

Spill Containment And Control



Description

Spill containment within industrial and some commercial sites consists of berming and gates that allow for the control of spilled material. Berming consists of temporary or permanent curbs or dikes that surround a potential spill site preventing spilled material from entering surface waters or storm sewer systems. The berm may be made concrete, earthen material, metal, synthetic liners, or any material that will safely contain the spill. A potential spill site is one that allows the storage or transfer of potential spill material. Spill material is that which is not allowed into surface waters or storm sewer systems according to local, state, or federal regulations. Spill control devices include valves, slide gates, or any other device which can contain material when required and then release the spilled material in a controlled fashion.

General Application

Two methods of berming can be used: 1) containment berming that contains an entire spill and 2) curbing that routes spill material to a collection basin. Containment berming should be of sufficient size to safely contain a spill from the largest storage tank, rail car, tank truck, or other containment device located inside the possible spill area. A small collection basin should be provided for removal of storm water and leaked material.

Curbing is used to route spill material to a large collection basin. The curb should be of sufficient size to safely route a spill from the largest storage tank, rail car, tank truck, or other containment device located inside the possible spill area. A containment device must be provided to safely store the spilled material until removal is possible.

If the capacity of the containment berming or the collection basin are exceeded, a spill control device must be used. The spill control device ideally would convey flow into a portable containment device for removal of the material. However, if material is escaping the berming area through the spill control device, two available means of controlling a spill

are to use sorbents (adsorption and absorption through chemical processes) or gelling agents (physically or chemically gel the spill material; solidification eventually occurs).

Advantages/Disadvantages

General

The spill containment berm is an effective means to prevent spill material from entering surface waters or storm sewer systems. In some cases, the spill material may be collected and recycled. The cost of installation and maintenance will be a function of the type of berm used.

Physical Site Suitability

The spill area must have an impermeable floor (asphalt or concrete) so that contamination of groundwater does not occur. If the existing conditions are insufficient to prevent seepage, an impermeable floor or liner must be installed.

Pollutant Removal

In the event of a spill, a method of removal must be provided, such as application of sorbent materials and the use of a pump or vacuum truck. Any material removed from the spill site must be disposed of according to local, state, and federal standards. Recycling of the spill material may be possible if contact or uptake of foreign material is minimal. Water that collects within the berming due to rainfall or snowmelt must be treated to meet standards before release from the spill area.