



# 2015 ANNUAL INSPECTION REPORT

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## CCR LANDFILL ANNUAL INSPECTION REPORT BYPRODUCT STORAGE AREA DECEMBER 2015

Lakeland Electric  
C.D. McIntosh Power Plant  
3030 East Lake Parker Drive  
Lakeland, Florida

**Submitted to:** City of Lakeland  
Department of Electric Utilities  
501 East Lemon Street  
Lakeland, FL 33801 USA

**Submitted by:** Golder Associates Inc.  
9428 Baymeadows Road, Suite 400  
Jacksonville, FL 32256 USA

January 2016

15-45454





## INTRODUCTION

Golder Associates Inc. (Golder) conducted the first annual coal combustion residual (CCR) landfill inspection of the Byproduct Storage Area (BSA) at Lakeland Electric's C.D. McIntosh Power Plant (MPP). The annual inspection conducted on December 29, 2015, and this report are intended to comply with the requirements of 40 CFR Section (§) 257.84(b). Golder's inspection team consisted of Samuel Stafford, PE and Jeremy Brown, PE.

The MPP, owned and operated by Lakeland Electric (City of Lakeland, Department of Electric Utilities), is located in Lakeland, Florida (see Figure 1). The main entrance of the facility is located at 3030 East Lake Parker Drive, Lakeland, Florida. The BSA is located in the southeast portion of the property and receives CCRs generated by Unit 3, the only coal-fired electrical generating unit at MPP (see Figure 2).

## REVIEW OF AVAILABLE INFORMATION - §257.84(b)(1)(i)

Golder's inspection team reviewed available information regarding the status and condition of the BSA including available operating records. The documents reviewed included:

- Operations Manual, Combustion By-Product Storage Facility, Shaw Stone & Webster, Inc., January 3, 2006;
- Design Report – Vertical Expansion, Existing Combustion By-Products Storage Facility, Black & Veatch, February 20, 2004;
- C.D. McIntosh, Jr Power Plant Units 3 and 5 Conditions of Certification, PA 74-06R, Florida Department of Environmental Protection, March 6, 2013; and
- Operating records, including weekly inspection results.

## INSPECTION SUMMARY - §257.84(b)(1)(ii)

Golder conducted the visual inspection of the BSA on December 29, 2015, by traversing the BSA on foot in an effort to observe cover conditions, exterior slope conditions, the presence of any erosional issues, vegetative conditions, placement of CCRs, stormwater management features, the presence of potential slope stability issues, and the presence of other signs of distress or malfunction.

## CHANGES IN GEOMETRY - §257.84(b)(2)(i)

This inspection was the first annual inspection performed on the BSA; therefore, changes in geometry of the structure from previous annual inspections cannot be evaluated.

## APPROXIMATE CCR VOLUME - §257.84(b)(2)(ii)

The volume of CCR materials in the BSA at the time of the inspection is estimated to be approximately 1,294,000 cubic yards based on disposal records, previous capacity analysis, and other information provided by Lakeland Electric.



### STRUCTURAL WEAKNESS AND DISRUPTING CONDITIONS - §257.84(b)(2)(iii)

Based on the December 29, 2015, observations and review of the available information, indications of structural weakness were noted in the over-steepened exposed gypsum temporary slopes located in the upper active portion of the BSA. Lakeland Electric plans to re-grade and recompact the slopes.

Conditions identified during the inspection that could have the potential to disrupt the operations of the BSA include: erosion of exposed CCRs on exterior slopes, obstructed stormwater management features and over-steepened temporary slopes. Lakeland Electric has a work order in place to implement repairs necessary to remedy the conditions.

### CHANGES AFFECTING THE STABILITY OR OPERATIONS - §257.84(b)(2)(iv)

This inspection was the first comprehensive annual inspection performed on the BSA; therefore, no comparisons to previous annual inspections can be made.

### CONCLUSION

Based on the review of the available information noted above, the December 29, 2015 field observations, and subsequent discussions with Lakeland Electric, the BSA's design, construction, operation, and maintenance appear to be consistent with recognized and generally accepted good engineering standards. If you have any questions or comments about this report, please do not hesitate to contact us.

Sincerely,

#### GOLDER ASSOCIATES INC.

Samuel F. Stafford, PE  
Project Engineer

Manitia L. Moultrie  
Practice Leader and Principal

Jeremy J. Brown, PE  
Senior Project Engineer

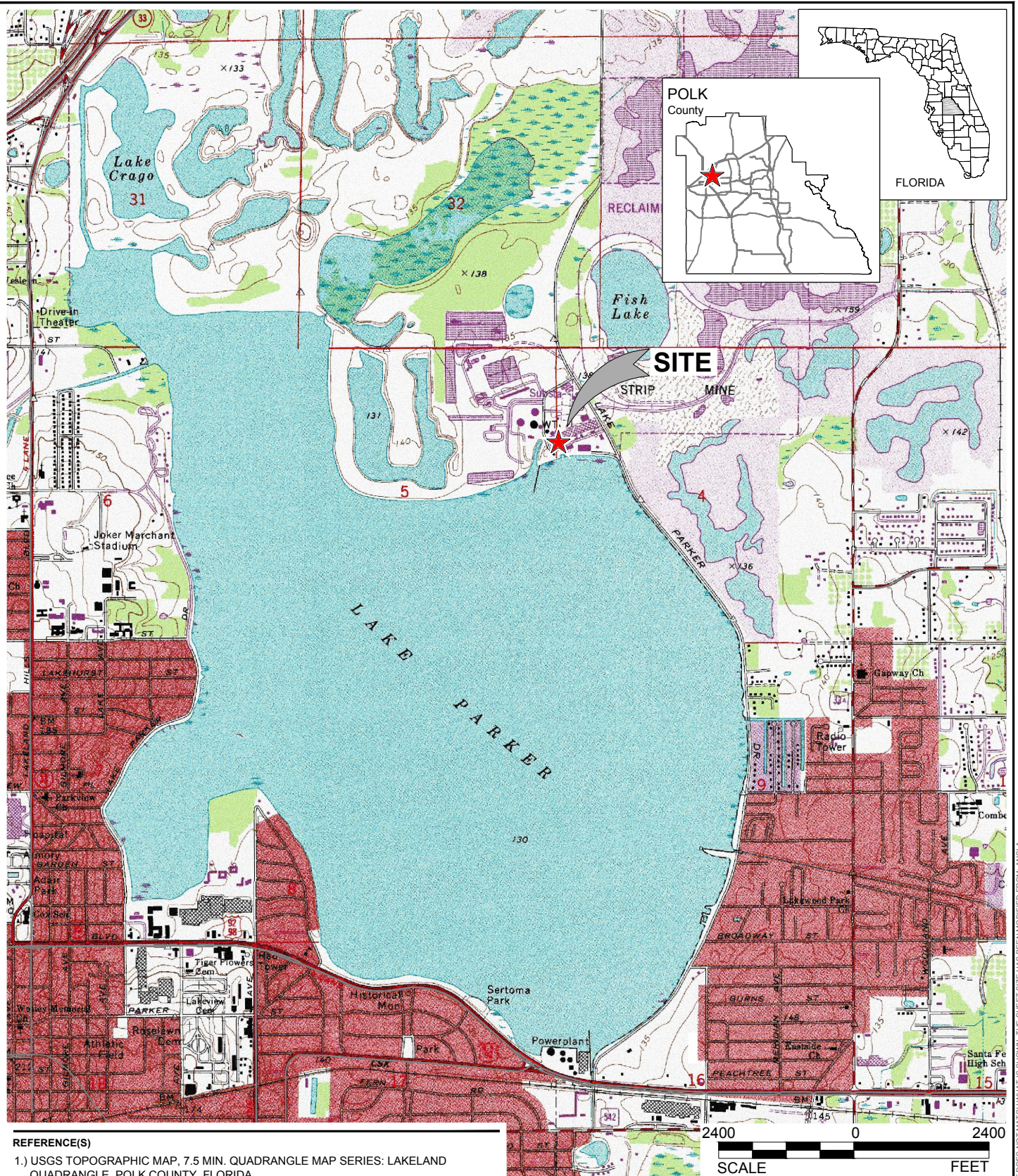
SFS/JJB/MLM/ams

Attachments:   Figure 1           Site Vicinity Map  
                    Figure 2           McIntosh Power Plan Site Plan  
                    Figure 3           Byproduct Storage Area Grid Location Map

FN: G:\Projects\15-15-45454\Task 0300 Inspection\Report\Final\LE MPP BSA Inspection\_2015.docx

## FIGURES





YYYY-MM-DD	2016-01-15
DESIGNED	SFS
PREPARED	BCL
REVIEWED	SFS
APPROVED	JJB

**TITLE**  
**SITE VICINITY MAP**

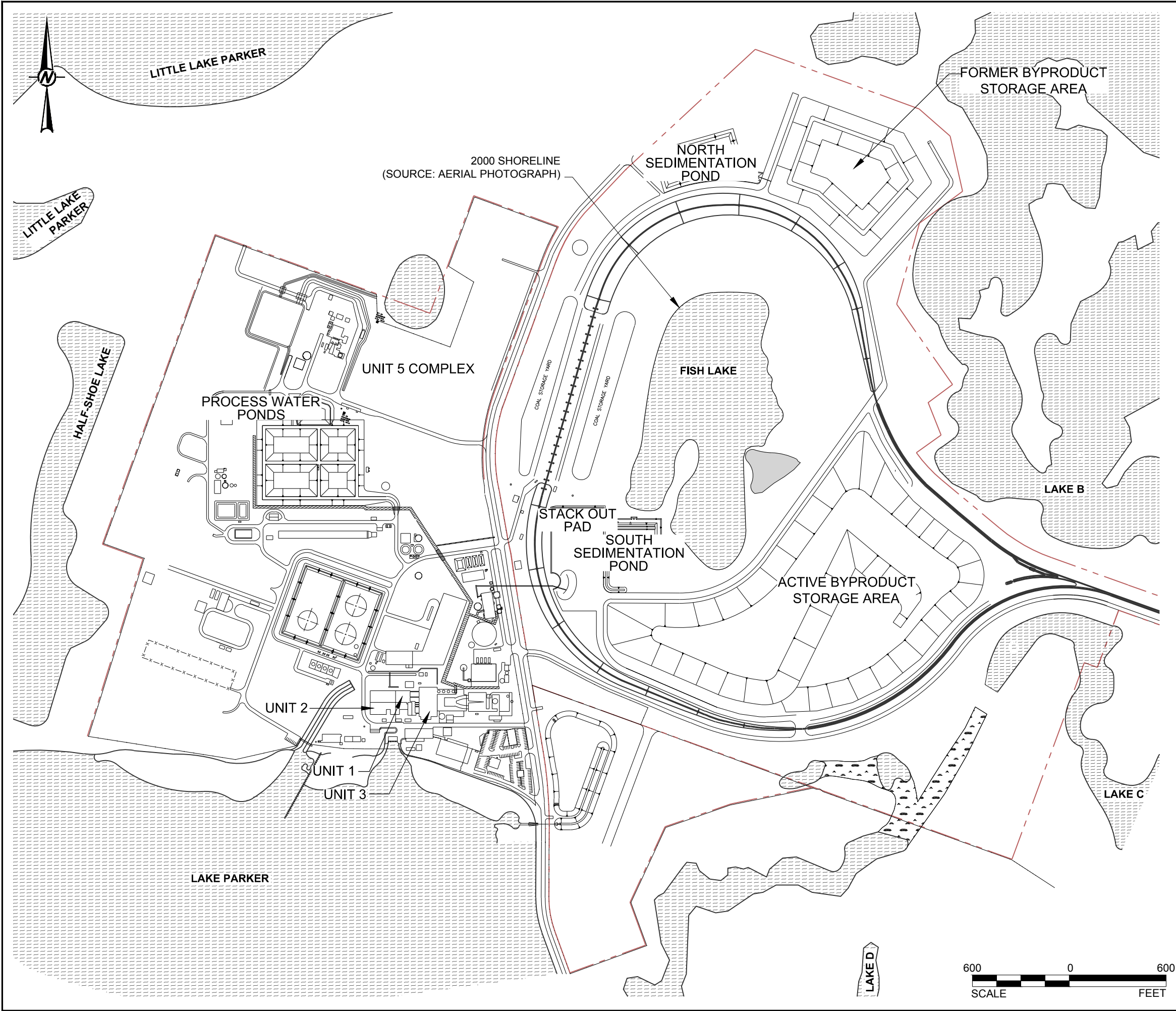
**PROJECT NO.**  
15-45454

**Phase**

**REV.**

**FIGURE**  
1





**LEGEND**

SURFACE WATER

PROPERTY BOUNDARY

FENCE

WET AREA

**REFERENCE(S)**

1. BASE MAP MODIFIED FROM SITE PLAN PROVIDED BY LAKELAND ELECTRIC.

CLIENT LAKELAND ELECTRIC		
CONSULTANT	YYYY-MM-DD	2016-01-15
	DESIGNED	SFS
	PREPARED	BCL
	REVIEWED	SFS
	APPROVED	JJB

PROJECT  
2015 ANNUAL INSPECTION  
C.D. McINTOSH POWER PLANT  
LAKELAND, POLK COUNTY, FLORIDA

TITLE  
**McINTOSH POWER PLANT SITE PLAN**



