Llywodraeth Cymru
Welsh Government

WELSH GOVERNMENT ADVICE NOTE

SAB APPLICATIONS FOR SINGLE DWELLINGS, EXTENSIONS, AND PARKING AND ACCESS AREAS

July 2022

Mae'r ddogfen yma hefyd ar gael yn Gymraeg.

This document is also available in Welsh.

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Contents

Advice note introduction

SuDS Approval Body (SAB) applications are required by law in Wales for any construction plan areas adding up to 100 square metres or more. This can include new buildings, driveways, patios, conservatories, extensions, demolition and rebuilding.

This note provides guidance on surface water drainage proposals which require SAB approval. The SAB function is a statutory duty carried out by the Local Authority.

The contents of this note may be applicable to other small developments of more than one house (e.g. construction of a second house on the same piece of land as an existing house). For single dwellings, the process can often be straightforward and carried out by the landowner.

SuDS (**Su**stainable **D**rainage **S**ystems) manage surface water quantity (flow rates and volumes) and quality while providing biodiversity and amenity benefits.

The SuDS must be approved by the SAB prior to construction. A SAB application is different and in addition to a planning application. SAB applications can be required even if a planning application is not.

From 1st December 2021 in accordance with TAN 15[1], if planning permission is sought prior to SAB approval, a Drainage Statement is required as part of the planning application to provide confidence the development incorporates SuDS appropriately and is subsequently likely to obtain SAB approval.

How to use this advice note

This note is intended for applicants but may be useful for agents and developers. The drainage design and SAB Application does not necessarily need to be undertaken by a drainage professional, depending on the complexity of the site and proposed development.

This guide should be read in conjunction with the Welsh Government's Statutory national standards for sustainable drainage systems (the Statutory Standards)[2]. Applicants must demonstrate compliance with the Statutory Standards to obtain SAB approval. For reference, the Welsh Government have published FAQs[3] relating to the Statutory Standards.

This document is not the Statutory Standards but is written to provide some guidance on how the standards could be met for single dwellings and similar small scale development.

[1] https://gov.wales/technical-advice-note-tan-15-development-flooding-and-coastal-erosion
[2] https://gov.wales/national-standards-sustainable-drainage-systems-suds
[3] https://gov.wales/sustainable-drainage-systems-suds-frequently-asked-questions

Why are SuDS needed?

SuDS manage water in a way that mimics nature, unlike traditional gullies and pipes. SuDS capture rainwater close to where it falls to reduce and slow the water passed downstream. This is in contrast to traditional buried pipe systems which convey water quickly and can cause flooding and water quality problems downstream. SuDS can also improve amenity and biodiversity unlike traditional buried systems. This is shown in Figure 1.

SuDS are a legal requirement in Wales for construction areas equal to or exceeding 100 square metres. This is because using SuDS helps reduce downstream flood risk and improves water quality. They can also provide improved wildlife habitats and amenity benefits for people.

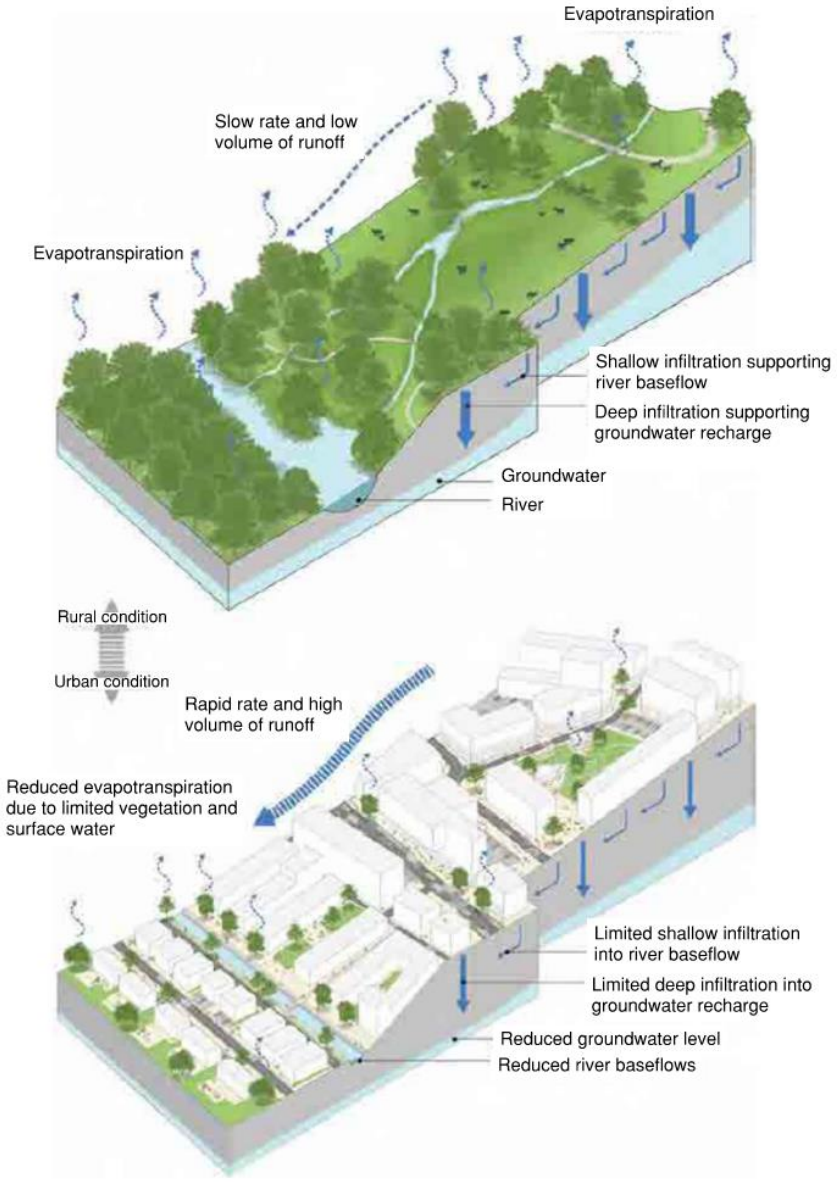

Figure 1. Impacts of urbanisation. Adapted from CIRIA Figure 1.2. Courtesy of CIRIA Susdrain.

What are SuDS?

SuDS features take different forms and combine to create a system. In the case of single dwellings, the SuDS features in Figure 2 below are generally best suited. At least one feature (but typically several linked together) is required to meet the Statutory Standards, see Figure 3.

Where SuDS features need to be linked together ditches, swales or pipework can be used to convey the rainwater. It is preferable to use ditches or swales where possible to convey water at the surface as this will make it easier to maintain (i.e. clear blockages). Keeping water close to the surface can also be less expensive to construct and provides amenity and biodiversity benefits.

The CIRIA SuDS Manual[4] provides detailed information on the design, construction and maintenance of SuDS features.

[4] https://www.susdrain.org/resources/SuDS_Manual.htm

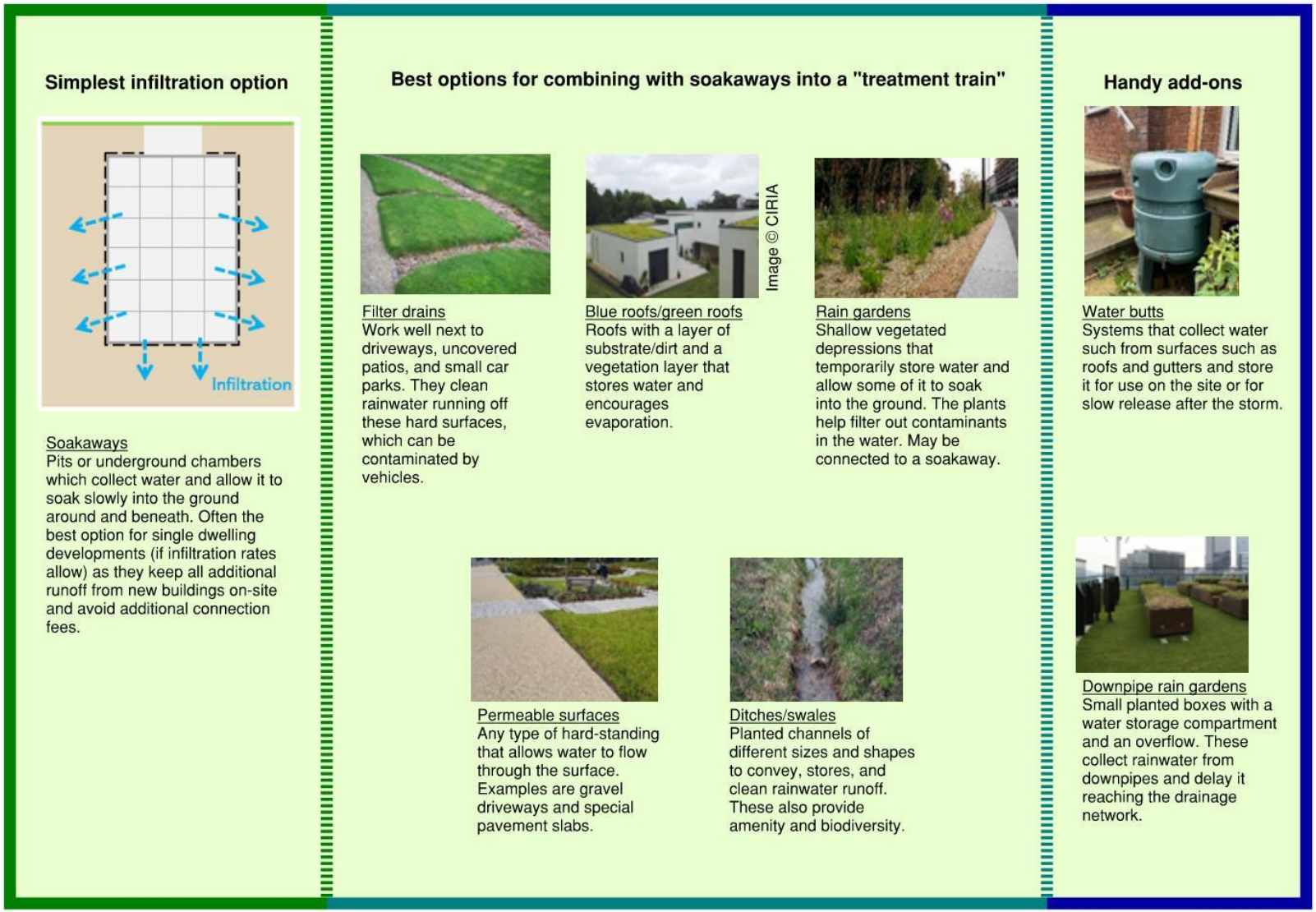

Figure 2 – Types of SuDS features generally used for single dwellings

The Statutory Standards should be referred to for full explanation of how each can be achieved. In summary, the Statutory Standards are:

Standard 1 – Surface water runoff destination
Where the rainwater will be discharged to once it has been managed by SuDS on the site.

Standard 2 – Surface water runoff hydraulic control
Reducing the rate and volume of water discharged. This requires storage of rainwater which can be provided by the SuDS features.

Standard 3 – Water quality
Removing pollution from the water after it has fallen on a surface.

Standard 4 – Amenity
Using SuDS to improve spaces for people.

Standard 5 – Biodiversity
Creating, protecting and enhancing wildlife habitats.

Standard 6 – Design of drainage for construction, operation, and maintenance
Ensuring the design can be built and maintained safely, cost-effectively, and sustainably for the lifetime of the development.

Example single dwelling development achieving the Statutory Standards

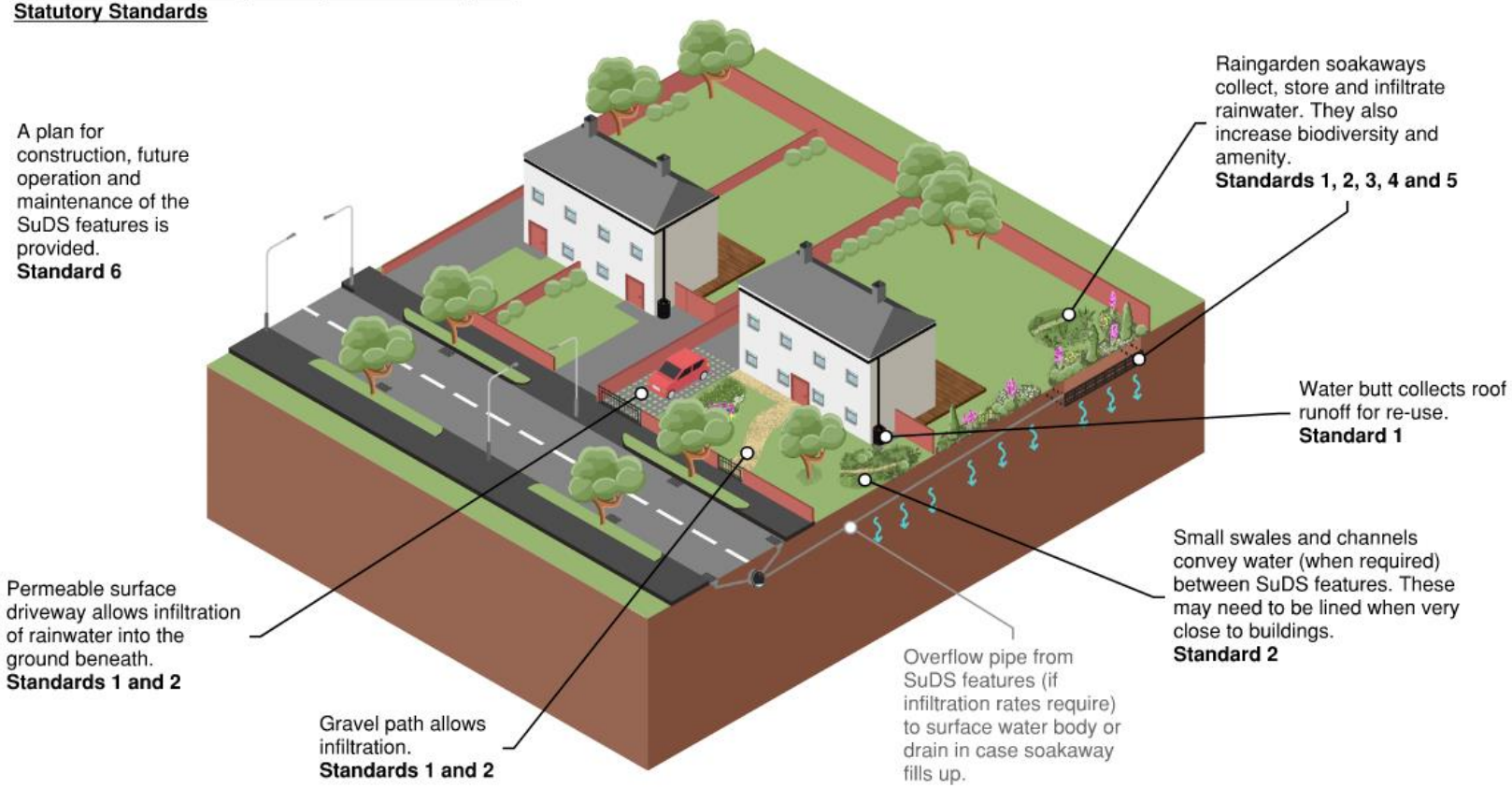

Figure 3 – Applying the Statutory Standards to a single dwelling development

What is SAB approval?

SAB approval has been required in Wales since Schedule 3 of the Flood and Water Management Act (FWMA) became law from January 2019. This established the SAB and the requirement for SuDS for new developments. The SAB is a team of people in the Local Authority. Applicants should become familiar with the Statutory Standards before undertaking a SAB application.

SAB approval is different and separate to planning approval. However, it is good to consider both alongside each other. SAB approval can be attained before making a planning application. If SuDS applications are not considered before planning applications are submitted, planning applications may have to be resubmitted. **It is illegal to start construction until SAB approval has been granted.**

An initial conversation with the SAB ('early engagement') followed by more detailed pre-application (pre-app) advice is recommended to help ensure a successful SAB application and avoid construction delays. Early engagement advice is generally free of charge; pre-app advice can have associated fees (specified by each local SAB).

Local Authority	SAB Email Contact
Blaenau Gwent*	drainage@caerphilly.gov.uk
Bridgend	SAB@bridgend.gov.uk
Carmarthenshire	SAB@sirgar.gov.uk
Cardiff	SAB@cardiff.gov.uk
Ceredigion	SAB@ceredigion.gov.uk
Conwy	sab@conwy.gov.uk
Caerphilly	drainage@caerphilly.gov.uk
Denbighshire	landdrainage.consultations@denbighshire.gov.uk
Flintshire	SAB@Flintshire.gov.uk
Gwynedd	ccs@gwynedd.llyw.cymru
Isle of Anglesey	PEMHT@anglesey.gov.uk
Merthyr Tydfil	SAB@merthyr.gov.uk
Monmouthshire	sab@monmouthshire.gov.uk
Neath-Port talbot	hdc@npt.gov.uk
Newport	sab@newport.gov.uk
Pembrokeshire	SAB@pembrokeshire.gov.uk
Powys	sab@powys.gov.uk
Rhondda Cynon Taff	SAB@rctcbc.gov.uk
Swansea	sab@swansea.gov.uk
Torfaen*	drainage@caerphilly.gov.uk
Vale of Glamorgan	sab@valeofglamorgan.gov.uk
Wrexham	sab@wrexham.gov.uk

** Note: Caerphilly manage applications for Blaenau Gwent and Torfaen*

When is SAB approval needed?

SAB approval is a legal requirement for new developments with a construction area of 100 square metres or more which have ‘drainage implications’.

Construction area of 100 square metres or more

Construction of buildings and/or surfaces with a total footprint equal to or exceeding 100 square metres requires SuDS. The total footprint of the works is the construction area.

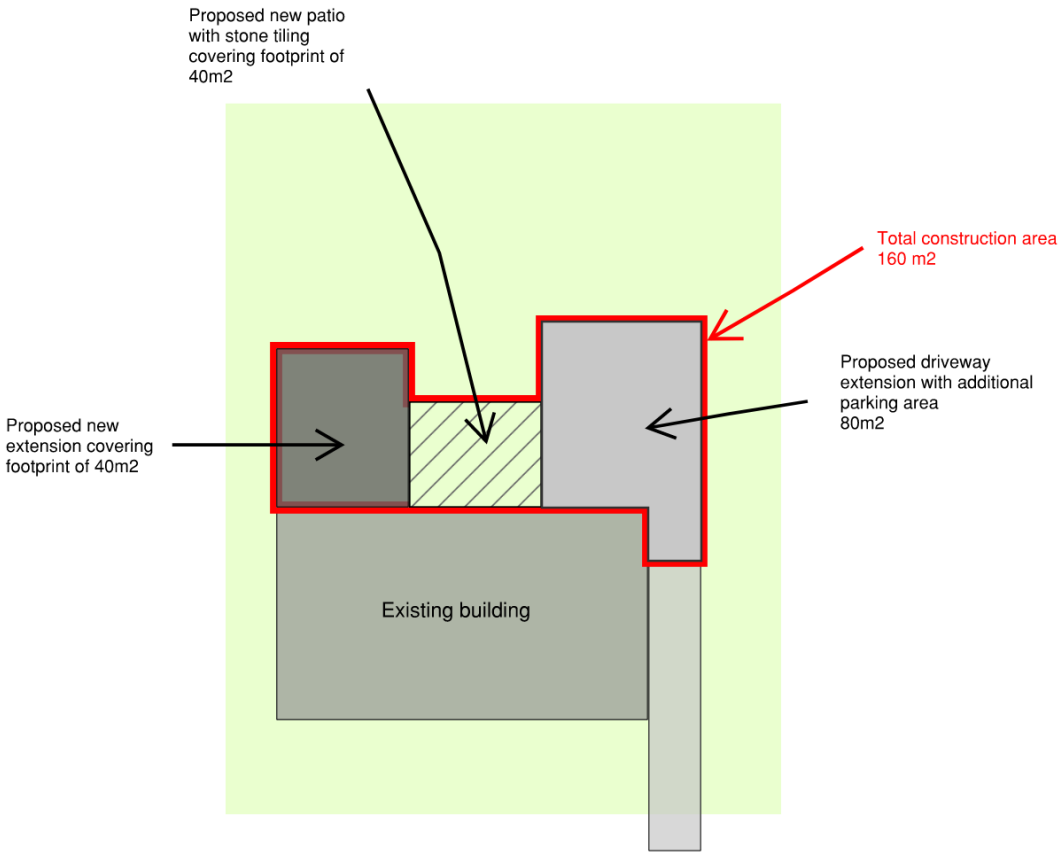

Figure 4 - Example of total construction area exceeding 100 square metres

Drainage implications

To have ‘drainage implications’ and therefore count towards the 100 square metre SuDS requirement threshold, a development must cover land and affect the ability of the land to absorb rainwater.

If you are unsure if your proposed development has ‘drainage implications’ you should seek advice from your SAB.

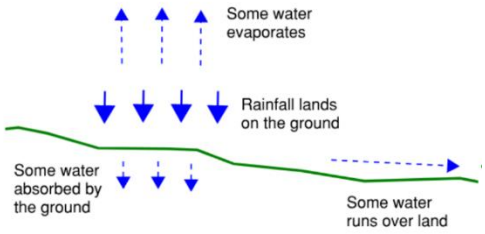

Figure 5 - Before construction

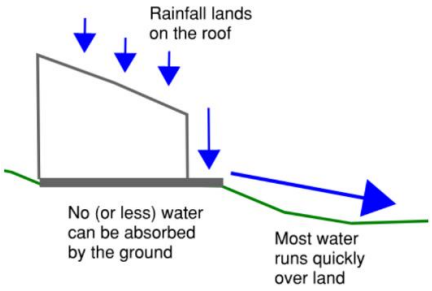

Figure 6 - After construction – example of drainage implications

Different types of building and surface requiring SAB approval

Most new development will require SAB approval if they have a construction area of 100 square metres or more. If in doubt, this should be confirmed with the SAB. Development with drainage implications and a footprint contributing to 100 square metres or more can include:

New surfaces:	**New buildings and roofing:**
• Footpaths • Driveways • Parking areas • Patios	• House extensions • Conservatories • Garages • Sheds
Any other new surface.	Any other new building or roof.
Note: a new gravel driveway would be included as part of the 100 square metres but would also contribute as a SuDS solution as it is a type of permeable surface.	Note: Demolition of existing buildings and rebuilding on the same footprint (even if same size) also requires SAB approval.

Undertaking the design and SAB application

To make the application process as simple as possible, the crucial factor is management of water onsite wherever possible through infiltration SuDS.

Managing water onsite avoids the need for additional calculations and for obtaining permission to discharge (e.g. from NRW or Dŵr Cymru Welsh Water).

If water cannot be managed onsite, it must be discharged to a suitable watercourse, drain or sewer. Permission to do this will only be given when every possible SuDS measure to manage the water onsite has been considered and justifiably rejected.

Proving that all measures have been taken requires calculations for greenfield runoff and proof of restricted flow rates and attenuation, which may require the services of an engineer. The SuDS required will be more extensive when compared to infiltrating SuDS. This is shown in Figure 7 and Figure 8.

The Statutory Standards outline the following discharge destination priorities for the management of surface water:

Priority Level 1:	Surface water runoff is collected for use
Priority Level 2:	Surface water runoff is infiltrated to ground
Priority Level 3:	Surface water runoff is discharged to a surface water body
Priority Level 4:	Surface water runoff is discharged to a surface water sewer, highway drain, or another drainage system
Priority Level 5:	Surface water runoff is discharged to a combined sewer

Priority levels 1 and 2 correspond with managing water onsite and are strongly encouraged to reduce the complexity of the design, construction and application process for the landowner. Priority levels 3 to 5 require discharge offsite and generally require more design, construction and associated documentation/agreements.

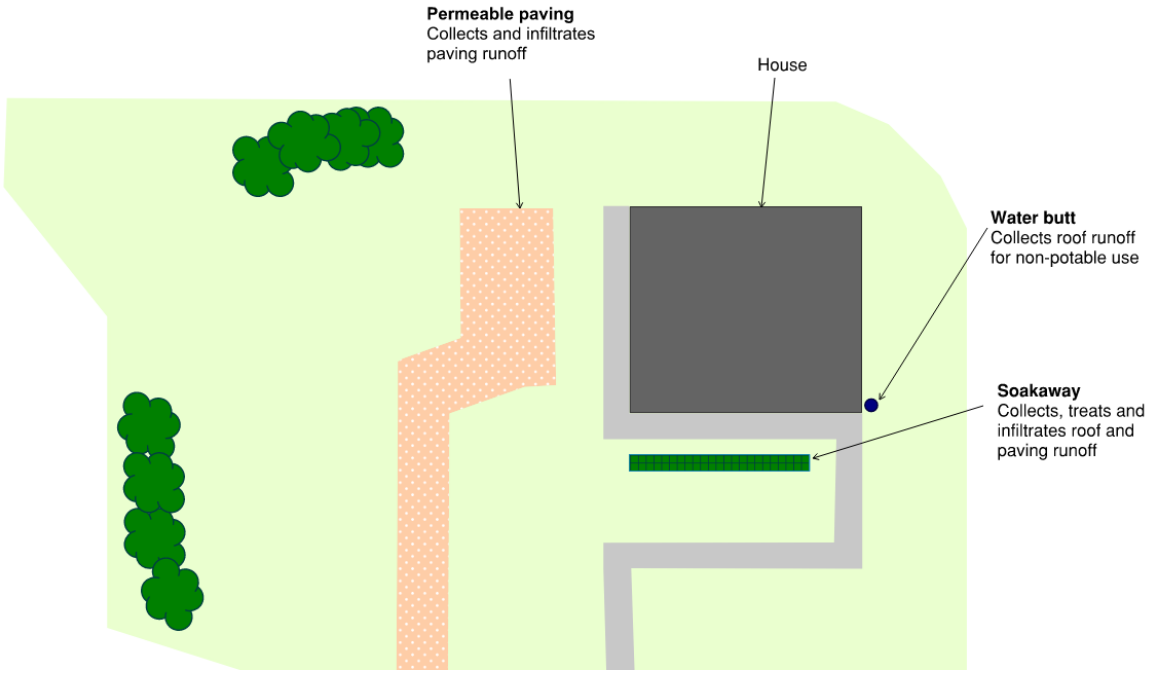

Figure 7. Example of single dwelling development with high infiltration rate soils.

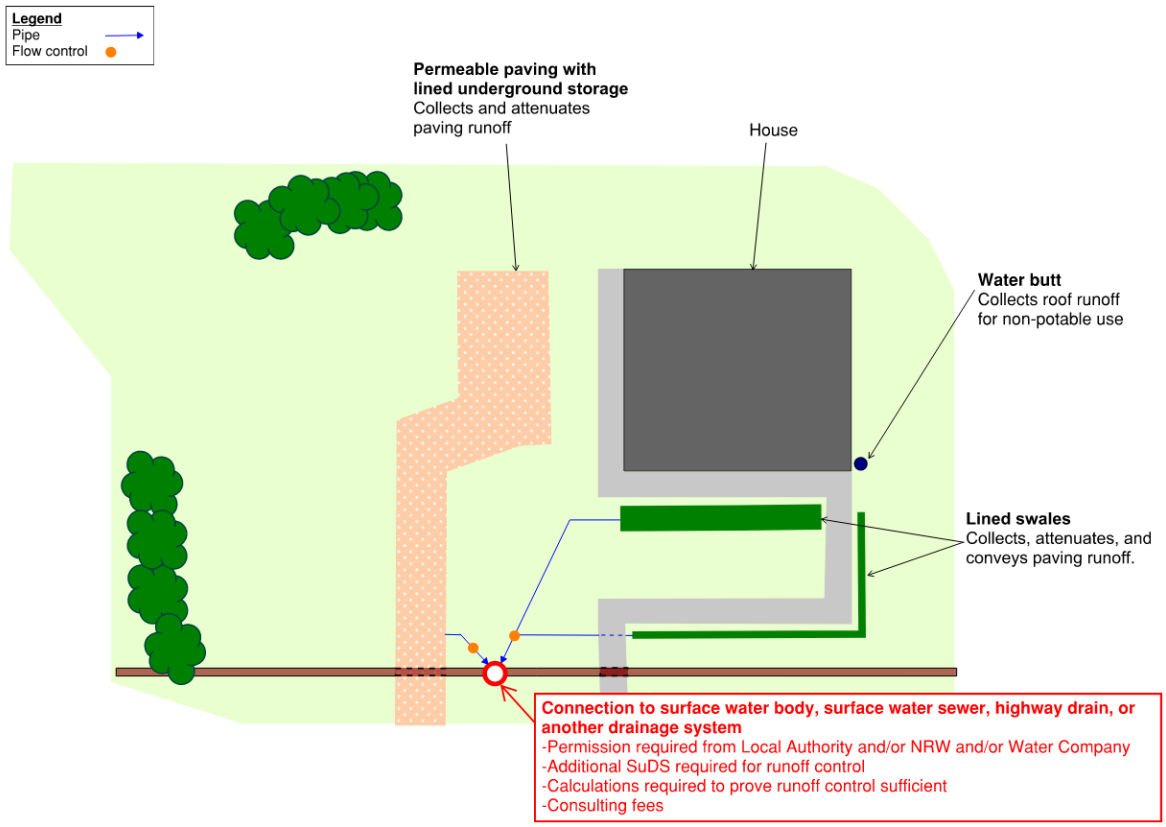

Figure 8. Example of single dwelling development with low infiltration rate soils.

3-step SAB process

The diagram below shows a typical design and application process for single dwelling developments. As such the SuDS are not adopted by the SAB, so the landowner is responsible for their operation and maintenance for the lifetime of the development. Legal agreements with the SAB are therefore unlikely to be required (but this will depend on your local SAB).

Consider proposals and engage with SAB

Week 1-3

1. Review SuDS guidance and examples
2. Think about which SuDS features might be suitable considering topography, current flow routes, existing features, and access. Come up with a simple design.
3. Discuss with SAB! They can advise you on the approval process, the required documentation, and your proposed design. Some SABs provide free pre-application advice.
4. Undertake infiltration tests.

Outline design and application submission

Weeks 4 to 6

1. Draw up a plan of your design and carry out any calculations needed.
2. Identify other parties that you may need to have an agreement with (e.g. connecting into a watercourse/pipe system not owned by you).
3. Finalise design proposals based on SAB-pre-application advice, ensuring your design meets the relevant Statutory Standards.
4. Submit application to SAB with documents required in Application Checklist (Appendix A).

SAB assessment and determination

Weeks 7 to 14

Construction

Timeframe varies, but it is illegal to start construction before you have SAB approval.

Maintenance

For the lifetime of the house/extension. The landowner is responsible for maintenance and it should follow the maintenance plan approved as part of the SAB application.

Appendix A – Application checklist

This application checklist can be used to help ensure all required information has been included in a SAB application. It can be completed and submitted as part of a SAB application for single dwellings, extensions, and parking and access areas.

The items in the application checklist are the typical requirements for a valid application. However, not all of items will be applicable in all cases. **It is important to consult your local SAB in advance of filling in the application, as they may be able to reduce the number of items you need to complete.**

Further detail and survey may be required for specific sites if significant constraints or risks are present.

Design examples, including worked examples, are available in Appendix B of the Welsh Government Advice Note for SAB Applications for Agriculture Buildings, Coverings and Clean Yards [5].

The CIRIA SuDS Manual [6] provides comprehensive information on the design, construction and maintenance of SuDS.

[5] https://gov.wales/sustainable-drainage-systems-suds-approval-body-applications-agriculture-buildings-coverings-and
[6] https://www.susdrain.org/resources/SuDS_Manual.htm

Standard 1 – Surface water runoff destination	
Location plan Block and site plans submitted as part of a planning application can often meet this requirement. The plan should highlight the location of your site in relation to the surrounding area. Suggested scale 1:2500, and this may fit onto the Site Plan.	
Site/drainage plan(s) A scale suitable for the site. This needs to be clear so may not all fit onto one plan. This should include: • Existing site features such as buildings, surfaces, hedgerows, tracks, watercourses, drainage, fences, trees, etc • Existing topography, such-catchments, and flow paths for the site. This should highlight the route water currently takes across the surface of the site • Extent of the proposed development such as buildings, roofs, surfaces including a plan area in square metres of each. It should include any other changes being made to the site to facilitate construction. It should include a red line around the construction area stating its size • Extent of the proposed drainage scheme serving the site, labelling each of the SuDS features proposed and where discharges are being made to.	
Desk based assessment – ground investigation A note with an initial check of geology and hydrology. This can be done using: • BGS chargeable service for sister specific infiltration potential maps[7] • BGS highlighting ground risks within their chargeable Geosure service[8] However, you should discuss with your SAB whether more detailed analysis is required, which may require a suitably qualified geotechnical engineer. This will be based on the perceived risk at your site.	
Undertake and provide details of infiltration (soakaway) tests It may be possible to present results from a neighbouring site (if agreed with the local SAB) If the site is obviously impermeable (e.g. clay), photographic evidence of water in holes over time may be sufficient (if agreed with the local SAB) Many SABs are happy for you to undertake soakaway tests yourself. If you are undertaking the test yourself, SABs will generally require you to provide the following information: • Date of test(s) • Weather conditions • A plan of the test location(s) and reference for each location (e.g. TP01, TP02 etc.) • Methodology followed (BRE or CIRIA, confirm with your SAB via phone/email before undertaking) • Photo of the trial pit(s) • Photo of excavated soil(s) • Photo of measuring equipment in trial pit (to provide scale) • Dimensions of the trial pit (width, length, depth to base from ground level) • Whether any groundwater entered the pit, and if so at what depth did it enter (part of the trial hole should extend 1m • below the proposed base level of the soakaway to confirm if it's encountered). • Description of the soil layers from ground level down to the base of the pit. • Test results	
If applicable: Written agreements/consents for discharge or for access to third party land Depending on Standard 1 – destination, this could include Discharge consents & licenses to watercourses; Rights to lay pipes on third party land/easements; Easement details; Permission from riparian owner to discharge; Water Industry Act 1991 Section 106 (Connection) agreements from water company. Discharge offsite should be limited to the greenfield runoff rate.	

Standard 2 – Surface water runoff hydraulic control	

[7] https://www.bgs.ac.uk/datasets/infiltration-suds-map/
[8] https://www.bgs.ac.uk/datasets/geosure/

NRW Flood Maps showing the site These are free to obtain using the National Flood Hazard and Risk maps from the NRW website[9]. You can print maps to a PDF from this website to include within your SAB application.	
Check maps of environmental designation and potential risks Freely available from NRW Map Viewer[10], mapping shows environmental designations. Check for utilities within the ground, for example using Linesearch[11].	
Hydrological characteristics for the site A summary of the rainfall characteristics for the site that have been used. This should include the average annual rainfall for the site (SAAR), greenfield runoff rates, design rainfall (1 in 100 year), and peak rainfall intensity being used for design of conveyance components (swales and pipes).	
Demonstrate interception compliance Interception criteria aims for no runoff from 5mm rainfall event. The Statutory Standards provides Table G2.1 which lists SuDS features with assumed compliance. The application should demonstrate that compliance is met for all surfaces and corresponding SuDS features.	
Storage calculations for SuDS features Stating the storage volume of each SuDS feature and how this was calculated. The Welsh Government Advice Note on SAB Applications for Agriculture Buildings, Coverings and Clean Yards[12] Appendix B contains worked examples. The UKSuDS website[13] provides free tools that can assist with calculations. • Rainwater harvesting calculation (if used) • Infiltration design calculations (if used) • Other storage calculations to meet an agreed discharge rate (if used).	
Hydraulic calculations for conveyance Stating the peak runoff along each drainage run and how it was calculated, and the capacity of the conveyance features (e.g. swale or pipe) and how this was calculated. For swales, the calculation of peak velocity should also be shown.	
Assessment of exceedance This should consider exceedance of the system and the consequences of this. As a minimum this will be a simple plan showing flow paths from different SuDS features in the event of failure or overflow showing where water will eventually end up (i.e. a watercourse or ponding within a depression elsewhere on the site)	
Detailed drawings Scaled drawings including: • A long section from the roof or surface to the discharge destination, highlighting each SuDS feature, conveyance and/or control device used. Existing and proposed levels should be shown (e.g., mAOD) along with falls/gradients of SuDS and conveyance features (e.g., 1 in 150). Top water levels should also be highlighted at each SuDS feature. • A minimum of one cross section for each SuDS features with details of materials/products, dimensions, gradients. • Details of any features such as silt traps, flow controls, check dams. Rainwater harvesting systems design is sometimes undertaken by suppliers/installers, which needs to be provided in detail stating compliance with BS 8515. *Concept drawings may assist with pre-app discussions. For example, extracts from the SuDS Manual indicating proposals.	
Specifications (if required) Material specifications may be shown on detail drawings. Specifications for materials used for different SuDS features can be obtained from the SuDS Manual if required.	
Standard 3 – Water quality	
Land Use plan A plan clearly identifying the different surfaces being proposed as part of the development and what these will be used for (i.e. GRP roof over feeding area, car park with expected number of cars per day etc.).	
Water quality assessment (if required by your local SAB) Assuming use of the simple index approach for 'Low' Pollution Hazard Level, this should include a table or similar demonstrating:	

[9]https://maps.cyfoethnaturiolcymru.gov.uk/Html5Viewer/Index.html?configBase=https://maps.cyfoethnaturiolcymru.gov.uk/Geocortex/Essentials/REST/sites/Flood_Risk/viewers/Flood_Risk/virtualdirectory/Resources/Config/Default&layerTheme=3
[10]https://maps.cyfoethnaturiolcymru.gov.uk/Html5Viewer210/Index.html?configBase=https://maps.cyfoethnaturiolcymru.gov.uk/Geocortex/Essentials/REST/sites/External_Map_Browser/viewers/EMB_Address/virtualdirectory/Resources/Config/Default&locale=en-gb
[11] https://lsbud.co.uk/
[12] https://gov.wales/sustainable-drainage-systems-suds-approval-body-applications-agriculture-buildings-coverings-and
[13] https://www.uksuds.com/

• The Pollution Hazard Level for each of the surfaces highlighted in the Land Use plan, and the area (in square metres) of each surface. • The SuDS features used and the Mitigation Indices for each (using the Simple Index Approach within the SuDS Manual). This is based on compliance with interception requirements of no runoff for a 5mm rainfall event (refer to Standard 2). SAB Applications for Agriculture Buildings, Coverings and Clean Yards[14] contains an example using the simple index approach.	

Standard 4 - Amenity	
Plan showing amenity areas It is expected that for this type of application this plan can be combined with that of Standard 5 – Biodiversity. Any amenity features integrated within/alongside the SuDS features should be included. It is noted in the Statutory Standards that in assessing amenity the SAB will have regard for Standard 1.	

Standard 5 - Biodiversity	
Planting plan A plan showing the arrangement, numbers and density of proposed seeding areas, planting and trees within and adjacent to SuDS features. It is noted in the Statutory Standards that in assessing biodiversity the SAB will have regard for Standard 1.	

Standard 6 – Design of drainage for construction, operation, and maintenance	
Recognition of maintenance responsibility Some SABs request a statement from the landowner acknowledging they (the landowner) are responsible for the operation and maintenance of the SuDS features. This is typically a few lines stating the site address, scheme name and SuDS features that will be maintained to the agreed Management & Maintenance schedule/plan.	
Management & Maintenance plan This must cover the lifetime of the development and should be specific to each SuDS feature proposed. The plan should be in a format which can be easily understood by the future owners who will be responsible for undertaking or arranging the maintenance. The plan should: • List each type of drainage (e.g. pipe) & SuDS (e.g. swale) component separately. • Incorporate a simplified site layout drawing clearly identifying the locations of the above and below ground • drainage & SuDS components. This should also show how access is achieved where required. • For each type of drainage & SuDS component itemise the tasks to be undertaken and the frequency at which • they are to be performed over the lifetime of the development. Notes this must include remedial works where the product design life is less than the lifetime of the proposed development. • Machinery used for maintenance for each of the above. • Include product information. For example, certificates (such as BBA certificates), manuals or recommended maintenance guides for products e.g. attenuation systems, flow control devices.	
Construction management plan This can be a simple plan showing the order that things will be constructed on the site. It should highlight potential risks which could impact on the environment (e.g. sediment runoff into watercourses), and also things that could impact on the long-term performance of the SuDS (e.g. compaction of the ground at soakaway locations). It should then briefly describe measures being put in place to mitigate against these risks.	

[14] https://gov.wales/sustainable-drainage-systems-suds-approval-body-applications-agriculture-buildings-coverings-and