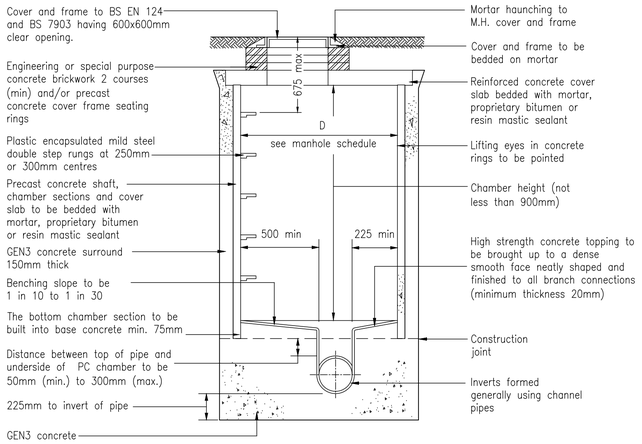
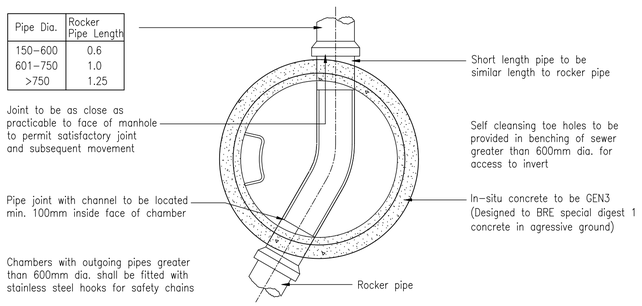
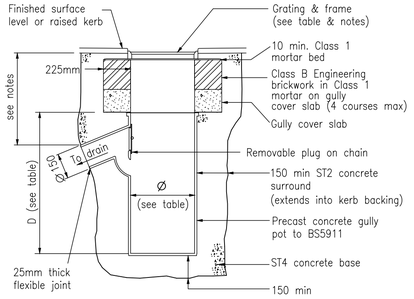
JOB No 5068 | DRG No D01 | REV



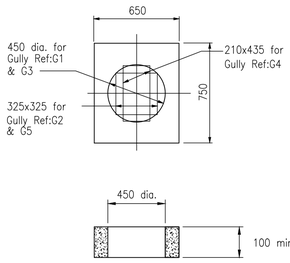
Pipe Dia.	Rocker Pipe Length
150–600	0.6
601–750	1.0
>750	1.25



TYPE 2 MANHOLE DETAIL

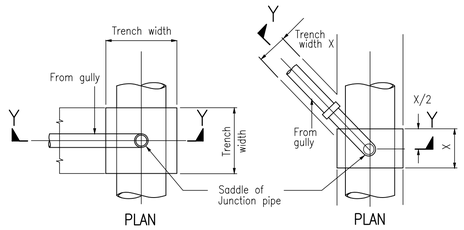


TYPICAL SECTION



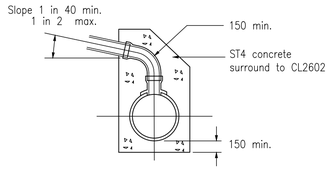
GULLY COVER SLAB
750x650mm

Gully Ref.	D	Ø	C
G1	750	450	GA1–450
G2	750	375	SUITABLE DISHED
G3	900	450	GA1–450
G4	750	450	GA1–450
G5	750	375	325x325 Grade A FLAT

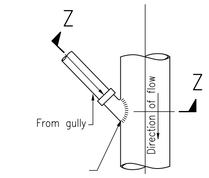


PLAN

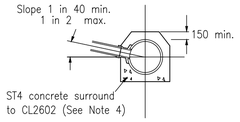
PLAN



SECTION Y–Y



PLAN



SECTION Z–Z
(For connections to pipes less than 500 dia. using a saddle)

FIGURE A
(Connection to crown of surface water drain)

FIGURE B
(Connections to side of surface water drain or French drain)

Road Gullies

1. All dimensions are in millimetres
2. All Clause references are from the DTp Specification for Highway Works (as revised)
3. All materials and workmanship to conform to Volume 1 of the Specification for Highway Works (SHW) (with alterations by the Welsh Government as appropriate)
4. Gully grating and frame to BS EN 124: D400 hinged on side of oncoming traffic
5. Brickwork to gully to be 225mm thick English Bond with concrete surround.
6. The minimum depth from the top of the grating to the top of the gully outlet is to be 750 when connecting pipe is under a carriageway and 600 elsewhere
7. Gully pots are to be of precast concrete to BS5911 clayware to BS539 with ST4 concrete foundation to CL2602 & backfill as shown
8. Unless indicated otherwise connection to surface water drains are to be made using alternative methods shown in figures A & B. In figure B both gully connection and surface water drain or French drain are to have a similar type of bedding, except when a saddle is used onto a pipe less than 500 dia., where concrete surround is required. The surround shall be as shown in figure B in section and figure A in plan

Pipe Bedding

1. All dimensions are in millimetres
2. For highway drains Type Z bedding required for pipes <900mm cover, crown to surface.
3. For adoptable sewers Type Z bedding required for pipes <1200mm cover, crown to surface where beneath a road/highway (see also B3.10 SFA 7th Edition)
4. Legend
 D = Internal dia of pipe
 Bc = External dia of pipe
 Bd = Trench depth
 H = Cover depth
 Y = Depth of granular bedding

 Thickness of granular bedding under pipe barrels,

 (1) rock or mixed soils containing rock bands, boulders, large flints or stones or other irregular hard spots.

 $Y = \frac{Bc}{4}$ (200mm min)

 Thickness of granular bedding under sockets 150mm minimum.

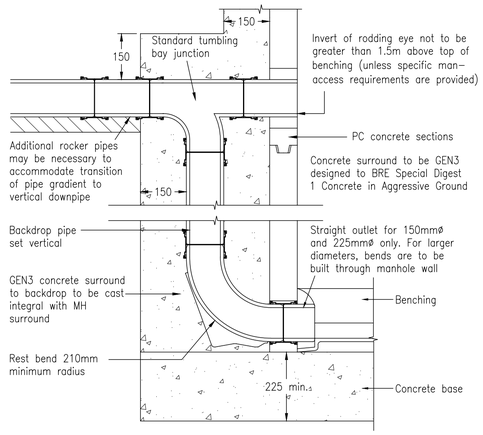
 (2) In uniform soils,

 $Y = \frac{Bc}{6}$ (100mm min)

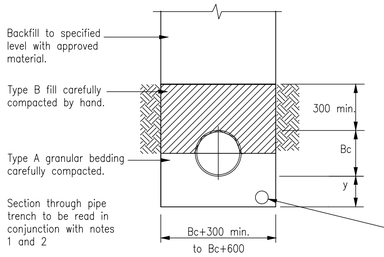
 Thickness of granular bedding under sockets 50mm.

Notes

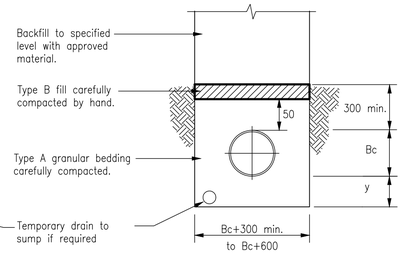
1. All dimensions in millimetres unless stated otherwise
2. This drawing to be read in conjunction with all other drawings referred to on the drawing issue sheet
3. Positions of Statutory Undertakers equipment to be determined on site based on service enquiry information and topographical data. Exact position and depths of buried services including private connections and spurs to be determined and identified on site. Any services crossing the proposed route of the sewers to be protected during the works and reinstated in accordance with the Statutory Undertakers requirements.
4. All proposed levels to be checked and confirmed on site by the contractor prior to commencement of works. Any discrepancies to be reported to the engineer immediately. All downstream levels to be checked and confirmed by the contractor prior to construction of any upstream drainage.
5. Materials should comply with requirements of part E sections E2.21 and E2.22 of SfA7.
6. All precast concrete sections / slab and in situ concrete to be GEN3 designed to BRE Special Digest 1 Concrete in Agressive Ground
7. Type Z concrete bedding required where cover <1.2m in the carriageway, <900mm in private shared access roads / drives, <500mm in restricted access private drives and <350mm in private gardens and pathways. Compressible filler required at all joints in accordance with SFA7 Fig B27 throughout depth of concrete surround, type S bedding elsewhere
8. Where Type 3 & 4 chambers are positioned on 90° corners, always use the main channel by fitting a 45° bend (max) on the inlet and outlet as shown on SfA7 Figure B.20



TYPICAL VERTICAL BACKDROP DETAIL

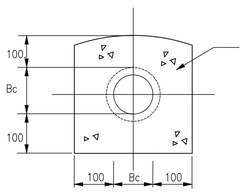


BEDDING CLASS B

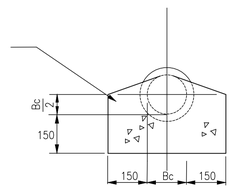


BEDDING CLASS S

Pipe Bore	Bedding Class	BS882 Table 1 aggregates suitable for use as type A granuar bedding
100mm	S	10mm single sized
	B	
	F	
150mm	S	14mm or 10mm single sized
	B	14mm to 5mm graded
	F	14mm or 10mm single sized
225mm & 300mm	S	20mm, 14mm or 10mm single sized
	B	20mm to 5mm or 14mm to 5mm graded
	F	20mm, 14mm or 10mm single sized
over 300mm	F	
	S	20mm to 5mm or 14mm to 5mm graded.
	B	



CONCRETE SURROUND CLASS Z



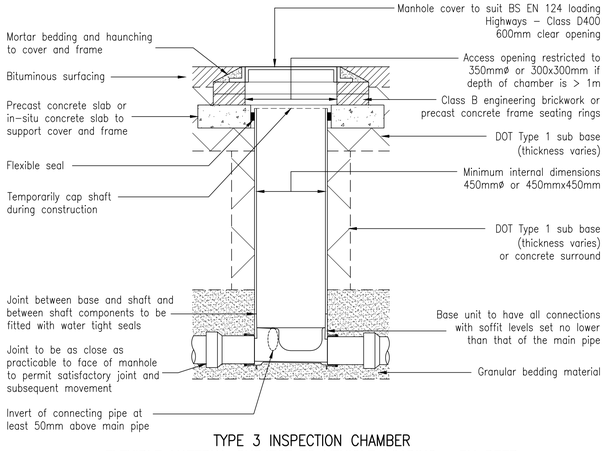
CONCRETE BED AND HAUNCH

NOMINAL DIA OF SEWER (mm)	MH DIA (mm)
LESS THAN 375mm	1200
375 TO 450	1350
500 TO 700	1500
750 TO 900	1800
GREATER THAN 900	PIPE DIA + 900

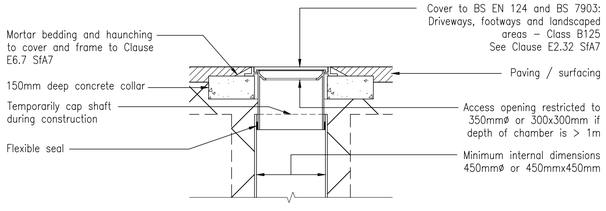
MINIMUM MANHOLE DIAMETER

NRSWA Road Category	Description	Minimum frame depth (mm)
I	Trunk road and dual carriageways	150
II	All other A roads	150
III	All other roads except residential cul–de–sacs	150
III	Residential cul–de–sacs	100

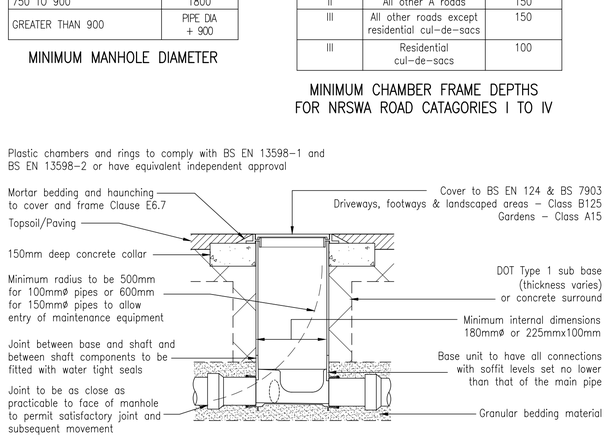
MINIMUM CHAMBER FRAME DEPTHS FOR NRSWA ROAD CATAGORIES I TO IV



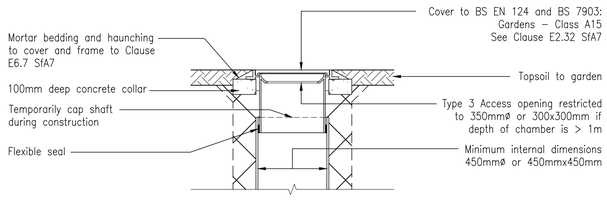
TYPE 3 INSPECTION CHAMBER
FLEXIBLE MATERIAL SUBJECT TO VEHICLE LOADING, <3M DEEP



TYPE 3 & 4 INSPECTION CHAMBER
LIGHT VEHICLE LOADING, <3M DEEP



TYPE 4 INSPECTION CHAMBER
FLEXIBLE MATERIAL, <2M DEEP



TYPE 3 & 4 INSPECTION CHAMBER
DOMESTIC GARDENS, <3M DEEP

FOR APPROVAL

REV	DATE	NATURE OF REVISION	BY	CHECKED

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CLIENT: MR PAUL WOOLLAM

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT, BRIARY CLOSE, WREXHAM

DRAWING: CONSTRUCTION DETAILS: DRAINAGE

SCALE	SIZE	DRAWN	CHKD	DATE	JOB No	DRG No	REV
NTS	A1	JME	RM	23.01.19	5068	D01	