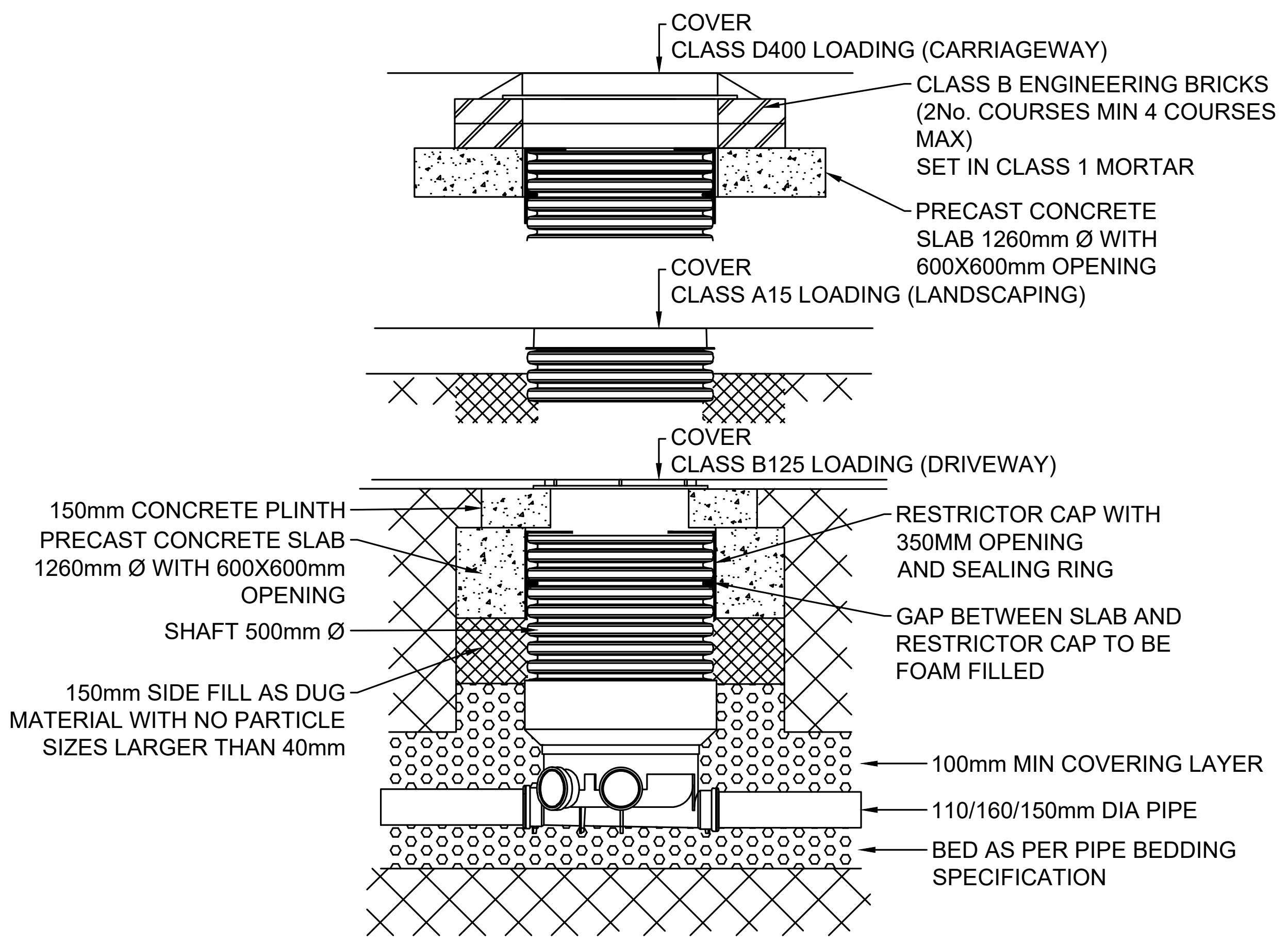
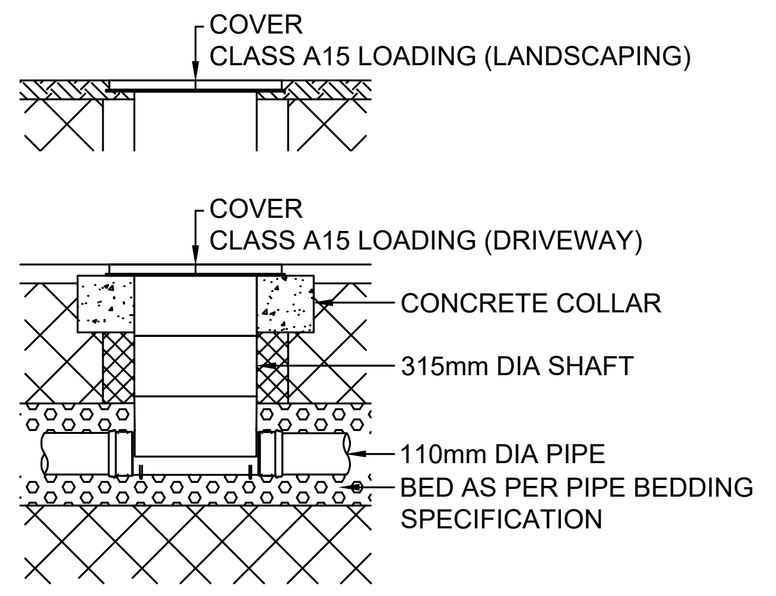
FOUL NON MAN-ENTRY INSPECTION CHAMBER TYPE K

450mm Ø SHAFT FOR USE WITH 110mm, 160mm OR 150mm PIPES
MAX DEPTH FROM COVER LEVEL TO INVERT OF PIPE 3.0m
(NOT TO SCALE)


COVER
CLASS D400 LOADING (CARRIAGEWAY)
CLASS B ENGINEERING BRICKS (2No. COURSES MIN 4 COURSES MAX) SET IN CLASS 1 MORTAR
PRECAST CONCRETE SLAB 1260mm Ø WITH 600X600mm OPENING
COVER
CLASS A15 LOADING (LANDSCAPING)
COVER
CLASS B125 LOADING (DRIVEWAY)
150mm CONCRETE PLINTH
PRECAST CONCRETE SLAB 1260mm Ø WITH 600X600mm OPENING
SHAFT 500mm Ø
150mm SIDE FILL AS DUG MATERIAL WITH NO PARTICLE SIZES LARGER THAN 40mm
RESTRICTOR CAP WITH 350MM OPENING AND SEALING RING
GAP BETWEEN SLAB AND RESTRICTOR CAP TO BE FOAM FILLED
100mm MIN COVERING LAYER
110/160/150mm DIA PIPE
BED AS PER PIPE BEDDING SPECIFICATION

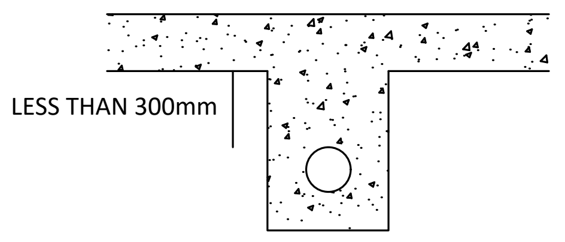
FOUL NON MAN-ENTRY INSPECTION CHAMBER TYPE I

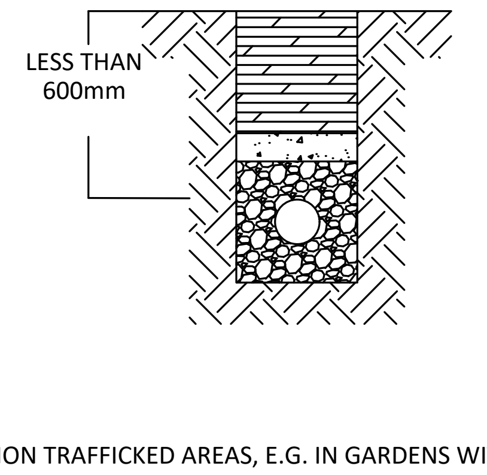
315mm Ø SHAFT FOR USE WITH 110mm PIPES
MAX DEPTH FROM COVER LEVEL TO INVERT OF PIPE 0.6m
(NOT TO SCALE)


COVER
CLASS A15 LOADING (LANDSCAPING)
COVER
CLASS A15 LOADING (DRIVEWAY)
CONCRETE COLLAR
315mm DIA SHAFT
110mm DIA PIPE
BED AS PER PIPE BEDDING SPECIFICATION

PIPES LAID AT SHALLOW DEPTHS UNDER BUILDINGS

WHERE THE CROWN OF THE PIPE IS WITHIN 300mm OF THE UNDERSIDE OF THE SLAB, THE PIPEWORK SHOULD BE SURROUNDED WITH 150mm CONCRETE AS AN INTEGRAL PART OF THE FLOOR SLAB.

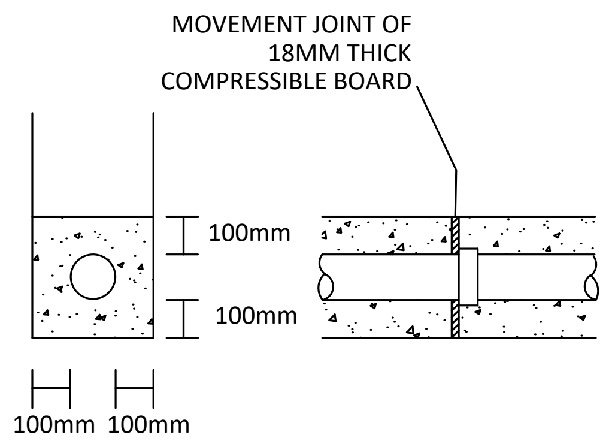




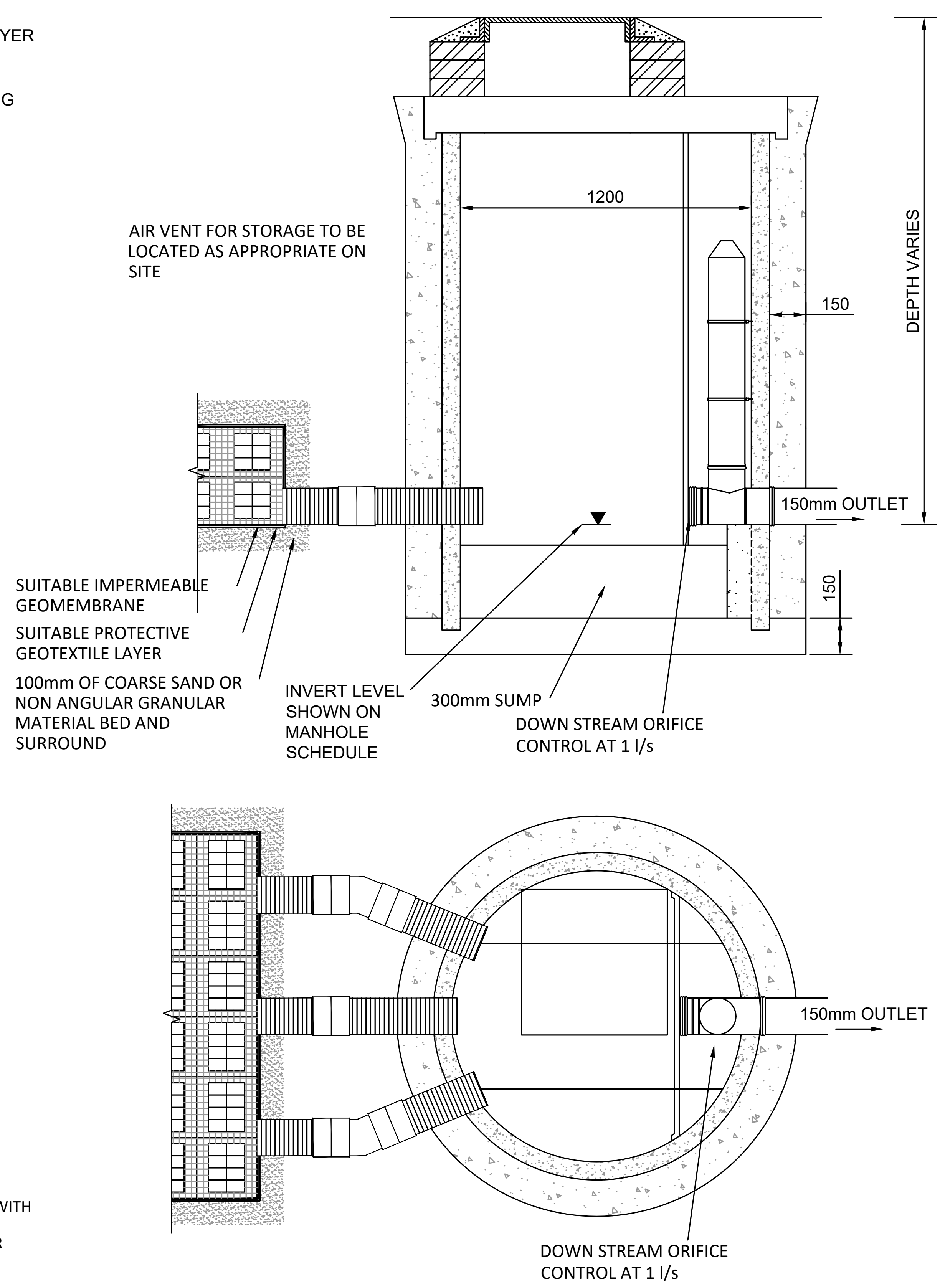
PIPES LAID IN NON TRAFFICKED AREAS, E.G. IN GARDENS WITH LESS THAN 600MM OF COVER, SHOULD BE PROTECTED AGAINST DAMAGE BY PLACING PAVING SLABS OR SIMILAR OVER THEM ACROSS THE WHOLE WIDTH OF THE TRENCH.

A LAYER OF GRANULAR MATERIAL OF 75mm MIN THICKNESS MUST BE LAID BETWEEN PIPES AND PROTECTION

JOINT FOR CONCRETE ENCASED PIPE



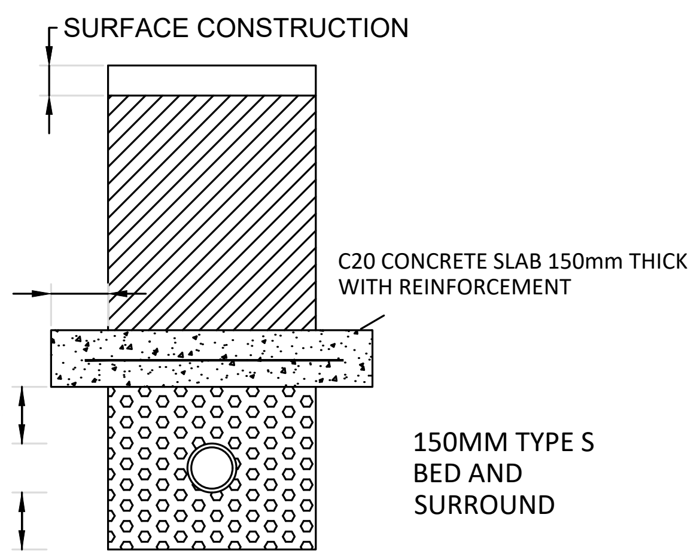
WHERE PIPES ARE SURROUNDED IN CONCRETE TO PROTECT NEARBY FOUNDATIONS, AN 18mm COMPRESSIBLE BOARD. E.G. FIBREBOARD OR POLYSTYRENE SHOULD BE PLACE AROUND THE PIPE AT EACH JOINT.


AIR VENT FOR STORAGE TO BE LOCATED AS APPROPRIATE ON SITE
1200
150
DEPTH VARIES
150mm OUTLET
150
SUITABLE IMPERMEABLE GEOMEMBRANE
SUITABLE PROTECTIVE GEOTEXTILE LAYER
100mm OF COARSE SAND OR NON ANGULAR GRANULAR MATERIAL BED AND SURROUND
INVERT LEVEL SHOWN ON MANHOLE SCHEDULE
300mm SUMP
DOWN STREAM ORIFICE CONTROL AT 1 l/s
150mm OUTLET
DOWN STREAM ORIFICE CONTROL AT 1 l/s

CELLULAR STORAGE MANIFOLD FEED OUTLET

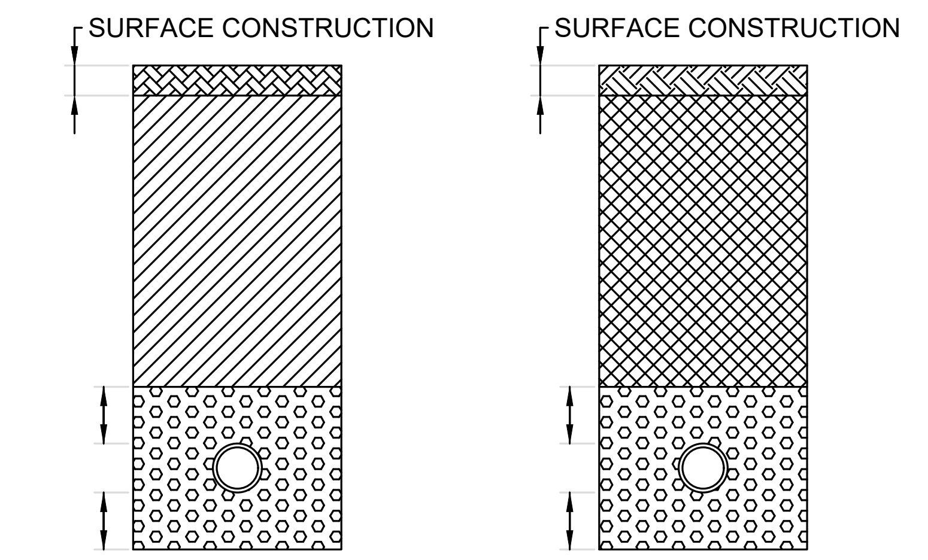
NOTE: THIS DETAIL IS ILLUSTRATIVE ONLY AND SHOULD BE READ IN CONJUCTION WITH WAVIN TECHNICAL GUIDANCE

DRAINS WITH CONCRETE PROTECTION


SURFACE CONSTRUCTION
C20 CONCRETE SLAB 150mm THICK WITH REINFORCEMENT
150MM TYPE S BED AND SURROUND

APPLICABLE UNDER ROADS / SERVICE YARDS AND WHERE DRAINS HAVE LESS THAN 1200mm COVER ALSO APPLICABLE UNDER LANDSCAPE AND PRIVATE DRIVE AREAS WHICH HAVE LESS THAN 600mm COVER.

DRAINS WITH FLEXIBLE (TYPE S) BED AND SURROUND

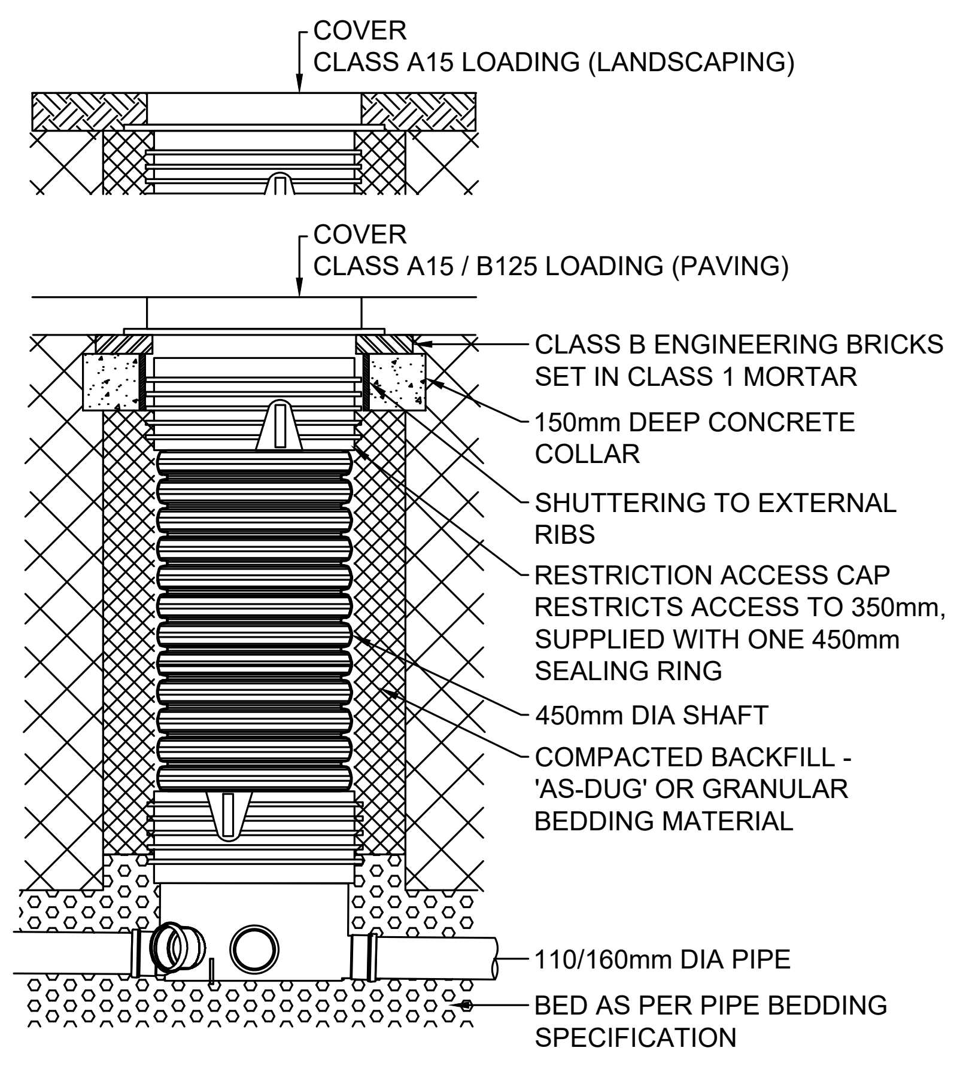


APPLICABLE UNDER ROADS / SERVICE YARDS AND WHERE DRAINS HAVE MORE THAN 1200mm COVER ALSO APPLICABLE UNDER LANDSCAPE AND PRIVATE DRIVE AREAS WHICH HAVE MORE THAN 600mm COVER

TYPE S
APPLICABLE UNDER FOOTPATHS VERGES AND OTHER NON TRAFFICKED AREAS WHERE DRAINS HAVE MORE THAN 600mm COVER.

SURFACE WATER NON MAN-ENTRY INSPECTION CHAMBER TYPE G

450mm Ø SHAFT FOR USE WITH 110mm, 160mm OR 150mm (VIA ADAPTOR) PIPES
MAX DEPTH FROM COVER LEVEL TO INVERT OF PIPE 3.0m
(NOT TO SCALE)


COVER
CLASS A15 LOADING (LANDSCAPING)
COVER
CLASS A15 / B125 LOADING (PAVING)
CLASS B ENGINEERING BRICKS SET IN CLASS 1 MORTAR
150mm DEEP CONCRETE COLLAR
SHUTTERING TO EXTERNAL RIBS
RESTRICTION ACCESS CAP RESTRICTS ACCESS TO 350mm, SUPPLIED WITH ONE 450mm SEALING RING
450mm DIA SHAFT
COMPACTED BACKFILL - 'AS-DUG' OR GRANULAR BEDDING MATERIAL
110/160mm DIA PIPE
BED AS PER PIPE BEDDING SPECIFICATION

LOCATION TYPE	MINIMUM COVER DEPTH AQUACELL LITE	 AQUACELL CORE	 AQUACELL PLUS
LANDSCAPED/NON-TRAFFICKED AREAS	0.3m (b)	0.3m (b)	0.3m (b)
CAR PARKS, VEHICLE UP TO 2500 KG (a) GROSS MASS, WITH AQUACELL SYSTEM			
- UP TO 3 AQUACELL UNITS WIDE	N/A	0.6m	0.6m
- MORE THAN 3 AQUACELL UNITS WIDE	N/A	0.75m	0.75m
MAXIMUM DEPTH TO BASE OF UNIT	1.5m	4.25m (c)	5.08m

a) For specific advice on cover depths for heavier loadings/HGV applications, contact Wavin Technical Design on 10249 766655
b) 0.3m is minimum depth for AquaCell Lite, although 0.5m cover is recommended to prevent accidental damage. if construction plant is to be used on site, extra protection may be needed
c) Allowable maximum depth to base of bottom layer of unit is dependent on soil type, angle of shearing resistance, loadings and groundwater level. In poor ground conditions a shallower depth may apply

KEY:

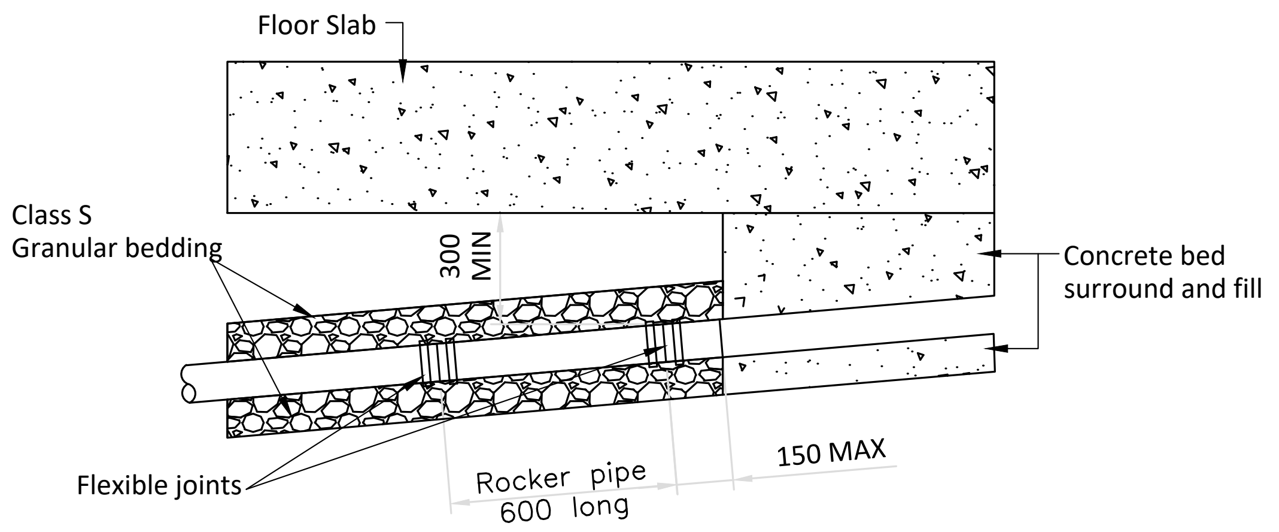
- ▩ HIGHWAY CONSTRUCTION
- ▩ SELECTED EXCAVATED MATERIAL SHALL BE PLACED IN NO GREATER THAN 225mm LAYERS COMPLYING WITH THE CIVIL ENGINEERING SPECIFICATION WITHIN SEWERS OF ADOPTION 6TH EDITION REF 5.3.4
- ▒ GRANULAR BEDDING AND SURROUND MATERIAL 20mm NOMINAL SINGLE SIZE
- ▩ LANDSCAPE AREA
- ▒ CONCRETE SURROUND TO BE GEN3 C20
- ▨ GRANULAR SUB-BASE MATERIAL (TYPE 1) DEPOSITED IN LAYERS NOT EXCEEDING 225mm IN UNCONSOLIDATED LAYERS AND THEN FULLY COMPACTED UNLESS STATED.

MINIMUM TRENCH WIDTHS (EN 1610)

PIPE DIAMETER	SUPPORTED TRENCH
UP TO 255mm	OUTSIDE PIPE DIAMETER + 400mm
225mm TO 350mm	OUTSIDE PIPE DIAMETER = 500mm
350mm TO 700mm	OUTSIDE PIPE DIAMETER + 700mm
700mm TO 1200mm	OUTSIDE PIPE DIAMETER + 850mm
OVER 1200mm	OUTSIDE PIPE DIAMETER + 1000mm

MINIMUM TRENCH WIDTHS (EN 1610)

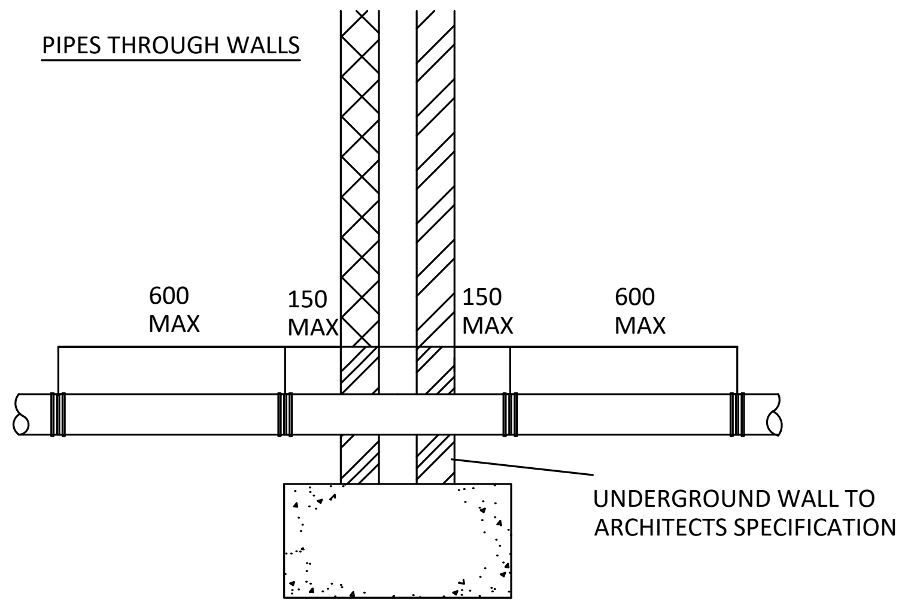
PIPE DIAMETER	AGGREGATE NOMINAL SINGLE SIZE	 GRADED
UP TO 100mm	10mm	
100mm TO 150mm	10mm 14mm	14mm TO 15mm
150mm TO 300mm	10mm 14mm 20mm	14mm TO 5mm 20mm TO 5mm
300mm TO 550mm	14mm 20mm	14mm TO 5mm 20mm TO 5 mm
OVER 550mm	20mm 40mm	14mm TO 5mm 20mm TO 5mm 40mm TO 5mm



Pipeline under Typical Building Slab

Concrete encase where cover to underside of floor slab is less than 300 mm

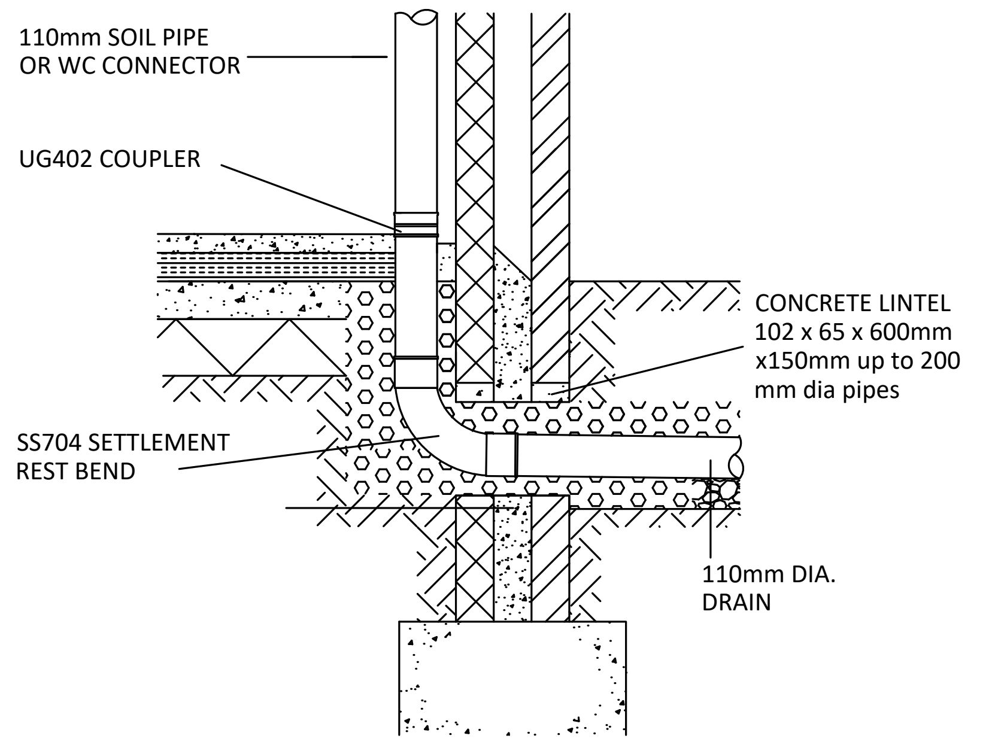
PIPES THROUGH WALLS



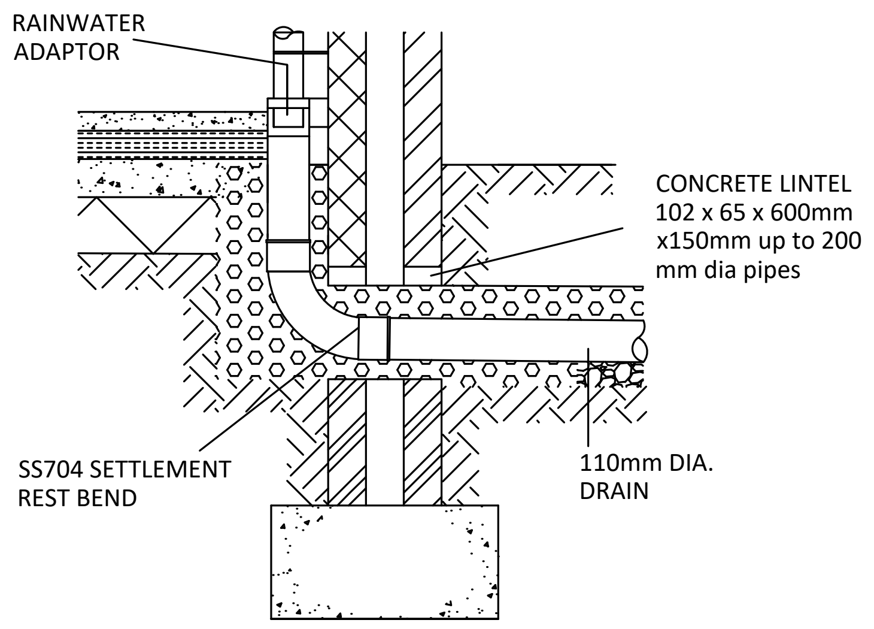
SHORT LENGTH OF PIPE BEDDED IN WALL WITH JOINTS WITHIN 150mm OF EACH WALL FACE.

ADJACENT ROCKER PIPES OF 600mm MAX.LENGTH WITH FLEXIBLE JOINTS.

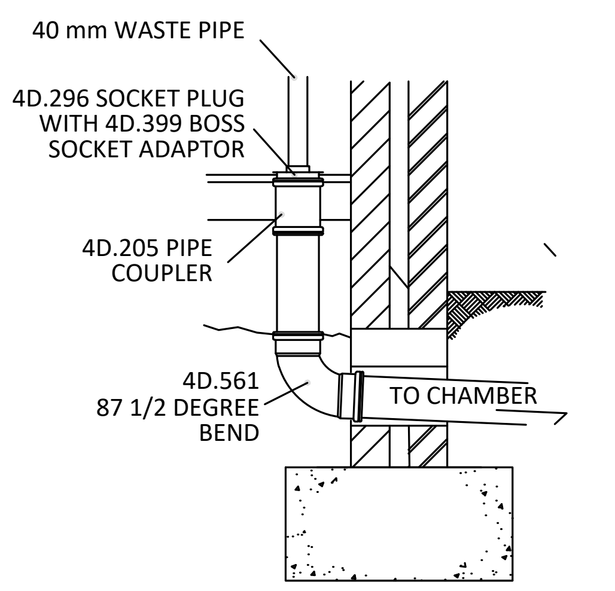
SOIL PIPE/WC CONNECTION


110mm SOIL PIPE OR WC CONNECTOR
UG402 COUPLER
CONCRETE LINTEL 102 x 65 x 600mm x150mm up to 200 mm dia pipes
SS704 SETTLEMENT REST BEND
110mm DIA. DRAIN

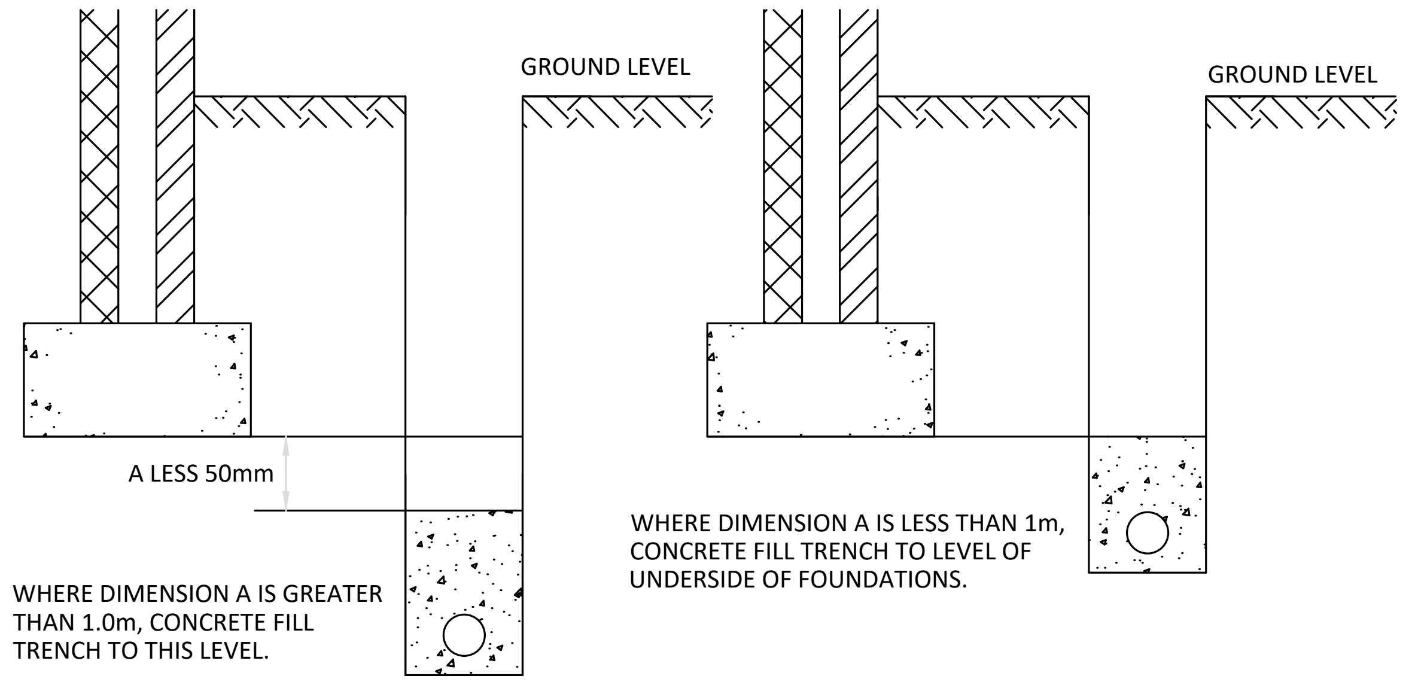
RAINWATER PIPE CONNECTION.


RAINWATER ADAPTOR
CONCRETE LINTEL 102 x 65 x 600mm x150mm up to 200 mm dia pipes
SS704 SETTLEMENT REST BEND
110mm DIA. DRAIN

INTERNAL WASTE PIPE CONNECTION

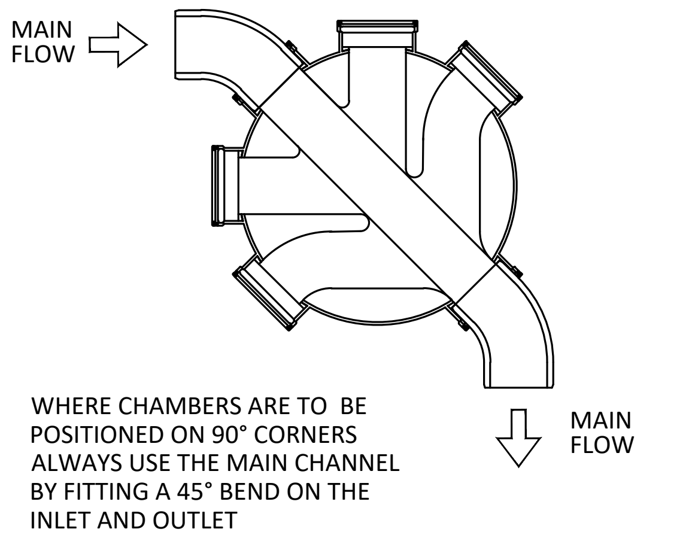

40 mm WASTE PIPE
4D.296 SOCKET PLUG WITH 4D.399 BOSS SOCKET ADAPTOR
4D.205 PIPE COUPLER
4D.561 87 1/2 DEGREE BEND
TO CHAMBER

PIPES NEAR BUILDINGS



WHERE DIMENSION A IS GREATER THAN 1.0m, CONCRETE FILL TRENCH TO THIS LEVEL.

WHERE DIMENSION A IS LESS THAN 1m, CONCRETE FILL TRENCH TO LEVEL OF UNDERSIDE OF FOUNDATIONS.



WHERE CHAMBERS ARE TO BE POSITIONED ON 90° CORNERS ALWAYS USE THE MAIN CHANNEL BY FITTING A 45° BEND ON THE INLET AND OUTLET

Notes

1. Due to a change in legislation on 1st October 2011, there could be formally private sewers which have transferred over to the responsibility of the Sewerage Undertaker. If such sewers are located on site during construction works, please contact Stewart and Harris so that a Section 185 Agreement can be prepared to divert these sewers.
2. The survey information used in the preparation of this drawing is not warranted. The contractor shall check all dimensions and levels on site.
3. This drawing must be read in conjunction with the site investigation report. Before work commences contractor should consult the engineer and the SI report regarding any contamination issues. All necessary health and Safety measures to be taken.
4. Before work commences, the contractor shall liaise with all Statutory Authorities to determine the exact location of all apparatus and take all precautions deemed necessary to locate, protect and where necessary divert such equipment.
5. This drawing is subject to approval by Building Control. Any works undertaken prior to the granting of these approvals is carried out at at risk to others.
6. The contractor shall check all dimensions and levels on site.
7. Setting out to be confirmed by the Architect.
8. All existing sewers and manholes abandoned due to the proposed works are to be either removed, and suitably backfilled or grouted up.
9. All external drainage works shall be constructed in accordance with civil engineering specification for the water industry and the Building regulations Part H and BS.EN 752.
10. All existing drainage levels, diameters & locations need to be checked on site prior to any drainage works, and any discrepancies need to be reported back to the Engineer.
11. Cover levels for manholes are approximate only and should be adjusted to match surrounding levels.
    All manhole and drainage covers shall comply with BS.EN124. Covers to be:
    Class D400 in Highway Areas (Road)
    Class C250 in Lightly trafficked areas (car parks).
    Class B125 in landscape and non trafficked areas (min. 100mm dp frame).
12. Drainage pipes 100mm Ø unless stated otherwise.
13. Pipes to be :- Vitrified clay to BS EN 295 or Concrete to BS 5911 or UPVC pipes to BS EN 1452 or Thermoplastic Structured wall pipes complying with WIS 4-35-01. BSi kitemarked. Class 8kM/m² nominal short term ring stiffness.
14. All pipes to be laid with soffits level, unless noted otherwise.
15. All pipes beneath buildings to be B&S in concrete. Where cover is less than 300mm the concrete is to be cast integrally with the floor slab.
16. Pipes Penetrating Walls.
    An opening is to be formed through walls to give pipes at least 50mm clearance all round. Brickwork over shall be supported by a lintel. Opening to be masked each side with rigid sheet material.
    Pipes embedded in walls shall have joints formed within 150mm of either wall face. Adjacent rocker pipes of max 600mm length with flexible joints shall continue the pipework.
17. Pipe runs near Buildings.
    If a trench is within 1m of a building it shall be filled with concrete up to the lowest level of the adjacent foundation. If a trench is greater than 1m from a building the trench shall be filled with concrete up to a level below the building equal to the distance from the building less 150mm.
18. Ventilation shall be provided at the head of the foul drainage runs.
19. For setting out of SVP and RWP, see architects layout.
20. Drainage shall be tested both before and after backfilling, using either air test or water test, in accordance with BS EN 1610..
21. SVP's that outfall to external drainage using a branch connection are to have an access point in the SVP stack.
22. Soakaways to be located a minimum of 5m from any building.
23. Drainage Field to be located a minimum of 15m from any building

REV	AMENDMENT	BY	CHK	DATE
P01	Preliminary Issue	LS	SJ	23/02/24

CE
PROJECT EXECUTION CLASS:
All materials supplied in relations to those specified on this drawing are to be CE marked in accordance with the European Union Declaration of conformity

DRAWING STATUS
PRELIMINARY

C2C CONSULTING ENGINEERS LTD
CIVIL | STRUCTURAL | DESIGN
The Old Church Offices
Shelton New Road
Hartshill, Stoke on Trent
ST4 6DP
Email: mail@c2cconsulting.co.uk Telephone: 01782 980330

CLIENT
Endon Cricket Club

PROJECT
Endon Cricket Club

DRAWING TITLE
Typical Drainage Details

SHEET SIZE	SCALE	DATE	DRAWN	CHECKED	STATUS
A1	As Shown	23/02/24	LS	SJ	S1

PROJECT No.	DRAWING No.		REV
231096	C2C - XX - XX - DR - C	501	P01

CAD File Path: LarissaStaley_Z:\PROJECT - QUOTES 2023\231096 - Endon Cricket Club\231096-C2C-XX-XX-DR-C-501-P01- Drainage Details

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