

STATEMENT OF WORK
Watering Facility (614)
Oklahoma

These deliverables apply to this individual practice. For other planned practice deliverables refer to those specific Statements of Work.

DESIGN

Deliverables:

1. Design documents that demonstrate criteria in practice standard have been met and are compatible with planned and applied practices
 - a. Practice purpose(s) as identified in the conservation plan (Supported by a grazing plan).
 - Number of grazing livestock served
 - Number of watering facilities in grazing system
 - Resource concern clearly identified
 - b. List of required permits to be obtained by the client
 - c. Compliance with NRCS national and state utility safety policy (National Engineering Manual (NEM) Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.00 through 503.06 and NEM Oklahoma Supplement Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities, OK503.02)
 - Oklahoma engineering worksheet OK-ENG-45 Utilities Inventory Form will be used to document utilities
 - d. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
 - Oklahoma engineering design worksheet *WateringFacility614-HUAP561OK.xlsm* or equivalent design documentation will be used to design watering facilities in Oklahoma. Design Documentation will be recorded on *OK-ENG-17 Watering Facility & Heavy Use Area Protection Data Sheet*
 - i. Water Source
 - a) Available flow rate
 - b) Dependability
 - c) Suitability of water for livestock consumption
 - d) Available or planned storage
 - e) Water level controls (switch, float or overflow)
 - ii. Watering facility capacity requirements
 - a) Number, type and size of livestock served by the watering system
 - b) Days of storage required and provided for in the design
 - c) Storage volume calculations
 - iii. Materials
 - a) Climatic Considerations (e.g. freezing)
 - b) Material quantity calculation
 - c) Type and size of watering facility required to meet the standard
 - d) List of all materials needed to install the watering facility
2. Written plans and specifications including sketches and drawings shall be provided to the client that adequately describes the requirements to install the practice and obtain necessary permits
 - a. Approved Oklahoma standard worksheets and drawings to construct livestock watering facilities include:

STATEMENT OF WORK
Watering Facility (614)
Oklahoma

OK-ENG-26 Construction Data Sheet for Trough or Tank and Heavy Use Area Protection (HUAP) Apron – Concrete Wall with Concrete Floor

OK-ENG-33 Construction Data Sheet for Trough or Tank and Heavy Use Area Protection (HUAP) Apron – Metal Wall with Concrete Floor

OK-ENG-34 Construction Data Sheet for Trough or Tank and Heavy Use Area Protection (HUAP) Apron – Heavy Equipment Tire

OK-ENG-35 Construction Data Sheet for Trough or Tank and Heavy Use Area Protection (HUAP) Apron – Energy Free Fountain

OK-ENG-46 Construction Data Sheet for Trough or Tank and Heavy Use Area Protection (HUAP) Apron – Concrete Silo Stave Wall with Concrete Floor

OK-ENG-47a Construction Data Sheet for Trough or Tank and Heavy Use Area Protection (HUAP) Apron – Fiberglass with Overflow Pipe

OK-ENG-47b Construction Data Sheet for Trough or Tank and Heavy Use Area Protection (HUAP) Apron – Fiberglass with Water Level Control Valve and Wall Drain

OK-DWG-510 Watering Facility – Freeze Proof Concrete Tank for Earth Dams and Heavy Use Area Protection (HUAP)

- b. Construction Specifications
 - Use Oklahoma Watering Facility General Specification. For prefabricated watering facilities the manufacturer's installation instructions and specifications should also be included
 - Additional specifications may need to be written to provide full material and installation instructions
- c. Site specific drawings and specifications shall be prepared by the designer for all other livestock watering facilities
3. Design Report and Inspection Plan as appropriate (NEM Part 511, Subpart B Documentation, 511.11 and Part 512, Subpart D Quality Assurance Activities, 512.30 through 512.32)
4. Certification that the design meets practice standard criteria and comply with applicable laws and regulations will be signed by an employee with appropriate approval authority for design assigned on Form OK-ENG-1 or OK-ENG-1 (NEM Subpart A, 505.3).
 - Oklahoma engineering worksheets *OK-ENG-17 Watering Facility & Heavy Use Area Protection Data Sheet* will be used.
5. Operation and maintenance plan
6. Design modifications during installation as required

INSTALLATION

Deliverables

1. Documentation of pre-installation conference with client and contractor
2. Verification that client has obtained required permits
3. Staking and layout according to plans and specifications including applicable layout notes
4. Installation inspection (according to inspection plan as appropriate)
 - a. Actual materials used (Part 512, Subchapter D Quality Assurance Activities, 512.33)
 - b. Inspection records
 - c. Maintaining a job diary with dates and record of inspections made, testing completed, instructions provided to the contractor, etc., to document compliance with standards and specifications. Documenting in the assistance notes in the plan is acceptable
5. Facilitate and implement required design modifications with client and original designer

**STATEMENT OF WORK
Watering Facility (614)
Oklahoma**

6. Advise client/NRCS on compliance issues with all federal, state, tribal, and local laws, regulations and NRCS policies during installation
7. Certification that the installation process and materials meets design and permit requirements (NEM Subpart A, 505.3)

CHECK OUT

Deliverables

1. Supporting Documentation As-built documentation
 - a. Completed job diary or assistance notes documenting inspections made, testing completed, materials used, etc.
 - b. Survey notes for layout, inspections, and final checkout documenting compliance with standards and specifications
 - c. As-built drawings with changes from the original drawing clearly shown
 - d. Extent of practice units applied and location identified on a map
 - e. Final quantities
2. Certification that the installation meets NRCS standards and specifications and is in compliance with permits will be signed by an employee with appropriate approval authority for construction assigned on Form OK-ENG-1, OK-ENG-1 a, or by special letter. (NEM Subpart A, 505.3)
3. Progress reporting

REFERENCES

- NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard – Watering Facility, 614.
- National Engineering Manual (NEM)
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook