

# Esri News

## for Health & Human Services

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### Using Esri ArcGIS to Maintain Water Well and Septic System Permits in Kendall County, Illinois

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*Kendall County Health Department Environmental Health Services in Yorkville, Illinois, currently uses ArcGIS 10 for Desktop to manage—and ArcGIS 10 for Server to store—all county well and septic-related records dating back to 1972.*

Prior to 2001, the Kendall County Health Department (KCHD) stored all well and septic permit data in large binders. In those days, it would take hours to locate a record as staff manually flipped pages searching for a matching address or the original homeowner name.

Over the next five years, the technology continued to improve as the Environmental Health Services (EHS) unit grew along with residential development. A spreadsheet on a single PC to log in 10,000 permit records eventually gave way to scanning records into an electronic format, then using a handheld GPS to collect the locations of private water wells—the department's first use of GIS-based handheld technology. By 2007 and 2008, the unit added another component—compiling fact sheets on groundwater and private water wells, placing them in packets for residents, delivered during door-to-door site visits.

Today, Kendall County's EHS unit employs state-of-the-art Esri ArcGIS to maintain its water well and septic system permits.

The county EHS began working with ArcGIS Desktop in 2008 as part of the new Private Well Education and Mapping Project. One ArcGIS Desktop license was provided for the EHS unit (all staff now have a PC at their workstations). Initially, staff used the program to add/move well points. This basic use of ArcGIS Desktop opened EHS staff's eyes to the power of the program. The Private Well Education and Mapping Project continues to take place as time permits during summer and fall.



↑ The round points visible in this image are private water well locations. The darker points are private water wells located within a 250' buffer of the Fox River. KCHD worked closely with the county GIS coordinator after a recent flood event to develop ways to identify wells that are at or near the known flood elevation. Inset Right: Example of an old Permit Record Book. These were in use until 2001.

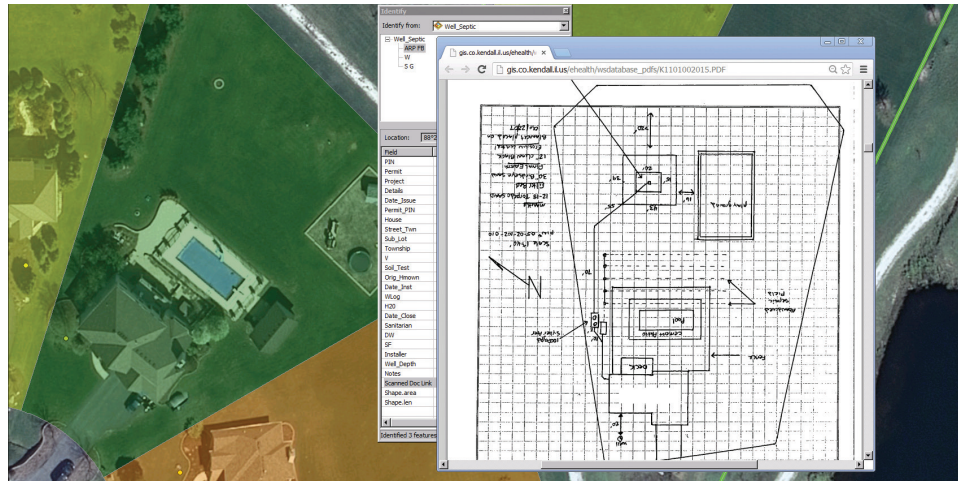
Within a few months of obtaining the ArcMap license, EHS was asking for different layers for the table of contents. The department began thinking of other data that could be incorporated into GIS. After some discussion, managers set their sights on a huge target—incorporating all the scanned well and septic permit records into ArcGIS Desktop. Their goal was to click on a parcel and bring up any permit records associated with that parcel.

Over the next three years, EHS worked with the county GIS coordinator to develop the system and add data. EHS secured an additional software license for ArcGIS Desktop and began working more with the program. In 2011, EHS set a goal to incorporate all well and septic system permit records before the end of 2012. The agency reached that goal six months early. In 2012, the department set another goal to enter and maintain all well and septic permit records in ArcGIS before the start of 2013. In early 2013, it left the old spreadsheet system behind and started entering all new well and septic permit data into the newly released ArcGIS for Desktop.

### Fully Integrated GIS at Little Cost

Currently, EHS is managing all new permit-related data in ArcGIS for Desktop. Staff is also scanning permits into the system on its own, once the permits have been closed. This GIS integration process involved a lot of training and the development of several how-to documents for the EHS unit. The training has been conducted in-house by the GIS coordinator and EHS staff to limit costs.

The data has always been the backbone of Kendall County's environmental health programs, and now EHS can access this data quickly and efficiently. At the present time,



↑ The round points visible in this aerial image are private water well locations. The drawing is the as-built, which is completed by EHS sanitarians after the well and septic installation inspection. All permit attributes previously stored in Excel have been pulled over as attributes for use in ArcGIS.

the department is able to click on a parcel/lot and pull up all well and septic permit information and share the permit record via e-mail in a matter of seconds. Staff no longer needs to open large binders, multiple databases, or programs to view, edit, and manage the data. It has reached its goals for viewing and managing the data. Now, the department is setting new goals for the future.

It has taken some time from concept to inception, but the slow progress worked well for the Kendall County Health Department

Environmental Health Services unit. The well and septic records are the largest and most complicated dataset the unit maintains. The group is confident that it can incorporate other programs into ArcGIS for Desktop if/when it chooses to do so. Its advice to other local government agencies: it is possible to fully integrate into GIS for a very small monetary investment if you're willing to invest some time and you have the support from your departmental administration, county mapping, and GIS and/or IT departments.

For further information on Kendall County's use of ArcGIS 10 for Desktop, contact GIS coordinator Don Clayton at [dclayton@co.kendall.il.us](mailto:dclayton@co.kendall.il.us) or Todd Drefcinski, assistant director, Environmental Health Services, at [tdrefcinski@co.kendall.il.us](mailto:tdrefcinski@co.kendall.il.us).

Visit Kendall County Health Department's Environmental Health Programs at <http://health.co.kendall.il.us/Environmental/index.html#>.



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