# GIS Applications in the County Engineer's Office

LAKE COUNTY

GEOGRAPHIC INFORMATION SYSTEM DEPARTMENT

**Richard J. Kotapish, GISP**
**GIS Director**

WWW.LAKEGIS.ORG

# Lake County's GIS Board

**James R. Gills, P.E., P.S.**
**County Engineer**

**Edward H. Zupancic**
**County Auditor**

**Robert E. Aufuldish**
**Board of County Commissioners**

# Lake County's
# GIS Team

# What Is GIS?

## A Geographic Information System

**A system of computer hardware, software and programs which stores, analyzes and displays information about places on the earth's surface. More than 80% of information used by local governments is geographically referenced.**

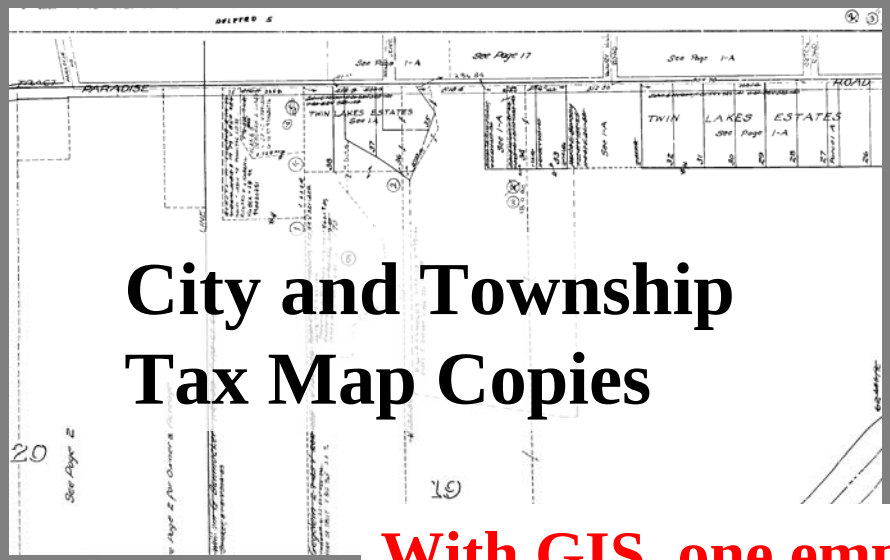
# Engineer's Office GIS Overview

- Redundant work eliminated
- Tax Map Office GIS
- Pictometry support for preliminary design, surveying, field investigation
- Preliminary engineering support (contours, elevations, right-of-ways, etc.)
- Query of orthophotos, parcels with real estate system information
- Scanned Plats/Archived Tax Maps, Surveys, Site Plans available 24/7 on the web
- Maintenance & tracking of roadside hazards

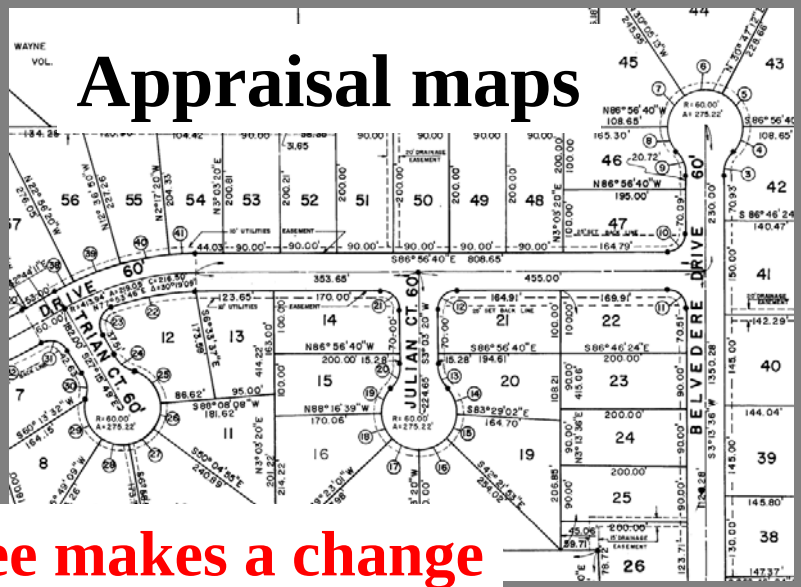
# Engineer's Office GIS Overview

- Maintenance & tracking of guardrail inventory
- Maintenance & tracking of road and bridge traffic counts
- Maintenance & tracking of traffic accidents and dead deer
- County Roads Stormwater Asset mapping
- Bridge Inspection Program geospatially enabled
- Retaining Walls Inspection Program " "
- Stormwater Management Agency GIS
- GPS surveying
- Historical mapping website

# Before GIS, maps were redundantly maintained



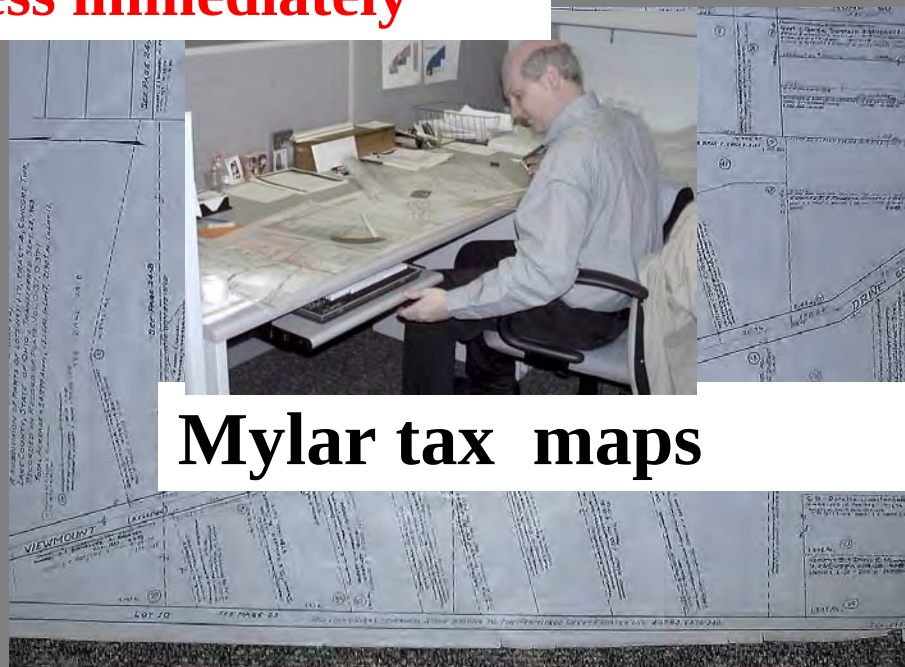

City and Township
Tax Map Copies




Appraisal maps

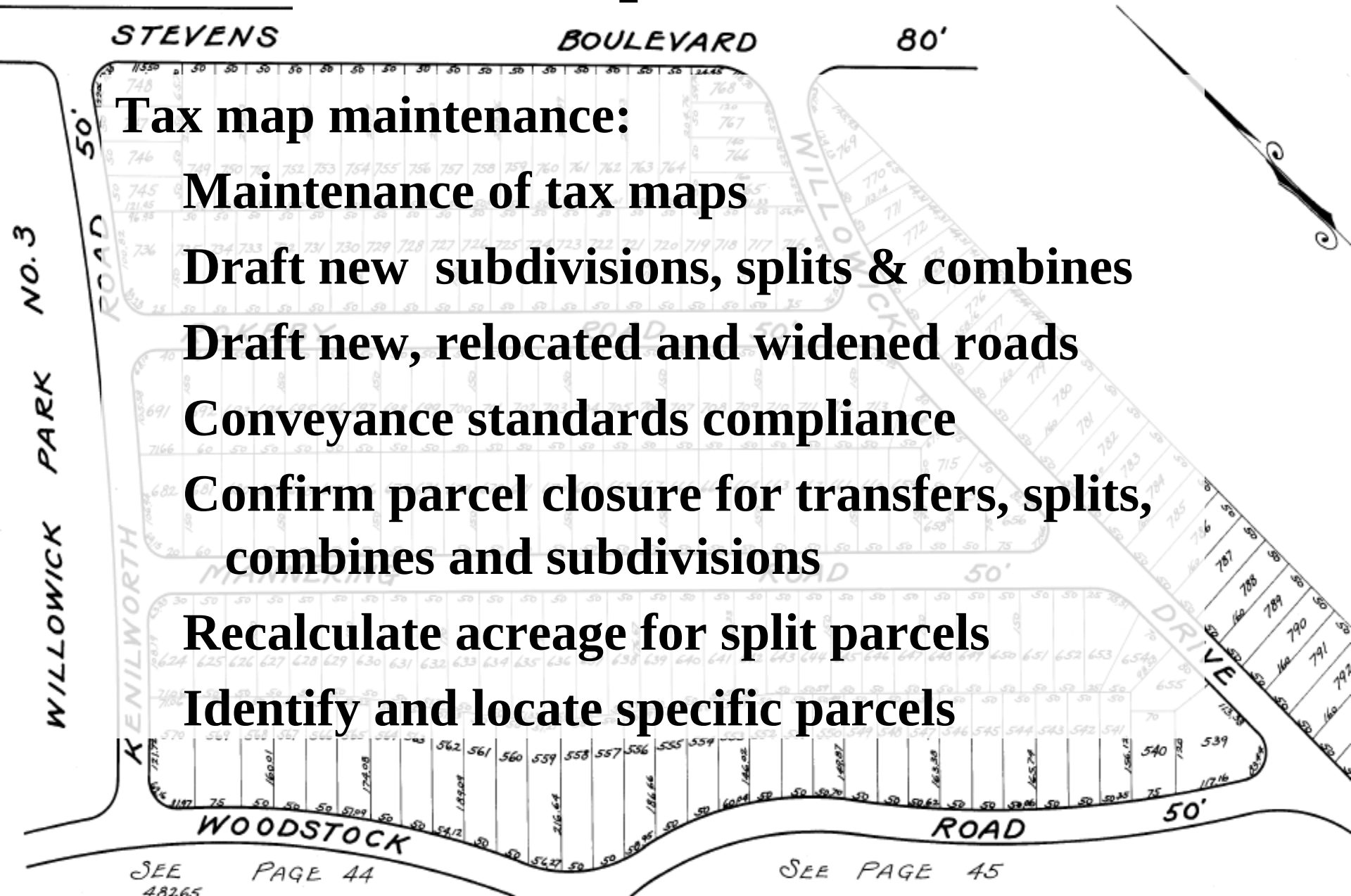
**With GIS, one employee makes a change and all have access immediately**

Public area tax maps



Mylar tax maps

# Tax Map Office GIS

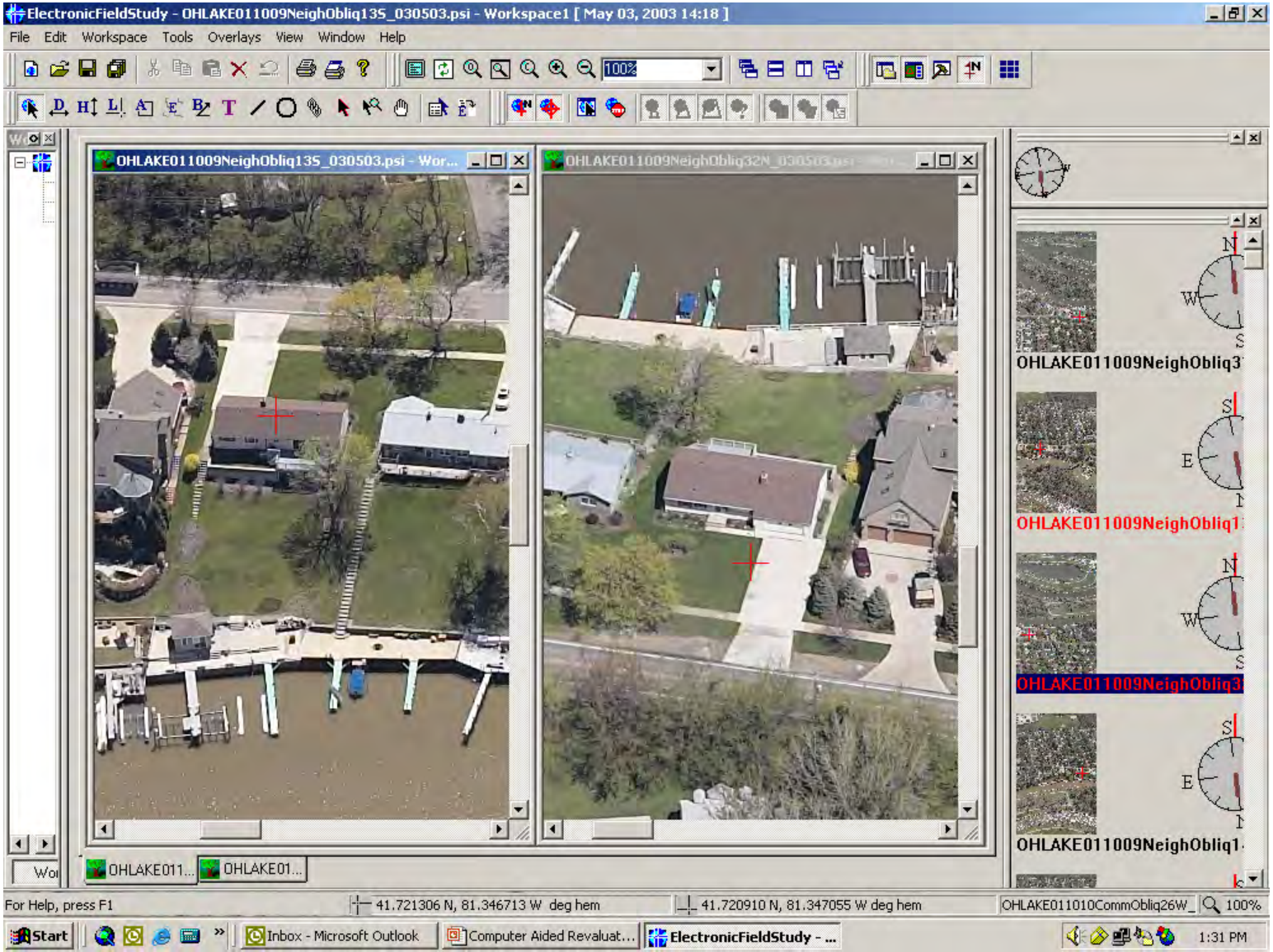



**Tax map maintenance:**

- **Maintenance of tax maps**
- **Draft new subdivisions, splits & combines**
- **Draft new, relocated and widened roads**
- **Conveyance standards compliance**
- **Confirm parcel closure for transfers, splits, combines and subdivisions**
- **Recalculate acreage for split parcels**
- **Identify and locate specific parcels**

# Engineer’s Office GIS

- Pictometry support for preliminary design, surveying, field investigation



# Engineer's Office GIS

- Query of orthophotos, parcels with real estate system information

# Lake County's GIS Internet Mapping Application

http://www.lakegis.org/lakenavigator/viewer.htm - Windows Internet Explorer

http://www.lakegis.org/lakenavigator/viewer.htm

LAKEGIS

Lake Navigator

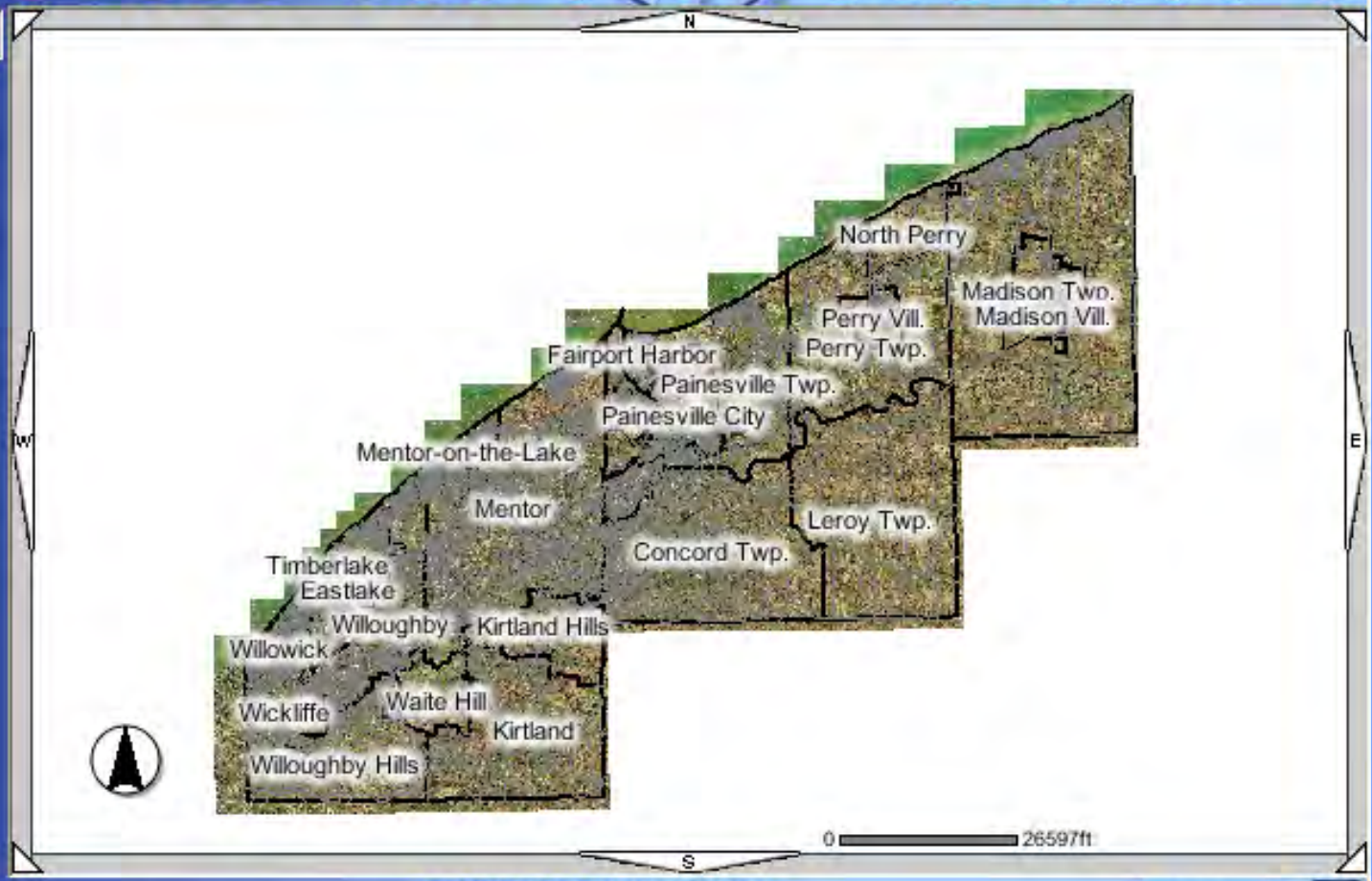
LAYERS | PARCEL SEARCH

SEARCH OPTIONS

Address

Owner

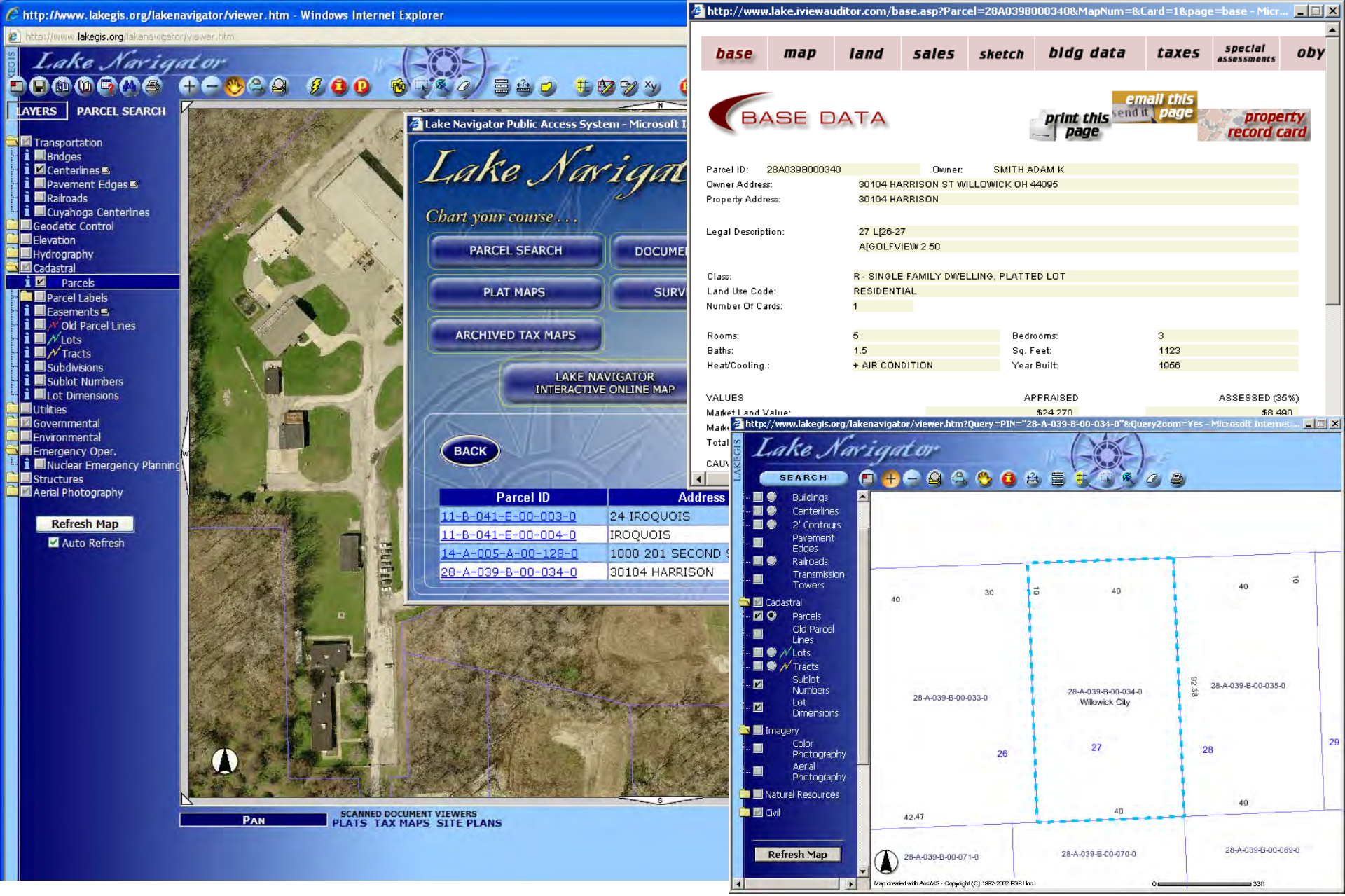
Parcel Number




ZOOM IN

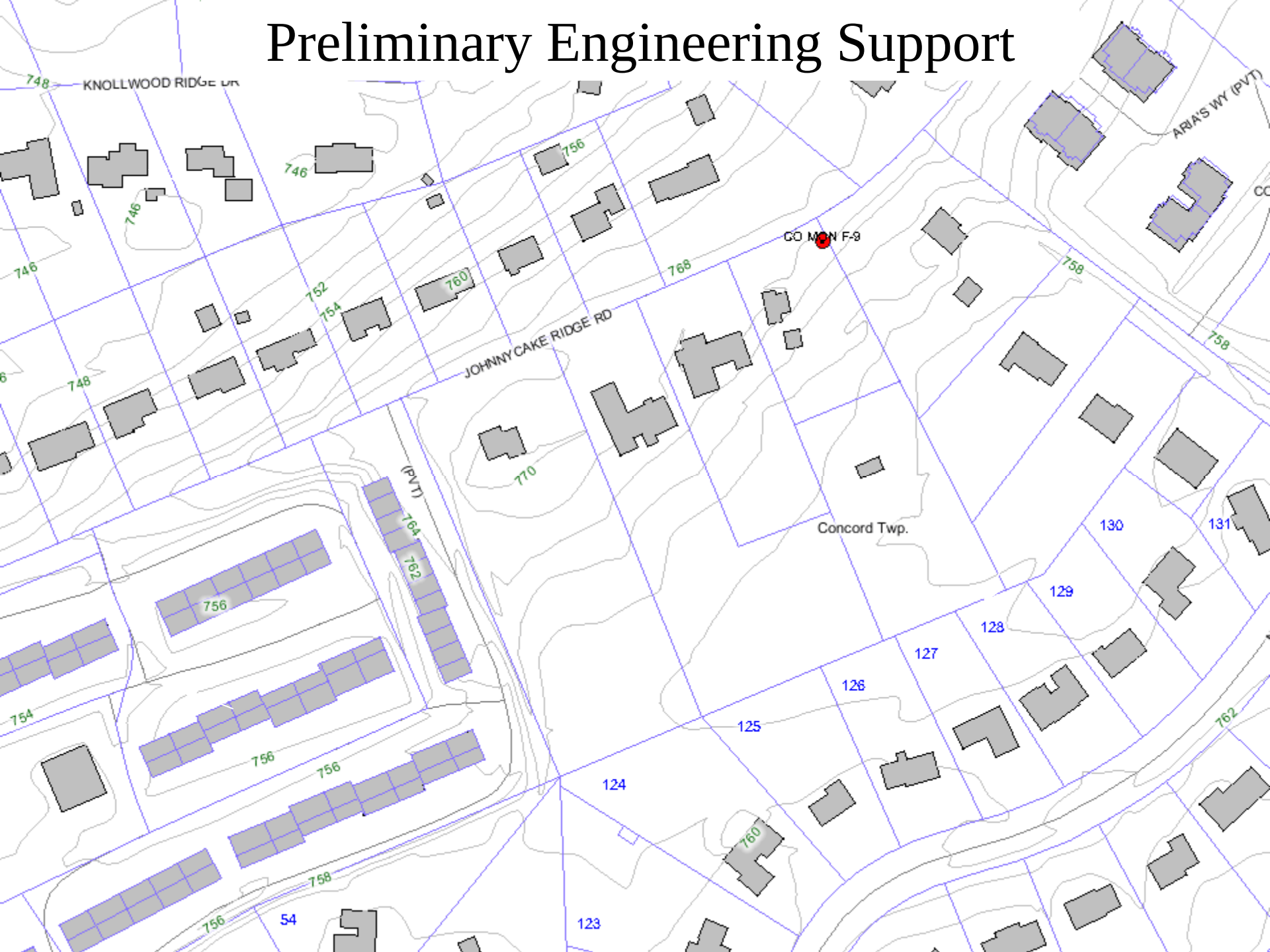
SCANNED DOCUMENT VIEWERS
PLATS TAX MAPS SITE PLANS

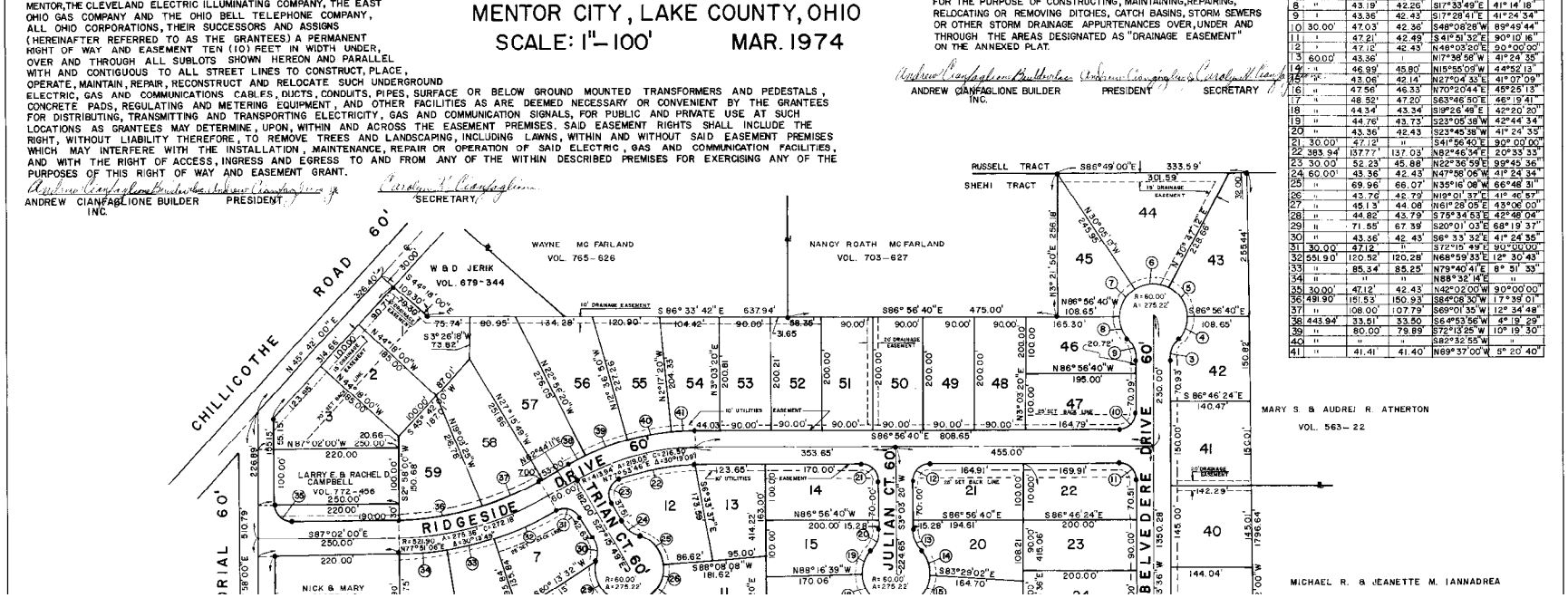
Zoom to Scale: 1" = 32321 ft. Go




**Click on the appropriate parcel ID and the map will zoom to the parcel, highlight the parcel and open a window of Auditor's Real Estate System information**

# Preliminary Engineering Support



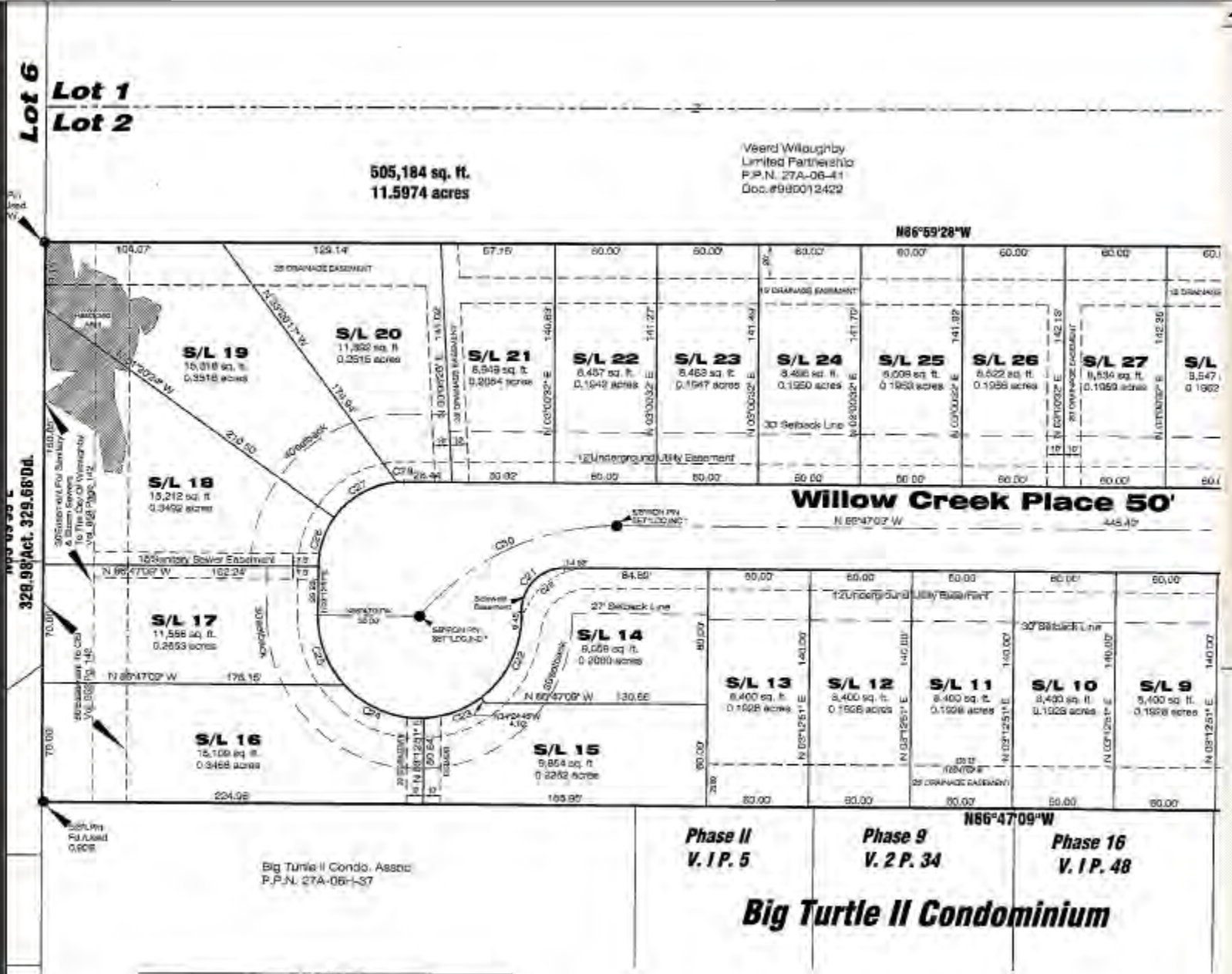



# SCANNING OF PLATS/TAX MAPS

# Scanned Plats

# Scanned Plats

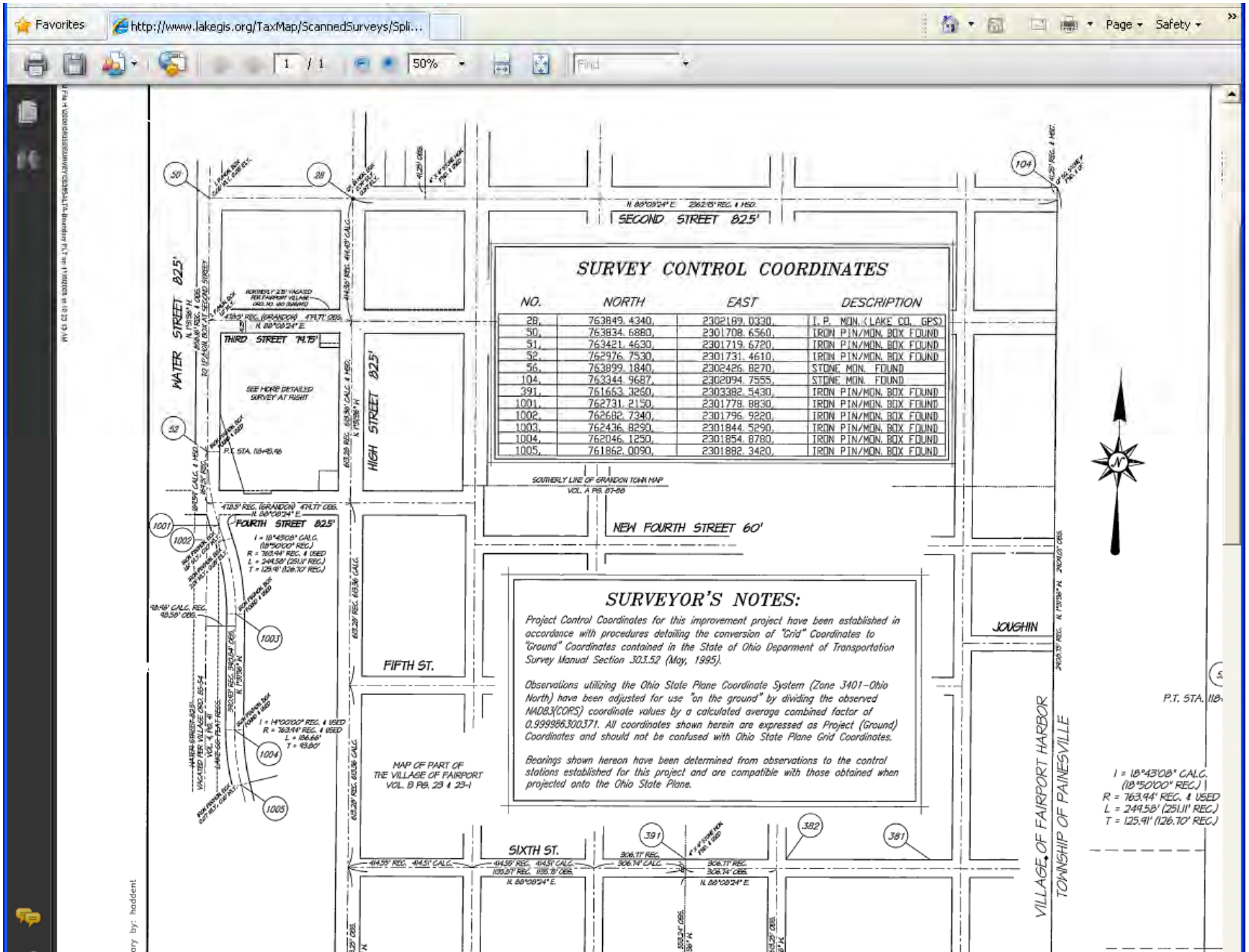
57-35-2.PDF
57-35-1.PDF
57-35.PDF




| CURVE TABLE | | | | | | |
|---|---|---|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA | TANGET | BEARING | CHORD |
| C20 | 77.54 | 175.00 | 25°23'07" | 39.41 | N71°34'38"W | 76.90 |
| C21 | 40.51 | 25.00 | 92°51'10" | 26.28 | N46°47'16"E | 36.22 |
| C22 | 57.83 | 60.00 | 55°13'33" | 31.38 | N27°53'27"E | 55.62 |
| C23 | 36.56 | 60.00 | 34°54'56" | 18.87 | N73°02'41"E | 36.00 |
| C24 | 52.25 | 60.00 | 49°54'27" | 27.92 | N64°32'38"W | 50.63 |
| C25 | 44.82 | 60.00 | 42°48'15" | 23.62 | N18°11'17"W | 43.79 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

29.60 x 18.00 in

# Scanned Surveys



# Scanned Archived Tax Maps

# Scanned Archived Tax Maps

Archive Tax Maps - Windows Internet Explorer

http://www.lakegis.org/lakenavigator/archiveTaxMapOpen.asp?folder=16A&page=3&subPage1=0&subPage2=00&mode=2

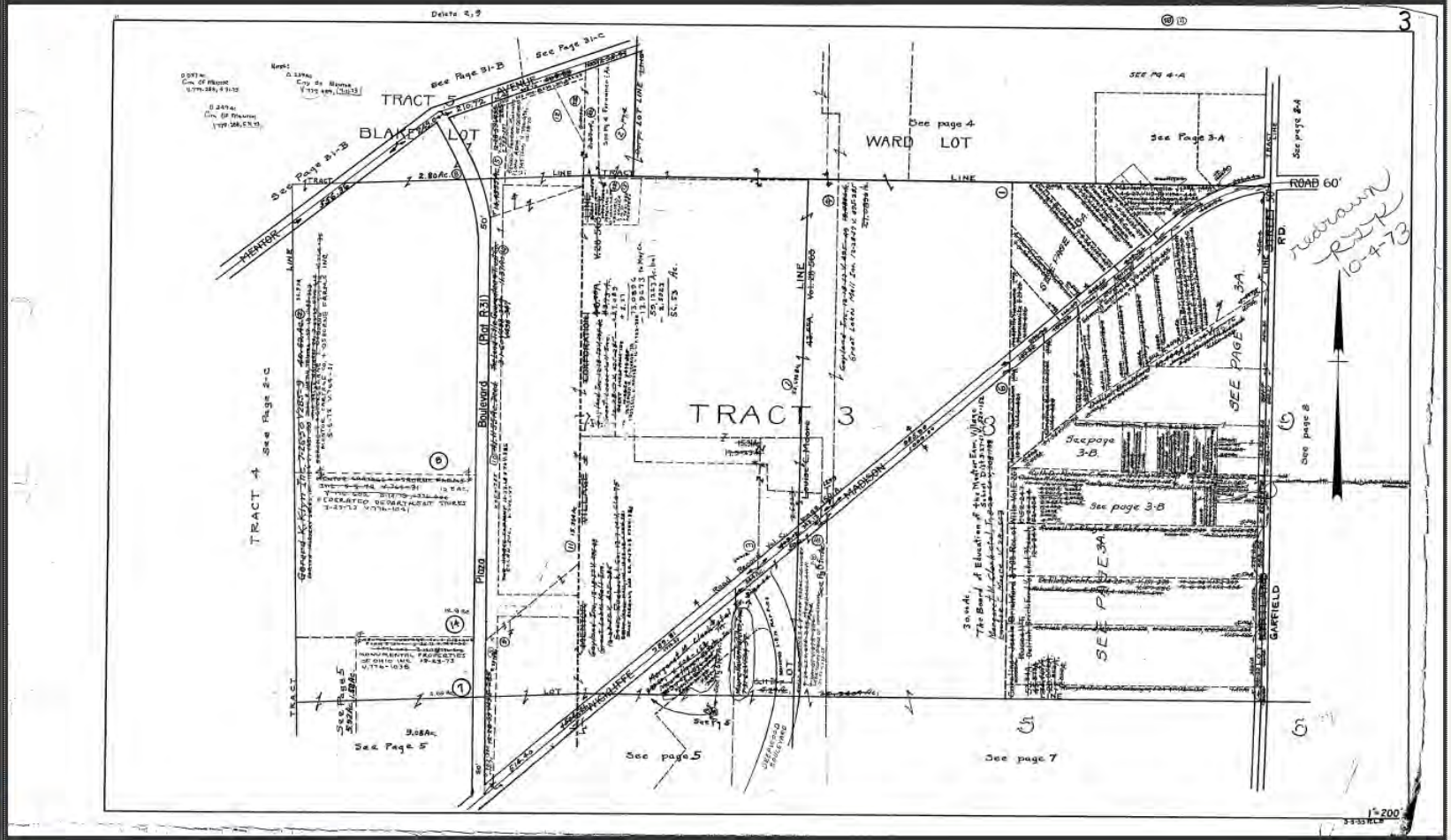
File Edit View Favorites Tools Help

Favorites

Archive Tax Maps

RESULTS

- 16A-003-A-1.pdf
- 16A-003-A.pdf
- 16A-003-AOLD.pdf
- 16A-003-B.pdf
- 16A-003-BOLD.pdf
- 16A-003-C.pdf
- 16A-003.pdf
- 16A-003OLD.pdf



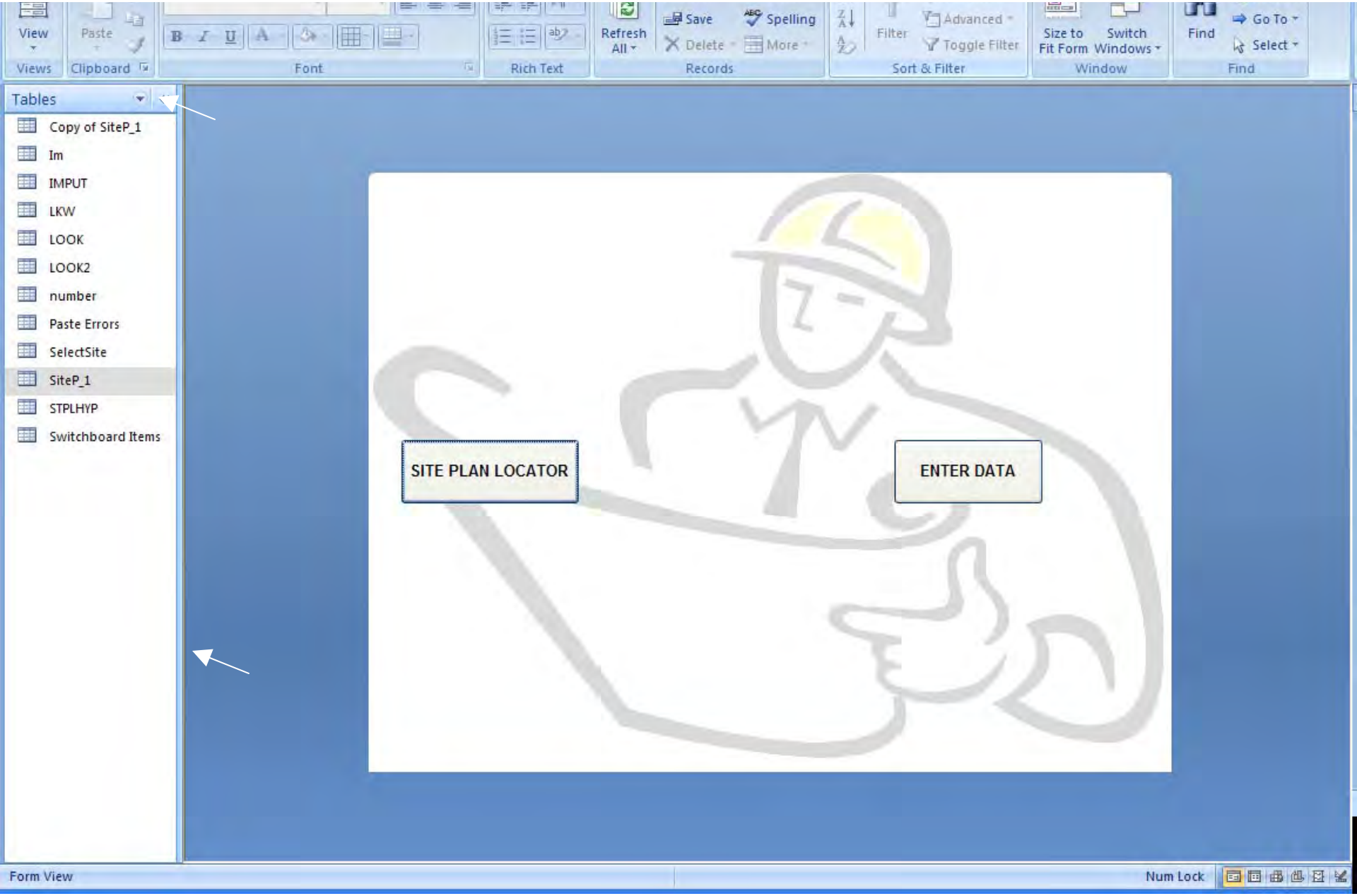

Search Additional Tax Maps

Volume: Select Volume Page: Subpage1: 0 Subpage2: 00 Search Reset

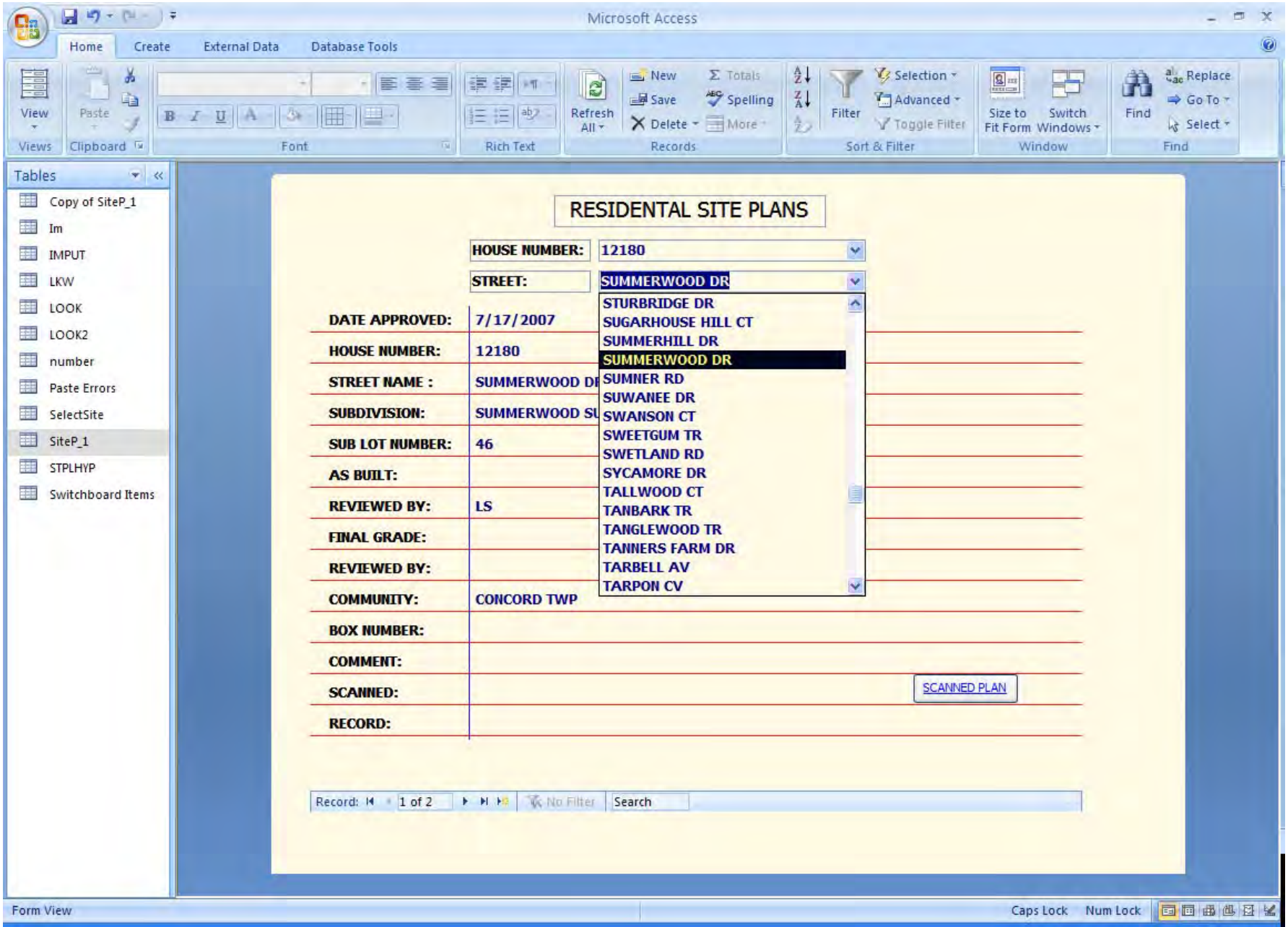
Done

Internet 100%

# Scanned Site Plans



# Scanned Site Plans



http://www.lakegis.org/SitePlans/Default.aspx - Windows Internet Explorer

http://www.lakegis.org/SitePlans/Default.aspx

File Edit View Favorites Tools Help

Favorites http://www.lakegis.org/SitePlans/Default.aspx

Page Safety

# Scanned Site Plans

## SITE PLANS

These are construction drawings showing proposed improvements for individual properties.
They are reviewed and approved by the county but are not recorded by the County Recorder.

### Enter Search Criteria

Jurisdiction - City/Township/Village: Concord Township

House Number:

Street Name:

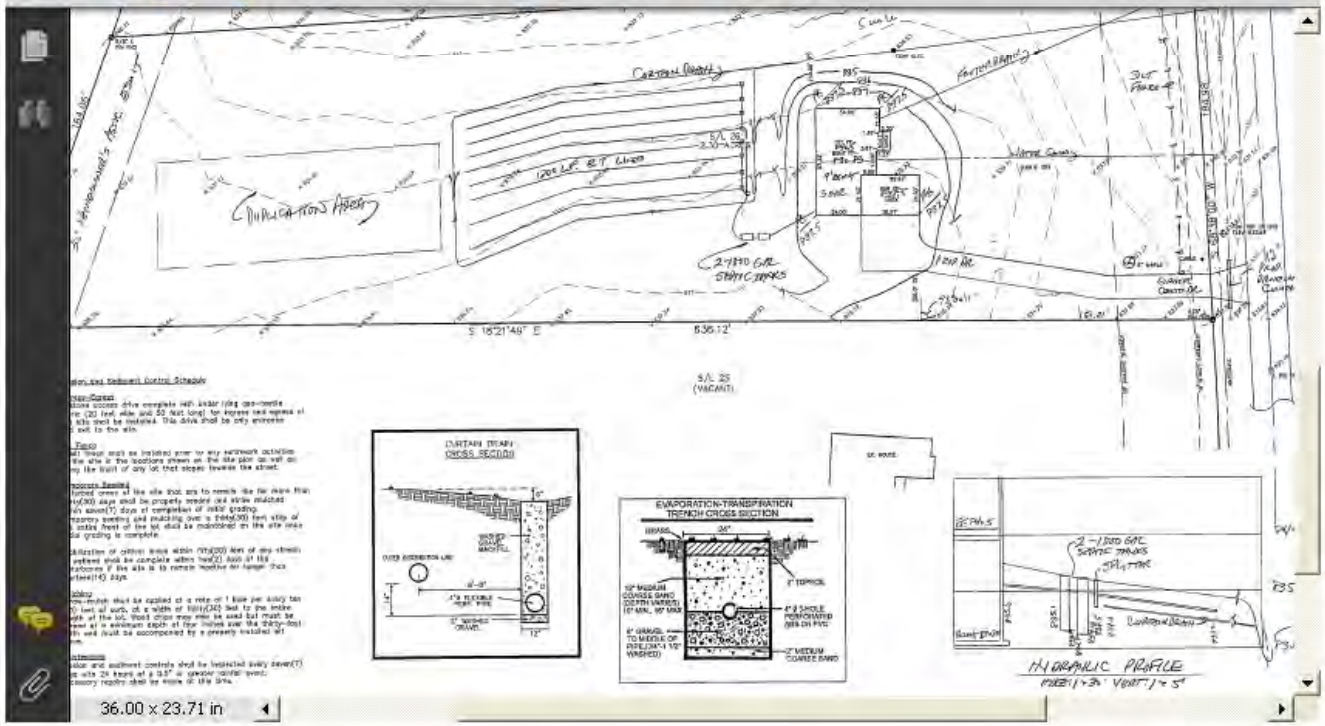
Search

### Results - CO*

| File |
|---|
| CO_Achilles_11856_1.PDF |
| CO_Achilles_11856_2.PDF |
| CO_Alexander_7272_1.PDF |
| CO_Alexander_7272_2.PDF |
| CO_Alexander_7290.PDF |
| CO_Alexander_7305.PDF |
| CO_Alexander_7315.PDF |
| CO_Alexander_7330_1.PDF |
| CO_Alexander_7330_2.PDF |
| CO_Alyssa_10525_1.PDF |
| CO_Alyssa_10525_2.PDF |
| CO_Alyssa_10535_1.PDF |
| CO_Alyssa_10535_2.PDF |
| CO_Alyssa_10540_1.PDF |
| CO_Alyssa_10540_2.PDF |
| CO_Alyssa_10550_1.PDF |
| CO_Alyssa_10550_2.PDF |
| CO_Alyssa_10555_1.PDF |
| CO_Alyssa_10555_2.PDF |
| CO_Alyssa_10560_1.PDF |
| CO_Alyssa_10560_2.PDF |
| CO_Alyssa_10565_1.PDF |
| CO_Alyssa_10565_2.PDF |
| CO_Alyssa_10574_1.PDF |

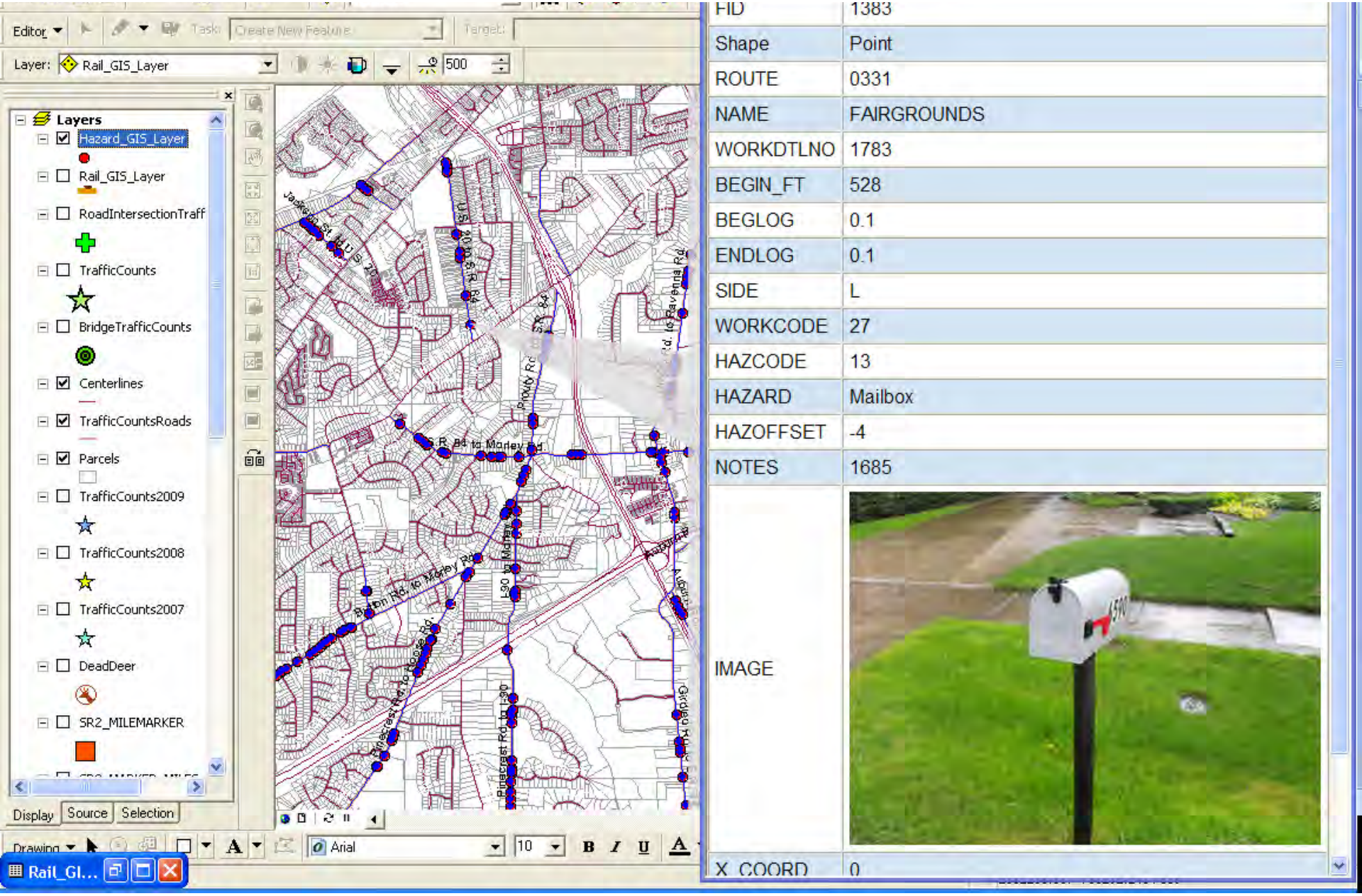
(To open in a separate window - right-click file and select "Open in New Window")

1 / 1 33.3% Find

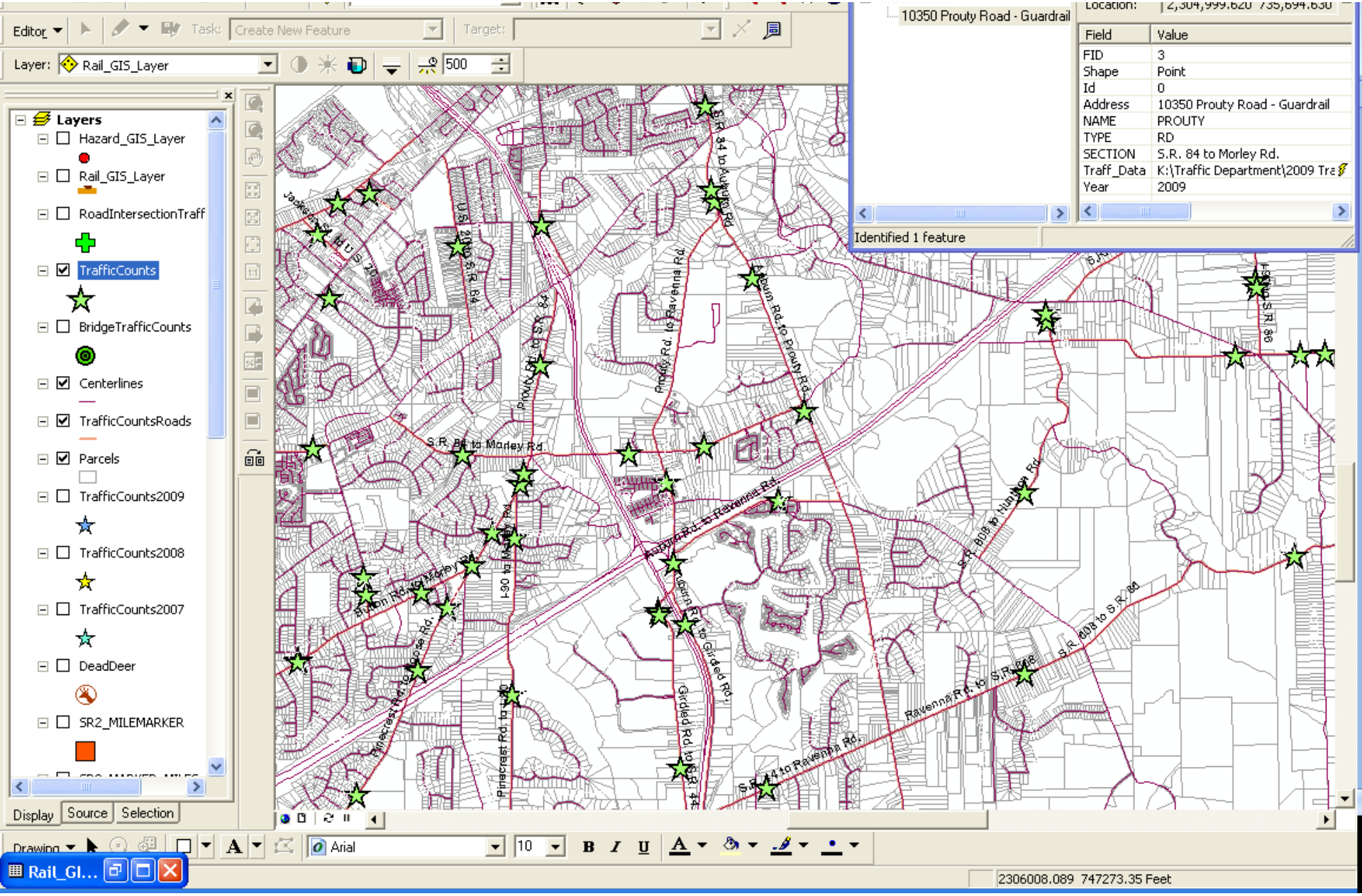



36.00 x 23.71 in

# Maintenance & tracking of roadside hazards



# Maintenance & tracking of Road Traffic Counts



Lake County Engineers Office
550 Blackbrook Rd
Painesville Ohio 44077
(440) 350-2770

Location: Prouty Rd (Morley-84)
Date: 6/22/09 - 6/23/09
Weather: Sunny
Counted By: A. Frey & K. Layton

Site Code:
Station ID:

Direction 2

Latitude: 0' 0.000 Undefined

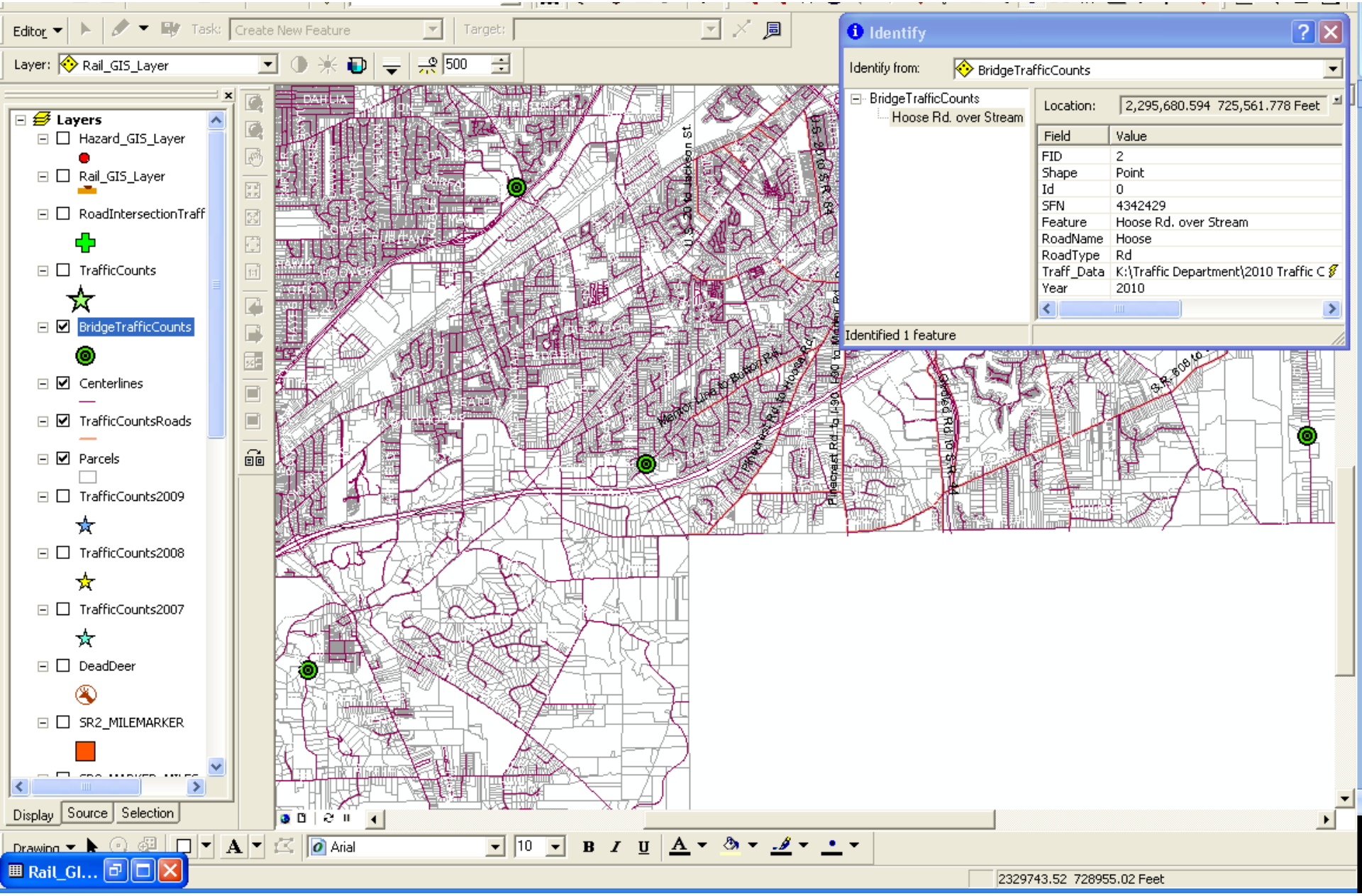
| Start Time | 0 15 | 16 20 | 21 25 | 26 30 | 31 35 | 36 40 | 41 45 | 46 50 | 51 55 | 56 60 | 61 65 | 66 70 | 71 75 | 76 9999 | Total | Pace Speed | Number in Pace |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06/23/09 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 7 | 1 | 1 | 0 | 0 | 0 | 16 | 44-53 | 12 |
| 01:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 5 | 38-47 | 3 |
| 02:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 45-54 | 4 |
| 03:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 4 | 44-53 | 3 |
| 04:00 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 8 | 42-51 | 5 |
| 05:00 | 0 | 0 | **1** | 0 | 0 | 0 | 1 | 4 | 3 | 4 | 2 | 0 | 0 | 0 | 15 | 53-62 | 9 |
| 06:00 | 0 | **1** | 1 | 0 | 0 | 1 | 9 | 8 | 12 | 3 | **3** | 0 | 0 | 0 | 38 | 46-55 | 20 |
| 07:00 | 1 | 0 | 0 | 0 | **1** | 2 | 10 | 27 | 35 | **10** | 2 | 0 | 0 | 0 | 88 | 46-55 | 62 |
| 08:00 | **3** | 0 | 0 | 0 | 0 | 4 | 9 | 37 | 42 | 7 | 0 | **1** | 0 | 0 | 103 | 46-55 | 79 |
| 09:00 | 2 | 0 | 0 | 0 | 1 | **6** | **26** | **51** | **51** | 5 | 0 | 0 | 0 | 0 | **142** | 46-55 | 102 |
| 10:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 11:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 12 PM | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 13:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 14:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 15:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 16:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 17:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 18:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 19:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 20:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 21:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 22:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 23:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Total | 6 | 1 | 2 | 0 | 2 | 15 | 60 | 137 | 159 | 31 | 9 | 1 | 0 | 0 | 423 | | |
| Percent | 1.4% | 0.2% | 0.5% | 0.0% | 0.5% | 3.5% | 14.2% | 32.4% | 37.6% | 7.3% | 2.1% | 0.2% | 0.0% | 0.0% | | | |
| AM Peak | 08:00 | 06:00 | 05:00 | | 07:00 | 09:00 | 09:00 | 09:00 | 09:00 | 07:00 | 06:00 | 08:00 | | | 09:00 | | |
| Vol. | 3 | 1 | 1 | | 1 | 6 | 26 | 51 | 51 | 10 | 3 | 1 | | | 142 | | |
| PM Peak | | | | | | | | | | | | | | | | | |
| Vol. | | | | | | | | | | | | | | | | | |
| Total | 42 | 4 | 9 | 5 | 13 | 88 | 492 | 1143 | 1257 | 289 | 56 | 3 | 1 | 0 | 3402 | | |
| Percent | 1.2% | 0.1% | 0.3% | 0.1% | 0.4% | 2.6% | 14.5% | 33.6% | 36.9% | 8.5% | 1.6% | 0.1% | 0.0% | 0.0% | | | |

| | |
|---|---|
| 15th Percentile : | 44 MPH |
| 50th Percentile : | 50 MPH |
| 85th Percentile : | 55 MPH |
| 95th Percentile : | 59 MPH |

Stats

| | |
|---|---|
| 10 MPH Pace Speed : | 46-55 MPH |
| Number in Pace : | 2400 |
| Percent in Pace : | 70.5% |
| Number of Vehicles > 55 MPH : | 349 |
| Percent of Vehicles > 55 MPH : | 10.3% |
| Mean Speed(Average) : | 49 MPH |

# Maintenance & tracking of Bridge Traffic Counts



# Lake County Engineers Office

550 Blackbrook Road
Painesville, Ohio 44077
(440) 350-2770

Location: Hoose-Bridge
Date: Mon 8/2 to Tues 8/3/2010
Weather: Sunny
Counted By: H. Duer and A. Little

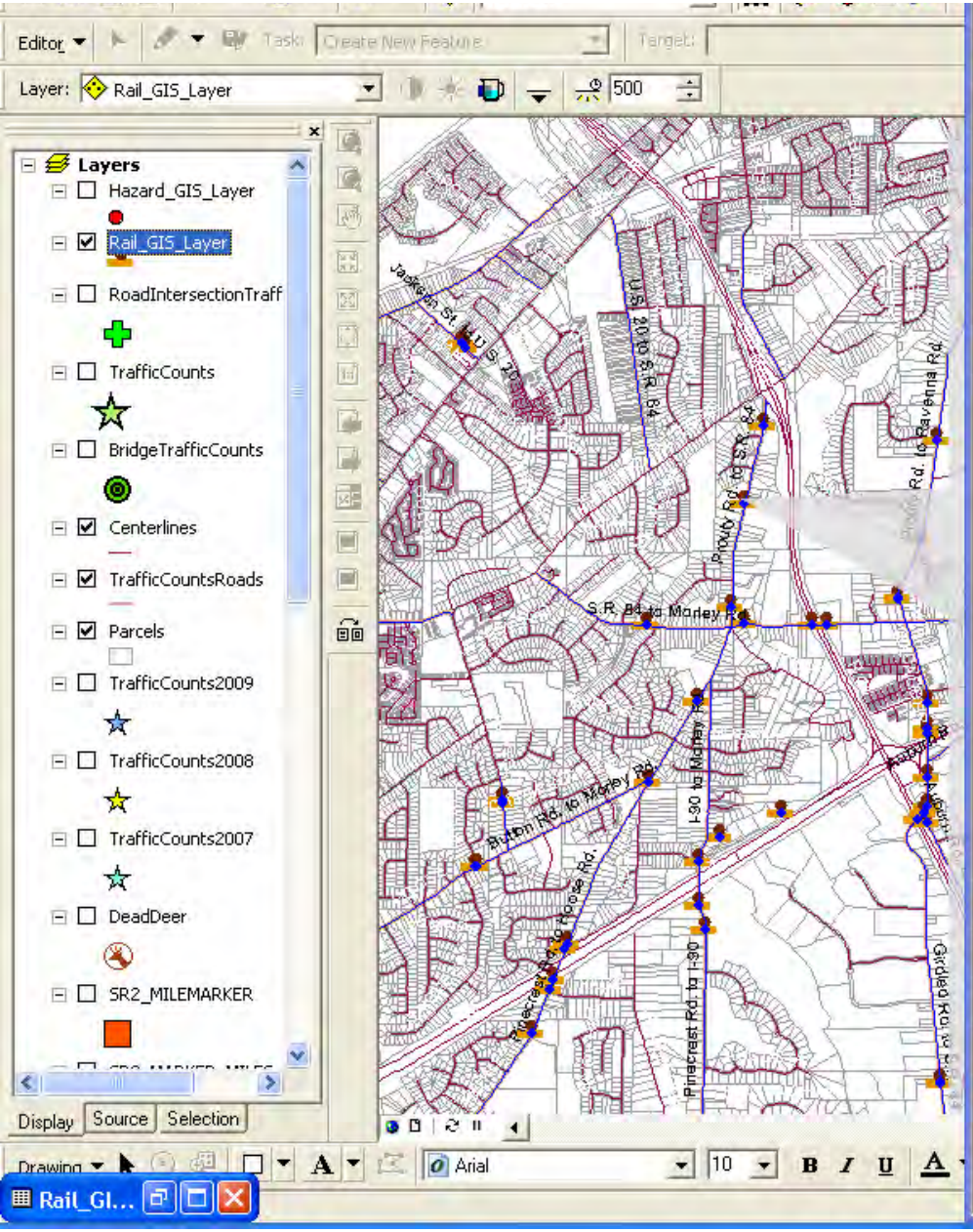
Site Code: Hoose-Bridge
Station ID: SN:019541

Latitude: 0' 0.000 Undefined

Direction 2

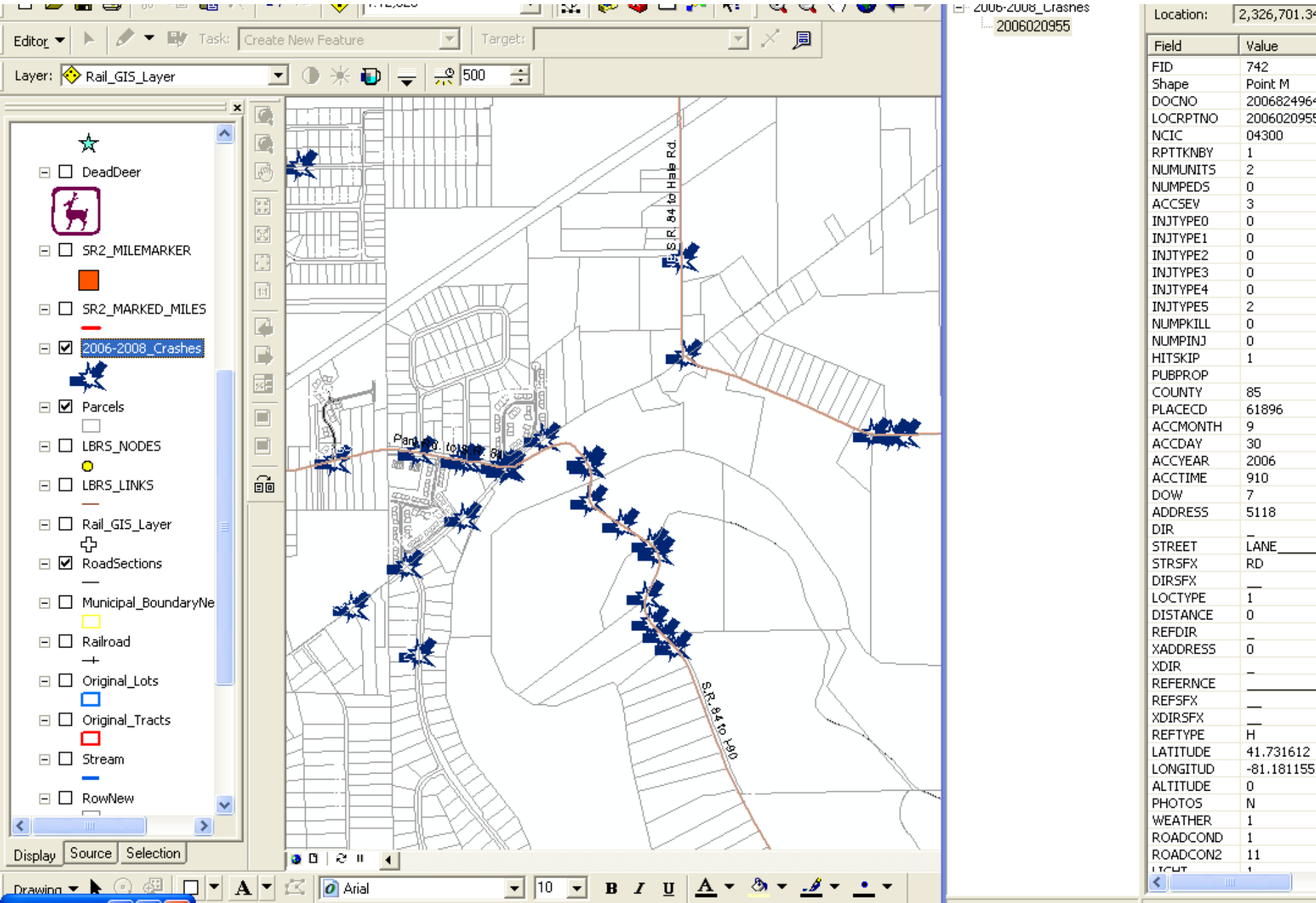
| Start Time | Bikes | Cars & Trailer | 2 Axle Long | Buses | 2 Axle 6 Tire | 3 Axle Single | 4 Axle Single | <5 Axl Double | 5 Axle Double | >6 Axl Double | <6 Axl Multi | 6 Axle Multi | >6 Axl Multi | Not Classe | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8/3/10 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 01:00 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 02:00 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 03:00 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 |
| 04:00 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 05:00 | 0 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 06:00 | 0 | 48 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 59 |
| 07:00 | 0 | 86 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 91 |
| 08:00 | 0 | 77 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 86 |
| 09:00 | 0 | 51 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 58 |
| 10:00 | 0 | 53 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 59 |
| 11:00 | 0 | 59 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 67 |
| 12 PM | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 13:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 14:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 15:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 16:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 17:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 18:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 19:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 20:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 21:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 22:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| 23:00 | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Total | 0 | 400 | 37 | 0 | 3 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 10 | 454 |
| Percent | 0.0% | 88.1% | 8.1% | 0.0% | 0.7% | 0.4% | 0.0% | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 2.2% | |
| AM Peak | | 07:00 | 06:00 | | 02:00 | 03:00 | | 02:00 | | | | | | 11:00 | 07:00 |
| Vol. | | 86 | 9 | | 1 | 1 | | 1 | | | | | | 3 | 91 |
| PM Peak Vol. | | | | | | | | | | | | | | | |
| Grand Total | 8 | 1127 | 116 | 0 | 6 | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 34 | 1297 |
| Percent | 0.6% | 86.9% | 8.9% | 0.0% | 0.5% | 0.2% | 0.0% | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 2.6% | |

# Maintenance & tracking of Guard rail

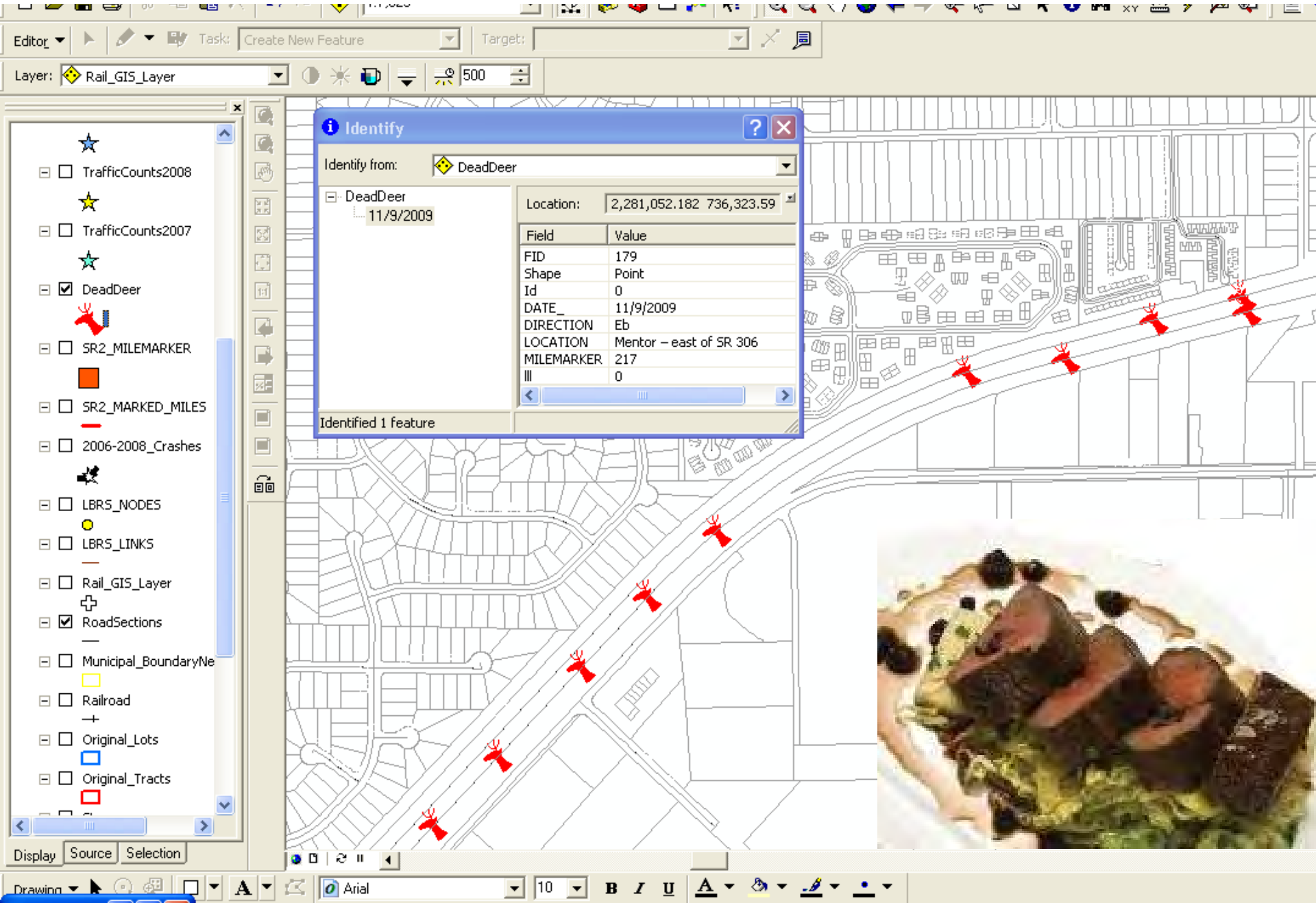



| | |
|---|---|
| FID | 207 |
| Shape | Point |
| ROUTE | 0417 |
| NAME | MORLEY |
| BRIDGEORRA | B |
| SIDE | |
| RAILNO | 61 |
| BRIDGE_ID | |
| IMAGE | |
| RAILTYPEA | Type 5 |
| RAILTYPEB | Type 5 |
| BEGIN_FT | 19261 |
| BEGLOG | 3.634 |
| ENDLOG | 3.663 |
| BEGLOGL | 3.638 |
| ENDLOGL | 3.667 |

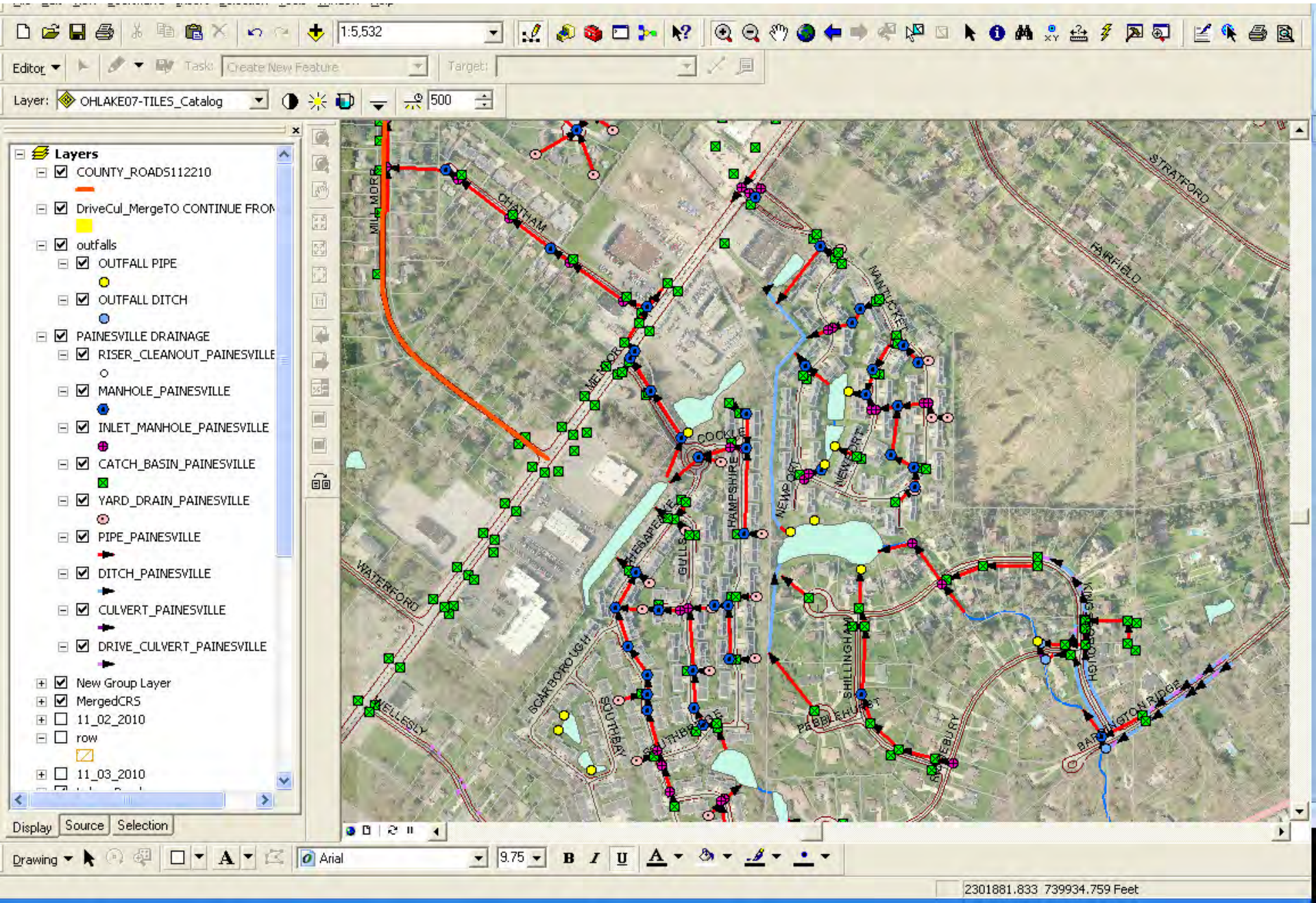
# Maintenance & tracking of vehicle accidents



# Tracking of Dead Deer



# County Roads Stormwater Asset Mapping



# Bridge Inspection Data

# BRIDGE INSPECTION DATA SUPPORT

inspecttech

BridgeInspect Collector

**Lake Co : Bridge Inspector** (Logout)

Lake Co Assets ▸ Lake County Top Level ▸ Lake County Bridges

**Lake County Bridges**

| Report Started | Code | Asset Name | BR87 - Item 102 - Facility Carried By Structure | BR87 - Item 4 - Feature(s) Intersected | BR87 - Item 101 - Location of Structure | Status | Edit | Action |
|---|---|---|---|---|---|---|---|---|
| 08/25/2008 | Lake County Bridges | Lake County Bridges | BUTTON ROAD | BUTTON RD. O/KELLOGG CR. | 0.24 MI. N/ HOOSE ROAD | In progress | Edit | |

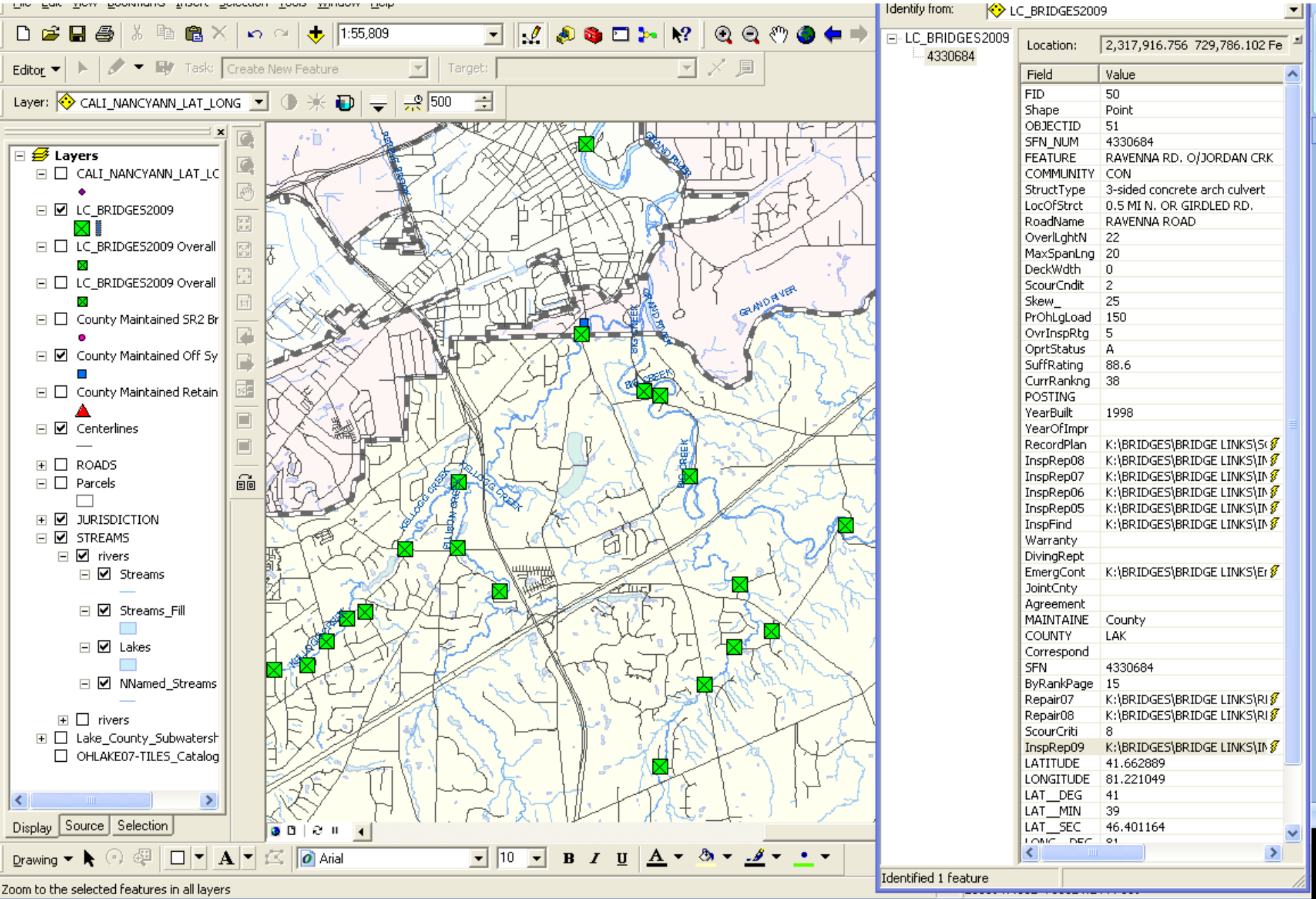
**Lake County Bridges Sub-Assets:**

Filter Reports: Filter

| Report Started | Code | Asset Name | BR87 - Item 102 - Facility Carried By Structure | BR87 - Item 4 - Feature(s) Intersected | BR87 - Item 101 - Location of Structure | Status | Edit | Action |
|---|---|---|---|---|---|---|---|---|
| 12/08/2009 | 4330579 | Bridge CON-0202 -0457 | GIRDLED ROAD | GIRDLED RD. O/BIG CREEK | 4.57MI E OF HERMITAGE | In progress | Edit | |
| 12/08/2009 | 4330684 | Bridge CON-0360 -0152 | RAVENNA ROAD | RAVENNA RD. O/JORDAN CRK | 0.5 MI N. OR GIRDLED RD. | In progress | Edit | |
| 12/08/2009 | 4345819 | Bridge CON-0360 -0455 | RAVENNA ROAD | RAVENNA O/KELLOGG CREEK | 0.4 MI SOUTH OF SR 84 | In progress | Edit | |
| 11/01/2009 | 4330161 | Bridge CON-0401 -0017 | CASCADE ROAD | CASCADE O/BIG CR./NORTH | 0.17 MI. N/ GIRDLED ROAD | In progress | Edit | |
| 11/01/2009 | 4330234 | Bridge CON-0401 -0043 | CASCADE ROAD | CASCADE O/BIG CR./SOUTH | 0.43 MI. N/ GIRDLED ROAD | In progress | Edit | |
| 12/08/2009 | 4330897 | Bridge CON-0403 -0098 | WILLIAMS RD | WILLIAMS O/BIG CR. | 1.MI.EOFCASCADE | In progress | Edit | |
| 11/23/2009 | 4330285 | Bridge CON-0407 -0043 | FAY ROAD | FAY RD O/BIG CREEK | 0.43 MI. N/ RAVENNA ROAD | In progress | Edit | |
| 10/20/2009 | 4330358 | Bridge CON-0407 -0126 | FAY ROAD | FAY ROAD O/ BIG CREEK | NEAR PALMER ROAD | In progress | Edit | |
| 10/20/2009 | 4330404 | Bridge CON-0407 -0141 | FAY ROAD | FAY ROAD O/BIG CREEK(N) | 0.2 MI S. OF SR86 | In progress | Edit | |
| 11/01/2009 | 4330773 | Bridge CON-0414 -0057 | PROUTY ROAD | PROUTY O/KELLOGG CR. | 0.57 MI. E/ S.R.84 | In progress | Edit | |
| 08/29/2008 | 4330846 | Bridge CON-0414 -0099 | PROUTY ROAD | PROUTY O/ELLISON CR. | 0.99 MI. E/ S.R.84 | Approved on 6/3/2009 3:08 PM | Create Inspection | |
| 11/09/2009 | 4330625 | Bridge CON-0417 -0363 | MORLEY ROAD | MORLEY RD O/KELLOGG CR. | 0.6 MI S OF SR 84 | In progress | Edit | |
| 11/06/2009 | 4330072 | Bridge CON-0419 | BUTTON ROAD | BUTTON RD. O/KELLOGG CR. | 0.24 MI. N/ HOOSE ROAD | In progress | Edit | |

Done Internet 100%

# Bridge Inspection Data



# Bridge Inspection Data

BRIDGE INVENTORY INFORMATION

STRUCTURE FILE NUMBER: 4330684 INVENTORY BRIDGE NO.:CON C0360 BR. TYPE: /Filled
SUFFICIENCY RATING: 99.6 0 OVER: RAVENNA RD. O/JORDAN CRK DATE OF LAST INVENTORY UPDATE: 070320

***** GENERAL INFORMATION (CONT.) ****

(--) HISTORIC SIGNIF: (69) NBIS: Y
(161) SPECIAL FEATURES: (see below)
(105) BORDER BRIDGE: STATE: (106) SFN:

*** PROPOSED IMPROVEMENTS ****

(90) TYPE WORK:

(90) LENGTH: FT.
(90) BRIDGE COST ($1000S): $
(90) ROADWAY COST ($1000S): $
(90) TOTAL PROJECT COST ($1000S): $
(91) FUTURE ADT (ON BRIDGE): 004014

**** PROGRAMMING INFO *****

PID NUMBER:
PID STATUS:
PID DATE:

(90) YEAR:
(92) YEAR OF FUTURE ADT: 2023

**** INSPECTION SUMMARY ****

| | |
|---|---|
| (I-8) DECK: | |
| (I-32) SUPERSTRUCTURE: | |
| (I-42) SUBSTRUCTURE: | |
| (I-50) CULVERT: | 5 |
| (I-54) CHANNEL: | 7 |
| (I-60) APPROACHES: | 4 |
| (I-66) GENERAL APPRAISAL: | 5 |
| (I-66) OPERATIONAL STATUS: | A |
| INSPECTION DATE: | 12/08/2009 |
| (94) DESIG INSP. FREQ: | 12MONTHS |

**** (I-69) SURVEY ITEMS ****

| | |
|---|---|
| RAILINGS: | 1 |
| TRANSITIONS: | 1 |
| GUARDRAIL: | 1 |
| RAIL ENDS: | 0 |
| PAVEMENT MARK: | 1 |
| RESTRICT SIGN: | N |
| WARNING SIGN: | N |
| END MARKERS: | N |
| INSP. UPDATE DATE: | |

***** ORIGINAL PLANS INFORMATION ****

(142) FABRICATOR: CONSPAN
(143) CONTRACTOR: KELCORP CON.
(144) OHIO ORIGINAL CONSTRUCTION PROJECT NO: OPWC10
(---) MICROFILM REEL:

(151) STANDARD DRAWING: 706.052
APERTURE CARDS: ORIG:

(153) ****** REPAIR PROJECTS *****

| | | |
|---|---|---|
| 1. | 2. | 3. |
| 4. | 5. | 6. |
| 7. | 8. | 9. |
| 10. | | |

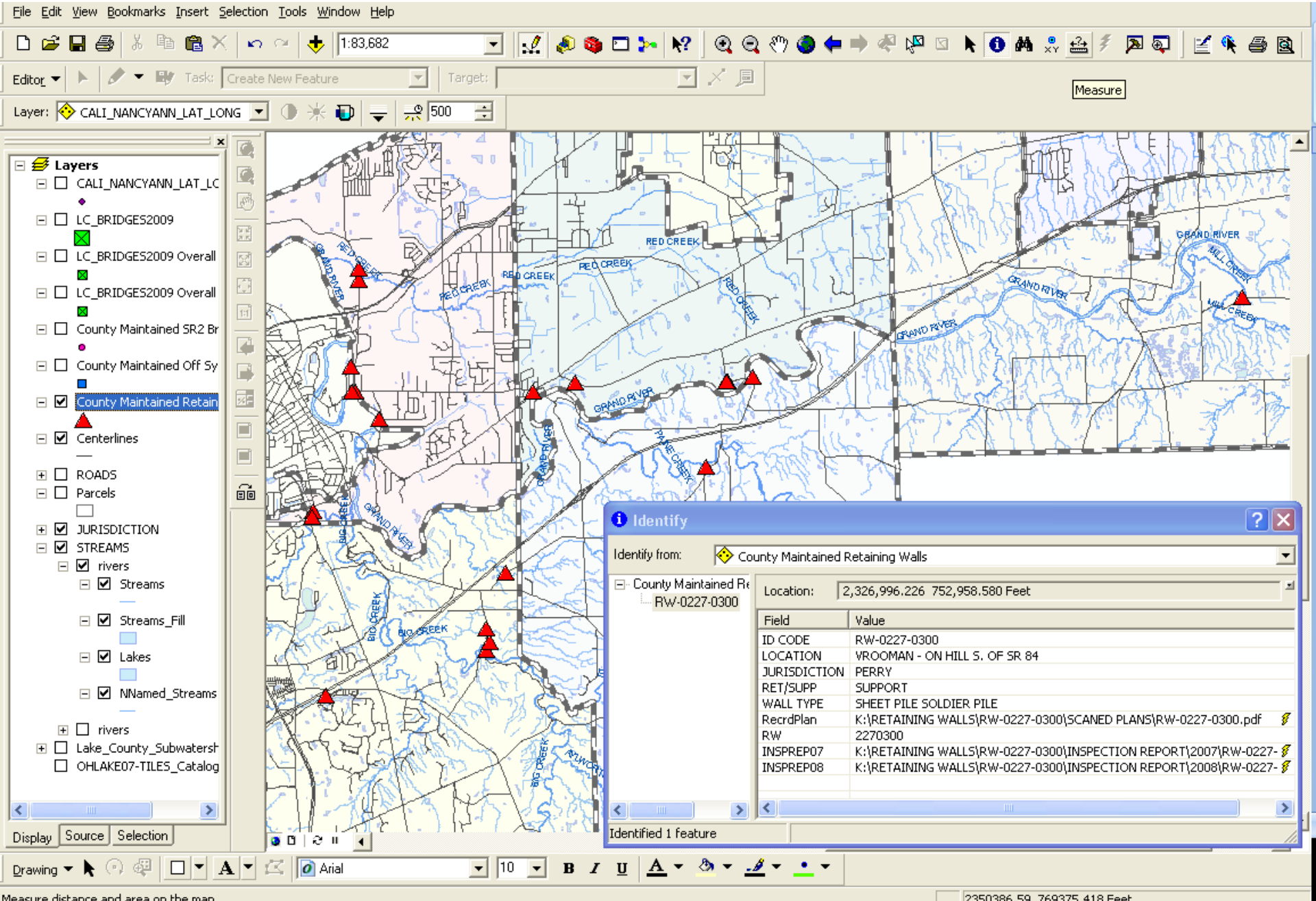
| | | | | |
|---|---|---|---|---|
| (46) UTILITIES: | | (161) SPECIAL FEATURES: | | |
| ELECTRIC: | N | LIGHTING: | N |
| GAS: | N | FENCING: | N |
| SANITARY SEWER: | N | GLARE-SCREEN: | N |
| TELEPHONE: | N | SPLASH-GUARD: | N |
| TV CABLE: | N | CATWALKS: | N |
| WATER: | N | OTHER-FEAT: | N |
| OTHER: | N | (184) SIGNS-ON: | N |
| | | SIGNS-UNDER: | N |
| | | (163) NOISE BARR: | N |

PONTIS CoRe Elements and Condition States

| Elem. No. | CoRe Element Description | Total Quant. | Unit Meas. | CONDITION STATE PERCENTS (*) 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|

(*) Percentages: Sum of Percentages Should Add to 100%

# Retaining Walls Inspection Data



# Retaining Walls Inspection Data

## LAKE COUNTY ANNUAL RETAINING WALL REPORT

Length: 115' Structure I.D. Code: RW - 0227 - 0300 Temp: 40

Inspected By: jeg Date: 3/05/2009 Reviewed By: KDD Date: 05/12/09

Township Perry Road: Vrooman Location: on hill S. of SR 84

| TYPE: | RATING: | COMMENTS/DEFICIENCIES: |
|---|---|---|
| ☐ Sheet Pile | | |
| ☐ Concrete Caisson | | |
| ☑ Soldier Pile | 5 | rusted, loss of section, some bulging at toe, rusted, loss of section at toe |
| ☐ Other: | | |

| LAGGING: | RATING: | COMMENTS/DEFICIENCIES: |
|---|---|---|
| ☐ Concrete Panel | | |
| ☑ Steel Sheeting | 5 | rusted, minor bulging |
| ☐ Timber | | |
| ☐ Other: | | |

| WALER: | RATING: | COMMENTS/DEFICIENCIES: |
|---|---|---|
| ☑ Steel Beam | 4 | rusted |
| ☐ Other: | | |
| ☑ Tie Rods and Connections | 5 | fair, some flanges on h-piles bulged |

| DRAINAGE: | RATING: | COMMENTS/DEFICIENCIES: |
|---|---|---|
| Roadside | 6 | good, basin at bottom of wall needs cleaned |
| Structure | 5 | fair, moisture at toe |

| COMPONENTS: | RATING: | COMMENTS/DEFICIENCIES: |
|---|---|---|
| Guardrail | 4 | collision damage |
| Paint | 5 | needs protective coating |
| Pavement | 6 | cracking, fair condition |

| OVERALL RATING: | 5 | |
|---|---|---|

E I.D. CODE RW-0227-0300 ROUTE: Vrooman

Perry LOCATION: on hill S. of SR 84

Wall Alignment

Rusted H-Pile

Wall Alignment

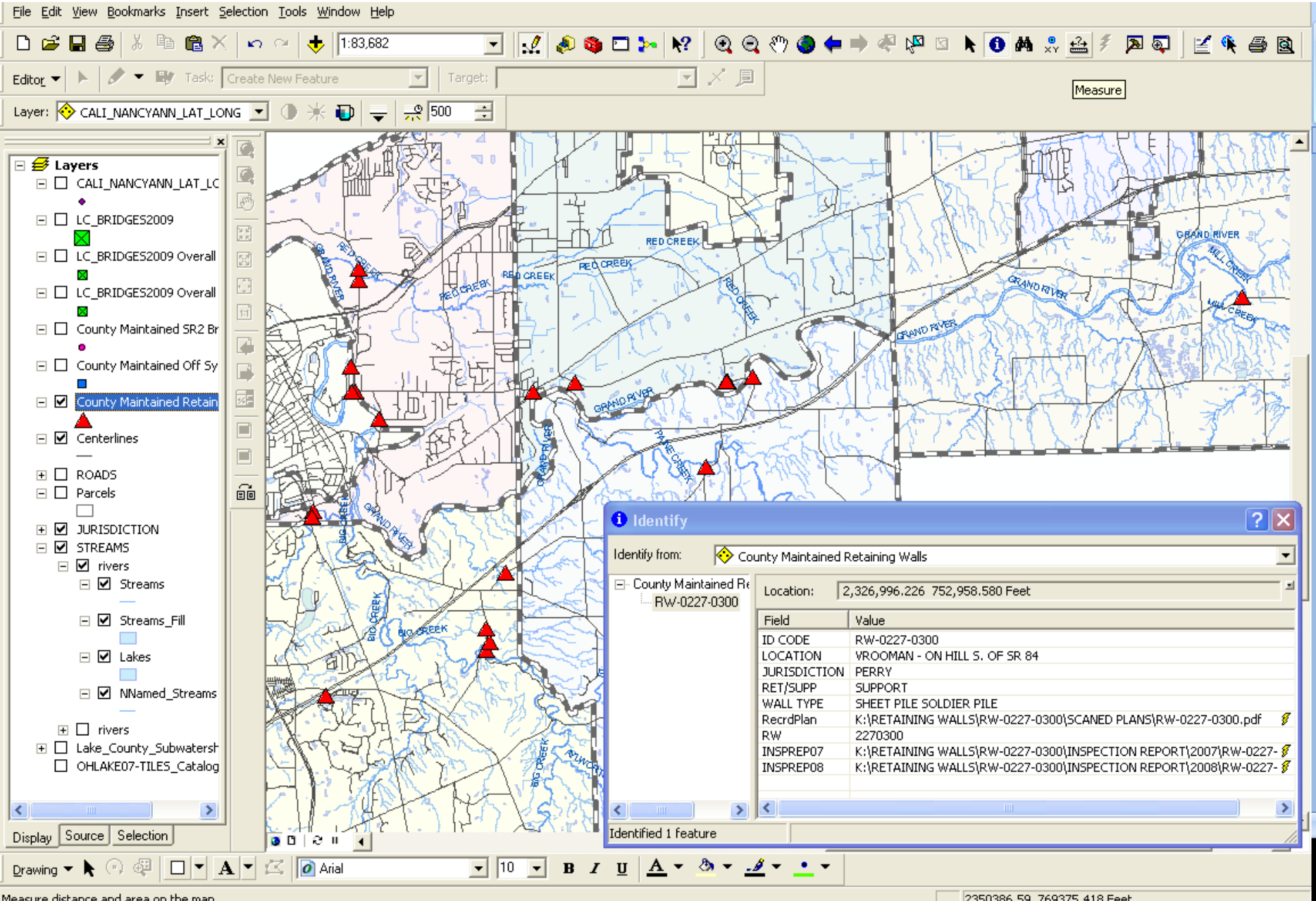
H-Pile split and Rusted

H-Pile bulged at toe

H-Pile rusted at toe

3/05/2009

# Retaining Walls Site Plans



# Retaining Walls Site Plans

TITLE PAGE 1/9

## COUNTY OF LAKE

# VROOMAN ROAD SLIDE RETENTION IMPROVEMENTS

PERRY TOWNSHIP, LAKE COUNTY, OHIO

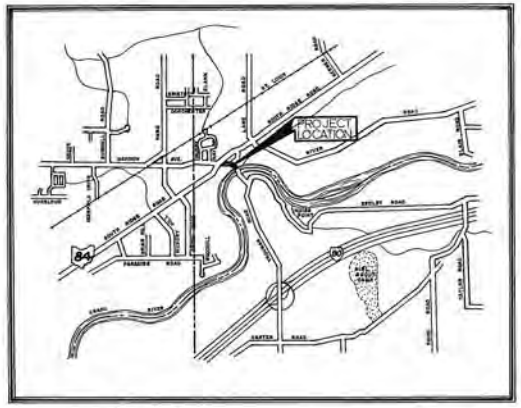
PREPARED BY: FULLERTON-KERR & ASSOCIATES
REG. ENGINEERS & SURVEYORS
PAINESVILLE, OHIO

### ·CONVENTIONAL SIGNS·

EXISTING EDGE OF ROAD
EXISTING CENTERLINE
EXISTING RIGHT OF WAY
PROPOSED CENTERLINE
PROPOSED RIGHT OF WAY

### ·INDEX OF SHEETS·


TITLE PAGE ..... 1
RIGHT OF WAY PLAT ..... 2
TYPICAL SECTION ..... 3
GENERAL NOTES ..... 4
SUMMARY OF QUANTITIES ..... 4
PLAN & PROFILE ..... 5
DETAILS ..... 6 & 7
CROSS SECTION ..... 8 & 9


### ·LINE DATA·

BEGIN PROJECT: STATION 0+20
(0+00 = ℄ INTERSECTION OF VROOMAN RD. & S.R. 84)

END PROJECT: STATION 2+70

### ·APPROVALS·

1971 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THESE PLANS.

APPROVED Thomas P. Gilles — Sept. 7, 1971
THOMAS P. GILLES, LAKE COUNTY ENGINEER — DATE

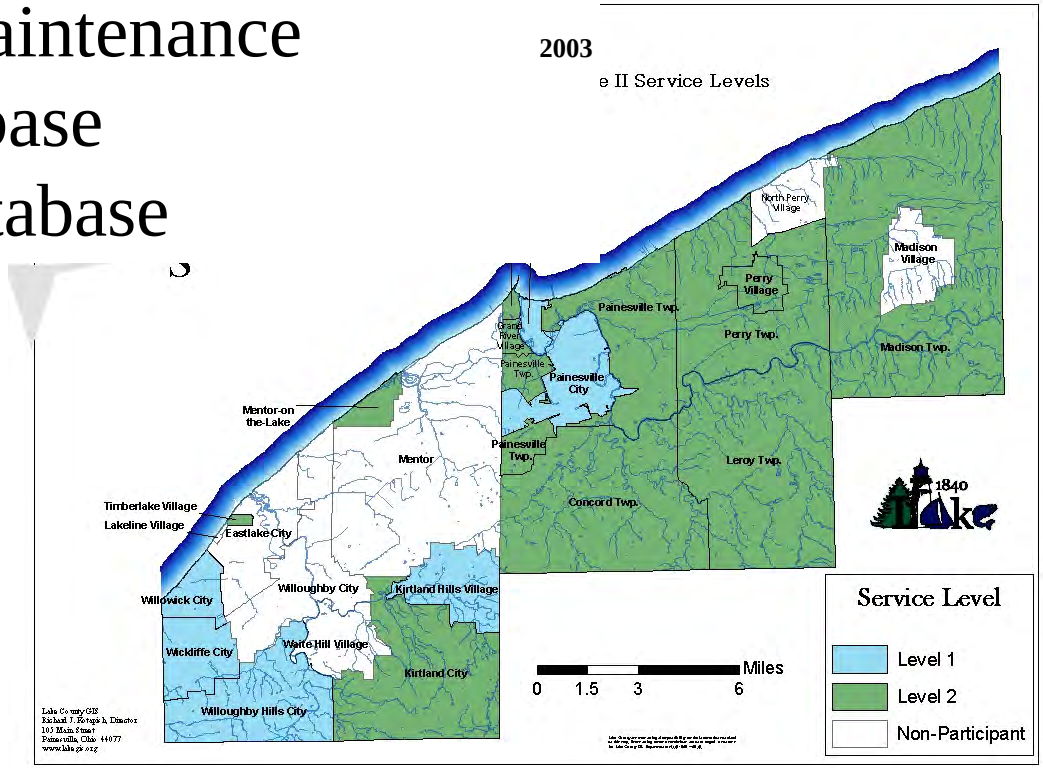
APPROVED Robert E. Martin — 9/7/71
ROBERT E. MARTIN, LAKE CO. COMMISSIONER — DATE

APPROVED Roger E. Smart — 9-9-71
ROGER E. SMART, LAKE CO. COMMISSIONER — DATE

APPROVED
MICHAEL D. COFFEY, LAKE CO. COMMISSIONER — DATE

# Stormwater Management Agency GIS

- Watershed clipped digital base map files
- Watershed mapping
- Impervious surface calculation
- MS4 web site
- Outfalls locations database
- Outfalls inspection maintenance
- Basins locations database
- Basins inspections database



Untitled Page - Windows Internet Explorer

http://www.lakegis.org/MS4/

File Edit View Favorites Tools Help

Favorites | Untitled Page

Page Safety

Lake County Stormwater Management Department

Clean Water - Lake County's Lifeline

# MS4 Stormwater Management Program

Municipal Separate Storm Sewer Systems

125 East Erie Street
Painesville, OH 44077
440-350-5900, Fax 440-350-5919

**Modules**

- Program Information
  - General
  - Departments
- SW BMPs
  - Public Education
  - Public Involvement
  - Illicit Discharge
  - Construction
  - Post Construction
  - Good Housekeeping
- Outfalls
  - Inventory
  - Inspections
  - Investigations
  - Blank Forms (PDF)
- Illicit Discharges
- Construction Sites
  - Sites
  - Site Inspections
  - Blank Forms (PDF)
- Post Construction
  - Basins
  - Basin Inspections
  - Blank Forms (PDF)

nty Stormwater Management Department Website.
from the dropdown 'Modules' list to begin using the program.

Internet 100%

# OUTFALL INVENTORY

Lake County Stormwater Management Department

Clean Water - Lake County's Lifeline

## MS4 Stormwater Management Program

Municipal Separate Storm Sewer Systems

125 East Erie Street
Painesville, OH 44077
440-350-5900, Fax 440-350-5919

Modules

Inventory Inspections Add Outfall Add Inspection Add Investigation

**Search Criteria: (Multiple Selections Possible)**

Community: Concord Township, Eastlake City, Fairport Harbor Village, Grand River Village — Clear

Watershed: Arcola Creek, Chagrin River, East Branch of the Chagrin Ri, Lake Erie — Clear

Subwatershed: Lake Erie, "Wild" Designated Grand River (upstream of SR-84), Arcola Creek (0.20 Subwatershed), Arcola Creek (4.45 Subwatershed) — Clear

Type: DITCH, PIPE — Clear

Address:

Parcel No.:

Date Recorded: 1/1/2000 – 12/17/2009

View SQL

Record Count: 2134

| OUTFALL ID | DATE_INV | COM_CODE | COM_NAME | SUBWATERSH | WATERSHED | OF_TYPE | PIN | ADDRESS |
|---|---|---|---|---|---|---|---|---|
| FH-LED-04-0242 | 08/18/2003 | FH | Fairport Harbor Village | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 14-A-005-0-00-040-0 | PROSPECT ST |
| FH-LED-04-0243 | 08/18/2003 | FH | Fairport Harbor Village | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 14-A-001-0-00-045-0 | WATER ST |
| FH-LED-04-0245 | 08/18/2003 | FH | Fairport Harbor Village | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 14-A-004-0-00-049-0 | PROSPECT ST |
| FH-LED-04-0246 | 08/18/2003 | FH | Fairport Harbor Village | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 14-A-005-0-00-039-0 | PROSPECT ST |
| FH-LED-04-0247 | 08/18/2003 | FH | Fairport Harbor Village | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 14-A-005-0-00-040-0 | PROSPECT ST |
| FH-LED-04-0248 | 08/18/2003 | FH | Fairport Harbor Village | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 14-A-005-0-00-040-0 | PROSPECT ST |
| FH-LED-04-0249 | 08/18/2003 | FH | Fairport Harbor Village | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 14-A-005-0-00-052-0 | SECOND ST |
| FH-LED-04-0250 | 08/18/2003 | FH | Fairport Harbor Village | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 14-A-005-0-00-052-0 | SECOND ST |
| FH-LED-04-0251 | 08/18/2003 | FH | Fairport Harbor Village | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 14-A-005-0-00-052-0 | SECOND ST |
| FH-LED-04-0252 | 08/18/2003 | FH | Fairport Harbor Village | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 14-A-005-0-00-052-0 | SECOND ST |
| PA-LED-04-0253 | 08/18/2003 | PA | Painesville Township | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 12-A-059-0-00-010-0 | SECOND ST |
| PA-??-???-0267 | 08/19/2003 | PA | Painesville Township | Lake Erie | | PIPE | 11-B-040-0-00-010-0 | 1025 HARDY RD |
| PA-LED-04-0254 | 08/19/2003 | PA | Painesville Township | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 12-A-053-0-00-003-0 | FAIRPORT NURSERY RD |
| PA-LED-04-0255 | 08/19/2003 | PA | Painesville Township | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 12-A-053-0-00-001-0 | FAIRPORT NURSERY RD |
| PA-LED-04-0256 | 08/19/2003 | PA | Painesville Township | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 12-A-053-0-00-001-0 | FAIRPORT NURSERY RD |
| PA-LED-04-0257 | 08/19/2003 | PA | Painesville Township | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 11-B-040-0-00-021-0 | HARDY RD |
| PA-LED-04-0258 | 08/19/2003 | PA | Painesville Township | Lake Erie Direct (McKinley Creek to Grand River) | Lake Erie | PIPE | 11-B-040-0-00-021-0 | HARDY RD |

Internet 100%

# OUTFALL DETAILS, PICTURES AND MAP

Lake County Stormwater Management Department

Clean Water - Lake County's Lifeline

## MS4 Stormwater Management Program

Municipal Separate Storm Sewer Systems

Modules

125 East Erie Street
Painesville, OH 44077
440-350-5900, Fax 440-350-5919

General Information Inspections Investigations

| OUTFALL DETAIL | |
|---|---|
| OUTFALL ID | FH-LED-04-0250 |
| OUTFALL NO | 250 |
| DATE | 08/18/2003 |
| TIME | |
| LOCATION DESCRIPTION | Photo P8180008 |
| COMMUNITY CODE | FH |
| COMMUNITY | Fairport Harbor Village |
| SUBWATERSHED | Lake Erie Direct (McKinley Creek to Grand River) |
| WATERSHED | Lake Erie |
| AUTHORITY | |
| OBSERVER | |
| TYPE | PIPE |
| STREAM CODE | |
| LED_CODE | LED 4 |
| PIN | 14-A-005-0-00-052-0 |
| ADDRESS | SECOND ST |
| NPDES PERMIT | |
| GPS NORTHING | 0 |
| GPS EASTING | 0 |
| MAP NORTHING | 764345.933026 |
| MAP EASTING | 2304621.99921 |
| LATITUDE | 41.7580655756 |
| LONGITUDE | -81.268065711 |
| ELEVATION | 576 |

Edit

| CHARACTERISTICS | |
|---|---|
| DRY WEATHER | |
| FLOW | |
| OUTFALL SHAPE | |
| SUSPECT ILLICIT DISCHARGE | |
| PIPE SIZE INCH | 8 |
| PIPE EROSION | |
| PIPE HEADWALL | |
| PIPE HEADWALL CONDITION | |
| PIPE FUNCTIONS | MS4 |
| PIPE CONDITION | Open |
| PIPE MATERIAL | HDPE |
| DITCH VEGETATION | |
| DITCH DEPTH INCH | |
| DITCH WIDTH INC | |

Edit

- Lake Outfalls
  - Outfalls
  - Parcel Numb
  - Owners
  - Address
  - Document N
  - Volume Pag
  - Acreage
  - Parcels
  - 2' Contours

| | Photo_No |
|---|---|
| Select | 250 081803.jpg |

OUTFALL - PHOTO

Photo_No 250 081803.jpg

Browse...

Upload Photo

Report

Done Internet 100%

# OUTFALL INSPECTIONS

Lake County Stormwater Management Department

Clean Water - Lake County's Lifeline

## MS4 Stormwater Management Program

Municipal Separate Storm Sewer Systems

Modules

125 East Erie Street
Painesville, OH 44077
440-350-5900, Fax 440-350-5919

Inventory **Inspections** Investigations Add Outfall Add Inspection Add Investigation

Enter Outfall ID to limit list results: (Hit enter to update list) Click Here to List All

| | ID | OUTFALL_ID | DATE | TIME | PRIMARY_INSPCTR | |
|---|---|---|---|---|---|---|
| Select | 1062 | CO-??-???-1822 | 11/17/2009 | 1:30 PM | S. Haboustak | Delete |
| Select | 880 | CO-??-???-2012 | 10/06/2008 | 3:00 PM | S. Haboustak | Delete |
| Select | 881 | CO-??-???-2030 | 10/06/2008 | 2:50 PM | S. Haboustak | Delete |
| Select | 464 | CO-03-001-1997 | 07/18/2008 | 2:30 | S.Haboustak | Delete |
| Select | 451 | CO-03-001-1998 | 07/18/2008 | 2:40 | S.Haboustak | Delete |
| Select | 948 | CO-03-001-2005 | 09/15/2009 | 3:40 PM | S. Haboustak | Delete |
| Select | 889 | CO-03-005-0034 | 10/06/2008 | 1:25 PM | S. Haboustak | Delete |
| Select | 888 | CO-03-005-0035 | 10/06/2008 | 1:55 PM | S. Haboustak | Delete |
| Select | 893 | CO-03-005-0036 | 10/06/2008 | 1:15 PM | S. Haboustak | Delete |
| Select | 234 | CO-03-005-0072 | 08/15/2007 | 3:00 PM | S. Haboustak | Delete |
| Select | 235 | CO-03-005-0074 | 08/15/2007 | 3:00 PM | S. Haboustak | Delete |
| Select | 805 | CO-03-005-0090 | 09/18/2008 | 11:15 AM | S. Haboustak | Delete |
| Select | 804 | CO-03-005-0091 | 09/18/2008 | 11:20 AM | S. Haboustak | Delete |
| Select | 41 | CO-03-005-0102 | 05/09/2005 | 19000100 | | Delete |
| Select | 30 | CO-03-005-0115 | 08/10/2004 | 19000100 | | Delete |
| Select | 892 | CO-03-005-0115 | 10/06/2008 | 1:20 PM | S. Haboustak | Delete |
| Select | 890 | CO-03-005-0116 | 10/06/2008 | 1:15 PM | S. Haboustak | Delete |
| Select | 891 | CO-03-005-0117 | 10/06/2008 | 1:30 PM | S. Haboustak | Delete |
| Select | 887 | CO-03-005-0118 | 10/06/2008 | 2:00 PM | S. Haboustak | Delete |
| Select | 885 | CO-03-005-0119 | 06/21/2008 | 2:10 PM | S. Haboustak | Delete |

Internet 100%

# OUTFALL INVESTIGATIONS

Lake County Stormwater Management Department

Clean Water - Lake County's Lifeline

## MS4 Stormwater Management Program

Municipal Separate Storm Sewer Systems

125 East Erie Street
Painesville, OH 44077
440-350-5900, Fax 440-350-5919

Modules

Inventory Inspections **Investigations** Add Outfall Add Inspection Add Investigation

| | DATE | COM_NAME | REPORTED_BY | ASSOCIATED_OUTFALL_ID | |
|---|---|---|---|---|---|
| Select | 07/01/2007 | Willowick City | | WW-LED_01-0432 | Delete |
| Select | 04/02/2008 | Concord Township | Lake Metroparks | CO-03-006-1636 | Delete |
| Select | 10/16/2008 | Fairport Harbor Village | John Stoneback | FH-03-011-1644 | Delete |
| Select | 09/02/2004 | Kirtland City | | KI-15-001-0203 | Delete |
| Select | 07/23/2008 | Kirtland Hills Village | LCGHD | KH-15-002-2144 | Delete |
| Select | 12/23/2008 | Painesville Township | S. Haboustak | PA-03-028-2106 | Delete |
| Select | 10/31/2008 | Grand River Village | Henry Capel | GR-03-011-1708 | Delete |
| Select | 04/07/2008 | Concord Township | Jan Klima | CO-03-005-1801 | Delete |
| Select | 05/27/2008 | Concord Township | Kate Kennedy | CO-03-005-1787 | Delete |
| Select | 04/24/2008 | Concord Township | Susan Haboustak | 03-006-1633 | Delete |
| Select | 08/22/2008 | Grand River Village | Mike Bartlett | GR-03-011-1708 | Delete |
| Select | 09/02/2004 | Kirtland City | Francine Toth | KI-15-001-0203 | Delete |
| Select | 07/23/2008 | Kirtland Hills Village | S. Haboustak | KH-15-002-2144 | Delete |
| Select | 10/22/2008 | Madison Township | Laura Pfeiler | MA-LED-07-0399 | Delete |
| Select | 09/19/2008 | Painesville City | M. Bartlett | PC-03-011-2095 | Delete |
| Select | 09/07/2007 | Wickliffe City | S. Haboustak | WF-15-001-1332 | Delete |
| Select | 08/31/2007 | Wickliffe City | S. Haboustak | WF-15-001-1345 | Delete |
| Select | 06/11/2008 | Willoughby Hills City | City of Willoughby | WH-19-041-0005 | Delete |
| Select | 07/30/2007 | Willoughby Hills City | S. Haboustak | WH-15-001-2177 | Delete |
| Select | 10/28/2009 | Painesville Township | Morton Salt Company | PA-03-011-0114 | Delete |
| Select | 06/08/2009 | Madison Township | Madison Twp | MA-07-011-1123 | Delete |
| Select | 05/06/2009 | Willoughby Hills City | LCSWCD | WH-15-001-1363 | Delete |

Done Internet 100%

# BASIN INVENTORY

Lake County Stormwater Management Department

Clean Water - Lake County's Lifeline

## MS4 Stormwater Management Program

Municipal Separate Storm Sewer Systems

125 East Erie Street
Painesville, OH 44077
440-350-5900, Fax 440-350-5919

Modules

Inventory | Inspections

| Basin ID | Community | Subdivision/Location | Basin sub-name | Basin Type | Easement on Basin | Easement Type | Easement Holder |
|---|---|---|---|---|---|---|---|
| 001 | Concord Twp | Hermitage Bluffs | | dry/water volume | yes | Storm Drainage Easement | Concord Twp |
| 002 | Kirtland | Lazio's Ridge | | extended retention/dry/water quality | yes | Storm Drainage Easement | Homeowners Association |
| 003 | Concord Twp | Bridgecreek Estates | south basin | extended retentin/dry/water quality | yes | Service Drainage Easement | Homeowners Association |
| 004 | Concord Twp | Bridgecreek Estates | north basin | extended retention/dry/water quality | yes | Service Drainage Easement | Homeowners Association |
| 005 | Willoughby Hills | Pine Valley | | extended retention/dry/water quality | Yes | Drainage Easement | Homeowners Association |
| 006 | Willoughby Hills | Rivers Edge | | dry/watervolume basin | Yes | Detention Easement | Homeowners Association |
| 007 | Kirtland | Chapin Ledges | west basin | extended retention/wet/water quality | Yes | Storm Water Retention Easement | Homeowners Association |
| 008 | Kirtland | Chapin Ledges | central basin | extended retention/wet/water quality | Yes | Storm Water Retention Easement | Homeowners Association |
| 009 | Kirtland | Chapin Ledges | east basin | extended retention/wet/water quality | Yes | Storm Water Retention Easement | Homeowners Association |
| 010 | Willoughby Hills | Pine Valley/River's Edge lake/pond | lake | pond/lake | Yes | Local service drainage easement | Homeowners Association |
| 011 | Concord Twp | Mount Royal | | pond/lake | yes | Drainage Easement | Homeowners Association |
| 012 | Painesville Twp | Lake Erie Shores | Southwest basin | dry/water volume basin | | | |
| 013 | Painesville Twp | Lake Erie Shores | Northern basin | dry/water volume basin | | | |
| 014 | Painesville Twp | Lake Erie Shores | central basin | dry/water volume basin | | | |
| 015 | Painesville Twp | Lake Erie Shores | south basin | dry/water volume basin | | | |
| 016 | Concord Twp | Summerwood | NE small basin | dry/water volume basin | Yes | Drainage Easement | Homeowners Association |
| 017 | Concord Twp | Summerwood | NW basin | dry/water volume basin | Yes | Drainage Easement | Homeowners Association |
| 018 | Concord Twp | Summerwood Crossroads | south basin | extended retention/wet/water quality | Yes | Local Service Drainage Easement | Homeowners Association |
| 019 | Concord Twp | Camden Creek | | extended retention/dry/water quality | Yes | Storm water retention | Homeowners Association |
| 020 | Concord Twp | Bain Farms | | pond/lake | yes | Drainage Easement | Homeowners Association |
| 021 | Kirtland | Rocking Horse Phase 4 | large basin | dry/water volume basin | yes | Stormwater Detention Easement | Homeowners Association |
| 022 | Kirtland | Rocking Horse Phase 4 | west basin | wetland | yes | Stormwater Detention Easement | Homeowners Association and Kirtland |
| 023 | Concord Twp | Sturbridge | Northwest | pond/lake | yes | Drainage Easement | Homeowners(all) |
| 024 | Concord Twp | Sturbridge | northeast basin | pond/lake | yes | Drainage Easement | Homeowners Association |
| 025 | Concord Twp | Sturbridge | south basin | pond/lake | yes | Drainage Easement | Homeowners Association |
| 026 | Concord Twp | Hillshire Woods | east basin | extended retention/wet/water | | | |

Done | Internet | 100%

# BASIN INSPECTIONS

Lake County Stormwater Management Department

Clean Water - Lake County's Lifeline

## MS4 Stormwater Management Program

Municipal Separate Storm Sewer Systems

125 East Erie Street
Painesville, OH 44077
440-350-5900, Fax 440-350-5919

Modules

Inventory | Inspections

| Basin ID | Inspection Date | Inspection Personnel | General Condition | Vegetative Cover | Excessive Debris | Side slope erosion | Requires Maintenance | Notes: |
|---|---|---|---|---|---|---|---|---|
| 001 | 6/7/2007 12:00:00 AM | | Good | Good | No | No | No | |
| 002 | 6/1/2007 12:00:00 AM | | Poor | Poor | No | Yes | Yes | Massive side slope and inlet channel erosion and failure. Basin is on-line with stream. |
| 003 | 5/29/2007 12:00:00 AM | | Good | Fair | No | No | No | |
| 004 | 5/29/2007 12:00:00 AM | | Fair | Fair | No | Yes | No | |
| 005 | 6/4/2007 12:00:00 AM | | Fair | Poor | No | Yes | yes | Final discharge pipe has massive erosion in creek valley/cliff to stream. |
| 006 | 6/4/2007 12:00:00 AM | | Fair | Fair | No | No | no | |
| 007 | 6/1/2007 12:00:00 AM | | Good | Poor | No | No | No | |
| 008 | 6/1/2007 12:00:00 AM | | Fair | Poor | No | No | No | No flow out at inspection. Substantial water loss to groundwater - good |
| 009 | 6/1/2007 12:00:00 AM | | Fair | Poor | No | No | No | No flow at all at time of inspection. Substantial water loss to groundwater - good |
| 010 | 6/4/2007 12:00:00 AM | | Fair | Good | No | | Yes | Final twin outfall pipes hare hanging high on cliff to stream, substantial erosion. |
| 011 | 6/1/2007 12:00:00 AM | | Good | Good | No | No | No | Esthetic fish/landscape pond |
| 012 | 6/8/2007 12:00:00 AM | | Fair | Fair | No | No | No | |
| 013 | 6/8/2007 12:00:00 AM | | Fair | Good | No | No | No | |
| 014 | 6/8/2007 12:00:00 AM | | Fair | Good | No | No | No | |
| 015 | 6/8/2007 12:00:00 AM | | Fair | | | No | No | |
| 016 | 6/7/2007 12:00:00 AM | | Good | Poor | No | No | No | |
| 017 | 6/7/2007 12:00:00 AM | | Good | Good | No | No | No | |
| 018 | 6/7/2007 12:00:00 AM | | Good | Fair | No | No | No | |
| 019 | 6/7/2007 12:00:00 AM | | Good | Fair | No | No | No | well constructed basin |
| 020 | 5/31/2007 12:00:00 AM | | Good | Good | No | No | No | |
| | 5/31/2007 | | | | | | | One large side erosion gully, gully is draining adjacent wetland (next to |

Done Internet 100%

# BASIN INVESTIGATIONS

Lake County Stormwater Management Department

Clean Water - Lake County's Lifeline

## MS4 Stormwater Management Program

Municipal Separate Storm Sewer Systems

125 East Erie Street
Painesville, OH 44077
440-350-5900, Fax 440-350-5919

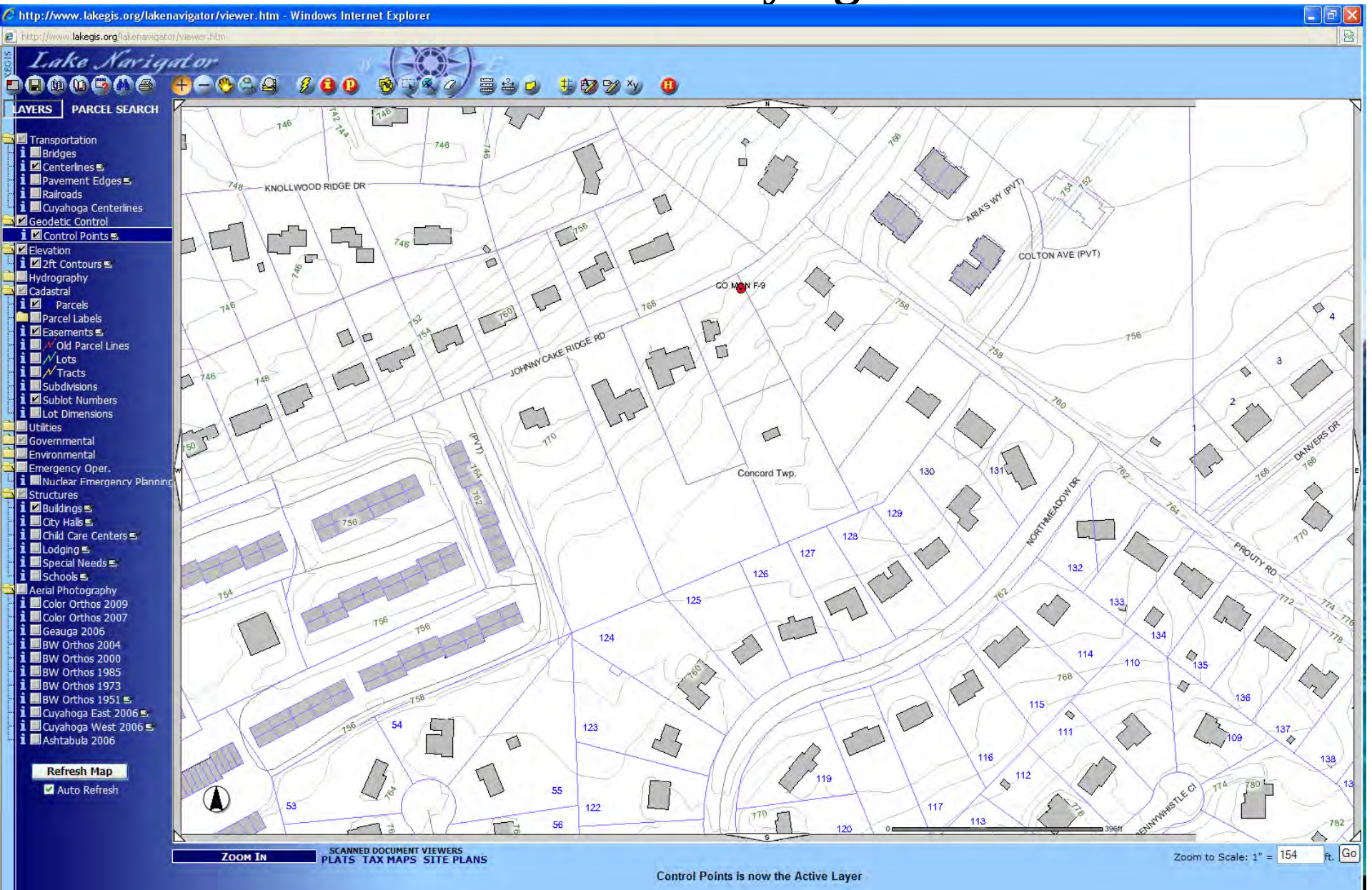
Modules

Inventory Inspections **Investigations** Add Outfall Add Inspection Add Investigation

| | DATE | COM_NAME | REPORTED_BY | ASSOCIATED_OUTFALL_ID | |
|---|---|---|---|---|---|
| Select | 07/01/2007 | Willowick City | | WW-LED_01-0432 | Delete |
| Select | 04/02/2008 | Concord Township | Lake Metroparks | CO-03-006-1636 | Delete |
| Select | 10/16/2008 | Fairport Harbor Village | John Stoneback | FH-03-011-1644 | Delete |
| Select | 09/02/2004 | Kirtland City | | KI-15-001-0203 | Delete |
| Select | 07/23/2008 | Kirtland Hills Village | LCGHD | KH-15-002-2144 | Delete |
| Select | 12/23/2008 | Painesville Township | S. Haboustak | PA-03-028-2106 | Delete |
| Select | 10/31/2008 | Grand River Village | Henry Capel | GR-03-011-1708 | Delete |
| Select | 04/07/2008 | Concord Township | Jan Klima | CO-03-005-1801 | Delete |
| Select | 05/27/2008 | Concord Township | Kate Kennedy | CO-03-005-1787 | Delete |
| Select | 04/24/2008 | Concord Township | Susan Haboustak | 03-006-1633 | Delete |
| Select | 08/22/2008 | Grand River Village | Mike Bartlett | GR-03-011-1708 | Delete |
| Select | 09/02/2004 | Kirtland City | Francine Toth | KI-15-001-0203 | Delete |
| Select | 07/23/2008 | Kirtland Hills Village | S. Haboustak | KH-15-002-2144 | Delete |
| Select | 10/22/2008 | Madison Township | Laura Pfeiler | MA-LED-07-0399 | Delete |
| Select | 09/19/2008 | Painesville City | M. Bartlett | PC-03-011-2095 | Delete |
| Select | 09/07/2007 | Wickliffe City | S. Haboustak | WF-15-001-1332 | Delete |
| Select | 08/31/2007 | Wickliffe City | S. Haboustak | WF-15-001-1345 | Delete |
| Select | 06/11/2008 | Willoughby Hills City | City of Willoughby | WH-19-041-0005 | Delete |
| Select | 07/30/2007 | Willoughby Hills City | S. Haboustak | WH-15-001-2177 | Delete |
| Select | 10/28/2009 | Painesville Township | Morton Salt Company | PA-03-011-0114 | Delete |
| Select | 06/08/2009 | Madison Township | Madison Twp | MA-07-011-1123 | Delete |
| Select | 05/06/2009 | Willoughby Hills City | LCSWCD | WH-15-001-1363 | Delete |

Internet 100%

# GPS Surveying



# GPS Surveying

**Survey Control Point record is available with the click of your mouse**

COUNTY OF LAKE
JAMES R. GILLS, P.E., P.S.
LAKE COUNTY ENGINEER

OFFICE OF THE
LAKE COUNTY ENGINEER
550 BLACKBROOK ROAD
PAINESVILLE, OHIO 44077

POINT # 0110 CONCORD TOWNSHIP, LAKE COUNTY, OHIO

SITE PICTURE

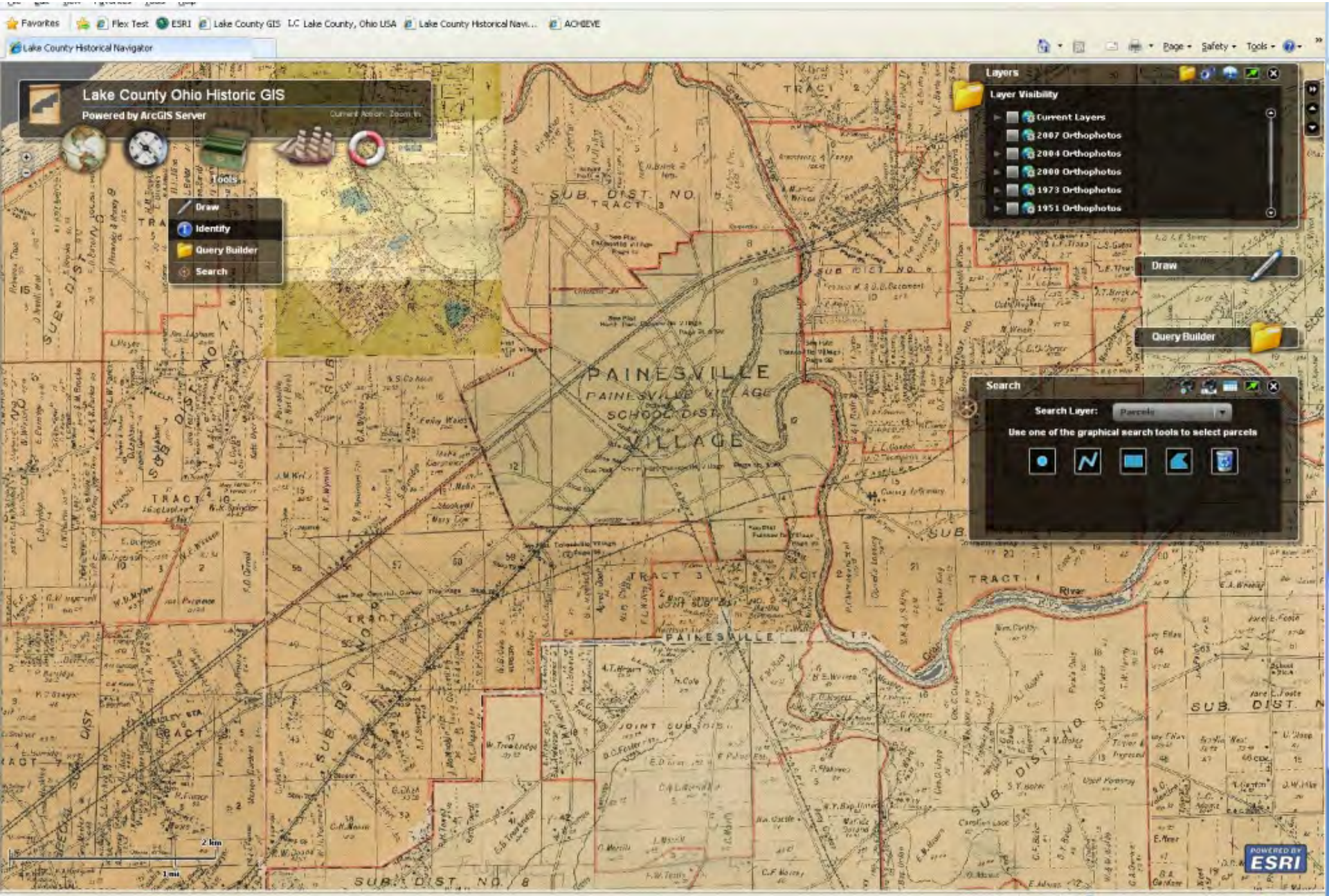
ORTHOGRAPHIC PHOTO

| | |
|---|---|
| DESCRIPTION: EXISTING LAKE COUNTY SURVEY MARKER "F-9" | CONDITION: 1992 GOOD |
| LATITUDE: 41°40'56.45432" N<br>LONGITUDE: 81°16'37.97936" W | CONVERGENCE: 00°48'11.908"<br>SCALE FACTOR: 0.999996644 |

| FEET | | METERS | |
|---|---|---|---|
| NORTH (sft.) | 736722.437 | NORTH (m) | 224553.448 |
| EAST (sft.) | 2302512.282 | EAST (m) | 701807.147 |
| NAVD88 ELEV. (sft.) | 769.78 | NAVD88 ELEV. (m) | 234.629 |
| ELLIPSOID HEIGHT | | | |
| GEOID HEIGHT | | | |

COMMENTS:
1992 GPS SURVEY

# Historical GIS



# A Note on Map Inaccuracies

# GET A SURVEYOR!!