

UCLan SHE Procedure

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Procedure Title	Management of Drains and Bunds		
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1 Introduction

In the context of this procedure:

- Drains are defined as conduits taking effluents and other liquids, including rainwater, by gravity from source to the point of discharge. They include trenches, channels, buried pipes, culverts, collection pits, sumps, chambers, gullies, manholes, ditches and land drains.
- Bunds are structures designed to retain potential spillages or leaks from equipment within them in a safe and environmentally acceptable way. The floor of the bund, including any sloped areas which would lead potential spillages away from the equipment within the bund, is considered part of the bund. Bunds are sometimes referred to as 'secondary containment'.

Various environmental related Acts and Regulations are relevant, including the [Environmental Protection Act 1990](#) and the [Contaminated Land \(England\) Regulations 2006](#). [The Control of Pollution \(Oil Storage\) \(England\) Regulations 2001](#) apply to the storage of oil in fixed tanks, drums, mobile bowsters or intermediate bulk containers (IBCs) of more than 200 litres capacity and contain specific requirements covering containment and bunding standards. In the context of these regulations, 'oil' includes petrol, diesel, biofuels, vegetable oils and cutting fluids made from or containing oil as oil-water emulsions.

Environment Agency Pollution Prevention Guidelines: [Above ground oil storage tanks: PPG 2](#)

Environment Agency and Department for Environment, Food & Rural Affairs - [Guidance: Oil storage regulations for businesses.](#)

2 Key Roles and Responsibilities

2.1 Senior Director or Manager

The senior director or manager with overall responsibility for each campus must ensure that:

- Bunds and drainage systems are used within relevant design limits.
- Suitable drawings or surveys are completed and maintained covering all bunds and drainage systems, showing the location of manholes, main and branch drains with sizes, invert levels and materials of construction.

- All repairs and modifications to bunds and drainage systems are recorded and reflected on the relevant drawings, where appropriate.
- When drains are abandoned, a suitable and sufficient assessment is carried out covering decontamination and sealing aspects.

3 Requirements

3.1 Drains

It must be ensured that contaminated and clean water from UCLan premises go into the correct drain, are recycled or, if necessary, removed from site by a registered waste carrier. The following requirements apply to discharges to drains;

- Contaminated water must drain into the foul water drain connected to a foul sewer – however, permission for this is needed from the relevant water company.
- Clean water, i.e. mainly rainwater, must drain into surface water drains or soakaways (special pits that allow clean, non-polluting water to drain into the ground).

Combined drainage systems can handle both types of water, although permission to use these for contaminated water will still be needed from the relevant water company.

Each campus and facility must prepare a plan of the drains in order to ensure they are used correctly and assist with maintenance activities as well as dealing with incidents such as leaks and spills. The plan needs to show.

- The location of drains.
- The types of drains e.g., surface water, foul water or combined.
- The direction of flow.
- Where drains leave the site or facility.
- Where they discharge to, e.g., a watercourse, a clean water soakaway or a sewage treatment facility.

There may be a need to arrange for a full drainage survey to be carried out if there is any uncertainty.

Fats, oil, grease or solid items must not be put down drains. If there are catering facilities on the campus that create contaminated wash-waters with waste oil or grease that could be discharged to sewers or drains, fat and sediment traps need to be installed to prevent blockages. Permission to discharge this waste will also be needed from the relevant water company.

If changes are made to the site, drain plans need to be updated and checks made to make sure the correct connections are made. Drains need to be regularly checked for;

- Blockages or leaks – these need to be cleared or repaired as soon as possible.
- Misconnections, where drains have been connected to the wrong part of the network – all misconnections must be fixed as soon as possible to avoid the potential for significant problems and fines.

If there are different types of drains on site, it is good practice to mark or paint manhole covers according to the following standard code:

- Blue for surface water.
- Red for foul water.
- Red 'C' for a combined system where all water goes to a treatment plant.

The direction of flow should be indicated using with a painted arrow on the manhole cover. A corresponding arrow should also be marked on the ground so that if a manhole cover is removed it can be replaced with the arrow pointing in the right direction.

There may be a need to install an oil separator (interceptor) or other device to remove oil from water draining from hard surfaces, such as roads and car parks. Typically, an oil separator is needed for any site with a risk of oil contamination, such as;

- Car parks larger than 800m² in area or for 50 or of more car parking spaces.
- Smaller car parks discharging to a sensitive environment, such as a marsh that has been designated as a nature reserve.
- Vehicle maintenance areas.
- Refuelling facilities.

The type and class of separator needed will depend on the activity and where the discharge is directed to.

3.2 Bunds

Bunds must be constructed, maintained and operated in a way that provides sufficient integrity of the walls, floors and sumps to ensure adequate containment. Bunds are intended to hold the contents of associated storage tanks and containers in the event of leakage or failure and need to be kept clear of rainwater or spillages as these will reduce the emergency capacity.

For single fixed tanks, mobile bowsers, IBCs and other single containers, the bund needs to have the capacity to hold 110% of the capacity of the container.

For multiple fixed tanks, mobile bowsers, IBCs, drums and other multiple containers, the bund needs to have a capacity of the greater of these measurements.

- One quarter of the combined capacity of all the containers in the bund.
- 110% of the capacity of the largest container in the bund.

If the above requirements cannot be met, the arrangement needs to be subjected to a suitable and sufficient risk assessment to help establish if the situation is acceptable.

Bunds can either be:

- Manufactured as part of a tank system - tanks that are 'pre-bunded' in this way are known as 'integrally bundled' tanks.
- Constructed from masonry or concrete.

In any event, it needs to be ensured that bunds are impermeable to the material being stored as well as water. Additionally, the base or walls of bunds must not have pipes, valves or openings that allow the bund to be drained. There are also specific bund requirements relating to the storage of oil in the oil storage regulations referred to in Section 1. Bunds constructed from masonry and concrete will generally need to be rendered or coated on the internal surfaces of the base and walls to make them impermeable.

Bunds need to be regularly inspected and checked for faults and damage that could affect integrity, the inspection regime lies with Estates Maintenance. Where practicable, inspections could include water tests.

All significant defects need to be repaired as soon as possible. Checks of outside bunds should also be made after periods of heavy rainfall and the contents pumped out if necessary

4 Training and Information

Relevant personnel need to be informed of the arrangements in place covering the use of drains and bunds, with appropriate training provided for those who manage, inspect and maintain them.

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