

TABLE (i)		
Diameter of largest pipe in manhole (mm)	Internal diameter of manhole (mm)	
Less than 375	1200	(1050 where depth to soffit is 1.35m to 1.5m)
375 - 750	1500	
750 - 900	1800	
Greater than 900	Consult Undertaker/Engineer's Specification	

TABLE (ii)	
Pipe Diameter (mm)	Rocker Pipe Length (mm)
150 - 600	600
601 - 750	1000
> 750	1250

ALL PCC RINGS ARE TO BE SPIGOT AND SOCKET BOND CONSTRUCTION.

MH Location	Cover Grade	Test Load
Non-trafficked/ Pedestrian areas	A15	15
Private drives	B125	125
Parking courts	C250	250
Carriageway	D400	400
Airfields/Dockyards	E600	600
Airfields/Dockyards	F900	900

TABLE (iv)		
NRSWA Road Category	Description	Minimum Frame Depth (mm)
I	Trunk roads and dual carriageways	150
II	All other 'A' roads	150
III	Bus Services	150
IV	All other roads except residential cul-de-sacs	150
	Residential cul-de-sacs	100

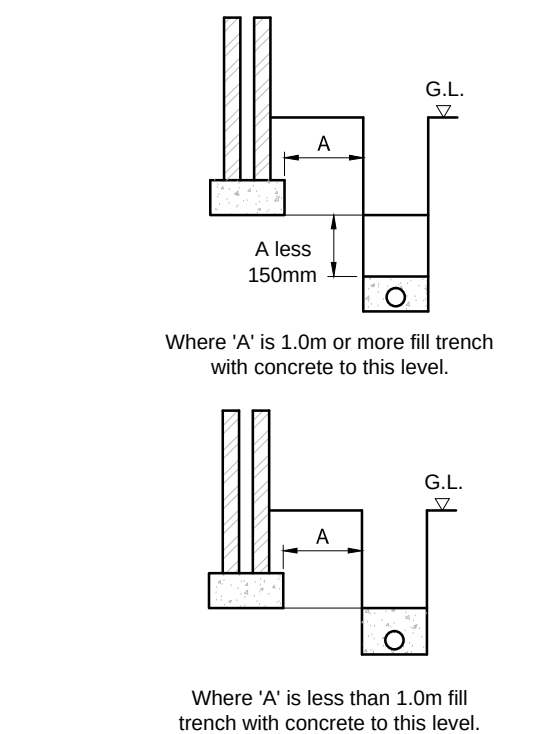
- STEP IRONS (v)**
- Steps for manholes and other chambers shall be Type D Class 1, complying with the requirements of BS EN 13310: 2002.
 - Precast concrete manhole pattern double step rungs at 300mm centres vertically.
 - Unprotected aluminium steps are not permitted for adoptable applications.
 - Steps rungs shall be plastic encapsulated.

- LADDERS (vi)**
- Mild steel ladders for vertical fixing shall comply with the relevant provision of BS 4211, class A and PD 970.
 - After fabrication, mild steel ladders shall be hot dip galvanised in accordance with BS EN ISO 1460.
 - Stainless steel ladders for vertical fixing shall be fabricated from Grade 316S31 steel complying with BS 970: Part 1 and BS EN 10084, 10085, 10087, 10095, 10250, 10029, 10048, 10051, 10258, 10259. GRP ladders shall be manufactured to the relevant requirements of BS EN 1331, and from glass-reinforced polyester using an appropriate resin for the ladder location. Unidirectional reinforcement shall be provided in the GRP matrix to maximise the strength of the product.

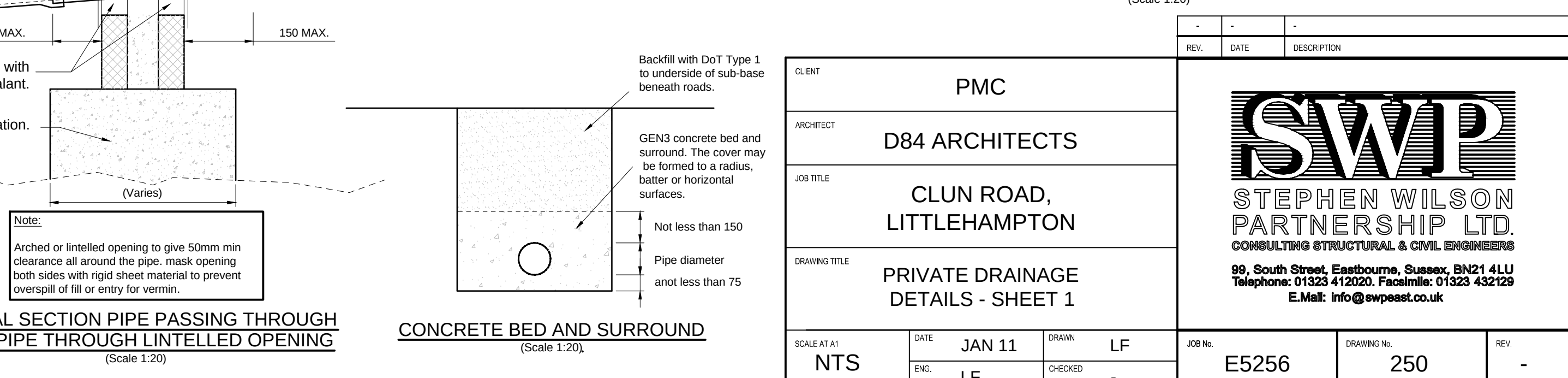
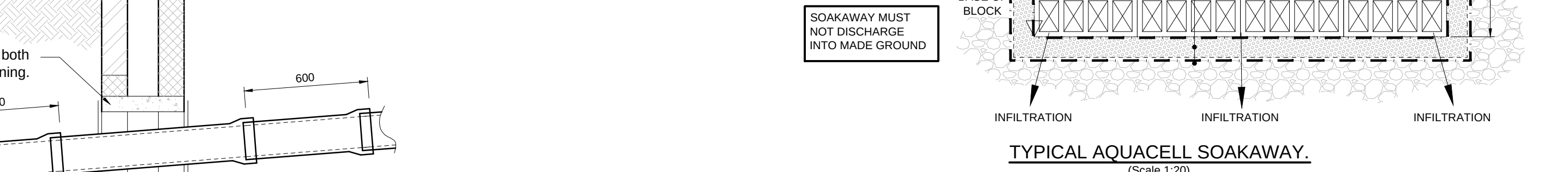
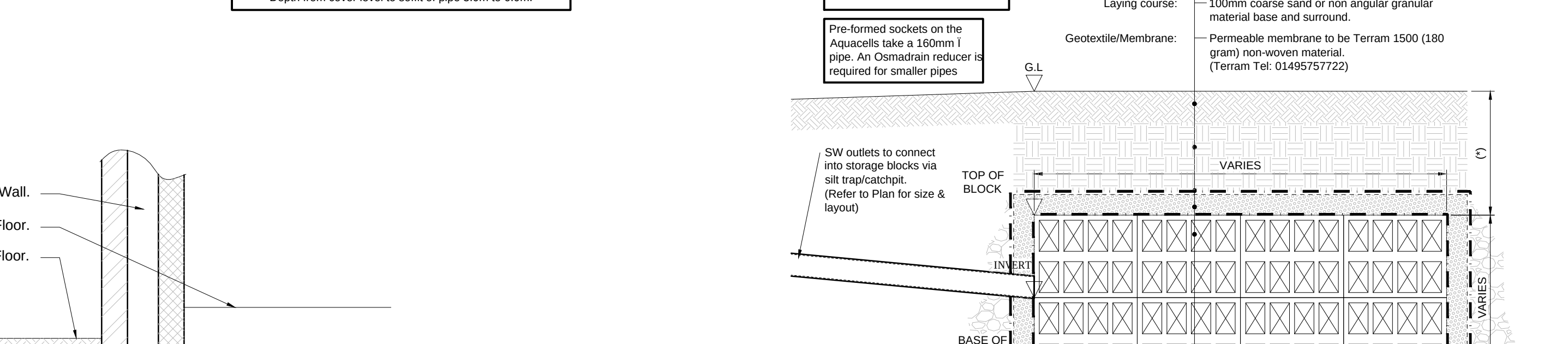
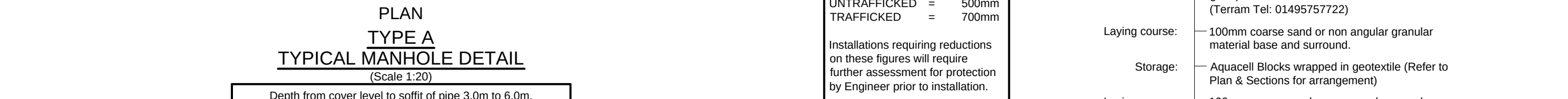
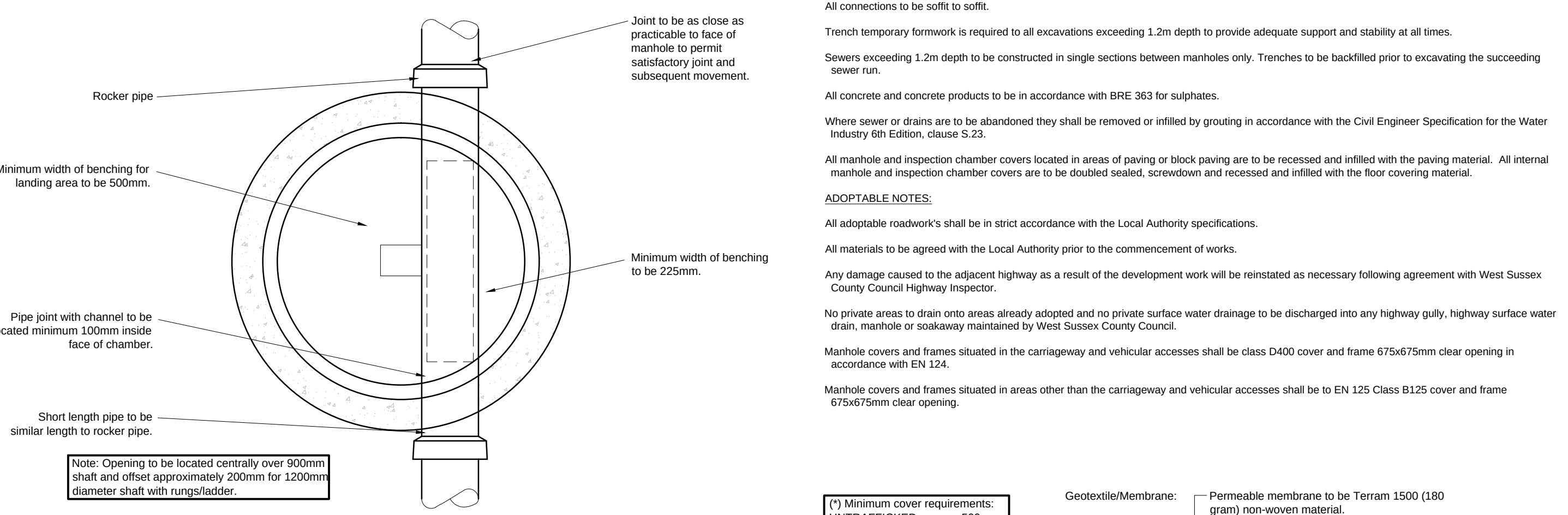
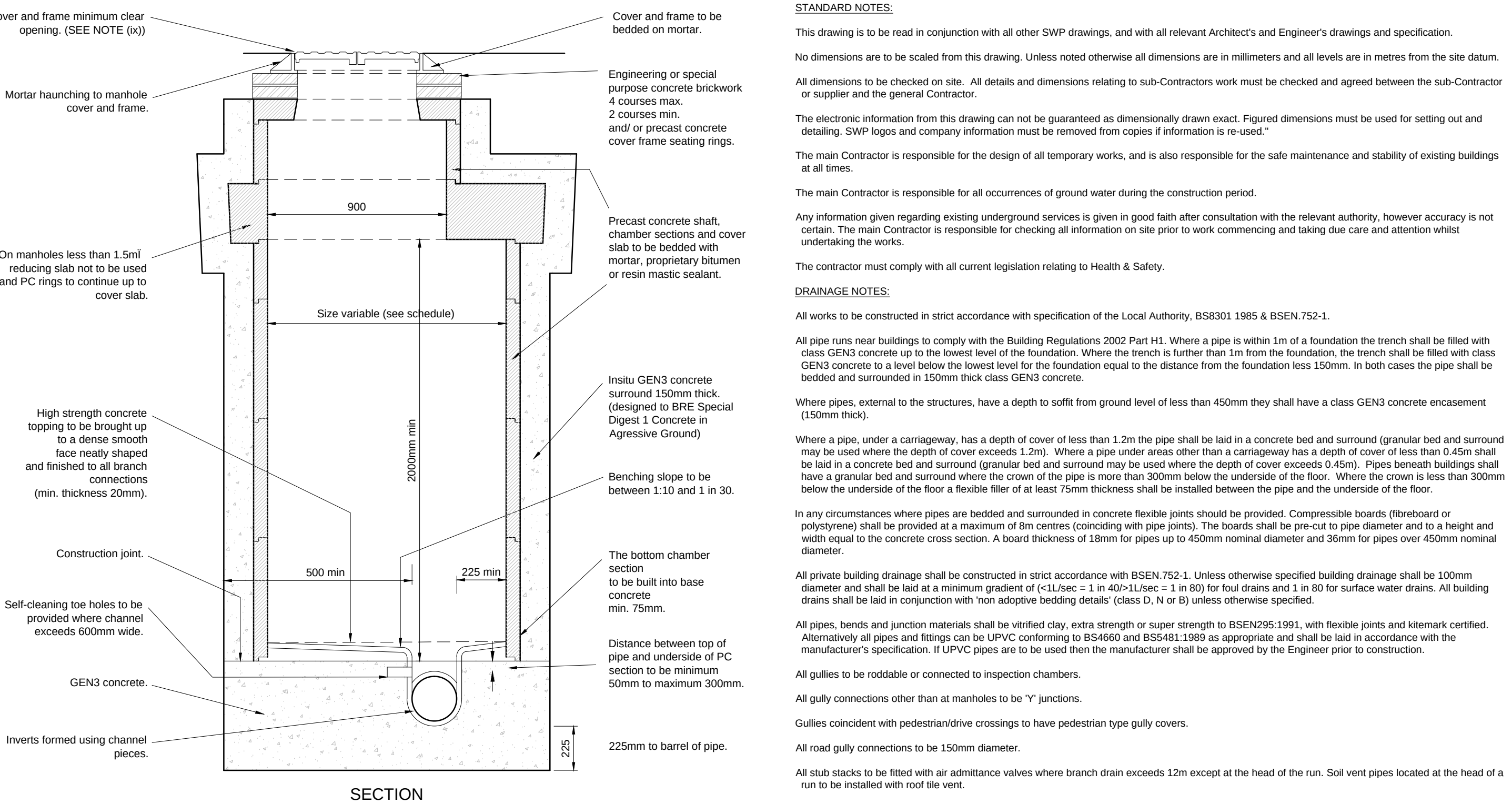
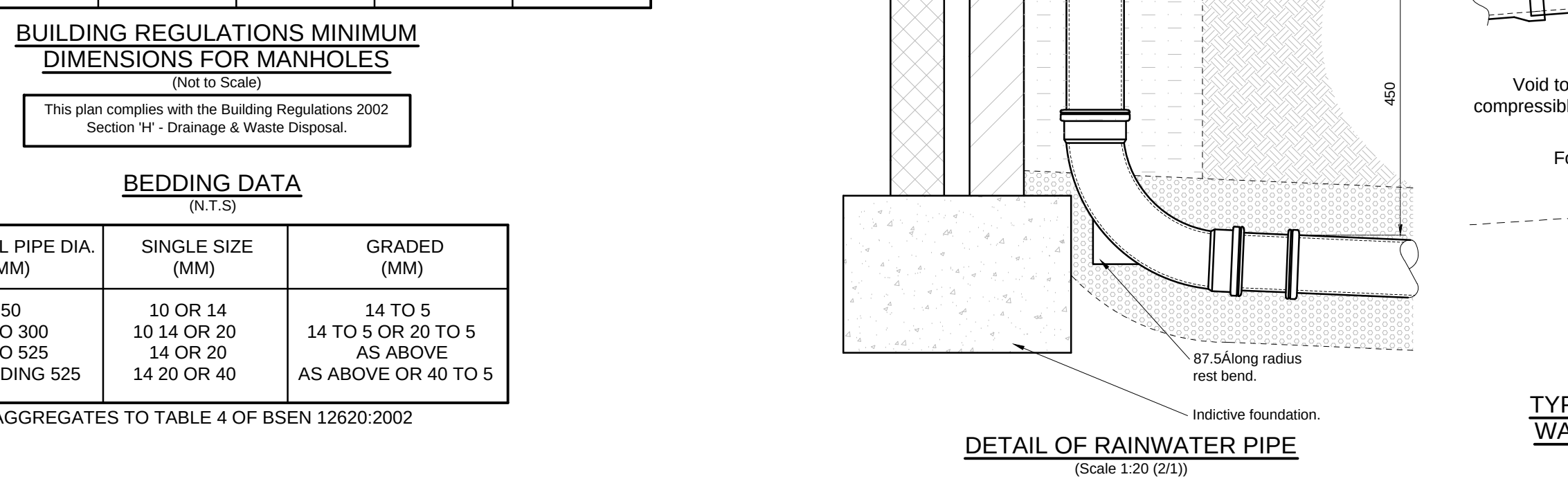
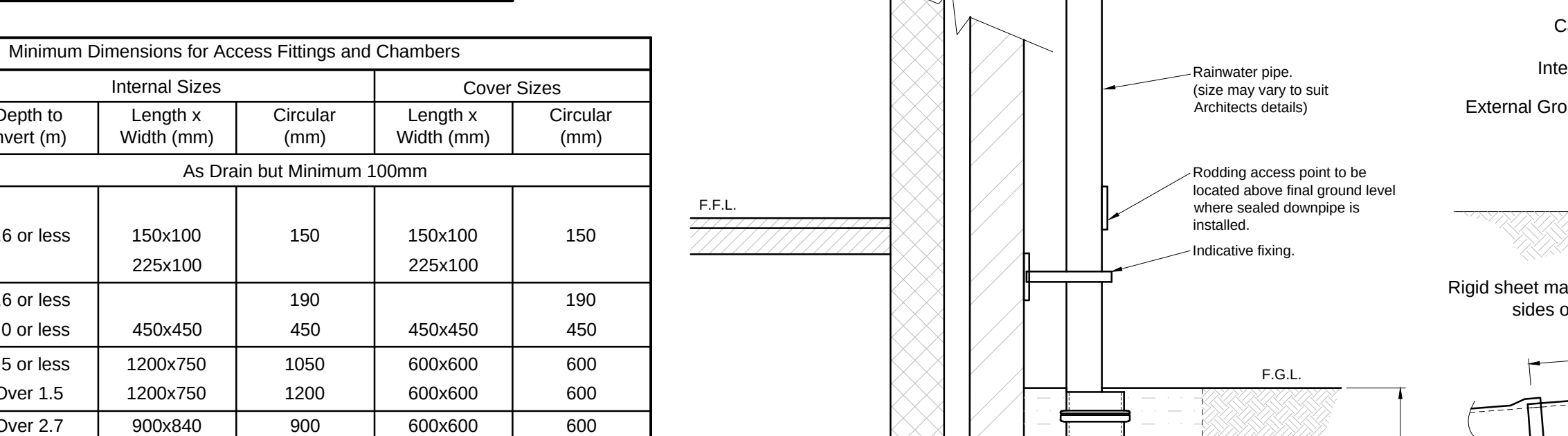
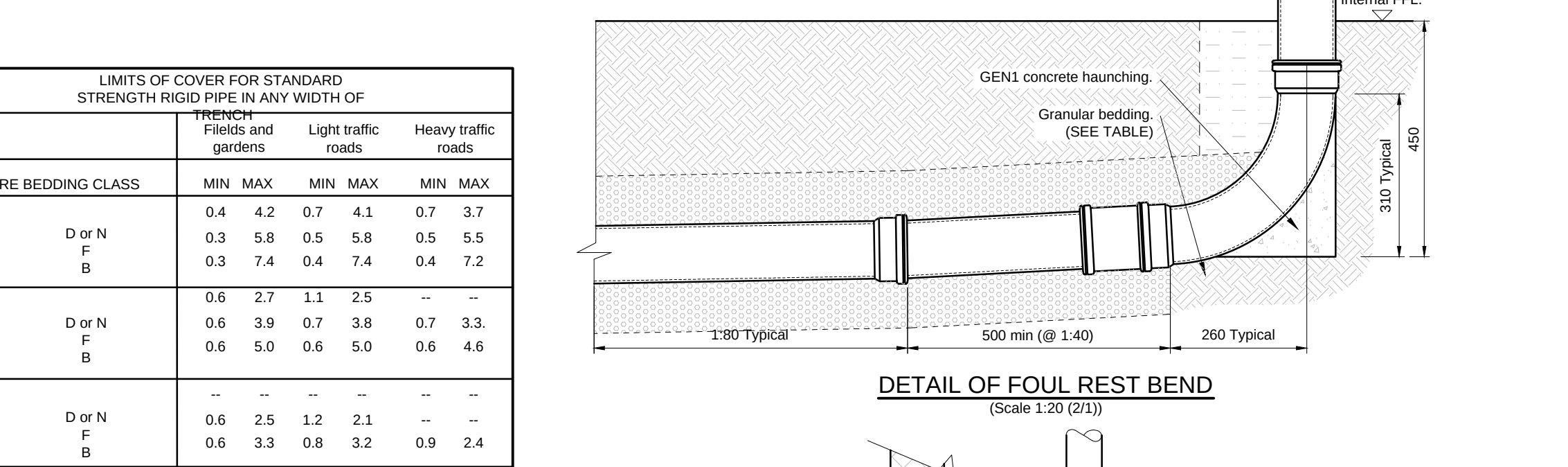
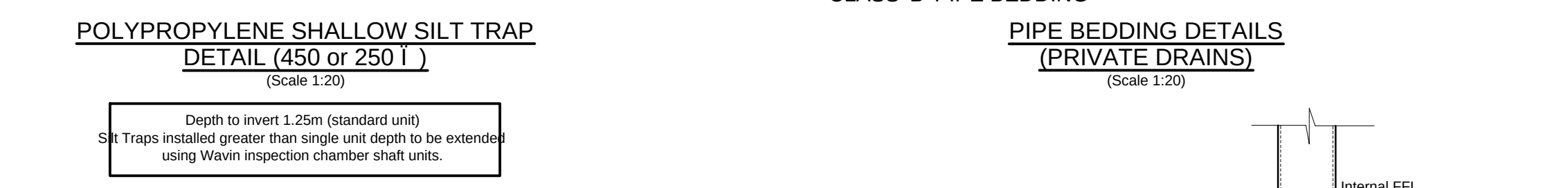
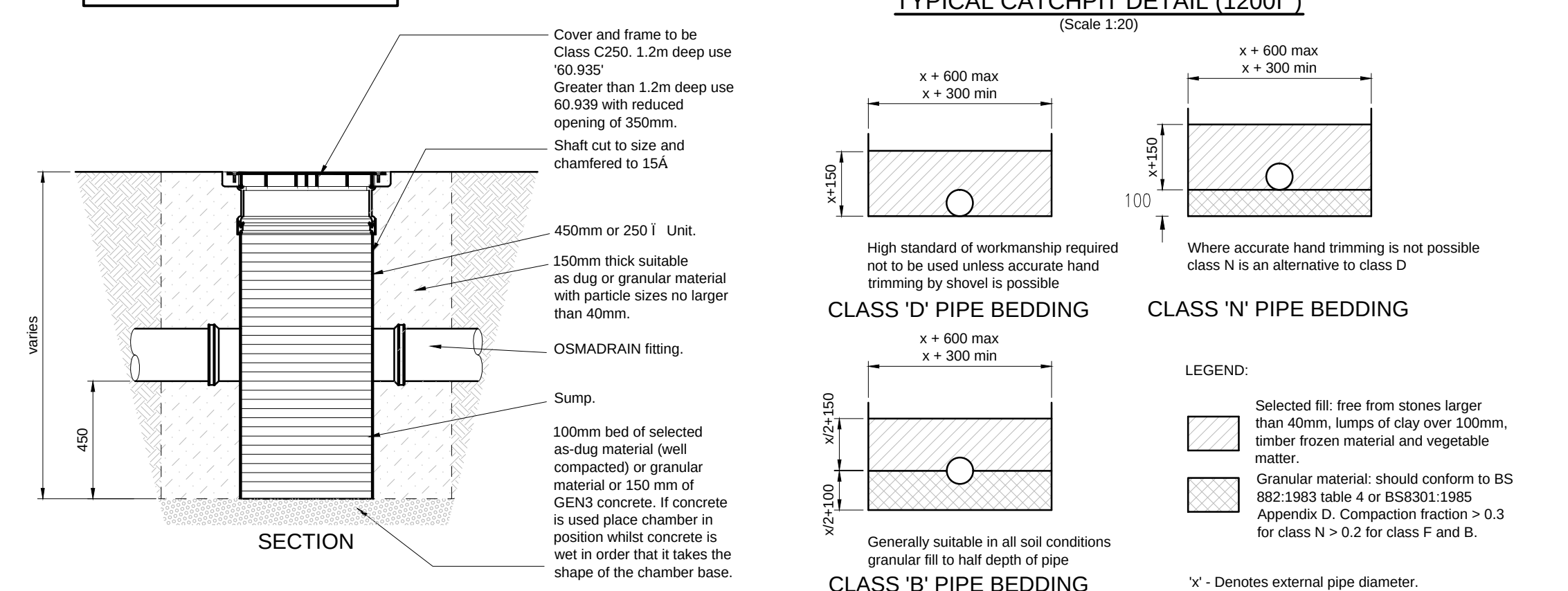
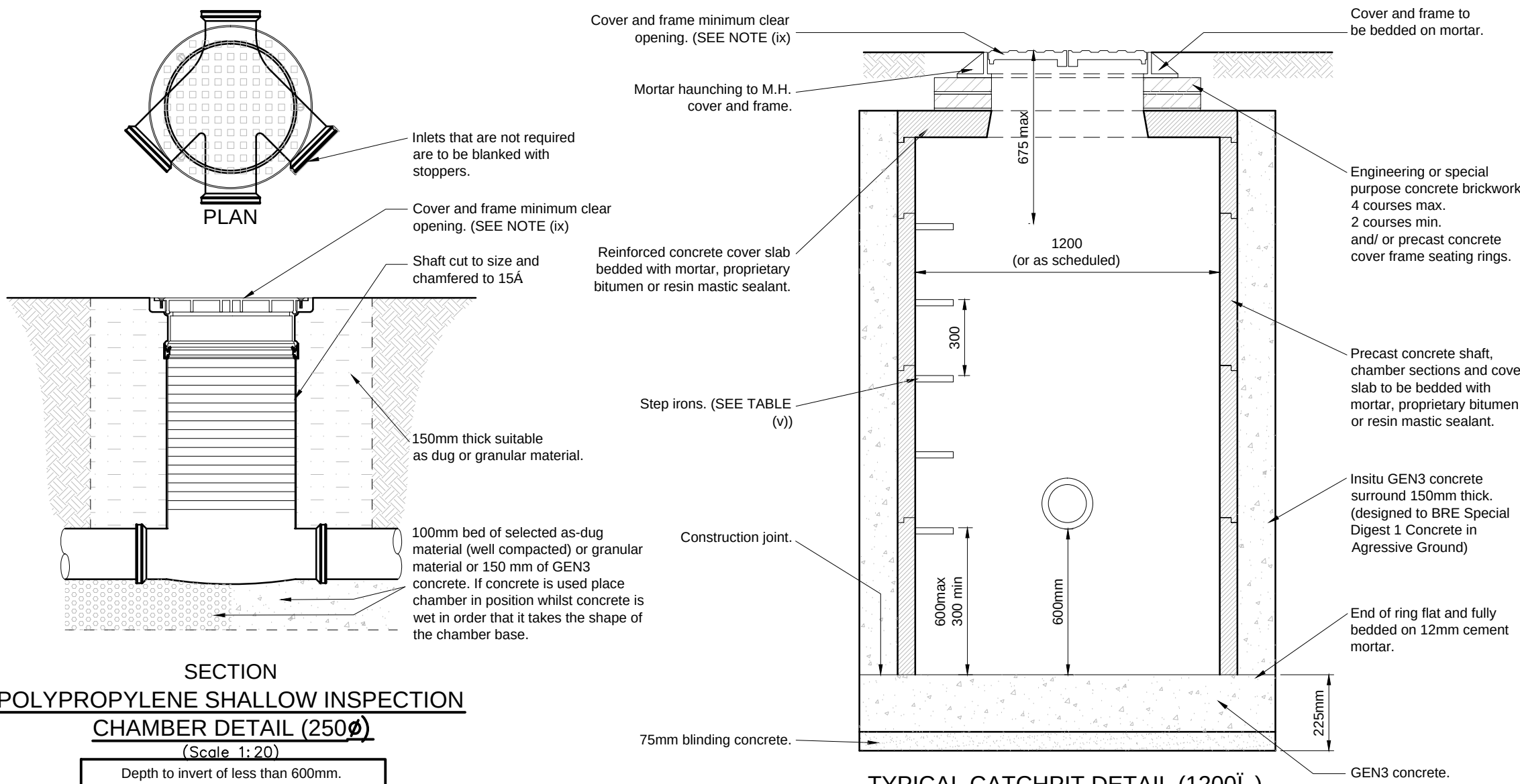
- HIGH STRENGTH TOPPING (vii)**
- High-strength concrete topping shall be produced, laid and finished in accordance with the relevant provisions of BS 8204: Part 2 and the following approximate proportions by weight shall be used: 1 part cement, 1 part natural sand and 2 parts single sized coarse aggregate.

- RECESSED COVERS (viii)**
- Where inspection chamber is located in areas of block paving it shall be fitted with a recessed cover to accommodate paving blocks.

- MANHOLE COVERS & FRAMES (ix)**
- Manhole cover and frames shall comply with the relevant provisions of BS EN 124, BS 7903 and Highway Agency Guidance Document HA 104/02. They shall be of a non-rocking design which does not rely on the use of cushion inserts.
 - All manhole covers shall be the non-ventilating type and shall have closed keyways.
 - Refer to TABLE (iv) for frame depths.
 - Refer to Manhole Schedule/Drainage Drawing for cover grades.



DETAIL OF PIPE RUNS NEAR BUILDINGS (Not to Scale)



STANDARD NOTES:

This drawing is to be read in conjunction with all other SWP drawings, and with all relevant Architect's and Engineer's drawings and specification.

No dimensions are to be scaled from this drawing. Unless noted otherwise all dimensions are in millimetres and all levels are in metres from the site datum.

All dimensions are to be checked on site. All details and dimensions relating to sub-Contractors work must be checked and agreed between the sub-Contractor or supplier and the general Contractor.

The electronic information from this drawing can not be guaranteed as dimensionally drawn exact. Figured dimensions must be used for setting out and detailing. SWP logos and company information must be removed from copies if information is re-used."

The main Contractor is responsible for the design of all temporary works, and is also responsible for the safe maintenance and stability of existing buildings at all times.

The main Contractor is responsible for all occurrences of ground water during the construction period.

Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain. The main Contractor is responsible for checking all information on site prior to work commencing and taking due care and attention whilst undertaking the works.

The contractor must comply with all current legislation relating to Health & Safety.

DRAINAGE NOTES:

All works to be constructed in strict accordance with specification of the Local Authority, BS8301 1985 & BSEN 752-1.

All pipe runs near buildings to comply with the Building Regulations 2002 Part H4. Where a pipe is within 1m of a foundation the trench shall be filled with class GEN3 concrete up to the lowest level of the foundation. Where the trench is further than 1m from the foundation, the trench shall be filled with class GEN3 concrete to a level below the lowest level for the distance equal to the foundation less 150mm. In both cases the pipe shall be bedded and surrounded in 150mm thick class GEN3 concrete.

Where pipes, external to the structures, have a depth to soffit from ground level of less than 450mm they shall have a class GEN3 concrete encasement (150mm thick).

Where a pipe, under a carriageway, has a depth of cover of less than 1.2m the pipe shall be laid in a concrete bed and surround (granular bed and surround may be used where the depth of cover exceeds 1.2m). Where a pipe under areas other than a carriageway has a depth of cover of less than 0.45m shall be laid in a concrete bed and surround (granular bed and surround may be used where the depth of cover exceeds 0.45m). Pipes beneath buildings shall have a granular bed and surround where the crown of the pipe is more than 300mm below the underside of the floor. Where the crown is less than 300mm below the underside of the floor a flexible filler of at least 75mm thickness shall be installed between the pipe and the underside of the floor.

In any circumstances where pipes are bedded and surrounded in concrete flexible joints should be provided. Compressible boards (fibreglass or polystyrene) shall be provided at a maximum of 8m centres (coinciding with pipe joints). The boards shall be pre-cut to pipe diameter and to a height and width equal to the concrete cross section. A board thickness of 18mm for pipes up to 450mm nominal diameter and 36mm for pipes over 450mm nominal diameter.

All private building drainage shall be constructed in strict accordance with BSEN 752-1. Unless otherwise specified building drainage shall be 100mm diameter and shall be laid at a minimum gradient of (c/u sec = 1 in 40)-(u/sec = 1 in 80) for foul drains and 1 in 80 for surface water drains. All building drains shall be laid in conjunction with 'non adoptive bedding details' (class D, N or B) unless otherwise specified.

All pipes, bends and junction materials shall be verified clay, extra strength or super strength to BSEN295:1991, with flexible joints and kitemark certified. Alternatively all pipes and fittings can be UPVC conforming to BS4660 and BS5481:1989 as appropriate and shall be laid in accordance with the manufacturer's specification. If UPVC pipes are to be used then the manufacturer shall be approved by the Engineer prior to construction.

All gullies to be roddable or connected to inspection chambers.

All gully connections other than at manholes to be "Y" junctions.

Gullies coincident with pedestrian/drive crossings to have pedestrian type gully covers.

All road gully connections to be 150mm diameter.

All stub stacks to be fitted with air admittance valves where branch drain exceeds 12m except at the head of the run. Soil vent pipes located at the head of a run to be installed with roof tie vent.

All connections to be soffit to soffit.

Trench temporary formwork is required to all excavations exceeding 1.2m depth to provide adequate support and stability at all times.

Sewers exceeding 1.2m depth to be constructed in single sections between manholes only. Trenches to be backfilled prior to excavating the succeeding sewer run.

All concrete and concrete products to be in accordance with BRE 363 for sulphates.

Where sewer or drains are to be abandoned they shall be removed or infilled by grouting in accordance with the Civil Engineer Specification for the Water Industry 6th Edition, clause S.23.

All manhole and inspection chamber covers located in areas of paving or block paving are to be recessed and infilled with the paving material. All internal manhole and inspection chamber covers are to be doubled sealed, screwdown and recessed and infilled with the floor covering material.

ADAPTABLE NOTES:

All adoptable roadwork's shall be in strict accordance with the Local Authority specifications.

All materials to be agreed with the Local Authority prior to the commencement of works.

Any damage caused to the adjacent highway as a result of the development work will be reinstated as necessary following agreement with West Sussex County Council Highway Inspector.

No private areas to drain onto areas already adopted and no private surface water drainage to be discharged into any highway gully, highway surface water drain, manhole or soakaway maintained by West Sussex County Council.

Manhole covers and frames situated in the carriageway and vehicular accesses shall be class D400 cover and frame 675x675mm clear opening in accordance with EN 124.

Manhole covers and frames situated in areas other than the carriageway and vehicular accesses shall be to EN 125 Class B125 cover and frame 675x675mm clear opening.

(v) Minimum cover requirements:
UNTRAFFICKED = 500mm
TRAFFICKED = 700mm

Installations requiring reductions on these figures will require further assessment for protection by Engineer prior to installation.

Pre-formed sockets on the Aquacell take a 160mm I pipe. An Osmadrain reducer is required for smaller pipes.

Geotextile/Membrane: Permeable membrane to be Terram 1500 (180 gram) non-woven material. (Terram Tel: 01495757722)

Laying course: 100mm coarse sand or non angular granular material base and surround.

Storage: Aquacell Blocks wrapped in geotextile (Refer to Plan & Sections for arrangement)

Laying course: 100mm coarse sand or non angular granular material base and surround.

Geotextile/Membrane: Permeable membrane to be Terram 1500 (180 gram) non-woven material. (Terram Tel: 01495757722)

SW outlets to connect into storage blocks via silt trap/catchpit. (Refer to Plan for size & layout)

SOAKAWAY MUST NOT DISCHARGE INTO MADE GROUND

INfiltration

INfiltration

INfiltration

TYPICAL AQUACELL SOAKAWAY. (Scale 1:20)

REV.	DATE	DESCRIPTION
1	01/02/20	Issue for construction

CLIENT: PMC

ARCHITECT: D84 ARCHITECTS

JOB TITLE: CLUN ROAD, LITTLEHAMPTON

DRAWING TITLE: PRIVATE DRAINAGE DETAILS - SHEET 1

SCALE AT: NTS

DATE: JAN 11

ENGL: LF

DRAWN: LF

CHECKED: -

JOB No: E5256

DRAWING No: 250

REV: -

SWP

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