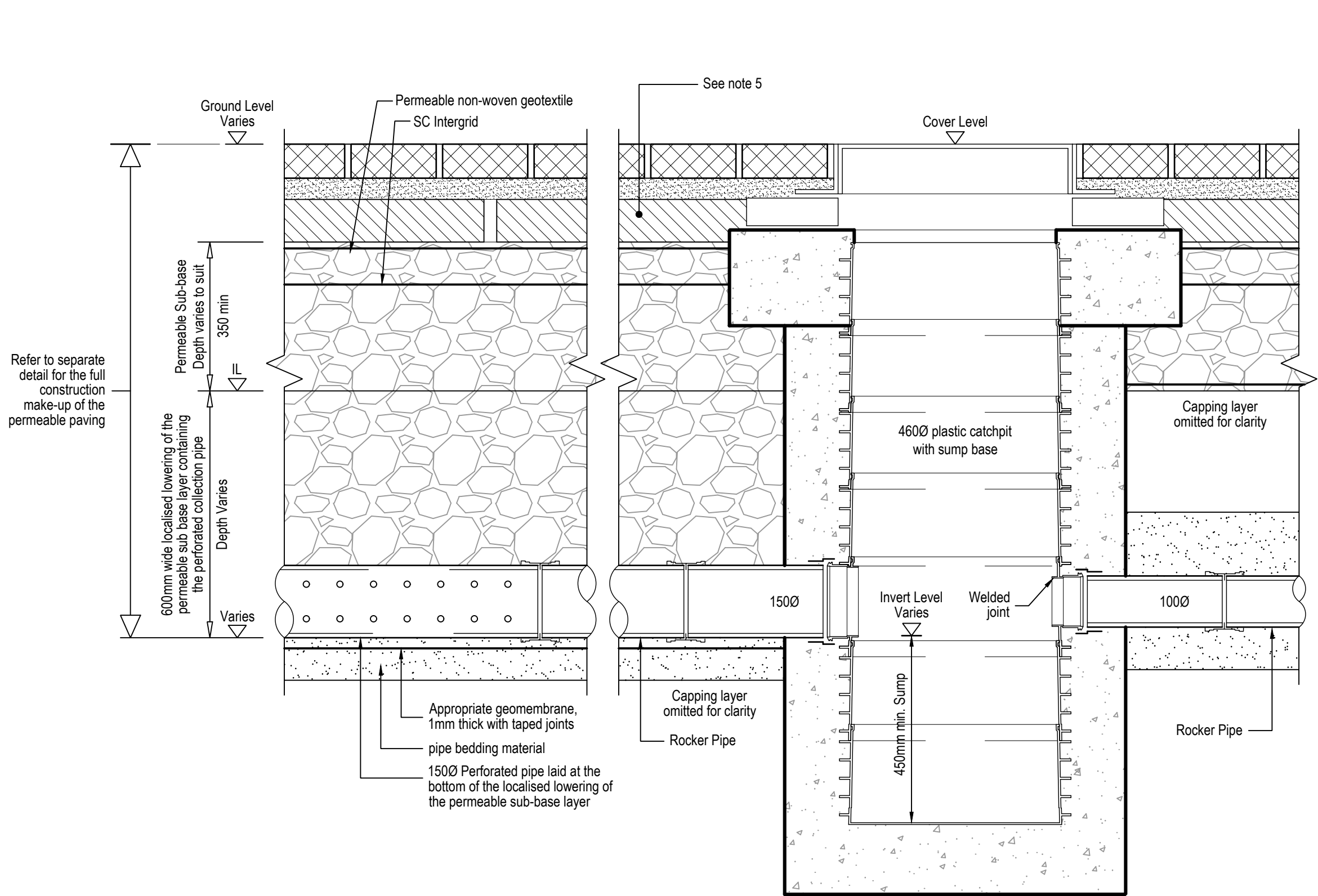


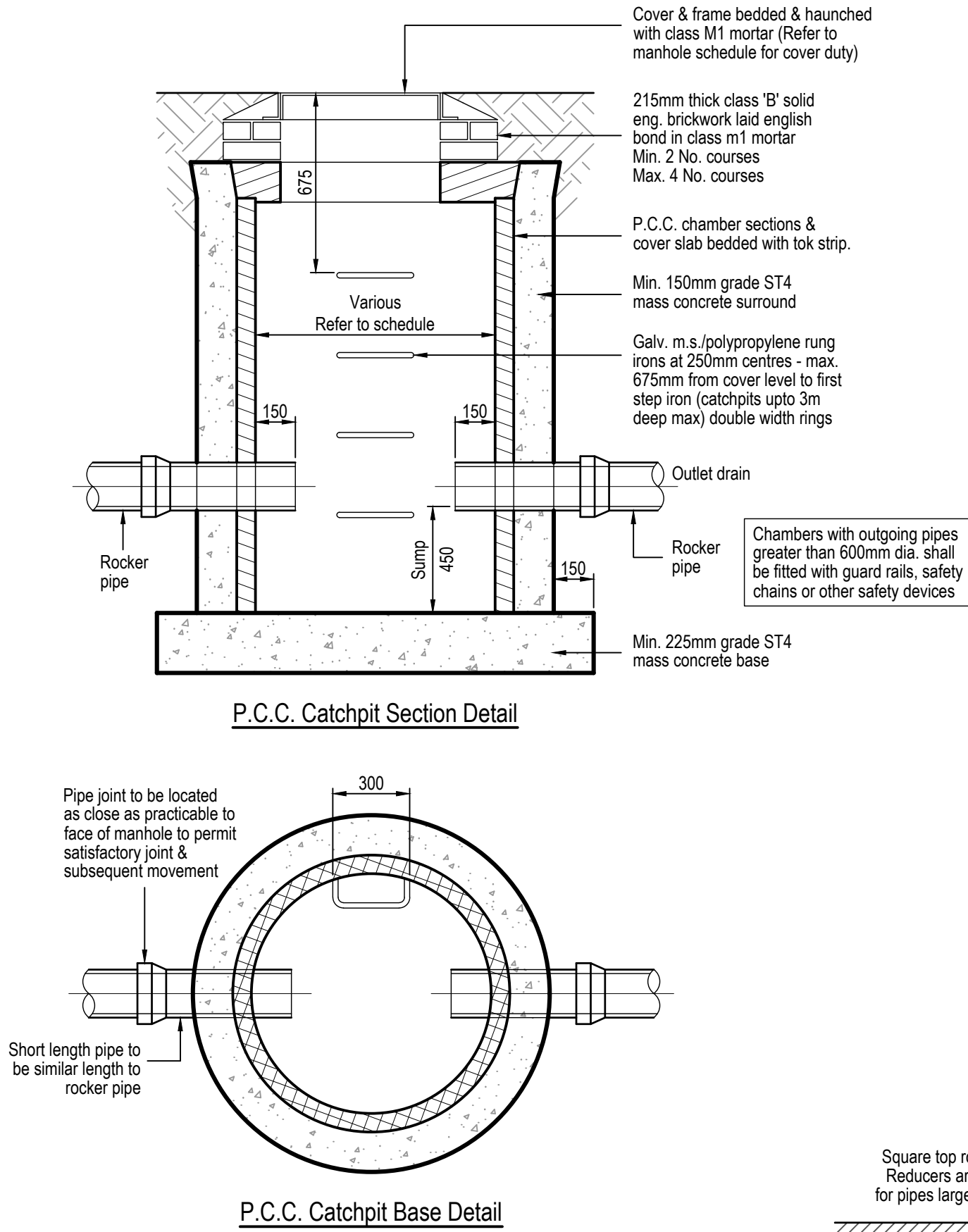
- Notes:**
- This drawing is to be read in conjunction with all relevant architects, engineers and specialist sub-contractors drawings and the specification.
 - All setting out to be in accordance with the schedules, any discrepancies between the engineers and the architects drawings to be referred to the architect before proceeding. Dimensions must not be scaled.
 - All private drainage is to be in accordance with BS EN 752-1:2-3-4, BS EN 1295-1, BS EN 1610 and all relevant sections of approved document H of the building regulations (2015 Edition).
 - Where drainage pipework is to be flexibly jointed extra strength vitrified clay it should be to BS EN 295-1, Hepworth 'Supersleve' or equivalent.
 - Where drainage pipework is plastic i.e. PVC-U it shall be to BS EN 1401-1 Osmo or equivalent. Private pipework to be type SN4 and all adoptable pipework to be type SN8.
 - Where drainage pipework is cast iron it shall be to BS EN 877 and for ductile iron it shall be to BS EN 598.
 - All concrete pipework, shall be to BS EN 1916 and BS 5911-1. Manholes and fittings shall be to BS 5911 parts 3 and 4 and BS EN 1917.
 - All materials for adoptable drainage are to be Kitemarked as appropriate.
 - Where drains pass through foundations or connect to manholes, flexible pipe joints are to be provided within 150mm of the face of the structure and within a further 600mm to form a rocker pipe.
 - Where pipes pass through screen walls, footings or retaining walls, lintels are to be provided.
 - Where pipelines pass within 1.0m of buildings or walls the foundations are to be taken down below the bottom of the trench. Where pipelines are more than 1.0m away from foundations the trench shall be backfilled with concrete up to a point that meets a 45° angle line taken from the bottom corner of the nearest foundation.
 - Where depth to invert does not exceed 600mm and the pipe size does not exceed 100mm diameter, 300mm dia. polypropylene access chambers may be used. Elsewhere, proprietary polypropylene or precast concrete manholes are to be used.
 - Where connections are to be made to existing manholes / sewers, invert levels, pipe sizes and orientation should be checked prior to the commencement of the works and any variance reported to the engineer immediately. Where connections are to be made on or off site the contractor is to check the line and level of any services / mains, to ensure that no clashes exist prior to works commencing.
 - Where pipelines cross, each is to be surrounded with grade ST4 mass concrete for a distance not less than 1.0m centred on the crossing point. Length of surround to be extended as necessary to within 150mm of the next nearest flexible joints.
 - For private drainage, concrete protection is to be provided where the effective cover to the crown of the pipe(s) is less than 1.2m in trafficked areas and 0.6m in soft landscaped or pedestrianised areas.
 - The contractor is to ensure that protective measures are taken to ensure that drainage pipework and fittings are not damaged by site traffic prior to oversite filling operations being completed around buildings.
 - The top run of each private foul drainage network is to be laid to fall no steeper than 1:40, the lead of each run is to be vented to atmosphere in accordance with approved document H.
 - All surface water drainage to be min 100mm dia, laid at a gradient no steeper than 1:80. And all foul water drainage to be min 100mm dia, unless stated otherwise.
 - The contractor is to ensure that all pipework connections are arranged to direct flows down or into the main channel in the direction of the main flow. Where necessary 3/4 bends are to be used on oblique connections inside the manhole benching where sufficient room exists or the pipelines on oblique connections are arranged outside the chamber to be able to divert flows down the main channel. Connections brought in perpendicular to the main channel are not acceptable. Where possible the main channel flow shall be from any connections with WC's to ensure a flush through the main channel is achieved.
 - The contractor is to ensure that when preformed polypropylene manhole bases are used that they are orientated such that the main flow is through the main channel of the base, this should be achieved by incorporating long radius bends outside of the manhole.
 - The contractors attention is drawn to the need to ensure that any trenches excavated through previously compacted filled areas, in particular under the building footprint and immediately around the outside, are re-compacted to ensure localised differential settlement does not occur.
 - Where new connections are to be made into existing manholes or sewers, all invert levels, pipe orientation and sizes should be checked on-site prior to the commencement of the works, with any variance reported to the engineer once identified. Where new connections are to be made either on or off-site, the contractor is to check the line and level of any existing services / mains, to ensure that no clashes exist prior to the works commencing.
 - Porous paving surface finish 'to the architects spec'. Any alteration to the extents of the porous paving may have an adverse affect upon the Surface water drainage design and must therefore be discussed with the engineer.
 - For bespoke attenuation tank detail, please refer to Tubosider detail EN21_20881_Tub17547 and accompanying design information. Tubosider tank to be installed to manufacturers instructions.



Catchpit Chamber Serving the Permeable Paving Construction Detail

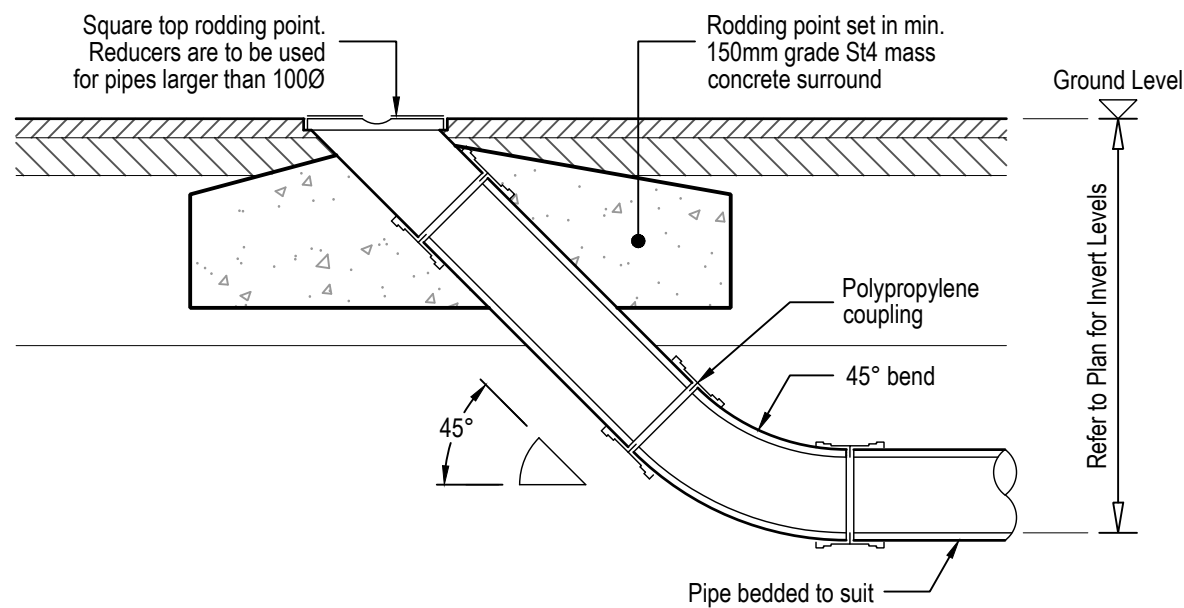
SCALE = 1:10

- Notes:
- The Permeable blocks should not be laid until the building construction is finished to avoid damage by construction vehicles and activity.
 - The contractor should ensure that there is a level base course for the Permeable blocks and clean stone bedding before the surfacing is laid to correct line and level.
 - A suitable impermeable geo-membrane with taped joints is to be laid at the base of the permeable sub-base layer to protect the sub-base from any migrating silts permeating from the layers below (1mm thick with taped joints).
 - Perforated pipe upstream ends to be capped.
 - If a protective layer is used to the porous sub-base during the construction phase then the contractor can consider using one of the following 2 methods.
 - A sacrificial layer of crushed material can be laid during the construction phase and removed before the stone bedding and blocks are laid. Or
 - An AC20 Binder Layer 100/150 to BS EN13108-1 can be laid. This can then be left in place and core drilled out with 75mm holes at 0.75m centers through asphalt and into sub-base, filled with 5mm clean stone and covered with geotextile.



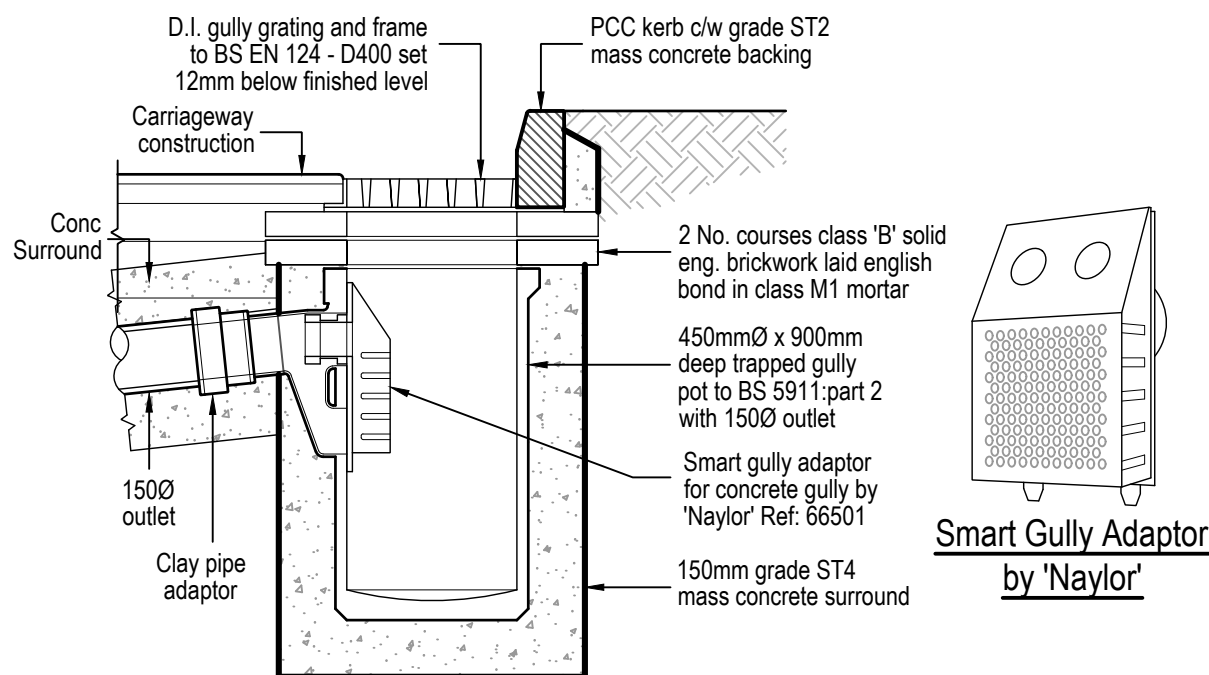
P.C.C. Ring Catchpit Manhole Detail

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Hard Paved Areas External Rodding Point Detail

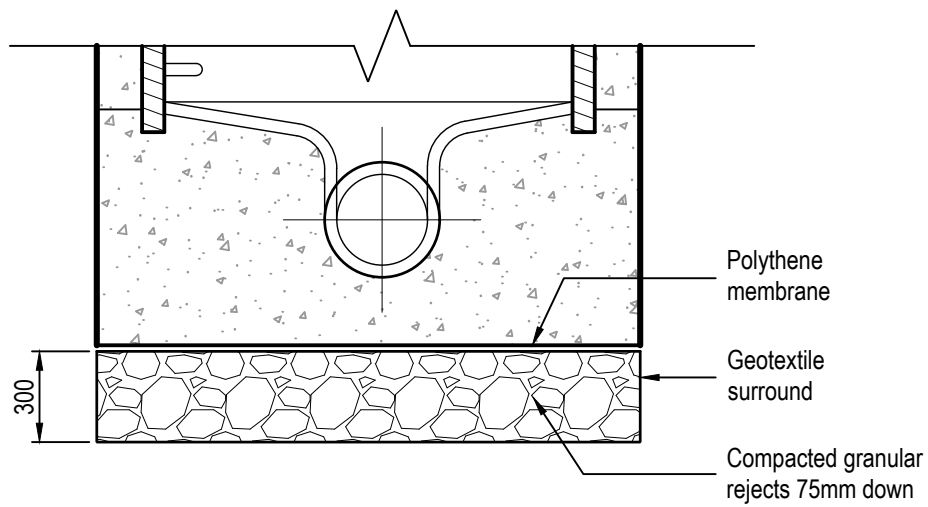
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Road Gully Detail (P.C.C.) Adjacent Kerb (With Smart Sponge Filter)

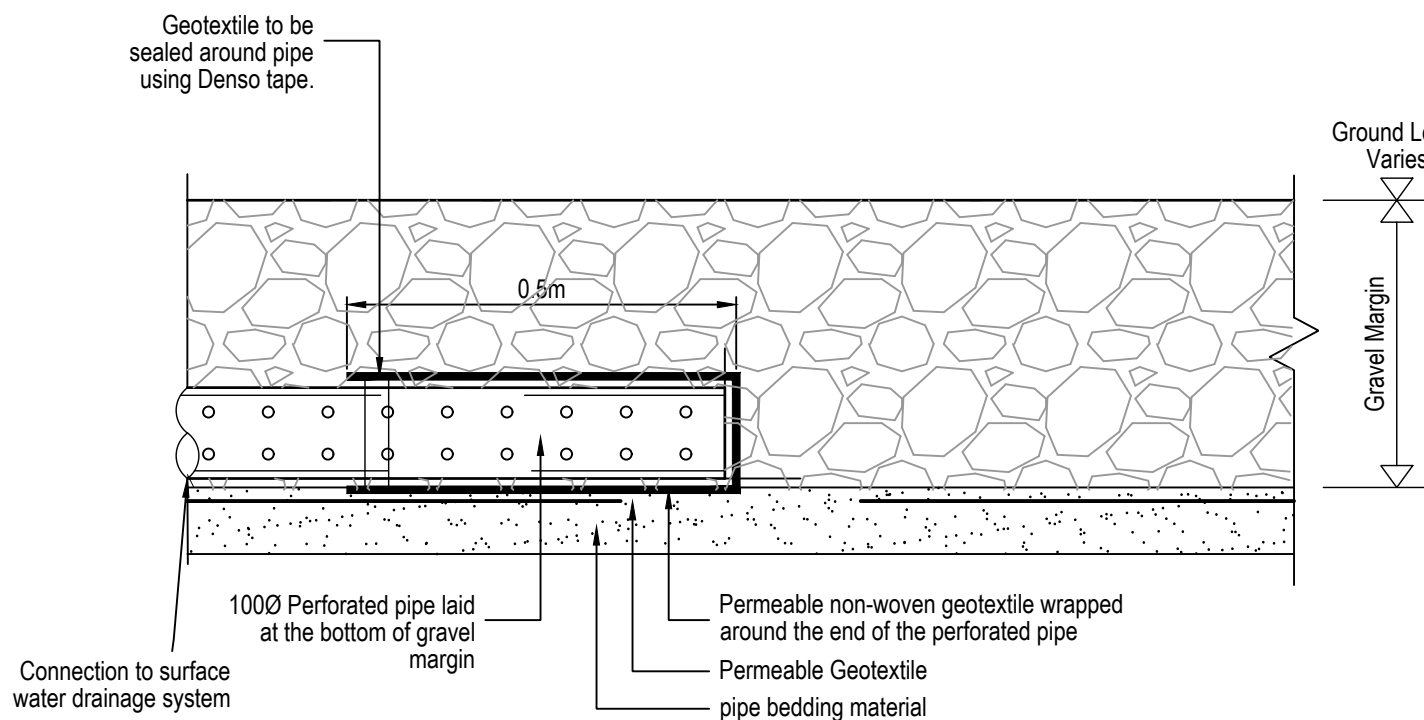
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- Note:
- Tail to have a minimum 150mm ST4 Concrete Surround for the first 750mm below Road level.
 - The smart gully adaptor is to be installed in accordance with the manufacturers recommendations.



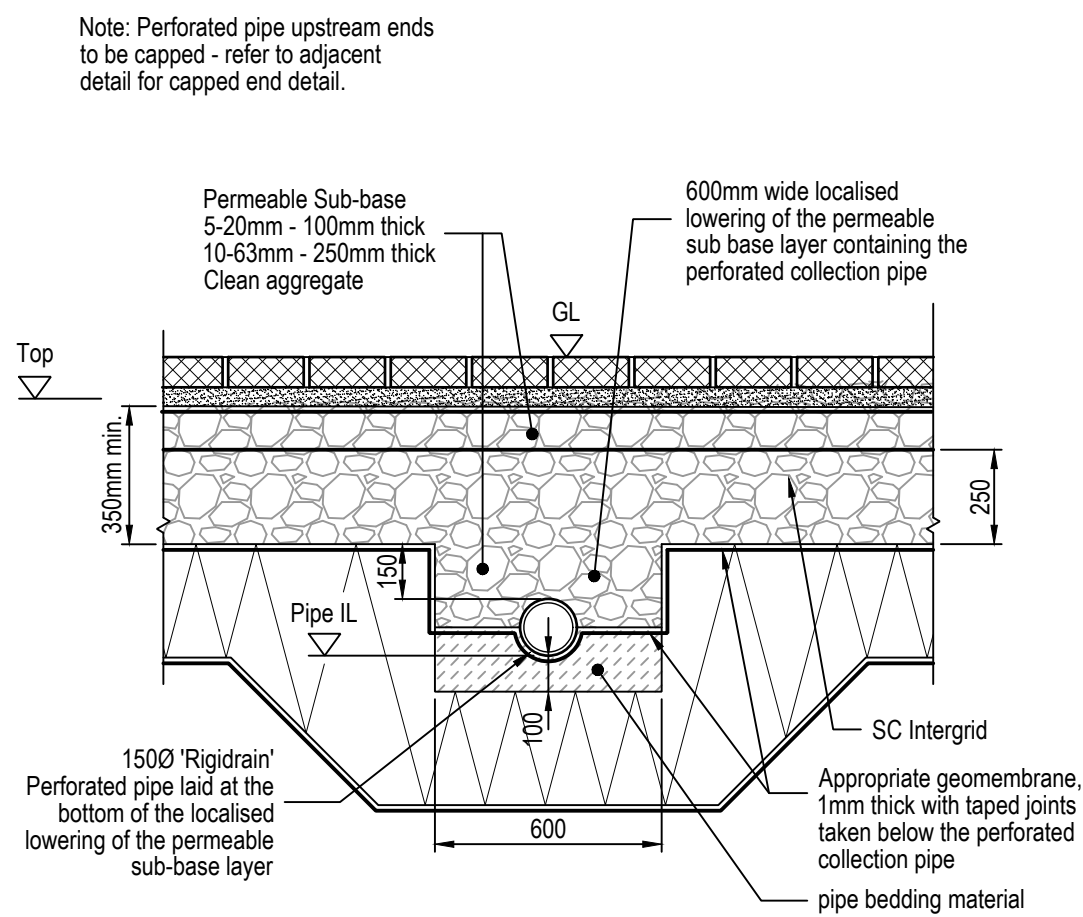
Enhanced Manhole Base Construction Detail

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Perm Paving/Gravel Margin Perforated Pipe Detail

SCALE = 1:10



Section Through the Perforated Collection Pipe Within the Permeable Sub-base Layer

SCALE = 1:20

B	15.03.22	Rodding Eye Detail Added. Sump changed to 450mm min.
A	31.01.22	Construction Issue
Rev.	Date	Description



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Client
RICHMOND MOTOR GROUP

Project Title
Saltbox

Drawing Title
Construction Details

Sheet 3 of 5

Drawing Status
Construction

Originator No.	Rev By	Drawn By	Scale
114378	DB	PW	AS SHOWN @A1

PROJECT / ORGANISATION / ZONE / LEVEL / TYPE / PROJECT NO.
114378-CAL-XX-XX-DR-D-0502

Revision
B