



# Preventing Cross Bores

## An Overview of Vectren's Process

Presented By:  
Vectren, Jennifer Fisher

5/4/10

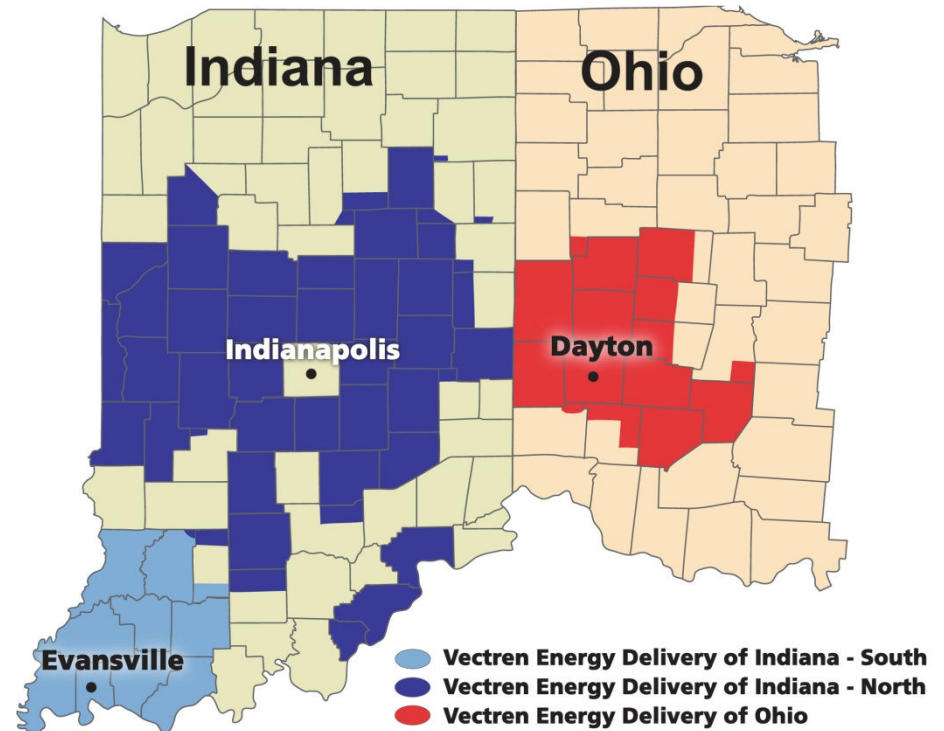


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# Vectren Overview

- Vectren is a natural gas and electric utility operating in Indiana and Ohio
  - Indiana South
    - 140,000 electric customers
    - 110,000 gas customers
  - Indiana North
    - 560,000 gas customers
  - Ohio
    - 315,000 gas customers





# Overview

Vectren implemented policies in the 1990s to address the risk of cross bores

Boring  
Safeguards

Sewer  
Transections

**Goal** →

Prevent damage to all foreign facilities

**Required** →

Prior to any trenchless pipe installation





# Boring Safeguards Procedure

## Spot Verifications

Crossings	Paralleling Foreign Facilities	Paralleling Natural Gas Facilities
<ul style="list-style-type: none"><li>- Spot within 2 ft of existing facility</li></ul>	<ul style="list-style-type: none"><li>- Spot at beginning</li><li>- Spot at end</li><li>- Spot every 150ft</li></ul>	<ul style="list-style-type: none"><li>-Spot at beginning</li><li>- Spot at end</li></ul> <p>Within 3-5 ft Spot every 75ft</p> <p>Within 5-10ft Spot every 200 ft</p>



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# Sewer Transections Procedure

What sewers are located?

Sanitary

- Main
- Laterals

Septic

Storm

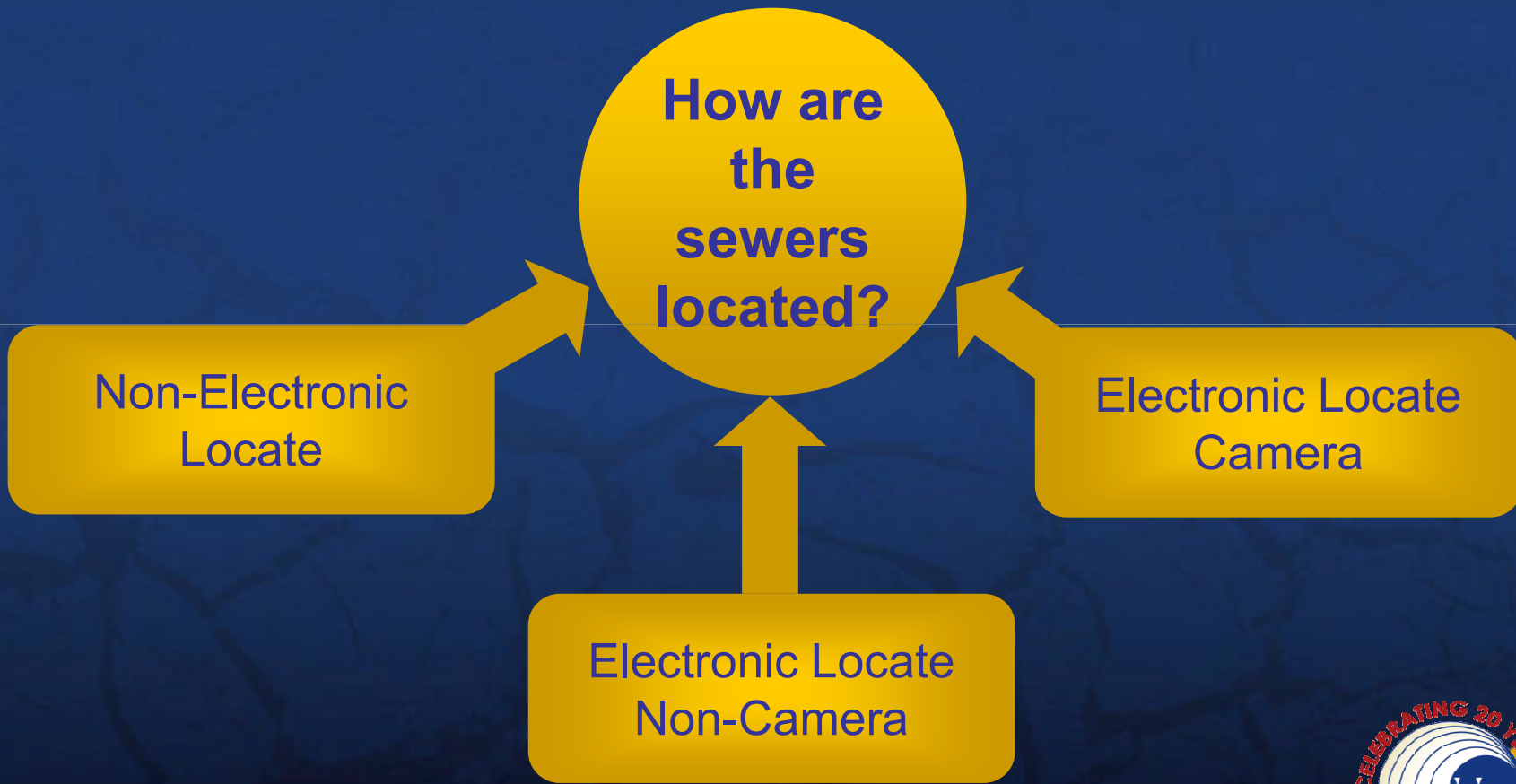


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# Sewer Transections Procedure

## Locating Sewers





# Sewer Transections Procedure

## Protecting Plastic Pipe

**Sewers Located / No Conflict**

Minimum of 2' vertical and horizontal clearance

No further protective method required

**Open Excavation**

Location and depth of sewer is unknown

No trenchless installation

**Spot Hole**

If sewer depth unknown OR New main will be installed within 2' of the sewer

Visually verify a cross bore does not occur

**Insertion**

Insert plastic main or service in metallic piping

**Steel Carrier**

Only used if other protective methods unreliable or impractical.

Install steel pipe instead of plastic





# Sewer Transections Procedure Customer Notification

Form 8140 (Rev. 10/03)


## FOR YOUR SAFETY

If underground natural gas lines have recently been installed or upgraded in your neighborhood and you are experiencing sewer problems, call Vectren Energy Delivery at **1-800-227-1376** before having any work done on your sewer.

**NOTE:** Please hang this tag around your sewer pipe as close to the main clean-out opening as possible.

If the clean-out opening is located outside or it is otherwise not possible to place tag near the opening, please do the following:

1. Hang the tag on the drain piping under your kitchen sink.
2. Make anyone who is going to do any work on your sewer aware of this tag and its message.



VECTREN

“Important Information”  
packet delivered to each  
premise in construction area



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# Sewer Transections Procedure Record Keeping

Form 3861 (Rev. 04/06)

### SERVICE SEWER CONFLICT RECORD

Property/Street/Alley Crossed 438<sup>s</sup>. Main St.

Proposed \* Protective Method 1

Actual \* Protective Method \_\_\_\_\_

Field Changes Approved By \_\_\_\_\_

Sewer Locate Performed Dave Walker Date 7/29/09

**Protective Methods (List by Number):**

1. Site evaluation and records research indicate no sewer facilities in construction area
2. Sewer locate performed resulting in;
  - a) Clearance greater than 2 ft (vertical & horizontal)
  - b) Clearance less than or equal to 2 ft (vertical & horizontal) requiring a spot hole
3. Spot hole used to visually inspect sewer facilities during excavation and/or boring operations
4. Open excavation, crumbed, clear of roots and other obstructions, inspected.
5. Insertion or conduits
6. Install steel protective sleeve
7. Install steel carrier pipe

\* Proposed Protective Method will be used unless changes approved by company representative

**Service Sketch Proposal**  
(with gas main and sewer/septic systems)

C-1-04



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# Sewer Transections Procedure Record Keeping

Form 3861 (Rev. 04/06)

### SERVICE SEWER CONFLICT RECORD

Property/Street/Alley Crossed Inter E. 28<sup>th</sup> St + Pearl St.

Proposed \* Protective Method 2A

Actual \* Protective Method \_\_\_\_\_

Field Changes Approved By \_\_\_\_\_

Sewer Locate Performed Dave Walker Date 7/25/09

**Protective Methods (List by Number):**

1. Site evaluation and records research indicate no sewer facilities in construction area
2. Sewer locate performed resulting in:
  - a) Clearance greater than 2 ft (vertical & horizontal)
  - b) Clearance less than or equal to 2 ft (vertical & horizontal) requiring a spot hole
3. Spot hole used to visually inspect sewer facilities during excavation and/or boring operations
4. Open excavation, crumbed, clear of roots and other obstructions, inspected.
5. Insertion or conduits
6. Install steel protective sleeve
7. Install steel carrier pipe

*\* Proposed Protective Method will be used unless changes approved by company representative*

**Service Sketch Proposal**  
(with gas main and sewer/septic systems)

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# Sewer Transections Procedure Record Keeping

**SEWER CONFLICT RECORD** Form 3860 (Rev. 04/06)  
Main Installation

Operations Center: <i>Anderson</i>	Project #: <i>09582152528</i>	Project Prepared By:	Date: <i>6-15-09</i>	Sheet # <i>2</i> of <i>22</i>
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Property/Street/Alley Crossed	PROPOSED* Protective Method	ACTUAL* Protective Method	Field Changes Approved By
<i>37th + Brown ST</i>	<i>1</i>	<i>1</i>	
<i>3635 Brown ST</i>	<i>2B</i>	<i>2B</i>	
<i>3631 Brown ST</i>	<i>2B</i>	<i>2B</i>	
<i>3625 Brown ST</i>	<i>1</i>	<i>1</i>	
<i>Brown + Edgemound Dr.</i>	<i>2B</i>	<i>2A</i>	<i>Brandon Hastings</i>

Pre-construction meeting attendees: \_\_\_\_\_

Installation Contractor / Company Crew:	Date:
Installation Inspector / Crew Leader: <i>Brandon Hastings</i>	Date: <i>6-15-09</i>

**\* Protective Measures (List by Number):**

<ol style="list-style-type: none"> <li>1. Site evaluation and records research indicate no sewer facilities in construction area</li> <li>2. Sewer locate performed resulting in:               <ol style="list-style-type: none"> <li>a.) Clearance greater than 2 ft (vertical &amp; horizontal)</li> <li>b.) Clearance less than or equal to 2 ft (vertical &amp; horizontal) requiring a spot hole</li> </ol> </li> <li>3. Spot hole used to visually inspect sewer facilities during excavation and/or boring operations</li> </ol>	<ol style="list-style-type: none"> <li>4. Open excavation crumbed, clear of roots and other obstructions, inspected from within excavation</li> <li>5. Insertion or conduits</li> <li>6. Install steel protective sleeve</li> <li>7. Install steel carrier pipe</li> </ol>
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**\*\* Proposed Protective Measure will be used unless changes approved by company representative**

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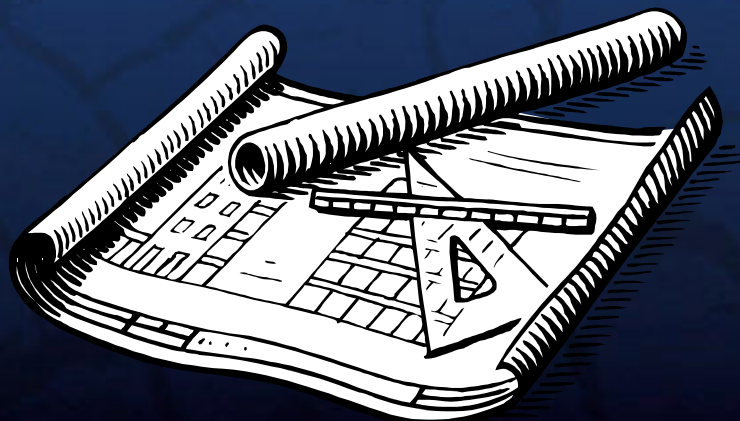


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# Project Design Considerations

- Evaluate project paths reduce # of foreign facilities in project area
- Reconsider feasibility of trenchless installation for the project
- Lay new main near enough to existing to allow inserting both long and short-side services



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# Conclusions

- Vectren safely uses trenchless installation for many of its projects
- In 2008, post-construction sewer locates on 7 projects revealed no cross bores



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