

**CONSTRUCTION SURVEYS**

1. **APPLICABILITY**

Construction Specification 7 is applicable to construction contracts containing clauses requiring the Contractor to provide construction surveys, layout and measurement from government established baselines and bench marks; to provide quantity surveys, measurements and computations for progress payment estimates; and when Method 3, Section 5, is authorized, provide original and final surveys for final quantity determinations.

2. **MATERIAL SPECIFICATIONS**

There are no material specifications complementary to this specification. Any material requirements are to be specified in Section 9.

3. **ITEMS TO BE INCLUDED IN CONTRACT SPECIFICATIONS AND DRAWINGS**

- a. Baselines, benchmarks, and all other basic survey control information to be provided by the government are to be indicated on the drawings.
- b. Number of copies, format and timing of the submittal of survey data, notes, computations, etc., to be provided to the Engineer by the Contractor.
- c. Special requirements for advance notification of surveys to be performed by the Contractor.
- d. Quality of any material, as applicable. Example may be the providing of permanent reference stakes.
- e. Qualifications of construction survey personnel such as qualified construction personnel, certified or licensed land surveyors, or registered engineers. Provide a list outlining the minimum requirements expected.
- f. Special requirements for staking, such as offset reference stakes and hubs for excavations and fills.
- g. Requirements other than the standards of the industry such as being consistent with NRCS procedures or higher levels of accuracy than those specified. Precision and accuracy is discussed in EFH Chapter 1.
- h. Any special surveys, etc., to be performed by either the Contractor or the government, that are not listed in Section 5.

#### 4. DISCUSSION OF METHODS

##### a. Section 5, Construction Surveys

- (1) Method 1 is for use where the government provides basic staking that includes alignment, grade and slope stakes. Other staking shall be performed by the Contractor and is considered quality control construction staking and surveys for the determination of work accomplished for progress payment purposes.
- (2) Method 2 is for use where the Contractor performs all surveys required for the layout and control of construction work and all surveys necessary for progress payment quantities. This does not include original (initial) and final surveys for determining final quantities for payment purposes.
- (3) Method 3 is the same as Method 2 except the Contractor is required to perform the original (initial) and final surveys for use in determining final payment quantities. Note: The use of Method 3 requires approval to use FAR Clause 52.236-16, Quantity Surveys, Alternate I. NRCS policy for Field Surveys is located in NEM Section 540.04, Contractor Surveys; Section 540.05, Checking; and, Section 540.06, Responsibility. The project's Quality Assurance Plan should outline the checking requirements. The State Conservation Engineer has the authority to approve construction documents (drawings and specifications) that outline the survey responsibilities. Administrative authority to use Method 3 rests with the Contract Specialist on the Regional Office Staff.

##### b. Section 8, Payment

- (1) Method 1 is for use when a related construction survey activity is significant and not expected to be uniform throughout the contract.
- (2) Method 2 is for use when the extent of required construction survey is minor and could be expected to be fairly uniform throughout the duration of the contract.

When specifications are prepared using electronic procedures and all but one method are deleted for use in a contract specification, delete "All Methods The following provisions apply to all methods of payment." and left justify the remaining text.

Note: The implementation of methods within this construction specification needs to be compatible with the Quality Assurance Plan prepared and approved for the project.