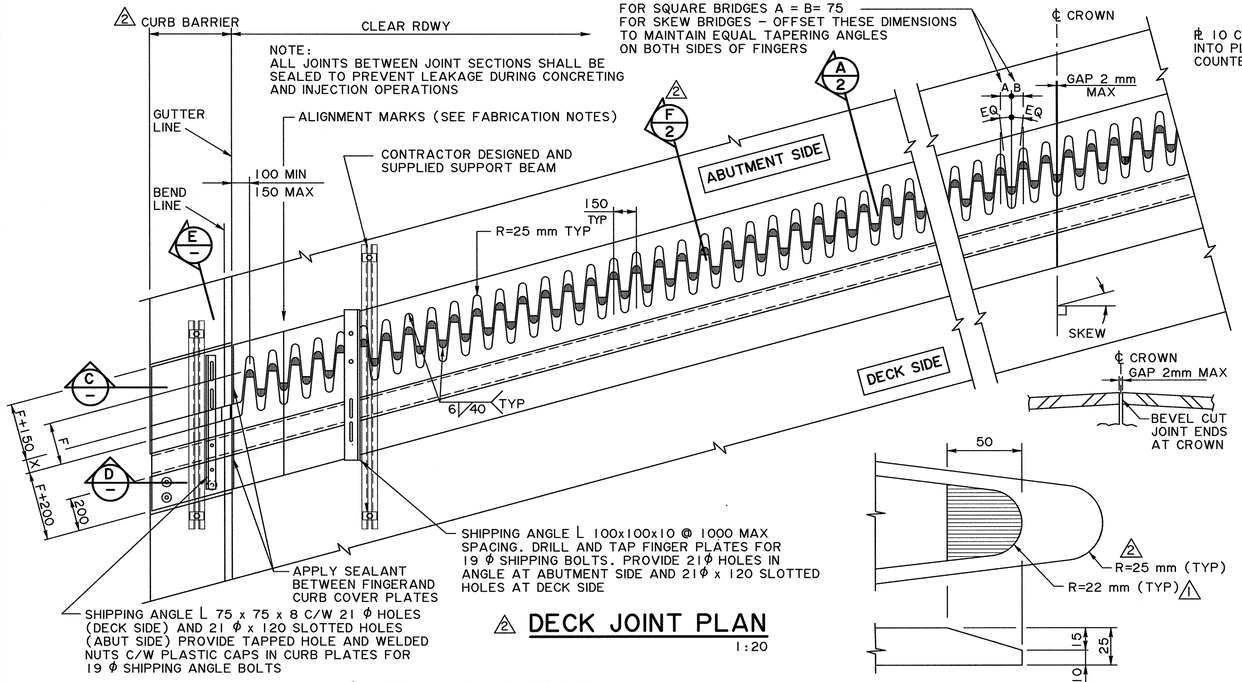
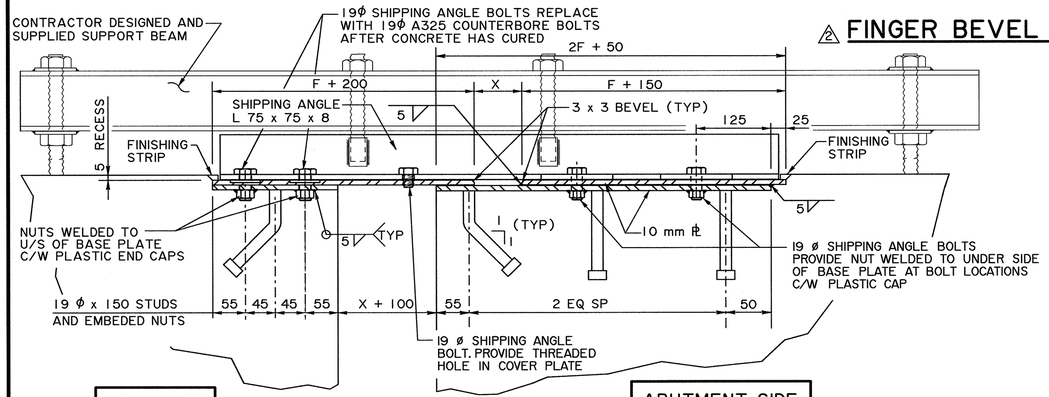
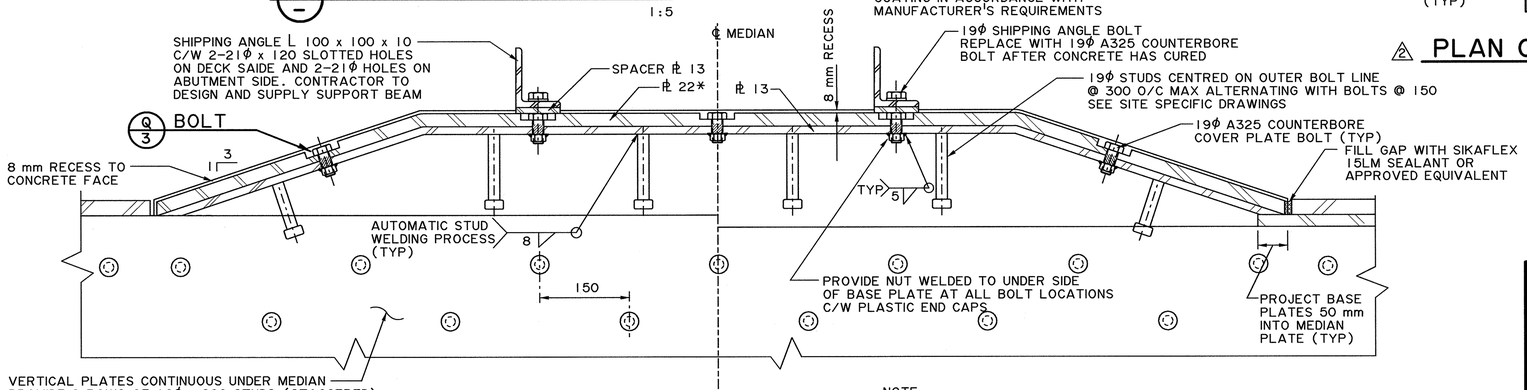


DECK JOINT PLAN
1:20

FINGER BEVEL DETAIL
1:2

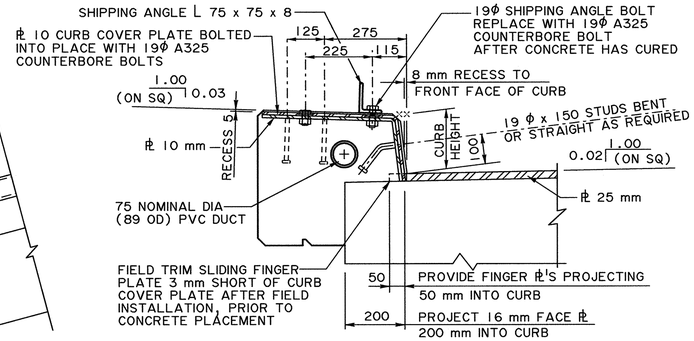


SECTION - CURB PLATES
1:5

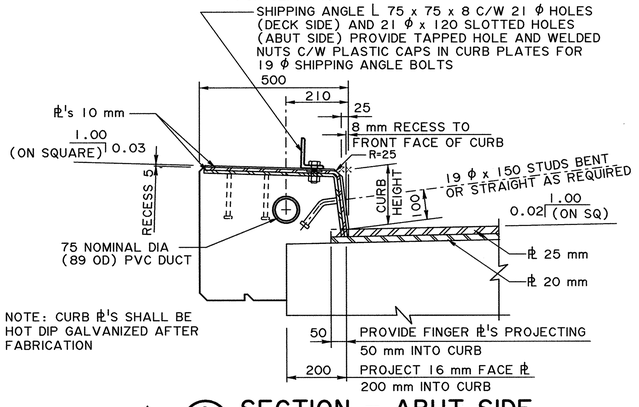


DETAIL AT MEDIAN
(MOUNTABLE CURB SHOWN) 1:5

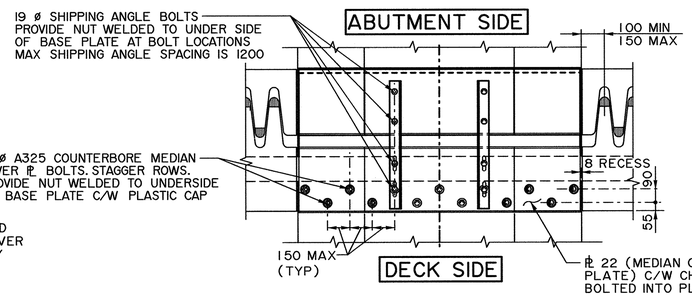
NOTE:
SEE SITE SPECIFIC DRAWINGS FOR MEDIAN GEOMETRY, WIDTH AND ANCHORAGE DETAILS. MEDIAN TO BE POURED MONOLITHIC WITH DECK JOINT BLOCKOUT



SECTION - DECK SIDE
(SUPPORT BEAM NOT SHOWN FOR CLARITY) 1:10



SECTION - ABUT SIDE
(SUPPORT BEAM NOT SHOWN FOR CLARITY) 1:10



PLAN OF MEDIAN JOINT
1:10

GENERAL NOTES

- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
- X @ -5°C = (1/2 CALCULATED MOVEMENT) + 50 mm
- F = 2(X @ -5°C) +100 mm
- FOR JOINT GAP SETTING TABLE, SEE SITE SPECIFIC DRAWINGS

MATERIALS AND FABRICATION

- ALL REQUIREMENTS OF THE CURRENT SPECIFICATIONS FOR BRIDGE CONSTRUCTION, SECTION 6, STRUCTURAL STEEL, SHALL BE MET
- ALL STEEL FOR DECK JOINT ASSEMBLY SHALL CONFORM TO CSA G40.21M-350A UNLESS NOTED OTHERWISE. CURB/MEDIAN/BARRIER PLATES SHALL CONFORM TO CSA G40.21M-300W AND SHALL BE HOT-DIP GALVANIZED.
- STAINLESS STEEL TROUGH AND BOLTS SHALL BE AISI TYPE 316. STAINLESS STEEL SHALL BE PROTECTED BY A PROTECTIVE FILM FROM ABRASION OR SCRATCHING AT ALL TIMES DURING SHIPPING AND CONSTRUCTION.
- ALL EMBEDED THREADED ADJUSTMENT RODS SHALL MEET THE REQUIREMENTS OF AISI TYPE 316 STAINLESS STEEL
- COVER PLATE BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A325 AND SHALL BE HOT DIP GALVANIZED
- GALVANIZING SHALL CONFORM TO THE REQUIREMENTS OF ASTM AI23M AND ASTM F2329
- ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF AWS SPECIFICATION D1.5
- FIBRE REINFORCED NEOPRENE SHALL BE "AMERICAN BILTRITE AB 3210 NEO/NYLON" SHEET OR APPROVED EQUIVALENT. DRIP SHEET SHALL BE SHOP FABRICATED TO REQUIRED SIZE. BOLT HOLES SHALL BE SHOP PUNCHED.
- EXPOSED FACES OF 16 mm VERTICAL PLATES SHALL BE BLAST CLEANED AND PAINTED. THE SELECTED PAINT SYSTEM SHALL BE LISTED ON THE ALBERTA TRANSPORTATION APPROVED PRODUCT LIST FOR BRIDGE COATING SYSTEMS (PAINT) IN THE SSI, SS2 OR SF2 APPLICATION CATEGORY. SURFACE PREPARATION AND COATING THICKNESS SHALL BE IN ACCORDANCE WITH THE MANUFACTUROR'S RECOMMENDATIONS STATED ON THE PRODUCT DATA SHEET
- ALIGNMENT MARK TO BE SCRIBED ACROSS TOP SURFACE OF JOINT PARALLEL TO CENTRELINE ROADWAY AT EACH END AFTER APPROVAL OF SHOP ASSEMBLY BY CONSULTANT. JOINT TO BE SHIPPED W ITH ASSEMBLY SET FOR GAP AT +15°C AND SHIPPING ANGLES SECURELY TORQUED
- THE EPOXY INJECTION SYSTEM SHALL BE SELECTED FROM THE MTO DESIGNATED SOURCES FOR MATERIALS (DSM) PUBLICATION #9.40.18

TOLERANCES

- THE FINGER JOINT SHALL BE ASSEMBLED AND CHECKED IN A RELAXED CONDITION WITHOUT SHIPPING ANGLE BOLTS. THE ASSEMBLY SHALL BE PROPERLY SUPPORTED THROUGHOUT ITS LENGTH FOR CHECKING THE TOLERANCES.
  - THE TIP OF EACH FINGER SHALL BE CHECKED, WITH SHIPPING ANGLE BOLTS REMOVED, FOR GAP WITH THE SUPPORT PLATE AT THE -5°C AND +15°C GAP SETTINGS AND SHALL MEET THE FOLLOWING TOLERANCES:
    - 80% OF ALL FINGER TIPS SHALL HAVE GAPS ≤0.05 mm
    - 95% OF ALL FINGER TIPS SHALL HAVE GAPS OF ≤0.1 mm
    - 100% OF ALL FINGER TIPS SHALL HAVE GAPS ≤0.2 mm
  - THE HEEL OF EACH FINGER SHALL ALSO BE CHECKED, WITH SHIPPING ANGLE BOLTS REMOVED, FOR GAP WITH THE SUPPORT PLATE AT THE -5°C AND +15°C GAP SETTINGS AND SHALL MEET THE FOLLOWING TOLERANCES:
    - 80% OF ALL FINGER HEELS SHALL HAVE GAPS ≤1 mm
    - 95% OF ALL FINGER HEELS SHALL HAVE GAPS OF ≤1.5 mm
    - 100% OF ALL FINGER HEELS SHALL HAVE GAPS ≤2 mm
- FINGER PLATES AND BOTTOM FINGER SUPPORT PLATE SHALL BE FLAT AND TRUE, THE PERMISSIBLE VARIATION FOR FLATNESS IN TRANSVERSE DIRECTION (PARALLEL TO TRAFFIC) IS 2 mm/m.
- TOLERANCE FOR STRAIGHTNESS SHALL BE MEASURED OVER THE LENGTH OF THE ASSEMBLY BETWEEN THE CROWN AND THE GUTTER LINE. DEVIATION FROM STRAIGHTNESS IN A VERTICAL PLANE SHALL NOT EXCEED 5 mm. VARIATION IN THE JOINT GAP SHALL NOT EXCEED 3 mm. HORIZONTAL SWEEP SHALL NOT EXCEED 6 mm.
- IN A FULLY CLOSED POSITION, THE FINGERS SHALL HAVE A UNIFORM SIDE CLEARANCE OF 3 mm ± 1.5 mm.

INSTALLATION PROCEDURE

1. THE EXPANSION ASSEMBLY SHALL BE INSTALLED AFTER COMPLETION OF THE ADJACENT DECK AND BACKWALL CONCRETE
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE SUFFICIENT SUPPORT, IN ADDITION TO THOSE SUPPORTS SHOWN ON THE DRAWINGS, IS PROVIDED WITH SUFFICIENT STRENGTH AND STIFFNESS SUCH THAT THE JOINT IS HELD SECURELY IN PLACE AND IN FULL BEARING WITH ALL PLATE GAP TOLERANCES BEING MET AT ALL STAGES OF CONSTRUCTION.
3. ENSURE THE SHIPPING ANGLE BOLTS ARE STILL SECURELY TORQUED TO THE DECK JOINT ASSEMBLY. ATTACH THE CONTRACTOR DESIGNED AND SUPPLIED SUPPORT BEAMS, COMPLETE WITH THREADED ADJUSTMENT RODS, TO THE SHIPPING ANGLES. ERECT THE JOINT ASSEMBLY INTO THE BLOCKOUT COMPLETE WITH INJECTION HOSES AND FITTINGS. SEAT THE THREADED ADJUSTMENT ROD ON THE ABUTMENT SIDE INTO THE OVERSIZED HOLE DRILLED INTO THE TOP OF CONCRETE BACKWALL. SEAT THE THREADED ROD ON THE DECK SIDE ON TO THE PLYWOOD/STEEL SHIM ASSEMBLY
4. SET ELEVATIONS BY INSTRUMENT AND ENSURE DECK ASSEMBLY IS AT THE CORRECT GRADE AND CROWN
5. PROCEED WITH CONCRETE PLACEMENT INTO THE ABUTMENT SIDE BLOCKOUT AFTER APPROVAL IS GIVEN BY THE CONSULTANT
6. AFTER ABUTMENT SIDE JOINT BLOCKOUT CONCRETE HAS ACHIEVED A MINIMUM COMPRESSIVE STRENGTH OF 20 MPa PROCEED WITH PLACING CONCRETE INTO THE DECK SIDE JOINT BLOCKOUT. AFTER APPROVAL IS GIVEN BY THE CONSULTANT. CONCRETE SHALL BE PLACED BETWEEN 12 AM AND 2 AM, WITH COMPLETION NO LATER THAN 5 AM
7. LOOSEN SHIPPING ANGLE BOLTS AT SLOTTED HOLE LOCATIONS JUST ENOUGH TO ALLOW FOR THERMAL MOVEMENT AFTER CONCRETE HAS ACHIEVED INITIAL SET. ONCE ALL BLOCKOUT CONCRETE HAS CURED, REMOVE SHIPPING ANGLES AND SUPPORT BEAMS AND CHECK ALL PLATE GAP TOLERANCES. IF THE TOLERANCES ARE NOT MET, SUBMIT REPAIR PROCEDURE TO THE CONSULTANT FOR APPROVAL
8. WHEN ALL TOLERANCES ARE MET, INITIATE EPOXY INJECTION FROM ONE END OF A 2.0 m MAX LONG EMBEDDED INJECTION HOSE. CONTINUE INJECTION UNTIL EPOXY EMITS FROM THE OTHER FITTING OF THE SAME SECTION OF HOSE. INSTALL A THREADED PLUG INTO ONE OF THE 2 INJECTION FITTINGS. CONTINUE INJECTION PROCESS UNTIL NO NEW LOCATIONS OF EPOXY SPILLAGE BETWEEN THE DECK JOINT PLATES AND THE ADJACENT CONCRETE OR THROUGH CONCRETE VOIDS IS NOTED. PLUG OFF THE INJECTION PORTS FOR THIS SECTION OF INJECTION HOSE.
9. REPEAT THE INJECTION PROCEDURE FOR EACH SECTION OF EMBEDDED HOSE UNTIL THE FULL LENGTH OF THE EXPANSION JOINT HAS BEEN FILLED WITH EPOXY. THOROUGHLY CLEAN ALL EXCESS EPOXY PRIOR TO HARDENING.
10. AFTER EPOXY HAS SET, REMOVE ALL ADAPTERS, FITTINGS, AND PLUGS AND FILL WITH EPOXY

REV	DATE	REVISIONS	BY
5			
4			
3			
2	2012-01-18	SECTIONS & DETAILS, CURB SIZE AND MAJOR REVISION TO GENERAL NOTES	CM
1	2005-11-08	FINGER BEVEL & INSTALLATION NOTES #2	RY

APPROVED
ORIGINAL DRAWING APPROVED BY
ALLAN KWAN
EXECUTIVE DIRECTOR
TECHNICAL STANDARDS BRANCH
MAY 4, 1999

Alberta TRANSPORTATION AND UTILITIES
TECHNICAL STANDARDS BRANCH

STANDARD FINGER PLATE DECK JOINT ASSEMBLY GENERAL LAYOUT

DESIGNED	DRAWN	DATE	CHECKED	DATE	STREAM	LOCATION	HIGHWAY	FILE	SHEET	DRAWING
RY/CM	WJW	99-02-06	AW	99-04-29					1 OF 3	S-1638

S-1638-RY2.DGN
NH 2012-01-18