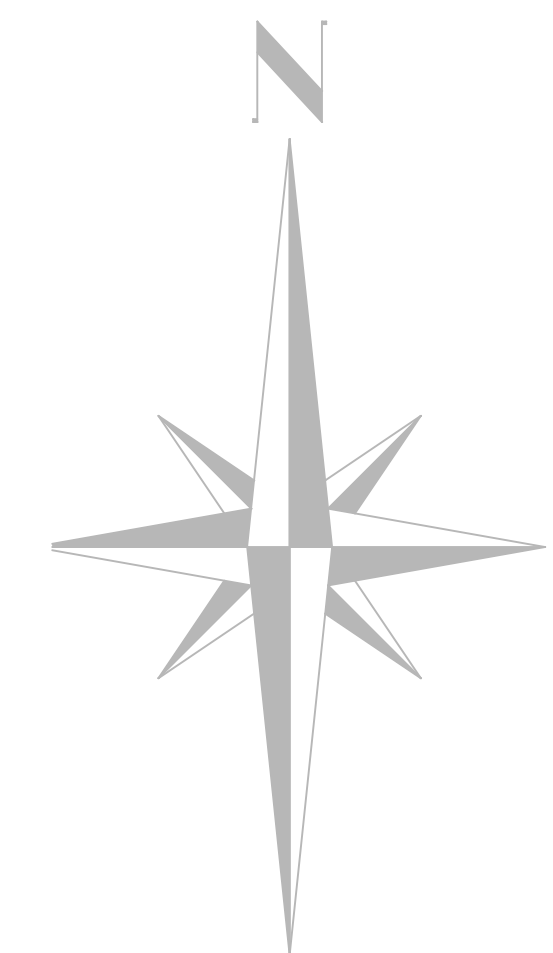


SCALE BAR

#### EXISTING DRAINAGE NOTES

THIS DRAWING IS A RECORD OF THE DRAINAGE SURVEY CARRIED OUT BY OTHERS ON 2ND MARCH 2026.

ALTHOUGH CONSIDERED A FAIR RECORD OF THE EXISTING DRAINAGE, CRITICAL DIMENSIONS AND SETTING OUT SHOULD BE CHECKED ON SITE WITH PIPES AND BURIED SERVICES TO USE INVASIVE TECHNIQUES (EXCAVATION) TO ASCERTAIN THEIR EXACT LOCATION.

THE BUILDING / LAND SURVEY WAS CARRIED OUT BY OTHERS AND SHOULD NOT BE RELIED UPON FOR CRITICAL DIMENSIONS, WHICH SHOULD BE TAKEN ON SITE BY THE CONTRACTOR.

IN ADDITION TO THE MAIN OBSERVATIONS RECORDED FOR PIPES, ALWAYS JET CLEAN THE EXISTING SYSTEM PRIOR TO ANY WORKS BEING UNDERTAKEN.

#### BELOW GROUND DRAINAGE SPECIFICATION

All drainage systems shall be installed, tested and commissioned to the following standards:-

- BS EN 12056 – Gravity drainage systems inside buildings (UK/Europe): Covers the planning and calculation of systems that handle wastewater and rainwater.
- BS 8301 – Code of Practice for Building Drainage (UK): Provides guidelines for designing drainage systems for buildings.
- CIRIA C753 – The SuDS Manual (UK): Guidance on sustainable drainage systems (SuDS) design.
- BS EN 752 – Drain and sewer systems outside buildings (Europe/UK): Focuses on planning and design for external drainage systems, including water supply and stormwater.
- BS EN 1610 – Construction and testing of drains and sewers (UK/Europe): Focuses on the installation and construction of external drainage systems.
- BS EN 13508-1 – Investigation and assessment of drain and sewer systems outside buildings (UK/Europe): Includes standards for inspection and maintenance of drains.
- BS 8000-14 – Workmanship on Building Sites – Part 14: Code of Practice for below ground drainage (UK): Provides recommendations for good practice in maintaining and repairing drainage systems.
- BS 5837 – Trees in Relation to Design, Demolition, and Construction (UK): Addresses how trees and drainage systems interact, ensuring protection of trees and roots during drainage design.
- CIRIA C737 – Guidance on the Construction of SuDS (UK): Construction methods for sustainable drainage systems.
- Building Regulations – Part H (Drainage and Waste Disposal) (UK): Covers the legal requirements for drainage systems in new buildings.
- BS 5885:2013 Code of practice for surface water management for development sites
- ALWAYS lay drainage in a upstream direction commencing downstream and checking all levels of existing outfalls, pipes and chambers before any work is carried out.
- All below slab pipes beneath the building slab shall be in lightweight cast iron as the Saint Gobain 'Ensign' system manufactured to BS EN 877 wrapped in polythene sheeting where encased in concrete and the depth of cover is less than 300mm to the slab soffit to pipe crown. Where cover of pipe is greater than 30mm to slab soffit a granular surround is permissible. The cast iron pipes are to finish outside the building by min 150mm ready to accept a 600mm long rocker pipe.
- External drainage shall be run in PVCu as the Funke HS system manufactured to BS EN 13476-2 or vitrified clayware as 'Hepworth' superseve, Hepsleve and Hepsal systems manufactured to BS EN 295 utilising push fit and socket/spigot jointing with appropriate O rings and gaskets. Where pipes receive run off from vehicle standing areas ALWAYS use pipes with SBR gaskets.
- Pipes shall generally be run in class s granular bed and surround where greater than 900mm depth of cover in traffic areas, where less cover always provide additional protection as recommended by SDA 200 series detail drawings or where more stringent pipe manufacturers recommendations prevail. Refer to the main drawing for the pipe bedding required.
- Manhole covers and frames shall be selected using appropriate loadings and locations from the MH data box and details. All manhole cover and gully grating frames shall be bedded and set upon resin cement mix ONLY.
- All branches to main runs shall be made using 45° branches and bends to suit, no sharp 90 deg bends will be accepted, only long radius bends are to be used at base of drainage bends.
- Where pipes are to run ALWAYS check the area for utility services using a PAS 128 survey.
- Pipes shall be laid soffit to soffit level NOT invert to invert, unless noted otherwise on the drawings by SDA.
- Where pipes are bedded temporarily on bricks, these must be removed before trench backfilling. If not, and shear cracks are found on the pipes through CCTV inspection and the bricks are found when exposed, retainer monies will be kept until such works are remediated.
- Pipe connections and branches must use a max angle of 45 deg bend and branch sweep into the main drainage runs - see details, connections of 90 deg will not be permitted by SDA onto the main run.
- Manhole and access chambers are as indicated on the MH data box and generally using, small diameter polypropylene inspection and access chambers as SDA details. Deeper chambers will require brick or concrete sectional chambers all constructed to SDA details on drawing series 200.
- SuDS requires permeable construction materials and the contractor shall only use those granular materials specified on the details. Generally permeable gravel blankets shall be laid in clean railway clinker stone to the sizes required by the details.
- Where using geocrate soakaways and attenuation tanks the crates shall offer the strength suitable for its location. Refer to SDA 200 series detail drawings but the contractor must ensure the manufacturers recommendations are used for crate bedding.
- All pipe bends used must have a radius of 200mm to the centre line of the fitting or greater - tighter radius bends will not be accepted by SDA.
- All pipe trenching shall be strictly monitored to ensure no deleterious material is beneath or around the pipe, all backfill to trenches shall be carefully compacted in accord with the recommended passes for the equipment used - see the specification for highway works (SHW) table 6/4.
- All soft spots in trenches must be made good with imported material and geotextiles used to maintain trench material integrity. Where water is present alert SDA to seek on action to take.
- All concrete used must comply with the requirements of the BRE structural report for sulfates.
- Before any concrete is placed, the contractor MUST carry out air testing in accordance with BS 8000 for all drainage runs, shall produce a certificate for issue to the building control officer and CCTV ALL below slab drainage runs. The contractor shall request the BCO witness the final drainage pipework testing.
- The contractor shall ensure a full CCTV of all the installed drainage is recorded with DVD video or footage web linked and full report sent to the client following practical completion and within 3 weeks of handover.

This is drawing is copyright and remains in the ownership of Simon Dent Associates (SDA)

This drawing should be read in conjunction with the design team's relevant documents, drawings & details.

Existing public & private utility services and drainage locations shown have been derived from non-intrusive survey techniques. Their location is not accurate and the contractor must satisfy himself using open excavation where the location of such plant and apparatus is critical in construction.

If the contractor has constructed from this drawing without necessary approvals from Local Planning Authorities, Building Control, Sewerage Undertakers, Environment Agency etc then any abortive work shall be at his own financial risk and not the responsibility of SDA.

If the contractor has constructed from this drawing whilst the drawing remains 'PRELIMINARY' status, then any abortive work shall be at his own financial risk and not the responsibility of SDA.

The contractor should NOT construct any works should there be any doubt with information shown from any of the source. ALWAYS USE GIVEN DIMENSIONS ONLY. ALWAYS ASK IF IN DOUBT.

ALWAYS PRINT THIS DRAWING IN COLOUR

#### DRAINAGE STRATEGY

##### FOUL & STORM WATER DESIGN -

**GENERAL -** The drainage scheme shown is designed to discharge the planning condition imposed through the planning appeal process regarding the use of SuDS within the drainage scheme. The recommendation for the condition is stated as follows:-

32. It is necessary to attach a pre-commencement condition requiring the submission and approval of a surface water drainage scheme which responds to the drainage hierarchy and demonstrates that there would be no increase in flood risk. The strategy needs to be approved before development commences so that it can be fully integrated into the development.

33. A condition is required to ensure that the approved drainage scheme is satisfactorily maintained and managed in the future.

**STORM WATER -** The site is located in flood zone 1 area for fluvial flooding. The proposed development adds offer the following impermeable areas:-

Development roof - 55 sq.m

The design will offer a permeable pavement solution for the pathway, timber decking, and lawn areas. Site investigation and the BRE 365 porosity testing establishes an average infiltration rate of 4.66 x 10-5 m/s can be used for infiltration blanket design. The appropriate safety factor of 1.5 has been used and a further 10% urban creep has been applied to the areas as required by The National SuDS Standard.

The roofs shall be drained through a downpipes and catchpits to settle particles and with connection via a perforated geocellular module to distribute flows through a shallow granular blanket.

The blankets are a shallow granular SuDS feature and can be located nearer than the traditional 5m distance from a building, often cited for soakaway chambers. The CIRIA technical fact sheet shows SuDS can be located nearer without danger of foundation failure.

The roof downpipes will connect to 210 litre water butts with an overflow diverter to the downpipe and drain.

**DESIGN EXCEEDANCE FLOWS -** Where design storms and attenuation volumes are exceeded, such flows will run down the road towards the lowest part of the site and to the highway.

**OWNERS SUDS DRAINAGE MAINTENANCE PLAN -** Where attenuated volumes are provided in permeable construction make ups which are inaccessible without conventional excavation, it is important to provide features on the drainage system which minimise silt migration to these features. Planned maintenance is provided in the SuDS Manual (CIRIA document C753) but is summarised as below .

- All rainwater hopperheads, pipes and gutters should be cleaned twice a year.
- Drain and clean the rainwater butts yearly.
- Remove weeds and debris from any raingardens, gravel blanket areas.
- Keep soil agitated and plants tended.
- All pipes should be cleaned/jetted once a year.

**FOUL WATER -** There is an existing foul drainage system in the rear of the garden of the house currently owned by the client. The new foul system will connect to this pipe and will remain in the ownership of the client. The new indirect connection will be subject to a s106 approval (Water Industries Act 1991).

P1 PRELIMINARY ISSUE

21.03.2026 SDA

Rev Description Date Chkd

SIMON DENT ASSOCIATES

Civil - Infrastructure - SuDS - Flood Risk - Drainage - Rainwater - Sanitation - Public Health  
Consulting Engineers

☒ Home Office

☐ Gosport Office

simondent@live.co.uk  
0754 658 3150



Client Luciano Focsan

Project 41 Overmead, Shoreham-By-Sea,  
West Sussex BN43 5NS

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