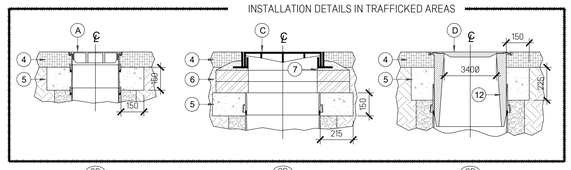
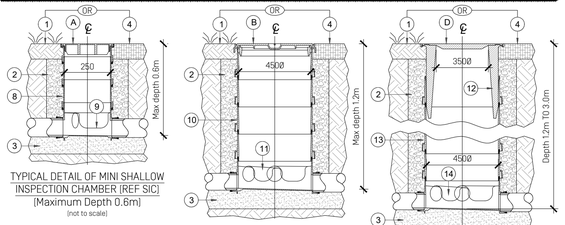
INSTALLATION DETAILS IN TRAFFICKED AREAS





TYPICAL DETAIL OF MINI SHALLOW INSPECTION CHAMBER [REF SIC]
[Maximum Depth 0.6m]
[not to scale]

TYPICAL DETAIL OF UNIVERSAL INSPECTION CHAMBER [REF UIC]
[Maximum Depth 1.2m]
[not to scale]

TYPICAL DETAIL OF NON-ENTRY INSPECTION CHAMBER [REF NIC]
[Maximum Depth 3.0m]
[not to scale]

(1) Topsoil to landscaping specification.

(2) Min 150mm side fill of selected 'as-dug' material with particle sizes no larger than 40mm or granular material to pipe bedding specification. Well compacted in layers not exceeding 150mm thick.

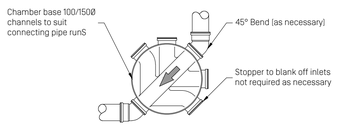
(3) Granular pipe bedding material, min 100mm thick.

(4) Finished pavement construction.

(5) 'GEN 3' or 'ST4' concrete collar.

(6) Two courses of engineering brickwork.

(7) Frame bedded and haunched in Class 1 cement mortar.



TYPICAL BASE PLAN

TYPICAL DETAILS FOR INSPECTION CHAMBERS
[not to scale]

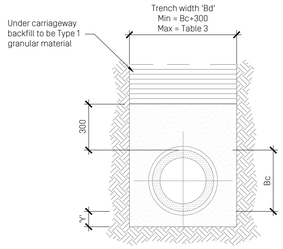
INSPECTION CHAMBER ACCESS COVERS

REF	BS EN 124 LOADING	DESCRIPTION
A	A15	Polymer or ductile iron cover and frame to suit shallow inspection chamber.
B	A15	Polymer or ductile iron pedestrian duty access cover and frame to BS EN124 A15 loading class, to suit universal inspection chamber. Circular or square cover may be used in all but paved areas. in paved areas (ie block, slabs etc) use square cover.
C	B125	Ductile iron medium duty cover and frame to BS EN 124 B125 loading class, 450x450mm or 600x450mm clear opening to suit universal inspection chamber.
D	B125	Cast iron square cover to BS EN 124 Class B loading, as part of telescopic raising piece assembly of non-entry inspection chamber and incorporating 350mm restricted access.
E	A15	Ductile iron pedestrian duty cover and frame to BS EN 124 A15 loading class, 600x600mm clear opening.
F	B125	Ductile iron medium duty cover and frame to BS EN 124 B125 loading class, 600x600mm clear opening.

NOTE
Access covers to be square or rectangular where located in paved areas.

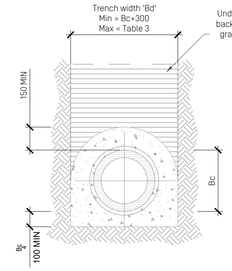
INSPECTION CHAMBER TYPES

TYPE REF		DESCRIPTION	MAX DEPTH (m)
SIC		SHALLOW INSPECTION CHAMBER	0.6
	[8]	Shallow mini access chamber, 250/300mm int dia polypropylene	
	[9]	Polypropylene base unit	
UIC		UNIVERSAL INSPECTION CHAMBER	1.2
	[10]	Universal inspection chamber, 475mm int dia polypropylene	
	[11]	Polypropylene base unit, with inlet/outlets sized to suit connecting pipework	
NIC		NON-ENTRY INSPECTION CHAMBER	3.0
	[12]	Telescopic raising piece assembly incorporating class b square access cover (5t wheel load), with 350mm restricted opening	
	[13]	Polypropylene raising pieces, to suit required depth	
	[14]	Polypropylene base unit, with inlet/outlets sized to suit connecting pipework	

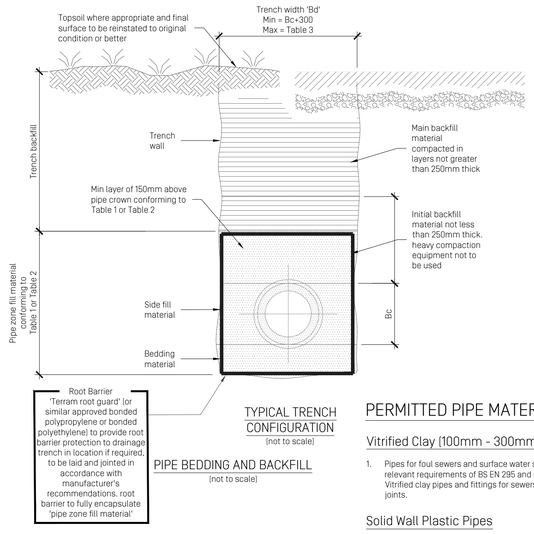


TYPE S
BEDDING FACTOR 2.2

PIPE FULLY SURROUNDED WITH GRANULAR MATERIAL HAVING A COMPACTION FRACTION NOT GREATER THAN 0.2



TYPE Z1
CONCRETE SURROUND



TYPICAL TRENCH CONFIGURATION
[not to scale]

PIPE BEDDING AND BACKFILL
[not to scale]

TABLE 2
GRANULAR BEDDING AND SIDE FILL MATERIALS FOR FLEXIBLE PIPES

Pipe nominal Dia (mm)	Maximum particle size (mm)	Suitable materials: Imported granular materials (Note a)	Suitable materials: Maximum cf value for 'as dug' granular materialS (Note b)
100Ø	10	10mm Nominal single sized	0.15
Over 100Ø to 150Ø	15	10 OR 14 Nominal single sized, or 14 TO 5mm Graded	0.15
Over 150Ø to 300Ø	20	10, 14 OR 20 Nominal single sized, or 14 TO 5mm Graded, or 20 TO 5mm Graded	0.15
Over 300Ø to 600Ø	20	10, 14, 20 OR 40mm Nominal single sized crushed rock, or 14 TO 5mm Graded, or 20 TO 5mm Graded	0.15
Over 600Ø	40	10, 14, 20 OR 40mm Nominal single sized crushed rock, or 14 TO 5mm Graded, or 20 TO 5mm Graded, or 40 TO 5mm Graded	0.15

NOTES

a) Imported granular material to include natrual aggregates, air-cooled blast furnace slag and sintered pulverised-fuel ash to BS EN 12620 & PD 6682-1.

b) Compaction fraction value (see Appendix A of wis 4-08-01).

c) Material excavated from trenches dug through land contaminated with domestic, building or industrial waste shall not be used as bedding or side fill material.

TABLE 3
MAX TRENCH WIDTHS

Pipe Dia (mm)	Max trench width bd measureD 300mm above pipe soffit
100	550
150	600
225	700
300	750
375	1050
450	1150
525	1200
600	1350
675	1450
750	1500
825	1600
900	1900
1000	2000

PERMITTED PIPE MATERIALS

Vitrified Clay (100mm - 300mmØ)

1. Pipes for foul sewers and surface water sewers shall comply with the relevant requirements of BS EN 295 and BS 65 (surface water pipes only). Vitrified clay pipes and fittings for sewers shall have flexible mechanical joints.

Solid Wall Plastic Pipes

2. Pipes to conform to BS 4660 and BS EN 1401-1

Structured Wall Plastic Pipes

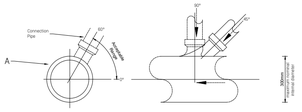
3. Pipes to conform with Clause 6.15 of WIS 4-35-01 (stiffness class 8), and BS EN 13476 Pt 2:2007 or Pt 3:2007

4. Approved systems

- Polysewer - 100mm, 150mm, 225mm, 300mm
- Quantum (Marley) - 100mm, 150mm, 225mm, 300mm
- Ultrarib (Uponor and Wavin) - 100mm, 150mm, 225mm, 300mm
- Funke - 100mm, 150mm, 225mm, 300mm

LEGEND

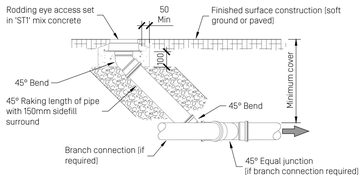
- Main backfill material
- Granular material as defined in Tables 1 and 2, as appropriate
- Selected fill
- Grade C20 concrete (unless shown otherwise)



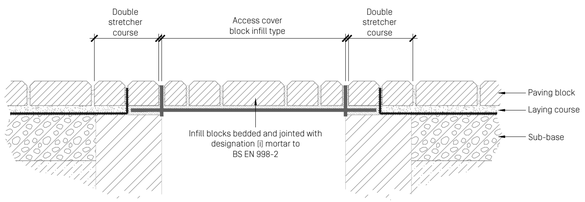
Typical Saddle Connection

NOTES

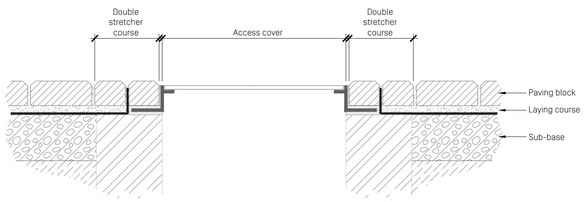
1. Where the connection is being made to a sewer with a nominal internal diameter of 300 mm or less, connections should be made using 45o angle, or 90o angle curved square junctions.
2. Connections made with junction fittings should be made by cutting the existing pipe, inserting the junction fitting and jointing with flexible repair couplings or slip couplers.
3. Where the connection is being made to a sewer with a nominal internal diameter greater than 300 mm:
   a) where the diameter of the connecting pipe is greater than half the diameter of the sewer, the connection of an access point should be constructed; or
   b) where the diameter of the connecting pipe is less than or equal to half the diameter of the sewer, then the connection should be made using a preformed saddle fitting.
4. Connections made with saddle fittings should be made by cutting and safely removing a core from the pipe and jointing the saddle fitting to the pipe, in accordance with the manufacturer's instructions, to ensure a watertight joint. The connecting pipe should not protrude into the sewer.
5. To provide a self-cleansing regime within gravity foul sewers, the minimum flow velocity should be 0.75 m per second at one-third design flow. Where this requirement cannot be met, then this criterion would be considered to be satisfied if:



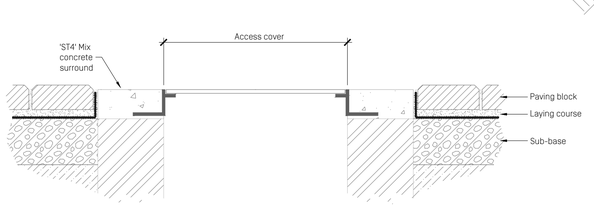
TYPICAL DETAIL FOR RODDING EYE
[1:20]



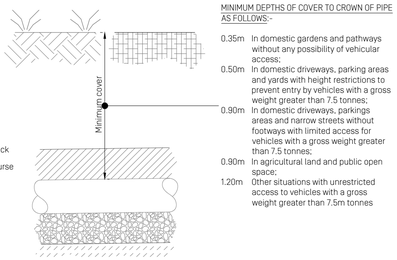
TYPICAL DETAIL OF BLOCKS AT MANHOLE ACCESS COVER
- RECESSED INFILL TYPE -
1:10



TYPICAL DETAIL OF BLOCKS AT MANHOLE ACCESS COVER
1:10



TYPICAL DETAIL OF BLOCKS AT MANHOLE ACCESS COVER
1:10



MINIMUM DEPTHS OF COVER TO CROWN OF PIPE AS FOLLOWS:-

0.35m In domestic gardens and pathways without any possibility of vehicular access;
0.50m In domestic driveways, parking areas and yards with height restrictions to prevent entry by vehicles with a gross weight greater than 7.5 tonnes;
0.90m In domestic driveways, parkings areas and narrow streets without footways with limited access for vehicles with a gross weight greater than 7.5 tonnes;
0.90m In agricultural land and public open space;
1.20m Other situations with unrestricted access to vehicles with a gross weight greater than 7.5m tonnes

MINIMUM DEPTH OF COVER OVER DOMESTIC PIPES
[1:10]

PRELIMINARY DRAWING:

This drawing is for preliminary purposes only and must not be read as a construction issue.
The design is not fixed and design changes are likely.

Rev	Date	Description	By	Check
P1	28/07/23	Preliminary Issue	RB	JRS

Client
Cocksedge Building Contractors

Project
Barrett's Lane, Needham Market
Suffolk
IP6 8DL

Title
Private Construction Details
Sheet 1

Scale @ A1 AS SHOWN

Status Preliminary

SCHEMA Sustainable design+ planning

Date	Job Number	By	Checked By
July 2023	0304	RB	JRS

Drawing No. C430

Revision P1