

SCALE 1:20

A

- Mortar bedding and haunching to cover and frame to Clause E6.7
- Minimum 1 course of Class B engineering bricks or precast concrete cover frame seating rings
- 675 mm maximum to first step rung from cover level
- In-situ GEN3 concrete complying with E4.1 and BRE Special Digest 1
- Lifting holes in concrete rings to be pointed
- Minimum 20 mm thick high-strength concrete topping complying with Clauses E4.3 and E6.5 neatly shaped and finished to all branch connections
- Self-cleaning toe holes to be provided where channel exceeds 600 mm wide
- Inverts to be formed using channel pipes

B

- Cover complying with Clause E2.32 600 mm x 600 mm clear opening
- Precast concrete slab complying with E2.30
- 600mm x 750mm cover slab opening
- 900mm minimum clear access behind ladder
- Shaft diameter 1200mmØ
- DNI/D to Clause B5.2.12
- Precast concrete chamber sections complying with Clause E2.29 jointed with mortar, elastomeric or plastermeric seals
- 150 mm concrete surround
- The bottom precast manhole ring to be built into base concrete minimum 75 mm
- Benching slope to be 1:10 to 1:30
- Construction joint
- In-situ GEN3 concrete complying with E4.1 and BRE Special Digest 1

C

2000mm min

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 450mm from the edge of the ladder to the edge of the channel (See Clause B5.2.29)

Ladder complying with Clause E2.37

for rocker pipe details

Minimum width of benching to be 225 mm

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

SCALE 1:20

Compacted granular bed (type 20/5 or single size stone max 20mm)

150mm

Rest bend 210 mm minimum radius

225mm min

Granular bedding material

Benching

To channel

Inside face of manhole

Straight outlet pipe for 150 mm and 225 mm diameter only. For larger diameters, bends are to be built through the manhole wall

of benching (unless specific man-access requirements are provided)

150mm

Compacted granular bed (type 20/5 or single size stone max 20mm)

45° short bend 210 mm

External Vertical Backdrop

SCALE 1:20

Mortar bedding and haunching to cover and frame to Clause E6.7

Minimum 1 course of Class B engineering bricks or precast concrete cover frame seating rings

675 mm maximum to first step rung from cover level

Lifting holes in concrete rings to be pointed

In-situ GEN3 concrete complying with E4.1 and BRE Special Digest 1

Minimum 20 mm thick high-strength concrete topping complying with Clauses E4.3 and E6.5 neatly shaped and finished to all branch connections

Construction joint

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

Inverts to be formed using channel pipes

Cover complying with Clause E2.32, 600 mm x 600 mm clear opening

Precast concrete slab complying with E2.30

Minimum clear access 600 mm

Precast concrete chamber sections complying with Clause E2.29 jointed with mortar, elastomeric or plastomeric seals

150 mm concrete surround

Chamber height (not less than 900mm)

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

Benching slope to be 1:10 to 1:30

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

In-situ GEN3 concrete complying with E4.1 and BRE Special Digest 1

225mm to underside of channel

DN/ID to Clause B5.2.12

Technical drawing of a manhole structure showing various components and their specifications:

- 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 complying with Clause E2.33
- Minimum width of benching to be 225 mm

SCALE 1:20

1220mm x 685mm multiple ductile iron cover. Cover complying with Clause E2.32

Mortar bedding and haunching to cover and frame to Clause E6.7

Brickwork or concrete blocks to be corbelled (maximum 30 mm per course) to suit cover

Precast concrete chamber sections complying with Clause E2.29 jointed with mortar, elastomeric or plastomeric seals. Chamber wall to be minimum 125mm

Benching slope to be 1:10 to 1:30

1350mm minimum

Minimum 20 mm high-strength concrete topping complying with Clause E4.3 and E6.5 neatly shaped and finished to all branch connections

225mm to barrel of pipe

In-situ GEN3 concrete complying with E4.1 and BRE Special Digest 1

Inverts to formed using channel pieces

150 mm minimum

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



Joint to be as close as possible to face of manhole

Double step rungs complying with Clause E2.33

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

Minimum width of benching to be 225 mm

See Figure B.13 and Clause E6.6.2 for rocker pipe details

SCALE 1:20

Compacted granular bed (type 20/5 or single size stone max 20mm)

150mm

Rest bend 210 mm minimum radius

225mm min

Granular bedding material

Benching

To channel

Inside face of manhole

Straight outlet pipe for 150 mm and 225 mm diameter only. For larger diameters, bends are to be built through the manhole wall

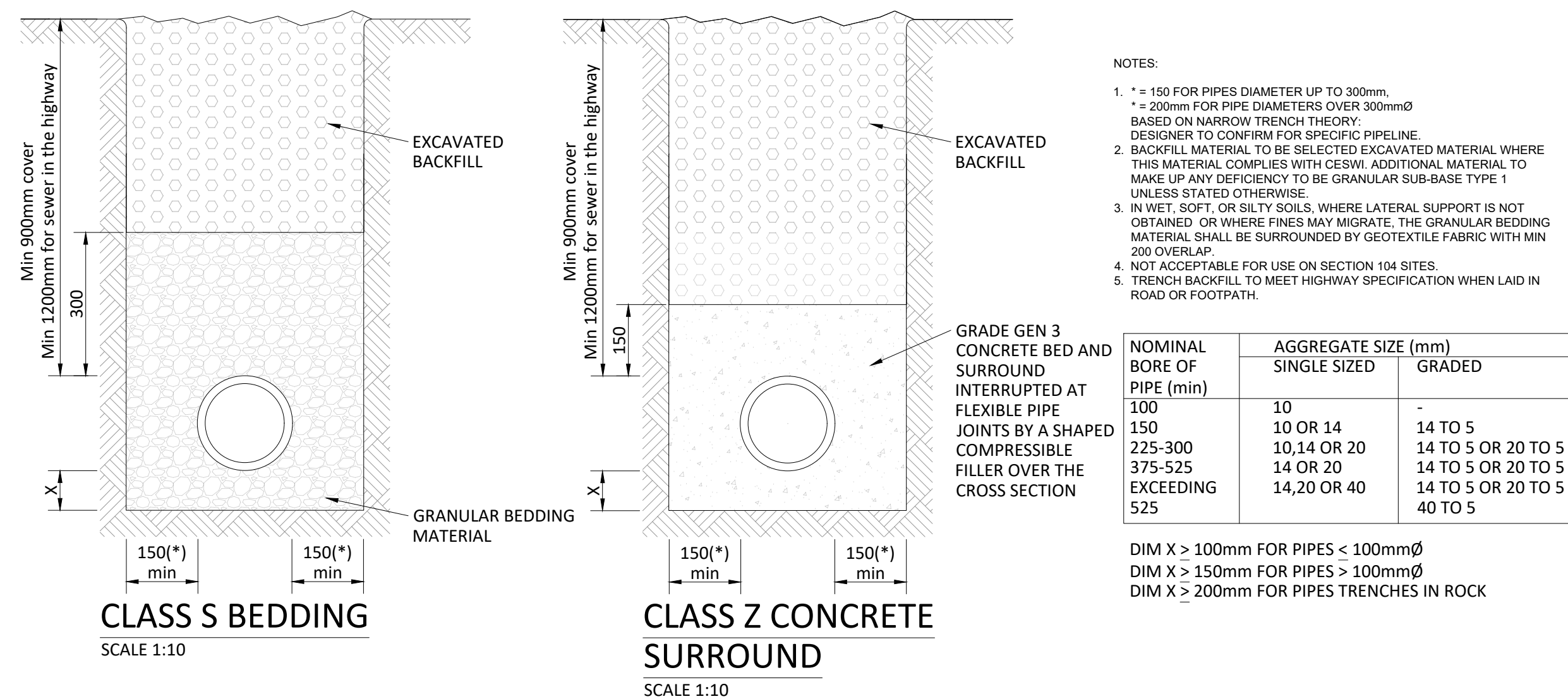
of benching (unless specific man-access requirements are provided)

150mm

Compacted granular bed (type 20/5 or single size stone max 20mm)

45° short bend 210 mm

External Vertical Backdrop



General Notes:

1. All Works are to be constructed in accordance with the Whitehouse Council and the Highway Agency's Specifications for Highway Works (SHW) (March 2020) and all the Highway Agency's Publications by The Stationary Office.
2. All levels relate to the survey which is to Ordnance datum. Dimensions are to be as shown.
3. Use of this drawing does not absolve the client from their responsibilities under the Health and Safety. The Construction Design and Management Regulations 2013 and the Design and Construction Regulations 2015 shall be complied with prior to permitting this drawing to be used in connection with any construction works. For site specific CDM 2015 Designers Residual Risks, see drawing series 1140 and should be taken in conjunction with the relevant drawings.
4. The contractor is to check and verify all buildings and site dimensions and levels, including existing sewer invert levels, before works start on site.
5. Positioning existing sewer lines and manholes shall be checked to a minimum percent to cross proposed excavations are to be checked by the contractor prior to starting work.
6. This drawing is to be read in conjunction with and checked against all other drawings, engineering details, specifications and any structural, geotechnical or other specialist document provided. Any anomalies or contradictions between any drawings are to be reported to the Client immediately and work is not to begin.
7. The planning, design and construction of sewers shall be in accordance with Appendix C of the Sewer Sector Guidance (SSG), A Design and Construction Guide for the Civil Engineering Industry, published by the Institution of Civil Engineers, 8th edition and UK0000000000 amendments to CESWI dated May 2023.
8. For all private servicing refer to Landscape consultants drawings and specifications. Construction of private hardstanding to be in accordance with NHRB Part 3.10 10c.

Refer to Section 38 and 38A drawings for a full set of construction specification notes.

A	FIRST ISSUE	13.07.26	TH	BIS
REV:	DESCRIPTION	Date	BY	CHK
DESIGN BY:				
				
CLIENT:				
				
DRAWING STATUS:				
PLANNING APPLICATION				
SCALE @ A1:				
AS SHOWN				
PROJECT:				
HAWKE RIDGE BUSINESS PARK				
TITLE:				
DRAINAGE CONSTRUCTION DETAILS SHEET 1				
Project Ref: Originator: Stage: Phase: Number:				REV:
20001-TUM-PL-XXX-0295				A