

AD Plant Mona

Drainage Strategy

Refer to drawings 2341/PH2/6000 and 2341/PH2/6003 showing the drainage for the main area of the site and the storage lagoon.

The site is served by three systems:

- 1 Uncontaminated Surface Water Drainage, collecting:
 - Access road and hardstanding
 - Roof drainage
 - Empty and clean silage clamps
 - Tested and clean containment area runoff
- 2 Leachate Drainage, collecting:
 - Silage clamp runoff
 - Un tested or polluted containment area runoff
 - Reception building floor
 - Dairy products off-loading area
- 3 Foul Drainage, collecting:
 - Domestic effluent from the office welfare facility

There are valves within certain areas of the surface water and leachate systems which allow the operator to control the direction of flow subject to the water quality. The sections below describe the networks in more detail.

Uncontaminated Surface Water

The system discharges into the adjacent watercourse at a controlled rate of 5l/s. Control is achieved by the installation of a vortex flow control device on the outfall. Upstream of the outfall is a lined storage lagoon with capacity to attenuate flows for 1 in 100 Annual Event Probability rainfall. The outfall also contains a penstock which can be closed to retain surface water within the on-site system.

The containment area is drained by a single large gulley which connects to an 8,000 litre holding tank. The valve connecting the containment area to the SW system will normally be closed. Rainwater will either be held in the tank or directed to the leachate holding tank. If confirmed clean the water will be directed to the surface water system. The assessment of the surface water attenuation storage requirement allows for the containment area runoff. This is a conservative approach

The access road drains into a filter strip and yard areas drain via trapped gullies, and all drain through a full retention petrol oil interceptor towards the storage lagoon.

Roof drainage

Leachate Drainage

The leachate drainage is held in an 80,000 litre storage tank, from where it is pumped into the AD process.

Silage Clamps

The silage clamp volume is 8,925m³. They are drained by central trapped gullies, with a cut off drainage channel at the clamp entrance. Normally leachate and rainfall runoff will be directed to the leachate holding tank. Penstocks are provided on each of the connections so that clean runoff can be directed to the surface water system.

A perimeter open channel around the outside of the silage clamp base is connected to the leachate system.

Reception Building

A single trapped gulley to collect wash-down or leachate is connected to the leachate system.

Liquid Discharge Point

The designated tanker connection point drains to a trapped gulley which is connected to the leachate storage tank.

Foul Drainage

Domestic effluent from the welfare facilities will drain to a cess tank which will be regularly emptied by the operator.