

- Minimum overhead clearance prior to change
- Minimum overhead clearance after change

Date of change

Temporary or permanent

## SAG VERTICAL CURVES

Criteria for establishing lengths of sag vertical curves are (1) headlight sight distance, (2) rider comfort, (3) drainage control, and (4) a rule-of-thumb for general appearance. (See AASHTO's A Policy on Geometric Design of Highways and Streets, Chapter 3\* for controls - applicable to both rural and urban projects).

## CREST VERTICAL CURVES

Crest vertical curves are to be in accordance with Geometric Design Guidelines for the Functional Classification, traffic volumes and design speed of the road being designed. (Also see [IIM LD- 117](#)).

## DEPICTING VERTICAL ALIGNMENT ON PLANS

Proposed grade lines are to be shown in a heavy solid line, except for dual lane highways, in which case one lane should be shown as a heavy dashed line. Both are to be clearly labeled.

Percent of gradient is to be shown on each tangent line.

Grades are to be designed in conformance with the [Geometric Design Guidelines shown in Appendix A](#) for the Functional Classification, traffic volumes and design speed of the road being designed.

Finished grade elevations are to be shown in the bottom 1" (25 mm) of the profile sheet from beginning to end at prescribed intervals (50' for Rural, Primary and Interstates and 25' for Urban) and at transition points. (Transition points are to be computed and shown through the superelevation transitions of all horizontal curves for TS, SC, CS, ST, PC, PT and every 25' increment. Chord points are to be computed ( $Lr/10$ ) and shown on projects with pavement widening only. For clarification of transition and chord points, see Road and Bridge Standards.) When showing the superelevation diagram on the profile sheet, station pluses, centerline elevations, edge of pavement elevations (left and right) and offset distances (left and right) through the transition are to be furnished. If projected grades are computed manually, the St'd. TC-5 Tables are used in computing transition point elevations. Finished grade elevations are also to be shown at change of grade points without vertical curves, at the beginning and end of each profile sheet, at the beginning and end of the project, beginning and end of bridges, at equalities, and equivalent stations.

Begin and end project stations are to be flagged as shown in Figure 2D-4.

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\* Rev. 3/11