

STATEMENT OF WORK
Terrace (600)
Oklahoma

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

DESIGN

Deliverables:

1. Design documentation that will demonstrate that the criteria in the NRCS practice standard have been met and are compatible with other planned and applied practices
 - a. Practice purpose(s) as identified in the conservation plan
 - 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:
 - i. Survey notes which show that a thorough and detailed site survey was completed
 - A plot of the survey data shall be maintained in the file attached to or documented on the Oklahoma engineering worksheet *OK-ENG-18 Terrace Data Sheet* or equivalent
 - ii. Design Data
 - Soils information for the field to be terraced
 - Name of soil
 - Tolerable soil loss (T)
 - Soil erodibility factor (K)
 - RUSLE2 soil loss calculation for before and after
 - Terrace Identification for each terrace in the system
 - Land slope at location of each terrace in the system
 - Horizontal and/or vertical interval calculations
 - Design height of the terrace
 - Design base width of the terrace ridge
 - Design channel grade
 - Design length of terrace
 - Outlet condition, capacity and stability documentation
 - iii. Vegetation requirements, see Critical Area Planting (342) Statement of Work
 - v. Environmental Considerations (NRCS-CPA-52)
2. Written plans and specifications including sketches and/or drawings shall be provided to the client that adequately describes the requirements to install the practice and obtain necessary permits. Plans and specification shall be developed in accordance with the requirements of conservation practice standard Terrace (600). As a minimum they must include:
 - a. Oklahoma engineering worksheet *OK-ENG-18 Terrace Data Sheet* or equivalent will be provided to the client for terrace systems designed in Oklahoma.
 - b. Details of the outlet system.
 - c. If underground outlets are used, see Underground Outlet (620) Statement of Work.
 - d. Construction Specifications
 - i. Use Oklahoma Terrace General Specification. Additional specifications may need to be written to provide additional installation instructions.
 - e. Seeding requirements if needed.

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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 *OK-ENG-1* (NEM Subpart A, 505.3)
 - a. Oklahoma engineering worksheet *OK-ENG-18 Terrace Data Sheet* or equivalent will be used to document terrace system design data and information.
5. Operation and Maintenance Plan for the operator to follow.
 - a. Use Oklahoma Terrace (600) Operation and Maintenance Plan template, as a minimum.
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
 - b. 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 up to and including engineering job class V
5. Facilitate, implement and document required design modifications with client, original designer and funding agency
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, 505.03).

CHECK OUT

Deliverables

1. Supporting 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
 - i. Layout survey
 - Establish the alignment(s) referenced to a temporary bench mark
 - Set temporary markers such as flags or stakes along the alignment of the terrace channel
 - Maximum spacing between temporary markers should not exceed 100 feet
 - Identify the required cut or fill on each marker as appropriate
 - ii. Construction checks and inspections as needed to insure installation is in compliance with standards and specifications

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- iii. Final checkout survey
 - Profile the entire channel and ridge recording the profile of the channel and ridge for the entire length of at least one terrace in the system. Check the terrace that appears the smallest or weakest of the terrace system
 - Cross section the weakest section(s) of the terrace. Do not select a fill section. The cross section shall extend from normal ground above the diversion channel to normal ground below the diversion ridge
 - The constructed length will be measured by chain, wheel, or other methods of accurate measurement to the nearest one foot, unless length is measured by these means during layout and no changes were made during construction
 - If minor cuts or fills are needed to complete the diversion, show on the profile the section needing additional work. Initial and date when the work has been done
 - Show any pertinent remarks on vegetation needs, outlets, etc.
 - Document on *Oklahoma engineering worksheet OK-ENG-18 Terrace Data Sheet* or equivalent
 - 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. 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 and will be signed by an employee with appropriate approval authority for construction assigned on *OK-ENG-1* or by special letter. Document on *Oklahoma engineering worksheet OK-ENG-18 Terrace Data Sheet* or equivalent)
 3. Progress reporting

REFERENCES

- USDA, NRCS. Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard - Terrace, 600.
- USDA, NRCS. National Engineering Manual (NEM)
- USDA, NRCS. National Environmental Compliance Handbook
- USDA, NRCS. Cultural Resources Handbook
- USDA, NRCS. 2004. Revised Universal Soil Loss Equation, Ver. 2 (RUSLE2).
- USDA, NRCS. National Engineering Handbook, Part 650, Engineering Field Handbook, Chapter 7, Grassed Waterways.
- USDA, NRCS. National Engineering Handbook, Part 650, Engineering Field Handbook, Chapter 8 - Terraces