

Checklist for Functional Design Review from Non-NRCS Engineer

Project: _____

Revised: 02/04/2016; TJB. Most of this information is paraphrased from NEM 505, Non-NRCS Engineering Services.
[tags: functional review; technical review; peer review] *Key Requirements

Before design contract is started: 1) Completed DSR, 2) Letter of Intent from Local Sponsor, and 3) Landowner permissions from all property owners in the work area.

- An **NRCS employee** with the necessary *job approval authority* shall perform a functional review.
- Were all necessary design documents [deliverables] provided as required by work type, agreement, or other guidance?
 - Drawings (15%, 30%, Final Design), cover sheet, site plan, profile, cross-sections, details
 - Design Report with calculations, pertinent sections, engineer's cost estimate, est. construction time, appropriate fluvial geomorphology information, hydrology, hydraulics,
 - Specifications
 - Quality Assurance Plan
 - O&M Plan
- Were all necessary and substantiating data and calculations provided? [NRCS normally does not check non-NRCS engineer's calculations.]
- Provide appropriate level of pre-design support, such as supplying NRCS standards and answering questions.
- Certification on drawings or report covers: "**I certify to the best of my professional knowledge, judgment and belief, these plans [or this report] meet applicable NRCS standards**".
- Is the level of design adequate for the type of project?
- Does the design include the proper quantities of methods and measures?
- Sponsor encouraged to use applicable NRCS standard drawings, specifications, and design criteria, but may use other criteria acceptable to NRCS and agreed to before design starts.
- Criteria in applicable **conservation practice standards** met*
- Compliance with applicable **state and federal programs***
- Does work achieve the **objectives** of the plan, program?*
- Was an **Operation and Maintenance (O&M) Plan** provided?*
- Was a **design report** provided with pertinent information for project?*
- Copy of engineering **cost estimate** provided?*
- Copy of **Quality Assurance Plan (QA Plan)** describing inspection items and qualifications of inspectors.*
- NRCS **may** make a field visit to review the application.
- NRCS will make any necessary **program certification for cost sharing**.
- Ensure that the sponsor, landowner, and consultant understand their responsibilities when using non-NRCS engineering services. [See sample letter for landowner, 505.43]
- Random, periodic field checks and quality reviews during construction.

- ❑ When non-NRCS personnel are doing construction inspection, verify that work complies with requirements of construction contract. Such verification requires spot checking of inspection procedures, continuous review of job records and reports, and periodic observation of the work.
- ❑ Engineering work must be **signed and sealed** by Colorado PE.
- ❑ Engineer must concur with any deviations from the design before and during construction.
- ❑ Final construction check by *NRCS Representative* for compliance with plans and specifications; document, date, and sign checking documentation. Qualified non-NRCS people may check work for Class I-III jobs. Class IV & above jobs must be reviewed by those with appropriate JAA.
- ❑ The landowner or sponsor will submit **final as-built drawings with a certification by the responsible individual** that “to the best of my professional knowledge, judgment, and belief this practice is installed in accordance with the plans and specifications and meets NRCS standards.”

NRCS is responsible for protection of the government’s interest; namely, the works of improvement must satisfactorily and safely perform the functions for which funds are invested.