

STATEMENT OF WORK
Terrace (600)
Iowa

These deliverables are the minimum requirements that apply to this individual practice. Refer to practice specific Statements of Work for conservation practices associated with this practice.

PRE-DESIGN

Deliverables: (Usually completed by NRCS; must be in case file prior to beginning design.)

1. Documents that demonstrate that adequate planning activities have been completed.
 - a. Report or conservation assistance notes summarizing pre-design meeting(s) with client.
 - i. Identify the resource concern being addressed and the landowner objectives.
 - ii. Define roles and responsibilities of all parties that will be involved in the project.
 1. Landowner
 2. Designer
 3. NRCS and/or other funding source(s)
 4. Contractor
 - iii. Advise client on potential compliance issues with federal, state, tribal, and local laws, regulations and NRCS policies.
 - b. The practice is included in a conservation plan and meets one or more of the purpose(s) described in the Conservation Practice Standard.
 - c. Completed IA-CPA-52 showing NEPA requirements have been met and documented for this practice (i.e., cultural resources and threatened and endangered (T&E) species).

DESIGN

Deliverables:

1. A copy of survey notes which show that a thorough and detailed site survey was completed.
 - a. Survey notes shall be in accordance with NRCS Technical Release 62, Engineering Field Handbook (EFH), Chapter 1, Engineering Surveys, and/or standard industry practice.
 - b. If survey equipment with automatic / electronic data collection devices is used, an electronic copy of the survey shall be provided on a non-volatile medium such as CD-ROM. In lieu of an electronic copy of the data, a print out of the data may be included in the file. Both printed and electronic data shall be provided in a delimited ASCII format that includes point number, easting, northing, elevation, and description for each surveyed point. Horizontal and vertical datums used shall be identified.
 - c. Rod Readings or Elevations shall be referenced to a bench mark. A temporary bench mark (TBM) may be acceptable. The TBM shall be selected to ensure its availability through completion of construction activities.
 - d. Elevation data collected with LiDAR meeting the specifications found in Iowa Instruction 210-385, LiDAR for Engineering, can be used for:
 - i. Planning and watershed delineation.
 - ii. Earthwork, if LiDAR elevations are verified with Survey Grade GPS Field Survey. Field survey verification includes:
 1. Establishment of on-site benchmark and control points
 2. Gathering site specific survey as shown in 1.e.
 3. Determine if current site conditions are reflected correctly by LiDAR. For example, look for changes due to erosion or construction activity and verify accuracy due to vegetation ground cover or canopy
 4. Verify local elevation accuracy relative to the survey datum identified in item 1.b.
 - e. The design survey shall meet the accuracy standard for Rough Surveys as presented in NEH Part 650, Chapter 1 (EFH), and Iowa Amendments. Required survey elements include but are not limited to:
 - i. Benchmark and control points, property lines, gullies, and other important features
 - ii. Channel profile(s)
 - iii. Slope shots and cross sections
 - iv. Surface intake location, if needed
 - v. Subsurface drain alignment and outlet, if surface inlet is used

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2. Design documents that demonstrate the criteria in the practice standard have been met and are compatible with other planned and applied practices:
 - a. Practice standard substantiating data, computations, and analyses to develop plans and specifications including but not limited to:
 - i. Hydrology/Hydraulics
 - ii. Erosion control/Seeding
 - iii. Terrace spacing calculations
 - iv. Safety considerations
 - b. All design documentation is shown as checked.
3. Written plans and specifications which adequately describe the requirements to install the practice and obtain necessary permits (NEM Part 511, Subpart A, 511.8 Construction Drawings and Specifications, and Iowa Amendments; NEM Part 541, Drafting and Drawings; NEM Part 542, Specifications; NEM Part 543, Materials).
 - a. Drawings, which include but are not limited to the following elements, if applicable. The Iowa NRCS standard drawing IA-1500, *Terrace / Basin Plan*, and the Iowa NRCS ArcGIS template will provide most if not all of these elements.
 - i. Location map of the site, including the township, range, section, scale, and north arrow.
 - ii. Plan view of the project site showing the practice relative to fences, property lines, streams, bench mark, etc.
 - iii. Bench mark elevation and description.
 - iv. Quantities.
 - v. Coordinates and elevations of horizontal and vertical control points needed for practice layout
 - vi. Profiles of the terrace channel and ridge centerline
 - vii. Other items required by the current Conservation Practice Standard.
 - viii. A note on the drawings stating that the contractor is responsible for calling Iowa One Call at 1-800-292-8989 at least 48 hours prior to beginning any excavation work.
 - ix. A note on the drawings stating that if a cultural resource is identified during construction, work will stop immediately and the NRCS Archeologist will be notified.
 - x. The Iowa Engineering Job Class is shown on the drawings (NEM Part 501, Form IA-ENG-6).
 - xi. Completed title block showing dates and the names of the designer and checker, and the signature of the person approving the design.
 - xii. Acceptance signature by client.
 - b. Construction and material specifications, including but not limited to:
 - i. Appropriate specifications listed in the Conservation Practice Standard.
 - ii. Other specifications required for the project.
 - iii. IA-5 Pollution Control Construction Specification or its equivalent is required for all jobs.
4. Design Report (NEM Part 511, Subpart B - Documentation, 511.11 Design Folders) with detail appropriate to the complexity of the job. The design report shall include, but not be limited to the following:
 - a. Summary of project objectives.
 - b. Site assessment.
 - c. Summary of design documentation from item 2 listed above.
 - d. List of facilitating practices.
 - e. List of required permits to be obtained by the client, if any.
 - f. Bill of Materials and Itemized Cost Estimate.
 - g. Bid Sheet to be used by the client, if appropriate.
5. Inspection Plan (NEM Part 512, Subpart D - Quality Assurance Activities, appropriate to the complexity of the job. The inspection plan shall describe the following:
 - a. Items of work and materials requiring inspection.
 - b. Type and frequency of testing, if needed.
 - c. The as-built documentation required.
 - d. Knowledge, skills, and abilities required of the Inspector.
 - e. Quality Control responsibilities.
 - f. Quality Assurance responsibilities.

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6. Operation and maintenance plan meeting the requirements of the current Conservation Practice Standard.
7. Certification that the design meets practice standard criteria and complies with applicable laws and regulations (NEM Part 505, Subpart A, 505.3), or is approved by an employee with the appropriate delegated engineering job approval authority (NEM Part 501, Subpart A).

INSTALLATION

Deliverables

1. Pre-installation conference with client and contractor.
 - a. Review plans and specifications
 - b. Review NRCS safety policy. (NEM Part 503 – Safety and Iowa amendments).
 - c. Review roles and responsibilities of all parties involved in the project installation.
 - d. Verification that client has obtained required permits and land rights.
2. Staking and layout according to plans and specifications including applicable layout notes.
3. Installation inspection documented in the case file assistance notes or in a job diary to include:
 - a. Dates and record of inspections made, testing completed, instruction provided to the contractor, etc., to document compliance with standards and specifications.
 - b. Actual quantities and materials used.
4. Facilitate and implement required design modifications with client and the original designer. Design modifications required during installation are properly approved and documented.

CHECK OUT

Deliverables

1. Survey for Checkout conducted and recorded as for the design survey.
 - a. Channel and ridge profile(s)
 - b. Cross sections sufficient to document terrace meets specification
 - c. Surface intake location, if used.
2. As-built documentation (NRCS General Manual Title 450, Part 407, and Iowa amendments).
 - a. Extent of practice units applied
 - b. Drawings with changes from the original construction plans clearly shown
 - c. Survey and construction notes for layout, inspections, and final checkout documenting compliance with standards and specifications.
3. Certification that the practice has been installed in accordance with NRCS practice standard criteria and specifications and complies with applicable laws and regulations, or is approved by an employee with the appropriate delegated engineering job approval authority (see Design Deliverable Item 7).
4. Progress reporting.

REFERENCES

- NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard, Terrace (600)
- NRCS National Engineering Manual (NEM)
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook
- NRCS General Manual

STATE CONTACT

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