

Introduction to PAgis Map Services for Smart Phones, Mobile and Tablet Devices

ESRI provides a FREE, “out-of-the-box”, ArcGIS application that can be used on smart phones, hand-held and tablet devices. The application runs on Apple’s iOS, Google’s Android or Windows Mobile Phone 7 operating systems. For more information on downloading and using these applications, please visit the ESRI help/documentation page:

<http://www.esri.com/software/arcgis/smartphones/index.html>



The three different versions of the mobile ESRI ArcGIS application allow one to use PAgis mobile map services, however each application has varying degrees of functionality depending on your device’s operating system. As this document was being written (January 19, 2012) the Apple (iOS) app contains the most functionality, but it is expected that development by ESRI on Android and Windows Mobile applications will catch up all will have the same look and feel sometime in the next year.

For now, PAgis will document how our map services function on an iPad 2.0. Most Android and Windows users should be able to follow this document to get a sense of how the app works or will work on their device.

Using PAgis Mobile Web Services On iPad 2.0

(The process and functionality is almost identical for iPhone and iPod Touch)

1. Open App Store application:



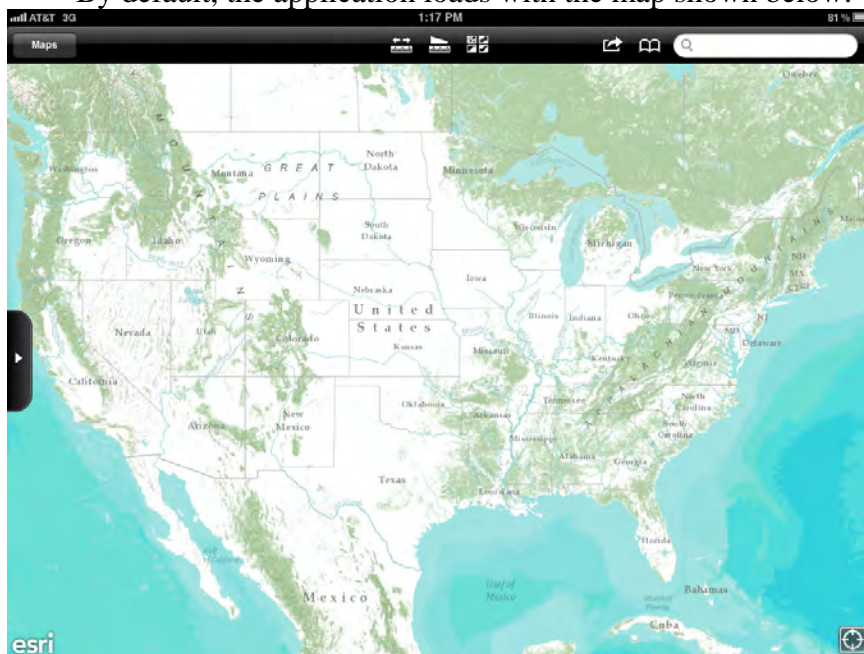
2. Search for ArcGIS and choose to install the free ArcGIS application:



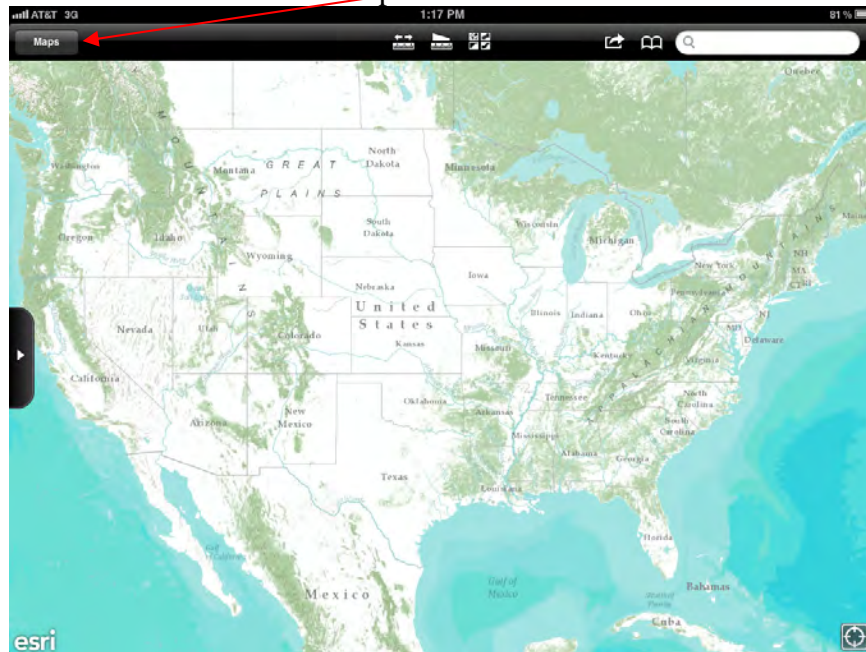
3. Open the ArcGIS application:



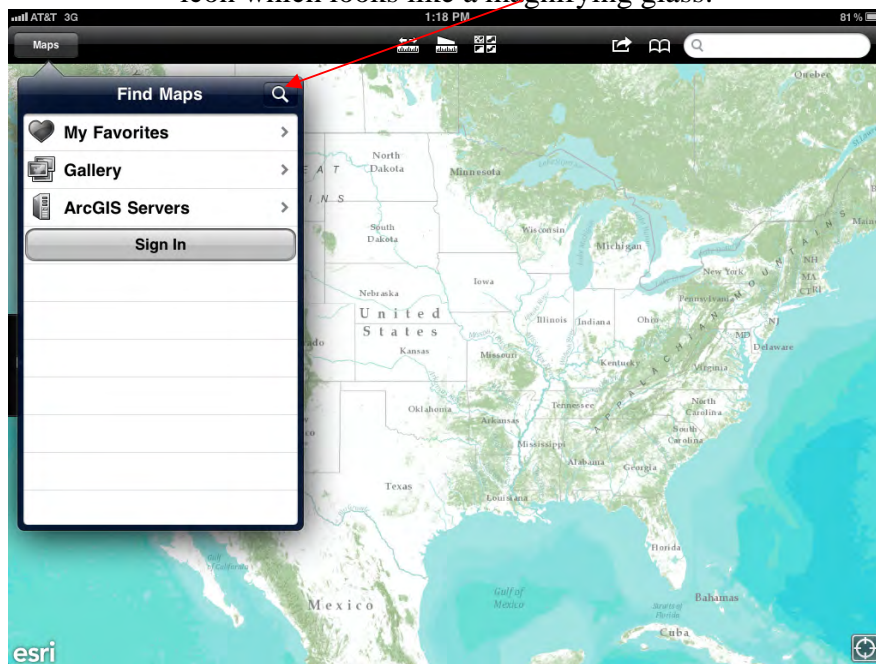
By default, the application loads with the map shown below.



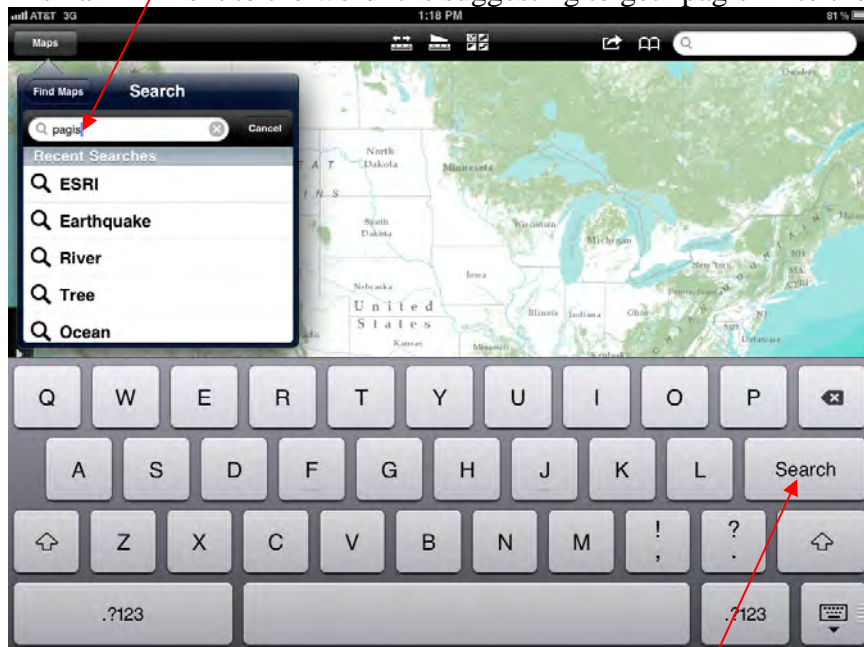
4. Search for the PAGis map by tapping on the “Maps” button at the upper left portion of the screen:



The search box will open and look like the screen below, then click the search icon which looks like a magnifying glass:

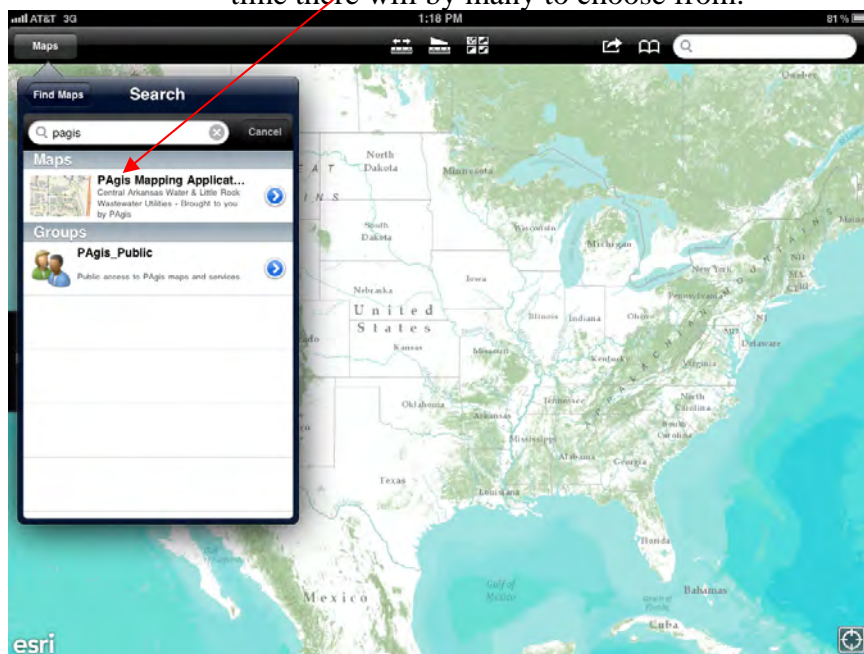


5. Enter “pagis” into the search box (Hint: make sure that the auto-correct feature does not change what you are typing. You may need to click the small “x” next to the word it is suggesting to get “pagis” into the box)

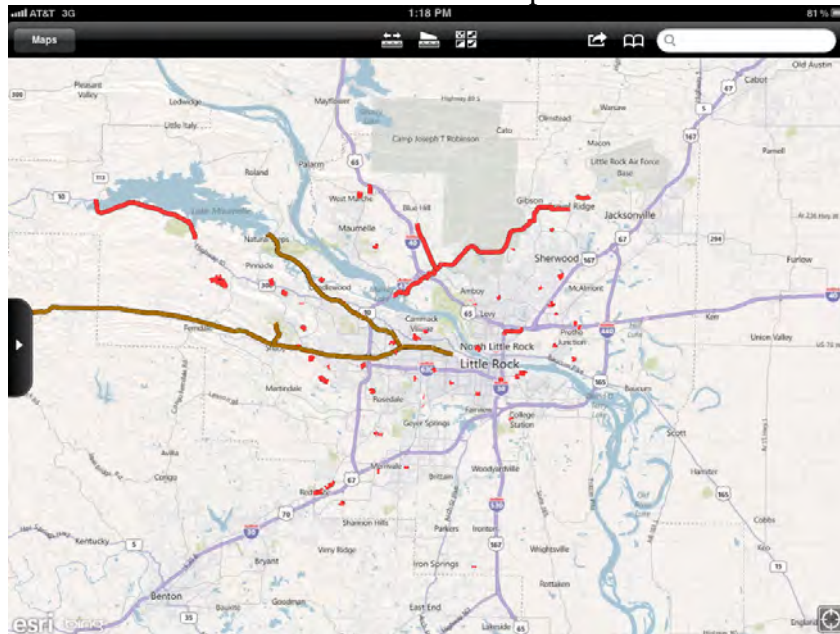


In order to make the search execute, you must click the “Search” button on the iPad keyboard.

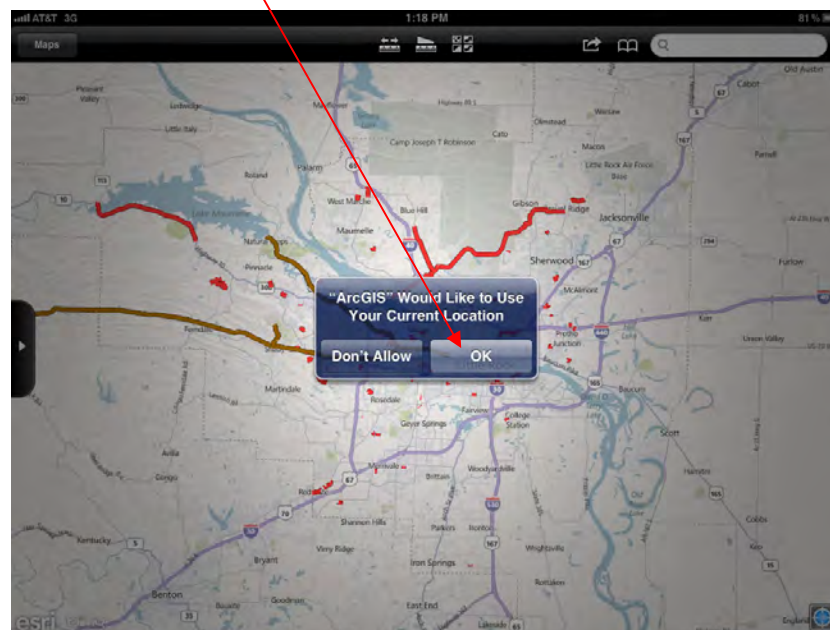
6. When presented with the search results, click on the map you would like to view under the “Maps” heading (as opposed to the “Groups” heading).
At this time there is only one mobile map published by PAGis but over time there will be many to choose from:



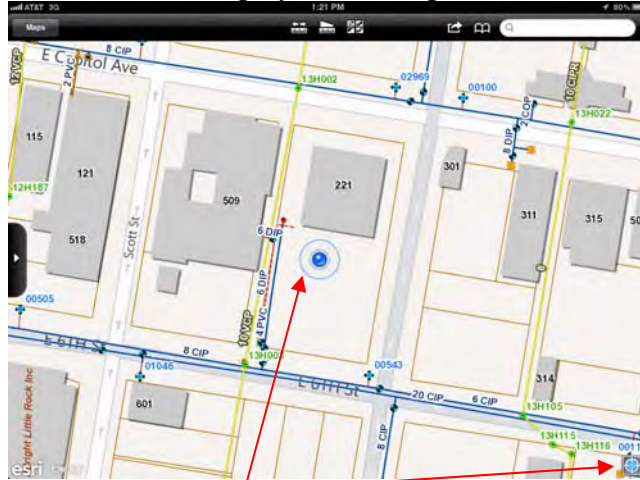
7. This will open the PAgis map for Central Arkansas Water and Little Rock Wastewater utilities. The map has much more information than just utilities, such as land ownership and subdivision information, aerial photos, addresses, measurements, and other features found in the full blown web-browser based PAgis applications. The map should look similar to the map below:



When prompted with the message “ArcGIS” Would Like to Use Your Current Location, you tap OK to enable location services for this app. Tapping Don’t Allow will disable the GPS “find my current location” feature which is very useful when you are “out in the field.”



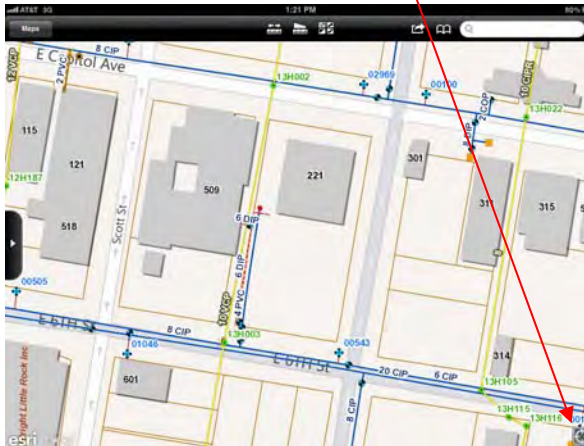
8. To zoom and pan on the map you can use your fingers to pinch (zoom) and swipe (pan) the map just as you would any other web page. Notice that depending on how far zoomed in or out you are different layers will display on the map.



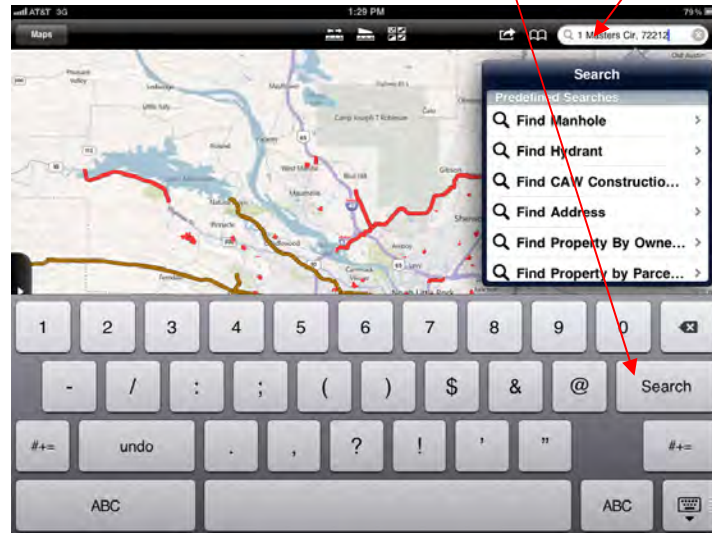
By enabling the GPS “find my current location”, the map will attempt to zoom to where you are located by using the iPad’s internal GPS device. Note that being inside a building and/or being near other items may interfere with the GPS signal.

For best results make sure you have an open view of the sky and allow the GPS to get a “lock” on your position by standing still for 30 seconds or longer. Once you achieve a GPS lock you can walk or drive and the GPS icon will change to an arrow indicating your direction. The map will also auto-pan to keep the map in sync with where you are located at all times.

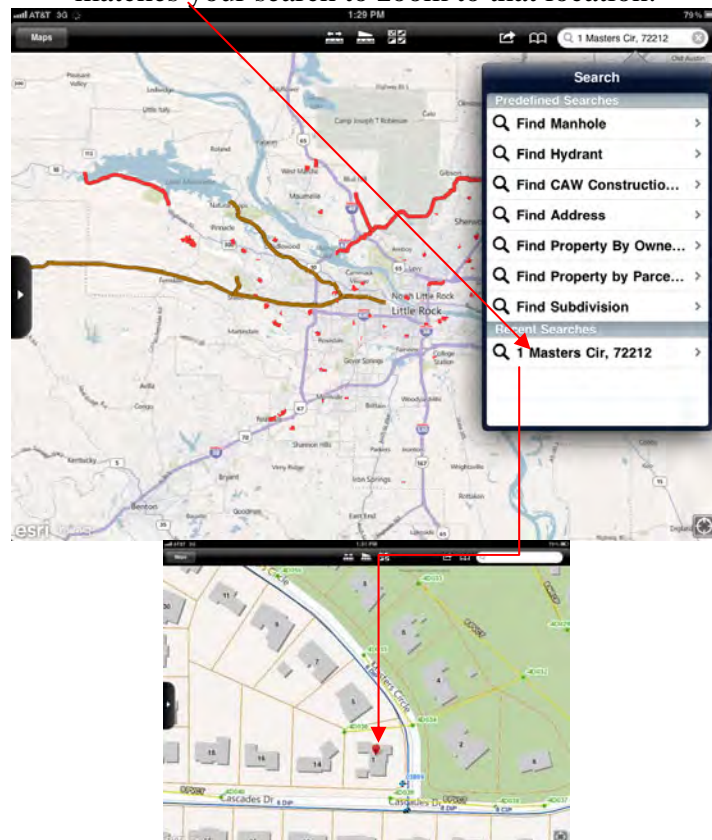
Notice the hollow blue circle which indicates the area of uncertainty with the GPS signal. This tells you how reliable your signal is at any given time. You may also turn off your GPS location by clicking the GPS button again.



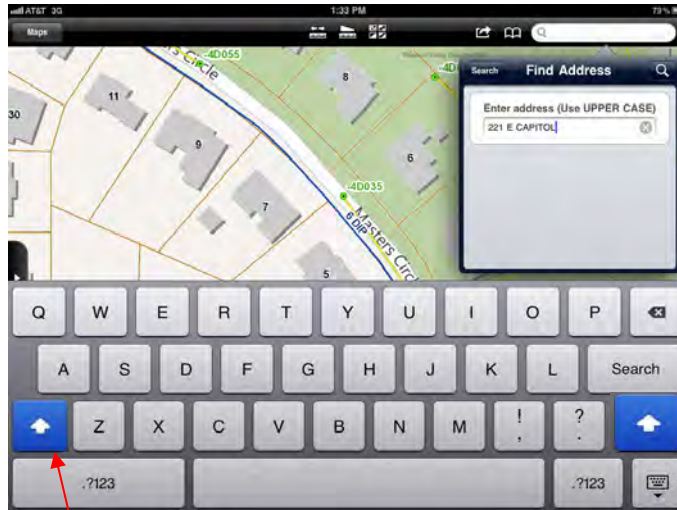
9. You can search for an address in two ways:
- Use the “out-of-the-box” built in address search. Note that this searches for valid addresses in the entire United State, so you must provide a zip code or city name at the end of your address (e.g. “1 Masters Cir, 72212”). Be sure to click the “Search” button to execute:



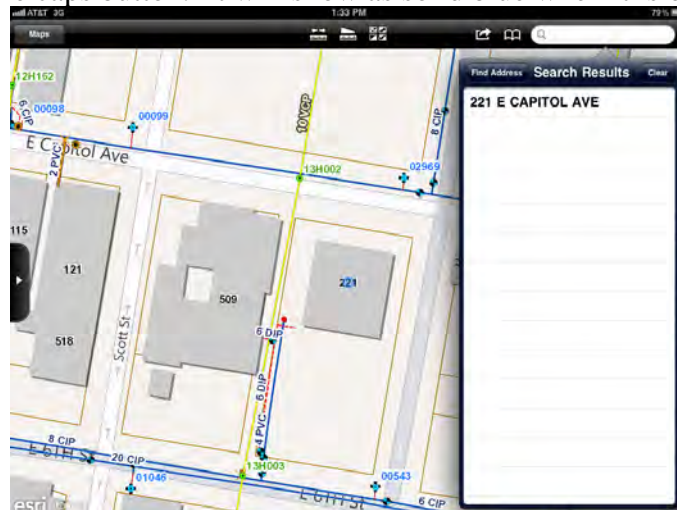
Once the results are returned, click on the result you think best matches your search to zoom to that location:



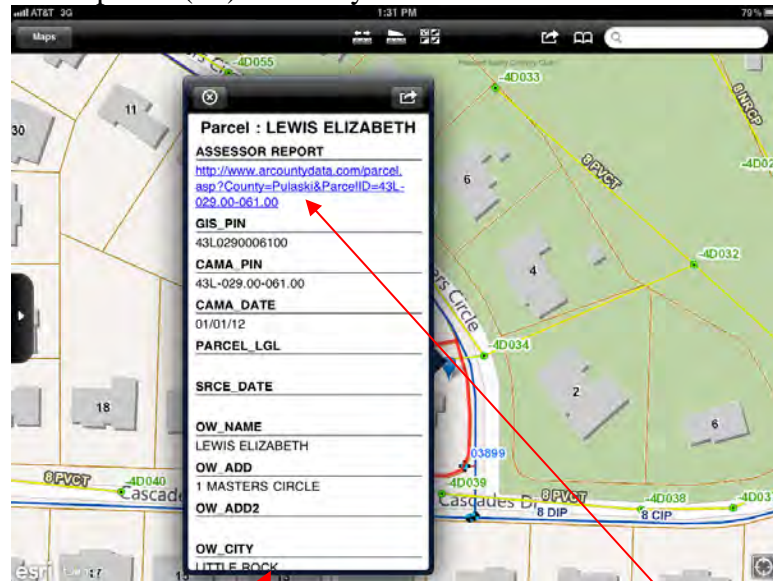
- b. PAgis also provides an address search capability that is based on the address in Pulaski County only. It is called “Find Address” and it is very stringent on how the address is entered. You must type the beginning of the address exactly as it is stored in the PAgis database to get a match. (Don’t forget the E, W, N, S prefix if applicable.) One hint that makes the searches easier is that you can enter just the first part of an address and the application will append a wildcard at the end of the search text to find anything that matches the text you have entered. More results are returned this way.



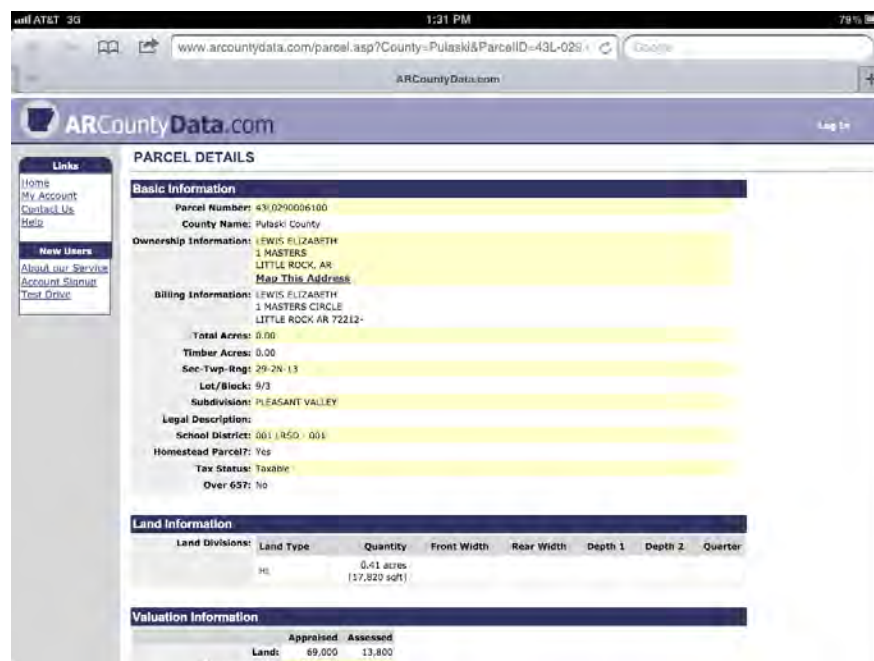
Also, all of the PAgis defined searches are CASE SENSITIVE. Always use UPPER CASE as that is how the data is stored at the table level. PAgis has requested that ESRI allow us to make searches case in-sensitive as well as allowing us to use an address locator (rather than an attribute search), but these enhancements are pending at this time. To active the CAPS LOCK, double table the caps button. It will show as solid blue when it is on.



10. To find out information (identify) about features on the map, simply tap the screen on a feature you would like to inspect. In this example I have tapped on the parcel (lot) boundary for the address I found.



Notice the attribute window pops open and I can view the attributes associated with the parcel. Use your fingers to scroll the attribute window up and down to see more informatin. This feature even has a hyperlink that will open my Safari browser to show more information. In this example it will open a link to the Pulaski County Assessor's report about this property which has much more information than is stored in the GIS database.



Again, use your fingers to explore the report and click on additional links.

One important thing to note is that since you clicked the hyperlink and launched Safari, we left the ArcGIS application. In order to get back to the application we must use the “multi-tasking” feature on the iOS device. To enable multitasking, simply double click on the “home” button of your device. The home button is at the bottom, center of the device and is a “hard” button, not on the screen.

Once you have double tapped the home button a list of applications will open up for you to choose which one you would like to go back to. Tap the ArcGIS application to open it back up:

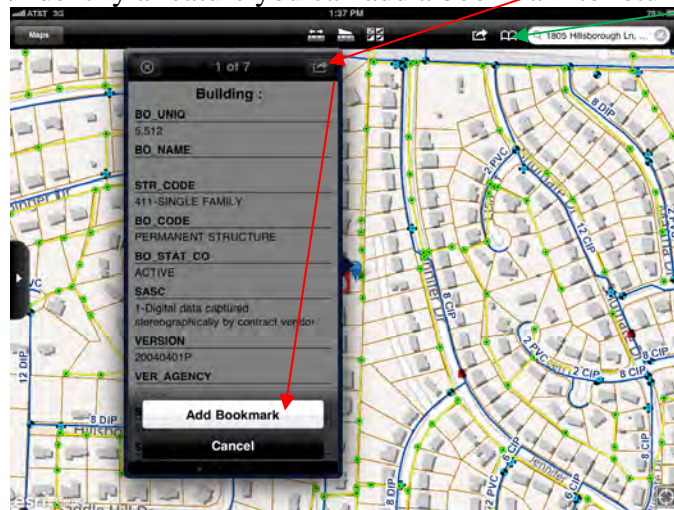


You may have times when you use the identify function and several items are returned to the attribute window. This happens when features on the map are stacked on top of each other. You can avoid this situation by zooming in as tight as possible on the feature(s) you want to identify. You can also tap-and-hold your finger on the screen until a magnifying glass pops up. Then slide your finger until you accurately place the cross hairs on the feature you wish to inspect.

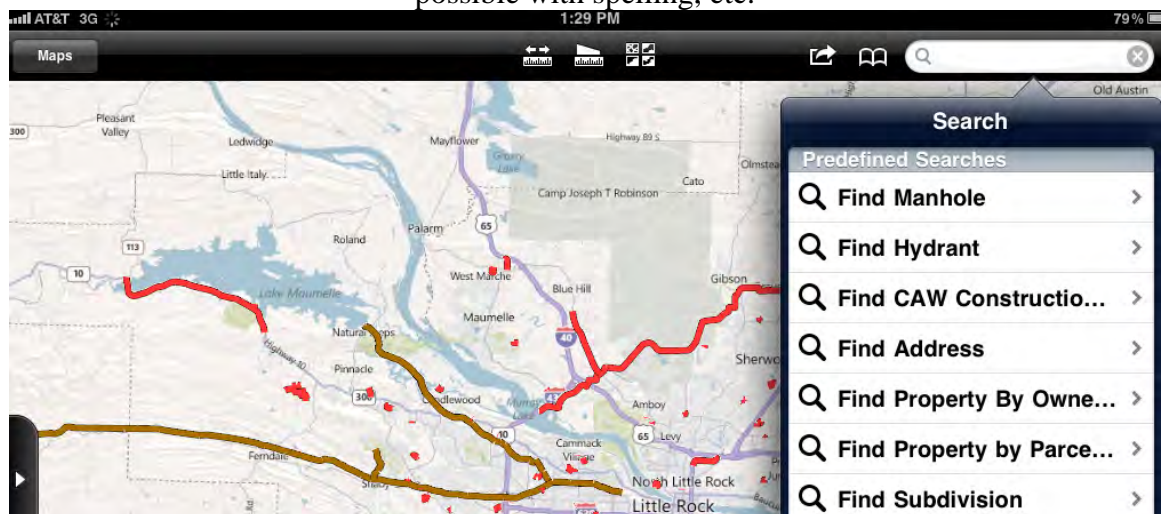


Also note on the attribute window that if you have more than one feature returned there are small white circles at the bottom of the box indicating that you can slide the information in the box left or right to go to the next attribute page. Also note that the feature that is actively shown in the attribute window is highlighted red on the map, although this is hard to notice since the attribute window usually covers up the feature you are identifying.

Once you identify a feature you can add a bookmark to return to later.



11. There are many predefined attribute searches that PAGis has configured such as Find Manhole, Find Hydrant, Find CAW Construction Project, Find Address, Find Property Owner By Name, Find Property Owner by Parcel Number and Find Subdivision. They all work basically the same. They are all CASE SENSITIVE, using UPPER CASE and all append a wildcard to the end of your search text allowing the most results to be returned. Again we have asked for a more forgiving interface from ESRI but it is not available yet. For now be sure you try to be as accurate as possible with spelling, etc.

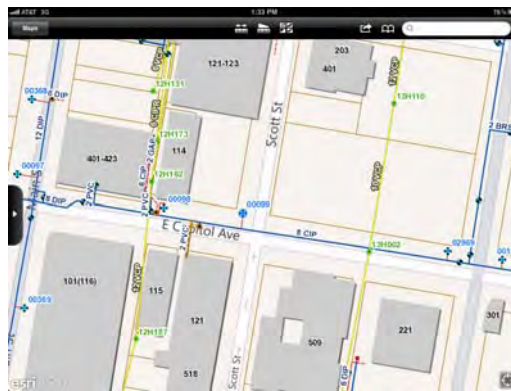


Below is an example of searching for a subdivisions, zooming to it and identifying the subdivision to see the lot dimensions, easements, etc: Note – you will need to turn the subdivision layer on in the legend before you can identify the subdivision and link to the scanned plat to see dimensions. See the section on controlling the layer visibility for more information.



Be sure to multi-task back to the ESRI application by double tapping the home button on the iPad as described earlier in this document.

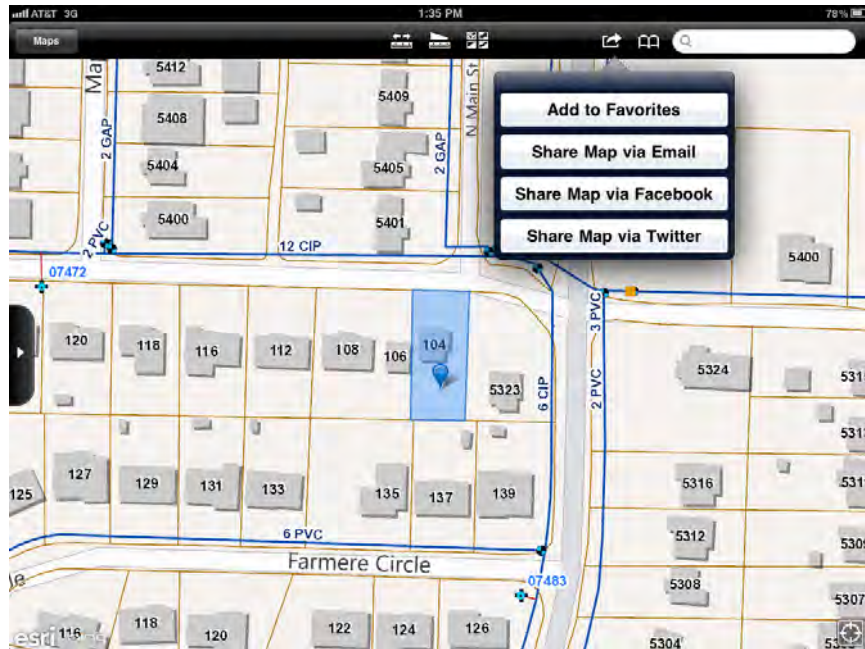
Below is an example of a hydrant search by hydrant number:



Below is an example of a parcel search by owner name:



12. You can share maps via Email, Facebook, Twitter, or add them to your Favorites.

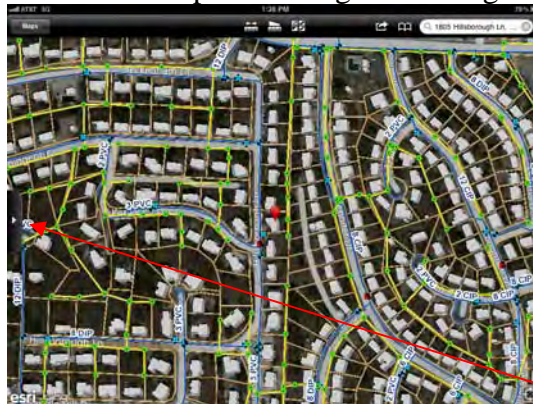


Example email...

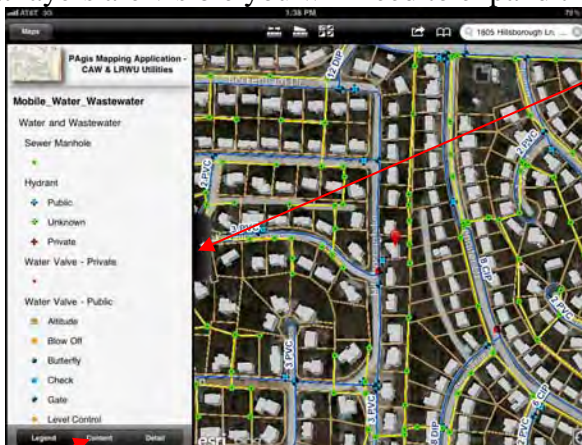
13. To change the basemap choose from one of the many predefined ESRI maps:



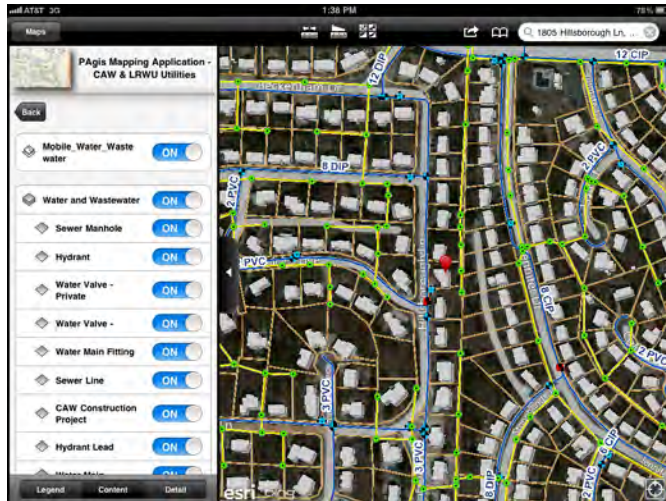
Exaple where the base map was changed to “Bing Maps Hybrid”



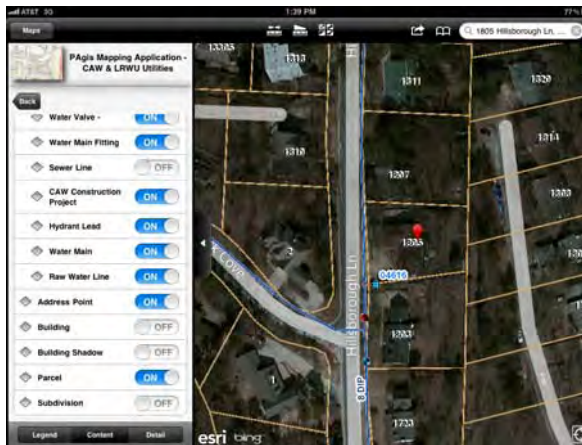
14. To adjust what layers are visible you will need to expand the legend panel:



Choose Contents to see the layers available to turn on/off



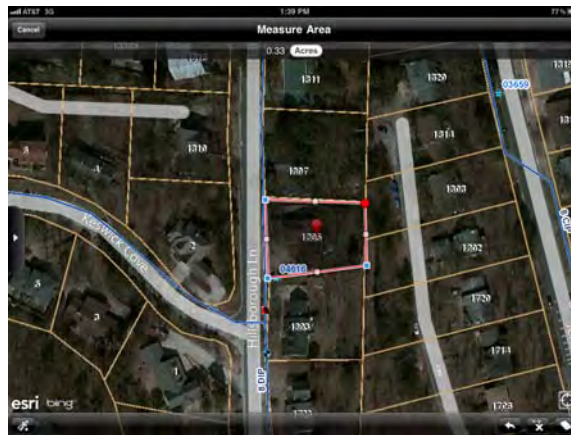
In the contents window toggle off some layers such as sewer manhole, sewer lines, buildings and building shadows as shown below (zoomed in)



Explore the Details of the legend for more information about the application



15. You can use the measure tools to measure area or distance by tapping the tool and then tapping the map window to draw a polygon or line:



You can even change your units before you draw your shape or after you are done. Click the cancel button to return to the main screen.



The measure tools have functions to snap to your GPS location, undo a vertex, delete a vertex or erase your drawing.