

# USDA WATERING FACILITY

Conservation Practice Jobsheet

614

Natural Resources Conservation Service (NRCS)

November 2009

## Landowner



### WHAT IS WATERING FACILITY?

A device (tank, trough, or other water tight container) for providing livestock access to water.

### WHERE THIS PRACTICE APPLIES

This practice applies to all land uses where there is a need for new or improved watering facilities. When used on livestock operations, this practice is completed as a component of a [Prescribed Grazing Plan](#).

### WATERING FACILITY

Watering facility size shall be selected based on the type and number of animals using the facility. The tank or trough should provide sufficient capacity for the total livestock daily water requirements and provide enough access for the entire herd to drink within 1 – 3 hours.

For cattle, provide room for at least 1 animal in 20 to drink from a watering facility at a time. For lactating dairy cattle provide room for at least 1 animal in 15. For access, provide 20 inches of perimeter for circular troughs and 30 inches of

length for rectangular or square troughs for each animal drinking.

Minimum requirements of individual watering facilities are shown in Table 1.

Table 1 – Minimum Requirements of Permanent Watering Facilities

Type of Livestock	Daily Requirement <sup>1</sup> gal/head/day	Min. Trough Size	
		Capacity gal	Depth inches
Beef Cattle	12	50	24
Horse	12	50	24
Dairy Cattle			
Lactating	25	100	24
Non-Lactating	15	50	24
Sheep/Goat	2	15	6
Swine	4	15	6

<sup>1</sup>These requirements vary with climatic conditions, kinds of feed, size of animals, and other factors and may be increased as necessary.

## GUIDELINES FOR WATERING FACILITY

**Location** - If possible, locate the trough so that cattle will not have to walk more than a quarter mile (1320 feet) to water. Select a site with good drainage. If the trough can be located on a fence line, it can serve two pastures. More than one trough may be needed in large pastures to better distribute grazing.

**Trough Material** - The watering trough or tank can be made of reinforced concrete, galvanized steel, or approved plastic. Manufactured freeze-proof troughs or portable troughs may be used.

**Plumbing** - The water supply line shall have at least 1¼ inch diameter for gravity flow systems and ¾ inch for pressurized systems. The trough should have an overflow pipe to control the water level and to remove excess flow safely from the watering location. 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 sloped to prevent holding water. The preferred protective surface consists of a geotextile (fabric) material overlaid with at least 6 inches of gravel (crusher run). If concrete is used, at least 4 inch thickness is required. The surface of the

concrete should be roughened to prevent the cattle from slipping.

## OPERATION & MAINTENANCE

- Check automatic water level device to insure proper operation.
- Check for leaks and repair immediately if any leaks are found.
- Check for debris, algae, sludge or other materials in the trough which may restrict the inflow or outflow.
- Clean trough as needed and at least once a year.
- Check to ensure that adjacent areas are well protected against erosion.
- Check to ensure the outlet pipe is freely operating and not causing erosion problems.

## TECHNICAL HELP IS AVAILABLE

For specific criteria in applying this practice, review Louisiana NRCS conservation practice standard, Code 614.

## PRACTICE SPECIFICATIONS

Practice specifications are provided to assure that conservation cover meets the resource needs and producer's objectives.

Specifications for the establishment of this practice shall be prepared for each field or treatment unit according to the Criteria and Considerations described in the standard.

## WATERING FACILITY – SPECIFICATIONS SHEET

Landowner/Cooperator \_\_\_\_\_

Field Office \_\_\_\_\_

Plan Number \_\_\_\_\_ Location \_\_\_\_\_

Field Area (ac) \_\_\_\_\_ Treatment Area (ac) \_\_\_\_\_ Precipitation (inches) \_\_\_\_\_

Purpose/Objective of the Practice (Check all that apply)	
	Improve the health of your livestock by providing clean, safe, dependable drinking water
	Help manage your pasture to make them more productive
	Reduce time livestock spend in the pond or stream
	Reduce bank erosion caused by livestock
	Other

**SIZING A WATER TANK**

Landowner: \_\_\_\_\_

Field Office: \_\_\_\_\_

Designed by: \_\_\_\_\_

Date: \_\_\_\_\_

Approved By: \_\_\_\_\_

Date: \_\_\_\_\_

**Water Needed**

Livestock A \_\_\_\_\_ Hd

Daily Needs B \_\_\_\_\_ Gal/hd/DAY

Day of water Storage Required C \_\_\_\_\_

Net Water Needs \_\_\_\_\_ Gallons per day

Percent wasted D \_\_\_\_\_

$A \text{ _____ } \times B \text{ _____ } \times C \text{ _____ } \times (1 + D \text{ _____ } / 100) = E \text{ _____ }$
---

**Materials**

Tank Capacity Required E \_\_\_\_\_ Gal

Required Tank Dimentions(4) \_\_\_\_\_

Tank Material \_\_\_\_\_

Tank Specification \_\_\_\_\_

**Construction Check**

Tank Size Used \_\_\_\_\_ Gal

Tank Dimentions \_\_\_\_\_

Tank Material Used \_\_\_\_\_

Tank Specification Used \_\_\_\_\_

Approved By: \_\_\_\_\_

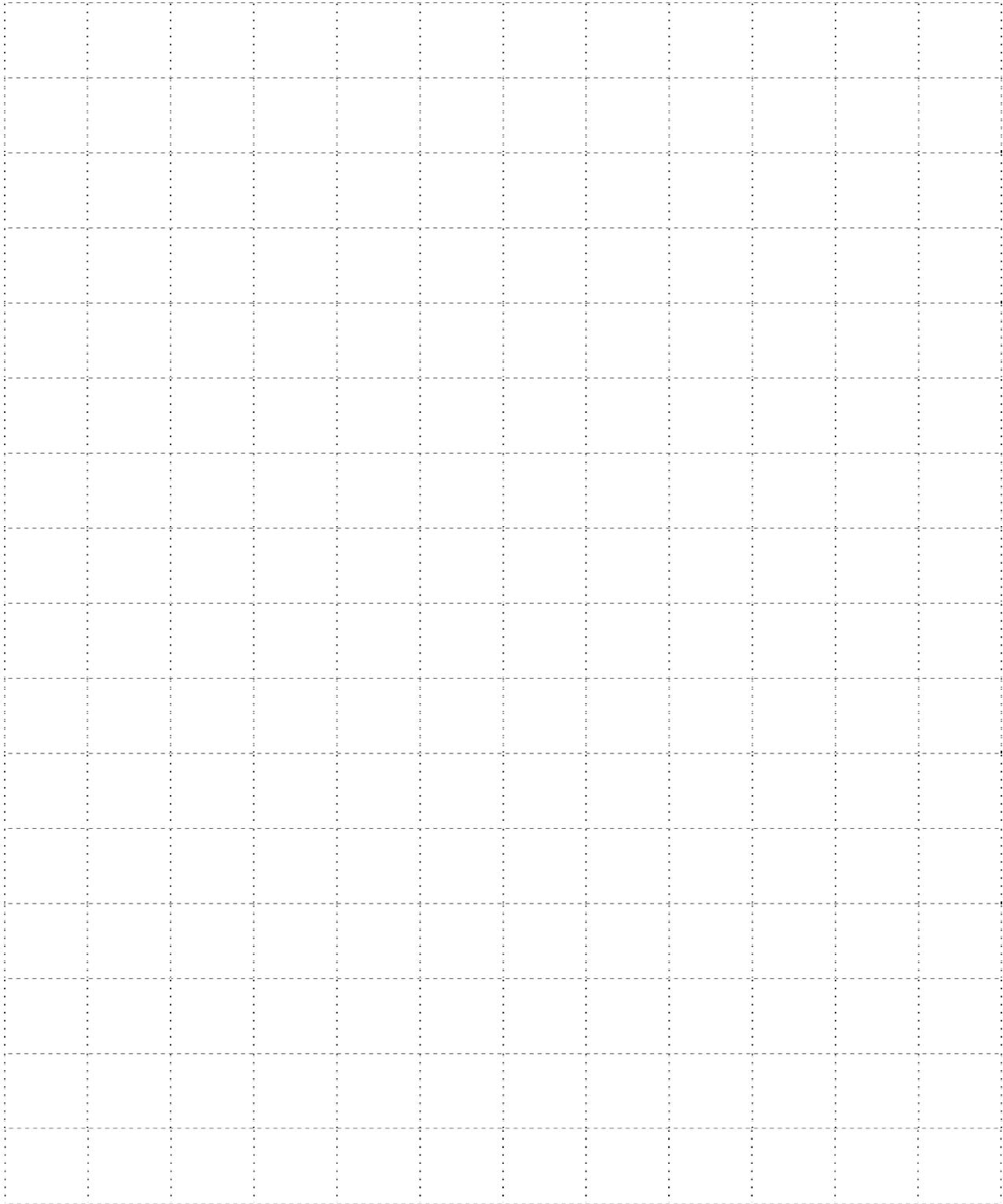
Date: \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- 1) Steel tank/trough shall be galvanized 21 or 22 gage side wall and galvanized 20 gage bottom
- 2) Plastic/rubber tank/trough wall thickness shall be 0.15" for tanks less than 200 gallon and 0.25" for tanks 200 gallon and over
- 3) Reinforced Concrete shall be in accordance with ACI 350 (Latest Addition)
- 4) Tank Dimentions should be checked for providing min. required access, 20" for circular tanks and 30" for rectangular or square tanks.

If applicable, provide a site view of the practice design and application in area below or as an attached diagram. Location of other relevant information and complimentary practices may be included.

Scale 1"= \_\_\_\_\_ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")



**Additional Specifications and Notes**

---

---

---

**Practice Design Certification (To be completed after jobsheet is complete and before practice installation)**

By signing below, I certify that:

- the site specific requirements for the installation, operation, and maintenance of the practice on the client's treatment unit, as recorded in this jobsheet, have been prepared in accordance with the 614 Watering Facility Standard and the guidance in the 614 Watering Facility Practice Specification.

**Signature**

**Date**

---

---

**Practice Installation Certification (To be completed after practice installation and check out)**

By signing below, I certify that:

- The practice has been installed according to the site specific installation requirements

**Signature**

**Date**

---

---

**This practice requires a current Louisiana One Call Dottie Confirmation Number.**

**Call before you dig**, wait 48 hours for the site to be marked, observe the marks and dig with care. The service is free. It's the law! Civil Penalties range up to \$25,000 for violations of the "Dig" law



**Failure to notify Louisiana One Call before installing this practice may delay or terminate NRCS assistance.**

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotope, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

**NRCS, LA  
NOVEMBER 2009**