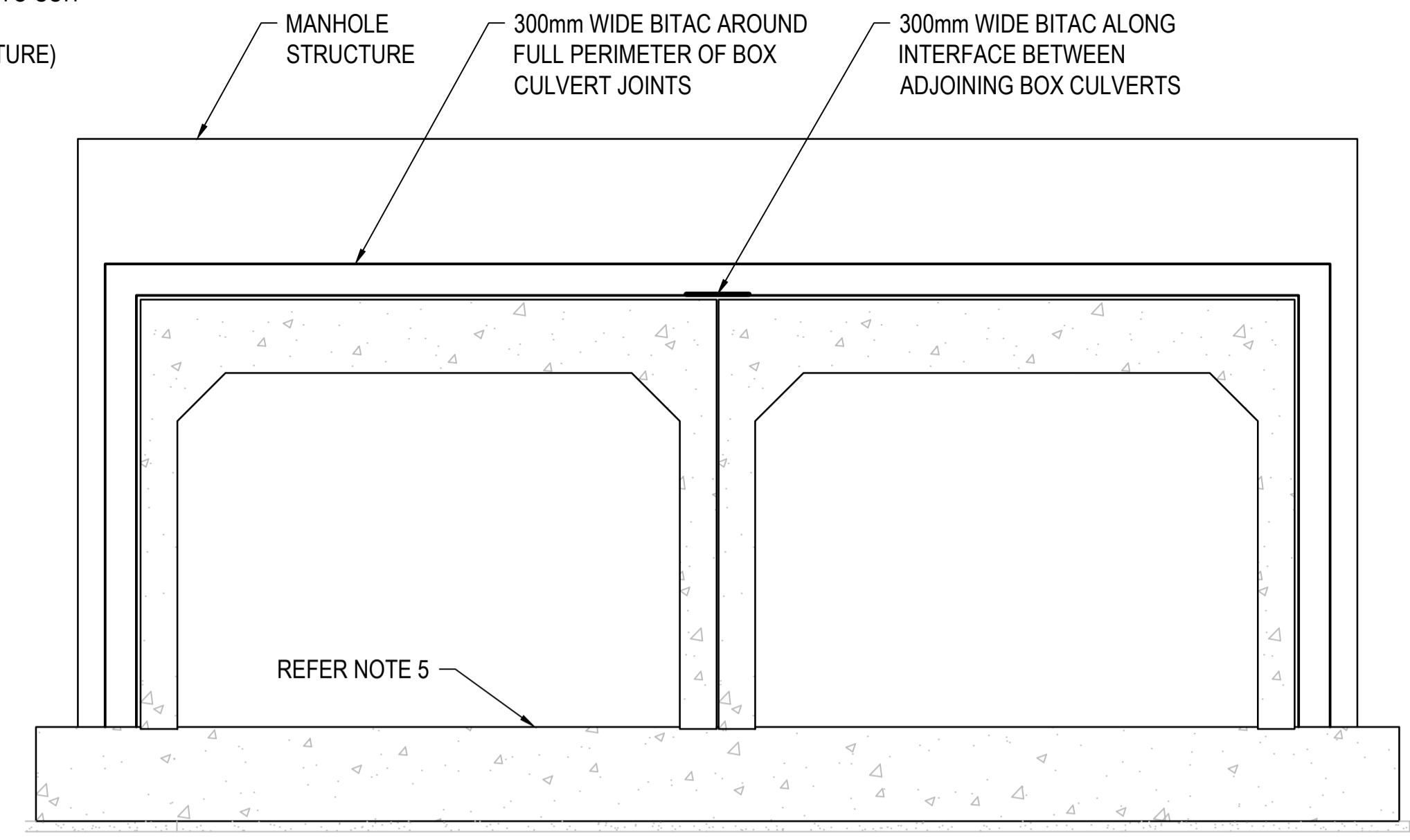


TYPICAL JOINT ARRANGEMENT

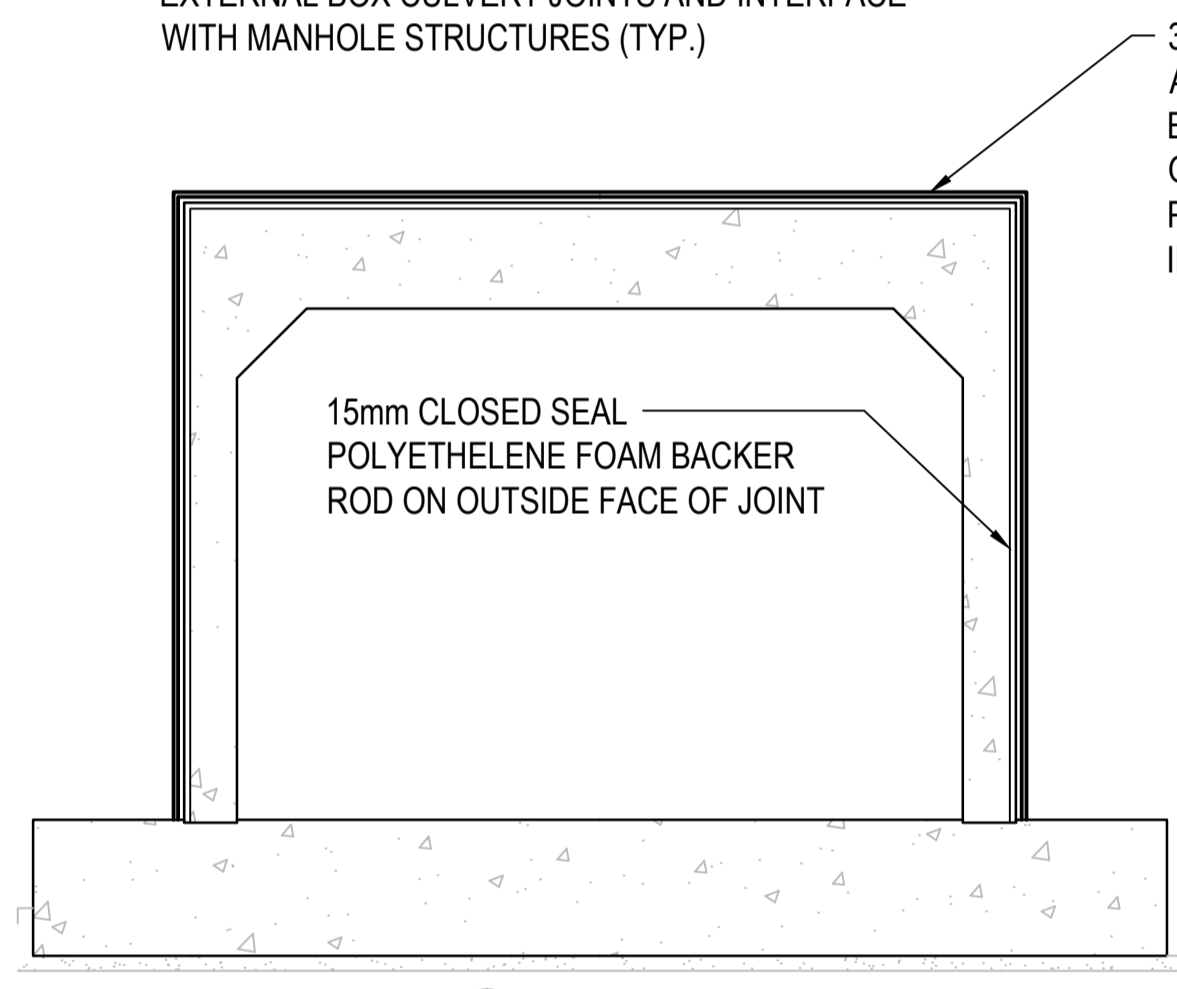


JOINT BETWEEN ADJACENT CULVERTS AND STRUCTURES

**EXTERNAL JOINT SEAL DETAILS**  
300mm WIDE BITAC OR APPROVED EQUIVALENT BITUMEN IMPREGNATED GEOFABRIC (INCLUDING PRIMER) PLACED AROUND FULL PERIMETER OF EXTERNAL BOX CULVERT JOINTS AND INTERFACE WITH MANHOLE STRUCTURES (TYP.)

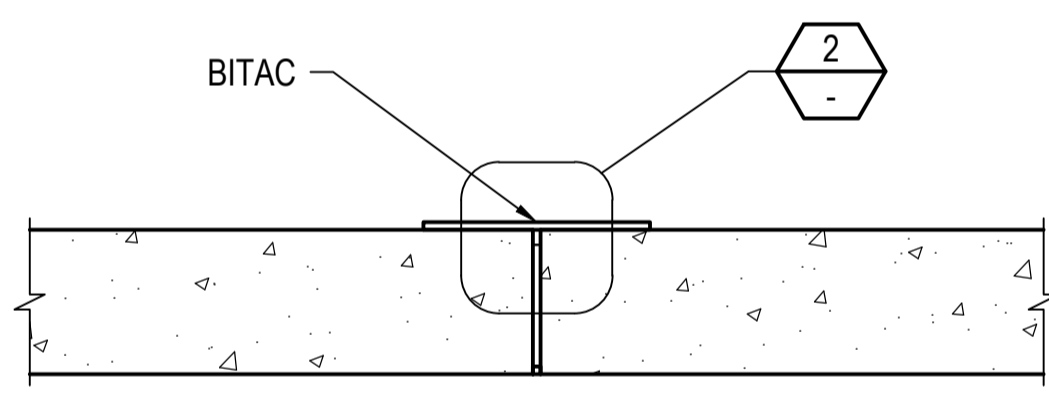
**INTERNAL JOINT FILLER**  
15mm DIAMETER CLOSED CELL POLYETHYLENE FILLER ON OUTSIDE OF JOINT TO SUPPORT BITAC GEO FABRIC.

**GAPS BETWEEN BOX CULVERTS**  
THE DESIGN LAYOUT HAS ASSUMED A 10mm GAP BETWEEN EACH BOX CULVERT AND A 10mm GAP TO ADJOINING MANHOLE STRUCTURES.

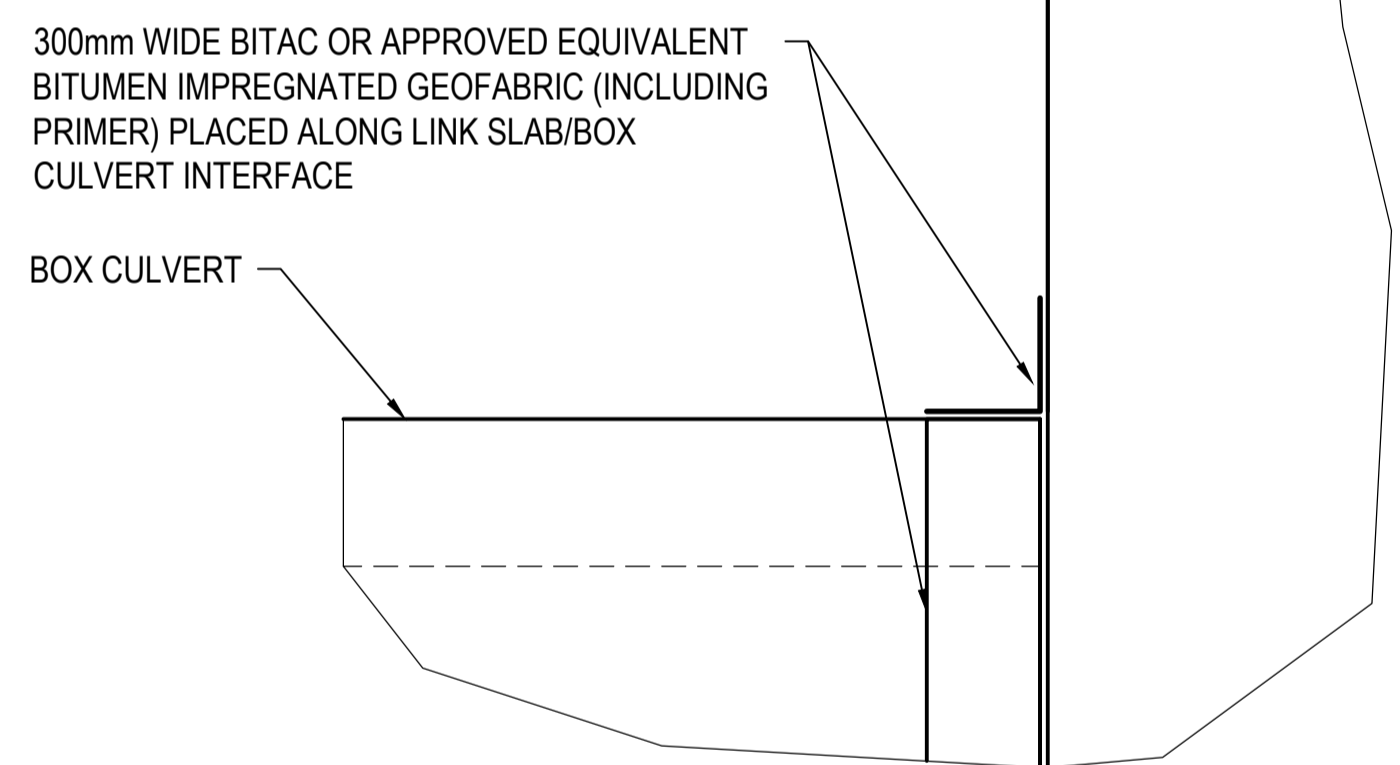


A SECTION

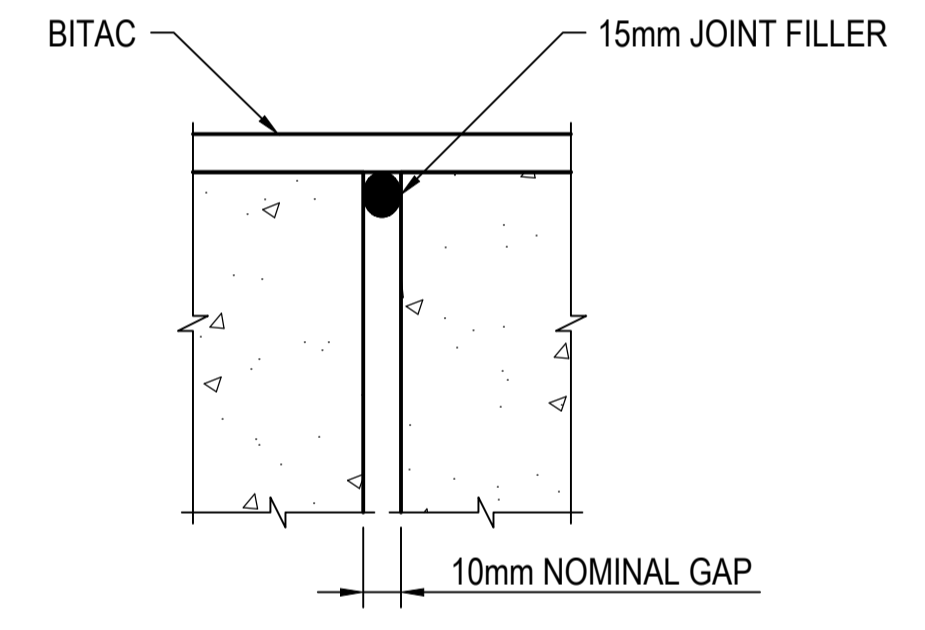
300mm WIDE BITAC OR APPROVED EQUIVALENT BITUMEN IMPREGNATED GEOFABRIC (INCLUDING PRIMER) PLACED ACCROSS CULVERT INTERFACES



B SECTION



1 DETAIL



2 DETAIL

- NOTES:**
- WHERE BOX CULVERTS / RECTANGULAR CONDUITS ARE DESIGNED TO OPERATE UNDER PRESSURISED FLOW CONDITION (i.e. HYDRAULIC GRADE LINE ABOVE SOFFIT), JOINTS ARE TO BE ENCASED IN CONCRETE OR SIMILAR TO PREVENT INFILTRATION OF SURROUNDING SOIL/BACKFILL.
  - REFER DRG 7251/08/419 FOR TYPICAL BEDDING AND BACKFILL DETAILS.
  - THE BITUMINOUS GEOFABRIC BETWEEN THE PRECAST UNITS IS TO STOP SOIL INFILTRATION INTO THE DRAIN.
  - DESIGNER TO ENSURE TRANSITIONAL STRUCTURES AT EACH END OF THE RECTANGULAR CONDUIT IS DESIGNED TO MINIMISE HYDRAULIC LOSSES.
  - IT IS ANTICIPATED THAT THE BOX CULVERTS AND THE IN SITU REINFORCED CONCRETE BASE SLAB, SHALL BE DESIGNED BY A QUALIFIED STRUCTURAL ENGINEER. SEEK APPROVAL FROM MELBOURNE WATER FOR ANY VARIATION FROM THE ABOVE DETAILS.
  - IT IS THE DESIGNER'S RESPONSIBILITY TO ENSURE THAT THE NOMINATED MELBOURNE WATER STANDARD DRAWINGS ARE SUITABLE FOR PROJECT USE.
  - DESIGN ENGINEER TO CARRY OUT SAFETY IN DESIGN RISK ASSESSMENT FOR ANY DESIGN INCORPORATING MELBOURNE WATER STANDARD DRAWINGS.
  - THIS DRAWING IS APPLICABLE TO MELBOURNE WATER BOX CULVERTS ONLY.

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DRAFTER		DESIGNER		DESIGN MANAGER APPROVAL		PROJECT MANAGER APPROVAL		PROJECT DATUM		Original Size		MELBOURNE WATER CORPORATION					
RD		GT		RM		VY		NTS		A1		7251/08/421					
DRAFTING CHECK		ENGINEERING REVIEW		RM		VY		SCALE		CODE		MVC DRAWING NUMBER					
BS		VY		RM		VY		NTS		A		7251/08/421					
REV		DESCRIPTION		COMPANY		PROJECT OR WO NUMBER		DRAWN		ENG. CHECK		PR. MAN. APPD.					
A		FIRST REVISION		RD		VY		RM		25.11.15		DATE					