



CHATOYER ENVIRONMENTAL BUNDING REQUIREMENTS TOOLKIT



Defined as “An embankment or wall which may form part, or all, of the perimeter of a compound”, a bund is specifically designed to contain spillages and leaks and to facilitate clean up.

A bund consists of:

- A bund wall or embankment
- An impervious floor within the area
- Any joints in or between the wall and floor

To determine whether a bund is required, or what type of bund is needed, 2 factors need to be considered:

1. The level of risk at the site:
 - The type of liquid being used
 - The amount of liquid being used
 - The ability of a facility or storage system to prevent spillages or leaks
 - The duration of any temporary storage
 - The sensitivity of the immediate environment
2. the type of facility:
 - Chemical storage
 - Pesticide storage
 - Petroleum storage
 - Electrical transformers
 - Transport facilities where stored liquids are transferred
 - Drum storage areas

Relevant Standards and Acts

Where applicable, the construction of bunds must comply with the following regulations:

- Australian Standard AS1940:2004 - The Storage and Handling of Flammable and Combustible Liquids
- Australian Standards AS 4452B1:1997 – The Storage and Handling of Toxic Substances
- Dangerous Goods Act 1975

Design and construction of bunds

Net Capacity of the Bund AS1940:2004 5.8.2

The capacity of a bund in a tank storage facility must be at least 100% of the capacity of the largest tank. The NSW Fire Brigade recommends the bund accommodate 133% of the largest tank when storing flammable liquids. Additional allowance should be allocated for rainwater and displacement by other tanks within the banded area.

If the liquids are stored in drums or other smaller containers, the banded area must contain at least 25% of the total volume of the stored products.

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Materials Used for Bunding AS1940:2004 5.8.3, AS3780:1994 5.7.3

The bund wall and floor must be constructed from material impervious to the liquid or toxic substances stored.

Strength of Bunding Floors and Walls AS1940:2004 5.8.3

The bund walls and floors must be strong enough to withhold any spillage from the storage facilities.

Bund Heights and Distance from the Bund AS1940:2004 5.9.3

Wall bunds at tank storages should be 0.5m to 1.5m high depending on the required containment capacity and the distance from the tank (the closer the tank to the wall, the higher the wall because of the decreased surface area available). The distance between the tank and the bund wall must be at least 1m.

Drainage AS1940:2004 5.8.6, AS3780:2004 5.7.4

The bund floor must have a collection sump and a graded floor for the collection of liquids. There must be no access to the stormwater system within the bund.

Piping and Pumping Facilities AS1940:2004 6.2.1, AS3780:1994 5.7.3

A bunded area should contain pipes and pumps for the removal of liquids. The pipe and pump facilities must be arranged within the area so that the bund can't leak and that the pumps will still operate when the bund is full.

Roof Design

Where possible, a roof over the bund should be provided to prevent rain water from entering the bund. It is important that the roof will not cause a build up of dangerous or poisonous gases, or restrict fire fighting abilities.

Temporary Storage

To be considered temporary, materials must be stored in the same place for a period less than 24 hours. Good operational procedures can help avoid the use of bunding for areas that hold less than 1,000 litres. These procedures are:

- Ensuring it is possible to recover spilled material
- Storing containers or drums under cover or on an impervious area
- Having an absorbent available

It can be acceptable to store drums temporarily on spill containment pallets. Each pallet should be capable of capturing the contents of at least one drum, must be stored on level ground and covered so the pallet does not fill with rainwater.

Temporary bunding should ensure that only localised contamination occurs in the event of a spill. As a condition of approval, there must be a management plan for the remediation of the site and disposal of waste.

For more information, further suggestions or to organise a site visit, please contact Chatoyer Environmental on 1300 880 623.

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