City of Grand Junction and infraMAP® Software Mobile Field Application

City Of Grand Junction
Grand Junction Colorado
Scott List

infraMAP Software
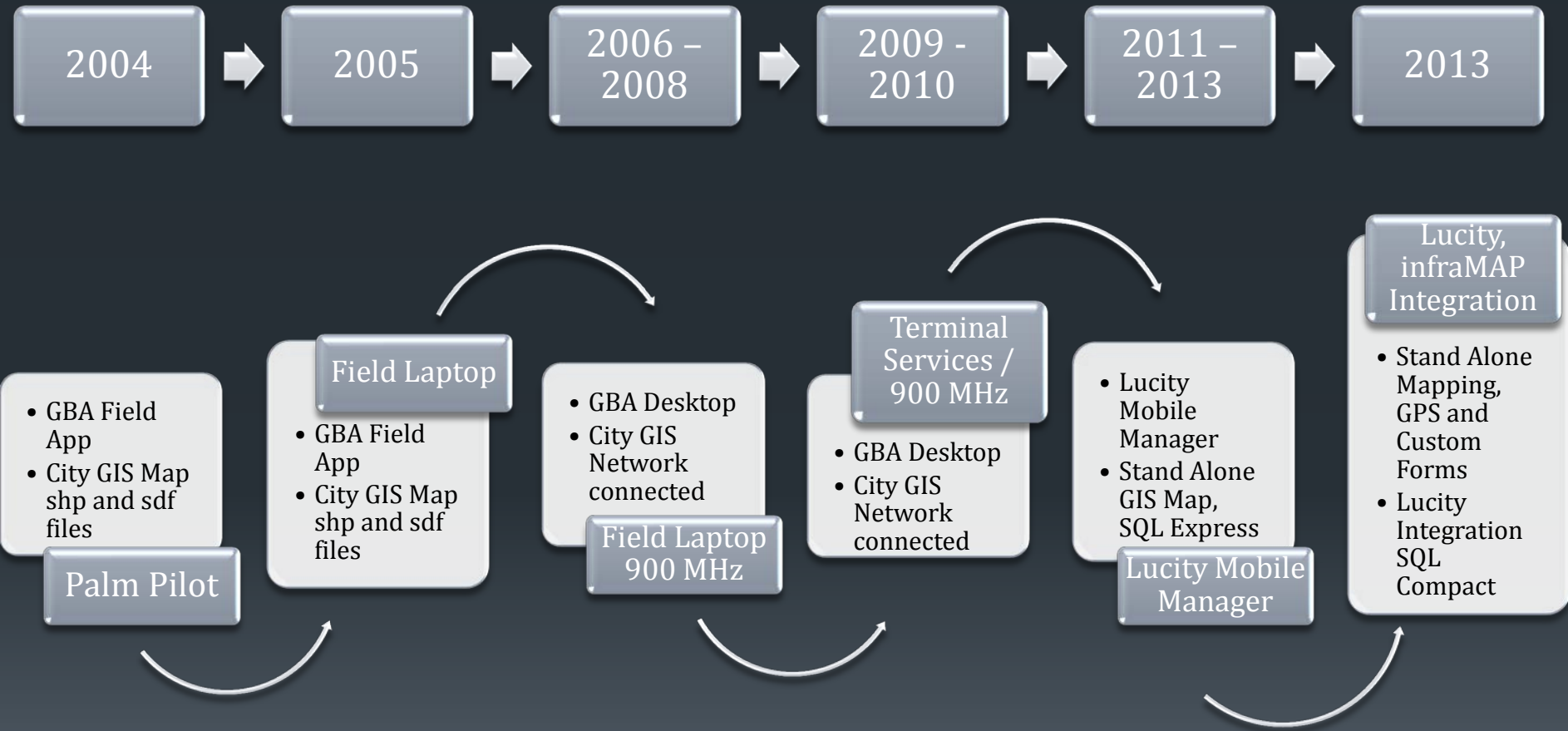Adam Hagee
Colin Kennedy

Grand Junction Background

- The City covers 39 Sq. Miles, Population of 60,298, with 212 miles of waterlines, 563 miles of sewer lines and 22,157 traffic signs.

- The Colorado National Monument, a series of canyons and mesas, overlooks the city on the west and east ends of the valley.

- The City uses multiple Lucity Modules including: Sewer, Storm, Transportation, Water, Trees / Parks, Equipment, Facilities, Work, and their Mobile module.

Mobile Application Time Line

2004	→	2005	→	2006 – 2008	→	2009 - 2010	→	2011 – 2013	→	2013

Palm Pilot

- GBA Field App
- City GIS Map shp and sdf files

Field Laptop

- GBA Field App
- City GIS Map shp and sdf files

Field Laptop 900 MHz

- GBA Desktop
- City GIS Network connected

Terminal Services / 900 MHz

- GBA Desktop
- City GIS Network connected

Lucity Mobile Manager

- Lucity Mobile Manager
- Stand Alone GIS Map, SQL Express

Lucity, infraMAP Integration

- Stand Alone Mapping, GPS and Custom Forms
- Lucity Integration SQL Compact

How we chose iWater/infraMAP®

- Needed a True Stand Alone Mobile Application
- Had to Completely Integrate with Lucity
- Had to be Simple to Use
- Full GIS Integration with City's GIS
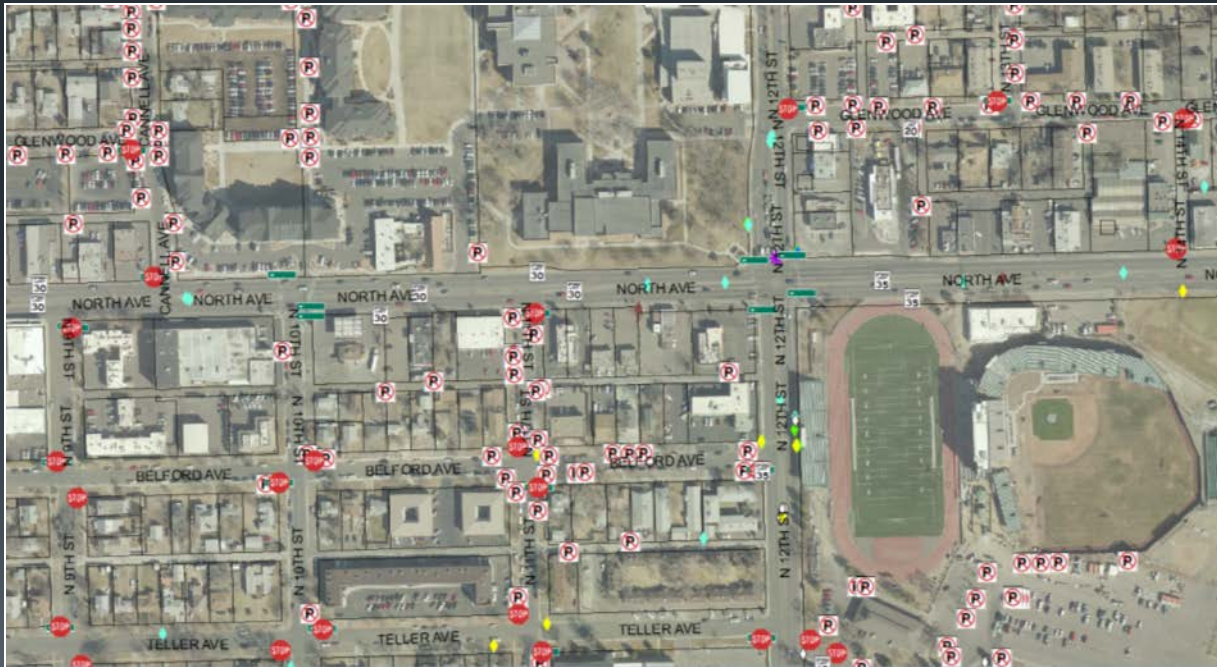
Where We Are Now?

- Sewer, Water, Traffic, Utilities, Parks and Forestry use infraMAP each in it's own way. From Inspections to Work Orders to adding new assets into Lucity.

- infraMAP provides the ability to create individual forms for inspections and work orders in a simple easy to use form.

- Ongoing map corrections via redline process in infraMAP.
  - Redline feature provides direct and automatic communications to GIS or engineering to correct differences between mapped and real world facilities
  - GPS allowing crews to complete 25 locates in less than two hours. What use to of taken them a day and half.

Road Map Ahead

- Provide digital links to as-built records and pertinent photos
- Implement a Geometric Network to take advantage of infraMAP Tracing tool.
- Expand the application to other Departments and Divisions.
- Using Lucity REST API's allows us to greatly expand our mobile work force.

Grand Junction InfraMAP Demo
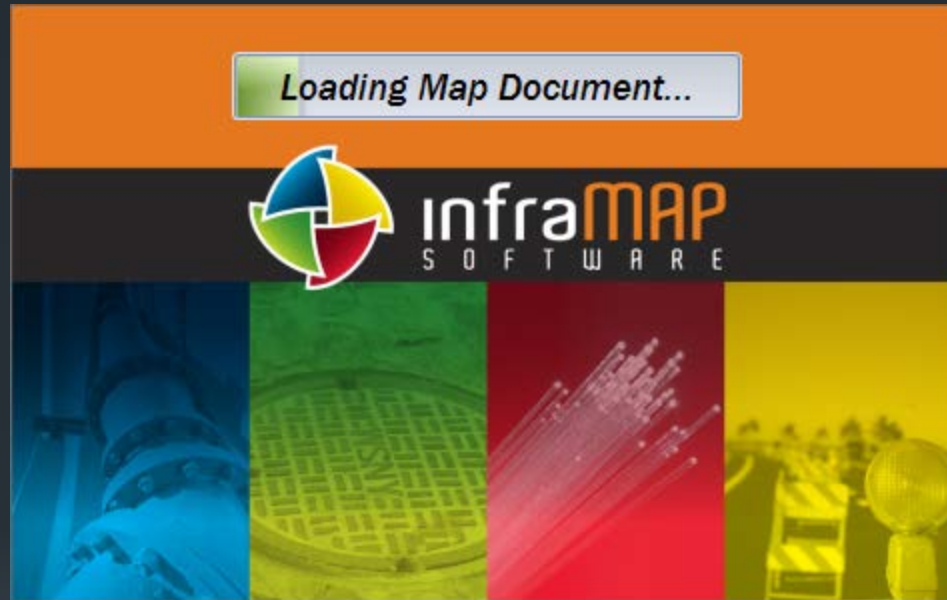
Loading the infraMAP application

Common Tool Functions
Zoom In, Zoom Out, Pan, Rotate, View Previous, Zoom to Full Extents and Turn
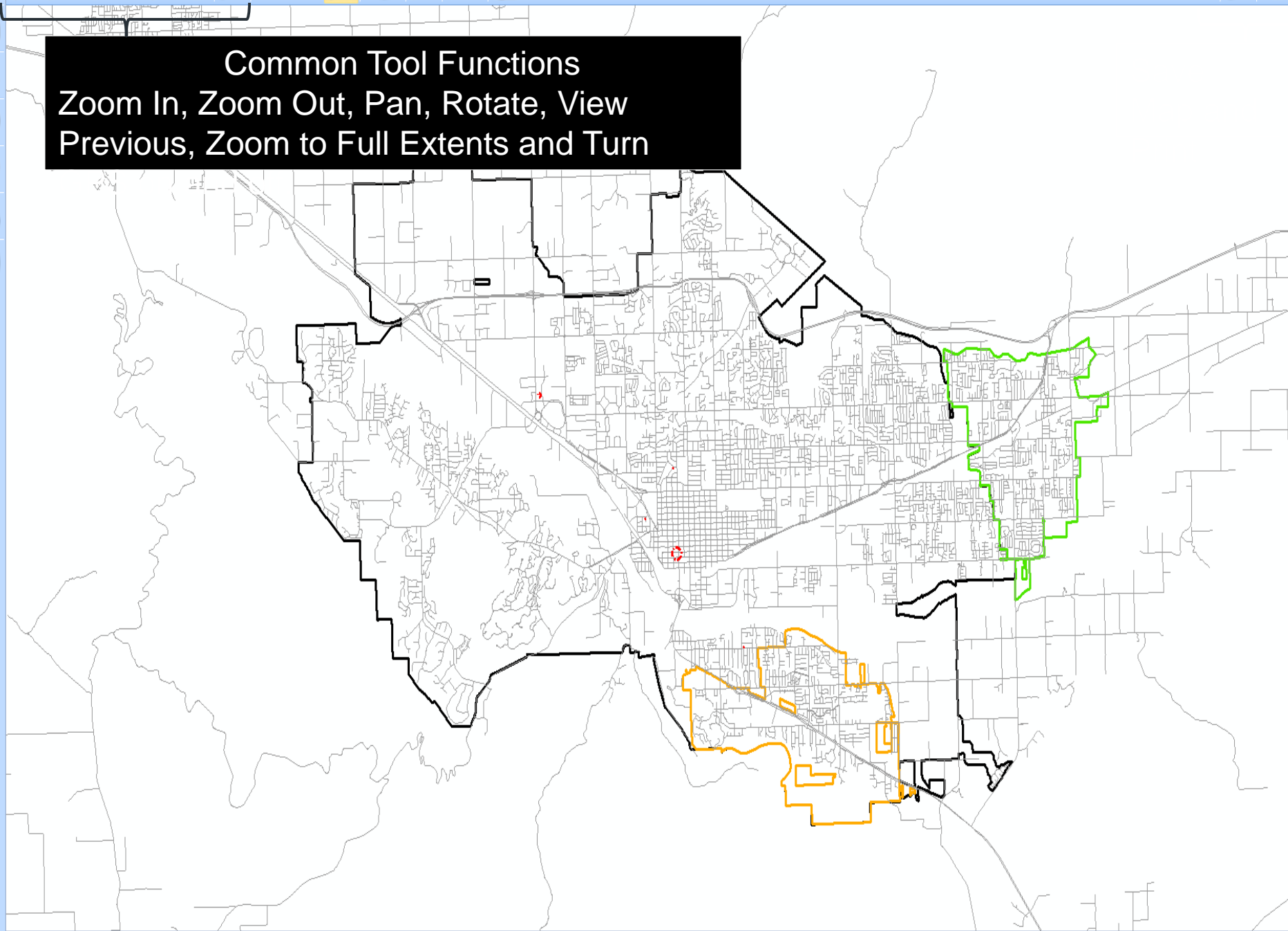
Additional Tool Functions
Select and Open Forms, Add New Feature,
Identify Feature, Measure and View Linked
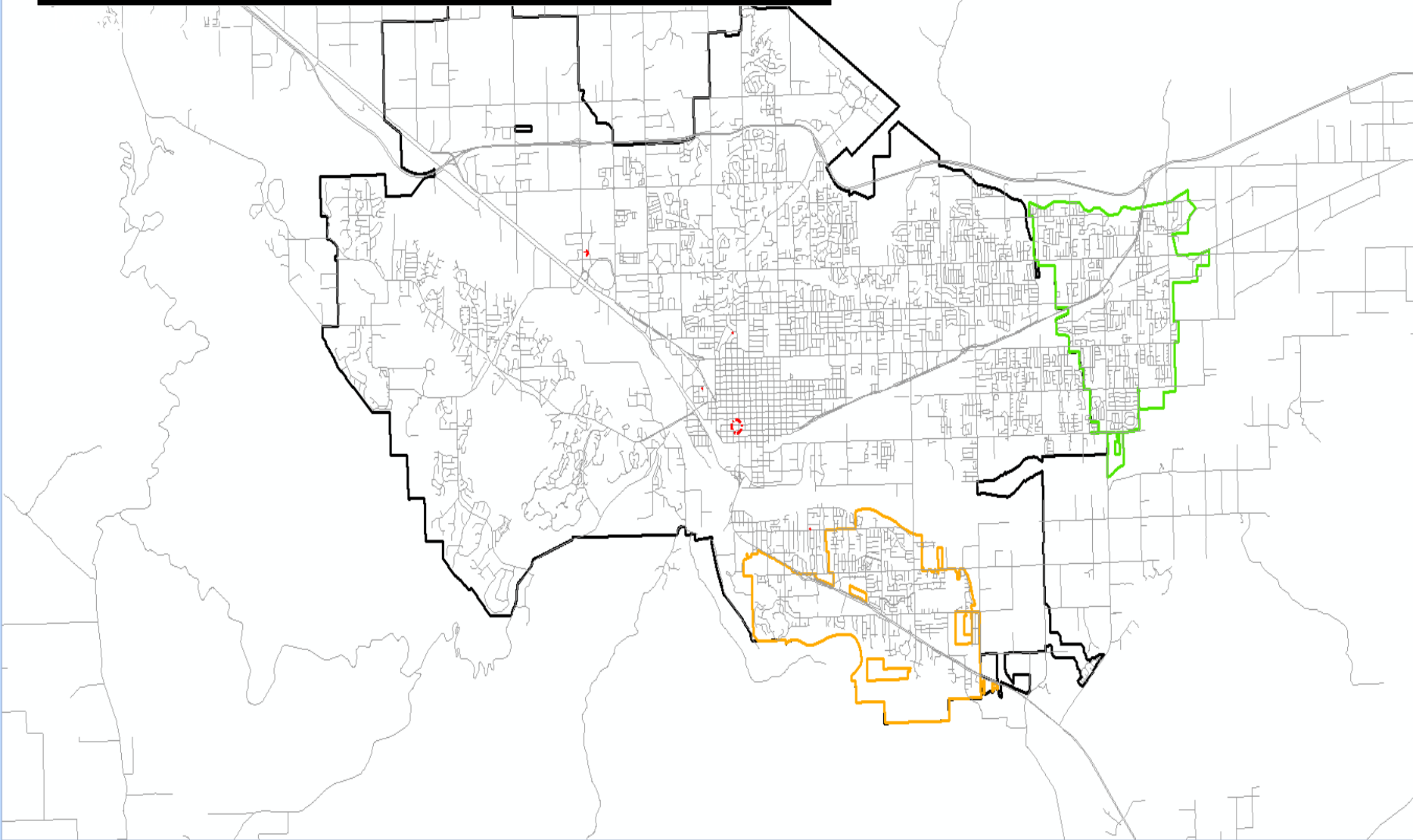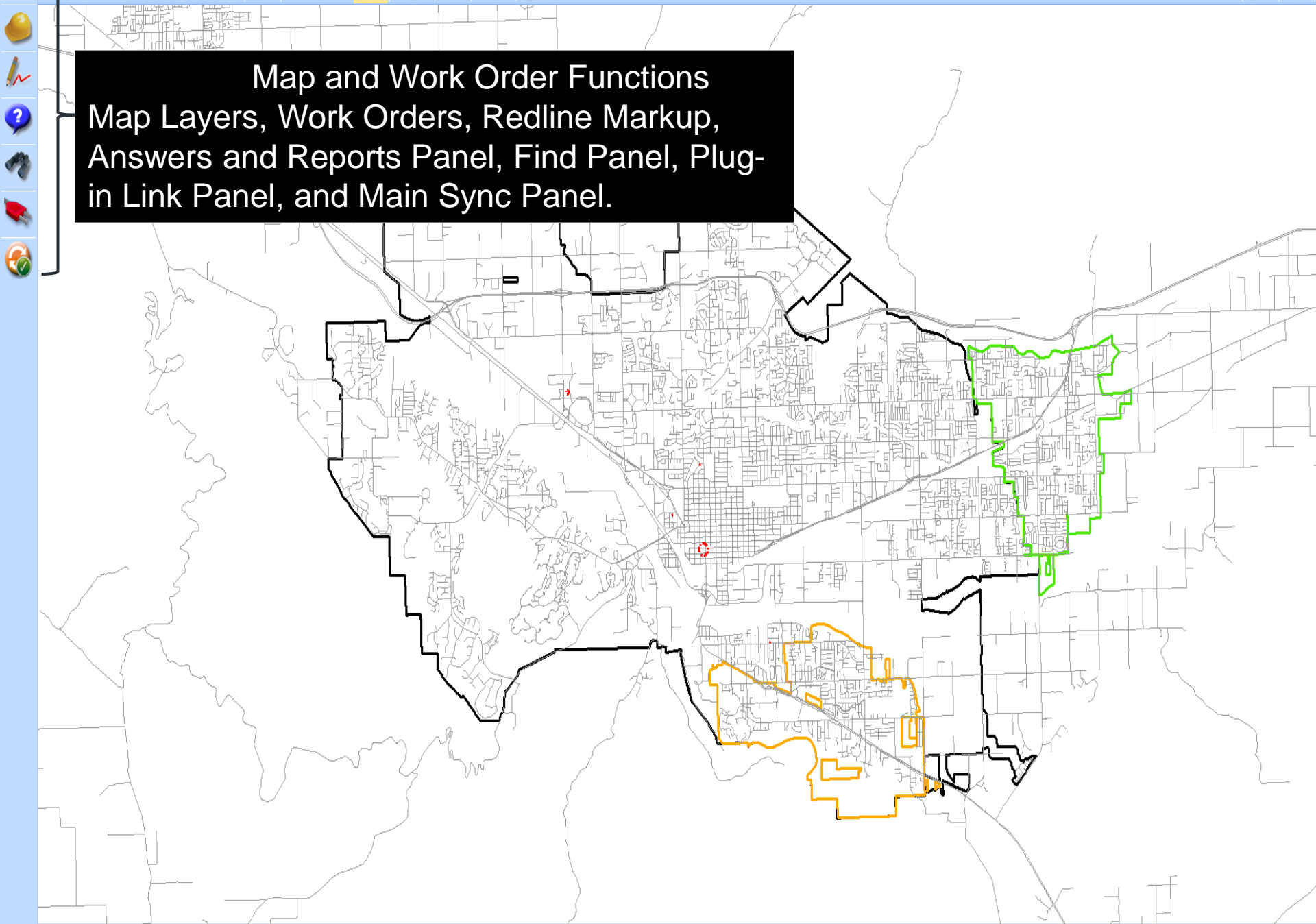
Map and Work Order Functions
Map Layers, Work Orders, Redline Markup, Answers and Reports Panel, Find Panel, Plug-in Link Panel, and Main Sync Panel.

The redline tool allows field crews to mark up maps to add new lines, corrections or what needs to be deleted. Save the Markups and then send then directly to GIS or Engineering for evaluation or correction upon syncing. Once the mark up has been completed by staff, the mark up is automatically removed from the users PC and the changes applied.
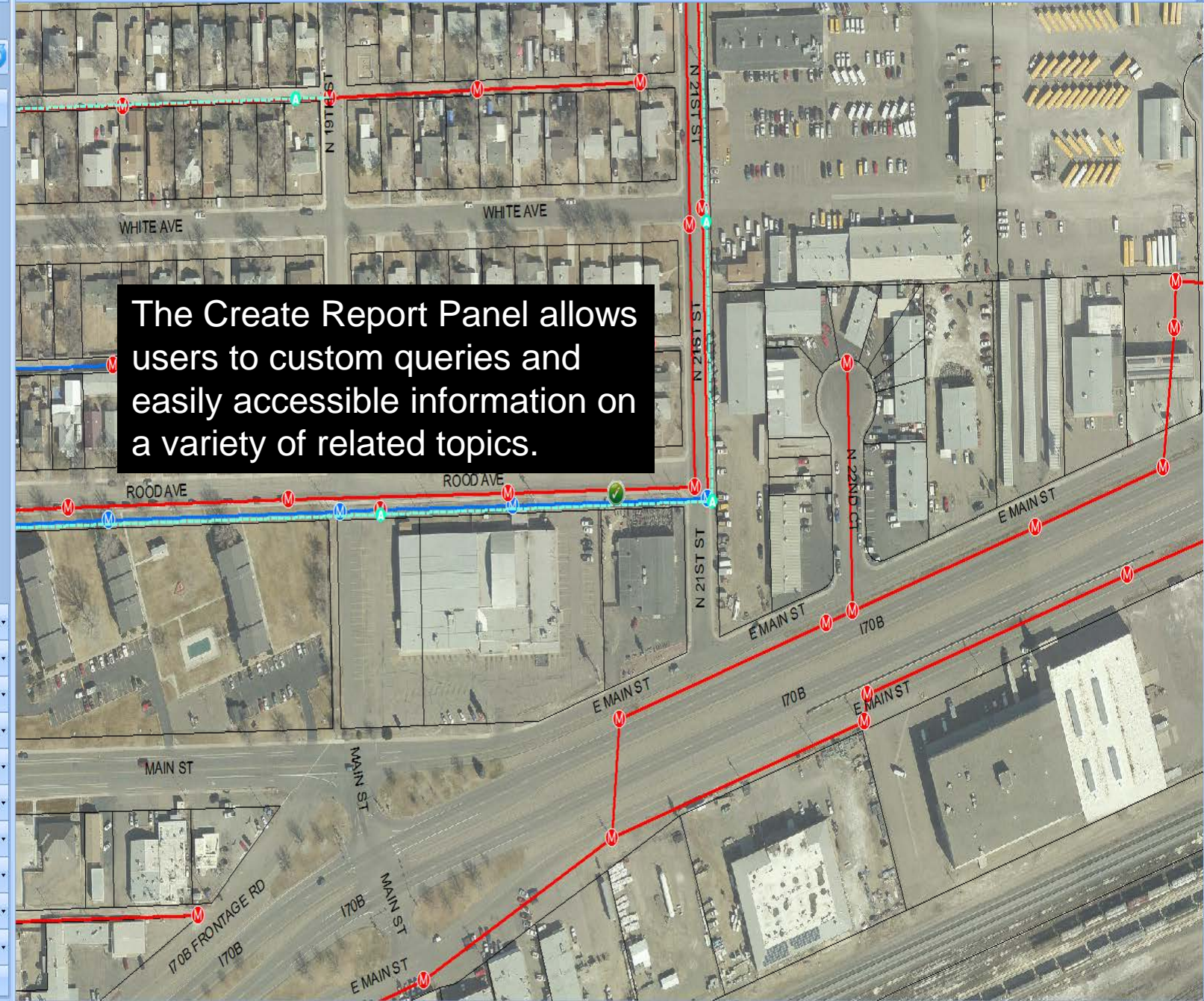
The Create Report Panel allows users to custom queries and easily accessible information on a variety of related topics.
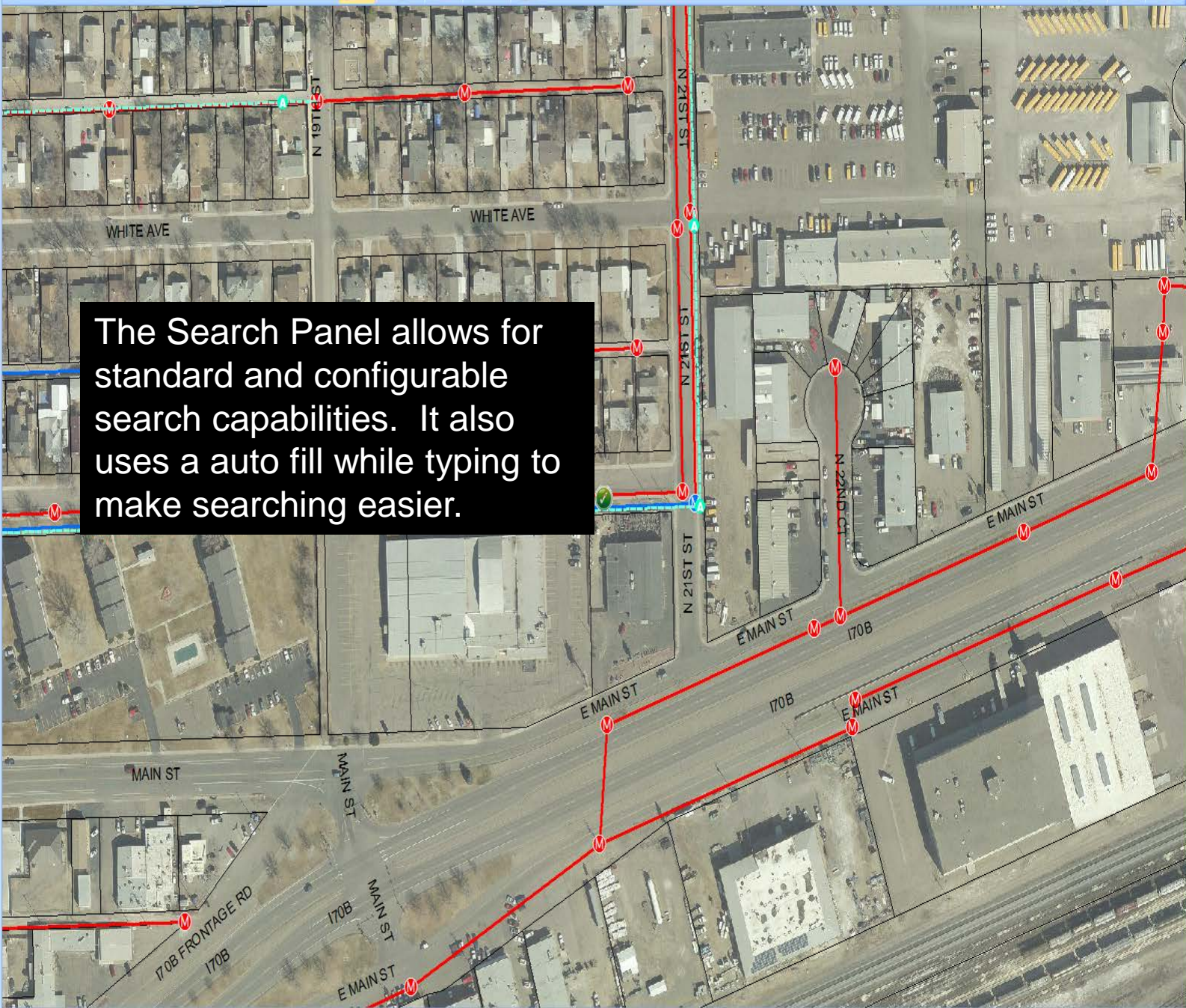
The Search Panel allows for standard and configurable search capabilities. It also uses a auto fill while typing to make searching easier.
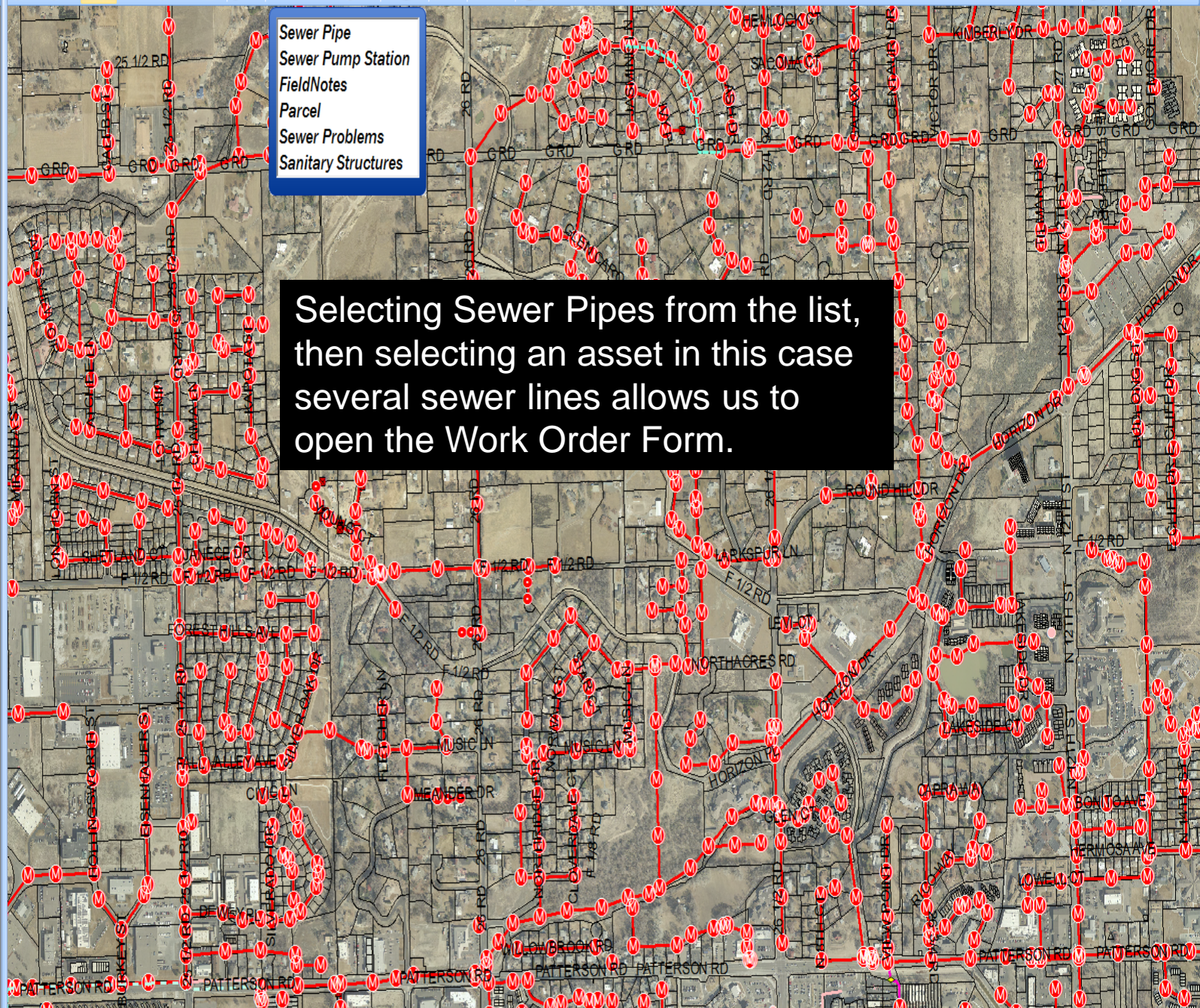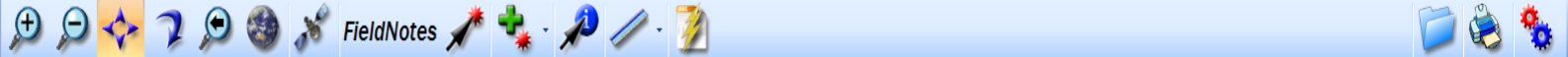
Layer Panel displays available Map Layers that can be turned on and off.

Depending on which layers are on allows you to select or open associated asset information or Open a Work Order.

Selecting Sewer Pipes from the list, then selecting an asset in this case several sewer lines allows us to open the Work Order Form.

After selecting the sewer lines, the display tells us how many have been selected and allows us to open the Sewer Pipe Details.

Clean/Jet Main 🔒

Date	Description

Opening the form, it displays the selected assets and the Work Order Form. It allows the user to populate the work order fields, add field comments and then create the work order.

💾 **Save**   ❌ **Cancel**

Related | **Map**

Sewer Pipe Information | **Work Order** | Resources\Tasks

Category

Status
New Work Order ⬇

Problem ⬇

Status Date
9/11/2013 📅

Main Task
JET LINE ⬇

Asset

Location

Cause ⬇

Assigned By ⬇

Assigned Crew ⬇

Assigned Date 📅

Supervisor ⬇

Start Date 📅

Lead Worker ⬇

End Date 📅

Priority ⬇

Reason ⬇

Comments

Assets
Asset: F2-261-076
Asset: F4-261-057
Asset: F4-261-058
Asset: F4-261-059
Asset: F4-261-060
Asset: F4-261-061
Asset: F3-261-056
Asset: F3-261-057
Asset: F3-261-058
Asset: G1-261-087
Asset: G1-261-088

Description

Create Work Order

Sewer Pipe Information **Work Order** Resources\Tasks

Clean/Jet Main

Date	Description

Forms support calendar date and time, drop down menus, text boxes and many other formats.

Save   **Cancel**

After selecting Create Work Order the work is generated and allow the user to add resources on the next tab.

Category
SEWER MAIN

Status
New Work Order

Problem
ROOTS

Status Date
9/11/2013

Main Task
JET LINE

Asset

Location

Cause
UNKNOWN

Assigned By

Assigned Crew
MM-PG

Assigned Date

Supervisor
Larry Brown

Start Date

Lead Worker
D MARTINEZ

End Date

Priority
As Time Allows

Reason
CITZEN REQUEST

Description

Create Work Order

Comments
Slow drainage, Citzen called in asked what could be done. Jetted lines down to the main line. Checked with residents after jetting.

Assets

Select a Date

◄ **September, 2013** ►

Mon	Tue	Wed	Thu	Fri	Sat	Sun
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

Today: 9/16/2013

Clean/Jet Main

Date	Description

Users enter their names and hours. They can also enter equipment used and materials used.

Save **Cancel**

Related Map

Employees

			Employee	UOM	Units	TimeType
✎	Save	Delete	KORY JONES	▼		
	Save	Delete	DANIEL TONELLO	Hours	4	Regular
	Save	Delete	D MARTINEZ	Each	4	Regular
				CONTACT		
				10 Gallons		
				1000 Gallons		
				Pounds		

Equipment

		Equipment	Units	UOM
*		Click here to add a new row		

Materials

		Material	UOM	Units
*		Click here to add a new row		
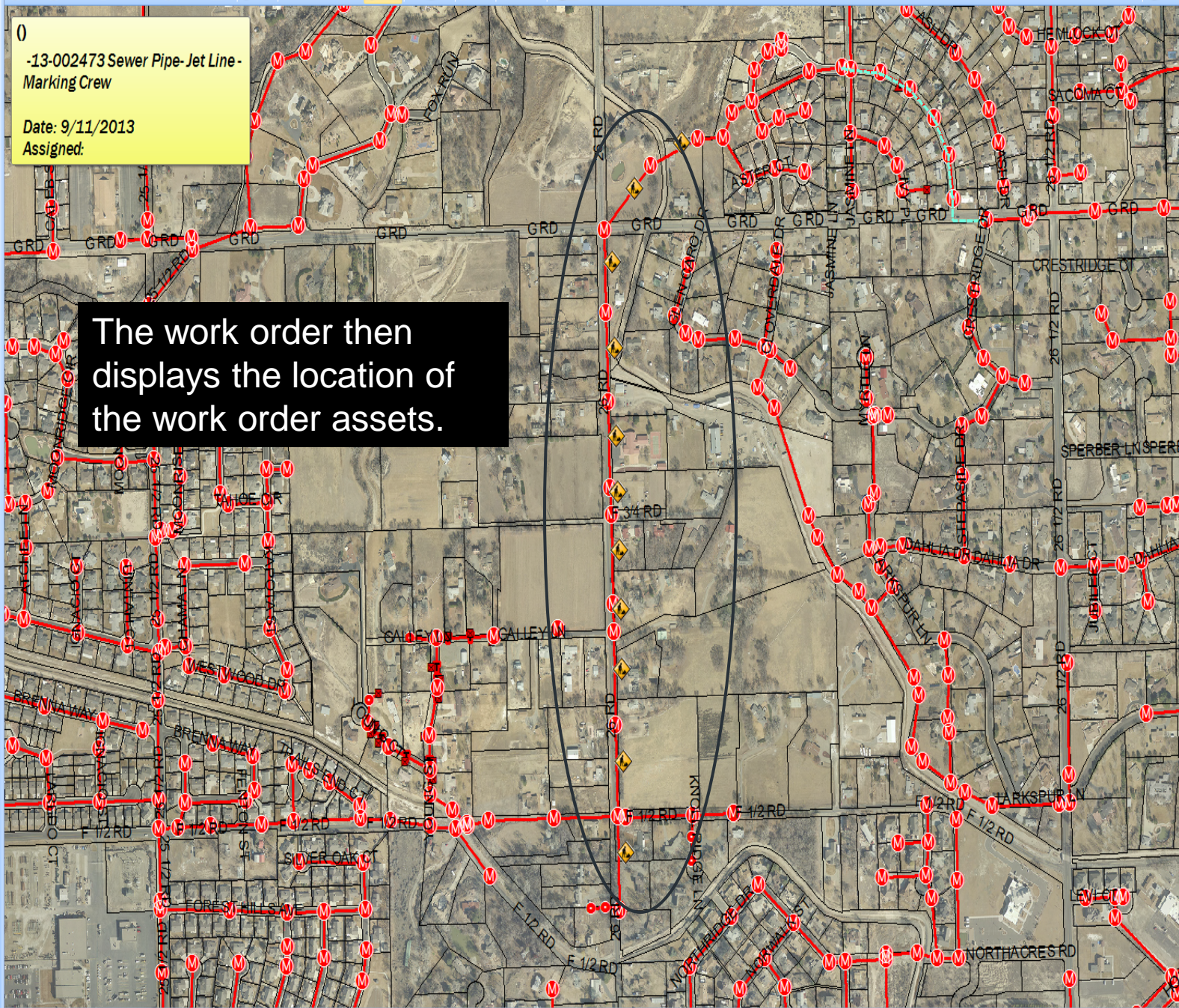
The work order then displays the location of the work order assets.
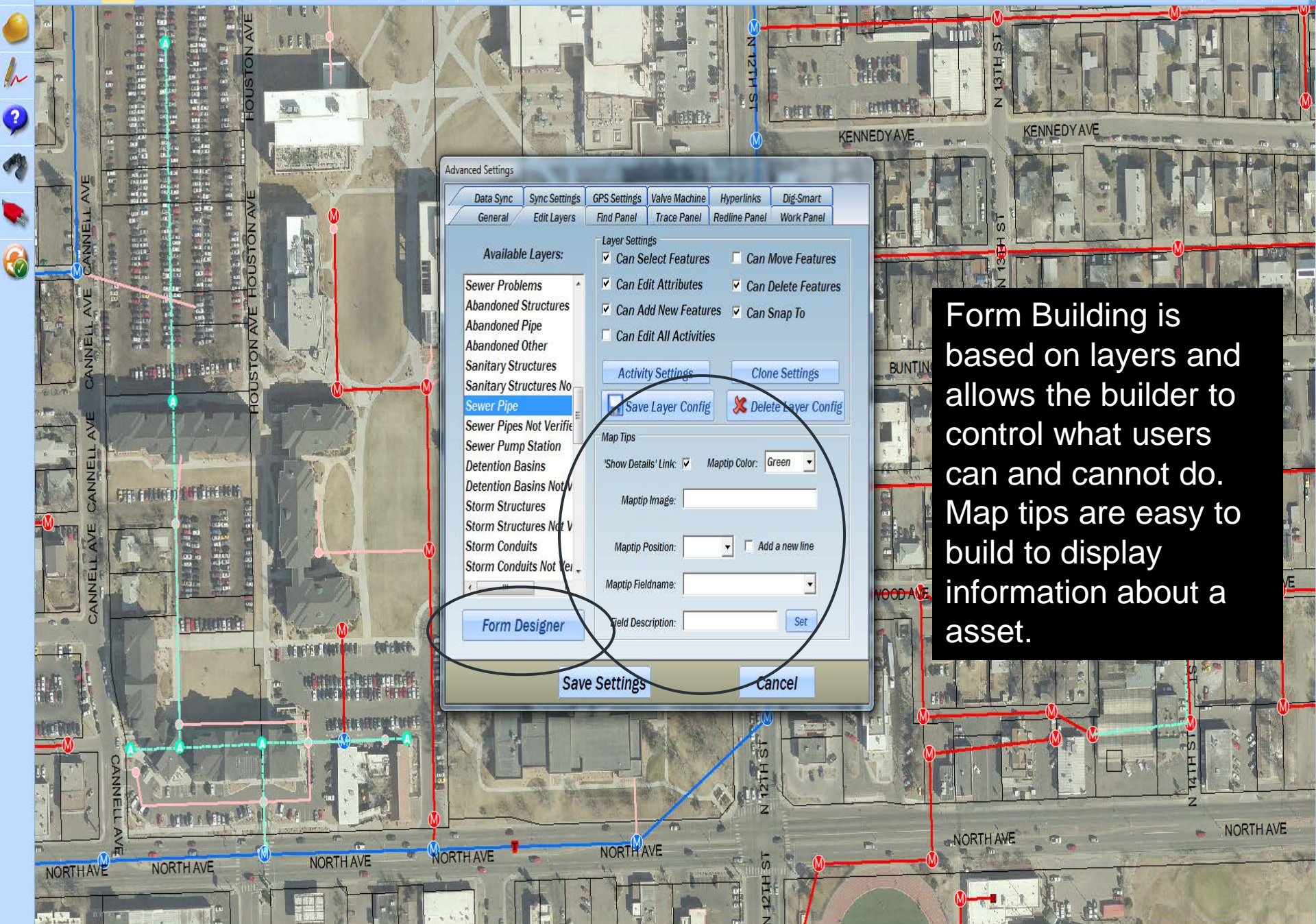
At the end of the day the user simply connects to the network and Synchronizes the Work Orders. Any new work orders generated to the assigned user are up loaded while work orders created out in the field are down loaded to the Lucity server.
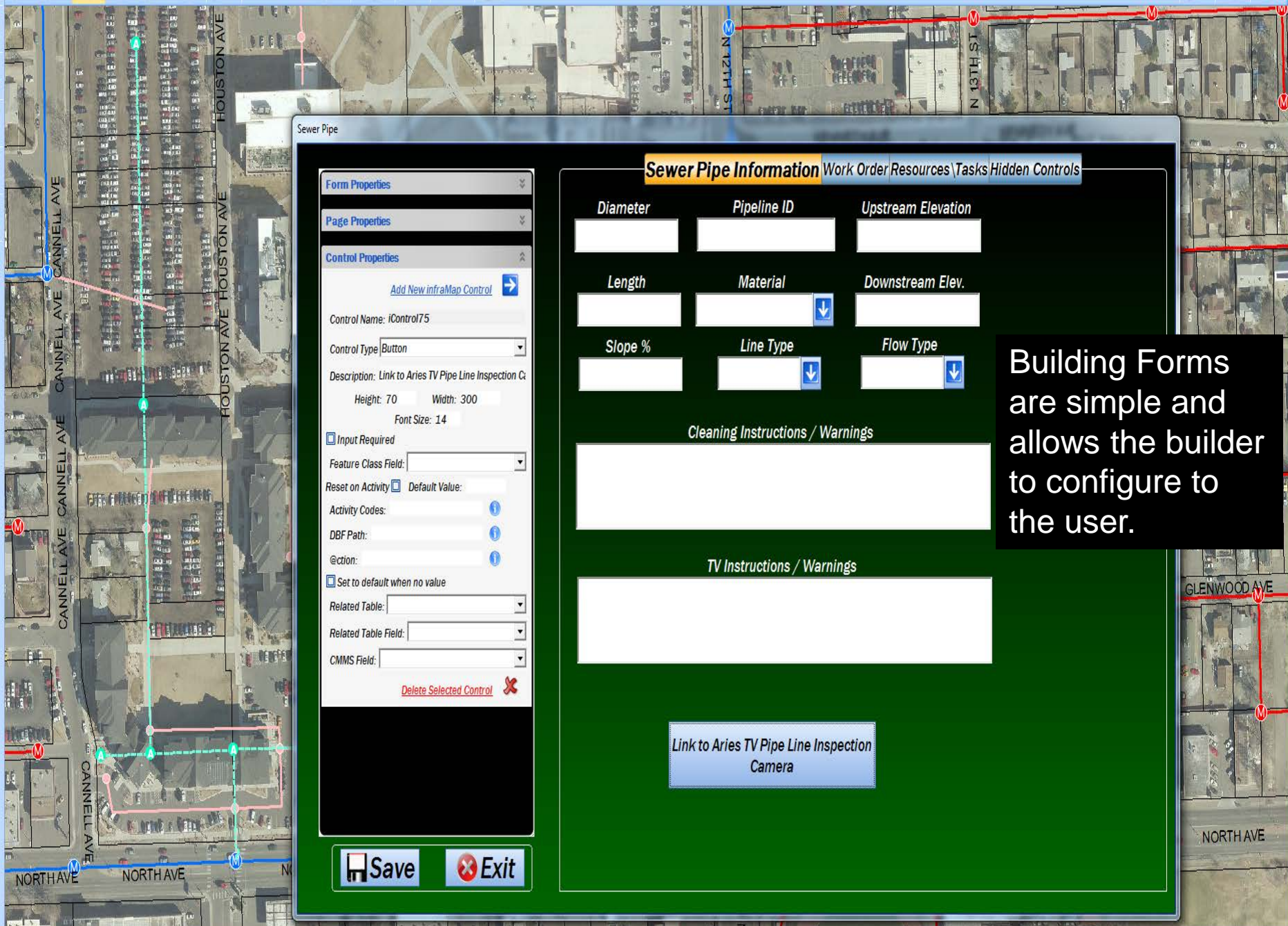
Form Building is based on layers and allows the builder to control what users can and cannot do. Map tips are easy to build to display information about a asset.

Building Forms are simple and allows the builder to configure to the user.

Form Properties ⌄

Page Properties ⌄

Control Properties ⌃

Add New infraMap Control →

Control Name: iControl27

Control Type: Textbox

Description: Category

Height: 30   Width: 550

Font Size: 12

☐ Input Required

Feature Class Field:

Reset on Activity ☐   Default Value:

Activity Codes: UPDT,INST,CLN,RPR ⓘ

DBF Path: ⓘ

@ction: ⓘ

☐ Set to default when no value

Related Table: SewerPipeActivity

Related Table Field:

CMMS Field: WO.CategoryCode

Delete Selected Control ✗

💾 Save   ✗ Exit

Sewer Pipe Information **Work Order** Resources\Tasks Hidden Controls

Category

Status   Problem

Status Date   Main Task

Asset

Comments

Assets

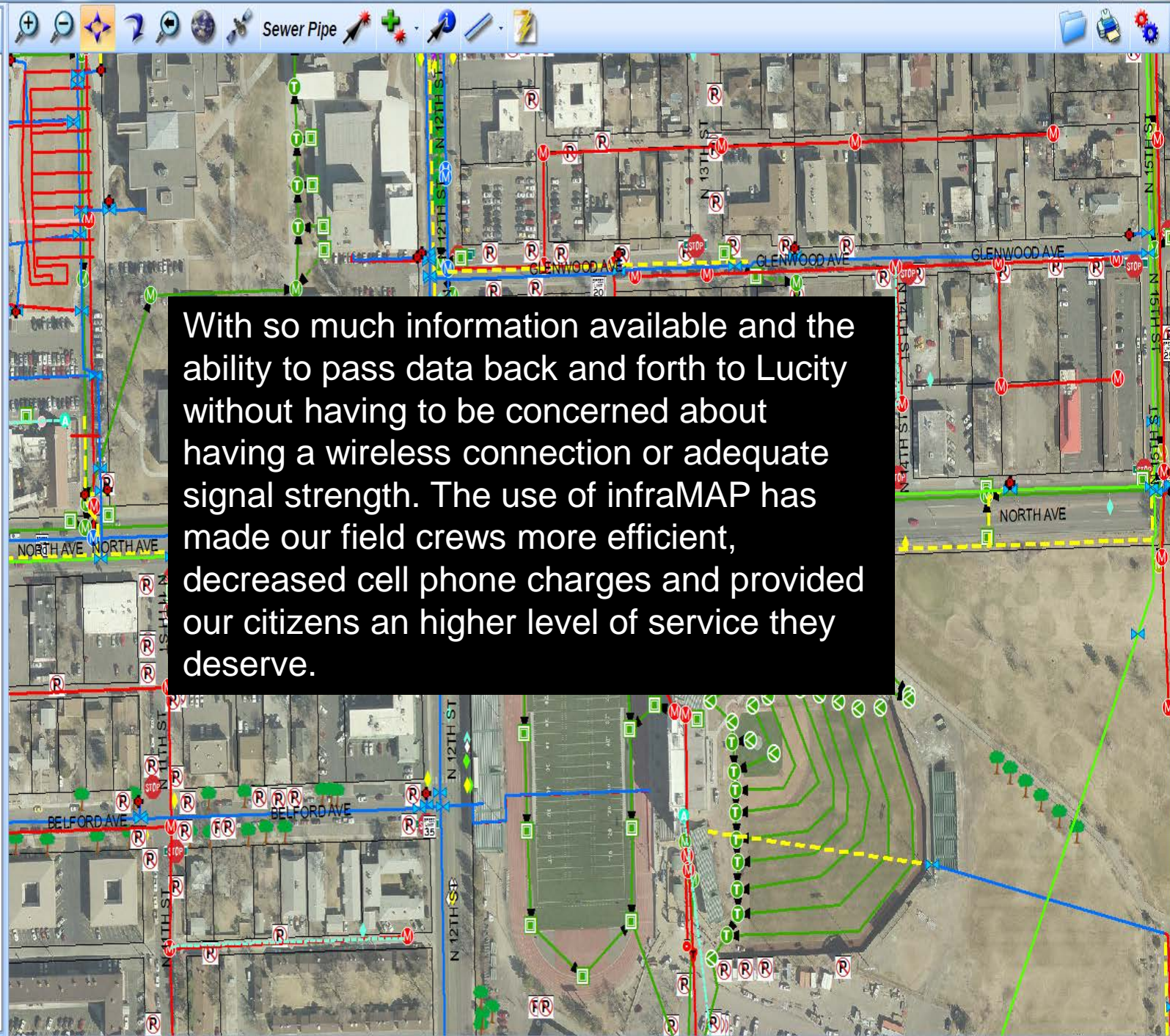For displaying read only information the builder selects what feature class they want to display and link it the control.

Assigned Crew   Assigned Date

Supervisor   Start Date

End Date

Forms use the Lucity Rest API to connect to Lucity. When the API passes back (syncs) to Lucity, Lucity then assigns the Work Order Number, preventing duplicate WO number from being generated.

Reason

reate Work Order

With so much information available and the ability to pass data back and forth to Lucity without having to be concerned about having a wireless connection or adequate signal strength. The use of infraMAP has made our field crews more efficient, decreased cell phone charges and provided our citizens an higher level of service they deserve.

Questions?

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