



Natural Resources Conservation Service

# Watering Facility For Livestock

Alabama Job Sheet No. AL614



## Definition

A watering trough or tank used as a container to provide drinking water for livestock.

## General Information

**Location** - If possible, locate the trough so that cattle will not have to walk more than 800 feet to water. If located on a fence line, a trough can supply water for two pastures (paddocks). Select a site with good drainage and near level. More than one trough may be needed in a large pasture to better distribute the grazing. Avoid wet or boggy areas. In locations subject to prolonged freezing conditions, freeze-proof troughs should be considered. Concrete troughs can be partially buried to help prevent freezing.

Items in the pasture such as feeding locations, salt boxes, mineral feeders, back rubs, and shade structures should be located away from the watering facility.

**Trough Materials** - The watering trough or tank can be made of reinforced concrete, 20 gauge or thicker galvanized steel, approved plastic (UV protected), or quality used equipment tires. If made of concrete, the sides are to be at least 3 inches thick and the bottom 4 inches thick. Welded wire reinforcement shall be at least 8 gauge. Manufactured freeze-proof troughs or portable troughs may be used.

**Trough Capacity** - The trough should be sized with enough capacity to meet the livestock requirements. As a general rule, the trough should hold enough water to provide from 50 to 100 percent of the cattle needs for the day.

When cattle do not have to walk more than 800 feet to water, they will go to water singly; therefore, smaller troughs can be used.

**Installation and Plumbing** – The foundation of the trough is to be level and the trough placed on materials (graded aggregate base or concrete) according to the manufacturer or NRCS requirements. The water supply line shall be at least a 1-1/4 inch diameter for gravity flow systems and 3/4 inch for pressurized systems. The trough with continuous flow should have an overflow pipe to control the water level and to remove excess flow safely from the watering location. The water supply should be installed to be freeze-proof. Any floating valve or other mechanism should be protected from damage by the cattle. A drain plug is needed in the trough for maintenance.

**Heavy Use Area Protection** - The area around the trough for at least 10 feet should be protected from the heavy use of the cattle and gently sloped to prevent holding water. The preferred protective surface consists of a non-woven geotextile (fabric) material overlaid with at least 6 inches of graded aggregate base (crushed stone). Smaller graded aggregate base can be used on the surface if needed. All stone should be crushed limestone or granite that meets gradation requirements. If concrete is used, a thickness of at least 4 inches is required. The surface of the concrete should be roughened to prevent cattle from slipping. Heavy use area protection is not necessary where vegetation is maintained around portable troughs.

## Operation and Maintenance

Maintenance should be performed to keep the trough clean and debris removed. Algae growth may need to be controlled. Stone may need to be replaced on heavy use areas.

## References

NRCS AL Conservation Practice Standards:  
Watering Facility - Code 614  
Heavy Use Area Protection - Code 561

**LIVESTOCK WATERING SYSTEM**

**PLAN VIEW**

A plan view of the watering system is shown in the attached Conservation Plan Map. Locate well, troughs, heavy use areas and other practices in the approved locations shown on the Conservation Plan Map. Any variation(s) from the plan view or specifications must be requested and approved by NRCS prior to construction since any variation made without NRCS approval could jeopardize certification of the practice(s) and associated practice payments.

**BILL OF MATERIALS<sup>1</sup>**

Number of troughs \_\_\_\_\_ Capacity \_\_\_\_\_ gal. (Minimum capacity for open troughs = 50 gal.)

Trough materials:

- Reinforced Concrete (bottom minimum thickness = 4 in, side minimum thickness = 3 in)
- Galvanized Steel (20 gauge or thicker)
- Plastic (UV protected)
- Ball Waterer: stations per trough \_\_\_\_\_
- Used Equipment Tire

Well pump<sup>2</sup>: Minimum size \_\_\_\_\_ hp. Pressure tank<sup>2</sup>: Minimum Drawdown \_\_\_\_\_ gal.

Pressure settings: ON \_\_\_\_\_ psi OFF \_\_\_\_\_ psi

Pipe length \_\_\_\_\_ ft. Nominal size \_\_\_\_\_ in. Min. design pressure \_\_\_\_\_ psi.

Pipe material \_\_\_\_\_ Wall designation \_\_\_\_\_ Pressure rating: \_\_\_\_\_

Fittings<sup>1</sup> (number and type) \_\_\_\_\_

Valves and special appurtenances<sup>1</sup> (number & type) \_\_\_\_\_

Dimensions of heavy use area: Length \_\_\_\_\_ ft. x Width \_\_\_\_\_ ft. Thickness \_\_\_\_\_ in.

Heavy use area materials:

- Concrete: Thickness: \_\_\_\_\_ in. Quantity: \_\_\_\_\_ cu.yd.
- Graded aggregate base<sup>3</sup>: Type \_\_\_\_\_ Thickness: \_\_\_\_\_ in. Quantity: \_\_\_\_\_ cu.yd. \_\_\_\_\_ tons
- Finer graded aggregate base<sup>3</sup>: Type \_\_\_\_\_ Thickness: \_\_\_\_\_ in. Quantity: \_\_\_\_\_ cu.yd. \_\_\_\_\_ tons
- Geotextile<sup>4</sup>: \_\_\_\_\_ sq.yd. (includes 10% for overlap)

<sup>1</sup> The bill of materials includes the major system components. Other valves, fittings, or components may be required, as recommended by the equipment supplier/contractor, to ensure proper function and efficient operation of the system.

<sup>2</sup> Pump and pressure tank sizes and controls should be verified by the equipment supplier.

<sup>3</sup> Acceptable materials include ALDOT crushed stone sizes 5, 56, 57, 6, 67, 68, and 610, and Types A or B crushed aggregate base, and other similar products approved by an engineer.

<sup>4</sup> Geotextile shall be non-woven needle punched with min. grab tensile strength of 157 lb. and min. puncture strength of 309 lb.

**ADDITIONAL NOTES AND INSTRUCTIONS:**

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NRCS CERTIFICATION:

\_\_\_\_\_  
 \_\_\_\_\_ DATE: \_\_\_\_\_

PRACTICE MEETS NRCS  
 STANDARDS AND SPECIFICATIONS

LANDOWNER: \_\_\_\_\_

FARM # \_\_\_\_\_ TRACT # \_\_\_\_\_

COUNTY: \_\_\_\_\_

DESIGNED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_