

Sec. 8.07 **Bridge Stakeout**

The Contract Surveyor should check the consistency between the stations and the dimensions given on the bridge plans. If any difference is found, the Contract Surveyor should immediately notify the District Survey Manager and the District Structure & Bridge Engineer so that the differences can be resolved. This check is necessary on all grade separation structures to insure that the substructure is correctly located with respect to railroad tracks or under passing roads before construction is started.

The Contract Surveyor is to set stakes at the intersection of the baseline of the bridge and the centerline of each pier. Also, stakes shall be set on the baseline of the bridge at the intersection of the lines shown on the plans on the abutments from which dimensions are referenced. These intersection points will be shown on the sub-structure layout sheet of the bridge plans. Angles are to be turned to the centerline of all piers and the lines shown on the plans on the abutments from which dimensions are referenced and stakes set on either of the bridge baseline on these centerlines. **All bridge staking shall be in accordance with Section 105.13 and 517, [Figure 8J](#), and [Figures 2 & 3](#).**

All measurements of distances and angles are to be checked thoroughly by the Contract Surveyor using a different method than that used initially.

After completing the stakeout and thoroughly checking the same, the Contract Surveyor shall locate in red pencil on the layout sheet of the bridge plans used by the Project Inspector, and Contractor's Superintendent all points which have been staked. This should be done in the presence of the Project Inspector and the Contractor's Superintendent or Engineer.

The Contract Surveyor shall set an adequate number of stakes at 25' intervals or less to locate the position of the toe of fill (or cut) in front of the two abutments. The Contract Surveyor should be certain that the road and bridge plans agree as to dimensions, rates of slope and super elevation on the abutment slopes.

Sec. 8.08 **Slope Stakes**

Slope stakes shall be set at all stations in accordance with the latest standards. The correct method of marking and setting slope stakes is shown in [Figure 8-K](#). For information on producing slope stakes notes, see [Figures 8-E through 8-G](#). A careful examination should be made of the typical sections as shown, in regard to width of surfacing, width of shoulder and width of ditch, together with the cut or fill slopes or CS standards used. Also, a careful examination should be made of the summary sheets, plan sheets, profile sheets, special notes pertaining to the staking and construction of the project, and the plan cross-sections to determine the suggested slope to be used in special cases. In case of a conflict, the District Survey Manager will contact the Design Unit for clarification and when such clarification is given, staked accordingly. It is recommended that the slope stake listing from IGRDS or GEOPAK is secured as considerable time and effort can be saved with its use.