

600 mm x 600 mm clear opening cover complying with BS EN 124 and BS 7903
See Clause E2.32

Mortar bedding and haunching to cover and frame to Clause E5.7

Minimum 2 courses of Class B engineering bricks or precast concrete cover frame seating rings

675 mm maximum to first step rung from cover level

Lifting eyes in concrete rings to be pointed

In-situ concrete to be GEN3 (designed to BRE Special Digest 1 Concrete in Aggressive Ground)

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

Construction joint

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

Inverts to be formed using channel pipes

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

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

Double step rungs in accordance with BS EN 13101
See Clause E2.33 for double step details

Minimum clear access 600 mm

Precast concrete manhole sections and cover slab to be bedded with mortar, plasticomeric or elastomeric seal conforming to BS EN 1917 and BS 5911-3
See Clause E2.29

150 mm concrete surround

Chamber height (not less than 900 mm)

Benching slope to be 1:10 to 1:30

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

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

225 mm to underside of channel

See Figure B.14 and Clause E5.6.2 for rocker pipe details

Minimum width of benching to be 225 mm

500 mm minimum from edge of stepping

Technical drawing of a manhole structure, showing various components and dimensions. The drawing is a cross-section of a vertical manhole shaft with a conical cover at the top and a base at the bottom.

Components and Dimensions:

- Manhole cover to suit BS EN 124 loading:** minimum 300 mm x 300 mm clear opening.
- Surface course**
- Binder course**
- Base course**
- Cover slab with access opening restricted to 350 mm diameter or 300 mm x 300 mm.** If depth of chamber to invert is > 1 m.
- Precast concrete sections to be jointed with elastomeric or plasticum seals.**
- Minimum internal dimensions:** 450 mm diameter or 450 mm x 450 mm.
- DOT Type 1 sub base (thickness varies) or concrete surround.**
- Base unit to have all connections with soffit levels set no lower than that of the main pipe.**
- Joint to be as close as possible to face of chamber to permit satisfactory joint and subsequent movement.**
- See Figure B.14 and Clause E6.2 for rocker pipe details.**
- Invert of connecting pipe at least 50 mm above that of the main pipe.**
- Granular bedding material.**
- 100 mm precast base or 150 mm in-situ formed.**
- Pipes built into chamber wall or joint formed with watertight seals.**
- Temporarily cap manhole shaft during construction.**
- DOT Type 1 sub base (thickness varies).**
- 1-4 precast concrete cover frame seating rings with 350 mm diameter or 300 mm x 300 mm opening or class B engineering bricks.**
- Mortar bedding and haunching to cover and frame to Clause E6.7.**

Ground Level

Minimum 200mm topsoil to landscape architects details

150mm x 600mm deep French Drain with 150mm perforated pipe

10 - 63mm size stone surround

CLASS D PIPE BEDDING

Technical drawing of a cross-section of a wall with a window. The wall has a total height of 150. The window opening is x . The wall thickness is $x + 600$ max and $x + 300$ min. The window is centered vertically.

CLASS N PIPE BEDDING

LEGEND:

PE BORE BEDDING CLASS		Fields and gardens		Light traffic roads		Heavy traffic roads	
		MIN	MAX	MIN	MAX	MIN	MAX
100mm	D or N F B	0.4	4.2	0.7	4.1	0.7	3.7
		0.3	5.8	0.5	5.8	0.5	5.5
		0.3	7.4	0.4	7.4	0.4	7.2
150mm	D or N F B	0.6	2.7	1.1	2.5	--	--
		0.6	3.9	0.7	3.8	0.7	3.3
		0.6	5.0	0.6	5.0	0.6	4.6
225mm	D or N F B	--	--	--	--	--	--
		0.6	2.5	1.2	2.1	--	--
		0.6	3.3	0.8	3.2	0.9	2.4

	Selected fill: free from stones larger than 40mm, lumps of clay over 100mm, timber frozen material and vegetable matter
	Granular material: should conform to BS 882:1983 table 4 or BS8301:1985 Appendix D. Compaction fraction > 0.3 for class N > 0.2 for class F and B.
	Selected fill or granular fill free from stones larger than 40mm

'X' - Denotes external pipe diameter.

150
x
min 100

45° min

Generally suitable in all soil conditions

CLASS F PIPE BEDDING

1:100yr storm = Climate change
Water Level 4.557

Maintained Reservoir
Water Level 3.850

1.2:5 bank

See Headwall Detail

Top of Bank
4.600

150mmØ
Overflow
Pipe

SW-07
Hydrobrake 20 l/s
CL 4.600
IL pipe out 3.600
Base 3.100

To existing ditch

Reservoir Bed
1.500

Min 1500 or Pipe Ø + 1200mm

800 Max Centres

Nominal 125mm x 500mm

Outlet pipe
See GA for diameter

Staked with hooked 12mm reinforcing bar

See GA for height

[illegible]

See Figure B.12 for construction of manhole above pipe

The diagram shows a cross-section of a manhole structure. A vertical pipe, labeled 'Incoming / Outgoing pipe', passes through the center. The manhole is constructed from precast concrete sections, with a 'Construction joint' indicated. The bottom of the manhole is a '500mm Sump'. The base of the manhole is a '225 mm concrete base'. A note specifies: 'The bottom precast manhole ring to be built into base concrete minimum 75 mm'.

Steel Spikes to hook over top of bagwork

1:2 Bank

Level and depth of swale to be dependent upon location. See GA

Outlet pipe See GA for diameter

Pipe cut to profile of ditch

Backfill behind bagwork to be placed and tamped as work proceeds

Unsuitable material in foundation to be excavated and backfilled with ST4 concrete

Isolation joint

Isolation joint

Invert Depths
 S200 2300 unit = 279mm
 S300 2400 unit = 360mm

mm minimum Class GEN1
 concrete bed and surround or as
 specified by channel drain supplier.