## Tidewater Company Built Draw and North Portion Of Long Span

Construction Folks Establish Enviable Record In Time to Complete Task

Making a survey for a bridge across such a body of water as the Albemarle Sound, 3½ miles in length, is not as simple as one may think. Not only the water and soft bottom, but the wind, fog and roughness of the water caused plenty of trouble. But today such a feat has been accomplished and one of the most beautiful highway bridges in the State of North Carolina now extends from Sandy Point on the nort to Leonard Point on the south shore. Since the coming of pioneers to

the Albemarle there was no means of travel across the Sound until about twenty-five years ago when the Norfolk Southern Railroad ran its line across from a point near Edenton to Mackeys, and later the Chowan River bridge, on route U. S. 17 was built. However, the distance one must travel to reach those several counties, towns and communities was approximately 70 miles, now from U. S. 17 on the north to U. S. 64 on the south, has been reduced to about 11 miles.

It was in 1933 that the State Highway and Public Works Commission authorized the Bridge Department to make a survey for a bridge across the Sound, and in April, 1937, the first of more than 3,500 piling was placed.

To establish a line across space which could not be directly measured with a tape, it was necessary to use a method called triangulation, in which distance may be computed by trigonometry. In order to do this and to establish a permanent centerline point on both sides of the Sound, towers ten feet high were built over these points to which flags were attached and instruments set up for obtaining the correct angles between the proposed center-line and a base line laid on the shore.

After the definite lines and base had been established it was necessary to take soundings across the Sound to determine the depth of the water, sounding being taken from a boat kept on the center-lline by the use of a transit located for a half mile distance up and down stream for the proposed location.

On completion of the work and establishing definite location, test piling were sunk into the mud and sand to determine the actual length of piling necessary and from the results obtained it was determined that the maximum length to be used in construction would be 100 feet.

After all the survey data had been assembled and plotted, the report was turned over to the drafting department, but, before the final plans were prepared, estimates were made

## What is this thing cal

Congratulations To The

This three and one-half mile bridge across Albemarle Sound was built from shore the longest highway bridge in the State of North Carolina. Over 4,500 tons

> **q** In the past decade the rich, prosperous Albemarle section of North Carolina and its splendid communities as a whole have shown excellent growth and development along many lines. Noteworthy gains and progress are reflected in the attractiveness and stability of the rank and file of residential premises, and by a wide appreciation of "BETTER LIVING"... that's called PROGRESS.

on several types of structure and the structure finally adopted is considered the most economical of the so-called permanent types. The bridge consists of a series of 25-foot I beam spans. The beams are 50 feet long and 18 inches deep, with bents located the center points and at each end. The bents consist of four creosoted timber piles driven until a bearing of 20 tons each was obtained. The piles were then capped with 13inch by 11-inch and 16-inch by 11inch creosoted timbers, the smaller caps being used on the center bents and the other at the ends of each 50foot span. Six beams are used in each span and rest on the capped piles.

Practically in the center of the bridge is located the draw span for navigation which is built of steel, swing type, providing on each side of the pivot pier a 140-foot clearance opening for boats. All over, the span is 328 feet long, with a 22-foot span itself, which required more than to provide a loading capacity of two 15-ton trucks passing each other, plus, of course, the weight of the span itself, which required more than 625,000 pounds of reinforced and structural steel, plus thousands of pounds of hardware, concrete, and other material.

The elevation of the bridge is 17 feet above mean low water in the Sound, while the maximum depth of the water is 22 feet with 10 to 35 feet of mud and sand on the bottom, being the reason for the unusual length of piling required, varying from 40 to 105 feet.

from 40 to 105 feet. The portion of the bridge from the draw to the south side of the Sound, which is 10,227 feet long, was built by T. A. Loving and Company, of Goldsboro, N. C. The north approach and the draw span, from the shore to the draw being 7,675 feet, and the draw, 328 feet, was built by the Tidewater Construction Company, of Norfolk, Virginia, and according to information, not a single man was killed or seriously injured during the entire construction of the bridge. And when handling of steel, heavy **q** Along commercial lines the towns and communities of the Albemarle have made great strides during the past decade. Its continuous wealth-producing soil and rich forests, provided by mother nature, through steady development and intelligent handling, has from year to year yielded its people profitable incomes, thus enabling them to forge ahead in every phase of life. The needs of the people for merchandise of every description can be supplied economically and quickly by many strictly modern merchants, stores and shops... that's called PROGRESS.

> In congratulating the fine people of this wonderful sure that we feel that we, our organizations, have had now being made in the part each of us had in building bridge. You should be proud of this splendid addition joy the convenience it provides not only for pleasure a ment and advancement of your fine reserve of natural

CONSTRUCTION ENGINEERS

**General Offices** 

Norfolk, Va.

Tidewater Construction Corp.