

SEPTEMBER 2018

CLECO POWER LLC BRAME ENERGY CENTER



FAULT AREAS ASSESSMENT

FLY ASH POND

Prepared By:

**Providence Engineering and
Environmental Group LLC**

1201 Main Street

Baton Rouge, Louisiana 70802

(225) 766-7400

www.providenceeng.com

Project Number 002-213



TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION	1
2.0 FAULT AREAS ASSESSMENT.....	1
3.0 CONCLUSION	1

LIST OF FIGURES

<u>Figure</u>	
1	Site Location Map
2	Site Map
3	Fault Location Map

LIST OF APPENDICES

<u>Appendix</u>	
A	P.E. Certification

1.0 INTRODUCTION

Providence was contracted by Cleco Power LLC (Cleco) to conduct a fault areas assessment of the Fly Ash Pond at Cleco's Brame Energy Center. Recent Coal Combustion Residual (CCR) regulations at 40 CFR 257.62 established requirements for owners and operators to conduct a fault areas assessment by a qualified professional engineer.

40 CFR 257.62 (a) states:

New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located within 60 meters (200 feet) of the outermost damage zone of a fault that has had displacement in Holocene time unless the owner or operator demonstrates by the dates specified in paragraph (c) of this section that an alternative setback distance of less than 60 meters (200 feet) will prevent damage to the structural integrity of the CCR unit.

The Cleco Brame Energy Center is located near Lena in Rapides Parish, Louisiana. A site location map showing the Brame Energy Center is included as **Figure 1**.

This fault areas assessment pertains to the Fly Ash surface impoundment (Pond) utilized for the Unit 2 coal-fired generation unit. A site map for the Fly Ash Pond is included as **Figure 2**. For an existing CCR surface impoundment, the fault areas assessment must be completed no later than October 17, 2018.

2.0 FAULT AREAS ASSESSMENT

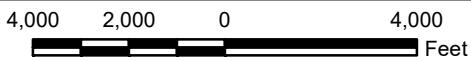
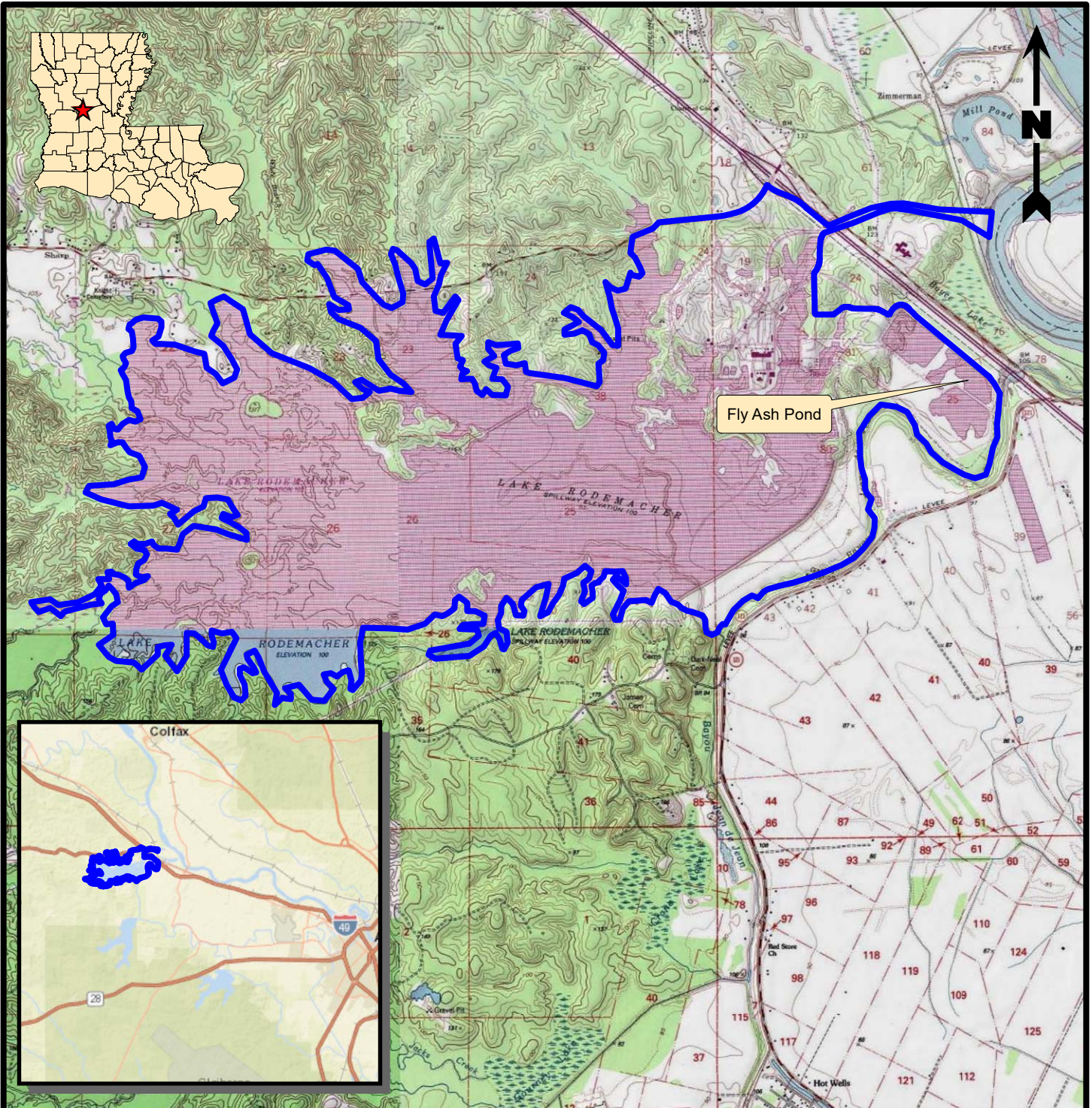
40 CFR 257.53 states that a fault is a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side. It also states that Holocene means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch, at 11,700 years before present, to present.

The fault locator map created on the USGS website, Mineral Resources, Online Spatial Data, By State (<https://mrdata.usgs.gov/geology/state/state.php?state=LA>) indicates no faults located within 60 meters (200 feet). This 200-foot buffer is shown in **Figure 3**.

3.0 CONCLUSION

Based on the results from the fault areas assessment for the Fly Ash Pond, Providence concludes that the surface impoundment is not located within 60 meters (200 feet) of the outermost damage zone of a fault that has had displacement in Holocene time. The Fly Ash Pond meets the requirements at 257.62 of the CCR regulations. **Appendix A** contains a P.E. Certification that attests to this assessment.

FIGURE 1
SITE LOCATION MAP



Legend

Property Boundary

Reference

Base map comprised of U.S.G.S. 7.5 minute topographic maps, "Lena, LA", "Boyce, LA", "Jericho, LA", and "Gardner, LA".

Site Location Map

Fault Areas Assessment - Fly Ash Pond
Boyce, Rapides Parish, Louisiana

Cleco Power LLC
Brame Energy Center

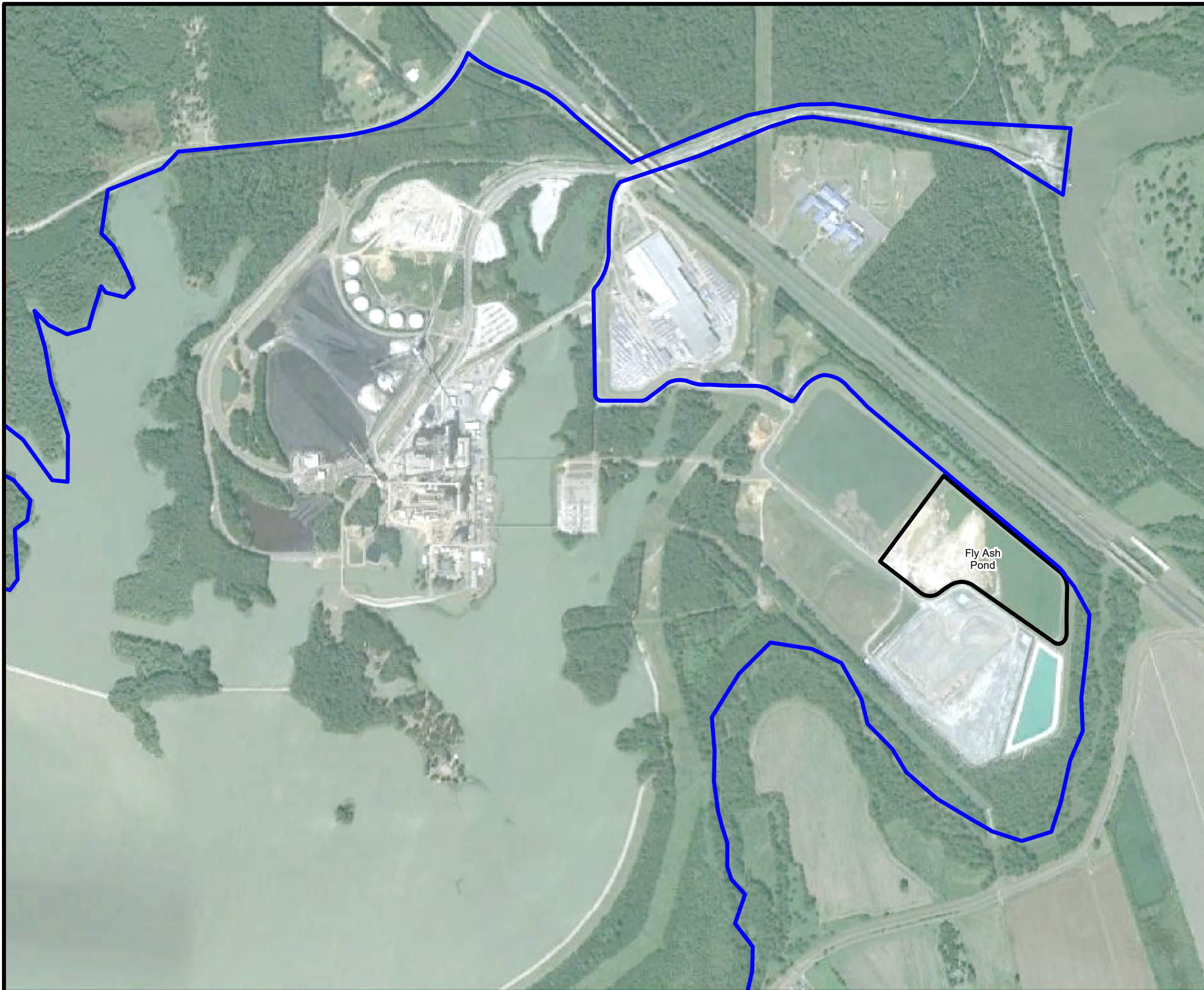


PROVIDENCE

Drawn By	LMM	06/21/17
Checked By	LMH	06/21/17
Approved By	CVH	06/21/17

Project Number	002-213	1 Figure
Drawing Number	002-213-A003	

FIGURE 2
SITE MAP

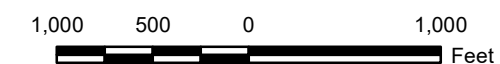


Legend

- Property Boundary
- Fly Ash Pond

Reference

Base map comprised of Google Earth aerial imagery from 10/03/14.



Site Map

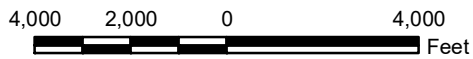
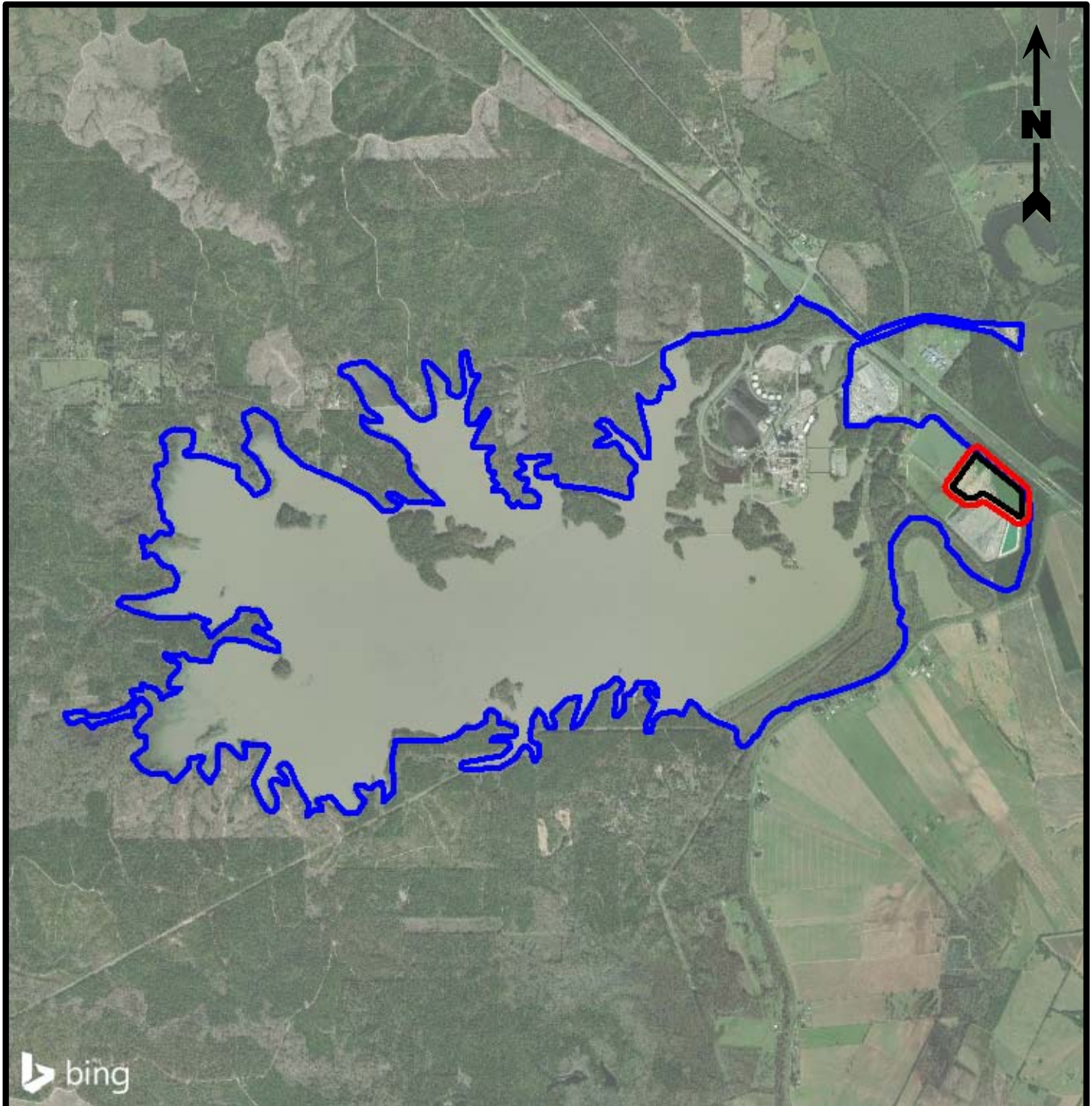
Fault Areas Assessment - Fly Ash Pond
Boyce, Rapides Parish, Louisiana

Cleco Power LLC
Brame Energy Center



Drawn By	LMM	06/21/17
Checked By	LMH	06/21/17
Approved By	CVH	06/21/17
Project Number	002-213	
Drawing Number	002-213-B004	
	2	Figure

FIGURE 3
FAULT LOCATION MAP



Legend

- Property Boundary
- 200' Buffer
- Fly Ash Pond

Note

There are no faults located within a 200' buffer of the Fly Ash Pond.

Reference

Base map comprised of Bing Maps aerial imagery from (c) 2017 Microsoft Corporation and its data suppliers. Fault data obtained from the United States Geological Survey (USGS) database.

Fault Location Map

Fault Areas Assessment - Fly Ash Pond
Boyce, Rapides Parish, Louisiana

Cleco Power LLC
Brame Energy Center



PROVIDENCE

Drawn By	LMM	06/23/17
Checked By	LMH	06/23/17
Approved By	CVH	06/23/17

Project Number	002-213	3 Figure
Drawing Number	002-213-A014	

APPENDIX A
P.E. CERTIFICATION

**CLECO BRAME ENERGY CENTER
FLY ASH POND
CCR FAULT AREAS ASSESSMENT**

PROFESSIONAL ENGINEER CERTIFICATION

I hereby certify that I have performed a fault areas assessment for Cleco's Brame Energy Center Fly Ash Pond in accordance with the 40 CFR 257.62 CCR requirements. Based on the results from the fault areas assessment, the Fly Ash Pond is not located within 60 meters (200 feet) of the outermost damage zone of a fault that has had displacement in Holocene time.

James C. Van Hoof

Name

24630

Registration No.

LA

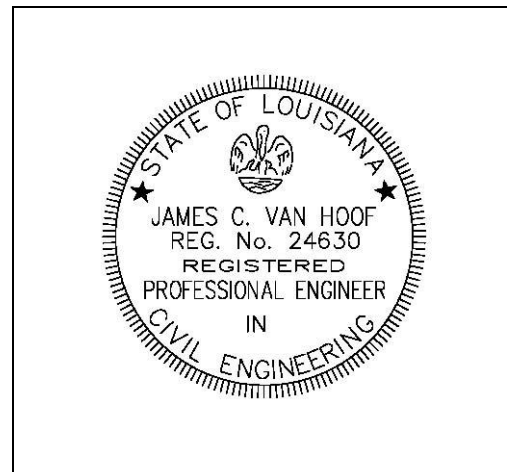
State

James C. Van Hoof, P.E.

Signature

9/19/18

Date



(Seal)