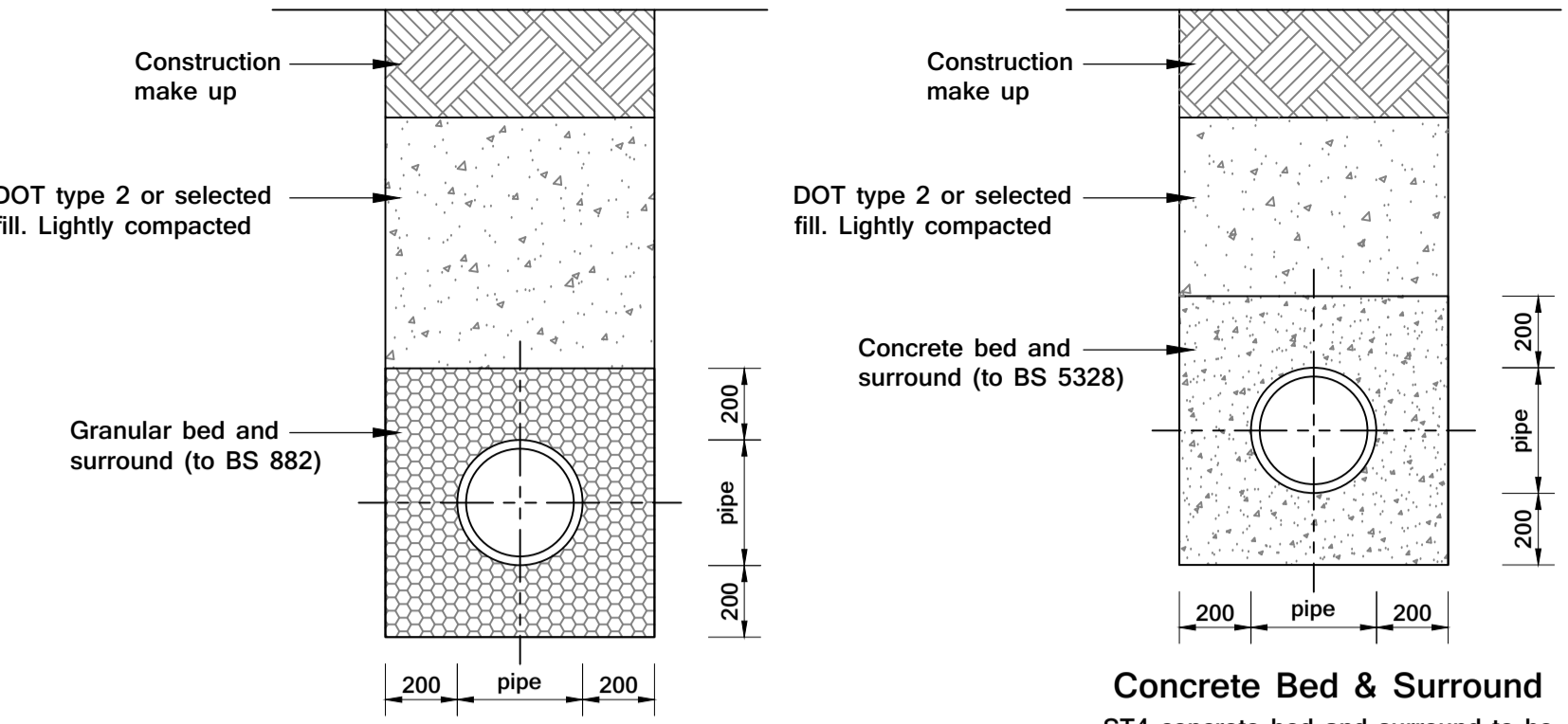


NOTES

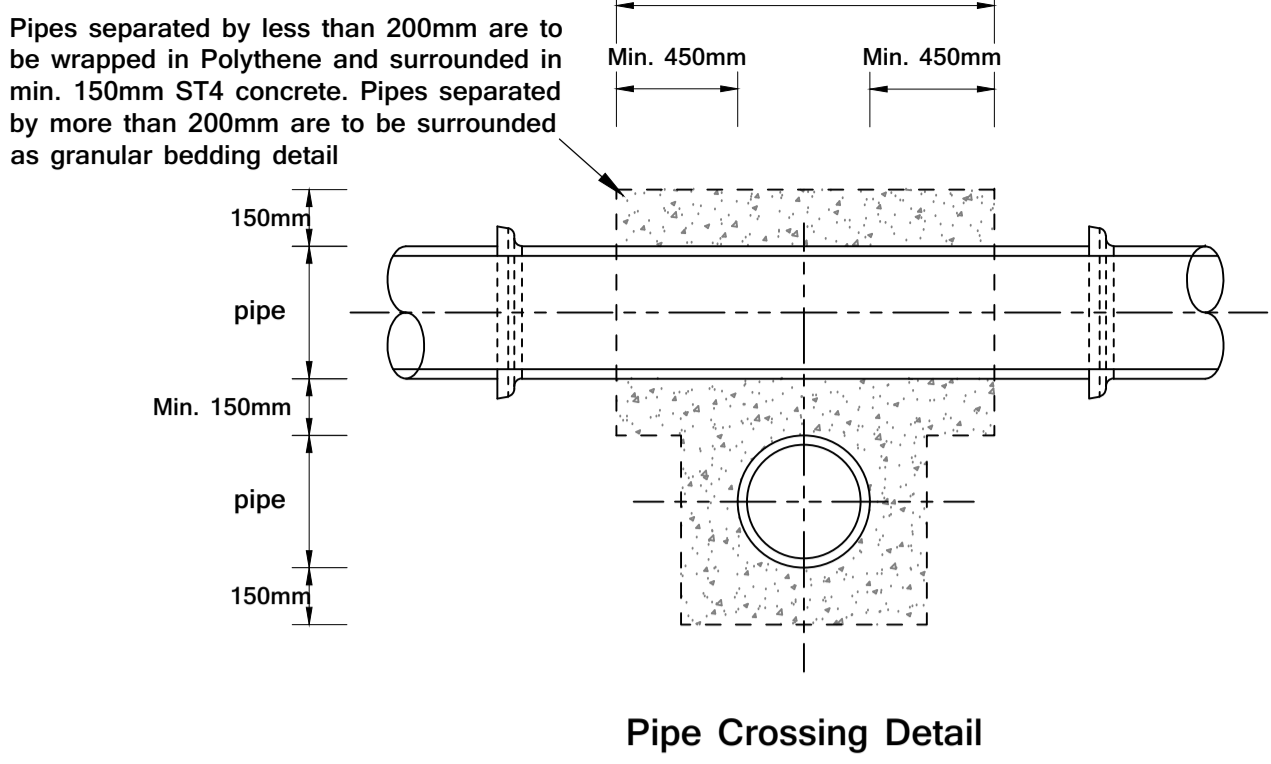
- This drawing is for Construction purpose only.
- This drawing to be read in conjunction with all other relevant Engineers and Architect's details
- All work is to be carried out in accordance with the current British Standards, codes of practice, building regulations.
- The exact position, level, size and use of existing sewers to be confirmed on site. Any discrepancies to be reported to the engineer prior to commencement of works.
- All uncovered and shallow pipework to be protected against construction traffic as part of the contractors temporary works requirements.
- Proposed drainage passing through new foundations to be sleeved with cast-in oversized pipework.
- Exact location line and level of existing stubs to existing manholes in the road to be confirmed on site prior to construction.
- See Architect's details for all setting out dimensions to buildings and boundaries etc
- All connections to road gullies and channels shall be 150mm nominal bore pipework. Connections to RWP's to be 100mm nominal bore pipework subject to confirmation of RWP sizes and/or design flow. No pipe work to be downsized in the direction of flow.
- Connections to foul terminal fittings to be 100mm nominal bore pipework subject to confirmation of above ground pipe diameters and/or design flow. No pipe work to be downsized in the direction of flow.
- All pipework to be U-PVC type in accordance with WIS 4-35-01 unless otherwise noted.
- All pipes connecting to adopted manholes up to and including 300mm dia. to be Wavin Ultrarib.
- All pipes connecting to adopted manholes greater than 300mm dia. to be Concrete.
- All pipework entering and exiting manholes to be connected with pipe soffits level.
- Pre-formed channels to be used at all manholes.
- High strength concrete benching to be steel trowelled to a dense smooth face neatly shaped and finished to all branch connections and laid in accordance with the specification.
- Pipe bends to be provided to suit direction of flow.
- All manhole covers and frames to be ductile iron heavy duty Grade D400 double triangular to BS EN 124 unless otherwise noted. Covers to be labelled 'FW' and 'SW' as appropriate.
- Gully tops and manhole covers to be provided in accordance with BS EN 124.
- All new drainage to be constructed adjacent new and proposed tree planting to be protected against root activity using 'rootcontrol' root barrier material by green-tech. All in accordance with the manufacturer's recommendations.
- First flexible joint in pipes adjacent to a manhole shall be 600mm max. From inside face of manhole, connecting to rocker pipe. For pipe diameters 150mm - 450mm the rocker pipe length shall be 500mm - 750mm and for pipe diameters 451mm - 675mm the rocker pipe length shall be 750mm - 1000mm.
- Manholes with outgoing pipes greater than 600mm dia. shall be fitted with guard bars, safety chains or other approved safety devices.
- All soft spots encountered in the trench formation to be removed and replaced with graded granular material unless instructed otherwise.
- Where a pipe trench is within 1m of a building, the pipe is to be provided with concrete protection and the trench filled with concrete up to a level below the building equal to the distance from the building less 150mm.
- Where the formation of a pipe trench is above original ground level, levels are to be made up with compacted DTP Type 2 material or better.
- All buried concrete must cater for Class 2 sulphates conditions in accordance with Table 1 of BRE digest 363.
- Concrete protection shall be provided to all pipes with less than 300mm cover in pedestrian areas, to all pipes with less than 600mm cover in private driveways not used by commercial vehicles, and to all pipes with less than 1200mm cover in roads or private driveways used by commercial vehicles. Where concrete surround is specified flexibility of joints is to be maintained by using compressible bitumen impregnated fibreboard at each point.
- The design of any temporary works required shall be the responsibility of the contractor.
- Do not scale this drawing. All dimensions are in millimetres unless noted otherwise. Any discrepancies are to be recorded and reported to the engineers immediately.
- All work is to be to the satisfaction of the Engineer and the building officer.
- The contractor is responsible for and must take all necessary precautions to ensure the stability of the works at all times during construction.
- All workmanship and materials are to be to current British standards.
- All services are to be located and protected as necessary by the contractor prior to the commencement of the works.
- The bedding or filter material up to the level 300mm above the top of the pipe barrel shall be placed in layers not more than 150mm thickness and shall be carefully compacted for the full width of the trench with hand tools. The remaining filter material shall be deposited in layers each not exceeding 225mm loose depth.
- Trench sheeting should be removed as the bed surround and backfill are placed to ensure the trench is filled and compacted to the full width.
- Pipes for filter drains shall be to BS 5481.
- Pipe bedding and 20mm clean filter material shall be a granular material having a grading within the limits of table below.

BS Sieve size	Percentage by weight passing			
	20mm Clean	Type B	Pipe bedding <140 dia	>140 dia
63mm	-	100	-	-
37.5mm	100	85-100	-	100
20mm	85-100	0-25	100	85-100
14mm	-	-	100	85-100
10mm	0-25	0-5	85-100	0-50
5mm	0-5	-	0-25	0-10
2.36mm	-	-	0-5	0-10



Granular Bed & Surround
Granular bed and surround to be used where the depth between the finished construction level and the barrel of the drain exceeds 900mm. All dimensions are external pipe widths. N.T.S.

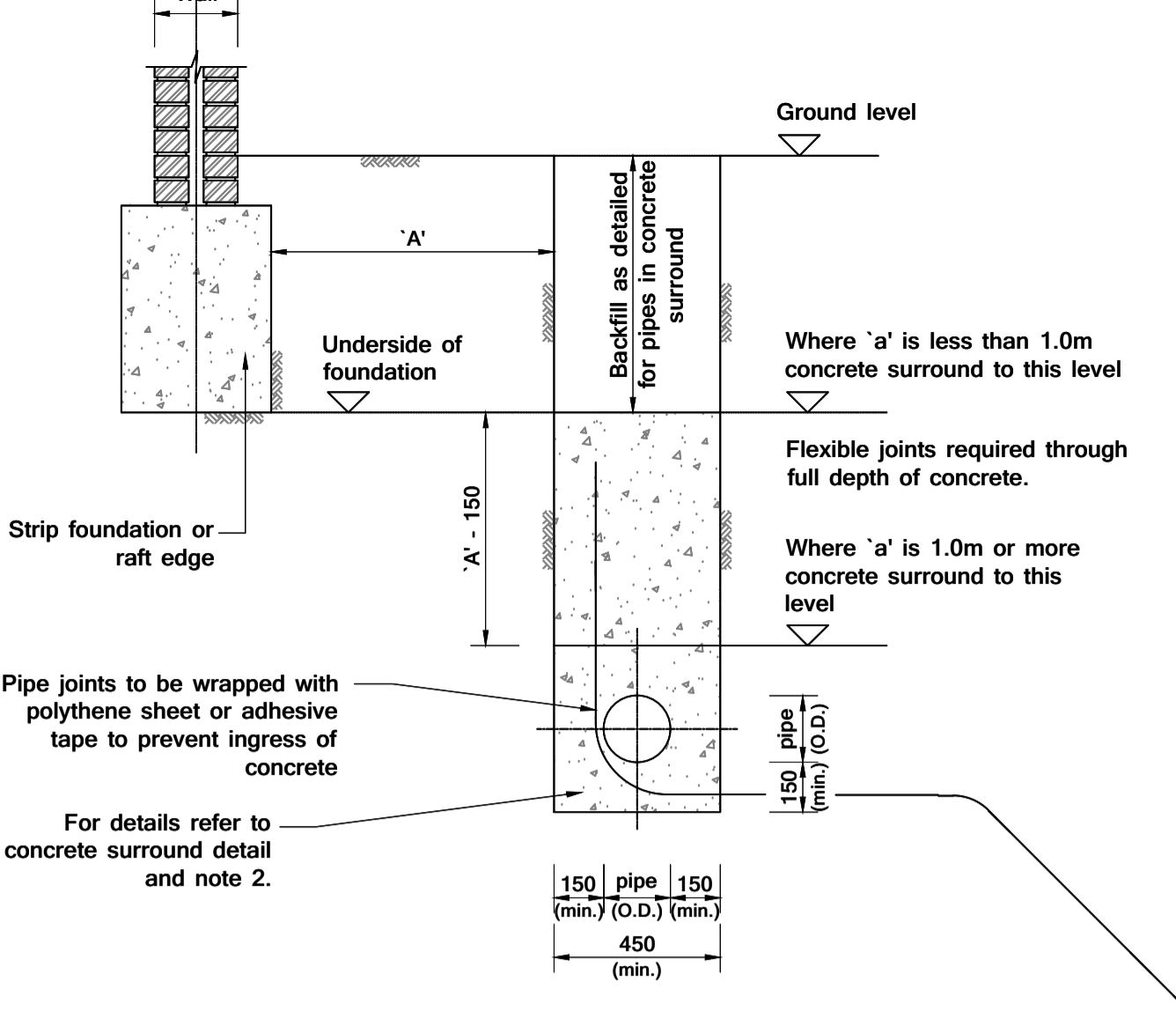
Concrete Bed & Surround
ST4 concrete bed and surround to be used where the depth between the finished construction level and the barrel of the drain is less than 900mm. All dimensions are external pipe widths. N.T.S.



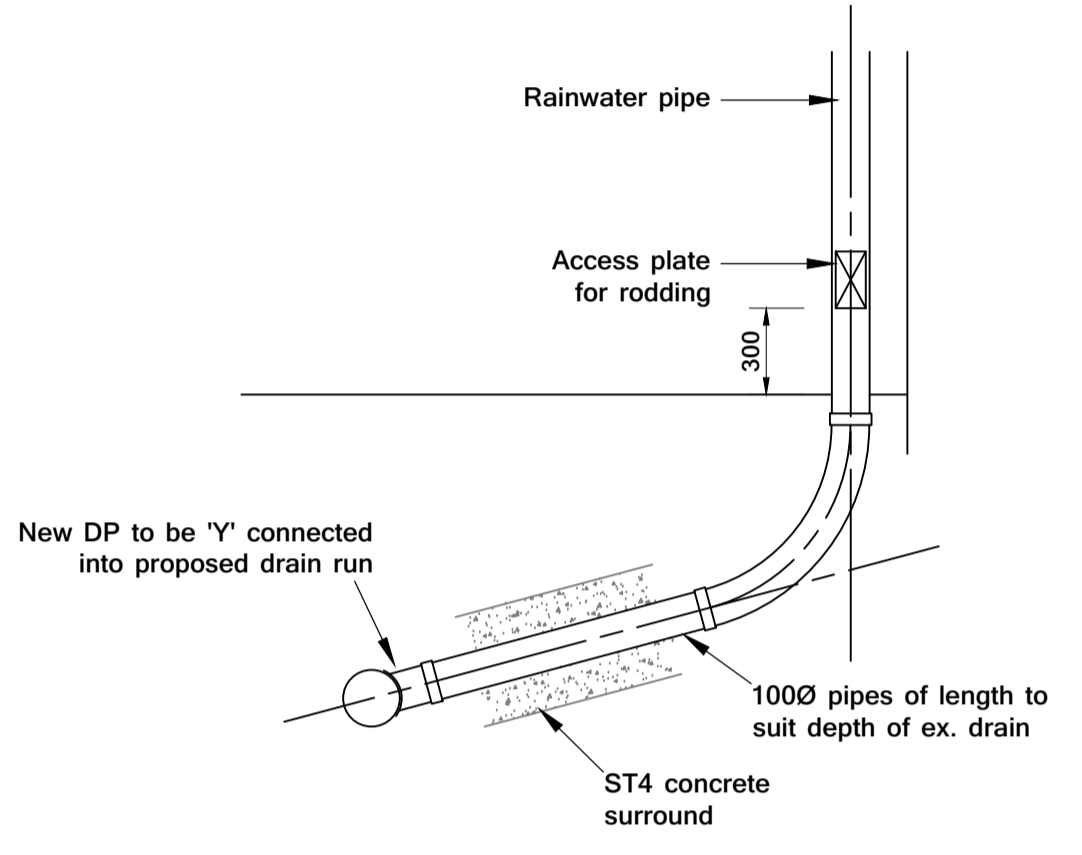
Pipe Crossing Detail
N.T.S.

Granular Materials to BS 882 - Table 4.

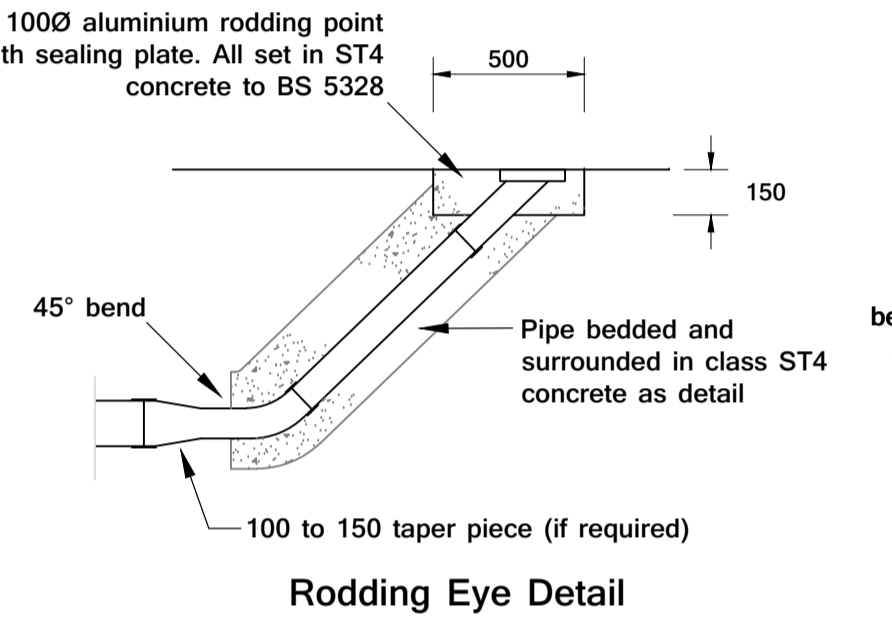
Nominal pipe diameter	Graded aggregate range	Single size aggregate
Not exceeding 140mm	n/a	10mm
Exceeding 140mm Not exceeding 400mm	14 to 5 or 20 to 5mm	10, 14 or 20mm
Exceeding 400mm	14 to 5, 20 to 5 or 40 to 5mm	10, 14, 20 or 40mm



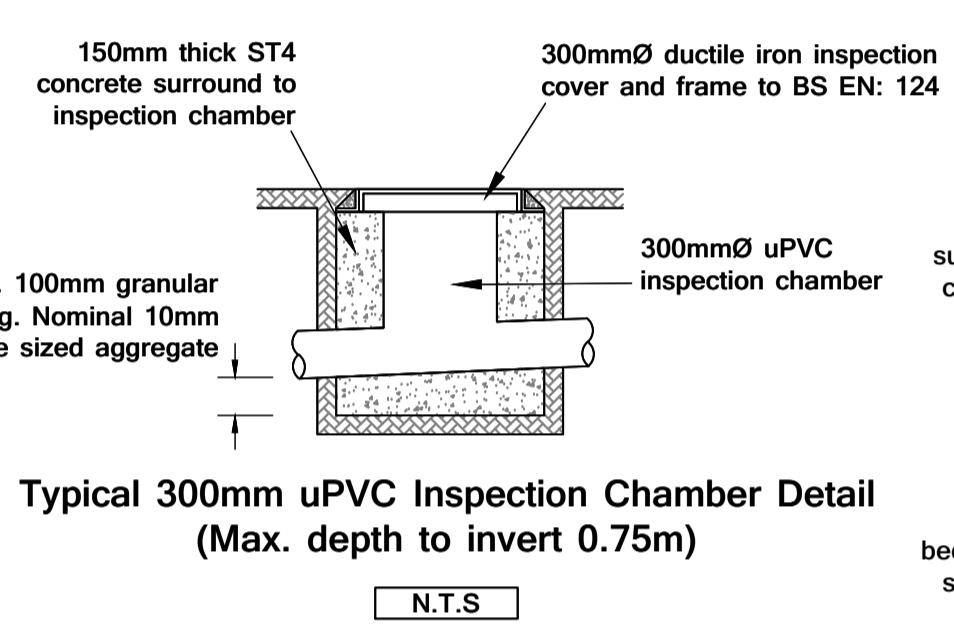
Pipe Runs Near Buildings
N.T.S.



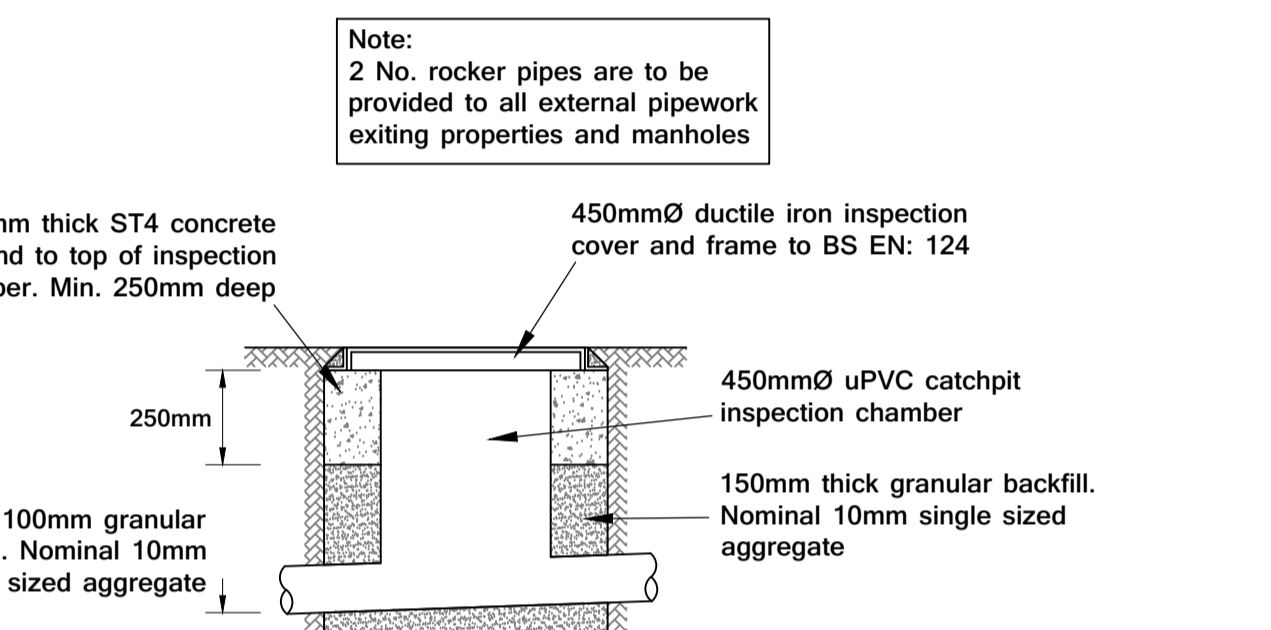
Downpipe Rodding / Connection Detail
N.T.S.



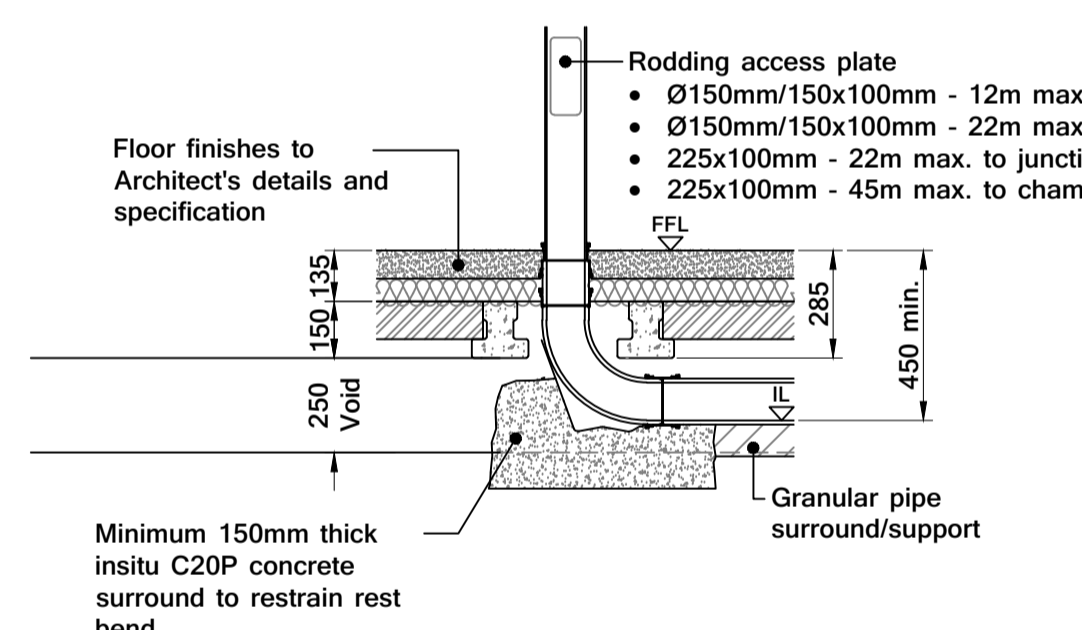
Rodding Eye Detail
N.T.S.



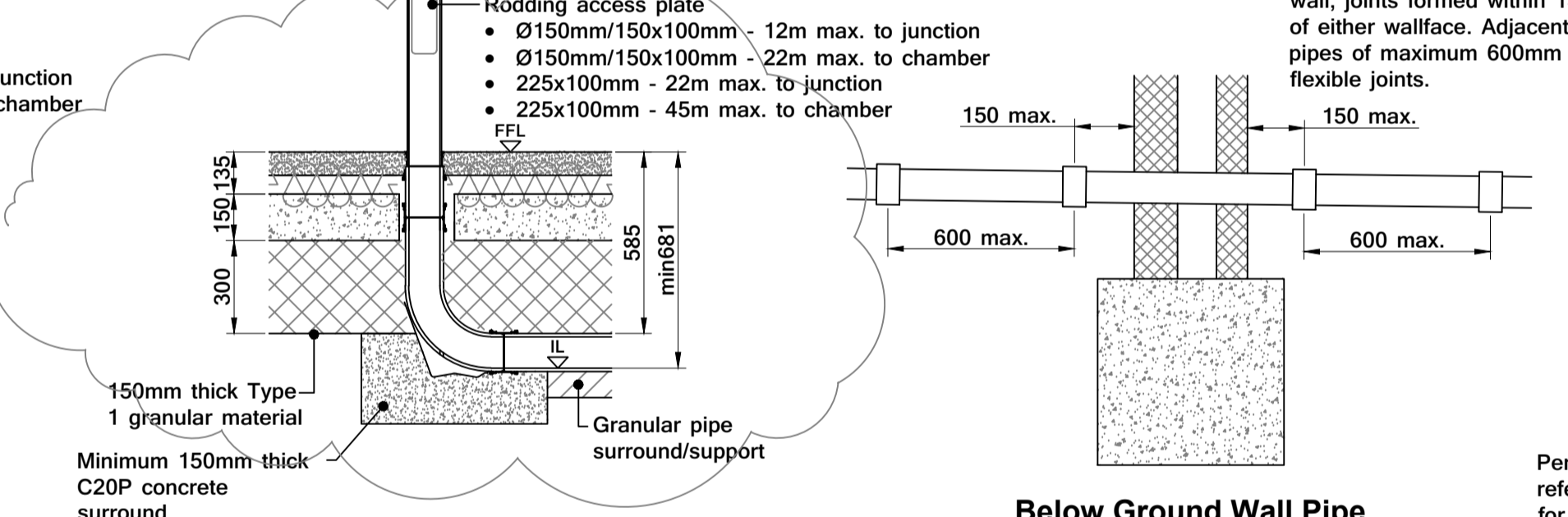
Typical 300mm uPVC Inspection Chamber Detail (Max. depth to invert 0.75m)
N.T.S.



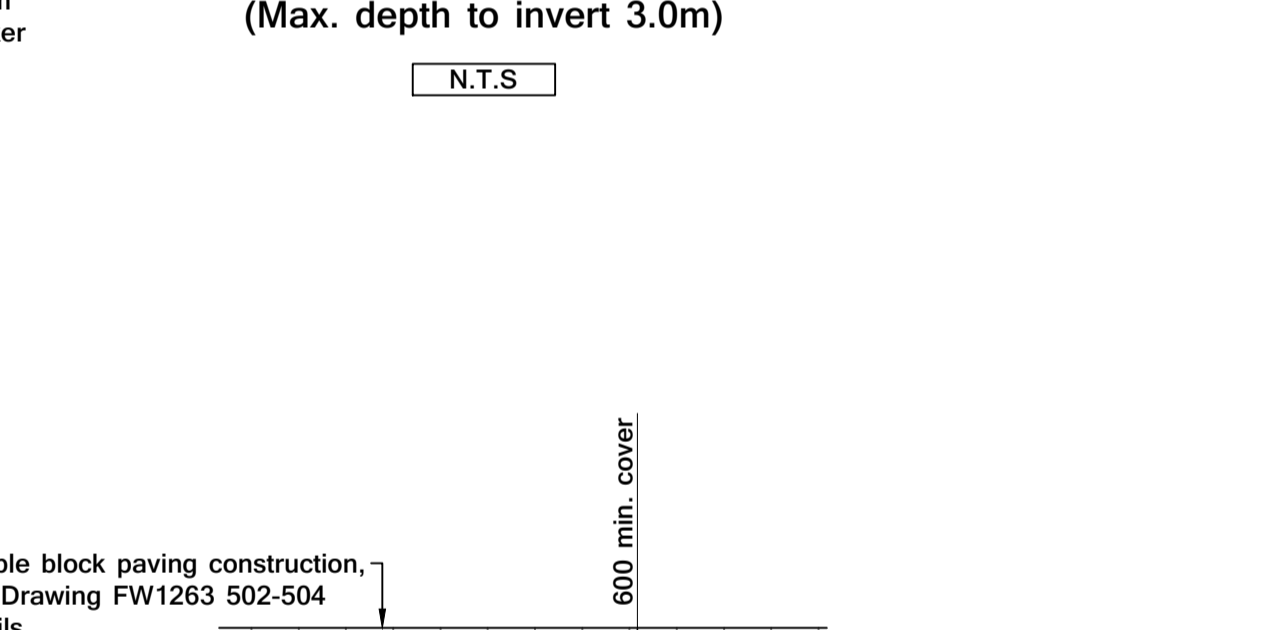
Typical 450mm uPVC inspection chamber detail (Max. depth to invert 3.0m)
N.T.S.



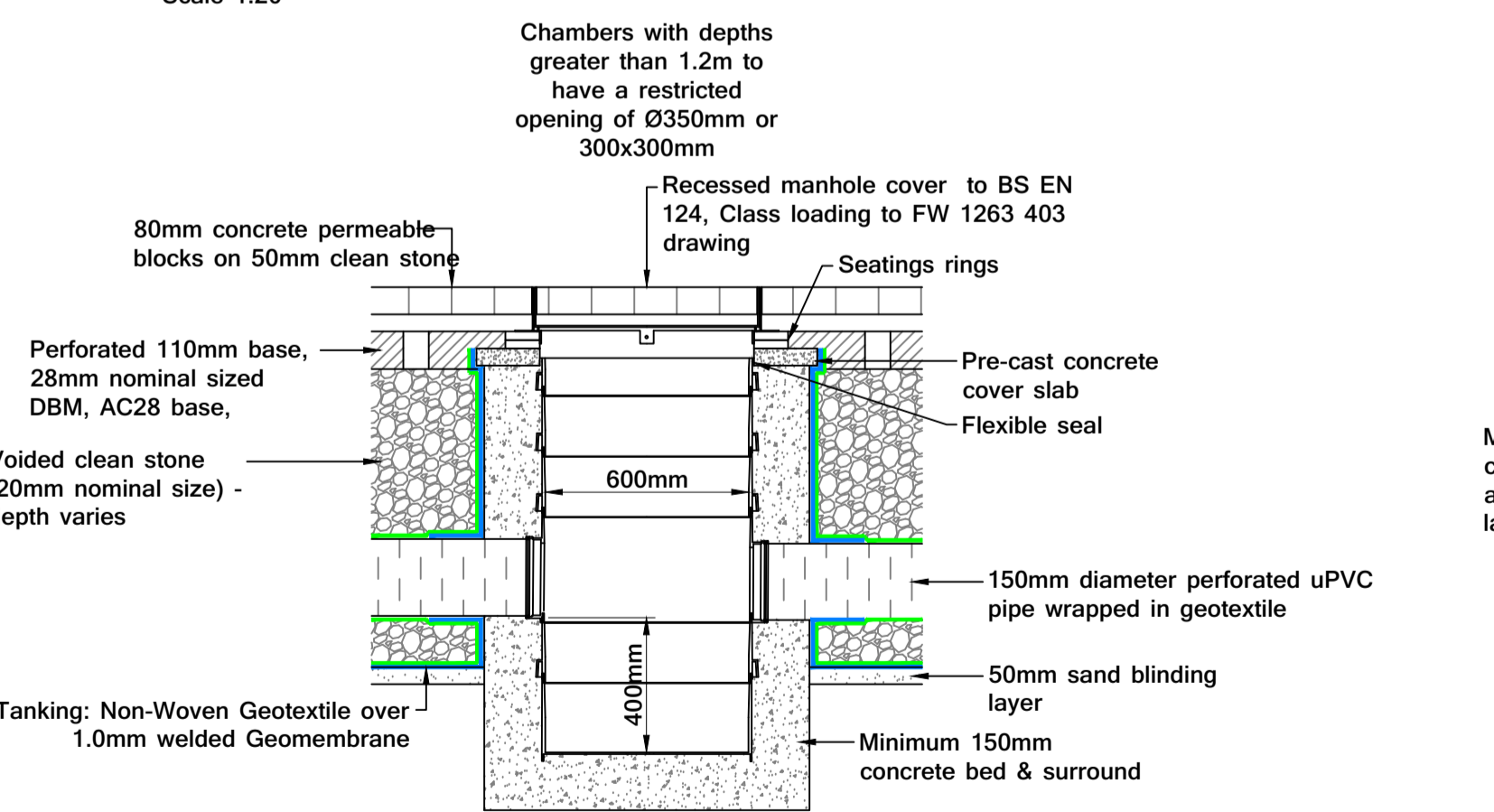
Suspended Floor Rest Bend Detail
Scale 1:20



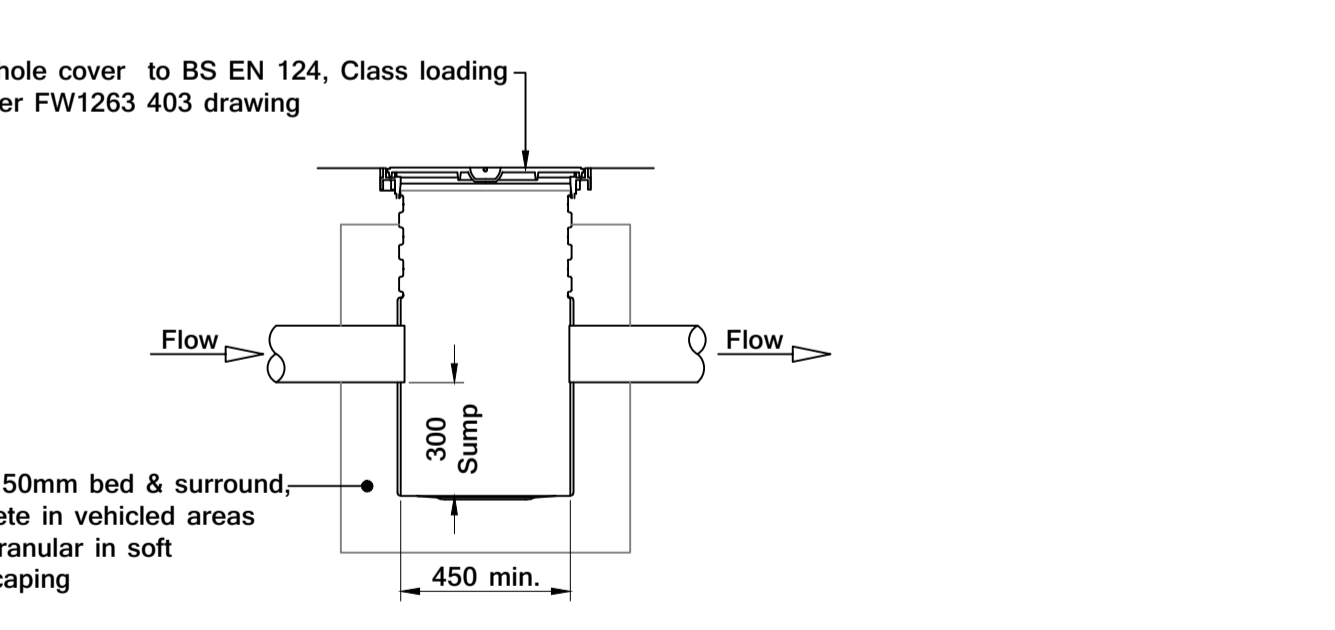
Ground Bearing Slab Rest Bend Detail
Scale 1:20



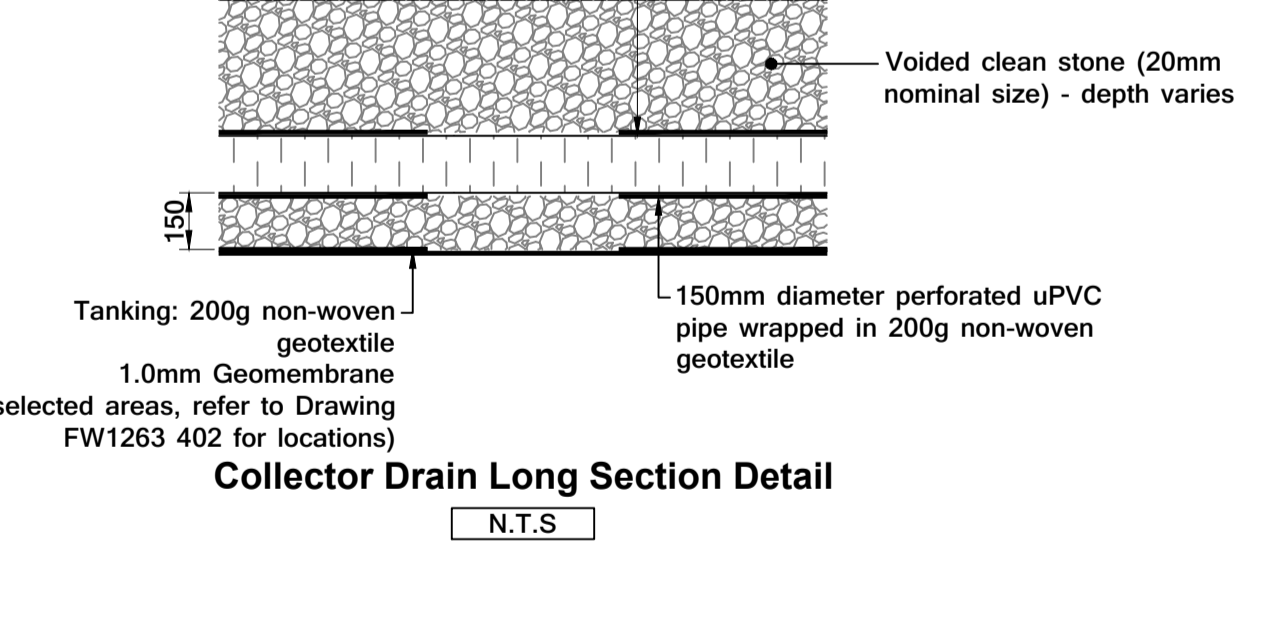
Below Ground Wall Pipe Penetration Detail



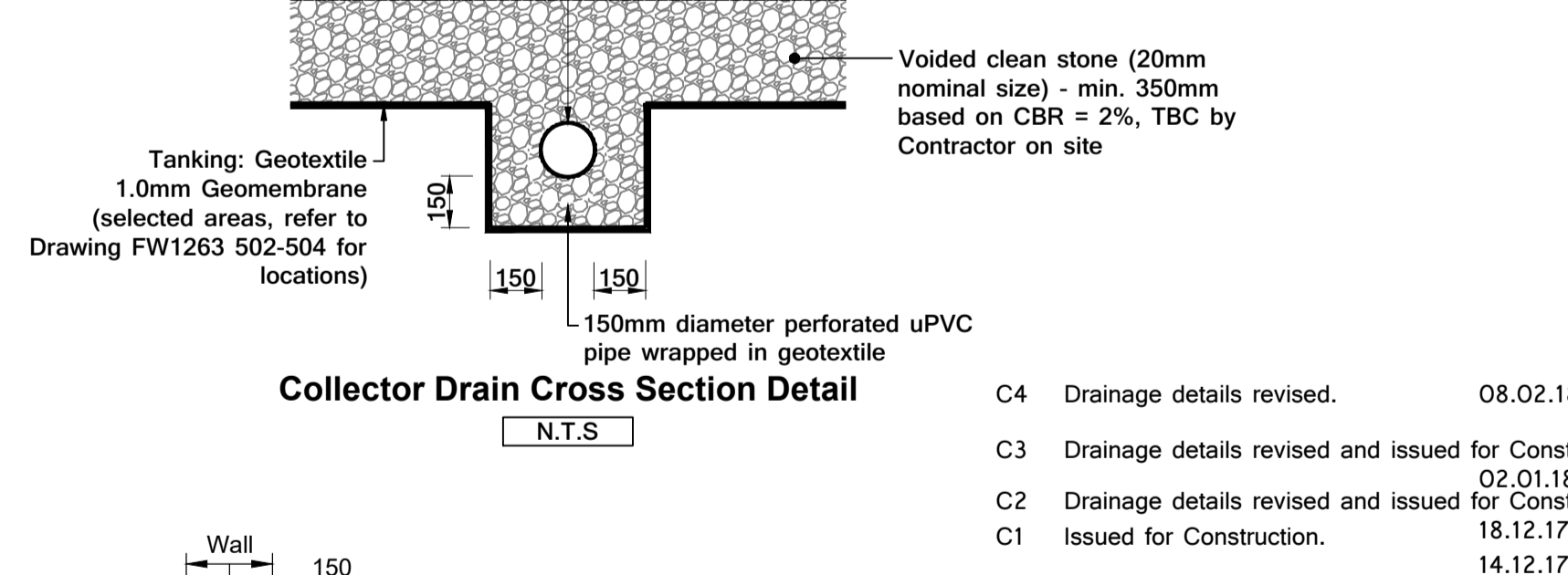
Catchpit Chamber Detail
N.T.S.



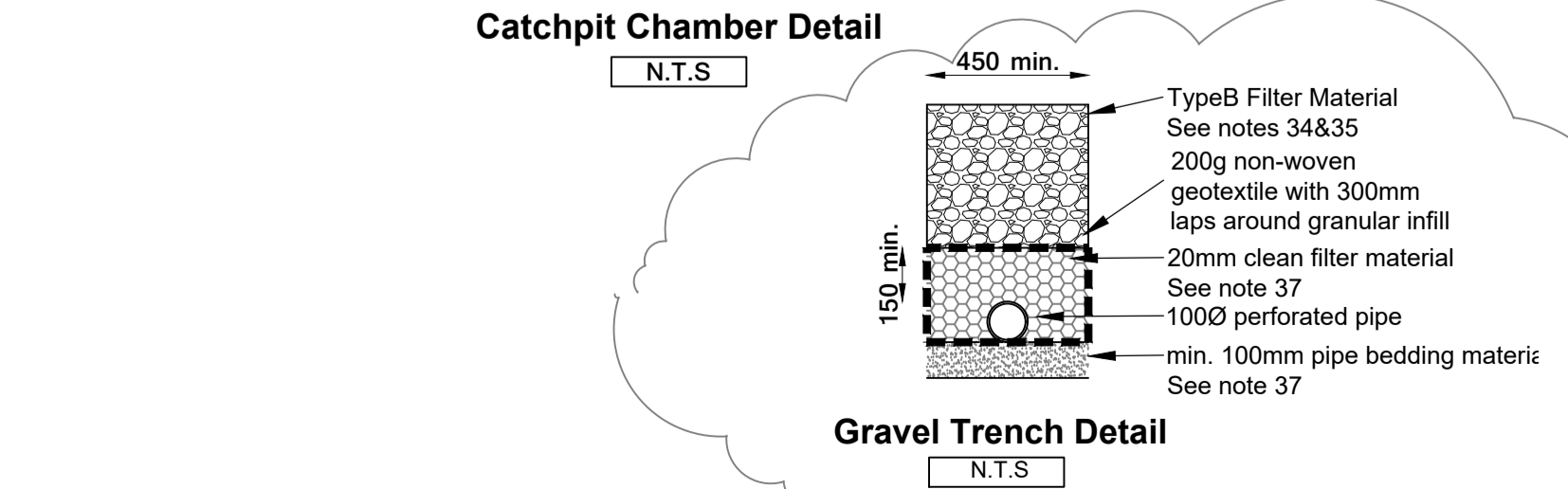
Typical PPIC Catchpit Detail
Scale 1:20



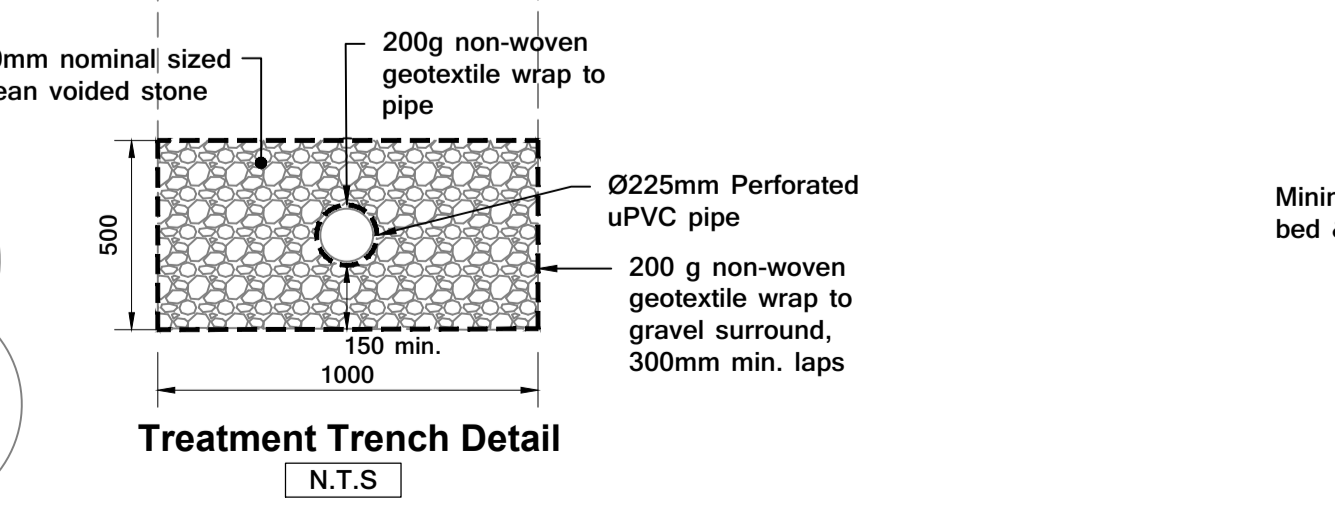
Collector Drain Long Section Detail
N.T.S.



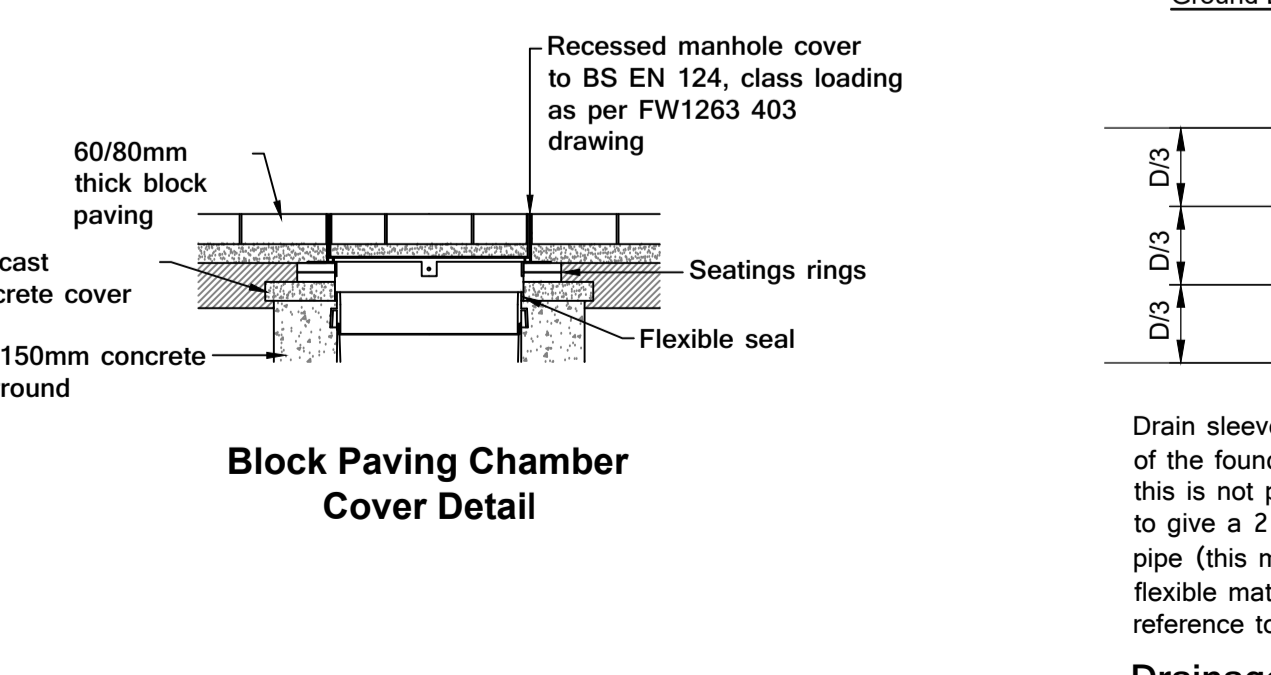
Collector Drain Cross Section Detail
N.T.S.



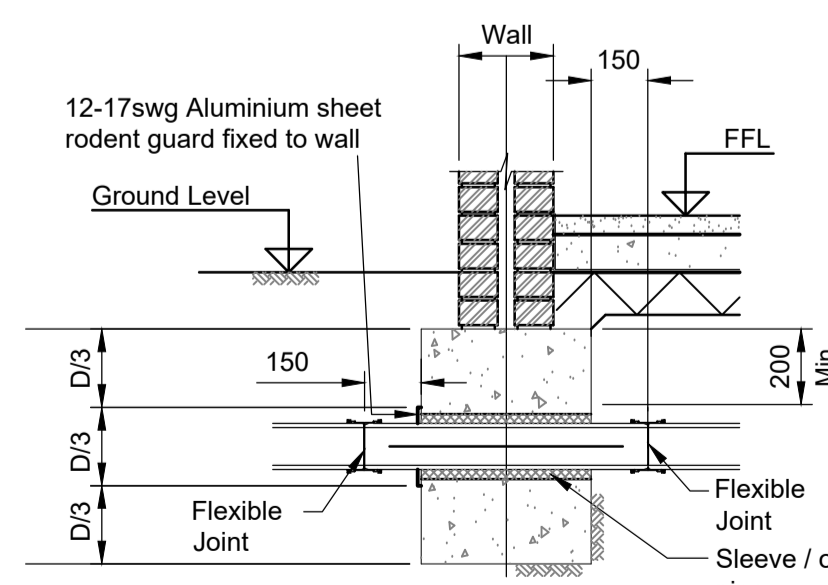
Gravel Trench Detail
N.T.S.



Treatment Trench Detail
N.T.S.



Block Paving Chamber Cover Detail



Drainage Through Strip Foundations
Scale 1:20

- C4 Drainage details revised. 08.02.18 op
- C3 Drainage details revised and issued for Construction. 02.01.18 op
- C2 Drainage details revised and issued for Construction. 18.12.17 op
- C1 Issued for Construction. 14.12.17 op

Revision

CONSTRUCTION

JOB: COMET HOTEL, HATFIELD
DRAINAGE CONSTRUCTION DETAILS SHEET 1 OF 3
Farrow Walsh consulting ltd
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Leicester LE1 5GW
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www.farrowwalsh.com

DRAWN: op
SALE: op
DATE: April 2017

CHECKED: jd
As shown @ A1
April 2017

FW1263 405 C4

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