
Chapter 2

Project Implementation

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645.0200 Introduction

This chapter provides an overview of the process of project implementation from planning through the completion of construction. The overview is intended to help quality assurance (QA) inspectors understand their roles as they relate to the roles of others on the project implementation team. The process is divided into six phases:

- planning
- project agreement
- land rights acquisition
- design
- construction contracting
- operation and maintenance (O&M)

Prior to any U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) participation in a project, the parties involved in the project must agree on the purpose and general nature of the project and each party's responsibilities. If the agreement is between the NRCS and a landowner, the agreement may be documented in a note-to-file or in conservation assistance notes. Projects that are administered by the NRCS under programs such as the Small Watershed Program, Emergency Watershed Protection (EWP) Program, and others require a written project agreement. This chapter primarily describes project implementation for projects requiring a written project agreement. Some of the description also applies to projects that do not require a written project agreement.

645.0201 Overview of the process of project implementation**(a) Planning**

The first task in project implementation is to develop a plan aimed at fulfilling the purpose of the project. NRCS plans are referred to as work plans, watershed work plans, or measure plans. During the planning process, objectives are established; alternatives are studied; potential problems and/or restrictions are identified; and a strategy for carrying out the design, procurement, and installation is established. The plan also provides information needed for the acquisition of land rights and, if necessary, the relocation of existing structures and utilities. This phase of a project typically involves conceptual and preliminary design work. This early design work provides the rationale for estimating project costs and the necessary land rights. The plan identifies which party pays for the various costs associated with the proposed work under the plan.

(b) Project agreement

There may be several sponsors on a project. Cities, counties, watershed districts, conservation districts, and other local groups typically participate as sponsors on projects from which they benefit. If there are several project sponsors, one sponsor will usually take the lead in fulfilling the sponsor's responsibilities.

The project agreement is a document signed by the NRCS and project sponsor(s). It spells out the terms and conditions under which the work is to be accomplished including the responsibilities of each party that signs the agreement. Items covered in the agreement include:

- general nature and purpose of the project
- land rights
- relocation of structures and utilities
- estimated construction, engineering, and administrative costs
- contract administration

- construction oversight (QA)
- O&M

(c) Land rights acquisition

Under the land rights acquisition phase, if the sponsors do not own the land, they must acquire the rights to construct, operate, and maintain the project before the process of project implementation can proceed to the design phase. For some projects, acquiring land rights will take several years and require that land rights be granted from several landowners, other public entities, and/or utility companies. There may also be a need to relocate structures or utilities. EWP projects, on the other hand, may go from signing the agreement to designing the project in a matter of days. Regardless of the project's complexity or the program under which it is implemented, the sponsors must assure that all necessary land rights have been acquired prior to the NRCS signing the project agreement.

(d) Design

After all of the land rights have been acquired by the sponsors and, if necessary, the sponsors have worked with utility owners to have utilities relocated, the design process may begin. Objectives, alternatives, and restrictions from the planning process are used as a basis for the design. A detailed topographic survey of the project site may be needed and, in many cases, a geologic investigation and soil mechanics report are required for the design of the project. Several factors are considered when deciding the extent of the design. For example, an EWP project with the purpose of removing debris from a stream may require only a few drawings and specifications. Conversely, a high-hazard dam would require an extensive study culminating in a complete design package. A complete design package typically contains the following documents:

- geology report
- soil mechanics report
- design report
- analysis and supporting documentation
- construction drawings
- construction and material specifications

- government's independent cost estimate
- proposed bid schedule
- construction schedule and estimate of performance time
- quality assurance plan (QAP)
- O&M plan

These documents should be made available to the QA inspection staff, including the QA inspector. The drawings, specifications, and bid schedule will be included in the contract to define the work to be accomplished by the contractor. The geology and soil mechanics reports are normally available to the contractor, as well as the QA inspector, and should aid the contractor and QA inspector in identifying borrow materials and the lower limits of excavation. The QAP documents the requirements for assuring a quality project is constructed. The QAP includes:

- inspection skills required
- equipment that will be needed by the QA staff
- QA tests that must be performed during construction
- an estimate of the amount of time the QA staff will be assigned to the job
- other inspection items
- names of the qualified individuals to be assigned QA duties
- approval from supervisors of the inspection staff
- time and equipment necessary for QA

The QAP is described in more detail in chapter 3 of this handbook, Contractor Quality Control and NRCS Quality Assurance.

(e) Construction contracting

When the design is completed and resources are available, the project can be contracted for construction. The resources needed before contracting for construction include the money to fund the construction contract including contingency money to cover any cost overruns and the funds and human resources necessary to provide the construction QA described in

the QAP. If the sponsors are sharing in the cost of construction for a *federally awarded* contract, they must clearly indicate the sources and availability of funds when they are needed to cover their share of the cost of construction. Construction contracting is described in more detail in section 645.0202.

(f) Operation and maintenance

After construction is completed, the project is turned over to the sponsors for O&M. The sponsors are then required to operate and maintain the project for the duration of its planned life. The planned life of the measure is established in the O&M agreement. Local NRCS personnel may assist the sponsors in periodic project maintenance inspections, but the sponsors must bear the cost of O&M.

645.0202 Construction contracting

When describing contracting for NRCS projects, it is necessary to divide contracts into two main categories: federally awarded and nonfederally awarded contracts. Federally awarded contracts are regulated by the Federal Acquisition Regulations (FAR). NRCS contracts are federally awarded contracts. The NRCS refers to nonfederally awarded contracts as “Contracting Local Organization (CLO) contracts” because they are administered by a CLO.

A contract is a binding agreement between two or more persons or parties. There are several different types of construction contracts including, but not limited to:

- fixed-price
- cost-reimbursement
- incentive
- time-and-materials
- labor-hour
- letter contracts

(a) Prior to awarding the contract (preaward)

The contracting agency (NRCS or CLO) must solicit bidders and adequately describe the work and the terms and conditions under which the work is to be carried out so the bidders can prepare their bid. Offerors (bidders) can visit the proposed construction site on their own or during the site showing with other site showing attendees.

(1) Solicitation

Contracts are awarded after sealed bidding or after negotiation. Either way, the work being acquired by any contract must be well defined so the offerors (bidders) know, in detail, what they are bidding or negotiating to do. In each case, the contracting process begins with the assembly of the solicitation package. The solicitation package contains the contract clauses, provisions,

bid schedule, drawings, and specifications necessary to define the work.

Contractors, material suppliers, and others with an interest in the project can obtain a solicitation package. If the NRCS is the contracting agency, the solicitation package is made available on a Web site called Federal Business Opportunities (FedBizOpps) at <https://www.fbo.gov>. The solicitation package is issued as an invitation for bid (IFB), request for quotation (RFQ), or a request for proposal (RFP).

For CLO contracts, the solicitation process will be made available according to the CLO's contracting rules and in accordance with the USDA's implementing regulations found in the Code of Federal Regulations at 7 CFR 3016.36. This rule applies to State and local governments that procure contracts involving Federal funds.

If the government cost estimate is more than \$100,000¹, bidders are generally required to provide a bid bond, which secures their bid. The bid bond is required to ensure that a bidder will not withdraw the bid and will execute a contract and secure required payment and performance bonds if he or she is awarded a contract. If a bidder declines contract award for any reason, the bid bond money is used to cover the difference in the cost between the original bidder's offer and the next low offer.

(2) Site showing or prebid conference

The solicitation package (or solicitation) is made available with ample time allowed for offerors to formulate their bids. A group site showing is scheduled between the time the solicitation package is made available and date of the bid or proposal opening. The site showing (sometimes referred to as the "prebid conference") is attended by offerors, material suppliers, and others interested in the work. It is recommended, but generally not mandatory, that an offeror attend the group site showing.

The contracting officer (CO) generally conducts the showing with assistance from technical staff. The contracting officer's representative (COR) or government representative (GR) and the construction QA inspector should attend and assist with the showing. The QA inspector starts the job diary at this point.

Minutes are kept of the site showing. These notes summarize discussions on plan interpretation and clarifications of the solicitation documents during the site showing. Some questions or clarifications are addressed in an addendum to the solicitation. Notes from the site showing should not be made available to the public without prior approval from the CO. Any addendum or amendment to the solicitation package becomes a part of the contract.

(3) Bid opening

A public bid opening is conducted on the date and time listed in the solicitation package. Offerors are not required to attend the opening of bids. The CO opens the sealed bids and announces the apparent successful bidder. After the bid opening, the CO must determine if the apparent successful bidder is responsive and responsible. A responsive offeror is one that has responded to all of the requirements for bidding the job as set forth in the solicitation package. A responsible offeror is one that can prove he or she has the resources and qualifications needed to perform the work. The CO should consult with technical staff to assist with determining responsibility.

A public opening is not conducted for proposals. The CO and any required technical staff will review proposals, assure they are responsive to the solicitation and responsible, and conduct negotiations if necessary.

(4) Contract award

Contracts are awarded to contractors on the basis of either:

- price
- the contractor's documented ability to perform the work (performance)
- both price and performance

Where required by the contract, an apparent successful bidder must be able to obtain a performance and payment bond. Performance bonds guarantee completion of the project by the contractor or the contractor surety, while payment bonds provide payment protection to subcontractors and material suppliers. Bonds are issued by a surety. A surety is a corporation or individual that, for a fee paid by the contractor (the fee is similar to an insurance premium), will step in and bear the cost of completing the project if the contrac-

¹ The \$100,000 threshold requirement was applicable in 2009. Procurement thresholds are subject to change.

tor defaults on the contract or provide a means for unpaid subcontractors or material suppliers to receive payment. Contract default means that the contractor failed to perform the work according to the terms and conditions set forth in the contract. The apparent successful bidder must also provide documentation that he or she has the experience and resources to perform the work. Once the CO considers the bidder to be both responsive and responsible and the price offered is reasonable, the bidder is awarded the contract.

(b) After awarding the contract (postaward)

(1) The contract document

At the time of contract award, parts of the solicitation package and any addendums or amendments to the solicitation package become the contract document. This document is commonly termed “contract,” a legally binding document. Any changes to the contract henceforth are made with a written modification signed by the CO. All parties involved in a contract must understand that it is not a guide; it is the law by which all parties must abide. There is no authority given to the contractor to perform work other than that directed by the contract, and there is no authority for anyone, other than the contracting officer through contract modification, to require the contractor to perform work that is not explicitly directed by the contract. Any work added by modification must be within the scope of the original contract and work deleted must not alter the scope of the original contract.

After the contract is awarded to the contractor, the contractor is given a fixed amount of time before work must begin. This time is needed for the contractor to provide documents to the CO which are required before the construction can begin. During this time, the contractor may contract with any suppliers and subcontractors that will participate in the work. If there are subcontractors participating in the project, the contractor who was awarded the contract is termed the “prime contractor.” The contracting agency (NRCS or CLO) only has a contractual obligation to the prime contractor (known as privity of contract). The prime contractor has a contractual obligation to the contracting agency and to any subcontractor or supplier.

(2) Preconstruction conference

A preconstruction or postaward conference is conducted for the prime contractor, contracting officer, and project engineer to discuss administrative and technical aspects of the contract. Several people from the prime contractor’s organization including suppliers and subcontractors may attend this meeting. The CO requires that others who are assisting with the administrative and technical duties also attend the conference. The construction QA inspector should always attend the preconstruction conference. An item that should be discussed at every preconstruction conference is construction safety. Safety is addressed in detail in chapter 4 of this handbook, Construction Safety and Health.

(3) Notice-to-proceed

When all documents required of the prime contractor have been submitted to the CO and the CO is satisfied that all contractor requirements have been met and QA forces are in place, a notice-to-proceed is issued to the contractor. The contractor is given a date by which mobilization to the site must begin. Failure of the contractor to begin work by this date is a breach of contract and could result in default of the contract.

(4) Contract administration

Generally speaking, contract language and the administration of contracts are similar for federally and nonfederally awarded contracts. There are some differences in responsibilities, terms, and conditions; a few of which are described here.

Authority—Federally awarded contracts are administered by an NRCS CO. The CO has sole authority for obligating Federal funds and administering the contract. This means that only the CO can require the contractor to perform less, more, or different work than what is detailed in the contract. Any change in the amount or scope of work must be spelled out in a contract modification signed by the CO.

Non-Federal contracts are administered by a CO who is employed by the CLO. This CO is not authorized to obligate Federal funds; thus, the NRCS State administrative officer (SAO) or NRCS contract specialist (CS) must agree to any changes that alter the value of the contract.

Contract language—Federal contracts are regulated by Federal procurement regulations contained in the FAR. In addition to the FAR, federally awarded contracts contain Agricultural Acquisition Regulations (AGAR) and NRCS Acquisition Regulations (NRCSAR). Select clauses from the FAR, AGAR, and NRCSAR are included in the construction contract package along with the drawings and specifications. Which clauses are included depends on the type of contract, type of work, and estimated cost of the project.

CLO contracts are generally regulated by State procurement regulations and 7 CFR 3016.36, issued by the USDA. The FAR requires Federal contracts to contain clauses such as the Davis-Bacon Act and Contract Work Hours and Safety Standards Act. (These clauses require the contractor pay employees Federal wage rates and overtime for more than 40 hours per week.) When program legislative language requires the inclusion of Federal clauses such as these, CLO contracts implemented under these programs must include these clauses. Where applicable, the project agreement should contain requirements for certain clauses and specific language to be included in a CLO contract.

Changes—There are two types of contract modifications:

- Unilateral modifications are modifications signed by the CO only. The contract contains opportunities for unilateral modifications to the contract through clauses such as unusually severe weather, changes, stop work, options, and termination. Unilateral modifications may also be issued when the CO and the contractor cannot agree on the cost or performance time related to the change. This is done in an effort to avoid additional costs that might result if the work is delayed while negotiating the terms of the modification.
- Bilateral modifications or supplemental agreements are signed by both the CO and the prime contractor. Bilateral modifications are more desirable and used more frequently than unilateral modifications. With bilateral modifications, both parties agree to the terms of the modification and the contractor signs a release of claims. A unilateral modification may be converted to a bilateral modification if after the unilateral modification is issued the CO and the

prime contractor reach agreement on the terms of the modification.

Changes of a technical nature must also have the approval of the engineer responsible for the design. If the design is done in-house by an NRCS design engineer, the State Conservation Engineer (SCE) generally signs and seals the design. Thus, the SCE or an engineer authorized to represent the SCE would have to concur with any contract modifications of a technical nature. If a private engineering firm designs the project, the SCE and the responsible engineer from that firm (the engineer who signed and sealed the design) would have to concur with any contract modifications of a technical nature. The sponsors should concur with any change that could impact their obligations or responsibilities related to the operation or maintenance of the project.

Quality assurance—For federally awarded contracts, QA is the responsibility of an NRCS inspection staff. Within the NRCS, this staff typically consists of a project engineer who is usually appointed to be the COR or GR and QA inspector. The inspection staff may also include civil engineering technicians, survey crew, and clerical staff. When NRCS inspection personnel are unavailable, some or all of the QA duties may be contracted to a firm, such as an architectural and engineering (A&E) firm, to provide all or part of the necessary QA services.

The project agreement will state who will perform QA duties for a CLO contract. The CLO may perform these duties with their own forces or hire a private firm to perform QA duties. In many instances, the NRCS is designated to perform QA duties. In such cases, the NRCS inspection staff roles of the QA inspector are similar to that for a federally awarded contract. There is no COR on a CLO contract; however, the GR performs duties on a CLO contract similar to a COR duties performed for a federally awarded contract.

645.0203 Team member responsibilities

Project implementation requires teamwork. As previously described, there are several team members involved throughout each phase of the project implementation process. To be an effective and fully successful team member, it is helpful to have a general idea of the role of the other team members, and it is imperative that each member have a thorough understanding of his or her role in the process.

Since the QA inspector's involvement is in the construction phase of a project, this section focuses on the team members involved in the construction phase. Each team member is listed with a synopsis of his or her duties. A detailed description of the QA inspector's duties is given in chapter 3 of this handbook, Contractor Quality Control and NRCS Quality Assurance.

The team members are divided into two groups: the contracting agency (NRCS or CLO) team members and contractor team members. Both groups make up one team with a common goal—to construct the project according to the terms and conditions of the contract, safely, on time, and within budget.

(a) Contracting agency team members

(1) Construction QA inspector

The construction QA inspector, or QA inspector, is responsible for the day-to-day QA activities on the project. This means the QA inspector's job is to verify that the work is being performed in strict compliance with the terms and conditions of the contract. The QA inspector works closely with the COR on federally awarded contracts or the GR on CLO contracts. The QA inspector also works closely with the contractor's quality control (QC) organization.

The QA inspector has no authority to alter the terms and conditions of the contract; if a change must be made, the QA inspector contacts the COR (or GR for CLO contracts), who works with the CO to modify the contract.

The QA inspector typically remains on the project whenever there is work being accomplished that requires full-time inspection. There may be more than one QA inspector assisting with QA, and each may be appointed by letter; but, there will only be one QA inspector of record (chief inspector) who is in charge of the onsite QA program. The chief inspector must be appointed by written appointment. The appointment letter will be issued by the CO on federally awarded contracts or the SAO or GR on CLO contracts. The QA inspector of record will coordinate with any other QA inspectors who assist with QA inspection duties. The chief inspector and those assisting the chief inspector will be either NRCS employees, CLO employees, or employees of a private firm contracted by either the NRCS or CLO to perform construction QA. It is not uncommon to have employees of various entities assigned to various QA tasks.

(2) Contracting officer

The CO is responsible for compiling the solicitation package, soliciting bidders, awarding the contract, and administering the contract. The CO has sole authority for obligating Federal funds on a federally awarded contract. This means that any changes to the contract requiring the contractor to do less, more, or different work than is stated in the contract can only be approved by the CO. This approval comes in the form of a modification signed by the CO. For CLO contracts, the CLO's CO must have the concurrence of the NRCS SAO or CS before modifying the contract where NRCS financial assistance is provided. Any changes of a technical nature must be approved by an NRCS employee with engineering approval authority for the project.

(3) Contracting officer's representative

The COR is an NRCS employee who represents the CO and assists the CO in the administration of federally awarded contracts. The term does not apply to CLO contracts; the term for the similar position for CLO contracts is "government representative (GR)."

For construction contracts, the position requires an individual with the ability to address technical concerns; thus, the COR is usually an engineer and may be referred to as the project engineer as well as COR. Employees must be certified to be CORs. The Federal Acquisition Certification for Contracting Officer Technical Representatives (FAC-COTR) certification process requires the employee to complete specific

training in an effort to ensure he or she is competent to perform the tasks for which appointed.

The COR, like the QA inspector, is issued a written appointment letter signed by the CO. In similar fashion to the QA inspector's appointment letter, the COR appointment letter details the responsibilities of the COR and lists items that the COR is authorized to do.

The COR assists the QA inspector with interpreting the contract, documenting construction activities, and other QA duties. The COR will visit the site periodically; the amount of time the COR spends onsite is dependent on several factors including the QA inspector's capabilities and the complexity of work. It is uncommon for the COR to remain on site at all times during construction. Thus, the QA inspector must keep the COR informed of any concerns of a contractual or technical nature.

The COR also assists the CO in contract administrative matters such as conducting the site showing, conducting the preconstruction conference, monitoring contractor progress, reviewing progress payment requests, suggesting modifications, reviewing certified payrolls, conducting final inspection, and reviewing final payment requests.

(4) Design engineer

The design engineer is the engineer responsible for the project design. This may be an NRCS employee, employee of the CLO, or an employee of an A&E firm. The design engineer should be called upon to assist with technical decisions during construction. Whenever there are unexpected site conditions or changes that could affect the performance of the measure being constructed, the design engineer must be consulted unless the project engineer/COR can adequately address the situation. Any modification of a technical nature that could affect the function of the project must have the design engineer's concurrence. In many instances, it is important for the design engineer to meet with the project staff (COR/GR and QA inspector) to inform them of the basis/reasoning behind the design or address specific aspects of the design so that the project staff can adequately conduct their duties. To ensure a good transfer of this knowledge, it is good practice for the design engineer to visit the site periodically to ensure that the work is being installed as designed.

If the design is performed by an A&E firm, the A&E firm should also be contracted via a construction period services contract to evaluate design-related changes and to conduct a number of prenegotiated site visits at key construction milestones.

(5) Geologist

Most NRCS project work requires detailed investigation of the geology to be used in the design. The investigation results in a report that is used by the soil mechanics engineer and design engineer. The NRCS geologist may perform this detailed geologic investigation with in-house equipment and personnel. It is also common for the geologic investigation to be contracted out to a private firm that either assists the NRCS geologist with the investigation or performs the investigation without the aid of an NRCS geologist.

The geologist may be called upon to provide technical assistance during construction. This is generally necessary when unanticipated geologic conditions are uncovered during construction. The COR and QA inspector must be familiar with anticipated geologic conditions and be able to recognize when changes in the geology from that which was anticipated warrants a site visit by the geologist.

The QA inspector should retain a copy of the geologic investigation report for reference during construction.

(6) Government representative

The GR is an NRCS employee who represents the government and assists the sponsor's CO in the administration of CLO contracts. The term does not apply to federally awarded contracts; the corresponding position for Federal contracts is called COR.

For construction contracts, the GR is usually an engineer. The GR assists the QA inspector with interpreting the contract, documenting construction activities, and other QA duties. The GR will visit the site periodically; the amount of time the GR spends onsite is dependent on several factors including the QA inspector's capabilities and the complexity of the project.

The GR may also assist the sponsor's CO in contract administrative matters such as conducting the site showing, conducting the preconstruction conference, monitoring contractor progress, reviewing progress payments, suggesting modifications, conducting final inspection, and reviewing final payment.

The GR, like the QA inspector, is issued a written appointment letter signed by the SAO or NRCS CS. In similar fashion to the QA inspector's appointment letter, the GR appointment letter details the responsibilities of the GR and lists items that the GR is authorized to do.

(7) Project engineer

The project engineer is the engineer who is responsible for overseeing the technical aspects of the contract. The project engineer represents the design engineer and the CO in that he or she is responsible for seeing that the project is constructed as designed and that payment quantities are accurate. In the NRCS, the project engineer is usually appointed as the COR or GR, as applicable. The project engineer is also responsible for completing and certifying as-built plans.

(8) Program manager

The program manager is the NRCS employee responsible for ensuring that program requirements are met throughout all phases of the project and for securing Federal funds for technical and financial assistance.

The QA inspector may not work directly with the program manager, but should be aware that the program manager is a key figure in the process of project implementation.

(9) Soil mechanics engineer

The geologist samples and classifies soils according to an engineering soil classification system called the Unified Soil Classification System (USCS). The soils are then sent to a soil mechanics laboratory for further analysis.

The soil mechanics engineer performs or oversees the performance of tests to determine the relevant chemical and physical properties of the soils; this information is needed to design the project. Examples of physical properties that may be relevant are bearing capacity, shear strength, permeability, dispersiveness, and compaction characteristics. Results of all tests that are performed in the laboratory are included in a soil mechanics report. The soil mechanics report will also contain recommendations from the soil mechanics engineer to be considered by the designer. For example, if the project is for the construction of a dam, the soil mechanics report would include recommendations for filter and drainage features, where to place the various soils within the embankment, maxi-

mum slope or grade of the upstream and downstream slopes, moisture and density requirements of the soils placed in the dam, and if applicable, instructions for utilizing dispersive soils. The QA inspector should retain a copy of the soil mechanics report for reference during construction.

(10) State administrative officer or NRCS contract specialist

The SAO or NRCS CS approval duties are listed in the project agreement. There are certain CLO actions that require concurrence from the NRCS SAO or CS. This position issues the letters of appointment to GRs and QA inspectors. This position provides guidance and reviews the CLO solicitation. Some other items that require review and concurrence include bonds, contract selection, modifications, payment requests, and final acceptance.

(11) State conservation engineer

The SCE is responsible for all NRCS engineering work performed within the State. The SCE signs and applies his or her engineering seal to designs that are performed in-house by NRCS designers. The SCE also coordinates with A&E firms that design NRCS projects.

Any contract modification of a technical nature must have the concurrence of the SCE.

(12) Surveyor

Several groundline surveys are made during the course of a typical NRCS project. The first survey is generally made by an NRCS surveyor or a surveyor contracted by the NRCS to perform planning surveys. Planning surveys, if needed, will provide limited groundline information needed to determine approximate project limits needed for items such as land rights acquisition.

Prior to design, a detailed groundline survey will be required by the designer. This survey may be accomplished by NRCS personnel or a private surveyor. The geologist will coordinate with the surveyor to locate bore holes, pits, and other features relative to the planned location of the dam or other measure being designed. The NRCS surveyor may also set some reference points to be viewed by potential offerors during the site showing. In some cases, the NRCS will perform construction staking to layout the work for the contractor. This is not viewed as desirable because it places an unwarranted responsibility on the NRCS, but in some instances (primarily small jobs), it is practi-

cal to do so. The QA inspector will likely be asked to assist whenever the NRCS performs construction staking.

Basic staking is provided by NRCS or CLO surveyors for construction projects. Basic surveying normally includes setting benchmarks and baselines. Construction staking, such as setting grade stakes, is normally completed by the contractor. The contract should define surveying responsibilities for both the contracting agency and the contractor.

(b) Construction contractor team members

(1) Contractor or prime construction contractor

The prime construction contractor is the entity responsible for constructing the project in accordance with the terms and conditions of the contract. There may be several contractors involved in one project, but there will be only one prime contractor. The prime contractor may enlist subcontractor(s) to perform specific aspects of the work. The contracting agency contracts with the prime contractor, not the subcontractor. The contracting agency takes no part in the contract between the prime contractor and the subcontractor.

(2) Foreman

A foreman is employed by a contractor to supervise a work crew. There may be several work crews performing various items of work at any one time on the construction site. Each crew should have a foreman to interpret plans, delegate work, and see that the work is being constructed as planned and specified. The foreman coordinates with the superintendent to ensure the work crew is performing work as scheduled and so equipment and materials are made available when needed.

(3) Project manager

The project manager is employed by the contractor to oversee and manage the entire operation for a particular project. The project manager is usually the person that deals with the CO and COR or GR on contract matters.

(4) Quality control manager

The quality control manager (QCM) is employed by the contractor to manage the QC program. The QCM

should report directly to the prime contractor's upper level management, not to the superintendent or other member of the staff whose primary focus is on rate of production. The prime contractor's upper-level management generally includes the owner, company president, or project manager. These individuals should be concerned with construction quality as well as production. See chapter 3 of this handbook, Contractor Quality Control and NRCS Quality Assurance, for a detailed description of the role of the QCM.

Depending on the size and complexity of the job, there may be several people assisting the QCM. It is not uncommon for the QCM to enlist the services of a private testing laboratory to assist with QC testing. The contract may require a written QC plan that lists the items to be inspected, tests to be made, and individuals or private laboratories that will make up the QC team. If specified in the contract, the QCM will remain onsite when work is being performed. The QCM will confer with the QA inspector and provide the QA inspector with documentation of test results and QC activities as required by the contract.

(5) Safety officer

The NRCS Supplement to OSHA Parts 1910 and 1926 (OSHA Supplement) requires the contractor to designate a competent supervisory employee satisfactory to the CO to administer the safety program. This individual is termed the "safety officer." The safety officer is responsible for implementing the safety plan, which is required by the OSHA Supplement and by the FAR accident prevention clause. In addition to the safety officer, each work crew must include an employee who has a current first aid certificate. Chapter 4 of this handbook, Construction Safety and Health, addresses safety in more detail.

(6) Superintendent

A superintendent is employed by the contractor to directly superintend the work. The superintendent must be competent and satisfactory to the CO and have the authority to act for the contractor. The superintendent is to remain onsite when work is being performed. The superintendent should confer with the QA inspector and QCM to determine how best to ensure quality in the product while diligently pursuing the work. It is common for construction contracts to require a superintendent and define the superintendent's role. The contract clause FAR 52.236-6 entitled "Superintendence by the Contractor" is included in most federally

awarded construction contracts. CLO contracts should contain a similar clause.

(7) Surety

The surety is a corporation or individual that, for a fee paid by the contractor, agrees to assume the liability if the contractor fails to satisfy its contractual obligations. Such agreements are made through payment and performance bonds, which the contractor is required to provide to the government when the contract price exceeds \$100,000. If the contractor fails to meet his or her contract obligations (defaults on the contract), the surety may take control of the work from the contractor and see that the work is finished as specified in the contract. If a surety takes control, the surety may employ the same contractor or another contractor to finish the work at whatever cost required to satisfy contract obligations. When a contractor defaults on a contract and the surety takes it over, no additional funds are obligated by the contracting agency for any additional costs resulting from the contractor's default.

For contracts valued at less than \$100,000, a performance bond is not required. A payment bond is required on construction contracts between \$30,000 and \$100,000 to protect subcontractors and suppliers against nonpayment².

(8) Surveyor

Basic staking is provided by NRCS or CLO surveyors for construction projects. Basic surveying normally includes setting benchmarks and baselines. Construction staking, such as setting grade stakes, is normally completed by the contractor. The contract should define surveying responsibilities for both the contracting agency and the contractor.

Generally, the contractor must employ a surveyor who is responsible for laying out the work and, in many cases, performing quantity surveys. The contract will likely require the contractor to submit the name and qualifications of the surveyor prior to beginning any surveying activity on the site. The surveyor must be competent in construction surveying. The surveys to be conducted by the contractor's surveyor are specified in the contract specification for construction surveys.

² The \$30,000 and \$100,000 thresholds were applicable in 2009. Procurement thresholds are subject to change.

645.0204 References

Code of Federal Regulations, Title 48, Federal Acquisition Regulations System.

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