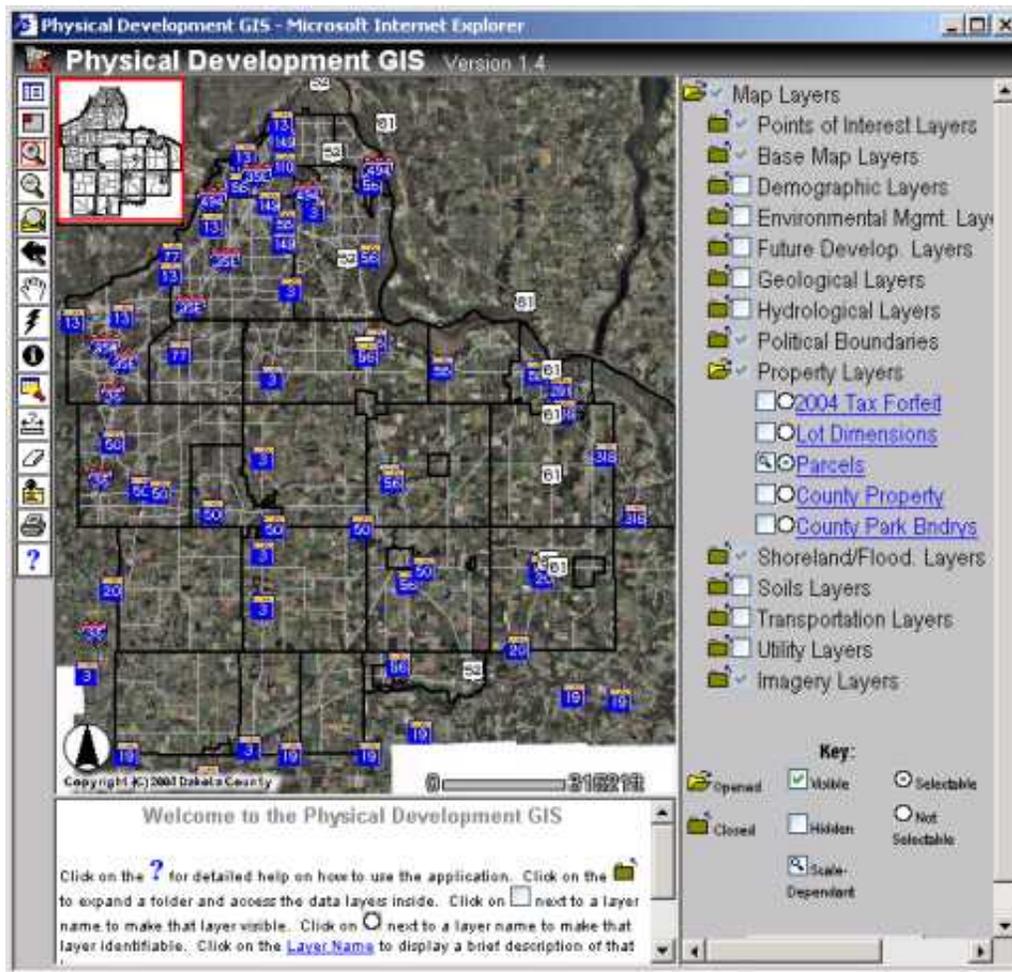


Fall 2004 Department Spotlight Physical Development GIS

by Mary Hagerman

The Dakota County Physical Development division staff have a new way to look at their data. A new tool called *Physical Development GIS* allows staff to access data from all of the departments within the division. Staff can browse, view, and query the data, as well as print out maps. *Physical Development GIS* is a web-based interactive map, which means it is accessible to everyone, easy to use, and very cost effective.



Much of the work done in the Physical Development division is inter-related. The common link that all of the departments have is location; that is, the work that one department does at a given location impacts the work that other departments are doing at the same or adjacent locations. The Transportation Department builds and maintains roads that run through or are adjacent to a park; planned developments are impacted by potential environmental remediation work. Physical Development GIS communicates that inter-relation. Data from one department can be overlaid with data from another as easily as clicking a check box. By viewing other department's data, staff can find out about projects underway around the division that may have an impact on their own work.



Physical Development GIS also serves as a data discovery tool for the division. There are more than 80 different data layers from departments throughout the division. *Physical Development GIS* is intended to be a one-stop shop for data. *Physical Development* staff can use *Physical Development GIS* to see what data is available in a particular area, and then find out whom to contact for further information about that data. Without a digital data catalog like this, staff may not even be aware that data that may be pertinent to their work exists in other departments.

Physical Development GIS contains a variety of reference data as well, including streets, parcels, and aerial photography. Parcel searches can be done by owner name, house number, or PIN. In addition, there are several layers of current aerial photography, as well as historical photography for a number of years. This can be useful for analyzing the development or change over time of an area.

To make it more user-friendly, *Physical Development GIS* features tool tips, help pages, and metadata. Tool tips, or 'bubble help,' pop up when the mouse is held over a tool or button to help the user identify the right tool to use. Help pages give more in-depth explanations of how to use a tool or button. Finally, each data layer has metadata associated with it. This metadata consists of a brief description of the data as well as contact information. There may also be a link to formal metadata.

Since its release in June, *Physical Development GIS* has been well received. Feedback has been very positive, with staff saying things like "Very useful & informative," "This looks like it will be an extremely helpful application," and "I found it generally user-friendly." Training is also available on a regular basis and has been well attended.

Fall 2004 Desktop GIS Dakota County Parcel Query Enhancements

by Kent Tupper Dakota County

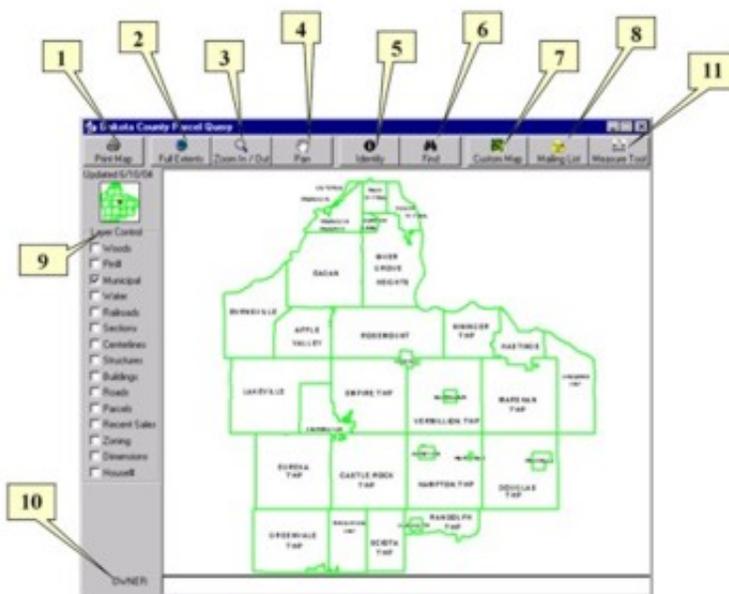
Parcel Query is a custom GIS application that the County has developed using Visual Basic from Microsoft and Environmental Systems Research Institute's custom ActiveX components MapObjects. The focus of this application is to deliver some simple GIS capabilities to a wide audience of non-GIS staff and the public.

This application provides the user with the ability to query parcel information interactively through a map, or non-interactively by looking up an owner name, business name, address, or Parcel Identification Number (PIN). Selected Assessor and Treasurer/Auditor information is then displayed, along with a site map. A selected set of geographic layers can then be displayed including parcel boundaries, lot dimensions, building footprints, roads and centerlines with street names, to mention a few.

This application has more than 300 local government users within the County, the Cities and the Townships in Dakota County. Since it was first developed enhancements have been made to the program, such as the ability to create a custom map with user added graphics and text, the ability to have custom layers, and the ability to generate mailing lists. The latest enhancements are an interactive measuring tool that measures either length or area and the ability to view 2002 color aerial photography as a map layer (this option is only available on the Dakota County Local Area Network).

Present Parcel Query users are encouraged to send an email to GIS@co.dakota.mn.us with the subject line "Parcel Query" so that they can be added to a mailing list to notify users of additional enhancements.

Following is a detailed description of the tools and functions of Parcel Query.



1). Print Map button. Sends a preformatted map to the printer of your selection. The map title is SITE MAP, the area displayed on the screen will appear on the map along with all the attributes of the selected parcel.

2). Full Extents button. Returns the map area displayed to the entire county.

3). Zoom In/Out button. When pressed becomes the active tool on the map. The left mouse button when clicked on the map will zoom in the extents. If you wish to zoom into a particular area you can hold down the left mouse and drag a rectangle over the extents you wish to zoom to and release the button. The right mouse button click and drag perform the same operations to zoom out.

4). Pan button. When pressed becomes the active tool on the map. On the map click and hold down either mouse button and drag that portion of the map in any direction you wish. When you release the mouse button the map will redraw on your screen.

Parcel Information

Owner Information
 Building Information
 Tax Description

PROPERTY ID NUMBER: 01-83730-010-01

LOCATION: SE1/4 SW1/4 SECTION 27-115-20

FEE OWNER: COUNTY OF DAKOTA
COMMON NAME: WESTERN SERVICE CENTER
% TREASURER-AUDITOR
1530 HWY 55
HASTINGS MN 55033-2343

PROPERTY ADDRESS: 14955 GALAXIE AVE
APPLE VALLEY MN 55124

2004 ESTIMATED MARKET VALUES (PAYABLE 2005)

LAND:	3,379,800	LOT SIZE (EXCLUDES ROAD EASEMENTS)
BUILDING:	15,855,000	
TOTAL:	19,234,800	

SCHOOL DISTRICT: 196 675,956 SQ FT
15.52 ACRES

WATERSHED DISTRICT: VERMILLION RIVER

PAYABLE 2005 HOMESTEAD STATUS: NON HOMESTEAD

PAYABLE 2005 ASMNT USAGE: EXEMPT

PAYABLE 2004 TAXES

NET TAX:	0.00	LAST QUALIFIED SALE:
SPECIAL ASSESSMENTS:	0.00	DATE:
TOTAL TAX & SA:	0.00	AMOUNT:

AERIAL PHOTOGRAPHY: 2002

5). Identify button. When pressed becomes the active tool on the map. On the map click with the left mouse button on the parcel of interest. The parcel becomes hi-lighted in yellow and another window opens up showing various county tax information. There are three different pages of information to view for each parcel. The user can view the page of information they wish by clicking on the option button preceding the page description at the top of the form. Selecting the print button on this form prints the text on the form with no map. A click on the selected parcel with the right mouse button un-selects the parcel.

6). Find button. Opens a "Search" form with selection options for locating a specific parcel or approximate location. The following options find information that is tied to a parcel.

PIN: County Parcel ID number is entered as a single number, no dashes or spaces.

Search

PIN:

Address:

Intersection: AND

Owner Last Name:

Business Name:

House Number:

-Owner Last Name: Looks up parcels that match the name

entered. Names entered must be an exact match (the * symbol can be entered for wildcarding). If only one candidate is found the map zooms to that location, hi-lights the parcel and displays the parcel information for that parcel (the same as using the Identify tool). If multiple candidates are found a scrolling list appears. Click on the name on the list that you wish to see. The map is zoomed to that location and parcel information is displayed.

-Business Name: Looks up business or common names. Automatically wildcards names entered, so full name need not be entered. Works the same as above for selection, zoom and display.

-House Number: Looks up property addresses. Enter only the number portion of an address. A scrolling list appears. Select the address from the list. You are zoomed to that parcel and information is displayed. (NOTE: There is not a property address for every parcel.)

The next two search options find approximate locations based on streets and addresses. No parcel is selected.

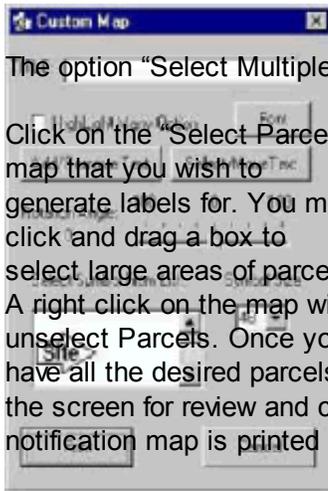
-Address: Enter a street address (such as 123 main st). The map will zoom to a theoretical or approximate location of that address and flash a point on the Centerline layer.

-Intersection: Enter two street names and that intersection will be zoomed to.

7). Custom Map button. Opens a form that lets the user make a simple custom map. The user can set their own title, add and position text on the map and place a number of selected symbols. The Highlight Many Option leaves selected parcels hi-lighted. Use the print button on this form to print the custom map. When the cancel button is hit the form disappears and all added text and symbols are deleted. Hold the cursor over an option or button for "bubble help" explaining the use of the tool.

8). Mailing List button. Once selected a form giving the option of "Buffer a Selected Parcel" or "Select Multiple Parcels" is displayed. Click on the preferred option.

"Buffer a Selected Parcel" brings up a dialog that asks you for a buffer distance in feet. Enter that distance and click OK. All parcels within that buffer distance are selected and displayed on the screen.



The option "Select Multiple Parcels" brings up the following form:

Click on the "Select Parcels" button and then click on the parcels on the map that you wish to generate labels for. You may click and drag a box to select large areas of parcels. A right click on the map will unselect Parcels. Once you have all the desired parcels selected click "Create Labels". Avery 5160 mailing labels are created and appear on the screen for review and can be sent to the printer. If the Print button on the main form is selected a mailing label notification map is printed to the default printer.



9). Layer Control. Turns on and off GIS layers on the map by clicking the checkbox preceding the layer name. These layers are scale dependent.

FULL COUNTY EXTENT (Only these layers are visible)

- Municipal (Municipal Boundaries and Names)
- Centerline (Street Centerline Locations)
- Sections (PLS Section Grid)

10 Mile X 10 Mile EXTENT (These layers and layers from FULL EXTENT)

- Municipal (Names are no longer visible)
- Sections (Section, Township and Range Labels appear)
- Water (Open Water outlines) - from aerial photography
- Parcels (Tax Parcel boundaries)
- Recent Sales (Parcels that have recent sales information this year and the previous 2 years become hi-lighted in magenta)
- Zoning (City and township zoning generalized into 8 categories as shown on a legend)

1 Mile Square EXTENT (All layers are visible)

- Centerlines (Street Names appear on centerlines)
- Woods (Lines representing edge of wooded areas) - from aerial photography
- Pin# (Parcel Identification Numbers)
- Railroads (Railroad centerlines)
- Structures (Fences, pools, decks and other out-buildings) - from aerial photography
- Sections (Section, Township and Range labels are no longer visible)
- Buildings (Building and Mobile Home footprints) - from aerial photography
- Roads (Edge of roads, sidewalks, driveways and parking lots) - from aerial photography
- Dimensions (Approximate Taxlot dimensions rounded to the nearest foot - NOT RECORD DIMENSIONS)
- House# (House Numbers from property address tax information if that data exists - PROPERTY ADDRESSES DO NOT EXIST FOR EVERY TAX PARCEL)

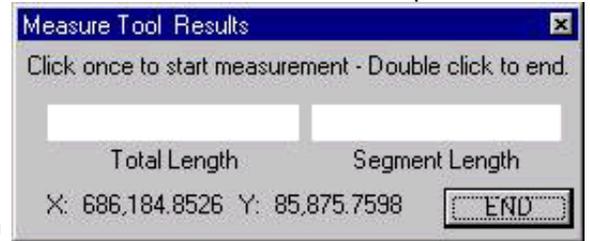
At the top of the Layer Control is a Vicinity Map showing the center of the map extent. Above that appears text telling you the date the PARCEL information was last updated.

NOTE: Additional "Special Layers" can be configured to appear on the Layer List. This option requires entries in the Parcel Query Initialization file. Contact the Office of GIS for more information.

10). OWNER / ZONING information box. Displays TAXPIN, Owners Name and Property Address (if it exists) for the selected parcel. When the Zoning Layer is turned on and the Identify tool is used zoning information for the selected Parcel is shown. Zoning Information is displayed ONLY when the Identify Tool is used and only lists the Zoning where the tool is clicked (not the entire Parcel when more than one zoning type exists on a single parcel). Using Find by Name, Business Name, House Number or Address does NOT select Zoning Information for that Parcel. NOTE : Some additional "Special Layers" may also display information in this box.

11). MEASURE TOOL button. When pressed a form giving 2 options for “Measure Length” or “Measure Area” is displayed. Select your desired option and another form is displayed at the lower left corner of the Map.

If the “Measure Length” option is selected, “Total Length” and “Segment Length” in feet are displayed. If “Measure Area” is selected, “Area Square Feet” and “Area Acreage” are displayed.



The screenshot shows a dialog box titled "Measure Tool Results" with a close button (X) in the top right corner. Below the title bar, the text reads "Click once to start measurement - Double click to end." There are two empty text input fields. The first field is labeled "Total Length" and the second is labeled "Segment Length". Below these fields, the coordinates "X: 686,184.8526 Y: 85,875.7598" are displayed. In the bottom right corner, there is a button labeled "END" with a dashed border.

To begin measuring, single click on the map at the starting point. For “Length” you can continue to single click and create a line with multiple segments. When you want to end measuring a particular line double click on the Map at the end location. When measuring “Areas”, single click to start the area. Continue to single click to create the desired area. When you are ready to end and find your area, double click and the area will close back on your starting point. When measuring is complete click the “END” button on the Measure Tool Results form and the form will close.

This application requires a software license and is available to Local Government offices in Dakota County. If you would like to have this application installed or would like additional details please use the "Contact Us" link.

Copyright 2006 Dakota County, Minnesota

Fall 2004 GIS 101 Recapping the Summer GIS User's Group Brainstorming Sessions

by Randy Knippel

The summer GIS User's Group meeting had a special format. In addition to an abbreviated version of our usual presentations and updates, one hour was reserved at the end for some facilitated brainstorming sessions. The purpose of the brainstorming was to provide users with the opportunity to help us analyze the effectiveness of the quarterly meetings and suggest improvements.

The Dakota County GIS User's Group has been conducting quarterly meetings regularly since spring of 2000. Prior to that, meetings had been held on an informal basis. The intent of these meetings is to provide an educational forum for GIS users in Dakota County departments, as well as other agencies, including GIS cost-sharing partners (cities and Dakota Electric Association) and the school districts.

The brainstorming sessions were very successful and many participants commented positively on their experience. With over 40 people in attendance, we broke into 6 small groups and discussed several questions related to the format and frequency of the meetings. The results were generally very positive and the basic message we got was "Keep doing what you're doing, just tweak it a bit."

Here are some additional observations and general characterizations of the discussions:

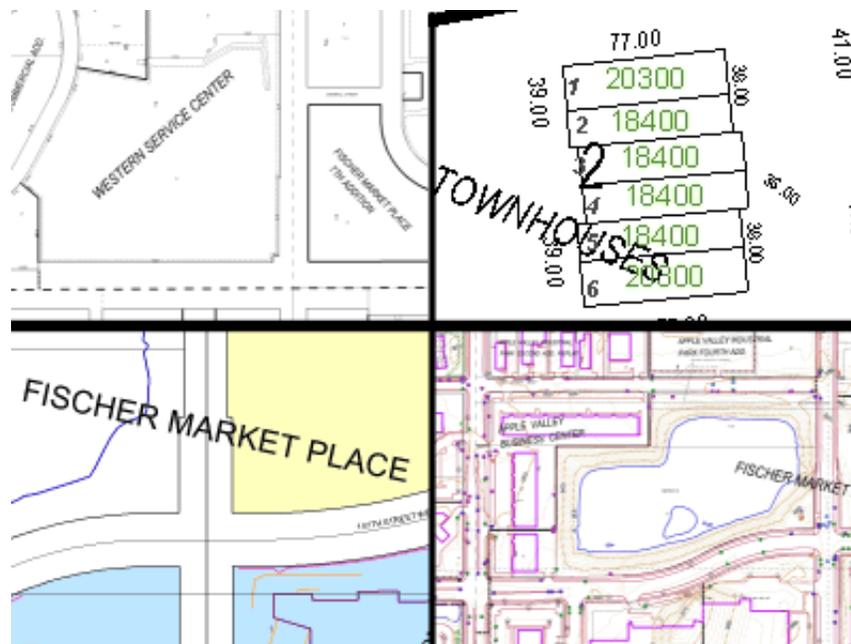
- Meeting schedule
 - Provide ample notice of meetings and frequent reminders
 - Schedule meetings well in advance (yearly, fixed day)
- Dakota County GIS should continue to host
- Topics
 - Department / user spotlight is good
 - Invite outside presenters (vendors, other counties & cities)
- Don't just repeat the information in the newsletter, expand on it
- Facilitate professional networking opportunities
 - Change from lecture seating to something less formal
 - Provide breaks
 - Help people meet others in their application area
 - Set aside time for focus / special interest groups
- Conduct annual brainstorming sessions to help set agenda for the year

Another observation we made was that people have a tendency to de-select themselves from being a part of the "GIS User's Group". This may be for a variety of reasons, but generally it is due to a feeling that it is too technical for them. Since our intent is to provide information of interest to a full spectrum of GIS users, we will make a special effort to convey this when we send out meeting announcements. Anyone who is using any GIS products and services, or anyone with an interest in learning more about GIS is encouraged to attend. Please help us by encouraging others in your organization to attend as well.

Fall 2004 Tech Talk Making Your Own Standard Maps

by Todd Lusk

When the Office of GIS talks about "standard maps", they typically are referring to a map that is 22" x 34" in size and has a fairly commonly requested set of data on it. Some examples of standard maps produced by the Office of GIS currently include property maps, property address maps and color imagery maps. But what happens if you would like a "standardized" product and the Office of GIS doesn't produce it? The standard maps extension is what you need.



Over the summer the Office of GIS completed work on a new extension for ArcGIS that allows users to create variations of maps of at a standard size. One of the coolest features of the new extension is the ability of users to create their own customized "standard maps". By simply creating ArcGIS "group layers" with the data that you want to show, users can create a standard map with just about any information on it. Once the group layer is added to the Table of Contents in ArcMap, it will automatically be displayed in the "Make Standard Maps" dialog box. This feature works because the code running the standard map maker dialog reads a list of maps that can be made right out of the Table of Contents. Therefore, if the user enters a group layer called "My Favorite Map", that layer would then be displayed in the "Select Map Type" drop-down menu in the standard maps dialog. The possibilities are basically endless.

The new version of the extension allows for full-, 1/2-, or 1/8-section maps to be created out of any of the group layers. Currently, tax parcels, planimetrics (or physical features), contours, vacant sales, improved qualified sales, and commercial/industrial use group layers are added by default when the extension is loaded.

The Office of GIS hopes you find this tool useful and looks forward to enhancing the extension even more in the near future.

