HIGH ISLAND BRIDGE TENDER'S STATION
Louisiana-Texas Intracoastal Waterway
State Highway 124 Crossing of Mud Bayou
High Island Vicinity, ~~Chambers~~ GALVESTON County
Texas

HABS No. TX-3404

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPY OF MEASURED DRAWING

HISTORIC AMERICAN BUILDINGS SURVEY
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HIGH ISLAND BRIDGE TENDER'S STATION

HABS NO. TX-3404

(Note: For further information about the Louisiana-Texas (La-Tex) Intracoastal Waterway, see HAER No. TX-24. For further information about buildings at the High Island Bridge Tender's Station, see HABS No. TX-3404-A and HABS No. TX-3404-B.)

IDENTIFICATION INFORMATION

Location:

Gulf Intracoastal Waterway at State Highway 124 bridge
Located approximately 3.4 miles by road north of the U. S. Highway 87 and State Highway 124 intersection in High Island, Texas; on the north bank of the waterway, east of the State Highway 124 bridge (Figure 1).

Quad/UTM:

United States Geological Survey, High Island, Texas 7.5' quadrangle,
Universal Transverse Mercator Zone 15; 365,650 meters east, 3,274,488 meters north

Occupation and Current Use Data:

The U. S. Army, Corps of Engineers (COE) has been the owner of the High Island Bridge Tender's Station on the Louisiana-Texas (La-Tex) Intracoastal Waterway since the station's original construction in 1933/1934. The annual reports of the U.S. Army Chief of Engineers (War Department various dates) indicate that the bridge tender's station and the associated Mud Bayou Railway Bridge were continuously operated and maintained between 1934 and 1969, after which time the railway crossing was discontinued. At present, the High Island Bridge Tender's Station is unoccupied and extensively deteriorated, having suffered the effects of prolonged abandonment, partial demolition and widening of the adjacent waterway. Most of the original bridge tender's station property has been redeveloped as a small petrochemical fractionation plant and storage facility.

Significance Statement:

Designed by the Galveston District COE in 1933 in conjunction with planning efforts for the construction of the New Orleans, Louisiana to Corpus Christi, Texas portion of the Louisiana-Texas Intracoastal Waterway (later renamed the Gulf Intracoastal Waterway), the High Island Bridge Tender's Station was built to support the Corps' operation of a swing bridge at the Gulf and Interstate Railway Company's crossing of Mud Bayou near High Island, Texas. Resident engineers coordinated the railway bridge's movement to allow for the safe passage of commercial, military and civilian vessels traveling along the waterway eastbound and westbound from Beaumont and Galveston. The High Island Bridge Tender's Station included a bridge tender's residence (HABS No. TX-3404-A), a powerhouse and garage (HABS No. TX-3404-B), an office, a control house, a gasoline house, a fire-hose box, a machinery house, a timber dock and concrete retaining wall system.

Although the Mud Bayou Railway Bridge and much of the bridge tender's station were dismantled and removed following abandonment of the railway, the High Island Bridge Tender's Station, Residence and the High Island Bridge Tender's Station, Powerhouse and Garage (HABS TX-3404-B) have remained as representative examples of a locally unusual type of residential and associated building construction. Both buildings retain a remarkable amount of historical and architectural integrity and have been determined eligible for listing in the National Register of Historical Places. Both are scheduled for demolition and removal by the Galveston District COE because they currently pose a severe navigation hazard to vessels passing along the waterway. Together the remaining High Island Bridge Tender's Station buildings form an historically significant architectural complex which has been recognized as a component of the greater La-Tex Intracoastal Waterway Historic Engineering District[1].

Historical Context:

The construction of the Mud Bayou Railway Bridge and High Island Bridge Tender's Station at Mud Bayou near High Island, Texas came about as an integral, albeit diminutive, aspect of the COE's long standing goals to develop a nationwide system of inland waterways. Those goals extend back in time to the COE's very beginnings in the realm of civil works, and were first envisioned for Texas with Congress' 1873 authorization of a canal route survey between Donaldsonville, Louisiana (on the Mississippi River) and the Rio Grande River in Texas[2]. Howell's directive to the three lead engineers for the Mississippi River to the Rio Grande survey project was "to utilize the navigable bayous, lakes, bays, and sounds or lagoons, near the coast, and make the cuts connecting them along the shortest lines available" (Alperin 1977;153).

While various small canal projects were completed by the Galveston District COE over the next several decades, Howell's survey report of 1875 was shelved for thirty years until 1905 when Major Edgar Jadwin reviewed Howell's prior report and went on to propose two additional surveys west and south of Galveston Bay. Subsequently, the River and Harbors Act of 1909 called for further surveys of a continuous navigation canal from Boston to the Rio Grande and a canal was completed between Galveston and Corpus Christi by 1910. It was not until the March 3, 1925 revision of that act that Congress authorized survey and construction of a canal between the Sabine River and Galveston Bay - some 50 years after Howell's initial recommendations.

The Sabine River to Galveston Bay section of the La-Tex Intracoastal Waterway, itself a component of the greater Gulf Intracoastal Waterway project, was originally specified to be 9 feet deep and 100 feet wide - thus keeping with the dimensions used by the COE for other major navigational channels along the Mississippi and Ohio rivers (Alperin 1977;154-157). Utilizing as much of the existing route of Mud Bayou near High Island, Texas, the waterway was to cross the Gulf Interstate Railway Company's route from Beaumont to Galveston ~~(Figure 2)~~. The Gulf Interstate Railway Company's line was at that time

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[1] For further information about this historic engineering resource, see HAER No. TX-24.

[2] Most of the information provided in this historic context has been derived and adapted from Lynn M. Alperin's detailed historical studies of the Galveston District COE and the Gulf Intracoastal Waterway. The reader is referred to Custodians of the Coast: History of the United States Army Engineers at Galveston (Alperin 1977) and History of the Gulf Intracoastal Waterway (Alperin 1983).

leased and operated by the Gulf, Colorado and Santa Fe Railway. Upon the COE's request that the railroad company improve their existing bridge at Mud Bayou in accordance with government regulations, a legal controversy arose concerning the railroad company's responsibility to provide the requested improvement. As a result of two court decisions, the COE was ultimately required to sustain the cost of bridge construction.

By 1932, planning for the Mud Bayou Railway Bridge project was well underway. By 1933, all but one mile of the waterway between Sabine River and Galveston Bay had been dredged, and all plans and specifications had been approved for construction of the bridge at Mud Bayou, a bridge tender's residence and all necessary ancillary structures. The approved bridge design was a flat Warren through-truss with diagonal end-posts, to be constructed of steel and placed on a pivoting turnstile to allow the bridge to swing horizontally[3]. The design of the railway bridge was probably proposed by the contracting firm and selected by the COE as the most favorable for its cost and purpose. All components of the project were built using National Industrial Recovery Act funds allocated to the COE by the Public Works Administration (PWA) under PWA Federal Project Number 26/19.

The Chief of Engineer's Annual Report of 1933 anticipated costs of $202,000 for the bridge with appurtenances, and $6,000 for the High Island Bridge Tender's Station, Residence (War Department 1933;567). Regular funds anticipated for operation and maintenance costs for the 1934-35 fiscal year were estimated to be $7,500. By August 18, 1934, the entire project had been completed at a cost of $289,156.06 (Galveston District COE 1960), including both the bridge and the High Island Bridge Tender's Station, Residence.

Although there are no known detailed records of the bridge tender's activities in the early years, in the first full year of operation (1935) almost 1,800 vessels with a partial estimate of tonnage over 315,000 passed eastbound and westbound along the waterway (War Department 1936;711). That same year the railroad bridge at Mud Bayou was operated and maintained by hired labor at a cost of $9,117.01 (War Department 1936;738). In fiscal year 1936, the Mud Bayou Railway Bridge was operated and maintained by hired labor for a cost of $7,750.41, and 3,489 vessels traveled eastbound and westbound with estimated tonnage over one million (War Department 1937; Vol. 1, p. 781 and Vol. 2, p. 746).

During World War II, the dimensions of the main channel had been enlarged to 12 feet by 125 feet and maintenance dredging continued as always to control sedimentation, especially within crossings of large natural bay and river crossings. By 1945, maintenance and operation of the railway bridge at Mud Bayou had risen to $15,339.74 using hired labor (War Department 1945;1029) and estimated annual traffic along the waterway had risen to 23 million tons (U.S. Army Engineer Districts 1959;40). In addition to the Mud Bayou Railway Bridge, other improvements constructed along the LA-TEX Intracoastal Waterway by the COE by that time included a sheet pile and sand dike at Galveston Bay near Port Bolivar, two sheet pile dikes at Matagorda Bay near Port O,Connor, and floodgate structures at both the Brazos (1944) and Colorado (1945) river crossings.

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[3] For further information about this engineering structure, see HABS No. Tx-3404, Supplemental Data and Field Records, Mud Bayou Railway Bridge Operations Manual, Plate A (Galveston District COE, 1960).

By 1956, maintenance and operation costs had risen to $57,855 (for fiscal year 1954) and an access road and protective retaining walls had been added to the facility (War Department 1956;583). Estimated annual traffic along the La-Tex waterway for 1957 exceeded 48 million tons, of which approximately 72 percent was within the eastern section of the waterway between the Sabine river and Galveston Bay (U.S. Army Engineer Districts 1959;39 and 40).

Evidence of the site's original landscaping is apparent in a 1934 site plan that shows landscape and waterfront improvements made to the site following construction of the bridge and support buildings ~~(Figure 3)~~. By 1968, the number of support buildings and structures had been greatly increased and the channel widened ~~(Figure 4)~~. However, by the time of recordation all physical remains of the railroad bridge and other buildings formerly located at the bridge tender's station had been lost - probably through demolition in 1969 as well as the gradual erosion of the waterway bank line. Most of the landscape had also become overgrown in Common Reed (Phragmites australis), and only a few young, secondary-growth trees, primarily Chinese Tallow (Sapium sebiferum), remained to indicate how the landscape may have been treated. A dense stand of Black Willow (Salix nigra) was situated within the borrow ditch beside the old railroad grade and a decomposed palm tree trunk was observed near the bridge tender's residence.