

High Island Bridge Tender's Station, Residence
Louisiana-Texas (La-Tex) Intracoastal Waterway
State Highway 124 Crossing of Mud Bayou
High Island Vicinity, ~~Chambers~~ County
Texas

HABS No. TX-3404-A

GALVESTON

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA
REDUCED COPIES OF MEASURED DRAWINGS

HISTORIC AMERICAN BUILDINGS SURVEY
Rocky Mountain Regional Office
National Park Service
P.O. Box 25287
Denver, Colorado 80225-0287

HISTORIC AMERICAN BUILDINGS SURVEY
HIGH ISLAND BRIDGE TENDER'S STATION, RESIDENCE

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(Note: For information about the Louisiana-Tex (La-Tex) Intracoastal Waterway, see HAER No. TX-24. For more information about the High Island Bridge Tender's Station, see HABS No. TX-3404.)

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, 450 feet east of the State Highway 124 bridge.

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 United States Army, Corps of Engineers (COE) has been the owner of the High Island Bridge Tender's Station, Residence on the Louisiana-Texas (La-Tex) Intracoastal Waterway since the building's original construction in 1933/1934. The annual reports of the U.S. Army Chief of Engineers (War Department various dates) indicate that the Mud Bayou Railway Bridge and bridge tender's station were continuously operated and maintained between 1934 and 1969 when the railway crossing was discontinued. At present, the High Island Bridge Tender's Station, Residence is unoccupied and extensively deteriorated, having suffered the effects of prolonged abandonment and occasional impacts by passing barge traffic on the 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 (La-Tex) Intracoastal Waterway (later renamed the Gulf Intracoastal Waterway), the High Island Bridge Tender's Station, Residence was built to house engineering personnel who operated a swing bridge at the Gulf and Interstate Railway Company's crossing of Mud Bayou near High Island, Texas. The 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

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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, Residence was an integral element of the Bridge Tender's Station (HABS No. TX-3404) complex that also included 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 many of its appurtenances 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. Although both buildings have become deteriorated and the High Island Bridge Tender's Station, Residence has been severely damaged by barges passing along the enlarged channel of the waterway, 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 buildings 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.

HISTORICAL INFORMATION

Physical History:

Construction of the High Island Bridge Tender's Station, Residence began October 17, 1933, after the U.S. Army Engineer's office in Galveston awarded Contract Number W-359 ENG-1712 for construction services to J.W. Zempter & Co. (War Department 1934;659). As noted on the back of a series of aerial photos taken of the work in progress during April 1934

), approximately 10 men were used by the construction contractor to complete the project. Construction was completed on the bridge tender's residence by May 2, 1934, with the adjacent Mud Bayou Railway Bridge and power house under construction at that time.

Credit for design of the High Island Bridge Tender's Station, Residence cannot be attributed to any particular engineer, as most COE projects require that a team of individuals work together to design and supervise completion of each project. However, for the High Island Bridge Tender's Station, Residence such credit can be generally attributed to the engineering staff of the Galveston District COE, with Major E. H. Marke and R.B. Gillette, Jr. providing the necessary review and approval of the design submitted by staff engineers.

This single sheet of drawings dated July 1933 provides details of construction and design for the High Island Bridge Tender's Station, Residence.

The aerial photos made by the U.S. Army Air Corps show that the Bridge Tender's Station, Residence was largely completed by April 1934 as designed by the Galveston District COE in 1933 with no apparent modifications or alterations from the original plans. Comparison of physical evidence at the bridge tender's residence with the original 1933 design indicates that there have been

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several modifications to the building. Notably, the current living room area was designated on the 1933 plan as a screened-in porch, yet the existing conditions show that all windows of the former screened-in porch have been in-filled with either double-hung wooden sashes or with plywood paneling. Additionally, the floor finish throughout the house is specified to be smooth concrete, though the existing floor throughout the house is of nicely finished hardwood that is in some areas (the kitchen and bathroom) covered by vinyl and asbestos tiles. One other notable difference is that a writing desk with cabinets not included on the 1933 plans has been added in the living room (enclosed porch) area within a niche formed by an interior wall and the truncated corner entry.

Evidence that may assist in determining an approximate date for these alterations to the house relates to an item of information included in the Mud Bayou Railway Bridge Operation and Maintenance Manual, which indicates that the bridge tender's residence was outfitted with two window-mounted air conditioners. From this information it is reasonable to suggest that the addition of these units may have corresponded to the enclosure of the screened-in porch area with the existing wooden sash windows, which closely resemble but do not precisely match those occurring elsewhere in the house. It is also reasonable to suppose that enclosure of the porch area would have allowed for the installation of the existing wooden flooring over the originally specified smooth concrete floor. The fact that the wooden flooring occurs throughout the house, including the master bedroom where the originally specified wardrobe and dresser cabinets overlay the wooden flooring suggests that these alterations may have occurred very early in the building's history.

At the time of recordation, approximately two-thirds of the High Island Bridge Tender's Station, Residence extended into the water at high tide. The most notable loss of physical fabric at the High Island Bridge Tender's Station, Residence occurs where the original concrete staircase and all structural pilings beneath the south wall have been destroyed by barges passing too close to the building. Such events have occurred on several occasions in recent years as a result of the loss of a protective retaining wall along the original waterway and the subsequent erosion of the bank line. Otherwise, virtually all original window glass and window screens in the residence have been broken and lost; doors, walls and ceilings have been stripped of their hardware; and the bathroom fixtures have been destroyed by vandals.

ARCHITECTURAL INFORMATION

General Statement:

The High Island Bridge Tender's Station, Residence has been described as a locally unusual type of residential building construction. This description is apt because the building, although residential in function, is highly engineered and in this way is atypical of most residential buildings along the Texas Gulf Coast. The building is also unusual among most buildings and structures built by the COE in that the rigid, over-built structure of the building is humanized by the architectural treatments of the interior and exterior wall surfaces, and the functional arrangement of its plan. Stylistically, the building is related to the Hispanic architectural traditions of southern Texas and the

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Mission Revival trend of the 1930s with its smooth, stucco-like walls, its robustly bracketed awnings over each window, and the simple ceramic tile-work and false roof-beams (resembling vigas) over the entry. By virtue of this combination of engineering and architectural characteristics, the building has withstood repeated exposure to hurricanes, direct impacts by barges passing along the waterway, prolonged neglect and vandalism, and yet still retains to a remarkable extent its pleasant architectural character and craftsmanship.

Despite the effects of barge collisions, which have destroyed major structural elements, the building's overall structural integrity is sound. At the time of recordation, all of the building's window glass had been broken and much of the exterior wood had decayed. The front door was completely missing from the corner entry area and the interior was littered with organic debris from nesting birds. Vandals had also destroyed the ceramic bathroom fixtures and virtually all usable mechanical equipment and hardware had been salvaged.

Description of Exterior:

The gross horizontal dimensions of the building are 32 feet by 26 feet, with the building's only entry placed at a truncated corner oriented toward the south-southwest. The main floor is elevated on pilings to a height approximately 10 -12 feet above grade. The piling locations divide each view of the ground floor plan into two unequal bays. Fenestration of each wall is unique and asymmetrical, with no correspondence to the lower story bays or the fenestration of other walls. The roof profile is flat except where the wall parapet is raised over the entry porch.

The foundation of the building consists of reinforced concrete piles, 1'-6" square in cross-section, that were specified by the 1933 plans to penetrate 24 feet below mean low tide. These piles then extend above mean low tide approximately 14 feet to support the main floor beams and girders.

All exterior walls are of poured, reinforced concrete that has been smoothly finished and painted with white aluminized paint. The only external ornamental details are at the corner entry porch where a pair of glazed, diamond-shaped ceramic tile designs (emerald green in color) are set into the concrete wall flanking the entry door, and where three false beams (called "lookouts" in the original construction drawings) project over the entry door. A pair of arched window openings at the corner entry area also provide architectural interest to the corner entry area.

The structural system consists entirely of reinforced concrete (specified to be class A throughout), with floor, walls and ceiling poured in separate stages but structurally integrated with the tops of the piles. Perimeter piles are cross-linked by turnbuckles and threaded steel rods that attach to upper and lower eye-bolts embedded within each piling. The concrete floor and roof decks are supported by an asymmetrical grid of concrete beams and girders.

Fragmentary remnants of two small chimneys are located one each in the small bedroom and the kitchen, corresponding to the originally specified locations of a room heater and the kitchen stove, respectively. Both consist of 0'-8" diameter vitreous clay pipe embedded within a concrete casement

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that is formed into a corner and extends from the ceiling down approximately 1'-0"

The construction specifications call for the flue pipe to extend through the roof and above the wall parapet approximately 0'-8".

The only porch is a small, uncovered deck located at the southwest corner entry area where the building's only entryway was originally accessible from an external staircase that has since been destroyed. The 1933 COE construction specification drawings indicate that the staircase and balustrade were constructed entirely of reinforced concrete. Only a small portion of the porch remains intact with broken fragments of two low stem-walls remaining at the edges of the porch deck. These low walls appear to have served as a type of solid porch railing or bulkhead that received and stabilized the upper ends of the staircase balustrade

Observed remnants of electrical wiring embedded in the stem-wall concrete suggest that a pair of lights were located where the staircase balustrade met the porch rail.

As indicated above, only one exterior doorway, located at the corner porch and entry area, is provided for access to the main floor. At the time of recordation the door, casing and trim had been entirely removed, leaving only the rough opening and nailing blocks embedded within the wall. The original construction specifications call for a simple vertical-plank door, through-bolted to hold the edge-buttled planks together. The door was to be carried by large, ornamental metal hinges that spanned almost the entire width of the door and thus served as upper and lower battens. The hinges were fastened to a simple wooden casing of reduced-dimension 2"x 6" lumber (1-3/4"x 5-3/4"). The exterior of the doorway was to be surrounded by reduced-dimension 1"x 10" wooden molding and simple 1"x 4" trim; these trim components were probably milled to correspond with the arched top of the doorway

Windows are typically one-over-one wooden sashes with concrete sills that project slightly from the exterior wall surface. Those windows in the bedrooms, kitchen and bathroom are double-hung and set within a wooden casing. Their movement is by means of simple pulleys with balance-weights and chains. The windows are typically arranged as individual elements within the walls and shaded by a bracketed awning that spans the width of each window. Exceptions to this typical arrangement are at the bathroom and kitchen where the vertical and horizontal dimensions of the window have been varied to suit the situation, and on the south wall where the awning extends across both bedroom windows and continues across the window of the living room.

Although the original construction specifications call for fixed screens at the living room window openings, at the time of recordation most window openings in this area had been filled with single-light, double-hung sashes that are similar in type and construction but slightly different in size from the original windows in the bedrooms. All windows have been outfitted with removable wood-frame window screens. The screens were originally specified to be of copper mesh, and were observed to have small (1/2" diameter) holes drilled through the bottom frame member; each hole is covered with screen mesh to facilitate drainage of infiltrated water from the sill area. The only exception to the above conditions occurs at the two small, arched windows flanking the doorway; these were observed to be filled with several layers of plywood paneling that probably replaces the original screened window.

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The window awnings are supported by heavy, two-piece, milled wooden end-brackets that feature decorative arches and notches. Each end-brackets is bolted to the concrete wall and carries a simple deck of nominal 1" x 6" planks that are covered with asphalt shingles (original specifications call for slate-coated asphalt shingles). The upper edge of each awning was treated with a strip of copper flashing that was itself embedded into a groove in the concrete wall. Most of this copper flashing had been removed prior to the time of recordation. The awning brackets and underside of the decking were painted green to match the painted wooden window screens and sashes.

The roof is composed of a concrete deck which was formed to create shallow valleys that drain toward four corner drains. Each corner drain is or was fitted with a metal screen to prevent intrusions of leaves and debris. The roof deck is covered with multiple layers of gravel and asphalt (4 plies are specified in the original construction drawings) and surrounded by a low parapet to which copper flashing was bolted. All flashings had been removed prior to the time of recordation, leaving only the anchor bolts embedded in the top edge of the parapet. The profile of the parapet is flat over all walls, except over the corner entry wall where the parapet is raised somewhat higher for architectural emphasis. Adjacent to this entry wall parapet is a small, triangular wooden deck bolted to the south wall parapet. This deck assembly has three pipe brackets bolted to it which appear to have supported a flag pole or some other fixture.

Description of Interior:

Below the main floor level is an open arrangement of four rectilinear bays which are defined by the locations of pilings that support the main floor beams and girders. Within one of the bays is a metal storage tank (probably for potable water) set on a concrete slab; two other bays also contain concrete slabs which once supported additional storage vessels that are now gone. One of the concrete slabs is supported on wooden cribbing that appeared to be coated with an asphalt or creosote-like preservative. The ground surface within this space is covered with carpet grass, although most of the original ground surface has been lost to progressive erosion of the waterway bank line over time. Constricting bands observed near one of the concrete slabs suggests that one of two storage tanks was probably constructed of vertical wooden planking in the manner of common wooden cisterns. Drain pipes penetrating the floor slab from the four roof drains converge over the location of one former storage tank location.

The main floor is divided into two bedrooms and a bathroom between them along the east side wall, and a kitchen and living room (originally specified as a screened-in porch) to the west. The kitchen shares a northern exposure with one bedroom, while the living room shares the southern exposure with the other bedroom. Each bedroom has a closet, and the kitchen and bath each have a cabinet for storage.

Although the floor is specified to be finished cement, at the time of recordation, the bedrooms and living room had finished hardwood flooring composed of 3 1/2" wide boards, set edge to edge and oriented north-south. The bathroom and kitchen each had asbestos flooring tiles (12" square) over the hardwood flooring.

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All walls and ceilings were specified to be, and appear to have been, finished with metal lath and plaster. Wall and ceiling surfaces are painted with multiple layers of paint, all according to a pastel green, pink and white color scheme. The living room and south bedroom were most recently painted with a muted pink walls and white ceilings. The kitchen, bathroom and north bedroom have been painted in a similar manner with pale green and white.

Bedroom walls are trimmed with a variety of simple baseboard, chair-rail, and cornice moldings. The living room lacks such treatments, except for the baseboard trim which is of the same type used throughout the interior. It is notable that the same chair-rail molding pattern is used in the bathroom at the top of a tile patterned wainscoting, although it is constructed of plaster rather than of wood as occurs elsewhere.

Although some of the interior doors are missing, those which remain are all of the same simple frame-and-panel type with one panel above and a slightly smaller one below. Most of the doors and windows are trimmed with the same molding used for the chair-rail. Most windows are also fitted with retractable metal blinds.

The north bedroom is provided with a lighted, built-in dresser that no longer has its mirror, but which is flanked on each side by full-height wardrobe cabinets with simply detailed but decorative frame-and-panel doors. The living room is similarly provided with a writing desk and surrounding cabinets, all of which are built into a niche formed by a north-south internal wall and the truncated corner entry wall. The kitchen is also provided with a similar type of cabinets that features simply detailed but decorative frame and panel doors.

All hardware is of common manufacture, produced in metal and typically painted along with the walls and ceilings. Door knobs and latch plates have been removed throughout, although the lower window sashes are still fitted with a pair of lift-handles. The base portion of most ceiling-mounted and wall-mounted light fixtures still remain in place, although their glass shades have all been broken. Typically ceiling-mounted fixtures are provided centrally in each room and closet, with wall-mounted lights located at the bedroom vanity, over the bathroom sink, and outside the entry door above the decorative ceramic tiles.

The Mud Bayou Railroad Bridge Operation and Maintenance Manual

indicates that room air conditioners were added at some point in time prior to 1958, probably at the same time that the screen porch was enclosed with glazed sash windows. Plumbing is of common metal pipe with porcelain bathroom fixtures (broken) and an enameled iron sink in the kitchen.