ENVIRONMENTAL BRIEFING

Bunds and Bunding

Overview

A bund is a secondary containment system which is designed to capture any leaks or spillages from a primary container such as a storage tank or drum. A bund is impermeable and designed to ensure that any liquid escaping from the primary container is retained in the bund and prevented from spilling onto site or escaping to the environment.

It is recommended to have secondary containment for all hazardous liquid storage as their uncontrolled release may cause environmental damage and create a hazardous working environment. If you have a pollution incident you can be prosecuted, face an unlimited fine and be liable for all clean-up costs under the polluter pays principle.

However as with a lot of environmental issues there are also legal requirements for bunding. The Control of Pollution (Oil Storage) Regulations makes it a legal requirement in the UK to have adequate secondary containment on any external oil storage over 200 litres.

Bunds should be of sufficient size to hold 110% of the largest container within the bund or 25% of the total of all the containers stored. Wherever possible pipes and cables should be run over bund walls and not through the bund walls or floor. If penetrations are unavoidable it is essential to ensure they have a watertight seal installed around the pipe/cable, and the sealant material must be resistant to the product stored in the bund.

To prevent rainwater entering a bund and reducing its capacity it is preferable to install a roof above the bund. Where it is not possible to cover a bund it is imperative an appropriate maintenance regime is in place.

Effective bunds will collect and contain anything which falls inside them, not only the liquid they are designed to capture but also unwanted material such as rainwater. If a bund is not maintained properly the unwanted build-up could reduce the capacity of the bund and may cause it to fall below the capacity requirements. Rainwater and other debris should be removed regularly.

When removing substances from a bund it is essential to test for contamination before they are disposed of. If they are contaminated they will need to be disposed of in line with waste regulations Contamination levels can be very low and still require treating as hazardous waste, for example the threshold for oils can be as little as 0.1%.

As well as regular rainwater removal, periodic checks should be undertaken assessing the condition of the bund walls and floor. If any defects are found it is essential they are repaired as soon as possible to prevent the problems from becoming worse, as even hairline cracks will provide a pathway for liquids to escape the bund and any structural issues can significantly weaken the strength of the bund walls. Defective bunding can be as bad, if not worse, than no bunding, as it can mask leaks and gives a false sense of security. Over time chemicals/oil leaching out of bunds can go unnoticed and lead to serious ground and groundwater contamination. If bunds have developed cracks they will need to be repaired to ensure the bund is not only watertight but retains the structural integrity to withstand a catastrophic failure.

Key Points

1. All liquids with potential to cause environmental harm including oils, acids and admixtures should have secondary containment (even milk can cause harm!)
2. Wherever possible bunds should be covered to prevent rainwater ingress
3. Bunds require regular inspection
4. Bunds must be kept clean to ensure that the capacity is not reduced
5. Any leaks, cracks or other damage should be repaired as soon as possible