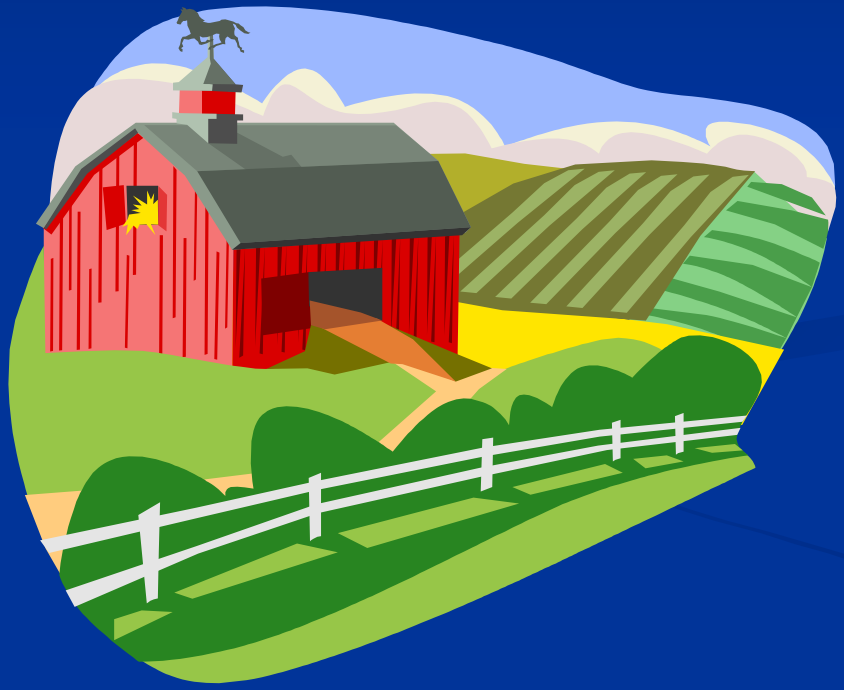
Agrichemical Containment Facility



NRCS Natural Resources Conservation Service

NRCS Standard Practice 702

Michigan Department of AGRICULTURE

ACF Definition

- An impermeable barrier and containment placed or constructed on the ground where agrichemical storage, loading, mixing, and cleanup occur.

ACF Purpose

- To prevent degradation of surface water, groundwater, and soil from an unintentional release of agrichemicals. Unintentional releases of agrichemicals may occur through spills, leaks or rinsing operations during storage, loading, mixing, and cleanup.

Agrichemical Containment Facility

- Mix Load Pads for Pesticides
- Secondary Containment of Bulk Liquid Fertilizers
- Operational Area for Bulk Liquid Fertilizer
- Permanent Pesticide Storage
- Bulk Dry Fertilizer Storage

ACF Location

- Requirements
  - Private Wells - 150’
  - Public Wells – Type I & IIA – 2000’, Type IIb & III – 150’
  - Surface Waters -200’
  - Fuel Tank< 1100 gal 40’
  - Fuel Tank >1100 gal 5’
- Considerations
  - Farm Buildings 50’
  - Residential 200’
  - Public roads 50’
  - Water Lines 25’
  - Property lines 25’
- Other
  - No field tile under ACF
  - Check with local laws

Liners

- A coating or liner will be applied to all concrete surfaces exposed to pesticides
- A coating or liner is **not required on concrete surfaces** exposed only to bulk dry and liquid fertilizers
- A 30 mil liner is required on all earthen dikes
- Follow manufacturers recommendations

Mix Load Pad Criteria

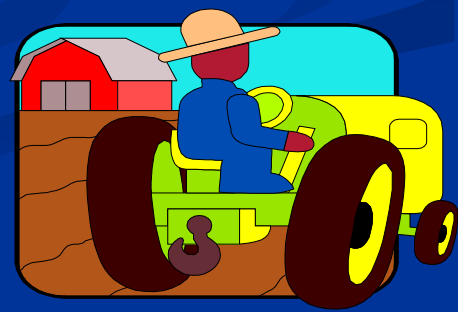
- Usually constructed out of concrete
- Floor must have compatible sealer
- Reinforcement steel required in the floor
- Must be 2’ above the high water table

Mix Load Pad Criteria

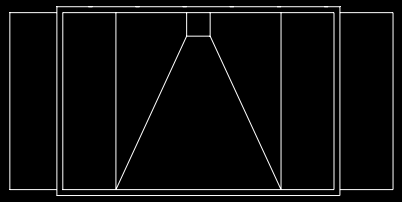
- May be roofed
- Must have a sump point that is accessible from outside the containment
- Must meet setback requirements
- Must have back flow prevention measure

Mix Load Pad Size

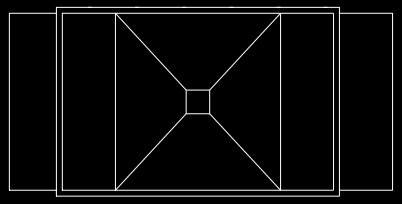
- 750 gallons or largest sprayer volume, whichever is **less**
- Pad must be 2’ wider and 2’ longer than equipment
- No rainfall added to volume



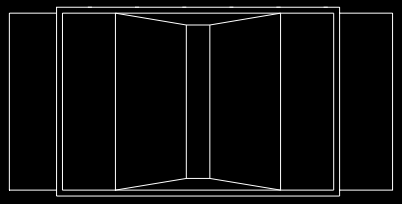
MIX PADS



Side Sump V=1/3 x L x W x D x 7.5 (gal.)



Center Sump V=1/3 x L x W x D x 7.5 (gal.)



Trough Sump V=1/2 x L x W x D x 7.5 (gal.)

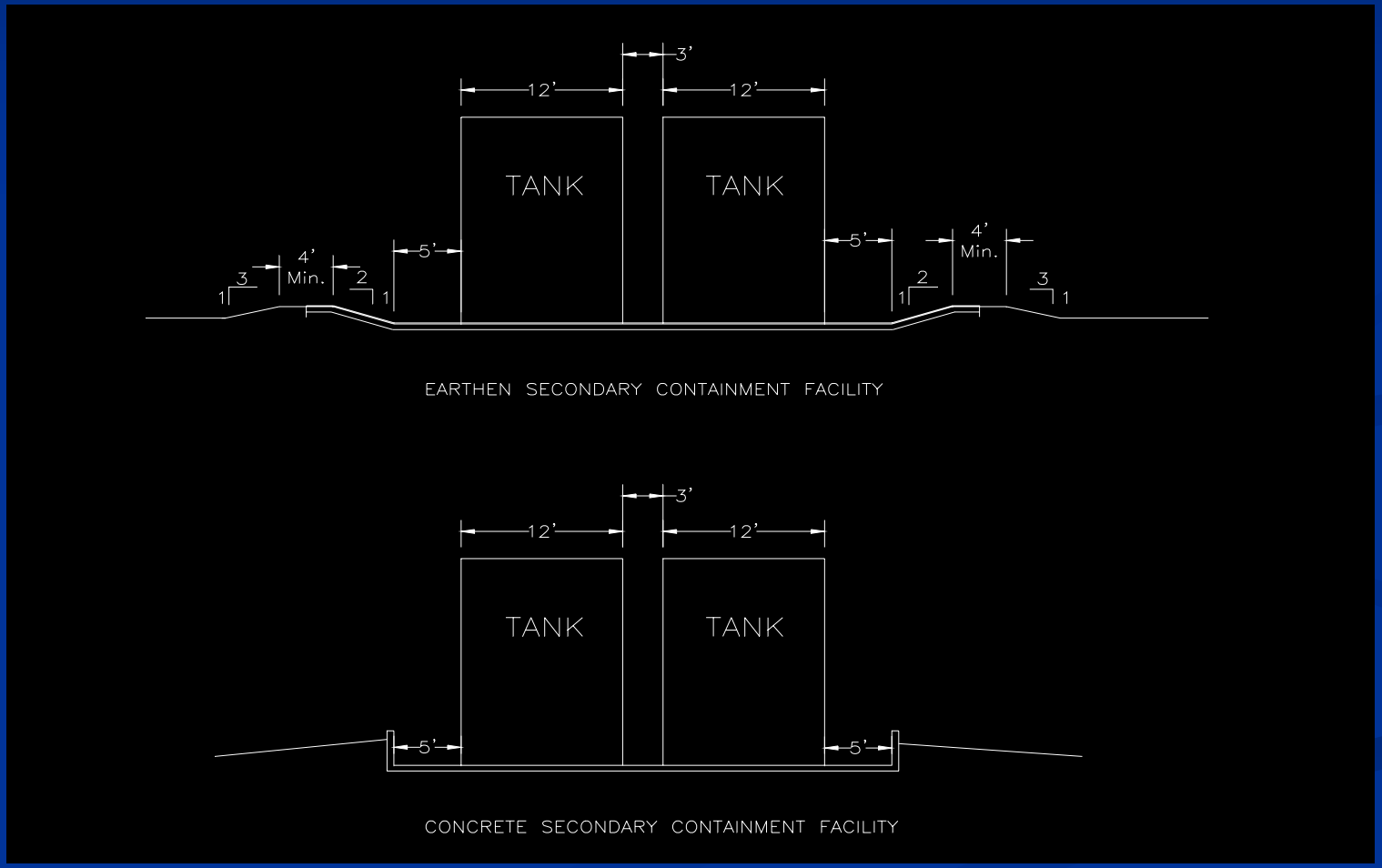
Secondary Containment Criteria

- Provide storage for 110% of the largest tank plus 6” rainfall plus the displacement of all tanks below the height of the wall
- If roofed omit 6” rainfall
- May be constructed out of cast in place concrete, earthen berms, timber walls, or large concrete blocks

Secondary Containment Criteria

- Primary storage containers anchored, elevated or secured to prevent flotation
- Storage containers must be labeled
- Storage building must be secured
- Wall cannot be more than 4 feet in height
- Allow 2 feet minimum distance between tanks for inspection and maintenance

Secondary Containment



Operational Area for Bulk Fertilizers

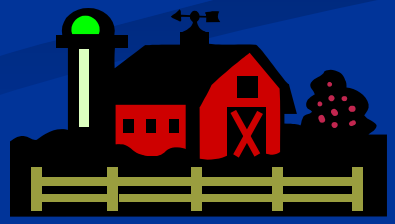
- Operational areas shall be utilized for transferring, unloading, and mixing fertilizers
- Must hold 750 gallons or the largest application equipment tank, whichever is **less**
- Must be a minimum of 10’ x 20’

Operational Area for Bulk Fertilizer

- May be constructed out of concrete
- A portable operational area is acceptable
- A closeable drain may be provided if the operational area will only be used for fertilizers

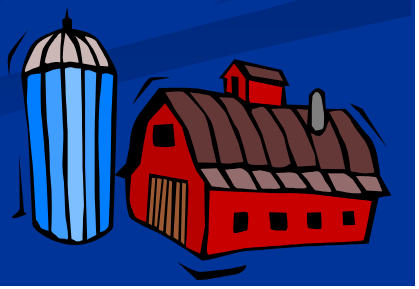
Permanent Pesticide Storage Criteria

- Storage will be provided that will contain 110% of the largest container stored in the area
- The floor shall be graded to a low corner to collect concentrated liquids
- Ventilate all enclosed areas



Bulk Dry Fertilizer Criteria

- No specific size requirement
- Must be covered with a roof or a tarp
  - Note: Roofs are not a cost share item
- Must be stored on a ground cover that is sufficiently impermeable to prevent seepage or runoff



Tank Foundations

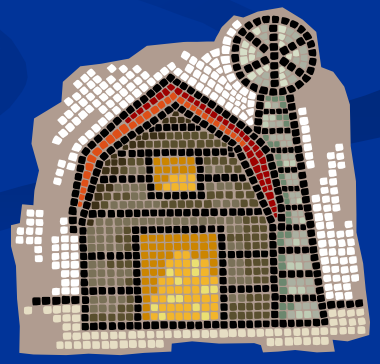
- Place tanks onto the liner according to the manufacturers recommendations
- Tank supports are the sole responsibility of the landowner
- The design usually assumes the tanks will be elevated off the floor 6 inches to keep tank valves & plumbing above anticipated liquid levels

Structural Requirements for Concrete Floors

- For typical farm equipment wheel loads:
  - 6” thick, reinforced with steel - #4 bar 18” on center both directions
- The exception to the above is:
  - if a 30 mil flexible liner is to be applied over the concrete
    - 6” thick, no reinforcing steel
- 3500 psi concrete or mix from specification

Structural Requirements for Concrete Floors

- For these situations contact your Area Engineering Staff
  - Semi tractor/trailer delivery vehicles
  - Slabs that are greater than 50 feet in any direction



Other Considerations

- Locate downwind of sensitive areas
- Need to allow for inspection and maintenance between the tanks
- Consider alternatives to a crock sump such as a low corner
- Backflow prevention device - air gap

Operation and Maintenance

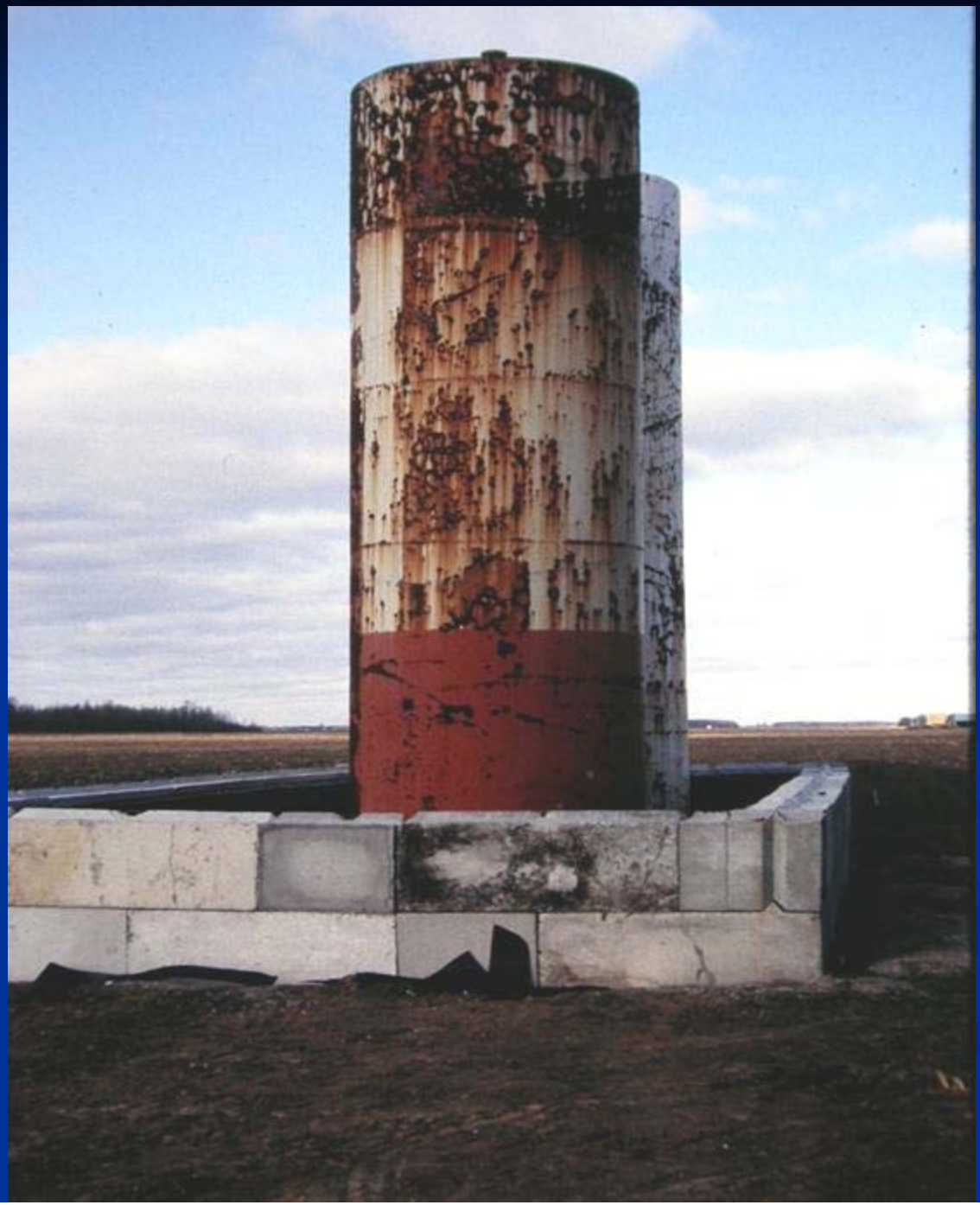
- An O&M plan must be developed according to policy
- O&M plan is located on eFOTG - adapt as needed

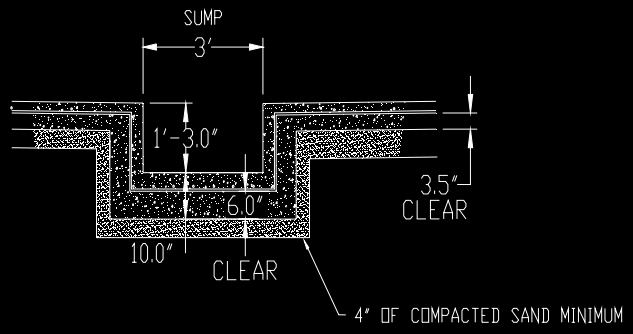
Concrete Block

Earthen berm with liner

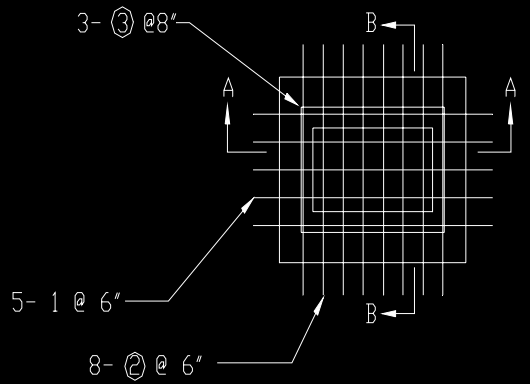
View of sump area

Concrete Containment

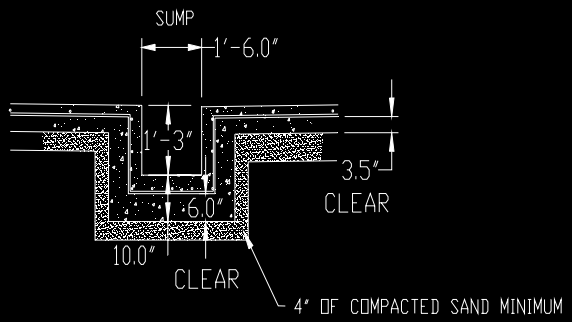




SECTION A-A



Plan View of Steel for Sump

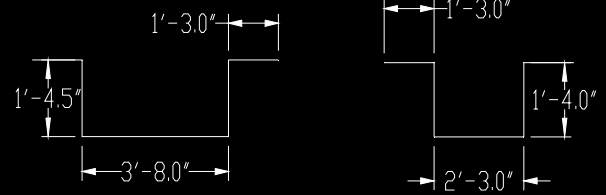


SECTION B-B

Note: Radius of all bends shall be 3.5d (i.e. 1.75 inches for #4 bars)

Heat shall not be used for bending of bars

Sump Bar Types (#4 bars)



Mark ① Mark ② Mark ③

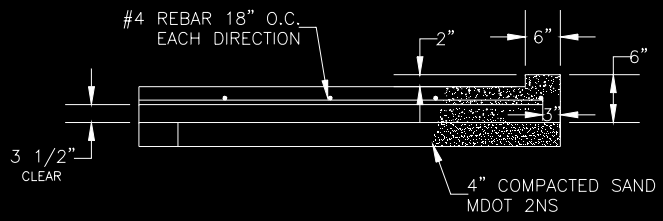
NOT TO SCALE

SUMP DETAILS

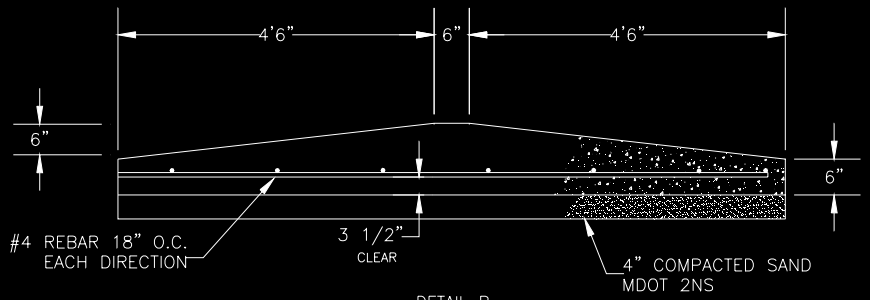
U. S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

	DATE		
DESIGNED		APPROVED BY	
DRAWN		TITLE	
TRACED		DATE	
CHECKED		SHEET NO. OF	DRAWING NO.

ACF Details



DETAIL A



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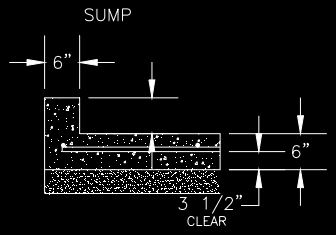

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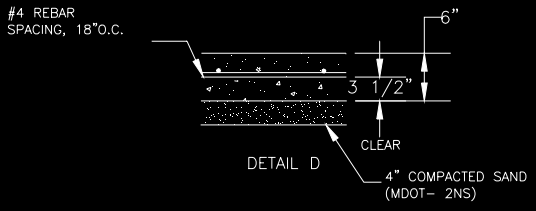

DETAIL D

DETAILS FOR 6" THICK CONCRETE FOR ACF