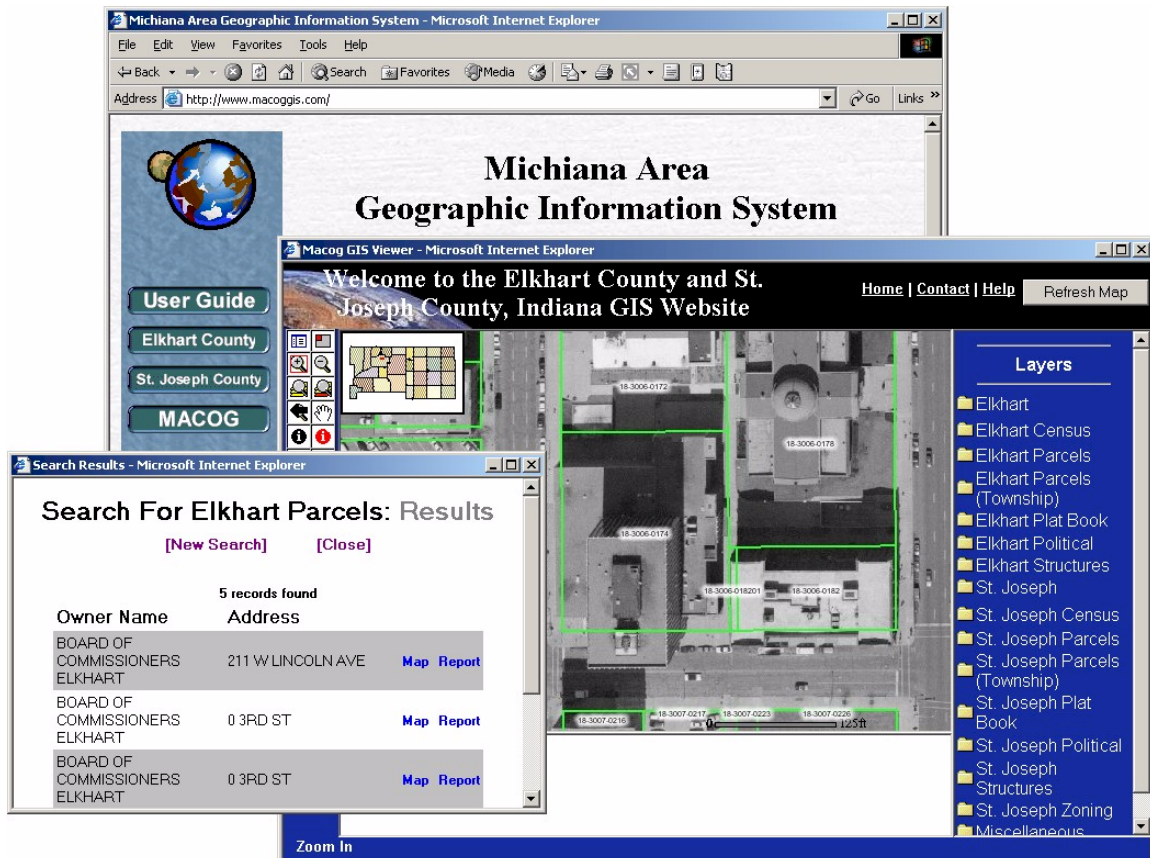


Elkhart and St. Joseph County GIS Website User Guide



Created By The Michiana Area Council of Governments
Last Updated July 30, 2004

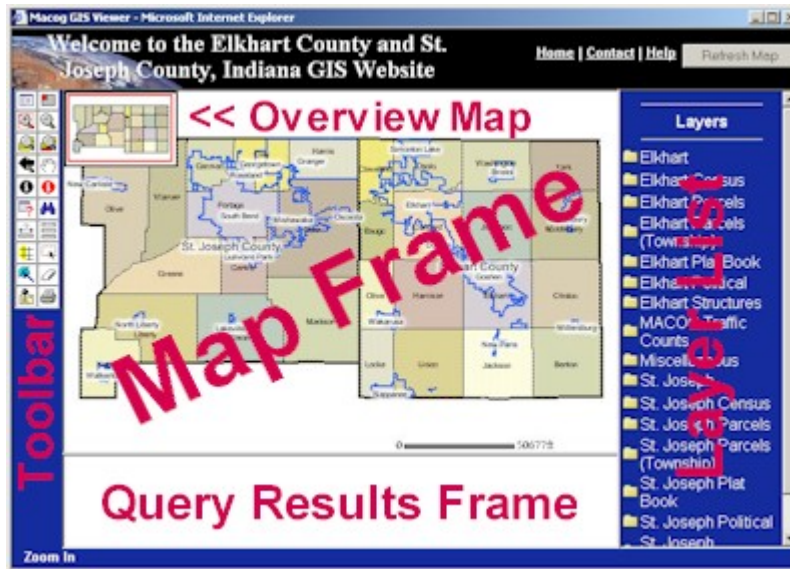
Website User Guide Introduction

This document describes how to use virtually all of the various features of MACOG's Geographic Information System website. Frequent users will want to make sure they fully understand everything contained in this document. Casual users will benefit greatly by at least familiarizing themselves with the material and keeping the User Guide available as a reference.

All users should feel free to explore all aspects of this site. You cannot harm anything. Once you are familiar with the navigation and functionality, you will hopefully find that it is a valuable tool. Many users have begun to use sites like these in their everyday work, saving them valuable time that it would normally take to physically gather this information from various agencies. The ability of making the data interact with each other has never been available before.

One last note, while you cannot unintentionally harm the site, please take your time as you work with the software. Clicking too quickly can result in the application not receiving data requests and requiring you to start over from the beginning.

Map Viewer Interface



Toolbar:

The toolbar is where all of the power of the site resides. Many mapping sites only allow you to turn layers on and off. Here you can interact with the site. Doing things like "show me all of the property within 300 feet" and complex queries like "show me properties in my county that are larger than 1500 square feet and are not commercial".

Overview Map:

When you are zoomed in, you can sometimes forget where you are. This is where the overview map comes in. It will always show you where you are on the map. You can also use it to quickly navigate to another part of the map. Also for your convenience, the overview map can be toggled on and off.

Map Frame:

This is the main map display. This will be your main interaction area within the site. You can zoom in and out, pan around and interact with all the layers and features within the site.

Layer List:

The layer list area displays all of the layers sorted into folder groups. By clicking on a folder, you can view all of the layers in the group currently available at the present zoom in extent. You can turn layers on and off by checking the box next to the layer you would like to display and then refreshing the map. You can also select the active layer and refresh the map automatically by clicking on the round radio button next to the layer you would like to interact with. Making a layer active gives the user the ability to use any of the tools in the toolbar to discover additional information about layers and their features. Keep in mind that the tools will only work with the active layer.





















Query Results Frame:

The query results frame is where the results are displayed when you request information from the site through tools such as Query, Find, and Search. You can copy the information displayed here into popular programs such as Microsoft Excel. Just right-click within this frame and choose the *Select All* option. Then hit Ctrl-C on your

keyboard to copy the selected contents to your computers clipboard. Open excel and hit Ctrl-V on your keyboard to paste the contents from the website into the spreadsheet. From here, you can save the file into many different formats or merge the file with a word processor to create mailing.

Toolbar Buttons

The Map Viewer's toolbar appears to the left of the map display area. It includes the following tools. More detailed descriptions of the buttons follow.

	Toggle between Legend and Layer List: Switches back and forth between a legend with symbology and a layer list with visibility options.
	Toggle Overview Map: Adds or removes the overview map from the map display area.
	Zoom In: Zooms in to the area of the map that you click or drag a box around.
	Zoom Out: Zooms out from the area of the map that you click or drag a box around.
	Zoom to Full Extent: Zooms to the full extent of the map (both Elkhart and St Joseph County).
	Zoom to Active Layer: Zooms to the full extent of the active layer.
	Back to Last Extent: Zooms to the previous extent.
	Pan: Pans the display in the direction that you drag the mouse pointer.
	Identify: Displays attribute information for the feature that you clicked.
	Identify All: Displays all of the available attribute information for the point where you clicked (only displays information from layers displayed).
	Query: Searches for features based on a query expression.
	Find: Finds map features with an attribute value matching a string that you type.
	Measure: Measures distances on the map.
	Set Units: Sets the units for the Measure tool.
	Buffer: Selects the features of one layer that are within the specified buffer distance of selected features of another layer.
	Select by Rectangle: Selects the group of features contained by or in contact with a rectangle you draw on the map.
	Select by Line/Polygon: Selects the group of features contained by or in contact with a line or polygon you draw on the map.
	Clear Selection: Clears the selected set of features.
	Locate Address: Locates a street address on the map. <i>Currently not functioning correctly.</i>
	Print: Prints the map to your default printer.

Toggle Legend / Layer List



A legend is a list of layers in a map that appears to the right of a map in the map viewer. Next to each layer's name, the legend displays the symbols used to represent that layer's features.

By default, the list of layers is displayed to allow interaction with the map viewer (e.g. turning layers on and off). By clicking on the Toggle Legend / Layer List tool, you can view the map legend showing the currently visible layers.

Zooming and Panning the Map Display Area

The zoom and pan tools allow you to change the map extent.

Zoom in or out by clicking the center of the area to zoom in to or out from, or by clicking and dragging a box around it.

Zoom to the full extent of the map, the extent of the active layer, or the last extent by clicking the appropriate button on the toolbar. See the map viewer toolbar for more information. Pan the map by clicking the map and dragging it.

Zooming In and Out

1. Click Zoom In or Zoom Out on the toolbar.
2. Move the mouse pointer to the desired location on the map, then click and drag a box around it.
3. Release the mouse button.
4. The map display zooms in to or out from the selected area.

Panning the Map Display

1. Click Pan on the toolbar.
2. Click the map and drag the mouse in the direction you want to pan.
3. To see more to the left, click and drag the map to the right.
4. To see more to the right, click and drag the map to the left.
5. To see more at the top, click and drag the map downward.
6. To see more at the bottom, click and drag the map upward.
7. Release the mouse button.
8. The map display refreshes.

Tip: Refreshing Your Browser

Keep in mind that using the browser's Refresh button reloads the Web page, causing you to lose any changes to your map such as new symbols to a layer.

Identifying Features

The Identify tool displays attribute information for the features that you click. If you were looking at a map of the world with country and city layers and clicked one of the cities, the Identify tool would display attribute information for that city. The Identify All tool is similar except that when you click on one of the cities, you also get information on the country that city is located in.

1. Make a layer active in the layer list.
2. Click the Identify button on the toolbar.
3. Click a feature on the map.
4. The Identify Results dialog box appears, displaying attribute information for the feature that you clicked.

Querying Data

The Query tool allows you to find features matching a query expression. Click the Query button then build an expression using the tools that appear below the map display area.

1. Click Active beside a layer to make it active.
2. Click Query on the toolbar.
3. The query panel appears below the map display area.
4. Click the Field dropdown arrow and click a field to query.
5. Click the Operator dropdown arrow and click an operator.
6. Type a value in the Value text box or click Get Samples and click one of the sample values that appear in the dropdown list.
7. Click Add to Query String.
8. If you are done building your query, click Execute. If you are not done, continue adding to your query then click Execute.
9. A list of features matching your search criteria appears in the box below the map display area. The features are also highlighted on the map.
10. Click a record number in the Rec column to zoom to a particular feature, or scroll down and click Zoom to these records to zoom to all of the features returned by your search.

Tip: Clearing Your Query Expression

If you make a mistake when building your query, click Undo to remove the last item you added to your query string or Clear to clear the entire query string.

🏠 Identifying and Finding Features 🏠

The Identify tool provides attribute information about the features of the active layer. To get more information about a feature on the map, click the Identify tool and click the feature.

The Find tool helps you locate features with an attribute value matching a string that you type. The Find tool is case sensitive, so pay particular attention to the case you use when typing your string. You can enter all or part of a word (or words) to search for.

Identifying Features

1. Click Active beside a layer to make it active.
2. Click Identify on the toolbar.
3. Point to a feature and click.
4. Attribute information for the feature you clicked appears in tabular format in the panel below the map display area.

Finding Features

1. Click Active beside a layer to make it active.
2. Click Find on the toolbar.
3. Type a string to search for in the Find text box.
4. Click Find String.
5. A list of features with an attribute value matching the string you typed appears in the panel below the map display area. The features are also highlighted on the map.
6. Click a record number in the Rec column to zoom to a particular feature, or scroll down and click Zoom to these records to zoom to all of the features returned by your search.

Tip: Finding Text Strings

Do not use quotes around a text string.

Tip: Finding Numeric Values

The Find tool searches for strings. To search for numeric values, use the Query tool. Note that strings can contain or be entirely composed of numbers. To be numeric, a value must belong to a numeric field. Normally, you can perform mathematical operations using numeric values.

🗺️ Measuring Distances and Setting Units 🗺️

Use the Measure tool to measure distances on the map. Each time you click the map, a new point is added. If you click the map three times you will end up with two line segments—one from the first point to the second point, and one from the second point to the third.

You can add as many segments as you like. As you move your mouse away from the last point, the segment length changes in the Segment text box. The next time you click the map the new segment length is added to the total length in the Total text box.

Measuring Distances on the Map

1. Click Measure on the toolbar.
2. Click the starting point on your map.
3. Click to add a second point, creating a line segment.
4. Click to add a third point, creating a second line segment. Repeat to create additional line segments.
5. The Total distance of all of the line segments appears in the Total text box.

Setting Display Units

1. Click Set Units on the toolbar.
2. The Set Units panel appears below the map display area.
3. In the box below the map display area click the Display Units dropdown arrow and click Feet, Miles, Meters, or Kilometers.
4. Click Set Units.

Tip: Finishing Measurements

To clear the Total and remove segments from the map, click Clear Selection on the toolbar. If you are done measuring, click another tool on the toolbar.

Tip: Turn Off Image Toolbar

To turn off the Image Toolbar in Internet Explorer, go to *Tools / Internet Options* in your browser. Click on the *Advanced* tab and scroll down to the multimedia section to uncheck the *Enable Image Toolbar* option. You can also turn off the automatic image resizing option in the same area.

Buffering Features

The Buffer tool creates a buffer of a specified distance around the selected features of a layer. The buffer can be used to select the features of another layer that intersect it or are contained within it.

Before clicking the Buffer tool you must select the features to be buffered. Features can be selected using one of the following tools: Find, Query, Select by Rectangle, or Select by Line/Polygon. If you click Buffer before you have selected features, a message appears telling you that there are no selected features to buffer.

1. Click Active beside a layer to make it active.
2. Select features of the active layer using one of the methods described in this section.
3. Click Buffer on the toolbar.
4. The Buffer panel appears below the map display area.
5. Click the Layer dropdown arrow and click a layer.
6. Type a buffer distance in the text box.
7. If you want to see the attributes of features within the buffer, check Display Attributes.
8. Click Create Buffer.
9. A buffer appears around the selected features. Features from the selected layer that fall within the buffer are highlighted in red. Attribute information about the features appears in tabular format in the bottom panel.

Tip: Buffers Can Take Time

Depending on the number of features selected and the buffer distance, creating a buffer can take a while.

Locating Addresses

Address matching involves locating a point based on a user-specified address. Use the Locate Address tool to perform address matching. The Locate Address tool is only available if the geocoding properties of a geocodable layer were set during map authoring.

1. Click Locate Address on the toolbar.
2. The Locate Address panel appears below the map display area.
3. Click the Layer dropdown arrow and click a layer.
4. Type an address in the Street text box.
5. The address consists of the street number, name, and type.
6. Type information into as many of the other text boxes as you can.
7. If you type a street name into the CrossStreet text box, do not include a street number in the address you type into the Street text box.
8. Click Locate.
9. Address matches are listed in the bottom panel. Addresses with higher scores are better matches.
10. Click the number corresponding to an address to zoom to it on the map.

Tip: Improving the Accuracy of Address Matching Results

The more information you type, the more accurate your search will be.

Printing the Map

When you use the Print tool to print your map, the printed version of your map does not look exactly what you see in the browser window. The map extent is the same, but the toolbar is not included and the overview map appears above the legend.

When you click the Print button a text box appears for you to type a title for your map. The default title is ArcIMS HTML Viewer Map.

1. Click Print on the toolbar.
2. Print options appear in the panel below the map display area.
3. Type a title for the printed map.
4. Click Create Print Page.
5. A new browser window opens containing a printable version of your map.
6. Click File then click Print.
7. The Print dialog box appears.
8. Check the print settings and make any necessary changes.
9. Click OK.
10. The map prints complete with a title, legend, overview map, scale bar, and North arrow.

Parcel Search Application



The screenshot shows a web browser window with the title "Search Page - Microsoft Internet Explorer". The main heading of the page is "Search For St. Joseph Parcels". Below the heading is a search form with the following fields:

- Name:
- Address:
- Zip Code:
- Township:
- Parcel No.:

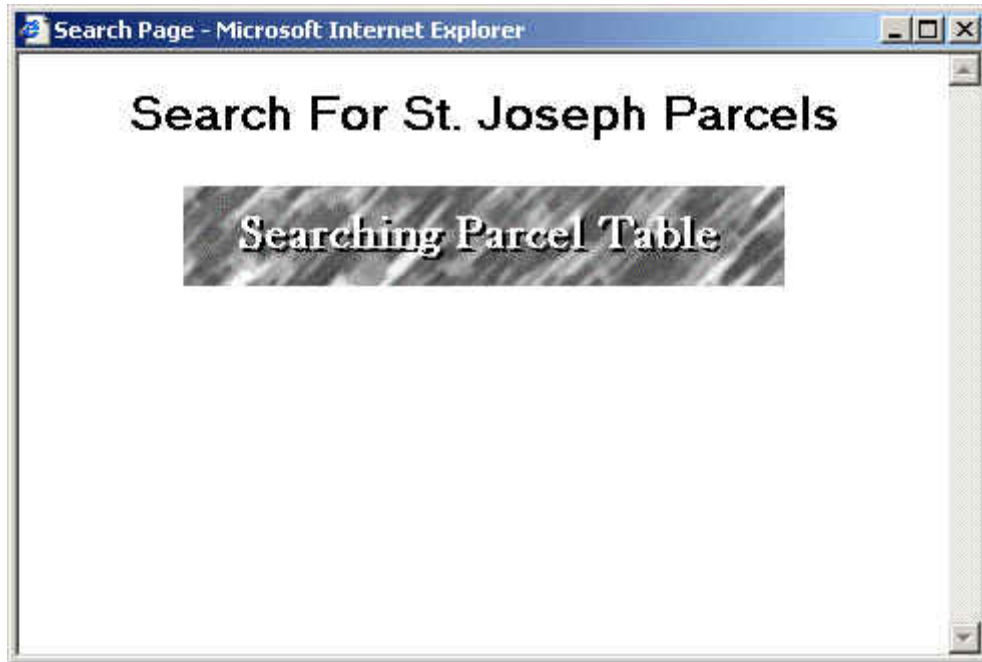
A "Search" button is located at the bottom of the form.

The parcel search applications were developed using the ArcIMS Site Starter applications from ESRI and were customized and tested using Internet Explorer 6.0. There currently are two applications, one for Elkhart and one for St. Joseph. Both are capable of searching by the property owner, the property address, and the parcel identification number assigned by the auditors office. The St. Joseph parcel search application is also capable of searching by township and zip code.

Unlike the original parcel search applications, the current applications will perform searches on the first and last names regardless of the capitalization or the order typed and additional fields (such as the property address) can be searched to narrow down the results returned. For instance, searching for Smith will return 567 results just in Elkhart County. By searching for John Smith, I can narrow my results to 16 records, and by adding the name of the street, Windsong, I narrow my results to a single record.

Also, the option to search by parcel number allows the end user to search for a specific parcel number, or part of a parcel number to find parcels in the general area of the search.

Searching Parcel Table



Once a search has been started, the string must be compared against 75,000 to 125,000 property records. While the application is working, the above page is displayed to prevent numerous re-clicks, which can slow the process down.

Results Table

Search Results - Microsoft Internet Explorer

Search For Elkhart Parcels: Results

[\[New Search\]](#) [\[Close\]](#)

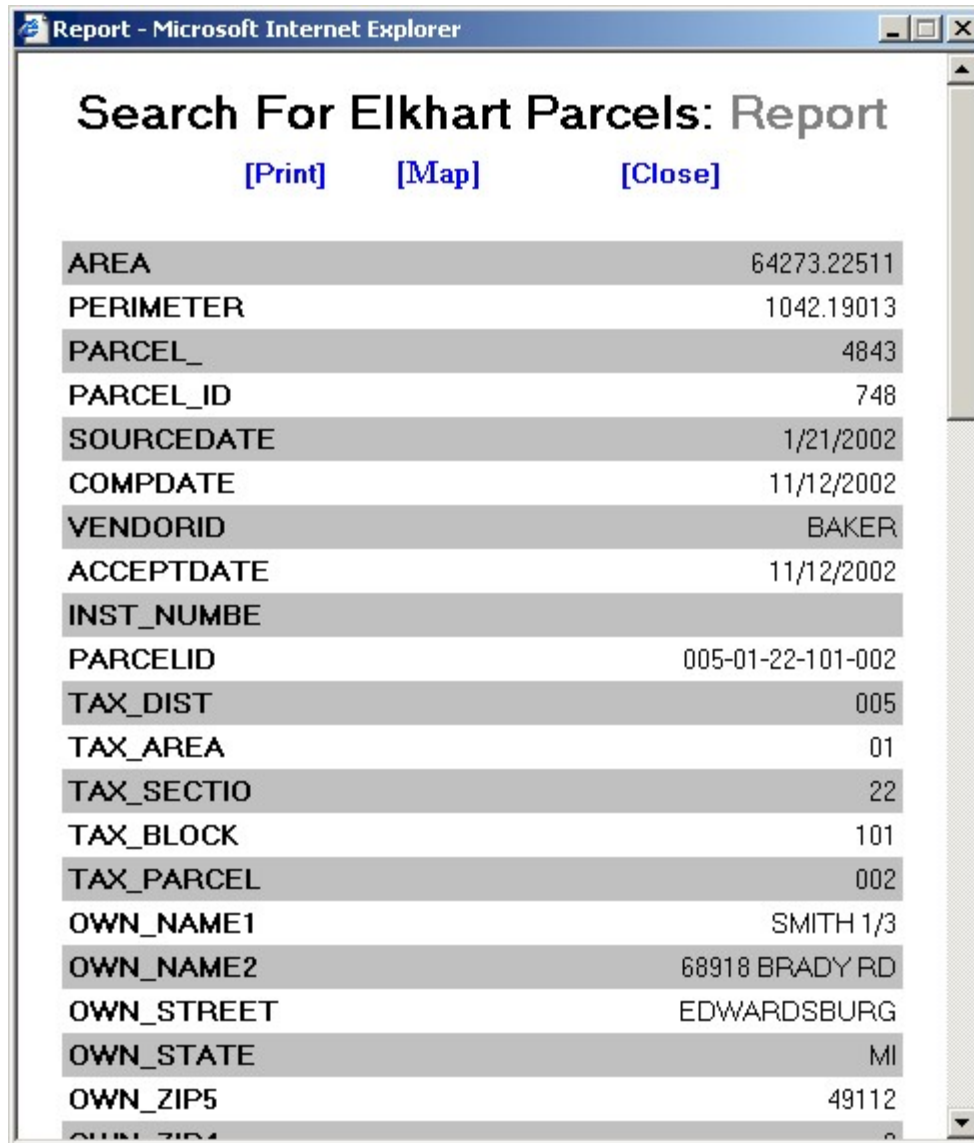
12 records found

Owner Name	Address	Map	Report
SMITH 1/3	52060 ASH RD	Map	Report
SMITH	0 DECKER DRIVE	Map	Report
SMITH JT TEN RGT OF SURV	917 W BEARDSLEY	Map	Report
SMITH JT TEN RGT OF SURV	0 N VINE ST.	Map	Report
SMITH JT TEN	1103 STRONG AVE	Map	Report
SMITH LIFE ESTATE	212 REDDING	Map	Report
SMITH JT TEN RT SURV	2004 OAKLAND	Map	Report
SMITH JT TEN (W/M SPRY LF EST)	28101 FIELDHOUSE AVE.	Map	Report
SMITH JT TEN (W/M SPRY LF EST)	28101 FIELDHOUSE AVE.	Map	Report
SMITH KAUFFMAN H &	2007 CEDAR DR	Map	Report

The results page lists the name of the owner and the address of the property searched for. Each property found has two options associated with it. The *Map* link will open the Main GIS Map, zoomed into the property found. If the property is not overly large, the aerial photography of the location will also be visible. The *Report* link opens a new browser window displaying all of the information available on the website that is attached to that property.

A *New Search* link and *Close* link are also provided at the beginning and end of the results table for either initiating a new search with different parameters, or closing the search application.

Property Report Table



Attribute	Value
AREA	64273.22511
PERIMETER	1042.19013
PARCEL_	4843
PARCEL_ID	748
SOURCEDATE	1/21/2002
COMPDATE	11/12/2002
VENDORID	BAKER
ACCEPTDATE	11/12/2002
INST_NUMBE	
PARCELID	005-01-22-101-002
TAX_DIST	005
TAX_AREA	01
TAX_SECTIO	22
TAX_BLOCK	101
TAX_PARCEL	002
OWN_NAME1	SMITH 1/3
OWN_NAME2	68918 BRADY RD
OWN_STREET	EDWARDSBURG
OWN_STATE	MI
OWN_ZIP5	49112
OWN_ZIP4	0

The final page of the search application is the Report page that is generated for a user-selected property. This report lists all of the information available online for the property in question. Before and after the report are links for printing out the information, opening the Main GIS Map viewer, and closing the window. Like the *Map* link on the results page, the *Map* link on the report page will open up the Main GIS Map viewer, zoomed into the property displayed. The *Close* link will close the reports browser window, displaying the results window underneath. This allows users to view multiple properties, without having to search for the parcels over and over.

Tip: Printing Backgrounds

By default, Internet Explorer will not print the backgrounds of websites. To enable this capability, go to *Tools / Internet Options* and click on the *Advanced* tab. Near the end of the list, under *Printing*, should be a *Print Background Colors and Images* checkbox.

Create 300' Variance

The buffer tool is a useful feature for finding information about the nearby geography. Most often, the buffer is used to create a 300' variance for building permits. Any layer can be used to create a buffer on any other layer. The greater the data to be captured by the buffer however, the greater the odds that a more advanced application (ArcView or ArcGIS) will need to be used.

1. Open either the Main GIS Map or use the Parcel Search Application to locate the property the variance is to be created on.
2. Open the Elkhart layer folder and uncheck the cities, civil townships, and county layer checkboxes.
3. Open the St. Joseph layer folder and uncheck the cities, civil townships, and county layer checkboxes.
4. Open the Parcels folder for the county where the property is located and check the County Parcels checkbox.
5. Select the County Parcels radio button to make the layer active. This will also refresh the map without having to click the Refresh Map button on the top of the screen.
6. If not zoomed into the correct property, zoom-in now.
7. Use the Select By Rectangle tool to drag a rectangle WITHIN the property(s) used to create the buffer.
8. After the map refreshes, the properties selected will be highlighted in yellow and their attributes will be listed in the query results frame so that you can check to make sure the correct properties were selected.
9. Click on the buffer tool to open the Buffer dialog window. This will replace the attribute data in the query results frame.
10. Select the County Parcels layer for the correct county from the drop down list.
11. Set the distance to 300 feet and check the Display Attributes checkbox.
12. Click the Create Buffer button to create the buffer and display the results in groups of twenty-five.
13. Right click on the table and click Select All.
14. Right click on the table again and click Copy.
15. You should now be able to paste the results into a spreadsheet and use the data to generate mailing labels and form letters depending on your office suite.

Finding Intersections

Often, only the general area of a property or region will be known. To search for this location using the cross streets at the nearest intersection, the Query tool can be used. The query will be setup to search for all of the streets containing one of two specific strings of characters using the OR statement / operator.

1. Open either the Main GIS Map.
2. Open the Elkhart layer folder and uncheck the cities, civil townships, and county layer checkboxes.
3. Open the St. Joseph layer folder and uncheck the cities, civil townships, and county layer checkboxes.
4. Open the folder for the county in which you are trying to locate the intersection and check the Street Centerlines checkbox.
5. Select the Street Centerlines radio button to make the layer active. This will also refresh the map without having to click the Refresh Map button on the top of the screen.
6. Click on the Query tool in the toolbox to the left of the map. This will display the Query application in the Query Results Frame below the map.
7. In the Field dropdown list, select the FENAME field that lists only the name of the street without the street type.
8. Use the LIKE operator instead of the equals sign to account for additional spaces or some misspelled streets.
9. Type in the name of the first street to be searched for, within quotes, in the Value box. To improve the number of results returned, use the wildcard character (%) to eliminate any leading or trailing characters that could be in the field (example: "%Main%").
10. Click on the Add to Query String button below the Operator dropdown list.
11. Click on the OR button in the top right corner of the Query Results Frame.
12. Change the street name you typed in the Value box in step nine and click on the Add to Query String again.
13. Click on the Execute button to run the query.
14. The first twenty-five results from the query should be listed in the Query Results Frame and if the intersection exists, you should be able to see a yellow cross where the streets intersect.
15. You can then use the Zoom-in tool to zoom to the intersection and proceed with your project. If you cannot see the intersection however, click on the Zoom to Results button at the bottom of the Query Results Frame. This should correct the problem depending on the location of your results.

Finding Traffic Counts

The fastest way to find traffic count sites is to zoom into the general area where you are looking for a traffic count. If one is available, it will then be displayed when either the INDOT Sites or MACOG Sites layer is turned on.

However, if you are not sure of the general area, the best alternative is to use the find tool to search for the street in the traffic count layer. In general, all of the INDOT traffic count sites are also MACOG traffic count sites, so it is best to make the MACOG Sites the active layer. Also, to speed up the response time, all of the layers except for the MACOG Sites should be turned off and shorthand abbreviations should be used for the road names (e.g. CR instead of C.R. or County Road).

1. Open either the Main GIS Map or the Traffic Counts viewer.
2. Open the Elkhart layer folder and uncheck the cities, civil townships, and county layer checkboxes.
3. Open the St. Joseph layer folder and uncheck the cities, civil townships, and county layer checkboxes.
4. Open the Traffic Counts layer folder and check the MACOG Sites checkbox.
5. Select the MACOG Sites radio button to make the layer active. This will also refresh the map without having to click the Refresh Map button on the top of the screen.
6. Click on the Find (binoculars) tool in the toolbox to the left of the map. This will display the Find application in the Query Results Frame below the map.
7. Type in one of the roads you are looking for counts on (e.g. US 33). This will return all of the sites that mention the road you are looking for.
8. In the returned results, the second column is the street the traffic count is located on (e.g. MAIN STREET [US 33]). The third column is the location of the site on that street (e.g. N OF CR 26). When the number in the first column is clicked on, the map viewer zooms in on the location of that record.
9. By turning on the appropriate Street Centerline layer (Elkhart or St. Joseph), the nearby geography can be determined. By zooming in on the site more, the aerial photography should be displayed.