

**STATEMENT OF WORK
Livestock Pipeline (516)
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
 - Use only approved engineering design tools or methods to design watering facilities in Oklahoma. Design documentation will be recorded on one or a combination of the following design data sheets:
 - OK-ENG-22A Pipeline for Livestock Water Data Sheet (Pressure System Design)*
 - OK-ENG-22B Pipeline for Livestock Water Data Sheet (Gravity System Design)*
 - OK-ENG-22C Pipeline for Livestock Water Data Sheet (Pump Sizing Pressure System Design)*
 - OK-ENG-22F Pipeline for Livestock Water Data Sheet (Pressure Tank Sizing Pressure System Design)*
- Design documentation shall include the following at a minimum:
 - i. Water Source
 - ii. Capacity
 - iii. Hydraulics
 - iv. Materials
 - v. Backflow prevention
 - vi. Climatic Considerations
 - vii. Vegetation (See practice standard 342-Critical Area Planting)
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. The appropriate design data sheet should be used to provide installation guidance. A sketch or drawing should also be attached with a plan view and plotted profile of the pipeline layout
 - b. Construction Specifications
 - Use Oklahoma Livestock Pipeline General Specification. Follow manufacturer's installation instructions and specifications for pipe and appurtenances. Additional specifications may need to be written to provide full material and installation instructions
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)

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- Oklahoma engineering worksheets *OK-ENG-22A, B, C, and/or F- Pipeline for Livestock Water Data Sheet* will be used to certify the practice installation
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
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 or documentation with changes from the original drawing clearly shown
 - d. Extent of practice units applied and location identified on a map
 - e. Vegetation certification or schedule documented on OK-ECS-04 – Vegetative Data Worksheet
 - f. 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 – Livestock Pipeline, 516.
- National Engineering Manual (NEM)
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook