

SOIL CONSERVATION SERVICE PROGRAMS AND THEIR RELATIONSHIP WITH THE ENGINEERING FIELD*

By Robert G. Halstead, *State Conservationist*
USDA Soil Conservation Service, Storrs

Members of the Connecticut Society of Civil Engineers and guests: It is a real pleasure for me to be invited to your meeting. As a representative of the Soil Conservation Service, it is an honor for me to discuss our various programs and our relationship to the engineering profession.

SCS was established in the U. S. Department of Agriculture by Congress in 1935 to plan and carry out a national program to conserve and develop our soil and water resources.

In Connecticut, the soil conservation service develops and carries out a national soil and water conservation program through conservation districts. The Soil Conservation Service and districts have worked mostly with farmers, however, in recent years, this trend has changed and requests from the non-agricultural users have been on the increase.

Since the beginning, engineers have been key men in the soil conservation service and their expertise has helped make our agency the technical arm of USDA in the action program of soil and water conservation.

The Soil Conservation Service has on its staff, engineers specializing in structural design, hydrology, hydraulics, construction, drainage, erosion control, soil mechanics, irrigation and water supply forecasting. These people are involved in developing and carrying out the Service's programs. The traditional programs of the Soil Conservation Service have been the services and help given to individuals through the eight soil and water conservation districts in Connecticut. Districts in Connecticut have been in operations for 30 years and they are organized along the old county lines. During the past year, districts were given new responsibilities which will help them do a better job especially in the areas of erosion and sediment control.

Some examples of services and assistance are:

Providing technical assistance to landowners, operators and other land users in planning conservation programs for the orderly and best possible use and treatment of their land within their available resources.

*Presented at the Survey-Mapping Meeting of The Connecticut Society of Civil Engineers, Inc., Valle's Steak House, West Haven, Connecticut, February 13, 1975.

Furnishing management consultation and other technical assistance in the application of those practices and combinations of practices provided for in conservation plans.

During 1974 the Service gave this type of assistance to over 2700 individuals. While the number of requests for help from non-agricultural users of land increase, we also continue to help farmers plan and establish such conservation practices as waterways, diversions, farm ponds, and wildlife plantings.

There is a growing interest and need for agricultural waste management programs. SCS has been working closely with the University of Connecticut and the Connecticut Departments of Agriculture and Environmental Protection to help carry out this responsibility.

The help given to units of government includes a variety of services — some of these include interpretations of soil and water resource information for various urban land uses, streambelt inventories, consultation on the preparation of ordinances on soil and water resource management and consultation of soils information as related to the Inland Wetland and Watercourses Act.

Another major program is the watershed protection program. During the past 10 years, numerous watersheds have been investigated for feasibility of flood protection projects. Current projects in the development stage are the Yantic River, Avery Brook, Farm River, Neck River, Steel Brook and the Coginchaug River.

Watersheds that have been completed under this program include Roaring Brook-Walnut Street Brook and the North Branch-Park River in Hartford County, Furnace Brook-Middle River in Tolland County, Spaulding Pond Brook in New London County and the Blackberry River in Litchfield County.

Watersheds under construction are the South Branch-Park River in Hartford County, Farm Brook in New Haven County, and Norwalk River in Fairfield County.

Another project type program is resource conservation and development. We have two projects in Connecticut — the Eastern Connecticut project which consists of 57 towns and has been in operation since 1968. The King's Mark project covers 47 towns, and is in the planning stage.

Assistance to communities in these project areas is through various project measures. Since the organization of the project in Eastern Connec-

ticut, there has been 220 measures approved. These included outdoor recreation, wildlife development, treatment of critical erosion areas, flood prevention and water-based recreation developments.

Another important part of the SCS operations in Connecticut is the soil survey. Detailed soil surveys have been completed for 80 percent of Connecticut. Published surveys are available for Litchfield, Hartford and Tolland Counties and the soil survey in other towns of the State is available from our field offices.

The interpretations that can be made from the basic survey has become a very useful tool for many different uses of land and local decision makers.

Connecticut's Inland Wetland and Watercourses Act uses the soil survey to identify those areas to be regulated. Developers, builders, farmers, engineers and others find this information helpful. At this point it should be emphasized that the soil survey does have limitations because of the detail and should be combined with on-site investigations.

There are other activities and programs that we are involved with such as plant materials testing, river basins, outdoor education, land inventory and monitoring, and floodplain studies. However, in view of my time on the program, I would prefer to discuss areas where we have some things in common with the engineers of the private sector.

First of all there is a growing interest in soil and water conservation here in Connecticut. This is especially true in the area of erosion and sediment control. The emphasis on water quality and the recognition that sediment is a pollutant has stimulated much of this interest.

Secondly, the number of engineers that the SCS can hire will probably not increase to any extent in the near future.

We are using several approaches to handle this increased interest and activities. We are now working with a task force made up from several state agencies to revise our present handbook on erosion and sediment control. This handbook will contain standards and specifications for many of the practices used to control urban erosion and sediment.

In addition we can make available standards and specifications for other practices which we use in our work with individuals and units of government.

The Soil Conservation Service has over twenty automatic data processing programs which are available for use by the private engineer.

We are also using training sessions in various areas of the state to discuss our practices and other information related to soil and water management.

I am sure it would be of interest to you for me to briefly review our policy of working with private engineers.

It is SCS policy to move the total conservation program forward as rapidly as possible. Using private engineers and other non-SCS engineers serves to speed progress. They can do work related to the program that SCS is not authorized to do and work that SCS does not have the time and staff to do.

Opportunities to use private engineers' services vary greatly from state to state. State conservationists periodically review the scope, kind, and volume of engineering work in their states, consider the availability of private engineers, and establish criteria for the kinds of jobs for which the services of private engineers are to be used to meet program needs.

In providing assistance to local sponsoring organizations in watershed and resource conservation and development projects, private engineers are used as follows:

1. Engineering work in excess of the amounts the SCS can do.
2. Unusual kinds of work — for which SCS does not have the expertise.
3. Consulting services and special studies — complex or unusual structures — hydraulic models.
4. Engineering and architectural services for basic facilities for recreation or fish and wildlife.
5. Engineering services for inspection of construction.

PUBLICATIONS

National Engineering Handbook, Section 4, Hydrology, available from the Superintendent of Documents	\$5.75
Engineering Field Manual for Conservation Practices, available from the Superintendent of Documents	\$7.75
Technical Release on Urban Hydrology — to be available in February 1975	