
Load Pads & Operational Area Containment for Ag Sites

Purpose	This document is intended as a general aid to agricultural bulk dealers and distributors who must install or upgrade their load pads and operational area containment to meet federal and state requirements.
Disclaimer	The following information is for recommendation only. Check the Code of Federal Regulations Title 40 Subpart E—Standards for Pesticide Containment Structures. This includes 40 CFR 165.80 through 165.97.
State Requirements	<p>Many states have their own applicable requirements for containment pads that exceed federal requirements. For instance, some states require 1000 gallon capacity; others require capacity large enough for the largest container—even if the largest container is a truck.</p> <p>Site owners and operators are responsible for complying with whichever requirements are most strict.</p>
Federal Requirements	<p>The federal Environmental Protection Agency (EPA) regulations require containment pads where bulk transfers of liquid pesticides are performed by August 16, 2009. The EPA Container & Containment rule includes containment, load pads, shut-off valves, inspection documentation, and more. See http://www.epa.gov/pesticides/regulating/containers.htm.</p> <p>The specific regulations are in Code of Federal Regulations Title 40 Subpart E—Standards for Pesticide Containment Structures. This includes 40 CFR 165.80 through 165.97.</p> <p>The American Agronomic Stewardship Alliance (AASA) has developed an overview brochure available at: www.aginspect.org</p>
Plan Approval	ODAFF does not require prior approval for pads.






Specific Requirements

Some specific examples of the federal EPA containment requirements are below. The code is structured into two parts: existing structures and new structures. **There are other requirements**, such as mandatory self inspection and records.

<p>Pad Capacity 40 CFR 165.85(c)(3) & (4) and 165.87(c)(2) and (3)</p>	<p>All old and new containment pads must have a capacity of: (1) 750 gallons; or (2) 100% of the capacity of the largest container or equipment used on the pad (if no container or equipment on the pad exceeds 750 gallons).</p>
<p>Pad Design 40 CFR 165.85(e) and 165.87(e)</p>	<p>New and old containment pads must:</p> <ul style="list-style-type: none"> • be designed to intercept leaks and spills; • have enough surface area to extend under containers on it; • must accommodate at least the portion of the transport vehicles where the hose couples to it for delivering pesticide; • allow for removal/recovery of spilled, leaked or discharged material and rainfall; • have no automatic pumps without overflow cutoffs; • have a surface sloped to a watertight sump or depression (new pads only).
<p>Dike & Pad Materials 40 CFR 165.85(a) and 165.87(a)</p>	<p>Containment structures must be constructed of steel, reinforced concrete or other rigid material capable of withstanding the full hydrostatic head and load placed on the structure and must be compatible with the pesticides stored.</p> <p>The structure must be liquid-tight with cracks, seams and joints sealed.</p> <p>Natural earthen material, unfired clay and asphalt are prohibited.</p>

Examples

Below are included for discussion, and are by no means the only or best designs.

<p>Note the liquid collects in a low area, allowing recovery of spills and rain water. Also, the entire truck can be placed over containment.</p>	
<p>This pad is by a rail spur. Normally, place the pad directly adjacent to the bulk dike.</p>	
<p>This pad slopes toward the dike, and overflow drains into dike; effectively raising the pad capacity to the same as the dike.</p>	
<p>This pad is obviously watertight. Be sure surrounding area does not flow toward the pad; and have a plan for addressing rainwater.</p>	
<p>Note lack of a sump, or slope. Collecting a spill would be difficult.</p>	

Design Considerations

The below self check may be helpful in evaluating existing pads, or plans for new pads.

Item	Action	Check
1	Is the capacity greater than any container placed on it, or at least 750 gallons for containers larger than 750 gallons?	
2	Is it wide and long enough to catch leaks and spills off transport vehicles? (At least the portion near point of connection)	
3	Is it sloped toward a sump or otherwise allow for recovering spills and rainfall?	
4	Is the area around it sloped to prevent rainwater from flowing into the pad?	
5	Is the sump or collection point watertight?	
6	Are all cracks and joints sealed?	
7	Are automatic pumps removed or have overflow cutoffs?	
8	Is it made of rigid material such as concrete or steel? (Earth, clay, and asphalt are prohibited.)	

Design Help

Documents and web sites below are a sampling of sources for design guidance. Some, like the Midwest Plan Service document have fairly detailed examples. However, they are not a substitute for design by a knowledgeable licensed engineer. They are intended to enhance knowledge of basic principles that will allow site owners to better communicate with their chosen vendors. Ultimately, the site owner or operator is responsible for assuring their pad is designed adequately.

“Designing Facilities for Pesticide and Fertilization Containment. MWPS-37”

Midwest Plan Services, Iowa State University
 Ames, IA 50011
 (515) 294-4337 www.mwps.org

This handbook (~\$20) emphasizes planning and designing pesticide and fertilizer containment facilities and provides engineering and planning information.

Chapters discuss load pad and concrete design, as well as regulations; site selection; functional system design; pesticide and fertilizer storage; secondary containment; mixing/loading facilities and equipment; worker safety; concrete; remodeling facilities; emergency planning; and waste disposal. An appendix of regulatory agencies and officials in each state is included. 116 pages. 1st Ed. 1991 ISBN 0-89373-083-1

Environmental Handbook for Fertilizer and Agricultural Dealers (~\$75)

Tennessee Valley Authority (TVA)

National Fertilization and Environmental Research Center; Muscle Shoals, AL 35662
(256) 386-2872

Miscellaneous Web Sites: The sites below vary, but some include rather detailed example specifications. The value is to discuss these issues with the selected vendor. These listings are not an endorsement; but merely a starting point.

<http://pubs.caes.uga.edu/caespubs/pubcd/B1095.htm> University of Georgia Cooperative Extension Service. Includes sample plans.

http://www.hort.wisc.edu/cran/pubs_archive/proceedings/1997/plakam.pdf University of Wisconsin archive aimed at cranberry growers. However, this link is an excerpt from the Midwest Plan Service document described above.