North East Water

Customer Success Story
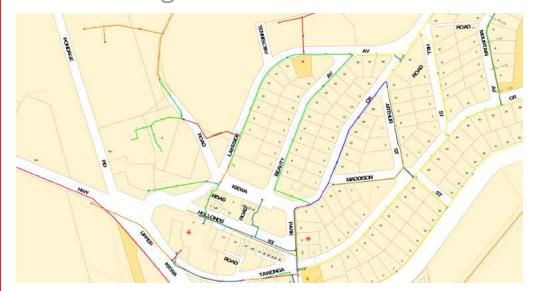
AutoCAD® Map 3D
Autodesk® Infrastructure Map Server

Prior to developing our current Map 3D-based workflow, the process for capturing as-built data for a new subdivision took about a day and a half. Now, it takes about 10 minutes. The data is also more consistent, complete, and accurate.

—Michael Hardman
   Geospatial and Business Data
   Manager
   North East Water

Delivering water with more accurate maps.

North East Water uses AutoCAD Map 3D software and online maps to drive enhanced productivity and asset management.

Project Summary

North East Water is a regional water corporation that delivers water and wastewater service to 38 communities in North East Victoria, Australia, one of the fastest growing rural regions in Victoria. Serving an estimated 113,000 people in an area of over 21,000 square kilometers, North East Water operates an extensive network of water and waste-water infrastructure assets. With a goal of keeping service levels high and charges affordable, the company must operate, maintain, and repair its assets efficiently. It relies on more accurate and accessible network maps to help its staff manage and maintain its assets proactively and cost-effectively. North East Water utilizes AutoCAD® Map 3D software to help create, edit, and manage mapped infrastructure information, and Autodesk® Infrastructure Map Server software running enlighten, Open Spatial Australia's web-mapping interface, to deliver asset maps to its personnel. AutoCAD Map 3D and Autodesk Infrastructure Map Server are helping North East Water to:

- Drive better asset management decisions
- Reduce the time required to prepare as-built data for the GIS from a day and a half to 10 minutes
- Deliver more accurate, timesaving maps and asset data to staff in the office and field
- Find and train new employees more easily

The Challenge

Keeping ahead of asset management issues requires a constant effort on the part of North East Water. The company has found that three factors help its employees use asset data to the best advantage. First, the data needs to be accurate. It also must be timely. Just as important, its people—even those without geospatial expertise—should be able to access it readily. By bringing these factors together, the company can use its asset data to constantly improve how it delivers its service.

"AutoCAD Map 3D software helps provide a foundation for keeping our asset information up to date, and we've relied on it for many years," says Michael Hardman, geospatial and business data manager for North East Water. "It's helped us face and overcome a variety of challenges. When we've wanted to efficiently account for growth, enhance customer service, and train new people, AutoCAD Map 3D has supported our efforts."

The Solution

With such a large service area, North East Water has a vast network of assets mapped in its geospatial database. AutoCAD Map 3D software serves as the company's primary geospatial data administration tool. Based on the AutoCAD® platform, AutoCAD Map 3D gives the company the ability to manage spatial data and underlying asset information using a familiar interface.

Autodesk®

More accurate, available maps help drive efficient service.

Hardman notes that the AutoCAD-based environment has helped the company train and recruit new people. "Some GIS technology requires highly specialized skills, and it can be virtually impossible to find people with those skills locally," he says. "But many people are familiar with AutoCAD. AutoCAD Map 3D allows us to hire people with AutoCAD experience, and then provide the necessary geospatial training to proficiently use AutoCAD Map 3D."

New Asset Workflow

As new customers and subdivisions join North East Water's service network, the company adds the relevant asset data to its GIS. At some utilities, this can be a time-consuming and error-prone process, but not at North East Water. Working with Open Spatial Australia, a spatial data management company and Autodesk partner, the company has configured an AutoCAD Map 3D-based workflow called As Constructed Design Certification (ACDC). ACDC automates and enhances the inclusion of new infrastructure into the GIS.

The process for adding a new subdivision to the network highlights the ACDC workflow. North East Water delivers the subdivision's developer a basic water, wastewater, and parcel dataset of the area within an AutoCAD template drawing. The subdivision designers create designs for the proposed development using data standards provided by North East Water. During construction, the company inspects the work to ensure that it complies with the utility's quality requirements and that any changes are reflected in as-built drawings. After construction, the developer submits the as-built drawing. This drawing is then opened in AutoCAD Map 3D and tested with the ACDC Validator against North East Water's standards. The ACDC configuration within AutoCAD Map 3D evaluates the content using pre-defined business rules for data capture. These rules compare

attribute data against lookup values and help associate the correct object and attribute blocks to the required spatial dataset. Once the drawing has passed validation, it can be loaded—without double handling—directly into North East Water's GIS and asset management systems and made available to all users.

"Prior to developing our current Map 3D-based workflow, the process for capturing as-built data for a new subdivision took about a day and a half," says Hardman. "Now, it takes about 10 minutes. The data is also more consistent, complete, and accurate. When field crews visit the site, they have a better understanding of the location and attributes of all infrastructure, which helps them complete their work more quickly and with confidence."

Maps Everywhere

North East Water has found that simply having more accurate asset information and maps is not enough. The employees must have ready access to the information, whether they have GIS experience or not. The company delivers the location-based information it manages using the Autodesk Infrastructure Map Server and Open Spatial's enlighten web mapping system. Any worker—in the office or in the field—with an Internet connection can query the GIS through enlighten. In return, the employee (according to their access rights) sees a map showing the CAD, GIS, and any corporate database information relevant to the query.

Hardman gives an example of how this helps the company serve customers better: "North East Water's core function revolves around the continuous operation of our below-ground infrastructure and the need to minimize disruption to service. Our system provides our field crews the ability to understand the impact of a pipe burst or a sewer choke. Using the network trace functionality within enlighten, field crews know
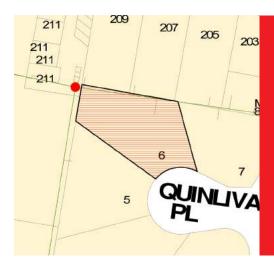
in advance what valves or other infrastructure are involved in the outage and the number of customers affected. They can address the issue more quickly. In addition, address and map-building features make it easy to produce outage letters that can be hand-delivered or posted to customers. That enables a very professional approach to keeping customers informed."

The Result

While the timesaving supported by AutoCAD Map 3D and Autodesk Infrastructure Map Server software are significant, Hardman believes the core benefit of North East Water's system lies in the accuracy of its data. "Anytime you have accuracy issues, you have increased risks to costs and service levels," says Hardman. "Being able to manage our geospatial and attribute data proactively in AutoCAD Map 3D helps increase the quality of the data we use to make maintenance decisions and serve customers. It helps us to quite literally see where we need to target our efforts to provide the highest level of service we possibly can."

Learn More

Manage your infrastructure assets more proactively. Visit **www.autodesk.com/map3d** to learn more.

> Being able to manage our geospatial and attribute data proactively in AutoCAD Map 3D helps increase the quality of the data we use to make maintenance decisions and serve customers. It helps us to quite literally see where we need to target our efforts to provide the highest level of service we possibly can.
>
> —Michael Hardman
>   Geospatial and Business Data Manager
>   North East Water

Images courtesy of North East Water

Autodesk®