

PART 511 – DESIGN

SUBPART B - DOCUMENTATION

WA511.11(a)(4)ii

WA511.10 Scope

- (a) Design folders will be prepared for all designs within approval categories VI, VII, and VIII (see Part 501) and all practices that have importance for reasons of public safety (see 520.21(f)) or environmental safety (see 521.00(a)). It is highly recommended that design folders be developed for all complex engineering practices.
- (b) Engineering design records are to be prepared for all other categories not captured in WA511.10(a).

WA511.11 Field Engineering Designation

- (a) “Field Engineering” shall be the term used for acknowledgment of staff that has significant expertise, technical knowledge and considerable local geographical knowledge for specific engineering practice planning, design and application.
 - (1) “Field Engineering” shall be limited to conservation Practices that are Engineering Job Approval Class I, II and III.
 - (2) “Field Engineering” shall not be used on any project that requires a local, county or state permit. This includes but is not limited too the following permits; HPA, Shorelines, Grading, Water Right, etc.
 - (3) Field Engineering:
 - i Technical decisions can be determined by highly qualified staff having adequate engineering job approval authority, significant expertise, technical knowledge and considerable local geographical knowledge for specific engineering practice planning, design and application.
 - ii Minimum documentation requirements will be the determination of job class, printed digital photos of critical elements during construction and the installed practice. The extent of design folder documentation will be left up to the individual possessing the “Field Engineering” designation for the Planning, Design and Application of practices.
 - iii Area office is encouraged to identify field staff for consideration of “Field Engineering” designation for specific engineering practices.
 - (4) Field/Area office staff assessment:
 - i Area engineering staff and the State Conservation Engineer will evaluate and determine whether the individual has demonstrated a capacity for “Field Engineering”.
 - ii Engineering job approval authority chart shall be reviewed and verified that the individual has appropriate engineering “Design” JAA for the specific practice.

- iii Technical expertise of the individual shall be based on a review of the NRCS practice documentation for I&E, Design and Application of previous work.
- iv Extensive local knowledge of geography, soils, hydrology and climatic conditions must be demonstrated by the individual.

(5) Records:

- i All “Field Engineering” designations shall be recommended by Area Engineering field staff, delegated by the State Conservation Engineer with concurrence of the immediate supervisor.
- ii Form 511-B-2007 (EXHIBIT A) – Field Engineering Designation Form, shall be used to document that an individual has been designated as highly qualified to provide active “Field Engineering” assistance for the identified engineering practice and job class in their current position.
- iii The original signed 511-B-2007 Form (EXHIBIT A) shall be maintained by the SCE, a copy shall be maintained by the Area Office with a copy provided to the staff person receiving the Field Engineering Designation chart.

(b) Quality Assurance Activities

(1) Reviews:

- i Staff conducting QAR’s of individuals possessing the “Field Engineering” designation shall focus the review on the performance of the applied practice.
- ii Design documentation requirements are left up to the individual having the “Field Engineering” designation. Complete design folders are not required.
- iii Field Engineering designation shall satisfy pertinent TCH-13 QAR elements.

(2) Deficiencies:

- i All deficiencies of completed practices applied by staff possessing the “Field Engineering” designation shall be documented on pertinent TCH-13 QAR Forms and notification shall be immediately transmitted to the Area Engineering staff with a cc to the SCE.

WA511.12 Design Records

- (a) The requirements of NEM 511, SUBPART B, "Design Documentation", NEM 540.01 “Field Surveys Format” and NEM 512, SUBPART F, "As-Built Drawings" shall apply to projects designed and/or installed by NRCS. As-Built documentation for Field Engineering shall be determined by the individual possessing the “Field Engineering” designation for the Practice Application.
- (b) Design records shall be consistent with guidance in NEM 511.11(a)(1) and NEM 511.11(a)(2) except as described above for Field Engineering.

WA511.13 Record Keeping General

- (a) Design folders and design records shall be maintained for all approval categories in the case file in accordance with GM 120-408, Records Guide, Subpart D, 210 Engineering.
- (b) Electronic records are allowed for record keeping. The following guidance is provided;
 - (1) Records must be easily accessible from storage media.
 - (2) The storage media must have a shelf life equal to or greater than the period required to maintain records.
 - (3) An index shall be permanently fixed to the storage media recording the contents.

WA511.14 Design Record – NRCS Contracted Engineer Designs

- (a) The requirements of NEM 511, SUBPART B, "Design Documentation", NEM 540.01 "Field Surveys Format" and NEM 512, SUBPART F, "As-Built Drawings" should apply where applicable to projects designed and/or installed by non-NRCS engineers.
- (b) The "Practice Statement of Work and Practice Documentation Checklist" in the eFOTG gives a comprehensive list of the minimum documentation requirements to be provided and maintained in the official NRCS case folder for practices designed by non-NRCS engineers. This list should include, but is not limited to the following:
 - (1) Completed practice standard 'statement of work' documentation checklist.
 - (2) A copy of the signed engineering plans which meet NRCS standards. In addition to the Professional Engineer's certification, the plans shall contain the following statement: "To the best of my professional knowledge, judgment and belief, these plans meet applicable NRCS standards and specifications." Reference; NEM 505.03 (b) (2).
 - (3) A copy of an inspection plan which describes inspection items and qualifications of those doing the inspection.
 - (4) Upon completion, a copy of the "as-built" drawings must be submitted to NRCS with any changes noted that occurred during construction and were approved by the consultant as noted on the "as-built" drawings.
 - (5) A certification statement signed by the consultant, and a copy of any construction documentation required in the inspection plan. The certification statement should read, "To the best of my professional knowledge, judgment and belief, the installed practice meets NRCS standards" and should be signed by the engineer who designed it. Reference; NEM 505.03 (c) (1).
 - (6) A copy of the Operation and Maintenance Plan

(c) The following additional documentation shall be provided for the specific program areas:

(1) Wetlands Reserve Program (WRP):

The following documentation shall be provided by the designer and maintained in the official WA NRCS file for WRP projects designed by a non-NRCS designer:

- i. Water budget calculations
- ii. Design calculations
- iii. Design survey data
- iv. Topographic maps
- v. Soil mechanics calculations
- vi. Geotechnical Investigation
- vii. Geotechnical Report
- viii. Design Folder to include individual items to meet the requirements of NEM 511.10 "Design Documentation" and required by applicable Practice Standard checklist.
- ix. Design Drawings and Specifications (stamped by PE and certified that meets NRCS requirements)
- x. Design engineers cost estimate.
- xi. Construction Documentation: Job Diaries, Quality Assurance Reports, surveys, test results, quantities etc
- xii. As-Built Drawing prepared in accordance NEM 512, SUBPART F "As-Built Drawings" and stamped by a Professional Engineer licensed in Washington State.
- xiii. Payment Records & Contract documents with designer/installer i.e. Ducks Unlimited (DU)/Technical Service Provider (TSP)/Architectural and Engineering (A&E) companies
- xiv. Operation & Maintenance Plan
- xv. If a failure of the applicable WRP site will not impact existing major roadways or houses the above documentation requirement may be reduced as approved by the State Conservation Engineer (SCE). Any dike that now or possibly in the future may be used to keep flood waters from homes shall have adequate documentation to ascertain how it was built and the materials that were used for construction

WA511.15 Design Record – Landowner Procured Engineer Designs by Technical Service Providers from the Technical Service Provider Registry (TechReg)

(a) Documentation requirements are located in the NRCS 180 – Technical Service Provider Handbook.

EXHIBIT A

(Example)

FORM 511-B-2007

FIELD ENGINEERING DESIGNATION

RECOMENDED BY: _____

TITLE: _____

DELEGATED BY: _____

TITLE: _____

(REQUIRED: State Conservation Engineer)

CONCURRED BY: _____

TITLE: _____

(Supervisor)

NAME:

TITLE:

NO.	PRACTICE or ELEMENT	LIMITING FACTOR	JOB CLASS		
			I	II	III
560	Access Road	1. Road Surface 2. Culvert Pipe, ID 4. Ford	___ <u>X</u> ___	<u>X</u> ___ ___	___ ___ <u>X</u>
450	Anionic Polyacrylamide, Irrigation Erosion Control	1. Area	___	___	<u>X</u>
310	Bedding	1. Area	___	___	<u>X</u>
326	Clearing and Snagging	1. Geomorphic Bank full	___	___	<u>X</u>