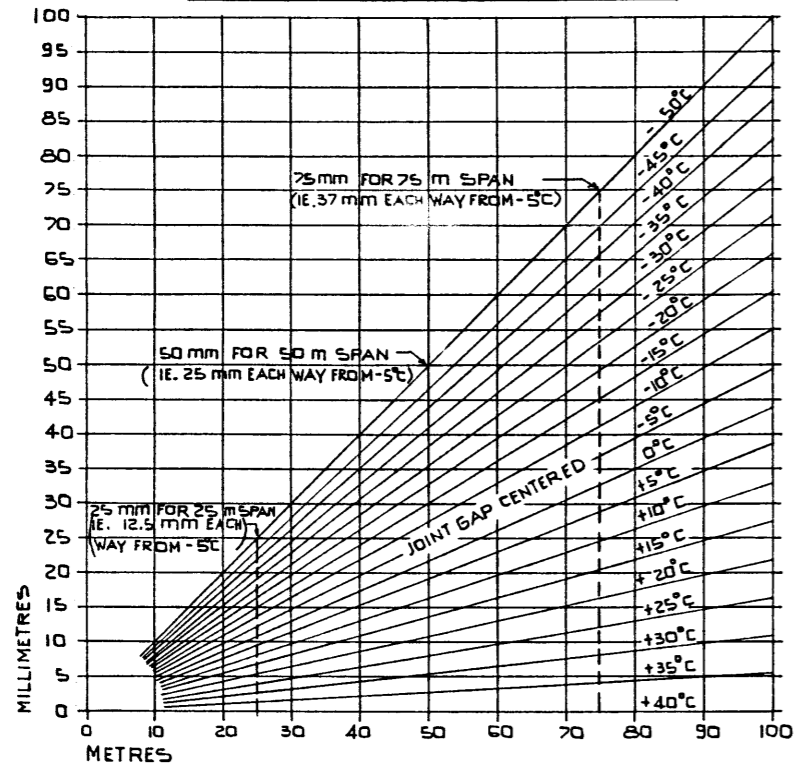


STEEL EXPANSION CHART

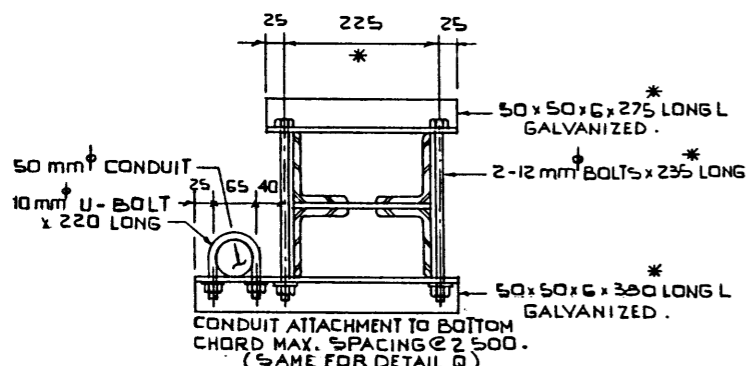
STEEL EXPANSION FOR GIVEN LENGTHS
TEMPERATURE RANGE FROM -50°C TO +40°C
 $\alpha_s = 0.000011$ PER °C.



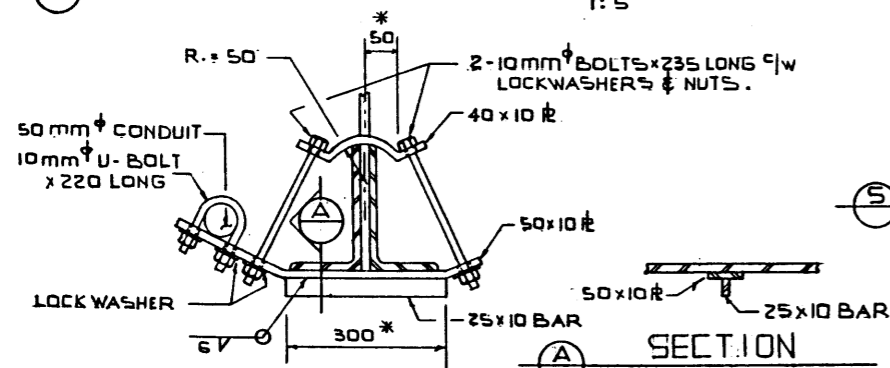
SPAN OR RUN BETWEEN EXP. & FIXED JOINTS.

NOTE:

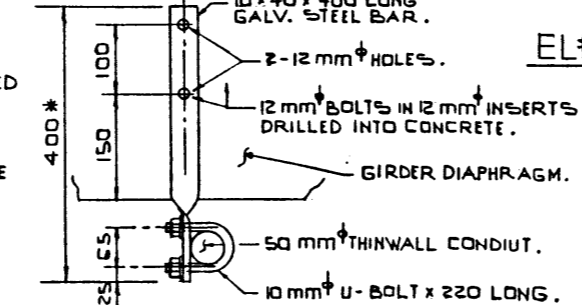
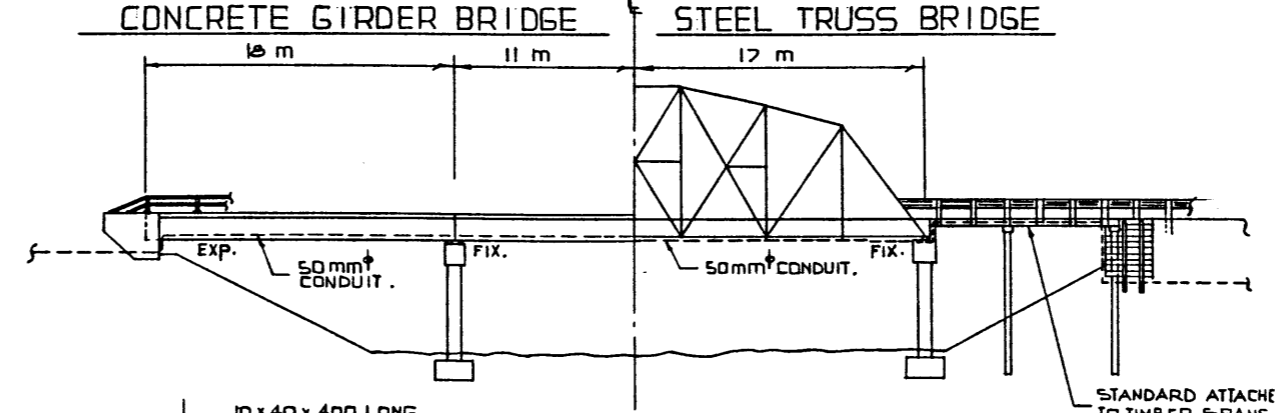
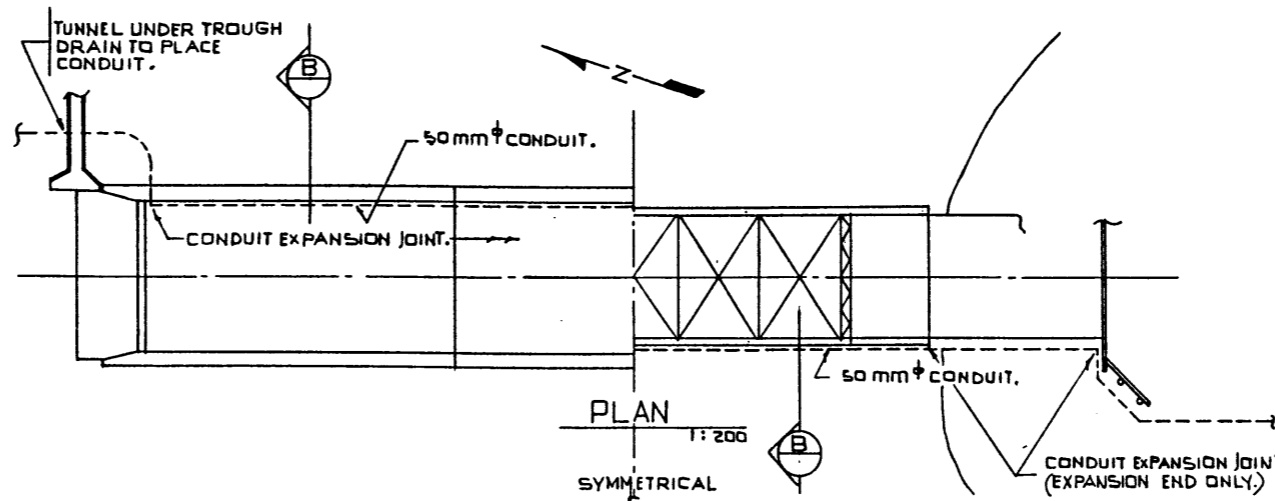
- FOR CONDUIT ATTACHMENTS (STEEL) ADD 25% TO THE INDICATED GAP REQUIRED AS A MARGIN FOR SAFETY.
- FOR ALUMINUM CONDUIT MULTIPLY GAP BY 2 FOR ANY GIVEN TEMPERATURE.
- EXPANSION JOINT MUST BE SET AT CORRECT GAP FOR TEMPERATURE AT TIME OF INSTALLATION. JOINT GAP TO BE CENTERED AT -5°C.



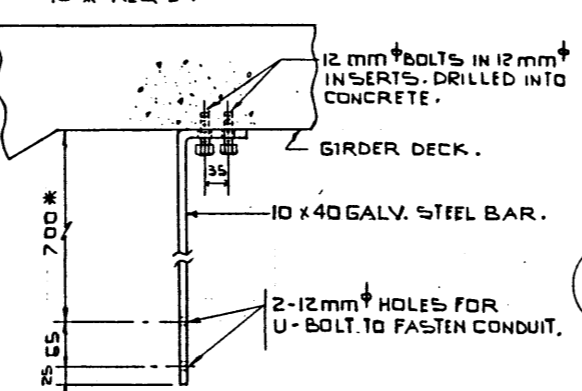
P FOUR ANGLE BOTTOM CHORD
1:5



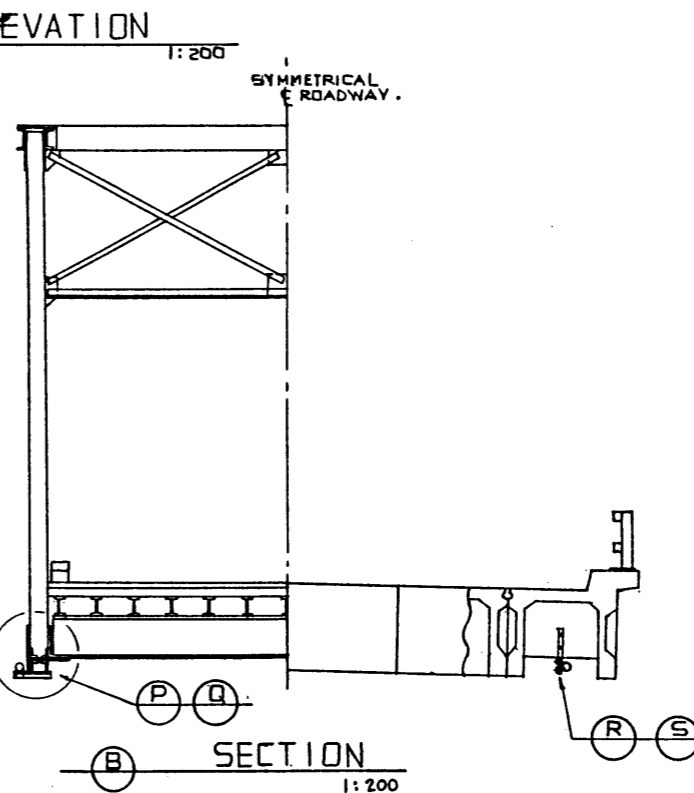
Q DOUBLE ANGLE BOTTOM CHORD
1:5



R CLAMP DETAIL
AT GIRDER DIAPHRAGM
10 * REQ'D.
1:5



S CLAMP DETAIL
BETWEEN DIAPHRAGMS.
15 * REQ'D.
1:5



GENERAL NOTES:

- ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED.
- THE PURPOSE OF THIS DRAWING IS TO SHOW THE TYPICAL CONDUIT ATTACHMENTS FOR BRIDGES WHICH DO NOT HAVE CONDUITS PROVIDED IN CURB FOR UTILITY ACCOMMODATION WHERE CONDUITS IN THE CURB EXIST THEY ARE TO BE USED.
- INFORMATION REQUIRED
 - THREE PRINTS OF A DRAWING DETAILING THE PROPOSAL ARE REQUIRED. ONE WILL BE RETURNED TO THE APPLICANT WITH COMMENTS OR APPROVAL.
 - THE DRAWING IS TO INDICATE CLEARLY THE SIZE AND TYPE OF LINE AND ITS LOCATION ON THE BRIDGE. THIS WILL GENERALLY INVOLVE THE OUTLINE OF A PLAN VIEW, ELEVATION VIEW AND CROSS-SECTION VIEW OF THE BRIDGE, INDICATE THE ORIENTATION OF THE MAIN VIEW, EG. NORTH ARROW ON PLAN VIEW.
 - THE LOCATION OF THE CONDUIT WHERE IT LEAVES THE BRIDGE IS TO BE SHOWN. SHOW WHERE IT ENTERS THE GROUND AND HOW ABUTMENT WINGS OR OTHER OBSTRUCTIONS ARE CLEARED.
 - SHOW DETAILS OF ALL ATTACHMENT FITTINGS AND HOW THEY ARE FASTENED TO THE BRIDGE. SHOW LOCATIONS (SPACING) OF THE ATTACHMENTS.
 - SHOW LOCATION OF EXPANSION JOINTS IN CONDUIT
- BRIDGE BRANCH RESTRICTIONS
 - GENERAL
 - ATTACHMENT BY CLAMPING ONTO BRIDGE MEMBERS IS PREFERRED.
 - WELDING ON OR DRILLING INTO STEEL IS NOT PERMITTED.
 - DRILLING INTO PRESTRESSED GIRDER LEGS IS NOT PERMITTED.
 - EXPLOSIVE-DRIVEN ATTACHMENTS TO CONCRETE OR STEEL ARE NOT PERMITTED.
 - CONCRETE INSERTS DRILLED INTO DECK CONCRETE WILL BE CONSIDERED IF OTHER MEANS OF ATTACHMENT ARE NOT FEASIBLE.
 - MAKE ALLOWANCES FOR EXPANSION AT THE SAME LOCATIONS AS THE BRIDGE.
 - ALL METAL ATTACHMENTS ARE TO BE GALVANIZED
 - GIRDER BRIDGES
 - GENERALLY, CONDUIT IS TO BE CONCEALED BETWEEN GIRDERS, I.E. ATTACHMENT ON OUTSIDE OF BRIDGE
 - ON OR UNDER THE CURB IS TO BE AVOIDED.
 - TRUSS BRIDGES
 - CONDUIT IS NOT TO BE LAID INTO THE BOTTOM CHORD OF THE TRUSS BECAUSE OF POSSIBLE INTERFERENCE WITH BRIDGE MAINTENANCE OPERATIONS.
 - A GENERALLY ACCEPTABLE ATTACHMENT IS ONE THAT HAS A BRACKET CLAMPED TO THE BOTTOM CHORD AND PROJECTING OUTWARD. THE CONDUIT IS FASTENED TO THIS PROJECTION.
 - STANDARD BRIDGES OR SPANS.
 - TELEPHONE ATTACHMENT MAY BE MADE AS PER STANDARD DRAWING S-1427.

NOTE:
* THESE DIMENSIONS WILL TYPICALLY BE DIFFERENT FOR EACH BRIDGE.
SPACING & DETAILS OF BRACKETS TO BE SELECTED TO CARRY THE ANTICIPATED LOADING.

APPROVED		Alberta TRANSPORTATION BRIDGE BRANCH		METRIC	
DATE		DESCRIPTION		R.Q.	
NO.		DATE		DATE	
DESIGNED		DRAWN BY		DATE	
R. QUINION		L. W. KOHLMAN		25 11 20	
CHECKED BY		DATE		STREAM	
LOCATION		HWY NO		SCALE	
FILE NO.		SHEET		DWG NO.	
AS SHOWN		1 OF 1		S-1425	