I am a substitute for my boss, Jewell Graham, the Director of the Division of Water in the Kentucky Department of Natural Resources. I wish to convey his regrets to you, and his apologies, but he is making a mandatory appearance at another meeting at this time. Like most substitutes, I am pretty ignorant about the subject I am supposed to be addressing you on today -- the impact of highway construction on water resource management.

You know Mark Twain was once asked about a certain subject, and he replied that he was ignorant on that certain matter. "Not stupid," he remarked, "just ignorant." He went on to say, though, that if he were any more ignorant he would be stupid.

I do know, however, that the Kentucky Department of Highways has a very good regulation on the subject of water pollution controls in connection with highway construction (Kentucky Department of Highways Special Provision No. 46-A) and that this special provision is incorporated in all highway department contracts. I assume that most of you are familiar with this provision. It was approved by the State Highway Engineer on March 7, 1968.

Our only reservation in regard to this Special Provison is to plead with you gentlemen to adhere to it when accomplishing a project on the force account as rigidly as you require the contractor to adhere to it. This has not always been the case in the past.

I also call your special attention to sub-paragraph (3) of the special provision, which states, "Material removed from the roadway or channel changes shall not be deposited in streams, stream channels, or other areas subject to flooding, or where it may be washed away by high streamflows or fast run-off." In this connection I call your attention to Kentucky Revised Statutes, Chapter 151, Section 310, which prohibits the deposit of any material in the channel or in the floodway of any stream or reservoir area without obtaining approval of, and a permit from, the Division of Water. If the excess material is being deposited on highway land, or on land to which the highway department has an easement, and if the department has approved this deposit in the spirit of Special Provision 46-A, no permit is required, but if the deposit is a private arrangement between the contractor and the landowner, and it affects a stream or floodway, a
permit must be obtained from the Division. This is a new Statute which did not become effective until June 1966, and it may not be familiar to many of you. I realize that the several new Statutes of the Commonwealth relating to water are probably relatively unknown to you as a group, so I brought a few copies of these Statutes with me from Frankfort and placed them on a table in the rear of this room. You may wish to pick one up.

Insofar as possible, the chemical nature of the rocks and minerals from which borrow is taken, into which cuts are made and with which fills are constructed should be known before any disturbance of these materials is permitted. Should the materials consist of acid-producing shales or coals, careful provisions should be made to preclude the acid waters which may be produced by these materials from entering any stream or reservoir. This situation is broadly covered by Special Provision 46-A but it cannot be overemphasized.

It is not generally known but the Division of Water also has a deep concern in provisions for recreation. This is because we have responsibility for all water resources development, and recreation is definitely a product of good water management. Relating to recreation we would suggest that, where highways cross streams (except for limited access roads), serious consideration be given by the highway department to constructing stream access roads from these highways to the stream banks to provide much needed recreational access. It would be most helpful if small gravel parking lots could be constructed concurrently.

Turning the subject of this talk exactly 180 degrees, I would like to tell you of several things we in the Division of Water are doing which should have a decided impact on highway construction in the future.

Historically, the State/Federal matching fund program concerning stream and ground-water gages has been principally oriented toward obtaining flood information. This meant that gages were often not placed at points most conducive to highway construction and water-supply information. We are now attempting to increase this program and to locate new gages at points which will fill this information gap.

We are building, also with a State/Federal matching fund program, a computerized water resources development planning system. This is being jointly developed by the Division of Water and Spindletop Research. This is the pilot computerized water planning program in the United States. We are now in the third year of a planned 5-year development cycle, and have the system just about ready for a test run on the Kentucky River Basin. When we started designing the system we quickly found out that to plan water resources development, we had to know something about almost everything else in the State of Kentucky. So in essence we are building a State data bank which will include, in addition to extensive information on hydrology, very complete statewide information on economics, land resources, demography,
transportation, recreation and conservation. All of this information will be recallable by either geographical or political sub-divisions of the State, down to sub-county areas or small watersheds. The demographic portion will contain population projections through the year 2020, and the system will be capable of grouping and regrouping this information as desired. The existence of this State data bank (and it is rapidly taking shape) should be of tremendous value to you and to your highway planners in the years to come. Should any of you desire more information on this system, I will be glad to arrange a complete briefing at a later date.

I would like to close this short talk by pointing out to you that the approaches to both highway construction and water resources management are changing rapidly, and that changing circumstances require different techniques. We are sort of like the old mountaineer in Pike County who came into Pikeville to get a doctor. He found one and said, "I want you to see what you can do for my son-in-law. He's in bad shape." The doctor agreed and climbed into the mountaineer's wagon and accompanied the old mountaineer to his cabin up above Raccoon Creek. He found that it was no exaggeration that the son-in-law was in bad shape. He was really beaten up, but good. The Pike County mountaineer explained that they had been in a fight and he had worked over the youth. "Aren't you ashamed," exclaimed the doctor, "to beat your own son-in-law like that?"

"Wall," drawled the mountaineer, "He weren't my son-in-law then."

I would be happy to answer any questions that I can.