



LOUISIANA NATURAL AND SCENIC RIVERS SYSTEM

PERMIT APPLICATION

Permit # 907 (Assigned by Department)

The Louisiana Department of Wildlife and Fisheries' Scenic Rivers program is authorized by LRS title 56, Chapter 9 Part II. This law requires permits authorizing activities in or affecting rivers that have been designated by the Louisiana Legislature as Natural and Scenic. Information provided on this form will be used in evaluating the application for a permit. Information in this application is made a matter of public record through issuance of a public notice. Disclosure of the information requested is voluntary, however, the data requested are necessary in order to communicate with the applicant and to evaluate the permit application. If necessary information is not provided, the permit application cannot be processed nor can a permit be issued.

APPLICANT INFORMATION

Table with 2 columns: Applicant (Entergy Louisiana, L.L.C.) and Agent (Fred O. Dunham). Rows include Name, Address, City, State, Zip, and Phone.

DESCRIPTION OF THE PROPOSED ACTIVITY

Brief summary of the description and purpose of the proposed activity (details to be attached as a separate document). To replace electrical transmission line tower structure on each side of the Tangipahoa River in order to maintain reliability as required under the Federal Energy Regulatory Commission and the North American Energy Reliability Corporation. Is any portion of the activity complete? YES NO (If yes indicate month and year of completion)

LOCATION OF PROPOSED ACTIVITY

Table with 3 columns: Stream Name, Parish, Section, Township, Range, Latitude/Longitude and Names, Addresses, Phone Numbers of Adjacent Property Owners. Stream Name: Tangipahoa River, Parish: Tangipahoa, Section: 32, Township: 7 S, Range: 9 E, Latitude/Longitude: 30°24'5.80"N 90°19'21.39"W.

ENVIRONMENTAL ASSESSMENT

Must be a separate document. See the attached instruction sheet for completing the assessment.

CONFIRMATION OF INFORMATION ACCURACY

Application is hereby made for a Scenic River Use Permit to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that, to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities, or I am acting as the duly authorized agent of the applicant.

Handwritten signature of Fred O. Dunham

Signature Permit Agent

Handwritten date: 7-22-2014

Date

Entergy Louisiana, L.L.C. (Entergy) is applying for a scenic river permit to conduct maintenance on their existing Ponchatoula-Madisonville Transmission Line. (See Figure 1) As a result of an engineering survey conducted during 2013, significant structure integrity issues were found associated with the foundations of 114 tower structures. Two of these structures are located on each side of the Tangipahoa River immediately downstream of Lee's Landing. (See Figure 2)

This electrical transmission line was permitted by the Corps of Engineers and built in the late 60's prior to the enactment of the Scenic Rivers Act. This line provides electrical power to the north shore area. The proposed maintenance work will be conducted during the low load time period.

The Federal Energy Regulatory Commission (FERC), the North American Electrical Reliability Corporation (NERC) and the South East Reliability Corporation (SERC) require Entergy to maintain a high level of reliability. In order to meet this reliability level, Entergy is required to maintain their transmission lines. From the engineering survey, Entergy has determined that the existing foundations require replacement. In replacing the foundations, the tower structures also have to be changed in order to meet the current standards for towers.

Structure 68 is located 304 feet looking eastward down the 125 foot wide right-of-way from the east high bank of the river. (See Figure 3) The river makes a sharp turn eastward as it crosses the right-of-way such that it comes within 65 feet of the Structure 68. A green belt of woody vegetation provides some cover of the structure when viewed from the closest point on the river (See Figure 4). Structure 68 is a lattice Y type structure with four guy wires and screw anchors. (See Figure 5)

Structure 69 is located 261 feet west of the west bank and is a lattice three pole structure with guy wires and screw anchors. (See Figure 6) This structure provides the structural integrity for the transmission line to change direction and therefore is a different design than Structure 68. (See Figure 7)

Structure 68 will be replaced with a single tubular metal pole structure and its foundation will be a metal caisson. The caisson will be vibrated into the ground thus no dredging is required. The metal pole structure will be mounted into the caisson. No guy wires or anchors will be required. (See Figure 5)

Structure 69 will be replaced with three tubular metal poles and caissons. The caissons will be vibrated into the ground requiring no dredging. The replacement three pole structures will use the existing screw anchors. (See Figure 7)

Replacement Structures 68 and 69 locations will remain the same as the existing structures; likewise the vertical clearance of the conductor wire over Tangipahoa River will remain the same.

Airboats and marsh buggies will be required to wreck out the existing tower structure and to install the new foundation & tower structure. This equipment will travel down the right-of-way and working at each structure site. Therefore only one crossing of the buggies will occur at the river.

As the buggies and airboats enter or exit the river, lumber will be placed on the river banks for the airboats and buggies to track on to prevent damage to the river banks. After the airboats and buggies have completed their crossing of the banks, the lumber will be removed from the area. (See Figure 8)

The new tower structures and caissons will be air lifted to each structure site and the existing structures will be air lifted out. This action will greatly avoid adverse impacts to the wetlands and river banks of the Tangipahoa River within the right-of-way by eliminating multiple trips by buggies to bring structures in and out.

All maintenance activity will occur within the existing transmission line right-of-way. No new clearing will occur. No dredging will occur with this maintenance activity. Concrete fill between the caisson and the base of the pole will occur. (See Figure 9)

Permit applications have been submitted to the Louisiana Department of Natural Resources Office of Coastal Management (P20140791) and to the New Orleans District of the Corps of Engineers (MVN-2014-01471-CJ). In addition, a letter of clearance for proposed work on the Joyce Wildlife Management Area has been granted by the Louisiana Department of Wildlife and Fisheries.

ENVIRONMENTAL ASSESSMENT

A. Existing Land Use – The east and west bank of the river is a cypress-tupelo wetland forest except for the existing transmission line right-of-way which was converted to an herbaceous wetlands when the transmission was installed in the 60's.. The west bank is also a boundary of the Joyce Wildlife Management Area which is owned and managed by the Louisiana Department of Wildlife and Fisheries. The east bank is privately owned and managed.

The land use for both sides of the river is for consummative and non-consummative recreation use. No changes in the land use will occur therefore no impacts will occur to these land uses.

The maintenance activity will not change or impact the existing land use on either side of the river since the structures are simply being replaced.

B. Historical/Archeological Sites – There are no known historical/archeological sites within the existing transmission line right-of-way at or near the river crossing.

There are no potential adverse impacts to historical/archeological sites since all maintenance activity will occur within the existing transmission right-of-way and no dredging will occur.

C. Economic Impact of the Project – The maintenance activity will ensure the reliability of the transmission line which provides electrical power to the north shore area.

Failure to maintain this line will result in significant power outages to the north shore which will affect both residential and commercial facilities. FERC, NERC & SERC requires Entergy to maintain this transmission line to specific national reliability standards.

The maintenance of this transmission line will ensure the continuing positive economic impact to the area. Failure to conduct the maintenance of this line will cause economic impact when there is a structural failure. A structural failure of either structure will cause adverse economics to both the north shore area and to the recreational users of the river until emergency repairs can be made.

No economic impact from this planned maintenance will occur since there will be no changes in the land use or the recreation opportunities occurring on the river or adjacent wetlands.

D. Wilderness/Rural Quality – The existing wilderness/rural quality is forested wetland with the transmission right-of-way being an herbaceous wetland.

The maintenance activity will not adversely impact these qualities since the maintenance activity will be within the transmission line right-of-way and the temporary impacts to the herbaceous wetlands will recover within one full growing season.

E. Scenic/Aesthetic Value – The scenic and aesthetic value of the river has remained basically the same since the time that the river was designated a scenic river. The electrical transmission line was installed prior to the Scenic River Act. The initial reviewers and developers of the Scenic Rivers Program and Act determined that this portion of the river should be included into the program and act. They concluded that the electrical transmission line did not have a significant adverse impact to any of the qualities, values or functions that qualifies the river to be a natural and scenic river.

The proposed maintenance will not lower the value of these qualities, values or functions. In addition, protective measures will be used to maintain these qualities on each river bank.

The protective measures will be the use of lumber for the airboats and marsh buggies to track on as it crosses the river banks. These measures will maintain the integrity of the river bank while allowing the buggies to travel.

F. Recreational Use/Opportunities – Currently the river in this area is mainly used for recreational boating, hunting and fishing. Recently the river has also been used for filming of a reality show for a television series. The forested wetlands provide opportunities for both consummative and non-consummative recreation uses.

The proposed maintenance activity will not have any impact on these uses or opportunities. During the crossing of the river by equipment, Entergy will take measures to ensure safety to recreational users as well as its maintenance crews. These measures will include but not be limited to warning signs upstream and downstream plus coordination with local marina users.

G. Ecological Systems Present – This part of the river is surrounded by a cypress-tupelo swamp which is noted for its dense stand of forested wetlands. The transmission line right-of-way contains herbaceous wetland species.

The proposed maintenance will not have an adverse impact to the ecosystem since all of the maintenance work will occur within the existing cleared right-of-way. The herbaceous vegetation within the right-of-way will be temporarily impacted but will recover within one full growing season.

H. Fish and Wildlife in the Area – Some of the fish species found in the Tangipahoa River and adjacent waterways in and near the crossing of the transmission line are alligator gar (*Atractosteus spatula*), bluegill (*Lepomis macrochirus*), bowfin (*Amia calva*), white crappie (*Pomoxis*

annularis), chain pickerel (*Esox* spp.), sunfish (*Lepomis* spp.), largemouth bass (*Micropterus salmoides*), and spotted gar (*Lepisosteus oculatus*).

Wildlife species in and around the lower Tangipahoa River are such as white-tailed deer, raccoon, squirrel, nutria, egret, heron, water snake, water moccasin, alligator, turtle, frog, Bald Eagle (*Haliaeetus leucocephalus*), snapping turtle, osprey, ibis, and numerous waterfowl & Neotropical birds.

Impacts to wildlife will on be temporary as the maintenance crew work down the right-of-way. No long term or adverse impacts will occur to any of the wildlife or fish species and their habitat.

- I. **Botanical Elements (Vegetation)** – Currently the forested wetlands around the river contain bald cypress (*Taxodium distichum*), tupelo gum (*Nyssa aquatica*), swamp blackgum (*Nyssa biflora*), green ash (*Fraxinus pennsylvanica*), swamp red maple (*Ace rubrum* var. *drummondii*), buttonbush (*Cephalanthus occidentalis*), black willow (*Salix nigra*), cutgrass (*Zizaniopsis* spp.) and water elm (*Planera aquatic*),

The herbaceous wetlands of the right-of-way consist of vegetation species common to fresh water marsh areas such as maiden cane (*Panicum hemitomon*), spikes edge (*Elecocharis* spp.), bull tongue (*Sagittaria* spp.), alligator weed (*Alternanthera philoxeroides*), flatsedge (*Cyperus* spp.), pickerel weed (*Pontederia cordata*), pennyworts (*Hydrocotyle* spp.), white waterlilly (*Nymphaea odorata*), cattail (*Typha* spp.), and deer pea (*Vigna luteola*).

No impacts will occur to the forested wetlands since no work will occur in them. All maintenance work will be within the herbaceous wetlands of the existing right-of-way. The impacts to these wetlands will be temporary and will recover within one full growing season.

- J. **Geological Features** – The soil found on both sides of the river is classed by the U.S. Department of Agriculture, Natural Resources Conservation Service as Barbary muck with a 0 to 1 % slope and

frequently flooded. This soil is also classed as hydric in assessing its qualities in relation to wetlands as defined under the Clean Water Act.

No adverse impacts will occur to this soil type since no dredging will occur during the maintenance activity. In addition, preventative measures will be incorporated at the river banks to maintain their integrity.

K. Hydrological Features – The Tangipahoa River before reaching the crossing of the transmission right-of-way has changed its characteristics from a shallow fast flowing river with sand and gravel bars to a slow moving river in a swamp ecosystem with deeper water depths over a muck soil. The river has also become tidally influenced by the tidal actions in Lake Pontchartrain which is directly connected to the river.

No impacts will occur to the hydrological features of the river since no actual work, blockage, diversion, reduction, or similar action will occur in the river.

L. Water Quality/Quantity – The water quality and quantity of the Tangipahoa River varies depending on rainfall in the immediate area and its upper watershed which extends into the State of Mississippi. Typically during moderate to heavy rainfall within the watershed, the water quality is lower as the higher volume of water travels down river carrying higher suspended solids loads. At times the river has been negatively impacted from man-made discharges; however, the quality of these discharges has been greatly improved through various water quality enhancement programs of natural resource agencies and entities along the river.

The proposed maintenance and crossing of the river should have no adverse or long term impacts to the water quality or quantity. Possible limited and short impact from suspending soil sediments in the water may occur as the airboats and buggies enter and exit the river.

COMPLIANCE HISTORY

Entergy has adhered to each of the Scenic River Permits and their conditions as issued by the Administrator. No citation of violation of the Scenic Rivers Act has occurred as a result of Entergy's actions.

AVOIDANCE, MINIMIZATION AND OFFSETS OF POTENTIAL IMPACTS

Entergy has taken the following steps to avoid, minimize and/or offset potential impacts to the Tangipahoa River:

1. Entergy identified the specific potential structural issue with each tower structure. This was accomplished by conducting an on-the-ground engineering survey of each structure and its foundation.
2. Entergy identified various engineering alternatives to achieve structural integrity, maintain reliability and protect the Tangipahoa River and the adjacent wetlands. These alternatives are:
 - a. Install additional structural support to the existing foundation plus coating the existing foundation with a protective coating to approximately three below ground surface. This alternative was dropped due to high cost and its short term structural reliability.
 - b. Remove the structural unsound part of the foundation and raise the foundation to compensate for the lost portion. This alternative was dropped due to structural integrity issues in carrying out this alternative.
 - c. Replace existing foundation with a new foundation requires a caisson designed foundation to meet new standards for electrical structures in this type of setting. This alternative was found to be favorable except the existing structure did not meet the new standard design for the new foundation and reliability standards.

- d. Replace the existing foundation and structure with a foundation and structure that met the new standards for such while retaining reliability standards. This alternative was selected.
 3. The method of installing and type of foundation (caisson) was also considered.
 - a. Digging a hole with an auger would require dredge and fill action to occur. A hole approximately 20 foot in depth and 50 inches in diameter would generate about 13 cubic yards of material which would be placed around the outside of the caisson. The new structure would be placed in the center of the foundation and concrete would be used as filler between the structure and the foundation. This action would require the hauling of approximately 6 cubic yards of concrete to each structure site. This alternative was found to have unacceptable impacts to the environment.
 - b. Use of a vibratory hammer to install the foundation (caisson) would result in no dredging. The new structure would be placed in the center of the foundation and concrete would be used as filler between the structure and the foundation. This action would require the hauling of approximately 1 cubic yards of concrete to each structure site. This alternative was selected for its minimum impact to the environment.
 4. The type of structure to replace the existing structure was also a consideration.
 - a. Concrete structures are longer lasting than metal structures and quicker to obtain but they are very significantly heavier (26,000-27,000 pounds) than metal structures (18,000 pounds) and require heavier equipment and a higher number of equipment needed for installation. This type of structure was dropped due to undesired environmental impacts occurring in transporting it.
 - b. Tubular metal structures are lighter and require less and lighter equipment for installation. They also can be air lifted

in segments to work sites while concrete structures great exceed the maximum lifting capable ability of any helicopter. This type of structure was selected due to minimum impacts to the environment.

5. Equipment required to install the new foundations (caissons) and structures was reviewed and selected on the basis of the minimum necessary to conduct the work and cause minimum impact to the wetlands and river.
 - a. Airboats will be used for daily travel.
 - b. Marsh buggies will be used for installing the new foundations and structures. The buggies will travel only within the right-of-way and in one direction with one pass.
 - c. Helicopters will be used for airlifting the new foundations and structures in and lifting the existing structures out. This eliminates the need for extra buggies to carry new foundations and structures in and existing structures out.
6. Entergy considered an alternative route for this line but found this to be unacceptable.
 - a. A new route would require a new crossing of the Tangipahoa River since this scenic river starts at the state line and ends at Lake Pontchartrain, any route would have to cross the river at an undisturbed and scenic site.
 - b. A new route would require going through additional forested wetlands and result in significant unnecessary adverse impacts to wetlands or other sensitive habitats. The cost of this line would be approximately 51 million dollars not counting wetland mitigation cost.
 - c. A new route would be required to avoid residential and commercial areas leaving the forested wetlands the only possible alternative route.
 - i. Any route in the forested area would very likely involve going through the Joyce Wildlife Management Area which would require a new right-of-way

agreement and unnecessary adverse impacts to the WMA and forested wetlands.

- ii. A new route would have a greater opportunity to impact wading bird rookeries and Bald Eagle nesting sites.
 - iii. A new route would require a year to install and result in adverse impacts to the users of the river and surrounding area.
- d. A new route in non-wetland area is not possible for two reasons.
- i. There is no route that would totally avoid wetlands.
 - ii. Due to development that has occurred in the area, significant impacts to commercial and residential areas would occur. It is unlikely that the FERC and the Louisiana Public Service Commission would approve such a route. Also approvals would also be required from the Corps of Engineers and Louisiana Department of Natural Resources Office of Coastal Management.
- e. The No Action alternative was considered but eliminated due to the reliability requirements previously stated.



State of Louisiana

BOBBY JINDAL
GOVERNOR

DEPARTMENT OF WILDLIFE AND FISHERIES

ROBERT J. BARHAM
SECRETARY

Dear Scenic River Permit Applicant:

Please review and concur on the following statement regarding the issuance of permits by the Louisiana Department of Wildlife and Fisheries. This agreement must be signed and returned before a Scenic River Permit can be issued.

"I have been advised and do understand that by applying for and accepting a Scenic Rivers permit issued by the Louisiana Department of Wildlife and Fisheries, I am being allowed to engage in an activity which would otherwise be prohibited by law or for which a permit is required. I understand that the permit is not a license and confers no property right upon me. I specifically agree to abide by all State and Federal fish and wildlife laws and regulations, and all State and Federal laws and regulations which relate to this permit or the permitted activity, and by all other terms and conditions of this permit. I understand that the permit for which I am applying may be suspended, annulled, withdrawn or revoked and that I may be assessed civil penalties, all in accordance with the provision of the Louisiana Administrative Procedure Act, and that I may be denied future permits as a consequence of my failure to fully and completely comply with the terms and conditions of the permit, as well as other laws and regulations pertinent thereto. If served with or notified of a cease and desist order signed by the Scenic Rivers Administrator, I agree to immediately and without delay cease all activities and operations which relate to the permitted activity or which are impacting the Scenic River, until such time as the matter can be resolved in an adjudicatory hearing pursuant to the Louisiana Administrative Procedure Act. I understand and agree that any permit issued to me by the Louisiana Department of Wildlife and Fisheries is in the nature of a privilege which is being voluntarily extended to me by the Department and the failure on my part to cooperate with the Department can result in the loss of the privilege conferred and the denial of future requests for permits. By accepting this permit, I evidence my agreement to be bound by all conditions and stipulations set forth herein."

Handwritten signature of Fred O. Dubois in black ink.

Authorized Signature

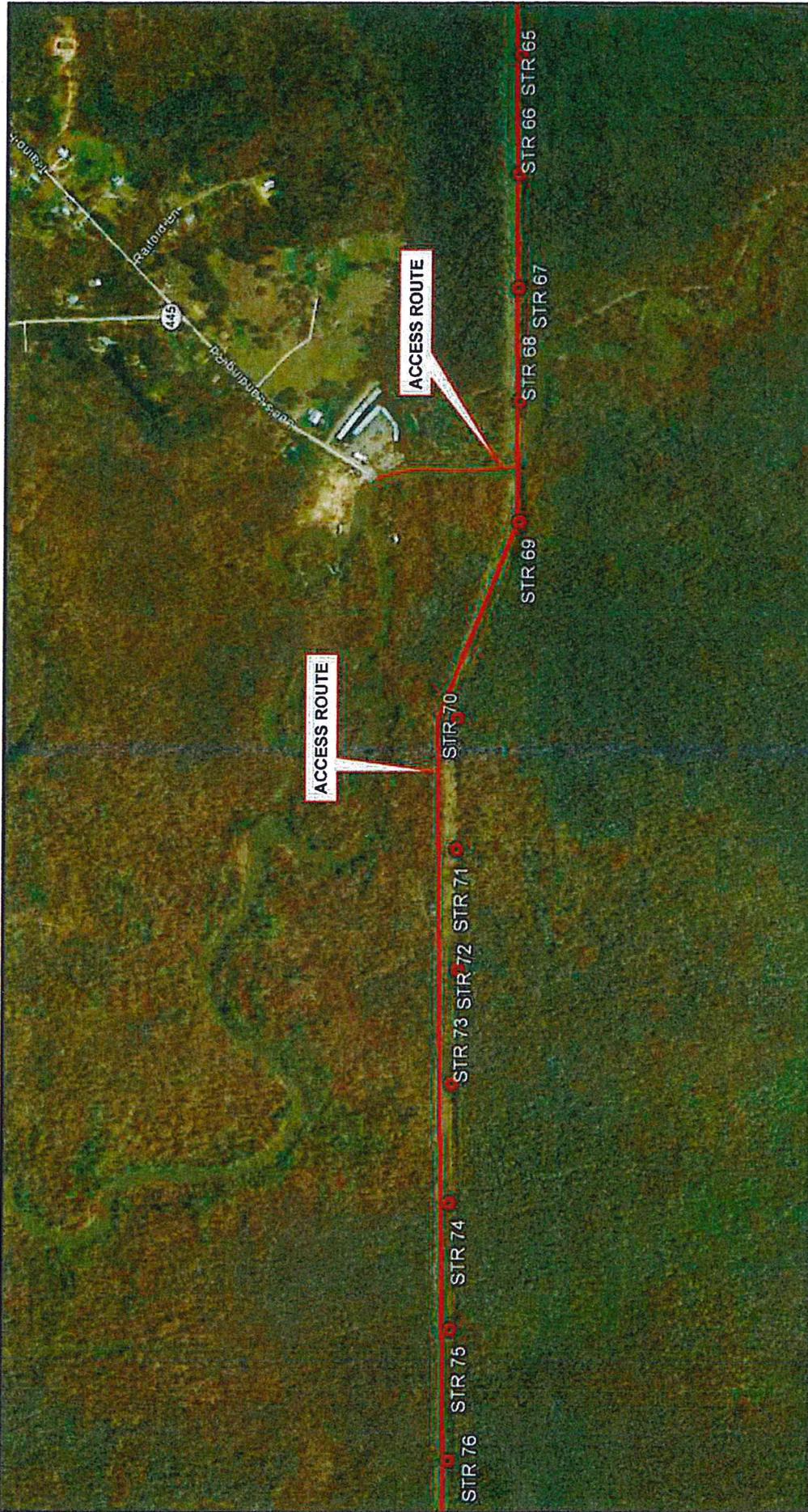
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Date

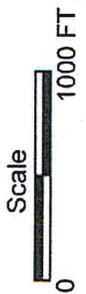
REV. 12/7/98

NO ON-THE-GROUND EFFORT HAS BEEN MADE TO LOCATE AND INDICATE ALL CABLES, PIPELINES, UTILITIES, ETC. CROSSED BY THE PROPOSED PROJECT; THEREFORE, KOURCO ENVIRONMENTAL SERVICES, INC. IS NOT RESPONSIBLE FOR ANY NOT LOCATED DURING THE COURSE OF THE PROJECT.

NOTE: THIS PLAT WAS PREPARED FOR PERMITTING PURPOSES ONLY, AND IS NOT A PROPERTY BOUNDARY SURVEY AND AS SUCH DOES NOT COMPLY WITH THE "MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS" AS ADOPTED BY THE LOUISIANA PROFESSIONAL ENGINEERING AND LAND SURVEYING BOARD.



Sections 28, 29, 30, 31, 32, 33, 34, 35 and 36
 T07S R07E, R08E, R09E and R10E
 Tangipahoa and St. Tammany Parishes



Project: ENTERGY LOUISIANA LLC Ponchatoula-Madisonville Foundation Survey STRs 10-124	
Date: 05/14/2014	Project No.: 131065-01
Drawn By: MKM	
Figure Title: PROJECT SITE MAP STRs 65-76	
Figure No.: 10 of 21	

Ponchatoula-Madisonville Foundation

Structure No	Laititude	Longitude	Latitude Converted to Decimal	Longitude Converted to Decimal
10	30°24'55.59"N	90°11'45.93"W	30.41544167	-90.19609167
11	30°24'52.33"N	90°11'53.19"W	30.41453611	-90.19810833
12	30°24'49.03"N	90°12'0.48"W	30.41361944	-90.20013333
13	30°24'45.71"N	90°12'7.76"W	30.41269722	-90.20215556
14	30°24'42.47"N	90°12'15.06"W	30.41179722	-90.20418333
15	30°24'39.18"N	90°12'22.33"W	30.41088333	-90.20620278
16	30°24'35.90"N	90°12'29.58"W	30.40997222	-90.20821667
17	30°24'33.21"N	90°12'35.68"W	30.40922500	-90.20991111
18	30°24'29.89"N	90°12'41.40"W	30.40830278	-90.21150000
19	30°24'26.04"N	90°12'48.21"W	30.40723333	-90.21339167
20	30°24'22.20"N	90°12'55.02"W	30.40616667	-90.21528333
21	30°24'18.28"N	90°13'1.94"W	30.40507778	-90.21720556
22	30°24'14.32"N	90°13'8.91"W	30.40397778	-90.21914167
23	30°24'10.84"N	90°13'15.05"W	30.40301111	-90.22084722
24	30°24'7.54"N	90°13'20.93"W	30.40209444	-90.22248056
25	30°24'1.40"N	90°13'31.78"W	30.40038889	-90.22549444
26	30°23'58.10"N	90°13'37.48"W	30.39947222	-90.22707778
27	30°23'54.72"N	90°13'43.48"W	30.39853333	-90.22874444
28	30°23'51.29"N	90°13'49.53"W	30.39758056	-90.23042500
30	30°23'51.44"N	90°14'8.37"W	30.39762222	-90.23565833
31	30°23'51.51"N	90°14'17.72"W	30.39764167	-90.23825556
32	30°23'51.59"N	90°14'27.11"W	30.39766389	-90.24086389
34	30°23'51.76"N	90°14'45.53"W	30.39771111	-90.24598056
35	30°23'51.86"N	90°14'54.67"W	30.39773889	-90.24851944
36	30°23'51.97"N	90°15'3.77"W	30.39776944	-90.25104722
37	30°23'55.23"N	90°15'10.84"W	30.39867500	-90.25301111
38	30°23'58.45"N	90°15'17.86"W	30.39956944	-90.25496111
39	30°24'1.71"N	90°15'24.96"W	30.40047500	-90.25693333
40	30°24'4.92"N	90°15'31.96"W	30.40136667	-90.25887778
41	30°24'4.93"N	90°15'39.47"W	30.40136944	-90.26096389
42	30°24'4.87"N	90°15'48.12"W	30.40135278	-90.26336667
43	30°24'4.84"N	90°15'56.92"W	30.40134444	-90.26581111
44	30°24'4.71"N	90°16'5.59"W	30.40130833	-90.26821944
45	30°24'4.70"N	90°16'14.26"W	30.40130556	-90.27062778
46	30°24'4.65"N	90°16'22.91"W	30.40129167	-90.27303056
47	30°24'4.54"N	90°16'30.93"W	30.40126111	-90.27525833
48	30°24'4.51"N	90°16'37.74"W	30.40125278	-90.27715000
49	30°24'5.31"N	90°16'44.53"W	30.40147500	-90.27903611
50	30°24'6.09"N	90°16'51.36"W	30.40169167	-90.28093333
51	30°24'6.11"N	90°16'58.20"W	30.40169722	-90.28283333
52	30°24'6.18"N	90°17'6.68"W	30.40171667	-90.28518889
53	30°24'6.26"N	90°17'15.16"W	30.40173889	-90.28754444
54	30°24'6.32"N	90°17'23.60"W	30.40175556	-90.28988889
55	30°24'6.38"N	90°17'32.11"W	30.40177222	-90.29225278
56	30°24'6.49"N	90°17'40.50"W	30.40180278	-90.29458333
57	30°24'6.40"N	90°17'49.16"W	30.40177778	-90.29698889
58	30°24'6.36"N	90°17'57.85"W	30.40176667	-90.29940278
59	30°24'6.31"N	90°18'6.54"W	30.40175278	-90.30181667
60	30°24'6.20"N	90°18'15.26"W	30.40172222	-90.30423889
61	30°24'6.09"N	90°18'23.98"W	30.40169167	-90.30666111

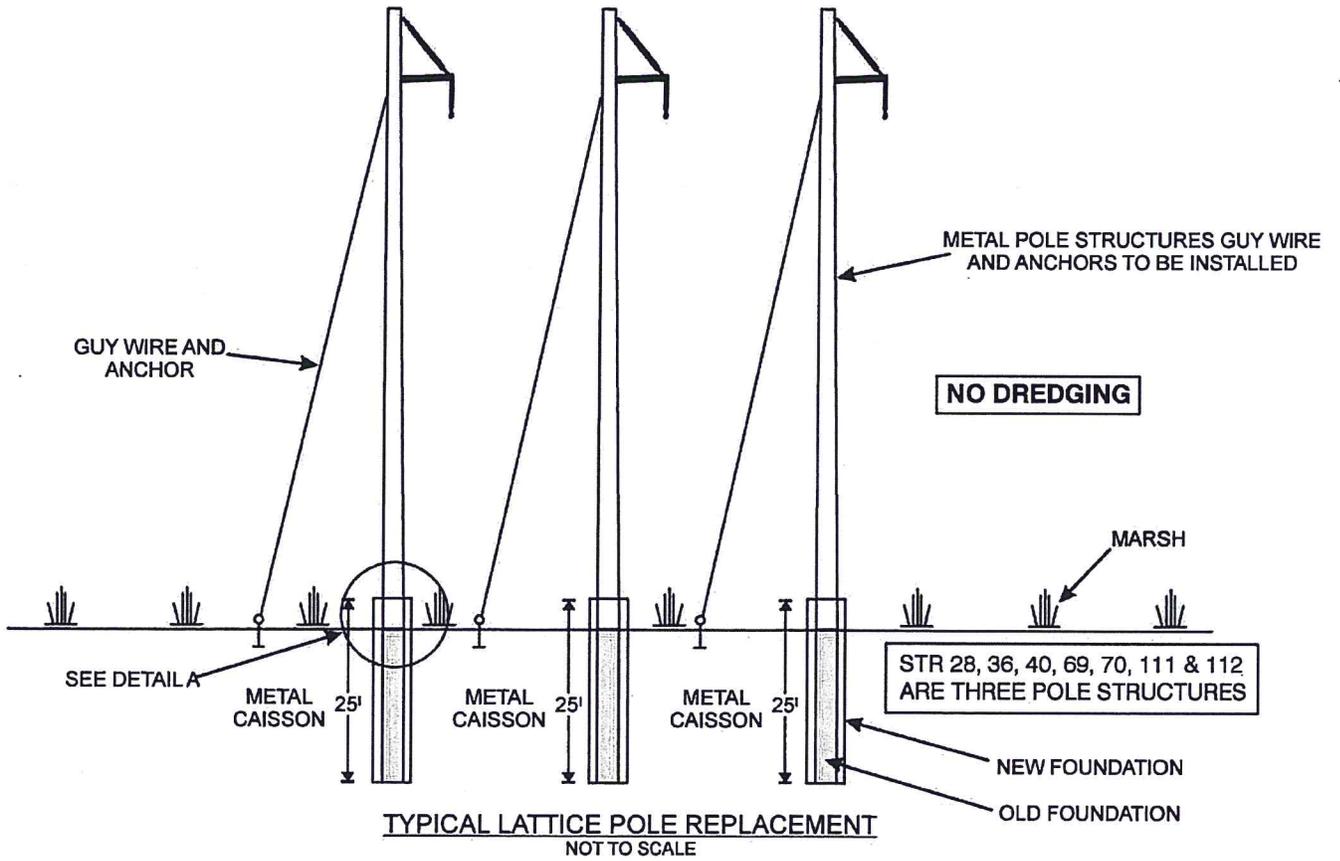
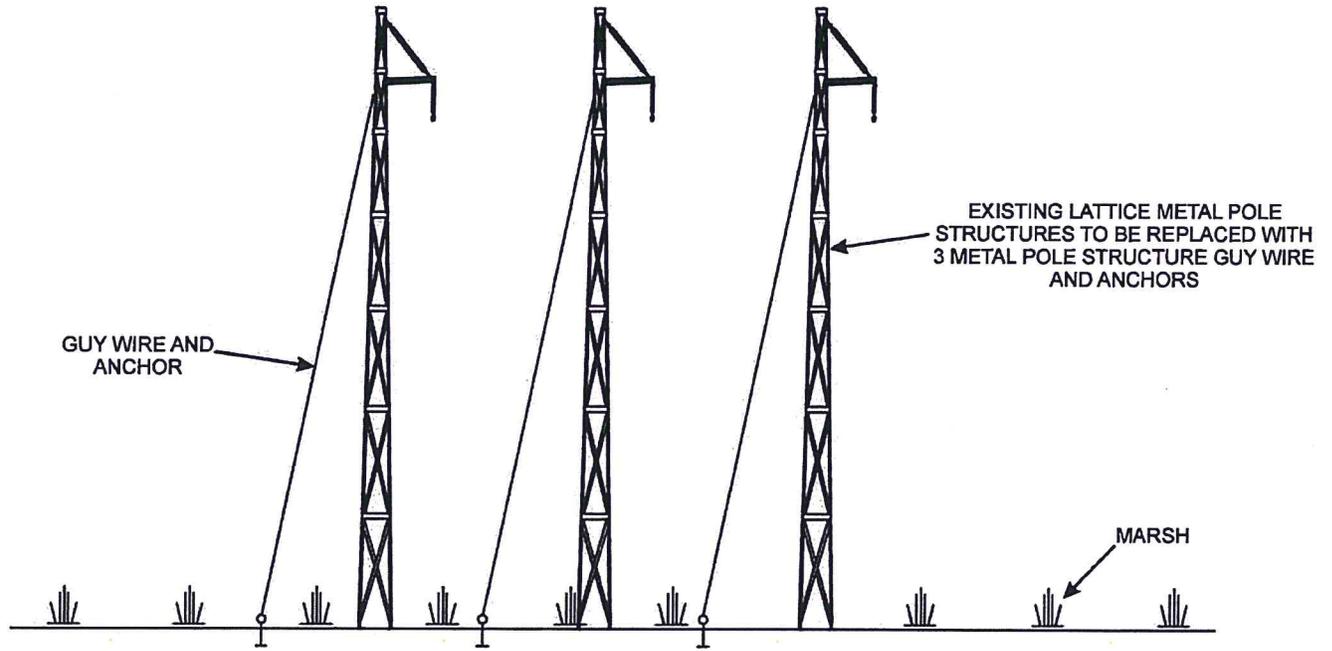
	Project: ENTERGY LOUISIANA LLC Ponchatoula-Madisonville Foundation Survey STRs 10-124	
	Date: 05/12/2014	Project No.: 131065-01
	Drawn By: MKM	
	Figure Title: STRUCTURE COORDINATES	Figure No.: 2 of 21

Structure No	Latitude	Longitude	Latitude Converted to Decimal	Longitude Converted to Decimal
62	30°24'6.00"N	90°18'32.77"W	30.40166667	-90.30910278
63	30°24'5.93"N	90°18'41.48"W	30.40164722	-90.31152222
64	30°24'5.93"N	90°18'49.57"W	30.40164722	-90.31376944
65	30°24'5.89"N	90°18'57.81"W	30.40163611	-90.31605833
66	30°24'5.86"N	90°19'5.89"W	30.40162778	-90.31830278
67	30°24'5.84"N	90°19'13.65"W	30.40162222	-90.32045833
68	30°24'5.80"N	90°19'21.39"W	30.40161111	-90.32260833
69	30°24'5.87"N	90°19'29.60"W	30.40163056	-90.32488889
70	30°24'9.22"N	90°19'42.68"W	30.40256111	-90.32852222
71	30°24'9.31"N	90°19'51.63"W	30.40258611	-90.33100833
72	30°24'9.42"N	90°19'59.70"W	30.40261667	-90.33325000
73	30°24'9.48"N	90°20'7.64"W	30.40263333	-90.33545556
74	30°24'9.54"N	90°20'15.78"W	30.40265000	-90.33771667
75	30°24'9.60"N	90°20'24.37"W	30.40266667	-90.34010278
76	30°24'9.68"N	90°20'32.96"W	30.40268889	-90.34248889
77	30°24'9.61"N	90°20'39.88"W	30.40266944	-90.34441111
78	30°24'9.47"N	90°20'46.68"W	30.40263056	-90.34630000
79	30°24'9.48"N	90°20'54.73"W	30.40263333	-90.34853611
80	30°24'9.45"N	90°21'3.60"W	30.40262500	-90.35100000
81	30°24'9.45"N	90°21'12.49"W	30.40262500	-90.35346944
82	30°24'9.42"N	90°21'21.82"W	30.40261667	-90.35606111
83	30°24'9.37"N	90°21'31.23"W	30.40260278	-90.35867500
84	30°24'9.35"N	90°21'40.55"W	30.40259722	-90.36126389
85	30°24'9.34"N	90°21'49.15"W	30.40259444	-90.36365278
86	30°24'9.44"N	90°21'57.70"W	30.40262222	-90.36602778
87	30°24'9.50"N	90°22'6.42"W	30.40263889	-90.36845000
88	30°24'9.57"N	90°22'15.25"W	30.40265833	-90.37090278
89	30°24'9.65"N	90°22'24.59"W	30.40268056	-90.37349722
90	30°24'9.71"N	90°22'33.84"W	30.40269722	-90.37606667
91	30°24'9.77"N	90°22'43.09"W	30.40271389	-90.37863611
92	30°24'9.89"N	90°22'52.27"W	30.40274722	-90.38118611
93	30°24'9.98"N	90°23'1.54"W	30.40277222	-90.38376111
94	30°24'9.99"N	90°23'10.85"W	30.40277500	-90.38634722
95	30°24'10.09"N	90°23'20.09"W	30.40280278	-90.38891389
96	30°24'10.15"N	90°23'29.30"W	30.40281944	-90.39147222
97	30°24'10.25"N	90°23'38.58"W	30.40284722	-90.39405000
98	30°24'10.27"N	90°23'47.86"W	30.40285278	-90.39662778
99	30°24'10.36"N	90°23'57.12"W	30.40287778	-90.39920000
100	30°24'10.47"N	90°24'6.32"W	30.40290833	-90.40175556
101	30°24'10.48"N	90°24'15.54"W	30.40291111	-90.40431667
102	30°24'10.58"N	90°24'24.83"W	30.40293889	-90.40689722
103	30°24'10.65"N	90°24'34.11"W	30.40295833	-90.40947500
104	30°24'10.71"N	90°24'43.35"W	30.40297500	-90.41204167
105	30°24'10.77"N	90°24'52.60"W	30.40299167	-90.41461111
106	30°24'10.87"N	90°25'1.89"W	30.40301944	-90.41719167
107	30°24'10.94"N	90°25'11.11"W	30.40303889	-90.41975278
108	30°24'11.02"N	90°25'20.42"W	30.40306111	-90.42233889
109	30°24'11.10"N	90°25'29.68"W	30.40308333	-90.42491111
110	30°24'11.17"N	90°25'38.90"W	30.40310278	-90.42747222
111	30°24'11.29"N	90°25'47.67"W	30.40313611	-90.42990833
112	30°24'11.41"N	90°26'2.63"W	30.40316944	-90.43406389
113	30°24'17.13"N	90°26'8.77"W	30.40475833	-90.43576944
114	30°24'22.92"N	90°26'14.99"W	30.40636667	-90.43749722
115	30°24'28.74"N	90°26'21.24"W	30.40798333	-90.43923333
116	30°24'34.55"N	90°26'27.39"W	30.40959722	-90.44094167

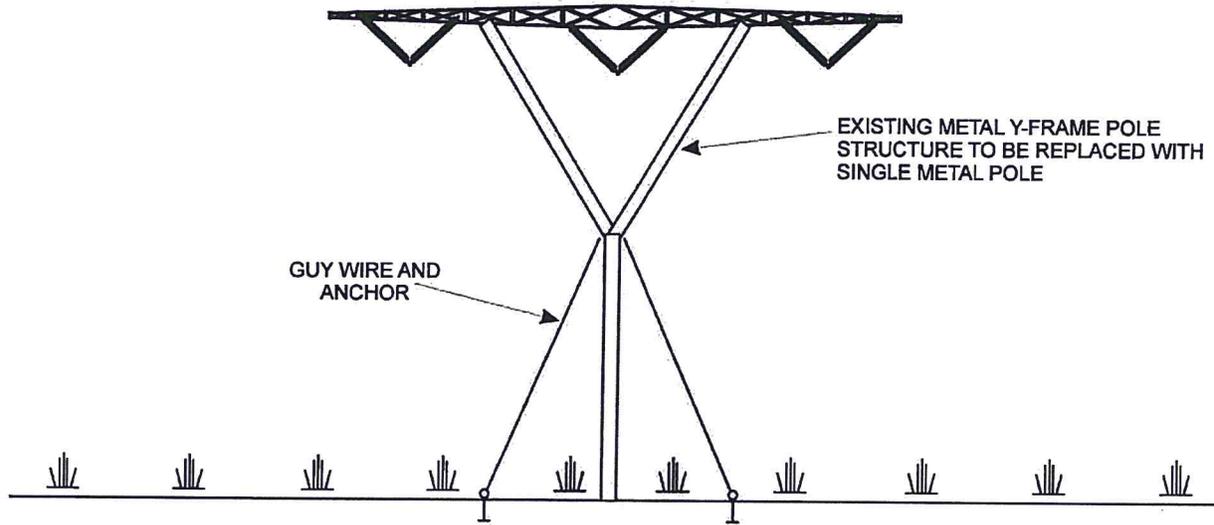
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	Date: 05/12/2014	Project No.: 131065-01
	Drawn By: MKM	
	Figure Title: STRUCTURE COORDINATES	Figure No.: 3 of 21

Structure No	Latitude	Longitude	Latitude Converted to Decimal	Longitude Converted to Decimal
117	30°24'40.33"N	90°26'33.63"W	30.41120278	-90.44267500
118	30°24'45.77"N	90°26'39.44"W	30.41271389	-90.44428889
119	30°24'51.26"N	90°26'45.28"W	30.41423889	-90.44591111
120	30°24'56.68"N	90°26'51.06"W	30.41574444	-90.44751667
121	30°25'2.08"N	90°26'56.90"W	30.41724444	-90.44913889
122	30°25'7.54"N	90°27'2.73"W	30.41876111	-90.45075833
123	30°25'12.96"N	90°27'8.51"W	30.42026667	-90.45236389
124	30°25'18.39"N	90°27'14.36"W	30.42177500	-90.45398889

	Project: ENTERGY LOUISIANA LLC Pontchatoula-Madisonville Foundation Survey STRs 10-124	
	Date: 05/12/2014	Project No.: 131065-01
	Drawn By: MKM	
	Figure Title: STRUCTURE COORDINATES	Figure No.: 4 of 21

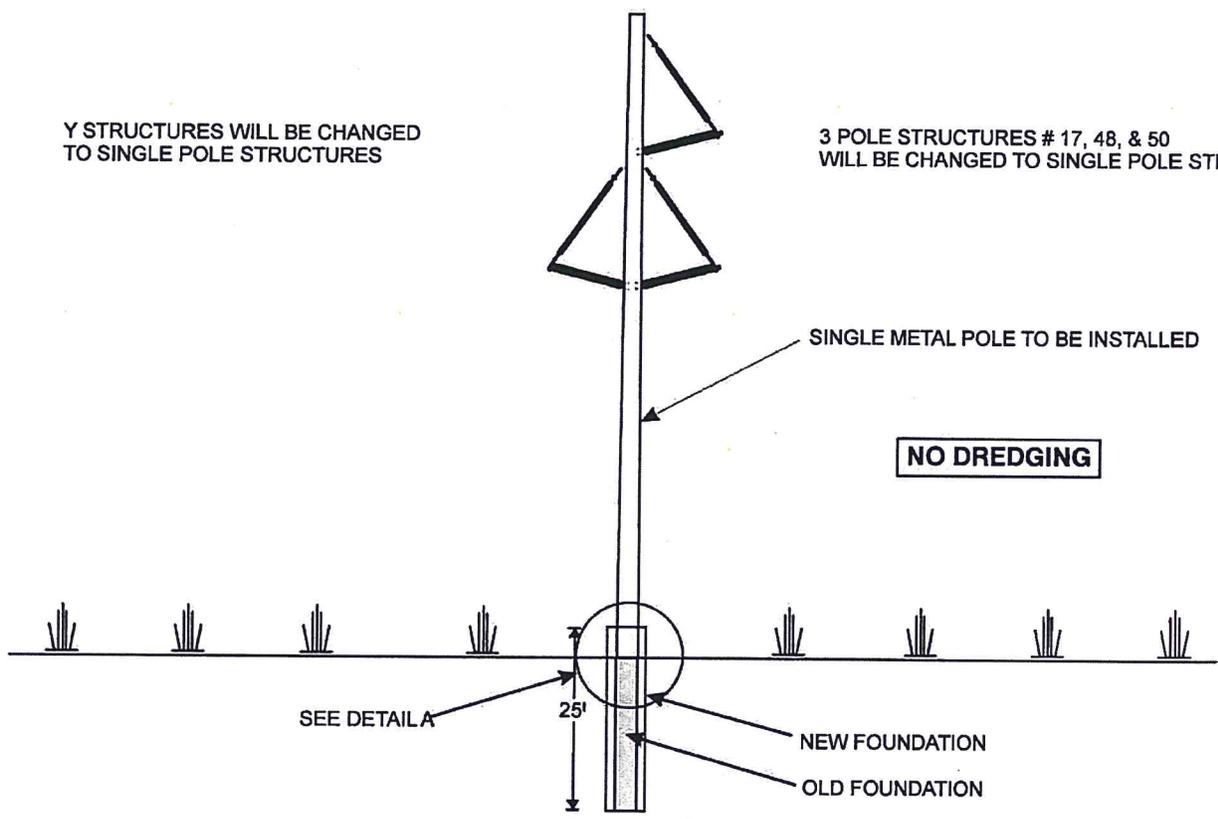


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	Date: 05/12/2014	Project No.: 131065-01
	Drawn By: MKM	Scale = N.T.S
	Figure Title: TYPICAL LATTICE POLE REPLACEMENT	
		Figure No.: 16 of 21



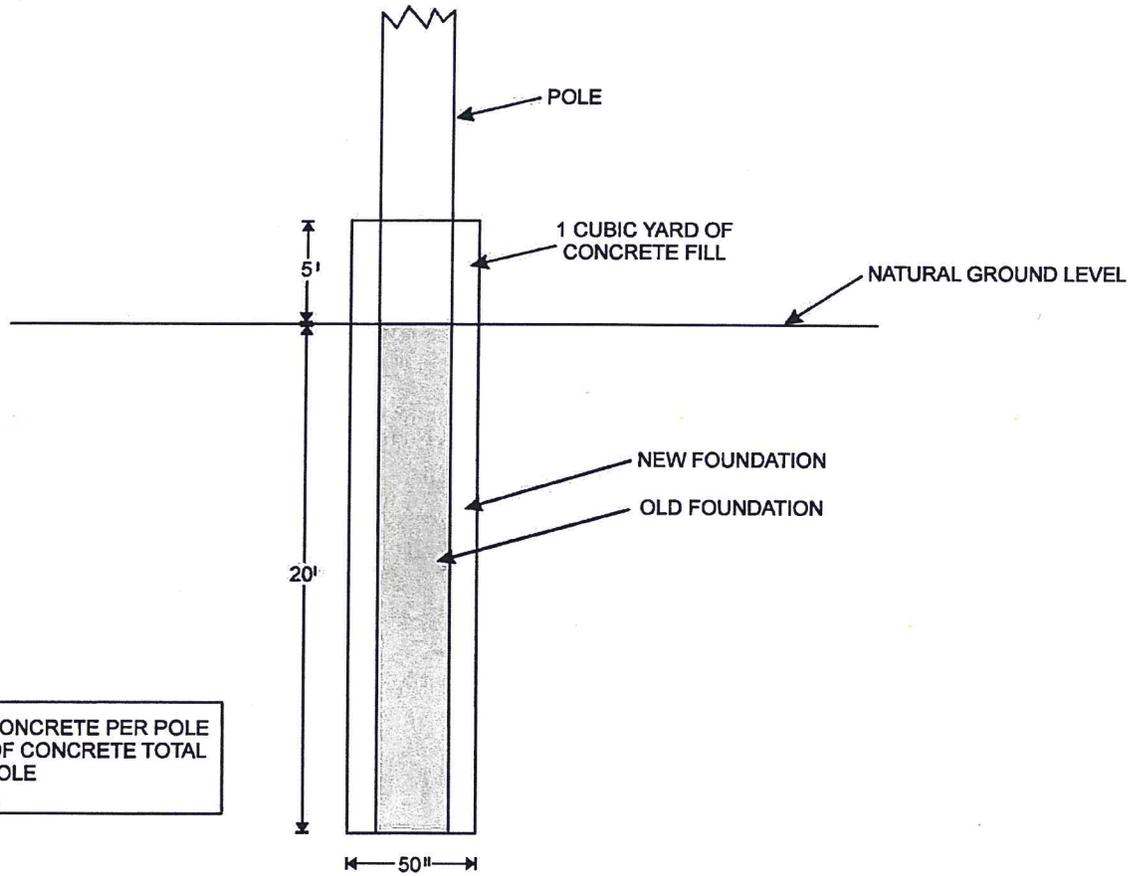
Y STRUCTURES WILL BE CHANGED TO SINGLE POLE STRUCTURES

3 POLE STRUCTURES # 17, 48, & 50 WILL BE CHANGED TO SINGLE POLE STRUCTURES



TYPICAL Y POLE REPLACEMENT
NOT TO SCALE

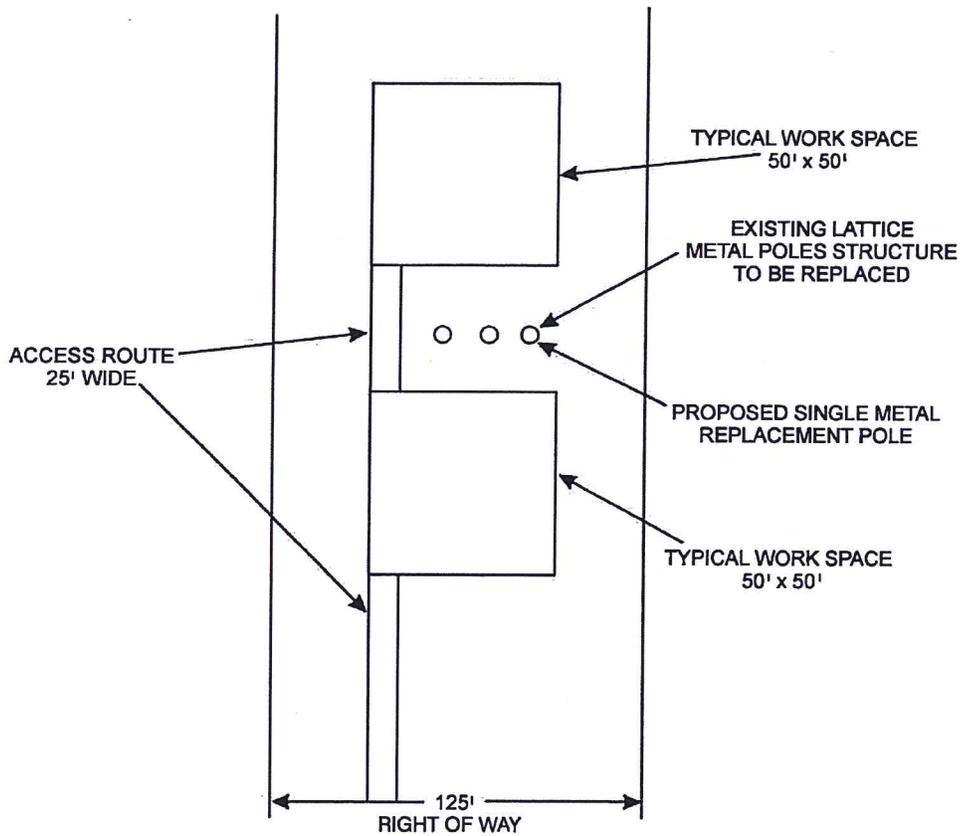
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	Date: 05/12/2014	Project No.: 131065-01
	Drawn By: MKM	
	Figure Title: TYPICAL Y POLE REPLACEMENT	Figure No.: 17 of 21



1 CUBIC YARD OF CONCRETE PER POLE
 129 CUBIC YARDS OF CONCRETE TOTAL
 0.007 ACRES PER POLE
 0.038 ACRES TOTAL

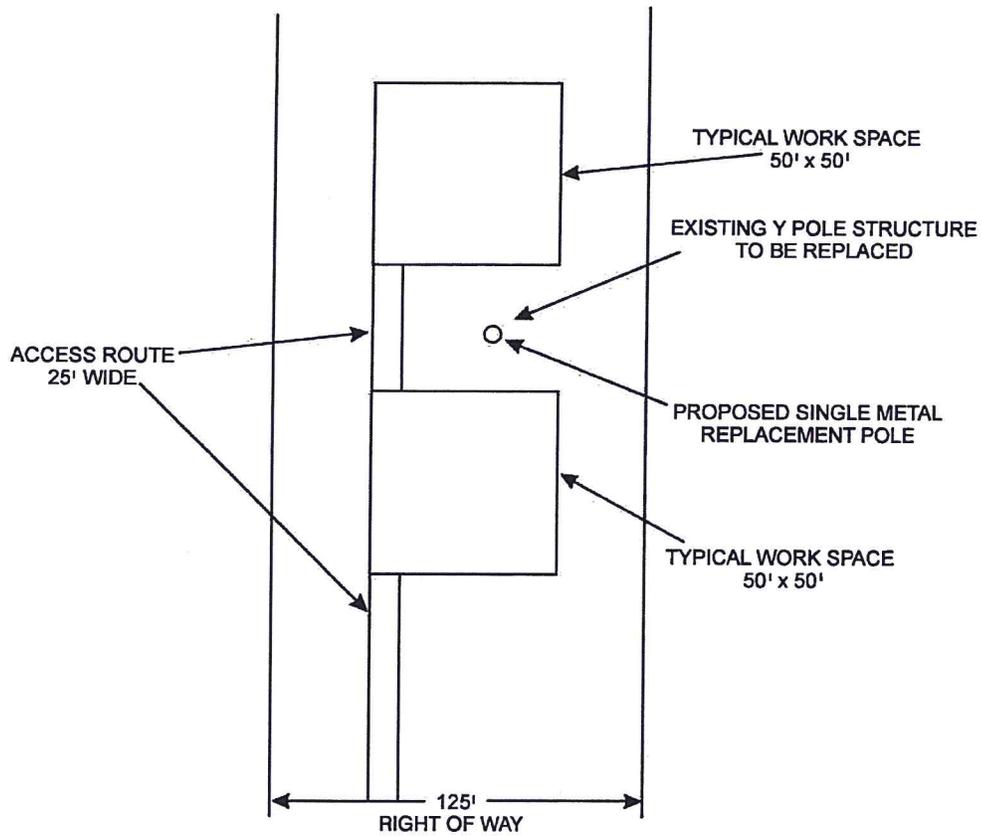
DETAIL A - SOCKET TYPE CONNECTION
 NOT TO SCALE

	Project: ENTERGY LOUISIANA LLC Pontchatoula-Madisonville Foundation Survey STRs 10-124	
	Date: 05/12/2014	Project No.: 131065-01
	Drawn By: MKM	
	Figure Title: DETAIL A - SOCKET TYPE CONNECTION	Figure No.: 18 of 21



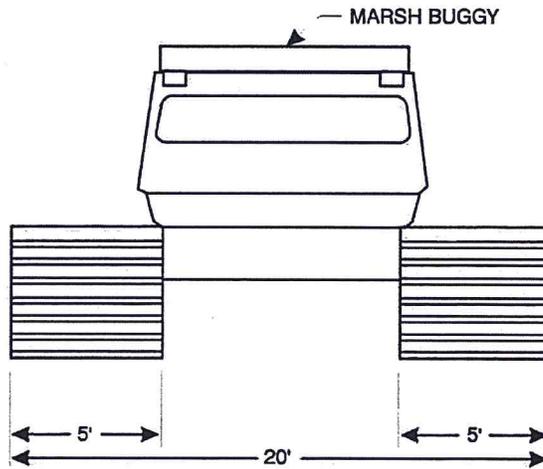
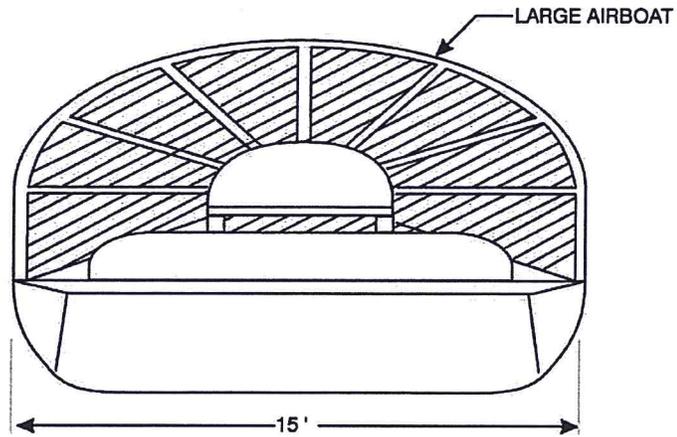
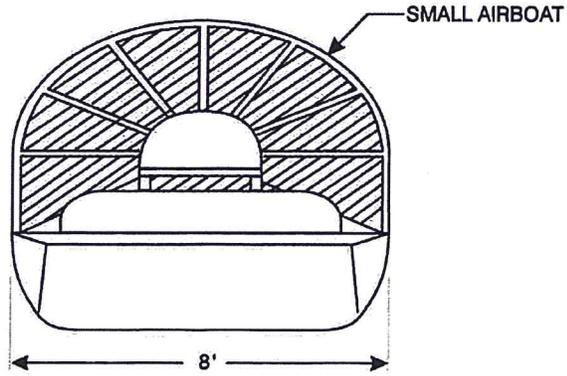
TYPICAL LATTICE 3 POLE REPLACEMENT AND RIGHT-OF-WAY
 NOT TO SCALE

	Project: ENERGY LOUISIANA LLC Pontchatoula-Madisonville Foundation Survey STRs 10-124	
	Date: 05/12/2014	Project No.: 131065-01
	Drawn By: MKM	
	Figure Title: Typical Lattice Pole Replacement and Right of Way	Figure No.: 19 of 21



TYPICAL Y POLE REPLACEMENT AND RIGHT-OF-WAY
NOT TO SCALE

	Project: ENTERGY LOUISIANA LLC Pontchatoula-Madisonville Foundation Survey STRs 10-124	
	Date: 05/12/2014	Project No.: 131065-01
	Drawn By: MKM	
	Figure Title: Typical Y Pole Replacement and Right of Way	Figure No.: 20 of 21



TYPICAL EQUIPMENT
NOT TO SCALE

	Project: ENTERGY LOUISIANA LLC Pontchatoula-Madisonville Foundation Survey STRs 10-124		
	Date: 05/12/2014	Project No.: 131065-01	
	Drawn By: MKM		
	Figure Title: Typical Equipment		Figure No.: 21 of 21

RAINFALL DATA FOR 2nd QUARTER 2014
ANGCO

DATE	AMOUNT OF RAINFALL (inches)	LENGTH OF STORM (hours)	DISCHARGE (mgd)
04/04/14	1	2 hrs	-
04/07/14	1 ¼	6 hrs	-
04/15/14	½	1 hrs	-
05/09/14	¾	2 hrs	-
05/12/14	1	4 hrs	-
05/14/14	¼	2 hrs	-
05/28/14	13	6 hrs	-
05/29/14	1	4 hrs	-
05/30/14	¾	2 hrs	-
06/02/14	1 ¼	4 hrs	-
06/03/14	¼	6 hrs	-
06/10/14	4 ½	6 hrs	-
06/13/14	2	2 hrs	-
06/25/14	3	4 hrs	-
06/26/14	1	4 hrs	-
06/26/14	¼	2 hrs	-

FIGURE 3

LOOKING EASTWARD FROM TANGIPAHOA RIVER AT STRUCTURE 68

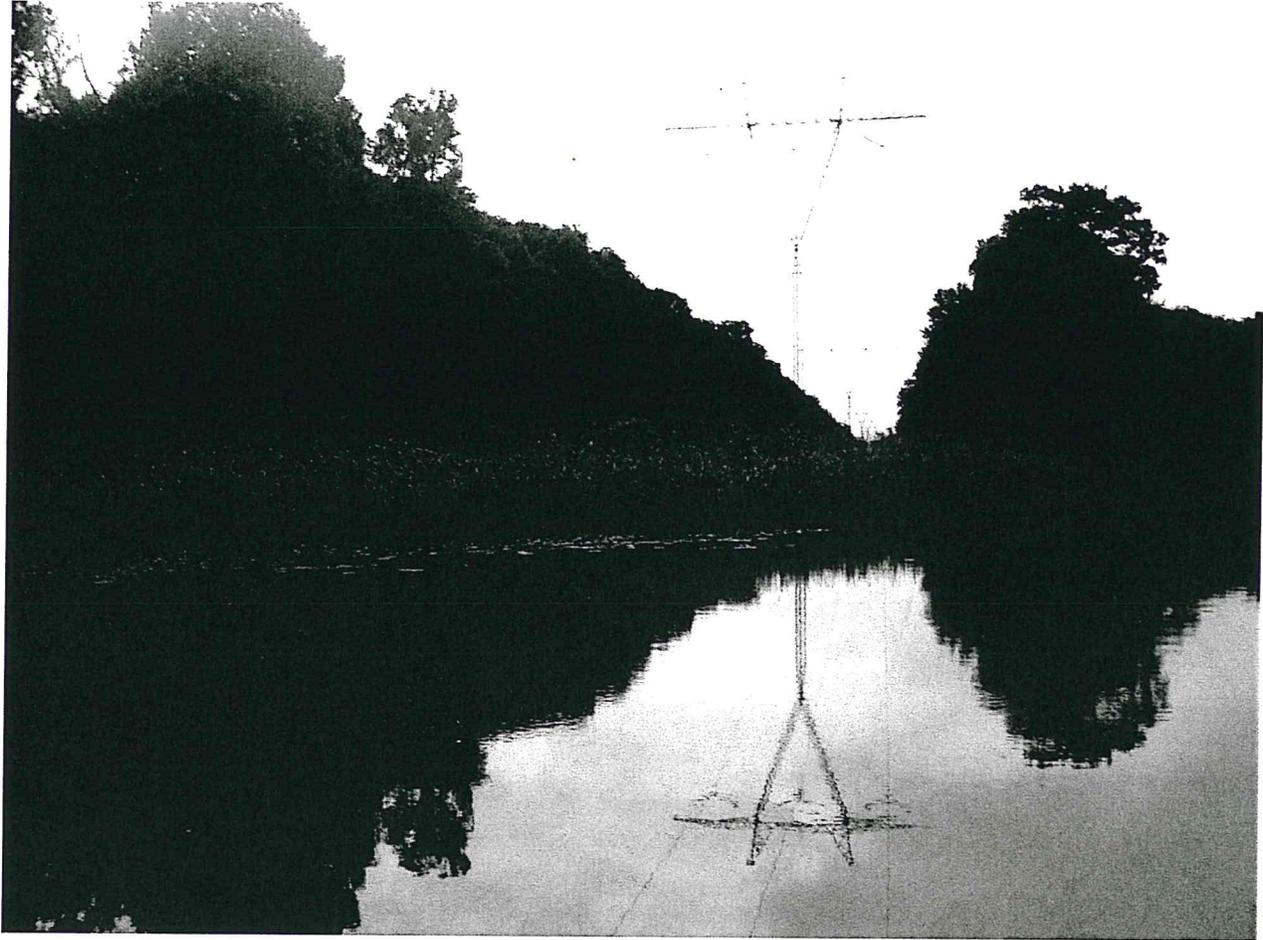


FIGURE 4

LOOKING AT STRUCTRE 69 FROM TANGIPHOA RIVER WITH GREEN
BELT



FIGURE 6

LOOKING WEST FROM TANGIPAHOA RIVER AT STRUCTURE 69

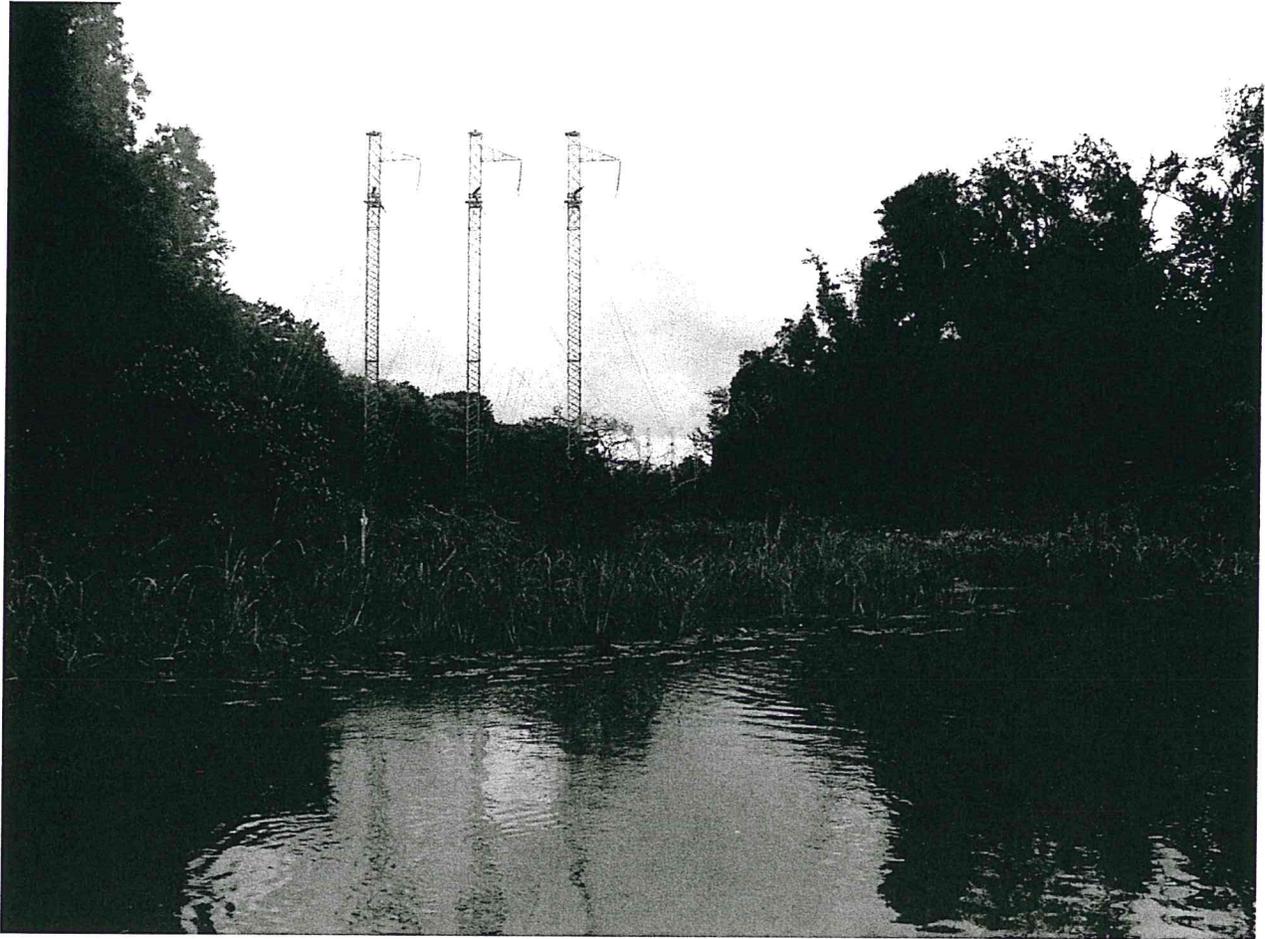


FIGURE 10

LOOKING UPSTREAM FROM ENTERGY'S RIGHT-OF-WAY



FIGURE 11

LOOKING DOWNSTREAM FROM ENTERGY'S RIGHT-OF-WAY

