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# INTRODUCTION

## Cemetery Workshop

# Welcome

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- **Introduction**

- Instructor: Jason Moore, GISP, REGIS GIS Specialist
- Attendee Introductions
- Your Name

# Logistics

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- **Schedule**

- Begin 8:30am
- Finish by 11:00am

- **Facilities**

- Break Room with refrigerator and additional coffee
- Restrooms - Out the door take a left, through the doors, turn right by the elevators

# About REGIS

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- GIS Consortium made up of twenty participants
- REGIS Participants include
  - 9 cities and 1 village
  - 7 townships
  - 3 other organizations like KCRC, ITP and GVMC
- Officially kicked off September 1997
- Officially debuted December 2001
- Provides access to applications, data and support
- Help to understand how GIS can be used in your organization
- Agency staff are your GIS staff

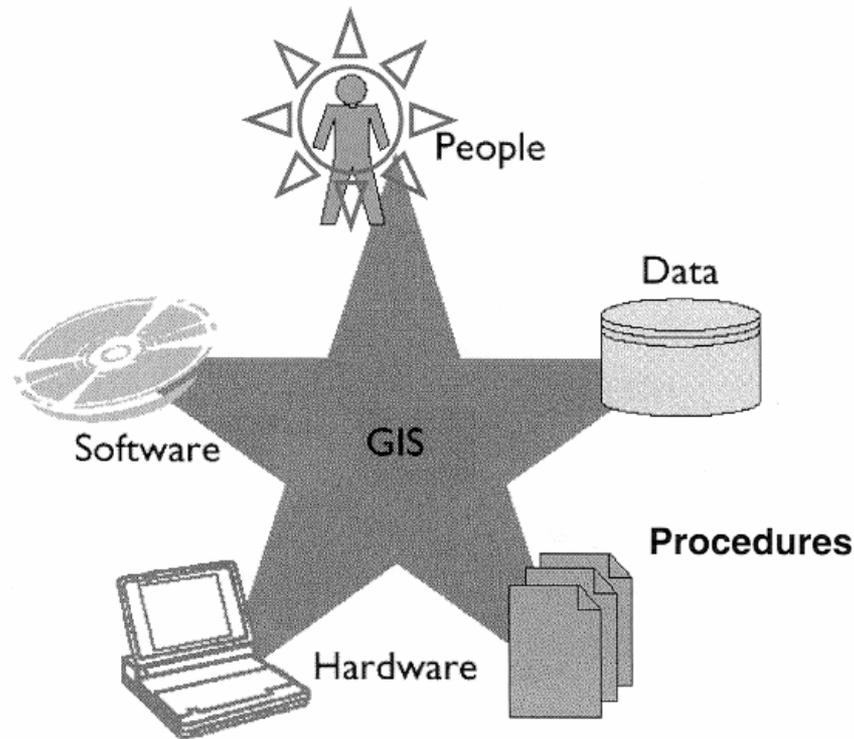


**GVMC**

# What is a GIS?

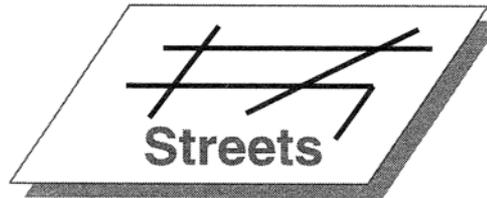
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- An integration of five basic components
  - People
  - Data
  - Hardware
  - Software
  - Procedures

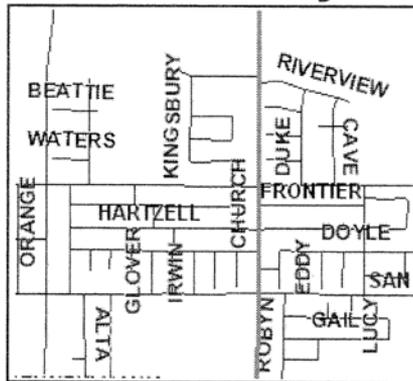


# Components of geographic data

- Three general components to geographic information



## Geometry



## Attributes

Attributes of street	
STR_NAME	STR_TYPE
> CONE CAMP	RD
CHURCH	ST
DPAL	RD
CHURCH	ST
DISHONG	ST
STATE 30	HWY
STATE 30	HWY
STATE 30	HWY
DPAL	AV
DPAL	AV

Record: 1

## Behavior

### Rules

**Streets and highways may not intersect**

# Overview of REGIS GIS applications

- Increasing functionality from ArcIMS to ArcView and ArcEditor



ArcView – Desktop GIS for Mapping,  
Data Integration, and Analysis



ArcEditor – Desktop GIS with Advanced  
Geographic Data Editing and Management



ArcInfo – Complete Desktop GIS with  
Advanced Geoprocessing and Analysis



# Getting “Online” Help

- Within ArcGIS application
- Contents tab
- Index tab
- Search tab
- Other help
- REGIS Help Desk
  - Telephone
  - E-mail
  - Fax

The screenshot shows the ArcGIS 10 Help application. On the left, a search bar contains the text "log files". Below it, a list of search results is displayed, including "How log files work", "About specifying the log file location", and "Log file tables in a geodatabase in Informix". On the right, a "Help" menu is open, showing options like "ArcGIS Desktop Help", "ArcGIS Desktop Resource Center", "What's This?", and "About ArcMap...".

Welcome to the help library for the ArcGIS system. This help library has been compiled to provide comprehensive documentation for using all aspects of ArcGIS. The goal is to address the needs of a number of key audiences:

- **GIS practitioners** who perform all types of GIS and image-based work including mapping, data management, editing, analysis, and geoprocessing.
- **Developers** who work with ArcGIS using .NET, Java, C++, Web programming APIs, SQL, and so on.
- **Administrators** who install and manage the ArcGIS software, database administrators (DBAs) who direct and manage large DBMS installations, and Web architects whose goal it is to configure and administer Web server environments.

Library	Audience
<p><a href="#">Essentials Library</a> provides an introduction to GIS and ArcGIS. These topics provide a foundation for using ArcGIS in your daily work.</p> <p>These topics are directed at all audiences and are useful for users who are new to GIS or ArcGIS. This library is also very helpful for seasoned ArcGIS users.</p>	All users
<p><a href="#">Professional Library</a> provides comprehensive help topics for GIS professionals and covers all aspects of using the ArcGIS system and many of the most common GIS workflows.</p>	GIS professionals

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# Getting Started

# Outline

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- **How to get started?**
- **Conversion Process**
- **Public Cemetery Viewer (New updated)**
  - Exercise 1
- **ArcView Cemetery Project (Internal use only)**
  - Exercise 2
- **Editing Data Records**
  - Exercise 3
- **Maps**

# How to get started?

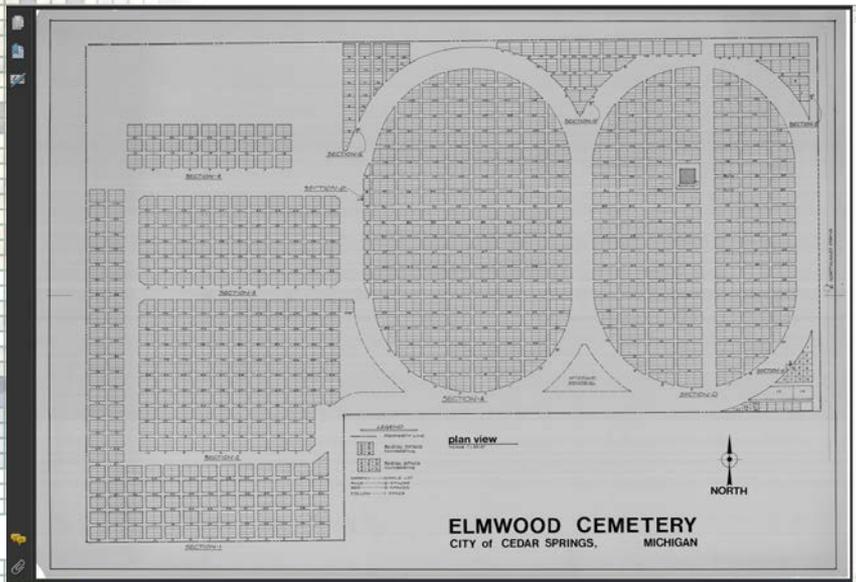
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- **Contact REGIS staff to discuss what materials and data will be needed to get project started**
- **Possible materials and data needed:**
  - Drawing of cemetery itself, could be a paper map or CAD drawing
  - Database that holds records for each grave in the cemetery

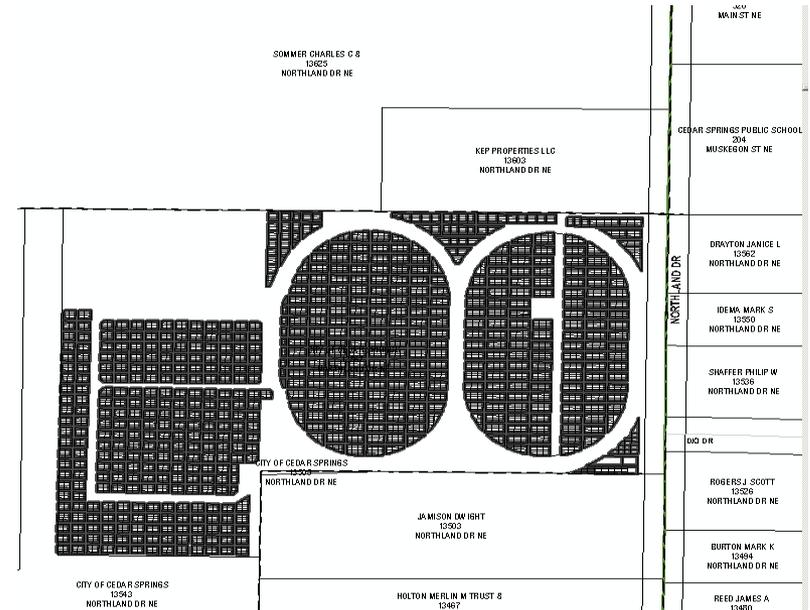
# Conversion Process

- REGIS Staff will convert paper drawings or electronic drawings into a GIS layer or features

PAPER MAPS& GRAVE CARDS



GIS FORMAT



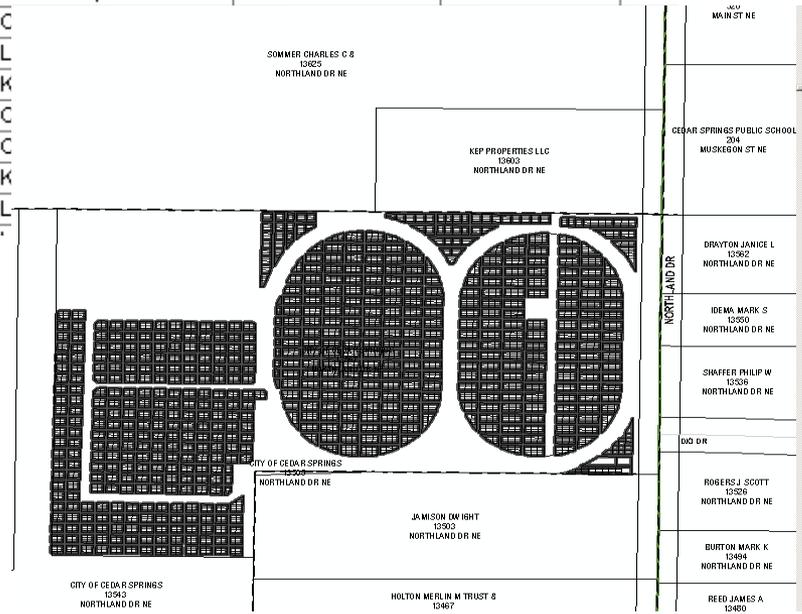
Ex.2.1

# Conversion Process

- Link database or Card data to GIS layer or features with unique ID

Attributes of Cemetery Graves						
OBJECTID *	Local Id *	Cemetery Name	Government Unit Name	Block Number	Plot Number	Grave
4	CANNON-184-1	Cannonsburg Cemetery	Cannon Township	<Null>	184	1
5	CN 029-3	Cascade Township Cemetery	Cascade Township	Cascade New	CN 029	3
6	B-161-4	Brooklawn Cemetery	City of Walker	B	161	4
7	3-177-8	Oakwood Cemetery	City of Lowell	Third Addition	177	8
8	3-63-7	Oakwood Cemetery	City of Lowell	Third Addition	63	7
9	OBL-1N7-7	Old Bostwick Cemetery	Cannon Township	North	1N7	7
10	A-82-2	Elmwood Cemetery	City of C			
11	OLD-222-9	Oakwood Cemetery	City of L			
12	260-5	Pine Hill Cemetery	City of K			
13	H-2-1	Elmwood Cemetery	City of C			
14	A-92-5	Elmwood Cemetery	City of C			
15	530-5	Pine Hill Cemetery	City of K			
16	4-45-3	Oakwood Cemetery	City of L			

- Create link using unique ID or grave number



Ex.2.1



# Conversion Process

## Conversion Process Status By Community

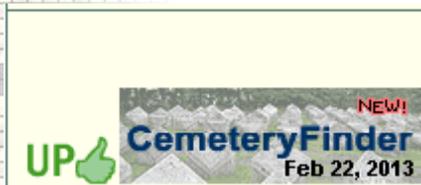
<b>Community</b>	<b>Number of Cemeteries</b>	<b>Available to Public</b>
Ada Township	2	2 of 2
Alpine Township	2	0 of 2
Byron Township	3	3 of 3
Cascade Township	3	3 of 3
City of Cedar Springs	1	1 of 1
City of Rockford	2	0 of 2
City of Grandville	1	1 of 1
City of Kentwood	1	1 of 1
City of Lowell	1	1 of 1
City of Walker	1	1 of 1
Gaines Township	3	3 of 3
Grand Rapids Township	2	2 of 2
Plainfield Township	2	1 of 2

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# Public Cemetery Viewer

# Public Cemetery Viewer

[http://regis\\_apps.gvmc-regis.org/cemeteryfinder/](http://regis_apps.gvmc-regis.org/cemeteryfinder/)



**New Version :** Locate Cemetery and Burial Sites by searching or interactively exploring the map. Cemeteries currently available: Blain & Dutton (Gaines Twp), Pine Hill (Kentwood), Brooklawn (Walker), Plainfield (Plainfield Twp), Grandville (Grandville), Mason & Martin (Grand Rapids Twp), Cascade (Cascade Twp), Boynton, Winchester & Winegar (Byron), Oakwood (Lowell), and Elmwood Cemetery (City of Cedar Springs).

**NOW AVAILABLE: CEMETERY FINDER & 2010 CENSUS MAP**

Please choose one of the map services by clicking on the appropriate one below. You may return to this page at any time by clicking the **IMS Home** button from within the Map Viewing application.

Please Note: The Public IMS Service does not support wide screens. If you see a blank screen or you are having trouble viewing the data by setting the screen resolution to 1280 by 1024 pixels or use the sidebar of your browser to shrink the screen. If this does not work, please call the REGIS Help Desk at 616-776-7744.

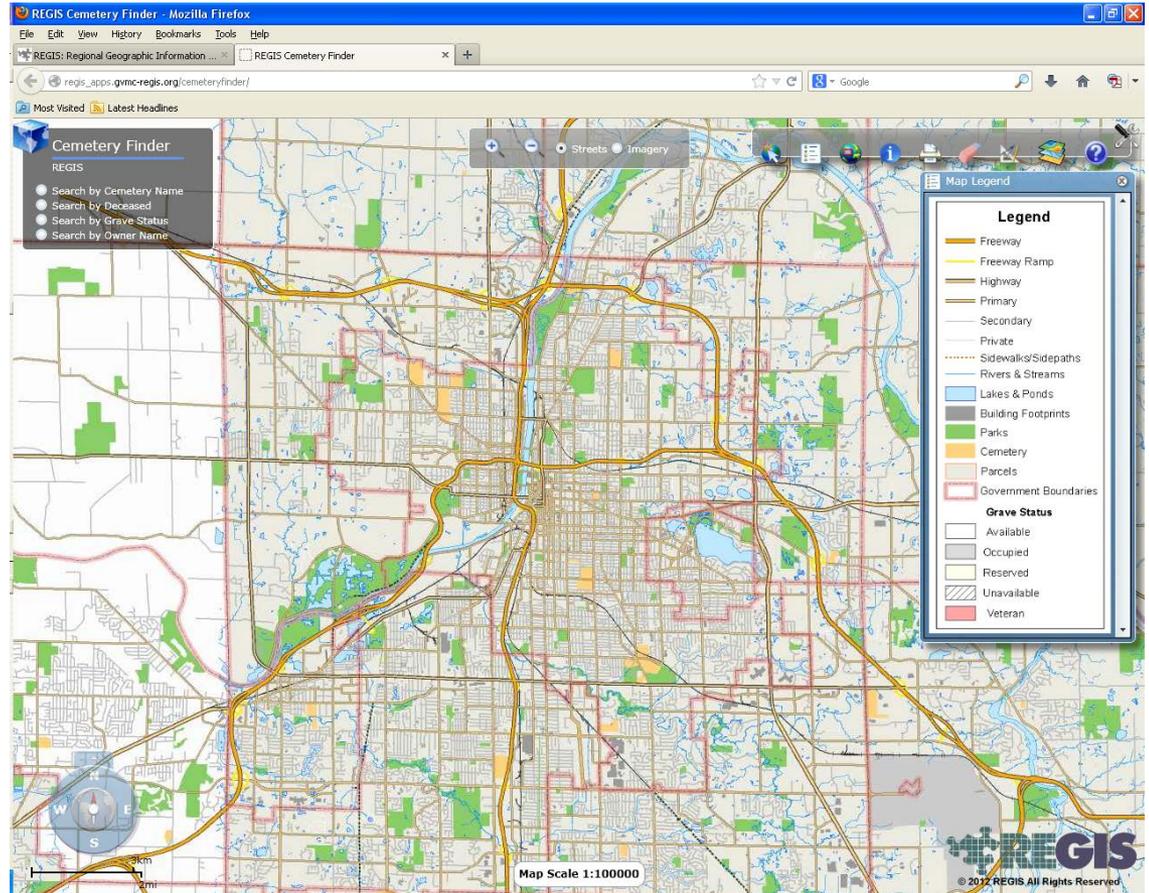
**UP** indicates that IMS service is currently operational.

<b>ParcelFinder</b> NEW! Jan 9, 2013	<b>New Version:</b> REGIS has developed a faster and more user-friendly "Parcel Finder" tool utilizing the latest technology. Try the new tool and provide your feedback at <a href="mailto:regis@gvmc.org">regis@gvmc.org</a> . Find specific parcels and properties by searching for addresses, owners, or parcel numbers.
<b>ParkFinder</b> NEW! Feb 1, 2013	<b>New Version :</b> Locate various State, County, City and Township parks by searching or interactively exploring the map.
<b>CemeteryFinder</b> NEW! Feb 22, 2013	<b>New Version :</b> Locate Cemetery and Burial Sites by searching or interactively exploring the map. Cemeteries currently available: Blain & Dutton (Gaines Twp), Pine Hill (Kentwood), Brooklawn (Walker), Plainfield (Plainfield Twp), Grandville (Grandville), Mason & Martin (Grand Rapids Twp), Cascade (Cascade Twp), Boynton, Winchester & Winegar (Byron), Oakwood (Lowell), and Elmwood Cemetery (City of Cedar Springs).
<b>Census Map (Population)</b> NEW! Mar 5, 2013	<b>New Version :</b> View the 2010 U.S. Census Population by block for Kent County and the City of Hudsonville. Explore the map and identify the demographics in your neighborhood (Beta Version).
<b>ZoningFinder</b> NEW! May 1, 2013	<b>New Version :</b> View the Zoning for Kent County and the City of Hudsonville by interactively exploring the map.
<b>Planned LanduseFinder</b> NEW!	<b>New Version :</b> View the Planned Landuse for Kent County and the City of Hudsonville by interactively exploring the



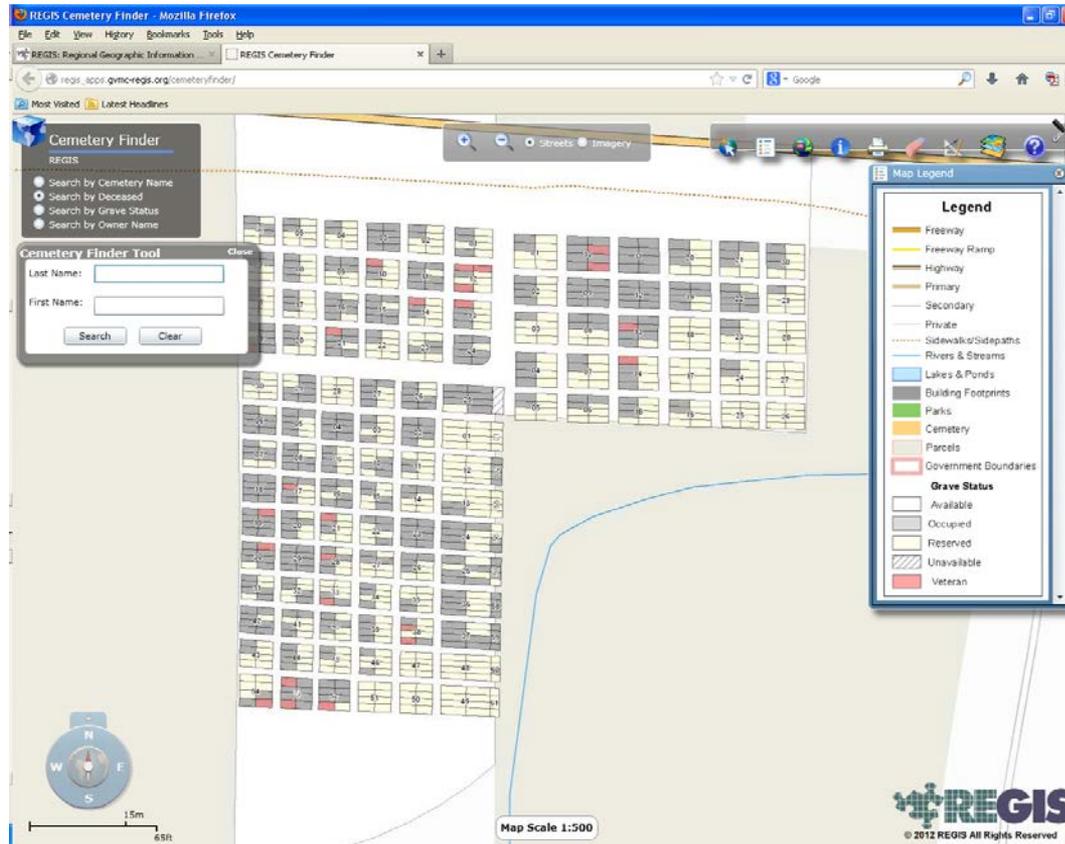
# Public Cemetery Viewer

- Very basic, easy to use map viewer
- Gives public the power to search a map and the database
- Public has limited data access using this viewer
- Recent enhancements



# Public Cemetery Viewer

- Public can view cemetery data and search data



# Public Cemetery Viewer

- Linking Headstone Photos:
  - New Project in Grand Rapids Township

Record Name	Cemetery Name	Government Name	Block Number	Plot Number	Grave Number	Grave Photo	Owner Name
	Martin Cemetery	Grand Rapids Township	First Addition	06	A	<a href="#">PICT0027.JPG</a>	Loren Stevens



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# EXERCISE 1

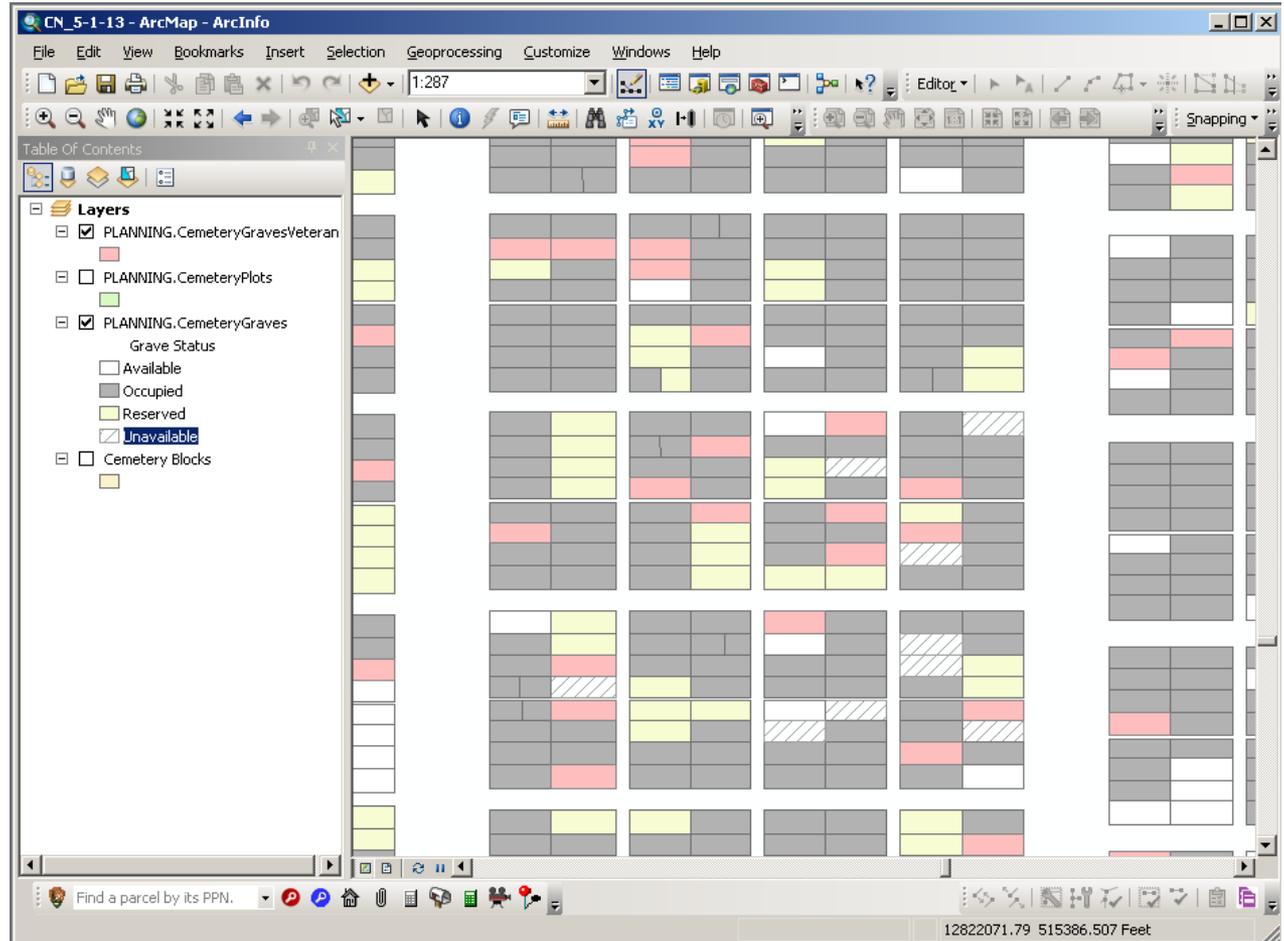
## Public Cemetery Viewer

# REGIS Cemetery ArcView Project

- Internal Use

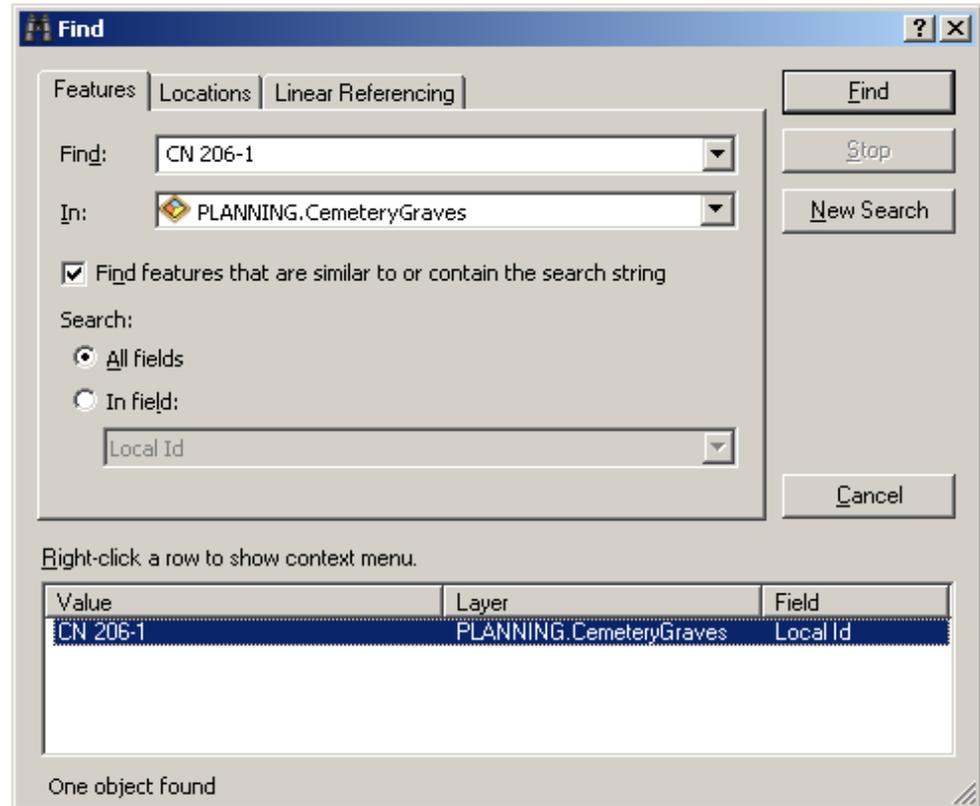


Tools to navigate in the map



# REGIS Cemetery ArcView Project

- Search database to quickly pull up a grave by ID



# REGIS Cemetery ArcView Project

- Multiple Occupants in one Grave
  - Stored in linked related table (1 to many relationship)
  - Second option is to split Grave in the map
  - Example: 104-S Blain Cemetery

Field	Value
Multiple Burials	Yes
Tree	<null>
Grave Cost	<null>
Cremation	<null>
Vault Type	<null>
Monuments	<null>
Monument Size	<null>
Grave Status	Occupied
Veteran	No
Burial First Name	ALBERT & SYLIVA
Burial Middle Name	FRANK
Burial Last Name	ZYDOR
Gender	Male
Age	85
Cause Of Death	EXT. CEREB. VASC. HE...
Death Date	9/9/1993
Burial Date	9/13/1993
Burial Year	<null>
Funeral Home	ARSI II

Field	Value
OBJECTID	641
LOCAL_ID	104-S
CEMETERY_NAME	Blaine Cemetery
GOVT_UNIT_NAME	Gaines Township
BLOCK_NUMBER	N5
PLOT_NUMBER	104
GRAVE_NUMBER	5
COST	<null>
CREMATION_FLAG	<null>
VAULT_TYPE	<null>
MONUMENT_FLAG	<null>
MONUMENT_SIZE	<null>
STATUS_FLAG	Occupied
VETERAN_FLAG	No
BURIAL_FIRST_NAME	Syliva
BURIAL_MIDDLE_NAME	Beatrice
BURIAL_LAST_NAME	Zydor
GENDER	Female
AGE	<null>

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# EXERCISE 2

## ArcView Cemetery Project (Internal use only)

# Editing Data

- Contact REGIS Staff if you would like to edit the records
- Will not edit map features - only changes table information or attributes for each grave

Attribute	Value
Local Id	102-W
Cemetery Name	Blain Cemetery
Government Unit Name	Gaines Township
Block Number	NS
Plot Number	102
Grave Number	W
Multiple Burials	<Null>
Tree	<Null>
Grave Cost	<Null>
Cremation	<Null>
Vault Type	<Null>
Monuments	Yes
Monument Size	No
Grave Status	Unknown
Veteran	Yes
Burial First Name	DONALD
Burial Middle Name	CHARLES
Burial Last Name	NIELSEN
Gender	Male
Age	51
Cause Of Death	GLIOSARCOMA
Death Date	11/5/2000
Burial Date	<Null>
Burial Year	<Null>

**Cremation**  
Text (Length = 7)  
Coded value domain: YesNoFlag  
Null values allowed

# Editing Data

- You will see the updates right away on your user edit session
- Other users will not see the updates until the following Monday

Attribute	Value
Local Id	102-W
Cemetery Name	Blain Cemetery
Government Unit Name	Gaines Township
Block Number	NS
Plot Number	102
Grave Number	W
Multiple Burials	<Null>
Tree	<Null>
Grave Cost	<Null>
Cremation	<Null>
Vault Type	<Null>
Monuments	Yes
Monument Size	No
Grave Status	Unknown
Veteran	Yes
Burial First Name	DONALD
Burial Middle Name	CHARLES
Burial Last Name	NIELSEN
Gender	Male
Age	51
Cause Of Death	GLIOSARCOMA
Death Date	11/5/2000
Burial Date	<Null>
Burial Year	<Null>

**Cremation**  
Text (Length = 7)  
Coded value domain: YesNoFlag  
Null values allowed

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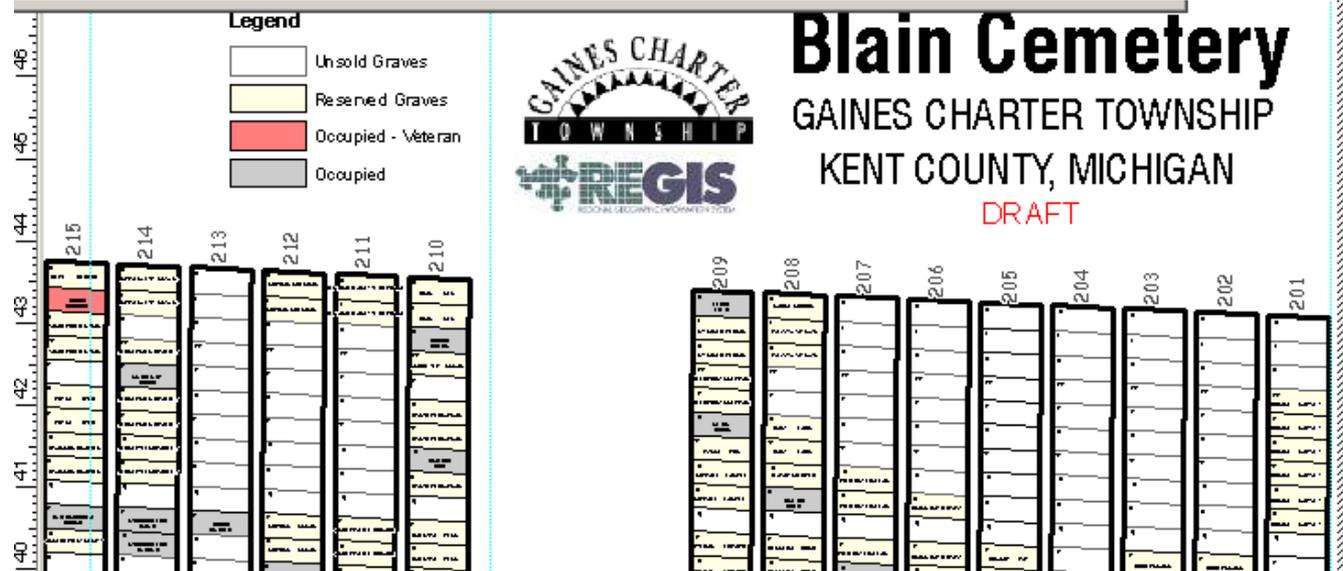
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# EXERCISE 3

## Editing Data Records

# Maps



- REGIS staff will create maps and customize to fit your needs for:
- Field use
- Office use

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# MAP EXAMPLES AND USING GIS IN THE FIELD

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# Please Fill Out Evaluation Forms

Your Feedback is Needed

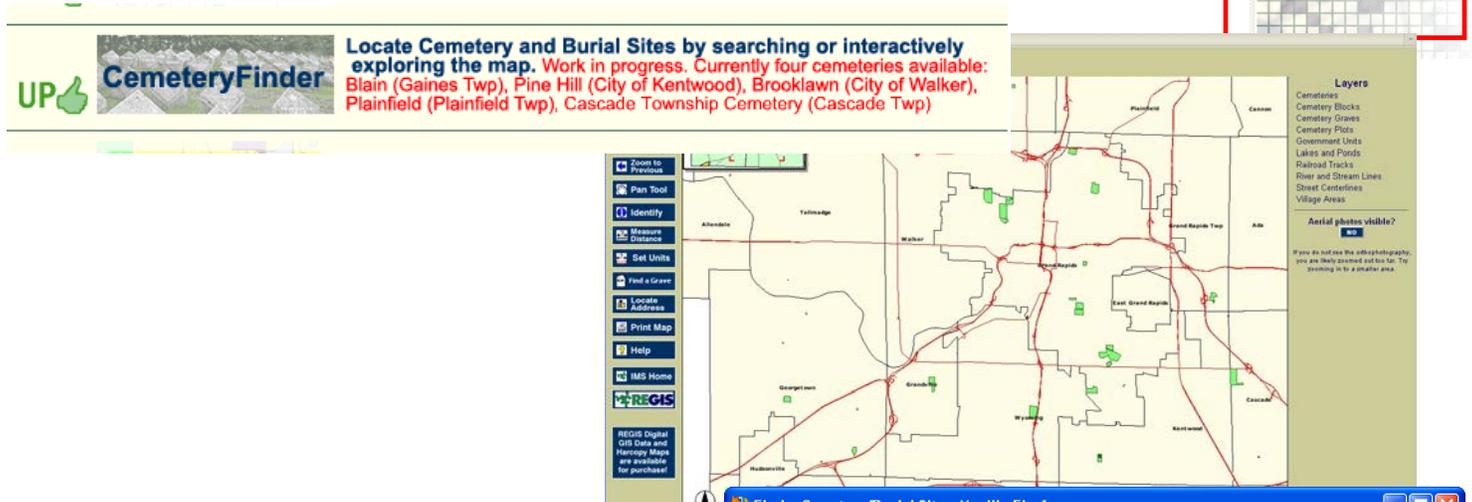
# Exercise 1 – Using the REGIS Public Cemetery Viewer

In this exercise, you will learn how to:

- ◆ Open the REGIS Public Cemetery Viewer
- ◆ Navigate in the Map.
- ◆ Query or search the map and database (By Grave and Cemetery Name)

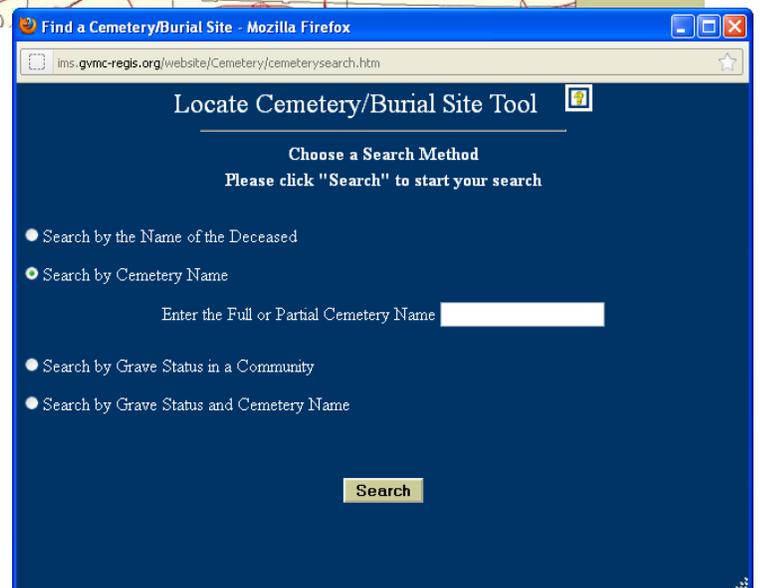
## Setup

1. Browse to the REGIS Main Web Page: <http://www.gvmc-regis.org/>
2. Click on the Public GIS Mapping tab along the left side of the page
3. This will bring you to the Internet Map Service Homepage, Click on **Cemetery Finder** and this will open the Public Cemetery Viewer and the **Locate Cemetery/Burial Site Tool** will open also.



## Query Map Database By Cemetery Grave

1. If the **Locate Grave/Cemetery Tool** did not open up click on the **Locate Grave/Cemetery** button along the left side of the viewer



2. In the **Locate Cemetery/Burial Site Window** :

- #1.) Click Search by Name of the Deceased
- #2.) Type “Moore” in Enter the Last Name
- #3.) Type “George” in AND/OR Enter the First Name
- #3.) Click Start Search

**Results from Cemetery Graves** 

Click on a magnifying glass icon to view that feature on the Map

Rec	Cemetery Name	Community Name	Plot	Grave	Grave Status	Burial First Name	Burial Last Name	Age at Death	Owner Name
	Winchester	Byron Township	801	1	Occupied	GEORGE	MOORE	47	MOORE, GEORGE
	Blain Cemetery	Gaines Township	153N	1	Occupied	GEORGE	MOORE		
	Blain Cemetery	Gaines Township	42S	5	Occupied	GEORGE	MOORE	6	MOORE CLAUDE
	Pine Hill Cemetery	City of Kentwood	18	4	Occupied	George	Moore		Dan Moore

Records 1 to 4

**Remove Red Outline/Yellow Highlight**

- 3. This will open up the Query/Selection Results window and return all records in the REGIS Cemetery database with “George Moore”.
- 4. Click on the magnifying glass with the plus sign  to have the map zoom into the selected grave.
- 5. The map will zoom to the grave and highlight it in red. Use the **Zoom In Tool** to get closer to the grave.



## Query Map Database By Cemetery Name

1. If **Locate Grave/Cemetery** is not open up click on the **Find a Grave Tool** along the left side of the viewer



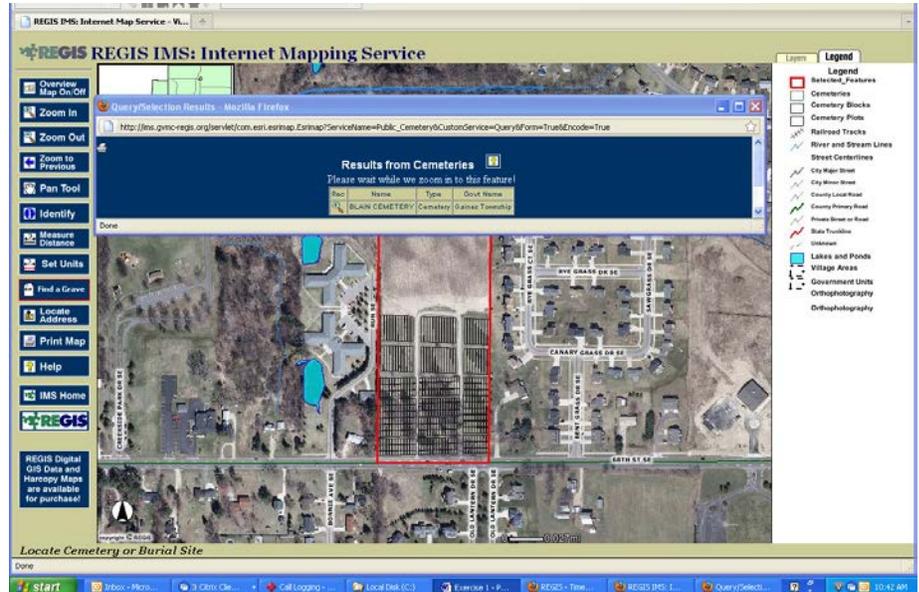
2. In the **Locate Cemetery/Burial Site Window** :

#1.) Click **Search for Cemetery by Name**

#2.) Type **Blain** to find **Blain Cemetery in Gaines Township**

#3.) Click **Start Search**

3. This will open up the **Query/Selection Results window** and the map will zoom into **Blain Cemetery**



4. Use the **Zoom In tool** along the left side of the viewer to zoom into the cemetery. You will notice the burial sites will start to fill in with a color. The **Legend** to the right will show the meaning of each color, and as you zoom in closer the occupant name of each burial site will show on the map.



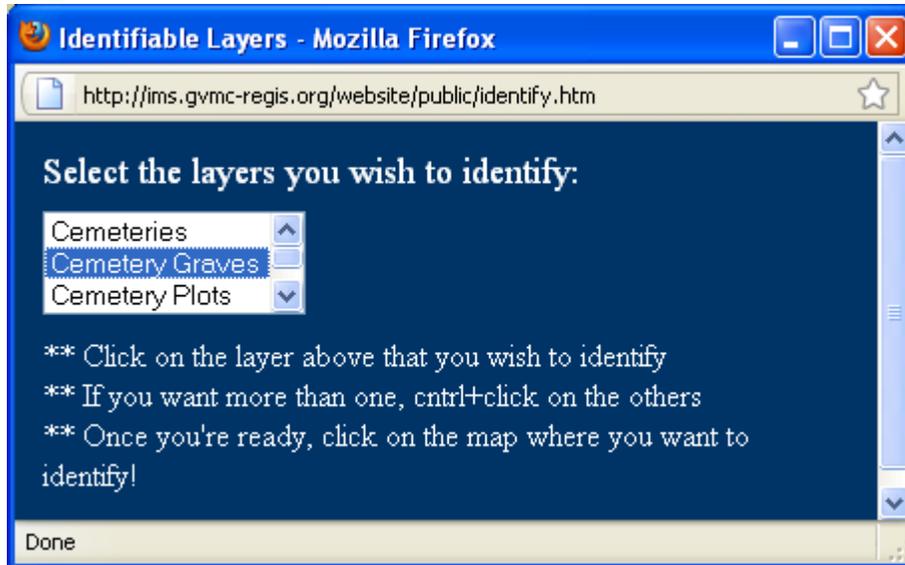
along the left side of the Southeast corner of the

The detailed screenshot shows a zoomed-in view of Blain Cemetery. The map is filled with various colored rectangles representing burial sites. A legend overlay is visible on the right side of the map, providing information about the colors used to represent different features. The legend includes the following items:

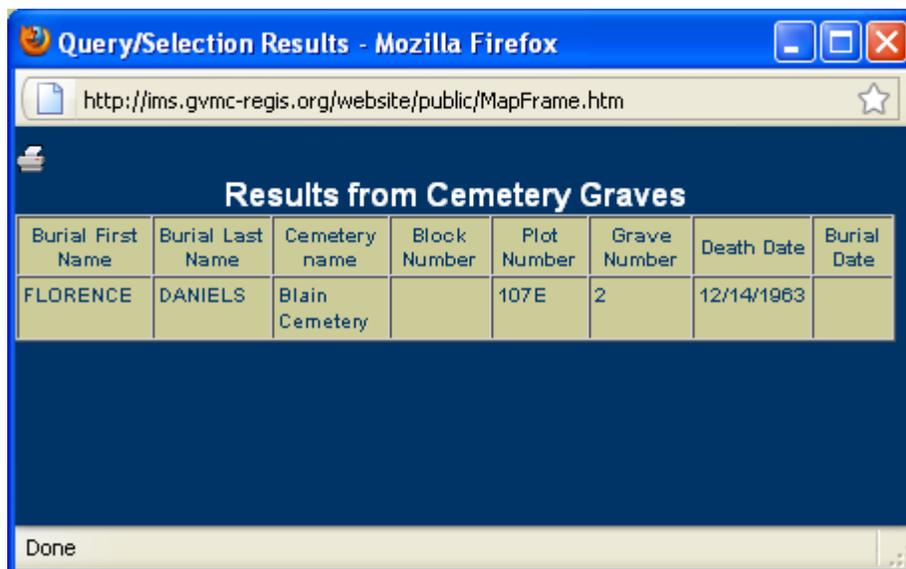
- Selected\_Features (Red outline)
- Cemeteries (Green outline)
- Cemetery Graves (Purple outline)
- Available (Pink)
- Reserved (Light Green)
- Occupied (Light Purple)
- Unavailable (Light Blue)
- Other (Light Yellow)
- Cemetery Blocks (White)
- Cemetery Plots (White)
- Railroad Tracks (Black dashed line)
- River and Stream Lines (Blue wavy line)
- Street Centerlines (Black solid line)

The map shows several burial sites with names such as JOE DYKSTRA, FLORENCE DANIELS, DORA DYKSTRA, URIAH DANIELS, and JENNIE AUSTHOF. The cemetery is labeled "BLAIN CEMETERY" in red text.

5. Click on the **Identify Tool**  and select Cemetery Graves as the layer you would like to identify from.

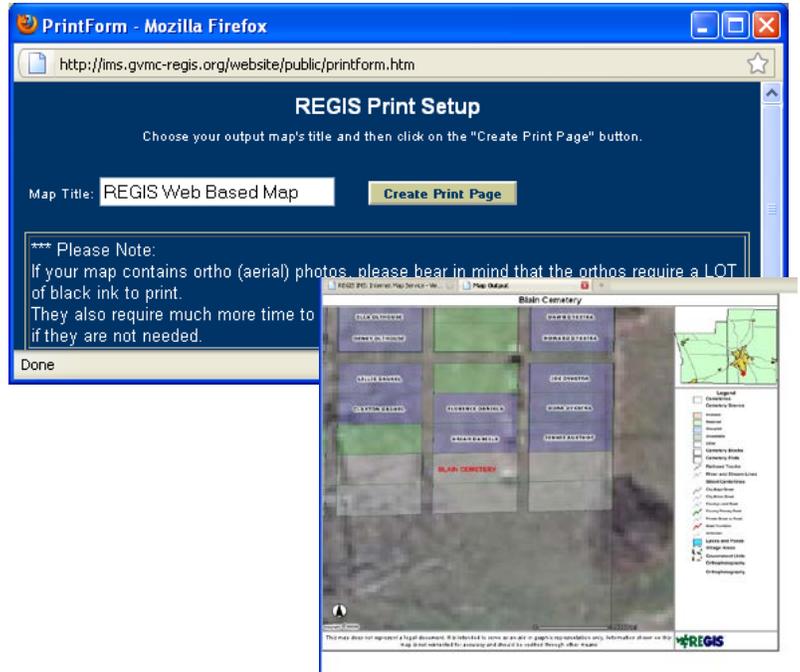


6. Click on one of the occupied graves in the map and you will see the information for that specific burial site open in a window. To print the record simply click on the printer icon in the upper left hand corner of the window.



## Print a Map

1. To print a portion of the map click on **Print Map**
2. The PrintForm Box will appear that allows you to give a Map Title
3. Once you have selected a map title click Create Print Page and a new window will open with a created map page ready for printing.



*End of Exercise 1*

## Exercise 2 – Using an ArcMap Cemetery Project

In this exercise, you will learn how to:

- ◆ Open a Cemetery map in ArcMap.
- ◆ Navigate in the map.
- ◆ Query or search the map and database

### Setup

1. Log in to the REGIS Application Web Interface



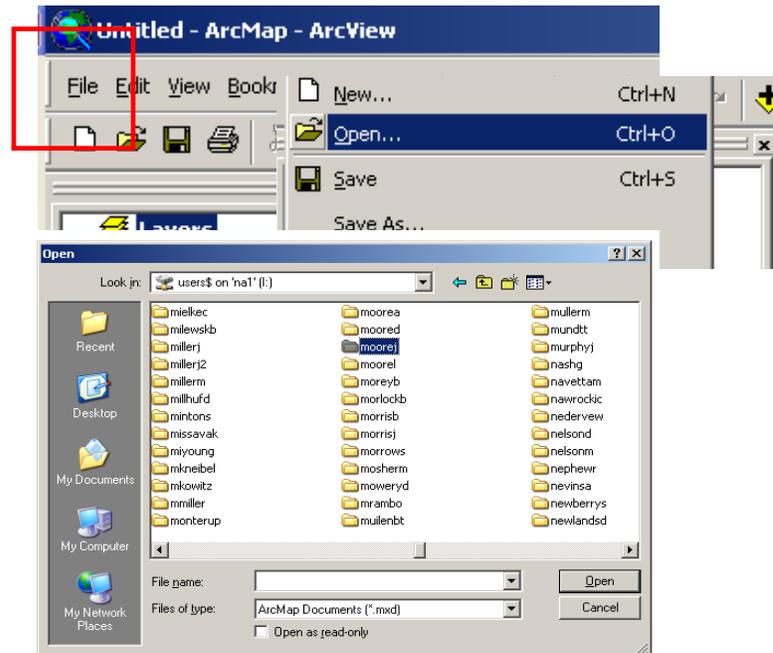
2. Click on the Arcview 9x3 icon to open the GIS program



### Opening a project

1. When the ArcView 9x3 program opens go to **F**ile < **O**pen
2. Browse to your user folder on the **I**:drive
3. Open the project located at:

*Cemetery Training < Exercise 2.mxd*



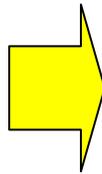
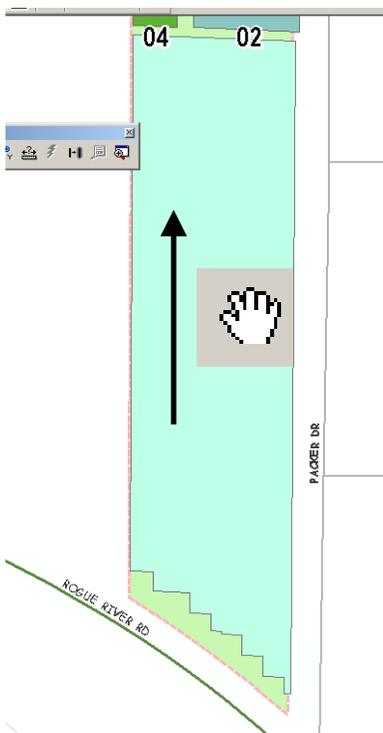
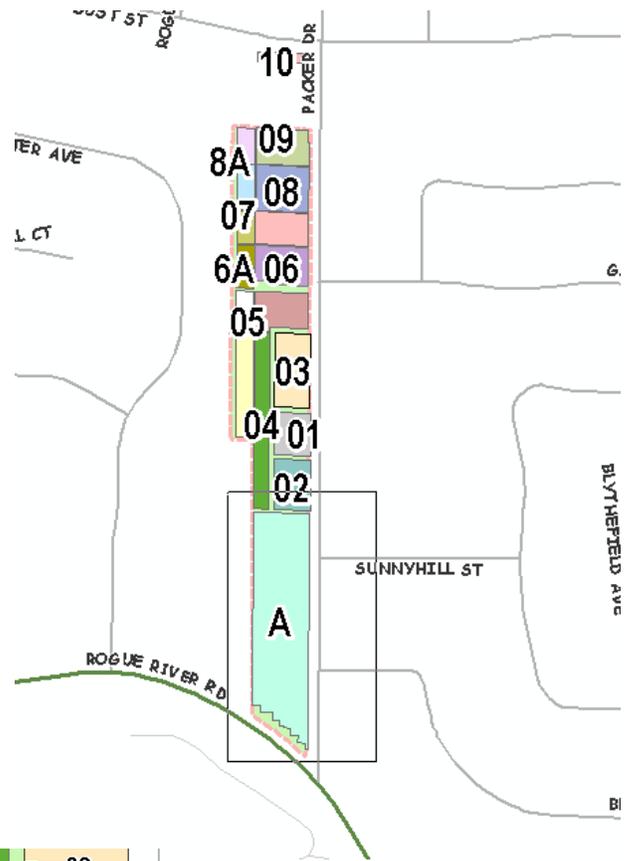
## Map Navigation



1. Click on the **Zoom In Tool**  and draw a box around Block A on the map . Left click and hold your mouse button to start your box. Simply let go of the mouse button when you have the desired area to zoom into.

*\*(Note the same steps can be used when using the Zoom Out Tool)*

2. Click on the Pan Tool to move around the map and include blocks 01, 02, & 04 in your map view. Continue to zoom in on the map until you see individual graves.



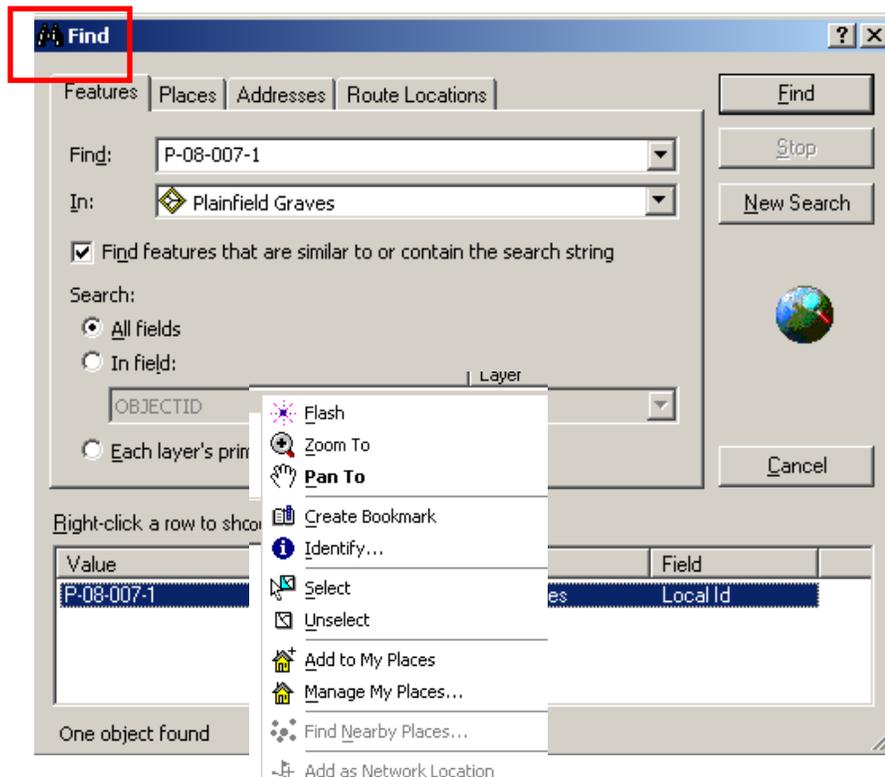
- Next go back to the view of the map when you first opened it by clicking on the **Previous Extent Tool**  The button will need to be clicked multiple times until you reach your initial view
- If you go to far back in your views simply click the **Go To Next Extent Tool** 

## Query Map Database

♦*Objective: In this section you will learn how to query the map database to find information on a grave. You will be searching for the following grave:*

- P-08-007-1 (Cemetery, Block, Lot, Grave)

- Click on the **Find Tool** 
- Select the **Features** tab in the Find Dialog box and fill the box out as shown in the graphic to the right
- Click Find and you will see the record for the grave P-08-007-1 appear in the white space
- Right Click and click **Zoom to**. This will take you to the location of the grave in the map. You can also click on **Identify** to see the attributes or table data for the record



*End of Exercise 2*

## Exercise 3 – Editing Cemetery Records

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### In this exercise, you will learn how to:

- ◆ Start an edit session to update cemetery records

In this exercise you will be updating a recent burial with the information provided below:

- Local ID is 231-J
- Burial Name is: John Doe
- Death Date is: 2/10/11
- Burial Date is: 2/14/11
- The individual was a veteran
- Age: 90

### Setup

1. Log in to the REGIS Application Web Interface if you haven't done so already.
2. Click on the ArcInfo 9x3 icon to open the GIS program



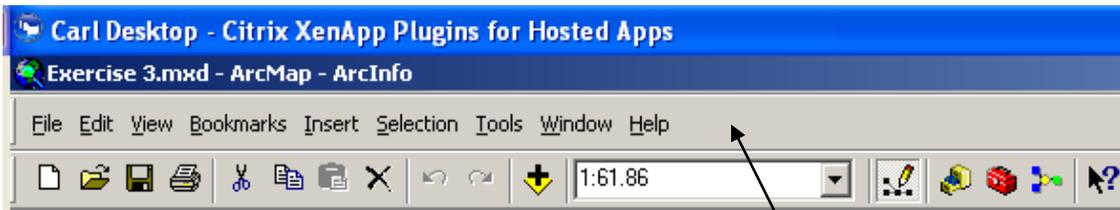
### Opening a project

1. When the ArcView 9x3 program opens go to **File < Open**.
2. Browse to your user folder on the **I:drive**
3. Open the project located at:

*Cemetery Training < Exercise 3.mxd*

### Start an edit session

1. To start an edit session right click in the grey area next the **Help** at the top of the window



121-

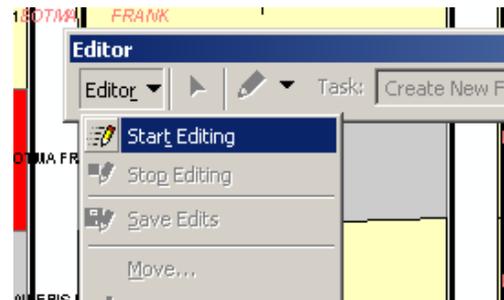
2. Check **Editor** to add the Editor Toolbar



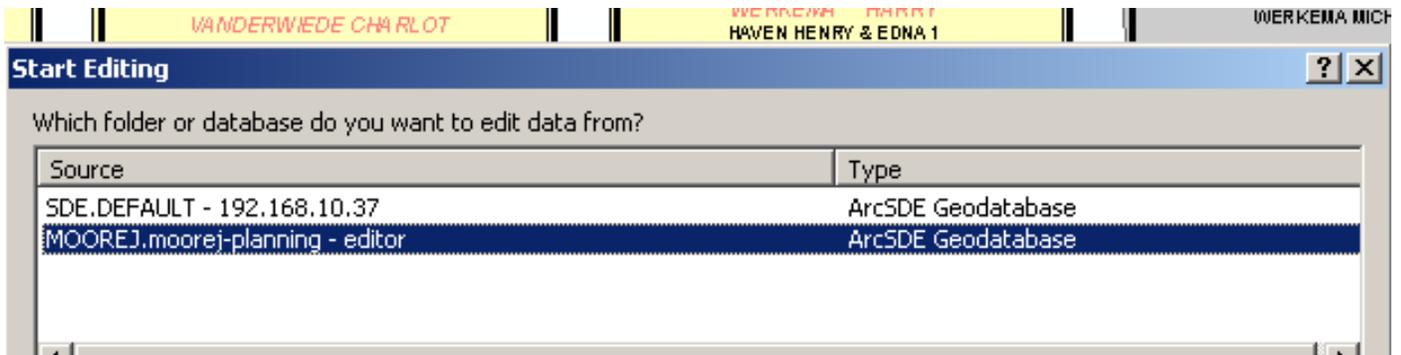
3. Click on Editor < Start Editing

4. In the Start Editing Dialog Box click on your user version which will be:

*USERNAME.username-cemeterytraining*



5. Next, select **OK**, which will start your edit session

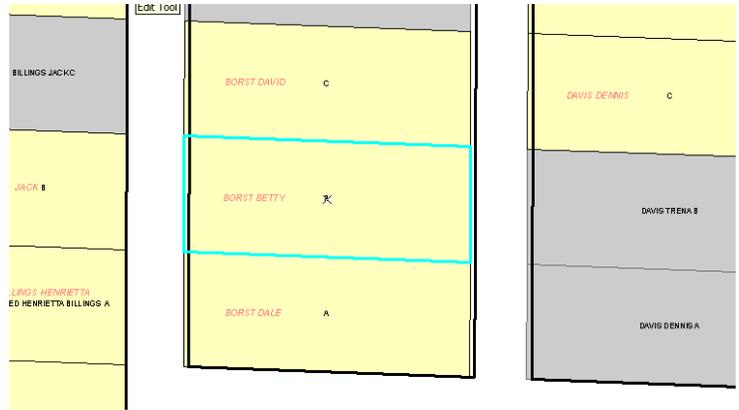


## Update Record

1. Use the **Find Tool**  to locate grave: 231-J.

- Click on the **Edit Tool**  and left click on grave 231-J in the map, which will high the grave in blue.

- Click on the **Attributes Tool**  to open the records for grave 231-J and update the following info:

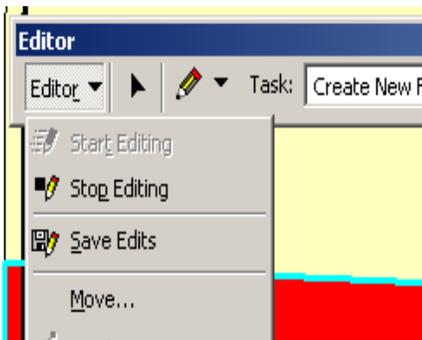


*Change Grave Status to Occupied  
 Change Veteran to Yes  
 Burial First Name: John  
 Burial Last Name: Doe  
 Gender: Male  
 Death Date: 2/10/11  
 Burial Date: 2/14/11  
 Burial Year: 2011  
 Age: 90*

- Once you have completed close the Attributes box and you will notice the map has updated to reflect this information you just updated.

Property	Value
OBJECTID	23698
Local Id	121-2-B
Cemetery Name	Blain Cemetery
Government Uni...	Gaines Township
Block Number	N5
Plot Number	121-2
Grave Number	B
Multiple Burials	<Null>
Tree	<Null>
Grave Cost	<Null>
Cremation	<Null>
Vault Type	<Null>
Monuments	<Null>
Monument Size	<Null>
Grave Status	Reserved
Veteran	No
Burial First Name	<Null>
Burial Middle Name	<Null>
Burial Last Name	<Null>
Gender	<Null>
Age	<Null>
Cause Of Death	<Null>
Death Date	<Null>
Burial Date	<Null>
Burial Year	<Null>
Funeral Home	<Null>
Owner Name	BORST BETTY
Owner Address	<Null>
Owner City	<Null>
Owner Sate	<Null>
Owner Zip	<Null>
Owner Phone	<Null>
Source	<Null>
Date Created	8/5/2008
Date Modified	2/11/2011
Modified By	MOOREJ
Facility ID	80040769
Comments	<Null>
SHAPE.AREA	40.934
SHAPE.LEN	28.317

- To save your edit click Editor < Save Edits.



*End of Exercise 3*