

Form LD-200 (Horizontal Control Reference Card) (**Figure 10-F**) shall be completed for all permanent monuments set for horizontal control, for referencing purposes. When the cards have been completed by VDOT personnel or consultants, a copy will be sent to the State Geodetic Survey Engineer and the appropriate District immediately upon completion of the control.

#### *Sec. 4.05* **Traverse alignments or baselines and Datum**

The traverse alignments (legacy) or baselines should be established to be functional relative to the safety and geometric alignment of the survey corridor of the project.

Any new survey, that will not be tied into any existing VDOT survey projects, shall be tied to the **Virginia State Plane Coordinate System, North American Datum of 1983 (Current Published Adjustment) Datum**, horizontally, and **North American Vertical Datum of 1988 (NAVD 88)** vertically. The **Global Positioning System (GPS)** should be utilized whenever it is practical to do so. Unless specifically directed by the State Survey Program Manager, any survey that is an extension of, or will tie into, an existing VDOT survey project will be constrained to the datum of the existing survey project. The State Survey Program Manager or State Geodetic Survey Engineer will furnish all N.G.S. (formerly U.S.C. & G.S.) control data in the area of the survey when the survey is authorized. The use of assumed vertical is not acceptable.

In the establishment of the survey traverse alignments, the distance and angular measurement methods or procedures shall be commensurate with the degree of accuracy required. All alignment computations (curve data) must be calculated to the fourth decimal place and shown to the nearest one-hundredth foot (**0.01-ft**). A single traverse line or baseline for the measurement of cross-sections is desirable in the development of computerized design and earthwork. In proposed dual lane situations, the one traverse line should be located so that readings may be obtained and full coverage of both lanes recorded.

Traverse baselines or traverse alignments will be included in a VDOT Survey file and will be entered according to the VDOT CADD Standards. All traverse closures will be reported. The CADD Standards are included in **Chapter 2** of the CADD manual. All text, levels, weights and line styles entered into a survey file will adhere to these standards. The file standards presently being used by VDOT are shown in the CADD manual.<sup>◊</sup>

Legacy survey alignment stationing should begin with a station not less than **10+00** (Feet) and increase from the **South** to the **North** or from the **West** to the **East**. If the new stationing conflicts with the stationing of a previously constructed project within the limits of the new survey or if the survey is the extension of a previous survey, the old stationing shall be carried forward.

**Minus stations and overlapping equalities are not to be used.** Equalities in stations should be avoided wherever possible. If an overlapping equality occurs, the **AHD** (Ahead) station shall be increased by **1000**.

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<sup>◊</sup> March 3, 2014