

SHEET NO.	DESCRIPTION
1	TITLE SHEET AND LOCATION MAP
1a	SUMMARY OF ESTIMATED QUANTITIES
2	M01-MECHANICAL SPECIFICATIONS
3	M02-MECHANICAL SPECIFICATIONS
4	M03-SPAN MACHINERY LAYOUT
5	M04-CENTER PIER MACHINERY LAYOUT
6	M05-MECHANICAL DETAILS
7	M06-CYLINDER DETAILS
8	M07-SECONDARY MACHINERY LAYOUT
9	M08-LIVE LOAD WEDGE ASSEMBLY
10	M09-EXISTING END WEDGE ASSEMBLY
11	M10-PROPOSED END ROLLER WEDGE ASSEMBLY
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14-40	AS-BUILTS: 260-02-0018
41	WEDGE RETAINER-MODIFICATION

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

FEDERAL PROJECT	STATE PROJECT	PARISH	SHEET NO.
H012178	H.012178	LIVINGSTON	1

PLANS OF PROPOSED
STATE HIGHWAY

F.A.P. H012178
STATE PROJECT NO. H.012178

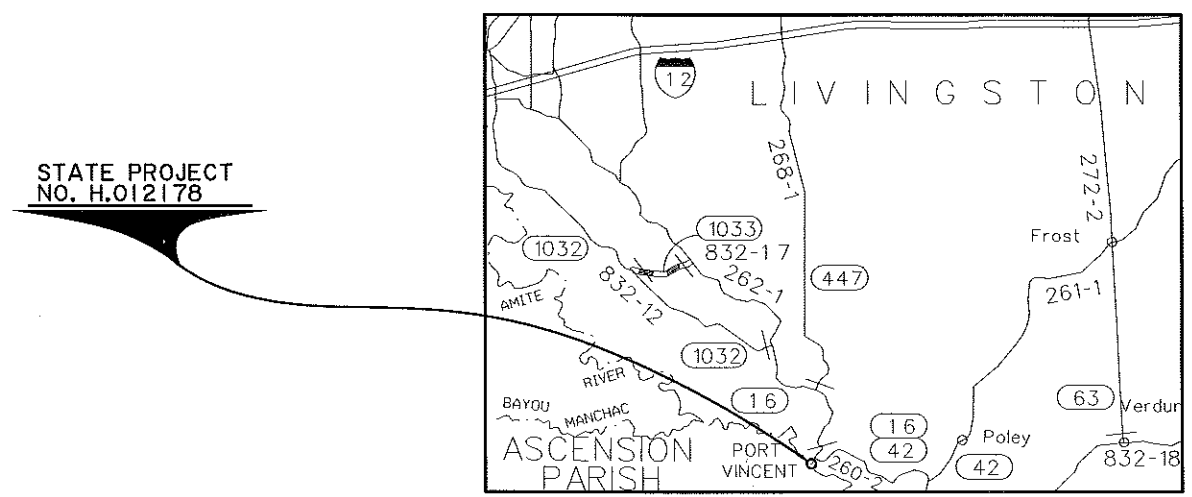
PORT VINCENT BR WEDGE CONV-HYD REPAIR



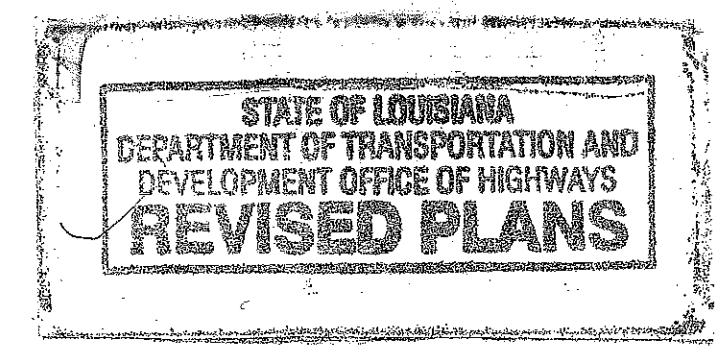
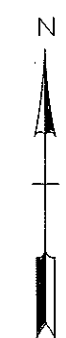
VICINITY MAP

STANDARD PLANS

LIVINGSTON PARISH



STATE PROJECT
NO. H.012178



DATE	REVISION	DATE	RECOMMENDED	DATE	APPROVED
4/7/17	4a, 4b, 29a, 37a	4/11/17	RF	7-19-17	APL

TYPE OF CONSTRUCTION:
HYDRAULIC REPAIR
(SWING SPAN BRIDGE)

NOTE:
THE 2006 LOUISIANA DOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS AMENDED BY THE PROJECT SPECIFICATIONS, SHALL GOVERN ON THIS PROJECT

LAYOUT MAP
SCALE: 1 INCH 22,500 FEET

APPROVED
Tanner Williams
CHIEF ENGINEER
7-11-2016

4/19/2017 9:34:11 AM

REVISION 1

SUMMARY OF ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	GENERAL ITEMS	ER - FLOOD DAMAGE REPAIRS	QUANTITY TOTAL				
727-01-00100	Mobilization	LUMP	LUMP		LUMP				
730-09-00100	Electrical System	LUMP		LUMP	LUMP				
730-09-00100	Electrical System (Electric Service)	LUMP		LUMP	LUMP				
807-08-00100	Structural Metalwork (Fender Handrail)	LUMP		LUMP	LUMP				
809-01-00100	Movable Bridge Machinery (Balance Wheels)	LUMP		LUMP	LUMP				
809-01-00100	Movable Bridge Machinery (Pivot Bearing)	LUMP		LUMP	LUMP				
809-01-00100	Movable Bridge Machinery (Primary Cylinders & Hoses)	LUMP	LUMP		LUMP				
809-01-00100	Movable Bridge Machinery (Primary HPU System Service)	LUMP		LUMP	LUMP				
809-01-00100	Movable Bridge Machinery (Rack Actuator)	LUMP	LUMP		LUMP				
809-01-00100	Movable Bridge Machinery (Rehabilitate Control Differential Unit)	LUMP		LUMP	LUMP				
809-01-00100	Movable Bridge Machinery (Roller Wedge Conversion)	LUMP	LUMP		LUMP				
809-01-00100	Movable Bridge Machinery (Secondary HPU)	LUMP	LUMP		LUMP				
809-01-00100	Movable Bridge Machinery (Secondary Hydraulic Cylinders & Hoses)	LUMP	LUMP		LUMP				
809-01-00100	Movable Bridge Machinery (Secondary Hydraulic Piping)	LUMP	LUMP		LUMP				
809-01-00100	Movable Bridge Machinery (Selsyn Rehabilitation - Receiver)	LUMP		LUMP	LUMP				
809-01-00100	Movable Bridge Machinery (Selsyn Rehabilitation - Transmitter)	LUMP	LUMP		LUMP				
NS-202-00006	Removal of Debris (Bridge Substructure)	LUMP		LUMP	LUMP				

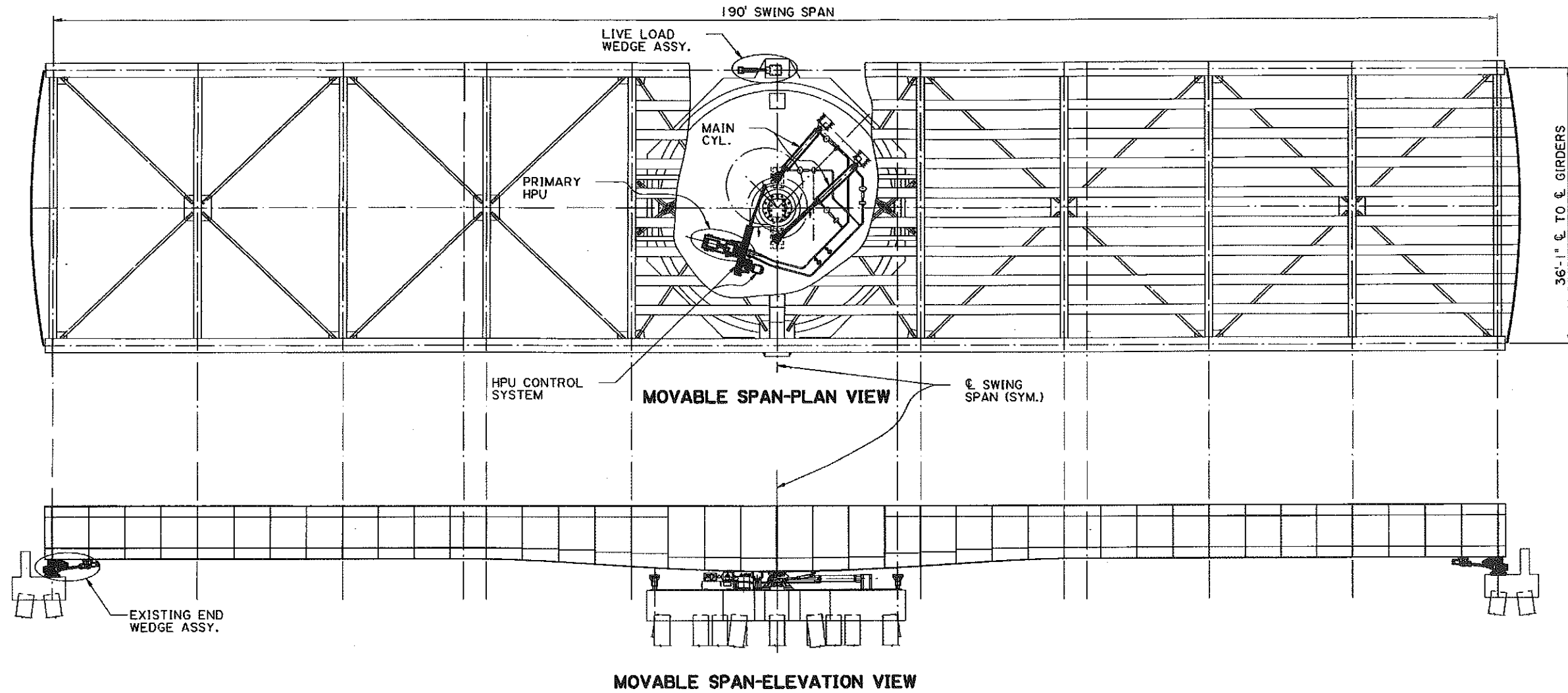
Rev. 1 - 4/19/2017 - Added Items

ER flood damage repair items are not covered in this plan set. See the construction proposal specifications for details on those repairs.

SHEET NUMBER		1a
LIVINGSTON		
PARISH	CONTROL SECTION	STATE PROJECT
		H.012178.6
	DATE SHEET	4/19/17 1 OF 1
SUMMARY OF ESTIMATED QUANTITIES		
DOTD		DOTD ROAD DESIGN

C:\Users\00142755\Documents\Darrick's Folder\District 62\Bridges\Movable Bridges\Port Vincent Swing Bridge\Plans\Hydraulic Rehab\PORT VINCENT HYDRAULIC CYLINDER BRIDGE\B1000

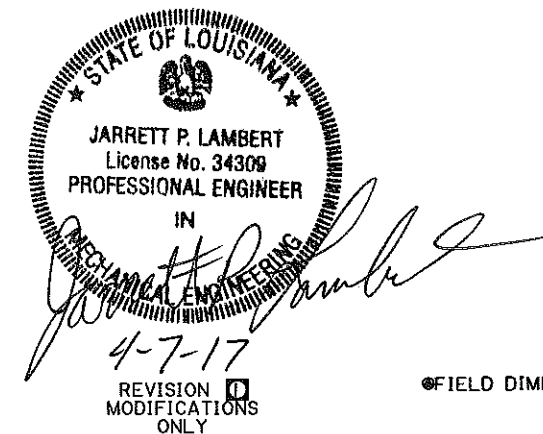
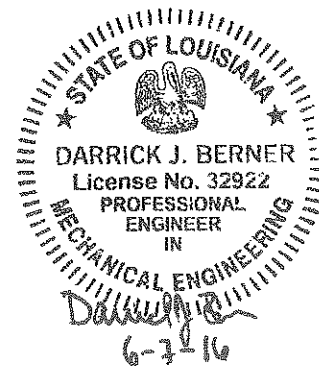
FINAL PLANS



PROJECT SCOPE:

- PRIMARY SYSTEM (M04-M06):**
1. REPLACE MAIN CYLINDERS, COMPL. (809-01-00100 MOVABLE BRIDGE MACHINERY (PRIMARY CYLINDERS & HOSE))
 2. REBUILD TRANSMITTER & RECEIVER SELSYN MOTORS.
 3. REHABILITATE PUMP ARMATURE CONTROL DIFFERENTIAL. (809-01-00100 MOVABLE BRIDGE MACHINERY (REHABILITATE CONTROL DIFFERENTIAL UNIT))
 4. REPLACE RACK ACTUATOR & RACK CONNECTING ROD, COMPL. (809-01-00100 MOVABLE BRIDGE MACHINERY (RACK ACTUATOR))
 5. SERVICE PRIMARY HPU AND HYDRAULIC SYSTEM. (809-01-00100 MOVABLE BRIDGE MACHINERY (PRIMARY HPU SYSTEM SERVICE))
 6. INSPECT MAIN CYLINDER CONNECTIONS & SUPPORTS.
- SECONDARY SYSTEM (M07-M12):**
7. REPLACE SECONDARY HPU, COMPL. (NOT SHOWN) (809-01-00100 MOVABLE BRIDGE MACHINERY (SECONDARY HPU))
 8. REPLACE SECONDARY PLUMBING. (NOT SHOWN) (809-01-00100 MOVABLE BRIDGE MACHINERY (SECONDARY HYDRAULIC PIPING))
 9. CONVERT END WEDGE ASSEMBLIES TO ROLLER WEDGES. (809-01-00100 MOVABLE BRIDGE MACHINERY (ROLLER WEDGE CONVERSION))
 10. VERIFY SYSTEM OPERATIONS.
- SEE THE TECHNICAL SPECIAL PROVISIONS IN THE CONSTRUCTION PROPOSAL FOR ADDITIONAL WORK NOT SHOWN IN THE PLANS

NOTE:
 A. CLEAN ENTIRE PIVOT PIER & BOTH END PIERS OF DIRT, GREASE, SAND, ETC. PRIOR TO REMOVING ANY MACHINERY OR COMMENCING WORK. SPECIAL CARE SHALL BE TAKEN TO PROTECT MACHINERY FROM PRESSURE WASHING OR SAND BLASTING. (TO BE PAID FOR UNDER ITEM NS-202-00006 REMOVAL OF DEBRIS (BRIDGE SUBSTRUCTURE), WHICH CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY FOR THE CLEANING & REMOVAL OF DEBRIS FROM BOTH REST PIER CAPS (PIERS 1 & 3) AND THE TOP OF THE PIVOT PIER (PIER 2).
 B. ALL MACHINERY NOT INCLUDED IN THE SCOPE OF THIS PROJECT SHALL BE INSPECTED FOR ANY DAMAGE OR IRREGULARITIES. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IF ANY DAMAGE IS DISCOVERED.

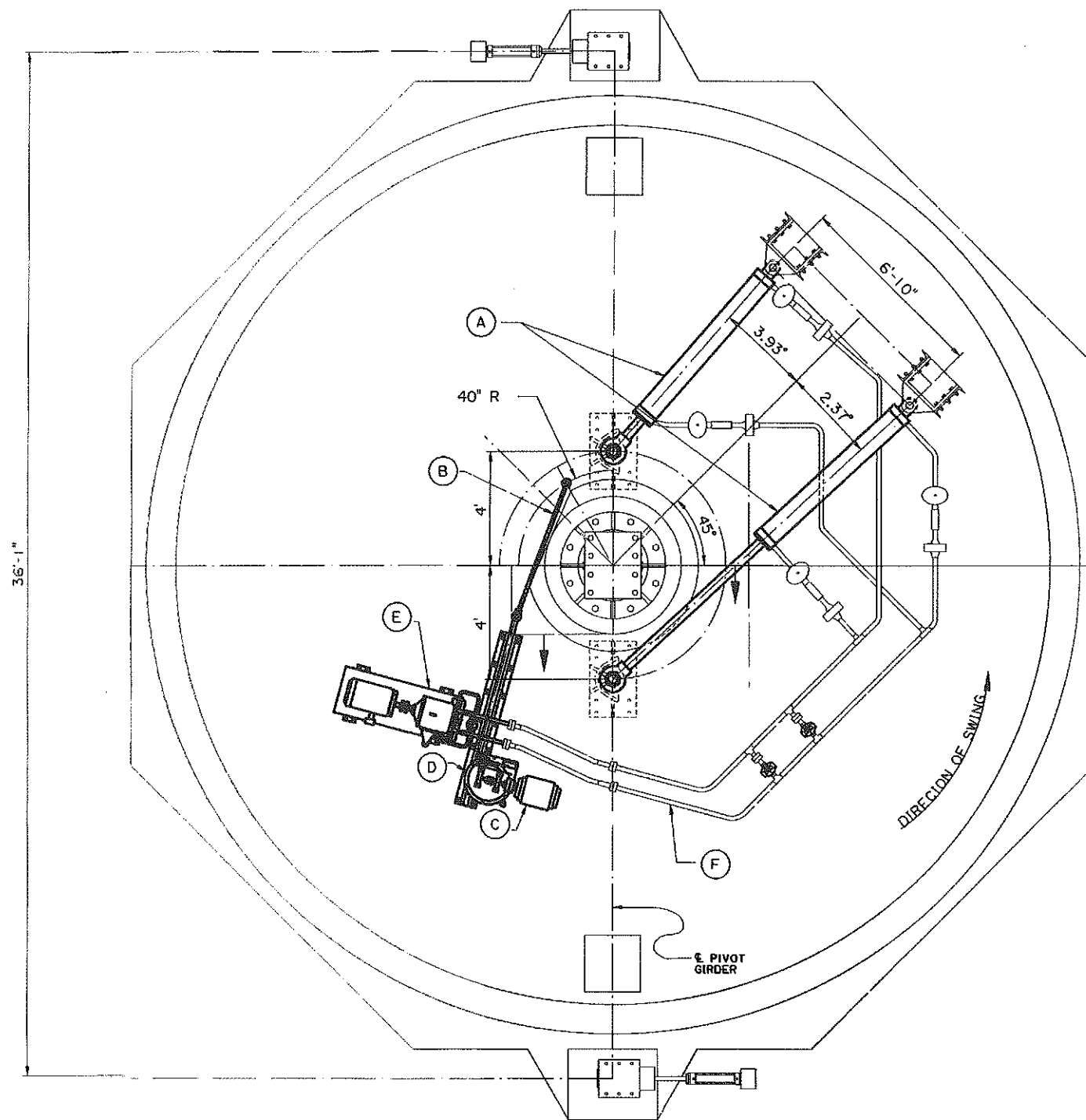


MACHINERY SHOWN IN BRIDGE CLOSED TO MARINE TRAFFIC POSITION.

FIELD DIMENSIONS MUST BE VERIFIED

REVISION MODIFICATIONS ONLY

M03		4	
DESIGNED	D. BERNER	PARISH	LIVINGSTON
CHECKED	J. LAMBERT	FEDERAL PROJECT	H012178
DATE		STATE PROJECT	H.012178
DATE		SHEET	
4-7-2017		JPL	
REVISED/ADDED NOTES		BY	
NO.		DATE	
REVISION DESCRIPTION		DATE	
PORT VINCENT BR WEDGE		SPAN MACHINERY LAYOUT	
CONV-HYD REPAIR			
LA 42			
STRUCTURES AND FACILITIES MAINTENANCE			

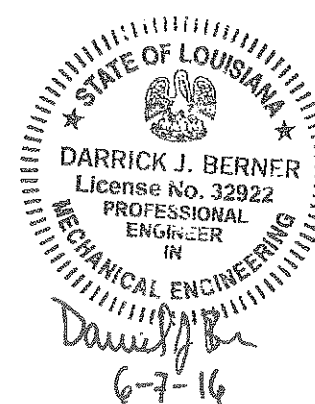


CENTER PIER LAYOUT - MACHINERY
 (PRIMARY SYSTEM SHOWN ONLY, FOR CLARIFICATION)

- PRIMARY SYSTEM SCOPE OF REPAIR:**
- A. REPLACE MAIN CYLINDERS, COMPL., INCLUDING FRONT & REAR PINS, ROD EYE SPHERICAL BEARING, AND BRONZE SUPPORT PLATE. (SHEET MO6)
 - B. REPLACE RACK ACTUATOR & ACTUATOR CONNECTING ROD, COMPL., INCLUDING RACK CONNECTOR, ACTUATOR PIN & SPHERICAL BEARING. (SHEET MO5)
 - C. REHABILITATE TRANSMITTING (NOT SHOWN) & RECEIVER SELSYN: DISASSEMBLE, RE-WIND & REBAKE THE STATOR & ROTOR. REPLACE SHAFT BEARING.
 - D. SERVICE DIFFERENTIAL UNIT: REMOVE ASSEMBLY, INCLUDING RACK & PINION. DISMANTLE, CLEAN, & INSPECT FOR BROKEN PARTS. REPLACE ALL INTERNAL BEARINGS & SEALS. CONTRACTOR SHALL FURNISH & INSTALL NEW PARTS TO REPLACE DEFECTIVE PARTS TO THE SATISFACTION OF THE PROJECT ENGINEER.
 - E. SERVICE & INSPECT HPU: LOAD TEST PUMP & MOTOR, REPLACE FILTER, CLEAN RESERVIOR.
 - F. CLEAN & INSPECT HYDRAULIC PIPING. TAKE NOTE OF ANY LEAKS.

NOTE:

1. REPORT ANY LEAKS OR DAMAGE NOT COVERED IN THE REPAIR TO THE PROJECT ENGINEER.
2. THE RECEIVING SELSYN, BY MEANS OF THE DIFFERENTIAL UNIT, CONTROLS THE STROKE OF THE DH 1211 VAR. DISPLACEMENT PUMP. THE RECEIVING SELSYN RECEIVES INPUT SIGNAL FROM THE TRANSMITTING SELSYN IN THE OPERATOR HOUSE. THE CONTROL HANDWHEEL, MOUNTED ON THE TRANSMITTING SELSYN SHAFT, MUST BE TURNED IN THE SAME DIRECTION AS IT IS DESIRED TO TURN THE SPAN. BECAUSE OF ACTION OF THE FOLLOW-UP MECHANISM, THE ANGULAR TRAVEL OF THE SWING SPAN WILL BE ONE-SIXTH (1/6) THAT OF THE CONTROL HANDWHEEL. TO FULLY OPEN THE SWING SPAN 90° WILL REQUIRE TURNING THE HANDWHEEL 540°. THE SWING SPAN WILL OPERATE AS THOUGH IT WERE GEARED DIRECTLY TO THE CONTROL HANDWHEEL WITH A 1/6 RATIO, ALTHOUGH IT WILL NOT ROTATE AT THE SAME SPEED AS THE CONTROL HANDWHEEL.

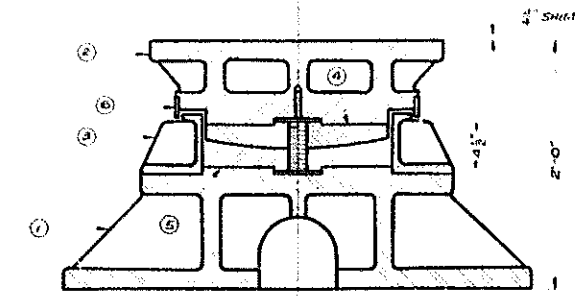


REVISION
 MODIFICATIONS ONLY

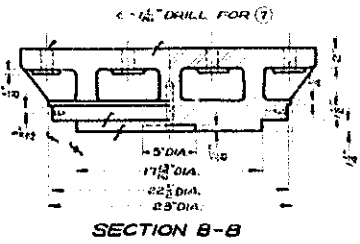
SEE THE TECHNICAL SPECIAL PROVISIONS IN THE CONSTRUCTION PROPOSAL FOR ADDITIONAL INFORMATION ABOUT SERVICING THE PRIMARY HPU

NO.	DATE	REVISION DESCRIPTION
0	4-7-2017	REVISED/ADDED NOTES
DESIGNED	D. BERNER	JPL
CHECKED	J. LAMBERT	BY
DATE		
DESIGNED	D. BERNER	
CHECKED	J. LAMBERT	
DATE		
PARISH	LIVINGSTON	
GENERAL PROJECT	HO12178	
STATE PROJECT		
PROJECT	H.O12178	
PORT VINCENT BR WEDGE CONV-HYD REPAIR LA 42		
EXISTING CENTER PIER LAYOUT		
STRUCTURES AND FACILITIES MAINTENANCE		

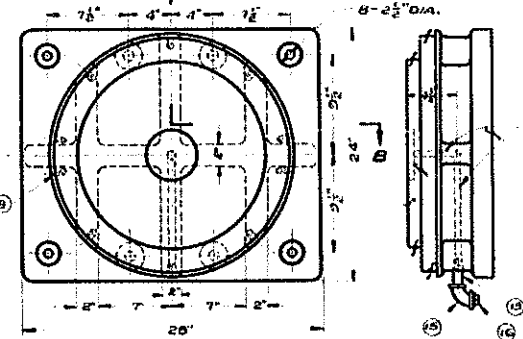
78



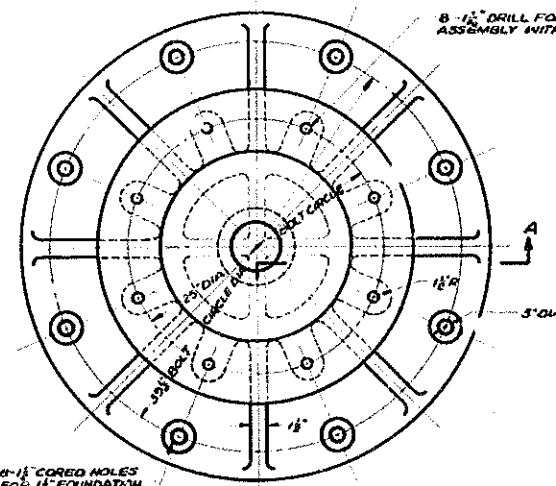
ASSEMBLY OF PIVOT



SECTION B-B



2

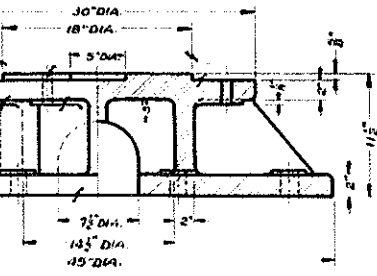


8-1/2" DRILL FOR (8) LOCATE AT ASSEMBLY WITH (6)

A 8-1/2" CORED HOLES FOR 1/2" FOUNDATION BOLTS SPOT FACE

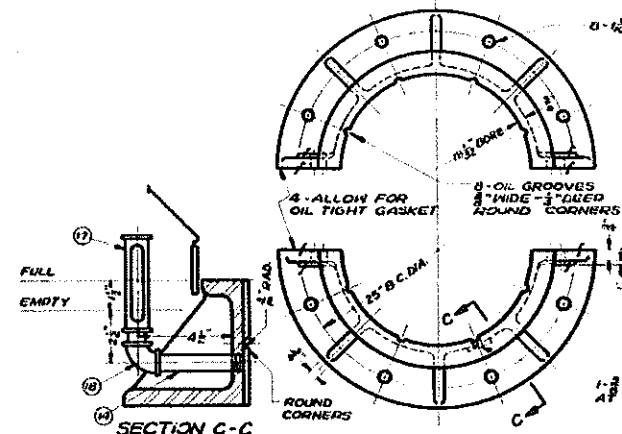
HOLES TO BE FILLED WITH LEAD AFTER INSTALLATION

8-SPOT FACE



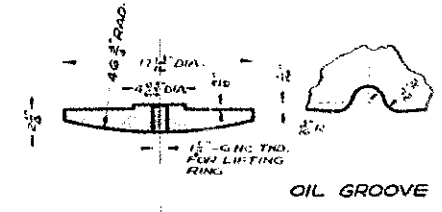
SECTION A-A

1

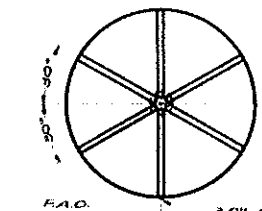


SECTION C-C OIL GROOVE AND OIL GAGE DETAILS FOR (3)

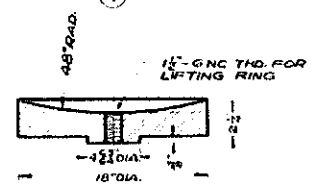
3



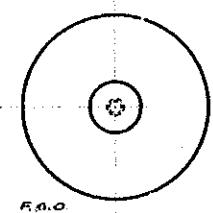
OIL GROOVE



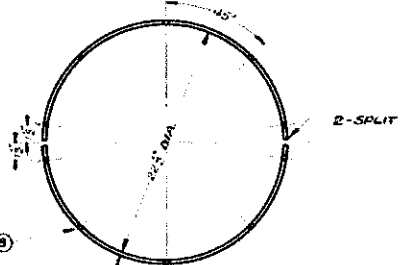
3 OIL GROOVES (SEE DETAIL)



4

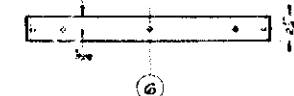


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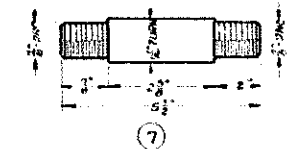


2-SPLIT

10-1/2" DRILL FOR (6)



6



7

BILL OF MATERIALS FOR ONE SPAN		
QTY	DESCRIPTION	MATERIAL
1	PIVOT BASE	STEEL ASTM A27 1/2 LG 2 1/2
1	PIVOT TON	ST CAST ASTM A27 1/2 LG 2 1/2
1	HOUSING IN TWO HALVES	ST CAST ASTM A27 1/2 LG 2 1/2
1	UPPER DISC	BRONZE ASTM B22 ALLOY A
1	LOWER DISC	STEEL ASTM A27 1/2 CL G
1	DUST RING IN TWO HALVES	STEEL ASTM A27
6	STD WITH HEX NUT & LOCKWASHER	STEEL
10	HEX HD CAP SCREW 1/2 LG	STEEL
10	"SHAKEPROOF" LOCKWASHER	STEEL COMM.
10	1/2 GNC MACH. BOLT 1/2 LG	STEEL
11	1/2 GNC STD NUT	STEEL
12	"SHAKEPROOF" LOCKWASHER	STEEL COMM.
13	"NIPPLE 1/2 LG	STEEL
14	1/2 PIPE NIPPLE 1/2 LG	STEEL
15	1/2" 30° SCREWED ELL	STEEL
16	1/2" PIPE PLUG	STEEL
17	GTS BRDS STYLE YFG 4225	COMM.
18	OIL GAGE AND SIGHT GLASS	STEEL
19	1/2" 30° SCREWED ELL	STEEL
20	TURNED BOLT WITH HEX NUT & LOCKWASHER	STEEL

GENERAL NOTES:
 ALL PARTS FURNISHED BY THE CONTRACTOR SHALL BE AS SHOWN OR APPROVED EQUAL.
 ALL PARTS LISTED ON THIS SHEET TO BE INCLUDED IN ITEM 5-B-1 MOVABLE BRIDGE MACHINERY, INCLUDING ALL NECESSARY SHIMS.
 THE CONTRACTOR SHALL DETERMINE THE FINAL DIMENSIONS OF PARTS INVOLVING COMMERCIAL PRODUCTS SUCH AS MOTORS, SPEED REDUCERS, BEARINGS, ELECTRICAL EQUIPMENT AND THE LIKE, FROM CERTIFIED DIMENSIONS OUTLINES OF THE COMMERCIAL PRODUCTS BEFORE MAKING SHOP DRAWINGS OF THE PARTS INVOLVED.
 ALL BOLTS TO HAVE ONE NUT AND ONE HEAVY 3/8" LOCKWASHER, UNLESS NOTED, OR OTHER MEANS OF LOCKING NUT ARE SHOWN ON DETAILS.

SPAN #4 ASSEMBLY AND DETAILS OF CENTER PIVOT

M7

AMITE RIVER BRIDGE AND APPROACHES (PORT VINCENT) ROUTE LA 42

DESIGNED	DRAWN	CHECKED	BY
DATE	DESCRIPTION	REVISIONS	

AS BUILT PLANS



SHEET NUMBER 29a

LIVINGSTON PARISH PROJECT H012178

STATE PROJECT H.012178

DESIGNED CHECKED DETAILED CHECKED DATE SHEET

4-7-2017 NEW SHEET

JPL BY

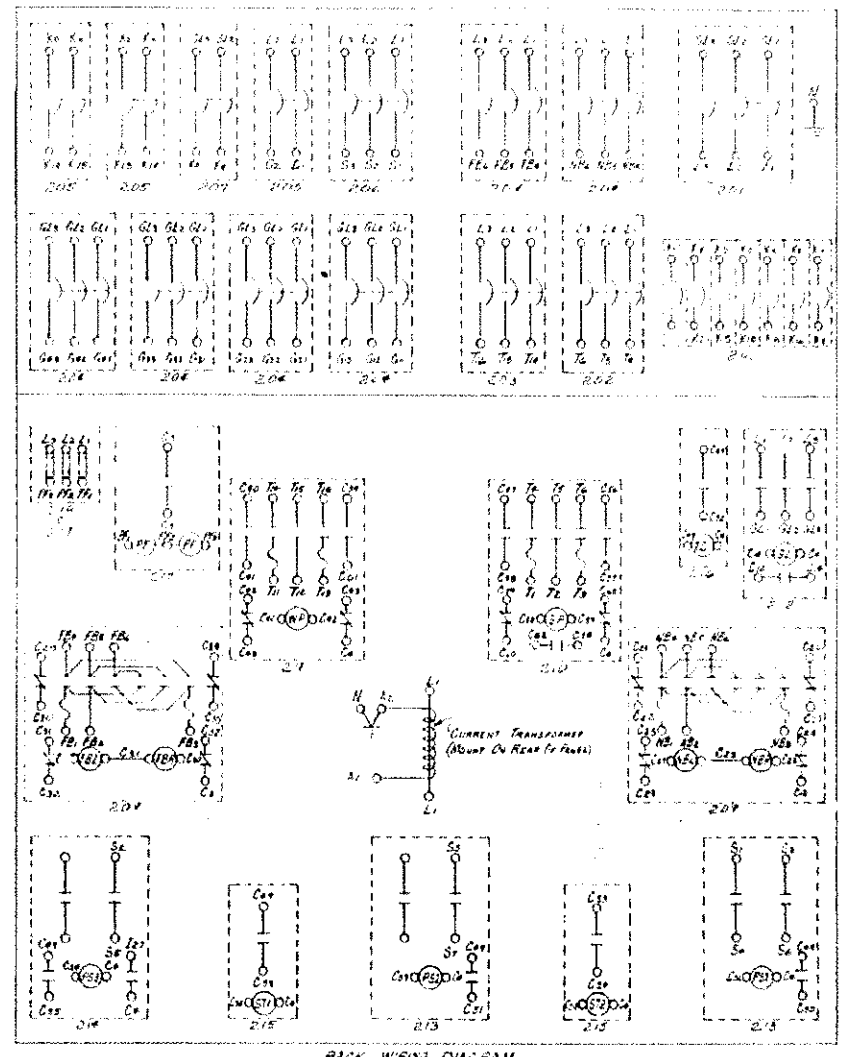
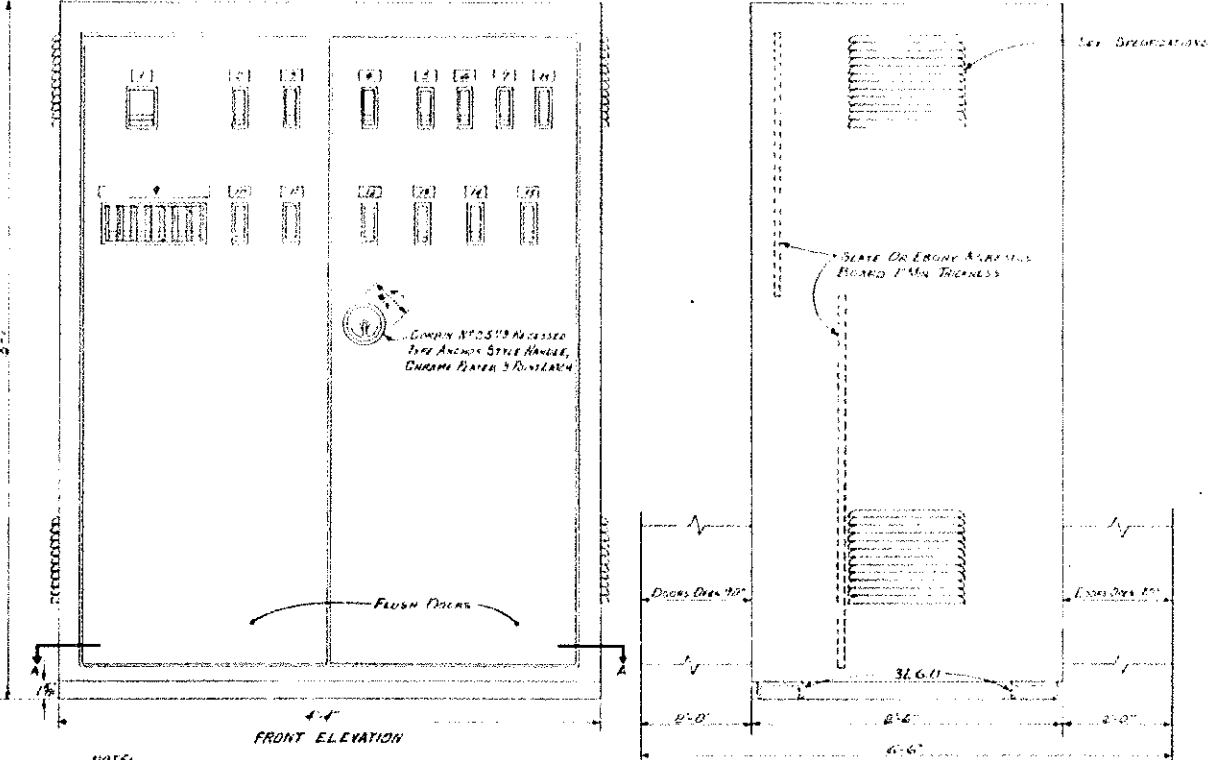
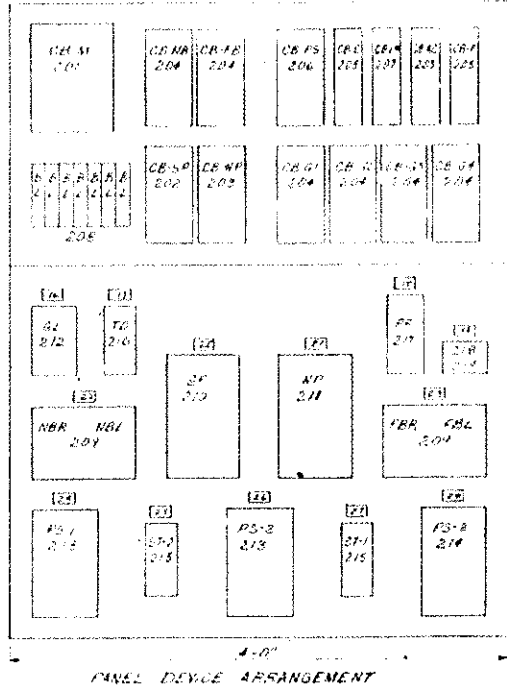
REVISION DESCRIPTION

AS-BUILT PLANS 260-02-0018

AMITE RIVER SWING BRIDGE

STRUCTURES AND FACILITIES MAINTENANCE

93



NAMEPLATE LEGEND

Nº	ENGRAVE	Nº	ENGRAVE
1	CB-M MAIN LINE	15	CB-G4 FAR OFFGOING GATE
2	CB-NB NEAR BARRIER MOTOR	16	GL GATELINE CONTACTOR
3	CB-FB FAR BARRIER MOTOR	17	TD SELSYN SINGLE PH EXC. TD
4	CB-PS POWER SELSYN	18	PF PHASE FAILURE RELAY
5	CB-C CONTROL CIRCUIT	19	FU-FFR GAMPS 650 VOLTS
6	CB-LM LIGHTING MAIN	20	SP SPAN PUMP
7	CB-AC AIR COMPRESSOR	21	WP WEDGE PUMP
8	CB-P WATER PUMP	22	NBR NEAR BARRIER
7	CB-BL SEE DETAIL	23	FBR FAR BARRIER
10	CB-SP SPAN PUMP MOTOR	24	PS-1 SELSYN SINGLE PH EXC.
11	CB-WP WEDGE PUMP MOTOR	25	ST-1 SELSYN THIRD PH TIE TD
12	CB-G1 NEAR ONCOMING GATE	26	PS-2 SELSYN THIRD PH TIE
13	CB-G2 NEAR OFFGOING GATE	27	ST-2 SELSYN THIRD PH EXC TD
14	CB-G3 FAR ONCOMING GATE	28	PS-3 SELSYN THIRD PH EXC.

NOTE:
1. ALL DOORS SHALL BE FITTED WITH NEOPRENE GROMMETS AROUND OUTER EDGES TO PREVENT NOISE DUE TO VIBRATION.
2. LATCH RODS ON DOORS TO RUN THROUGH NEOPRENE GROMMETS.

SWITCHBOARD EQUIPMENT LIST

ITEM	QUAN	NAME AND SYMBOL	SERVICE	MANUFACTURER	TYPE, MODEL, CAT NO	DESCRIPTION
201	1	CIRCUIT BREAKER, CB-M	MAIN LINE	WESTINGHOUSE	CAT NO J3130	AB DE-ION, 225 AMP J FRAME, 3 POLE, 600 VOLTS A.C., 150 AMP RATING, 1/4\"/>

NOTE:
ALL PLATES SHALL BE OF PHENOL PLATE ENGRAVED STOOD, LAMINATED OR EQUAL WITH DARK BLACK OUTER LAYER, WHITE INNER LAYER AND 45° BEVELLED EDGES, 1/4\"/>

NOTE:
SERVICE CONDUITS SHALL BE RUN DIRECTLY TO THEIR RESPECTIVE TERMINALS WITHOUT THE USE OF TERMINAL BLOCKS.

TERMINAL BLOCKS (SEE DETAIL)

TERMINAL	WIRE	WIRE	WIRE	WIRE	WIRE
1	2	3	4	5	6

NOTE ON THE TERMINAL BLOCKS SHALL BE ENGRAVED WITH THE SAME MARKINGS AS THE ELEMENTARY DIAGRAM

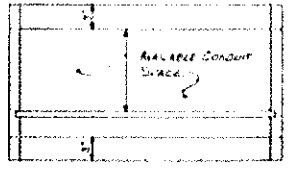
SWITCHBOARD LAYOUT, WIRING DIAGRAM, SPECIFICATIONS, EQUIPMENT LIST

AMITE RIVER BRIDGE AND APPROACHES (PORT VINCENT) ROUTE LA-42

DESIGNED: JPL
CHECKED: JPL
DATE: 4-7-2017

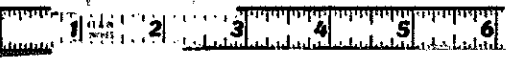
DETAIL FOR PLATE 9

WARNING LIGHTS	CENTER PIER LIGHTS	NAVIGATION LIGHTS	FLOOD LIGHTS	OPER. HSE. WASHROOM	PUMP HSE. LG. F. OUTLET	SPARE 1POLE, 20AMP
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NOTE ON THE TERMINAL BLOCKS SHALL BE ENGRAVED WITH THE SAME MARKINGS AS THE ELEMENTARY DIAGRAM

AS BUILT PLANS



LIVINGSTON
PARISH
FEDERAL PROJECT
H.012178

DESIGNED: JPL
CHECKED: JPL
DATE: 4-7-2017

REVISION DESCRIPTION
NEW SHEET

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS



AS-BUILT PLANS
260-02-0018
AMITE RIVER SWING BRIDGE



STRUCTURES AND FACILITIES MAINTENANCE