

ILLINOIS OF WORK
Constructed Wetland (656)

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 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 (NEM Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.00 through 503.06)
 - d. List of facilitating/component practices
 - e. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
 - i. Location Map
 - ii. Geology and Soil Mechanics (NEM Subpart 531a, NEH Part 651, AWMFH, Appendix 10d)
 - iii. Hydrology Data, including but not limited to:
 - 1) Drainage area and peak flow calculations
 - 2) Design storm(s) return period
 - 3) Drainage system extent and capacity, if the constructed wetland is designed to treat drainage water.
 - 4) Analysis of flooding potential from adjacent watercourse, if applicable
 - iv. Hydraulics/Structural, including but not limited to:
 - 1) Types, dimensions and elevations of control structures, and principal and auxiliary spillways
 - 2) Hydraulic computations and flood routing of control structures, and auxiliary and principal spillway flow
 - 3) Structural design computations (pipe length, anti-seep diaphragms, etc)
 - v. Design Survey – include topographic map of storage and structure area, profiles and cross sections as needed for design, and a sufficient number of temporary benchmarks to establish horizontal and vertical control throughout design, construction, and checkout of the practice.
 - 1) Field survey notes must conform to NEM Part 540 and Technical Release 62 (TR 62). Include a hard copy of the raw data and reduced survey if using an electronic data collector.
 - vi. Vegetation
 - 1) Selection and determination of adequacy of planting medium and wetland plantings to accomplish the treatment goals
 - 2) Vegetative establishment details for planting medium and wetland plants, including species, rates, locations, and methods of establishment
 - 3) Critical area planting for constructed embankments and other non-wetland areas disturbed by construction, including species, rates, location, and method of establishment
 - vii. Environmental Considerations
 2. Provide written plans and specifications including sketches and drawings to the client that adequately describe the requirements to install the practice and obtain necessary permits. See IL NRCS conservation practice standard 656, Constructed Wetland, for more details.
 - a. Location map with legal description
 - b. Plan map adequately showing structure placement and orientation of all relevant design features, including benchmark locations, elevations, and descriptions
 - c. Detail drawings of all structures and appurtenances
 - d. Profiles and cross sections adequate to show critical elevations and characteristics of embankments, structures, and other design features
 - e. Specifications for plant species selection, planting dates, rates, and care of plant materials, and site preparation.

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- f. Table of anticipated quantities
 - g. Construction and material specifications
 - h. Utility safety statement requiring notification of Illinois one-call system prior to construction.
 - i. Signature/initials and date for the design approval and check. Design check to be completed by an individual other than the designer.
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. Operation and Maintenance Plan (National Operation and Maintenance Manual 500.70 and 500.40 through 500.42). See IL NRCS conservation practice standard 656, Constructed Wetland, for more details.
 5. Certification that the design meets practice standard criteria and comply with applicable laws and regulations (NEM Subpart A, 505.03 (a) (3)).

INSTALLATION

Deliverables

1. Preconstruction conference with client and contractor (NEM Part 512, Subpart B, IL 512.13(d)).
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 (NEM Part 512, Subchapter D Quality Assurance Activities, 512.33)
 - b. Inspection records
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.

CHECK OUT

Deliverables

1. As-Built documentation.
 - a. Extent of practice units applied
 - b. Documentation of materials installed (i.e. seed tags, etc.)As-built plan is required when practice is constructed outside of established construction tolerances or when job is designated Class V or higher. Identify "As Built" on plan. Superimpose changes on the as-built plan using a different color or otherwise clearly differentiating the as-built dimensions.
 - c. For practices not requiring an as-built plan, survey notes or checkout sheets documenting critical dimensions, elevations, and materials are sufficient.
 - d. Final quantities
2. Certification that the installation meets NRCS standards and specifications and is in compliance with permits (NEM Subpart A, 505.03 (c) (1)).
3. Progress reporting.

REFERENCES

- NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard – Constructed Wetland, 656
- NRCS National Engineering Manual (NEM).
- NRCS. National Engineering Handbook (NEH), Part 637, Chapter 3. Constructed Wetlands.
- NRCS National Engineering Handbook (NEH), Part 651, Agricultural Waste Management Field Handbook, (AWFMH)
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook