

Fact sheet 1: steel or concrete slurry stores and reception pits

Are you planning to build or substantially alter a slurry store or reception pit?

This fact sheet will help you meet the requirements of the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010. These are commonly referred to as the SSAFO Regulations and apply in England.



For slurry bag installation see fact sheet 4. For earth banked slurry store construction see fact sheet 5.

Slurry must only be stored in a storage system that satisfies the requirements of the SSAFO Regulations.

The Reduction and Prevention of Agricultural Diffuse Pollution Regulations (England) 2018, (known as the Farming Rules for Water (FRfW)), also require that where slurry and other organic manures are stored, they must be stored at least 10 metres away from inland freshwaters or coastal waters, and at least 50 metres away from a spring, well or borehole. You should also consider the risk of agricultural diffuse pollution, such as field drains or connectivity via roads and ditches, when deciding where to store organic manure beyond the distances outlined above.

We have a duty to protect groundwater. We will normally oppose the construction of new slurry storage systems within a drinking water Source Protection Zone 1 unless we agree to site-specific mitigation measures that minimise the risk to drinking water supplies.

We advise that you seek specialist advice on the siting, design, construction and installation of your slurry system. We recommend that you choose a contractor who fully understands the SSAFO Regulations and building standards who will provide you with written confirmation that the design, construction, and installation, will meet the legal requirements.

You may require planning permission. We recommend that you check with your Local Authority. CIRIA Report C759F, [Livestock manure and silage storage infrastructure for agriculture](#) also provides guidance on planning requirements.

You are legally required to notify us of your proposals at least 14 days before work constructing the new or improved store is to begin. We recommend that you notify us earlier than this to help ensure costly mistakes are avoided.

What is slurry?

The SSAFO Regulations define slurry as: “liquid or semi-liquid matter composed of excreta produced by livestock while in a yard or building (including that held in wood chip corrals); or a mixture wholly or mainly consisting of livestock excreta, livestock bedding, rainwater and washings from a building or yard used by livestock, of a consistency that allows it to be pumped or discharged by gravity at any stage in the handling process”.

Other terms have been used to describe slurry of varying strengths or dilutions, such as dirty water and lightly fouled water. These are all forms of slurry.

Wash water and contaminated rainwater runoff can be kept in a separate store from your main slurry store, but you must store and handle it as slurry. They must be included in your slurry storage calculation.

What is other fouled water?

CIRIA Report C759F, livestock manure and silage storage infrastructure for agriculture, describes other fouled water as unclean water arising on a farm that is not directly contaminated by livestock excreta. It applies to drainage from farm buildings and yards not accessible to livestock but used for farm activities and by farm vehicles. Common contaminants include mud, spilt feed, fertiliser, and detergents. It includes roof water contaminated with dust from animal housing. It may not be acceptable to discharge other fouled water to ground, surface waters or to soakaways without interception and treatment. We advise you to discuss your proposals with us, before discharging any fouled water.

What is clean water?

Clean water refers to water draining from roofs or other surfaces that is free of contamination, including dust from animal housing. Clean water kept separately from slurry and other fouled water may be discharged to ground, surface waters or soakaways without interception and treatment.

What are the storage requirements?

The SSAFO Regulations require a minimum of 4 months slurry storage capacity.

Additional rules concerning slurry storage capacity apply to farmers within [Nitrate Vulnerable Zones \(NVZ\)](#) and operators of permitted [intensive livestock](#) farms.

Farmers in NVZs must have a minimum of 6 months storage for pig slurry and poultry manure. The storage period is 1st October to 1st April inclusive. For cattle and other livestock slurry at least 5 months storage is required. The storage period is 1st October to 1st March inclusive

We strongly recommend you have at least 6 months storage capacity for all types of slurry. Installing more slurry storage than minimum required by law may also be necessary for practical management purposes. This will help you to make the best use of nutrients and organic matter within the slurry. It will reduce pollution risk, save money and will help ensure that you comply with the FRfW by allowing you to apply slurries and manures when soil and crops need nutrients and at times when ground and weather conditions are appropriate.

Defra's Slurry Infrastructure Grant supports the construction of new storage or expanding the existing storage on farm to 6 months capacity. Further information is at [About the Slurry Infrastructure grant, who can apply and what it can pay for - GOV.UK \(www.gov.uk\)](http://www.gov.uk/government/news/defra-announces-slurry-infrastructure-grant)

How do I calculate total slurry production?

The slurry store, along with any other slurry storage, must be large enough to accommodate the maximum quantity of slurry likely to be produced and directed to it in any continuous four-month period, including rainfall and all water contaminated with livestock manure.

Your slurry production calculation must include everything that will end up in your slurry store(s). If your system will direct rainwater from uncontaminated parts of the yard to your store(s), you must include this in your calculations.

To meet SSAFO requirements the maximum quantity of rainfall likely to be produced in any four-month period, usually October to January inclusive, needs to be used in the slurry storage calculation. To meet this requirement the Environment Agency expects rainfall figures that predict the wettest year in the last five years to be used (known as M5 120-day rainfall).

We recommend that you use the AHDB Slurry Wizard to carry out the slurry storage calculation, which estimates M5 120-day rainfall, and other periods up to 12-months.

Note: You will be required to use the Slurry Wizard to support your application if you are applying for a grant under the Slurry Infrastructure Grant scheme. See [Slurry wizard | AHDB](http://www.ahdb.co.uk/slurry-wizard)

How do the Regulations affect slurry systems?

The Regulations set design and construction standards for slurry systems that are new, or substantially enlarged or reconstructed since 1991.

- You must notify us, ideally in writing, about any new, substantially enlarged or substantially reconstructed system at least 14 days before any construction begins.
- You must tell us about the type of structure and where it is to be used.
- We are likely to request details of the proposed design and construction.
- Slurry systems must be impermeable, protected against corrosion, and constructed in accordance with British Standard BS5502: Part 50 1993.
- Slurry systems should be designed and constructed so that with proper maintenance they last for at least 20 years.
- No part of the system can be within 10 metres of any inland freshwaters or coastal waters. This includes field drains.
- FRfW also require that organic manures are stored at least 10 metres away from inland freshwaters or coastal waters, and at least 50 metres away from a spring, well or borehole.
- You should consider the risk of agricultural diffuse pollution when deciding where to store organic manure beyond the distances outlined above.
- All parts of the system must comply with the regulations whenever it is used.

Note: "inland freshwaters" includes any stream, ditch, or land drain, even if it flows for only part of the year.

Requirements that apply to steel or concrete slurry stores

- Steel or concrete stores must be designed and constructed to include a freeboard of at least 300mm.
- Where slurry can flow from the drainage outlet of a slurry store, the outlet must be fitted with two lockable valves in series, unless the outlet drains to a receiving tank that is larger than, or is at the same height, as the outlet tank.
- Each valve must be capable of completely shutting off the total flow of slurry from the store.
- The design and positioning of the valves should account for the possibility of a single piece of debris obstructing both valves.
- The distance between the valves must be at least one metre.
- The valves must be locked shut when not in use. They must only be used under close supervision and never left unattended while open or partly open.
- We will normally oppose the construction of new slurry storage systems within a drinking water Source Protection Zone 1 unless we agree to site-specific mitigation measures that minimise the risk to drinking water supplies.

We suggest you seek confirmation from your contractor that the base of the store has been designed and constructed to suit site conditions.

What is a slurry reception pit?

The SSAFO Regulations define a reception pit as: "A pit used for the collection of slurry before it is transferred into a slurry storage tank or for the collection of slurry discharged from such a tank".

Slurry reception pits are commonly used in conjunction with above-ground slurry tanks.

Requirements that apply to slurry reception pits

Reception pits must be large enough to store a minimum of two days' production of slurry. You must also include an allowance for likely rainfall, which will drain to the pit. It is important to leave a reception pit as empty as possible after normal operation has finished. Do not leave it full or partly full.

Note: You should use rainfall figures that predict the quantity that will occur once in every five years over a two-day period (known as the M5 48-hour rainfall).

The Regulations can allow for smaller reception pits, subject to extra safeguards. This requires our written agreement.

We are prepared to accept a smaller rainfall allowance if suitable additional contingency measures are provided and kept operational whenever the system is used. These include:

- electric (rather than tractor-driven) pumps with an automatic start up
- audible or visible alarm systems to warn of a high slurry level prior to any overflow
- an automatic facility to shut off all flow from the slurry store prior to any overflow from the reception pit
- a reception pit located well away from any watercourses
- the whole area around the reception pit slopes into the pit, and a kerbed area is provided between the reception pit and the nearest watercourse or surface water drain.

Not all of these contingency measures may be necessary. We can advise on a case-by-case basis, irrespective of the size of the pit.

What happens after I submit proposals to the Environment Agency?

We will assess your proposals and the site. In many cases we will visit the site and meet with you or your agent. We will usually make our assessment clear to you in writing.

Note: if you are applying for a Defra grant under the Slurry Infrastructure Grant scheme, launched in 2022, your application will be sufficient to meet the legal requirement to notify us about new, substantially enlarged or reconstructed slurry storage systems. You will have to supply supporting information as part of your grant scheme application to the Rural Payments Agency (RPA) who will share it with the Environment Agency. You should check the grant scheme guidance.

What happens if pollution occurs?

The responsibility for preventing pollution falls to the person with custody or control of the installation. Normally that is you, the farmer.

If pollution occurs, you may be liable. Great care is essential in the construction, operation, and maintenance of the system.

If pollution occurs, you should report it. Call the Environment Agency incident hotline.
Telephone: 0800 80 70 60

Where can I find further help?

You can find further information on GOV.UK at [Storing silage, slurry and agricultural fuel oil - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

There is detailed guidance on the construction of slurry stores and other installations in CIRIA Report C759F, [Livestock manure and silage storage infrastructure for agriculture](#)

To help identify any Source Protection Zones, look at [Groundwater source protection zones \(SPZs\) - GOV.UK \(www.gov.uk\)](http://www.gov.uk).

If you are unsure, please contact your local Environment Agency office via our general enquiries line. Telephone 03708 506 506