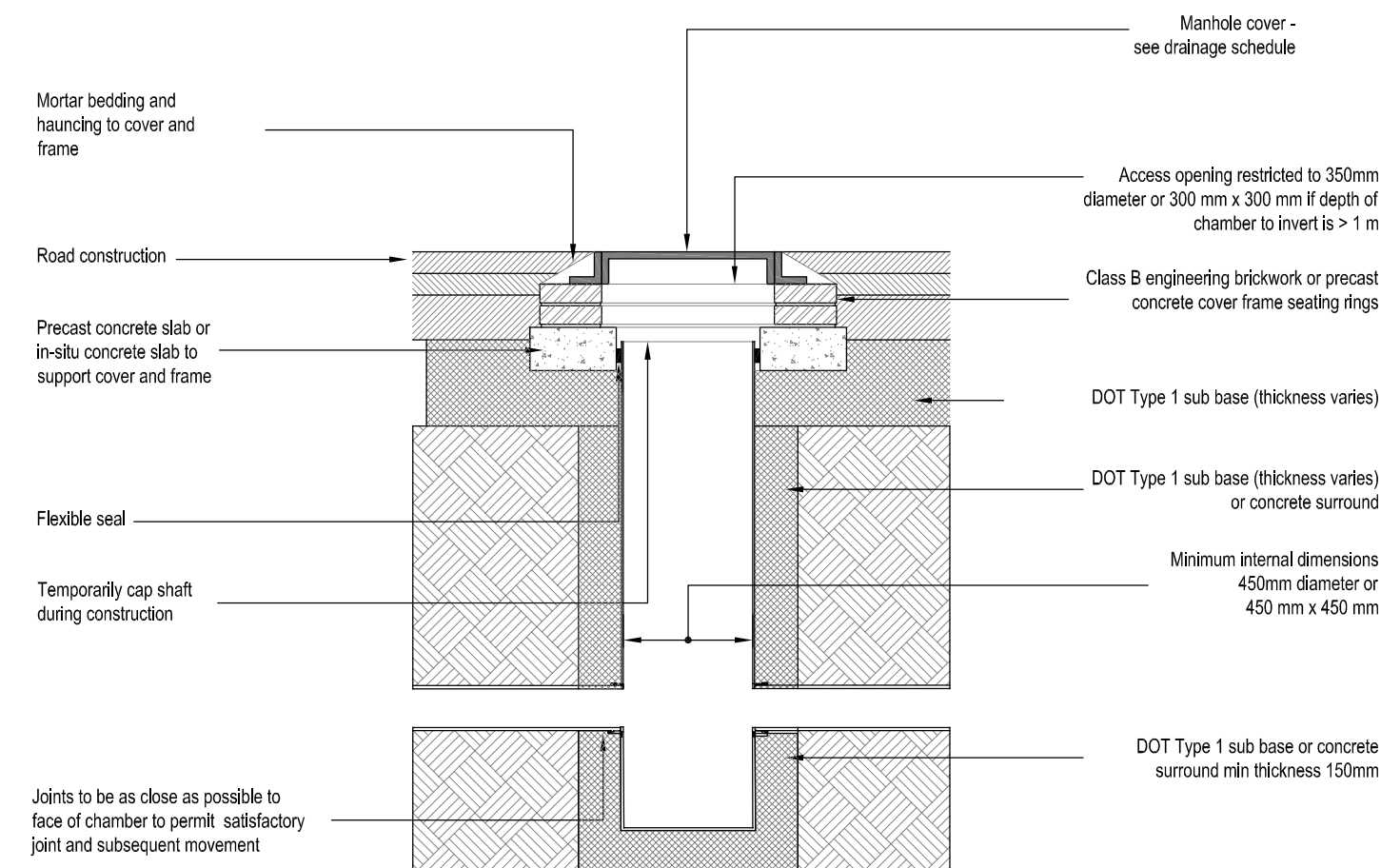


Maximum depth from cover level to soffit of pipe 2 m, non entry

Type 5 manholes may be constructed using 305mm 450Ø shaft sections with integral seal, final shaft section cut to length up to a maximum of 1.2m deep



Hydrobrake
Design Head:0.79m
Design Flow : 3.0lts/sec

Benching

Concrete (by others)

Discharge to ExS1

150mmØ ID Pipe (175 OD PE SDR26 pipe)

20mm Polymer Sheet

500

Connection from
Attenuation Tank (AT1)

150mmØ ID Pipe (175 OD PE SDR26 pipe)
Concrete (by others)

675mm x 675mm clear opening
cover complying with BS EN 124
and BS 7903

HB1 1200mmØ RIDGiStormCheck
CL:40.40m

Ø1200

Connection from
Attenuation Tank AT1

Discharge
to ExS1

IL:38.85m

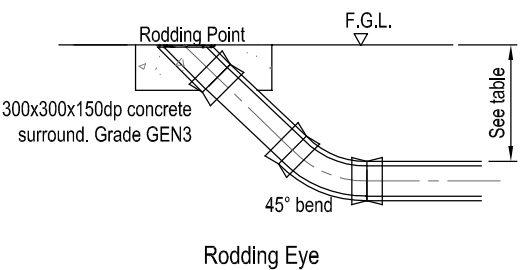
500

250 300

HB1 Section View A-A

HB1: RidgiStorm Flow Control

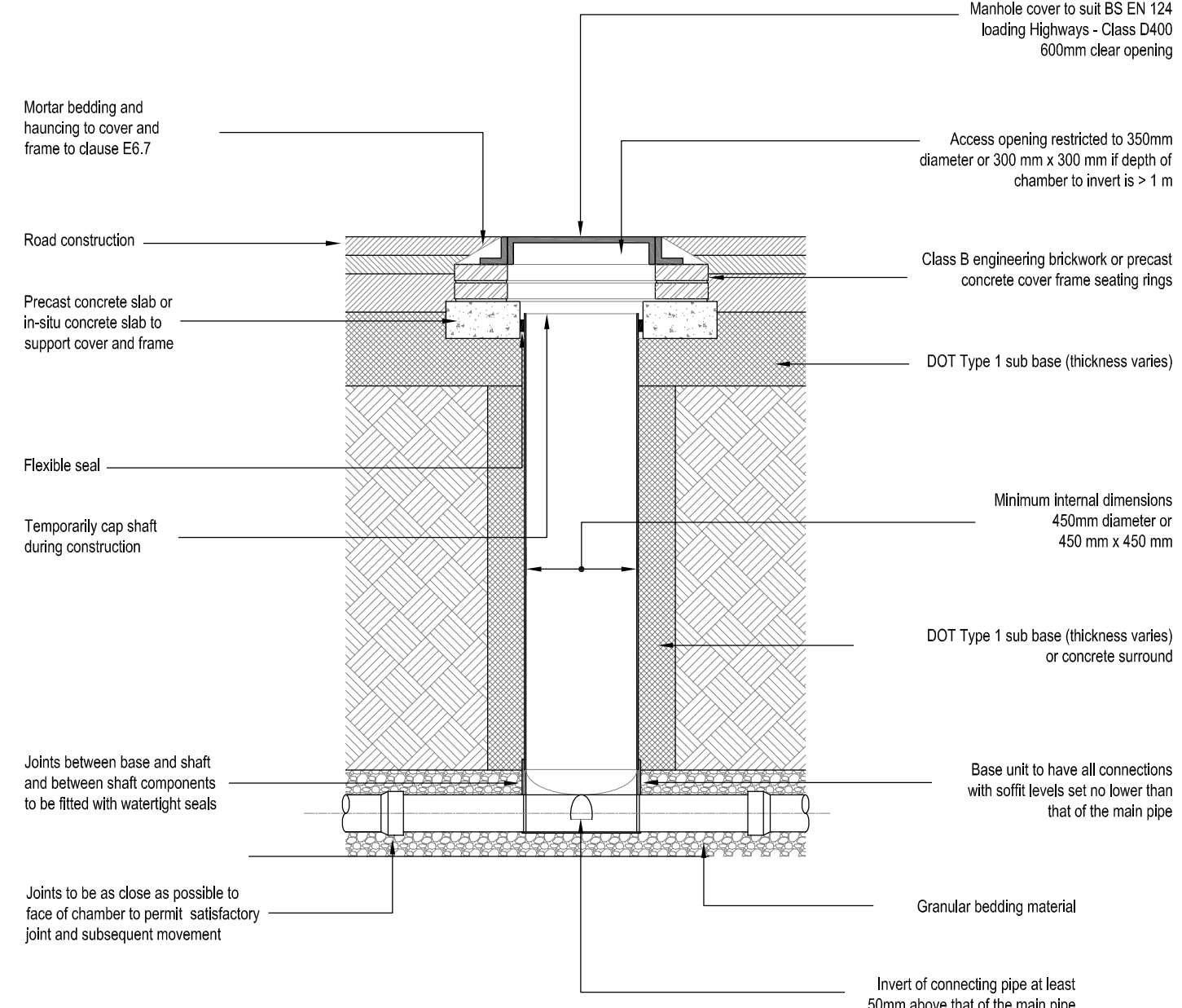
HB1: RidgiStorm Flow Control



Rodding Eye Details: Type RE

Maximum depth from cover to soffit level of pipe in areas subject to vehicle loading 3 m, non-entry

Plastic chambers and rings shall comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent Independent approval



TYPICAL MANHOLE DETAIL - TYPE D (For Rigid Pipe Construction)

The drawing illustrates the construction of a manhole for rigid pipe. It includes three main views:

- Plan View (Top Left):** Shows the top of the manhole structure. A 675mm x 675mm cover is bedded on mortar. The structure is built with brickwork, corbelled with a maximum of 30mm per course to suit the cover. The inner structure is made of Class B engineering bricks or concrete blocks, with PCC masonry units not less than 200mm thick. The overall width is 900mm. The pipe joint is located 100mm inside the face of the manhole.
- Section View (Top Right):** Shows the vertical profile of the manhole. The top is finished with a cement mortar bed and haunching to the MH cover and frame. The inner structure is an arch over the pipe. The arch is built with Class B engineering bricks or concrete blocks, with PCC masonry units not less than 200mm thick. The arch is supported by a benching slope of 1 in 10 to 1 in 30, high strength concrete, topped with a minimum 20mm thick concrete. The invert is formed using channel pieces, with a minimum 225mm clearance between the barrel and the bottom of the base.
- Detail View (Bottom Left):** Shows a close-up of the pipe joint. The joint is located 100mm inside the face of the manhole. The pipe is 600mm in diameter. The joint is to be as close as possible to the face of the manhole to facilitate satisfactory jointing and permit any subsequent movement.

Labels and dimensions include:

- 675mm x 675mm cover bedded on mortar
- Brickwork to be corbelled (maximum 30mm per course) to suit cover
- Class B engineering bricks, concrete blocks, PCC masonry units not less than 200mm thick.
- GEN3 concrete with sulphate resisting cement unless agreed otherwise
- Pipe joint with channel to be located 100mm inside face of manhole
- 900
- 675
- Arch over pipe
- Benching slope to be 1 in 10 to 1 in 30, High strength concrete topping min 20mm thick
- Inverts to be formed using channel pieces
- 225mm Min. between barrel and bottom of base
- See Table 2 for rocker pipe details
- 900
- 600
- Joint to be as close as possible to face of manhole to facilitate satisfactory jointing and permit any subsequent movement

Type 3 manholes may be constructed using 305mm 450Ø shaft sections with integral seal, final shaft section cut to length up to a maximum of 1.2m deep

Plastic chambers and rings shall comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent independent approval

Technical cross-section diagram of a BS EN 124 and BS 7903 access opening. The diagram illustrates the construction details of the access opening, including the concrete collar, flexible seal, and temporary cap shaft during construction. The access opening is restricted to 350mm diameter or 350 mm x 300 mm if the depth of the chamber is invert + 1 m. Minimum internal dimensions are 450mm diameter or 450 mm x 450 mm. The diagram also shows mortar bedding and haunching to cover and frame to Clause E6.7, and driveways, footways and landscaped areas - Class B125 to Clause E2.32.

Labels and dimensions:

- Mortar bedding and haunching to cover and frame to Clause E6.7
- BS EN 124 and BS 7903 Driveways, footways and landscaped areas - Class B125 See Clause E2.32
- 150mm deep concrete collar
- Flexible seal
- Temporarily cap shaft during construction
- Access opening restricted to 350mm diameter or 350 mm x 300 mm if depth of chamber to invert + 1 m
- Minimum internal dimensions:
 - 450mm diameter or
 - 450 mm x 450 mm

Technical cross-section diagram of a cover assembly for a manhole or access point. The diagram shows a concrete cover (1) with a flexible seal (2) and a temporarily cap shaft (3) during construction. The cover is supported by a concrete base (4) and a concrete frame (5). The assembly is surrounded by mortar bedding and haunching (6) and is covered by topsoil (7). The diagram also shows the cover complying with BS EN 124 and BS 7093, and the frame complying with BS EN 124 and BS 7093. The cover is made of concrete and the frame is made of concrete. The cover is 450mm diameter or 450mm x 450mm. The frame is 450mm diameter or 450mm x 450mm. The access opening is restricted to 350mm diameter or 300mm x 300mm if depth of chamber to invert > 1m. The minimum internal dimensions are 450mm diameter or 450mm x 450mm. The cover is made of concrete and the frame is made of concrete. The cover is 450mm diameter or 450mm x 450mm. The frame is 450mm diameter or 450mm x 450mm. The access opening is restricted to 350mm diameter or 300mm x 300mm if depth of chamber to invert > 1m. The minimum internal dimensions are 450mm diameter or 450mm x 450mm.

Maximum depth from cover level to soffit of pipe 2 m, non entry

Sited in domestic driveways/paved areas

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

150 mm deep concrete collar

Minimum radius to be 500 mm for a 100 mm diameter pipe and 600 mm for a 150 mm diameter pipe to allow entry of maintenance equipment

Joints between base and shaft and shaft components to be fitted with watertight seals

Granular bedding material

BS EN 124 and BS 7903 Driveways, footways and landscaped areas - Class B125 See Clause E2.32

Minimum internal dimension 250 mm diameter

DOT Type 1 sub base (thickness varies) or concrete surround

Base unit: to have all connections with a diameter of greater than 150 mm set at bedding level

Technical cross-section diagram of a manhole assembly. The diagram shows a vertical shaft with a cover at the top and a base unit at the bottom. The shaft is lined with a material that has a minimum internal diameter of 250 mm. The cover is made of concrete or DOT Type 1 sub base, with a thickness that varies. The base unit is made of concrete or DOT Type 1 sub base, with a thickness that varies. The shaft is surrounded by a granular bedding material. The cover is supported by a cover frame. The shaft is supported by a base unit. The shaft is surrounded by a granular bedding material. The cover is supported by a cover frame. The shaft is supported by a base unit. The shaft is surrounded by a granular bedding material.

Labels and specifications in the diagram:

- Topsoil**: Indicated at the surface level.
- Minimum radius to be 500 mm for a 100 mm diameter pipe and 600 mm for a 150 mm diameter pipe to allow entry of maintenance equipment**: A note pointing to the curved transition at the base of the shaft.
- Minimum internal dimension 250 mm diameter**: A note pointing to the inner diameter of the shaft lining.
- DOT Type 1 sub base (thickness varies) or concrete surround**: A note pointing to the material surrounding the shaft.
- Base unit: to have all connections with a diameter of greater than 150 mm and at scuttle levels**: A note pointing to the base unit at the bottom of the shaft.
- Granular bedding material**: A note pointing to the material at the bottom of the shaft.
- Cover complying with BS EN 124 and BS 7903**: A note pointing to the top cover.
- Driveways, footpaths and landscaped areas - Class B125 See Clause E2.32**: A note pointing to the area around the cover.
- Mortar bedding and haunching to cover and frame to Clause E5.7**: A note pointing to the material between the cover and the frame.
- Joint between base and shaft and shaft components to be fitted with watertight seals**: A note pointing to the seal between the base unit and the shaft lining.

Bed B
Bedding Factor 1.0

Labels in diagram:
 - Backfill (see note 5)
 - Selected granular backfill (see note 6)
 - O.D./4 Under barrels & sockets or 100mm min. (200mm min. for rock)
 - Granular pipe bedding (see note 7)
 - 300mm
 - EARTHWORKS OUTLINE

1. All pipes shall be laid in trenches in accordance with Part H of the building regulations.
2. All trenches shall have vertical sides for full depth. Exceptionally, with prior approval of the Engineer, trenches may be battered above a point not less than 300mm above the top of the pipe

3. All bedding classes requiring concrete shall have a 12mm expansion joint constructed for the full width and depth of the concrete and shall be placed at pipe joints not more than 5.0 metres apart

4. Reinstatement of trenches in existing carriageway shall comprise of the same materials and thicknesses to underside of wearing course as for new carriageway construction unless otherwise described in the Contract

6. Selected fill: free from stones larger than 40mm, lumps of clay over 100mm, timber, frozen material & vegetable matter.

7. Granular Material - For rigid pipes the granular material should conform to BS EN 1610 Annex B Table B.15 and should be single size material or graded material from 5mm up to a maximum size of 10mm for 100mm pipes, 14mm for 150mm pipes, 20mm for pipes from 150mm up to 600mm Ø and 40mm pipes more than 600mm Ø. Compaction maximum 0.3 for class N or B, and 0.15 for class F.

8. All works and materials to be in accordance with Water Authorities Association "Sewers for Adoption" 7th edition

9. Bed B: To be used in areas not subjected to vehicular loadings. Where depth of cover is less than 0.5m then a protective slab or concrete blinding should be installed.

Bed Z: To be used in areas subject to traffic loading where depth of cover is $\leq 0.9\text{m}$.

All bedding classes requiring concrete shall have a 12mm expansion joint constructed for the full width and depth of the concrete and shall be placed at pipe joints not more than 5.0 metres apart

All bedding classes requiring concrete shall have a 12mm expansion joint constructed for the full width and depth of the concrete and shall be placed at pipe joints not more than 5.0 metres apart

Drawing Status
PRELIMINARY

Project
ELGAR ROAD
READING

Client



Drawing Title

Engineering Details
Construction Detail

Drawn KN	Checked	Scales As Shown	Paper Size A1	Date 08.25
Job No. KNC2508		Drawing No. 501-02		Revision C