

Enhancing Asset Management with a GIS Program

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presentation overview

- Definitions
- Its all about your assets
- Components of a GIS
- Why use GIS for asset management?
- How can a GIS be used?
- GIS for office operations
- GIS for field operations
- How to get started
- GIS Investment









definitions

Asset Management

"Asset management is maintaining a desired level of service for what you want your assets to provide at the lowest life cycle cost. Lowest life cycle cost refers to the best appropriate cost for rehabilitating, repairing, or replacing an asset. Asset management is implemented through an asset management program"

US EPA, Asset Management: A Best Practices Guide



its all about your assets

Infrastructure	PipesValvesManholesTreatment PlantsBooster Stations
Data	 Asset locations Asset "attributes" Inspections Condition Maintenance
Staff	AdministrationManagementOffice supportOperators



definitions

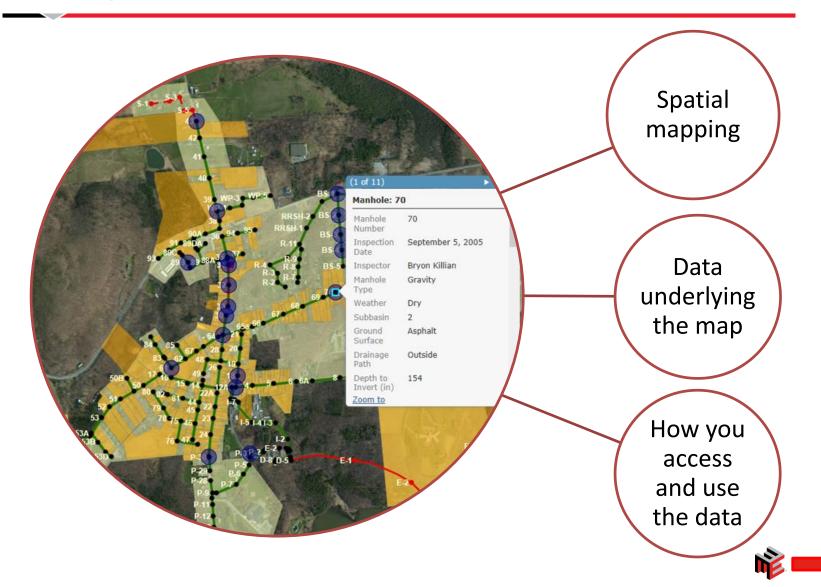
GIS | Geographic Information System

"A geographic information system (GIS) lets us visualize, question, analyze, and interpret data to understand relationships, patterns, and trends ... making better decisions about location ... maintaining records about the status and change of geography."

ESRI



components of a GIS



why use GIS for asset management?

- You get to know your utility assets!
 - What you have
 - How many you have
 - Where they are at
 - What condition they are in
- Be more organized
- Daily /weekly mission planning
- Easily take your system data into the field
- Streamline inspections to save time and money
- Track preventative maintenance to determine return on investment

Don't sweat the small stuff ... Map it!



how can a GIS be used?

GIS for Engineering

- Field mapping (GPS)
- Desktop mapping / analysis / design
- Printed paper maps

GIS for Utility Operations and Planning

- Online mapping apps (GoogleEarth, ArcGIS Explorer, ESRI ArcGIS Online)
- Scheduling field operations (work orders)
- Capital improvement planning

GIS for Field Operations

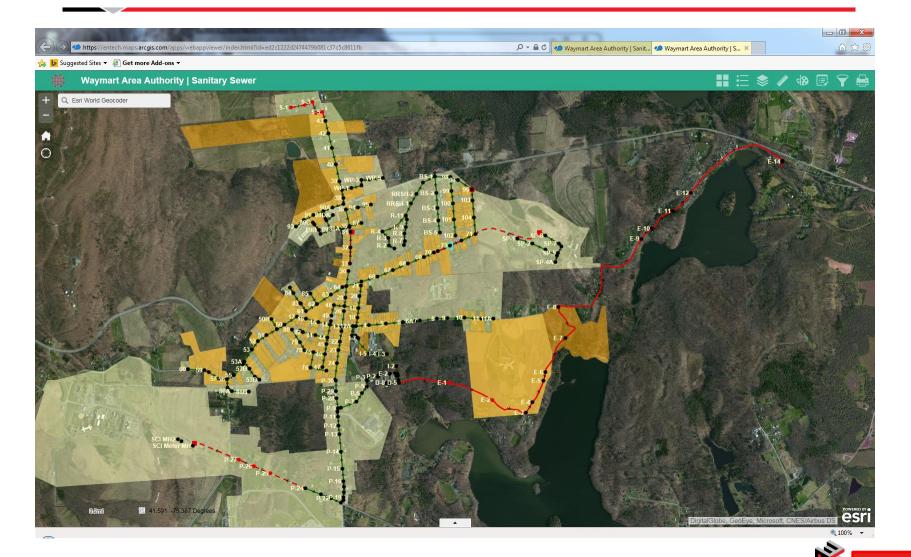
- Atlas Mapping (rugged hard copy map books)
- PA 1-Call (as-built drawing or dimensional sketches)
- Digital inspections and preventative maintenance (smartphone / tablet)

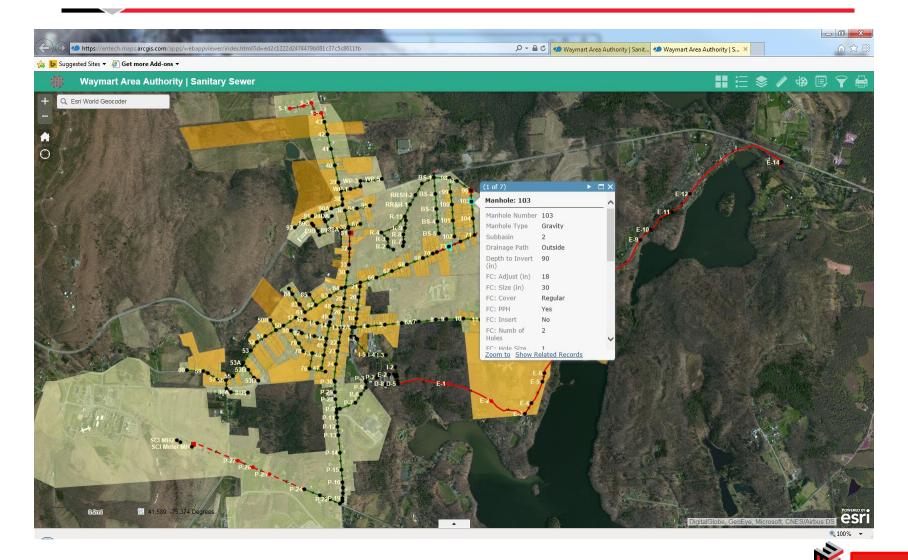


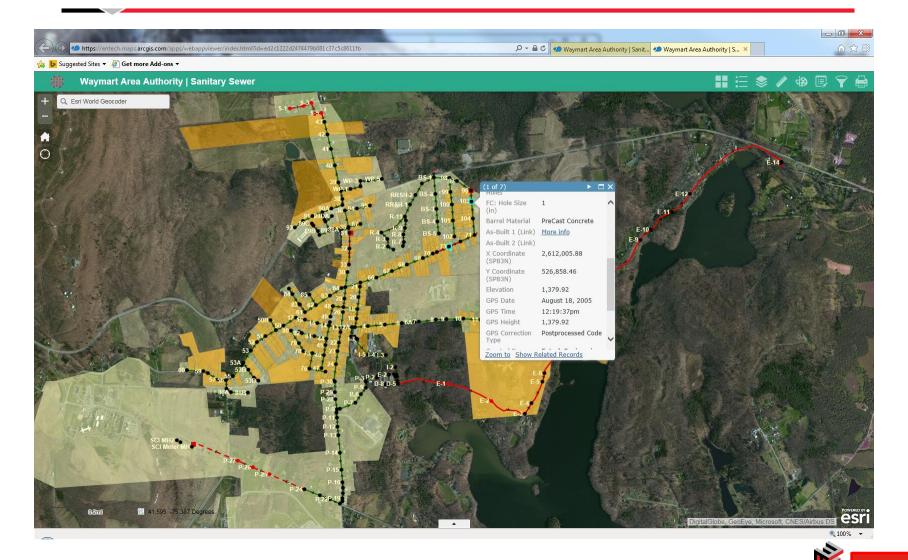


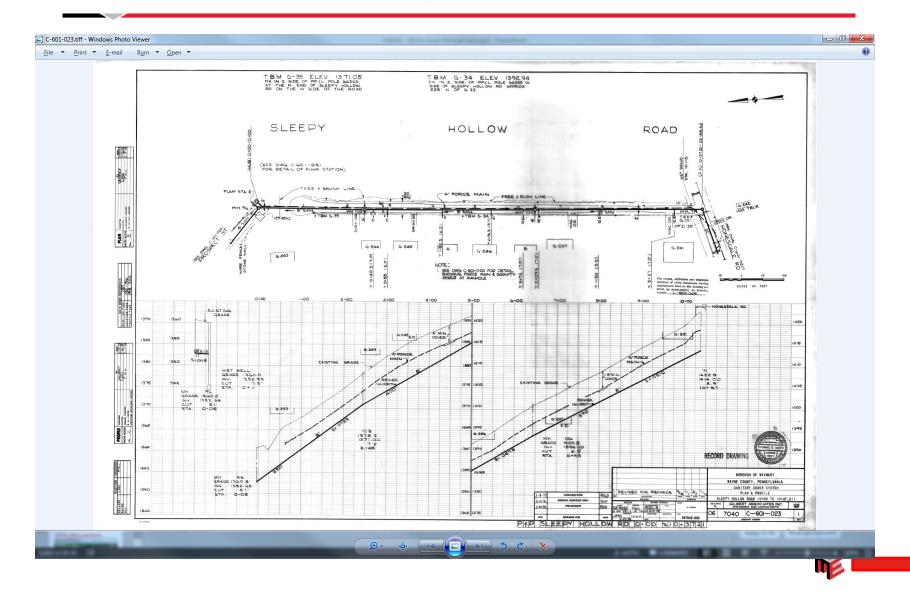
Map helps you drill down to your system info

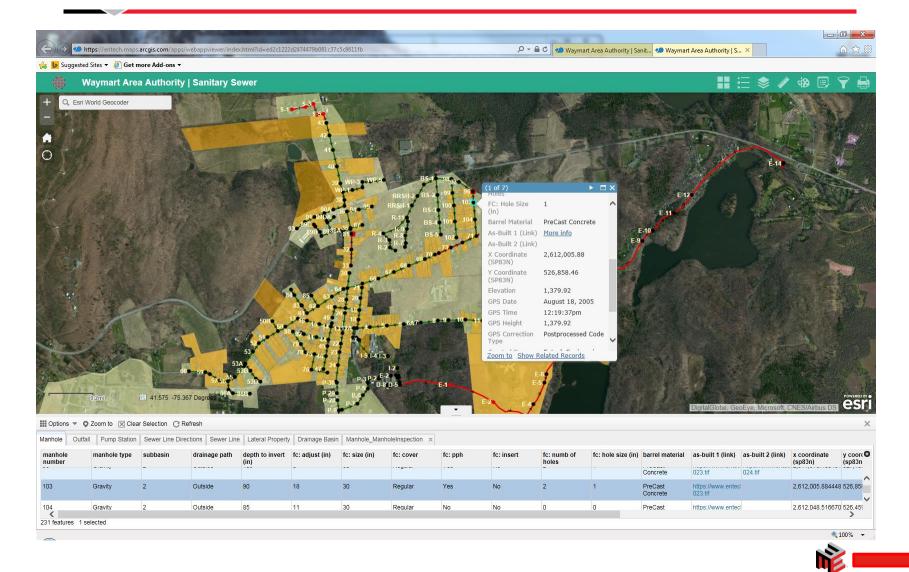


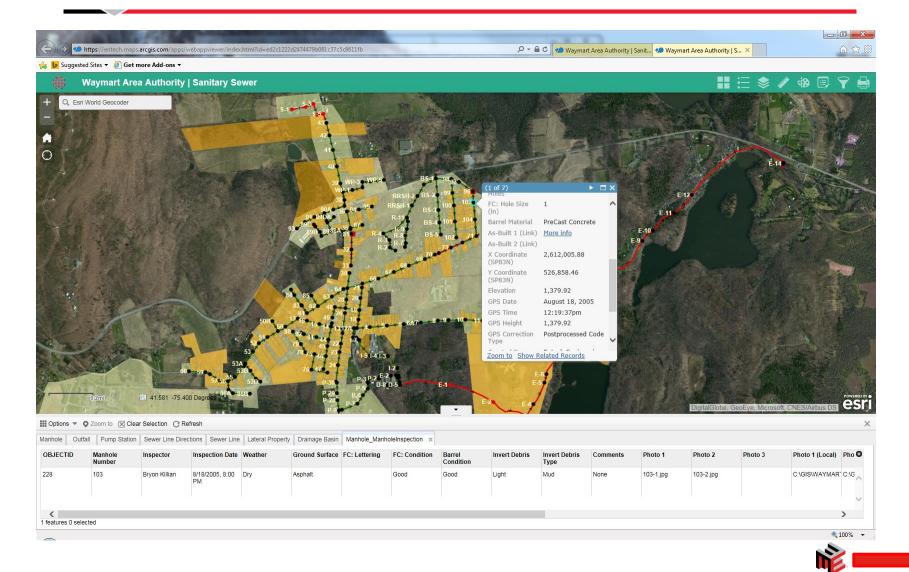


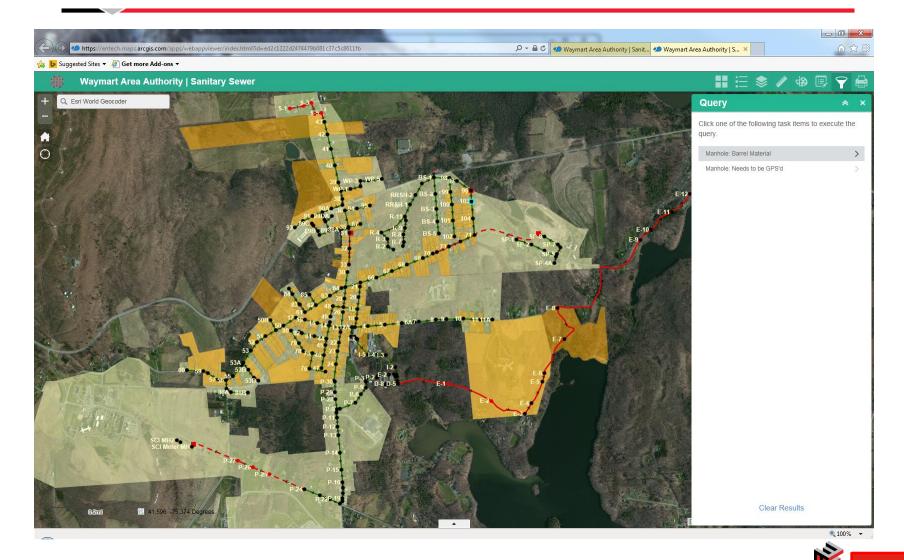


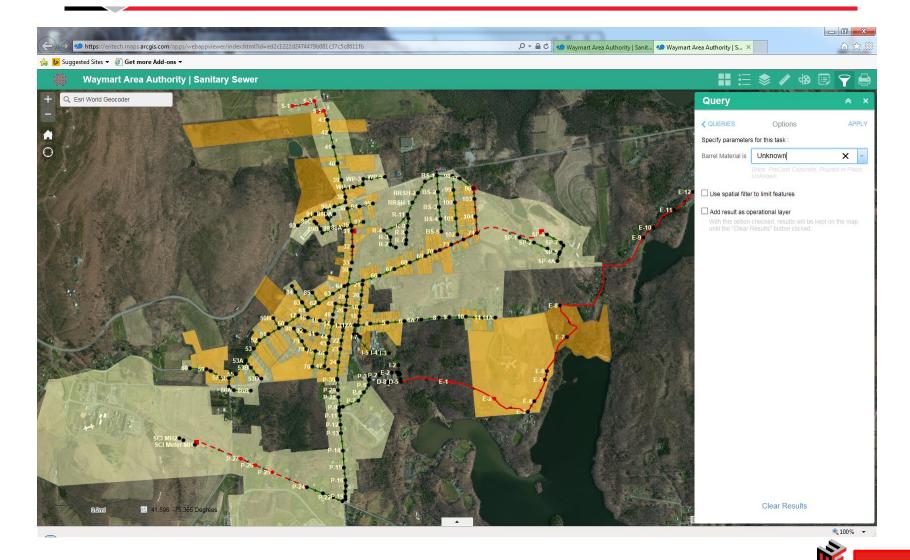


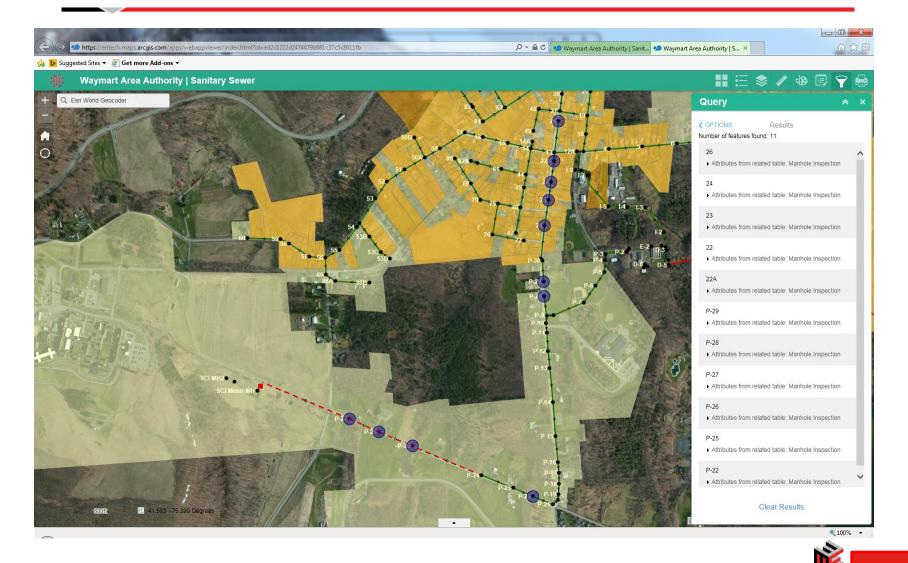




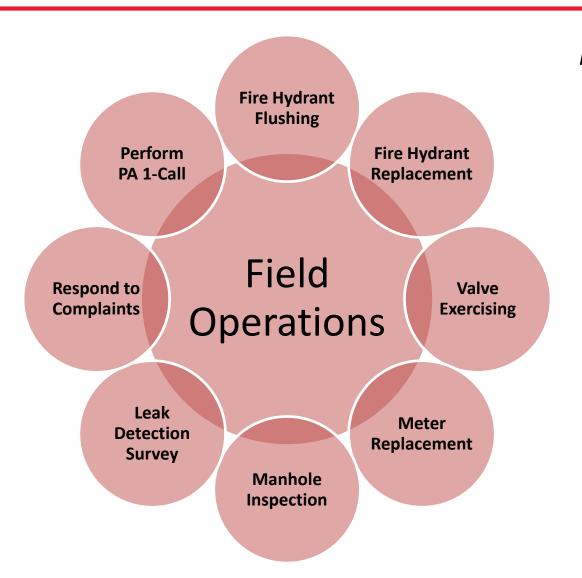








GIS for field operations



Map guides your field operations



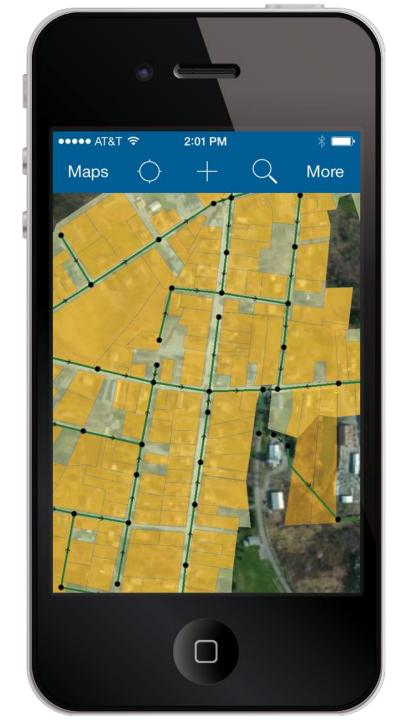
ESRI COLLECTOR APP

INSPECTION MAP ON IPHONE





ZOOM INTO MAP FOR BETTER DETAIL





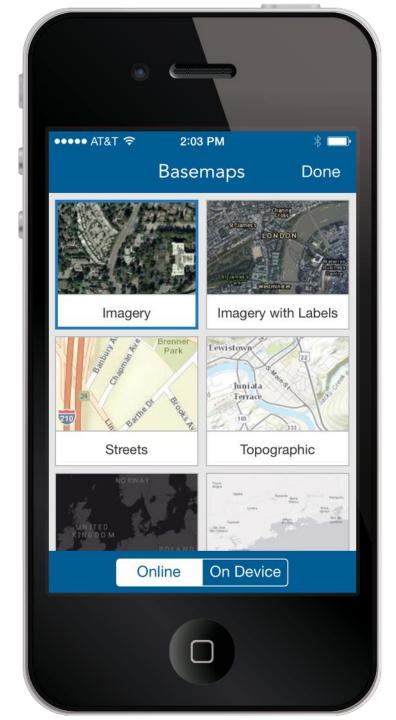
TOOLS IN "MORE"

- BOOKMARK
- LAYERS
- MEASURE
- BASEMAP



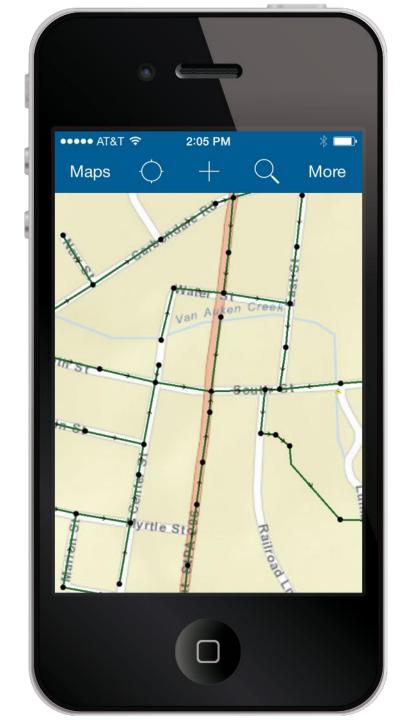


BASEMAP OPTIONS





STREETS BASEMAP

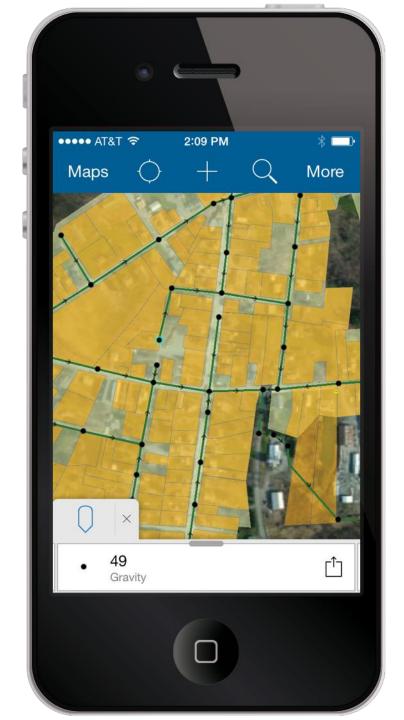




CLICK ON A
FEATURE
(MANHOLE,
PIPE, PARCEL,
ETC)

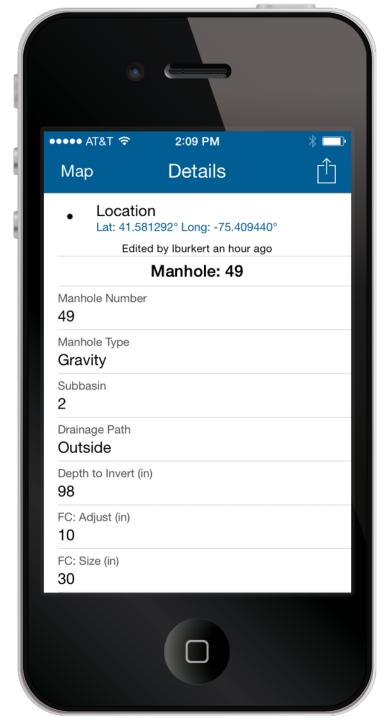
HIGHLIGHTS FEATURE

POP-UP AT BOTTOM





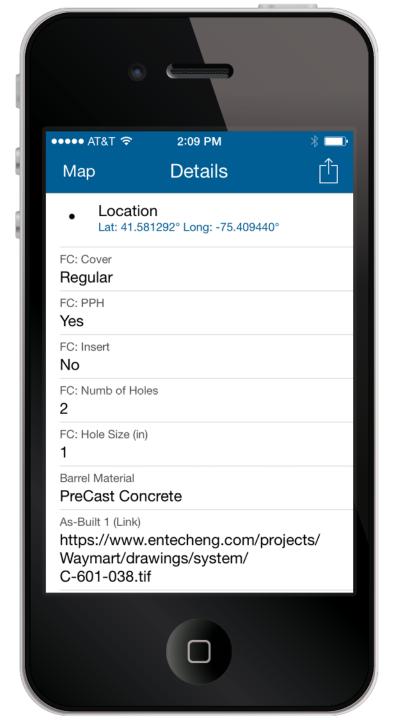
CLICK ON POPUP TO GET MANHOLE INFORMATION





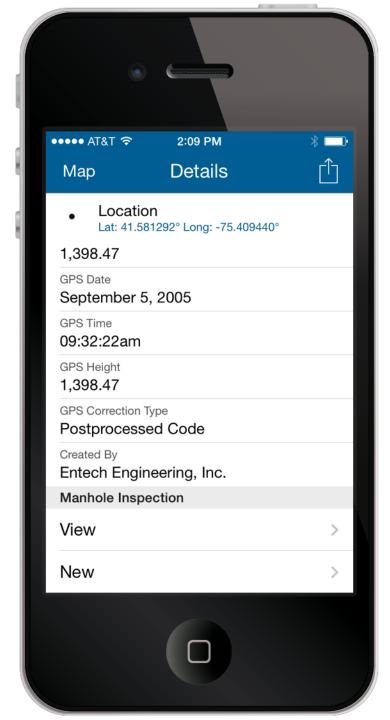
SCROLL TO SEE REST OF THE INFORMATION

LINKS TO DRAWINGS



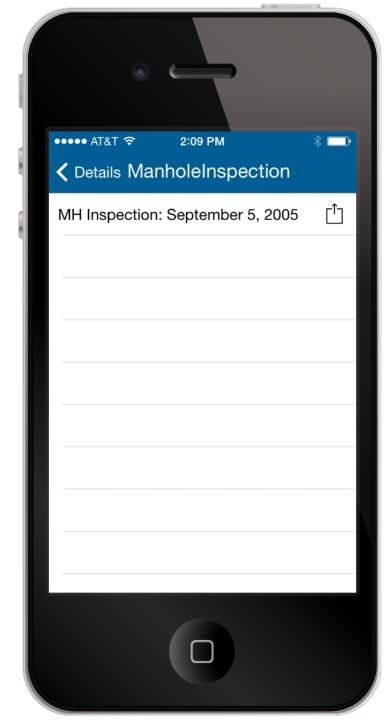


KEEP SCROLLING FOR INSPECTION OPTIONS





"VIEW"
OPENS LIST
OF PREVIOUS
INSPECTIONS





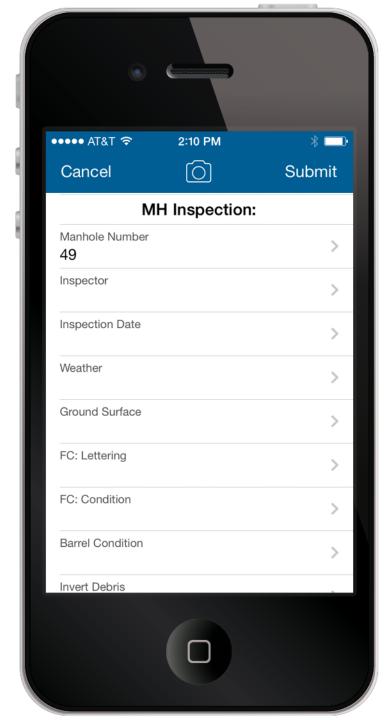
CLICK ON INSPECTION TO SEE INSPECTION DETAILS





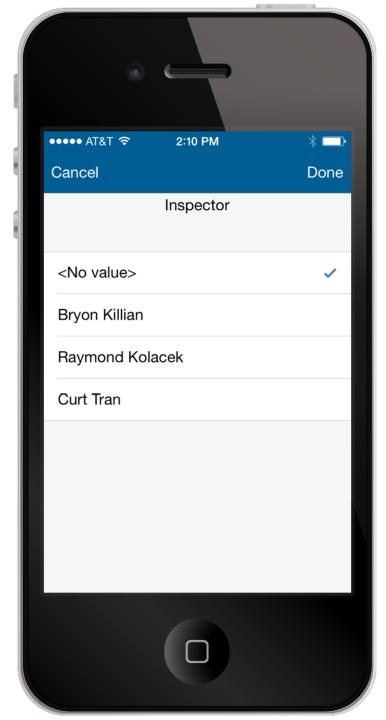
"NEW" STARTS
A NEW
INSPECTION
FOR THAT
MANHOLE

FORM-DRIVEN DATA COLLECTION





PICK LISTS



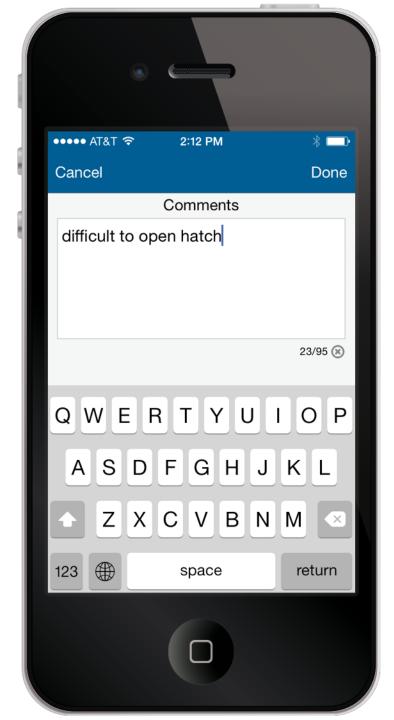


DATE PICKER





GENERAL TYPING

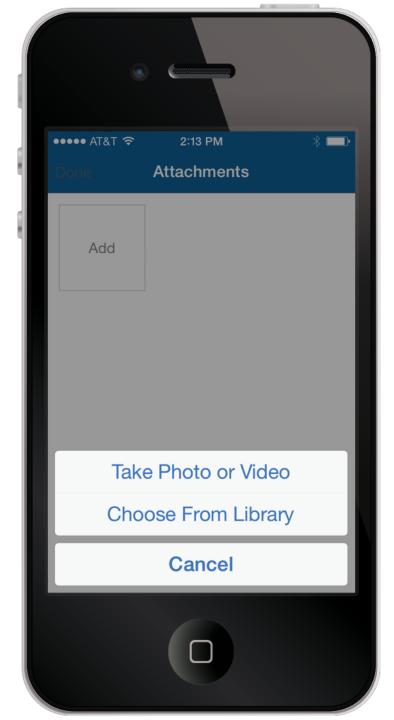




ATTACHMENTS

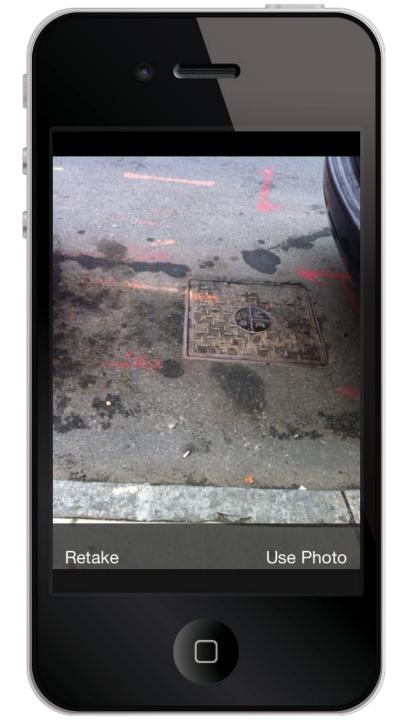
TAKE A PICTURE

OTHER
EXISTING
PICTURE OR
FILE





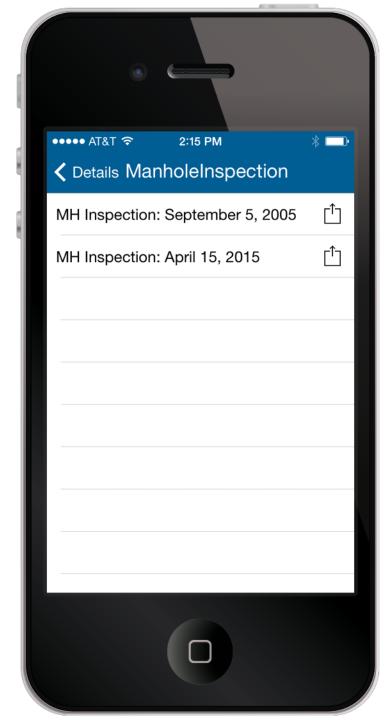
TAKE A PICTURE





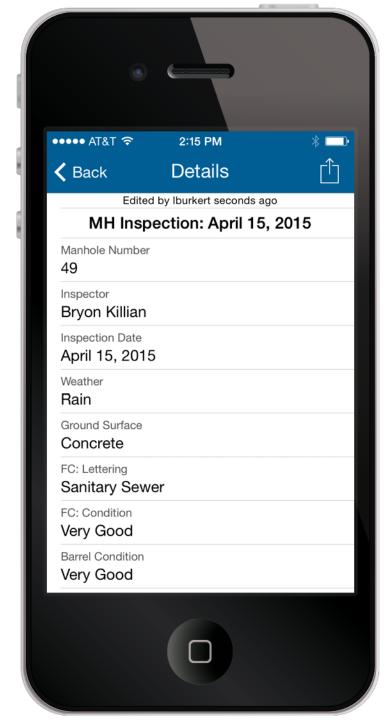
INSPECTIONS
ARE
UPLOADED IN
REALTIME

OR CAN SYNC LATER IF HAVE SPOTTY CELLULAR COVERAGE



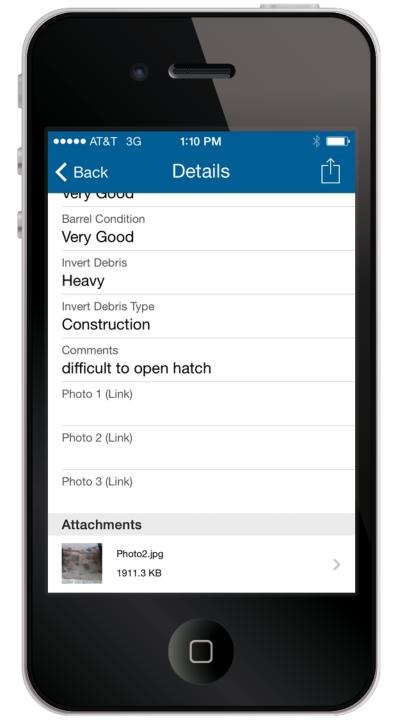


REVIEW THE INSPECTION YOU JUST COMPLETED



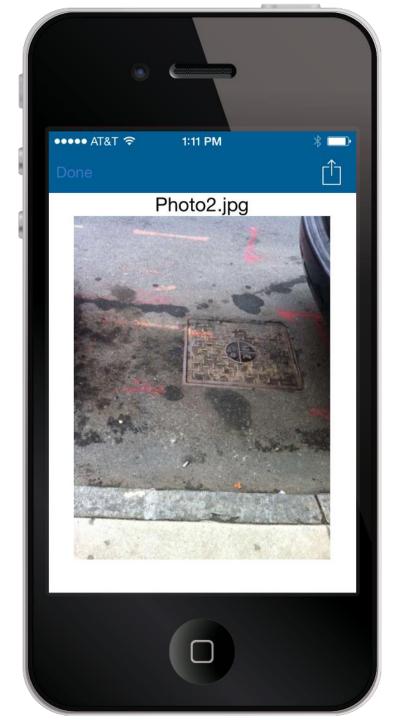


SCROLL TO SEE REST OF THE INFORMATION



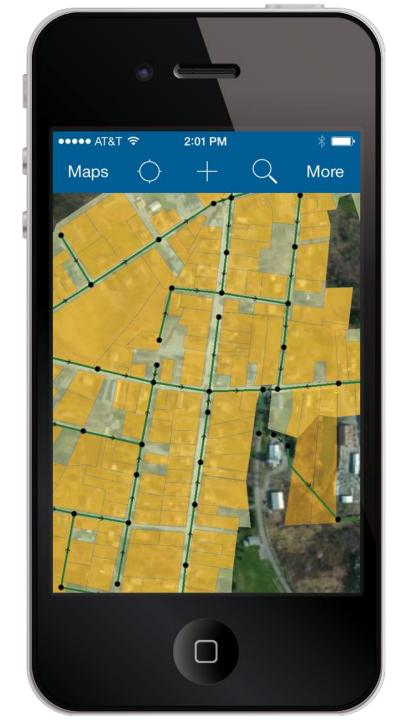


CLICK ON PHOTO TO VIEW



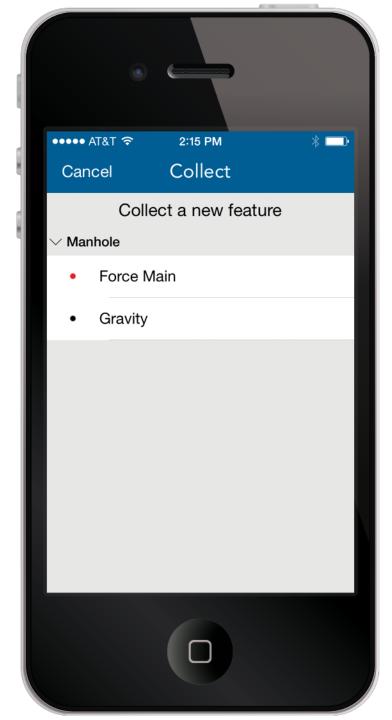


CLICK PLUS SIGN ICON TO ADD A NEW MANHOLE



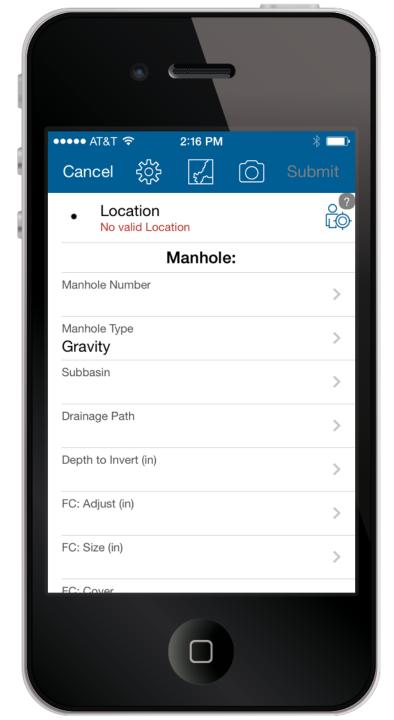


PICK WHAT YOU WANT TO DO FROM A LIST





FORM-DRIVEN DATA COLLECTION





how would I get started?

Decide what operations you want to perform.

Have a purpose in mind before you start. Popular tasks include manhole inspections, leak detection surveys, valve exercising, hydrant flushing, hydrant replacement, and accessing digital work orders.



Decide whether you want to work online or offline.

Online apps allow you to use your cellular service to access your data in the cloud, and data changes are made in real time.
Offline apps are good for areas with spotty cellular coverage, and allow data to be synced with your database when back at the office.



Pick the office and field device(s) you want to use.

Your GIS apps should be optimized to fit on your desktop, laptop, tablet, smartphone, and/or GPS screen.





what happens next?

Have your system data compiled into a GIS.

Your GIS inventory can be built from existing CAD drawings and/or field data collection, or by using your existing GIS as a starting point.



Your GIS will be transferred to the cloud.

Step 5

The office and field GIS apps will include your system map, specialized map navigation tools, inspection and maintenance forms, your organization's logo, and secure access to protect your data.



Get trained on how to use the office and field apps.

Personalized field training and SOP documents will empower your staff to use your GIS from day 1.





example of typical costs

Description	Cost
ESRI ArcGIS Online Account	\$2500/year for 5 licenses*
ArcGIS Collector App	Free (assumes purchase of AGOL)
Consulting services:Format GIS data for AGOLAppend existing pix and drawingsConfigure online maps	\$0 - \$5000+ \$0 - \$5000+ \$1000 - \$3000 / map

*may require purchase of additional AGOL credits for photo and drawing storage "in the cloud"



Thank you!

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