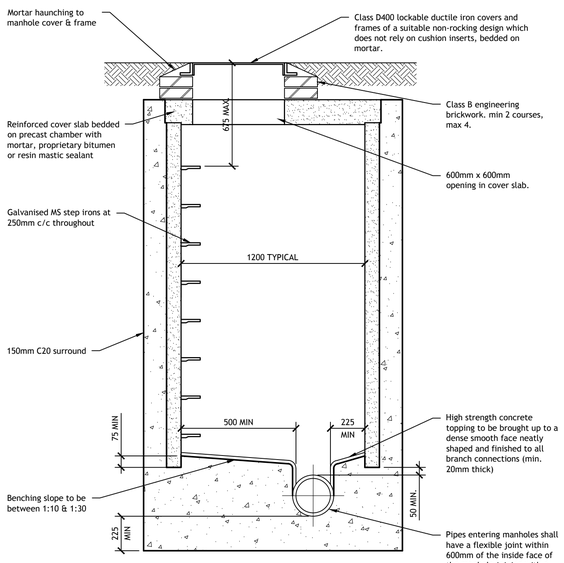
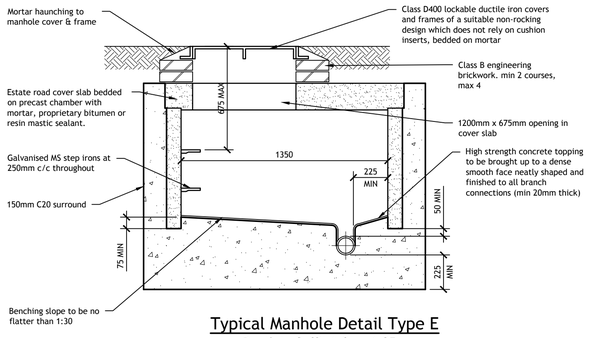


Typical Manhole Detail Type B

Depth to Soffit 1.35m - 3.0m

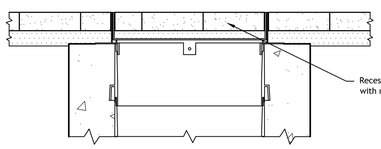
Scale 1:20



Typical Manhole Detail Type E

Depth to Soffit 1.0m - 1.35m

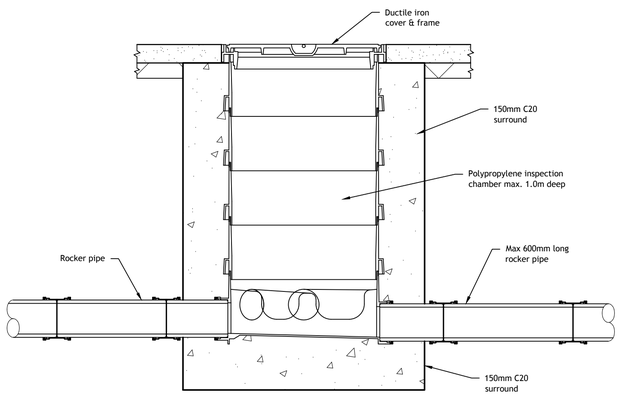
Scale 1:20



Sited in Driveways/Hard Landscaped Areas

With Recessed Cover

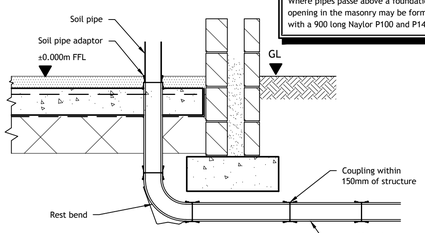
Scale 1:10



Sited in Driveways/Hard Landscaped Areas

With Standard Round Cover

Scale 1:10



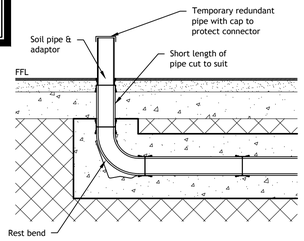
Note
Where pipes passe above a foundation, an opening in the masonry may be formed with a 900 long Naylor P100 and P140 lintel

Soil & Vent Pipe Detail

(Close to Wall)

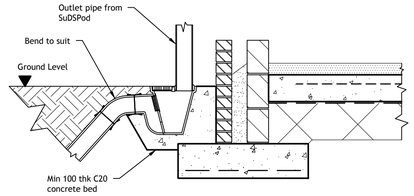
All drainage beneath the slab is to be encased in a minimum of 150mm concrete

SCALE 1:20



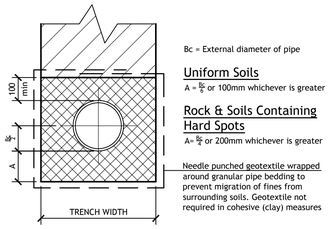
SVP/Stub Stack Detail

SCALE 1:20



Back Inlet Gully

SCALE 1:20



Bc = External diameter of pipe

Uniform Soils

A = $\frac{Bc}{2}$ or 100mm whichever is greater

Rock & Soils Containing Hard Spots

A= $\frac{Bc}{2}$ or 200mm whichever is greater

Needle punched geotextile wrapped around granular pipe bedding to prevent migration of fines from surrounding soils. Geotextile not required in cohesive (clay) measures

MAIN BACK FILL
Selected excavated material. compacted in layers not exceeding 225mm. In cohesive (clay) soils trenches under roads and hard standings shall be back filled with imported granular material.

Type A Granular Bedding
Bedding

Pipe Bedding Details

Class S

Scale 1:20

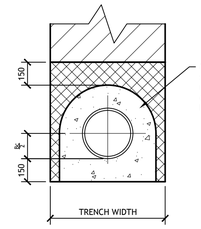
Pipe bedding material shall consist of free-draining, hard, clean, chemically stable gravel, crushed stone or crushed slag, graded in accordance with the following table. The material shall have a compaction fraction value not exceeding 0.2.

BS 410 Test Sieve	Percentage by Mass Passing			
	Type A40	Type A20	Type A14	Type A10
63mm	100	-	-	-
37.5mm	85-100	100	-	-
20mm	0-25	85-100	100	-
14mm	-	-	85-100	100
10mm	0-5	0-25	0-50	85-100
5mm	-	0-5	0-10	0-25
2.36mm	-	-	-	0-5

The bedding material type shall be chosen according to pipe size in accordance with the following table.

Pipe Bedding Material	
Nominal Pipe Size mm	Bedding Material
LESS THAN 300	A10
300 - 525	A14

Trench Widths	
Maximum Trench Widths	
Pipe Ø	Width
100	550
150	600
225	700
300	750
375	1050



Minimum 150mm concrete surround as shown or to full trench width. Joints required in surround at 5m maximum centres using 25mm compressible filler board across section at joint positions

MAIN BACK FILL
Selected excavated material. compacted in layers not exceeding 225mm. In cohesive (clay) soils trenches under roads and hard standings shall be back filled with imported granular material.

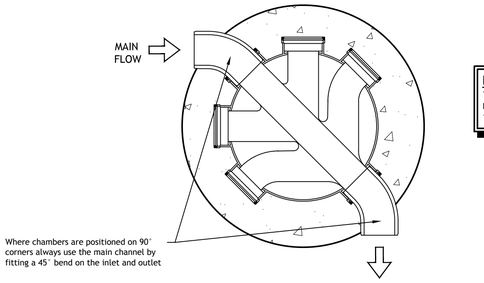
Type A Granular Bedding
Bedding

Concrete Surround Detail

Where Cover Less Than 1.2m

Unless Agreed Otherwise with Building Control

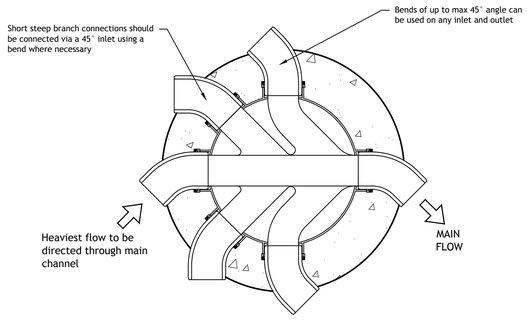
Scale 1:20



NOTE
WHERE PPIC'S ARE USED WITHIN ROADS AND CAR PARK AREAS TYPE D400 COVERS ARE TO BE USED TO ACHIEVE SUITABLE LOADING CAPACITY

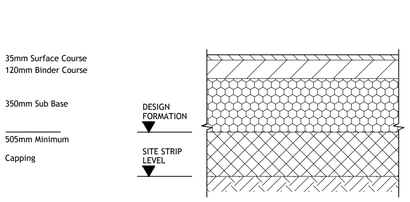
Polypropylene Inspection Chamber Details

Scale 1:10



Polypropylene Inspection Chamber Details

SCALE 1:10

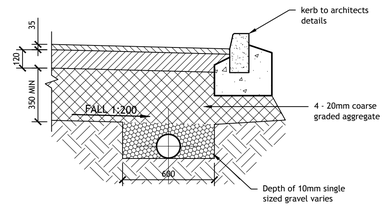


surface course	PA 10 surf to BS EN 13108-7. 70/100 binder grade
binder course	AC20 open bin to PD 6691 annex B. 160/220 binder grade
sub base	4 - 20mm coarse graded aggregate to BS EN 13242:2002
capping layer	approved reclaimed crushed material if required

Car Park Finish

Permeable Macadam

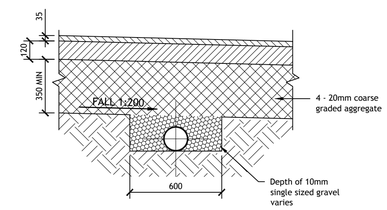
Scale 1:20



Detail of Land Drain

Adjacent Kerb

Scale 1:20



Detail of Land Drain

Where Pipe is Part Way Down Formation Slope

Scale 1:20

CDM SYMBOL KEY

WARNING OF SIGNIFICANT RISK
PROHIBITED ACTION
PARTICULAR ACTION ENCOURAGED
CDM INFORMATION

GENERAL

1. All drawings to be read in conjunction with the specification
2. Aall drawings to be read in conjunction with the relevant architectural and structural drawings.
3. All dimensions are in millimetres unless noted otherwise.
4. All levels are in metres relative to Ordnance Datum.
5. All dimensions are to be checked on site by the contractor prior to the commencement of construction

DRAINAGE

1. This drawing uses the architectural drawing as a background. The contractor should use architectural drawings for setting out of all pop-ups and above ground drainage positions.
2. Reference should be made to all other drainage drawings provided by SWF Consulting which gives construction details.
3. This drawing is to be read in conjunction with the drainage specification prepared for this project.
4. The design of the pipes has been based on the following:
   a. 100 foul water pipe: Wavin Osmadrain
   b. 150 or larger foul water pipe: Wavin Ultrarib
   c. 150 or larger surface water pipe: Wavin Twinwall.

   Alternative products may be used with prior approval from SWF Consulting.
5. The exact location of the outfall pipe/manhole is to be checked and confirmed to SWF Consulting prior to commencement of any drainage works.
6. Reference should be made to any CCTV survey, sewer records which indicate the existing drainage systems.
7. On completion of the contract, the pipes and oil separator shall be jet cleaned to remove any silt or construction debris and a CCTV survey should be undertaken.
8. Once the as-built survey has been completed a copy of the survey logs should be issued to SWF consulting together with the video footage for their comment with duplicate copies being issued to the CDM co-ordinator for inclusion in the health & safety files.
9. Cover levels are indicative and may need to be adjusted to suit the actual finished levels of the external areaS.
10. Gradients indicated on pipes are minimum gradients required. However, manhole invert levels are to take precedence over these gradients.
11. Positions of manholes, gullys and drainage are to be set out by the contractor to avoid white lining delineating car parking areas, kerb lines etc.

NOTE
THE ARCHITECTURAL BACKGROUNDS ARE A VISUAL REPRESENTATION OF THE PROPOSED BUILDING LAYOUT, BUT ARE NOT NECESSARILY DIMENSIONALLY ACCURATE AND THUS MAY NOT RELATE TO THE LOCATION OF THE STRUCTURAL MEMBERS

ABBREVIATIONS

CL	COVER LEVEL	FG	FLOOR GULLY
IL	INVERT LEVEL	RE	RODDING EYE
RG	ROAD GULLY	SVP	SOIL & VENT PIPE
YG	YARD GULLY	SS	STUB STACK

Rev	Date	Description	By	Chkd
P01	22/10/25	ISSUED FOR INFORMATION	PSS	PSS

Project
ENGINEERING BUILDING
OPENSHAW CAMPUS
ASHTON OLD ROAD, MANCHESTER

Client
THE MANCHESTER COLLEGE

Drawing Title
DRAINAGE
TYPICAL MANHOLE & DRAINAGE DETAILS

Project · Originator · Func. · Spat. · Form · Disc. · Number
9529-SWF-XX-XX-D-C-1401

Scale 1: 20 @ A1 | Date OCTOBER 2025 | By PSS | Chkd PSS

Suitability Status: S1: SUITABLE FOR COORDINATION | Revision: P01 | Classification: PM_40_40

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