

# Using GIS to Locate Historic Sites and Potential Privies

By Jeff Mihalik

OK, it is winter here in eastern Pennsylvania and there are several inches of frozen snow covering the ground, so what's a privy digger supposed to do? For one thing, I'd like to go back to Texas where I lived for 18 years and dig up some southern glass, but I can't seem to get away from work right now. I'm the GIS (Geographic Information Systems) manager for a mid-sized consulting company located about 20 minutes south of Pittsburgh.

If you have watched CSI, then you have seen GIS at work. Also, all of you that use Google Maps or other search engines or navigation devices to find your way around, then you, too, are GIS users. Basically, GIS allows for layering of information to allow detailed query of information and analysis.

I'm often using aerial imagery as a base map, then overlay digital layers of data such as streams, wetlands, roadways, natural areas and engineering data, whatever the current project requires. I can then do my analysis work and ask questions like how many wetlands and or streams are in a given area and how may this impact/alter a design of a new construction project (since most of the time it is more economical to avoid impacting these resources than to procure permits for mitigation to compensate for impacts). OK, enough of the tech talk. So how does this relate to privy digging, since this is what a lot of us have on our minds, whether at work, at home, or hanging out with friends? I guess I have privies on the brain.

Well, as I conduct my daily work activities, one thing I normally do is search for aerial imagery of certain areas of interest. In addition, I often have to use historic imagery to show what areas looked like before

something was built. This has led me to spend a lot of time searching imagery archives and just doing searches for imagery in general. As many of you know, a lot of the local county atlases (those first published in the 1860-70s time period) have been made available digitally. I use these all the time when hunting for historic home sites where there may be privies. In Ohio, the Sanborn maps have also been made available through digital libraries. Again, these are much needed resources for any serious privy enthusiast. However, some issues I often encounter include how hard it can be to determine exactly how many lots there were on a given block then (1860s), as compared to now. Street names often changed over time, and or an old road no longer exists.

OK, now back to the GIS. One technique I utilize in my work is called Spatial Analysis. A tool called Geo Referencing allows for the overlaying of data that may be in different projections (coordinate systems) or of data sets that may have no coordinates tied to the data at all. Remember when I was talking about Google Maps and navigational devices, this is a key concept to GIS that everything is spatial and has a spatial location in the real world (coordinates). Once you have that, then you can overlay various data sets that are often disparate. Many of the digital atlases and Sanborn maps do not have coordinates attached to the file. Therefore, the use of GIS and spatial tools allow for the merging of these data sets.

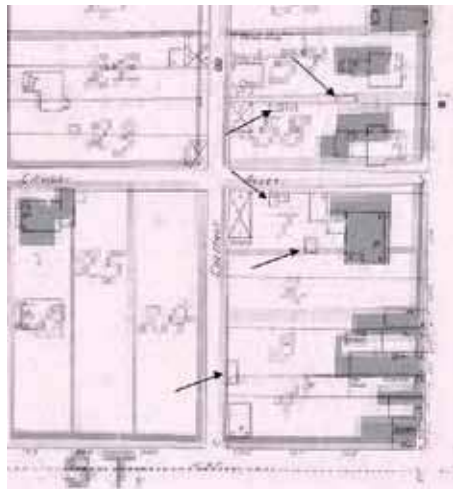
Once you have your data sets in the GIS (as image files such as jpeg, bitmap, pdf, etc.), you can start the geo-referencing process. To get the best results, you have to be able to determine at least 5 to 10 common locations on each map. Major intersections are usually the best as

these generally do not change much over time. As you pick a location on your base map and then choose the same location on your overlay map, the geo-referencing tool starts to align the two maps together. To better see your base map, you can set a transparency on the overlay map so you can then see underneath and better choose your starting and ending points.

Notice the red/green tick marks. These are the control points I used to establish the common areas. You cannot expect everything to line up perfectly. Not only were these maps produced at different scales, but they are based on the best available data that the map makers could get at the time.



So now I can see where potential 1860s buildings exist and also where potential privies may be located. Although Sanborn maps do not have a unique symbol for privies, you can tell what "may" be a privy by the



construction material (the Sanborn does provide) and location/size in relationship to the building on the lot. After digging many privies and then looking back on Sanborn maps, I now can pick out the privies with a higher than 70% success rate (well, most of the time, at least). I'll now pick out some potential privy sites that are of interest. I like downtown privies as these generally were abandoned earlier than other privies in the surrounding town areas and are often loaded with "material."

The arrows above are pointing to structures on the Sanborn maps that have a high degree of potential to be privy locations. The Sanborn maps have a scale to them, so you can get a fairly good idea of the exact location of any of these structures.

OK, so now I have some sites in mind. At this point I could hit the road and do some "ground truthing" (this is a techno term for verifying in real life what you see on your computer screen). However, doing this is can be costly now. Not only do you have to take into account your time, but costs associated with gas and vehicle wear and tear also need to be considered.

Going to one location may not break the bank, but looking at multiple locations in several towns can put a pinch in your wallet (that said, some of my best enjoyment comes from just driving around and seeing history everywhere I go). But this is about the GIS and how it can aid in your search. So, as the final step in the GIS process, I bring in an aerial map that I copied from Google Maps or one of the various search and mapping sites that are readily available. Once in the GIS, I start geo-referencing the aerial to the Sanborn base map. I can then make the Sanborn transparent and determine which of the potential privy locations I have just located, are on lots where there is still open areas (grassy yards or maybe gravel driveways/parking lots).

I've circled in red, privies that appear to be in areas that may be accessible. The red circle to the top right is really of interest to me. Although this privy may be in a parking lot, there is a chance it could extend into the adjoining yard. Remember how I mentioned previously (a couple times) that the mapping most likely will not line up perfectly so it is important to

check all the sites that you believe have a high potential for producing artifacts.

My partner and I are usually very good at getting permissions, especially when landowners see how much effort we have put into the search. For the above site, I'll start checking the county atlas maps to see if I can determine who may have lived at this location back in the 1800s and do an internet review to find any data that is available. There is a wealth of information out there at our fingertips, just waiting for a hungry history buff to come look, read, learn, and share what you have found. The more time I spend searching for history, the more I feel connected with the past. As most of you long time diggers and collectors know, it's the people we meet and the time we share that makes our lives rich...and not the bottles we collect. Don't get me wrong: I do love my collection, but it is mainly because each piece of glass has a story to tell (memories of past use and memories of the present dig). When did I find it, where was it dug, who possibly lived at this location and used this item?

I'm now using GIS for preliminary analysis of sites in most all my digs. Recently, I was able to find an entire block of 1860s era homes that no longer exist, but are buried under vacant and grassy lots. I'm also focusing in on hotel lots. Even in urban areas, you may find depressions in paved parking areas that could indicate a potential privy site and if you can back that up with a "hit" on the Sanborn map, then you have a high confidence that a privy is there. Also, finding the privies on an 1880s era Sanborn map can also lead to older adjacent privies.



Have something to share, tell us about it? Have you been out finding some treasures?

Keep us informed, write to:

[mdvanzant@yahoo.com](mailto:mdvanzant@yahoo.com)

Martin Van Zant, 208 Urban St.

Danville IN 46122

