

Mr. JONES. Well, in other words, it is similar to a revetment.

Colonel SHAFFER. Yes, sir; similar to that.

Mr. JONES. Is it concrete?

Colonel SHAFFER. Riprap.

This brief is presented for the State of Texas by the Texas Water Development Board. It expresses the views of the agency on the report being considered by this Committee recommending improvements on Clear Creek in Fort Bend, Brazoria, Harris and Galveston Counties, Texas.

The Texas Water Development Board is the agency of the State government designated to cooperate with the Corps of Engineers and U.S. Bureau of Reclamation in the planning of water resource development projects. Some of the Board's other responsibilities include: the preparation of a State Water Plan, the keeping of such plan current, the administration of the Texas Water Development Fund presently authorized at \$400,000,000, and the development of water resources projects. In the performance of its duties the agency maintains close liaison with the Federal agencies, State agencies, and local political subdivisions.

RECOMMENDED PROJECT

The recommended project provides for enlargement and rectification of the existing channel of Clear Creek from mile 3.8 in Clear Lake to mile 34.8 at Farm Road 2234, a distance of 31 miles along the river channel. Sections of the proposed project are in Fort Bend, Harris, Brazoria and Galveston Counties. The total project construction cost is estimated to be \$18,900,000 of which \$12,600,000 would be Federal costs and \$6,300,000 would be non-Federal costs.

DISCUSSION

Members of this Committee are aware of some of the devastation brought to Texas from flooding related to hurricanes and other less-severe tropical storms. Twice within the past 8 years our coastal areas have been swept by hurricanes of tremendous proportions, one of which practically centered over the watershed under discussion. Due to the lack of relief in terrain portions of our coastal fringes remain inundated, often for months following severe storms. Our only recourse is to provide additional carrying capacity for natural streams, and to provide additional drainage systems.

The State of Texas has participated since 1955 in efforts to improve flood conditions in Clear Creek, which at that time was a relatively open area. On March 13, 1962 the Corps of Engineers conducted a public hearing in Kemah, Texas for the purpose of determining whether improvements for hurricane-flood protection would be justified. The then Texas Water Commission appeared and made a statement in support of the need for such improvements.

Acting under Section 209 of the Flood Control Act approved October 23, 1962, the Corps of Engineers prepared a survey report.

Following submission of the report to the State and its review, favorable comment was made by the Texas Water Development Board and the Texas Water Rights Commission, and the recommended project determined to be feasible.

Without going into technical details of the report, we wish to point out that the area drained by Clear Creek includes one of the most highly developed areas, presently and potentially, in the entire southern half of our Nation. The NASA complex properties are adjacent to the flood plain of Clear Creek. Around this installation a truly phenomenal industrial and residential development is under way. A single industrial district comprising 7,000 acres was announced by Humble Oil and Refining Company in 1964. Population projections indicate that an increase from a few hundred residents in 1960 to as many as ¼ million before the turn of the century can be expected in the area contiguous to Clerk Creek. Final completion of the navigation channel connecting the Bayport area with the Houston Ship Channel will no doubt add impetus to the development. Property values are projected to reach almost ½ billion dollars by 2070, with the qualifying statement that double that amount may be attained.

It can be readily seen that as the Clear Creek basin area is developed for other than agricultural purposes a greater problem of flood damage will be presented. Flood damage is not just a measure of water-logged streets, of disruption of utility facilities and services, of loss of bridges and other matters of personal and public convenience. Great as these losses are, the public health threat incurred by stagnant lakes that cannot drain, and of breached sanitary sewage facilities is a problem with which state and federal agencies are now