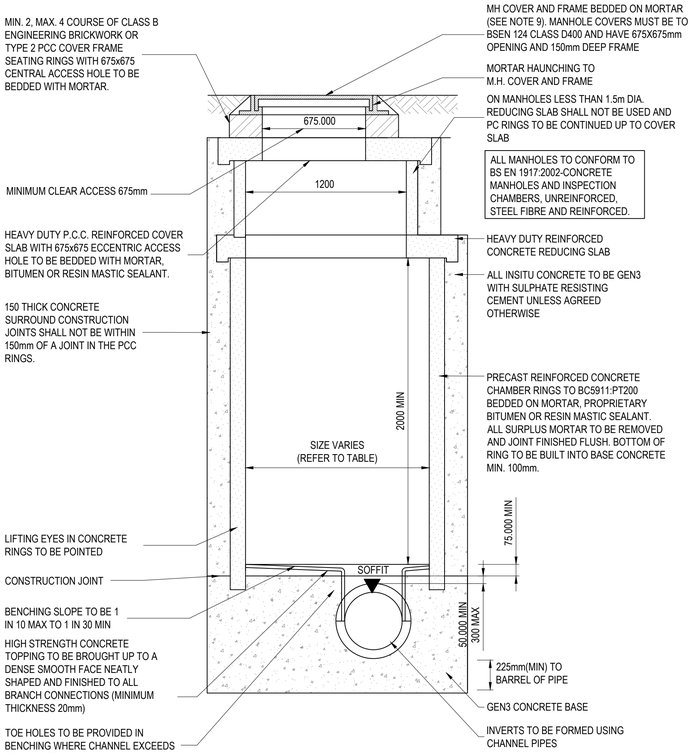
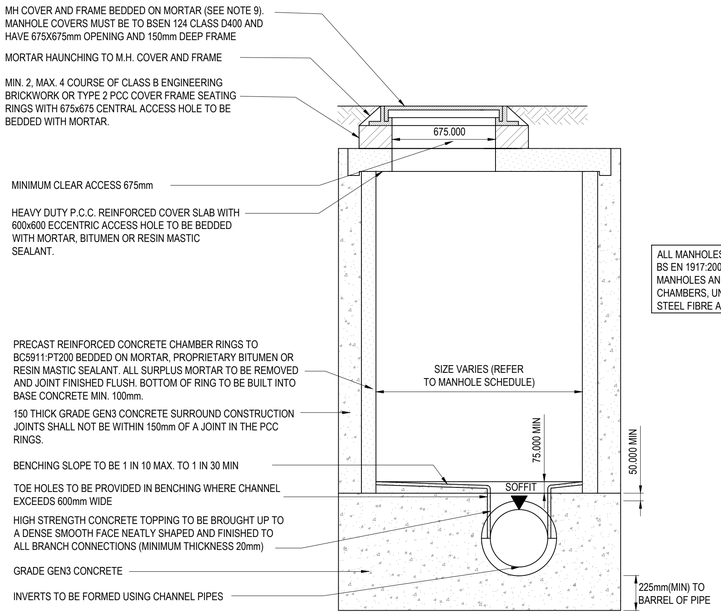
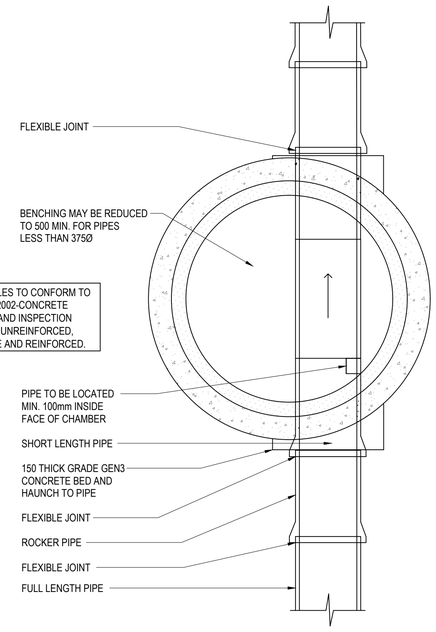


TYPICAL MANHOLE DETAIL - TYPE A
DEPTH TO SOFFIT OF PIPE 3.0m TO 6.0m



SECTION



PLAN

TYPICAL MANHOLE DETAIL - TYPE B
DEPTH TO SOFFIT OF PIPE 1.5- 3.0m

TYPE B MANHOLE DETAILS MAY BE APPLIED TO TYPE A MANHOLES FOR CHAMBER DIAMETERS LESS THAN 1500Ø UP TO 6.0m DEPTH TO SOFFIT.

DIA. OF LARGEST PIPE IN M.H.	CHAMBER SECTION INT. DIA. (mm)
LESS THAN 375mm	1200
375 TO 700	1500
750 TO 900	1800
1000	2100

TABLE APPLICABLE TO MANHOLE TYPES A AND B

CHAMBER SIZES ARE MINIMUM REQUIRED. SEE LAYOUT FOR ANY VARIATIONS.

NOMINAL SIZE	EFFECTIVE LENGTH (mm)
150 TO 600	600
675 TO 675	1000
825 AND ABOVE	1250

SHORT AND ROCKER PIPE LENGTHS TABLE APPLICABLE TO ALL MANHOLE TYPES

GENERAL NOTES

DESIGNED TO SUIT SEWERS FOR ADOPTION 6TH EDITION

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE WATER SERVICES ASSOCIATION "SEWERS FOR ADOPTION - 6TH EDITION " AND THE LOCAL WATER AUTHORITY SPECIFICATIONS/ SPECIAL REQUIREMENTS.

INSITU AND PRECAST CONCRETE UNITS SHALL HAVE SULPHATE RESISTING PORTLAND CEMENT TO BS 4027, UNLESS AGREED WITH THE ADOPTING AUTHORITY.

CONCRETE

FOR DESIGNED, DESIGNATED OR STANDARDISED PRESCRIBED CONCRETE REFER TO BS EN 206-1 AND BS 8500.

PIPES

CONCRETE PIPES TO BE TO BS EN 1916 & BS 5911-1, CLAYWARE PIPES TO BE TO BS EN 295.

THERMOPLASTICS STRUCTURED WALL PIPE SHALL COMPLY WITH THE RELEVANT PROVISIONS OF 'WIS 4-35-01'. PIPES SHALL BE BSI KITEMARKED OR HAVE EQUIVALENT THIRD PARTY CERTIFICATION. PIPES SHALL BE CLASS 8kN/m2 NOMINAL SHORT TERM RING STIFFNESS

BACKFILL TO TRENCHES -WITHIN HIGHWAYS

ALL TRENCHES SITUATED WITHIN HIGHWAYS OR PROSPECTIVE HIGHWAYS TO BE BACKFILLED IN ACCORDANCE WITH THE LOCAL HIGHWAY AUTHORITY REQUIREMENTS OR IF NONE AVAILABLE IN ACCORDANCE WITH WITH CLAUSE 3.6.4 OF CESWI, i.e. HAUC SPECIFICATION FOR THE REINSTATEMENT OF OPENINGS IN HIGHWAYS APPENDIX A1 CLASSES A,B,C,D.

BACKFILL TO TRENCHES -OUTSIDE HIGHWAYS BELOW HARD PAVED AREAS

BACKFILL TO BE SAME AS WITHIN HIGHWAYS

BACKFILL TO TRENCHES - SOFT AREAS

SIDEFILL TO COMPLY WITH SPECIFICATION FOR HIGHWAY WORKS CLASS 8.

BACKFILL TO COMPLY WITH SPECIFICATION FOR HIGHWAY WORKS CLASS 1, 2 OR 3

SEE BACKFILL TO TRENCHES BELOW HARD PAVED AREA

PIPE BEDDING AND FILL MATERIAL

UNLESS OTHERWISE STATED BEDDING TO ALL PIPES TO BE CLASS "S".

NOMINAL BORE OF PIPE (mm)	ALTERNATIVE AGGREGATE SIZES (mm)	
	SINGLE-SIZED	GRADED
150 200-300 375-525 EXCEEDING 525	10 or 14 10, 14 or 20 14 or 20 14, 20 or 40	14 to 5 14 to 5 or 20 to 5 14 to 5 or 20 to 5 14 to 5, 20 to 5 or 40 to 5

REFERENCE SHOULD BE MADE TO BS 882 TABLE 4.

SELECTED FILL TYPE `B' SHALL COMPLY WITH CLAUSE 2.49 OF CESWI.

SHORT PIPES AT CHAMBERS/ROCKER PIPES

NOT WITHSTANDING SPECIFIC REQUIREMENTS FOR INDIVIDUAL CHAMBER TYPES ALL PIPES LEADING TO AND FROM CHAMBERS MUST MEET THE REQUIREMENTS OF CLAUSE 5.19 OF CESWI.

MANHOLE CHAMBERS

ALL PIPES SHALL BE LAID SOFFIT TO SOFFIT UNLESS STATED OTHERWISE ON THE MANHOLE SCHEDULE. MANHOLES, SOAKAWAYS & COVER SLABS TO BE BS EN 1917 AND BS 5911-3.

MANHOLE COVERS

ALL MANHOLE COVERS SHOULD BE BUILT IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF BS EN124 (KITEMARKED) AND BE BEDDED AND HAUNCHED IN MORTAR. ALL COVERS TO ADOPTABLE MANHOLES SHALL BE MARKED FW OR SW IF ON A FOUL OR SURFACE WATER SEWER RESPECTIVELY. THEY SHALL BE COATED WITH BLACK BITUMINOUS COMPOSITION IN ACCORDANCE WITH BS EN124.

GROUP	COVER CLASS	USAGE (FIGURE 9a)	MIN. THICKNESS OF STEEL PROTECTION* mm (TABLE 3)
1	A15	PEDESTRIANS AND CYCLISTS ZONES	2
2	B125	PEDESTRIANS AND CAR PARKING ZONES	3
3	C250	FOR GULLY TOPS INSTALLED IN THE KERBSIDE CHANNELS	5
4	D400	AREAS FOR ALL TYPES OF ROAD VEHICLES	6
5	E600	AREAS IMPOSING HIGH WHEEL LOADS (e.g. DOCKS, AIRCRAFT PAVEMENTS.)	TO BE DETERMINED ACCORDING TO EACH DESIGN
6	F900	AREAS IMPOSING PARTICULARLY HIGH WHEEL LOADS. e.g. AIRCRAFT PAVEMENTS	

* WITHOUT THE THICKNESS OF THE ADDITIONAL CORROSION PROTECTION.

TABLE AND FIGURE REFERENCE ARE TO BS EN124.

WHERE THERE IS DOUBT AS TO WHICH COVER SHOULD BE USED, A STRONGER CLASS SHOULD BE SELECTED.

INFILL COVERS SHALL NOT BE USED. WHERE A COVER IS LOCATED IN BLOCK PAVING, THE FRAME SHALL BE 150 DEEP.

FRAMES FOR MANHOLES SHALL BE BEDDED IN POLYESTER RESIN BEDDING MORTAR IN NRSWA CATEGORIES I, II OR III.

JOINTS TO MANHOLE RINGS AND SLABS.

ALL MANHOLE RINGS AND SLABS SHALL BE JOINTED WITH MORTAR, PROPRIETARY BITUMEN OR RESIN MASTIC SEALANT.

ALL MANHOLE FRAMES TO BE SET PARALLEL TO ADJACENT KERBS OR NEAREST BUILDINGS. MANHOLE COVERS AND FRAMES TO BE FLUSH WITH SURFACE ±5mm MAX.

CONCRETE PROTECTION TO PIPES

TO BE IN ACCORDANCE WITH CLAUSE 5.3 OF CESWI. AT THE DISCRETION OF THE ENGINEER, AWAY FROM CHAMBERS AND WHERE GROUND CONDITIONS PERMIT THE LENGTH OF UNINTERRUPTED CONCRETE PROTECTION MAY BE INCREASED TO 8m.

COMPRESSIBLE FILLER FOR PIPELINES.

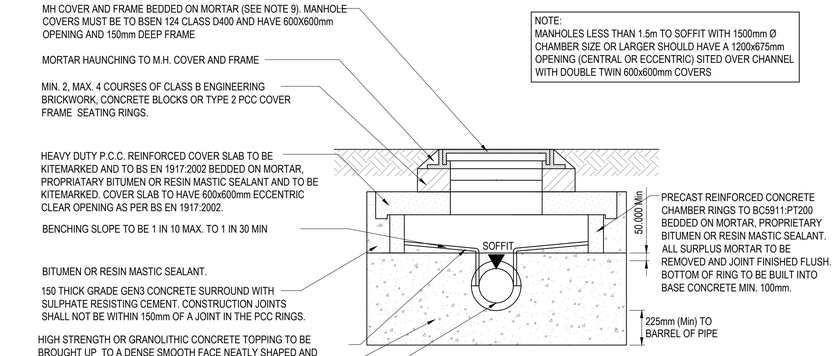
TO BE USED TO INTERRUPT CONCRETE PROTECTION TO PIPELINES AND SHALL COMPLY WITH CLAUSE 2.19 OF CESWI.

TRENCH WIDTH

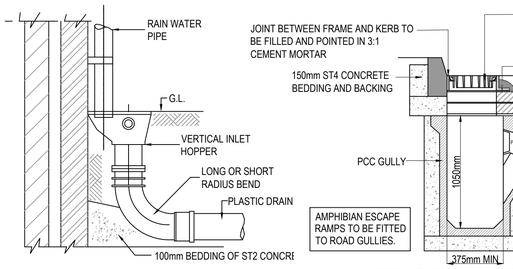
NOTE THE MAXIMUM TRENCH WIDTH MUST NOT BE EXCEEDED. IF THE WIDTH IS EXCEEDED THE CONTRACTOR MUST SUBMIT REVISED BEDDING PROPOSALS TO THE ENGINEER.

SOFT SPOTS AND OVERDIG

SOFT SPOTS SHALL BE REMOVED FROM THE BOTTOM OF THE TRENCH AND OTHER EXCAVATIONS AND THEN BE REFILLED TO FORMATION LEVEL WITH THE SAME MATERIAL AS THE PERMANENT WORK WHICH IS TO REST ON THAT FORMATION. OVERDIG SHALL BE TREATED IN THE SAME MANNER AT CONTRACTORS EXPENSE.



TYPICAL MANHOLE DETAIL - TYPE E
MAX DEPTH TO SOFFIT OF PIPE 1 TO 1.5m
(375Ø MAX PIPE)

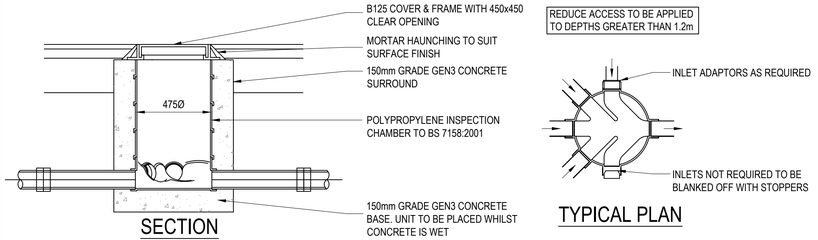


UNIVERSAL GULLY WITH VERTICAL INLET

ROAD GULLY DETAIL

YARD GULLY DETAIL
SCALE 1:10

SEWER TRENCHES IN ADOPTABLE CARRIAGEWAYS ARE TO BE BACKFILLED WITH TYPE 2 GRANULAR MATERIAL UNLESS OTHERWISE AGREED WITH THE ADOPTING HIGHWAY AUTHORITY.

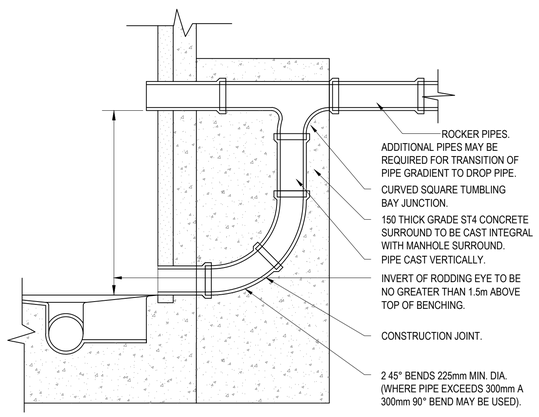


SECTION

TYPICAL PLAN

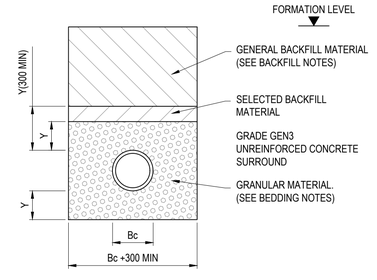
TYPICAL POLYPROPYLENE INSPECTION CHAMBER
DEPTH UP TO 2.00m

(SCALE 1:20)

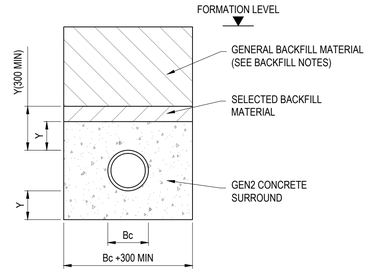


TYPICAL VERTICAL BACKDROP MANHOLE DETAIL

(NOTE: CONSTRUCTION DETAILS AS STANDARD PPC MANHOLE.)



CLASS S DETAIL



PIPE TRENCH BEDDING DETAILS

NOTES

A) Bc = OUTSIDE DIAMETER OF PIPE BARREL.

B) Y = FOR UNIFORM SOILS:
SLEEVE JOINTED PIPES, MIN. 50mm OR 1/6Bc, WHICHEVER IS THE GREATER. SOCKETED PIPE, MIN. 100mm OR 1/6Bc, WHICHEVER IS THE GREATER UNDER BARRELS AND NOT LESS THAN 50mm UNDER SOCKETS. FOR ROCK OR MIXED SOILS CONSISTING ROCK BANDS, BOULDERS, STONES OR OTHER IRREGULAR HARD SPOTS: SLEEVE JOINTED PIPES, MIN. 150mm OR 1/4Bc, WHICHEVER IS THE GREATER. SOCKETED PIPE, MIN. 200mm OR 1/4Bc, WHICHEVER IS THE GREATER UNDER BARRELS AND NOT LESS THAN 150mm UNDER SOCKETS.

NOMINAL PIPE DIA (mm)	THICKNESS OF COMPRESSIBLE FILLER (mm)
LESS THAN 450	18
450 TO 1200	36
GREATER THAN 1200	54

COMPRESSIBLE FILLER TABLE

(BITUMEN IMPREGNATED INSULATING BOARD TO BS 1142: PART 3)

SUITABLE BACKFILL MATERIAL (REFER TO NOTES)
SELECTED SIDEFILL AND SURROUNI (REFER TO NOTES)
GRANULAR BEDDING MATERIAL. (REFER TO NOTES)
GEN3 CONCRETE BED AND SURROUND (REFER TO NOTES)

Rev:	Description:	Date:	By:	Chkd:
C	NOTES REFERRING TO AMPHIBIAN ESCAPE RAMP ADDED TO ROAD GULLY DETAIL.	17.05.23	JL	IC
B	ISSUED FOR CONSTRUCTION.	21.06.22	IC	MJS
A	MINOR UPDATE.	05.05.22	IC	MJS

Status: PRELIMINARY

Client: BELLWAY WESSEX

Project: BOORLEY GREEN

Drg Title: STANDARD DRAINAGE DETAILS

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Scale:	Size:	First Issue:	Drawn:	Checked:	Rev:
AS SHOWN	A1	04.02.22	IC	IC	C

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