***NATURAL RESOURCES CONSERVATION SERVICE***

***CONSERVATION PRACTICE STANDARD***

# *AGRICULTURAL HANDLING FACILITY*

***(No.) 702i***

## Definition

**The Agricultural Handling Facility (AHF) is a permanent structure with an impervious surface to provide an environmentally safe area for the handling of on farm agrichemicals, such as pesticides and fertilizers, that are used in spraying operations of orchards, vineyards and cropland.**

## Considerations

- **Select a site that has not been used previously for chemical storage, mixing/loading, or equipment rinsing.**
- **Consider soil and land characteristics when constructing an AHF, to prevent contamination of surface or groundwater by drainage runoff or leaching; include buffers if needed.**
- **Keep the AHF downwind and downhill from sensitive areas such as houses, gardens, recreation areas, and ponds.**

## Design Criteria

**The system for an AHF shall properly handle chemical mixture and prevent pollution of the environment.**

## Location

**Agrichemical Handling Facility (AHF) shall be located a minimum of fifty (100) feet radius from a well, spring, drainage areas and open sinks. It shall be located out of the 25 yr flood elevation and as near as practicable to the agricultural chemical storage area.**

## Components

**The system for an AHF shall include those components necessary to properly handle the chemical mixture and prevent pollution of the environment.**

**Components of a complete facility must include, but not limited to, the following:**

**1. Chemical mixing and loading sealed concrete pad.**

**2. Chemical collection sump, pump, and safety devices.**

**3. Adequate water supply for mixing chemicals, rinsing tanks and containers, and for emergency health and safety needs.**

**4. Tanks for storage of rinsate.**

**5. Water supply pump, pipeline, hoses, anti-backsiphoning devices, and other hardware needed for water control.**

**6. Provide an approved Operation, Maintenance, and Safety Plan.**

**Although optional, it is highly recommended that the concrete pad be roofed, and that a mixing platform be available when filling chemical sprayer. It is preferable to have a separate building for chemical storage.**

**<u>Federal, State, and Local Laws</u>**

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**Design and construction activities shall comply with all federal, state, and local laws, rules, and regulations governing pollution abatement, health, and safety. The owner or operator shall be responsible for securing all required permits or approvals and for performing in accordance with such laws and regulations. NRCS employees are not to assume responsibility for procuring these permits, rights, or approvals, or for enforcing laws and regulations. NRCS may provide the landowner or operator with technical information needed to obtain the required rights or approvals to construct, operate, and maintain the practice.**

## Rainfall and Runoff Exclusion

**All surface water shall be diverted from the concrete pad and access ramp, if used, using dike or mountable berms designed to divert the minimum 25 year, 24 hour storm event. Clean water from roof areas shall be diverted from the AHF location.**

## Pad

**The size of the concrete pad used for the chemical mixing operation shall be the width of the largest sprayer, with the booms folded in, plus 10 feet. The length shall be designed to accommodate the largest spraying equipment plus 2 feet and may allow for access from more one or two directions. The minimum thickness of the concrete slab shall be six (6) inches and have minimum reinforcement of 6 inch by 6 inch, 6 by 6 gage welded wire fabric. The compressive strength of the concrete at 28 days shall be 4000 psi. Slabs having a span greater than 30 feet shall be provided with expansion joints and waterstops at a maximum spacing of 30 feet.**

**All concrete pads whether roofed or open will be sealed with an non-vapor forming coating to protect the surface from deterioration from chemicals.**

## Emergency Washing Area

**A permanent water supply line shall be installed at the containment facility. The hose and hose bib shall be a min. of 2.0' from the floor and the hose shall be mounted or stored away from the facility to assure the end does not come in contact with the floor prior to rinsing. For emergency washing, a faucet, and emergency eye wash station shall be installed, a drop shower is recommended.**

## Loading Platform

**A loading platform may be used to facilitate the filling of the spray equipment. The platform shall be a minimum of 2.5 to 3 feet high with a minimum work area of 3 feet by 4 feet and be moveable on the pad.**

## Sump

**One design alternative is a constructed concrete box sump under the pad a minimum of 3 feet by 3 feet by 2 feet deep covered with a metal grate. The minimum concrete thickness of the sump walls and bottom shall be 8 inches. Reinforcement shall be as needed for structural requirements but not less than #4 bars placed on 12 inch centers in each direction. A metal grate shall be constructed of galvanized steel and contain a cut out for the sump pump piping. Waterstop will be used between the floor and walls of the sump, and between the sump walls and the concrete pad during construction to insure water tightness.**

**Other types of sump must be approved by the NRCS State Engineer, and shall be supported by strength design computations and water tightness details.**

## Roof

**Where site conditions warrant, a roof to cover the pad is strongly encouraged. Design of the roof shall meet all local and state codes.**

**Drawings of the roof shall be submitted for approval prior to being installed.**

## Sump Pump

**The sump pump shall be a chemical resistant submersible pump or an above ground centrifugal or piston pump and**

**should create a minimum of turbulence within the sump. The pump may be operated either electrically or manually. A filter shall be installed between the sump pump and sprayer or rinsate tanks.**

**All electrical components shall be waterproof and explosion proof for the submersible pump and water-proof for the above ground pump.**

**All electrical components shall be installed in accordance with local and national electrical codes.**

## Rinsate Storage Tanks

**Rinsate storage tanks shall be provided to temporarily hold rinsates resulting from cleaning the chemical mixing pad or sprayer.**

**The tanks shall be labeled with type of chemicals and target crops. Tanks shall be fiberglass, polyethylene, or other durable material and have the capacity to meet the requirements of the operation plan. The rinsate tanks shall be located on the chemical mixing pad. A separate tank shall be provided for each target crop.**

**Herbicides should be kept in separate tanks from any other compounds.**

## Bulk Storage Tanks

**Where bulk tanks (56 gallons or larger) are to be located within the mixing and storage area, a secondary containment structure may be designed and constructed to contain discharges and prevent escapes, runoff and leaching of pesticides. The secondary containment area (walls and pad) must be impervious and constructed to hold 110% of the volume of the largest storage tank.**

## Water Supply, Pump, and Pipe

**A reliable water supply shall be provided to the pad at 5 gal/min(min) for filling the sprayers and rinsing the chemical containers, spray tanks, and chemical mixing pad. A hose or pipeline should be installed for conveyance of water from the water supply to the pesticide containment facility.**

**Back flow preventers, antisiphoning devices, and a method to allow winterizing of the pipelines shall be installed on all water supply lines.**

**Water supply pump and wells shall be located outside of the pesticide containment facility.**

## Plans and Specifications

**Plans and specifications for constructing shall be prepared in accordance with the criteria contained in this standard and shall describe the requirements for applying the practice to achieve its intended use.**

### OPERATION AND MAINTENANCE

**An operation and maintenance (O&M) plan shall be developed that is consistent with the purpose of this practice and shall cover three (3) areas:**

- **Set of general procedures that need to be followed prior, during and after any chemical mixing operations.**
- **Specific information about the operation including list of chemicals, location layout, emergency telephone, and other site specific data.**
- **Safety and handling in case of spills, training, and inspection guidance.**
- **Some items will be standard for AHFs, while others shall be specific to the operator's management and crop diversity.**