FARMING & WATER SCOTLAND

Liquid Anaerobic Digestate Storage

Liquid digestate can be a valuable source of nutrients on the farm but it needs to be handled and managed carefully to ensure no pollution occurs.

NOTE: Where the storage of liquid digestate is controlled by a specific authorisation under waste legislation or the Pollution, Prevention and Control regulations you must follow the conditions within that specific authorisation.

Farms which produce and /or store liquid anaerobic digestate (AD) on farm **must** have adequate storage facilities and management in place (Figure 17.1).

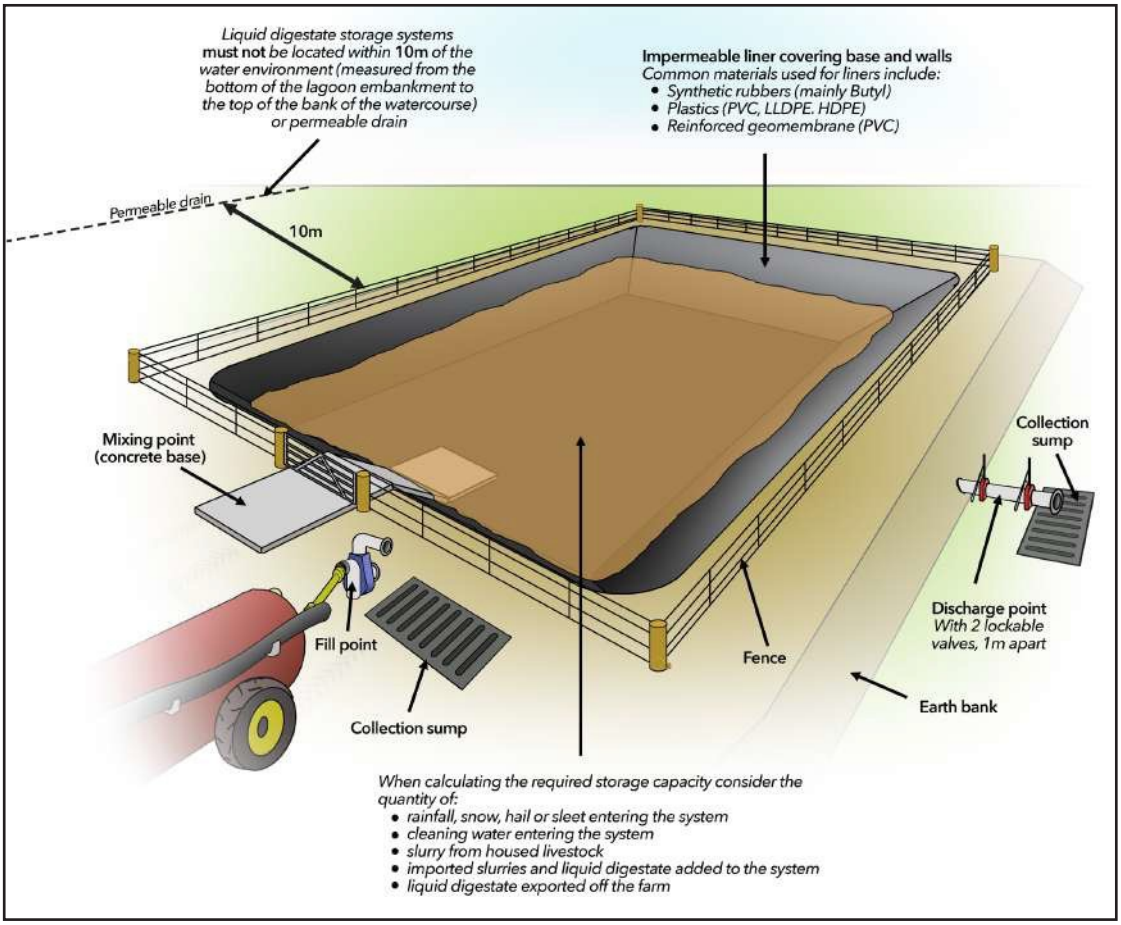


Figure 17.1 Anaerobic digestate storage lagoon.

Liquid Anaerobic Digestate Storage Capacity

The liquid AD storage facilities **must** have sufficient capacity to store the total quantity of liquid AD produced or imported onto the farm during periods when application to land would not comply with regulatory requirements. This involves taking into account crop requirement for nutrients and land conditions as required by the Controlled Activities Regulations and where relevant, the NVZ Action programme – see also the Know the Rules Factsheet 8: Organic Fertiliser Application.

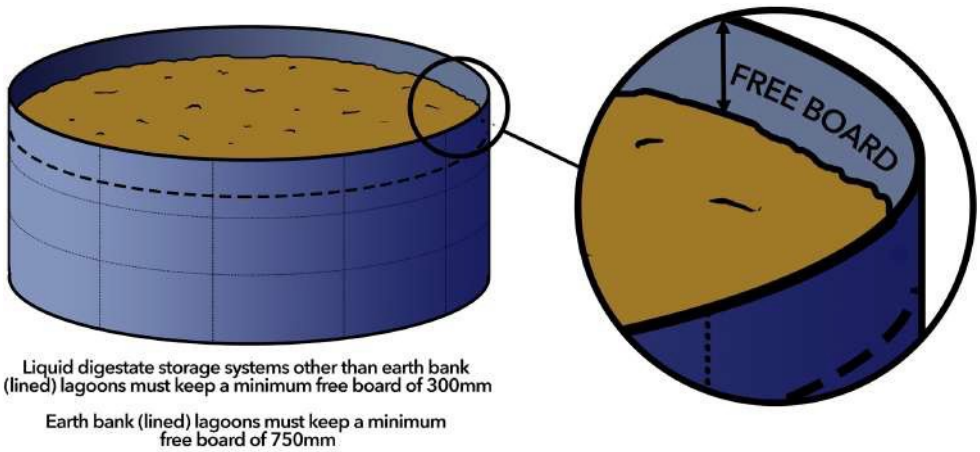
When calculating minimum storage capacity you **must** also include any rainfall entering the system as well as any other farm materials that may enter the system including drainage from middens, dirty yards or silage pits, any dairy or parlour washings and any other imports or exports of liquid AD.

All farms must comply with the minimum storage capacity requirement by 1 January 2024.

Liquid Anaerobic Digestate Storage Systems

All structures and storage systems used to store liquid AD **must;**

- Be maintained to ensure they are kept free from any structural defects.
- Be fit for purpose and meet a minimum level of structural integrity such that;
    - the base and walls of the liquid digestate storage tank and the walls of any feedstock tank, channels and pipes **must** be impermeable.
    - where the liquid AD storage tank is fitted with a drainage pipe, there are 2 valves fitted in series that are be kept locked shut when not in use.
    - earth bank lined lagoons maintain a minimum freeboard of 750 mm and all other liquid AD tanks maintain a minimum freeboard of 300 mm (Figure 17.2).



17.2 AD storage freeboard requirement.

Existing liquid AD storage systems must meet the above and the relevant British Construction Standards by January 2024.

New/Altered Liquid AD Storage Systems

If you are planning to install a new liquid AD storage system or substantially reconstruct or enlarge any existing system **you must:**

- Consult with a suitably qualified engineer and have an engineering plan available for the proposed works.
- Notify and provide SEPA with the engineering plan at least 30 days prior to any work starting.
- Retain the engineers final sign-off certificate for the works for the life of the structure.

Any liquid AD storage system constructed or substantially reconstructed or enlarged after 1 January 2022 must:

- Have a life expectancy of at least 20 years with proper maintenance, and
- Where the walls are made of earth be lined with an impermeable sheet material with a design life of 20 years with proper maintenance.
- Be situated at least 10 metres from any surface water or surface water drain.

Slurry Bags

Where liquid AD is stored in a slurry bag it **must** be constructed of impermeable material of sufficient strength and integrity to ensure it does not burst or leak (Figure 17.3).

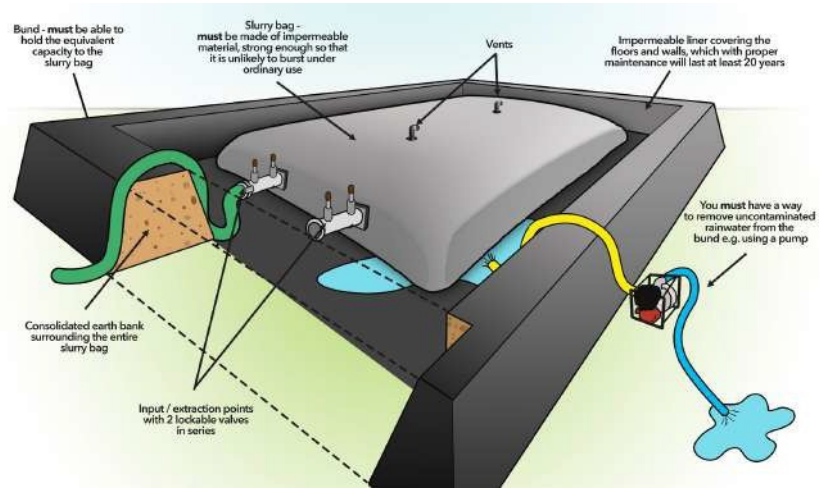


Figure 17.3. Earth banked slurry bag.

The slurry bag **must** be situated within a bund that:

- Has a capacity of at least equivalent to that of the slurry bag.
- Is lined with an impermeable sheet material with a life expectancy of 20 years with maintenance.
- Has a mechanism to remove rainwater from the bund.
- Is not penetrated by any valve pipe or other opening other than as necessary to remove rainwater.

Definitions:

Freeboard – The distance from the level of the slurry to the top of the storage structure.

Impermeable Sheet Material – Means:

- Synthetic rubbers, EPDM (ethylene propylene diene monomer rubber) and butyl,
- Plastics, including polyvinyl chloride, low density polyethylene and high-density polyethylene, and
- Reinforced geomembranes

Liquid Digestate – Whole digestate, the liquid fraction, or any run-off from the storage of fibrous residue, resulting from an anaerobic digestion process of a consistency that allows it to be pumped or discharged by gravity at any stage in the handling process.

Liquid Digestate Storage System – A liquid digestate tank, any feedstock tank used in connection with the liquid digestate tank, and any channels and pipes used in connection with the liquid digestate tank or feedstock tank.

Liquid Digestate Tank – Includes a lagoon or tower used for the storage of liquid digestate.

Slurry – Excreta, including any liquid fraction, produced by livestock whilst in a yard or building. This includes any mixtures of excreta with bedding, feed residues, rainwater and washings from dungsteads, middens and any buildings or yards used by livestock.

Surface Water – All standing or flowing water on the surface of the land, transitional water and coastal water.