

FILE



Staff Report of Investigation Addendum

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In the Matter of the Application of Duke Energy)
Ohio for a Certificate of Environmental)
Compatibility and Public Need for the Construction) Case No. 06-444-GA-BTX
Of the C 338 Ohio River to Bethel Natural Gas)
Pipeline Project Located in Clermont County, Ohio)

THE OHIO POWER SITING BOARD

EQUAL OPPORTUNITY EMPLOYER AND SERVICE PROVIDER

(www.opsb.ohio.gov)

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The sole purpose of this addendum is to present the result of Staff's investigation regarding recently submitted application clarifications from the Applicant. As modified by this addendum, the Staff Report of Investigation filed on September 6, 2006 remains the Staff's recommendation to the Ohio Power Siting Board (Board).

This addendum consists of two findings and recommendations by the Staff. The first finding involves the consideration of Preferred Route A versus Preferred Route B, in light of recently discovered information and the submission of a subsequent detailed engineering analysis by the Applicant. The second finding and recommendation considers several minor Preferred Route alignment shifts proposed by the Applicant.

Preferred Route A versus Preferred Route B

Staff's original recommendation to the Board was to certificate the selection of Preferred Route B. (See Figures 1 and 2 of the original staff report.) However, the Applicant has since surmised that soil stability along Preferred Route B warranted further study. Staff's original recommendation was based primarily upon the rationale of utilizing a previously disturbed access road corridor and a preliminary engineering report. The Applicant's first engineering report to Staff concluded that Preferred Route B posed challenges, however it was a viable choice.

Subsequently, information from public testimony and landowners prompted the commission of a more detailed engineering study by the Applicant. The second engineering study was filed on November 15, 2006. This study contained detailed construction options and analysis of likely ecological and socioeconomic impacts. Staff has carefully considered the second study and sought additional input from geological

experts at the Ohio Department of Natural Resources as well. The study considered direct bury of the proposed pipeline by utilizing open trenching and the suitability of employing directional drilling technology. This study also carefully weighed future pipeline stability measures. These measures included the need to install a pier wall system along Preferred Route B to counteract areas of slope instability.

The Applicant's second study demonstrated that Preferred Route B would require extensive terracing and widening of the existing driveway access road. Unfortunately, this would result in significantly more hillside disturbance and tree removal. This increases the potential for adverse ecological impacts to Little Maple Creek, which runs parallel to Preferred Route B.

In addition to increased ecological impacts, Preferred Route B now poses much higher societal impacts. There is a dramatic increase in project costs, likely to exceed over \$700,000. In addition, the widening of the current access road would expose the property to increased trespass and greater aesthetic impact. Similar concerns were raised by Staff with regards to Preferred Route A in the original Staff Report. The Applicant has indicated that steps to help camouflage or screen the clearing of the slope visible from U.S. Route 52 can be accomplished for Preferred Route A.

Staff emphasizes that the selection of Preferred Route A still poses unusual construction challenges; therefore, Staff has offered additional conditions for the Board's consideration. Staff notes that while Preferred Route B could be constructed and still is a viable option, Preferred Route B presents significantly higher overall impacts. **Therefore, Staff finds that the selection of Preferred Route A is superior. Staff recommends that the Board certificate Preferred Route A and that conditions**

included with this addendum become part of any certificate issued for the proposed facility.

Recent Preferred Route Alignment Clarifications

Since filing their original application, the Applicant has found it necessary to submit several Preferred Route alignment changes. These route clarifications were filed on: January 23, 2007, January 26, 2007, and February 27, 2007. **(See attached Figures.)** These clarifications were mostly prompted by recent communications about previously installed utilities. The Applicant must maintain essential engineering clearances to minimize potential conflicts with existing utilities. The Applicant also has had to adjust the Preferred Route to accommodate easement requirements and restrictions.

The Applicant's proposed change to the crossing of Big Indian Creek was required by bending radius restrictions that would have placed the pipeline terminus within a wooded slope on the North side of the creek. **(See Figure 3.)** Avoidance of the wooded slope necessitated a longer bore, from approximately 1,200 feet to 2,100 feet. As a result, two additional stream crossings will be avoided, thus reducing overall ecological impacts further.

The Staff has inspected the Applicant's proposed changes to the Preferred Route. The Staff concludes that these clarifications are consistent with the overall requirement to minimize impacts. **Therefore, Staff finds that these clarifications are beneficial. Staff recommends that the Board certificate these changes to the Preferred Route and that conditions included with this addendum become part of any certificate issued for the proposed facility.**

Additional Conditions

In conjunction with the information presented above, Staff recommends the following conditions be added to the Staff Report:

- 31) That the Applicant shall trench and professionally restore H7. The organization doing the professional stream restoration work will also provide guidance to the Applicant and construction contractor regarding methods to minimize environmental impacts related to site access, stream crossing techniques, storm water controls,, slope stabilization measures, and any other related environmental impact mitigation that may be of value at this stream crossing location, as well as on both the ascending and descending slopes of Preferred Route A. A plan to accomplish this shall be submitted to Staff for review and approval prior to initiation of construction.*
- 32) That the maximum construction easement width for Preferred Route A shall not exceed 30 feet, except in those Staff-approved areas where steep slopes, drainage ways, trees, or other environmentally-sensitive conditions are not present.*
- 33) That the timing of construction work for Preferred Route A shall coincide with dry on-site conditions, especially when working in areas with steep slopes, seeps, drainage ways, or any other feature that could be adversely impacted by construction activity during wet site conditions.*

- 34) *That special care will be taken to protect as many of the existing trees and tree root systems as possible during pipeline construction for Preferred Route A to help maintain slope stability in this steep area.*
- 35) *That special measures shall be devised for crossing the unnamed tributary to Little Maple Creek (Q1) and the private drive that parallels it to help minimize erosion and sedimentation during constructions and to help stabilize these already unstable areas following construction. The professional stream restoration organization will be expected to play a significant role in this activity.*
- 36) *That a plan showing all access points, haul roads, storage and stockpile sites, etc. within the reduced construction easement limits of Preferred Route A shall be submitted to Staff for review and approval prior to initiation of construction.*
- 37) *That a special "offset" alignment shall be devised where the proposed pipeline leaves U.S. Route 52 and begins ascending the steep hill in order to help camouflage the cleared right-of-way from passers-by. This alignment may involve several shifts in direction before proceeding uphill, and should include a "screen" of existing trees being left in place between the highway and the exposed hillside right-of-way.*

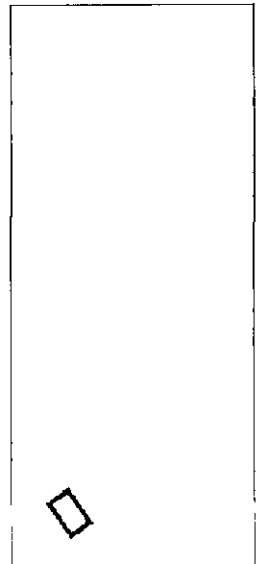
38) *That previously-proposed Condition (20) (d) in the Staff Report be eliminated, as it relates to proposed work along Preferred Route B that is no longer relevant to the currently-proposed project.*

39) *That all the other recently-proposed route alignment clarifications be designed and constructed in such a manner as to minimize tree clearing and avoid adverse impacts to streams. In particular, the revised alignment along the east side of U.S. Route 52 is expected to be located in the vicinity of the ditch line along the highway shoulder, with construction equipment and materials accessing the work site from the highway, thereby avoiding excavation into, and destabilization of, the steep slopes outside of the ditch line, as well as avoiding disturbance of existing trees and drainage ways located on the slopes.*



06-444-GA-BTX

**Duke Energy C338
Ohio River to Bethel
Natural Gas Pipeline**



Area of Detail

- Revised Preferred A
- Original Preferred A
- Preferred B
- HDD Start/End Point
- Stream Assessment
- Streams
- Parcels

0 250 500

Scale in Feet

1:6,000

Projection

NAD 83 State Plane Ohio South

Data Sources

Roads, streams, parcels from
Clermont County Auditor (2005)

Aerial photo Clermont Co. (2003)

All other data provided by URS

Map created on March 26, 2007

This map is for general reference only

Figure 1

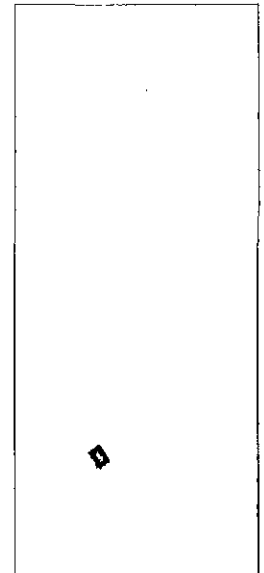
Route Clarifications

US 52 to Little Maple Creek



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Duke Energy C338
Ohio River to Bethel
Natural Gas Pipeline



Area of Detail

Revised Preferred A
Original Preferred A

Streams

Parcels

0 100 200

Scale in Feet

1:2,400

Projection

NAD 83 State Plane Ohio South

Data Sources

Roads, streams, parcels from
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Aerial photo Clermont Co. (2003)

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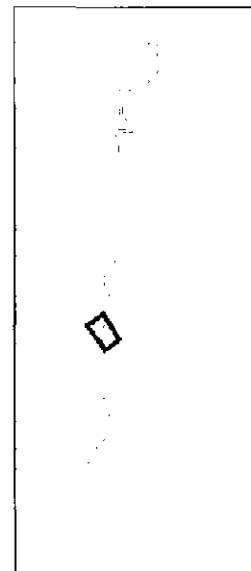
Figure 2

Route Clarifications
Houser & Bolender Roads



06-444-GA-BTX

**Duke Energy C338
Ohio River to Bethel
Natural Gas Pipeline**



Area of Detail

Revised Preferred A

Original Preferred A

○ **HDD Start/End Point**

Streams

Parcels

0 200 400

Scale in Feet

1:4,800

Projection

NAD 83 State Plane Ohio South

Data Sources

Roads, streams, parcels from
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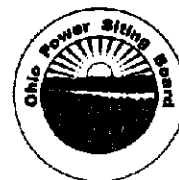
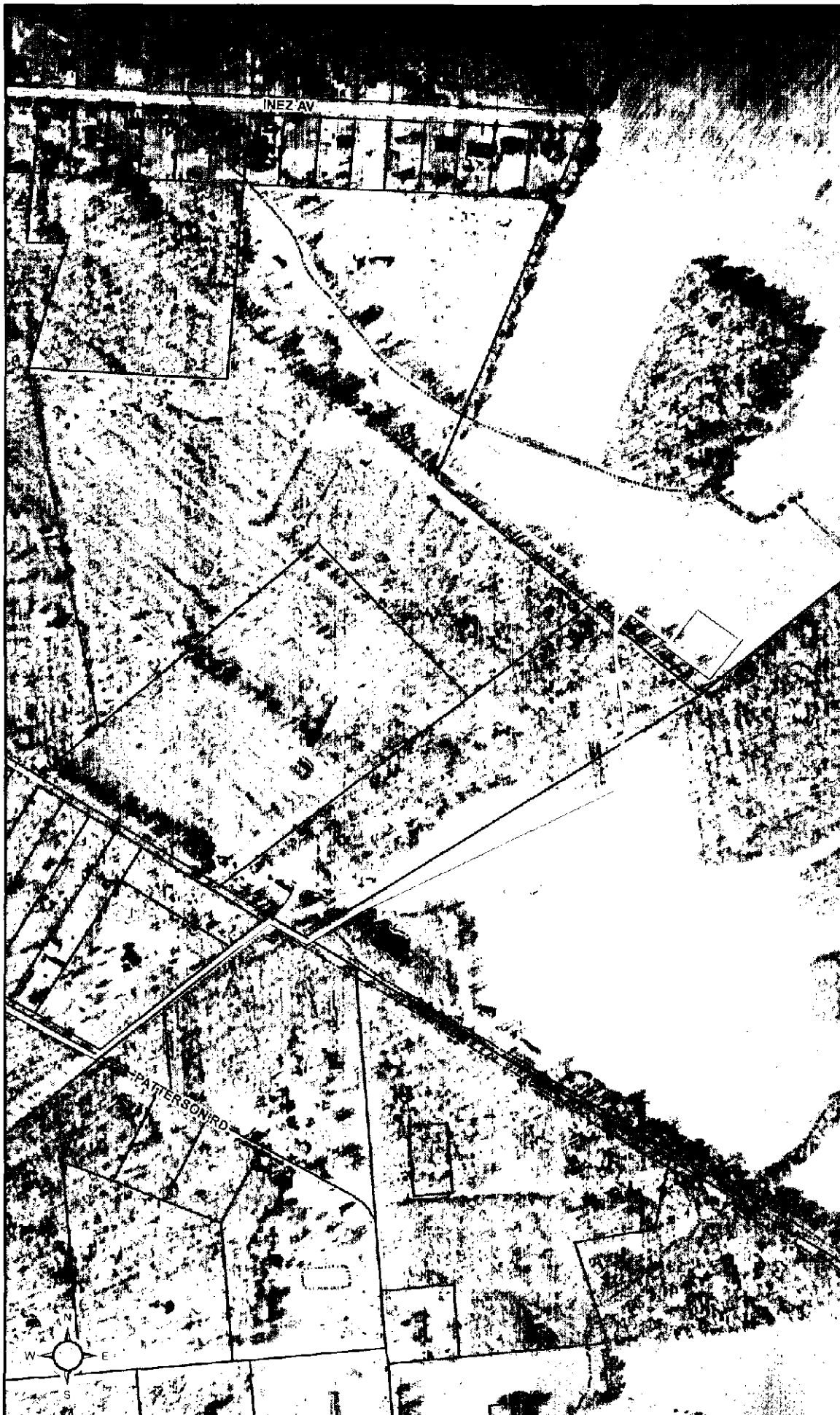
Map created on March 26, 2007

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Figure 3

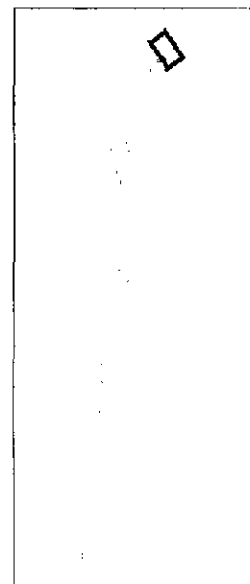
Route Clarifications

Big Indian Creek HDD



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**Duke Energy C338
Ohio River to Bethel
Natural Gas Pipeline**



Area of Detail

Revised Preferred A

Original Preferred A

Original Station

Revised Station

Streams

Parcels

0 200 400

Scale in Feet

1:4,800

Projection

NAD 83 State Plane Ohio South

Data Sources

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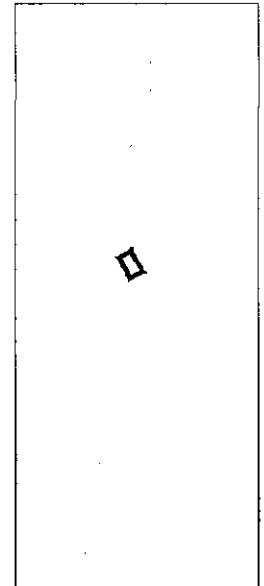
Figure 4

**Route Clarifications
Pressure Reducing Station**



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**Duke Energy C338
Ohio River to Bethel
Natural Gas Pipeline**



Area of Detail

Revised Preferred A

Original Preferred A

 Streams

 Parcels

0 150 300

Scale in Feet

1:3,600

Projection

NAD 83 State Plane Ohio South

Data Sources

Roads, streams, parcels from
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Aerial photo Clermont Co. (2003)

All other data provided by URS

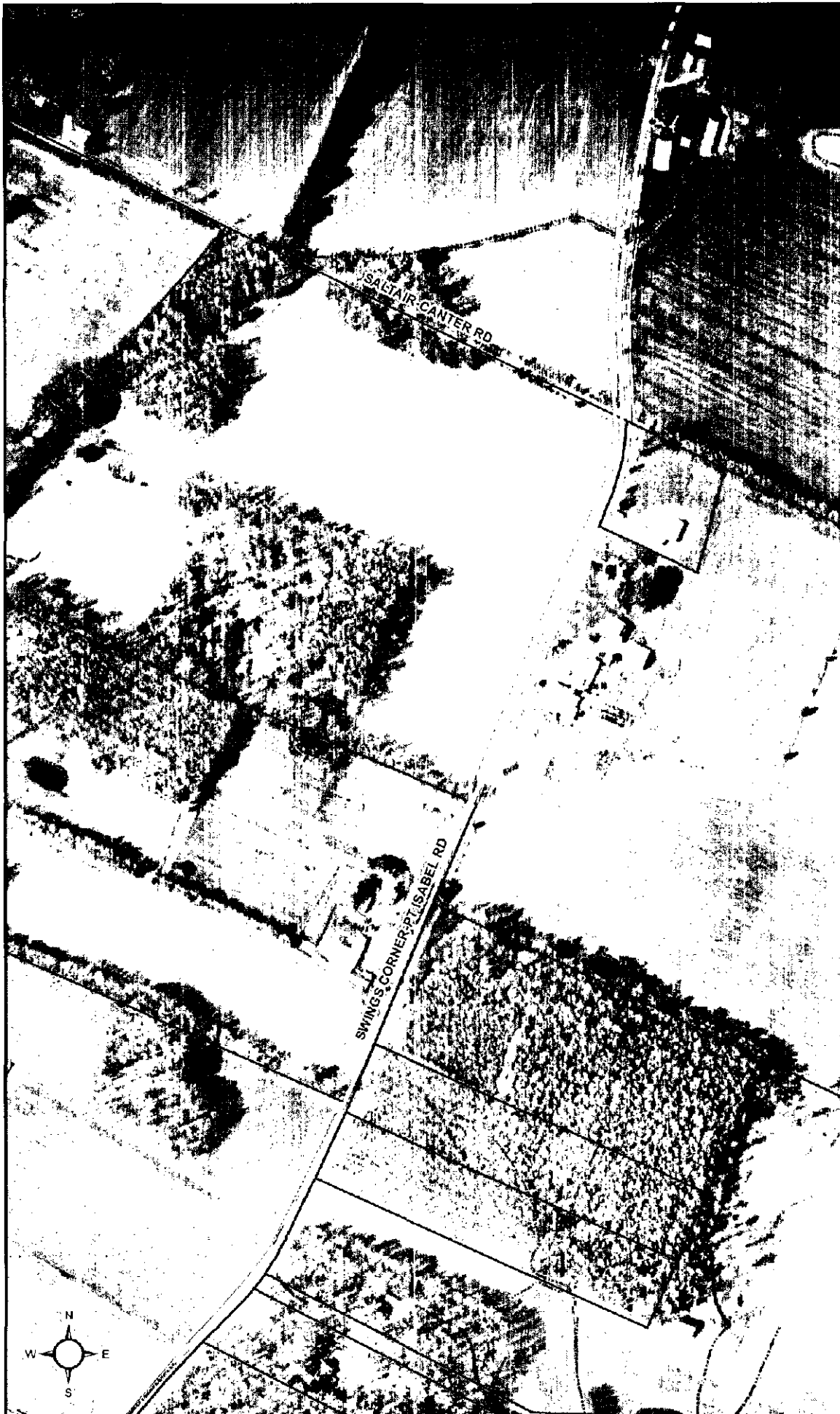
Map created on March 26, 2007

This map is for general reference only

Figure 5

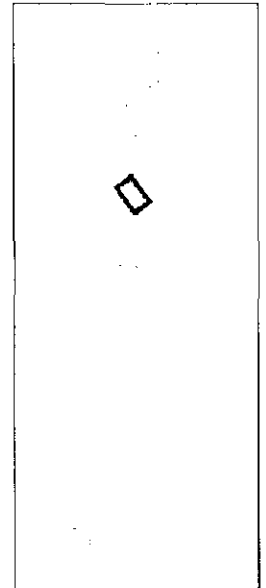
Route Clarifications

Mount Olive-Point Isabel Rd.



06-444-GA-BTX

**Duke Energy C338
Ohio River to Bethel
Natural Gas Pipeline**




Area of Detail

Revised Preferred A

Original Preferred A

Streams

 **Parcels**

0 200 400

Scale in Feet

1:4,800

Projection

NAD 83 State Plane Ohio South

Data Sources

Roads, streams, parcels from
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Aerial photo Clermont Co. (2003)

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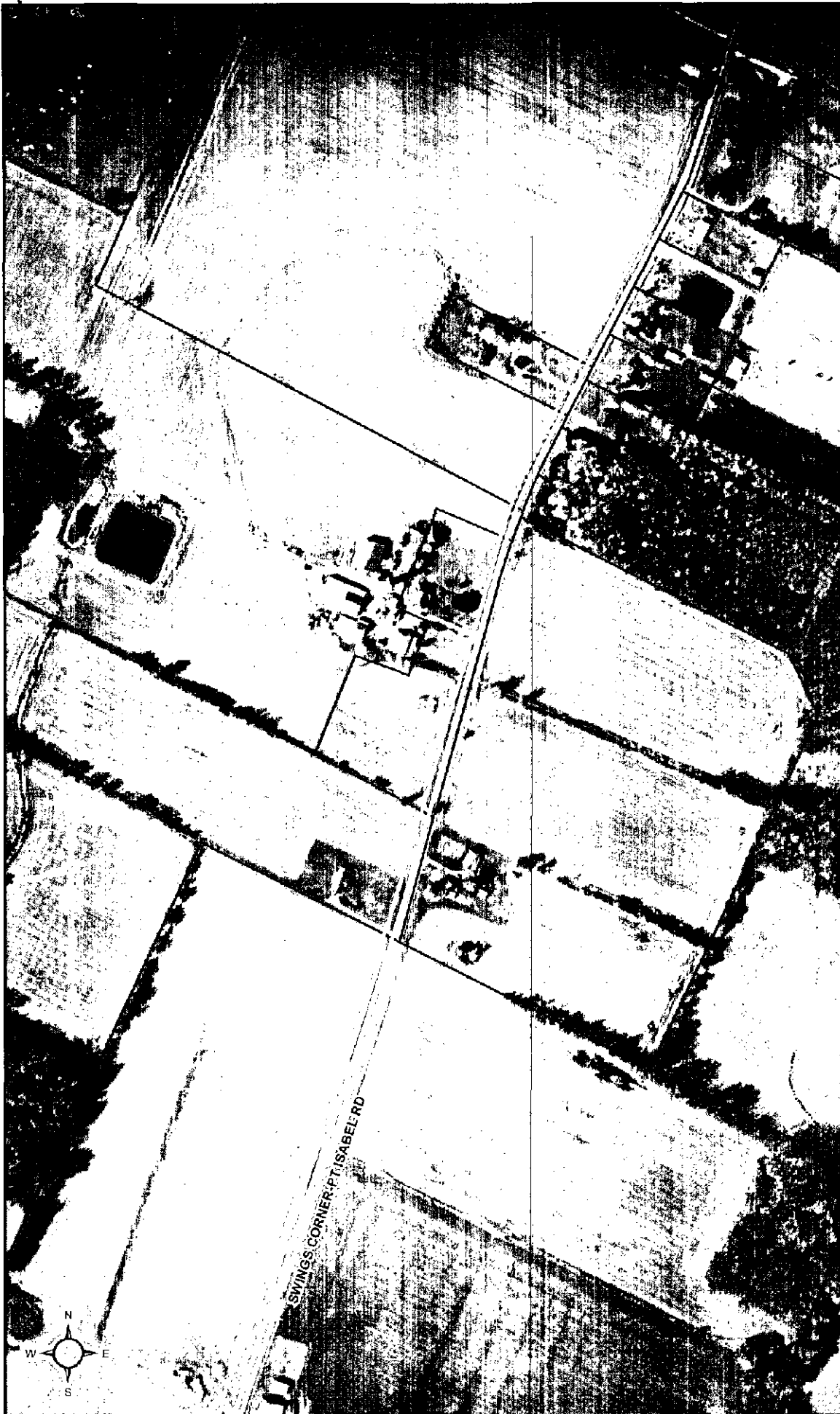
Map created on March 26, 2007

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Figure 6

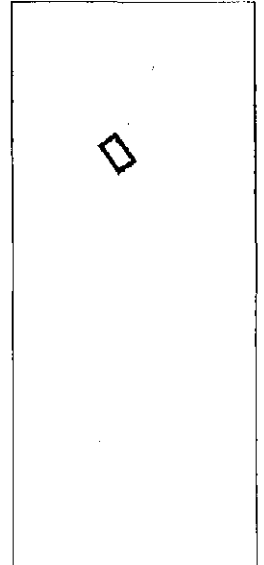
Route Clarifications

Swings Corner-Pt. Isabel Rd.



06-444-GA-BTX

**Duke Energy C338
Ohio River to Bethel
Natural Gas Pipeline**



Area of Detail

Revised Preferred A

Original Preferred A

Streams

Parcels

0 200 400

Scale in Feet

1:4,800

Projection

NAD 83 State Plane Ohio South

Data Sources

Roads, streams, parcels from
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Aerial photo Clermont Co. (2003)

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Figure 7

Route Clarifications

Swings Corner-Pt. Isabel Rd.