

TEXAS
WATER
DEVELOPMENT
BOARD



REPORT 40

**PROGRESS OF TOPOGRAPHIC
MAPPING IN TEXAS**

FEBRUARY 1967

TEXAS WATER DEVELOPMENT BOARD

REPORT 40

THE PROGRESS
of
TOPOGRAPHIC MAPPING
in
TEXAS
1958-1966

By
G. Emil Blomquist

February 1967

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DEDICATION

This report is fondly dedicated to Mr. H. A. Beckwith, who has recently retired from the position of Topographic Engineer with the Texas Water Development Board.

Mr. Beckwith has given over a half-century of service to his fellowmen as a professional engineer. A substantial percentage of this professional career has been devoted to fostering water development in Texas. At the time of his retirement, Mr. Beckwith had served in State government nearly 20 years.

Mr. Beckwith has substantially furthered the effort to obtain topographic mapping coverage of the State of Texas. It is difficult to separate Mr. Beckwith's contribution to the water development effort and to the topographic mapping effort in Texas. Just as these endeavors are closely related and impossible to completely separate, so Mr. Beckwith's dedication to both causes has been evidenced through the years.

Although limited in its treatment of the topographic mapping program in Texas, this report is nevertheless dedicated to a man who over the years has made unlimited efforts to advance that program.

FOREWORD

The impact of a growing population and rapidly developing industrial society has imposed grave problems on the natural resources of Texas. Water in adequate quantity and of suitable quality to meet the needs of the people of this State is of supreme importance. Topographic maps are an essential part of the geologic and hydrologic studies on the quantity and quality of water, just as they are important to cities, highway planners, industries, and individuals. Great progress has been made in the preparation of accurate, descriptive maps for the 267,340-square-mile area of Texas in the past 8 years. This report presents a measure of the progress that has been made toward the completion of that goal.

Additionally, this report is being submitted to the Chief Topographic Engineer of the U.S. Geological Survey in lieu of the Annual Report of the Texas Mapping Advisory Committee, generally completed about this time of year. Due to the accumulation of priority requests and the difficulty of arranging a Fall meeting of the Texas Mapping Advisory Committee, it was decided that this progress report could be assembled and submitted in lieu of an Annual Committee Report. For this reason, this report contains a number of the tables reflecting priority mapping requests of the Texas Mapping Advisory Committee, and it also includes the map indicating priority of mapping requests as of January 1967.

Information on file and in some cases published has been drawn upon to assemble this report. Material from the paper presented to the American Society Civil Engineers Water Resources Engineering Conference at Mobile, Alabama, in March 1965, by John P. Dougherty, formerly Topographic Engineer for the then Texas Water Commission, was utilized freely. Herbert M. Cook, Assistant Director of the Basic Hydrologic Data Division of the Board, reviewed and made revisions of the text.

TEXAS WATER DEVELOPMENT BOARD



C. R. Baskin
Assistant Chief Engineer

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THE PROGRESS OF TOPOGRAPHIC MAPPING
IN TEXAS, 1958 - 1966

ACKNOWLEDGEMENTS

The Texas Water Development Board especially acknowledges the helpful and cooperative working relationship which it enjoys with the Topographic Division of the U.S. Geological Survey. A special note of appreciation is due these people also for their willing response in accomplishing priority mapping work in Texas that enabled certain water development and conveyance studies to proceed. This priority mapping work was accomplished on a schedule which was extremely difficult and demanding. The Survey accomplished the work within the time limitations set out, and the Board wishes to say "thank you" for a job well done.

Each individual member of the Texas Mapping Advisory Committee is commended for their faithful work. The suggestions, study, and interest of the various members of this Committee have done much to foster the progress of topographic mapping in Texas. The Committee has provided an appropriate medium to assemble, consolidate, and channel priority requests for all-Federal topographic mapping work to meet the needs of Texas in a logical and orderly sequence.

DEFINITION OF TERMS

Quadrangle.--The tract of country represented by one of the atlas sheets published by the U.S. Geological Survey. Each map covers a land area bounded by specific latitude and longitude coordinates.

7 $\frac{1}{2}$ -minute quadrangle map.--A map bounded by a span of 7 $\frac{1}{2}$ minutes of arc of the earth's surface. A geographical area of 7 $\frac{1}{2}$ minutes of latitude and longitude is covered by one map. Scale is set as 1:24,000. An average 7 $\frac{1}{2}$ -minute map in Texas covers about 63 square miles areally and approximately seven and one-third miles east to west and eight and four-seventh miles north to south linearly.

15-minute quadrangle map.--A map covering twice as much of the earth's arc as a 7 $\frac{1}{2}$ -minute map. Scale is set as 1:62,500. The linear distance coverage is twice that of a 7 $\frac{1}{2}$ -minute map and the areal coverage is four times as great.

First-order maps.--Published standard 7 $\frac{1}{2}$ - or 15-minute quadrangles complying with the 1941 Mapping Accuracy Standards of the U.S. Geological Survey which were formally adopted in 1947.

