

US EPA ARCHIVE DOCUMENT



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March 26, 2009

Mr. Richard Kinch
U.S. Environmental Protection Agency (5306P)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

**Re: Response to U.S. EPA 104(e) Information Request to
Indianapolis Power & Light Company ("IPL") – Harding Street
Generating Station**

Dear Mr. Kinch:

This letter and attachments provides the response of the Indianapolis Power & Light Company ("IPL") to the above-referenced information request. The request for information was submitted to Indianapolis Power & Light Company's Harding Street Station.

IPL received the request from U.S. EPA on or about March 16, 2009, and therefore this response is timely submitted. Note that the timeframe to respond is relatively short, and IPL reserves its right to amend this response, if necessary. Note also that much of the requested information is in IDEM and/or EPA's possession, and although IPL has attempted to fully respond, EPA may wish to review EPA and IDEM files. Please note that IPL does not intend to produce any documents that are subject to the attorney-client or attorney work product privileges or that are irrelevant (and we have redacted certain non-responsive information from the attached documents), and this response should not be construed as a waiver of any privileges or immunities. Finally, EPA's definition of "management unit" as "each surface impoundment or similar diked or bermed management unit(s) or management units designated as landfills which receive liquid-borne material for the storage or disposal of residuals or by-products from the combustion of coal, including, but not limited to, fly ash, bottom ash, boiler slag, or flue gas emission control residuals" is extremely broad and while IPL believes its response is complete and consistent with the scope of the request, it is not providing information relating to *de minimis* liquid-bearing units such as storm water run-off basins, ditches, etc.

Subject to these conditions, IPL hereby responds to the above-referenced request as follows:

1. *Relative to the National Inventory of Dams criteria for High, Significant, Low, or Less-than-Low, please provide the potential hazard rating for each management unit and indicate who established the rating, what the basis of the rating is, and*

what federal or state agency regulates the unit(s). If the unit(s) does not have a rating, please note that fact.

Response No. 1. None of the Harding Street Station ash ponds have been rated by any Federal or State agency.

2. *What year was each management unit commissioned and expanded:*

Response No. 2.

Pond 1

- Commissioned 1958 based on IPL job file review;
- Levees were filled in to elevation 684 (plant datum) in 1995; and
- Widened levees for truck traffic in 1998.

Pond 2

- Commissioned 1968 based on IPL job file review;
- Wing levee constructed 1980;
- Constructed Perry K ash disposal facility in 1992;
- Raised levees to elevation 684 (plant datum) in 1995;
- Widened levees for truck traffic in 1998;
- Raised levee elevation 17 feet in 2001; and
- Raised levee elevation 20 feet in 2006.

Ponds 2A/2B

- Commissioned in 1992 per IPL job file review.

Pond 2C

- No longer in existence.

Pond 3

- Commissioned 1977 based on IPL job file review;
- Raised levees to elevation 684 (plant datum) in 1995; and
- Widened levees for truck traffic in 1998.

Pond 4

- Commissioned in 1983 per IPL job file;
- Raised levees to elevation 684 (plant datum) in 1995; and
- Widened levees for truck traffic in 1998.

3. *What materials are temporarily or permanently contained in the unit? Use the following categories to respond to this question: (1) fly ash; (2) bottom ash; (3) boiler slag; (4) flue gas emission control residuals; (5) other. If the management unit contains more than one type of material, please identify all that apply. Also, if you identify "other," please specify the other types of materials that are temporarily or permanently contained in the unit(s).*

Response No. 3.

- 1) Bottom ash - yes
 - 2) Fly ash – yes
 - 3) Boiler slag - yes
 - 4) Flue gas emission control residuals – yes; and
 - 5) Other; per the facility NPDES permit includes:
 - recirculating cooling tower blowdown,
 - demineralizer wastes,
 - condensate polisher waste,
 - ash & pyrite system,
 - boiler blowdown,
 - boiler, condenser, air pre-heater, and cooling cleaning wastes,
 - flue gas desulfurization (FGD) system blowdown,
 - miscellaneous FGD wastewaters,
 - floor drains,
 - stormwater,
 - water treatment wastes,
 - metal cleaning wastes and,
 - river dredging materials
4. *Was the management unit(s) designed by a Professional Engineer? Is or was the construction of the waste management unit(s) under the supervision of a Professional Engineer? Is inspection and monitoring of the safety of the waste management unit(s) under the supervision of a Professional Engineer?*

Response No. 4.

1. All construction drawings since 1990 were reviewed by an IPL Professional Engineer.
2. All construction activities after 1990 were inspected by an IPL Professional Engineer.
3. The inspection and monitoring of the ash ponds is/was completed under the supervision of an IPL Professional Engineer. Since 2008, inspections are conducted and/or monitored by an outside consulting firm (Professional Engineer).

5. *When did the company last assess or evaluate the safety (i.e., structural integrity) of the management unit(s)? Briefly describe the credentials of those conducting the structural integrity assessments/evaluations. Identify actions taken or planned by facility personnel as a result of these assessments or evaluations. If corrective actions were taken, briefly describe the credentials of those performing the corrective actions, whether they were company employees or contractors. If the company plans an assessment or evaluation in the future, when is it expected to occur?*

Response No. 5.

The Harding Street ash ponds were last assessed and evaluated by BT² on 06/24/08. A copy of this report is attached as Exhibit A.

BT² Credentials are attached hereto as Exhibit B.

The Harding Street Ash Pond Maintenance Recommendations and actions taken in response are attached hereto as Exhibit C.

IPL has tentatively scheduled another levee inspection in April 2009.

6. *When did the State or a Federal regulatory official last inspect or evaluate the safety (structural integrity) of the management unit(s)? If you are aware of a planned state or federal inspection or evaluation in the future, when is it expected to occur? Please identify the Federal or State regulatory agency or department which conducted or is planning the inspection or evaluation. Please provide a copy of the most recent official inspection report or evaluation.*

Response No. 6. There have been no State or Federal regulatory inspections to date and IPL is not aware of any planned or future regulatory inspections. The Indiana agencies generally responsible for environmental issues include the Indiana Department of Environmental Management and the Indiana Department of Natural Resources.

7. *Have assessments or evaluations, or inspections conducted by State or Federal regulatory officials conducted within the past year recovered a safety issue(s) with the management unit(s), and, if so, describe the actions that have been or are being taken to deal with the issue or issues. Please provide any documentation that you have for these actions.*

Response No. 7. There have been no State or Federal regulatory inspections to date. As such, no violations cited.

8. *What is the surface area (acres) and total storage capacity of each of the management units? What is the volume of materials currently stored in each of the management unit(s)? Please provide the date that the volume measurement(s) was taken. Please provide the maximum height of the management unit(s). The basis for determining maximum height is explained later in this Enclosure.*

Response No. 8. Please see responsive information attached hereto as Exhibit D.

9. *Please provide a brief history of known spills or unpermitted releases from the unit within the last ten years, whether or not these were reported to State or federal regulatory agencies. For purposes of this question, please include only releases to surface water or to the land (do not include releases to groundwater).*

Response No. 9. There have been no breaches of the levee system allowing unpermitted discharges to surface waters of the United States within the last 10 years.

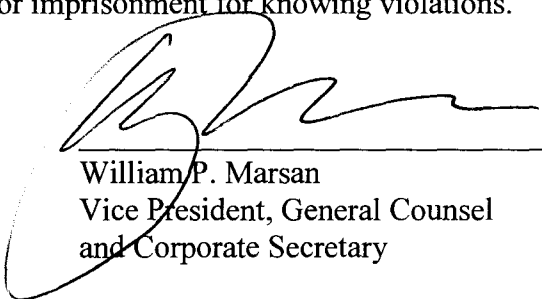
10. *Please identify all current legal owner(s) and operator(s) at the facility.*

Response No. 10. The Indianapolis Power & Light Company owns and operates the Harding Street Generating Station.

* * *

If you have any questions, please contact Nysa Hogue at (317) 261-5473.

I certify that the information contained in this response to EPA's request for information and the accompanying documents is true, accurate, and complete. As to the identified portions of this response for which I cannot personally verify their accuracy, I certify under penalty of law that this response and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines or imprisonment for knowing violations.



William P. Marsan
Vice President, General Counsel
and Corporate Secretary

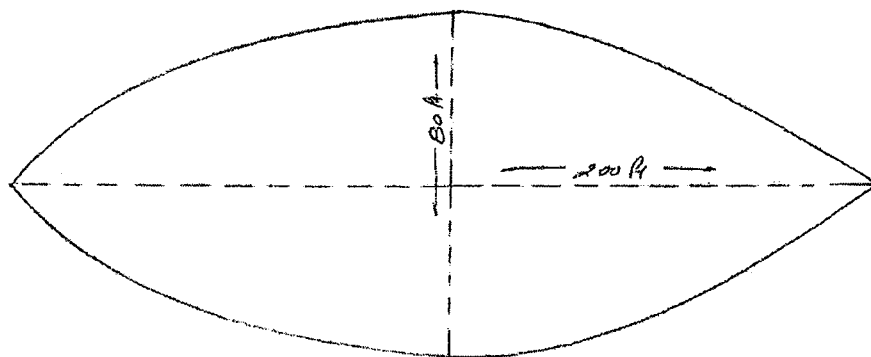
Cinder Pit Surface Area

Cinder Pit	
Surface Area (SF)	16,000
Surface Area (Acres)	0.37

Exhibit D

JWK
3-17-09

Cinder Pit



Surface area of cinder pit \approx $80 \text{ ft} \times 200 \text{ ft} = \underline{16,000 \text{ ft}^2}$
 $\underline{= 0.37 \text{ acres}}$

Ash Pond Volumes and Capacities

	Ash Pond #1	Ash Pond #2	Ash Pond #2A/B	Ash Pond #3	Ash Pond #4/A/B
Surface Area (SF)	297,990	1,312,500	168,000	367,250	1,134,000
Surface Area (Acres)	6.84	30.13	3.86	8.43	26.03
Storage Capacity (CF)	3,983,820	22,005,000	1,869,000	344,050	13,260,375
Storage Capacity (CY)	147,549	815,000	69,222	12,743	491,125
Volume Currently Stored (CF)	3,718,599	0	926,887	68,810	5,304,150
Volume Currently Stored (CY)	137,726	0	34,329	2,549	196,450
Date Calculations Taken	3/11/2009	3/12/2009	3/12/2009	3/12/2009	3/13/2009
Maximum Height of Levee (FT)	20	48	20	20	15

Total Surface Area (SF)	3,279,740
Total Surface Area (Acres)	75.29
Total Storage Capacity (CF)	41,462,245
Total Storage Capacity (CY)	1,535,639

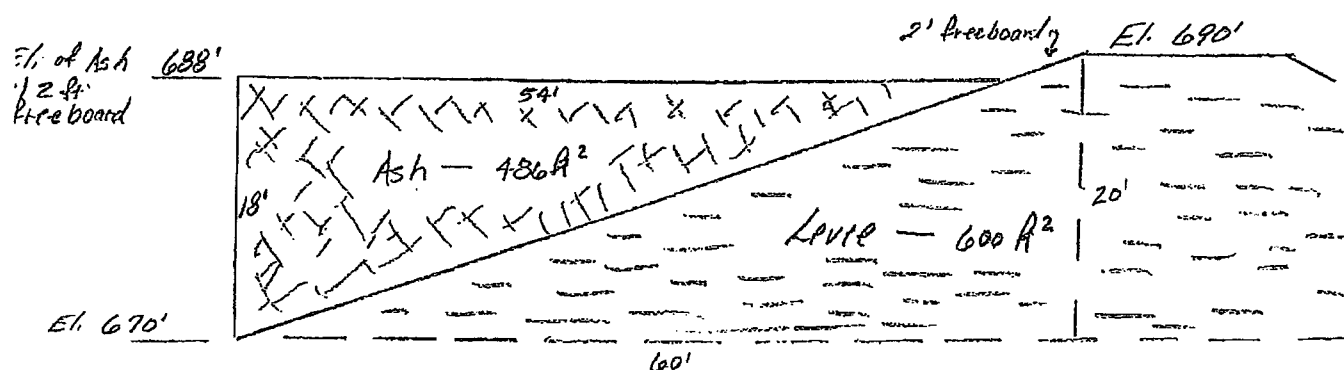
Notes:

- 1) Ash Pond #3 discharges to Lick Creek. The invert elevation of the discharge pipe is 676.5 ft, therefore the storage capacity will be small compared to the surface area of this pond. Storage capacity is assumed to be 1.5 ft. below this invert elevation of 676.5 ft.
- 2) Storage capacities were calculated using a 2' freeboard.

SWK
3.11.09

Ash Pond #1

- * From a survey completed by Hans Ash on 7.18.07, the surface area of this pond is $297,990 \text{ A}^2 = 6.84 \text{ acres}$
- * From an aerial survey topographic map (IPL Drawing # 6-1-1-4-1, dated 3/1969), assume that the bottom of this ash pond (the natural, undisturbed ground) is @ elevation 670'
- * From the Hans Ash survey of 7.18.07, the average elevation of the top of the levee is 690'
- * Assuming a 3:1 slope with 2' of free board



- * Perimeter @ top of slope of Ash Pond #1 $\approx 2300 \text{ ft}$
- * Storage capacity of Ash Pond #1 (with 2' freeboard) \approx

$$297,990 \text{ A}^2 (18 \text{ ft}) - 600 \text{ A}^2 (2300 \text{ ft}) =$$

$$5,363,820 \text{ A}^3 - 1,380,000 \text{ A}^3 = \underline{3,983,820 \text{ A}^3}$$

$$= \underline{147,549 \text{ CY}}$$
- * The volume currently stored in Ash Pond #1 = $3,718,599 \text{ A}^3$
 (as of 3.11.09)

$$= \underline{137,726 \text{ CY}}$$
- * The maximum height of Ash Pond #1 levee = 20 ft

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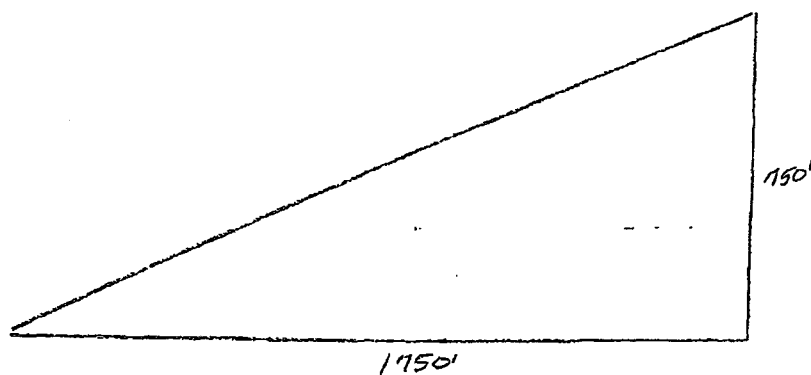
Ash Pond #2

- * From survey completed by Trans Ash on 12.27.06, the storage capacity of Ash Pond #2 (with 2' freeboard)
 \approx 815,000 CY

$$\approx$$
 22,005,000 ft³

- * The volume currently stored in Ash Pond #2 = 0.00 ft³
(as of 3.12.09)
 \approx 0.00 CY

- * From scaling of aerial photos & drawings, the surface area of Ash Pond #2 \approx :

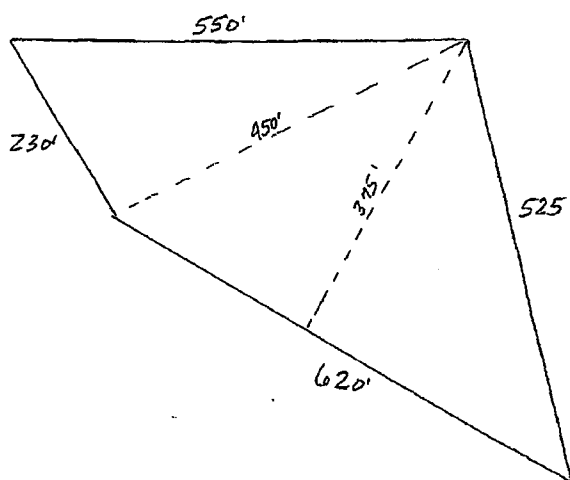


$$(1750' \times 1750') / 2 = \underline{1,531,250 \text{ ft}^2}$$
$$\approx \underline{30.13 \text{ acres}}$$

- * From an aerial survey topographic map (IDL Drawing # 6-1-1-4-1, dated 3/1969), assume that the bottom of this ash pond (the natural, undisturbed ground) & toe of slope is @ elevation 670'
- * From survey completed by Trans Ash on 12.27.06, the elevation of the top of the levee is 718'
- * The maximum height of Ash Pond #2 levee = 48'

Ash Pond #2A/B

- * From an aerial survey topographic map (IPL Drawing #6-1-1-A-1 dated 3/1/96), assume that the bottom of this ash pond (the natural, undisturbed ground) is at elevation 670'
- * From measurements obtained from a measuring wheel, the surface area of Ash Pond #2A/B is:



$$\approx \frac{1}{2} (620' \times 375') + \frac{1}{2} (230' \times 450')$$

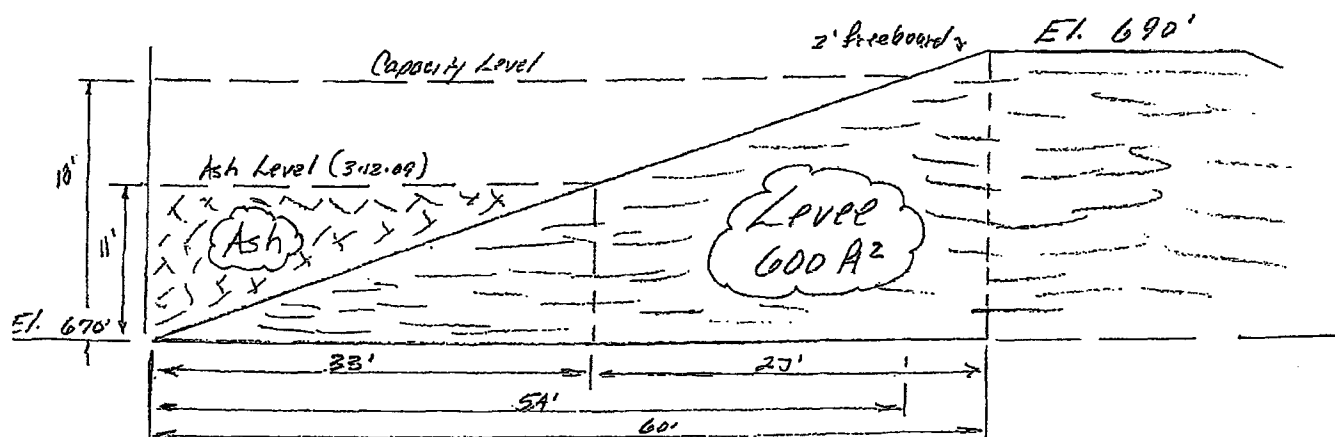
$$\approx 116,250 \text{ ft}^2 + 51,750 \text{ ft}^2 = \underline{168,000 \text{ ft}^2}$$

$$= \underline{3.8 \text{ ACRES}}$$

- * From a survey completed in 1996 on IPL project # 94350.26C, the elevation at the top of the levee is 690'

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3.12.09
Page 2
Ash Pond 2A/B

* Assuming a slope of 3:1 with 2 ft. of freeboard,



* Perimeter @ top of slope of Ash Pond #2A/B ≈ 1925 ft

* Storage capacity of Ash Pond #2A/B (with 2' freeboard) \approx

$$108,000 \text{ ft}^2 (18 \text{ ft}) - 600 \text{ ft}^2 (1925 \text{ ft}) = 1,869,000 \text{ ft}^3$$

$$= 69,222 \text{ CY}$$

* The volume currently stored in Ash Pond #2A/B \approx
(as of 3.12.09)

$$108,000 \text{ ft}^2 (11 \text{ ft}) - (27 \text{ ft})(11 \text{ ft})(1,925 \text{ ft}) - \frac{1}{2} (33 \text{ ft})(11 \text{ ft})(1,925 \text{ ft})$$

$$= 1,848,000 \text{ ft}^3 - 571,725 \text{ ft}^3 - 349,388 \text{ ft}^3 = 926,887 \text{ ft}^3$$

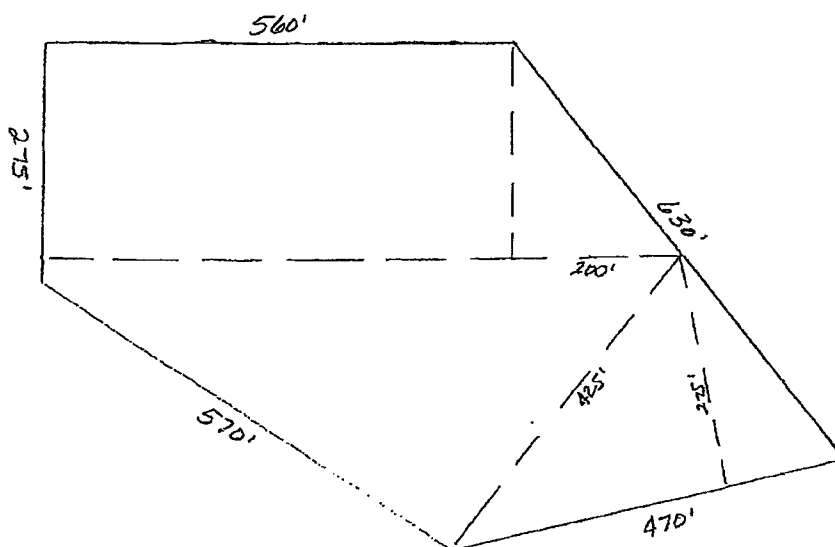
$$= 34,329 \text{ CY}$$

* The maximum height of Ash Pond #2A/B levee = 20 ft

JWK
3.12.09

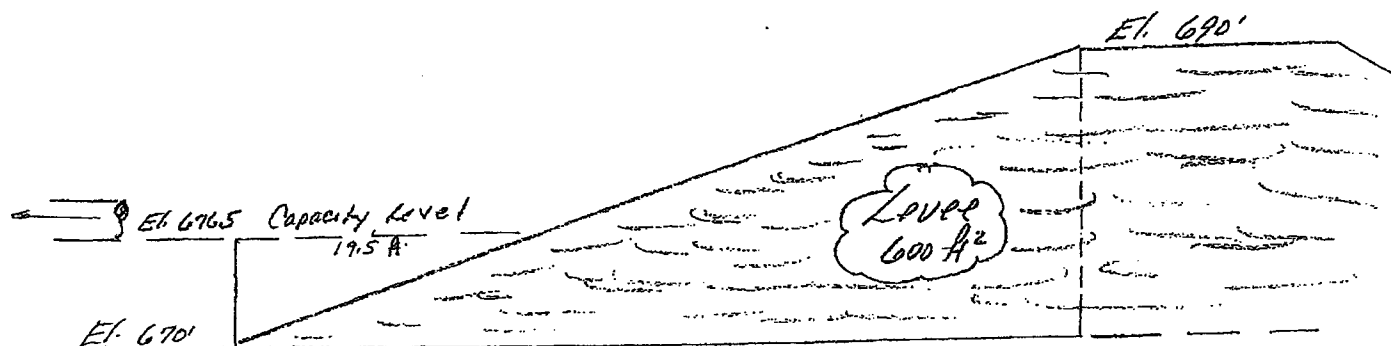
Ash Pond #3

- * From an aerial survey topographic map (IPL Drawing # 6-1-1-4-1, dated 3/1969), assume that the bottom of this ash pond (the natural, undisturbed ground) is @ elevation 670'.
- * From measurements obtained from a measuring wheel, the surface area of Ash Pond #3 is:



$$\begin{aligned} & \approx (275 \text{ ft})(560 \text{ ft}) + \frac{1}{2} (200 \text{ ft})(275 \text{ ft}) + \frac{1}{2} (425 \text{ ft})(570 \text{ ft}) + \frac{1}{2} (275 \text{ ft})(470 \text{ ft}) \\ & = 154,000 \text{ ft}^2 + 27,500 \text{ ft}^2 + 121,125 \text{ ft}^2 + 64,625 \text{ ft}^2 = \underline{367,250 \text{ ft}^2} \\ & \qquad \qquad \qquad = \underline{8.4 \text{ acres}} \end{aligned}$$

- * This is considered our 'clean water pond' & discharges to Lick Creek. The invert of the discharge pipe to Lick Creek is at approximately elevation 676.5 ft. Therefore, the capacity level of Ash Pond #3 can be depicted as follows:



- * Perimeter @ top of slope of Ash Pond #3 is 2,437 ft
- * Storage capacity of Ash Pond #3 is

$$367,250 \text{ ft}^2 (6.5 \text{ ft}) - 600 \text{ ft}^2 (2,437 \text{ ft}) = 894,925 \text{ ft}^3$$

$$= 33,145 \text{ CY}$$

- * If the assumption is made that ash would not be allowed to accumulate in this pond to within 1.5 ft of the invert, then the actual storage capacity of this pond would be further reduced to:

$$367,250 \text{ ft}^2 (5 \text{ ft}) - 600 \text{ ft}^2 (2,437 \text{ ft}) = 344,050 \text{ ft}^3$$

$$= 12,742 \text{ CY}$$

- * The volume currently stored in Ash Pond #3 is estimated / assumed to be 20% of capacity (as of 3.12.09)

$$= 68,810 \text{ ft}^3$$

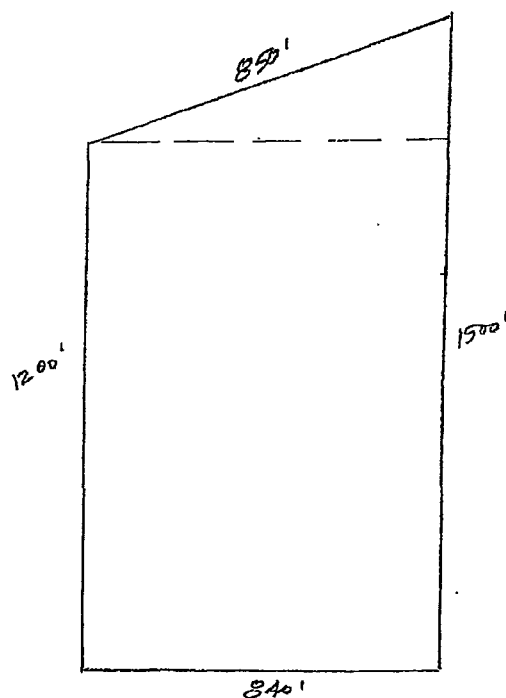
$$= 2,548 \text{ CY}$$

- * The maximum height of Ash Pond #3 levee = 20 ft

Ash Pond #4/A/B

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PAGE 1
(Ash Pond #4)

- * From an aerial survey topographic map (JPL Drawing # 6-1-1-4-1, dated 3/1969), assume that the bottom of this ASA pond (the natural, undisturbed ground) is @ elevation 670'



- * From measurements obtained from a measuring wheel, the surface area of Ash Pond #4/A/B is:

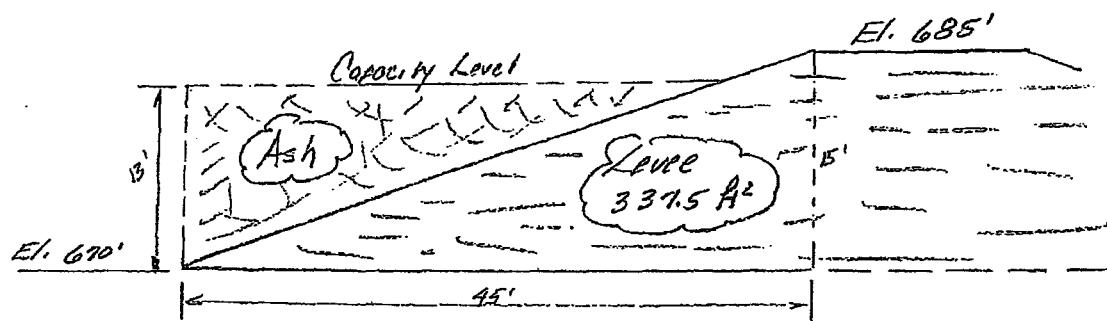
$$\approx (1200ft)(340ft) + \frac{1}{2}(300ft)(340ft) = \underline{1,134,000 \text{ ft}^2}$$

$$= \underline{26.0 \text{ ACRES}}$$

- * From as-built drawings & aerial topographic maps, the top of slope elevation for Ash Pond #4/A/B is 685'

* Assuming a 3:1 slope

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3.13.09
Page 2
(Ash Pond #4)



* Perimeter @ top of slope of Ash Pond #4/A/B $\approx 4,390$ ft

* Storage Capacity of Ash Pond #4/A/B \approx

$$1,134,000 \text{ A}^2 (13 \text{ ft}) - (337.5 \text{ A}^2)(4,390 \text{ ft}) = 13,760,315 \text{ A}^2$$

$$= 491,125 \text{ CY}$$

* The volume currently stored in Ash Pond #4/A/B is estimated/assumed to be 40% of capacity (as of 3.13.09)

$$= 5,304,150 \text{ A}^2$$

$$= 196,450 \text{ CY}$$

* The maximum height of Ash Pond #4/A/B/levee = 15 ft