



Mailing Address:
139 East Fourth Street
1212 Main / P.O. Box 960
Cincinnati, Ohio 45202
o: 513-287-4320
f: 513-287-4385

VIA OVERNIGHT DELIVERY

March 18, 2015

Mr. Jeff Derouen
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard, P.O. Box 615
Frankfort, Kentucky 40602-0615

RECEIVED

MAR 19 2015

PUBLIC SERVICE
COMMISSION

Re: Case No. 2015- 00089
In the Matter of the Application of Duke Energy Kentucky, Inc., for a Declaratory Order that the Construction of a New Landfill Constitutes an Ordinary Extension in the Usual Course of Business or, in the Alternative, for a Certificate of Public Convenience And Necessity.

Dear Mr. Derouen:

Enclosed please find an original and twelve copies of The Application of Duke Energy Kentucky, Inc. for filing in the above referenced matter.

Please date-stamp the two copies of the letter and the filing and return to me in the enclosed envelope.

Sincerely,

Rocco D'Ascenzo
Associate General Counsel
rocco.d'ascenzo@duke-energy.com

cc: Hon. Jennifer Hans

RECEIVED

MAR 19 2015

PUBLIC SERVICE
COMMISSION

**COMMONWEALTH OF KENTUCKY
BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION**

In The Matter of:

The Application of Duke Energy Kentucky, Inc.,)
for a Declaratory Order that the Construction)
of a New Landfill Constitutes an Ordinary) CASE NO. 2015- 00089
Extension in the Usual Course of Business or,)
in the Alternative, for a Certificate of Public)
Convenience and Necessity.)

**APPLICATION OF DUKE ENERGY KENTUCKY, INC., FOR A DECLARATORY
ORDER THAT THE CONSTRUCTION OF A NEW LANDFILL AT ITS EAST BEND
GENERATING STATION CONSTITUTES AN ORDINARY EXTENSION IN THE
USUAL COURSE OF BUSINESS OR, IN THE ALTERNATIVE, FOR CERTIFICATE
OF PUBLIC CONVENIENCE AND NECESSITY
AND REQUEST FOR EXPEDITED TREATMENT**

Now comes Duke Energy Kentucky, Inc. (Duke Energy Kentucky or the Company), pursuant to 807 KAR 5:001 Section 19 and hereby respectfully requests from the Kentucky Public Service Commission (Commission) an Order declaring that the construction of a new landfill to replace the current landfill that is nearing capacity, constitutes an ordinary extension of the Company's existing system in the usual course of business. In the alternative, pursuant to KRS 278.020 and 807 KAR 5:001 Section 15 Duke Energy Kentucky requests that the Commission grant a Certificate of Public Convenience and Necessity (CPCN) for the construction of the landfill.

Duke Energy Kentucky currently operates a landfill at its East Bend Generating Station (East Bend) that is used for the disposal of waste products resulting from the Company's flue gas desulfurization (FGD) and other waste material (East Bend Landfill). This current landfill is

projected to reach its capacity in the next three to four years and the Company must either construct a new landfill on the western portion of the East Bend Campus (West Landfill) or arrange to transport its waste to another landfill operated by a third party. The construction of the West Landfill will take time and the Company must act now to begin construction before the current landfill reaches its full capacity. Duke Energy Kentucky has a present opportunity to address the landfill capacity issue with a reasonably priced and long-term solution. Duke Energy Kentucky has recently acquired land adjacent to East Bend from its affiliate, Tri-State Improvement Company (Tri-State)¹ and its parent Duke Energy Ohio, Inc. (Duke Energy Ohio), and through its recent acquisition of the 31 percent interest in East Bend from the Dayton Power & Light Company (DP&L) that is permitted for and can accommodate the West landfill.² Duke Energy Ohio and Tri-State agreed to sell and transfer the land to Duke Energy Kentucky at its original book value, which is lower than the current market value and consistent with KRS 278.2207 and the Federal Energy Regulatory Commission's (FERC) asymmetrical pricing requirements.³ The land acquisition provided Duke Energy Kentucky the ability to construct the West Landfill at East Bend and continue to store waste material from East Bend on site, rather than incurring costs to transport to and dispose of the waste material at third-party-owned landfills.

The East Bend Landfill is permitted to receive various forms of waste, including, but not limited to, FGD waste, fly ash and bottom ash (Generator Waste), from a number of generating sources, including those generating stations currently owned and/or operated by Duke Energy

¹ Tri-State Improvement is a wholly-owned subsidiary of Duke Energy Ohio.

² *In the Matter of the Application of Duke Energy Kentucky, Inc., for (1) A Certificate of Public Convenience and Necessity Authorizing the Acquisition of the Dayton Power & Light Company's 31% Interest in the East Bend Generating Station; (2) Approval of Duke Energy Kentucky, Inc.'s Assumption of Certain Liabilities in Connection with the Acquisition; (3) Deferral of Costs incurred as Part of the Acquisition; and (4) All Other Necessary Approvals, and Relief*, Case No 2014-00201 (Ky. P.S.C. Order, December 4, 2014.)

³ KRS 278.2207.

Kentucky and for generating stations for other Kentucky utilities and Ohio-based electric generators. These permitted sources include, but are not limited to, the East Bend and Miami Fort 6 Generating Stations owned by Duke Energy Kentucky, the Spurlock Generating Station owned by East Kentucky Power Cooperative, the Ghent Generating Station owned by Kentucky Utilities Company, and the Zimmer, Beckjord, Miami Fort and Killen Stations (collectively Permitted Stations).⁴ As explained below, the West Landfill is permitted to receive Generator Waste from sources other than East Bend to ensure there is sufficient dry fly ash material to make the Poz-o-tec byproduct necessary to operate the station's FGD handling process. As such, this West Landfill will be beneficial for not only Duke Energy Kentucky, but potentially for other utilities in the Commonwealth. Exhibits 1 and 2 are a true and accurate copy of the permits for construction of the West Landfill from the Kentucky Division of Waste Management (DWM) and Kentucky Department of Environmental Protection (KDEP), respectively.

Exhibit 3 is a true and accurate copy of the results of a market appraisal of the land upon which the West Landfill is to be constructed, performed by an independent appraiser, showing that the current market price is greater than the fully distributed cost/net book value. As explained further below, the land acquisition and West Landfill construction will provide Duke Energy Kentucky with a long-term and economical opportunity to address the problem of waste disposal. Accordingly, a significant benefit is provided to Duke Energy Kentucky and its customers.

Duke Energy Kentucky's need to begin construction on the West Landfill resource is

⁴ The Miami Fort Generating Station has three operational units, Unit 6, 7, and 8. Duke Energy Miami Fort LLC, currently owns and operates Units 7 and 8. Duke Energy Miami Fort LLC is presently in the process of being sold to Dynegy. Duke Energy Kentucky owns Unit 6, but Duke Energy Miami Fort LLC operates Unit 6 on Duke Energy Kentucky's behalf pursuant to an approved service agreement.

immediate, thus driving Duke Energy Kentucky's desire to begin construction as soon as possible.⁵

Introduction

1. Duke Energy Kentucky is a Kentucky corporation with its principal office and principal place of business at 139 East Fourth Street Cincinnati, Ohio, 45202. The Company's local office in Kentucky is Duke Energy Envision Center, 4580 Olympic Boulevard, Erlanger, Kentucky 41018. The Company further states its electronic mail address for purposes of this matter is KYfilings@duke-energy.com.

2. Duke Energy Kentucky is a utility engaged in the gas and electric business. Duke Energy Kentucky purchases, sells, stores and transports natural gas in Boone, Bracken, Campbell, Gallatin, Grant, Kenton and Pendleton Counties, Kentucky. Duke Energy Kentucky also generates electricity, which it distributes and sells in Boone, Campbell, Grant, Kenton and Pendleton Counties.

3. Pursuant to 807 KAR 5:001, Section 14(2), Duke Energy Kentucky states that it was originally incorporated in the Commonwealth of Kentucky on March 20, 1901, and attests that it is currently in good standing in said Commonwealth.

Background

4. On or about December 5, 2003, in Case No. 2003-00252, the Commission approved Duke Energy Kentucky's acquisition of three generating stations from Duke Energy Ohio; East Bend, Miami Fort Unit 6 and Woodsdale. Effective January 1, 2006, Duke Energy Kentucky completed the acquisition of these three generating stations.

The East Bend Landfill was part of the generating asset acquisition approved in Case No.

⁵ See Case No 2014-00201, Response to Staff DR 01-026, describing that it will take approximately two years to construct the landfill cell.

2003-00252 and is operated by Duke Energy Kentucky. The East Bend Landfill is used, incidentally, in the production and furnishing of electric service as it serves as a means for storage and disposal of Generator Waste material produced by East Bend. Approximately 80 percent of the ash produced at East Bend is dry fly ash. That material is mixed with the spent scrubber slurry and lime to make a stable material called Poz-o-tec. The mixture sets up much like concrete and is placed in the onsite landfill. At times, the East Bend Generating Station does not produce enough Generator Waste to make the Poz-o-tec material on its own and must receive additional fly ash waste from other sources. The remaining 20 percent is bottom ash. This bottom ash is treated in an ash pond located on site at East Bend.

5. The presence of this onsite landfill has permitted Duke Energy Kentucky to manage its costs of providing safe and reliable electric service by eliminating the need to transport to and pay for disposal of the Generator Waste in commercial landfills. The East Bend Landfill is projected to reach its capacity in approximately three to four years. The lifespan of the East Bend Landfill, and the eventual need for a new alternative, were first discussed in Case No. 2003-00252. Most recently, the need for a replacement landfill and its construction was discussed in Case No., 2014-00201, regarding the Company's acquisition of the remaining 31 percent interest in East Bend from DP&L.⁶ Exhibit 4 includes the Company's responses to Commission Staff-issued data requests on the topic. At that time, it was contemplated that to address future waste disposal needs, Duke Energy Kentucky would either acquire land from Duke Energy Ohio to expand its existing landfill or that Duke Energy Ohio might construct its own landfill and charge Duke Energy Kentucky for disposal services. Since Duke Energy

⁶ In the Matter of the Application of Duke Energy Kentucky, Inc., for (1) A Certificate of Public Convenience and Necessity Authorizing the Acquisition of the Dayton Power & Light Company's 31% Interest in the East Bend Generating Station; (2) Approval of Duke Energy Kentucky, Inc.'s Assumption of Certain Liabilities in Connection with the Acquisition; (3) Deferral of Costs incurred as Part of the Acquisition; and (4) All Other Necessary Approvals, and Relief, Case No 2014-00201 (Ky. P.S.C. Order, December 4, 2014.) See *Direct Testimonies of Steven Immel at 6 and J. Michael Geers at 24-26.*

Kentucky has an immediate need for the landfill development and Duke Energy Ohio no longer owns operating generating assets, Duke Energy Kentucky has purchased the land for its own landfill development.

6. A repository for East Bend's Generator Waste is necessary for purposes of environmental compliance for current and emerging regulations involving handling of coal combustion residuals.

7. In anticipation of reaching capacity at the East Bend Landfill, Duke Energy Kentucky began exploring alternatives to address the need to dispose of Generator Waste material. The only viable alternative was to transport the Generator Waste to a third-party owned and operated landfill. The Company has determined that operating its own landfill continues to be the best and lowest cost option for its customers. Accordingly, Duke Energy Kentucky purchased land owned by its parent and affiliate, Duke Energy Ohio and Tri-State, respectively, adjacent to Duke Energy Kentucky's East Bend in order to construct the West Landfill. Further, the Company acquired the DP&L's 31 percent interest in the land surrounding East Bend when it completed its acquisition of DP&L's share in the station.

8. The West Landfill construction project includes construction of approximately 200 acres of lined landfill. The West Landfill is designed to accept approximately 30 years of Generator Waste from the East Bend Station, including other permitted stations. The Landfill will be lined with a leachate collection system in accordance with all applicable federal, state, and local requirements. The detail design of the West Landfill footprint is included in the Kentucky Division of Waste Management Permit number SW00800006 and the Kentucky Department of Environmental Protection permit number 7094A. The West Landfill construction will also include the construction of all infrastructure required to operate and maintain the West

Landfill. The West Landfill infrastructure includes, but is not limited to, roads for access and operation of the landfill, electric transmission lines and electrical equipment for powering necessary equipment for use at the landfill, and environmental monitoring equipment.

9. The West Landfill will be constructed in eight separate phases, with the first phase to be completed in 2016. The additional seven phases will be constructed in approximate three-year increments with a projected completion date of 2037 for all phases. The approximate cost of the first phase is \$30 million. The Company anticipates commencing engineering on the second cell in 2016 with actual construction beginning in 2019.⁷ Future cell construction will be timed so that the West Landfill can continue to operate without any interruption and in a way that reduces construction and operational costs.

10. To construct the proposed West Landfill, Duke Energy Kentucky acquired approximately 940 acres of land, located adjacent to East Bend, from its parent and affiliate, Duke Energy Ohio and Tri-State and through the recent acquisition of the remaining 31 percent interest in East Bend from DP&L. Duke Energy Kentucky has already obtained the necessary environmental permits to construct the West Landfill as evidenced by Exhibits 1 and 2. Exhibit 5 includes overhead maps showing the location of the East Bend Generating Station, construction location, and the proximity of the West Landfill.

11. Consistent with KRS 278.2207, Duke Energy Ohio and Tri-State agreed to transfer the land to Duke Energy Kentucky at its net book value, \$2,545,382.97. This is lower than the market value of the property of approximately \$6.023 million, which was determined by an independent appraisal performed by a real estate appraisal firm. A copy of the appraisal is

⁷ The Company believes that the construction of all eight phases of the West Landfill, each constructed separately in time, will constitute ordinary extensions of an existing system as each phase is intended to replace the existing landfill that will soon no longer be able to store additional Generator Waste. Each individual phase should constitute an ordinary extension. To the extent the Commission does not find the proposed West Landfill to be an ordinary extension, the Company is seeking a CPCN.

attached hereto as Exhibit 3.

12. Duke Energy Kentucky continues to believe that constructing and operating its own landfill is the best way to address Generator Waste disposal. Maintaining an onsite disposal facility minimizes any transportation expenses and disposal fees, and avoids contractual limitations, such as volume constraints, term of use, and renegotiations, that Duke Energy Kentucky would incur if it were to use a third-party commercial landfill. Since Duke Energy Kentucky already operates the East Bend Landfill, it has the trained and skilled personnel capable of constructing and maintaining the West Landfill in accordance with good engineering practices. The West Landfill will be operational and in use prior to the East Bend Landfill reaching its capacity so as to allow a seamless transition. This West Landfill will provide additional disposal capacity for the East Bend Generating Station. This construction provides an opportunity for Duke Energy Kentucky to begin to address its long-term Generator Waste disposal needs.

**Request for Declaratory Order that the West Landfill
is an Ordinary Extension of an Existing System in the Ordinary Course**

13. Pursuant to 807 KAR 5:001 Section 19, Duke Energy Kentucky requests confirmation from the Commission that the construction of the West Landfill represents an ordinary extension of existing systems in the usual course of business and does not require a CPCN pursuant to KRS 278.020 and 807 KAR 5:001 Section 15(3).

14. KRS 278.020(1) provides an exemption from the requirement of a CPCN for the construction of new facilities for furnishing regulated utility services to the public, if such new facilities are ordinary extensions of existing systems in the usual course of business. As defined by 807 KAR 5:001 Section 15(3), such ordinary extensions must not “create wasteful duplication of plant, equipment, property, or facilities,” must not “conflict with the existing certificates or

service of other utilities operating in the area,” and must “not involve sufficient capital outlay to materially affect the existing financial condition of the utility involved, or will not result in increased charges to its customers.” Duke Energy Kentucky submits that this project constitutes an ordinary extension of an existing system in the usual course of business because:

- a. The West Landfill is being constructed to replace the East Bend Landfill that is nearing its capacity. Each new phase will be constructed separately so to be in place and ready for operation upon need. Therefore, the West Landfill will not represent a wasteful duplication of plant, equipment, property, or facilities.
- b. The land acquisition and construction of the West Landfill will not require an investment sufficient to materially affect Duke Energy Kentucky’s financial condition because the land was transferred at its net book value of approximately \$2.5 million. The West Landfill will be owned and operated by Duke Energy Kentucky just as it has owned and operated the East Bend Landfill for the past several years. Accordingly, Duke Energy Kentucky already has the personnel in place to operate the West Landfill. The West Landfill will be constructed on land adjacent to the existing East Bend site. This proximity will allow Duke Energy Kentucky to better control its transportation costs for disposing of the Generator Waste material. As discussed below, the construction and maintenance of the West Landfill in the long term is a more economic solution for Duke Energy Kentucky and its customers than identifying and engaging a third-party landfill for disposal of Generator Waste. While the Company may seek to include the cost of construction and operation and maintenance of the landfill in its rates at some point, the Company is not seeking such authority in this application. And as

explained herein, the cost of constructing and operating the West Landfill is far less than the cost to transport and dispose of the Generator Waste at a commercial landfill.

- c. In addition, the location of the West Landfill in such close proximity to East Bend and on land recently acquired by Duke Energy Kentucky will ensure that the West Landfill will not compete or conflict with the existing certificates or services of any other jurisdictional utilities in the area.

15. The West Landfill will allow Duke Energy Kentucky to continue to provide stable and reasonably priced retail electric service to its customers by eliminating the need to transport to, and pay for disposal of Generator Waste at third-party owned and operated landfills once the East Bend Landfill reaches capacity. Based upon market inquiries to third parties owning and operating landfills, Duke Energy Kentucky estimates that the costs of transporting and disposing of the Generator Waste material in a commercial landfill to be approximately \$33-\$35 per ton. East Bend produces approximately 1.3 million tons of FGD waste material per year, resulting in an annual expense, based upon today's dollars, of more than \$42 million to use a commercial landfill. Assuming a disposal need for the next thirty years, this amounts to approximately \$1,260,000,000 in third-party disposal expense before even taking into account various concerns with short-term contracts, price escalations, and inflation. Further, constructing an onsite landfill will avoid significant public road traffic that would be necessary if the Company were to transport its waste to a third party-owned offsite disposal facility.

16. The Company's estimated fully loaded budgeted cost of construction for all eight phases of the West Landfill is approximately \$159 million. Ongoing on-site disposal expenses (*e.g.* transportation) amount to approximately \$3.5 million per year. Over an assumed thirty-year

life of the West Landfill, the estimated cost of construction of all eight phases, and the annual disposal expense equates to an annualized estimated cost of operation of approximately \$8 million to \$9 million per year.⁸ This is far below the current estimated annual expense of approximately \$42 million to use a third-party landfill for waste disposal.

17. The estimated cost of initiating construction in the spring of 2015 and finishing the first phase of the West Landfill is approximately \$30 million. This initial cell construction cost estimate includes construction of roadways, trenches, and installation of necessary transmission line that will be common for all future cells, but must be constructed with the initial phase. The estimated cost for each additional future cell is approximately \$18 million per cell.

Alternative Request for Certificate of Public Convenience and Necessity

18. In the alternative, if the Commission were to find that land acquisition and construction of the West Landfill requires a CPCN, Duke Energy Kentucky respectfully requests this Commission grant such a certificate.

19. 807 KAR 5:001, Section 15 sets forth the requirements to receive a CPCN.

a. In accordance with Section 15(2)(a), the application herein describes the facts relied upon to show the West Landfill is required by public convenience or necessity in that the West Landfill is necessary for the Company to continue to comply with environmental regulations and will allow Duke Energy Kentucky to continue to provide safe, reliable and reasonably priced retail electric service to customers by not having to procure third-party disposal services for Generator Waste material.

b. In accordance with Section 15(2)(b), the Company has previously filed with the Commission the applicable franchises from the proper public authorities. In

⁸ (i.e. \$159MM/ 30yrs= \$5.3MM/ yr. \$5.3MM +\$3.5MM= \$8.8MM.

addition, Exhibits 1 and 2 of this application include copies of the environmental permits for the construction of the West Landfill.

- c. In accordance with Section 15(2)(c) and (d), Exhibit 3 includes a description of the land and the market appraisal. Exhibit 5 includes overhead maps of the site showing the proposed location of the West Landfill and construction.
- d. In accordance with Section 15(2)(e), the Company states that it proposes to finance the construction through continuing operations and debt instruments, as necessary. In addition, the Company may seek to include this project as part of an overall environmental compliance plan pursuant to KRS278.183. A final decision in that regard has not yet been reached and the Company will seek Commission approval to implement such a mechanism through a separate filing.
- e. In accordance with Section 15(2)(f), the total estimated cost of construction for all eight phases of the West Landfill is approximately \$159 million. The initial construction of phase one is estimated at approximately \$30 million. On-site disposal expenses (*e.g.*, transportation) amount to approximately \$3.5 million per year. Over an assumed thirty-year life of the West Landfill, the estimated cost of land acquisition, construction of all eight phases, and annual disposal expense equates to an annual investment of approximately \$8 million to \$9 million per year for the next thirty years. This is far below the current estimated annual expense of approximately \$35 million to use a third-party's landfill for waste disposal.

Requested Relief

- 20. Duke Energy Kentucky also respectfully requests that the Commission grant the

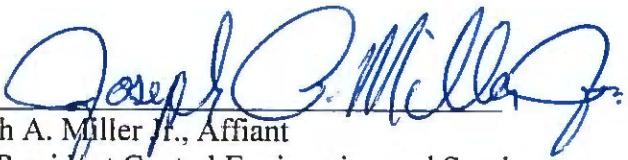
relief requested herein expeditiously so that it may begin construction as soon as possible in the Spring of 2015 so that it has ample time to complete construction prior to the current East Bend landfill reaching its capacity. The Company respectfully requests that the Commission issue the declaratory order that the landfill construction constitutes an ordinary extension within 90 days.

WHEREFORE, Duke Energy Kentucky respectfully requests that the Commission expeditiously issue an Order declaring that the construction of a replacement landfill constitutes an ordinary extension in the usual course of business or in the alternative grant the necessary CPCN.

promoted to General Manager of Strategic Engineering in July 2012, following the merger between Duke Energy and Progress Energy, Inc. In February 2014, I served as Interim Vice President of Central Engineering and Services and I was promoted to my current position as Vice President of Central Engineering and Services in October 2014.

4. I have personal knowledge of the matters set forth in the foregoing Application, and the information contained therein is true and correct to the best of my knowledge, information and belief.

DUKE ENERGY KENTUCKY

By: 
Joseph A. Miller Jr., Affiant
Vice President Central Engineering and Services,
Duke Energy Business Services, LLC

Subscribed and sworn to before me by Joseph A. Miller Jr., Vice President of Central Engineering Services for Duke Energy Business Services on this 18TH day of March 2015.

ADELE M. FRISCH
Notary Public, State of Ohio
My Commission Expires 01-05-2019


NOTARY PUBLIC

My Commission Expires: 1/5/2019

Respectfully submitted,



Rocco O. D'Ascenzo (92796)

Associate General Counsel

Amy B. Spiller (85309)

Deputy General Counsel

Duke Energy Business Services, LLC

139 East Fourth Street, 1313 Main

Cincinnati, Ohio 45201-0960

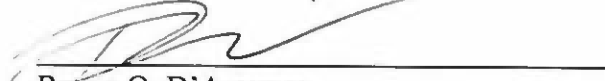
Phone: (513) 287-4320

Fax: (513) 287-4385

e-mail: rocco.d'ascenzo@duke-energy.com

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing Application of Duke Energy Kentucky, Inc. has been served via overnight mail to the following party on this 18th day of March 2015.



Rocco O. D'Ascenzo

Hon. Jennifer Hans
Office of the Attorney General
Utility Intervention and Rate Division
1024 Capital Center Drive
Frankfort, Kentucky 40601

Steven L. Beshear
Governor



Leonard K. Peters
Secretary

ENERGY AND ENVIRONMENT CABINET
Division of Waste Management
200 Fair Oaks, 2nd Floor
FRANKFORT, KY 40601
TELEPHONE: 502-564-6716
FACSIMILE: 502-564-3492
waste.ky.gov

September 22, 2014

Ms. Tammy Jett
Environmental Services Department
Duke Energy Corporation
139 East 4th Street
Cincinnati, Ohio 45202

Certified Mail No. 7012 2920 0001 0742 9486

RE: Approval of Minor Modification to Add a Waste Source
Duke Energy Corporation – Special Waste Landfill
Agency Interest No. 176
Application I.D. No. APE20140004
Boone County

Dear Ms. Jett:

The Kentucky Division of Waste Management (DWM), Solid Waste Branch has reviewed the modification application referenced above, received on September 12, 2014. The application proposes to accept fly ash for disposal from Kentucky Utilities Ghent Generating Station. DWM hereby approves this application. Please find enclosed a copy of the approved application and a revised permit.

Be advised that if you consider yourself aggrieved by the issuance of this permit, you have the right, pursuant to KRS 224.10-420(2) and 401 KAR 45:040, Section 2(6) to file a petition demanding a hearing with the cabinet. This right shall be limited to a period of thirty (30) days from the receipt of this permit. If you need clarification or additional information, please contact Joanna Ashford at (502) 564-6716, extension 4667.

Sincerely,

Handwritten signature of Anthony R. Hatton in black ink.

Anthony R. Hatton, P.G., Director
Acting Branch Manager
Solid Waste Branch

Enclosures
ARH/LTB/jba

KentuckyUnbridledSpirit.com



An Equal Opportunity Employer M/F/D
Printed on recycled paper



**Kentucky Energy and Environment Cabinet
Department for Environmental Protection
Division of Waste Management**

PERMIT

Facility: **Duke Energy East Bend Station Special Waste Disposal Facility**
6293 Beaver Rd
Union, KY 41091

Permittee: **Duke Energy**
139 E 4th St
Cincinnati, OH 452024003

Agency Interest: **Duke Energy KY East Bend**
6293 Beaver Rd
Union, KY 41091

The Division has issued the permit under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. This permitted activity or activities are subject to all conditions and operating limitations contained herein. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses or approvals required by this Division or other state and local agencies.

No deviation from the plans and specifications submitted with your application or any condition specified herein is allowed, unless authorized in writing from the Division. Violation of the terms and conditions specified herein may render this permit null and void. All rights of inspection by representatives of the Division are reserved. Conformance with all applicable Waste Management Regulations is the responsibility of the permittee.

Agency Interest ID #: 176

Solid Waste Permit #: SW00800006

County: Boone

Permitted Activities:

Subject Item	Activity	Type	Status
ACTV004	Special Waste Landfill-Coal/00800006	Construction/Operation	Active
ACTV006	Special Waste Landfill-Coal/00800006	Construction	Under construction

Permit Number: SW00800006

Agency Interest ID: 176

PERMIT

Acreage Summary:

Waste Disposal Area (in Acres):

Activity	Disposal Area
Special Waste Landfill-Coal	70.00
Special Waste Landfill-Coal	203.70
Total Disposal Area	273.70
Total Permitted Area	363.70

Cost Estimate Summary:

Coverage Type	Cost Estimate	Effective	Comments
Closure	\$1,768,471.00	12/8/2008	Additional information can be found under Facility Information and/or Conditions
Post-Closure	\$490,591.00	12/8/2008	Additional information can be found under Facility Information and/or Conditions

Financial Assurance Summary:

The owner or operator shall maintain the following financial assurance approved by the Division in compliance with KRS Chapter 224.40-650, KRS Chapter 224.50-862, 401 KAR 45:080, and 401 KAR 48:310:


Instrument Type	Instrument Number	Amount	Date Received	Comments
Corporate Financial Test	0	\$2,598,255.00	12/16/2013	

First Operational Permit Effective Date: 07/16/1982 -- ACTV0004, Inert Landfill Activity

Permit Effective Date: 07/16/1992

Permit Expiration Date: Life of Facility

Permit issued: 09/22/2014


 Anthony R Hatton, P.G., Director
 Acting Branch Manager,
 Solid Waste Branch

Permit Number: SW00800006

Agency Interest ID: 176

PERMIT

Permit Conditions:

Facility Information and/or Conditions

The closure cost estimate for ACTV0004 is \$1,768,471.00 and the post-closure estimate is \$490,591.00. This estimate was approved on October 4, 2006 under APE20060001.

The closure cost estimate for ACTV0006 is \$3,302,474.00 and the post-closure estimate is \$499,065.00. This estimate was approved under APE20070004. Financial Assurance shall be provided to and accepted by the Division prior to issuance of an operating permit

Subject Items

ACTV0004 - Special Waste Landfill-Coal

Standard Requirements:

1. General: The owner or operator of a special waste facility shall comply with KRS Chapter 224 and 401 KAR Chapters 30, 40 and 45 for the construction and operation of special waste facilities. [KRS 224.50-760]
2. General: For construction and operation of the special waste landfill, the owner or operator shall comply with KRS Chapter 224.50-760, 401 KAR 45:030, 45:110 and the approved permit application(s). [401 KAR 45:110]
3. General: The owner or operator may only accept waste at the special waste landfill from the sources which are approved per 401 KAR 45:020, Section 2(1)(a), 45:030, Section 8(1)(a), and 45:110. [401 KAR 45:110]

Variations, Alternate Specifications and Special Conditions:

1. Wastestreams: The permittee may accept fly ash from the Beckford Facility, Clermont Co., New Richmond, Ohio. [401 KAR 45:110 Section 3(7)]
2. Wastestreams: The permittee may accept fly ash from the Zimmer Station Facility, Clermont Co., Moscow, Ohio. [401 KAR 45:110 Section 3(7)]
3. Wastestreams: The permittee may accept fly ash from the Miller Brewery Facility, Butler Co., Trenton, Ohio. [401 KAR 45:110 Section 3(7)]
4. Wastestreams: The permittee may accept special waste streams as described in the approved plans and applications from the East Bend Facility, Boone Co., Rabbit Hash, Kentucky. [401 KAR 45:110 Section 3(7)]
5. Wastestreams: The permittee may accept fly ash and dry FGD Waste from the City of Hamilton, Butler Co., Hamilton, Ohio. [401 KAR 45:110 Section 3(7)]
6. Wastestreams: The permittee may accept fly ash, bottom ash, and plastic for truck lining from the Miami Fort facility in Hamilton Co., North Bend, Ohio. [401 KAR 45:110 Section 3(7)]

Permit Number: SW00800006

Agency Interest ID: 176

PERMIT

7. Wastestreams: The permittee may accept gypsum from the Killen Station, Adams Co., Wrightsville, Ohio. [401 KAR 45:110 Section 3(7)]

8. Wastestreams: The Permittee may accept fly ash from the Jefferson Smurfit Facility, Butler Co., Middletown, Ohio. [401 KAR 45:110 Section 3(7)]

9. Wastestreams: The permittee may accept fly ash from Duke Energy Generation Services of St. Bernard, LLC, Butler Co., Cincinnati, Ohio. [401 KAR 45:110 Section 3(7)]

10. General: This Special Waste Landfill, known as the East Special Waste Landfill (ACTV0004), consists of 70 acres of disposal area and 160 acres of total permitted area. [401 KAR 45:110 Section 3(7)]

11. Financial Assurance: The maximum extent of operation includes the area of the landfill identified by an operating permit and for which the final cover Construction Progress Report has not yet been approved by the cabinet. The current maximum extent of operation for this East Special Waste Landfill (ACTV0004) is less than or equal to 55 acres. [401 KAR 45:080]

12. Wastestreams: The permittee may accept fly ash from the Spurlock Station, Mason Co., Maysville, Kentucky. The permittee may accept up to 60,000 tons annually, and additional information may be found in the approved application, APE20120005. [401 KAR 45:110 Section 3(7)]

13. Wastestreams: The permittee may accept fly ash from the Ghent Generating Station, Carroll Co., Ghent, Kentucky. The permittee may accept up to 100,000 tons annually and additional information may be found in the approved application, APE20140004. [401 KAR 45:110 Section 3(7)]

Approved Applications - The owner or operator shall comply with applicable statutes and regulations and the following approved applications:

1. 06-07-82 - First Operational Permit for Inert Landfill (effective on 7-16-82)
2. 04-05-84 - Modification for Inert Landfill
3. 07-15-87 - Renewal for Inert Landfill
4. 03-01-96 - Permit Renewal - conversion to Special Waste (effective date 7-16-92)
5. 07-24-96 - Groundwater Monitoring Plan - L11MOGWI
6. 01-16-97 - Modification Add/Delete Waste Sources - MOAD1
7. 11-12-97 - Modification Add/Delete Waste Sources - MOAD2
8. 11-27-00 - Modification Add/Delete Waste Sources - MOAD3
9. 11-22-04 - APE20040001 - Minor Modification - Add/Delete Modification
10. 04-05-05 - APE20040005 - Minor Modification - Add/Delete Modification
11. 06-07-05 - AIN20010001 - Groundwater Assessment Plan
12. 07-13-05 - APE20050001 - Minor Modification - Leachate Collection System
13. 12-12-05 - AIN20050001 - Groundwater Assessment Plan - East Landfill
14. 10-04-06 - APE20060001 - Permit Transfer (to Union Light, Heat, and Power Coop)
15. 10-04-06 - APE20060006 - Minor Modification - Change the Active Area from 40 Acres to 55 Acres
16. 12-06-06 - AIN20060001 - Groundwater Assessment Report - East Landfill
17. 02-16-07 - APE20070001 - Construction Progress Report - Cells P-15 & P16
18. 03-20-07 - APE20060007 - Permit Transfer (to Duke Energy Kentucky, Inc.)
19. 08-15-07 - AIN20070001 - Groundwater Assessment Plan - Ash Pond
20. 08-15-07 - APE20070003 - Minor Modification - Add Source (bottom ash and plastic for truck lining)

Permit Number: SW00800006

Agency Interest ID: 176

PERMIT

- from Miami Fort)
21. 08-15-07 - APE20070007 - Minor Modification previously labeled as APE20070005 - Add Source (Gypsum from Killen Station)
 22. 07-16-10 - AIN20080001 - Groundwater Assessment Report - Ash Pond
 23. 04-14-11 - CMN20100015 - Acceptance Letter Issued, Groundwater Assessment Report Update - Ash Pond and East Landfill
 24. 07-06-12 - APE20120005 - Minor Modification - Add Source (Fly Ash from Spurlock Station)
 25. 08-15-12 - AIN20110001 - Groundwater Assessment Report Update - Ash Pond
 26. 08-15-12 - AIN20110002 - Groundwater Assessment Report Update - East Landfill
 27. 09-22-14 - APE20140004 - Minor Modification - Add Source (Fly Ash from Ghent Generating Station)

ACTV0006 - Special Waste Landfill-Coal**Standard Requirements:**

1. General: The owner or operator of a special waste facility shall comply with KRS Chapter 224 and 401 KAR Chapters 30, 40 and 45 for the construction and operation of special waste facilities. [KRS 224.50-760]
2. General: For construction and operation of the special waste landfill, the owner or operator shall comply with KRS Chapter 224.50-760, 401 KAR 45:030, 45:110 and the approved permit application(s). [401 KAR 45:110]
3. General: The owner or operator may only accept waste at the special waste landfill from the sources which are approved per 401 KAR 45:020, Section 2(1)(a), 45:030, Section 8(1)(a), and 45:110. [401 KAR 45:110]

Variations, Alternate Specifications and Special Conditions:

1. General: This Special Waste Landfill, known as the West Special Waste Landfill (ACTV0006), consists of 203.7 acres of disposal area and total permitted area. [401 KAR 45:110 Section 3(7)]
2. Wastestreams: The permittee may accept special waste streams as described in the approved plans and applications from the East Bend Facility, Boone Co., Rabbit Hash, Kentucky. These wastestreams include fixated FGD waste, bottom ash, and pond ash. [401 KAR 45:110 Section 3(7)]
3. Wastestreams: The permittee may accept unfixated FGD Waste from the City of Hamilton, Butler Co., Hamilton, Ohio. [401 KAR 45:110 Section 3(7)]
4. Wastestreams: The permittee may accept fly ash, bottom ash, and pond ash from the Beckford Facility, Clermont Co., New Richmond, Ohio. [401 KAR 45:110 Section 3(7)]
5. Wastestreams: The permittee may accept fly ash from Duke Energy Generation Services of St. Bernard, LLC, Butler Co., Cincinnati, Ohio. [401 KAR 45:110 Section 3(7)]
6. Wastestreams: The permittee may accept fly ash, bottom ash, gypsum, pond ash, and waste water treatment solids from the Miami Fort facility in Hamilton Co., North Bend, Ohio. [401 KAR 45:110 Section 3(7)]
7. Wastestreams: The permittee may accept fly ash, bottom ash, gypsum, and waste water treatment solids from the Zimmer Station Facility, Clermont Co., Moscow, Ohio. [401 KAR 45:110 Section 3(7)]

Permit Number: SW00800006

Agency Interest ID: 176

PERMIT

8. Wastestreams: The permittee may accept gypsum from the Killen Station, Adams Co., Wrightsville, Ohio. [401 KAR 45:110 Section 3(7)]

9. Financial Assurance: The maximum extent of operation includes the area of the landfill identified by an operating permit and for which the final cover Construction Progress Report has not yet been approved by the cabinet. The proposed maximum extent of operation for this West Special Waste Landfill (ACTV0006) is less than or equal to 60 acres. [401 KAR 45:080]

10. Wastestreams: The permittee may accept fly ash from the Spurlock Station, Mason Co., Maysville, Kentucky. The permittee may accept up to 60,000 tons annually, and additional information may be found in the approved application, APE20120005. [401 KAR 45:110 Section 3(7)]

11. Wastestreams: The permittee may accept fly ash from the Ghent Generating Station, Carroll Co., Ghent, Kentucky. The permittee may accept up to 100,000 tons annually and additional information may be found in the approved application, APE20140004. [401 KAR 45:110 Section 3(7)]

Approved Applications - The owner or operator shall comply with applicable statutes and regulations and the following approved applications:

1. 12-08-2008 - APE20070004 - New Special Waste Activity - West Special Waste Landfill
2. 03-09-2011 - APE20100002 - Groundwater Monitoring Plan Modification - West Special Waste Landfill
3. 02-28-2012 - APE20110004 - Construction Progress Report - Floodplain Area Filling (2.1 acres)
4. 07-06-2012 - APE20120005 - Minor Modification - Add Source (Fly Ash from Spurlock Station)
5. 09-22-2014 - APE20140004 - Minor Modification - Add Source (Fly Ash from Ghent Generating Station)

Financial Assurance**ACTV0001 - Financial Assurance**

The following is a history of the financial assurance for this facility:

1. 07-10-1987 - SB# B80-201654, \$83,000.00
2. 07-06-1992 - SB# B80-201654, \$539,900.00
3. 09-05-2001 - SB# B80-201654, \$564,102.00
4. 09-16-2002 - SB# B80-201654, \$577,534.00
5. 10-23-2003 - Financial Test, \$2,120,500.00
6. 10-31-2003 - SB# B80-201654 released
7. 05-15-2006 - Financial Test, \$2,259,062.00
8. 05-31-2007 - Financial Test, \$2,324,575.00
9. 07-30-2007 - Financial Test, \$2,324,575.00
10. 09-26-2011 - Financial Test, \$2,522,049.00
11. 12-16-2013 - Financial Test, \$2,598,255.00

Permit Number: SW00800006

Agency Interest ID: 176

PERMIT

Monitoring Conditions

GSTR0001 - Groundwater Monitoring - SW: Groundwater Monitoring Group - East Special Waste Landfill

Group Members: STRC0001 - Well MW-1; STRC0002 - Well MW-3; STRC0003 - Well MW-4; STRC0004 - Well MW-5; STRC0005 - Well MW-6; STRC0006 - Well MW-6D

Standard Requirements:

1. The owner or operator shall satisfy the requirements of 401 KAR 45:160 for all wastes and waste constituents contained in the site or facility. [401 KAR 45:160 Section 1]
2. The permittee shall monitor for other parameters as required by the cabinet. [401 KAR 45:160 Section 8(2)(c)]
3. The owner or operator shall monitor groundwater on the approved schedule at each approved groundwater monitoring location in accordance with 401 KAR 45:160, the permit, and the approved plans. A table summarizing the parameters to be monitored, their respective limits and monitoring frequency is included herein. [401 KAR 45:160, 401 KAR 45:140 Section 1(1)]
4. The owner or operator shall conduct statistical analysis of the groundwater data in accordance with 401 KAR 45:160 Section 6 and the approved applications. The statistical test chosen shall be conducted separately for each parameter in each well for each monitoring event. The results shall be maintained as part of the facility record throughout the operating and postclosure life of the facility. [401 KAR 45:160 Section 6, 401 KAR 45:140 Section 1(1)]
5. The groundwater analytical data and statistical analysis shall be submitted on forms provided by the cabinet, within sixty (60) days after sampling or 15 days of the completion of statistical analysis, whichever is sooner. [401 KAR 45:160 Section 4]
6. Groundwater monitoring wells shall be constructed and maintained in accordance with 401 KAR 45:160 Section 3, the permit, and the approved plans. [401 KAR 45:160 Section 3, 401 KAR 45:140 Section 1(1)]
7. No monitoring well construction, maintenance, or abandonment may be conducted without prior approval by the Division of Waste Management. [401 KAR 45:140 Section 1(1)]
8. Only a Kentucky Certified Monitoring Well Driller may construct or abandon monitoring wells. [401 KAR 6:320]
9. If the analysis of groundwater sample results indicates contamination (i.e., a statistical or MCL exceedence) as specified in 401 KAR 45:160 Section 5, the owner or operator shall notify the cabinet within (forty-eight) 48 hours of receiving the results and shall arrange to split samples no later than ten (10) days from the receipt of the results. [401 KAR 45:160 Section 5]

Permit Number: SW00800006

Agency Interest ID: 176

PERMIT

10. The owner or operator shall be required to prepare and submit a groundwater contamination assessment plan if laboratory analyses of one (1) or more public or private water supplies or monitoring wells at the site shows the presence of one (1) or more parameters above the maximum contaminant level (MCL) as specified in 401 KAR 30:031 or a statistically significant increase over background levels for parameters that have no MCL. [401 KAR 45:160 Section 5]

11. The owner or operator shall provide alternate water supplies to all affected parties within twenty-four (24) hours of notification of the cabinet that sample results indicate contamination of a drinking water supply if it has been determined that the special waste site or facility is the probable source of the contamination. [401 KAR 45:160 Section 3]

12. If required by the cabinet, groundwater contamination assessment and corrective action shall be performed in full compliance with all provisions of 401 KAR 45:160 Section 5. [401 KAR 45:160 Section 5]

13. The owner or operator shall provide the division a minimum of five (5) working days advance notice for all groundwater monitoring well construction and abandonment activities. [401 KAR 40:020 Section 2(4)]

GSTR0003 - Groundwater Monitoring - SW: Assessment Well Group

Group Members: STRC0003 - Well MW-4; STRC0023 - Well P-4; STRC0024 - Well P-5; STRC0025 - Well P-6; STRC0026 - Well P-7; STRC0027 - Well P-8; STRC0028 - Well P-9; STRC0030 - Well MW-5D (Assessment); STRC0031 - Well MW-8D (Assessment); STRC0032 - Well MW-7 (Assessment); STRC0039 - Well MW-04D; STRC0040 - Well MW-09; STRC0041 - Well MW-10

Standard Requirements:

1. Groundwater monitoring wells shall be constructed and maintained in accordance with 401 KAR 45:160 Section 3, the permit, and the approved plans. [401 KAR 45:160 Section 3, 401 KAR 45:140 Section 1(1)]

2. No monitoring well construction, maintenance, or abandonment may be conducted without prior approval by the Division of Waste Management. [401 KAR 45:140 Section 1(1)]

3. Only a Kentucky Certified Monitoring Well Driller may construct or abandon monitoring wells. [401 KAR 6:320]

4. The owner or operator shall provide the division a minimum of five (5) working days advance notice for all groundwater monitoring well construction and abandonment activities. [401 KAR 40:020 Section 2(4)]

Variations, Alternate Specifications and Special Conditions:

1. The permittee shall monitor these wells for assessment purposes in accordance with the approved groundwater assessment plan. [401 KAR 45:140 Section 1(1)]

Permit Number: SW00800006

Agency Interest ID: 176

PERMIT

GSTR0005 - Groundwater Monitoring - SW: Groundwater Observation Well Group - West Special Waste Landfill

Group Members: STRC0033 - Well OW-105; STRC0034 - Well OW-106; STRC0035 - Well OW-104; STRC0036 - Well OW-103; STRC0037 - Well OW-102; STRC0038 - Well OW-101

Standard Requirements:

1. Groundwater monitoring wells shall be constructed and maintained in accordance with 401 KAR 45:160 Section 3, the permit, and the approved plans. [401 KAR 45:160 Section 3, 401 KAR 45:140 Section 1(1)]
2. No monitoring well construction, maintenance, or abandonment may be conducted without prior approval by the Division of Waste Management. [401 KAR 45:140 Section 1(1)]
3. Only a Kentucky Certified Monitoring Well Driller may construct or abandon monitoring wells. [401 KAR 6:320]
4. The owner or operator shall provide the division a minimum of five (5) working days advance notice for all groundwater monitoring well construction and abandonment activities. [401 KAR 40:020 Section 2(4)]

Variations, Alternate Specifications and Special Conditions:

1. The permittee shall monitor these wells for assessment purposes in accordance with the approved groundwater assessment plan. [401 KAR 45:140 Section 1(1)]

GSTR0006 - Groundwater Monitoring - SW: Groundwater Monitoring Group - West Special Waste Landfill - Wells Proposed for Construction

Group Members: STRC0046 - Well MW-205 (Proposed); STRC0047 - Well MW-206 (Proposed); STRC0048 - Well MW-207 (Proposed)

Standard Requirements:

1. Groundwater monitoring wells shall be constructed and maintained in accordance with 401 KAR 45:160 Section 3, the permit, and the approved plans. [401 KAR 45:160 Section 3, 401 KAR 45:140 Section 1(1)]
2. No monitoring well construction, maintenance, or abandonment may be conducted without prior approval by the Division of Waste Management. [401 KAR 45:140 Section 1(1)]
3. Only a Kentucky Certified Monitoring Well Driller may construct or abandon monitoring wells. [401 KAR 6:320]
4. The owner or operator shall provide the division a minimum of five (5) working days advance notice for all groundwater monitoring well construction and abandonment activities. [401 KAR 40:020 Section 2(4)]

Permit Number: SW00800006

Agency Interest ID: 176

PERMIT

Variances, Alternate Specifications and Special Conditions:

1. The permittee shall construct these wells in accordance with the approved plan. Upon completion of well construction, the permittee shall submit a monitoring well construction progress report to the Division of Waste Management for review. [401 KAR 45:140 Section 1(1)]

GSTR0007 - Groundwater Monitoring - SW: East Special Waste Landfill and Ash Pond Assessment Group

Group Members: AIOO0176 -

Variances, Alternate Specifications and Special Conditions:

1. The permittee shall submit a Groundwater Assessment Update annually by the 28th of February for the preceding calendar year. The Groundwater Assessment Update shall discuss the following: 1) the concentrations of the contaminants of concern and the trends of concentrations of contaminants of concern; and 2) the potential necessity of further abatement measures. [401 KAR 45:140 Section 2]

GSTR0008 - Groundwater Monitoring - SW: Groundwater Monitoring Group - West Special Waste Landfill

Group Members: STRC0051 - Well MW-201; STRC0052 - Well MW-202; STRC0053 - Well MW-204; STRC0054 - Well MW-208; STRC0055 - Well MW-203

Standard Requirements:

1. The owner or operator shall satisfy the requirements of 401 KAR 45:160 for all wastes and waste constituents contained in the site or facility. [401 KAR 45:160 Section 1]
2. The permittee shall monitor for other parameters as required by the cabinet. [401 KAR 45:160 Section 8(2)(c)]
3. The owner or operator shall monitor groundwater on the approved schedule at each approved groundwater monitoring location in accordance with 401 KAR 45:160, the permit, and the approved plans. A table summarizing the parameters to be monitored, their respective limits and monitoring frequency is included herein. [401 KAR 45:160, 401 KAR 45:140 Section 1(1)]
4. The owner or operator shall conduct statistical analysis of the groundwater data in accordance with 401 KAR 45:160 Section 6 and the approved applications. The statistical test chosen shall be conducted separately for each parameter in each well for each monitoring event. The results shall be maintained as part of the facility record throughout the operating and postclosure life of the facility. [401 KAR 45:160 Section 6, 401 KAR 45:140 Section 1(1)]
5. The groundwater analytical data and statistical analysis shall be submitted on forms provided by the cabinet, within sixty (60) days after sampling or 15 days of the completion of statistical analysis, whichever is sooner. [401 KAR 45:160 Section 4]

Permit Number: SW00800006

Agency Interest ID: 176

PERMIT

6. Groundwater monitoring wells shall be constructed and maintained in accordance with 401 KAR 45:160 Section 3, the permit, and the approved plans. [401 KAR 45:160 Section 3, 401 KAR 45:140 Section 1(1)]
7. No monitoring well construction, maintenance, or abandonment may be conducted without prior approval by the Division of Waste Management. [401 KAR 45:140 Section 1(1)]
8. Only a Kentucky Certified Monitoring Well Driller may construct or abandon monitoring wells. [401 KAR 6:320]
9. If the analysis of groundwater sample results indicates contamination (i.e., a statistical or MCL exceedence) as specified in 401 KAR 45:160 Section 5, the owner or operator shall notify the cabinet within (forty-eight) 48 hours of receiving the results and shall arrange to split samples no later than ten (10) days from the receipt of the results. [401 KAR 45:160 Section 5]
10. The owner or operator shall be required to prepare and submit a groundwater contamination assessment plan if laboratory analyses of one (1) or more public or private water supplies or monitoring wells at the site shows the presence of one (1) or more parameters above the maximum contaminant level (MCL) as specified in 401 KAR 30:031 or a statistically significant increase over background levels for parameters that have no MCL. [401 KAR 45:160 Section 5]
11. The owner or operator shall provide alternate water supplies to all affected parties within twenty-four (24) hours of notification of the cabinet that sample results indicate contamination of a drinking water supply if it has been determined that the special waste site or facility is the probable source of the contamination. [401 KAR 45:160 Section 3]
12. If required by the cabinet, groundwater contamination assessment and corrective action shall be performed in full compliance with all provisions of 401 KAR 45:160 Section 5. [401 KAR 45:160 Section 5]
13. The owner or operator shall provide the division a minimum of five (5) working days advance notice for all groundwater monitoring well construction and abandonment activities. [401 KAR 40:020 Section 2(4)]

GMNP0001 - Surface Water Monitoring - SW: Surface Water Monitoring Group - East Special Waste Landfill

Group Members: MNPT0001 - Downstream Point SW-017

Standard Requirements:

1. The owner or operator shall monitor surface water in accordance with 401 KAR 45:160 Section 9 and the approved surface water monitoring plan. A table summarizing the parameters to be monitored, their respective limits and the monitoring frequency is included herein. [401 KAR 45:160 Section 9]
2. Surface water corrective action shall be completed by the owner or operator as necessary to comply with 401 KAR 30:031. [401 KAR 45:160 Section 9, 401 KAR 30:031 Section 4]
3. Surface water analytical data shall be submitted in the compliance monitoring reports with all other permit-required environmental monitoring results. [401 KAR 45:160 Section 9]

Permit Number: SW00800006

Agency Interest ID: 176

PERMIT

Variations, Alternate Specifications and Special Conditions:

1. The owner or operator shall monitor surface water in accordance with 401 KAR 45:160 Section 9 and the approved surface water monitoring plan. A table summarizing the parameters to be monitored and the monitoring frequency is included herein. [401 KAR 45:160 Section 9]

GMNP0002 - Surface Water Monitoring - SW: Surface Water Monitoring Group - West Special Waste Landfill

Group Members: MNPT0002 - Mon. Pt. SWMP-1; MNPT0003 - Mon. Pt. SWMP-2; MNPT0004 - Mon. Pt. SWMP-3

Variations, Alternate Specifications and Special Conditions:

1. The permittee shall characterize these surface water monitoring points prior to the emplacement of waste in the West Special Waste Landfill, and monitor them in accordance with the approved plan upon issuance of the operating permit for the West Special Waste Landfill. [401 KAR 45:160 Section 9]

PERMIT

Groundwater Monitoring Limits:

Subject Item	CAS Number	Parameter	Frequency	Lower Limit	Upper Limit	Units	Statistical Limit	Report Only
GSTR0001	07440-39-3	Barium, Total (as Ba)	semiannually		2.0	mg/L		
GSTR0001		Boron, Total Recoverable	semiannually			mg/L	Yes	
GSTR0001	07440-70-2	Calcium	semiannually			mg/L	Yes	
GSTR0001		Carbon, Total Organic	semiannually			mg/L	Yes	
GSTR0001		Chemical Oxygen Demand (COD)	semiannually			mg/L	Yes	
GSTR0001	16887-00-6	Chloride	semiannually			mg/L	Yes	
GSTR0001	07440-47-3	Chromium	semiannually		0.1	mg/L		
GSTR0001		Copper, Dissolved (as Cu)	semiannually		1.3	mg/L		
GSTR0001	16984-48-8	Fluoride	semiannually		4.0	mg/L		
GSTR0001		Groundwater Elevation	semiannually			feet above mean sea level based on a USGS datum		Yes
GSTR0001	00000-19-8	Manganese, Total (as Mn)	semiannually			mg/L	Yes	
GSTR0001		Solids, Total Dissolved	semiannually			mg/L	Yes	
GSTR0001		Solids, Total Suspended (TSS)	semiannually			mg/L	Yes	
GSTR0001		Specific Conductance	semiannually			umho/cm	Yes	
GSTR0001	14808-79-8	Sulfate	semiannually			mg/L	Yes	
GSTR0001		Temperature, Water Fahrenheit	semiannually			degrees Fahrenheit		Yes
GSTR0001		pH	semiannually			standard units	Yes	
GSTR0008	07440-39-3	Barium, Total (as Ba)	semiannually		2.0	mg/L		
GSTR0008		Boron, Total Recoverable	semiannually			mg/L	Yes	
GSTR0008	07440-70-2	Calcium	semiannually			mg/L	Yes	
GSTR0008		Carbon, Total Organic	semiannually			mg/L	Yes	
GSTR0008		Chemical Oxygen Demand (COD)	semiannually			mg/L	Yes	
GSTR0008	16887-00-6	Chloride	semiannually			mg/L	Yes	
GSTR0008	07440-47-3	Chromium	semiannually		0.1	mg/L		
GSTR0008		Copper, Dissolved (as Cu)	semiannually		1.3	mg/L		
GSTR0008	16984-48-8	Fluoride	semiannually		4.0	mg/L		
GSTR0008		Groundwater Elevation	semiannually			feet above mean sea level based on a USGS datum		Yes

Permit Number: SW00800006

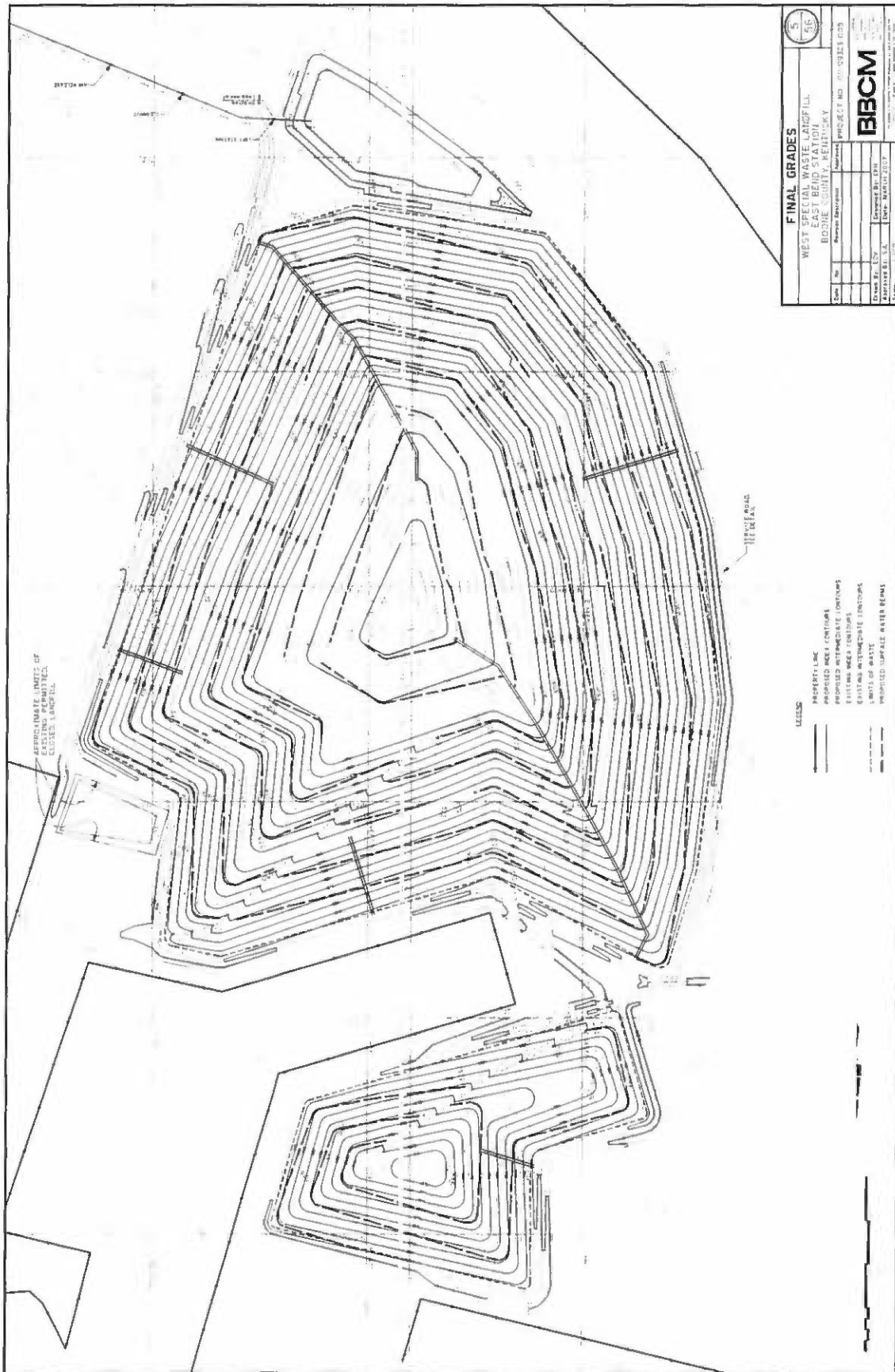
Agency Interest ID: 176

PERMIT

Subject Item	CAS Number	Parameter	Frequency	Lower Limit	Upper Limit	Units	Statistical Limit	Report Only
GSTR0008	00000-19-8	Manganese, Total (as Mn)	semiannually			mg/L	Yes	
GSTR0008		Solids, Total Dissolved	semiannually			mg/L	Yes	
GSTR0008		Solids, Total Suspended (TSS)	semiannually			mg/L	Yes	
GSTR0008		Specific Conductance	semiannually			umho/cm	Yes	
GSTR0008	14808-79-8	Sulfate	semiannually			mg/L	Yes	
GSTR0008		Temperature, Water Fahrenheit	semiannually			degrees Fahrenheit		Yes
GSTR0008		pH	semiannually			standard units	Yes	

Surface Water Monitoring Limits:

Subject Item	CAS Number	Parameter	Frequency	Lower Limit	Upper Limit	Units	Statistical Limit	Report Only
GMNP0001		Carbon, Total Organic	once every six months			mg/L		Yes
GMNP0001		Chemical Oxygen Demand (COD)	once every six months			mg/L		Yes
GMNP0001	16887-00-6	Chloride	once every six months			mg/L		Yes
GMNP0001	07439-89-6	Iron, Total (as Fe)	once every six months			mg/L		Yes
GMNP0001	07440-23-5	Sodium	once every six months			mg/L		Yes
GMNP0001		Solids, Total Dissolved	once every six months			mg/L		Yes
GMNP0001		Solids, Total Suspended (TSS)	once every six months			mg/L		Yes
GMNP0001		Specific Conductance	once every six months			umho/cm		Yes
GMNP0001	14808-79-8	Sulfate	once every six months			mg/L		Yes
GMNP0001		Total Solids	once every six months			mg/L		Yes
GMNP0001		pH	once every six months			standard units		Yes

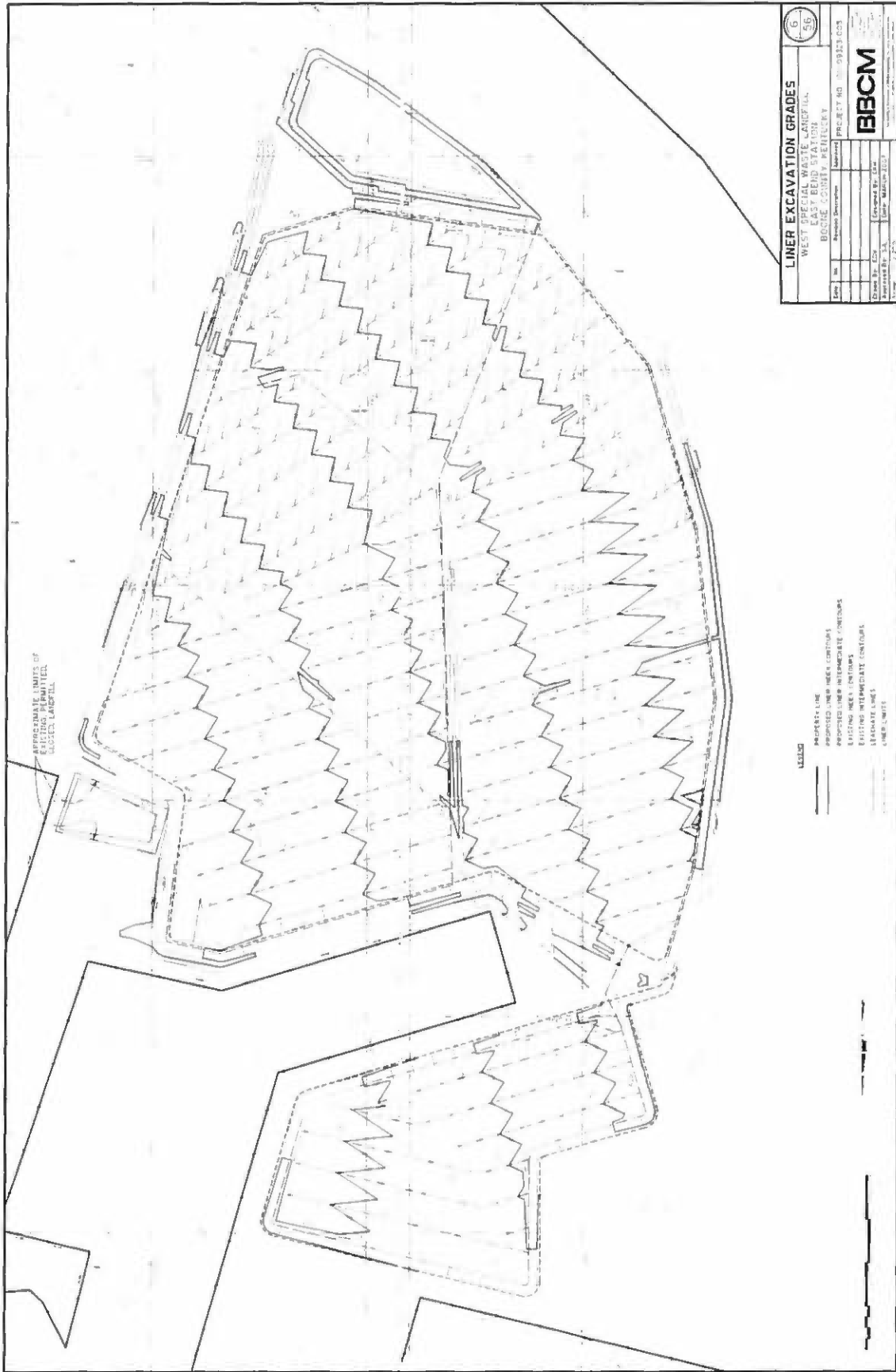


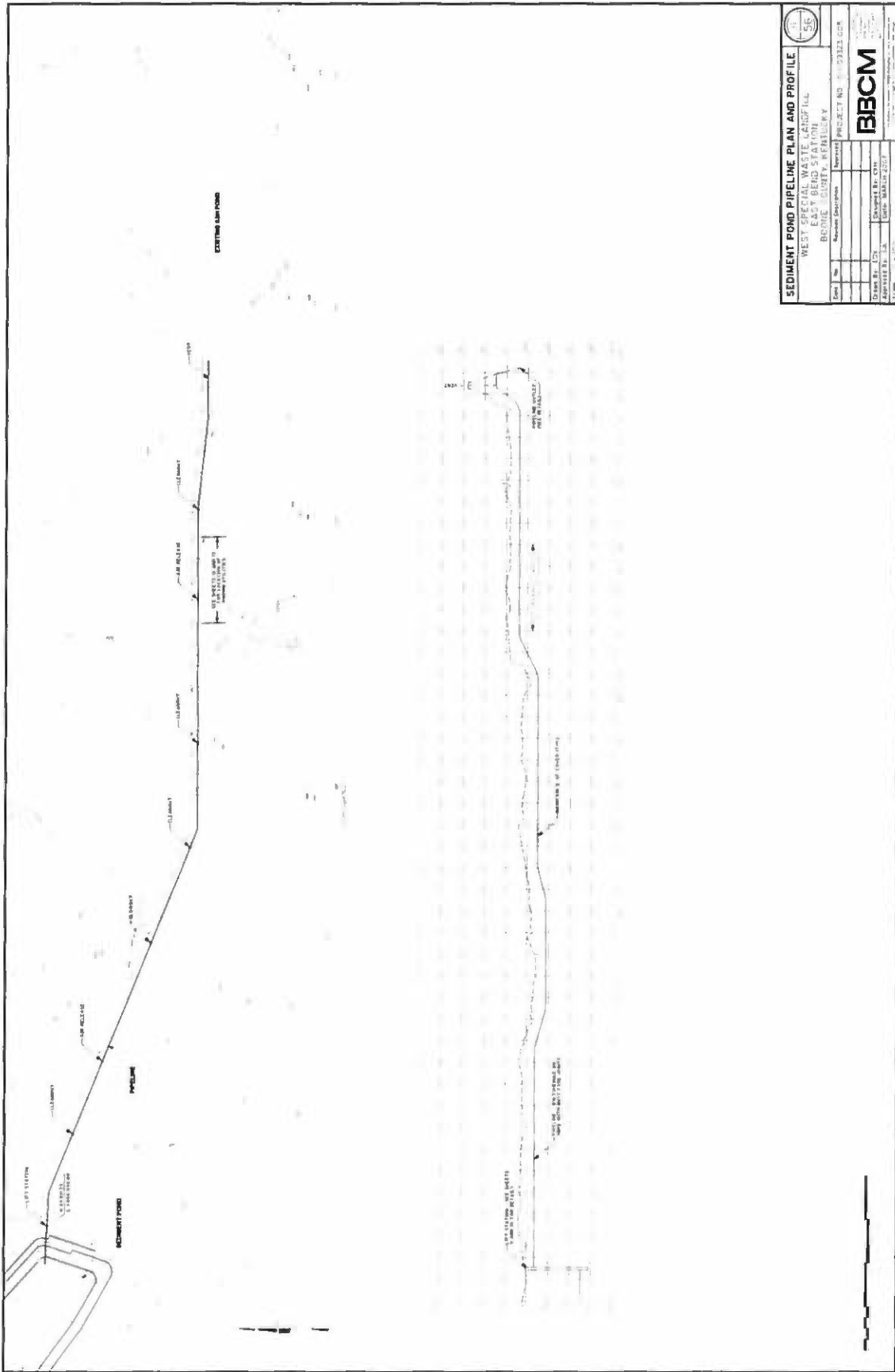
FINAL GRADES	
WEST SPECIAL WASTE LANDFILL	
EAST BEAD STATION	
BOONE COUNTY, KENTUCKY	
Client No.	PROJECT NO. 2011-03125-029
Drawn By: LSW	Checked By: DSH
Approved By: L.S.W.	Date: March 2017
BBCM	

- LEGEND**
- PROPERTY LINE
 - PROPOSED INTERMEDIATE CONTOURS
 - EXISTING INTERMEDIATE CONTOURS
 - PROPOSED SURFACE WATER FLOWS

APPROXIMATE LIMITS OF
 PROPOSED SPECIAL
 CLOSED LANDFILL

EXISTING ROAD





SEDIMENT POND PIPELINE PLAN AND PROFILE	
WEST SPECIAL WASTE LANDFILL	
EAST BEND STATION	
BOONE COUNTY, KENTUCKY	
Client	BOONE COUNTY, KENTUCKY
Project No.	PROJECT NO. 15-03223-001
Drawn By	DR. J. B. C. C. C.
Checked By	DR. J. B. C. C. C.
Approved By	DR. J. B. C. C. C.
Date	MARCH 2015
BBCM	

REAL ESTATE APPRAISAL UPDATE



Of the
Surrounding East Bend Power Plant Properties totaling 1,092.53 acres
Located on
Beaver Creek Road, East Bend Road and Lower River Road
Union, Boone County, Kentucky 41091

Owner:

Various Owners

Prepared For (Client):

Kristina L. Breeding, SR/WA
Manager, Land Services-Transactions
Duke Energy Corporation
WP989/1000 East Main Street
Plainfield, Indiana 46168

As Of:

December 16, 2013

Prepared by:

NC Real Estate Services

P.O. Box 54411
Cincinnati, Ohio 45254-0441
513-218-1156

File #1312004

APPRAISAL OF REAL PROPERTY

This is a Restricted Use Appraisal Report that is intended to comply with the reporting requirements set forth under Standards Rule 2-2(c) of the Uniform Standards of Professional Appraisal Practice (USPAP) for a Restricted Use Appraisal Report. As such, it presents limited discussions of the data, reasoning, and analyses that were used in the appraisal process to develop the appraiser's opinion of value. Supporting documentation concerning the data, reasoning, and analyses are retained in the appraiser's file. The depth of discussion contained in this report is specific to the needs of the client and for the intended use stated below. The appraiser is not responsible for the unauthorized use of this report.

At the request of the client, this Restricted Use appraisal report is an "update" of the February 23, 2011 Summary appraisal report that was completed on the properties identified on the following page. This update is prepared in accordance and guidance from USPAP Advisory Opinion 3 (AO-3), Update of a Prior Appraisal. As such, this new report *incorporates by reference* specific information/analysis from the prior report.

As stated in the prior report, this appraisal report is subject to the following hypothetical conditions and extraordinary assumptions: (1) *The sizes of the parcels of land are correct as provided by the client;* (2) *no environmental issues are present that would affect the subject's marketability;* (3) *the fact that a majority of the subject properties owned by the client have an undivided 69% ownership held jointly in tenancy with The Dayton Power and Light Company does not affect marketability/transferability;* (4) *the subject properties are truly considered vacant land with no improvements;* (5) *proper access easements are granted to pt. parcels 7, 8 and 10 that are zoned industrial;* (6) *the parcels listed as owned by Duke Energy Ohio (CG&E) as reported by the client are accurate since the Boone Co PVA lists the owner as Duke Energy Kentucky, Inc; and (7) the industrial land valuation contained in this report is provided for the sole use to the client at the client's request since this is considered a "value in use" that is not representative of market value as defined on page 4. The appraiser reserves the right to amend this appraisal and its value opinions in the event additional information included but not limited to the items stated above are provided to the appraiser.*

Final Value Opinions:

Tract 1 (125.39 acres - agricultural): \$476,000

Tract 2 (145.01 acres - agricultural): \$508,000

Tract 3 (611.90 acres - agricultural): \$2,937,000

Tract 4 (30.33 acres - industrial): \$303,000

Tract 5 (179.90 acres - industrial): \$1,799,000

File #1312004

PROPERTY IDENTIFICATION

The subject properties were thoroughly identified in the prior report. There have been **no changes** to this section since the date effective date of the prior appraisal report. To reiterate the prior appraisal report, the subject properties are identified below.

<u>Parcel</u>	<u>Location</u>	<u>Parcel ID No.</u>	<u>Size (Acres)</u>	<u>Owner</u>
1	Beaver Rd	012.00-00-034.01	100.82	Tri State Improvement Co
2	Beaver Rd	012.00-00-063.01	24.57	Tri State Improvement Co
3	E. Bend Rd	Pt 012.00-00-026.00	76.64	Duke Energy Ohio (CG&E)
4	Lower River Rd	004.00-00-002.00	68.37	Duke Energy Ohio (CG&E)
5	N/A	004.00-00-007.00	153.87	Cincinnati Gas & Electric Co
6	E. Bend Rd	005.00-00-001.00	245.12	Duke Energy Ohio (CG&E)
7	N/A	Pt 005.00-00-002.00	87.38	Cincinnati Gas & Electric Co
7	N/A	Pt 005.00-00-002.00	137.58	Cincinnati Gas & Electric Co
8	E. Bend Rd	Pt 012.00-00-026.00	47.63	Duke Energy Ohio (CG&E)
8	E. Bend Rd	Pt 012.00-00-026.00	30.33	Duke Energy Ohio (CG&E)
9	N/A	012.00-00-063.00	77.90	Cincinnati Gas & Electric Co
10	Beaver Rd	Pt 013.00-00-001.00	42.32	Duke Energy Ohio (CG&E)
Total			1,092.53	

For valuation purposes, this appraisal will continue to value five separate hypothetical tracts of land.

1. Parcels 1 and 2 are combined forming a 125.39 acre tract since these two parcels are adjacent to each other and Tract 1 has no road frontage. This will be referred to as Tract 1.
2. Parcels 3 and 4 are combined forming a 145.01 acre tract since these two parcels are adjacent to each other. This will be referred to as Tract 2.
3. The remaining parcels, which include 5, 6, part 7, part 8 and 9, are combined forming a 611.90 acre tract since these parcels are adjacent to each other and parcels 6 and 7 have no road frontage. This will be referred to as Tract 3.
4. Part of parcel 8 that contains 30.33 acres that is zoned industrial will be referred to as Tract 4.
5. Part of parcel 7 and 10 that contains 179.90 acres zoned industrial was requested to be valued separately. This will be referred to as Tract 5.

**Tract 4 and 5 would typically be combined since they are adjoining land-locked parcels; however, the client specifically requested an allocated value for the 179.90 acres.

SALES HISTORY

The history was thoroughly discussed in the prior report. There have been **no changes** to this section since the date effective date of the prior appraisal report.

File #1312004

INTENDED USER AND INTENDED USE

The intended user (client) of this appraisal report is Duke Energy Corporation for the intended use of a year-end accounting measure with the State of Kentucky only.

SCOPE OF WORK

The client requested that the appraiser “update” the prior appraisal report completed on the subject properties on February 23, 2011 (effective date of value) and to reaffirm the prior value conclusions. The appraiser agreed as long as market data supports a reaffirmation. As such, this updated appraisal report is completed with guidance from USPAP Advisory Opinion 3 (AO-3) that states that the new report is not required to have the same level of detail as the original report; however, the new report must contain sufficient information to be meaningful and not misleading. In addition, this report is completed under “option 3” that states: “Provide a new report that *incorporates by reference* specified information/analysis from the prior report so that, in combination, the referenced portions and the new information/analysis added satisfies the applicable reporting requirements”.

In reaffirming the as-is market value opinions for the fee simple interest, the scope of work completed consisted of a brief exterior observation of the subject properties from public roadways; verifying/collecting property characteristic information from public sources; considering the statistical trends of the data; determining if the prior value conclusions have been affected based on those trends; and reporting the findings in this Restricted Use appraisal report (as defined above) subject to the hypothetical conditions and extraordinary assumptions listed above.

Based on the brief observation completed on December 16, 2013, **no significant changes** in the physical aspects of the subject properties were noted. In addition **no significant changes** were noted when verifying/collecting property characteristic information from public sources.

DEFINITION OF MARKET VALUE AND INTEREST APPRAISED

According to the *2012-2013 Edition of the Uniform Standards of Professional Appraisal Practice (USPAP)*, published by the Appraisal Standards Board (ASB) of The Appraisal Foundation (TAF), the definition of market value is as follows:

Market Value: *A type of value, stated as an opinion, that presumes the transfer of a property (i.e., a right of ownership or a bundle of such rights), as of a certain date, under specific conditions set forth in the definition of the term identified by the appraiser as applicable in an appraisal.*

While this definition appears somewhat vague, the fundamental concepts are established and mirror the value cited for appraisal work completed for federally regulated institutions (banks). This definition states that market value is defined as *the most*

File #1312004

probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale of a specified as of a specified date and the passing of title from seller to buyer under conditions whereby:

- A. Buyer and seller typically motivated;*
- B. Both parties are well informed or well advised, and acting in what they consider their best interests;*
- C. A reasonable time is allowed for exposure in the open market;*
- D. Payment is made in terms of cash in U. S. dollars or in terms of financial arrangements comparable thereto; and*
- E. The price represents normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.*

(Source: 12 C.F.R. Part 34.42(g); 55 Federal Register 34696, August 24, 1990, as amended at 57 Federal Register 12202, April 9, 1992; 59 Federal Register 29499, June 7, 1994).

According to USPAP and the *Dictionary of Real Estate Appraisal, 5th Edition*, published by the Appraisal Institute, the following pertinent terms referenced in the report may be defined as follows:

Fee Simple Interest: *Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by governmental powers of taxation, eminent domain, police power, and escheat.*

Extraordinary Assumption: *An assumption, directly related to a specific assignment, which, if found to be false, could alter the appraiser's opinions or conclusions.*

Hypothetical Condition: *A condition directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but is used for the purpose of analysis.*

The definitions listed above have been updated since the prior appraisal report.

EFFECTIVE VALUATION DATE

December 16, 2013

MARKETING AND EXPOSURE PERIOD

This section was sufficiently addressed in the prior report. There have been **no substantial changes** in market conditions that would change the previous projection of a marketing or exposure period of 12 to 36 months for the various subject properties

File #1312004

(including the industrial sections), which are subject to professional marketing services.

The prior report noted 84 sales of agricultural or residential parcels larger than 30 acres throughout Boone County since 2004 (approximately 12 per year). Of those 84 sales, only 20 were in excess of 100 acres and four of these were greater than 200 acres. According to MLS figures, there have been 10 sales of agricultural or residential parcels larger than 30 acres since 2011 with only one sale over 100 acres. This equates to approximately a little more than three per year. While this gives the appearance that sales volume is down, from 2008 to 2010, sales only averaged four per year. This time period is important since the prior appraisal primarily focused on this data when estimating the prior marketing/exposure period.

Exposure Time: *Estimated length of time that the property interest being appraised would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the appraisal.*

MARKET AREA ANALYSIS

This section was sufficiently addressed in the prior report. There have been **no substantial changes** to this section since the date effective date of the prior appraisal report beyond modest improvement in real estate conditions as well as a modest decline in unemployment rates.

As for the subject's immediate area that referenced Boone County's Future Land Use Map for 2030, the 2035 land use map as shown below still refers to the subject area as rural land and developmentally sensitive. The 2010 Boone County Comprehensive Plan, which is an update of the 2000 plan, still states that **development of any kind in this area should be limited and industrial development is inappropriate because of poor access**. The updated plan also notes that the East Bend Power Plant has developed a large portion of this area, using much of the developable land. The two large areas to the east and west of the plant are in agricultural use and should remain. Once again, significant growth is not anticipated for this area because of its remoteness and rural nature.



File #1312004

LOCAL RESIDENTIAL LAND DEVELOPMENT MARKET

This section was sufficiently addressed in the prior report. There have been **no substantial changes** to this section since the date effective date of the prior appraisal report beyond modest improvement in sales activity. This activity has mostly been in the form of existing home sales rather than new development. Lastly, average sales prices of houses have gradually appreciated most likely due to shrinking inventory.

Below is an updated listing of the number of single-family permits, including condominium units, dating back to 2000 for Boone County.

<u>Year</u>	<u>No. of Permits</u>	<u>% Change</u>
2000	1,253	
2001	1,458	16.36%
2002	1,547	6.10%
2003	1,506	-2.65%
2004	1,600	6.24%
2005	1,363	-14.81%
2006	938	-31.18%
2007	886	-5.54%
2008	488	-44.92%
2009	481	-1.43%
2010	437	-9.15%
2011	333	-23.80%
2012	330	-0.90%
2013*	430	30.30%

*As of Nov. 2013

Below is an updated listing of the number of single-family sales (per the MLS) dating back to 2005 for Boone County.

<u>Year</u>	<u>No. of Sales</u>	<u>% Change</u>
2005	2,260	
2006	2,137	-5.44%
2007	1,899	-11.14%
2008	1,617	-14.85%
2009	1,460	-9.71%
2010	1,395	-4.45%
2011	1,356	-2.80%
2012	1,595	17.63%
2013*	1,822	14.23%

*As of Nov. 2013

SITE DESCRIPTION

This section was sufficiently addressed in the prior report. There have been **no substantial changes** to this section since the date effective date of the prior appraisal report.

File #1312004

REAL ESTATE TAXES

The real estate tax data was thoroughly discussed in the prior report. There have been **no changes** to this section since the date effective date of the prior appraisal report.

HIGHEST AND BEST USE

The highest and best use was thoroughly discussed in the prior report. There have been **no changes** to this section since the date effective date of the prior appraisal report. Once again, only at the request of the client are the industrial zoned land values being reaffirmed as industrial land. This request resembles a “value in use” to the client.

SALES COMPARISON APPROACH

In order to complete this reaffirmation of value, only sales that have occurred since the prior appraisal were considered. Once again, due to the subject’s large sizes, a limited number of sales are available. The prior appraisal had to extend the search over the past five years in attempt to locate a good representative sample. The comparable sales selected for this report are felt to be the most similar to the subject properties and provide a reliable basis for the reaffirmation. All of the sales were reported to be arm’s-length transactions and no adjustments are necessary for circumstances of sales (unless otherwise noted).

Agricultural Sales

The comparable sales in this group range from 87 to 570.047 acres that sold from \$3,004/acre to \$7,001/acre with an average of \$6,286/acre. These sales are detailed below following the location map.



File #1312004

Comparable Land Sale No. 1



Location:	Cleek Ln, Walton, Boone Co, KY
Parcel ID Number:	043.00-00-028.00
Grantor:	Joyce Ann Matraccia, Trustee
Grantee:	Robert & Ashley Massie
Sale Price:	\$350,000
Sale Date:	August 2013
Verification:	Deed Book 1026, Page 106, appraiser's files
Site Size:	116.52 acres +/-
Sale Price per Acre:	\$3,004
Comments	This property is heavily wooded and is zoned agricultural. While this property's overall appeal is rural in nature, it's located approximately 0.5 mile east from the Cleek Ln and US Hwy 42 intersection. Total days on market was 61 days.

File #1312004

Comparable Land Sale No. 2

No PVA aerial available

Location:	13080 Green Rd, Walton, Kenton Co, KY
Parcel ID Number:	036-00-00-020.00 (retired)
Grantor:	Franz Trust
Grantee:	Gregory & Cynthia Cahill
Sale Price:	\$522,000
Sale Date:	May 2013
Verification:	Deed Book 13277, Page 68, appraiser's files
Site Size:	87 acres +/-
Sale Price per Acre:	\$6,000
Comments	This agricultural zoned property was purchased by a local investor/ realtor in order to subdivide it into 14 single family lots. The property was originally listed on the MLS for \$750,000 before being reduced to \$550,000. This sale also included an older dwelling that was in fair condition. Topography is mostly sloping woodlands with clear agricultural areas. Total days on market was 624 days.

File #1312004

Comparable Land Sale No. 3

No Auditor aerial available

Location:	9983 NW Jeff W. Lancaster Rd, Jeffersonville, Fayette Co, OH
Parcel ID Number:	060-011-0-00-014-00
Grantor:	Estate of John Howard Ackerman
Grantee:	Chris Jefferies
Sale Price:	\$3,990,700
Sale Date:	September 2011
Verification:	Deed Book 183, Page 187, appraiser's files
Site Size:	570.047 acre
Sale Price per Acre:	\$7,001
Comments	This property is the sale of a working farm zoned Farm Security District that is located less than 2 miles from the Old US 35/I-71 interchange at exit 65. Based on the assessment allocations, approximately 16% is for improvements. These improvements include an old farm house built in 1903, barns, pole buildings, etc. Applying this allocation to the sales price results in a price of \$5,881/acre. This property's zoning district was established to secure the continuance of agricultural activity in Fayette County.

File #1312004

Agricultural Sales Analysis

Comparable Land Sale No. 1 was selected since it's the most recent sale of a vacant agricultural property with over 100 acres. While this sale is generally considered similar, its utility and frontage is inferior due to its shape/configuration. The irregular shape of the property most likely makes it difficult to potentially cultivate or develop it into a rural residential development. Overall, this sale is felt to offer slightly inferior utility and frontage warranting upward consideration.

Comparable Land Sale No. 2 was selected since it also sold in 2013 and is near 100 acres. This sale is an example of an agricultural property with adequate frontage that was purchased for a rural residential development. Overall, this sale is superior to the subject in terms of location and since it included an older dwelling that was in fair condition.

Comparable Land Sale No. 3 was selected since it's the only sale that could be located in the (greater) region that contains more than 500 acres. While this property is a "working farm", its zoning appears to restrict development. As noted above, this property sold for \$7,001/acre; however, after applying the tax value allocation, the price is \$5,881/acre. Even with the tax value allocation applied for the improvements, this sale is considered superior due to its proximity to the interstate. Note – this sale is not included on the location map since it's considered out of market.

Conclusion

After considering the various differences in the sales as noted above, along with the slightly improving residential market witnessed by increased permit and sales figures, the data appears to reaffirm the prior value conclusions. These final conclusions are as follows.

Tract 1: 125.39 acres @ \$3,800/acre = \$476,000 (rounded)

Tract 2: 145.01 acres @ \$3,500/acre = \$508,000 (rounded)

Tract 3: 611.90 acres @ \$4,800/acre = \$2,937,000 (rounded)

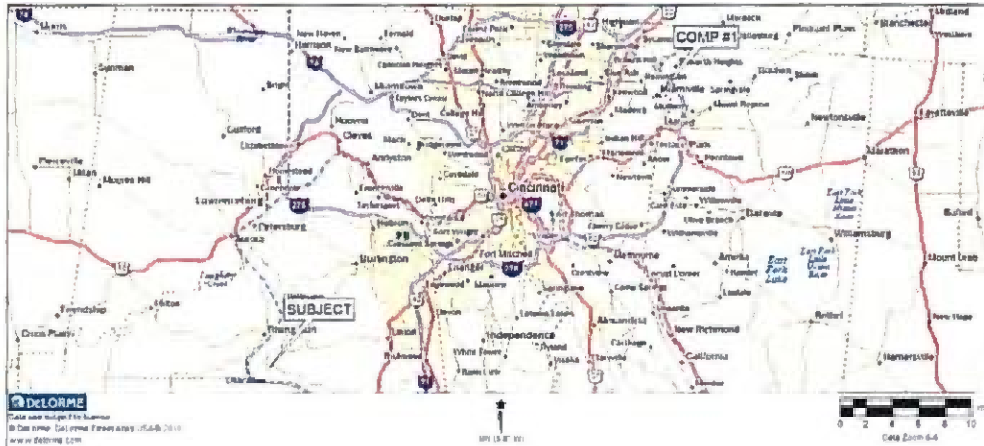
Industrial Sales and Analysis

The industrial tract valuation in the prior appraisal report included two listings referred to as Comparable Land Sales (Listing) No. 4 and 5. These two listing have since sold. No. 4 with 13.32 acres was listed for \$35,661/acre and sold in Feb 2012 for \$26,276/acre. No. 5 with 111.657 acres was listed for \$21,494/acre and sold in Sept 2012 for \$7,329/acre (based on 109.157 acres). As a reminder, No. 5 was a lender owned sale from Fifth Third Bank.

In addition to the two former listings that have since sold, there is another comparable sale given consideration.

File #1312004

The comparable sales in this group range from 13.32 to 111.657 acres at \$7,329/acre to \$26,276/acre with an average of \$10,280/acre. The additional sale is detailed below following the location map.



Conclusion

Comparable Land Sale No. 1 (below) was selected since it's a sale of industrial land with portions located in a flood zone. Overall, this sale is felt to be similar to the subject; albeit superior due to location and accessibility.

After considering the various differences in the sales as noted above, especially Comparable Land Sale #1, the data appears to reaffirm the prior value conclusions. These final conclusions are as follows.

Tract 4: 30.33 acres @ \$10,000/acre = \$303,000 (rounded)

Tract 5: 179.9 acres @ \$10,000/acre = \$1,799,000 (rounded)

File #1312004

Comparable Land Sale No. 1



Location: 375 Center St (aka 6088 Main St), Miamiville, Clermont Co, OH

Parcel ID Number: 182518C022

Grantor: Hill Top Purchaser, Inc.

Grantee: S B Property Holdings, LLC

Sale Price: \$300,000

Sale Date: October 2012

Verification: Deed Book 2406, Page 1616, appraiser's files

Site Size: 18.579 acres

Sale Price per Acre: **\$16,147**

Comments: This property transferred from one Hill Top entity to another in Jan 2011 for \$1,101,890 and was originally on the market for \$1,200,000. At that time, the improvements originally built in 1955 were occupied by Hilltop Research who decided to close the site as they were moving their operations to Florida. In May 2012, the price was substantially reduced to \$595,000, which was subsequently reduced to \$350,000 before selling for \$300,000.

File #1312004

The grantee has since razed the older improvements and plans to build a new 46,025 SF warehouse facility. The site, which is zoned industrial, has approximately 10 acres located in a flood zone since it borders the Little Miami River and requires \$350,000 to extend sewer to the site.

RECONCILIATION

The as-is values of the subject properties have been reaffirmed as of December 16, 2013, subject to the hypothetical conditions and extraordinary assumptions listed in this report, are as follows.

Tract 1 (125.39 acres - agricultural): \$476,000

Tract 2 (145.01 acres - agricultural): \$508,000

Tract 3 (611.90 acres - agricultural): \$2,937,000

Tract 4 (30.33 acres - industrial): \$303,000

Tract 5 (179.90 acres - industrial): \$1,799,000

File #1312004

ASSUMPTIONS AND LIMITING CONDITIONS

This appraisal has been made and subject to the following general assumptions:

1. The report is considered valid only for the intended user and for the intended use.
2. That the term market value, as herein used, is defined in this appraisal report.
3. That the effective date of value to which the opinions expressed in this report is set forth in this appraisal report. The appraiser assumes no responsibility for economic or physical factors occurring as some later date that may affect the opinions herein state.
4. That no opinion is intended to be expressed for legal matters or that would require specialized investigator knowledge beyond that ordinarily employed by real estate appraisers, although such matters may be discussed in the report.
5. That no opinion as to the title is rendered. Data on ownership and the legal description were obtained from sources generally considered reliable. Title is assumed to marketable and free and clear of all liens and encumbrances, easements, and restrictions except those specifically discussed in the report. The property is appraised assuming it to be under responsive ownership and competent management and available for its highest and best use.
6. That no engineering survey has been made available to the appraiser. Except as specifically stated, data relative to size and area were taken from sources considered reliable, and no encroachment of real property improvements is assumed to exist.
7. That maps, plats, and exhibits included herein are for illustration only, as an aid in visualizing matters discussed within the report. They should not be considered as surveys or relied upon for any other purposes.
8. That no opinion is expressed to the value of the subsurface oil, gas, or mineral rights, and that the property is not subject to surface entry for the exploration or removal of such materials except as is expressly stated.
9. That the projections included in this report are utilized to assist in the valuation process and are based on current market conditions, anticipated short term supply and demand factors, and a continued stable economy. Therefore, the projections are subject to changes in future conditions that cannot be accurately predicted by the appraiser and could affect the future income or value projections.
10. That testimony or attendance in court or at any other hearing is not required by reason of rendering this appraisal unless such arrangements are made and agreed to at a reasonable time in advance.
11. Information contained in this report is assumed to be correct but is not guaranteed.
12. Possession of this report or any copy thereof does not carry with it the right of publication. Neither all nor any part of the contents of the report shall be disseminated to the public through advertising media, public relations media, news media, sales media, or

File #1312004

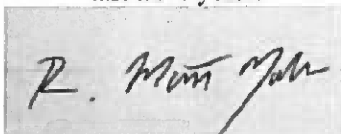
any other public means of communication, without the prior written consent and approval of the author (appraiser).

13. Since no title report was made available to the appraiser, the appraiser assumes no responsibility for such items of record not disclosed by normal investigation.
14. That no soiled studies covering the subject property were available to the appraiser. Therefore, premises as to soil qualities employed in this report are not conclusive but have been considered consistent with information available to the appraiser.
15. That no consideration has been given in this appraisal to personal property located on the premises, or to the cost of moving or relocating such personal property only the real property has been considered.
16. That the appraiser is not qualified to detect the existence of potentially hazardous material which may or may not be present on or near the property, such as the presence of mold, formaldehyde foam insulation, existence of toxic waste, or the existence of asbestos insulation. The existence of such substances may have an effect on the value of the property. No consideration has been given in our analysis to any potential diminution in value should such hazardous material be found. We urge the client to retain an expert in the field before making a business decision regarding the property.

File #1312004

CERTIFICATION

- the statements of fact contained in this report are true and correct;
- the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and my personal impartial, unbiased professional analyses, opinions, and conclusions;
- I have no present or prospective interest in the property that is the subject of this report, and on personal interest with respect to the parties involved;
- I have no bias with respect to the property that is the subject of this report or the parties involved with this assignment;
- my engagement in this assignment was not contingent upon developing or reporting predetermined results;
- my compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal;
- my analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the *Uniform Standards of Professional Appraisal Practice*;
- that the appraiser has personally performed an exterior observation of the subject property;
- no one provided significant professional assistance to the person signing this report;
- the employment of the appraiser was not conditioned upon the appraisal producing a specified value or within a given value range;
- the reported analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the requirements of the *Appraisal Institute's Code of Professional Ethics and Standards of Professional Appraisal Practice*, which include the *Uniform Standards of Professional Appraisal Practice*;
- the use of this report is subject to the requirements of the *Appraisal Institute* relating to review by its duly authorized representatives.
- I have performed an appraisal service in conjunction with the subject property within the last three years.



R. Matt Nobles, Kentucky General Certified Appraiser No. 2570
Date of Report: December 20, 2013

File #1312004

ADDENDUM

Engagement Letter

Home Mail News Sports Finance Weather Games Groups Answers Screen Flickr Mobile More

R Matt

Compose Delete Move Spam More

Inbox (15)
Drafts
Sent
Spam (99+)
Trash
Folders
Recent
Messenger
Calendar
Contacts
Notepad
Yahoo Mail for Mobile
Send Feedback

Re:

Breeding, Kristina L. Today at 11:44 AM
To: 'rmattnobles@yahoo.com',

I am working from home today. If you can get it "updated" in less than 2 weeks, go ahead and do that. Let me know if you need anything from me.
Kristina Breeding

From: R. Matt Nobles [mailto:rmattnobles@yahoo.com]
Sent: Monday, December 09, 2013 11:09 AM
To: Breeding, Kristina L
Subject: Re:

*** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email ***

Got caught up in weather Friday - I will you around lunch. I should be able to update depending on what you want

Sent from my iPhone

On Dec 5, 2013, at 4:50 PM, "Breeding, Kristina L" <Kristina.Breeding@duke-energy.com> wrote:

Kristina L. Breeding, SR/WA
Manager, Land Services-Transactions

Office: 317-838-1669
Cell: 317-694-3173
1000 E. Main Street
Plainfield, IN 46168

"Everyone has potential...It is an infinite resource that cannot be exhausted, but can be lost in the clouds of fear and complacency. It may take courage to embrace the possibilities of your own potential, but once you've flown past the summit of your fears, nothing will seem impossible."--Michael McKee

<1102002 East Bend Landfill Real Estate Appraisal.pdf>

KyPSC Staff Data Requests Set No. 1
Case No. 2003-00252
Date Received: August 21, 2003
Response Due Date: September 2, 2003

KyPSC-DR-01-4a

REQUEST:

4. Section 3.4 of the East Bend Evaluation indicates that four units were originally planned for the site.
 - a. Explain whether the site is still capable of accommodating three additional units.

RESPONSES:

Four units were originally planned for the site and land (retained by CG&E) remains available to accommodate three additional units. The landfill currently used has a remaining capacity of 7 -11 years, after which subsequent landfill area will be available that is retained by CG&E and will be made available to ULH&P.

WITNESS RESPONSIBLE: John J. Roebel

KyPSC Staff Data Requests Set No. 1
Case No. 2003-00252
Date Received: August 21, 2003
Response Due Date: September 2, 2003

KyPSC-DR-01-006

REQUEST:

6. Section 5.3 of the East Bend Evaluation indicates that the on-site landfill has sufficient capacity to allow for many years of continued operation. The plant has been in operation for 22 years. How many more years will the remaining capacity of the landfill be able to accommodate?

RESPONSES:

The plant has two on-site landfills, one of which is currently in use and one of which is available for future use. See response to data request no. 4(b), above. The current landfill has a remaining 7 –11 years of capacity. After this landfill is filled, the other landfill would be available for use by ULH&P.

WITNESS RESPONSIBLE: John J. Roebel

KyPSC Staff Data Requests Set No. 2
Case No. 2003-00252
Date Received: September 10, 2003
Response Due Date: September 17, 2003

KyPSC-DR-02-003

REQUEST:

3. Refer to Items 6 and 7 of ULH&P's response to the Staff's Initial Request. Explain whether the landfill currently in use, with 7 to 11 years of remaining capacity, combined with the second landfill, as yet not used, are expected to be sufficient to accommodate an additional 38 years of operation of the East Bend Unit.

RESPONSES:

Yes, based on current environmental regulations, the two landfills will provide the necessary capacity to accommodate an additional 38 years of operation of the East Bend Generating Station.

WITNESS RESPONSIBLE: John J. Roebel



PROPOSED WEST LANDFILL

PROPOSED HAUL ROAD

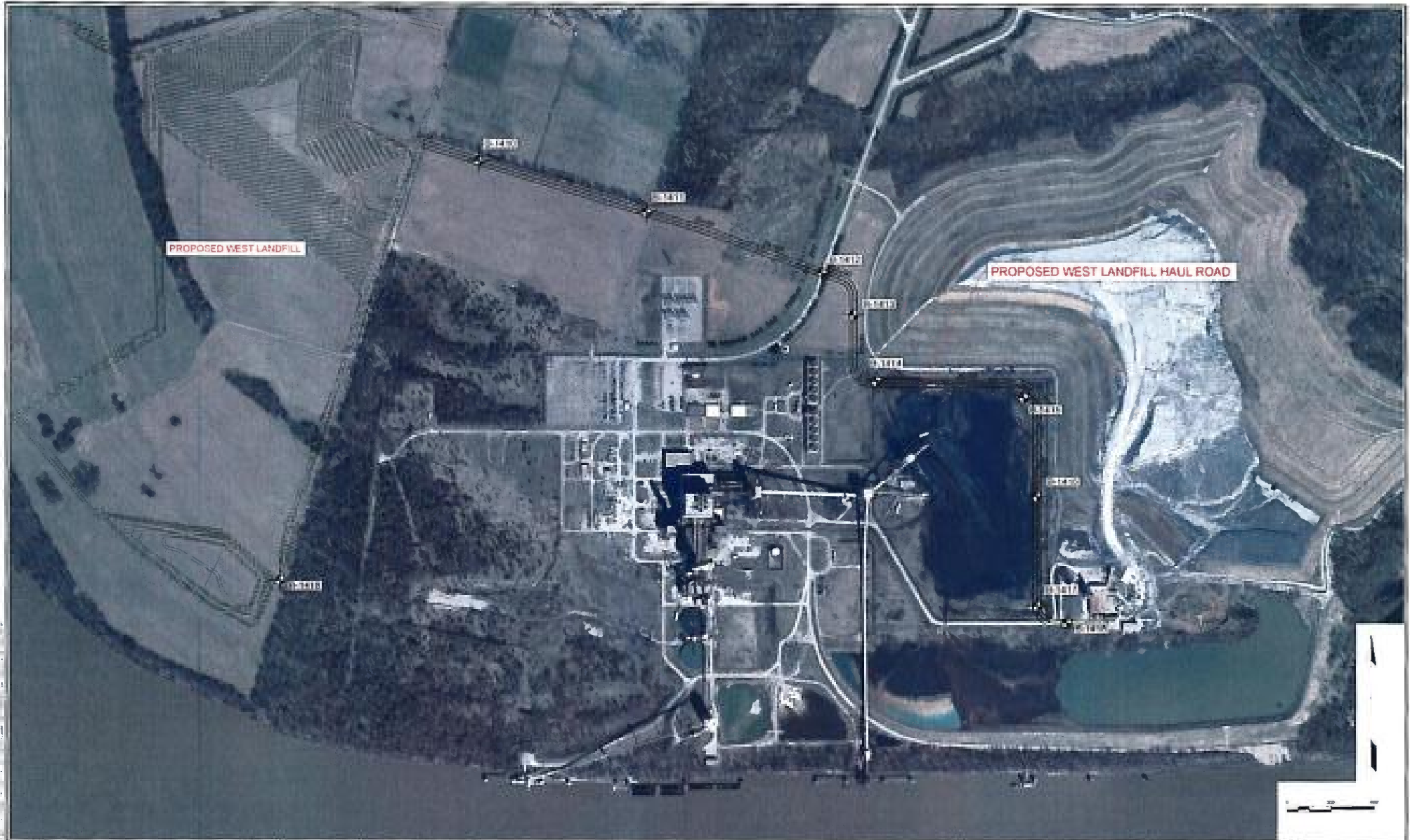
PROPOSED TRANSMISSION LINE

OHIO RIVER



East Bend Station West Landfill
Union, Kentucky 41031





NO.	REV.	DESCRIPTION	DATE

DATE	2/1/15
DESIGNED BY	ALC
CHECKED BY	ALC
DATE PLOTTED	2/1/15
SCALE	1" = 100'
DATE LAST MODIFIED	2/1/15

SITE MAP

WEST LANDFILL HAUL ROAD
 EAST BEND STATION
 BOONE COUNTY, KENTUCKY
 DUKE ENERGY
 EAST BEND STATION

S&ME
 WWW.SMEINC.COM

Sheet Number	1
Total Sheets	1



STRUCTURE TYPE	POLE SIZE/CLASS	CONSTRUCTION CING NO.	LOWV CTV/ANCHOR	REMARKS
A	42/4	8211 DLR		SPRING 17 2017
B	42/4 7202 DLR	8211 DLR 8211 DLR	8211 DLR 8211 DLR	
C	42/4 8211 DLR	8211 DLR		
D	42/4 8211 DLR	8211 DLR 8211 DLR		
E	42/4 8211 DLR	8211 DLR		
F	42/4 7202 DLR	8211 DLR 7202 DLR	8211 DLR 8211 DLR	
G	42/4	8211 DLR		NEW POLE BY TRANSFORMER
H	42/4	8211 DLR		NEW POLE BY TRANSFORMER

STRUCTURE TYPE	NORTHING	EASTING	UTM
POLE01	1111111.11	1111111.11	1111111.11
POLE02	1111111.11	1111111.11	1111111.11
POLE03	1111111.11	1111111.11	1111111.11
POLE04	1111111.11	1111111.11	1111111.11
POLE05	1111111.11	1111111.11	1111111.11
POLE06	1111111.11	1111111.11	1111111.11
POLE07	1111111.11	1111111.11	1111111.11
POLE08	1111111.11	1111111.11	1111111.11
POLE09	1111111.11	1111111.11	1111111.11
POLE10	1111111.11	1111111.11	1111111.11
POLE11	1111111.11	1111111.11	1111111.11
POLE12	1111111.11	1111111.11	1111111.11
POLE13	1111111.11	1111111.11	1111111.11
POLE14	1111111.11	1111111.11	1111111.11
POLE15	1111111.11	1111111.11	1111111.11
POLE16	1111111.11	1111111.11	1111111.11
POLE17	1111111.11	1111111.11	1111111.11
POLE18	1111111.11	1111111.11	1111111.11
POLE19	1111111.11	1111111.11	1111111.11
POLE20	1111111.11	1111111.11	1111111.11
POLE21	1111111.11	1111111.11	1111111.11
POLE22	1111111.11	1111111.11	1111111.11
POLE23	1111111.11	1111111.11	1111111.11
POLE24	1111111.11	1111111.11	1111111.11
POLE25	1111111.11	1111111.11	1111111.11
POLE26	1111111.11	1111111.11	1111111.11
POLE27	1111111.11	1111111.11	1111111.11
POLE28	1111111.11	1111111.11	1111111.11
POLE29	1111111.11	1111111.11	1111111.11
POLE30	1111111.11	1111111.11	1111111.11
POLE31	1111111.11	1111111.11	1111111.11
POLE32	1111111.11	1111111.11	1111111.11
POLE33	1111111.11	1111111.11	1111111.11
POLE34	1111111.11	1111111.11	1111111.11
POLE35	1111111.11	1111111.11	1111111.11
POLE36	1111111.11	1111111.11	1111111.11
POLE37	1111111.11	1111111.11	1111111.11
POLE38	1111111.11	1111111.11	1111111.11
POLE39	1111111.11	1111111.11	1111111.11
POLE40	1111111.11	1111111.11	1111111.11
POLE41	1111111.11	1111111.11	1111111.11
POLE42	1111111.11	1111111.11	1111111.11
POLE43	1111111.11	1111111.11	1111111.11
POLE44	1111111.11	1111111.11	1111111.11
POLE45	1111111.11	1111111.11	1111111.11
POLE46	1111111.11	1111111.11	1111111.11
POLE47	1111111.11	1111111.11	1111111.11
POLE48	1111111.11	1111111.11	1111111.11
POLE49	1111111.11	1111111.11	1111111.11
POLE50	1111111.11	1111111.11	1111111.11
POLE51	1111111.11	1111111.11	1111111.11
POLE52	1111111.11	1111111.11	1111111.11
POLE53	1111111.11	1111111.11	1111111.11
POLE54	1111111.11	1111111.11	1111111.11
POLE55	1111111.11	1111111.11	1111111.11
POLE56	1111111.11	1111111.11	1111111.11
POLE57	1111111.11	1111111.11	1111111.11
POLE58	1111111.11	1111111.11	1111111.11
POLE59	1111111.11	1111111.11	1111111.11
POLE60	1111111.11	1111111.11	1111111.11
POLE61	1111111.11	1111111.11	1111111.11
POLE62	1111111.11	1111111.11	1111111.11
POLE63	1111111.11	1111111.11	1111111.11
POLE64	1111111.11	1111111.11	1111111.11
POLE65	1111111.11	1111111.11	1111111.11
POLE66	1111111.11	1111111.11	1111111.11
POLE67	1111111.11	1111111.11	1111111.11
POLE68	1111111.11	1111111.11	1111111.11
POLE69	1111111.11	1111111.11	1111111.11
POLE70	1111111.11	1111111.11	1111111.11
POLE71	1111111.11	1111111.11	1111111.11
POLE72	1111111.11	1111111.11	1111111.11
POLE73	1111111.11	1111111.11	1111111.11
POLE74	1111111.11	1111111.11	1111111.11
POLE75	1111111.11	1111111.11	1111111.11
POLE76	1111111.11	1111111.11	1111111.11
POLE77	1111111.11	1111111.11	1111111.11
POLE78	1111111.11	1111111.11	1111111.11
POLE79	1111111.11	1111111.11	1111111.11
POLE80	1111111.11	1111111.11	1111111.11
POLE81	1111111.11	1111111.11	1111111.11
POLE82	1111111.11	1111111.11	1111111.11
POLE83	1111111.11	1111111.11	1111111.11
POLE84	1111111.11	1111111.11	1111111.11
POLE85	1111111.11	1111111.11	1111111.11
POLE86	1111111.11	1111111.11	1111111.11
POLE87	1111111.11	1111111.11	1111111.11
POLE88	1111111.11	1111111.11	1111111.11
POLE89	1111111.11	1111111.11	1111111.11
POLE90	1111111.11	1111111.11	1111111.11
POLE91	1111111.11	1111111.11	1111111.11
POLE92	1111111.11	1111111.11	1111111.11
POLE93	1111111.11	1111111.11	1111111.11
POLE94	1111111.11	1111111.11	1111111.11
POLE95	1111111.11	1111111.11	1111111.11
POLE96	1111111.11	1111111.11	1111111.11
POLE97	1111111.11	1111111.11	1111111.11
POLE98	1111111.11	1111111.11	1111111.11
POLE99	1111111.11	1111111.11	1111111.11
POLE00	1111111.11	1111111.11	1111111.11

GENERAL NOTES
 1. DIMENSIONS SHOWN ARE APPROXIMATE AND MAY BE ADJUSTED PER FIELD CONDITIONS.

PRELIMINARY

ESB - WEST LANDFILL ELEC. PHASE 1	
	DUKE ENERGY
EBS_WESTLF_E001	B