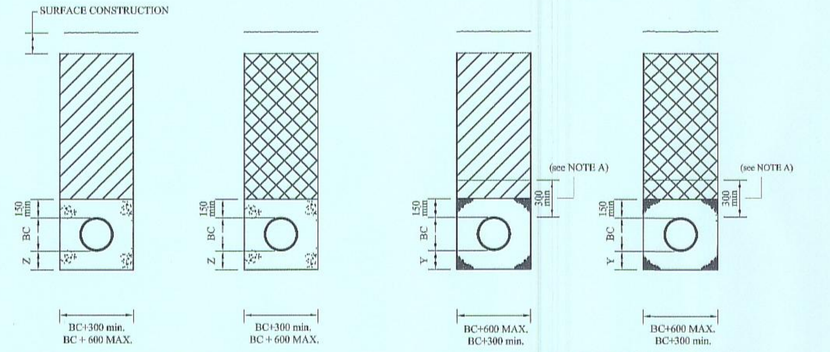


DRAINS WITH CONCRETE BED AND SURROUND

Type 'Z'
APPLICABLE UNDER ROADS / SERVICE YARDS WHERE DRAINS HAVE LESS THAN 1200 COVER (IF ADOPTED) AT THE TIME OF INSTALLATION OR LESS THAN 900 COVER (IF NOT ADOPTED)

Type 'Z'
APPLICABLE UNDER FOOTPATHS VERGES AND OTHER NON-TRAFFICKED AREAS WHERE DRAINS HAVE LESS THAN 900 COVER (IF ADOPTED) OR LESS THAN 600 COVER (IF NOT ADOPTED)

DRAINS WITH FLEXIBLE BED & SURROUND

Type 'S'
APPLICABLE UNDER ROADS / SERVICE YARDS WHERE DRAINS HAVE MORE THAN 1200 COVER (IF ADOPTED) OR MORE THAN 900 COVER (IF NOT ADOPTED)

Type 'S'
APPLICABLE UNDER FOOTPATHS VERGES AND OTHER NON-TRAFFICKED AREAS WHERE DRAINS HAVE MORE THAN 900 COVER (IF ADOPTED) OR MORE THAN 600 COVER (IF NOT ADOPTED)

GRANULAR MATERIAL (SEE TABLE BELOW)

SELECTED CLEAN EXCAVATED MATERIAL TO CLAUSE 505 & 601. CLASS 1, 2, OR 3.

GRANULAR TYPE 1 MATERIAL DEPOSITED IN LAYERS NOT EXCEEDING 225mm UNCONSOLIDATED THICKNESS AND THEN FULLY COMPACTED.

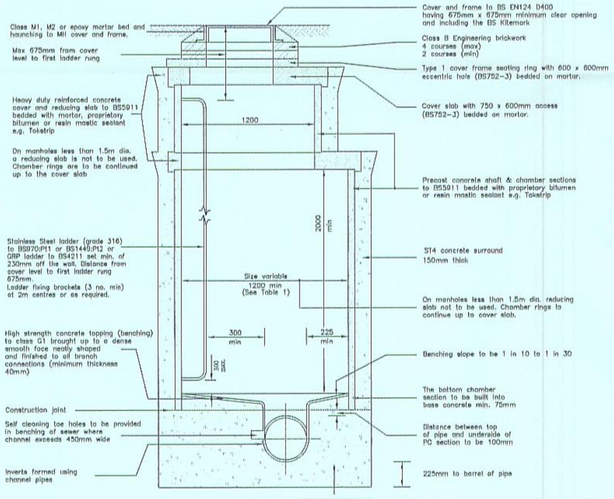
GRADE ST4 CONCRETE (20mm AGGREGATE)

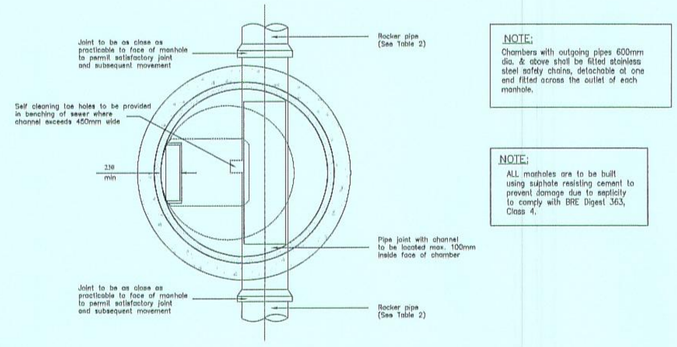
BEDDING & TRENCH DETAILS

PIPE SIZE	'X'
<300mmØ	1200mm
300 - 450mmØ	1350mm

TYPICAL MANHOLE DETAIL– TYPE A

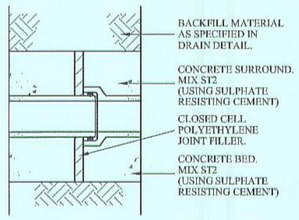
Depth to soffit 3 to 6m Scale: 1/25





NOTE:
Chambers with outgoing pipes 600mm dia. & above shall be fitted stainless steel safety chains, detachable at one end fitted across the outlet of each manhole.

NOTE:
ALL manholes are to be built using sulphate resisting cement to prevent damage due to septicity to comply with BRE Digest 363, Class 4.



NOTES

1. JOINT FILLER THICKNESS: UP TO 300mm DIA PIPE, 25mm. UP TO 600mm DIA PIPE, 40mm.
2. PROVIDE JOINT IN CONCRETE SURROUND AT EVERY PIPE JOINT OR 5m CENTRES WHICHEVER IS GREATER
3. THE JOINT FILLER SHALL EXTEND ACROSS THE FULL AREA OF THE CONCRETE AND THERE IS TO BE NO BRIDGE OF CONCRETE ACROSS THE JOINT.

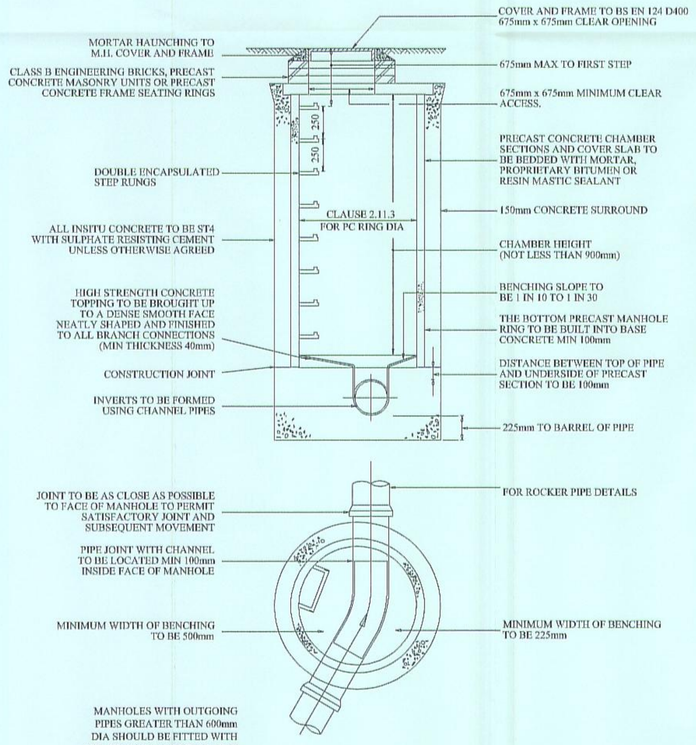
FLEXIBLE JOINT DETAIL FOR BED TYPE Z

GRANULAR MATERIAL	
DIA. OF DRAIN	AGGREGATE
100mm	10mm SINGLE SIZE
150mm	10mm OR 14mm SINGEL SIZE OR 5-20mm GRADED.
225-525mm	10mm OR 14mm SINGLE SIZE OR 5-20mm GRADED.
over 525mm	10, 14, 20 OR 40mm SINGLE SIZE OR 5-40mm GRADED.

NOTE A
NO MECHANICAL COMPACTION WITHIN 300mm OF CROWN OF PIPE.

KEY

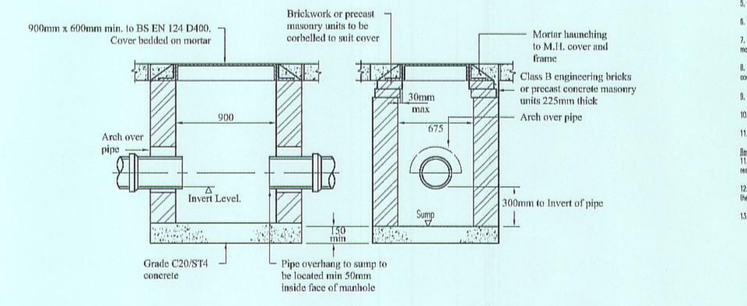
BC	OUTSIDE DIAMETER OF PIPE
Y	BC/6 OR 100mm UNDER BARRELS AND 50mm MIN. UNDER SOCKETS WHICHEVER IS GREATER (400mm MAX.) OR
Y	BC/4 OR 200mm UNDER BARRELS AND 150mm MIN. UNDER SOCKETS WHICHEVER IS GREATER (400mm MAX.) FOR TRENCHES IN HARD MATERIAL.
Z	BC/4 OR 100mm UNDER BARRELS WHICHEVER IS GREATER.
——	EARTHWORKS OUTLINE.



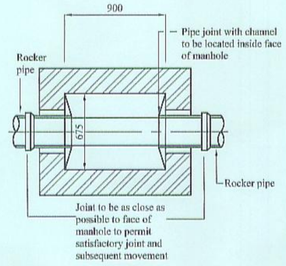
THE DESIGN OF MANHOLES WILL NEED TO COMPLY WITH THE UNDERTAKER'S SAFETY POLICY

TYPICAL MANHOLE DETAIL-TYPE B

MAX DEPTH FROM GROUND LEVEL TO SOFFIT OF PIPE 3.0m



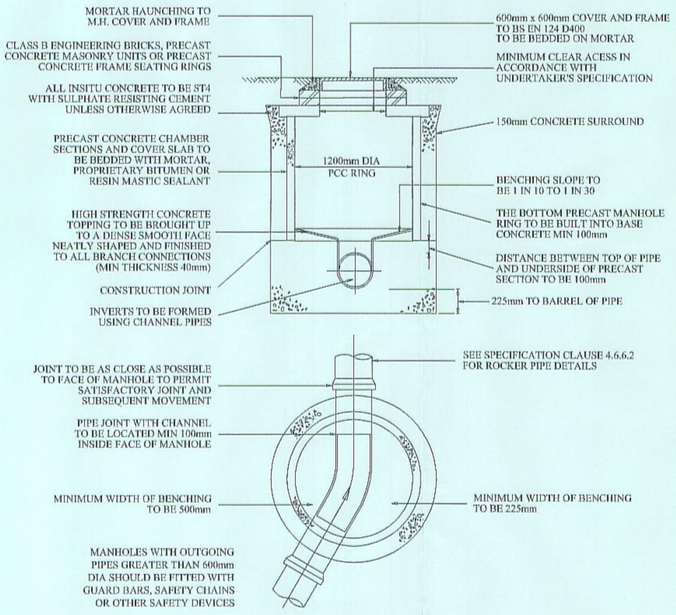
CATCHPIT DETAIL (CP)
NOT TO SCALE



Internal dimensions of manhole normally 900mm x 675mm but manhole width should be increased for pipes larger than 225mm dia. to give 225mm clearance each side with the brickwork / masonry units corbelled down to suit cover

NB: Precast concrete rectangular manhole units with 150mm Grade C20/ST4 concrete surround may be used instead of brickwork.

ALL MANHOLES/CATCHPITS/INSPECTION CHAMBERS THAT HAVE INVERTS LOWER THAN THEIR CORRESPONDING POROUS PAVING DISTRIBUTION TANKS ARE TO BE WRAPPED WITH AN IMPERMEABLE MEMBRANE (TERRAM 2000 OR SIMILAR APPROVED), 200mm OVERLAP WITH WELDED JOINTS.



THE DESIGN OF MANHOLES WILL NEED TO COMPLY WITH THE UNDERTAKER'S SAFETY POLICY

TYPICAL MANHOLE DETAIL-TYPE E (PCC RING)

DEPTH FROM GROUND LEVEL TO SOFFIT OF PIPE 1.0m TO 1.5m

Notes

1. All levels relate to Ordnance Datum.
2. For adoptable roads and sewer details refer to drawings 5_500 series.

Building Drainage
3. All connections to adoptable manholes from private building drainage to be 150mm diameter pipes unless otherwise specified.
4. All house drainage to be 100mm dia unless otherwise stated, and laid in accordance with current Building Regulations and BS8301 : 1985.
5. All drainage products are to be Hepworth Supersleve or Osma.
6. Pipe bedding material is to be Class B with 150mm minimum thickness surround.
7. Backfill is to be be with selected fill free of stones larger than 40mm, lumps of clay over 100mm, timber, frozen material and vegetable matter.
8. Pipe protection of house drainage runs is required in accordance with the Typical House Drainage Details drawing. The contractor shall satisfy themselves and agree with the Site Management the actual extent of pipe protection required.
9. Pipes entering and leaving manholes/inspection chambers shall include a rocker pipe, 600mm in length.
10. Brickwork in chambers shall be Class B Engineering to BS3921.
11. Rainwater pipes are to be sited on side elevations whenever possible.

Bagrade
11. All retaining walls with a height of 600mm or greater are to include 1.2m high post and rail fencing unless located in rear gardens. Similar retaining walls in rear gardens are to include 900mm height picket fence.
12. All flights of steps to primary level access, with more than 2 steps are to be provided with handrailing, except where the steps are 900mm or more appart.
13. Brick retaining walls are to be used in preference to gravel boards for front garden areas.

INFILTRATION POROUS PAVING SYSTEM – TO BE UNDERLAIN WITH A PERMEABLE MEMBRANE (TERRAM 1000 OR SIMILAR APPROVED)

UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT LOCAL AUTHORITIES, IT SHOULD BE UNDERSTOOD THAT ALL DRAWINGS ARE ISSUED AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR COMMENCE SITE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT HIS OWN RISK.

Rev	Date	Details	By

Drainage Authority Approval Date

Highway Authority Approval Date

Do not scale from this drawing. Use written dimensions only. When shown relationships between slab levels and ground levels one to be checked on site. Any discrepancy or suggested modification to be reported to Design and Engineering Director.
Note : This drawing is the copyright of Bovis Homes Ltd.

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SITE
KINGSMERE, BICESTER
KM4

DRAWING TITLE
TYPICAL DRAINAGE DETAILS

DRAWN BY	DATE	DRAWING NO.	REV
RM	02.09.14	BICE_5_972	–
SCALE: NTS	CHECKED/DATE RH		