Historic Bridge Management Plan for the Bayou Teche Bridge at Daspit Road

Recall Number: 005900

Structure Number: 03234003100241

Parish: Iberia

Route: LA 86

Crossing Description: Bayou Teche

Prepared for

Louisiana Department of Transportation and Development

Prepared by

Mead & Hunt

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June 2017

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Executive Summary

The Bayou Teche Bridge at Daspit Road (Recall No. 005900) is located in Iberia Parish, Louisiana, and is owned by the State of Louisiana. The bridge was completed in 1966 and was determined eligible for the National Register of Historic Places (National Register) in 2013. Its significance is demonstrated by the presence of distinctive engineering and design features of the steel plate girder swing type, which is characterized by steel plate girder main span, center-bearing turning mechanism, and pivot pier. This particular example also features an unequal arm steel swing span, with one arm 90 feet long and the other arm 45 feet long. The shorter span is counterweighted to balance the swing span. This asymmetrical design is known as a "bobtail" plate girder span.

The bridge carries two lanes of Louisiana Highway (LA) 86 across the Bayou Teche in Iberia Parish. The approximately 322-foot-long crossing consists of an unequal arm, swing, steel plate girder span and nine concrete approach spans. The main span is a steel plate girder swing span with a length of approximately 142 feet. It is flanked by four cast-in-place concrete slab spans to the south and five cast-in-place concrete slab spans to the north, all nine of which measure 20 feet long. The steel plate girder swing span includes a center-bearing turning mechanism with steel rollers and guide rail, all supported on a concrete pivot pier. The span has unequal arms of 90 feet and 45 feet, with an open joint at either end of the span. A timber fender system for waterway navigation extends into the waterway east and west of the swing span and provides for a clear horizontal navigation clear width of 50 feet. The bridge is posted for a vertical clearance of 17 feet, 0 inches. The bridge is classified as a complex structure because it contains one swing span unit. It is also classified as fracture critical because of the swing span two-girder framing system.

The bridge is in satisfactory condition overall and appears to adequately serve its purpose of carrying vehicular traffic over the waterway, with the ability to open to allow water navigation traffic to pass by the bridge. The operation of the bridge is also satisfactory as observed in the opening-closing cycle during the field visit, and the operating machinery is adequately maintained. The major deficiencies consist of concrete spalls on the substructure units and deteriorated or failed expansion joints in the bridge decks. A minor deficiency is the isolated failure of the paint system on components of the swing span. With proper maintenance and rehabilitation, the Bayou Teche Bridge at Daspit Road can continue to serve in its present capacity for 20 years or longer.

Any work on the bridge should proceed according to recommendations in this Historic Bridge Management Plan (Plan), which adhere to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Secretary's Standards), the *Management Plan for Historic Bridges Statewide* (Statewide Historic Bridge Plan), and the *Programmatic Agreement among the Federal Highway Administration, the Louisiana Department of Transportation And Development, the Advisory Council on Historic Preservation, and the Louisiana State Historic Preservation Officer Regarding Management of Historic Bridges in Louisiana* (PA).

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1. Introduction

This Plan, used in conjunction with the Statewide Historic Bridge Plan, provides guidance on the approach to preservation activities for the Bayou Teche Bridge at Daspit Road (Recall No. 005900), identified as a Preservation Priority Bridge. Completion of individual management plans for Preservation Priority Bridges and the Statewide Historic Bridge Plan fulfills terms of the PA, which was executed on September 21, 2015.

The PA provides the basis and procedures for the management of historic bridges in Louisiana and outlines the procedures for the treatment of historic bridges, including Preservation Priority Bridges. In accordance with the PA, an owner seeking state or federal funding for Preservation Priority Bridges will be required by the Louisiana Department of Transportation and Development (LADOTD), in cooperation with the Louisiana State Historic Preservation Office (LASHPO) and the Federal Highway Administration (FHWA), to follow the procedures outlined in this Plan and the Statewide Historic Bridge Plan.

The Statewide Historic Bridge Plan outlines the overall approach to bridge preservation through a discussion of the collaboration of the historian and engineer, guidance on assessing preservation needs, and resources and technical guidance on maintenance and rehabilitation activities that are broadly applicable to historic bridges. A glossary of common engineering and historical terms is included in the Statewide Historic Bridge Plan.

This Plan for the Bayou Teche Bridge at Daspit Road compiles and summarizes the specific historic and engineering information for this Preservation Priority Bridge. It documents the existing use and condition of the bridge, along with assessments of the preservation needs, including cost estimates. Preservation can be accomplished in two manners: preventative maintenance and rehabilitation. Maintenance includes cyclical or condition-based activities that, along with regular structural inspections, are directed toward continued structure serviceability. Rehabilitation activities are near- or long-term steps that need to be taken to preserve and in some cases restore a bridge's structural condition and serviceability. In assessing preservation activities for each Preservation Priority Bridge, a design life of 20 years was considered, which is consistent with the duration of the PA. This Plan provides the bridge owner, and other interested parties, with detailed information related to the historic nature of the bridge and the necessary background to make an informed planning decision. Recommendations within this Plan should be reviewed in 10 years following completion of the Plan to identify any needed updates or revisions.

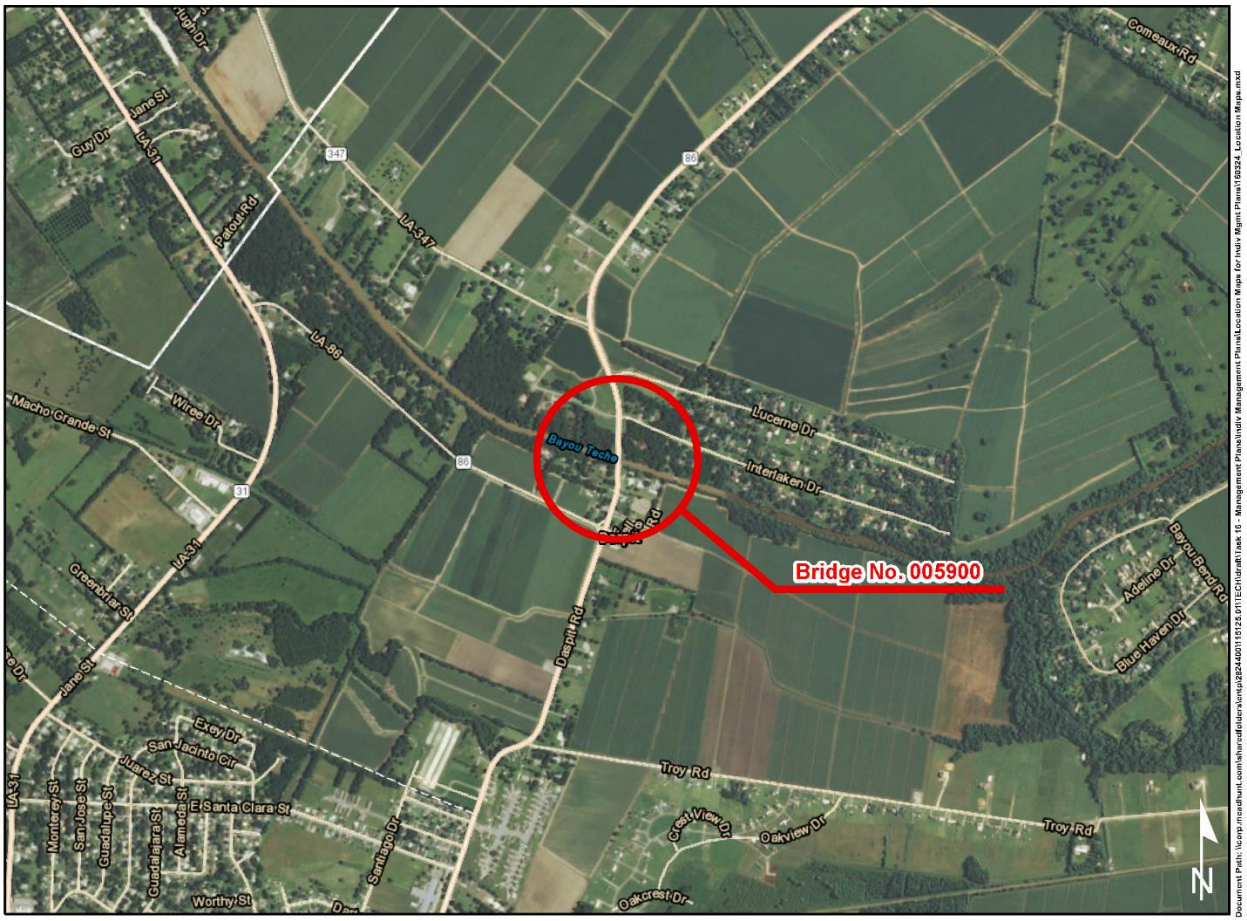
Existing bridge data sources typically available for Louisiana bridges were gathered for this Plan, and field investigation confirmed the general structural condition and character-defining features of the subject bridge. These sources include:

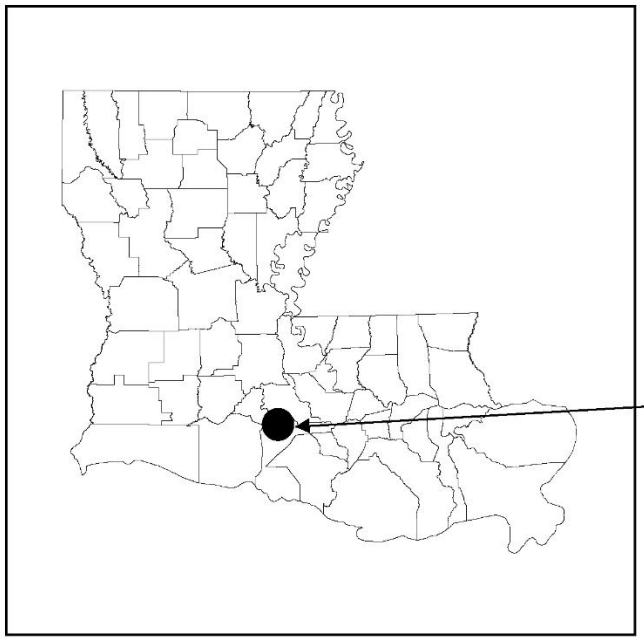
- The current LADOTD Bridge Inspection Report, and any other similar inspection reports
- Original bridge construction plans, any rehabilitation plans, and record as-built plans, as available
- Existing historical and documentary material related to the historic bridges

Recommendations within this Plan are consistent with the Secretary's Standards. The Secretary's Standards are basic principles created to help preserve the distinct character of a historic property and its site, while allowing for reasonable change to meet new engineering standards and codes. The Secretary's Standards recommend repairing, rather than replacing, deteriorated features whenever possible. A version of the Secretary's Standards that is specific to historic bridges is included in the Statewide Historic Bridge Plan. Following these standards is a requirement of the PA.

A bridge historian and bridge engineer from Mead & Hunt, Inc. (Mead & Hunt) jointly prepared this Plan under contract to the LADOTD. The LADOTD, FHWA, and LASHPO reviewed and provided input into the final Plan.

2. Location Map





PROJECT LOCATION
Bridge Number: 005900
Stucture Number: 03234003100241
Iberia Parish
Route: LA 86
Crossing Description: Bayou Teche

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3. Historic Data

A. Identifying information

Structure Number: 03234003100241

Recall Number: 005900

LASHPO Number: 23-00937

Bridge Name: Bayou Teche Bridge at Daspit Road

Date of Construction: 1966

Main Span Type: Moveable: Swing – Plate girder

Contractor: W.R. Fairchild Construction Co. Ltd. and J.W. Snowden Construction Co.

Designer/Engineer: Louisiana Department of Highways (LDH)
Orleans Materials & Equipment Co., New Orleans, La. (steel)
Beaumont Machine Works, Beaumont, Tx. (movable machinery)

B. Description of bridge

The Bayou Teche Bridge at Daspit Road carries two lanes of LA 86 across the Bayou Teche in Iberia Parish. The average daily traffic (ADT) across the bridge is approximately 1,720 vehicles. The approximately 322-foot-long crossing consists of an unequal arm, swing, steel plate girder span and nine concrete approach spans. The bridge is not load (weight) posted. The bridge is classified as a complex structure because it contains one swing span unit. It is also classified as fracture critical because of the swing span two-girder framing system.

The total length of the bridge is approximately 322 feet measured from end bent to end bent. The bridge is described as follows, from south to north. Spans 1 through 4 are cast-in-place concrete slab spans, each 20 feet long for a total length of 80 feet. Span 5 is the main span, a steel plate girder swing span with a length of approximately 142 feet measured from centerline to centerline of joints in the deck. Spans 6 through 10 are cast-in-place concrete slab spans, each 20 feet long for a total of length of 100 feet.

The steel plate girder swing span includes a center-bearing turning mechanism with steel rollers and guide rail, all supported on a concrete pivot pier (Pier 2). The main span is a total of 135 feet long, measured from centerline to centerline of end floorbeams, with unequal arms of 90 feet and 45 feet, and with an open joint at either end of the span (approximately 3 feet on the south end and approximately 4 feet at the north end of the span). An open grid steel deck 5 inches thick is constructed on the 90-foot

arm, and a cast-in-place, reinforced-concrete deck with a concrete counterweight is constructed on the 45-foot arm to balance the span. The steel grid deck is filled with concrete over the pivot pier and machinery. The 90-foot arm floor system consists of seven steel stringers and seven floorbeams that support the open grid deck. The 45-foot arm floor system consists of four lines of rolled steel beams that support the concrete deck. The bridge provides a 24-foot clear roadway width with 3-foot wide sidewalks. The railing on the approach spans is a concrete and steel combination. The railings on the main span are steel railings supported on the top of the top flanges of the main steel plate girders.

The substructure for the approach spans consist of cast-in-place concrete bents supported on 18-inch-square precast concrete piles that form the columns, and cast-in-place, reinforced-concrete caps. The substructure for the main swing span consists of cast-in-place, reinforced-concrete pier caps supported on 18-inch-square precast concrete piles. The center pivot pier (pier 2) is a circular, cast-in-place, reinforced-concrete pad supported on 18-inch-square precast concrete piles.

The operator's house is located on a separate concrete platform supported on 18-inch-square precast concrete piles, and is located to the southeast of the swing span.

The timber fender system for the waterway navigation extends into the waterway east and west of the swing span. The timber fender system provides for a clear horizontal navigation clear width of 50 feet.

Traffic barrier gates are located on the approach spans on each side of the swing span. Vertical clearance signs on the barrier gates read 17 feet, 0 inches. Traffic warning gates and traffic signal lights are located on the roadway approaches at each end of the bridge.

To provide transitions from the roadway to the bridge, 20-foot-long reinforced-concrete approach slabs are located at each end of the bridge.

C. History and significance

The Bayou Teche Bridge at Daspit Road is located north of New Iberia, Louisiana, and carries Daspit Road (LA 86) across the Bayou Teche. LA 86 also crosses Bayou Teche in New Iberia and then parallels the winding waterway north and east of New Iberia to the crossing at Daspit Road. The current bridge is not the first bridge at this location.

Bayou Teche reaches 125 miles from Bayou Courtableau at Port Barre, located about 55 miles north of New Iberia, to the Atchafalaya River at Berwick. The lumber and sugar industries were prominent along this stretch, and mills for both products were historically located on the bayou.[1] While the U.S. Army Corps of Engineers still manages Bayou Teche as a navigable waterway, commercial traffic has

[1] Vincent Pizzolato, "Preliminary Case Report for the Bayou Teche Bridge at Ruth, St. Martin Parish, Ruth, Louisiana," prepared for the U.S. Department of Transportation Federal Highway Administration and the Louisiana Department of Transportation and Development Office of Highways (April 1984), 2-4; David C. Johnson and Elaine G. Yodis, *Geography of Louisiana* (New York: McGraw Hill, 1998), 133; "Determination of Eligibility for the Bayou Teche Bridge (Oaklawn), LA 323, St. Mary Parish, Louisiana."

significantly decreased in recent years. Four-hour advance notice is needed for the Bayou Teche Bridge at Daspit Road to be opened.

Plans were developed for the bridge by the LDH. Bids were received for construction of the bridge in January 1965, with construction starting later that year. Construction finished in 1966 at a total cost of just over $444,000.[2]

Extant examples of swing-span bridges in Louisiana feature four types of span construction: cable-stayed (I-beam and pony truss variations), through-truss, pony truss, and plate girder (most common). Standard plans for most swing bridge types were developed by the Louisiana Highway Commission (LHC) and LDH from 1924 to 1961; however, it is not confirmed that this bridge design was based on a standard plan.[3] The Bayou Teche Bridge at Daspit Road is the common plate girder swing type but features an additional adaptation. Spans are typically symmetrical (equal length) on both sides of the pivot pier; however, in some locations where horizontal clearance is restricted, the pivot pier must be located near the shoreline, or some other location that will limit the swing arc of the span or the length of the span. In such cases, the span is designed to be non-symmetrical, with one side of the span considerably shorter than the other, to accommodate the restriction in the setting. The short end has a counterweight to compensate for the missing weight of the span to balance the other span half, and the variation is known as the "bobtail" swing.

The Bayou Teche Bridge at Daspit Road is eligible for listing in the National Register under *Criterion C: Design/Engineering*. Its significance is demonstrated by the presence of distinctive engineering and design features of the steel plate girder swing type, which is characterized by an unequal arm steel plate girder main span (bobtail swing), center-bearing turning mechanism, and pivot pier. The bridge exhibits alterations to the operator's house that result in a minor loss of integrity, but continues to convey significant design features of the steel plate girder swing type.

D. Character-defining features

Character-defining features are prominent or distinctive aspects, qualities, or characteristics of a historic property that contribute significantly to its physical character. Features may include materials, engineering design, and structural and decorative details. Elements of the bridge that are not identified as character-defining features may be historic fabric. Historic fabric is material in a bridge that was part of original construction. It is important to consider both character-defining features and the bridge's historic fabric when planning any work.

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[2] "Bids on State Highway Work to be Taken," *The Morning Advocate,* January 27, 1965; *Louisiana* Department of Highways, *Financial and Statistical Report, Fiscal Year Ending June 30, 1965* (Baton Rouge, La.: Louisiana Department of Highways, 1965), 37; State of Louisiana, Department of Highways, *Financial and Statistical Report, Fiscal Year Ended June 30, 1967* (Baton Rouge, La.: Department of Highways, 1966), 38; State of Louisiana, Department of Highways, *Financial and Statistical Report, Fiscal Year Ended June 30, 1966* (Baton Rouge, La.: Department of Highways, 1967), 37.

[3] The LHC was reorganized into the LDH in 1940. Mead & Hunt, Inc., *Historic Context for Louisiana Bridges* (Prepared for the Louisiana Department of Transportation and Development, December 2013), 75.

The Bayou Teche Bridge has one character-defining feature: its plate girder swing span (described below). Other elements that represent historic fabric but are not considered to be character-defining are the concrete substructure; approach spans, including railings and traffic barrier gates; and operator's house.

The following is the character-defining feature of this bridge:

Feature 1: Design and construction of unequal arm steel plate girder swing span
This feature consists of the main 135-foot long, steel plate girder swing span, which is known as a bobtail swing span due to the unequal length (90 feet and 45 feet) of the span arms on either side of the pivot pier. It also encompasses the bridge's center-bearing turning mechanism, which consists of a center-bearing mechanism and metal roller-and track system. The plate girder swing span also includes an open steel grid deck on the 90-foot arm, a concrete deck and concrete counterweight on the 45-foot arm to balance the span, and a steel grid deck filled with concrete over the center pivot mechanism and pivot pier.

Character-defining Feature Photo 1: Design and construction of a steel plate girder swing span. The span is called a bobtail swing span due to the unequal length of the span arms on either side of the pivot pier.

Character-defining Feature Photo 2: Design and construction of a steel plate girder swing span. The swing span is opening, and is in the partially open position.

Character-defining Feature Photo 3: Design and construction of the center-bearing turning mechanism. This roller-and-track system guides the motion of the bridge when it opens and closes.

The following images illustrate other bridge features that are historic fabric, meaning they are part of original construction but are not considered to be character-defining features:

Historic Fabric Photo 1: Concrete slab approach spans with concrete and metal tube railing and traffic barrier gates to the southeast of the main swing span; also showing the operator's house.

Historic Fabric Photo 2: Concrete substructure and concrete approach spans with concrete and metal tube railing northeast of the main swing span; also showing the traffic barrier gate and towers.

Historic Fabric Photo 3: Endposts of concrete and metal tube railing of approach spans.

Historic Fabric Photo 4: Operator's House located southeast of the swing span.

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4. Engineering Data

A. Existing conditions

(1) Structural observations

The Bayou Teche Bridge at Daspit Road is in satisfactory condition overall and appears to adequately serve its purpose of carrying vehicular traffic over the waterway, with the ability to open to allow water navigation traffic to pass by the bridge. The operation of the bridge is also satisfactory as observed in the opening-closing cycle during the field visit, and the operating machinery is adequately maintained. The major deficiencies consist of concrete spalls on the substructure units and deteriorated or failed expansion joints in the bridge decks. A minor deficiency is the isolated failure of the paint system on components of the swing span.

The bridge is not load (weight) posted.

Approach spans (spans 1-4 and 6-10)

The cast-in-place, reinforced-concrete slab spans are in satisfactory condition with wear showing on the driving surface. The end concrete slabs at the roadway approach slab joints are spalled. The concrete sidewalks are in good condition with a minor crack and spall at the west corner of the approach sidewalk. The sidewalks exhibit longitudinal cracking on the underside and light surface wear on the top. There are cracks and spalls above where the deck and haunch meet at the bents. The expansion joints are in fair condition. The joint material has failed, with spalls in the concrete on both sides of the joint and full of debris. The open joints are in good condition. There is minor vegetation growing at the joint and there is debris build-up on the bent caps. The concrete substructure units are in good condition. The end bent 1 cap is spalled at the key and the south wingwall is spalled.[4] End bent 9 has debris build-up and vegetation growth, and the east wingwall is spalled. The bent caps exhibit water staining. The bent columns, which are precast concrete piles, are in good condition. Bent columns exhibit graffiti and there is scour at the columns of bent 3. Bent 6 has a spall on the center of the north face of the cap and the west columns are covered with vines. Piers 1 and 3 have standing water and debris build-up on the seats from the open joint. The concrete and metal combination railings are in good condition.

Swing span (span 5)

The open metal grid deck of the main span is in satisfactory condition. There is moderate debris on the shoulders and wear showing on the driving surface. The grid deck has loose and broken grid segments throughout and there are numerous places where it has been repaired. The concrete filled grid deck over the center pivot bearing is in satisfactory condition with wear showing on the driving surface and numerous concrete patches. The concrete deck in the

[4] The inspection report for this bridge uses different numbers for the bents as the general plans. For the purposes of this Plan, the bent numbering follows that of the general plans.

shorter arm is in good condition. The open deck joints are in good condition with minor vegetation on both sides, and debris has fallen through to the pier cap.

The superstructure is in satisfactory condition, consisting of two main longitudinal steel girders, steel floorbeams, and steel stringers, making the structure fracture critical. The superstructure has minor paint failure throughout. The girders are in satisfactory condition with debris build up on the top of the bottom flange and stiffeners on the inside of girder 1. The stringers are in satisfactory condition with minor section loss. The floorbeams are in satisfactory condition, with the top flange corroded from water seepage at the joint, and floorbeams 1 through 4 have minor corrosion on the bottom flange due to debris falling through the open grid deck. The substructure is in good condition with no major deficiencies. The center pivot pier exhibits graffiti and vegetation growth around the cap. The center pivot bearing is in satisfactory condition. The metal railing is in good condition. The sidewalk checked steel plate is in good condition with minor paint system failure. The operating and hydraulic machinery are functional and in overall satisfactory condition. The electrical operation and control systems are functional and in overall satisfactory condition.

(2) Non-structural observations

The steel traffic barrier gates adjacent to the swing span are lowered when the bridge is opened, and are in good functional and structural condition. The counterweight and counterweight supports for the traffic barrier railings exhibit minor paint failure. The reflector tape on the barriers has minor peeling. Traffic warning gates with lights at each end of the bridge are lowered when the bridge is opened, and are in satisfactory functional and structural condition. The gates are oily and dirty, and have minor pitting of the housing. Traffic signal lights at each end of the bridge are functioning and are in satisfactory condition. The signals are exhibiting some corrosion.

The navigation lights are in satisfactory condition, with a lens broken.

The horizontal and vertical geometry of the bridge is good. The bridge is posted for a vertical clearance of 17 feet, 0 inches.

The operator's house is in satisfactory condition and fully functional. The house has the original windows, door, and tile floor on the interior. There is some tile cracking and failure. The exterior concrete surface is discolored from age and has minor water staining. The prestressed concrete pile columns have vegetation growing on them. The control panel for operation of the bridge is original and fully functional.

The timber fender system is in satisfactory condition. The timber walers and piles are weathered with decay at the water line, but for the most part the fender system has been maintained to provide its function of protecting the bridge from impact loading from river navigation traffic.

When the swing span is opened, it swings and hits vegetation that is overgrown.

There are multiple signs attached to the swing span over the Bayou Teche. The signs are loose and need to be reattached properly. The 20-foot, reinforced-concrete approach slab on both ends of the bridge are in good condition with no deficiencies.

(3) Serviceability observations

The ADT across the bridge is about 1,720 vehicles. The bridge appears to adequately handle this traffic volume. The bridge clear roadway width of 24 feet provides for two lanes of traffic, one in each direction, with 3-foot-wide sidewalks. The concrete and metal combination railings on the approach spans do not meet current height standards for pedestrian usage on the bridge and do not meet current crash testing requirements. However, the functionality of these railings is acceptable without modification. The curbs of the sidewalks provide a barrier between the roadway and the railings. The railings supported on the top flanges of the main longitudinal girders of the swing span are adequate, considering that the girders themselves provide barrier protection.

Records indicate that this bridge is opened an average of once per month. The bridge is not manned and a four-hour notice must be given for the structure to be opened.

B. Sources of information

Plans available:	Yes, available at the LADOTD Bridge Section office
Inspection report date:	November 19, 2014
Fracture critical report date:	(included as part of routine inspection report)
Underwater inspection report:	April 25, 2014
Date of site visit:	February 3, 2016

Condition Photo 1: South approach roadway looking north at the bridge. Note traffic barrier gate and towers, and operator's house.

Condition Photo 2: Northerly concrete approach spans and traffic barrier gate, looking north toward north end of bridge.

Condition Photo 3: North traffic barrier gate with towers and vertical clearance sign, looking south.

Condition Photo 4: Concrete-filled metal grid deck wear and patched areas on swing span.

Condition Photo 5: Open metal grid deck condition showing repairs on swing span.

Condition Photo 6: Typical concrete slab approach span cracking and efflorescence on the underside of the slab.

Condition Photo 7: Deck expansion joint and shoulder full of debris, typical for approach spans.

Condition Photo 8: Spalling of the concrete joint in approach span concrete deck at concrete approach slab at end of bridge.

Condition Photo 9: Crack in haunch of concrete deck slab at the end bent 1.

Condition Photo 10: End of concrete bent cap water staining and crack in concrete deck slab haunch.

Condition Photo 11: Spall at the concrete deck slab where the deck and haunch meet at bent 4.

Condition Photo 12: Bent 10, spalled concrete bent cap where the deck and haunch meet at the bent cap; also note graffiti on bent cap.

Condition Photo 13: Concrete bent cap and columns exhibiting water staining, typical condition.

Condition Photo 14: Water staining on concrete slab and bents on the approach spans, typical condition.

Condition Photo 15: Main span longitudinal steel girder and steel railing paint failure.

Condition Photo 16: Paint failure on the girders, railings, and sidewalks of the swing span.

Condition Photo 17: The opening of the steel plate girder swing span. Also note the debris along the approach span shoulder and the sidewalk and the paint system failure.

Condition Photo 18: Steel plate girder swing span hitting vegetation located west of the bridge. Also note the debris along the approach span shoulder and the sidewalk and the paint system failure.

Condition Photo 19: Drift, water, and debris build-up at pier 3 for the swing span bearing seat.

Condition Photo 20: Operator's house, north walls, windows, and metal protective screening over windows, looking south.

Condition Photo 21: Control console and tile floor in the operator's house.

Condition Photo 22: Traffic gate exhibiting minor paint failure.

Condition Photo 23: Center pivot bearing and roller assembly; note the graffiti.

Condition Photo 24: Bent columns exhibiting scour at the columns of bent 3.

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5. Recommendations

This Preservation Priority Bridge should remain in use and can meet current and projected transportation needs for the next 20 years or more. Maintenance and rehabilitation activities should be completed in a manner consistent with the long-term preservation of this historic bridge. The Statewide Historic Bridge Plan provides additional guidance and approaches to completing maintenance and rehabilitation activities that adhere to the Secretary's Standards. Work should be conducted under the supervision of a qualified professional historian, as defined in the PA. The bridge engineer, or the bridge engineer's supervising engineer, should have demonstrated expertise in historic bridge projects and must have completed the LADOTD's historic bridge training. When developing plans and specifications for a project, the bridge engineer should follow the recommendations below.

Under the terms agreed upon in the PA, the bridge owner may undertake certain activities that are considered to be best practices without additional consultation or public notification. These activities are documented in Attachment 5 of the PA and are limited to the activities specifically noted. All recommended preventative maintenance and rehabilitation activities for this bridge are included in Attachment 5 and are not expected to alter character-defining features or historic fabric of the bridge. Some cyclical or condition-based maintenance items are noted below under Rehabilitation because they are expected to be completed as part of an overall rehabilitation project for this bridge. These activities may need to be completed as conditions dictate to promote long-term preservation of this historic bridge. Recommendations within this Plan should be reviewed in 10 years following completion of the Plan to identify any needed updates or revisions.

The opinions of probable costs provided below are in 2016 dollars. The costs were developed without benefit of preliminary rehabilitation plans and are based on the above identified tasks using engineering judgment and/or gross estimates of quantities and historic unit prices and are intended to provide a programming level of estimated costs. Refinement of the probable costs is recommended once preliminary plans have been developed. The estimated preservation costs include a 10% contingency and 7% mobilization allowance of the preservation activities, excluding soft costs. Actual costs may vary significantly from those opinions of cost provided herein. Engineering design, historical consultation, and construction administration costs are not included as these may be provided by the owner or consultants.

A. Preventative maintenance

The following are recommendations for cyclical maintenance. Because these activities are routinely done, the cost is not included in the cost estimate. There are no condition-based maintenance recommendations at this time, based on the bridge condition as observed during the site visit and as documented in available information.

1. Remove vegetation overgrowth, debris, and drift from substructure units and bridge surroundings, as necessary.

2. Repair broken or loose metal grid deck bars regularly to maintain good condition, as necessary.

3. Clean debris from the joints and shoulders of the bridge decks regularly to maintain good condition.

4. Clean the structural steel members to maintain good condition, yearly.

5. Replace deteriorated or decayed members, or missing members, from the fender protection system to maintain good condition as necessary.

6. Clean and lubricate the traffic warning gates and housings, and maintain the motors in good condition, as necessary.

7. Service the navigation lights and replace lenses and burned-out lights as necessary.

B. Rehabilitation

The following are recommendations for rehabilitation. These activities should be performed when necessary (estimated to be within the next five years):

1. Spot clean and paint structural steel members of the swing span where deteriorated in accordance with the current standard cleaning and painting specification for recoating previously painted steel bridges.

2. Remove and replace joint material for the deck expansion joints on approach spans.

3. Patch or repair the concrete key joints where the concrete deck and haunch meet at the bent caps.

4. Repair erosion at bent with non-erodible material, as necessary.

Bridge Recall No. 005900		Date:	9/30/2016	
Bayou Teche Bridge at Daspit Road				
Opinion of Probable Costs				
Rehabilitation				
Item	**Quantity**	**Unit**	**Unit Cost**	**Total**
Spot clean and paint structural steel members of the swing span where deteriorated in accordance with the current standard cleaning and painting specification for recoating previously painted steel bridges	1	LS	$100,000	$100,000
Remove and replace joint material for the deck expansion joints on all approach spans	216	LF	$50	$10,800
Patch or repair the concrete key joints where the concrete deck and haunch meet at the bent caps	1	LS	$150,000	$150,000
Repair erosion at bent with non-erodible material	1	LS	$5,000	$5,000
Traffic control signage, drums, and temporary pavement markings for staged construction of items above	1	LS	$25,000	$25,000
Item Subtotal				$290,800
Contingency			10.00%	$29,080
Mobilization			7.00%	$22,392
TOTAL ESTIMATED CONSTRUCTION COST				**$342,272**
			Round to:	**$342,000**

C. Identification of any anticipated design exceptions

No design exceptions were noted, nor are any design exceptions recommended.

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Appendix A. Historic Inventory Form

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Louisiana Historic Bridge Inventory

Recall Number: 005900 **Structure Number:** 03234003100241 **SHPO Number:** 23-00937

Bridge Name: TECHE BAYOU @ DASPIT RD

Location Data:

District: 03

Parish: Iberia

Feature Crossed: BAYOU TECHE

Facility Carried: LA0086

Location: .24 MI WEST OF LA 347

City, Village or Town (if applicable):

Status: Open

Bridge Owner: State of Louisiana

Latitude: 30.04042

Longitude: -91.80082

Structural Data:

Bridge Type: Steel Plate Girder Swing Span

Year Built: 1965

Main Span Configuration (if applicable): Plate girder swing span

Maximum Span Length (feet): 135

Number of Spans: 1

Overall Structure Length (feet): 322

Approach Span Type (if applicable): Concrete slab

Posted Load:

Current ADT: 001650

Design and Construction Data:

Engineer or Builder:

Unknown

Bridge Plaque:

None

National Register of Historic Places Evaluation:

This steel plate girder swing bridge has significance as an example of a movable bridge and as a subtype. Its significance is demonstrated by the presence of distinctive engineering and design features of the steel plate girder swing type, which is characterized by steel plate girder main span, center-bearing turning mechanism, pivot pier, and operator's house. This particular example also features a bobtail plate girder span. The bridge exhibits alterations to the operator's house that result in a minor loss of integrity, but continues to convey significant design features of this subtype. The bridge is eligible for listing in the National Register under Criterion C: Design/Engineering.

No evidence was found during research or data collection activities to indicate that this bridge possesses a direct and important association with historical events or trends. This bridge does not possess significance under Criterion A.

Within/Adjacent to Known Historic District: N/A

National Register Historic District Name: N/A

National Register Determination: Eligible

National Register Determination Date: 2013

Surveyor: Mead & Hunt, Inc.

Date Surveyed: 2013

Louisiana Historic Bridge Inventory

Recall Number: 005900 **Structure Number:** 03234003100241 **Bridge Name:** TECHE BAYOU @ DASPIT RD

Parish: Iberia Bridge Owner: State of Louisiana

Feature Crossed: BAYOU TECHE Facility Carried: LA0086

Photographs:

Appendix B. Select Plan Sheets

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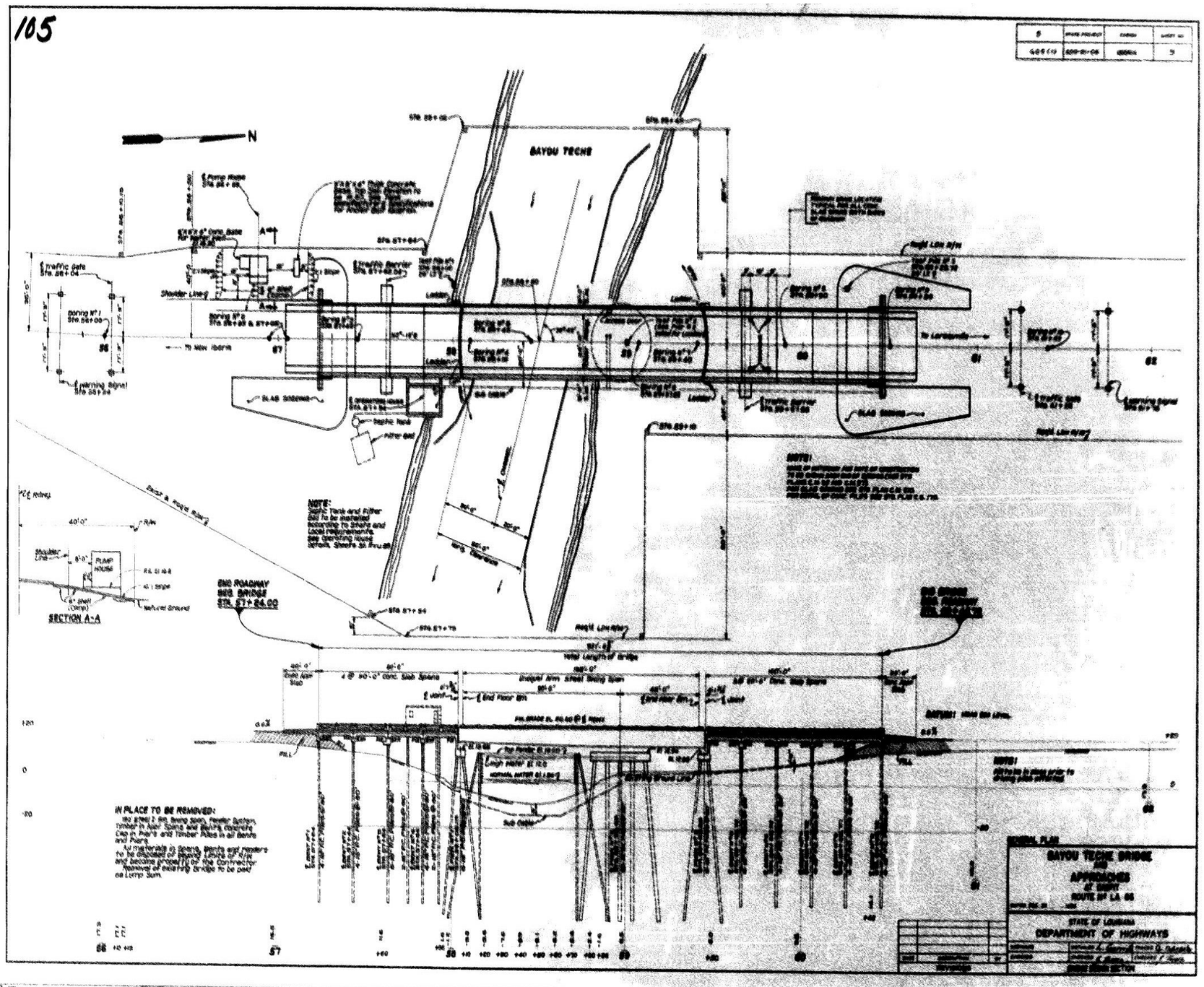
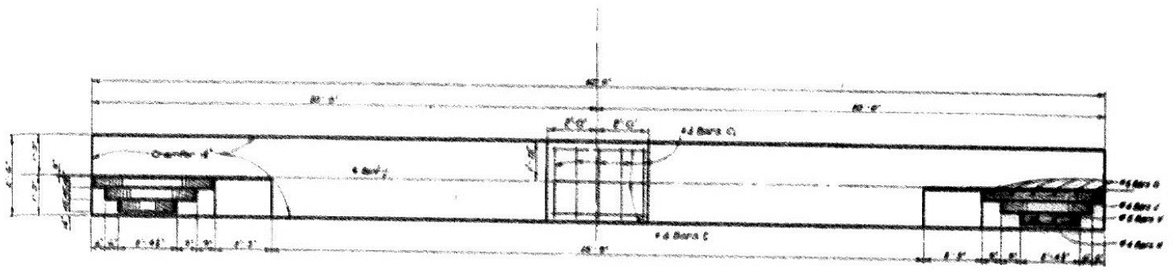
105

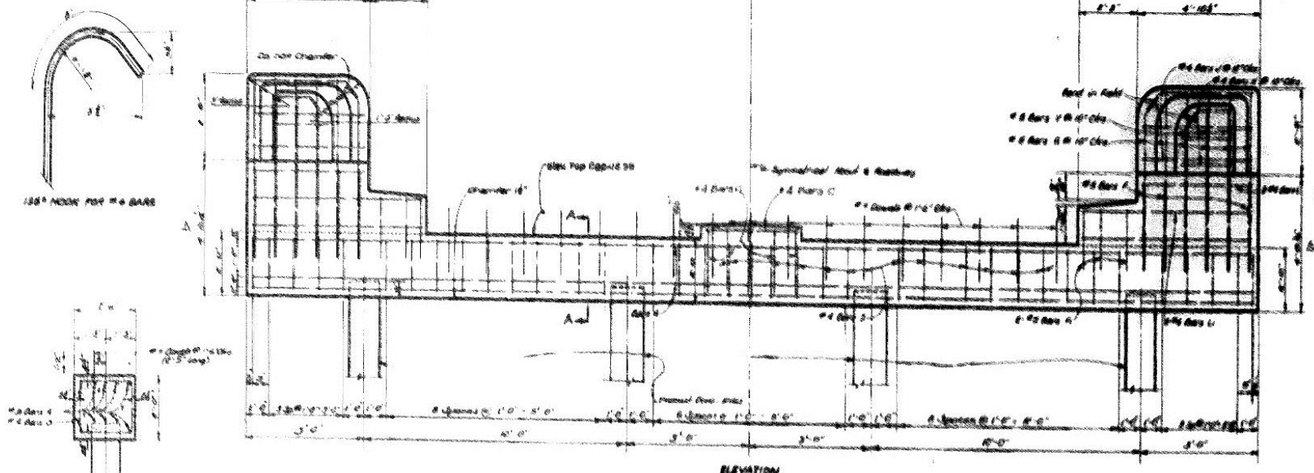


FINAL TRACINGS

110



PLAN



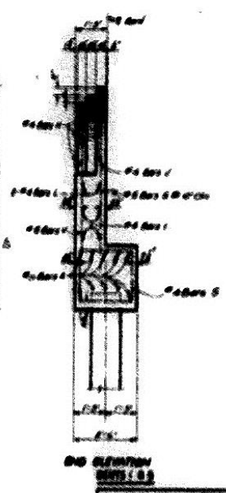
ELEVATION

135° HOOK FOR #4 BARS

SECTION A-A

#4 STIRRUPS S

#4 BARS C



END ELEVATION

BILL OF MATERIALS FOR THIS END BENT					
MARK	SIZE	NO.	LENGTH	TOTAL WEIGHT	CONCRETE
A	# 8	10	31'-0"	1034 lbs.	Conc. Slab & Backwall
Total Wt. Bars = 1034 lbs. Coated Like					
B	# 11	11	6'-0"	62.7	Concrete in Slab
Total Wt. Bars = 62.7 lbs. = 34 Lbs.					
F	# 6	6	5'-0"	45.0	Straight
G	# 6	6	5'-0"	45.0	Straight
H	# 6	6	5'-0"	45.0	Straight
I	# 6	6	5'-0"	45.0	Straight
Total #6 Bars = 180.0 lbs. = 97 Lbs.					
K	# 6	6	5'-0"	45.0	Straight
L	# 6	6	4'-0"	36.0	Straight
M	# 6	6	4'-0"	36.0	Straight
N	# 6	6	4'-0"	36.0	Straight
O	# 6	22	8'-0"	264.0	Vertical Stirrups
C	# 4	8	5'-6"	29.3	Hooked
C1	# 4	2	6'-0"	8.0	Hooked
Total # 4 & # 6 Bars = 663.3 lbs. = 358 Lbs.					
Concrete in Slab = 4					9.33 Cu. Yds.
Concrete in End Diaphragms = 4					6.33 Cu. Yds.
Concrete in End Bent = 1					22.0 Cu. Yds.

Quantities Based on 18" Precast Concrete Piles

For Non-Metallic Pipe Bent [illegible]

6	[illegible]	[illegible]	[illegible]
5/6/63	[illegible]	[illegible]	[illegible]

BAYOU TECHE BRIDGE
AND
APPROACHES
AT DARPIT
LA. 96

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

FINAL TRACINGS

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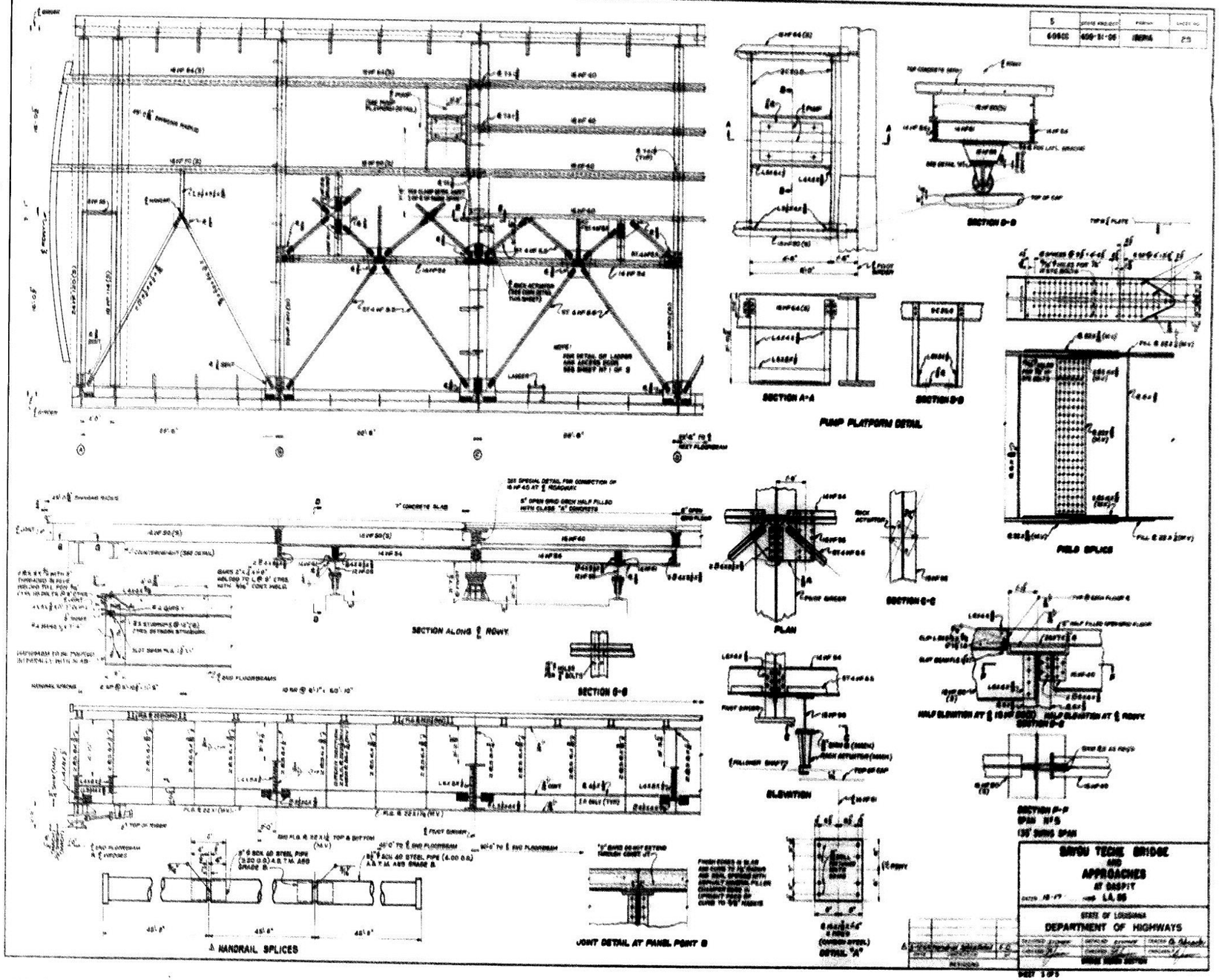
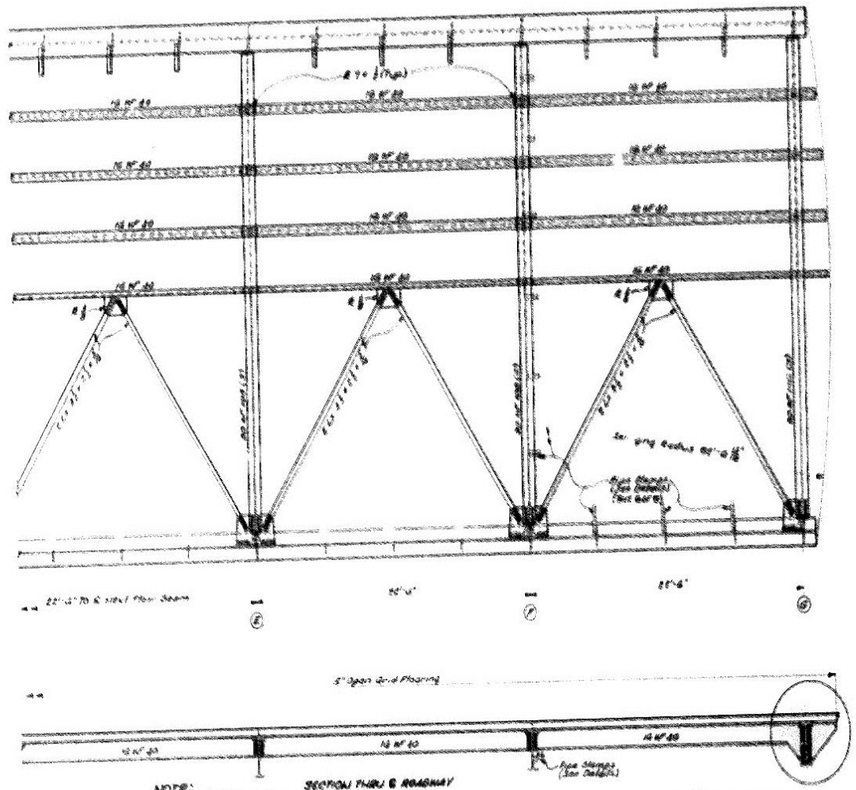
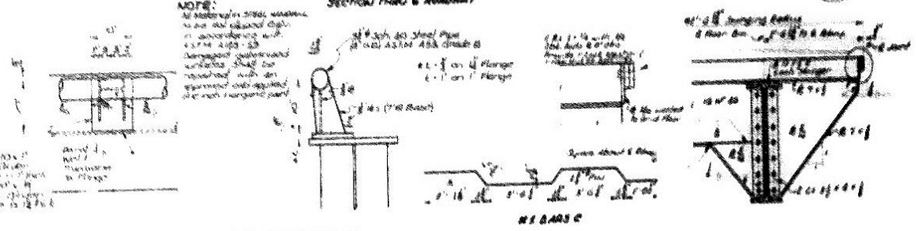


FINAL TRACINGS

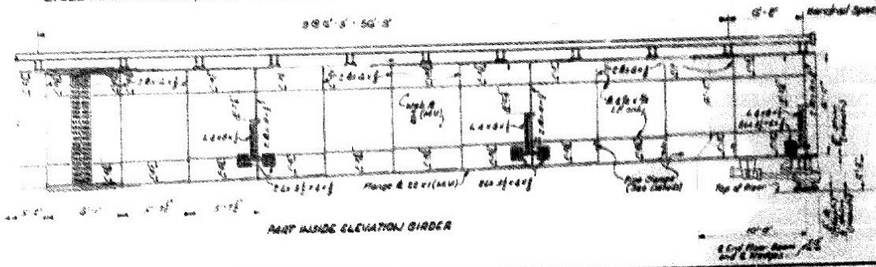
124



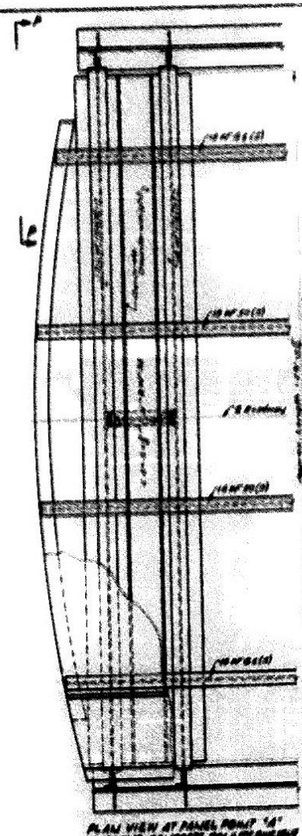
SECTION THRU ℄ ROADWAY



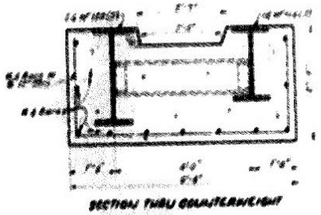
STEEL PIPE HANDRAIL & BRACKET DETAIL



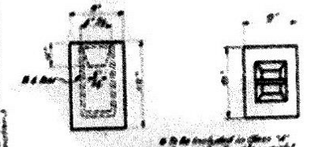
PART INSIDE ELEVATION GIRDER



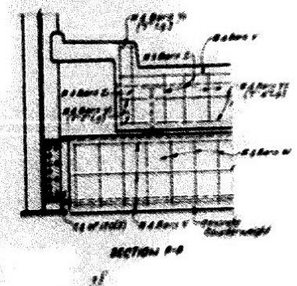
PLAN VIEW AT PANEL POINT "A"
SHOWING CONCRETE COUNTERWEIGHT



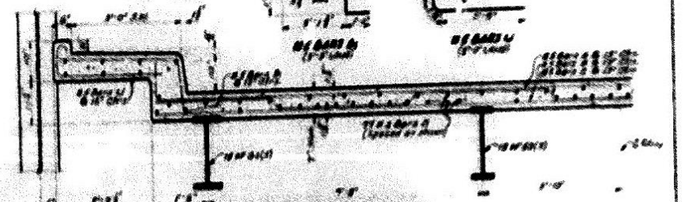
SECTION THRU COUNTERWEIGHT



CONCRETE COUNTERWEIGHT
ADJUSTING BLOCKS



SECTION F-F



HALF SECTION THRU ROADWAY
SHOWING REINFORCEMENT

BAYOU TECHE BRIDGE
AND
APPROACHES
ST MARY
LA 90

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

FINAL TRACINGS

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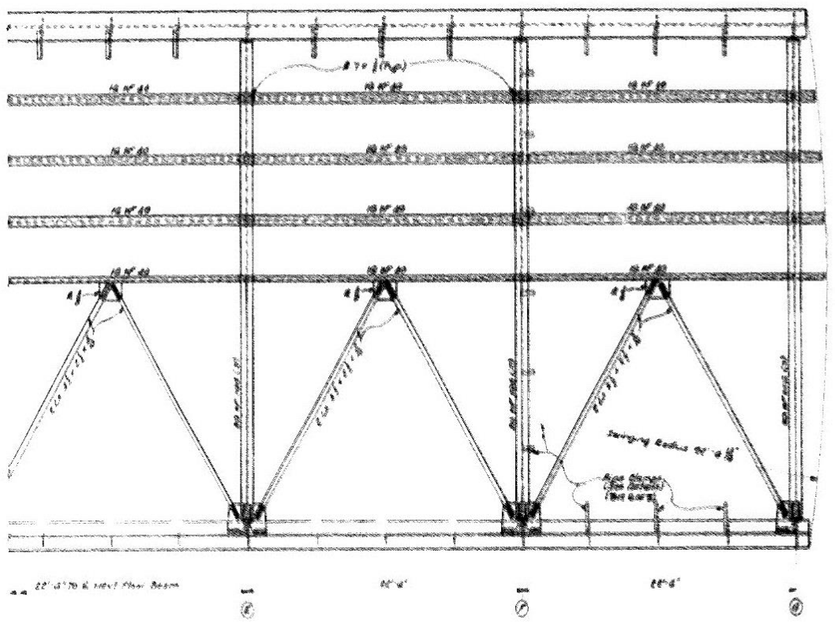
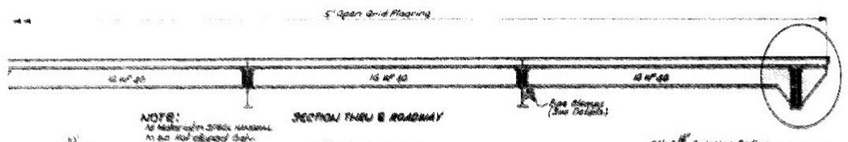
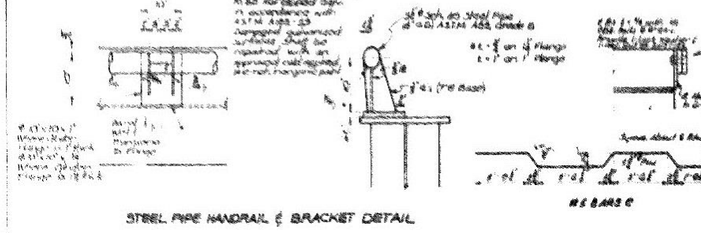
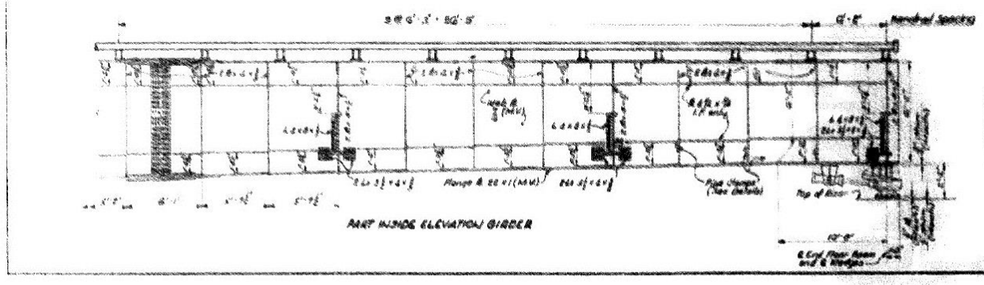
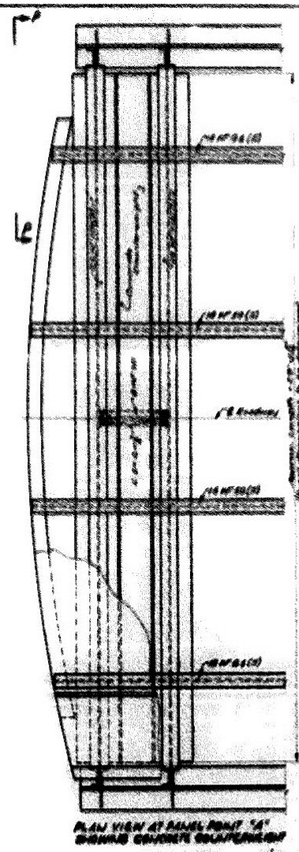
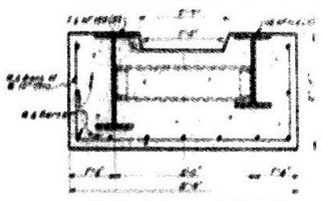


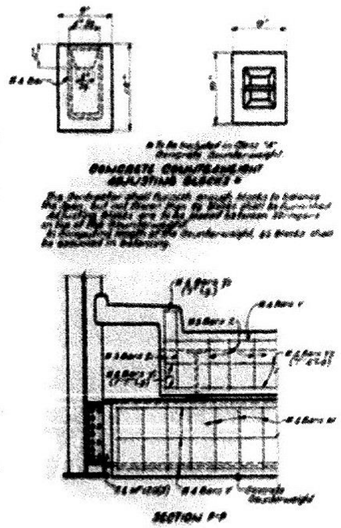


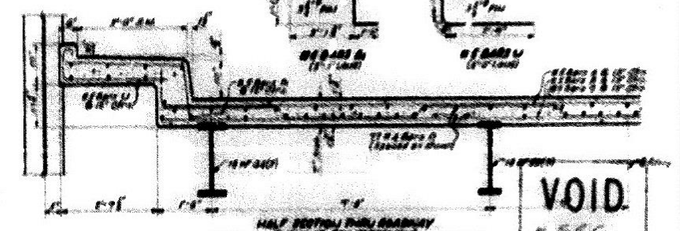


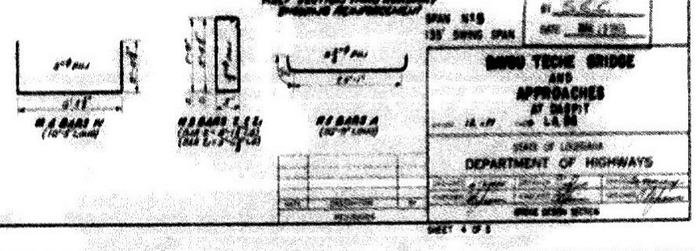












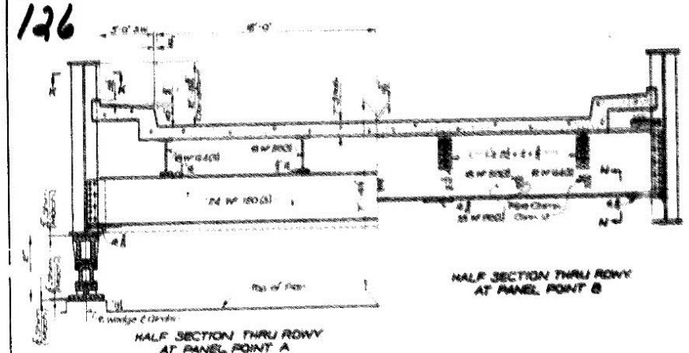
VOID

BAYOU TECHE BRIDGE AND APPROACHES ST. MARY'S LA. 86

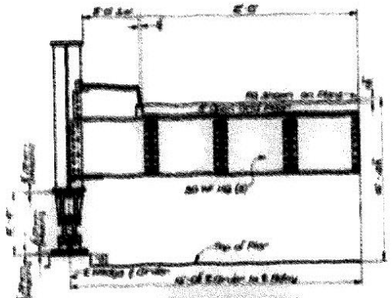
STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

FINAL TRACINGS

126

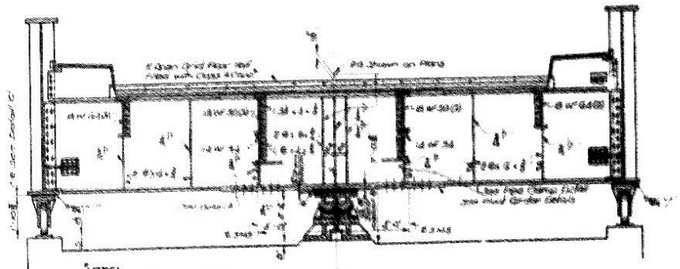


HALF SECTION THRU ROWY AT PANEL POINT A

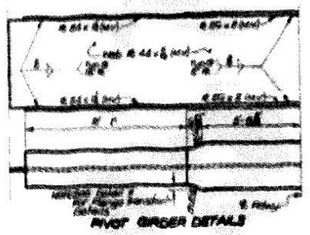


HALF SECTION THRU ROWY AT PANEL POINT B

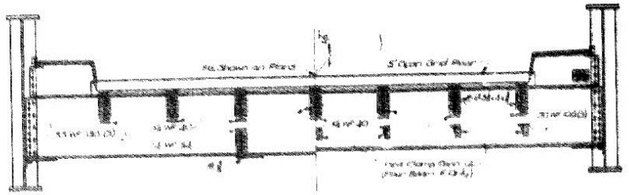
SECTION THRU ROWY AT PANEL POINT G



SECTION THRU ROWY AT PIVOT POINT C

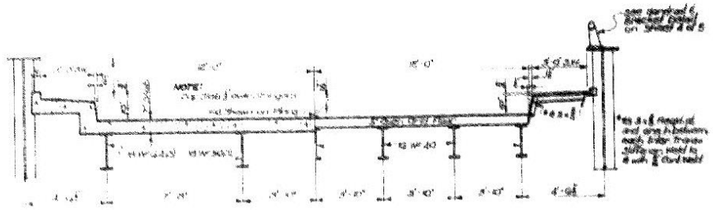


PIVOT GIRDER DETAILS



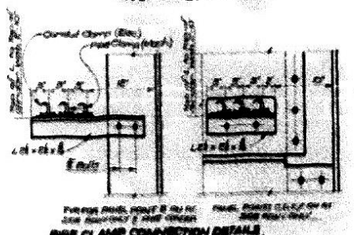
HALF SECTION THRU ROWY AT PANEL POINT D

HALF SECTION THRU ROWY AT PANEL POINTS E & F

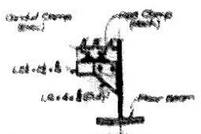


HALF SECTION THRU ROWY AT MID PANEL (45 FT. ARM)

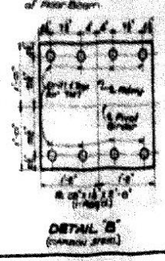
HALF SECTION THRU ROWY AT MID PANEL (90 FT ARM)



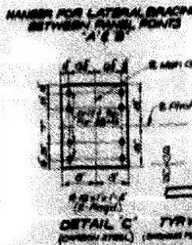
PIPE CLAMP CONNECTION DETAILS



SECTION N-N

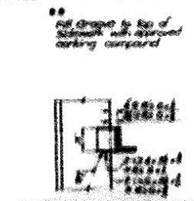


DETAIL 'B'

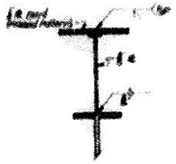


DETAIL 'C'

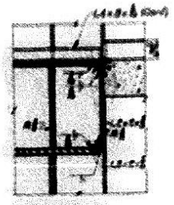
TYP WELD DETAIL



SIDEWALK CLIP L AT FLOOR BEAM AND INTER STIFFNER

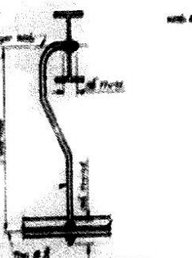


SECTION H-H

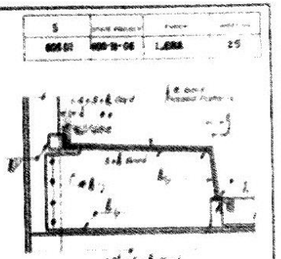


SECTION J-J

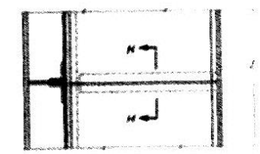
HANGER FOR LATERAL BRACING BETWEEN PANEL POINTS A & B



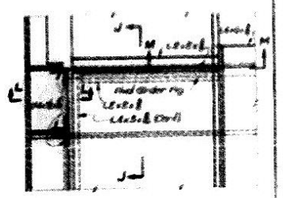
HANGER FOR LATERAL BRACING BETWEEN PANEL POINTS C, D & E



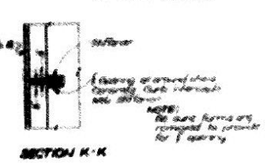
SECTION THRU SIDEWALK AT INTER. FLOOR BEAMS



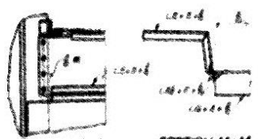
PLAN OF SIDEWALK AT INTER. FLOORBEAMS



PLAN OF SIDEWALK AT PIVOT GIRDER



SECTION K-K



SECTION L-L

SECTION M-M

BAYOU TECHE BRIDGE AND APPROACHES
ST MARY
LA 96

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

SHEET 9 OF 9

FINAL TRACINGS

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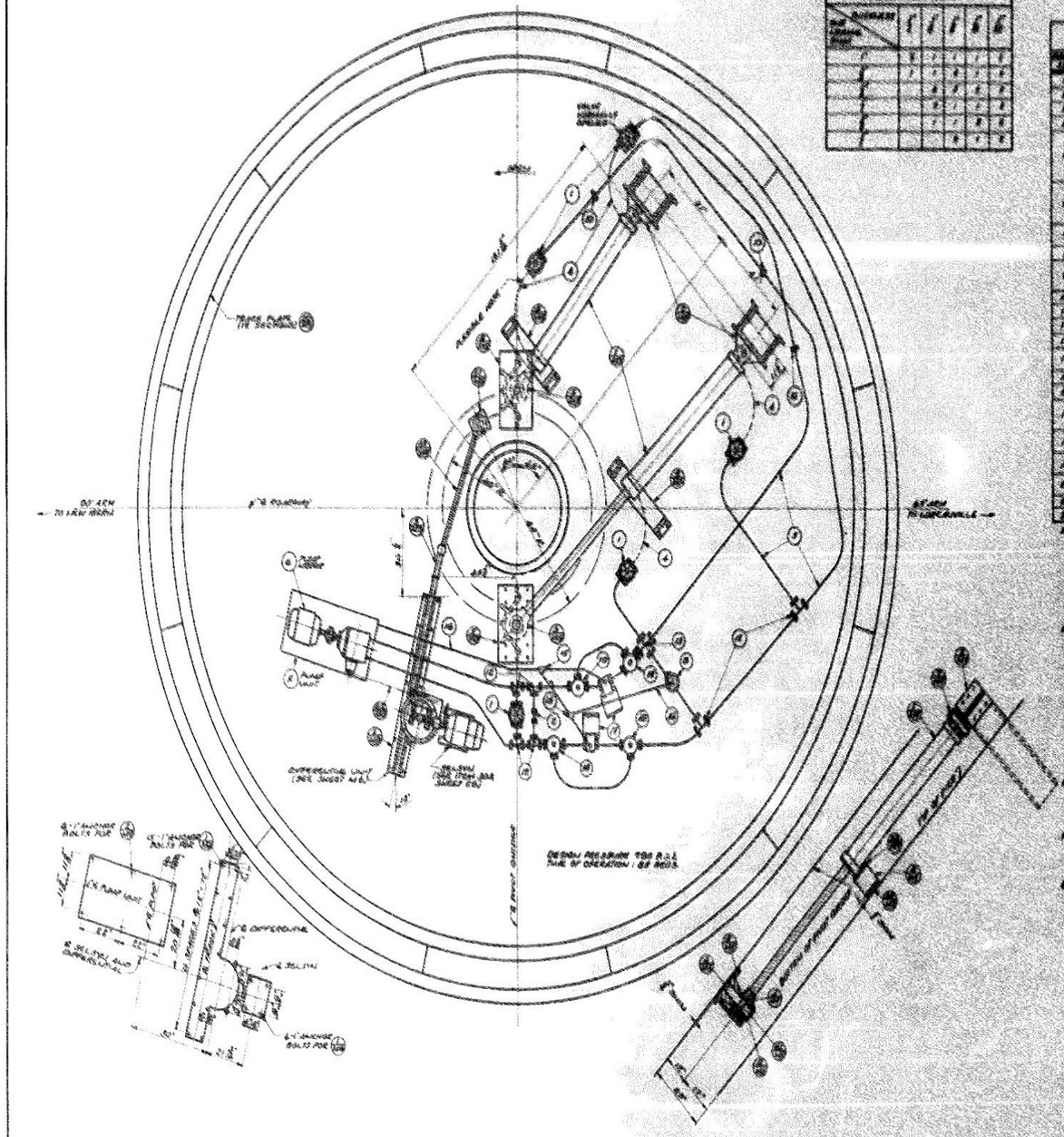

LENGTHS AND RADIUSES OF SHOES FOR EACH WEB PLATE					
WEB PLATE NUMBER	C	I	F	G	E
1		5	7	7	5
2		7	9	9	7
3		8	9	9	8
4		9	9	9	9
5		7	9	9	7
6			8	8	8

MARK	QUAN.	DESCRIPTION	MATERIAL
1	8	[illegible]	[illegible]
2	1	[illegible]	[illegible]
3	40 PAIRS	[illegible]	[illegible]
4	8	[illegible]	[illegible]
5	1	[illegible]	[illegible]
6	1	[illegible]	[illegible]
7	8	[illegible]	[illegible]
8	1	[illegible]	[illegible]
9	8	[illegible]	[illegible]
10	1	[illegible]	[illegible]
11	1	[illegible]	[illegible]
12	8	[illegible]	[illegible]
13	1	[illegible]	[illegible]
14	8	[illegible]	[illegible]
15	1	[illegible]	[illegible]
16	40	[illegible]	[illegible]
17	8	[illegible]	[illegible]
18	1	[illegible]	[illegible]
19	8	[illegible]	[illegible]
20	8	[illegible]	[illegible]
21	32	[illegible]	[illegible]
22	32	[illegible]	[illegible]

BILL OF MATERIAL FOR ONE SPAN

NOTE:

[illegible]

NOTE:

[illegible]

PAINTING NOTE:

[illegible]

LUBRICATION NOTE:

[illegible]

MI

BAYOU TECHE BRIDGE
AND
APPROACHES
ST. MARY
S.A. 88

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

NO.	REVISIONS	BY

FINAL TRACINGS

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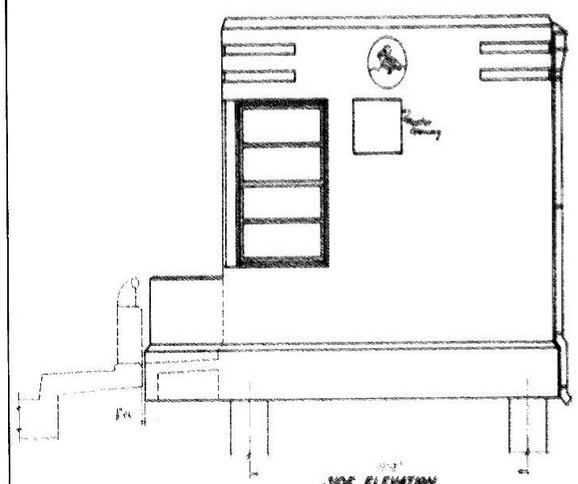
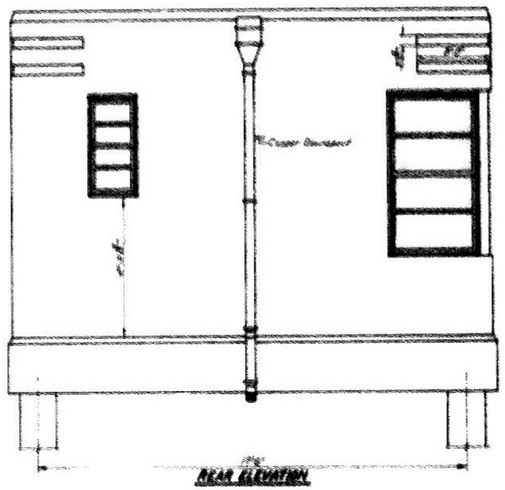
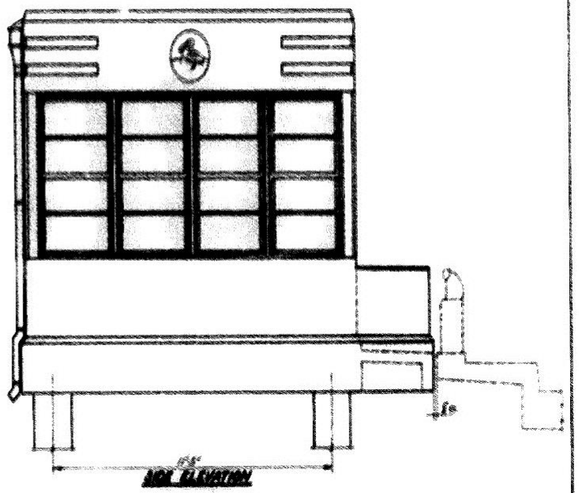


SIDE ELEVATION

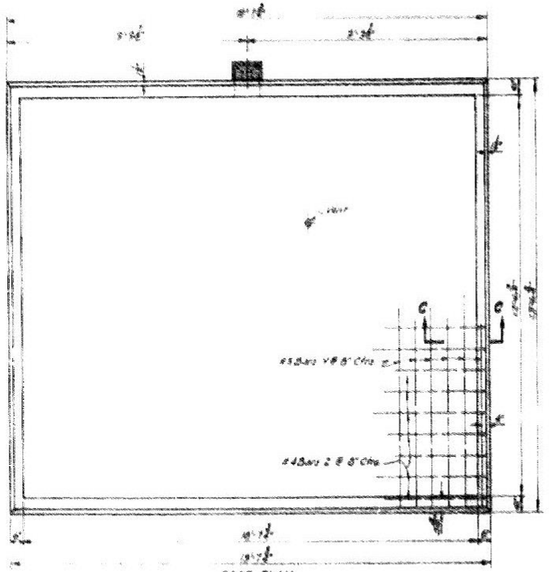


REAR ELEVATION

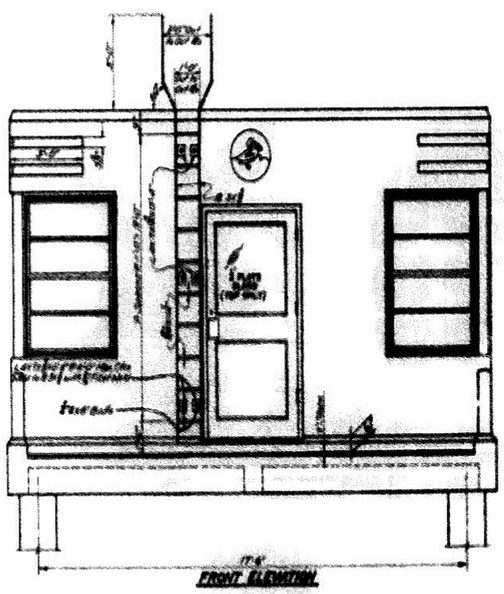


SIDE ELEVATION

SECTION C-C



ROOF PLAN



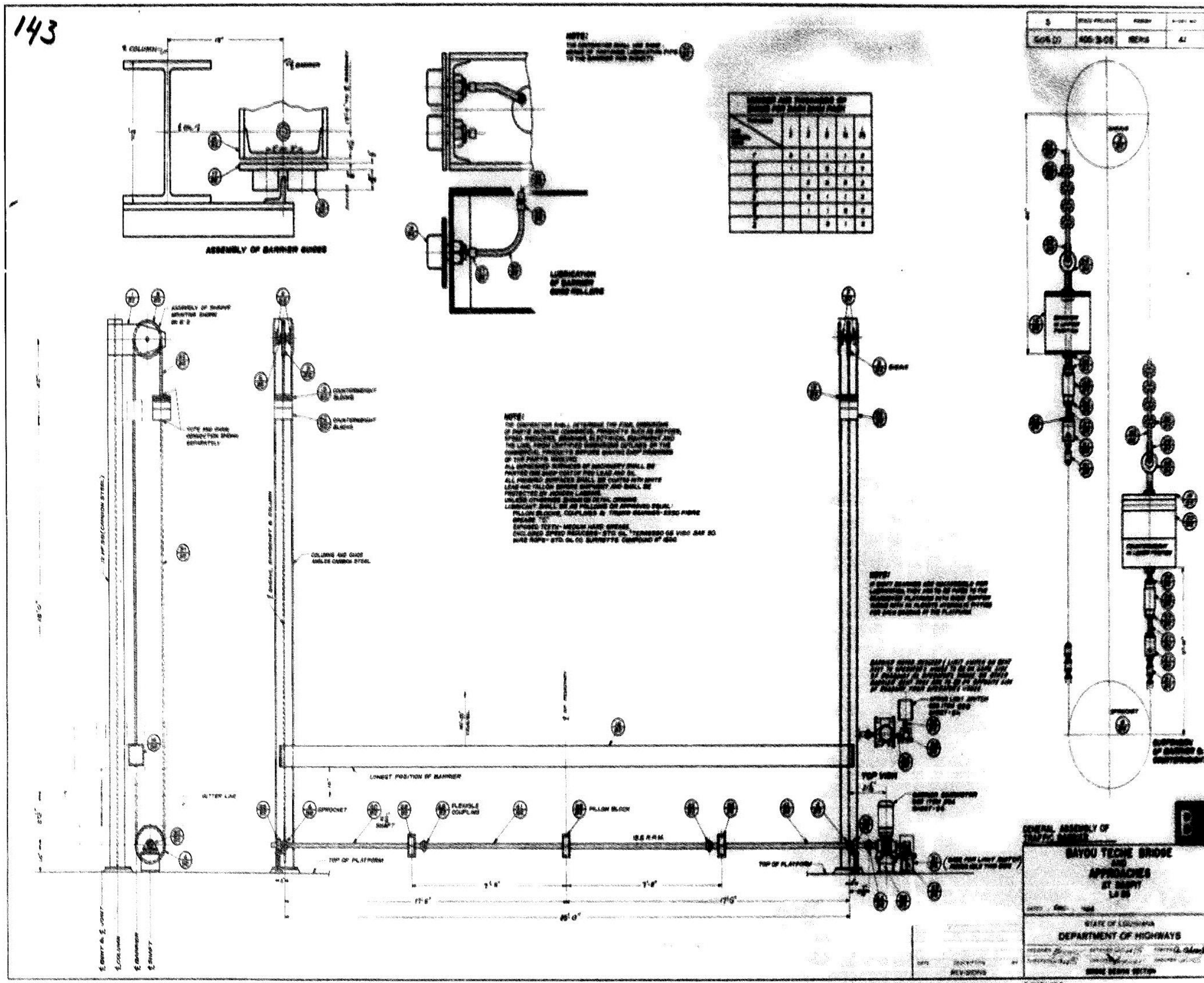
FRONT ELEVATION

BAYOU TECHE BRIDGE AND APPROACHES
ST. MARY
LA. 86

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS

SHEET 1 OF 5

FINAL TRACINGS



FINAL TRACINGS

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