

BARTLETTS FERRY HYDROELECTRIC PROJECT,
GANTRY CRANES
1471 Bartletts Ferry Road
Fortson (Vicinity)
Harris County
Georgia

HAER No. GA-166

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF EXISTING DRAWINGS

HISTORIC AMERICAN ENGINEERING RECORD
SOUTHEAST REGIONAL OFFICE
National Park Service
U.S. Department of the Interior
100 Alabama Street SW
Atlanta, GA 30303

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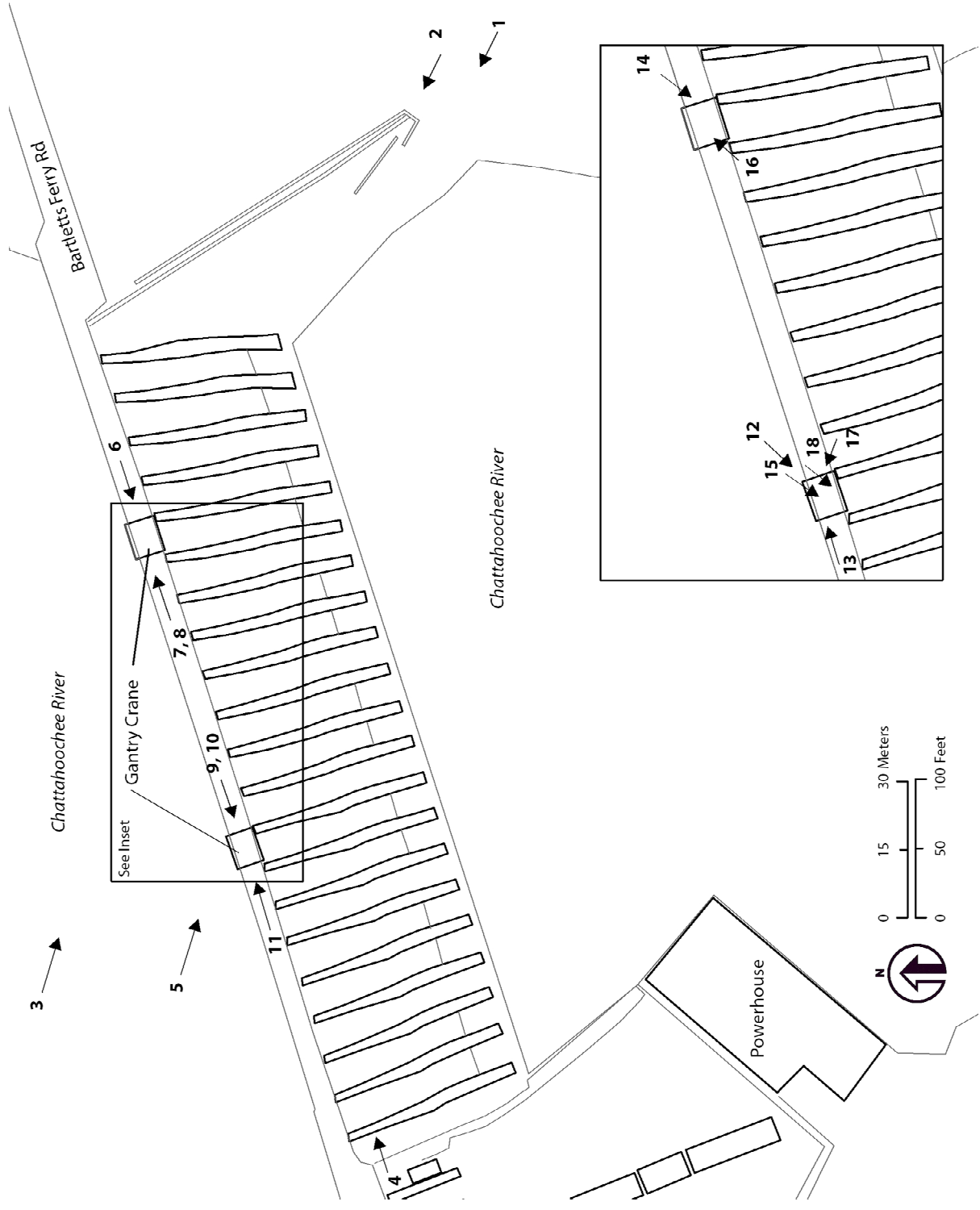
William M. Brockenbrough, Photographer October 2017

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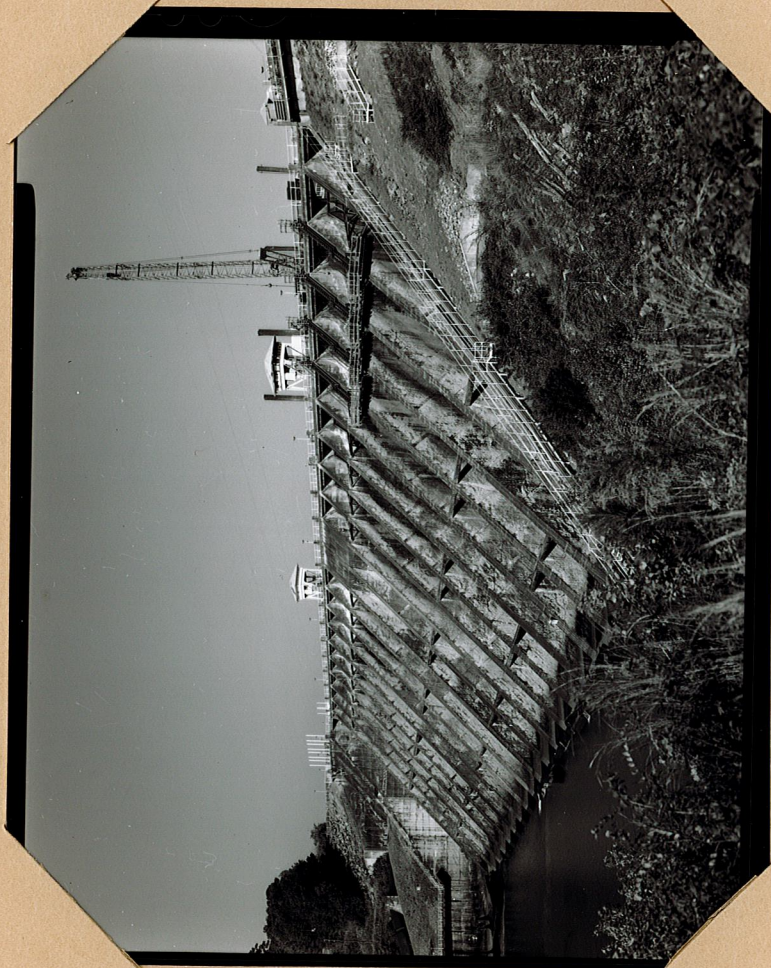
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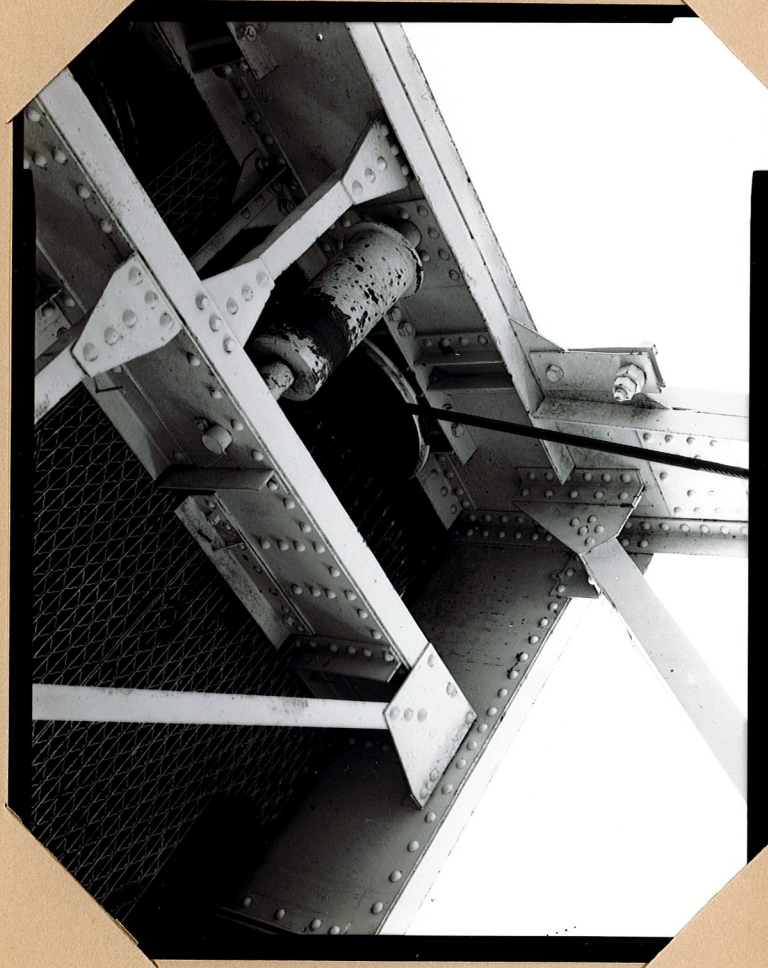
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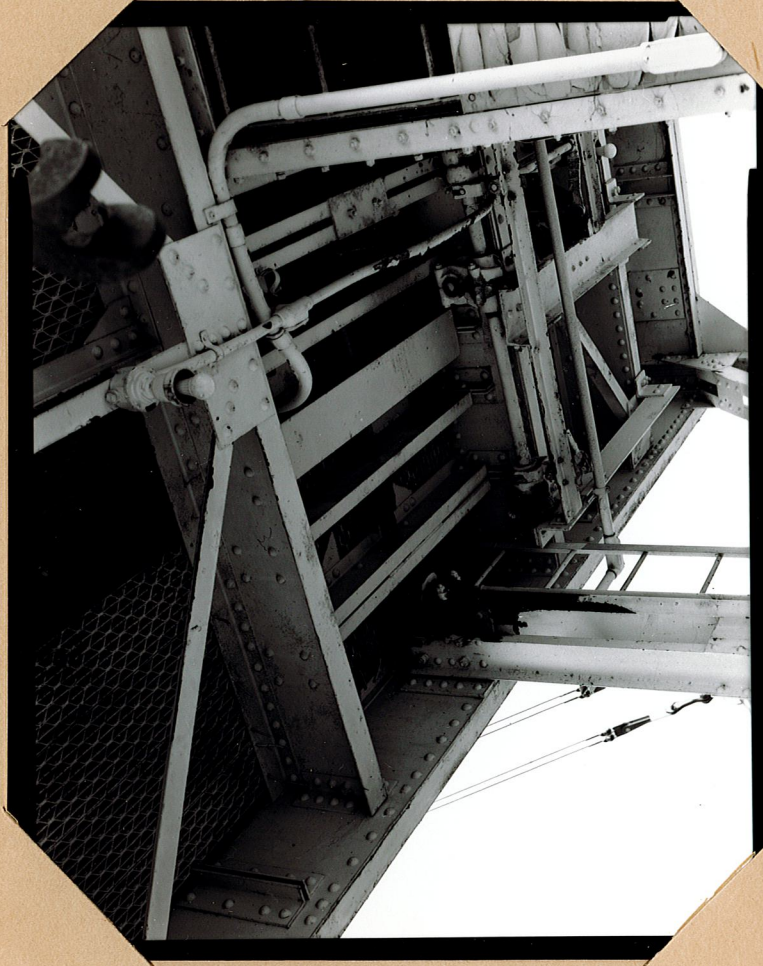
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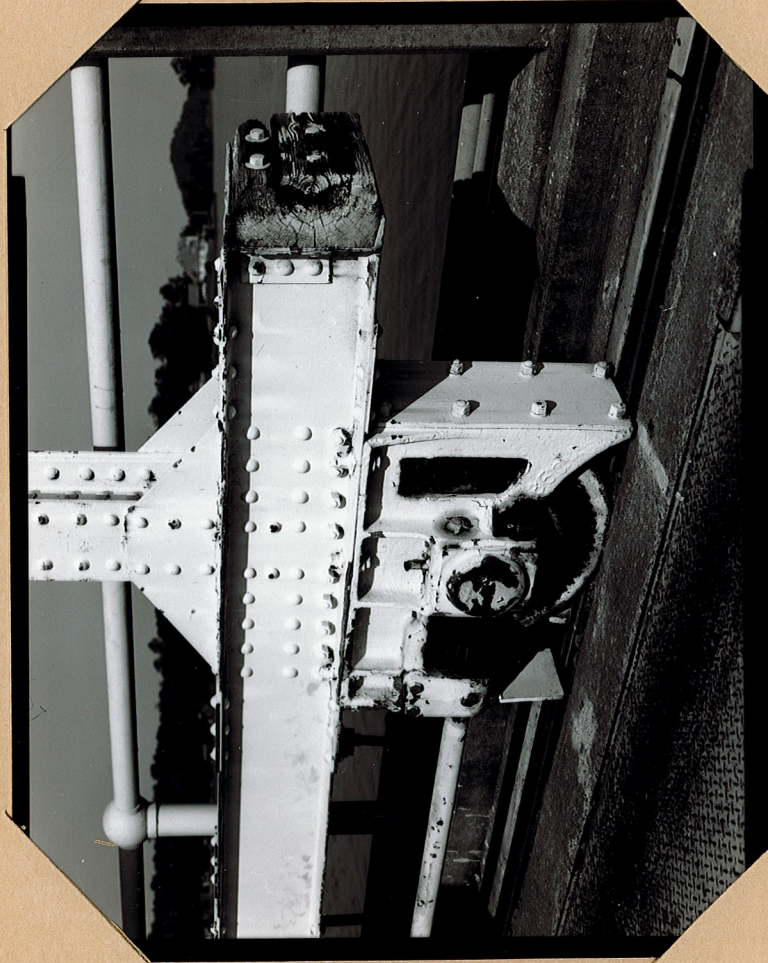
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HISTORIC AMERICAN ENGINEERING RECORD

BARTLETTS FERRY HYDROELECTRIC PROJECT, GANTRY CRANES

HAER No. GA-166

- Location:** 1471 Bartletts Ferry Road
Fortson (Vicinity)
Harris County, Georgia
Easting: 679023.35 Northing: 3615544.8 (collected August 1, 2018)
- Because the gantry cranes represent two mobile operating units, a location coordinate was collected for a central point along the operating platform of the dam. The coordinates, accurate within +/- 5 meters, were collected on August 1, 2018 using ArcMap 10.6 in NAD 1983, Zone 16N. There are no restrictions on releasing the data to the public.
- Date(s):** 1922-1926
- Engineer:** Stone and Webster of Boston, Massachusetts designed and constructed the project for the Columbus Electric and Power Company. Founded by Massachusetts Institute of Technology graduates Charles Stone and Edwin Webster, the company was one of the leading hydroengineering firms in the United States during the late nineteenth and early twentieth centuries. They became particularly well known for overseeing design and construction of larger plants. Mr. Charles T. Main served as the project's Consulting Engineer and was one of the leading industrial engineers at the time. Mr. L.V. Branch served as the project's Superintendent.
- Builder:** Unknown; at one time, the site employed 2,400 workers, including African-Americans.
- Present Owner/
Occupant:** Georgia Power Company
- Present Use:** The gantry cranes raise and lower the tainter gates, stop logs, and trash racks. The original cranes will be replaced by new cranes that are wider and taller, but will utilize the same track system to move across the dam and spillway. The Bartletts Ferry Project is still used for the generation of hydroelectric power.
- Significance:** The gantry cranes are an integral component and contributing feature of the operation of the Bartletts Ferry Project. The Bartletts Ferry Project is eligible for the National Register of Historic Places at the state level under Criterion A due to its association with the evolution of hydroelectric power in the state of Georgia. The facility is also eligible under Criterion C because

it features engineering and design elements commonly associated with hydroelectric plants constructed between 1915 and 1930, historically a period of standardization across the hydroelectric industry.

Historian(s): Patricia Stallings and Mike Reynolds, Senior Historians, Brockington and Associates, Inc., Norcross, Georgia (2010, 2017).

Project Information: Georgia Power Company owns and operates the Bartletts Ferry Project under license to the Federal Energy Regulatory Commission (FERC). This project was undertaken due to the proposed removal of the two original gantry cranes, which are considered character-defining features of Bartletts Ferry. Under the guidance and procedures stipulated in the Bartletts Ferry *Historic Properties Management Plan*, Georgia Power Company sponsored this documentation effort in consultation with the Georgia State Historic Preservation Office. Brockington and Associates, Inc., prepared the history documentation and Mr. William M. Brockenbrough completed the large-format photography.

HISTORICAL BACKGROUND

The development of the Bartletts Ferry hydroelectric facility (1922-1926) reflects the increasing demand for electric power in Georgia and the continuing advancements in hydroelectric technology in the early twentieth century. Bartletts Ferry was developed during a period of standardization after World War I, when eastern-style configurations of vertical single-runner Francis-type reaction turbines became common in most new low and medium head plants and were being introduced in high head applications as well. Bartletts Ferry is a reflection of this trend toward hydroelectric plant standardization as well as the corporate consolidation and interconnection among utilities.¹

Bartletts Ferry was developed by the Columbus Electric and Power Company during a period when locally-oriented utility companies were undertaking hydro power developments in central and south Georgia. Bartletts Ferry, as well as the nearby Goat Rock facility, were constructed by Stone and Webster, the largest consulting engineering and management firm in the hydroelectric business during the first quarter of the twentieth century. The project features engineering and design elements commonly associated with hydroelectric plants constructed between 1915 and 1930.

Bartletts Ferry is currently owned and operated by the Georgia Power Company, which is of particular significance because it is closely tied to the growth of Atlanta, one of the South's largest cities. The earliest antecedents to present-day Georgia Power Company were formed in Atlanta in the second half of the nineteenth century through alliances between local developers and northern investors. Early utility companies supplied street lighting, rudimentary household utilities and, most importantly, railway and transit services that were emerging as primary users of electricity in urban areas. Coal-fired steam turbines supplied the earliest electricity until 1904, when the Georgia Railway and Electric Company developed a hydroelectric facility at Morgan Falls, northwest of Atlanta on the Chattahoochee River. In 1911, the newly formed Georgia Railway and Power Company planned development of five projects (Burton, Nacoochee, Terrora, Tugalo, and Yona) on the Tallulah and Tugalo Rivers in north Georgia.²

The Georgia Railway and Power Company's transmission system grew extensively during this time, so that by 1921, its power supply was interconnected with that of Alabama Power Company, Tennessee Power Company, Southern Power Company (predecessor of Duke Energy), Central Georgia Power Company, and the Columbus Electric and Power Company.³ The company also grew through consolidation with local utilities throughout the state, culminating in 1926 with the formation of present-day Georgia Power Company.⁴ Until the Great Depression, the company continued to expand its generation and distribution system and service territory through mergers

¹ For a detailed synthesis of industry trends, see Duncan P. Hay, *Hydroelectric Development in the United States, 1880-1940*, in two volumes (Washington, DC: Edison Electric Institute, 1991). For additional detail on Bartletts Ferry, see Michael Reynolds, *Bartletts Ferry Project: Historic Hydro-Engineering Report, Harris County, Georgia and Lee County, Alabama (FERC #485)* (Atlanta, Georgia: Brockington and Associates, Inc., December 2010). Report prepared for the Georgia Power Company in support of FERC relicensing.

² Georgia Railway and Power Company, *Georgia Railway and Power Company* (Manuscript on file, Georgia Power Corporate Archives, Atlanta, 1926), 1.

³ Wade H. Wright, *History of the Georgia Power Company, 1855-1956* (Atlanta: Georgia Power Company, 1957), 177.

⁴ Wright, *Georgia Power*, 229-230.

and consolidations with independent and municipal utilities, acquiring in the process several existing hydroelectric plants along the Chattahoochee River near Columbus, including Bartletts Ferry.⁵

DEVELOPMENT OF BARTLETTS FERRY

The Bartletts Ferry Project was a product of the Columbus Electric and Power Company. The company was established after the Columbus Railroad Company bought the Columbus Power Company on April 20, 1922. The Columbus Power Company had already completed and was operating the Goat Rock hydro facility (completed 1913) located on the Chattahoochee River 13 miles south of the Bartletts Ferry site and approximately 12 miles north of Columbus, Georgia. However, the company found that it needed more capacity as the demand for electric power grew in the region. It was not only to obtain the maximum benefit of its generating capacity, but also was to increase the output of the company's existing stations downstream.⁶

To design and construct Bartletts Ferry, the Columbus Electric and Power Company hired Stone and Webster, Inc., of Boston, Massachusetts, one of the largest consulting engineering and management firm in the hydroelectric business during the first quarter of the twentieth century. Stone and Webster had also designed the downstream Goat Rock facility and became well-known in the design and construction supervision of larger projects.⁷ For the Bartletts Ferry project, Stone and Webster hired Charles T. Main as the consulting engineer. Main began his career in the New England textile industry and became a prominent industrial engineer. In addition to forming his own consulting firm, Main also contracted with companies such as Stone and Webster on specific projects. The superintendent in charge of the hydro-electric work at Bartlett's Ferry was L.V. Branch.⁸

Construction of the facility began in 1924 with reservoir site preparation and workers were housed in a segregated camp on the west side of the Chattahoochee River in Alabama. Materials were transported to the site via rail cars and then by steel derricks. Once workers completed a 1,200' long coffer dam, construction of the concrete gravity dam and powerhouse structure began.⁹ The facility was designed for four generating units, each with a capacity of 15,000 kW. Only two units were initially installed, but the powerhouse was designed with adequate space to accommodate the additional units.

The three-story brick powerhouse has a flat tar and gravel roof supported by steel roof trusses over the generator room. The water wheels, governors, oiling systems and appurtenances were supplied by the S. Morgan Company of York, Pennsylvania. The generating units are of the single-run vertical types and have riveted scroll cases. Each wheel was guaranteed to develop 22,000 hp when operating at full efficiency under a head of 112'. The vertical generators were furnished by the

⁵ Wright, *Georgia Power*, 251-260.

⁶ Hageman, H.A. and T.B. Parker, "The Bartletts Ferry Hydroelectric Development," *Stone and Webster Journal*, Volume 38 (1926): 772-805.

⁷ For more on Stone and Webster, see Hay, *Hydroelectric Development*, 98-102

⁸ Hageman, H.A. and T.B. Parker, "Bartletts Ferry," 773. Also, "Bartletts Ferry Cofferdam Unwatered," *Stone and Webster Journal*, Volume 36 (1925): 73-78. For more on Charles T. Main, see Hay, *Hydroelectric Development*, 103.

⁹ Reynolds, *Bartletts Ferry*, 24-29.

Westinghouse Electric and Manufacturing Company. Water feeds into the generating units via four steel-plated penstocks measuring 15' in diameter and 300' long.¹⁰

When completed, the gravity dam stretched 1,975' long, which included 634 feet of concrete spillway, 92' of concrete intake structure, and the remainder was an earthen embankment. The concrete gravity portion included 19 tainter gates, 2 skimmer gates, and a battery of 4 siphon spillways.¹¹ The gates are raised and lowered by two, specially built gantry cranes, discussed in further detail in the following section.

The first generating unit at Bartletts Ferry went online on January 25, 1926, followed by a second unit on February 26, 1926. A third unit began operation on September 11, 1928. In 1929, the Commonwealth and Southern Corporation acquired control of the Columbus Electric and Power Company through stock ownership. At the time, it already owned common stock ownership of the Georgia Power Company. On August 5, 1929, supervision of the Columbus Electric and Power Company was turned over to the Georgia Power Company. The supervision continued until June 26, 1930 when the companies consolidated under the Georgia Power name.¹²

At the time of its consolidation with Georgia Power, the Columbus Electric and Power Company already owned all of the properties of the South Georgia Power Company and was supplying retail electrical power to the City of Columbus and 54 other municipalities and communities in south Georgia. The company also supplied wholesale power to the cities of Albany, LaGrange, and West Point.¹³

Few changes were made to Bartletts Ferry from the Great Depression through World War II. However, from 1946 through 1951, a number of changes and upgrades were made. These included the extension of the powerhouse to the west to make room for a fourth generator unit, the strengthening of the main spillway section of the dam with large reinforced concrete buttresses, the raising of the earthen dike embankments and the strengthening and extension of the concrete retaining walls east and west of the spillway with the additional reinforced concrete. Some of this work was performed by the Hardaway Construction Company of Columbus, Georgia. The installation of a fourth generator unit also required the addition of a fourth penstock.¹⁴ However, unlike the other penstocks which were buried, the fourth penstock was installed aboveground and anchored with reinforced concrete saddles. It was then attached to the intake which was originally design to accept a fourth penstock.¹⁵

The installation of new lighting on the dam and the installation of new safety railings were also completed during this period. With these changes also came upgrades to some of the electrical equipment in the powerhouse. On December 15, 1951, Unit 4 (a 20,000 kW unit) went into service,

¹⁰ Reynolds, *Bartletts Ferry*, 45-47.

¹¹ Hageman and Parker, "Bartletts Ferry," 773.

¹² Reynolds, *Bartletts Ferry*, 56-57.

¹³ Wright, *Georgia Power*, 254.

¹⁴ Georgia Power Company, History Timeline: Bartletts Ferry. Document on file at the Georgia Power Archives, Atlanta, Georgia.

¹⁵ Reynolds, *Bartletts Ferry*, 58.

bringing the facility's total installed capacity to 65,000 kW.¹⁶ Also in the early 1950s, an administration building and maintenance shop were constructed, as well as an employee cottage, a communications building, and a clubhouse. A new plant managers' house was constructed about 1960. All of these buildings are located on the west side of the river.

In 1985, a \$104.6 million addition to the Bartletts Ferry facility was completed on the east side of the river. This included a separate powerhouse containing generator Units 5 and 6, two penstocks, an intake structure, and a dike. The additions boosted the plant generating capacity to 173,000 kW. The addition required a new channel be excavated east of the existing dam and dike that would carry water to the new intake. Unit 5 went into commercial operation October 1, 1985 and Unit 6 on November 1, 1985. In addition, on the river's western shore, west of the existing powerhouse and administrative building, a unique flood control weir was completed in the mid-1980s.¹⁷

Alterations to various components of the Bartletts Ferry Project over its 84-year history have included upgrades to some electrical equipment in the powerhouse, the reinforcement of the main spillway section and retaining wall, the raising of the dykes, and the addition of a second intake, powerhouse (for generators Units 5 and 6), and flood control weir. However, much of the original facility has remained unchanged. The original generator units (Units 1 and 2) are still in use as well as those added in 1928 (Unit 3) and 1951 (Unit 4). The tainter gates, tainter gate gantry cranes and tracks, stop logs, the intake, and the penstocks have not been significantly altered.¹⁸

GANTRY CRANES - DESCRIPTION AND OPERATION

Hydroelectric plants typically include cranes to hoist and handle mechanical equipment or gates. Overhead cranes are frequently attached to steel girders within indoor powerhouses. Gantry cranes are mounted on steel frames or "gantries" that have side supports which move along tracks. Functionally similar to overhead cranes, gantry cranes are more often used in outdoor or semi-outdoor powerhouses for lifting of equipment, or on top of dams for gate operations, such as the situation at Bartletts Ferry.¹⁹

The Bartletts Ferry Project includes two original steel-framed gantry cranes designed by Stone and Webster and assembled on site in 1925. Initially, one complete motor-operated crane was installed, together with one skeleton crane arranged for emergency hand operation. Both cranes were designed at a 10-ton capacity with a 10' per minute vertical hoisting speed and a traverse (horizontal) speed of 200 feet per minute. The steel-framing, or gantry, travels on rails 10' 6" inches apart situated along the dam's operating platform. The bases of the frame, above the trolley wheels, include 12" high oak bumpers. The crane hoists raise and lower the steel tainter gates, which measure 25' long and 21' high, and control the water flow over the dam.²⁰

¹⁶ Wright, *Georgia Power*, 333.

¹⁷ Georgia Power Company, History Timeline: Columbus Electric and Power Company, and the Georgia Power Company. Document on file at the Georgia Power Archives, Atlanta, Georgia; also, Reynolds, *Bartletts Ferry*, 62.

¹⁸ Reynolds, *Bartletts Ferry*, 128.

¹⁹ James Joseph Doland, *Hydro Power Engineering: A Textbook for Civil Engineers* (New York: The Roland Press Company, 1954).

²⁰ All engineering data derived from project drawings prepared by Stone and Webster. Drawings include "General Arrangement-Gantry Crane Sheet No. 1 (F94735)," "Gantry Crane Trolley Details (F97032)," "General Arrangement- Gantry Crane Sheet No. 2 (F97442)," and "Steel Framing- Gantry Crane Sheet No. 1 (F97464)."

Each crane is also designed to hoist the stop logs, which are used to close the floodgate openings when necessary to make repairs on the tainter or skimmer gates. Each stoplog consists of four panels each, and each panel measures 5'-8" inches in depth. The stop logs have lifting beams designed with swinging links which cast steel hooks in the upper faces of the stop log panels. The links can be set to either engage or release the hooks automatically. This permits the handling of the logs while underwater if necessary. There are similar stop logs that are used for shutting off any one of the intakes. All stop logs are stored in the upper end of their slots when they are not in use. Each crane is also capable of lifting one of 12 trash racks, which prevent debris from entering the penstocks and draft tubes. Guides for mechanically operated rack rakes were provided so that the rakes could be installed at a later date if needed.

Each crane's mechanical unit is independently housed beneath a hipped roof structure sheathed in composition shingles. Originally, these were metal roofs. The remainder of the housing unit is encapsulated in metal, with the north (upstream) and south (downstream) elevations each containing two sets of sliding windows (two panes each). The mechanical floors and equipment are accessed by a ladder to a portal, sheathed in steel with sliding fixed-plate observation windows. The portal is set 8' from ground level. A second ladder in the portal provides access up to the mechanical floor, which houses the drums, motors, and brakes.

Each crane has two motors, a hoist motor and a traverse motor, each equipped with solenoid brakes. The cranes operate the gates electrically with a 10-ton capacity for trash racks (single rope) and 16-ton capacity for the tainter gates (two ropes). The dam is partially lit (alternating current) by means of flood lights at each of the gantry cranes' corners.

PHYSICAL INTEGRITY

The gantry cranes retain their integrity and have only received minor repairs to continue in operation. The primary aspects of the cranes, including the hipped roofs, mechanical gears, hoists, and track system remain intact and largely unaltered. Alterations include the replacement of the original roof cladding from metal to the current composition shingles. The original ropes were replaced at an unknown date with steel cables.

The original cranes are not the proper height to operate using current procedures for raising the spillway gates. Both of the older cranes will be removed from the dam and replaced with new cranes that are 9' wider and 12' taller. However, the new cranes will use the original track system to move across the spillway and dam.

Technical Specifications

Capacity: 10 tons, one rope
16 tons, two ropes

Motor: General Electric, 20 HP

Hoisting Speed: 10' per minute

Traverse speed:	200' per minute
Operating Current:	Alternating, 3ph 60 cycles, 550v
Lighting Current:	Alternating, 1ph, 60 cycles, 110v
Height Above Rails:	22'-10"
Width Between Wheel Centers:	20'
Width Between Rails:	10'-6"

SOURCES OF INFORMATION

Primary Sources

GPC Corporate Archives personnel supplied photographs from Audio Visual Files: Land Department, Land Management: Bartletts Ferry; Charles Ratteree: Bartletts Ferry album.

Photographs from Record/Manuscripts Files: Land Department: Bartletts Ferry

GPC Engineering Archives: Drawing Files, Bartletts Ferry.
General Arrangement -Gantry Crane Sheet No. 1 (F94735).
Gantry Crane Trolley Details (F97032).
General Arrangement - Gantry Crane Sheet No. 2 (F97442).
Steel Framing - Gantry Crane Sheet No. 1 (F97464).

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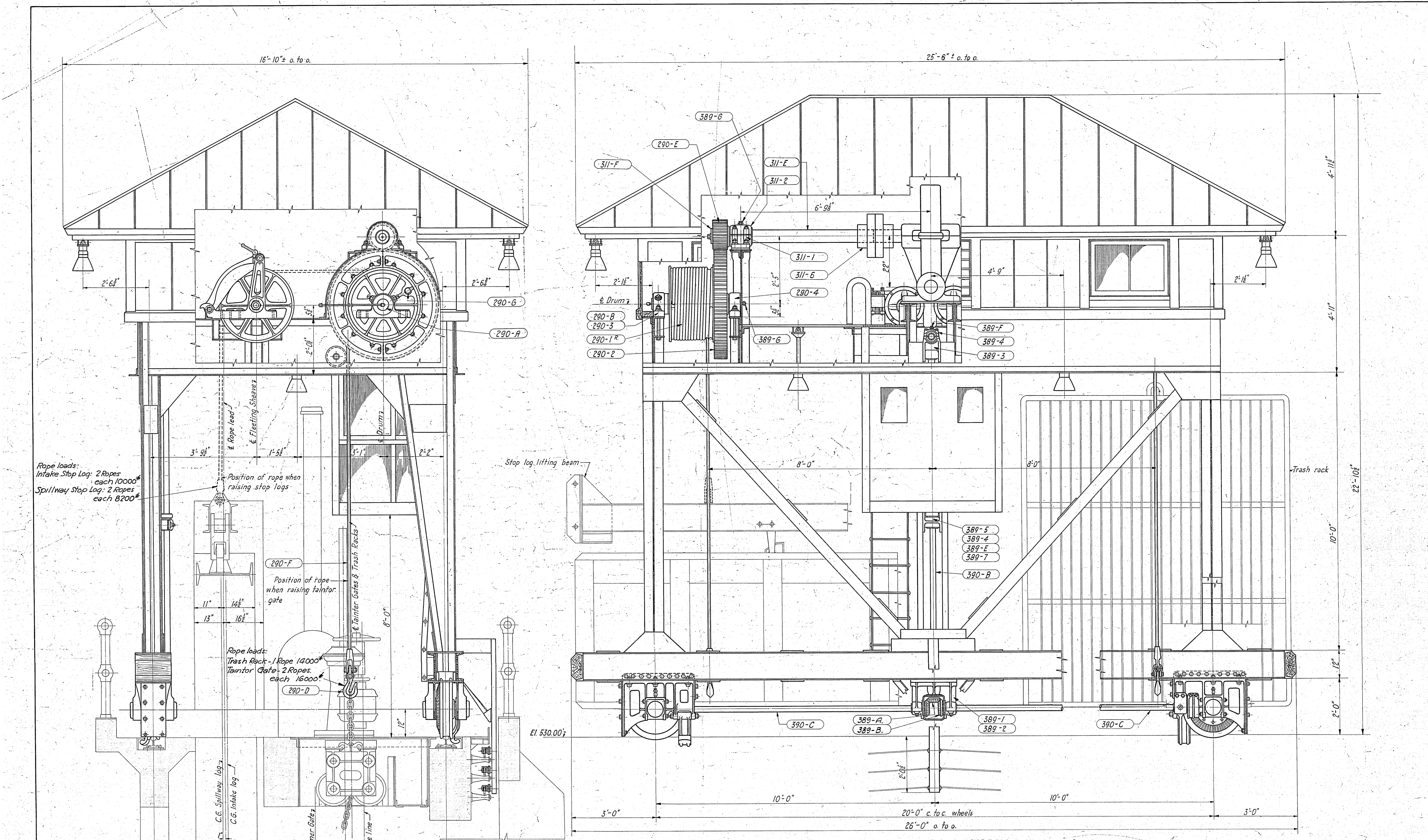
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Reynolds, W. Michael. *Bartletts Ferry Project: Historic Hydro-Engineering Report, Harris County, Georgia and Lee County, Alabama (FERC #485)*. Atlanta, Georgia: Brockington and Associates, Inc., December 2010. Technical report prepared for the Georgia Power Company in support of Federal Energy Regulatory Commission relicensing.

Wright, Wade H. *History of the Georgia Power Company, 1855-1956*. Atlanta, Georgia: Georgia Power Company, 1957.

DELINEATED BY: Brockington and Associates Inc.
August 2018



Rope loads:
Intake Stop Log: 2 Ropes
each 10000*
Spillway Stop Log: 2 Ropes
each 8200*

Position of rope when raising stop logs

Position of rope when raising tainter gate

Rope loads:
Trash Rack - 1 Rope 14000*
Tainter Gate - 2 Ropes
each 16000*

Notes:-
Two Gantry Cranes required.
Capacity: 10 tons, one rope; 16 tons, two ropes.
Hoisting speed: 10 ft. per minute.
Traverse speed: 200 ft. per minute.
Operating current: Alternating, 3 ph. 60 cyc. 550 v.
Lighting current: Alternating, 1 ph. 60 cyc. 110 v.
Entire crane to be assembled and tested in shop.
All parts to be matchmarked before taking apart for shipment.

General Arrangement; Mch. Sh. No. 2, F 97442
Gen. Arrgmt.; Elec. Equip. Sh. No. 1, F 97430
Details, structural steel. Sh. No. 1, F 97464
Details, structural steel. Sh. No. 2, F 97465
Details, Hoist. Mch. Drum, etc. Sh. No. 1, F 97290
Details, Hoist. Mch. Gears, etc. Sh. No. 2, F 97311
Details, Hoist. Mch. Sheave, etc. Sh. No. 3, F 97312
Details, Trav. Mch. Wheel, etc. Sh. No. 1, F 97365
Details, Trav. Mch. Brgs, etc. Sh. No. 2, F 97389
Details, Trav. Mch. Shaft, etc. Sh. No. 3, F 97390
Details Housing, Roof, etc. F 96230
Details, Cab Enclosure, etc. F 97749
Details, Trolley Wires, etc. F 97032.

Marking system of Parts:-
Each part is marked with the number of the dwg. on which it is detailed, followed by a sub figure to indicate a casting or a sub letter to indicate a manufactured piece. For convenience the first two figures of the drawing number are omitted.
Example (290-1) signifies casting shown on Dwg. F 97290
Example (290-A) signifies piece shown on Dwg. F 97290

ELEVATION OF DOWNSTREAM SIDE

GENERAL ARRANGEMENT - GANTRY CRANE - SH NO. 1
HYDRAULIC EQUIPMENT
HYDRO-ELECTRIC STATION - BARTLETT'S FERRY, GA.
COLUMBUS ELECTRIC & POWER CO.

STONE & WEBSTER
INCORPORATED
BOSTON

NO.	DESCRIPTION	CHKD.	INSP.	COR.	APPR.
1	DATE OF SIGNATURES:	3-2-24	3/11/24	4-2-25	4-2-25
2	CAB & ROLLER FOR ROPE	W.S.	H.H.	J.G.P.	
3	ROPE	R.H.B.	F.F.S.		

SCALE 3/4" = 1 FT
AUG. 11, 1924
J. O. NO. 4063

CHKD.	INSP.	COR.	APPR.
W.S.	H.H.	J.G.P.	
R.H.B.	F.F.S.		

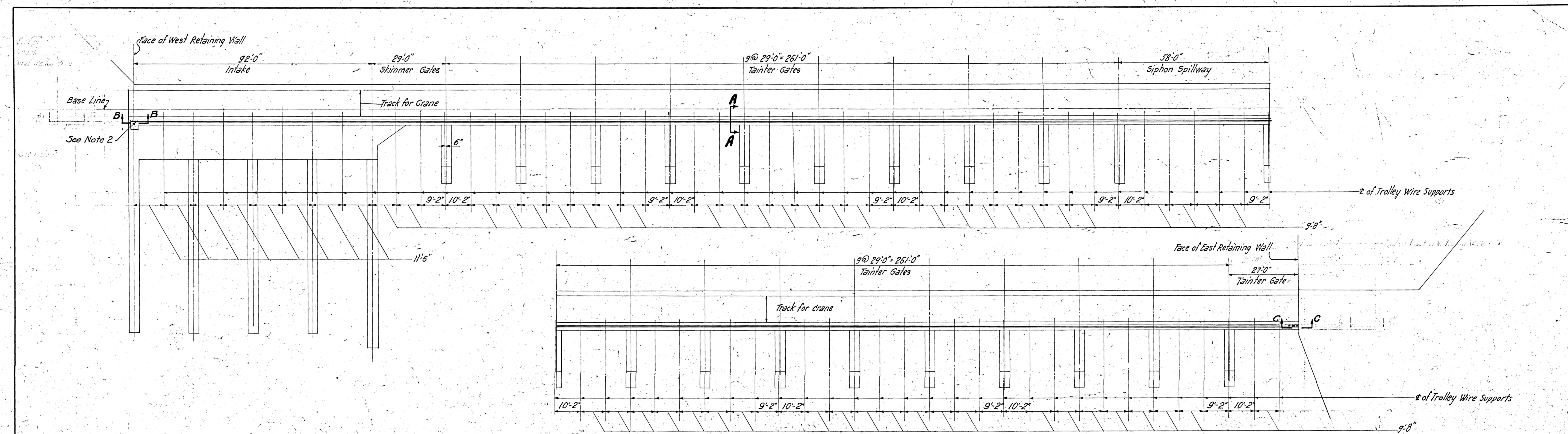
F94735

11-9-04-H-70

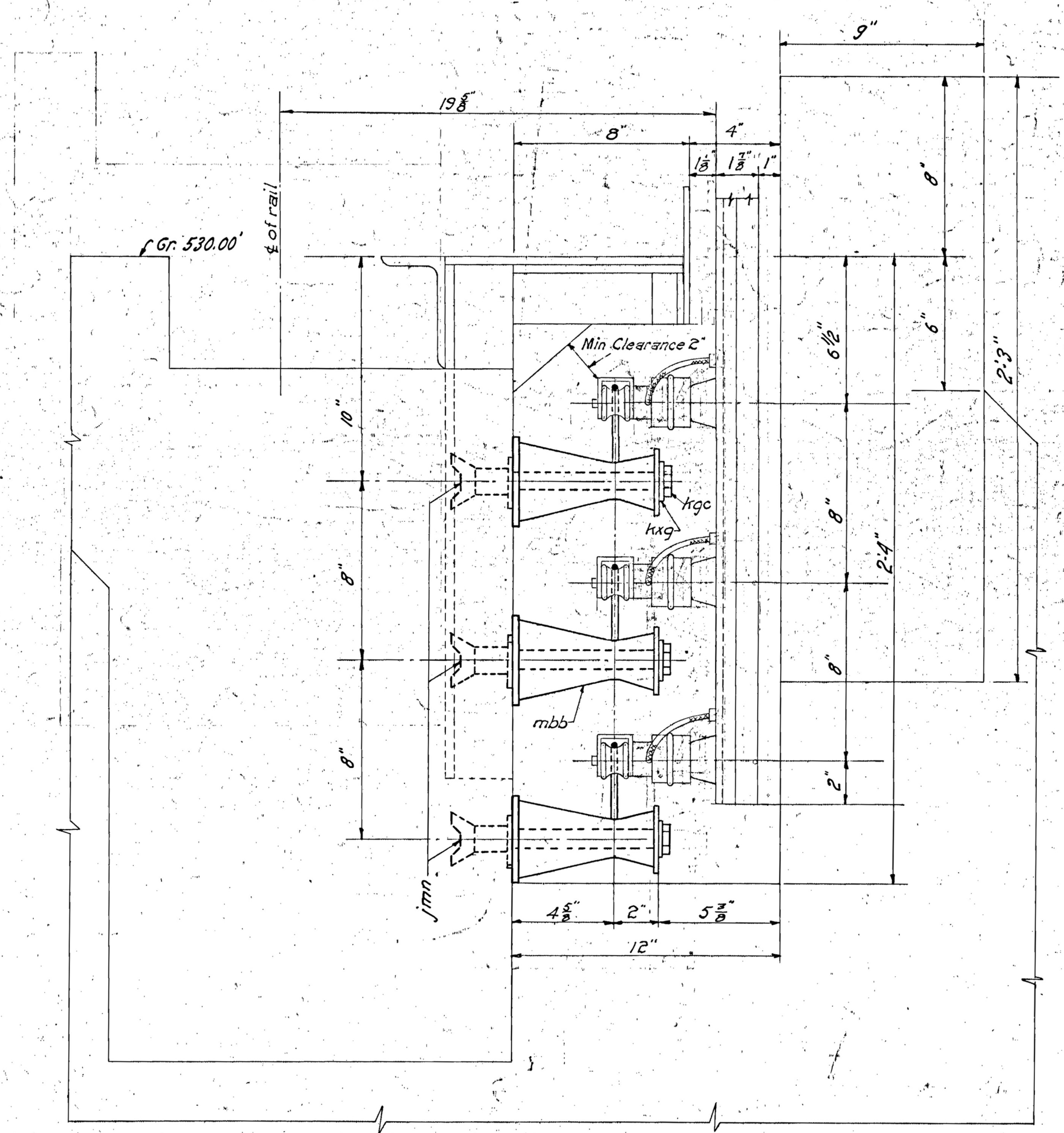
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END ELEVATION

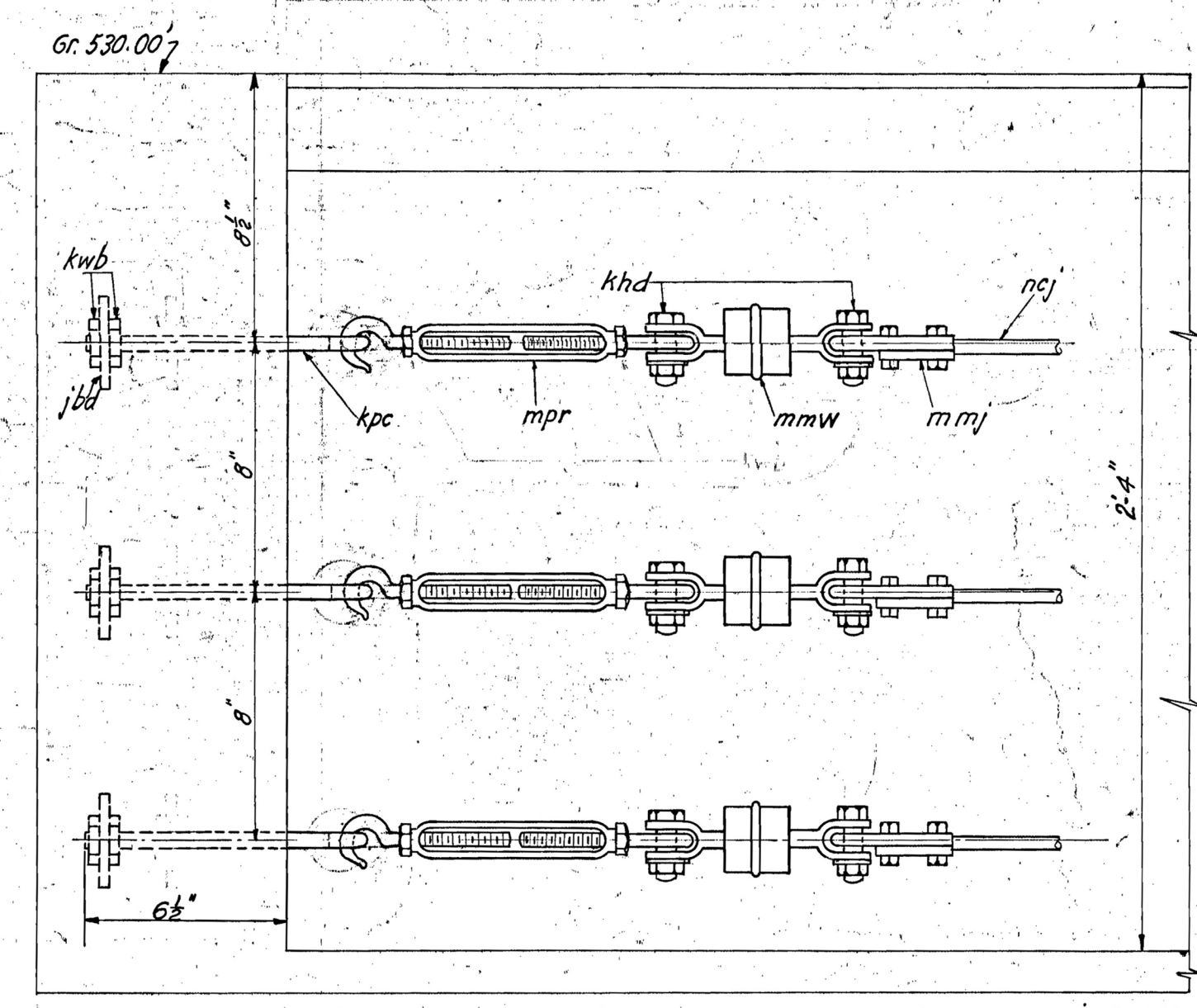
DELINEATED BY: Brockington and Associates Inc.
August 2018



PLAN-GR. 530.00'
Scale: 1/8" = 1'-0"



SECTION AA
Scale: 3" = 1'-0"



BB & CC
Scale: 3" = 1'-0"
Section shown is for "BB" - Section "CC" similar but opposite hand

- Notes:
1. For Bill of Material see Dwg. M35813-60
 2. For Connection of Feeder to Trolley, see Conduit Details-Sh. No. 14 Dwg. F97882.

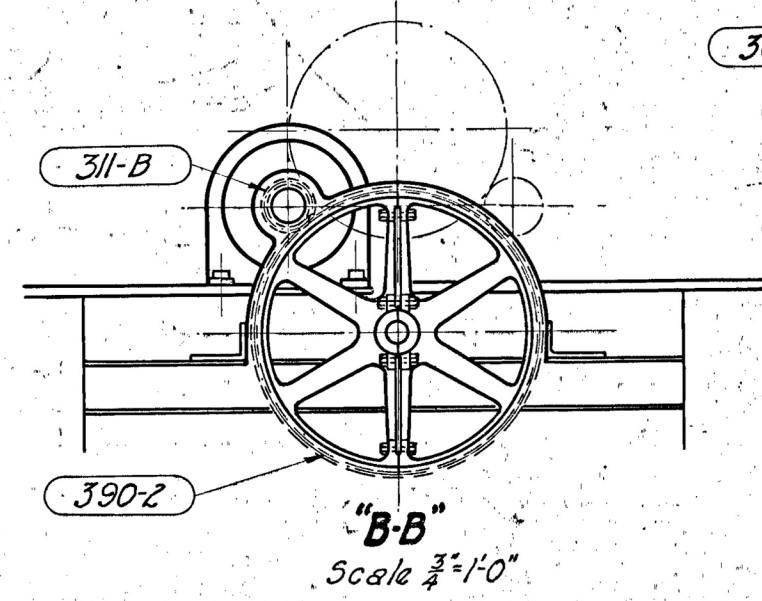
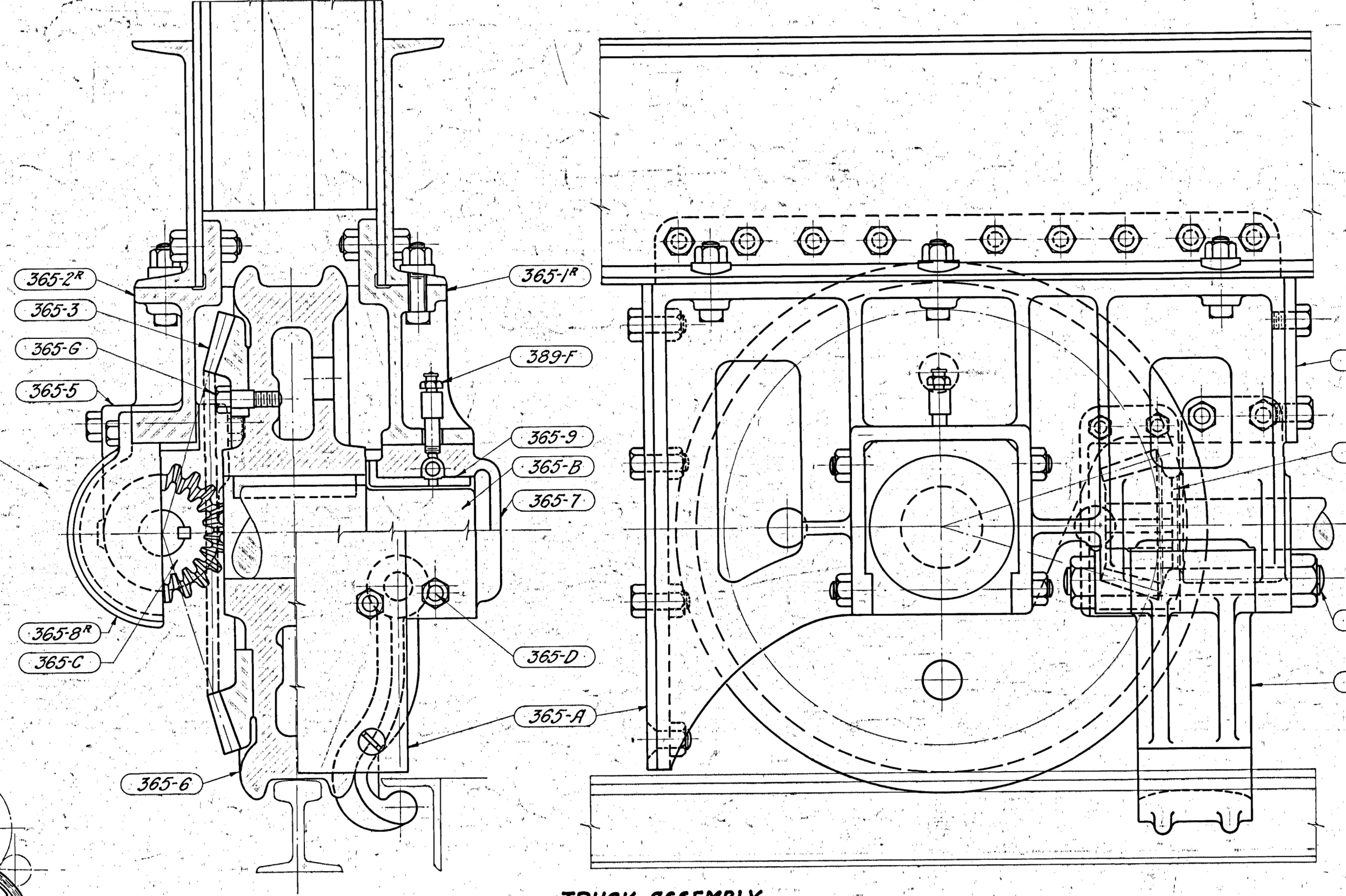
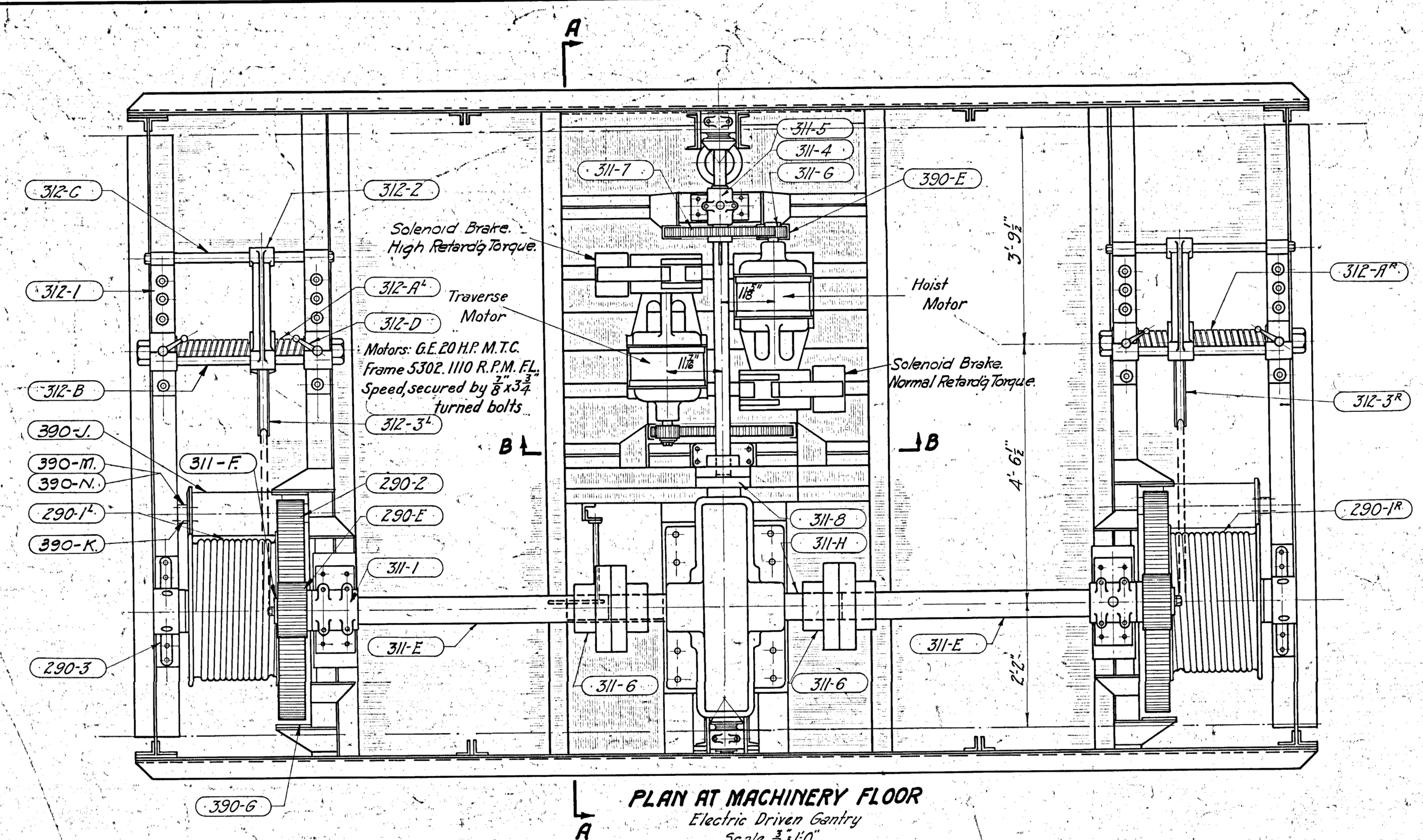
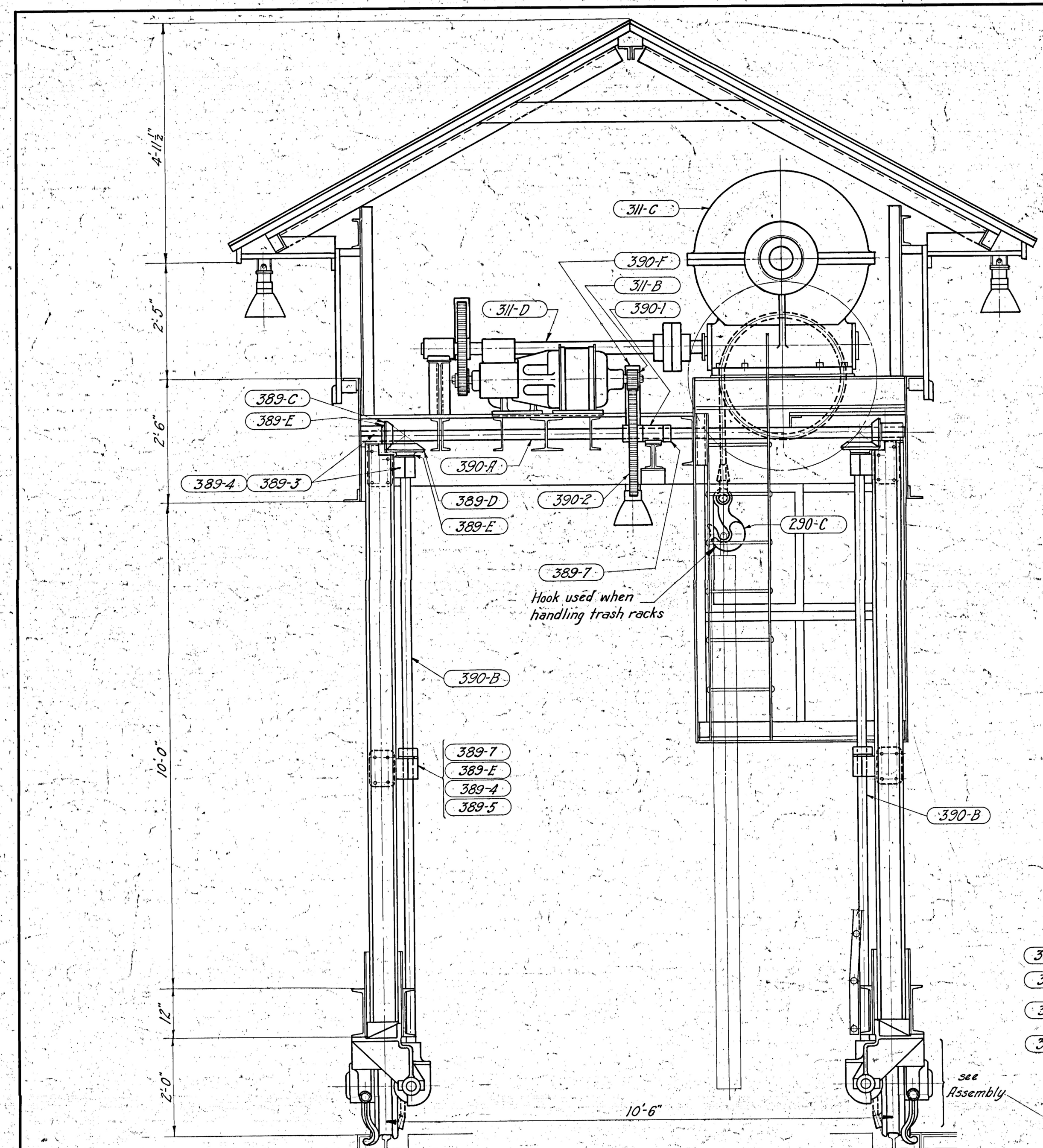
GANTRY CRANE TROLLEY DETAILS				
ELECTRICAL EQUIPMENT				
HYDRO-ELECTRIC STATION - BARTLETT'S FERRY, GA				
COLUMBUS ELECTRIC & POWER CO.				
STONE & WEBSTER				
INCORPORATED				
BOSTON				
Date of Signatures	7-1-25	7/1/25	7/1/25	7/1/25
DETAILS OF TROLLEY	WWS	WWS	WWS	WWS
MINOR DEAD ENDS	WWS	WWS	WWS	WWS
CHANGED	WWS	WWS	WWS	WWS
Date of Signatures	3-11-25	3-11-25	3-11-25	3-11-25
GENERAL REVISION SECTION	WWS	WWS	WWS	WWS
Date of Signatures	1-25-25	1/25/25	1/25/25	1/25/25
CERTIFICATE OF TROLLEY	WWS	WWS	WWS	WWS
WIRE SUPPORTS CHANGED	WWS	WWS	WWS	WWS
NO.	DESCRIPTION	CHKD.	INSP.	DOOR. APPR.
TABLE OF ADDITIONS AND REVISIONS				
USE ONLY PRINTS OF LATEST DATE				
SCALE GIVEN			DEC. 29, 1924	
			J. O. NO. 4063	
CHKD.	INSP.	DOOR.	APPR.	
WWS	WWS	WWS	WWS	
WWS	WWS	WWS	WWS	
WWS	WWS	WWS	WWS	

F97032

11-404-H25

F97032

F97442



Notes:-
Two Gantry Cranes required.
Capacity: 10 tons one rope, 16 tons two ropes.
Hoisting speed: 10 ft. per minute.
Traverse speed: 200 ft. per minute.
Operating current: Alternating, 3ph, 60cyc, 550 v
Lighting current: Alternating, 3ph, 60cyc, 110v.
Entire crane to be assembled and tested in shop.
All parts to be marked before taking apart for shipment.

Gen. Arrgmt. Sh. No. 1, F94735
Gen. Arrgmt. Elec. Equip. Sh. No. 1, F97830
Housing and Details Sh. No. 1, F96330
Details, Structural Steel Sh. No. 1, F97464
Details, Structural Steel Sh. No. 2, F97465
Details Hoist. Mch'y, Drum etc. Sh. No. 1, F97290
Details Hoist. Mch'y, Gears etc. Sh. No. 2, F97311
Details Hoist. Mch'y, Sheave etc. Sh. No. 3, F97312
Details Trav. Mch'y, Wheel, etc. Sh. No. 1, F97363
Details Trav. Mch'y, Brgs, etc. Sh. No. 2, F97389
Details Trav. Mch'y, Shaft, etc. Sh. No. 3, F97390

Marking system of Parts.
Each part is marked with the number of the dwg. on which it is detailed, followed by a sub figure to indicate a casting or a sub letter to indicate a manufactured piece. For convenience the first two figures of the drawing number are omitted.
Example (290-1) signifies casting shown on Dwg. F97290
Example (280-A) signifies piece shown on Dwg. F97290.

GENERAL ARRANGMENT - GANTRY CRANE - SH NO. 2
HYDRAULIC EQUIPMENT
HYDRO - ELECTRIC STATION - BARTLETT'S FERRY, GA.
COLUMBUS ELECTRIC & POWER CO.

STONE & WEBSTER
INCORPORATED
BOSTON

SCALE GIVEN
FEB. 3, 1925
J. O. NO. 4063

NO.	DESCRIPTION	CHKD.	INSP.	COR.	APPR.
1	DATE OF SIGNATURES: 7/1/25				
2	DATE OF SIGNATURES: 7/1/25				

TABLE OF ADDITIONS AND REVISIONS
USE ONLY PRINTS OF LATEST DATE

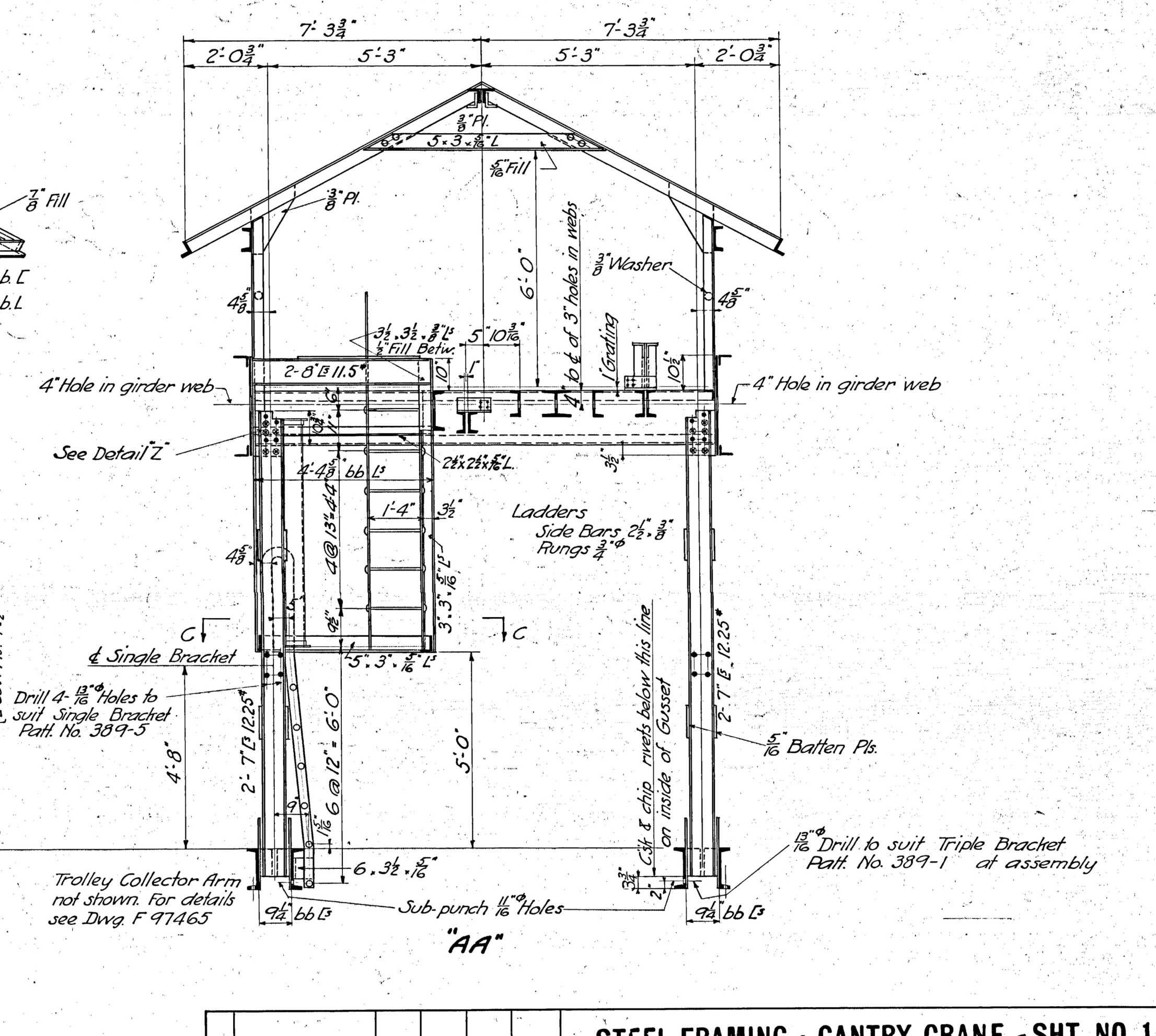
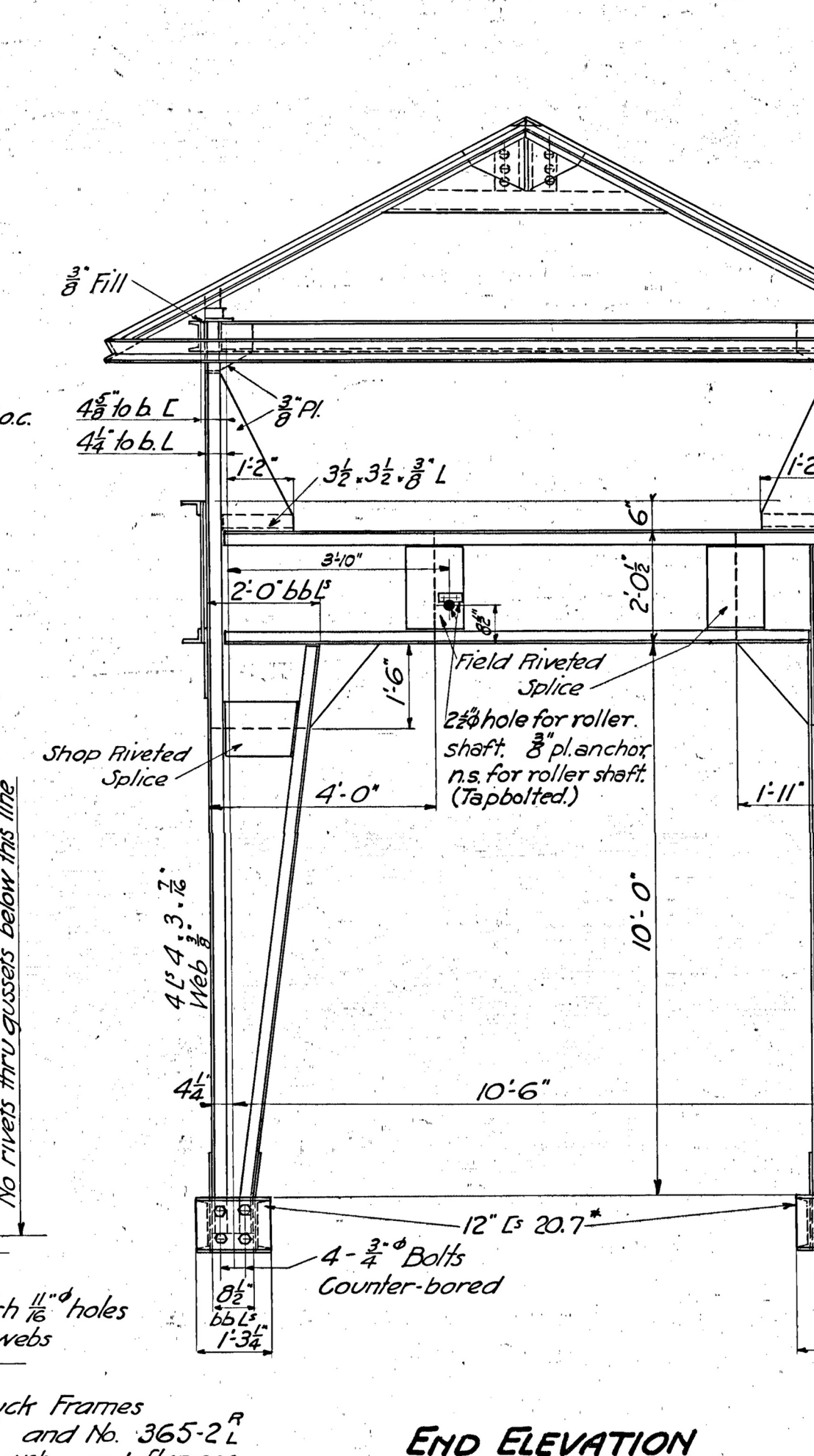
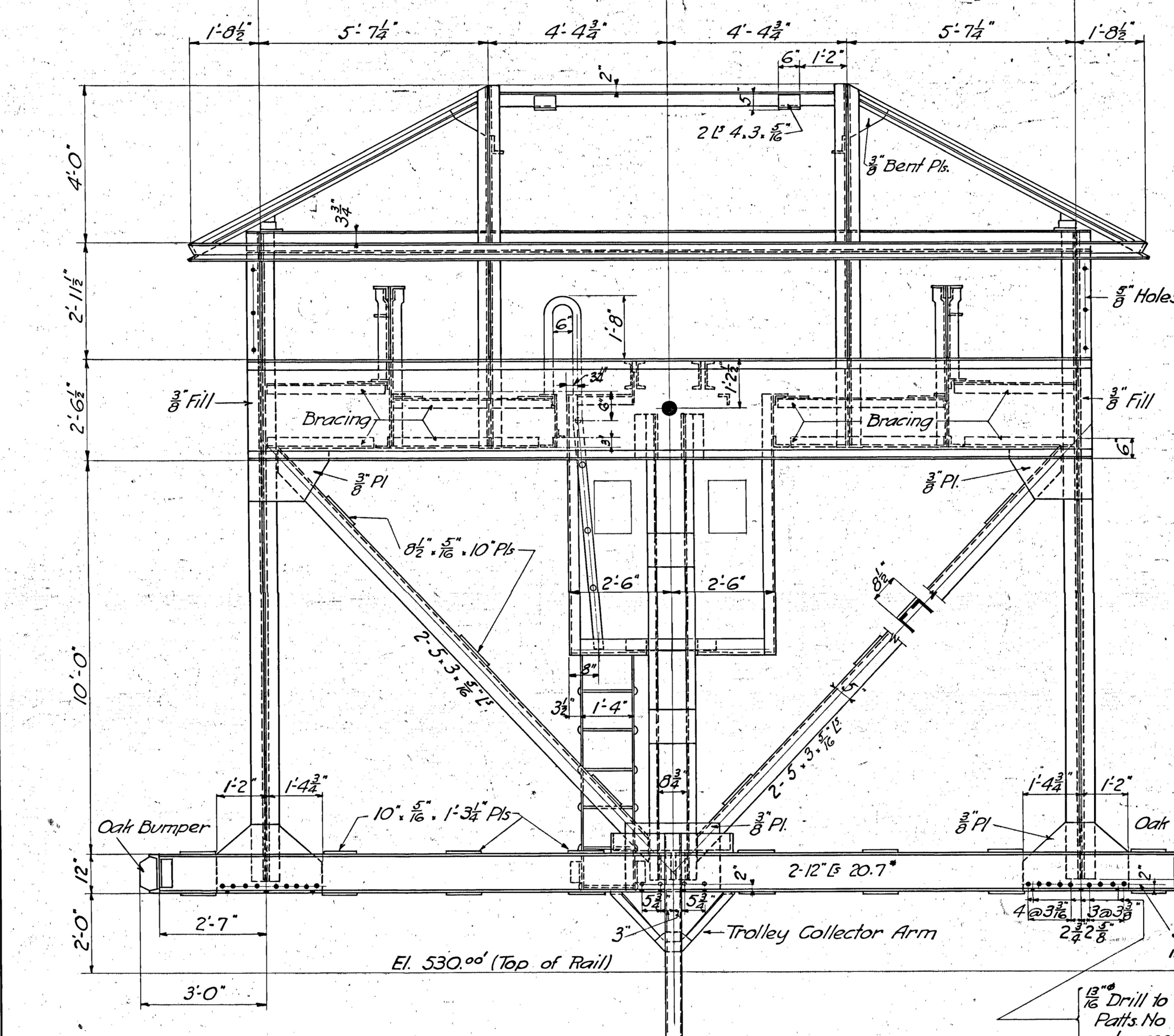
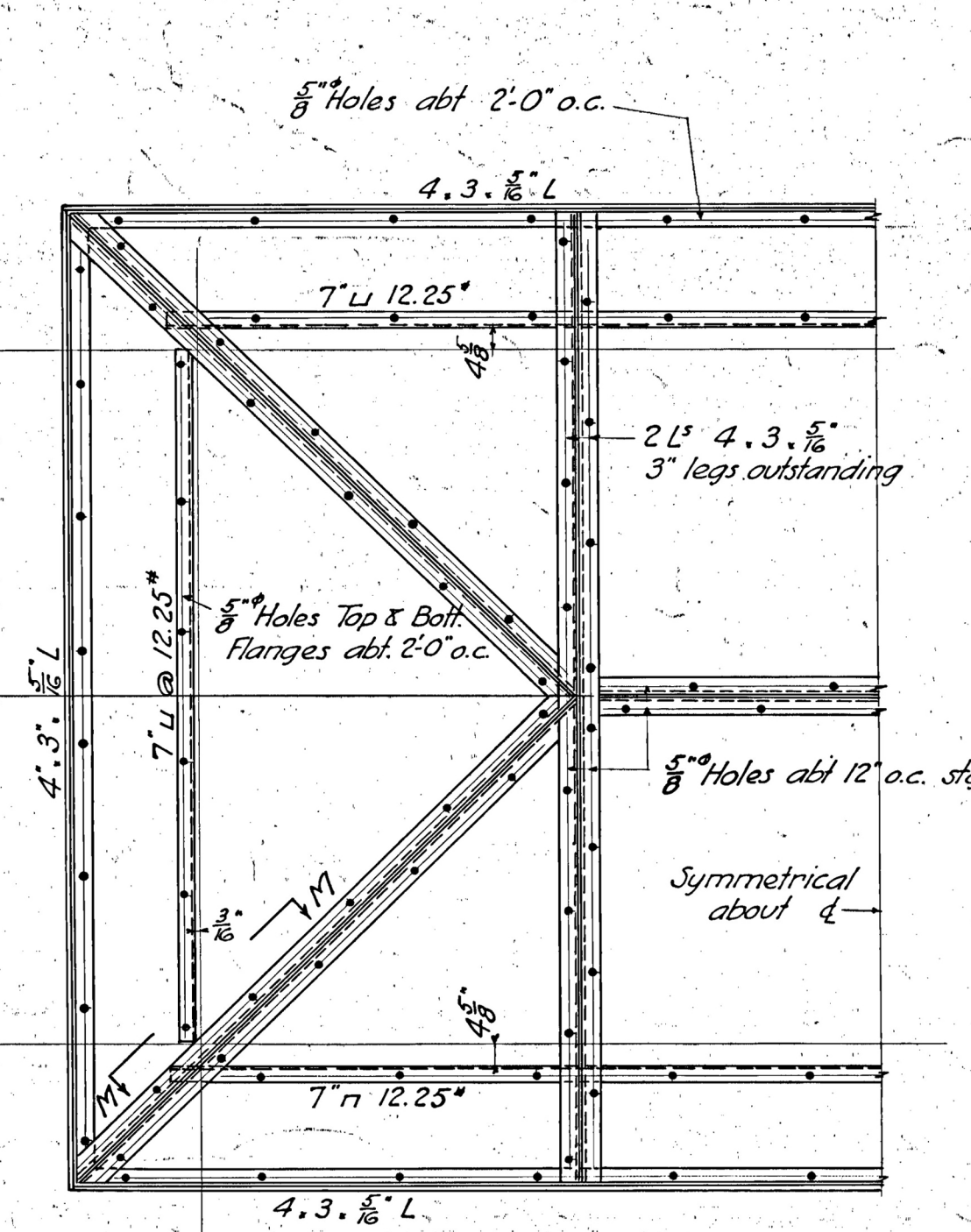
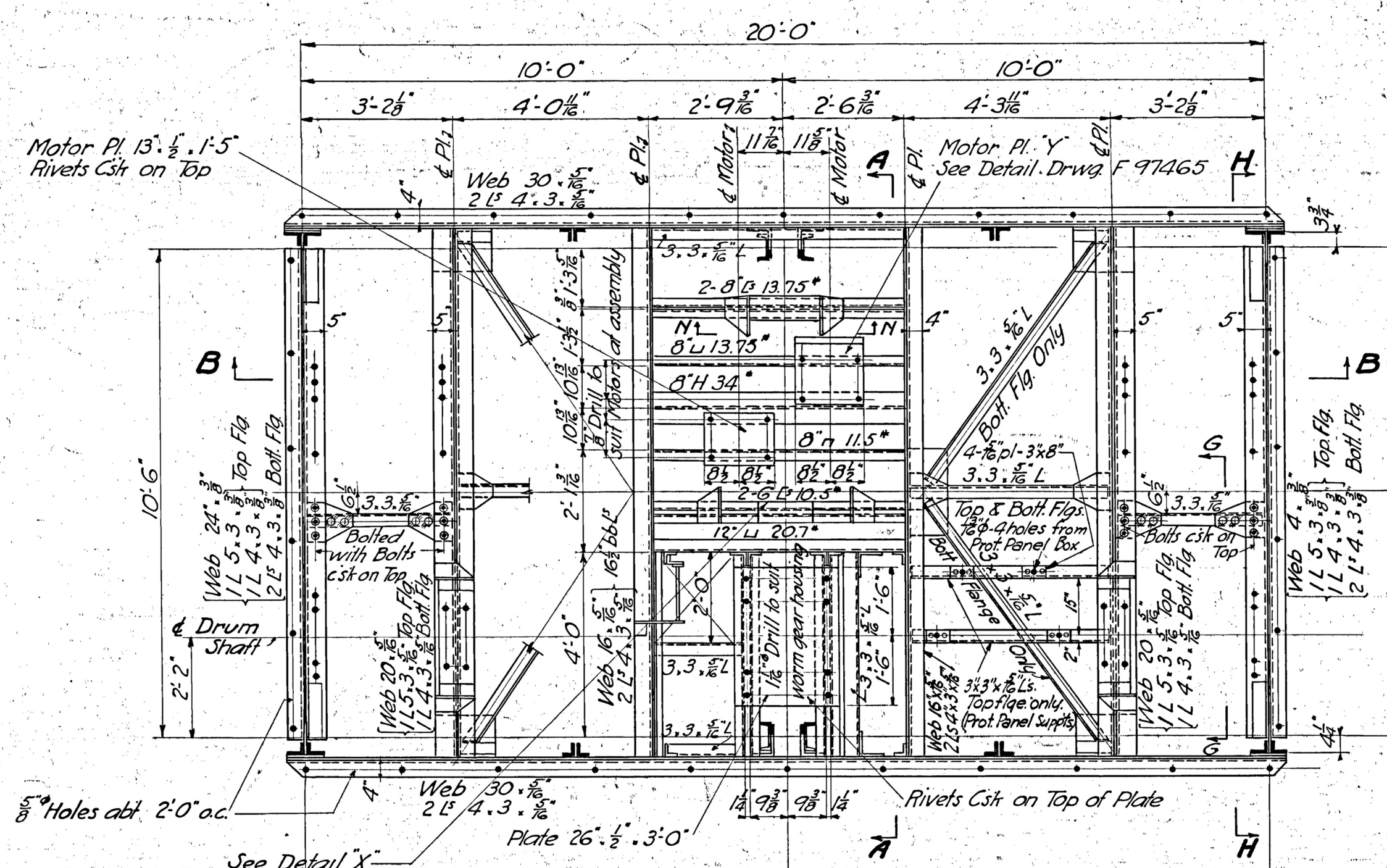
CHKD. INSP. COR. APPR.
FEB 3 1925
J. O. NO. 4063

D-F97442

11-404-H310

DELINEATED BY: Brockington and Associates Inc. August 2018

This drawing is a reproduction of an original 1925 construction drawing by Stone & Webster. The original is held by the Georgia Power Company Corporate Archives, Atlanta.



NOTES:
 Rivets $\frac{3}{8}$ " Open Holes $\frac{1}{8}$ " except as noted.
 Field connections to be reamed for free assembly.
 Entire structure and equipment to be assembled and tested in shop.
 Pieces to be match-marked for erection in field.
 For painting see specifications.
 For other structural details see *dwg. F 97465*
 for general arrangement see *dwg. F 94735* & *F 97442*
 Entire Machinery Floor except end girders to be shop riveted and shipped as a unit.
 For Cab Enclosure details see *dwg. F 97449*.

NO.	DESCRIPTIONS	CHGD.	INSP.	COR.	APPR.
1	DATE OF SIGNATURES				
2	DATE OF SIGNATURES				
3	DATE OF SIGNATURES				
4	DATE OF SIGNATURES				

STEEL FRAMING - GANTRY CRANE - SHT. NO. 1
 HYDRAULIC EQUIPMENT
 HYDRO-ELECTRIC STATION - BARTLETT'S FERRY, GA.
 COLUMBUS ELECTRIC & POWER CO.
STONE & WEBSTER
 INCORPORATED
 BOSTON
 SCALE: FEB. 4, 1925
 J.O. NO. 4063
F97464
 11-404-H311

F97464