

City of Detroit Lakes, MN GIS Master Plan

From nothing to get out of the way

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Where do you begin

- Ask around
- When you find someone, meet with them, pick their brain
- Form a Committee involving every Department
- Search for GIS Programs online
- Finalize your GIS Master Plan, get approval from your City Council and Utility Commission, then make sure you budget for your plan.



Off and running

- We had the plan, we had the approval, now what?
- RFQ's were sent to a number of firms who had interest in providing us their GIS services.
- The contract was to GPS every sanitary manhole, water gate valve, fire hydrant and every primary power pole and set up our GIS System.



and running

- They started with the sanitary sewer manholes.
- Then it was off to the Water System.
- Midland GIS did not locate any of our Storm Water System.



Still running

- Once the water and sanitary sewer systems were located, Midland GIS moved to the electric side of locating.
- As the field crew was spotting electric items, Midland GIS was busy documenting the Sewer and Water information.
- Midland set up a website for us to venture into and after a few minor tweaks, our system was up and running.



Now what?

- Everything is now on the website, we can see what was there and life was good.
- Then came the GIS stuff, as our crews began to see what they could get out of it, they bought into the system and started to create ideas and wondered if we could do this or that.



Where do we go from here? . . .

- Changes to the map were made to the different utilities as the GPS locations changed where we thought the mains and lines were.
- Slowly things are being added to the map all the time. New ideas prompt different ways to look at things and what we want out of our GIS system.



Our Master Plan

Completed in July 2014 it consists of the following objectives and dates.

1. Form a GIS Steering Committee (July 2014)

- Objective: The Steering Committee was formed with personnel from each major department within the City of Detroit Lakes. This ensures each department will be represented and their needs will be met. A Master Plan was devised and a time table laid out, we were now ready for approval to move ahead and begin implementation.

2. Hire GIS Consultant (March 2015)

- Objective: Once we had approval from the Public Utility Commission and the City Council, and funds allocated through the budget process, a consultant was hired to help us through the procedure of converting our CAD maps into a GIS system.



Our Master Plan

3. Development of Data Maintenance Transition Plan (September 2015)

- Objective: Once Midland GIS had been hired; our CAD drawings were converted into a GIS System which will incorporate the data provided by each department.

4. Training GIS Software and GPS (March 2016)

- Objective: When our GIS System is up and running we will begin training our personnel on how to use the software. Once our employees saw what the software was capable of doing; we felt it encouraged them to come up with new ideas and ways to utilize GIS. Flexibility is the key to GIS and the input you can instill in it.



Our Master Plan

5. Development and Implementation of an Enterprise GIS (Sept. 2016)

- Objective: As the new data and information comes in on innovative ways to use GIS and more data becomes available to us to put into the system, we should have a fully functioning Enterprise GIS Program. An Enterprise System ties all the Departments together so data can be interchanged back and forth.

6. Development and Implementation of Data Maintenance Plan for Enterprise GIS (Sept. 2016)

- Objective: We are now able to link any data to any point on our map, that data will only be as good as we keep the files up to date. Each Department is able to touch any feature on our map and get the data associated to that item.



Our Master Plan

7. Implementation of Office GIS Mapping Software (June 2017)

- Objective: The main objective of this entire project at the beginning was to be able to bring accurate, reliable information to the fingertips of our staff when needed. Our goal is to get all the office personal up and running on the Enterprise GIS at this time.

8. Implementation of Mobile GIS Mapping Devices (September 2017)

- Objective: We are utilizing several different types of mobile units which our field personnel are able to use with ease. Our employees in the field have total access to our Enterprise GIS.



Our Master Plan

9. Development and Implementation of Geometric Network (outside integrator to complete for utilities (September 2018)

- Objective: In order to fully utilize the power of GIS, a Geometric Network will be developed. This network incorporates the features on our maps and their direction of flows to create a network infrastructure of our utility system.

10. Implementation of Computerized Maintenance Management System (CMMS) (March 2019)

- Objective: Now that each item has been GPS and it's data loaded in the GIS System, a CMMS can be implemented. This will allow scheduled maintenance and repairs to become easier and more efficient.



Our Master Plan

11. Engineering Modeling Integration (March 2020)

- Objective: Currently, the City of Detroit Lakes has both an Electric and Water Engineering Model which helps the utility plan expansions throughout the City and service territory. As our City and territories expand, we will be able to incorporate different modeling systems to better plan our utility growth.

12. Implementation of Distribution Management System (DMS) for Electric and Water for Automated Meter Infrastructure (AMI) (March 2020)

- Objective: Once we have the capabilities to collect all the information on our utility systems, the next step would be to coordinate our desires to and from the electric and water meters. Customers would have access to their own accounts to check their usages.



Our Master Plan

13. Implementation of Outage Management System (OMS) for Electric Department (March 2020)

- Objective: Once we can communicate with our electric meters, we can easily find out who is having an outage and trace that back through the power grid to see what our line crew needs to do to restore power to those customers before they even leave the shop. Once the water meter data is available we will be able to provide real time data to customers on water leaks within their home or businesses.

If you were paying attention to the Master Plan dates, were are about 2 years ahead of our schedule. I'm not sure if this is always the case, but once this was implemented and our personal saw the implications of GIS and how much power it had and how it would provide the field crews a more efficient way to do their jobs, they accepted it and wanted more.



Where from here

We are two years into an eight year plan and we envision a bright future ahead.

We will be working with Pro-West and the County

Pictometry will be flying next spring

Any questions?