



VIA EMAIL

September 2, 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)
Lansing Generating Station
Lansing, Iowa**

Dear Mr. Maxted;

Hard Hat Services (HHS) assessed the liner design criteria for the existing CCR surface impoundment located at the Lansing Generating Station in Lansing, IA.

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 – Lansing Generating Station (LAN) is located at 2320 Power Plant Drive, Lansing, Iowa. Figure 1 provides both a topographic map and an aerial of the LAN 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. LAN has one existing CCR surface impoundment, identified as the LAN Upper Ash Pond.

Liner Determination

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

- LAN Upper Ash Pond

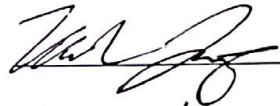
All existing unlined CCR surface impoundments are subject to the closure or retrofit requirements of §257.101(a).

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: 09-02-2016

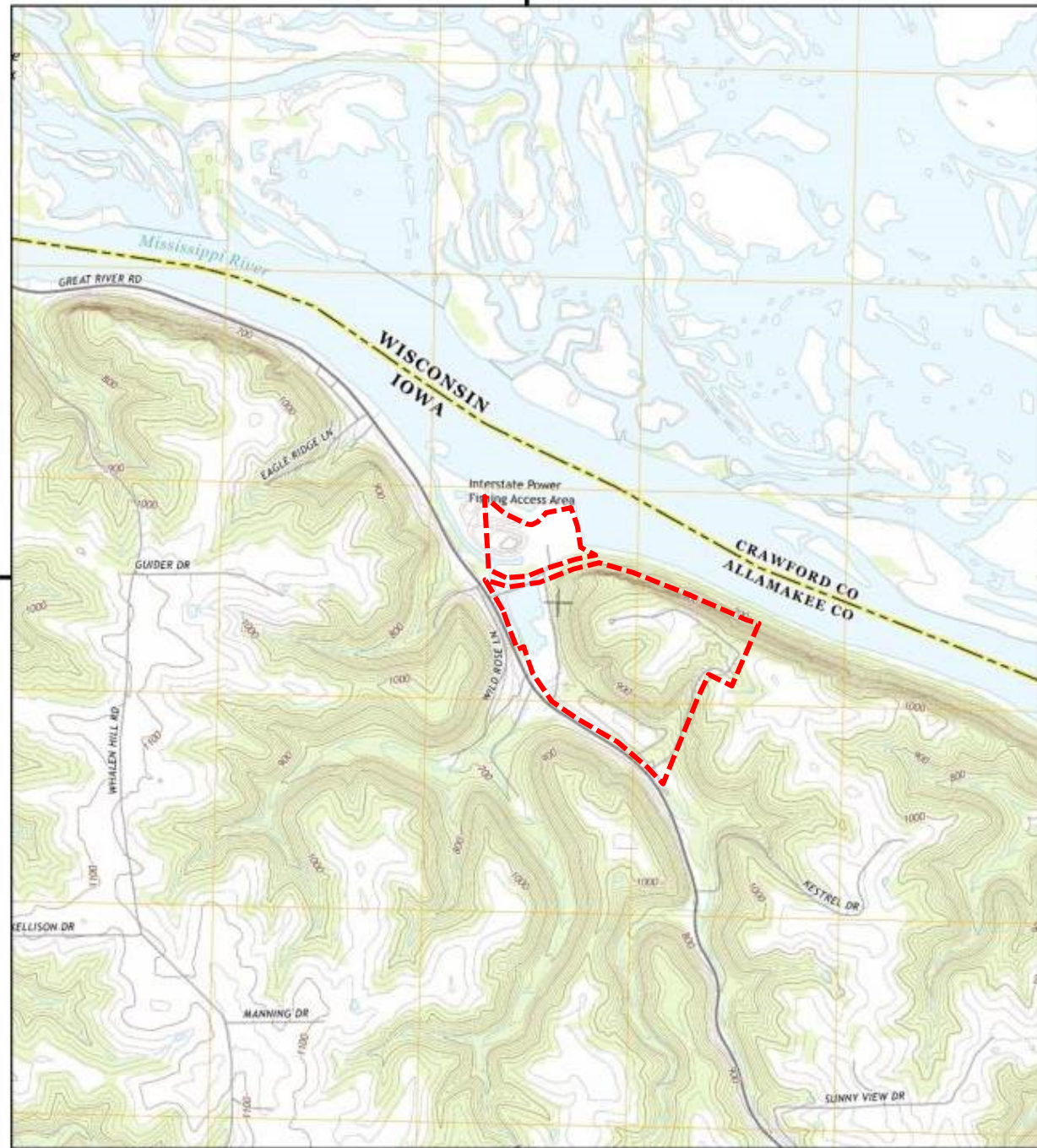
cc: Tony Morse, Alliant Energy

att: Figure 1 – Site Location
Figure 2 – Storm Water Routing

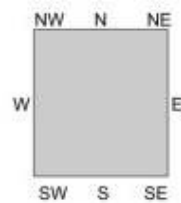
MWL/tjh/CTS

Historical Topo Map

2013



This report includes information from the following map sheet(s).



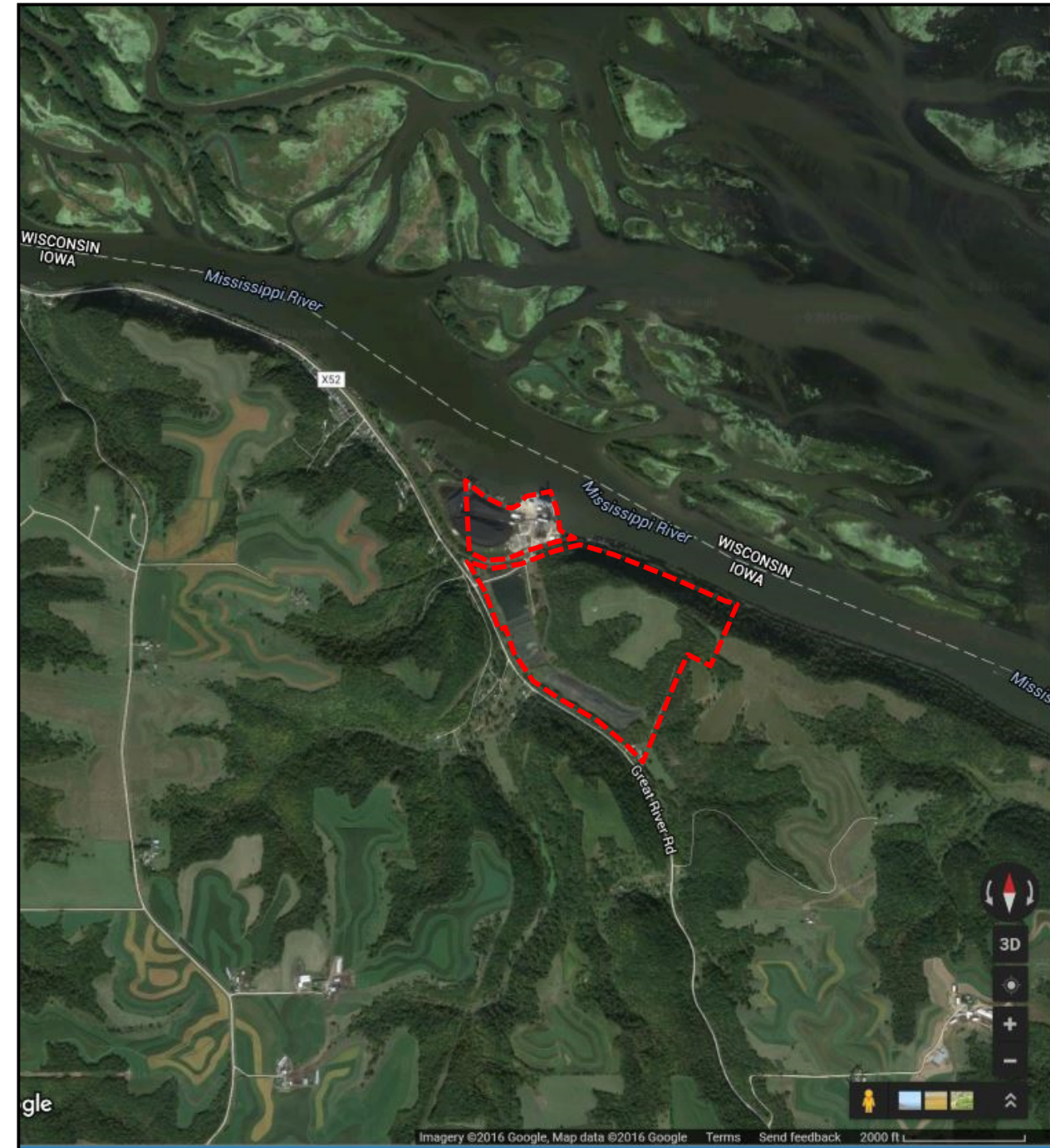
TP, Lansing, 2013, 7.5-minute

SITE NAME: Lansing Generating Station
 ADDRESS: 2364-2366 Power Plant Dr
 Lansing, IA 52151
 CLIENT: Environmental Site Assessors



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Historical Aerial Photo

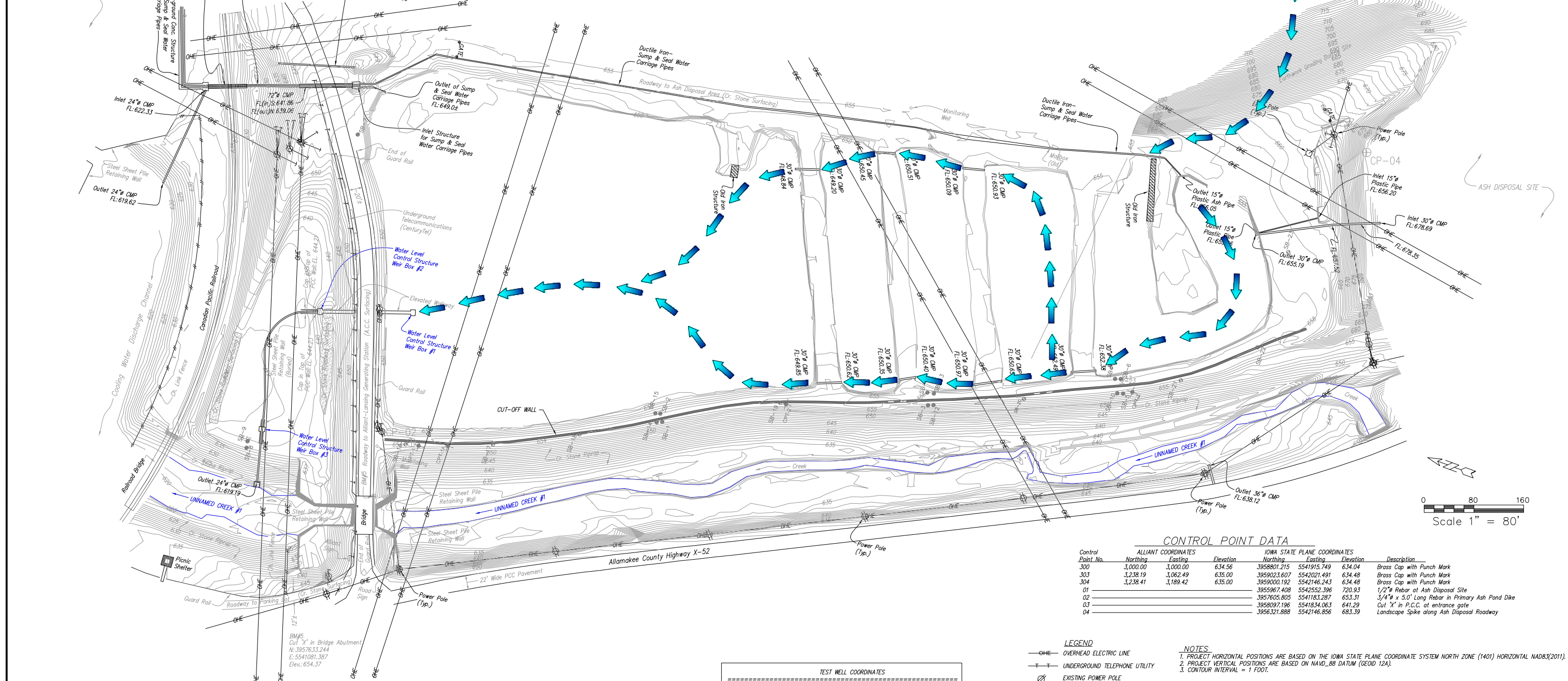


----- Approximate Property Boundary

UPPER AND LOWER CCR POND TOPOGRAPHIC SURVEY AND LOWER CCR POND BATHYMETRY
 at
 ALLIANT LANSING POWER GENERATING STATION
 for
 INTERSTATE POWER & LIGHT COMPANY - ALLIANT ENERGY
 BEING IN PART OF SECTION 2, TOWNSHIP 98 NORTH, RANGE 3 WEST OF THE FIFTH PRINCIPAL MERIDIAN, ALLAMAKEE COUNTY, IOWA.

OWER GENERATING PLANT

RAINFALL ROUTE



CONTROL POINT DATA

Control Point No.	ALLIANT COORDINATES		Elevation	IOWA STATE PLANE COORDINATES		Description	
	Northing	Eastng		Northing	Eastng		
300	3,000.00	3,000.00	634.56	3958801.215	5541915.749	634.04	Brass Cap with Punch Mark
303	3,238.19	3,062.49	635.00	3959023.607	5542021.491	634.48	Brass Cap with Punch Mark
304	3,238.41	3,189.42	635.00	3959000.192	5542146.243	634.48	Brass Cap with Punch Mark
01				3955967.408	5542552.396	720.93	1/2" Rebar at Ash Disposal Site
02				3957605.805	5541183.287	653.31	3/4" x 5.0' Long Rebar in Primary Ash Pond Dike
03				3958097.196	5541834.063	641.29	Cut 'X' in P.C.C. at entrance gate
04				3956321.888	5542146.856	683.39	Landscape Spike along Ash Disposal Roadway

TEST WELL COORDINATES

WELL ID	Northing	Eastng	TOP Elevation	Ground Elevation
SB-1	3957238.28	5541352.23	653.36	653.26
SB-2	3957245.81	5541363.76	652.66	652.63
SB-3	3956945.82	5541523.57	656.39	655.37
SB-4	3956853.80	5541542.37	655.88	655.34
SB-5	3956557.49	5541648.53	656.70	655.80
SB-6	3956569.09	5541669.35	656.19	655.97
SB-7	3957856.52	5541618.95	653.45	653.33
SB-8	3957852.40	5541084.50	641.74	638.43
SB-9	3957854.40	5541094.88	640.63	638.52
SB-10	NS	NS	656.38	655.85
SB-11	NS	NS	656.38	656.17
SB-12	NS	NS	656.40	655.44
SB-13	NS	NS	656.43	655.27
SB-14	NS	NS	654.37	653.15
SB-15	NS	NS	652.75	652.67

- LEGEND**
- OHE— OVERHEAD ELECTRIC LINE
 - - - UNDERGROUND TELEPHONE UTILITY
 - ⊙ EXISTING POWER POLE
 - SB● TEMPORARY WELL LOCATION
 - SB● SOIL BORING LOCATION
 - CPT● CONE PENETROMETER TEST LOCATION
 - ⊕ CONTROL POINT

- NOTES**
- PROJECT HORIZONTAL POSITIONS ARE BASED ON THE IOWA STATE PLANE COORDINATE SYSTEM NORTH ZONE (1401) HORIZONTAL NAD83(2011).
 - PROJECT VERTICAL POSITIONS ARE BASED ON NAVD_88 DATUM (GEOID 12A).
 - CONTOUR INTERVAL = 1 FOOT.

- NOTE:**
- SURVEY INFORMATION PROVIDED ABOVE WAS COMPILED BY MOHN SURVEYING, INC. 1890 GREAT RIVER ROAD LANSING, IOWA 52151, APRIL 2015.
 - ALLIANT ENERGY REQUIRES 20 FEET OVERHEAD SEPARATION DISTANCE FOR EQUIPMENT OPERATING UNDER POWERLINES.

NOTICE
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REV	DATE	BY	APP	DESCRIPTION

SCALE: AS SHOWN DATE: 5-19-16
 DRAWN BY: JFD CHECKED BY: CTS APPROVED BY: MWL



CLIENT / LOCATION
 INTERSTATE POWER AND LIGHT (IPL)
 LANSING GENERATING STATION PROJECT
 2320 POWER PLANT DR
 LANSING, IA 52151

DRAWING DESCRIPTION
 Liner Design Criteria
 SITE PLAN

JOB 154.018.012.002
 SHT. FIGURE 2
 DWG. 154.018.012.002-D2