

DO NOT SCALE



STATION ROAD

The Bungalow

SW AREAS
Roof 140sq.m.
Driveway 90sq.m.
Total 230sq.m.

Impermeable Areas

The Bungalow

Drainage Strategy

Existing Drainage

The site currently consists of an existing dwelling. RWPs discharge to small soakaways to the front and rear of the property.

The property also benefits from an existing foul connection into the public sewerage network within Station Road.

Proposed Foul

Foul flows from the development will drain into the existing lateral connection located along the site frontage subject to a S106 connection with Welsh Water.

Proposed Surface Water

1. Collection for re-use
Client is proposing to install a water butt to the rear of the property for water re-use within the garden.

2. Infiltration
Infiltration testing has determined the site is suitable for infiltration to dispose of surface water flows. We are proposing to take all roof run-off to a new soakaway located within the rear garden.

The driveway will drain to ground via permeable paving.

Therefore all run-off will be contained within the site and will not increase flood risk .

3. Watercourse

The River Alyn flows along the southern boundary of the site. As surface water will drain to ground no connection is required.

4. Surface water sewer

There are no surface water sewers within the vicinity of the site.

5. Combined sewer

There is a combined sewer within Station Road to the front of the site. As surface water will drain to ground no connection is required.

Surface Water Flow Rates

Developable Site Area = 810sq.m.

Existing Greenfiled Run-off Rates

1yr = 0.16 l/s
30yr = 0.32 l/s
100yr = 0.40 l/s

Proposed impermeable areas = 230sq.m.

SOAKAWAY SCHEDULE

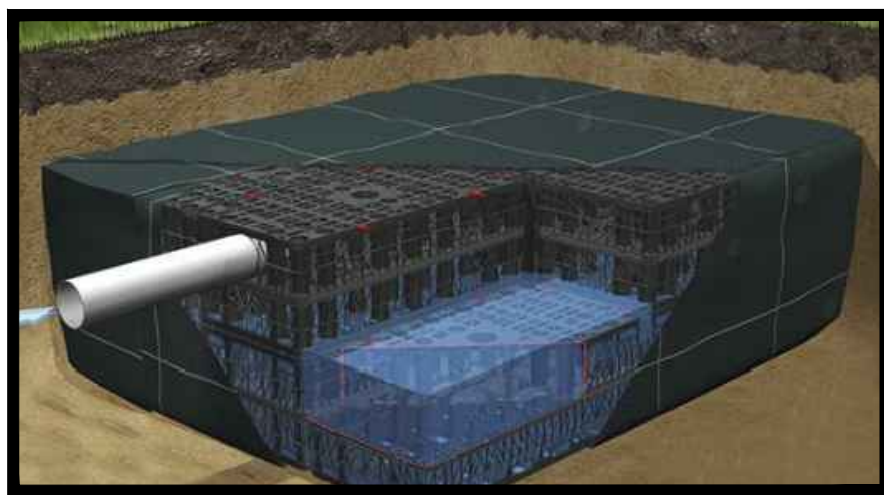
Soakaway/Plot Number	Soakaway Size	Catchment Area
SA 01	5.0 x 3.0 x 0.4m deep	140sq.m.

General Notes

- Contractor to propose a suitable construction sequence for the soakaway construction and develop a detailed method statement.
- Excavation sides to adequately supported.
- Contractor to work in accordance with best practice ensuring all personnel have adequate PPE and confined space training.
- Excavation/plant to be secure from general public at all times
- Safe access and egress to be provided.



Water Butt



Cellular Soakaway



Permeable Paving (Full Infiltration)

SUDS Strategy

The prime function of SuDS, as with conventional drainage, is to provide effective surface water drainage, ensuring the greatest degree of flood risk protection over the long term both within and downstream of the development and prevent pollution. However, SuDS approaches can bring wider benefits too. Appropriately designed, constructed and maintained, SuDS are more sustainable than conventional drainage systems and can help to:

- Reduce run-off surface water flow-rates and/or volumes and hence reduce the risk of flooding
- Encourage natural groundwater re-charge
- Reduce pollutant concentrations in storm water
- Provide habitat for wildlife.

There are many site-specific factors which will influence the choice of any single or combination of SuDS devices used within a development. The primary factors are:

- Whether the development is domestic, commercial or industrial
- Whether the underlying ground is contaminated. If so, infiltration systems will most probably not be permitted.
- Whether the underlying ground is permeable enough for infiltration systems to be considered.
- Whether the ground water levels are deep enough for infiltration systems to be considered
- Whether the site is steeply sloping and its general topography
- The availability of space inside the development for each potential SuDS facility.
- Health & Safety aspects should the development be likely to be inhabited or used by children.

To ensure no increased flood risk to offsite land and development, disposal of surface water to the ground is encouraged and runoff volumes will be reduced through the SuDS management train where ground conditions permit. Where ground conditions are unsuitable, a discharge to an open water body / sewer will be necessary with rates restricted to the existing site conditions.

Maintenance / Responsibilities

Adoption and maintenance of all surface water components serving 2 or more properties subject to SAB approval.

This development is a single dwelling requiring SAB approval but not adoption. The owner will be responsible for the future maintenance of the surface water network.

All piped networks to have CCTV survey at end of construction activities. Any debris to be removed. Future maintenance to involve inspections to ensure no silt build ups within network.

A SuDS Management Plan will be produced to address frequency and type of maintenance activities for the permeable paving, silt traps and soakaway components.

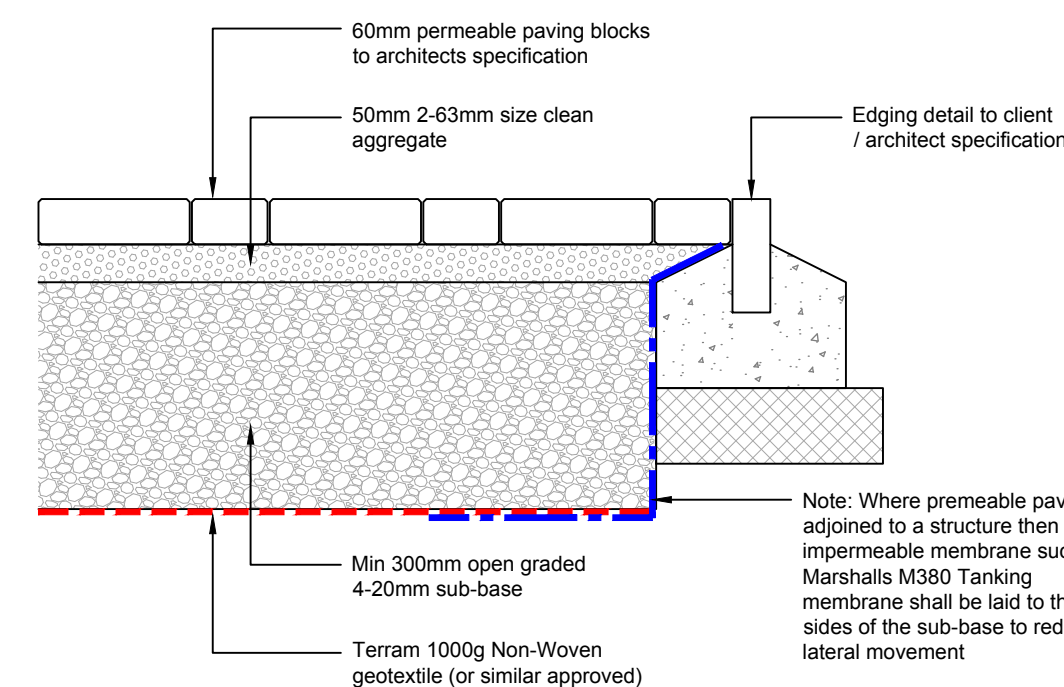
Water Quality

Roof

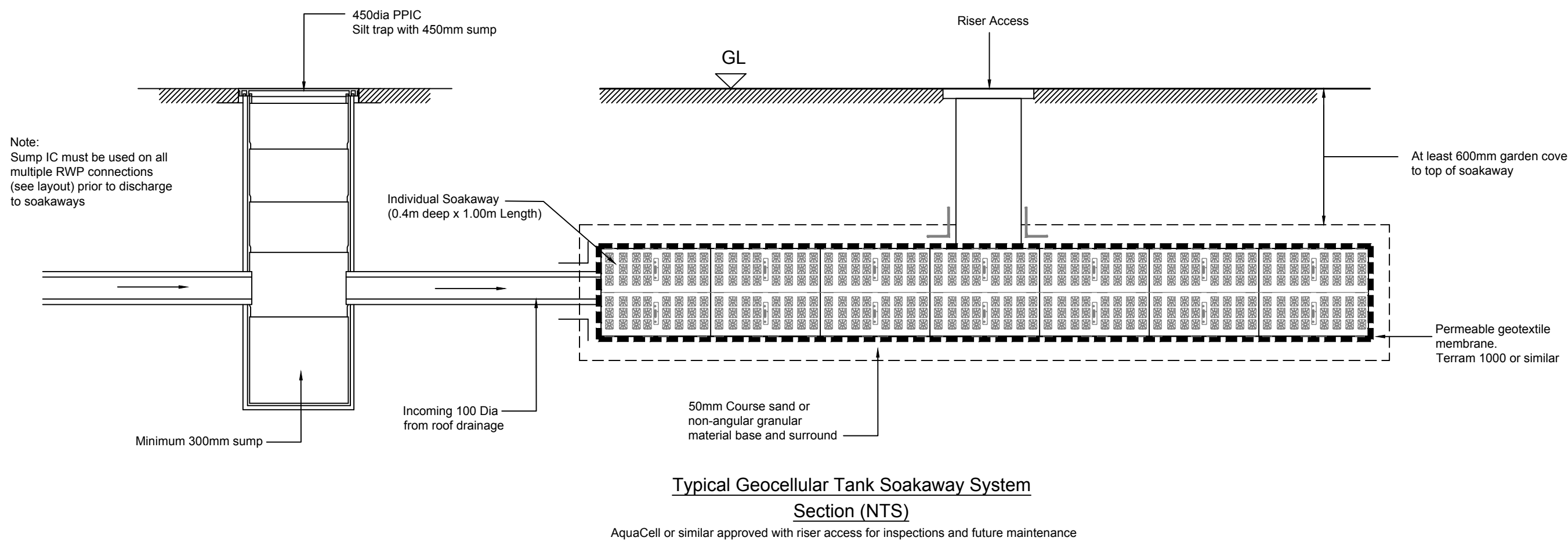
Generally run-off from roof can be considered clean run-off and will not require any this treatment.

Driveway

All flows from the driveway will be drain via permeable paving. This will provide adequate treatment of flows before they infiltrate to ground



Driveway Permeable Paving



Typical Geocellular Tank Soakaway System

Section (NTS)

AquaCell or similar approved with riser access for inspections and future maintenance

NOTES

- The specification in all respects shall be in accordance with the current Wrexham County Borough Council Specification and Construction publication in force in the county at the time of construction
- All adoptable drainage shall be constructed in accordance with 'Sewers for Adoption' 7th Edition, Welsh Ministers Standards and Welsh Water Details and Guidelines.
- All private drainage works are to comply fully with Part H of the Building Regulations.
- All existing invert levels to be checked by the contractor at the start of works and any other discrepancies notified to the Engineer prior to commencing works. All levels are based on topographical survey information provided by others.
- It is the responsibility of the Contractor to verify all information given with regards to existing services and drainage connections etc. prior to commencing the works.
- The Contractor shall adhere to the CDM Regulations at all times.
- Only trained personnel shall be permitted to enter confined spaces.
- All materials to bear the relevant B.S. Kitemark and comply fully with the Sewers for Adoption 7th Specification. All concrete & concrete products must use Sulphate resistant cement (unless the site investigation report proves that sulphate attack from soils and groundwater will not occur to withstand a class 3 condition).
- All opening notices etc. as required under Highways Acts etc. are to be obtained prior to commencement of works. All works are to be inspected by L.A., NHBC or Welsh Water as applicable.
- Trench backfill in highways to within 1m of highway shall, as directed by the Highway Authority be a suitable granular material all in accordance with Sewers for Adoption.
- Cover loadings shall be as detailed on the Manhole Schedule.
- Drain trenches should not be excavated lower than the foundations of any building nearby unless either:
a) The trench is within 1m of the foundation, the trench is filled with concrete up to the lowest level of the foundation, or
b) Where the trench is further than 1m from the building, the trench is filled with concrete to a level below the lowest level for the building equal to the distance from the build, less 150mm.
- All SVP and RWP connections are indicative and shall be confirmed by the client.
- Pipe gradients out of the building to connecting manhole to be laid at 1:40 in accordance with Building Regulations, Part H, Table 6.
- Where pipe sizes are not indicated :
100Ø to be used for foul
100Ø to be used for surface water unless stated otherwise.
- Minimum surface water gradients shall be:
100Ø laid at 1:100 with the exception of the first connection which shall be minimum 1:60. 150Ø laid at 1:150
- Minimum 100Ø foul drainage gradient to be 1:80 with the exception of the first connection which shall be minimum 1:40.
- Manhole covers to be marked FWS or SW as appropriate.
- All manhole covers and frames shall comply with BS EN124. All adoptable manholes and chambers shall comply with BS EN124. All adoptable covers in roads to be grade D400 and be 150mm deep. Manhole covers in car parking areas and drives to be grade B125 and covers in landscaping areas to be grade A15. All to be sized in accordance with Building Regulations Part H, Tables 11 & 12.
- Pipes have not been designed to accommodate construction traffic loading. The contractor is responsible for providing adequate protection to the pipes during construction.

APPROVAL

coopers
chartered consulting engineers

Tel: 01244 684910
Email: admin@coopers.co.uk
Web: http://coopers.co.uk

Park House
Sandpiper Court
Chester Business Park
Chester
CH4 9QU

Client

Ian Humphreys

Project

Wynona, Station Road,
Rossett, Wrexham

Title

Drainage Layout

DRAWING NUMBER

7969 / SK01

SCALE at A1

1:250

DATE

25.04.22

DRAWN

PJN

CHECKED

AJ

REVISION

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