

CITY OF FERGUS FALLS, MN: STORMWATER INSPECTIONS MOBILE GIS APPLICATION



Required by the Minnesota Pollution Control Agency (MPCA) to inspect 20% of outfall locations annually, the City of Fergus Falls sought support from GIS technology to successfully meet this quota.

The City needed help to define and implement the most efficient tools and process for accomplishing the inspection process, consisting of completing the inspection itself, storing collected inspection data, gaining easy access to this data, and provide reports of this information to the MPCA.

THE CHALLENGE

Fergus Falls maintained an outfall point feature class within its enterprise geodatabase, allowing it to quantify the number of inspections it to be performed in a given year.

However, the GIS department, which was responsible for the annual stormwater inspections, did not have any field collection software. Instead, a paper form listing all information required by the MPCA was printed for each inspection and used to record information in the field, before being manually filed back at the office.

THE SOLUTION

As the City's GIS partner of over 15 years, Pro-West helped Fergus Falls devise a plan that would leverage the City's current investment in Esri technology licensing to establish an efficient, user-friendly stormwater inspection process. Key additions included ArcGIS Online and the Collector app, in addition to the purchase of an iPad for field collection.

A relationship class was created between the current storm outfall feature class and a new inspection table, and the list of MPCA-required information was taken from the existing paper inspection form and used to create a standalone table within the City's workgroup geodatabase. The majority of the inspection input items were associated with a domain to allow for easy field collection of required inputs.

A relationship class was built to link the storm outfall feature class and the inspection table. A feature service was created with the storm outfalls to be consumed by ArcGIS Online, and a webmap developed with the storm outfall feature service to be used within the Collector app.

The City can now use its iPad and the Collector App to navigate to a storm outfall location, inspect the outfall, take photos of the outfall, and submit all information related to the inspection back to the work-

To fulfil the reporting component of the inspections process, SSRS was used to build a reporting function. This allows the user to query the inspected outfalls and create a multi-page report of the inspection information to be submitted to the State in order for the City to meet its inspection requirement.

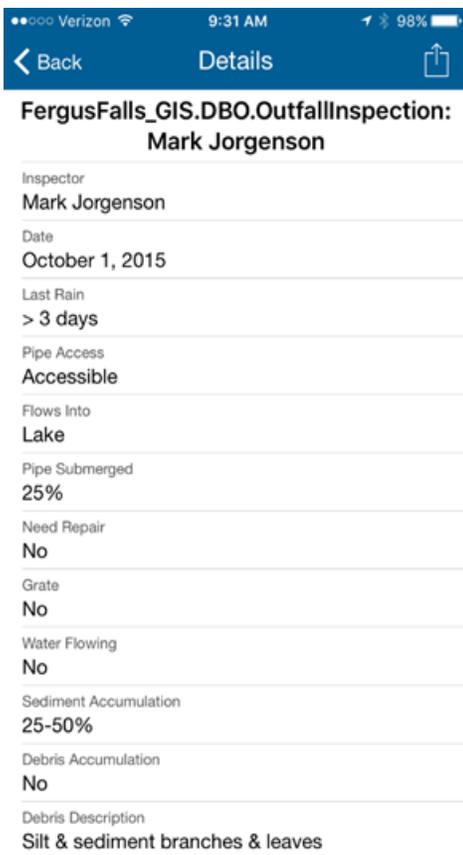
KEY BENEFITS

The new GIS-based inspections process has brought value in a number of areas:

- Paper has been completely eliminated, improving efficiency, accuracy, and security
- Field capabilities – once submitted from the field, inspection data is in the geodatabase and backed up

- Rapid reporting – the City can generate inspection reports on the fly, with the ability to select by spatial location or collected information
- Automatic tracking – with no additional work, a clear history is recorded of the outfalls that have been inspected and are scheduled for inspection in upcoming years

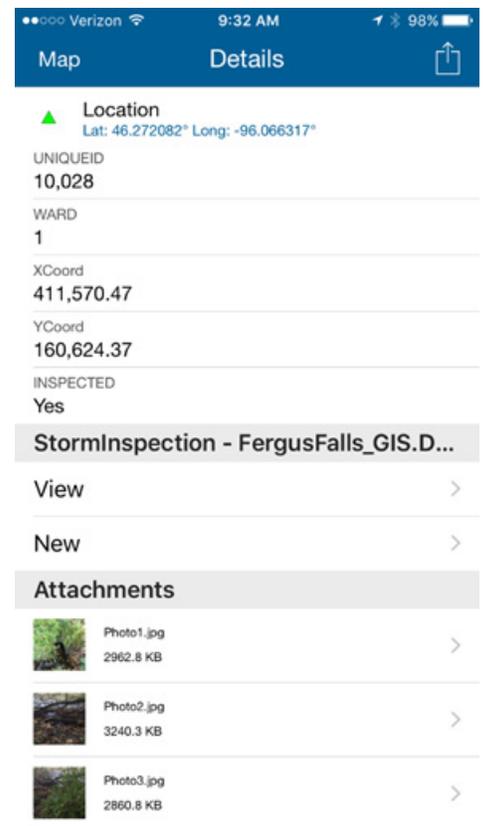
With collaboration and the right support, the City of Fergus Falls has been able to gain greater value from its investment in GIS technology and create an easy and process to meet its obligations to the State.



Collector app, displaying City-purchased aerial imagery and selected storm outfall location.



Outfall attributes, inspections and attachments



Outfall inspection form