New Aerial Photography on Mountrail County GIS

What is 'GIS' ?

A quick definition of GIS (Geographic Information System) is "A framework to organize, communicate, and understand the science of our world" – this is from a company - esri (yes, lowercase) whom is a pioneer and leader of GIS software and tools.

An expanded definition of GIS that is more 'technical' – "a framework for gathering, managing, and analyzing data. Rooted in the science of geography, GIS integrates many types of data. It analyzes spatial location and organizes layers of information into visualizations using maps and 3D scenes. With this unique capability, GIS reveals deeper insights into data, such as patterns, relationships, and situations."

Mountrail County is on the path of embracing GIS technologies in an expanded way. Since 2014, the Mountrail County Tax Equalization Department has built and used the GIS system in house and it is available to the public for use. This system is known as "Portico" through the Sidwell Company, our parcel maintenance vendor.

Currently GIS technologies are used in the Tax Equalization office for tracking parcel information, parcel owner information and Ag Land actual land use; in the Road and Bridge department for weight limit information, and in the Sheriff's department for dispatch and emergency calls.

In the future additional uses of GIS will be implemented and embraced within the county, along with certain parts of these tools being available to the public providing great value for all users.

Aerial Photography on GIS

Currently, the online GIS system known as "Portico" provides all users with parcel information, agriculture actual land use information, owner information, legal description information, acreage, and other data. In addition, several different years of aerial photography from NAIP (National Agriculture Imagery Program) are available. NAIP photography is gathered by satellite annually, generally in the fall timeframe.

Whereas this aerial photography is certainly adequate for most uses, it is lacking in quality when 'zooming in'. The NAIP aerial photography resolution is at 1-meter ground sample distance (GSD) meaning the photo accuracy becomes compromised (pixelated or 'fuzzy') when zooming in close.

Mountrail County was approached by a leading vendor (Pictometry) this past spring to gather another type of photo imagery. Compared to NAIP at one meter, Pictometry utilizes airplanes with very specialized equipment to gather high resolution photography. These are at 3 inch GSD. This gives approximately 16 times higher resolution than NAIP satellite photography.

An example of the NAIP and high resolution photography is shown below.

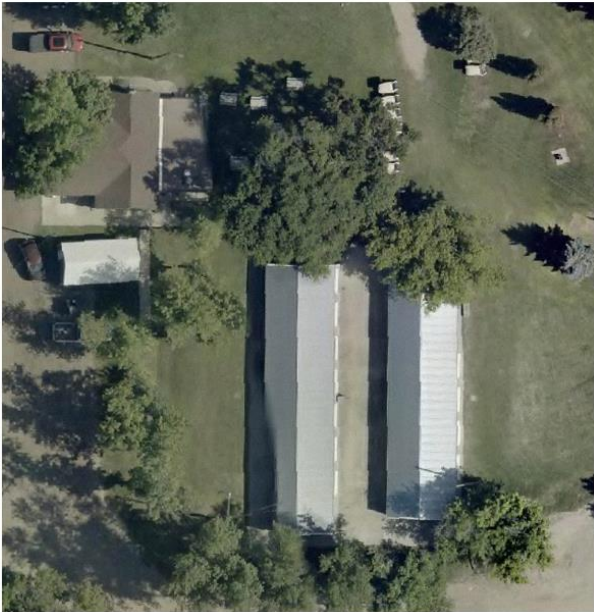# Bridge in Knife River Township

NAIP

Hi Res

The clarity in the new aerial photography is quite evident. The NAIP photography on the left shows a bridge in Knife River Township and the pixilation or "fuzziness" is very apparent. The photography on the right shows the same bridge, yet is much clearer. The posts are clearly visible and can even be counted.

Another comparative example of the photography is a portion of Prairie Rose Golf course showing the clubhouse and golf cart barns. On the left it appears to be some of the course golf carts at the ready, yet on the right the golf carts are readily visible.

This aerial photography will enhance services provided by Mountrail County from various offices. Businesses and the public can utilize the GIS website for their own uses as well.

To find and access the GIS simply use your web browser and go to the Mountrail County homepage found at: http://www.co.mountrail.nd.us/. There is a link at the main page for the GIS system, and the link can also be found on various other pages within the Mountrail County website including the GIS page, Road and Bridge, and the Tax Equalization page.

This new photography is being used within Mountrail County offices and is also available to other city, county or state entities, businesses, and the general public via the Portico site. GIS tools can be utilized for better understanding our "place in space". Mountrail County is embracing and utilizing GIS technologies for providing better enhanced services to the citizens of the county. We look forward to the many new things coming.