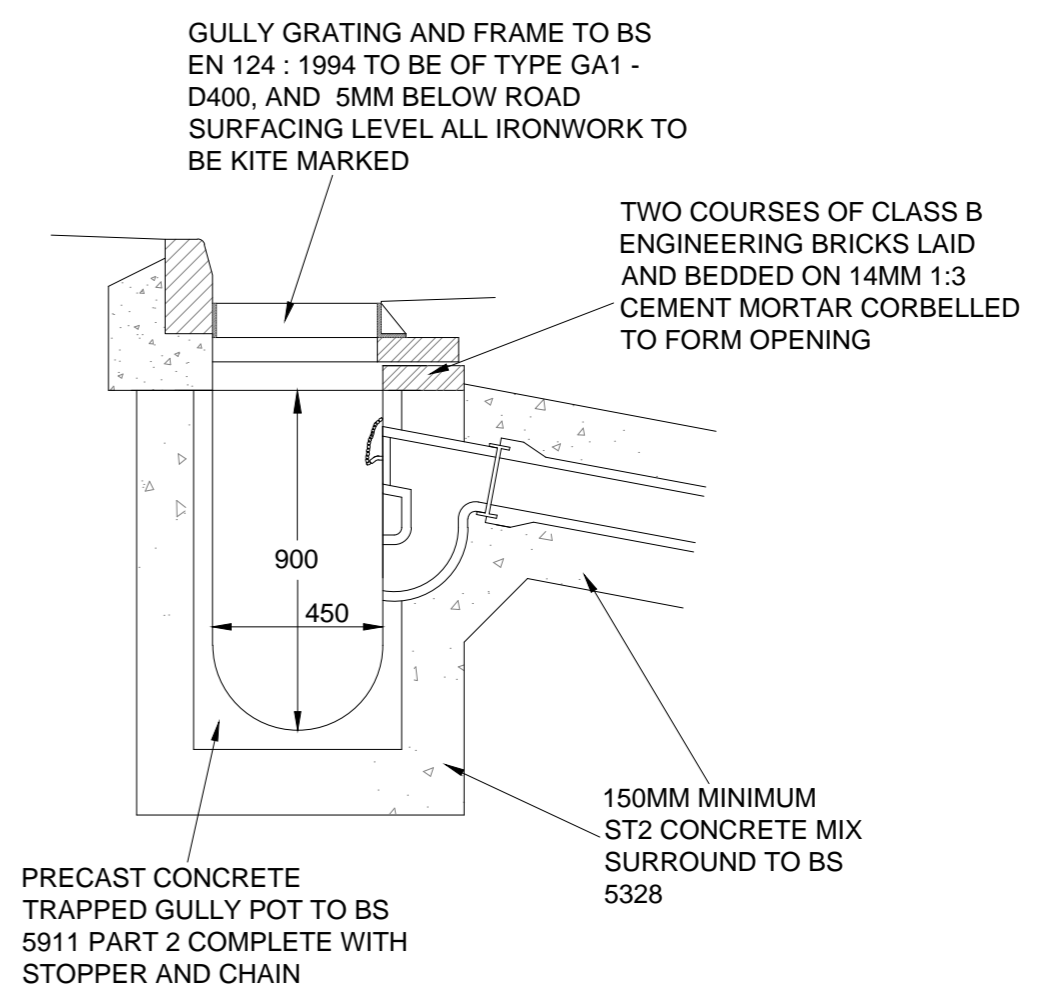


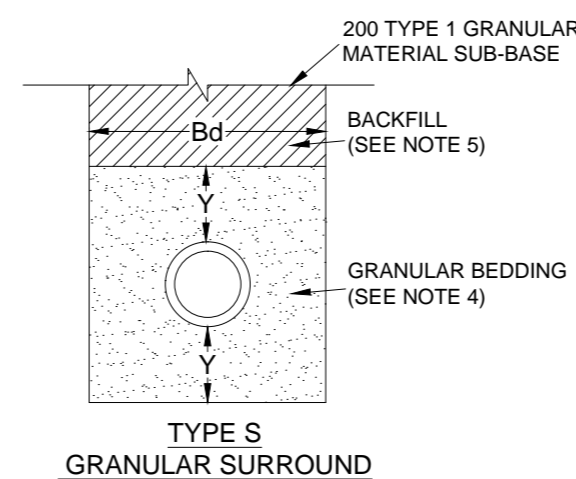
PRECAST CONCRETE MANHOLE
- DEPTH TO INVERT 1.0m TO 3.0m
(SCALE 1:20)

NOTES:

1. MANHOLE COVER AND FRAME TO BE IN DUCTILE IRON TO BS EN 124. ROADS - CLASS D 400 WITH 675mm CLEAR OPENING, 150mm DEEP. FOOTPATHS, CYCLEWAYS - CLASS B125 WITH 675mm CLEAR OPENING.
2. FOR POTENTIAL SURFACE WATER SEWERS MANHOLES OVER 1.5m DEEP, RUNGS OR STEPS SHOULD BE OMITTED.
3. SULPHATE RESISTANT CEMENT SHALL BE USED FOR ALL CONCRETE WORK (PRECAST AND INSITU) UNLESS GROUND SOIL TESTS SHOW OPC CEMENT IS ACCEPTABLE.



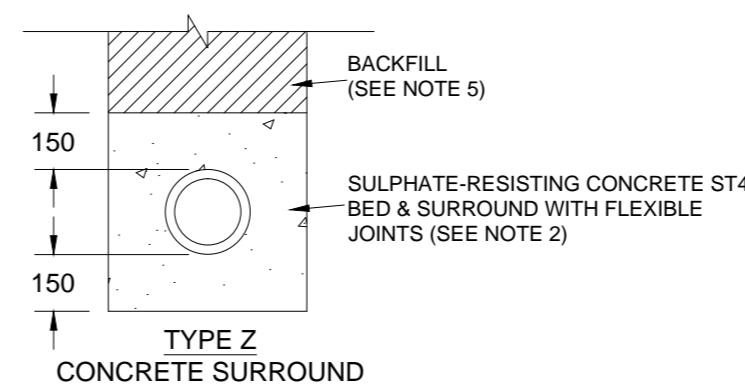
TYPICAL GULLY DETAIL
SCALE 1:20



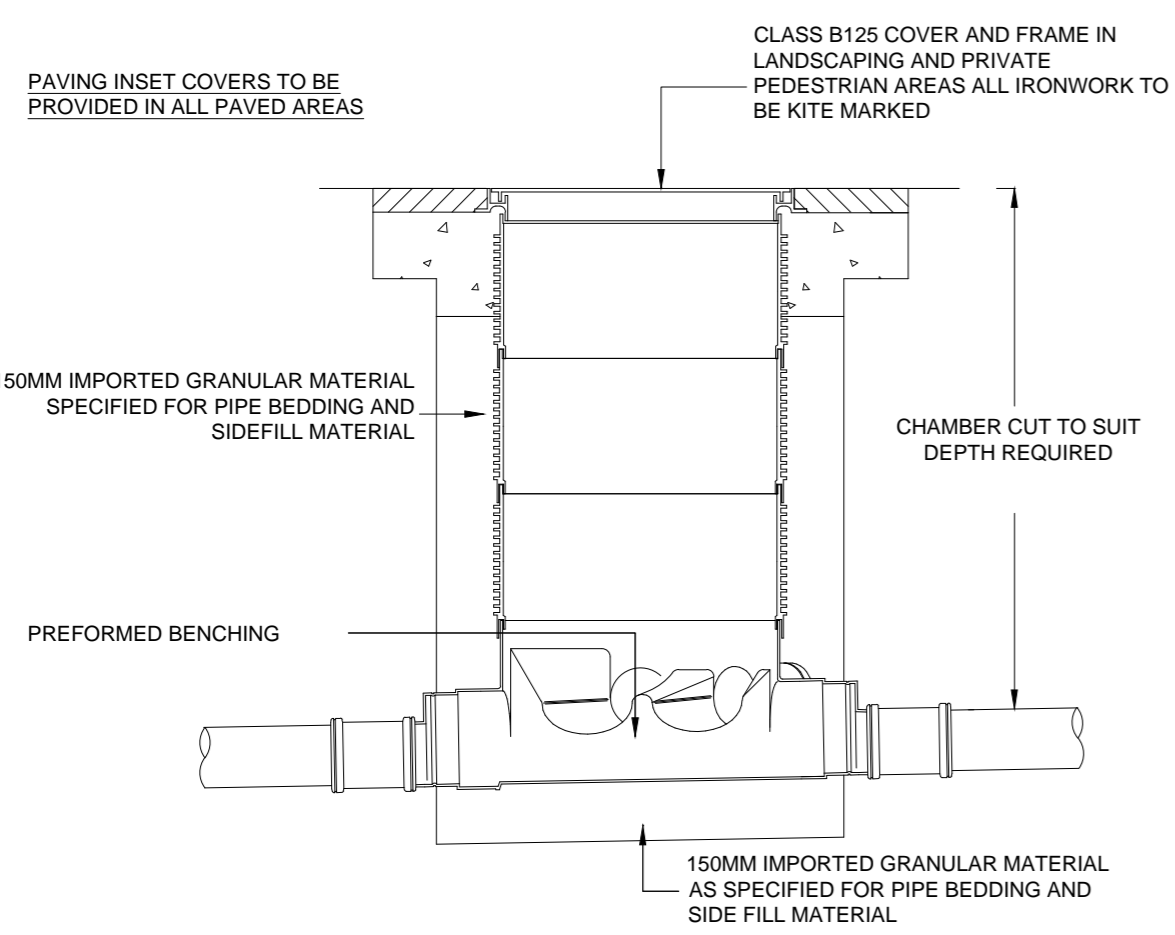
Nom. pipe Dia.	Max trench width (Bd)	Y	Joint filler board thickness
150	690	200	18
225	690	200	18
300	760	200	18
375	1070	200	18
450	1140	200	36

NOTES

1. PERMITTED PIPE MATERIALS ARE:- PVC-U OSMA DRAIN AND TWINWALL POLYPIPE RIGIDRAIN
2. FULL CONCRETE SURROUND IS REQUIRED (A) TO ALL GULLY CONNECTIONS (B) IF COVER IS LESS THAN (C) IF TRENCH IS WIDER THAN THE MAXIMUM TRENCH WIDTH AS GIVEN ABOVE.
3. FLEXIBLE JOINTS SHALL BE FORMED FULLY THROUGH THE CONCRETE BED AND SURROUND AT 8m CENTERS OR LESS AND COINCIDING WITH PIPE JOINTS USING COMPRESSIBLE BOARD TO BS 1142:3 THICKNESS AS GIVEN ABOVE.
4. GRANULAR BEDDING MATERIAL SHALL BE AS DEFINED IN DOT SPECIFICATION TABLE 5/5 (WWA GRANULAR BEDDING TYPE A)
5. IN CARRIAGEWAYS, BACKFILL SHALL BE ST1 OR FOAMED CONCRETE. IN FOOTWAYS AND FOOTPATHS, TYPE 1 GRANULAR MATERIAL MAY BE USED. SELECTED EXCAVATED MATERIAL MAY BE USED ELSEWHERE.
6. IN POOR GROUND IT MAY BE NECESSARY TO WRAP THE BED AND SURROUND IN GEOTEXTILE (WTBURDENS 'BONAR' NW6 450 OR SIMILAR) TO PREVENT MIGRATION OF MATERIAL INTO THE GRANULAR BEDDING.
7. CONNECTIONS- PROPRIETARY CONNECTION UNITS SHALL BE USED TO MAKE CONNECTIONS BETWEEN PIPES. CONNECTIONS SHALL BE PREFERABLY AT RIGHT ANGLES, OR AT AN ANGLE RUNNING WITH THE DIRECTION OF FLOW.
8. SLOW BENDS ONLY SHALL BE USED AT CHANGES OF DIRECTION IN A PIPE, AND MAY ONLY BE USED ON GULLY CONNECTIONS.

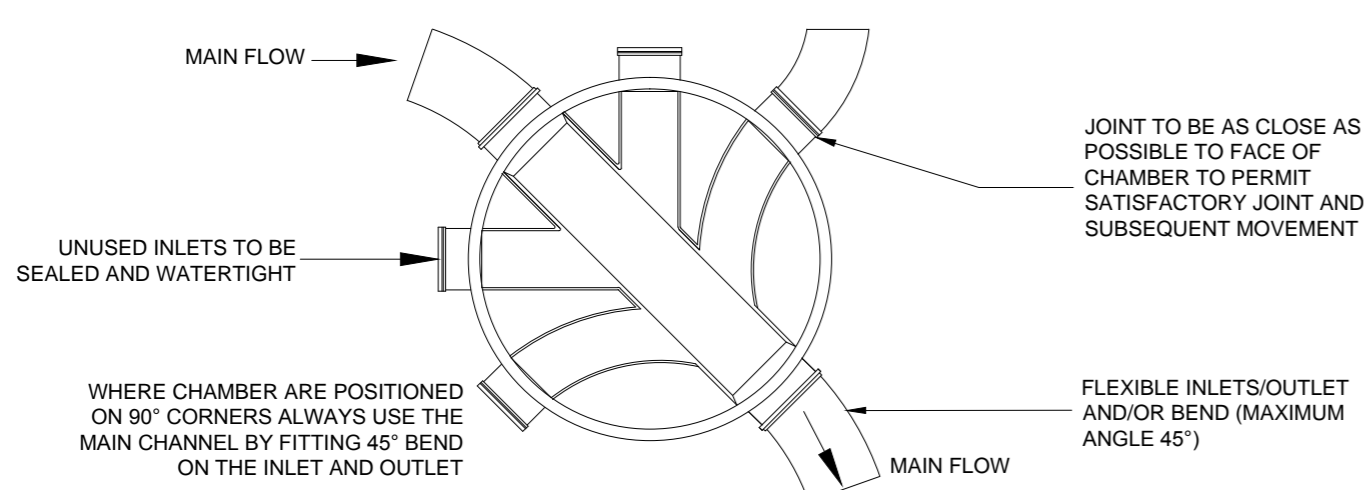


TRENCH DETAILS
SCALE 1:20

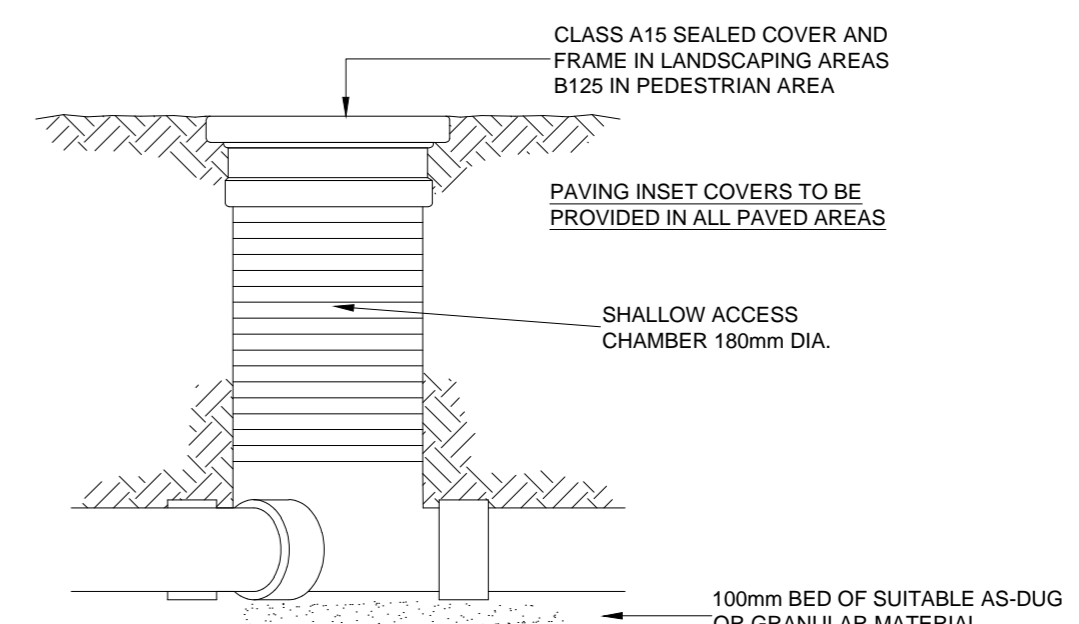
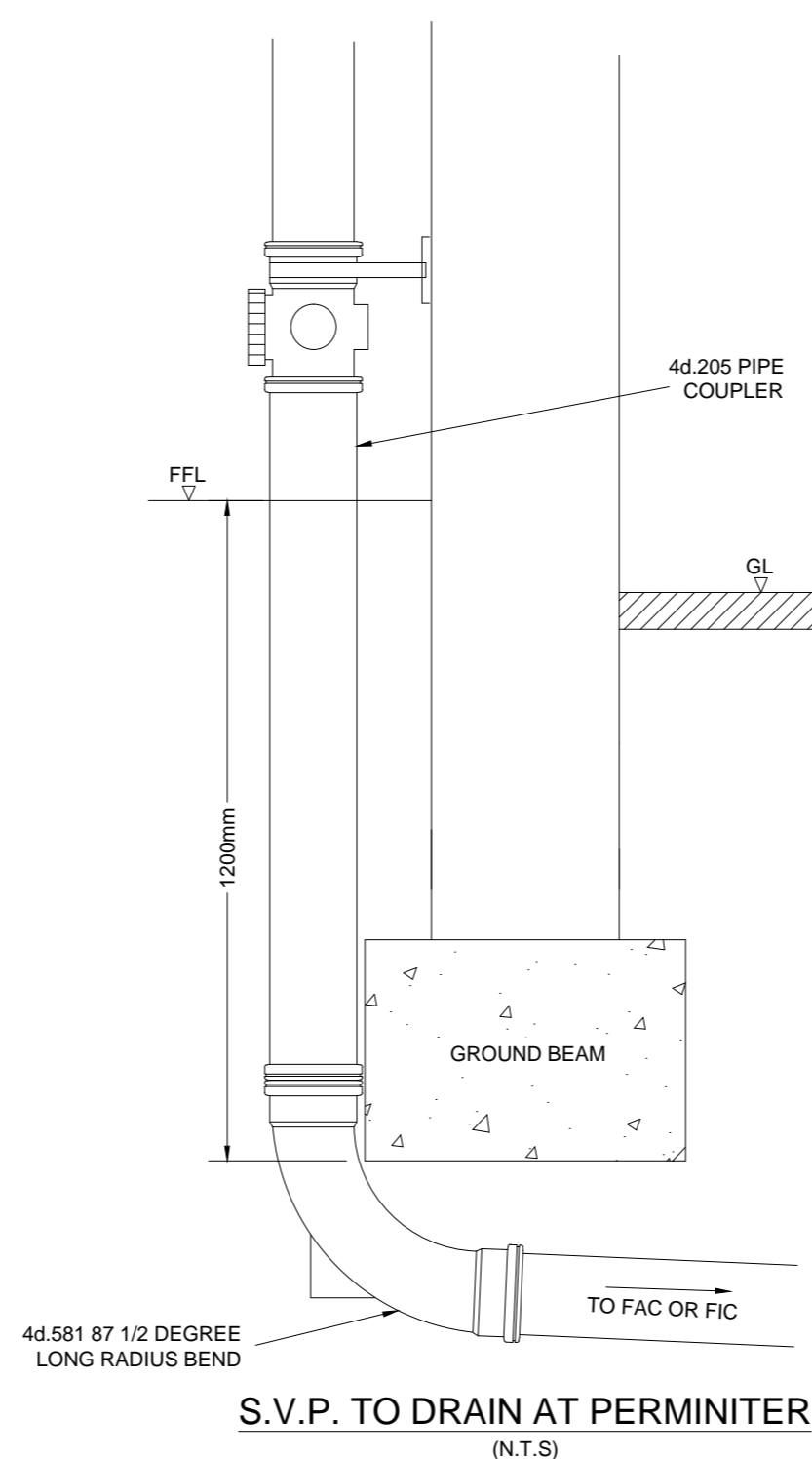


TYPICAL 450mm INSPECTION CHAMBER DETAIL (FIC + SIC)

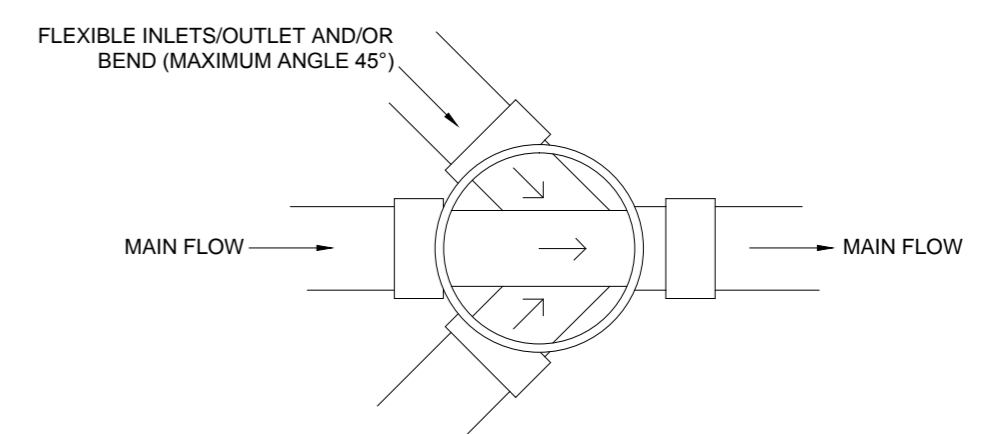
(SCALE 1:20)



BASE LAYOUT FOR INSPECTION CHAMBER
(SCALE 1:10)



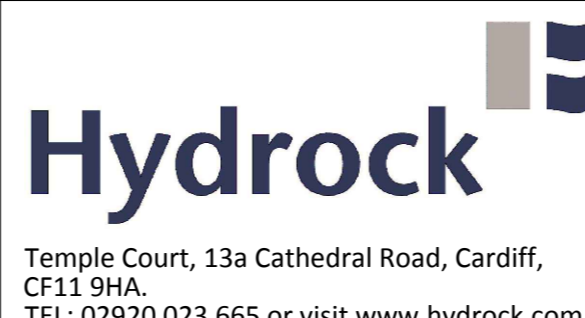
TYPICAL 180mm FOUL ACCESS CHAMBER (FAC)
(SCALE 1:20)



BASE LAYOUT FOR 180mm FOUL ACCESS CHAMBER
SCALE 1:10

UXO NOTE:
ALL EXCAVATIONS FOR HARD LANDSCAPING, MANHOLES, PIPES AND OTHER DRAINAGE ITEMS ARE TO BE SUPERVISED BY AN EOD ENGINEER. REFER TO EOD CONTRACTS UXO DESKTOP STUDY REPORT "170626 DTS REPORT 17311" FOR FULL MITIGATION MEASURES.

Rev	Date	Description	By	Ckd
P3	23/06/2017	Tender Issue	JB	RB
P2	19/04/2017	Stage 3 Issue	SJ	RB
P1	16/03/2017	First Issue	SJ	RB



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Notes:
All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications. This drawing is copyright.

Project:	HMS CAMBRIA
Client:	ABP

Drawing Title:	DRAINAGE DETAILS			
Project Number:	C161526			
Drawn:	Checked:	Scale @ A1:	Drawn Date:	First Issue:
SJ	RB	1:250	28/02/2017	16/03/2017
Status:	D2	Purpose of Issue:	TENDER	
Drawing No.	HMS-HYD-XX-XX-DR-C-0401			Revision
				P3