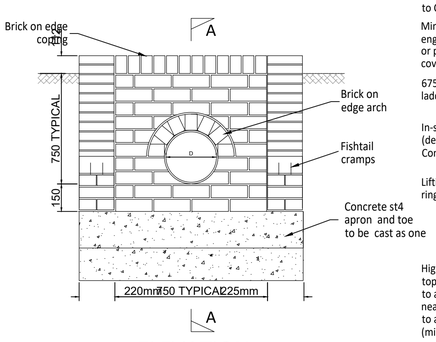
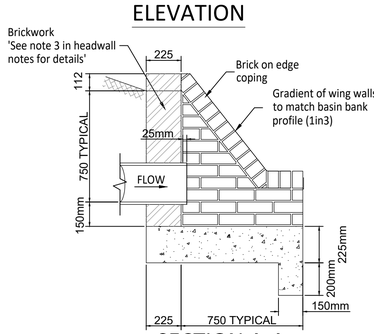
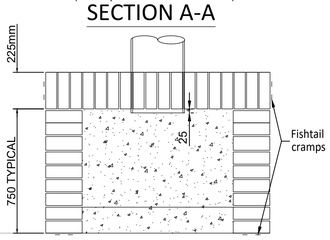
ADOPTABLE MANHOLE DETAIL - TYPE A
Depth from cover level to soffit of pipe 3 m to 6 m



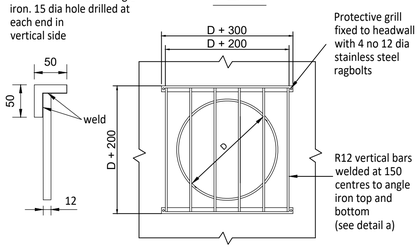
ELEVATION



SECTION A-A



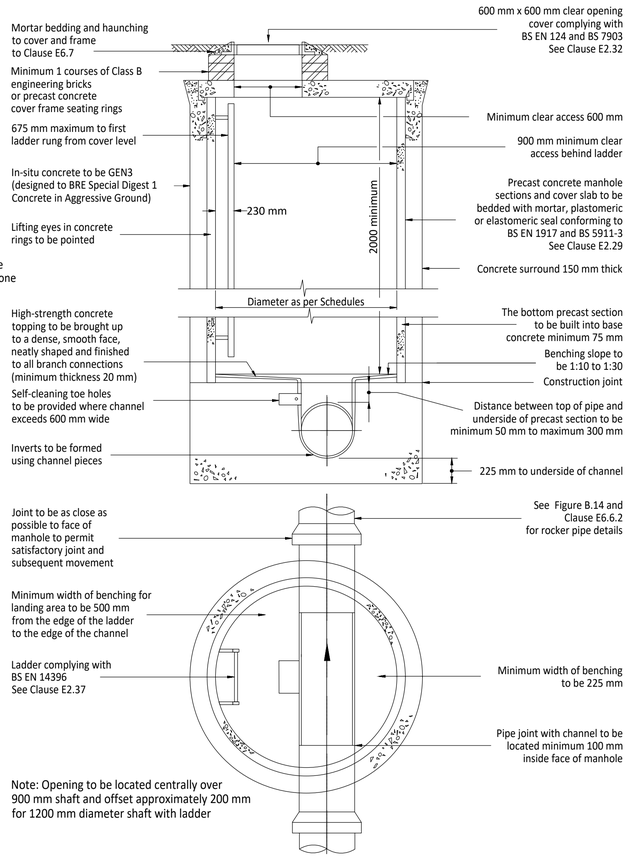
PLAN



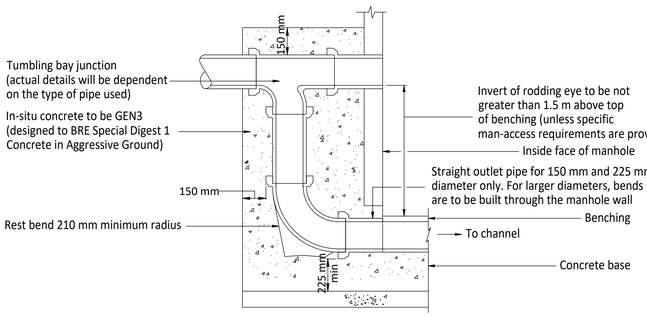
WELDED GRILLE DETAIL

TYPICAL DOWNSTREAM HEADWALL DETAIL

All headwalls to be in accordance Wokingham Borough Council requirements and Structural Engineers designs.

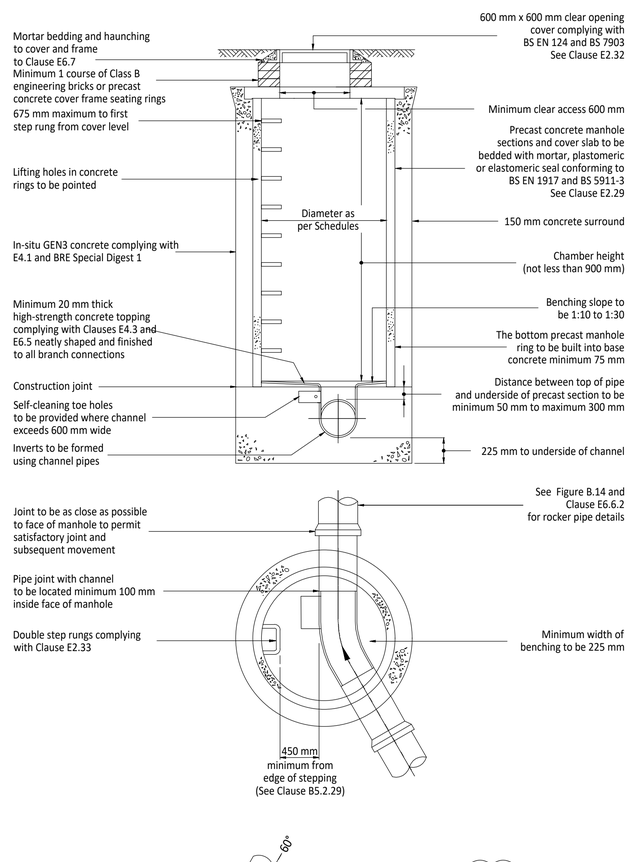


Note: Opening to be located centrally over 900 mm shaft and offset approximately 200 mm for 1200 mm diameter shaft with ladder

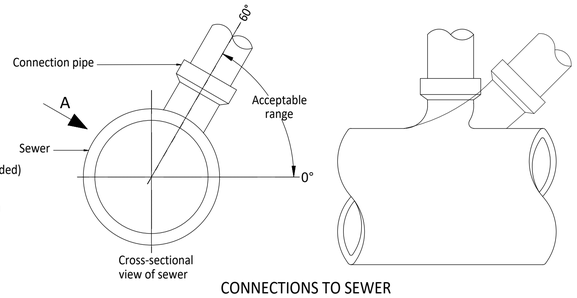


EXTERNAL VERTICAL BACKDROP

ADOPTABLE MANHOLE DETAIL - TYPE B
Depth from cover level to soffit of pipe 1.5m to 3.0 m

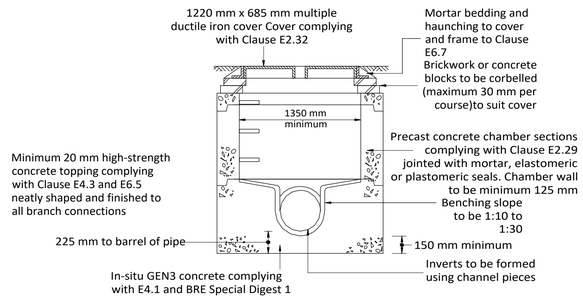


450 mm minimum from edge of stepping (See Clause B5.2.29)

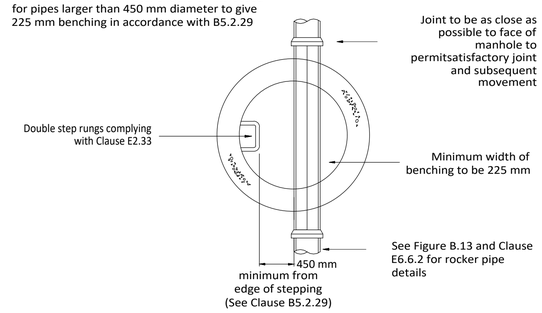


CONNECTIONS TO SEWER
Not to scale

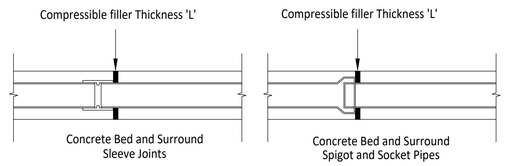
Typical manhole detail - Type C
Depth from cover level to soffit of pipe less than 1.5 m
Rigid material construction



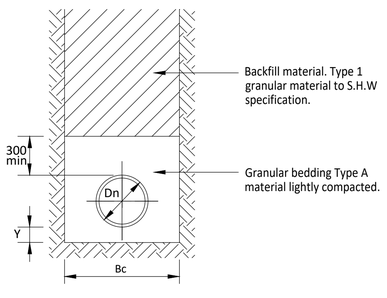
Internal dimensions of manhole normally 1350 mm but manhole diameter should be increased for pipes larger than 450 mm diameter to give 225 mm benching in accordance with B5.2.29



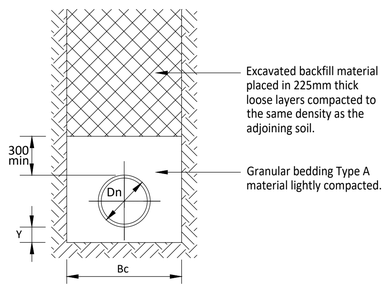
Note: The use of precast concrete chamber units to E2.29 with 150 mm GEN3 in-situ concrete complying with E4.1 and BRE Special Digest 1 in place of brickwork construction is permitted.



FLEXIBLE JOINT DETAILS



CLASS S BEDDING
(On trafficked areas)



CLASS S BEDDING
(Verges & Landscaping)

GRANULAR BEDDING

Nominal bore of pipe (mm)	Alternative Aggregate sizes (mm)	
	Single sized	Graded
100	10	-
150	10 or 14	14-5
225-300	14 or 20	14-5 or 20-5
375-525	14 or 20	14-5 or 20-5
>525	14, 20 or 40	14-5, 20-5 or 40-5

Granular bedding for pipes and backfilling material for temporary drains (trench sub-drains) shall consist of aggregates from natural sources to BS EN 13242 and BS EN 1744-1 or sintered pulverised fuel ash complying with the relevant provisions of BS 3892; sized in accordance with the above table

Selected fill material, whether selected from locally excavated material or imported, shall consist of uniform, readily compactible material, free from vegetable matter, building rubbish and frozen material, or materials susceptible to spontaneous combustion, and excluding clay of liquid limit greater than 80 and/or plastic limit greater than 55 and materials of excessively high moisture content. Clay lumps and stones shall be retained on 100mm and 40mm sieves respectively.

TRENCH WIDTHS & KEY DIMENSIONS

Dia Dn (mm)	Width Bc (mm)		Y(mm)		L(mm)	Z Min (mm)
	Max	Min	Y1 (Uniform Soil)	Y2 (Rock)		
100	550	450	100	200	18	150
150	600	490	150	200		150
225	700	580	150	200		150
300	750	680	150	200		150
375	1050	950	150	200		150
450	1150	1030	150	200		150
525	1200	1120	150	200	36	150
600	1350	1240	150	200		150
675	1450	1330	150	200		225
750	1500	1400	150	200		225
825	1600	1490	150	225		225
900	2100	1900	150	225		225
975	2150	1950	175	250		300
1050	2250	2050	175	275		300
1200	2500	2250	200	300		300
Over 1200	O.D+1000	O.D+800	I.D/6	I.D/4	54	400

© ABLEY LETCHFORD PARTNERSHIP LTD.
This drawing should not be reproduced without consent.

GENERAL DRAINAGE NOTES:

1. All sewers to comply with the requirements of the water authorities publication "Design and Construction Guidance, Version 2.1" together with Independent Water Network Addendum.
2. All public sewers are to be the subject of a Section 104 agreement of the Water Industry Act 1991.
3. Invert levels of existing manholes and sewers are to be checked on site before construction commences and results reported to engineers.
4. All manhole ironworks to comply with BS EN124, and be stamped with BSI Kitemark. Covers to suit loading as below:
 - -Carriageways and Roads - E600
 - -Driveways and Verges - C250
 - -Footways and Pedestrian Areas - B125
 - -Gardens/Landscaping - A15
5. All sewer pipes, up to, and including 225mm are to be vitrified clay to BS EN295. All sewer pipes 300mm diameter and above to concrete pipes to BS EN1916.
6. All drainage shall be installed and tested strictly in accordance with the Manufacturers' printed instructions, BS EN 752, BS EN 1601, Local Water Authority requirements and the Building Regulations.
7. All bedding shall be Class S unless noted otherwise.
8. All trenches under existing and proposed public highways are to be backfilled with thoroughly compacted Type 1 granular sub-base material.
9. Drainage laid beneath roads and areas of vehicular access (car parking etc) with less than 1200mm of cover shall be encased in concrete bed and surround with associated movement joints. Drainage laid beneath paths, footways and pedestrian areas with less than 900mm of cover shall be similarly treated.
10. Chambers with outgoing pipes greater than 600mm diameter shall be fitted with guard bars, safety chains or other approved safety devices.
11. The use of precast concrete products made with sulphate resisting cement is mandatory, unless a laboratory report proves such precautions are not necessary.
12. All gully connections to use a minimum diameter pipe of 150mm and to be surrounded by a minimum of 150mm of grade C8/C10 concrete over its full length (which should not exceed 15m) and its connection to the carrier system.

HEADWALL NOTES:

1. All dimensions are in millimetres unless shown otherwise.
2. Brickwork constructed in English Bond in Class B engineering bricks to BS 3921: 1985 & BS EN 772 flush pointed with mortar to designation (i) SHW Series 2400.
3. Brickwork to be:
 - 225 Thick for H < 1.2m
 - 337 Thick for H > 1.2m
4. Concrete to be grade ST4.
5. Unformed surfaces to be U2 plain finish.
6. All concrete below ground shall have Class 2 sulphate resistance.

Rev	Date	Description	Drawn	Checked
A	03.25	First Issue	JJS	RF

ABLEY LETCHFORD PARTNERSHIP
Consulting Engineers
3 Tealgate, Charnham Park
Hungerford, Berkshire RG17 0YT
www.alpce.co.uk Tel: 01488 684390

Client
KIER PROPERTY DEVELOPMENTS LIMITED

Project
SOUTH WOKINGHAM SDL PHASE 2B R11 RESERVED MATTERS APPLICATION

Title
DRAINAGE CONSTRUCTION DETAILS SHEET 1

Status

Scale	Date	Drawn	Checked
AS SHN @ A1	MARCH 2025	JJS	RF

Drawing No: A389-R11-RM-511
Revision: A