

Refer to manhole schedule for cover type.

Mortar haunching to M.H. cover and frame refer to clause 5.6.7 of Sewers for Adoption 6th edition

See table 2.3 of sewers for adoption 6th edition

On manholes less than 1.5m diameter reducing slab not to be used and PC rings to continue up to cover slab.

In-situ concrete to be ST4 concrete mix(designed to BRE 363) and in accordance with BS8500/1/2006.

Lifting eyes in concrete rings to be pointed

High-strength concrete topping to be brought up to a dense, smooth face, neatly shaped and finished to all branch connections (minimum thickness 20mm)

Self-cleaning toe holes to be provided where channel exceeds 600mm wide

Inverts to be formed using channel pieces

2-4 Courses of class B engineering bricks in English bond, concrete blocks or precast concrete cover frame seating rings
Shaft diameter 900mm if no ladder or steps iron, otherwise 1200mm

Precast concrete manhole sections and cover slab to be bedded with mortar, proprietary bitumen or resin mastic sealant
Concrete surround 150mm thick

The bottom precast section to be built into base concrete minimum 75mm

Benching slope to be 1:10 to 1:30
Construction joint

Distance between top of pipe and underside of precast section to be minimum 50mm to 225mm to 300mm of pipe

COVER TO BE SEATED ON CONCRETE NIBS. ANY REQUIREMENTS FOR REINFORCEMENT OR TYING-IN OF NIBS TO STRUCTURAL SLAB TO BE SPECIFIED BY STRUCTURAL ENGINEER.

CONCRETE SLAB TO STRUCTURAL ENGINEER'S DETAILS.

ENCASEMENT TO PIPE BEDDING DETAILS
FLEXIBLE JOINT TO ROCKER PIPE

REFER TO STRUCTURAL ENGINEER'S DRAWINGS FOR DEPTH OF MANHOLE BASE.

ANY REQUIREMENTS FOR BLINDING AND HEAVE PROTECTION TO BE SPECIFIED BY STRUCTURAL ENGINEER.

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CONCRETE SLAB TO STRUCTURAL ENGINEER'S DETAILS.

HIGH-STRENGTH CONCRETE TOPPING TO BE BROUGHT UP TO A DENSE, SMOOTH FACE, NEATLY SHAPED AND FINISHED TO ALL BRANCH CONNECTIONS (MINIMUM THICKNESS 20mm)

REFER TO STRUCTURAL ENGINEER'S DRAWINGS FOR DEPTH OF MANHOLE BASE.

ANY REQUIREMENTS FOR BLINDING AND HEAVE PROTECTION TO BE SPECIFIED BY STRUCTURAL ENGINEER.

DEPTH OF COVER FRAME VARIES DEPENDING ON MANUFACTURER.

FLOOR BUILDUPS TO ARCHITECT'S SPECIFICATION

REFER TO MANHOLE SCHEDULE FOR COVER TYPE, DIMENSIONS AND LOAD GRADE.

REFER TO MANHOLE SCHEDULE FOR INTERNAL DIMENSIONS OF MANHOLES.

REFER TO BELOW GROUND DRAINAGE DRAWING FSD-Z0-B1-DR-C-6000 AND FSD-Z0-B1-DR-C-6001 FOR INCOMING AND OUTGOING PIPE INVERT LEVELS. INVERTS TO BE FORMED USING CHANNEL PIECES.

MAXIMUM 150mm. KEEP AS MINIMUM AS POSSIBLE

REFER TO STRUCTURAL ENGINEER'S DRAWINGS FOR THICKNESS OF MANHOLE WALLS.

Flexible Joints	
Pipe diameter	Max. length of rocker pipes
100 & 150 (All spigot)	300mm
150 - 600	625mm
675 - 900	1250mm

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FLOOR BUILDUPS TO ARCHITECT'S SPECIFICATION

REFER TO MANHOLE SCHEDULE FOR COVER TYPE, DIMENSIONS AND LOAD GRADE.

REFER TO MANHOLE SCHEDULE FOR INTERNAL DIMENSIONS OF MANHOLES.

BENCHING TO BE 1:10 TO 1:30

REFER TO STRUCTURAL ENGINEER'S DRAWINGS FOR THICKNESS OF MANHOLE WALLS.

TYPICAL REINFORCED CONCRETE MANHOLE CHAMBER DETAIL FOR SURFACE WATER/ FOUL WATER MANHOLE CHAMBERS SCALE 1:20

Joint to be as close as possible to face of manhole to permit satisfactory joint and subsequent movement

Minimum width of benching for landing area to be 500mm

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

See clause 5.6.6.2 of sewers for adoption 6th edition for rocker pipe details

Minimum width of benching to be 225mm

Pipe joint with channel to be located minimum 100mm inside face of manhole

Typical Manhole Detail - Type A

Scale 1:20

Manhole cover and frame to BS EN 124:1994. For load category refer to manhole schedule.

150mm. Thick heavy duty reinforced concrete cover slab (B.S.5911) bedded with class m1 or m2 mortar or mastic sealant

Step irons or ladder To BS 1247. Max. 675mm from cover level to first step iron or ladder rung

Construction joint
Grade C20P concrete to base and benching

Refer to manhole schedule

Refer to manhole schedule

Class B engineering brickwork 4 courses max., 2 courses min. laid 215mm wide in English bond.

Precast concrete chamber sections

C20P Concrete surround 150mm. thick

Gravity drain

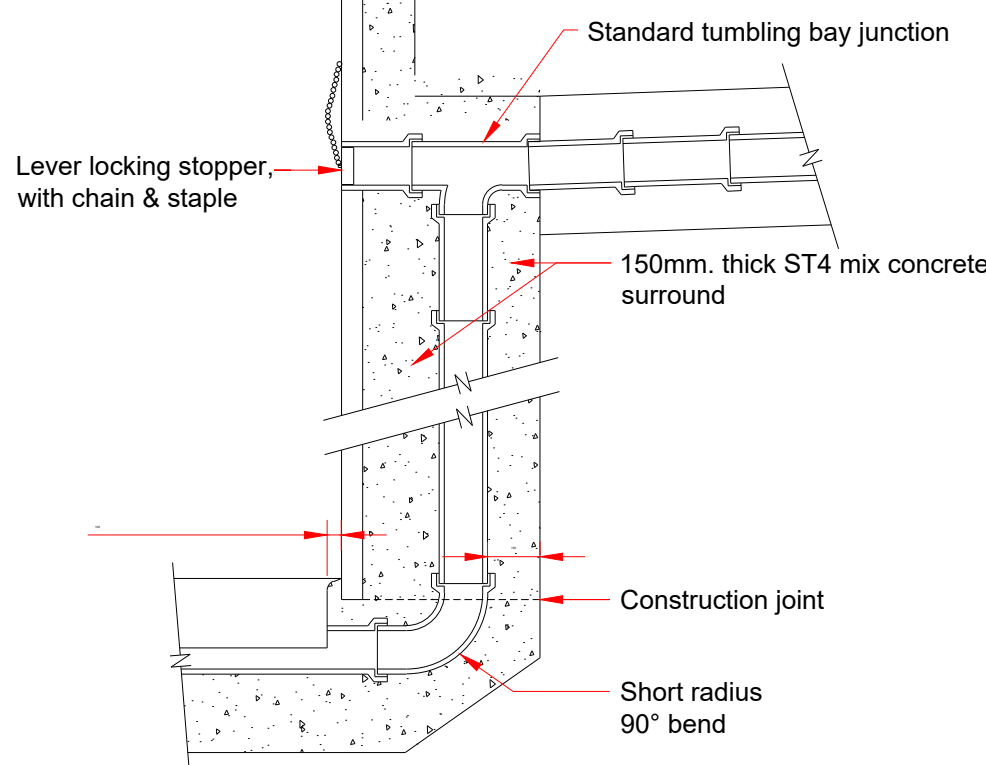
Gravity drain

450mm Sump below outlet invert

225mm

CATCHPIT MANHOLE

Scale 1:20



TYPICAL VERTICAL BACKDROP DETAIL

Scale 1:20

NOTES

GENERAL:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE STATUTORY UNDERTAKERS, PRIOR TO THE COMMENCEMENT OF THE WORKS, TO ESTABLISH THE EXACT POSITION OF THEIR PLANT, WHICH SHALL BE CONFIRMED BY HAND DUG TRIAL PITS.

3. ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH WATER SERVICES ASSOCIATION, 'SEWERS FOR ADOPTION', 7th EDITION, DEPARTMENT OF TRANSPORTS 'SPECIFICATION FOR HIGHWAY WORKS' PUBLISHED BY HMSO AND TO THE SATISFACTION OF BUILDING REGULATIONS PART H.

4. ALL CONCRETE AND CONCRETE PRODUCTS BELOW GROUND LEVEL SHALL BE SULPHATE RESISTING PORTLAND CEMENT CLASS GEN3 IN ACCORDANCE WITH BRE SPECIAL DIGEST 1.

5. ALL PIPE CONNECTIONS SHALL BE MADE SOFFIT TO SOFFIT.

6. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE DRAINAGE WORKS FOR THE DURATION OF THE CONTRACT.

7. DRAINS TO BE CONSTRUCTED USING FLEXIBLY JOINTED VITRIFIED CLAY PIPES TO BS 651991 'SUPER STRENGTH' SPECIFICATION AND BS EN 295-1:1995 (HEPWRTH SUPERSELEVE OR SIMILAR APPROVED) OR FLEXIBLY JOINTED CONCRETE PIPES TO BS 5911-1:2002 OR UPVC BUILDING DRAINAGE SYSTEM PIPE WORK TO BS EN 1401:2009, BEDDED AND BACK FILLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, ALL TESTED IN ACCORDANCE WITH BS EN 1610:1998.

8. PRIVATE FOUL WATER AND SURFACE WATER DRAINAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE BUILDING REGULATIONS PART H (BS 8301:1985), BS EN 752:2008 AND RELEVANT AGREEMENT CERTIFICATES, ALL TESTED IN ACCORDANCE WITH BS EN 1610:1998.

9. ALL MANHOLE COVERS SHALL BE BADGED 'SW' FOR SURFACE WATER AND 'FW' FOR FOUL WATER ACCORDINGLY.

10. GULLY POTS SHALL BE PROVIDED WITH A HOT DIP GALVANISED STOPPER AND CHAIN WITH A BAYONET TYPE FIXING WITH A 150mmØ OUTLET PIPE.

11. THE GULLY GRATING AND FRAME SHALL BE SET AT A LEVEL OF +46mm BELOW THE FINISHED GROUND LEVEL.

12. ALL GULLY CONNECTIONS MUST BE AIR TESTED IN ACCORDANCE WITH CL 509 OF SHW.

13. RIGID PIPES ENCASED IN CONCRETE SHALL HAVE A MOVEMENT JOINT CONSISTING OF 13mm COMPRESSIBLE BOARD AROUND THE SPIGOT NEXT TO THE SOCKET, EITHER AT EACH JOINT OR NOT EXCEEDING 5 METRE INTERVALS.

14. CONCRETE COVER TO ANY OF THE PIPES MAY BE FORMED TO A RADIUS BATTER OR HORIZONTAL SURFACE.

15. REINFORCED IN-SITU CONCRETE TO CL 1700 OF SHW, UNREINFORCED IN-SITU CONCRETE TO CL 2802 OF SHW.

16. CEMENT MORTAR FOR BRICKWORK AND HAUNCHING TO MANHOLE COVERS AND FRAMES TO BE DESIGNATION (i) TO CL 2404 OF SHW.

17. TOKSTRIP SEALANT OR SIMILAR APPROVED TO BE USED IN ALL PRECAST JOINTS.

ISSUED FOR APPROVAL

Rev.	Description	Date	By
C5	ISSUED FOR APPROVAL	05.07.24	SK
C4	ISSUED FOR APPROVAL	01.08.22	SK



Job Title **PLOT H3 ACCOR TRIBE HOTEL**

Client **FORM SD**

**1513-SPW-Z0-00-DR-C-6251
BELOW GROUND DRAINAGE
TYPICAL DETAILS - SHEET 2**

Drawn	Date	Scale	Checked	CAD Filename
SK	06.01.22	NTS @ A1	SK	C-6251

Job No.	Drawing No.	Revision
1513	C-6251	C5