Department
for Environment
Food & Rural Affairs

The review for implementation of Schedule 3 to The Flood and Water Management Act 2010

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We work closely with our 33 agencies and arm's length bodies on our ambition to make our air purer, our water cleaner, our land greener and our food more sustainable. Our mission is to restore and enhance the environment for the next generation, and to leave the environment in a better state than we found it.

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Contents

Ministerial foreword

Water is a valuable resource and managing it in an integrated way can provide multiple benefits. From ensuring we have enough to thrive in supplying to homes, businesses and food production as well as for nature we also have to anticipate and mitigate for the climate risks of flooding or drought. In particular, we want to avoid drainage infrastructure being overwhelmed with the environmental implications of storm overflow discharges, so we can improve and increase biodiversity and habitats.

That is why the increasing demand for housing water supply and sewerage must be met in a sustainable way and support our natural environment. We already have plans in place regarding surface water flooding, storm overflows and reducing demand for water. I think we need to go further with sewerage connections and fully embrace nature-based solutions to help with this. Such green infrastructure can provide a sustainable way to drain land, protect against surface water and sewer flooding, reduce storm overflow discharges, harvest water at the same time as enhancing local biodiversity and amenity. We must increase the use of these alternative solutions to improve drainage, particularly in urban areas where systems must cope with both runoff and wastewater.

In October 2019, I commissioned an independent review of the arrangements for determining responsibility for surface water and drainage assets. The review was carried out by David Jenkins and he set out clearly why we should reconsider implementing Schedule 3 to the Flood and Water Management Act 2010. The government response was published in July 2021 and we committed to review the case for implementation[1]

We have now completed the review, with its findings and recommendations laid out in this document; its key recommendation is that we make sustainable drainage systems (SuDS) mandatory and progress with the necessary implementation phase.

I want to thank those who have contributed to the review, and I intend to make swift progress in its implementation. Doing so will maximise the opportunity to improve the resilience of our infrastructure and environment response to climate change whilst realising many other benefits.

The Government will now consider how Schedule 3 will be implemented, subject to final decisions on scope, threshold and process. A public consultation later this year will help to shape the new approach, with implementation expected during 2024.

The Rt Hon Thérèse Coffey MP
Secretary of State for Environment, Food and Rural Affairs

[1] https://www.gov.uk/government/publications/surface-water-management-a-government-update

Executive summary

This review was asked to identify the benefits and impacts of making sustainable drainage systems (SuDS) mandatory for new development to ensure that its implementation will help address the pressures of climate change, increasing population and urbanisation whilst achieving multiple benefits, such as reducing surface and sewer flood risk, improving water quality, and harvesting rainwater to meet current and future needs.

A broad range of organisations and individuals contributed to this review, including local authorities, government officials, developers, trade associations, SuDS experts, charities, regulators, water companies and the public. We have engaged in many ways such as through an advisory group, workshops, conferences, meetings, and events.

Recommendations from the Pitt review from June 2008 were subsequently included in Schedule 3 to the Flood and Water Management Act, which gained Royal Assent in April 2010.

In England, Schedule 3 was not commenced, as the government addressed increasing the use of SuDS through planning policy from April 2015. Current planning policy requires that SuDS are included in all new major developments (developments over 10 homes), unless there is clear evidence that this would be inappropriate. This is in addition to requirements that SuDS should be given priority in new developments in flood risk areas.

The Jenkins review of the arrangements for determining responsibility for surface water and drainage assets published in August 2020 suggested the planning-led approach alone is not working recommending that non-statutory technical standards for sustainable drainage systems should be made statutory: as the ambiguity makes the role of the planning authority very difficult. The review also found that in general there were no specific checking regimes in place to ensure that SuDS had been constructed as agreed, leaving concerns about unsatisfactory standards of design and construction, and of difficulties of ensuring proper maintenance once the developer has left the site.[2]

Schedule 3 provides a framework for the approval and adoption of drainage systems, an approving body (SAB), and national standards on the design, construction, operation, and maintenance of SuDS. Also, it makes the right to connect surface water runoff to public sewers conditional upon the drainage system being approved before any construction work can start.

The findings of this review including from risk management practitioners and many others evidence a widely held perception that existing planning and building regulation control provide insufficient focus on how rainwater can best and most sustainably be managed in new developments.

Therefore, this review does not support the option of continuing to deliver SuDS purely through the planning process. Neither do the findings support an alternative approving and adopting body to the unitary authorities or county councils.

[2] Surface water and drainage: review of responsibilities

This review recommends that the government must act and implement Schedule 3 to the Flood and Water Management Act 2010 as written, with the unitary authority or, if there is not one for the area, then the county council as approving bodies.

This will ensure a consistent and more effective approach in using SuDS to help address the impacts of climate change, urbanisation and increasing population while achieving multiple benefits such as reducing surface water flood risk, improving water quality, and harvesting rainwater to meet current and future needs.

However, these benefits can only be realised if SuDS are designed, constructed, adopted, and maintained to national standards for the lifetime of the development. Implementing Schedule 3 will guarantee this is achieved.

The review recommends that successful implementation of Schedule 3 will require professionals with the skills and knowledge to design, construct, assess and maintain SuDS. It also recommends that actions are developed to ensure there is sufficient access to the right skills and capabilities to deliver and maintain SuDS.

Chapter 1: Rationale for and scope of this Review

Context

UK weather and climate records are being set more frequently, with the UK experiencing unprecedented heavy rainfall and high temperatures. There is currently a 1% chance every year that monthly winter UK rainfall can be 20% to 30% higher than the maximum observed. Better representation of the landscape and urban areas in the kilometre-scale model have highlighted that there is a very small chance (less than 0.02%) of exceeding 40°C by 2040, but by 2080 the frequency of exceeding 40°C is like the frequency of exceeding 32°C today.[3]

In England, both rural and urban areas have seen an increase in overall population between 2011 and 2019. Rural population increased by 5.2% and urban by 6.2%. Within rural areas, the greatest rate of population increase was in rural, town and fringe areas (5.7%). Within urban areas it was in urban major conurbations (6.9%). In 2019, 56.3 million people lived in urban areas (82.9% of England's population) and 9.6 million in rural areas (17.1%).[4.]

Between 2018 and 2030, the urban population is projected to increase in all size classes, while the rural population is projected to decline slightly. Rural areas were home to 45% of the world's population in 2018, a proportion that is expected to fall to 40% by 2030.[5]

Growing population, climate change, and urbanisation will add to the existing pressures of our volume constrained traditional sewers. More water in sewers is increasing the risk of local surface and sewer flooding and harm caused by storm overflow discharges. Discharges from storm overflows contain raw sewage, which can contain high levels of harmful pathogens, such as viruses and bacteria. This can pose health risks to people who use our water bodies for recreation, and the environment.

Housebuilding is a priority for this Government though new development risks reducing the capacity of the land to provide natural drainage and has the potential to increase surface water runoff. Buildings and impermeable surfaces concentrate rainwater, which runs off into our sewerage rather than being naturally absorbed into the ground and rivers.

Separating surface water so that it is diverted to water gardens or wetlands and does not mix with sewage improves water quality, creates new habitats for species and acts as a carbon sink.

Managing water in an integrated way includes managing rainwater as close to where it falls. This can contribute towards environmental benefits, from increased biodiversity and habitats and reduced storm overflow discharges, mitigate climate risks and boost growth and wellbeing. It should be treated as a valuable resource and stored for reuse for the benefit of people and the environment, not mixed with sewage or other contaminants. If it cannot be

[3] CCRA3-Chapter-1-FINAL.pdf (ukclimaterisk.org)
[4] Overview of the UK population - Office for National Statistics (ons.gov.uk)
[5] Trend Deck 2021: Urbanisation - GOV.UK (www.gov.uk)

stored for reuse or discharged to the ground, it should be slowly channelled to a close watercourse without mixing it with sewage.

If fewer new connections are made to combined sewers through introducing more sustainable drainage systems (SuDS), it will reduce the pressures on the sewers, reducing surface water and sewer flood risk, discharges from storm overflows, pollution whilst unlocking land improving biodiversity and amenity.

SuDS are designed to reduce the impact of rainfall on new developments by using features such as soakaways, grassed areas, permeable surfaces, wetlands. This reduces the overall amount of water that ends up in the sewers and storm overflow discharges. Certain features such as tanks and water butts provide opportunity for water reuse to reduce pressure on water resource.

The approach makes use of different techniques to make more local space for rainwater, such as infiltration and retention, which mimic runoff from the site in its natural state. SuDS decrease flow rates to watercourses, storing or re-using surface water at source and generally improving water quality.

SuDS help address the quantity of water that needs to be removed from an area, as well as the quality and how it may then be used to enhance an area, potentially improving the beauty and recreational value of a development, promoting health and well-being.[6] Where SuDS are created as green infrastructure, they can count towards biodiversity net gain and contribute to our nature recovery targets.

There are many good examples of SuDS already in action. Bristol University Auditorium is an example of using a blue roof to provide storage volume for attenuating storm events. This was fitted with a green roof to reduce the rate of surface water runoff.[7]

Lamb Drove is a residential development of 35 affordable homes on a one-hectare site in Cambridgeshire. A range of SuDS components were used to demonstrate different available techniques and the application of management train from prevention to site control and regional control components. The measures include water butts, permeable paving, a green roof, swales, filter strips, detention and wetland basins and retention ponds.

Cambridgeshire County Council ran a 3-year monitoring of the system. The key findings of the monitoring project are:

- the Lamb Drove site has attenuated surface water flows and significantly reduced peak flows
- Lamb Drove has observed reductions in concentrations of a variety of pollutants and other water quality indicators including heavy metal concentrations
- the number of species increased at the Lamb Drove site. Lamb Drove shows more diversity, which is primarily due to the SuDS components and the associated management regime
- the infiltration capacity of the permeable pavement coped with the highest recorded rainfall intensity. The findings showed the mean infiltration rate for the permeable

[6] Alcester primary care centre Warwickshire-therapy Garden example
[7] Bristol University Auditorium, Bristol (susdrain.org)

pavements at Lamb Drove compared to 1 in 100 and 1 in 50-year return period rainfall intensities

Sir Michael Pitt's review into the floods of Summer 2007 assessed SuDS as an effective way to reduce the risk of surface water flooding as well as the burden on the piped sewerage system. These suggestions were subsequently included in Schedule 3 to the Flood and Water Management Act, passed in April 2010.

In England, Schedule 3 was not commenced as the government addressed increasing the use of SuDS through the National Planning Policy Framework (NPPF). Planning policy requires that SuDS be included in all new major developments (developments over 10 homes), unless there is clear evidence that this would be inappropriate. This is in addition to requirements that SuDS should be given priority in new developments in flood risk areas.

The Jenkins review published in August 2020 reported the planning-led approach alone is not working due to a lack of consistency in the use of recommended standards and no requirement for adoption or ongoing maintenance.

Scope of this review

Currently increasing the use of SuDS is driven through planning policy. This is in addition to requirements that SuDS should be given priority in new developments in flood risk areas. The Local Planning Authority (LPA) in consultation with the Lead Local Flood Authority (LLFA) needs to approve drainage schemes (in line with non-statutory standards) and ensure they are appropriately maintained.

This review's scope was to re-visit whether the benefits of SuDS are being delivered and consider the SuDS practice in other jurisdictions. Focusing on the following options of approval and adoption which included:

- continue delivering SuDS in developments through the planning process and do not implement Schedule 3
- implement Schedule 3 as written in the Flood and Water Management Act 2010 with the unitary authority or, if there is not one for the area, then the county council as approving and adopting bodies (where applicable) for SuDS in developments that have a drainage implication[8]
- consider a third option where Schedule 3 is implemented, and identify a different approving and adopting body than the unitary authority or county council

The following areas have been carefully considered during the review as relevant to implementation and discussed later in the findings chapter:

- potential barriers to house building i.e.extra burdens on developers
- who the SuDS approving body should be
- costs to set up and run the SuDs approving Body (SAB)

[8] Construction work has drainage implications if the building or structure will affect the ability of the land to absorb rainwater

- funding for the ongoing maintenance of SuDS by the SAB
- skills and capabilities across the sector

The review has not addressed the subject of retro-fitting SuDS in existing developments where the only change to the development is the drainage system, as this will present a completely different challenge and is also outside of the powers of Schedule 3.

Chapter 2: Review approach and method

Implementation will have a wide-ranging impact on individuals and organisations. Local authorities, housing associations, developers, and businesses will have to respond to new requirements. Throughout the review Defra engaged with many of these in several ways.
We have carefully considered all contributions and balanced this out with external factors, such as current skills and abilities to deliver, cost of living and the need to address the effects of climate change and water pollution on our environment.

An advisory group was set up with a balance of people with wide-ranging expertise and research relating to sustainable drainage in developments, planning policy and surface water management. This included local authorities, SuDS specialists, developers, trade associations and sewerage undertakers. Membership reflected diversity in experience, specialism and working background. The group supplied independent advice in relation to all aspects of this review helping shape the review, supplying guidance and challenge.

A subgroup (the scoping group) was formed to produce a scoping document for the review. Members of the scoping group were instrumental in organising and facilitating a workshop to engage wider and seek more input into the review. The aim of the workshop was to discuss the benefits, barriers, costs and funding of implementation and policy options and identify and suggest solutions. The workshop was attended by over 80 delegates with a wide range of expertise and interest relating to SuDS and Schedule 3. The workshop and continued engagement provided the review with lots of valuable and extremely useful information and advice.

Wales has already implemented Schedule 3; this review has learned from the Welsh experience.

Governance of the review was undertaken by a cross-government steering group chaired by Defra with members from HM Treasury, the Department for Business, Energy, and Industrial Strategy, the Department for Levelling Up, Housing and Communities and Department for Transport.

Chapter 3: Review findings

Appointment of a SuDS approval body (SAB)

Schedule 3 includes a provision that requires drainage approval from a SuDs approval body (SAB) before starting any construction work that has drainage implications. The SAB must decide if the application meets the SuDS mandatory standards.

Under Schedule 3 to the Floods and Water Management Act 2010, the SAB would approve any construction work that has drainage implications before it is commenced and adopt drainage systems where applicable.

The Schedule does not require approval for construction work that is a Nationally Significant Infrastructure Project (NSIP), as defined in section 31 of the Planning Act 2008. These projects will require approval from the Planning Inspectorate. It also exempts, three major Rail projects – HS2 Phases 1 & 2a as well as the Bicester to Bedford Improvements scheme.

The SAB is not under a duty to adopt any drainage system, or part of a drainage system, which only provides drainage for single properties.[9]

Assuming the SAB be the unitary authority or the county council, before determining an application, the approving body must consult with:

- any sewerage undertaker with whose public sewer the drainage system is proposed to communicate[10]
- the Environment Agency, if the drainage system directly or indirectly involves the discharge of water into a watercourse
- the relevant highway authority for a road which the approving body thinks may be affected
- the Canal & River Trust, if the approving body thinks that the drainage system may directly or indirectly involve the discharge of water into or under a waterway managed by them
- an internal drainage board, if the approving body thinks that the drainage system may directly or indirectly involve the discharge of water into an ordinary watercourse (within the meaning of section 72 of the Land Drainage Act 1991) within the board's district

We are unable to require the SAB to consult any additional consultees without amending Schedule 3, however we can encourage as a good practice that the SAB does consult wider when beneficial for example with Network Rail or District Councils.

[9] the Schedule gives the Defra Secretary of State the power to make regulations to define when a drainage system or part of a drainage system provides drainage for a single property.

[10] A sewerage undertaker is the company appointed by the Secretary of State or Ofwat to be the sewerage undertaker for the area specified in its instrument of appointment under s 11 (1) of the Water Act 1989 and continued in s 6 (1) of the Water Industry Act 1991 (WIA 1991).

Which body has responsibility for being a SAB?

Schedule 3 says the SAB will either be the unitary authority or, if there is not one for the area, then the county council or alternatively, the Defra Secretary of State can appoint another entity.

Our findings

Our engagement with individuals and organisations has supplied different views on which body should assume SAB responsibilities, which the review has carefully considered. The options suggested are that the SAB could sit in one of the following four places:

- unitary authority (UA) or county council (CC)
- local planning authorities (LPAs)
- sewerage undertakers
- internal drainage boards (IDBs)

Designating the Unitary Authority (UA) or County Council (CC)

The role of Lead Local Flood Authority (LLFA) sits within the UA or CC and lead in managing local flood risks (i.e., risks of flooding from surface water, ground water and ordinary (smaller) watercourses). The LLFA undertake a statutory consultee role providing technical advice on surface water drainage to LPAs' major developments.

Benefits of this option:

- LLFAs are responsible for managing local flood risk which includes that from surface water
- they undertake a statutory consultee role providing technical advice on surface water drainage to LPAs' major developments
- they have SuDS expertise needed to supply technical advice on surface water drainage to local planning authorities for major developments
- they usually have close links to the LPA and planning process and close working between the SAB and the LPA is going to be fundamental in making the customer journey the best it can be
- in relation to securing agreements to support maintenance arrangements, including any commuted sum or maintenance funding, the SAB can use existing powers available to local authorities under local government legislation.
- there are significantly less LLFAs compared to LPAs and therefore SAB set up costs would be less and less bodies will require training
- they sit in the same tier of the authorities as local highways which will make it easier for the SAB to influence local highways have the most suitable drainage to achieve the best environmental outcomes

Disadvantages of this option:

- delays with planning permission if robust links with planning department are not in place
- perception there are already some existing resourcing and capability issues in some LLFAs, with concerns taking on additional responsibilities could be challenging

Designating Local Planning Authorities

A Local Planning Authority (LPA) is the local government body that is empowered by law to exercise urban planning functions for a particular area and control development.

Benefits of this option:

- LPAs and the SAB sitting together would provide useful links to the planning process, more streamlined for when considering combined applications for SuDS and planning

Disadvantages of this option:

- the LPA will not have the necessary expertise (nor duty) in flood risk management
- if the SAB sits in a local authority Defra will be liable to provide funding for setting up the SAB (New Burden funding). These costs will be more to the public purse if it is the LPA as there are more LPAs than UC or CCs and likewise it would cost more to initially train the SAB personnel as there will be more SABs to train
- lack of SuDS specific experience could hamper delivery of SuDS benefits including strategic surface water management

Designating Sewerage Undertakers

Sewerage undertakers have a duty under the Water Industry Act to ensure that the area that they serve is effectually drained**.**

Benefits of this option are:

- sewerage undertakers already have responsibilities for water quality and water resources, which are two of the primary benefits of SuDS
- they are regulated by Ofwat and the Environment Agency
- investing SuDS in a body with oversight of the water cycle, would help to join it together and have benefits in future for strategic water planning
- the surface water drainage charge paid as part of water bills could be used to fund maintenance of SuDS
- government would not need to fund the new burdens cost

Although the sewerage undertaker for an area will undoubtedly have expertise in drainage there have been several concerns raised about the SAB sitting here. As such the disadvantages of this option are:

- they do not currently have the close links to the planning process and close working between the SAB and the LPA is going to be fundamental in making the customer journey the best it can be
- they are private, although regulated, companies with a vested interest in the costs of delivering drainage
- there may be conflict between their duties as a SAB and their duties as an undertaker

Designating internal drainage boards (IDBs)

IDBs are independent, locally funded and operated statutory public bodies. There are currently around 112 IDBs in England and they consist of elected members who represent agricultural rate payers and nominated local authority appointed members who represent the local authority special levy payers.

They are responsible for water level management in areas of special drainage need. Also responsible for reducing flood risk from ordinary watercourses for both rural and urban communities (including protection of businesses and infrastructure) and they have duties in protecting and enhancing valuable wildlife habitats and conservation.

They work in close partnership with the Environment Agency, Natural England, local authorities, and others in carrying out their duties.

Benefits of this option are they already:

- have water management expertise
- scrutinise new development in their drainage districts to ensure developments suitably mitigate their environmental and flood risk impacts on the drainage network
- advise on planning applications

However, they only cover around 10% of England so there would need to be other SABs appointed to close the gaps.

Conclusion and recommendation:

Given the available evidence, and feedback from interested parties, the review recommends that the SAB should sit within the unitary authority or, if there is not one for the area, then it will be the county council.

The LLFAs would be a good candidate because they:

- are responsible for managing local flood risk which includes that from surface water
- undertake a statutory consultee role providing technical advice on surface water drainage to LPAs' major developments
- already have SuDS expertise needed to supply technical advice on surface water drainage to local planning authorities for major developments
- have close links to the planning process and close working between the SAB and the LPA is going to be fundamental in making the customer journey the best it can be

- in relation to securing agreements to support maintenance arrangements, including any commuted sum or maintenance funding can use existing powers available to local authorities under local government legislation
- there are significantly less LLFAs compared to LPAs and therefore set up costs would be less and working with training less bodies will make implementation easier
- sit in the same tier of authorities as local highways and there is a clear strong case that integration with planning and the local highways department to achieve the multi benefits of using the SuDS approach to drainage

The disadvantages of this option are:

- although there is compelling evidence LLFAs have strong expertise on water quantity, but more focus and support are required in some LLFAs to ensure expertise is good on biodiversity, water quality and amenity

Costs and funding

Implementing Schedule 3 has financial implications, in particular for businesses and the SAB. A regulatory impact assessment will be completed and consulted on before implementation of any policy, while we recognise the assessment may uncover further costs and benefits, the three main costs and funding of those the review has focused on are:

- the costs to set up the SAB
- the running costs of the SAB
- the operation and maintenance costs of SuDS

Costs to set up the SAB

The findings of the review most favour the option that the SAB sits best in the local authority therefore the set-up costs in this section have assumed the LLFA will be the SAB.

Schedule 3 implementation would lead to local authorities having new duties. The net additional cost of all new burdens placed on local authorities by central government must be assessed and funded. The government department leading on the policy giving rise to the new burden is responsible for ensuring that this is done. These costs will fall under the New Burdens Doctrine[11] and a new burdens funding assessment will be needed.

SAB running costs (fees from applications and approval)

As part of the application process, the developer will pay an application and inspection fee, which will provide a means of funding the SAB's operational costs. This is expected to result in a net-zero cost for the local authority.

The Welsh Local Government Association published a report 'Measuring the effects of the Sustainable Drainage legislation on SABs' in May 2021, which found funding issues and gave

[11] New burdens doctrine: guidance for government departments

recommendations.[12] The review reported SABs are running at a loss. It did, however, recognise that this could improve over time as developers and SABs become more competent in the processes. The main reasons for this deficit lay in a lack of consideration of the need to improve skills and capabilities. We will learn from the Welsh implementation and mitigate these findings during our policy development and by ensuring availability of new and ongoing training to ensure competence of practitioners.

Feedback from workshop attendees highlighted the importance of considering:

- fees set must ensure the SAB running costs are adequately covered
- pre-application advice should be charged for to help meet the shortfall of costs found in the Welsh review of the SAB
- make charges fair to both developers and local authorities

Operation and maintenance cost of SuDS adopted by the SAB

Where the SAB has a duty to adopt SuDS, it is responsible for ensuring the adopted drainage system is maintained by following statutory SuDS standards.[13]

Securing a sustainable funding mechanism for the lifetime of the development will be a key aim of the SAB. They have a responsibility for the management and maintenance of SuDS assets. The effectiveness of SuDS and the associated multiple benefits will rely on proper maintenance.

Throughout the review there have been various views on where this funding should come from with the following suggestions:

- developers to provide means of funding, it could be a commuted sum,[14] (use of commuted sums as a contribution towards the future maintenance of an asset to be adopted by local authorities is well established in England)
- there is a charge for surface water drainage as part of water bills. This amount for each house on a new development that drains rainwater to a SuDS could be transferred by the water company to the SAB or
- the household could get rebate on their water bill and instead pay a service charge of the same amount of the rebate to the SAB

In Wales, the developer, in partnership with the SAB, is expected to develop and produce a maintenance plan and the means of funding for the scheme for its design life. This is achieved through commuted sums paid by the developer to the SAB.

The Welsh SAB review raised concerns over the commuted sums approach. Most SABs in Wales wanted to see an alternative approach to post-adoption maintenance funding.

[12] Measuring the effects of the Sustainable Drainage legislation on SABs in Wales
[13] See paragraph 22 of Schedule 3 to the 2010 Act
[14] A one-off payment of a capital sum made as a contribution towards the future maintenance of an asset to be adopted. Commuted sums generally relate to payments made by developers through bespoke legal agreements

Throughout this review the feedback about using commuted sums as maintenance costs for SuDS has varied. Some local authorities have said that when managed effectively and efficiently the commuted sums approach has worked well. Other local authorities have concerns similar to those identified in the Welsh SAB review. If commuted sums are agreed as the way forward in England, it will be essential to develop standard commuted sums guidance for funding SuDS.

A regulatory impact assessment will be completed during policy implementation and provide the costs and benefits in full to help inform the best decision on funding including of the operation and maintenance costs.

Skills and capabilities

Successful implementation of Schedule 3 will require professionals with the skills, knowledge, and capability to design, construct, assess and maintain SuDS. To do this effectively, the approving body must be able to access ability in flood risk management, water resources, water quality, biodiversity, and amenity, among other aspects such as integrated water management. Likewise, industry will require a sufficient pool of professionals to ensure consistent, high-quality design and implementation.

Summary of findings

National planning policy requires SuDS to be considered in all major developments and in all developments in flood risk areas. As such some expertise already exists both in the construction industry and within local authorities, although this has not been quantified.

We have been informed that in in some areas, vacancies in the SuDS professions have not been filled and remain advertised for some time. This indicates there may be a skills and capabilities gap in the SuDS industry with not enough people entering the professions.

Preparing the country for the shift to a green economy is a government priority, and cross-departmental work is already taking place to train, reskill and redeploy workers for green jobs. There is also the potential to build on existing skills and capabilities in both industry and local authorities through arrangements for sharing good practice and innovation and updated industry guidance.

The Green Jobs Delivery Group is the central forum through which government, industry, and other key stakeholders' work together to ensure that the UK has the workforce needed to deliver a green industrial revolution. The Group will drive forward industry and government action to ensure we have the skilled workforce to deliver net zero and the government's wider environmental goals.

We will work with relevant employers, professional bodies, and other sector leaders to build the evidence of skills and capabilities need and work with the Green Jobs Delivery Group and others to develop actions to ensure that employers have access to the right skills and capabilities to deliver and maintain SuDS.

Guidance and mandatory standards

Commencing Schedule 3 requires a public consultation on and publishing of national standards for sustainable drainage.

The SAB will have a duty to approve SuDS which follow the national statutory standards. They will require good guidance to which they must have regard in relation to their approving and adoption functions.

The review has baselined the information, guidance and standards that already exist in relation to SuDS and that implementation may affect.

Our findings

The SuDS manual has guidance based on evidence for professionals working with drainage.[15] The manual was co-funded by many of the organisations involved in the industry and published by the Construction Industry Research and Information Association (CIRIA).

Non-statutory technical standards were produced by Defra for England in 2015.[16] There is an expectation for SuDS to be designed and constructed following these standards that are also consistent with the SuDS Manual. These standards were reviewed for Defra in 2021 by HR Wallingford to provide guidance for delivery of high-quality SuDS in future.[17] The work undertaken will be the basis of the statutory standards Schedule 3 implementation requires.

There are other types of guidance, regulations and policy relating to SuDS that could require updating to align with Schedule 3 guidance and mandatory standards. These include:

- part H of the Building Regulations covers the requirements for drainage and waste disposal.[18] Sustainable drainage is the preferred option for dealing with rainwater from the roof of the buildings and paved areas around the building. If a soakaway or other infiltration device is not practical then rainwater should be discharged to a watercourse or, if that is not reasonably practical, a sewer
- there are also separate regulatory regimes which would apply in addition to the need for planning permission and/or SAB approval, such as the Environmental Permitting Regulations[19][20]
- a 'good practice' guidance document was prepared in 2016 by the Local Authority SuDS Officer Organisation (LASOO)[21]
- National Planning Policy Framework (NPPF) chapter 14 sets out major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate.[22] Also, at para 167c it requires SuDS on all development in flood risk areas. The framework was amended in July 2021 to make sure all sources

[15] Suds manual
[16] English non-statutory SuDS technical standards
[17] Defra, UK - Science Search
[18] The Building Regulations 2010
[19] Check if you need permission to do work on a river, flood defence or sea defence
[20] Discharges to surface water and groundwater: environmental permits
[21] Non-Statutory Technical Standards for Sustainable Drainage: Practice Guidance
[22] National Planning Policy Framework

of flood risk need to be considered (including areas that are at risk of surface water flooding due to drainage problems), considering future flood risk, to ensure that any new development is safe for its lifetime without increasing the risk of flooding elsewhere. The NPPF is clear that areas at little to no risk of flooding from any source should always be developed in preference to areas at a higher risk of flooding

- to support the NPPF, the Planning Practice Guidance (PPG) sets out how the government envisages the day to day working of the planning system in England to operate.[23] Guidance on sustainable drainage can be found in the 'Flood risk and coastal change' chapter.[24] The guidance within this on Flood Risk and Coastal Change was updated in August 2022. This provides a significant refresh to the guidance, bringing it up to date and in line with the latest policy position on flood risk introduced in the updates to the National Planning Policy Framework in 2018 and 2021. Amongst other key updates there is now much greater detail regarding surface water flood risk and SuDS. The updated guidance strongly encourages the use of SuDS and advocates their benefits including for water quantity, water quality, biodiversity, and amenity. In addition, it makes clear that SuDS should be considered in the preliminary stages of development design to ensure the best outcomes
- The Green Infrastructure Framework, a commitment in the government's 25 Year Environment Plan, supports the greening of our towns and cities and connections with the surrounding landscape.[25] The framework helps planning authorities and developers meet requirements in the PPG to consider green infrastructure, including sustainable drainage, in local plans and in new development
- The design manual for roads and bridges (DMRB) published by National Highways provides Information on the design, construction, and maintenance of national highways for construction professionals.[26] This includes guidance on drainage[27]
- The Manual for Streets explains how to design, construct, adopt and maintain new and existing residential streets.[28] It includes technical guidance and does not set out any new policy or legal requirements and includes guidance on drainage
- The Drainage Technical Strategy captures the long-term journey for Network Rail's drainage asset management maturity and is intended to be used in conjunction with and inform regional strategies, as well as other asset technical strategies and the Environmental Sustainability Strategy[29]
- The Institute of Chartered Engineers guidance – SuDS Route Map.[30] This guide was produced by the ICE SuDS Task Group which was sponsored by ACO Technologies plc. Starting in September 2016 the group brought together experts from a wide range of professional and organisational backgrounds including design, planning, policy, and retrofitting, for the defined project of producing a resource that would assist SuDS practitioners, specifically to help get more SuDS more widely adopted
- CIRIA has produced a number of other guidance documents covering a range of opportunities and challenges related to general water management, all the way

[23] Planning practice guidance
[24] Flood risk and coastal change
[25] Green Infrastructure Framework
[26] Standards For Highways | Design Manual for Roads and Bridges (DMRB)
[27] DMRB Drainage
[28] Designing and modifying residential streets
[29] National Rail Drainage Technical Strategy
[30] ICE-ACO-SuDS-Route-Map-Booklet

through to specific SuDS components. The more notable publications are CIRIA C753 and CIRIA C713 Retrofitting for surface water management[31]

As part of implementation much of the existing guidance would need to be reviewed and updated.

Approval and adoption including exemptions

Approval by the SAB is required before commencement of any construction work which has drainage implications.

Regulations can be made to define what is to be treated as construction work, or as having drainage implications, and therefore what requires approval. The approving body has a duty to adopt any new drainage system which meets these conditions:

- condition 1 is satisfied where the drainage system has been constructed in line with an approved drainage plan which conforms to the national standards
- condition 2 is satisfied where the approving body is satisfied that the drainage system has been built and functions in accordance with the approved plan (and complies with any conditions or approval) or alternatively where the approving body can, or has, issued a certificate that the non-performance bond will be used to complete the drainage system, for the reasons described under non-performance bonds. The approving body must also have regard to any guidance issued by the Minister on this condition
- condition 3 is satisfied if the system is a “sustainable drainage system”, as defined by regulations made by the Minister

There are some exemptions in the schedule for single property systems and roads. Additional exceptions to adopt a drainage system can be regulated.

The review sought ideas on whether we should use the powers within the act to regulate any further exemptions.

In Wales the following is exempt from SAB approval:

- permitted development covering an area of land under 100 square metres[32]
- developments or any type of construction work with drainage implications where the area of land covered is less than 100 square metres, or in the case of any other type of construction work, the area of land covered is less than 100 square metres[33]
- development requiring consent as a Nationally Significant Infrastructure Project[34]
- construction work carried out by an internal drainage board in exercise of its functions under the Land Drainage Act 1991[35]

[31] CIRIA guidance
[32] See Article 4 of the Sustainable Drainage (Approval and Adoption) (Wales) Order 2018.
[33] See Article 6 of the Sustainable Drainage (Approval and Adoption) (Wales) Order 2018.
[34] See paragraph 7(3) of Schedule 3 to the 2010 Act, this will exempt developments requiring development consent under Section 31 of the Planning Act 2008.
[35] See paragraph 7 (4)(b) of Schedule 3 to the 2010 Act. See Article 3 of the Sustainable Drainage (Approval and Adoption) (Wales) Order 2018.

- construction work carried out for the purpose of, or in connection with, the construction of
    1. a road[36] for which the Welsh Ministers[37] are the highway authority, or
    2. a railway[38] by Network Rail

Although exempt from Schedule 3, these types of construction may be required to adhere to other policy or legislation.

This review sought views on if we should do the same in England. Initially most of the feedback did not support this because if we are to effectively manage and control surface water run-off then there should be no such exemptions.

However, we discussed several options at both the advisory group and steering group, reaching the following conclusions for the purpose of this review:

- in England we exempt permitted development where the construction work involves the construction of a building or other structure covering an area less than 100 square metres and construction work carried out by an internal drainage board in exercise of its functions under the Land Drainage Act 1991
- this will ensure that the requirement for SAB approval is applied proportionately, without overburdening either the SAB or the developer. We are aware of the potential for there to be a cumulative impact for small scale extensions and paving, and this concern underpins the conditions attached to Permitted Development Rights which apply to these. We believe a cut-off for developments 100 square metres, or more is therefore appropriate
- also, it seems logical to exempt construction work carried out by an IDB as they are tasked with undertaking work to secure clean water drainage and water level management. With their skills and expertise, they are suited to self-approve and maintain their assets
- implementation of SuDS in railway and national highway environments is likely to face additional challenges which will require consideration by specialist engineers. We will engage with National Highways and Network Rail in the implementation phase when they will have the opportunity to feed into the decisions about scope and exemptions, including whether Network Rail and National Highways (or elements of them) will be excluded

Crown land[39] does not require planning permission. We were asked during our engagement to consider exempting them from the requirements of Schedule 3. However, the Flood and Water Management Act 2010 does not apply to Crown land[40].

[36] the Welsh Ministers are the highway authority for all trunk roads (motorways and some A roads) in Wales, whereas the 22 Welsh Local Authorities are the highway authorities for all other roads
[37] Welsh Ministers refers to those Ministers appointed under sections 46, 48 and 50 of the Government of Wales Act 2006, and who form the Welsh Government based in Cardiff
[38] Railway: refers to definition laid out in section 67(1) of the Transport and Works Act 1992(6). On this basis the exemption only applies to the rails and not associated infrastructure such as railway stations and platforms
[39] Crown land
[40] Flood and Water Management Act 2010 - Crown land

Transition arrangements - We recognise that at the time of commencing Schedule 3 to the 2010 Act some developments will be at an advanced stage of planning. When they commenced Schedule 3 in Wales, transitional arrangements were in place. During the review we explained we plan to do similar in England and there were no objections raised. The aim of the transitional arrangements is to avoid incurring additional work and costs for developments which are already in progress.

Chapter 4: Review Recommendations

It is recommended that:

Schedule 3 to The Flood and Water Management Act 2010 is commenced in England subject to final decisions on scope, threshold and process once a full regulatory impact assessment has been consulted on. The assessment will summarise the options considered and the expected costs and benefits.

The SAB will sit within the unitary authority or, if there is not one for the area, then it will sit within the county council.

Regulations define that permitted development under 100 square metres, single buildings under 100 square metres and construction work carried out by an internal drainage board in exercise of its functions under the Land Drainage Act 1991 as not requiring approval.

An analysis of the costs and benefits in full to inform the best decision on funding including the running costs of the SAB and the SuDS operation and maintenance costs.

The net additional cost of all new burdens placed on local authorities is assessed and funded.

Chapter 5: Recommended Next Steps

Throughout the review, external partners raised a range of actions that will be key to implementing the schedule in a way that realises potential benefits and consider the views of all who will be affected by implementation:

Policy requirements

- evaluate and better understand the desire of implementing schedule 3 and section 42 in parallel
- make regulations on fees for applications for drainage approval
- precisely define what is to be treated as construction work, or as having drainage implications, and therefore what requires approval
- make regulations about the timing and procedure for determination of applications for approval and the consequences of the failure to follow these regulations
- make provision about enforcement of the requirement for approval under this schedule
- define when a drainage system or part of a drainage system provides drainage for a single property
- provide for added exemptions to the duty to adopt a drainage system for exemptions to be agreed during policy development and consulted on, the review did not conclude exactly which exemptions will be taken forward as further work with relevant parties is required
- make regulations about timing of, and manner of compliance with, the adoption obligations to be agreed during policy development as the review did not conclude this as further work with relevant parties is required
- make regulations about the timing and way notification, registration and designation are carried out
- carry out a public consultation on the statutory instruments, impact assessment and standards required for implementing Schedule 3

National standards and guidance requirements

- establish, consult on, and publish national standards about how sustainable drainage systems should be designed, constructed, maintained, and operated
- issue guidance, to which approving bodies must comply with, on the process of seeking and obtaining approval including how this will interact with planning processes
- SuDS guidance across government and externally needs to align to support a consistent approach to delivery

Cost and funding

- better understand the cost implications for consultees and on businesses, including development viability and for different types and sizes of developments

Future working with partners

- continue cross-government engagement to ensure a joined-up approach and alignment of activities of other departments such as review of national planning policy and building regulations and other regulatory regimes such as the Environmental Permitting Regulations (2016)
- engage with statutory consultees to better understand the implications of implementing schedule 3, including costs and resourcing for them to carry out their duties
- extend the membership of any advisory group or panel to include representatives from Network Rail and National Highways
- learn more from the Welsh experiences of implementation of this schedule, considering the findings of their review of implementation, when published, and the review of the Welsh SAB functions

Skills and capabilities

- commission research to review the extent of existing SuDS expertise and capacity in unitary authorities and county councils, including where the gaps are, what more is needed, and what would be needed to bridge the gap
- take a joined-up approach with industry and professional bodies to utilise existing green jobs initiatives, including the Green Jobs Delivery Group. Any research of existing SuDS expertise should also aim to get a clear picture of the extent and availability of SuDS training resources

Annex A: Bibliography

- A review of the application and effectiveness of planning policy for sustainable drainage systems
- *Review of SuDS Report*
- New Planning Guidance: Sustainable Urban Drainage (SuDS)
- 03 - MWH UK Report.dot (susdrain.org)
- CIRIA
- The Chartered Institution of Water and Environmental Management - CIWEM (Chartered Institution of Water and Environmental Management)
- Association of SuDS Authorities - Promoting Sustainable Drainage (suds-authority.org.uk)
- Sustainable drainage systems | Local Government Association
- what-are-suds-sustainable-drainage-systems-guide
- Homepage | UK SuDS
- The Suds Man Illman Young Landscape Design (illman-young.com)
- Sustainable drainage systems (SuDS): guidance | GOV.WALES
- explanatory-memorandum-and-regulatory-impact-assessment.pdf (gov.wales)
- Sustainable drainage systems (SuDS): frequently asked questions | GOV.WALES
- statutory-national-standards-for-sustainable-drainage-systems.pdf (gov.wales)
- Flood and Water Management Act 2010 - Explanatory notes
- Flood and Water Management Act 2010 legislation
- implementation-of-the-sustainable-drainage-provisions-in-schedule-3-to-the-flood-and-water-management-act-2010
- Cost estimation for SUDS
- SuDS Wales – Sustainable Drainage Systems
- Surface water and drainage: review of responsibilities
- Surface water management action plan
- Surface water management: a government update
- Non-Statutory Technical Standards for Sustainable Drainage: Practice Guidance
- Recommendations to update the English Non-Statutory Technical Standards for SuDS
- The Building Regulations 2010
- Enfield-Spot-sampling-Final-Report
- Case studies (susdrain.org)
- Independent Assessment of UK Climate Risk - Climate Change Committee (theccc.org.uk)
- Overview of the UK population - Office for National Statistics (ons.gov.uk)

Annex B: Organisations involved in the review

- ABG Ltd
- ACO Water Management
- Anglian Water
- Ardent Consulting Engineers
- ARUP
- Association of Drainage Authorities
- Association of SuDS Authorities
- BCP (Border Control Posts) Council
- Cambridgeshire Council
- Cardiff Council, Northumberland Council
- Construction Industry Research and Information Association
- Countryside Properties
- Cumbria Council
- Department for Business, Energy & Industrial Strategy
- Department for Levelling up, Housing and Communities
- Department for Transport
- Dorset Council
- DSA
- Durham County Council
- Dŵr Cymru Welsh Water
- Environment Agency
- EPG Ltd, Sheffield Council, Barnet Council
- ESP Utilities Ltd, North Somerset Council
- Exeter University
- Flood Re
- GeoSmart Information
- Greater London Authority
- Greater Manchester Combined Authority
- Green Blue Urban
- Harrow Council
- Hillingdon Council
- HM Treasury
- Home Builders Federation
- Homes England
- HR Wallingford
- Hydro International
- Illman Young Landscape Design
- Innovyze and Convener
- Kent County Council
- Leicester City Council
- Metis Consultants
- National Infrastructure Commission

- Natural England
- Ofwat
- Persimmon Homes
- Polypipe
- Severn Trent Water
- Stantec
- Stonebond
- Stormwater Shepherds
- Suffolk County Council
- Surrey County Council
- SusDrain
- Taylor Wimpey
- Thames Water
- The Association of Directors of Environment, Economy, Planning and Transport
- The Chartered Institution of Water and Environmental Management
- The River Trust
- Town & Country Planning Association,
- Urban Water Group
- Wakefield District Council
- WaterUK
- Welsh Government
- Welsh Local Government Association
- Wessex Water
- Wildfowl and Wetlands Trust
- Woking Borough Council
- Yorkshire Water