

PART 540 – FIELD SURVEYS

WI 540.02(c)

§ WI 540.01 Format

- (a) Forms NRCS-ENG-28 and NRCS-ENG-29 are to be used for all surveys where loose-leaf notebooks may be used. Forms NRCS-ENG-28 and NRCS-ENG-29 is not required for terraces, waterways, diversions, and surface drains with small drainage areas if the information is placed directly on design data sheets.
- (b) A sketch map shall be prepared for all surveys. The sketch map shall be prepared on Form NRCS-ENG-28 for all surveys where loose-leaf notebooks may be used. It will locate the survey and show the location of the benchmarks(s). A properly prepared sketch should allow an individual not familiar with the job to locate the survey and the benchmark. Sketches are not required for construction layout and construction check surveys if the notes are referenced to the design survey sketch and the same stationing is used.

A sketch map of the survey shall be attached to the hard copy of the survey data downloaded from electronic data collection systems.

- (c) Benchmarks shall be established, described, and recorded on surveys requiring the use of control elevations. The point selected shall be one which will not likely be destroyed during construction. Survey notes will describe the benchmark and reference the point to a recognizable physical object.

§ WI 540.02 Precision and Accuracy

- (a) Horizontal and vertical control shall be performed utilizing the guidelines of Chapter 1, Engineering Field Handbook.
- (b) Transit-stadia surveys shall not be used for determining final quantities, which are the basis for contract, pay items. A rod level should be used to insure a vertical rod reading whenever vertical angles are used to obtain elevations other than for developing topographic maps. Stadia correction tables or applicable computer software shall be used. Distances shall be read to the nearest estimated one-foot interval. Normally, vertical angles should be restricted to less than 10° and distances to 1,000 feet or less when transit-stadia surveys are used.
- (c) Hand levels are permissible for obtaining profiles for waterways and/or diversions with small drainage areas (normally less than 80 acres) and where the constructed channel grade will be greater than 1 percent. Hand levels may also be used for obtaining and/or checking cross sections on waterways, surface drains, and excavated ponds, which do not require control elevations. Hand levels are not acceptable for (1) obtaining survey data on PL-566 or RC&D projects constructed with formal contracts, (2) checking profiles for terrace systems, or (3) for final construction checks on embankment structures.

WI 540-3 (1)