Surface water management

The prevention of surface water pollution from construction sites is one of the biggest issues facing construction companies.

Effective surface water drainage systems help companies to better manage projects while protecting the environment, and avoiding reputational damage and fines of up to £40,000.

This guidance note covers:

- The causes of water pollution
- Water licensing - Controlled Activities
- How to prevent water pollution
- Managing water on sites
- Storing and handling materials safely to avoid pollution

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Causes of pollution on site

Water pollution can come from a number of different sources including:

- Spills or leaks of fuels, oils or chemicals
- Run-off containing salt, silt or soil
- Run-off that contains cement, concrete or grout

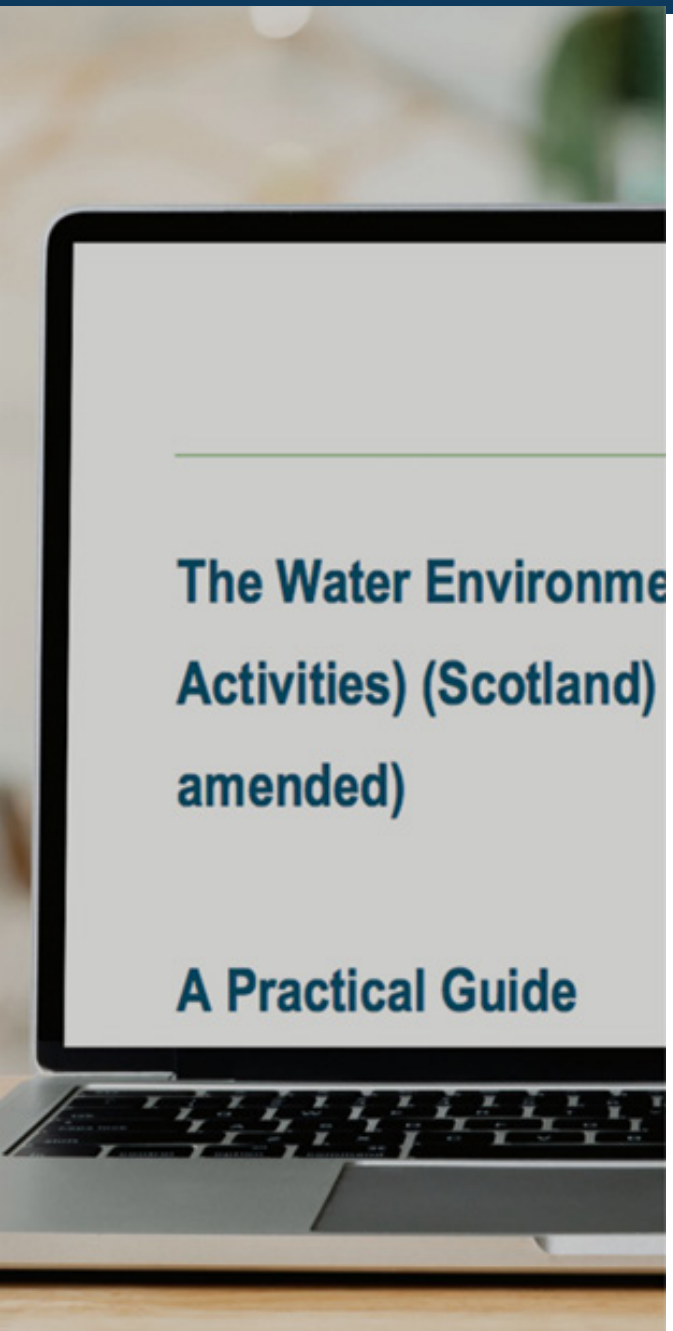
Water authorisations - Controlled Activities

Surface water and groundwater are protected by permitting regimes that prevent and control pollution from all activities. If you intend to carry out any activity which may affect Scotland's water environment you may require authorisation from the Scottish Environment Protection Agency (SEPA), under the Controlled Activities Regulations, also known as CAR.

Activities that require authorisation include:

- Discharges into surface waters or groundwater, this includes the discharge of surface water run-off
- Abstraction of water
- Impoundment of water (store or dam water)
- Engineering or building works in, or near to inland watercourses

If your activities have the potential to cause pollution, you must notify SEPA and take steps to prevent pollution occurring. Where pollution has already occurred you must take action to remedy this. See the further information and links section on the back page for more information on actions to take.



Levels of authorisation

In Scotland there are two levels of authorisation that apply to the discharge of water run-off from construction sites to the water environment:

Permit

A permit will be required for construction sites that discharge water run-off to the environment, and:

- Cover an area greater than 4 hectares; or
- Contain a road (or track) greater than 5 kilometres in length; or
- Include any land with an area greater than 1 hectare that has a slope of more than 25 degrees; or
- Include any road (or track) with a length greater than 500 metres that has a slope of more than 25 degrees

You must apply for, and be granted a permit before the activity can take place.

Note: It can take up to 4 months for SEPA to issue a permit. Visit the SEPA website for more information.

General Binding Rule (GBR)

Construction sites that discharge water run-off to the water environment and are below the licence level thresholds are authorised under GBR10.

You do not need to apply to, or notify SEPA provided your construction site meets the requirements of GBR10.

Phased works may also be authorised under GBR10, provided that:

The phases remain below the threshold for a licence.

All construction work is complete before the start of the next phase.

No water run-off from a live phase drains to (or through) a completed phase.

The final SuDS is fully operational for the complete phase.

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How to prevent water pollution

Pre-planning

Before work begins on a construction site, ensure all necessary authorisations are obtained from the environmental regulator or other relevant bodies such as the local council, Scottish Water, or NatureScot.

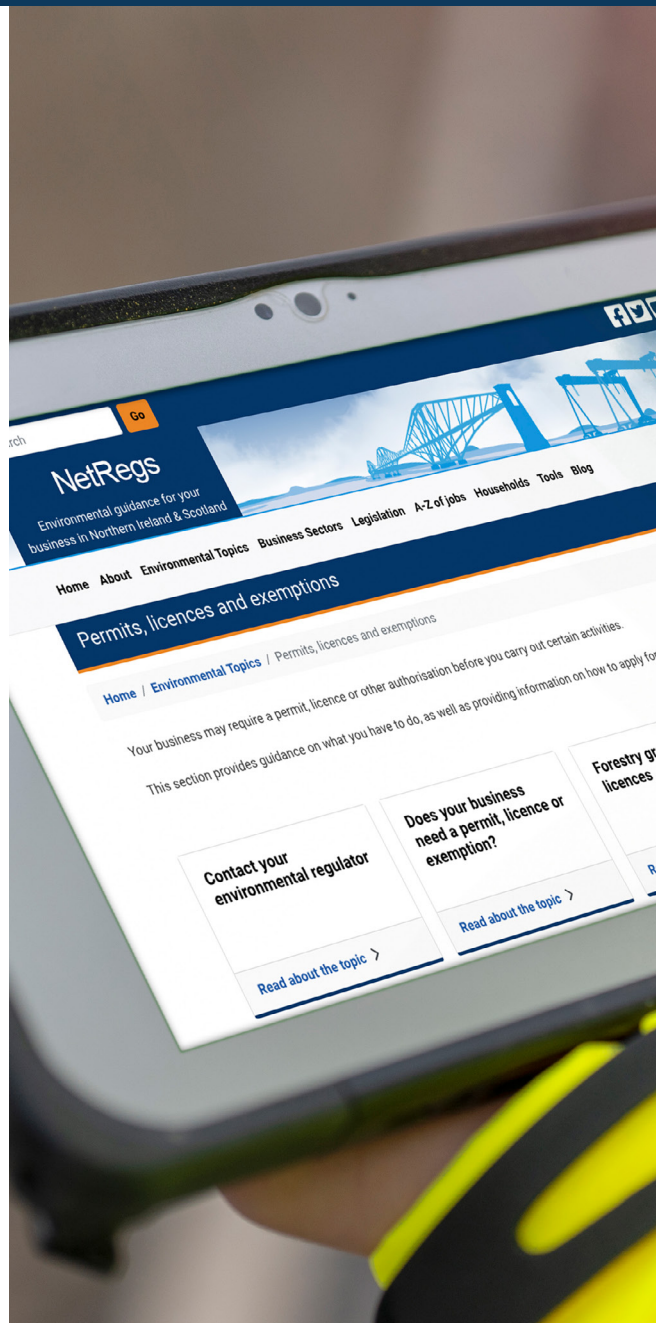
Implementing site-specific plans and procedures is considered best practice for effective construction run-off management and preventing water pollution. The planning authority should be consulted during the development of these plans.

SEPA guidance on water run-off from construction sites

Scan or click on the QR code to view the SEPA guidance on the application of environmental standards and good management practice techniques in relation to large scale construction sites and pollution control.

Existing drains should be identified, and drainage plans made available. Site layout should consider the placement of key elements such as stockpiles, fuel, and oil storage.

When planning the site and phases of work, allocate adequate land in a suitable location for managing and treating surface water run-off. Large projects may require full, temporary surface water management systems.



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Managing water on site

Construction site drainage systems

Appropriate construction site drainage systems will effectively manage surface water run-off, controlling and removing sediments like silt and other pollutants.

An effective drainage system combines measures such as cut-off ditches and temporary Sustainable Drainage Systems (SuDS) or similar solutions. These include appropriately sized treatment facilities like settlement lagoons, tanks, or detention basins to ensure sediments are removed. Permanent SuDS should generally not be used for construction drainage.

Settlement to effectively remove sediments and solids

In order for a settlement lagoon or tank to work, the flow of water through must slow down sufficiently for suspended solids to settle out.

The settlement facility must be sized to match the volume of water and the size of the particles suspended within it. The smaller the particle sizes, the longer they will take to settle out. The greater the volume of water that you anticipate, the larger the capacity of the lagoon/tanks required.

For details on the typical dimensions for settlement lagoons scan (or click) the QR code to view the NetRegs Guidance for Pollution Prevention (GPP) 5: Works or maintenance in or near water.

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Silt management - silt is a major cause of environmental incidents. During construction there is an increased risk of silty water run-off. If you allow water contaminated with silt to enter the water environment or drainage system you may be prosecuted.

To avoid pollution you should:

- Prepare a Pollution Prevention Plan and identify the necessary mitigation measures required to prevent/manage silt pollution
- Divert clean water away from exposed soils and working areas
- Minimise erosion of exposed soils (e.g. strip vegetation in phases)
- Prevent silty water from leaving the site
- Treat silty water appropriately
- Dispose of treated/collected water appropriately

Further information is available in the **silt management fact sheet.**
See the QR code and links on the back page.

Earthworks and storage - earthworks on the site should be managed to minimise dust, erosion and run-off.

Stockpiles should be positioned as far away, from the water environment as possible.

Store and handle materials carefully

All materials must be managed with care to prevent pollution. Some common materials you may encounter on-site include:

Cement, concrete and grout - can be very polluting if they enter the water environment, so must be stored and handled carefully.

Have a separate area for mixing and contain any drainage.

Make sure that stores are secure and positioned away from:

- Sensitive receptors
- Vehicle movements
- Other potential sources of damage

Fuels and oils - must be stored in containers with secondary containment, at least 110 percent of the maximum volume of a single container.

When storing more than one container within the same system, the secondary containment must be able to hold whichever of the following is greater:

- 110 percent of the largest container's storage volume
- 25 percent of the total volume of all of the containers

You must have designated refuelling areas, located away from sensitive receptors, with a hard standing and bunds to prevent leaks or spills escaping.

Further information is available in the **cement, concrete and grout** and **fuels and oils fact sheets**. See the QR code and links on the back page.

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Frequently Asked Questions (FAQs)

How do SEPA enforce environmental regulations?

SEPA enforces environmental regulations in Scotland to protect and improve the environment.

SEPA enforces regulations through:

- Fixed Monetary Penalties (FMPs)
- Variable Monetary Penalties (VMPs)
- Enforcement undertakings

For further information on SEPAs enforcement policies and procedures scan or click the QR code to view SEPAs enforcement guidance.

Other fact sheets within this series:

Scan or click the QR code to view the following guidance notes and associated animations:

- Silt management
- Materials sourcing and management
- Cement, concrete and grout
- Waste duty of care
- Fuels and oils
- Air quality and nuisance
- Decarbonisation on site
- Ecology and biodiversity

Further information

Surface water management guidance on NetRegs

Scan (or click) the QR code to view the surface water management guidance on the NetRegs website.

These guidance notes have been developed by NetRegs in partnership with: