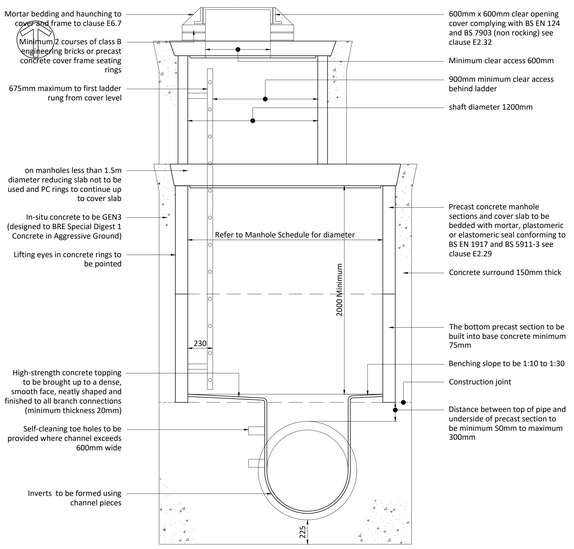
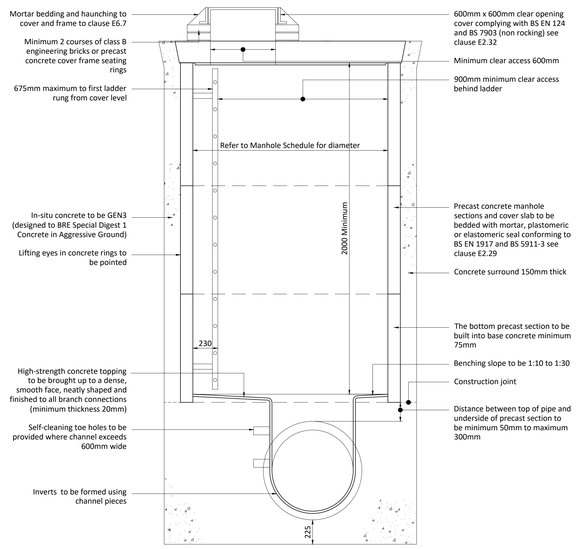
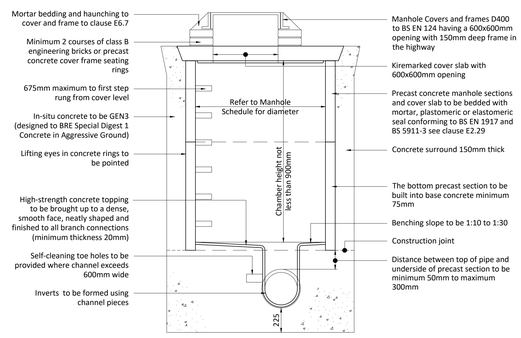
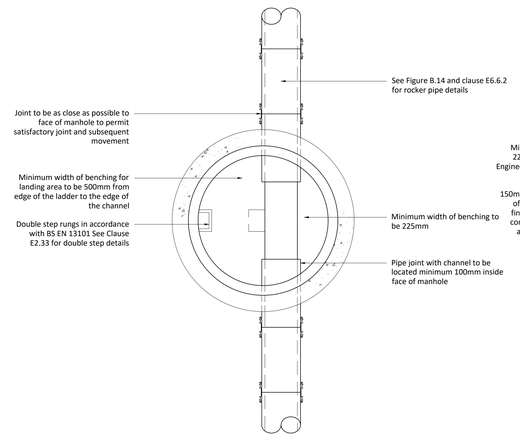
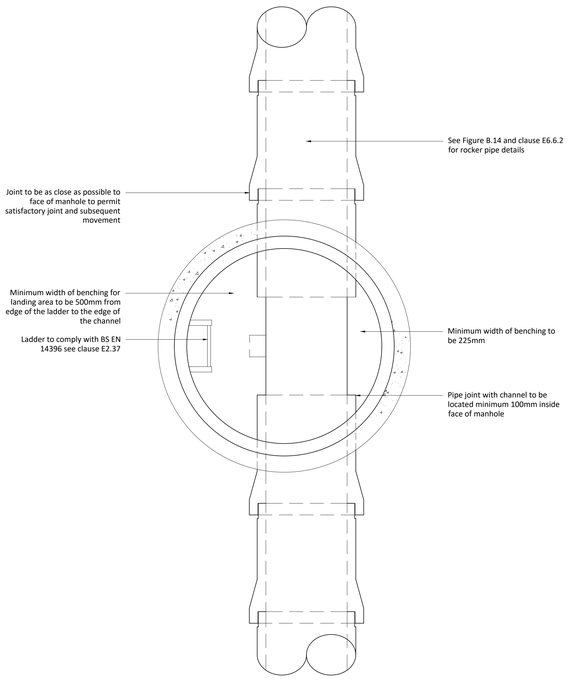




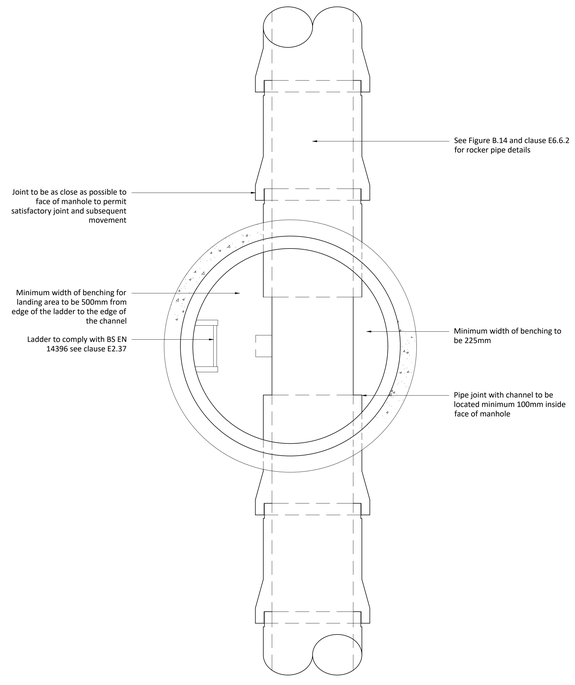




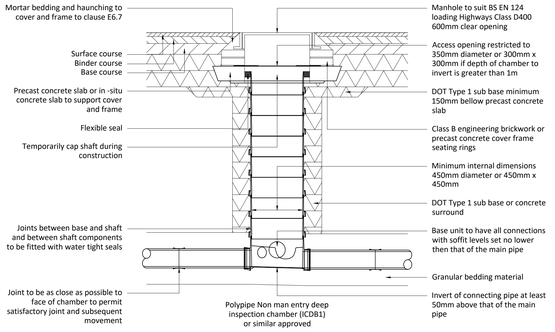
TYPICAL MANHOLE DETAIL TYPE 2
Maximum depth from cover level to soffit of pipe 3m



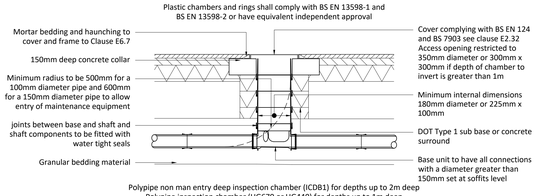
TYPICAL MANHOLE DETAIL TYPE 1A
Depth from cover level to soffit of pipe 3m to 6m



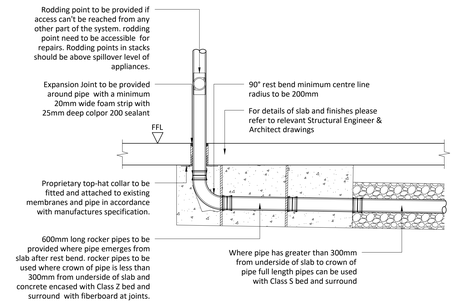
TYPICAL MANHOLE DETAIL TYPE 1B
Depth from cover level to soffit of pipe 3m to 6m



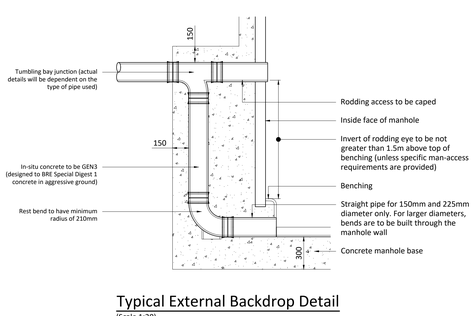
TYPICAL INSPECTION CHAMBER DETAIL TYPE 3
Maximum depth from cover level to soffit of pipe in areas subject to vehicle loading 3m, non-entry



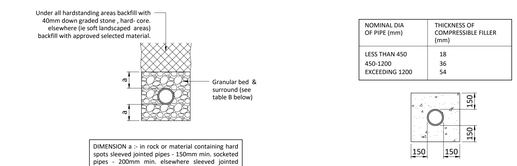
TYPICAL INSPECTION CHAMBER DETAIL TYPE 4
Maximum depth from cover level to soffit of pipe 2m, non-entry



Typical Detail Showing SVP/RWP Through Slab
(Scale 1:20)



Typical External Backdrop Detail
(Scale 1:20)

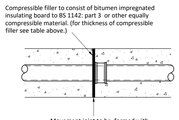


PIPE NOMINAL BORE (DN)	MAX. PARTICLE SIZE (mm)	CLASS OF BEDDING	SUITABLE IMPORTED GRANULAR MATERIALS
100 dia	10	S	10mm NOMINAL SINGLE-SIZED OR 10mm TO 5mm GRADED.
OVER 100 TO 150 dia	15	S	max 14mm NOMINAL SINGLE-SIZED OR 14mm TO 5mm GRADED.
OVER 150 TO 600dia	20	S	max 20mm NOMINAL SINGLE -SIZED OR 20mm TO 5mm GRADED.
OVER 600	40	S	max 40mm NOMINAL SINGLE-SIZED OR 40mm TO 5mm GRADED.

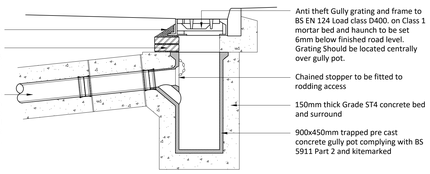
TABLE B.
CLASS `S` PIPE BEDDING DETAIL

NOMINAL DIA OF PIPE (mm)	THICKNESS OF COMPRESSIBLE FILLER (mm)
LESS THAN 450	18
450-1200	36
EXCEEDING 1200	54

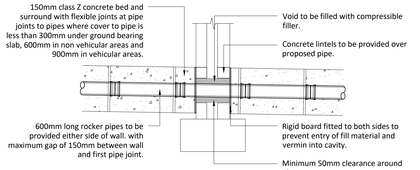
TYPICAL CONCRETE PIPE SURROUND DETAIL CLASS 'Z' BEDDING



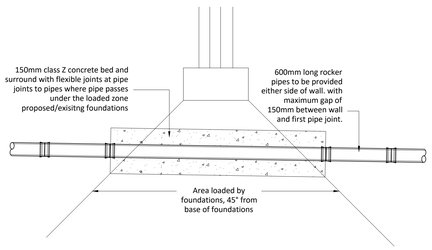
MOVEMENT JOINT TO CONCRETE PIPE SURROUND



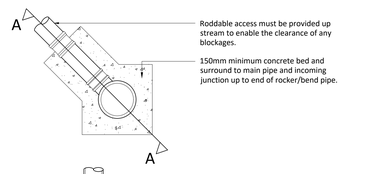
Typical Detail Showing Road Gully
Scale 1:20



Typical Detail Pipes Penetrating Walls
(Scale 1:20)



Typical Detail Pipes Passing Under Foundations
(Scale 1:20)



Section A - A

Junction pipes to be used on all pipes less than and including 300mm dia

This detail is to be used for all pipes connected by a junction greater then 1in2

Typical Detail Steep Junction Pipe Connection
(Scale 1:20)

DESIGN REVIEW

Design review by:	**	Checked by:	**

Residual hazards:

1. For general notes refer to drawing 002.

Health, Safety & Environmental Notes

Drainage Notes:

1. This drawing should be read in conjunction with Adept specification for drainage works and any other subsequent additions to this list.
2. All building drainage works shall be carried out in accordance with the current British/European standards BSEN752, the current building regulations and the local authority building control or NHBC specifications and requirements.
3. For external finished ground levels refer to architects external works drawing.
4. All private foul drainage to be 100a laid at a minimum gradient of 1 in 40, all private surface water drainage to be 100a laid at a minimum gradient of 1 in 60 unless otherwise noted. Pipework to be laid to inverts shown on schedule.
5. All Junctions are to be done using a 'Y' junction to direct the flow in line with the main pipe.
6. All cover levels to manholes are approximate only and may be adjusted on site to tie in with Architects proposed levels.
7. Exact location of rainwater downpipes and all internal drainage points to be confirmed by Architect. Rainwater pipe outlets to be rodable.
8. For all setting out, dimensions and current site layout refer to Architects drawing. Do not scale from this drawing
9. Invert levels of all outfall points to be clarified prior to commencing drainage works. Position size and depth of all existing drains and services shall be established prior to commencement on site and any discrepancies reported to engineer.
10. The contractor shall allow for the protection, temporary and permanent support, and temporary and permanent diversion works, as necessary to all existing services
11. The contractor shall allow for all traffic management in connection with road and sewer works
12. The contractor shall allow for keeping trenches and excavations as dry as practicable by pumping from temporary sumps and dewatering as appropriate. The point and method of discharge to be agreed with the drainage authority and Environment Agency
13. Contractor to apply for sewer permits and road opening permits as necessary from the appropriate authorities, prior to commencing works.
14. At changes in pipe diameter Soffits to coincide unless noted otherwise
15. Wherever possible, drainage works are:
    - To commence at outfall
    - To work Upstream
16. Generally all Adoptable pipe work < 300 to be Clay, > 300 to be Concrete. With the strengths shown below:

    Clay Pipe Min Strengths
    100mm dia 40KN/m
    150mm dia 40KN/m
    225mm dia 45KN/m
    300mm dia 72KN/m
    Concrete Pipe Min Strengths all diameters to be class 120 (54KN/m).

    Where plastic pipework is proposed Water Authority & Highway Authority requirements for strength and durability will vary. Calculations may well be required from the pipe supplier. Min. requirements as below;
    Deformation limit: 5% at 300 days
    Jetting pressure: 4000psi
17. Tree's should not be planted within 5m of adoptable sewers, where this is not possible due to planning conditions a suitable root barrier needs to be installed around any tree types that are within the prescribed restrictions as set out in Sewers for Adoption 6th Edition Figure 2.3. Where the Mature tree canopy will overhang the adoptable highway a suitable root barrier will be required to prevent damage to statutory undertakers equipment and the integrity of the highway construction.

Date	Revision	By	Chkd	Rev
20.08.20	Issued for approval	EW	ST	P2
01.04.19	Contract issue	JE	RP	C1
28.03.19	Initial issue	JE	RP	P1

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Tel: 0113 2394518

Project
Glassworks Project Barnsley

Title
Drainage Construction Details

Client
Henry Boot CONSTRUCTION

Scale @ A0	Drawn	Checked	Date
As Shown	JE	RP	March 19

Suitability S4 — Purpose: For approval

UPRN | Originator | Zone | Level | Type | Role | Class | Drg. No. | Rev.
BGW2-ACE-XX-ZZ-DR-C-G700-0166-P2