



VIA EMAIL

October 10, 2016

Mr. Jeffrey Maxted
Alliant Energy – Sr. Environmental Specialist
4902 North Biltmore Lane
Madison, WI 53718-2148

**Re: Liner Design Criteria for Existing CCR Surface Impoundments
Interstate Power and Light Company (IPL)
Prairie Creek Generating Station
Cedar Rapids, Iowa**

Dear Mr. Maxted;

Hard Hat Services (HHS) assessed the liner design criteria for the existing CCR surface impoundment located at the Prairie Creek Generating Station in Cedar Rapids, Iowa.

Background Information

In accordance with the requirements set forth in §257.71(a) of the CCR Rule (40 CFR 257.50-107), an owner or operator of an existing CCR surface impoundment must document whether or not the CCR unit was constructed with a liner that meets, at a minimum, one of the following three categories:

- i. A liner consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec,
- ii. A composite liner that meets the requirements of §257.70(b) - A composite liner must consist of two components; the upper component consisting of, at a minimum, a 30-mil geomembrane liner, and the lower component consisting of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. Geomembrane liner components consisting of high density polyethylene must be at least 60-mil thick. The geomembrane liner or upper liner component must be installed in direct and uniform contact with the compacted soil or lower liner component. The composite liner must meet the requirements specified in §257.70 (b)(1) through (4).
- iii. An alternative composite liner that meets the requirements of §257.70(c). An alternative composite liner shall meet the following requirements:

- An alternative composite liner must consist of two components; the upper component consisting of, at a minimum, a 30-mil geomembrane liner, and a lower component, that is not a geomembrane, with a liquid flow rate no greater than the liquid flow rate of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. Geomembrane liner components consisting of high density polyethylene must be at least 60-mil thick. If the lower component of the alternative liner is compacted soil, the geomembrane liner must be installed in direct and uniform contact with the compacted soil.
- The owner or operator must obtain certification from a qualified professional engineer that the liquid flow rate through the lower component of the alternative composite liner is no greater than the liquid flow rate through two feet of compacted soil with a hydraulic conductivity of 1×10^{-7} cm/sec. The hydraulic conductivity for the two feet of compacted soil used in the comparison shall be no greater than 1×10^{-7} cm/sec. The hydraulic conductivity of any alternative to the two feet of compacted soil must be determined using recognized and generally accepted methods.
- The alternative composite liner must meet the requirements specified in §257.70 (b)(1) through (4).

Facility Specific Information

The IPL – Prairie Creek Generating Station (PCS) is located at 3300 C Street SW, Cedar Rapids, Iowa 52404. Figure 1 provides both a topographic map and an aerial of the PCS facility location, with the approximate property boundary of the facility identified. Figure 2 identifies each CCR Unit and illustrates the storm water and process water route. PCS has eight existing CCR surface impoundments, identified as follows:

- PCS Pond 1
- PCS Pond 2
- PCS Pond 3
- PCS Pond 4
- PCS Pond 5
- PCS Pond 6
- PCS Pond 7
- PCS Discharge Pond, also called PCS Pond 8

Liner Determination

After review of the reasonably and readily available documentation, the following CCR Units are determined to not meet the requirements of §257.71(a)(1)(i), (ii), or (iii):

- PCS Pond 1
- PCS Pond 2

- PCS Pond 3
- PCS Pond 4
- PCS Pond 5
- PCS Pond 6
- PCS Pond 7
- PCS Discharge Pond, also called PCS Pond 8

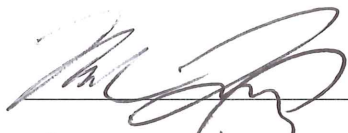
All existing unlined CCR surface impoundments are subject to the closure or retrofit requirements of §257.101(a).

Qualified Professional Engineer Certification

The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer attesting that the documentation as to whether a CCR unit meets the requirements §257.71(a) is accurate.

To meet the requirements of §257.71(b), I Mark W. Loerop hereby certify that I am a licensed Professional Engineer in the State of Iowa; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in §257.71(a).

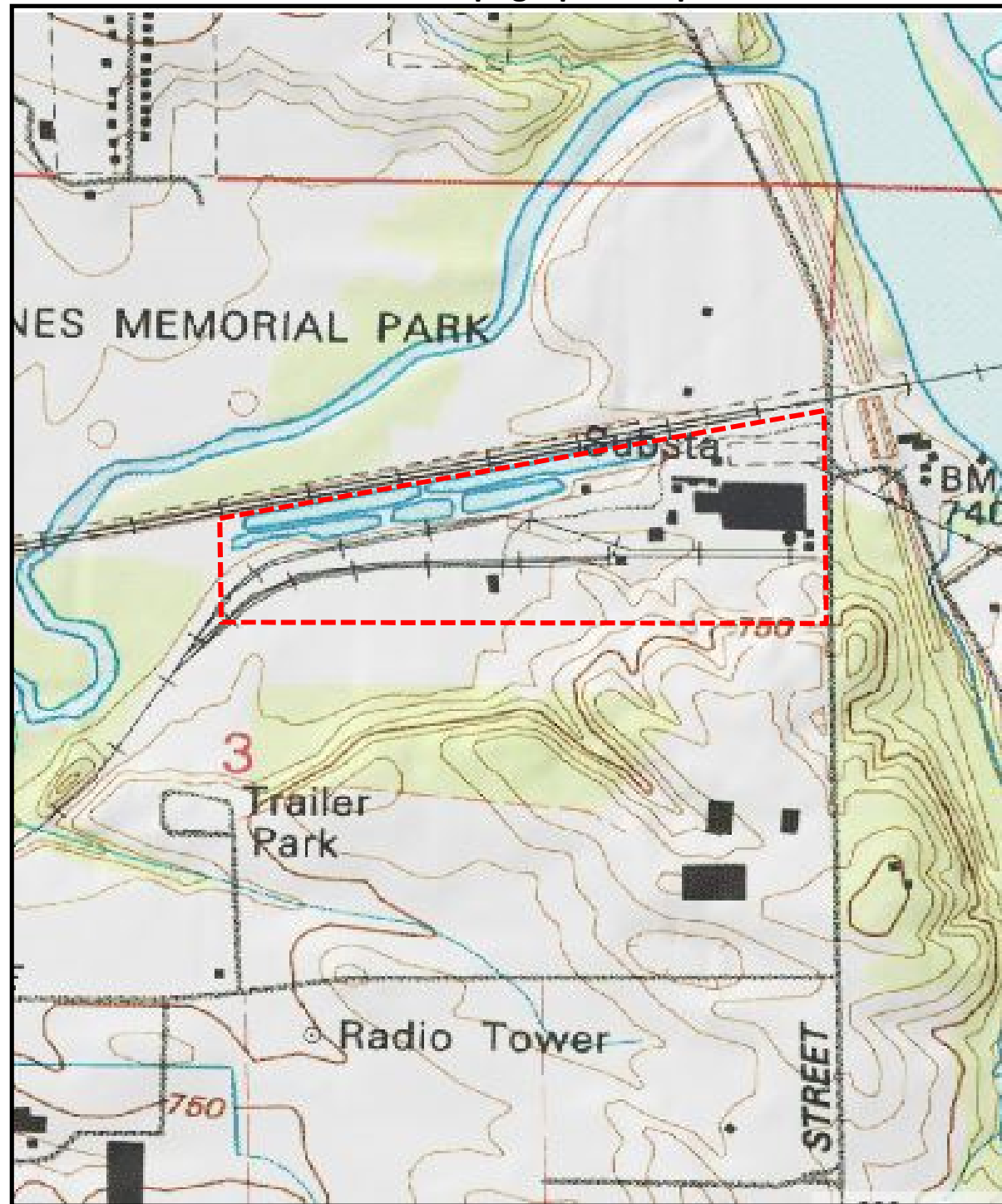


By: 
 Name: MARK LOEROP
 Date: OCT 10, 2016

cc: Tony Morse, Alliant Energy
 att: Figure 1 – Site Location
 Figure 2 – Storm Water Routing

MWL/tjh/CTS
 C:\Egnyte\Shared\Projects\154 - Alliant Energy\154.018 - CCR Projects\012 - 2016 CCR Compliance Program\004 - PCS\Liner Determination Letter\PCS Liner Design Criteria - FINAL.DOCX

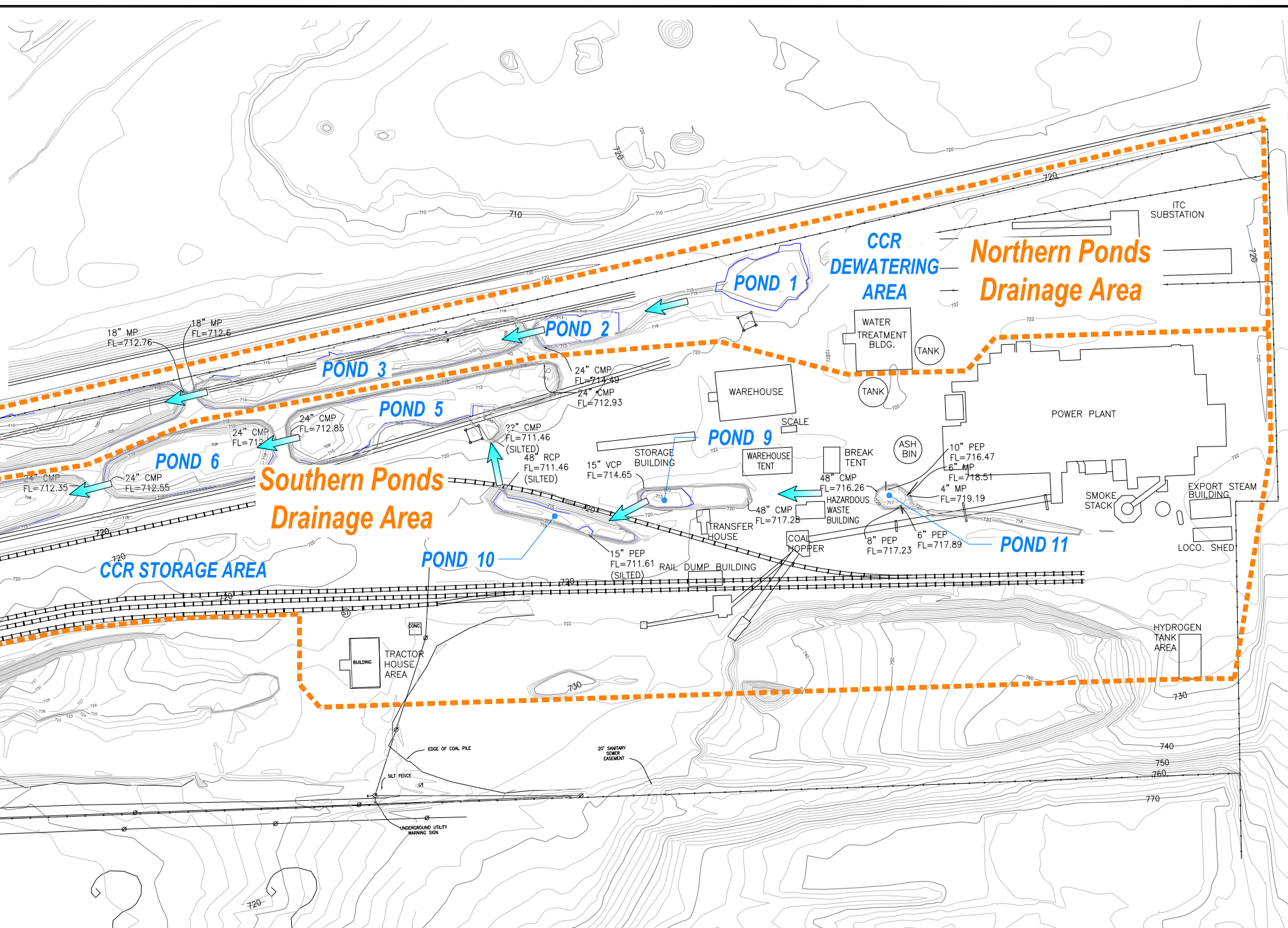
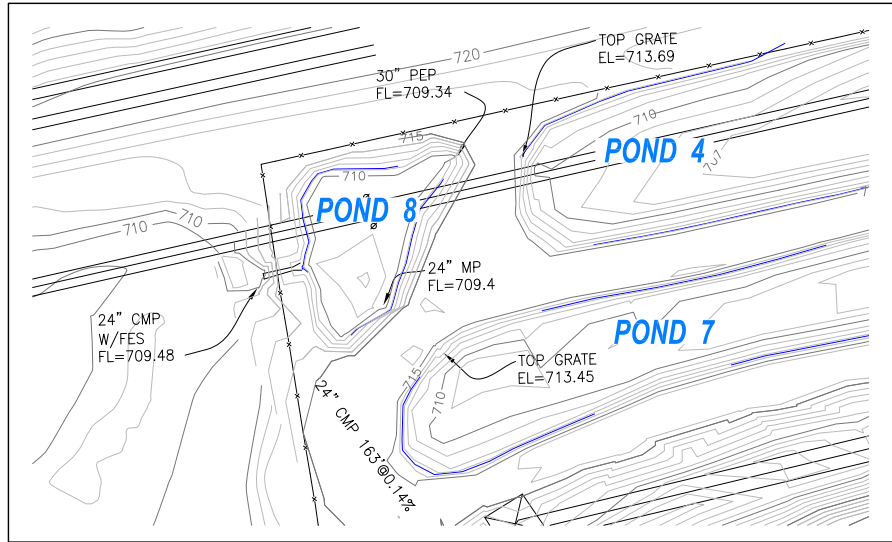
Historical Topographic Map



Historical Aerial Photo 3/10/2016



----- Approximate Property Boundary



LEGEND:
 DIRECTION OF FLOW



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SCALE:	AS SHOWN
DATE:	9-14-16
DRAWN BY:	JFD
CHKD BY:	TJH
APRVD BY:	MWL

CLIENT / LOCATION	ALLIANT ENERGY - INTERSTATE POWER AND LIGHT PRAIRIE CREEK GENERATING STATION CEDAR RAPIDS, IOWA
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DRAWING DESCRIPTION	STORM WATER DRAINAGE Liner Design Criteria
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JOB	154.018.012.004
SHT.	FIGURE 2
DWG.	154.018.012.004-D1