

Moving From Hardcopy Maps to a Digital Cache with Work Orders

Pompano Beach's GIS Journey

City of Pompano Beach

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Pompano Beach's GIS Journey

- Why take the trip to GIS?
- How did we get there?
- Where are we now?
- What's next?

Why take the trip?

Issues with Paper Maps

- Not all field work was fully and properly documented
- Mobile Maps is now an approved product for State Mandated Logs
- Not all MS4 Activities were tracked

Why take the trip?

Issues with Paper Maps

- Paper Maps were sometimes unintelligible
- No easy means of getting field info to drafting tech and then distributed to all users
- Cost \$35,000 to make copies of new maps for field staff.
- Map accuracy was augmented with *Institutional Knowledge-*

Why take the trip?

The Solution ---a GIS System:

- **User Friendly, Legible, & Accurate**
- **Easy Access to feature Details**
- **A user can present an update today and it is on ALL machines the next day**
- **The cost to Update is minimal**
- **Project has Effectively Digitalized Institutional Knowledge**

How did we get there?

First Step- Digitalizing

- Process of transforming the paper maps into Data
- Engineering Responsible for Geographic Aspect
- Utilities Responsible for the Numbers

MAP 115



How did we get there?

Obstacles To Digitalizing

- **This process highlighted some “issues”**
 - **Match lines**
 - **Illogical Pipe sizes**
- **Extensive pre-release testing**

MAP 115

N



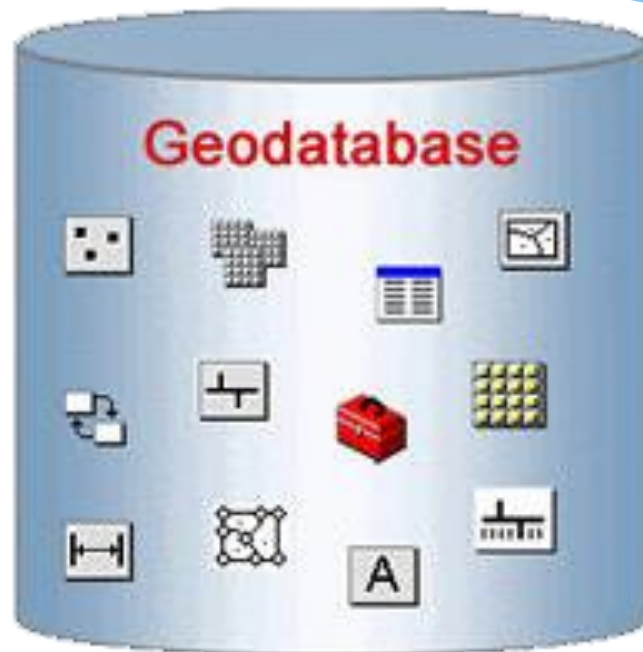
How did we get there?

Putting GIS in the Utility Trucks

- **Cost of Computers**
- **Connectivity- Internet or Standalone?**
- **Software**

How did we get there?

A New GIS Day

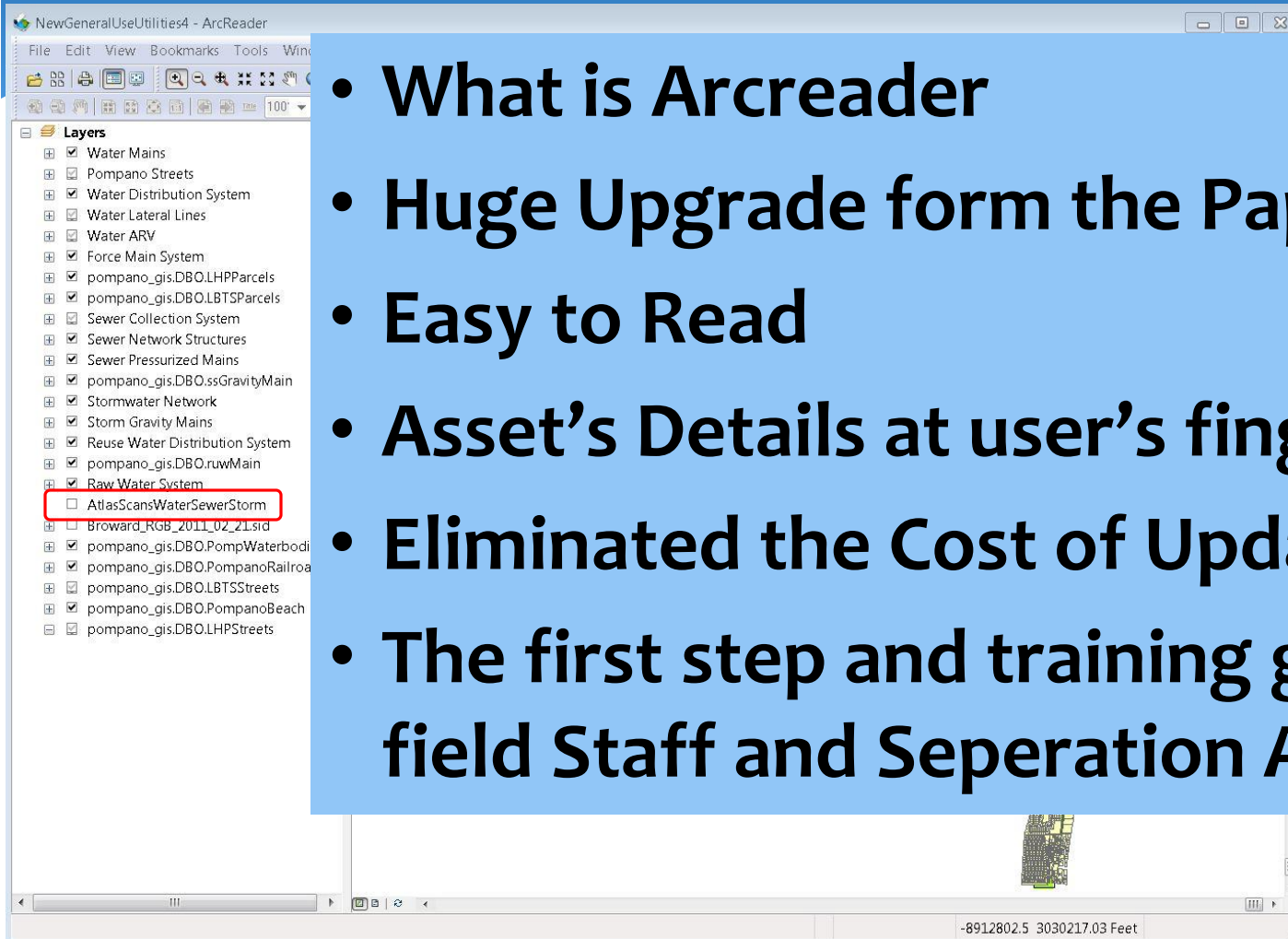


**The
Geodatabase
is Born**

How did we get there?

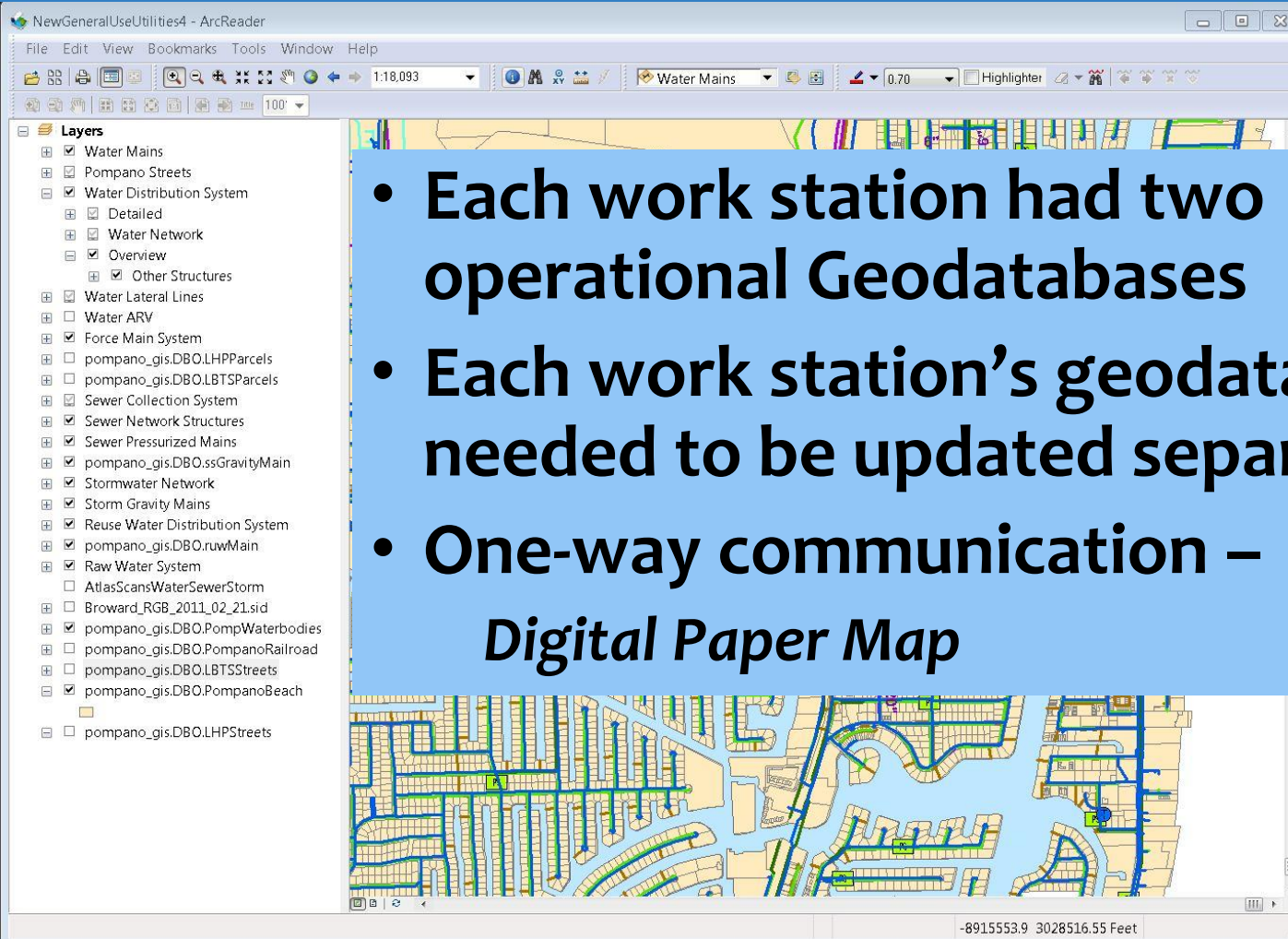
Arcreader and the .PMF *The GOOD!*

- What is Arcreader
- Huge Upgrade from the Paper Maps
- Easy to Read
- Asset's Details at user's fingertips
- Eliminated the Cost of Updating Maps
- The first step and training ground for field Staff and Separation Anxiety...



How did we get there?

Arcreader and the .PMF *The BAD!*



The screenshot shows the ArcReader application window titled "NewGeneralUseUtilities4 - ArcReader". The interface includes a menu bar (File, Edit, View, Bookmarks, Tools, Window, Help), a toolbar with various navigation and tool icons, and a status bar at the bottom displaying coordinates: "-8915553.9 3028516.55 Feet".

The main map area displays a detailed view of a street network with various colored lines representing different utility systems. A "Layers" panel is visible on the left side of the map, listing the following layers:

- Water Mains
- Pompano Streets
- Water Distribution System
 - Detailed
 - Water Network
- Overview
 - Other Structures
- Water Lateral Lines
- Water ARV
- Force Main System
- pompano_gis.DBO.LHPParcels
- pompano_gis.DBO.LBTSParcels
- Sewer Collection System
- Sewer Network Structures
- Sewer Pressurized Mains
- pompano_gis.DBO.ssGravityMain
- Stormwater Network
- Storm Gravity Mains
- Reuse Water Distribution System
- pompano_gis.DBO.ruwMain
- Raw Water System
- AtlasScansWaterSewerStorm
- Broward_RGB_2011_02_21.sid
- pompano_gis.DBO.PompWaterbodies
- pompano_gis.DBO.PompanoRailroad
- pompano_gis.DBO.LBTStreets
- pompano_gis.DBO.PompanoBeach
- pompano_gis.DBO.LHPStreets

- Each work station had two operational Geodatabases
- Each work station's geodatabases needed to be updated separately
- One-way communication –
Digital Paper Map

How did we get there?

Arcreader and the .PMF *The Ugly*

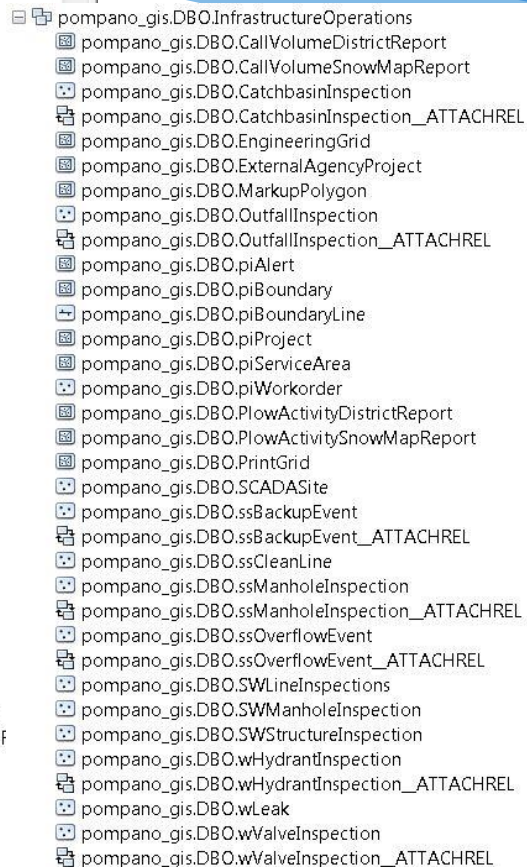
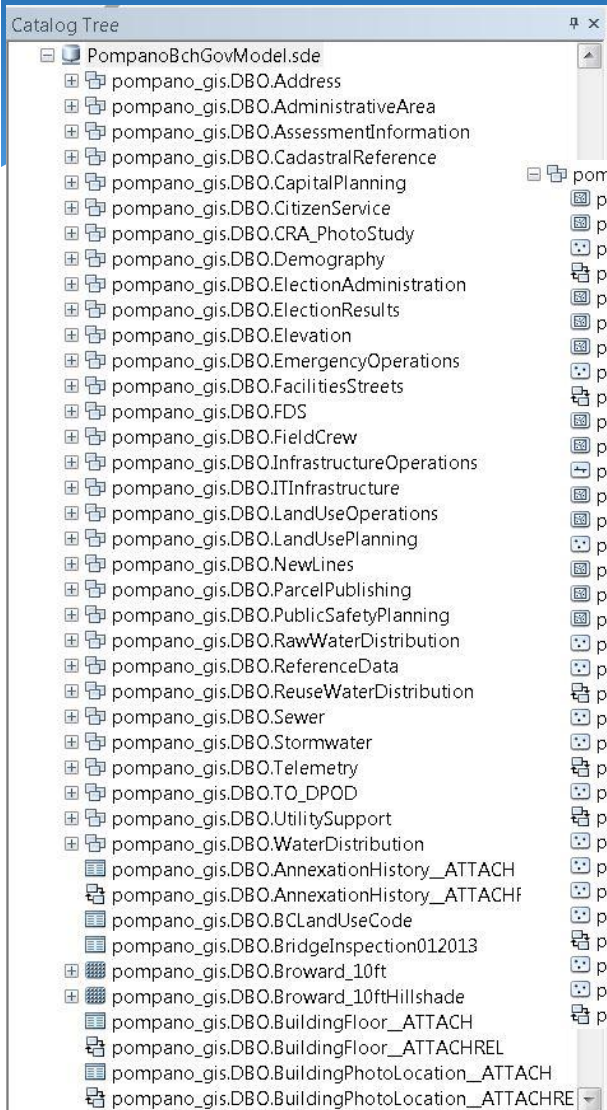
- Data Everywhere
- What data was good and what data was obsolete
- We needed a Definitive source data

**Solution- ESRI Server and
Local Information Government Model**

- ☑ PompanoBchBoundaries
- ☑ PompanoBchParcels
- ☑ PompStreets2011
- ☑ UtilityServiceAreaForClip

How did we get there?

The Great Migration...

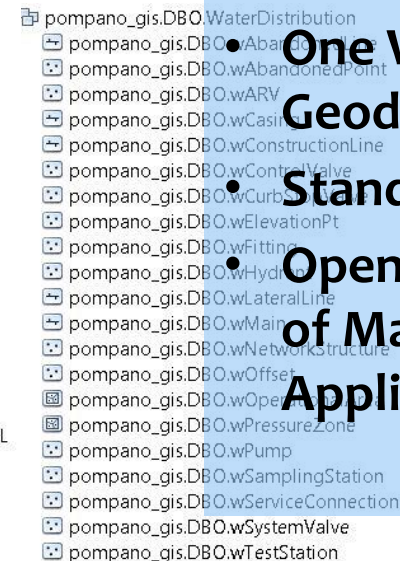


**Local Government
Information Model
and ArcGIS Server.**

**One Working
Geodatabase**

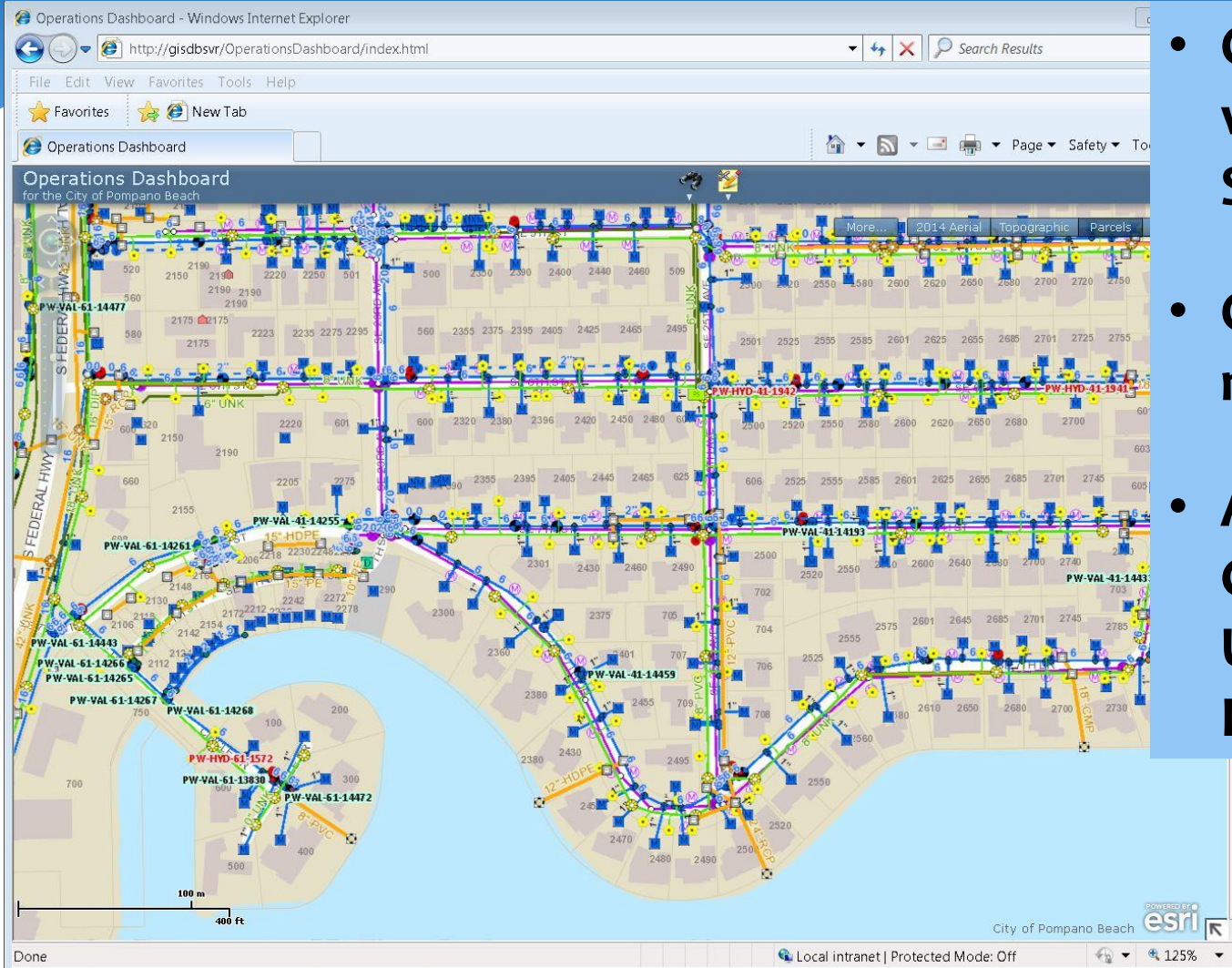
• **Standardized data**

• **Opened up a World
of Maps and
Applications**



How did we get there?

The Utility Operations Dashboard



- Online App working from a Service
- Office Solution- not field friendly
- Anyone in the City can look up Utility Information

How did we get there?

The Key to a Successful GIS Project????

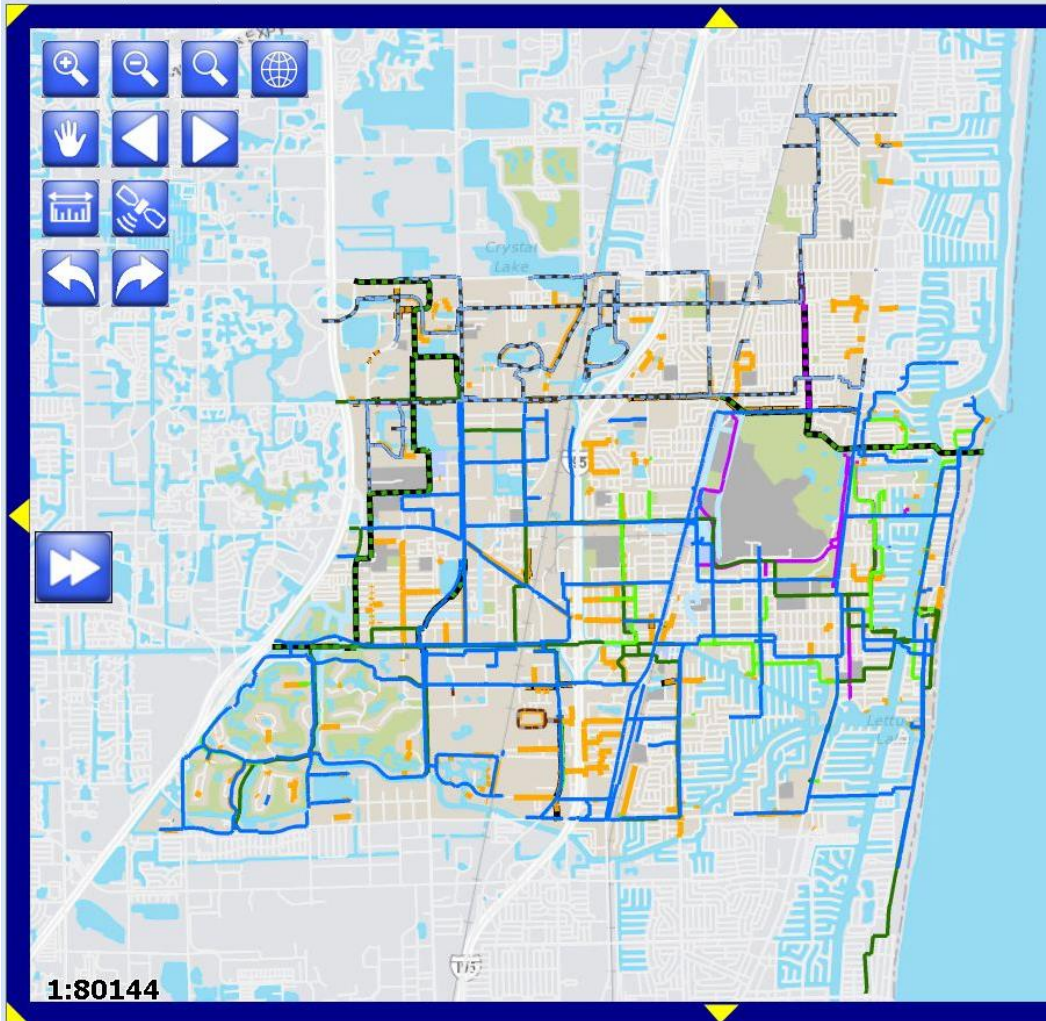
Field Crew Involvement/Testing

1. Two teams known for being leaders and adaptive were recruited as testers
2. The PMF was modified based on the field tester's comments
3. Management fostered pride of ownership
4. Test teams were empowered to mentor others

Where are we now?

Utility Mobile Map

Water Utility Mobile Map



The Bee's Knees!

- * Field Friendly
- * Fat Finger Friendly
- * Bi-Directional
- * STAND ALONE
- * Recognized by the State of Florida as a Distribution System Log



Where are we now?

Utility Mobile Map- Work Orders

The screenshot displays the Utility Mobile Map interface for wastewater. On the left is a sidebar with several data entry sections:

- Service:** Search, Legend, Sketch, **Create**, Get Info, Web.
- Clean Line:** Clean Line: []
- Gravity Main Number:** GM-MAI-50-4671
- Line Flowing When Arrived:** Yes No
- All City Cleanouts Opened:** Yes No
- Private Cleanouts Open as Required:** Yes No
- Clean Entire Run:** Yes No
- Length of Run:** []
- Number of Passes:** []
- Debris Volume:** <Null>
- Heavy Grease:** Yes No
- Manhole Shelf Bench Washed/Cleaned:** Yes No
- CCTV Inspection Needed:** Yes No

The main map area shows a street grid with yellow circular markers representing manholes and green lines representing gravity mains. A red dashed line points from the 'Gravity Main Number' field to a specific main on the map. Another red dashed line points from the 'Click on Main' text to a red dot on a main. A third red dashed line points from the 'User populates data fields' text to the sidebar fields. The map includes various landmarks like 'Blanche Ely High', 'Pompano Beach Elementary', and 'Pompano Beach High'. The bottom status bar shows 'Create New Data: Create a series of new assets and inspections' and 'Active Tool: Create'.

Captures Feature ID

Click on Main

User populates data fields

Where are we now?

Utility Mobile Map- Work Orders

The screenshot displays a mobile application interface for utility work orders. On the left, there is a sidebar with several sections: a top menu with 'Service', 'Search', 'Legend', 'Sketch', 'Create', 'Get Info', and 'Web'; a 'Clean Line' section with a dropdown menu; a 'Comments' section with a text input field; a 'Gravity Main Inspector' section with a dropdown menu showing 'HerWil'; and a 'Date' section with a date and time selector set to '01/02/2015 08:22 AM'. At the bottom left, there are icons for map navigation and a save icon. The main area is a map of a city street grid with numerous yellow circular markers. A red dashed line points from the 'Create' button to the map. Another red dashed line points from the 'Gravity Main Inspector' dropdown to the map. A third red dashed line points from the save icon to the map. On the right side of the map, there are red text annotations: 'Additional Data From the Field' and 'System captures Log-in ID. For Water Logs, it also requires entry of License Number'. The map shows various landmarks like 'Trickener Accelerator 1', 'Trickener Accelerator 2', 'Gas Island And Building E', 'PW Nursery Office', 'Blanche By High', 'Pompano Beach Elementary', and 'Pompano Beach High'. The map scale is indicated as 1:7901.

User saves data for later syncing to server

What's Next?

- **Weekly management reports**
- **Retire current Excel-based work logs**
- **Adding work orders based on what will “add value” to the organization**
- **Integrate our PACP compliant CCTV Inspections and link to video**
- **Integration into Asset Management**

It's all in the Journey!

Questions?

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