

EROSION CONTROL - ROADSIDE DEVELOPMENT

By

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In preventing soil erosion on agricultural lands the effect of highway areas crossing drainage watersheds cannot be overlooked. The demonstration work of the Soil Conservation Service in cooperation with highway officials has aimed to solve erosion control problems on highway cut and fill sections having particularly troublesome soil types. An economical solution to this problem will materially benefit adjacent agricultural land as well as the public land used for the road. When new highways are located, erosion control should be considered one of the fundamental engineering problems.

Methods

Erosion control has been accomplished on existing highways
by:

1. Reshaping the original cross section to facilitate the establishment of vegetation, thus preventing erosion in ditches or slopes and reducing the silting of cross drains, structures and channels, which will lower maintenance costs.
2. Providing wide, shallow, low-velocity channels protected by various methods of sodding and seeding to meet local conditions.
3. Planting vines or shrubs and establishing grass on flattened backslopes, with diversion of run-off where necessary and desirable.
4. Terracing steep high cut slopes.
5. Adjustments and extensions of existing drainage structures and drop inlet construction, with emphasis upon protection of adjoining property. Much of the damage to agricultural land can be attributed directly to the concentration of highway drainage and its promiscuous dumping on abutting property and vice versa.

Demonstrations

Demonstration projects are carried out under cooperative working agreement between the Soil Conservation Service and the State highway departments. Projects are limited to $2\frac{1}{2}$ miles in each Project or Camp Area and the purpose of the demonstration is to secure applicable erosion control information in a number of field project areas and regions.

The outline of procedure on a typical project was to divide the demonstration into a number of comparative sections, depending upon the soil type, and the angle of repose of slopes on cut and fill sections. Different types of cover treatments were applied and a variety of methods were used in their application.

Solid sodding was used to obtain immediate erosion control. More economical practices, by which complete control was expected in one, two, or three years, were demonstrated by reducing the amount of permanent cover transplanted in combination with the use of temporary fast growing crops.

On erodible soils solid sodding or other immediate and relatively costly methods must be used. On non-erodible soils seeding and less costly methods may be used where immediate soil protection is not so vital.

The selection of the method of erosion control will be economically determined in the long run by the interval of time which may safely elapse between the initial grading operation and the final establishment of a permanent sod or mat of protecting vegetation.