

Borrow excavation is reduced in some cases, depending on the position the material is placed within the roadway fill section. With flatter slopes, some guardrail may be eliminated, reducing costs and providing a safer facility. The designer should make a careful analysis of where the unsuitable material is being removed and where it is to be placed to determine if a double haul will be required. If a double haul is required, it could make the design uneconomical due to the extra cost in handling and stockpiling. Consequently, once the soil survey is available, the method of disposing of unsuitable material must be reviewed and approved by the District \*Engineer/Administrator or his/her designated representative.

When root-mat is disposed of by using it to cover fill slopes, the following note is placed on the plans on the [grading diagram and summary sheet](#):

" \_\_\_\_\_ Cu. Yds. of Root-mat topsoil is to be stockpiled and used for covering fills to a depth of \_\_\_\_\_ inches. Placement is limited in all situations to an elevation of at least 6 feet below the top of the proposed subgrade at the side slope and at locations where and as directed by the Engineer. All debris which would impede mowing operations is to be removed from the top 10 feet of the fill slope."

The designer is to adjust the depth used in an effort to use up the supply of root-mat. Removal and stockpiling root-mat is paid for as regular excavation and the basis of payment for spreading is to be "Topsoil Class A," by the acre.

The Grading Diagram and Summary, as discussed in [Section 2G-2-SUMMARY SHEETS](#) provides guidelines in arriving at usable cut quantities when using the Grading Diagram method.

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