

**STATEMENT OF WORK (SOW)
DENITRIFYING BIOREACTOR (747)
SOUTH DAKOTA
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These deliverables apply to this individual practice. For other planned practice deliverables, please refer to those specific SOW's.

DESIGN

Deliverables

1. Design documentation that will demonstrate that the criteria in 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. (Examples: SD Department of Environment and Natural Resources (DENR) permits, county zoning permit.)
 - c. Impacts on adjacent properties and structures.
 - d. 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). (Example: SD One-Call ticket number.)
 - e. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
 - i. Geology and Soil Mechanics (NEM, Subpart 531a). (Example: Soil log and testing reports.)
 - ii. Hydrology/Hydraulics.
 - iii. Structural including hazard class as appropriate.
 - iv. Vegetation.
 - v. A tile map that includes tile sizes, materials, depth, and locations of all tile draining to the denitrifying bioreactor. If a tile map is unavailable, provide documentation on how the denitrifying bioreactor was sized, including drainage area.
2. Sufficient copies of 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. (Examples: Plans, specifications, construction notes, construction details, etc.) Specific detailed requirements for design and the development of construction plans and specifications are outlined in the SD Engineering and Spot-Checking Manual (SDEDSCM). Where specific forms or job sheets are mentioned in the SDEDSCM, an equivalent may be substituted. (Examples: Plans, specifications, construction notes, construction details, etc.)
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). (Example: Inspection Plan and the Design Report.)
4. Operation and Maintenance (O&M) Plan. (Example: O&M Plan.)
5. Certifications that the design meets practice standard criteria and comply with applicable laws and regulations (NEM, Subpart A, 505.03(b)(2)). (Examples: Certification statement indicating the project meets NRCS standards; documentation of approval for construction from county zoning authority; etc.)
6. Develop and sign an engineer's cost estimate based on project quantities. Provide revised cost estimates in the event of changes to project quantities or completion of final design. (Example: Signed cost estimate.)
7. Develop a list of practices for the project that includes the practice unit and extent. Provide a revised list of practices, practice units, and extents in the event of changes to these values or completion of the final design. (Example: SD NRCS Practice Payment Spreadsheet for appropriate year.)
8. Provide an anticipated installation schedule. (Example: Construction Schedule.)
9. At any point when the practices or practice extents change for the project, the Technical Service Provider (TSP) must immediately provide the NRCS representative with a revised *Environmental Quality Incentives Program (EQIP) Payment Unit and Technical Service Payment Unit Worksheet* prior to any construction activity associated with the change. The NRCS representative will promptly modify the contract with these new practices/practice extents if the change is within policy and funding is available. (Example: Provide a revised SD NRCS Practice Payment Spreadsheet prior to any construction changes being constructed.)

INSTALLATION

Deliverables

1. Conduct a preconstruction meeting with client, contractor, and NRCS representative. Complete and sign SD NRCS Preconstruction Meeting Checklist. (Example: SD NRCS Preconstruction Meeting Checklist.)
2. Verification that client has obtained required permits. (Examples: Documentation of approval for construction from county zoning authority, etc.)
3. Staking and layout according to plans and specifications including applicable layout notes. (Example: Construction staking and layout survey notes and plans.)
4. Installation inspection (according to inspection plan):
 - a. Actual materials used (NEM, Part 512, Subpart D, Quality Assurance Reviews, 512.33).
 - b. Inspection records.
5. At any point when the practices or practice extents change for the project, the TSP must immediately provide the NRCS representative with a revised *EQIP Payment Unit and Technical Service Payment Unit Worksheet* prior to any construction activity associated with the change. The NRCS representative will promptly modify the contract with these new practices/practice extents if the change is within policy and funding is available. (Example: Provide a revised SD NRCS Practice Payment Spreadsheet prior to any construction changes being constructed.)
6. Advise client/NRCS on compliance issues with all federal, state, Tribal, and local laws, regulations, and NRCS policies during installation.

CHECK OUT

Deliverables

1. As-Built documentation:
 - a. Extent of practice units applied.
 - b. Drawings.
 - c. Final quantities.
 - d. Final *EQIP Payment Unit and Technical Service Payment Unit Worksheet*
2. Certification that the installation and materials meets NRCS standards and specifications (*signed Warranty of Technical Services Provided Form*) and is in compliance with permits (NEM, Subpart A, 505.03(c)(1)). (Examples: Documentation of obtaining a county zoning permit, etc.)

REFERENCES

- NRCS Field Office Technical Guide (FOTG), Section IV, interim Conservation Practice Standard - Denitrifying Bioreactor, 747
- NRCS National Engineering Handbook, Part 624, Section 16, Drainage
- NRCS National Engineering Handbook, Part 650, Chapter 14, Water Management (Drainage)
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook