

## SECTION 152 CONSTRUCTION SURVEY AND STAKING

**152.01**      **DESCRIPTION** - Item (a) of this subsection is modified as follows:

- (a) Personnel - Furnish technically qualified survey crew that can perform in timely and accurate manner. An approved crew employed and supervised by a duly licensed land surveyor shall be on the project whenever survey work is in progress. The minimum survey crew shall be three (3) persons with a maximum of six (6) persons.

**152.02**      **GENERAL** – Add the following to this Subsection:

Provide new monuments, where shown or specified. Notify the CO if any previously established reference points have been destroyed or displaced, or that none have been established.

Protect and preserve established benchmarks and monuments and make no change in the locations without written approval of the CO. Established reference points which may be lost, covered, destroyed, or disturbed in the course of performance of the work under the Contract or which require shifting because of necessary changes in grades or locations shall, subject to prior approval of the Contracting Officer, be replaced and accurately located (as appropriate) at the Contractor's expense by a CNMI licensed land surveyor.

Verify the figures shown on the survey and site plan before undertaking any construction work and be responsible for the accuracy of the finished work.

Upon approval of the layout plan, reference all points requiring monuments including all existing survey control monuments subject for resetting, in accordance with approved surveying standard practices and methods certified by a duly registered land surveyor registered in the CNMI, preferably by two (2) intersecting lines. Place reference points far enough to avoid from being disturbed or displaced during the construction.

Set construction stakes establishing lines, slopes, cut or fill, profile grade, and other control deemed necessary to properly control the road work or as directed by the CO.

Provide yellow barricade tape marked "CAUTION: DO NOT ENTER" at the location of any identified historical sites; maintain throughout the duration of the project and avoid entry of public and construction workers.

**152.03**      **SURVEY AND STAKING REQUIREMENTS:**

- e) **Centerline re-establishment** - Revise the last sentence of this Item to read:  
  
Establish centerline as many times as necessary while constructing the road.
- f) **Grade finishing stakes** - Add the following to this Item:

Set stakes at 20 feet interval in all ditches to be paved. Use brushes or guard stakes at each stake. For subgrade, use red top hubs and for aggregate course(s), use blue top hubs.

- (g) Delete entirely.
- (h) Delete entirely.
- (i) Retaining wall – Revise second to the last sentence of this Item to read:

For each cross-section, measure and record points every 20 feet and at all major breaks in terrain.

(l) **Miscellaneous survey and staking:**

Delete item (4);

Add the following to this item:

- (11) Re-establishing of all land survey monuments, property corners, U.S.G.S. Benchmarks, and U.S.G.S. Control Points found within the right-of-way.

**152.04**      **ACCEPTANCE** – Add the following to this Subsection:

Furnish an As-Built drawing based on the actual survey data of the completed project in AutoCAD Version 2012 or as directed by the CO. The As-Built must be certified by a Registered Licensed Land Surveyor in the CNMI.

**152.05**      **MEASUREMENT** - This subsection is revised as follows:

Centerline re-establishment, grade finishing stakes, and all necessary construction survey and staking will be measured by lump sum. The minimum survey crew size is 3 persons and the maximum size is 6 persons. As-Built survey data will not be measured for payment but will be considered an obligation to complete construction survey and staking.

**152.06**      **PAYMENT** – Add the following to read as follows:

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
15201	Construction Survey and Staking	Lump Sum
15202	Survey for Permanent Monuments and Markers	Each

**END OF SECTION 152**