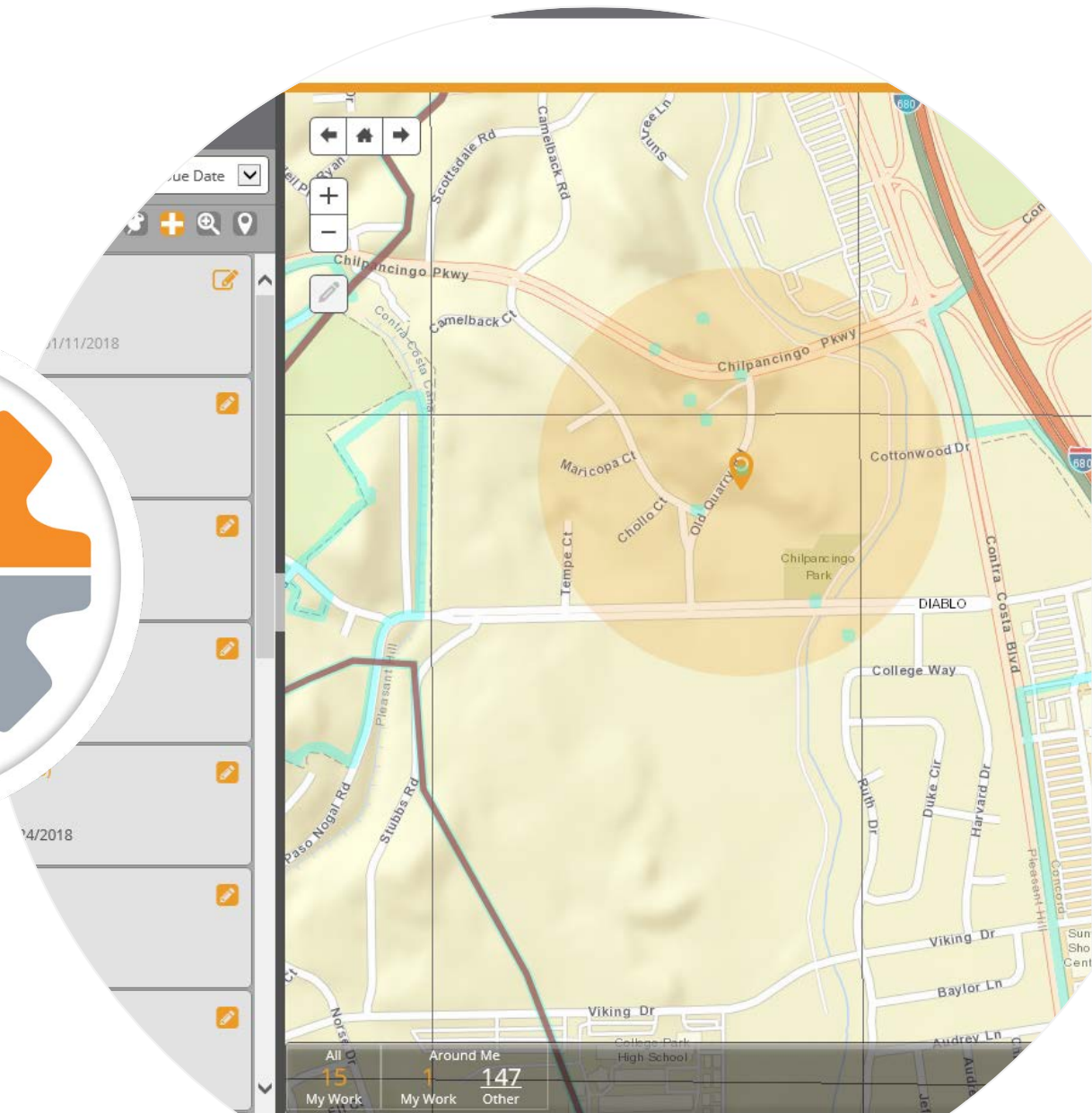


Using a GIS-based Office to Field Inspection App to Enhance Compliance

A Digital Utility® Solution

Gas Compliance Management



Our Team Today



Bart Elliott

Executive Vice President



Ed Anderson

*Executive Gas Utility
Consultant*



Faye Hall

*Director Software
Development*



Tom Helmer

*Executive Solution
Architect*



Our Company

- Founded in 2005
- Privately Owned
- 460 Employees
- Denver, Los Angeles, Waukesha, Tampa



Utility Network Management
Specialty



ArcGIS Online
Specialty



Release Ready
Specialty

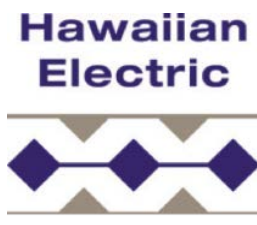


Esri Partner Conference
2020 Award Winner

Innovative Solution

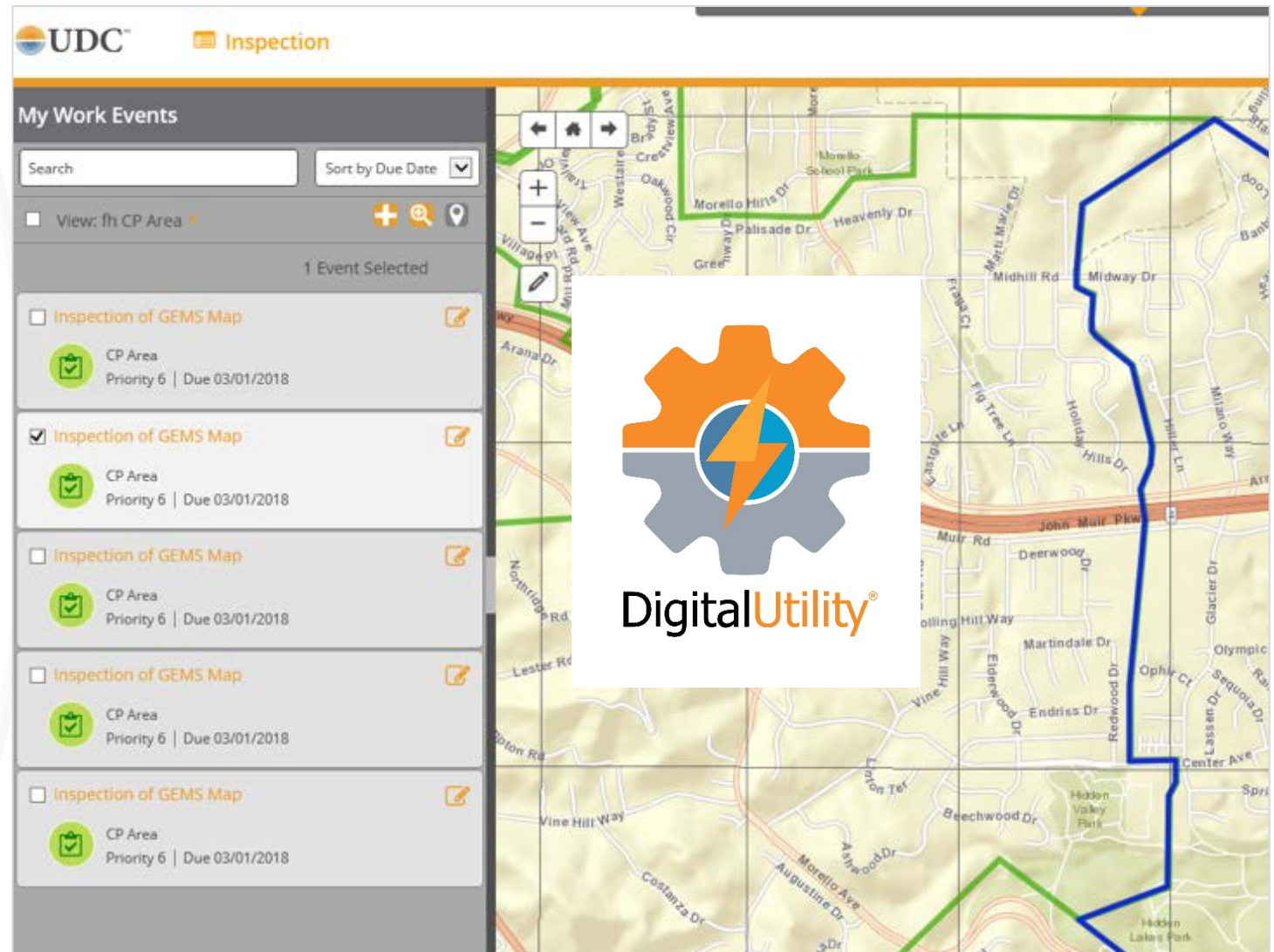


*Award for innovation
in Gas OMS*



Digital Utility[®] Compliance Manager

- Enterprise ArcGIS Application
- Supporting Preventative Maintenance Programs and Inspections
- Assists Business Workflow Automation & Visualization
Plan, Create, Schedule, Dispatch, Complete, Monitor, Report



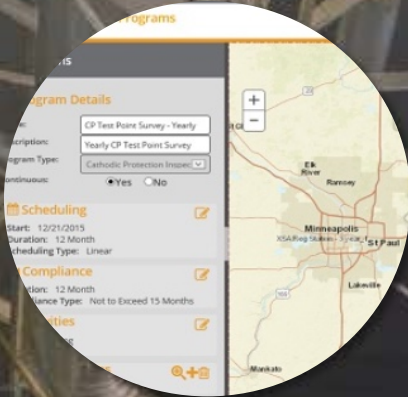
Before Compliance Manager



Joe Compliance Manager	Anna Back Office Supervisor	Stephanie Field Crew Member	Ted VP Utility Operations	Rose PUC Regulatory Compliance
<p>Multiple systems/ software applications for programs</p> <p>No consistent Rules for programs</p> <p>Lack of visual progress tracking</p>	<p>Lack of digital tools for work grouping and assignment</p> <p>No visibility of work assignments and progress</p>	<p>Multiple places to manually record work</p> <p>Multiple visits to complete work and rework</p> <p>Exception reporting and follow-up</p>	<p>Lack of timely reporting/updates</p> <p>Manual preparation/non- effective use of time</p> <p>Tracking/Traceability issues</p>	<p>Lack of reporting</p> <p>Lack of visibility into issues/fixes</p> <p>Multiple formats depending on program</p>

Digital Utility[®] Compliance Manager

Complete facility inspections



Programs



Events



Inspection



Exceptions



Operation



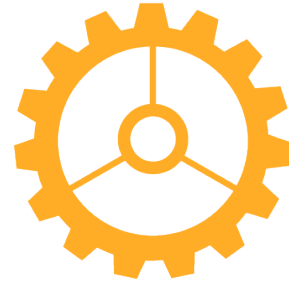
Reports



Configuration



Plan Inspection or Survey



Create Work Areas & Schedule



Assign & Dispatch Work

7 Primary Functions of Compliance Manager



Complete Work in the Field



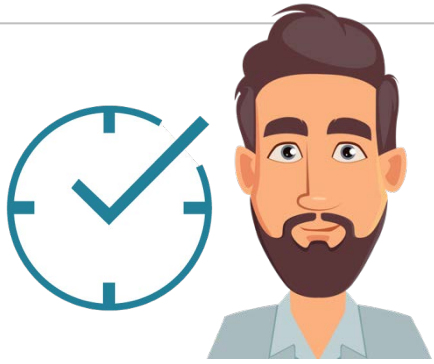
Report Compliance



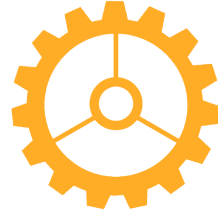
Dashboards to Monitor Progress



Back Office Support



Plan Inspection or Survey



Create Work Areas & Schedule



Assign & Dispatch Work

7 Primary Functions of Compliance Manager



Complete Work in Field



Report Compliance



Dashboards to Monitor Progress



Back Office Support

Programs

Program Details

Name: Leak Survey
Description: Annual Downtown Survey
Program Type: Gas Survey
District: Downtown
Continuous: Yes No

Scheduling

Start: 2/14/2017
Duration: 12 Month
Scheduling Type: Last Completed Date

Compliance

Compliance Type: Not to Exceed 15 Months

Activities

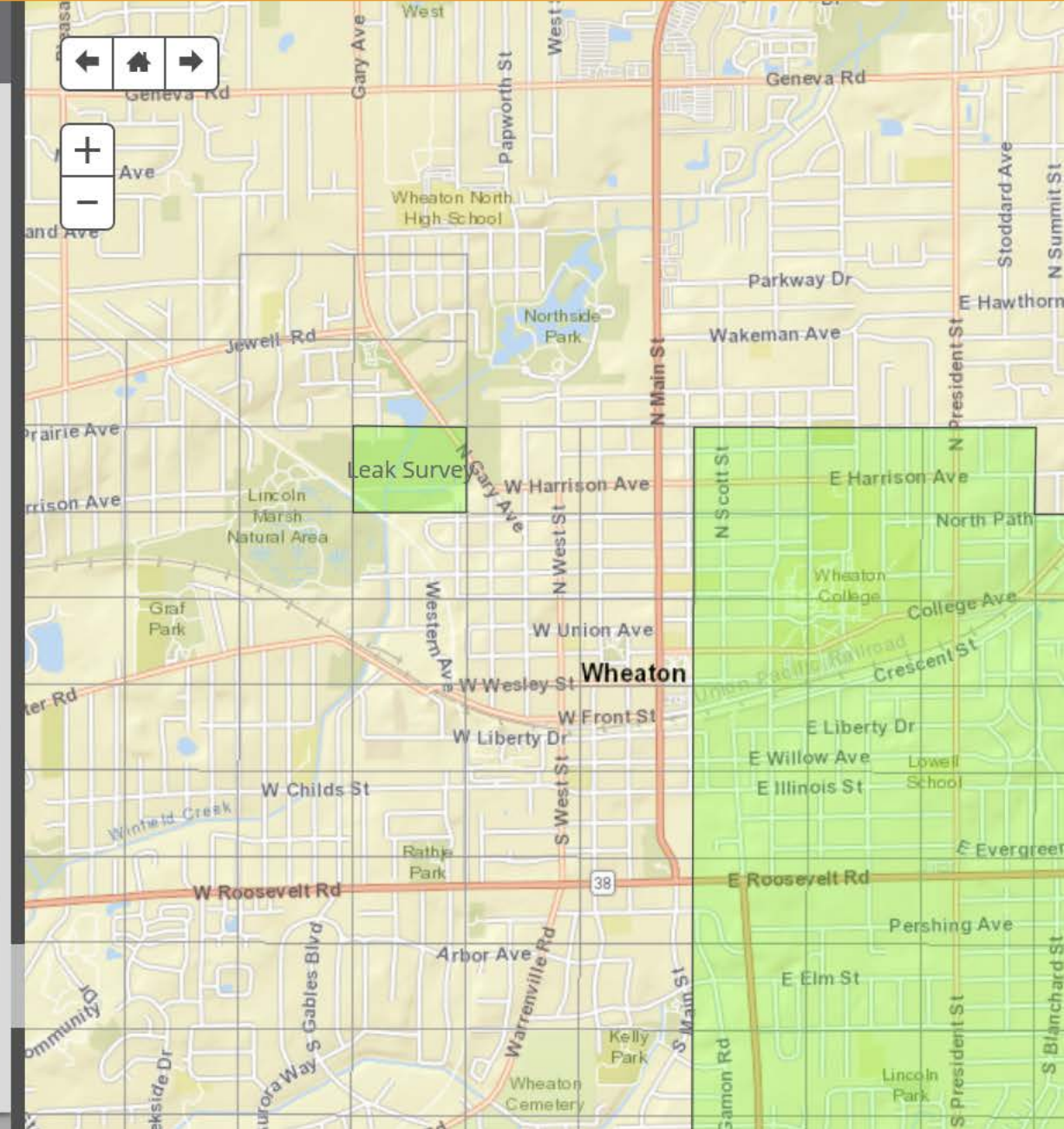
Gas Leak Survey

Work Grids

193 Work Grids

SAVE

CANCEL



Programs

Program Details

Name:

Description:

Program Type:

District:

Continuous: Yes No

Scheduling

Start: 2/14/2017
Duration: 12 Month
Scheduling Type: Last Completed Date

Compliance

Compliance Type: Not to Exceed 15 Months

Activities

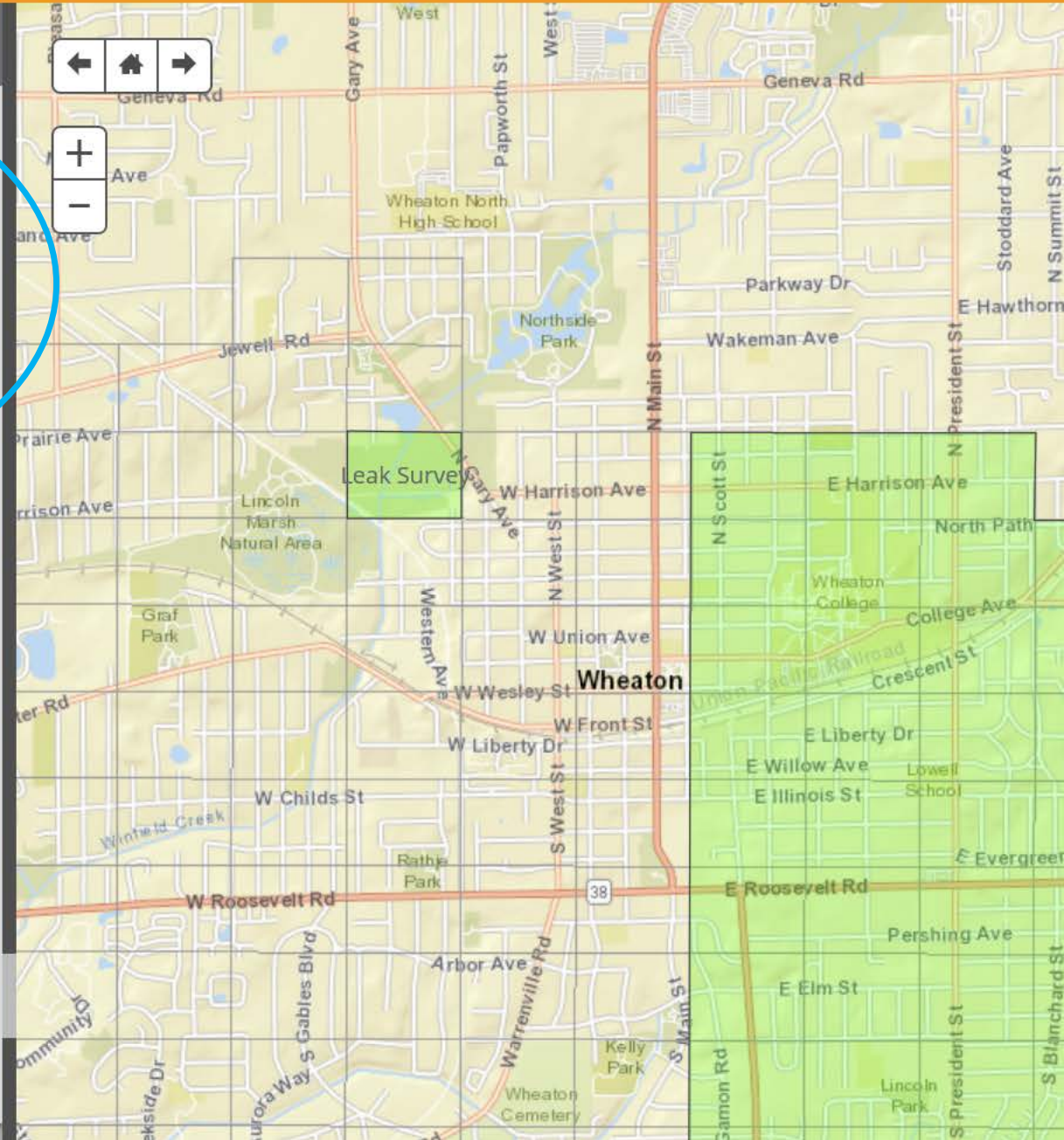
Gas Leak Survey

Work Grids

193 Work Grids

SAVE

CANCEL



Programs

Program Details

Name:

Description:

Program Type:

District:

Continuous: Yes No

Scheduling

Start: 2/14/2017
Duration: 12 Month
Scheduling Type: Last Completed Date

Compliance

Compliance Type: Not to Exceed 15 Months

Activities

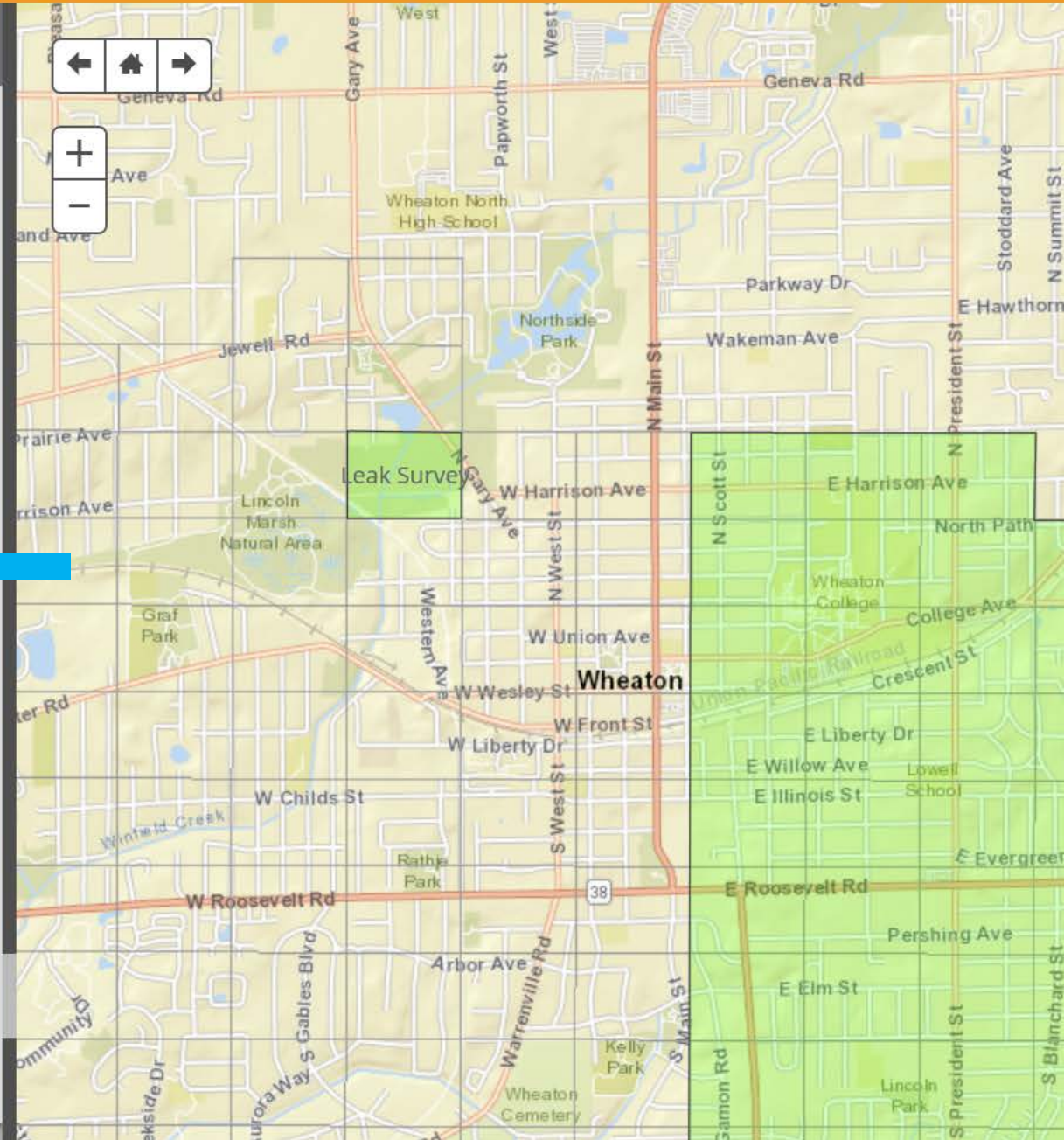
Gas Leak Survey

Work Grids

193 Work Grids

SAVE

CANCEL





Programs

Program Details

Name:

Description:

Program Type:

District:

Continuous: Yes No

Scheduling

Start: 2/14/2017
 Duration: 12 Month
 Scheduling Type: Last Completed Date

Compliance

Compliance Type: Not to Exceed 15 Months

Activities

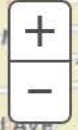
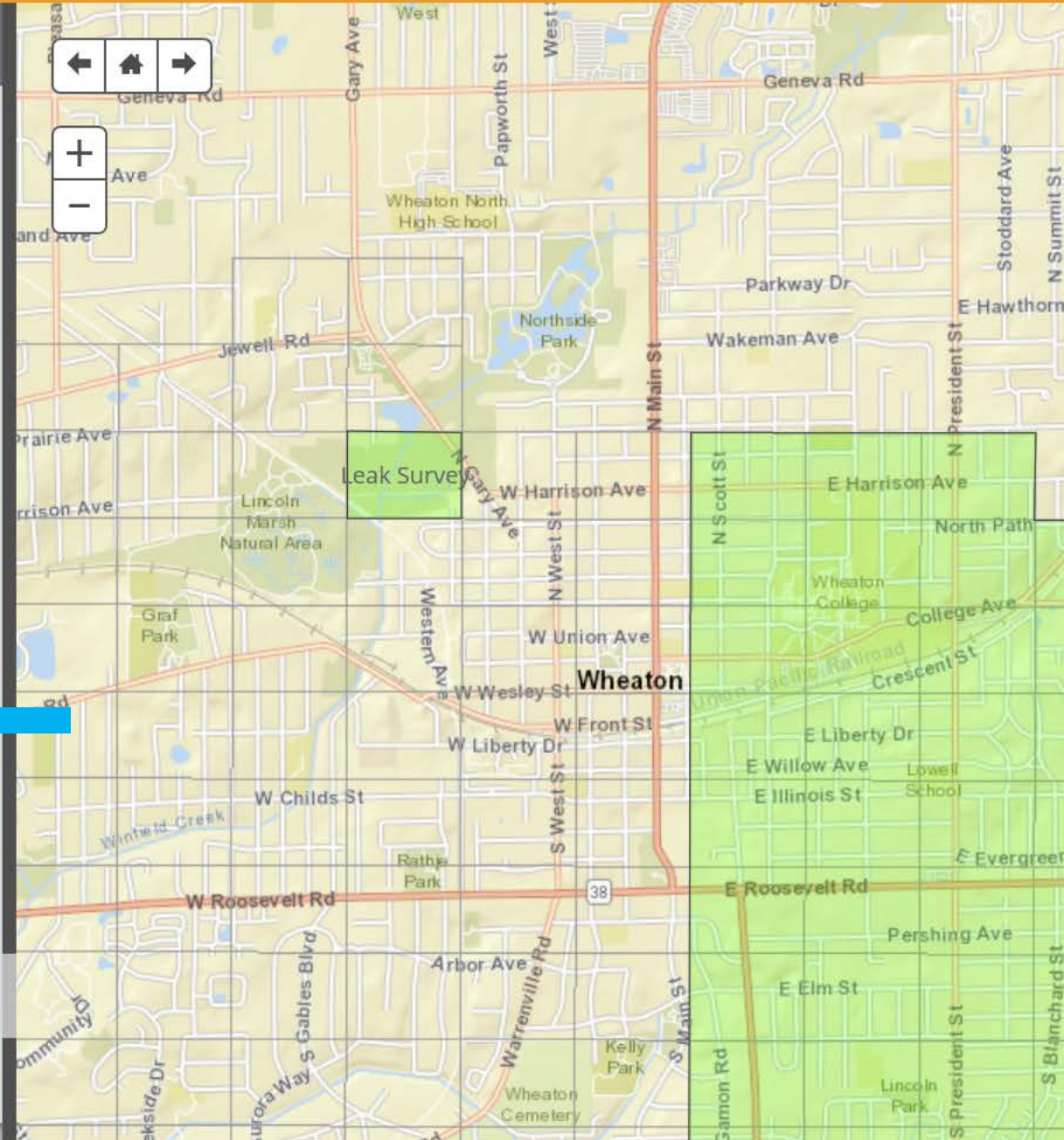
Gas Leak Survey

Work Grids

193 Work Grids

SAVE

CANCEL





Programs

Program Details

Name:

Description:

Program Type:

District:

Continuous: Yes No

Scheduling

Start: 2/14/2017
 Duration: 12 Month
 Scheduling Type: Last Completed Date

Compliance

Compliance Type: Not to Exceed 15 Months

Activities

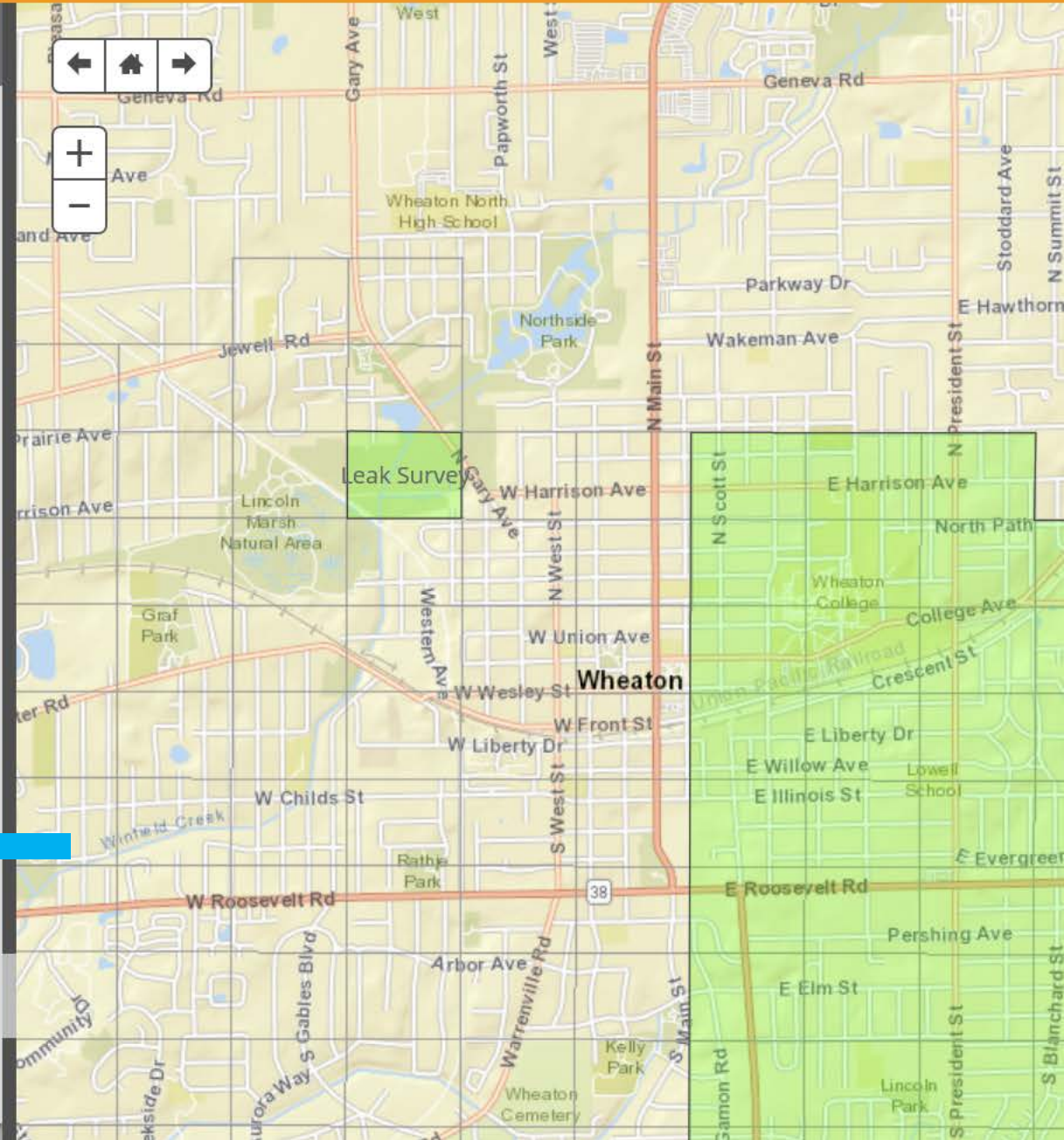
Gas Leak Survey

Work Grids

193 Work Grids

SAVE

CANCEL



Programs

Program Details

Name:

Description:

Program Type:

District:

Continuous: Yes No

Scheduling

Start: 2/14/2017
 Duration: 12 Month
 Scheduling Type: Last Completed Date

Compliance

Compliance Type: Not to Exceed 15 Months

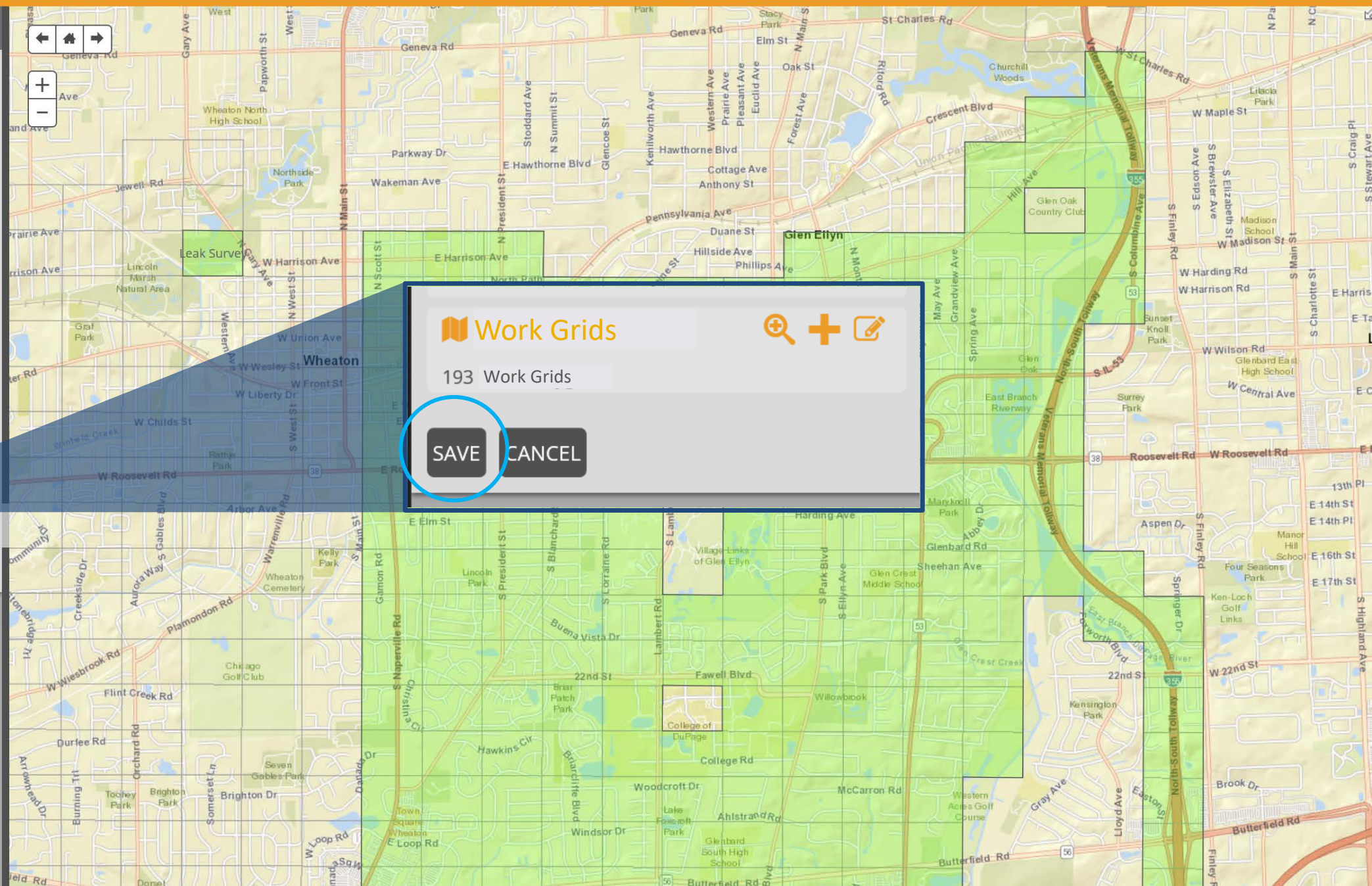
Activities

Gas Leak Survey

Work Grids

193 Work Grids

SAVE CANCEL



Work Grids

193 Work Grids

SAVE CANCEL

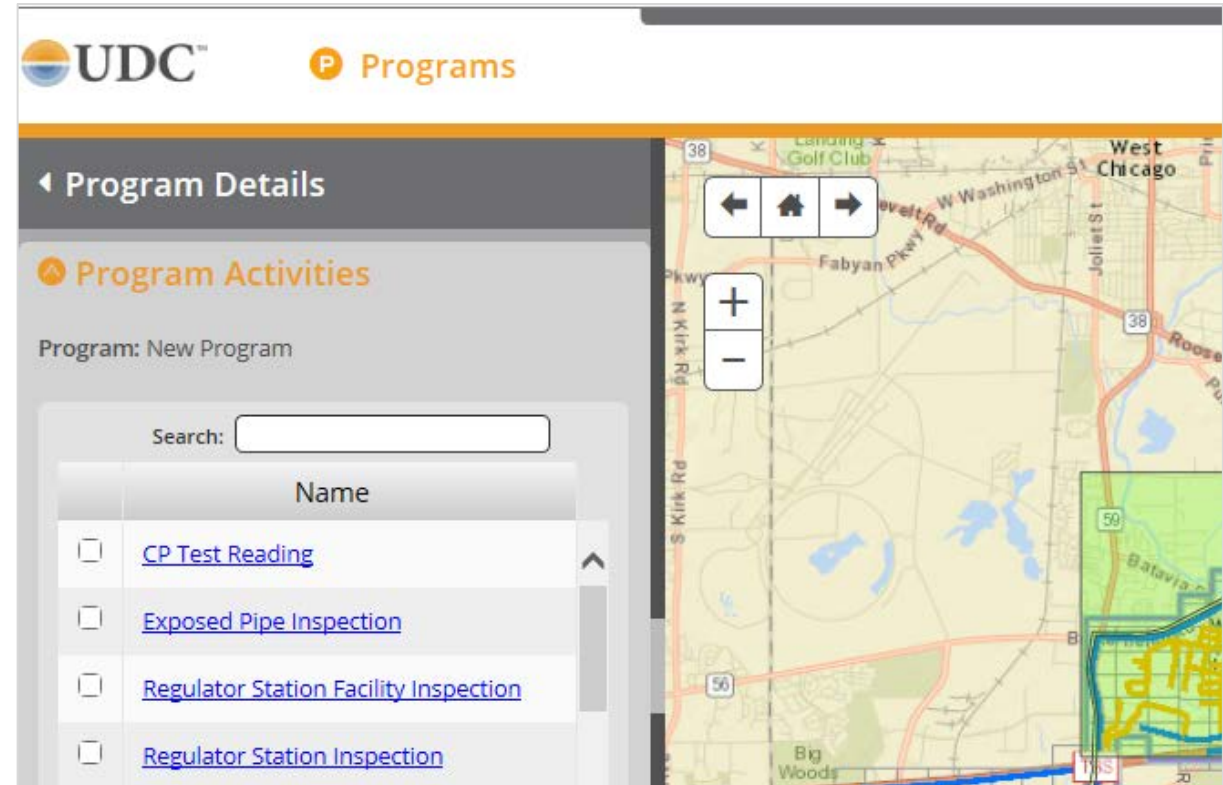
Better Support for New Programs

Compliance Manager is Intuitive and Versatile

- Define your preventative maintenance programs once and assets come and go with as-builts
- Easily make changes and control field tools
- Use for all your utility surveys and inspections...



- ✓ Leak Surveys
- ✓ Cathodic Protection Surveys
- ✓ Critical Valve Inspections
- ✓ Cast Iron Surveys
- ✓ Other...



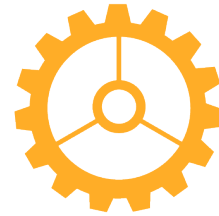
The screenshot displays the UDC Programs interface. At the top, the UDC logo and a 'Programs' button are visible. Below this, a 'Program Details' section shows a back arrow and the title 'Program Details'. Underneath, a 'Program Activities' section is titled with an orange 'A' icon. The text 'Program: New Program' is displayed. A search bar is present with the label 'Search:'. Below the search bar is a table with a header 'Name' and four rows of activities, each with a checkbox and a blue link:

	Name
<input type="checkbox"/>	CP Test Reading
<input type="checkbox"/>	Exposed Pipe Inspection
<input type="checkbox"/>	Regulator Station Facility Inspection
<input type="checkbox"/>	Regulator Station Inspection

To the right of the table is a map showing a geographical area with roads like 'Fabyan Pkwy', 'W Washington St', and 'Joliet St'. The map includes navigation controls (back, home, forward) and zoom controls (+, -). A small inset map in the bottom right corner shows a larger view of the area.



Plan Inspection or Survey

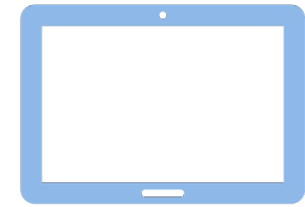


Create Work Areas & Schedule



Assign & Dispatch Work

7 Primary Functions of Compliance Manager



Complete Work in Field



Report Compliance



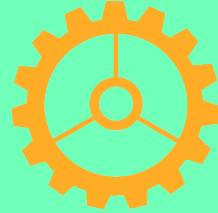
Dashboards to Monitor Progress



Back Office Support



Plan Inspection or Survey

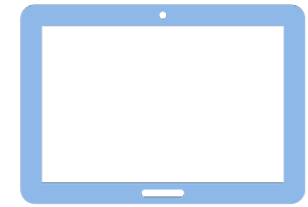


Create Work Areas & Schedule



Assign & Dispatch Work

7 Primary Functions of Compliance Manager



Complete Work in Field



Report Compliance



Dashboards to Monitor Progress



Back Office Support

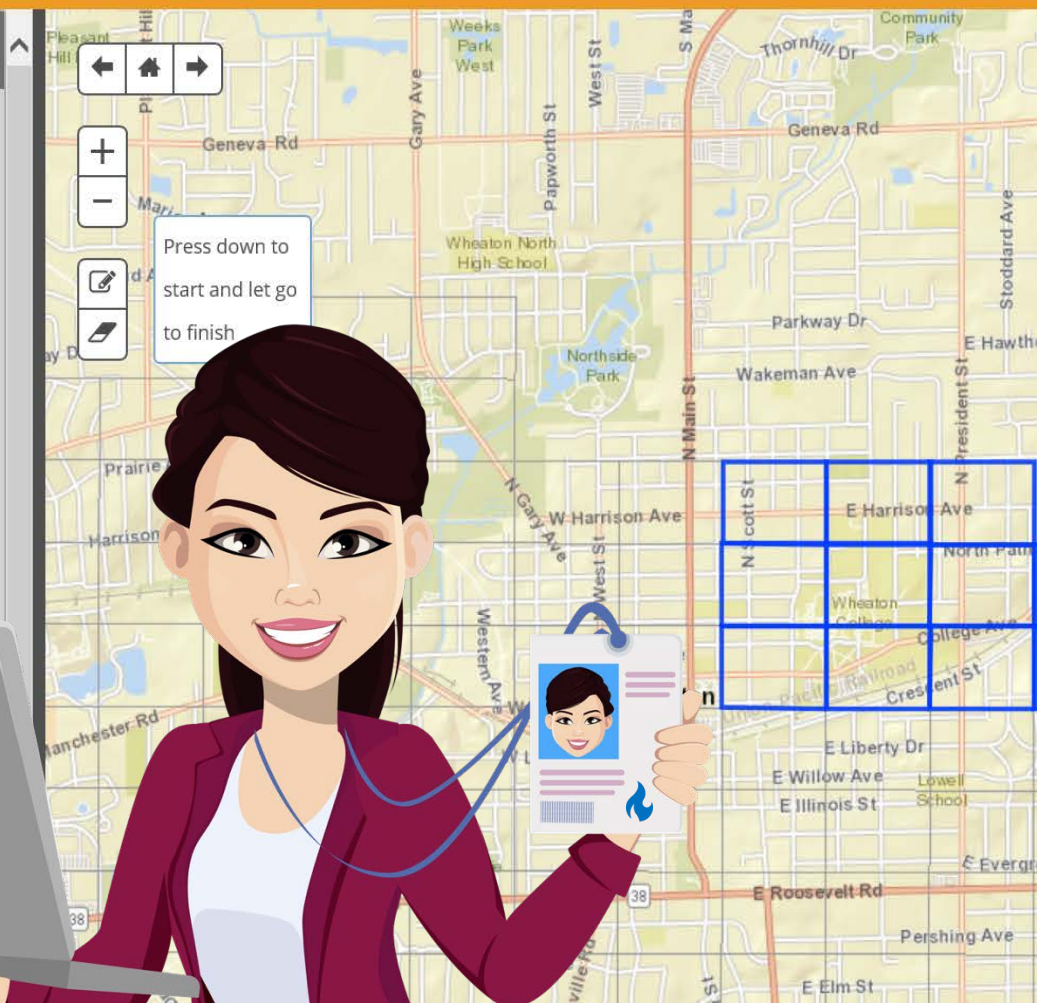
Events Due for Leak Survey

View: All

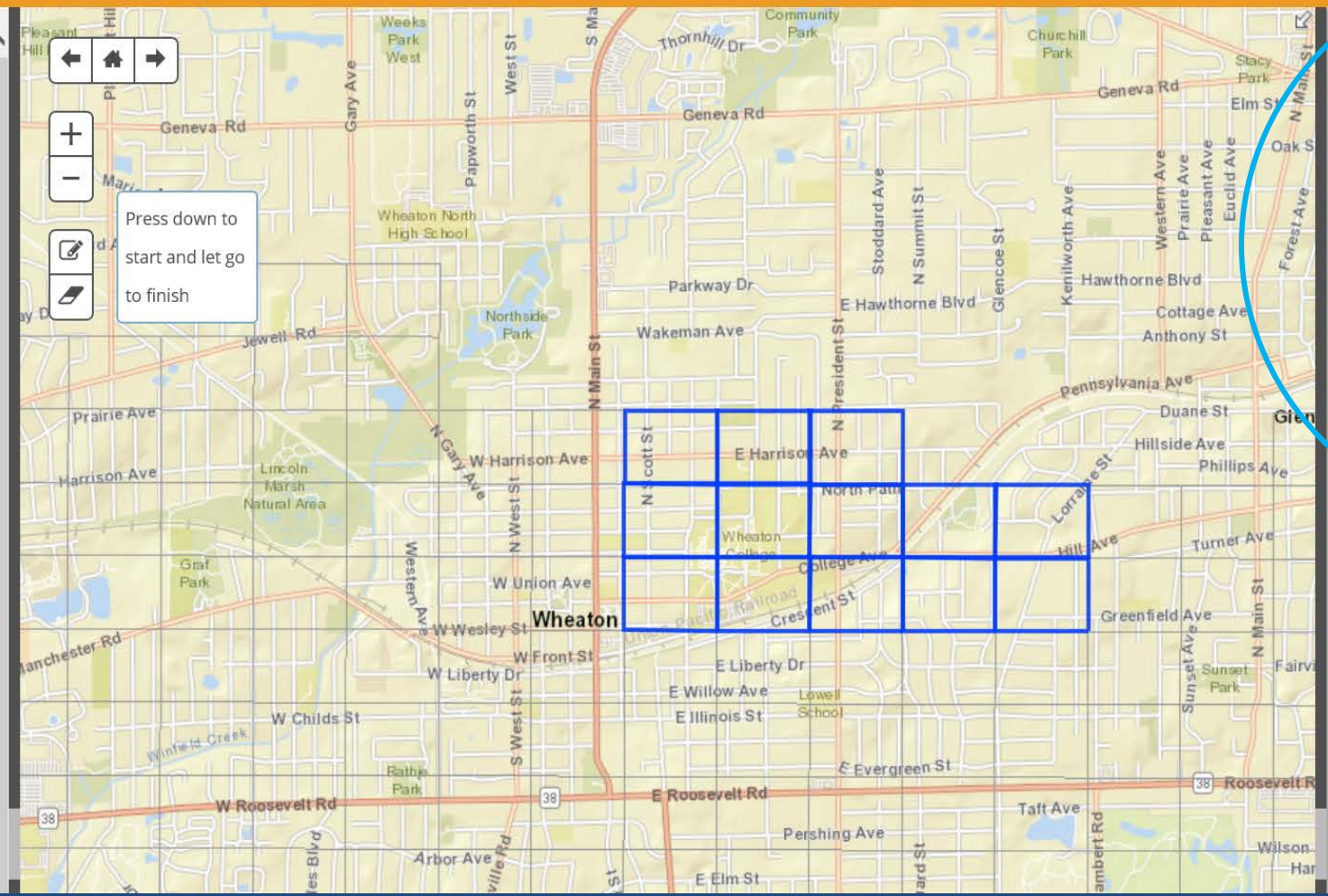
Search:



Program	Activity	Facility	ID	Assigned	Priority	Due	Compliance	Complete
Leak Survey	Gas Leak Survey	MapGrid	BG77		1	03/16/2017	06/16/2018	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BI77		18	03/16/2017	06/16/2018	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BI79		18	03/16/2017	06/16/2018	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BI80		18	03/16/2017	06/16/2018	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BH79		2	04/17/2019	07/22/2019	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BH80		1	04/19/2019	07/24/2019	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BI76		1	04/19/2019	07/24/2019	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BI78		1	04/19/2019	07/24/2019	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BH77		2	04/23/2019	07/28/2019	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BH78		2	04/23/2019	07/28/2019	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BG76		8	07/30/2019	11/04/2019	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BG78		4	07/30/2019	11/04/2019	<input checked="" type="checkbox"/>
Leak Survey	Gas Leak Survey	MapGrid	BH76		2	08/24/2019	11/29/2019	<input checked="" type="checkbox"/>



Due	Compliance	Complete
03/16/2017	06/16/2018	<input checked="" type="checkbox"/>
03/16/2017	06/16/2018	<input checked="" type="checkbox"/>
03/16/2017	06/16/2018	<input checked="" type="checkbox"/>
03/16/2017	06/16/2018	<input checked="" type="checkbox"/>
04/17/2019	07/22/2019	<input checked="" type="checkbox"/>
04/19/2019	07/24/2019	<input checked="" type="checkbox"/>
04/19/2019	07/24/2019	<input checked="" type="checkbox"/>
04/19/2019	07/24/2019	<input checked="" type="checkbox"/>
04/23/2019	07/28/2019	<input checked="" type="checkbox"/>
04/23/2019	07/28/2019	<input checked="" type="checkbox"/>
07/30/2019	11/04/2019	<input checked="" type="checkbox"/>
07/30/2019	11/04/2019	<input checked="" type="checkbox"/>
08/24/2019	11/29/2019	<input checked="" type="checkbox"/>



User Assignment

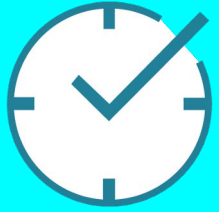
13 events selected

Crew:

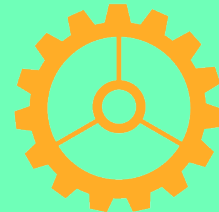
User:

Priority:





Plan Inspection or Survey



Create Work Areas & Schedule



Assign & Dispatch Work

7 Primary Functions of Compliance Manager



Complete Work
in the Field



Report Compliance



Dashboards to Monitor Progress



Back Office Support

Enhanced User Experience

Streamlined Mobile Data Collection

- Utilize intuitive and configurable mobile collection forms
- Organize work for efficient completion
- Eliminate manual effort preparing for compliance audits



Facility Details

CPA Name	D44-3
Division	Diablo
County	Contra Costa
Location Description	Fountainhead Ct & Muir Rd
GlobalID	{8F5F2EA0-E31E-44CC-BEF4-110CF44A9064}
Work Center	Concord

Inspection Attributes

As Found / Recommended * As Found - Less than -1VDC As Found - Greater than -1VDC Recommended

Division * Humboldt

Inspection

Sort by Due Date

ACIA

ed 01/11/2018

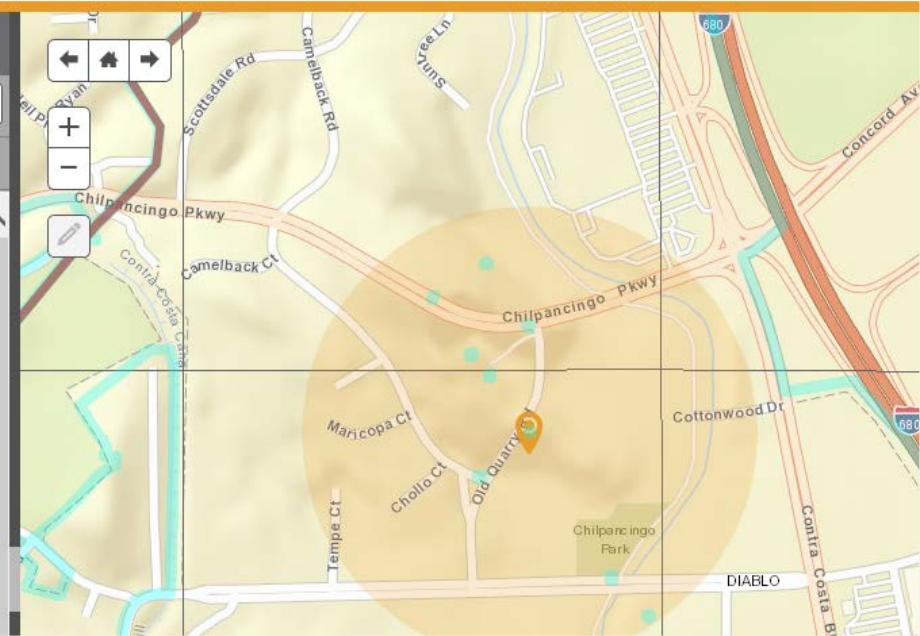
(2)

2018

(33)

24/2018

(2334)



< Back

Synchronize Data

Service:

Web:

Crew:

Pen Nav Tools

Speed Limit: mph

Interval: ms

[Manage Devices](#)

Sync All

Download		Upload	
37	Events	<input checked="" type="checkbox"/>	0 Completed Events
0	Basemap	<input type="checkbox"/>	0 Files(Pictures/Videos)
	Layers	<input type="checkbox"/>	Delete Completed
0	Tiles	<input type="checkbox"/>	Submitted >1 Day
	Offline Map	Update Config	
	Offline Vector Tile Map		

Offline Map Extent

City of Grandview Heights, City of Hamilton, OH, City of Mansfield, City of Westerv... Powered by Esri

Version DatabaseVersion

My Work Events

- Leak Survey
 - Leak Survey
 - Valve Inspection Form
 - CP Survey
 - Station Facility Inspection
 - Station Internal Inspection

Priority 1 | Due 06/15/2016

MapGrid (BQ83)

Leak Survey (Survey Details)
Priority 1 | Due 09/23/2016

MapGrid (BQ84)

Leak Survey (Survey Details)
Priority 1 | Due 09/23/2016

MapGrid (BQ85)

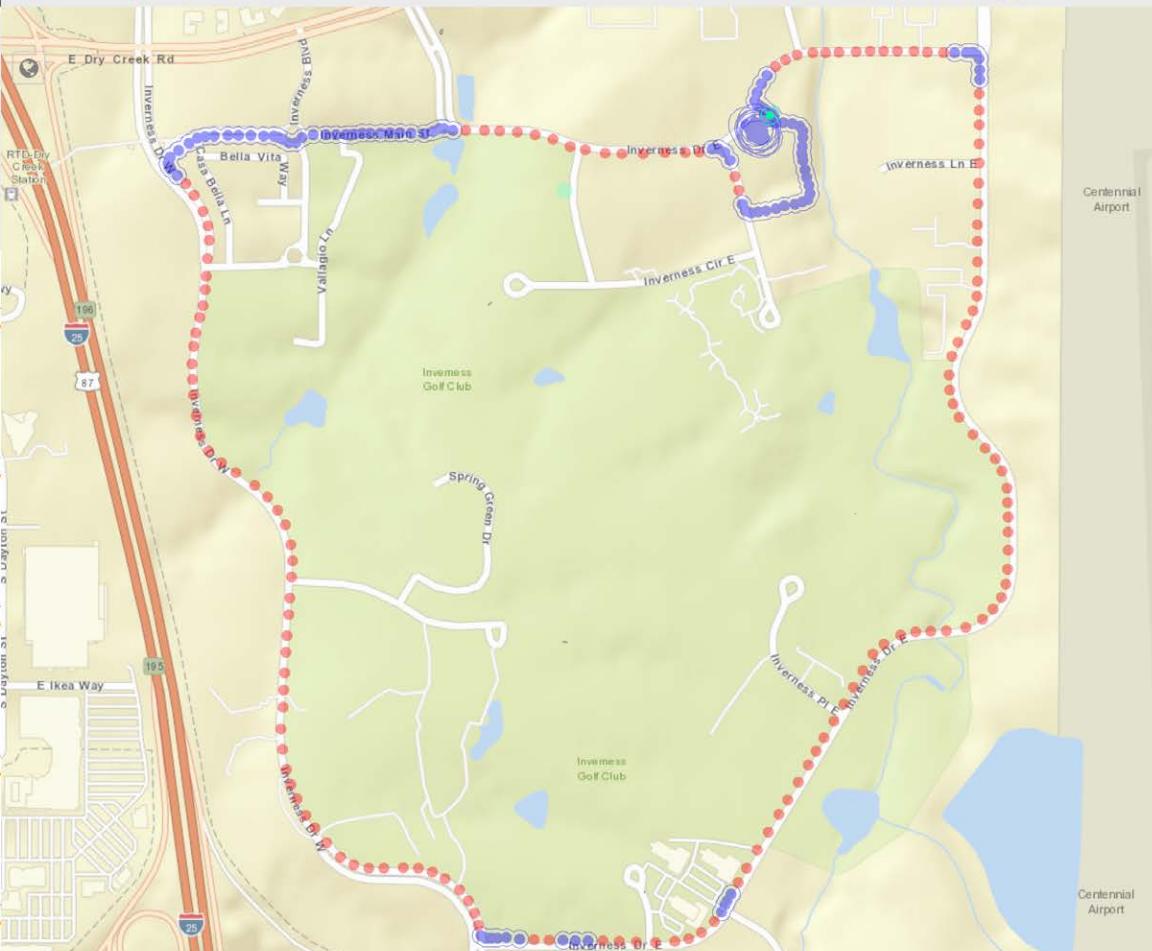
Leak Survey (Survey Details)
Priority 1 | Due 09/23/2016

MapGrid (BP84)

Leak Survey (Survey Details)
Priority 5 | Due 10/06/2016

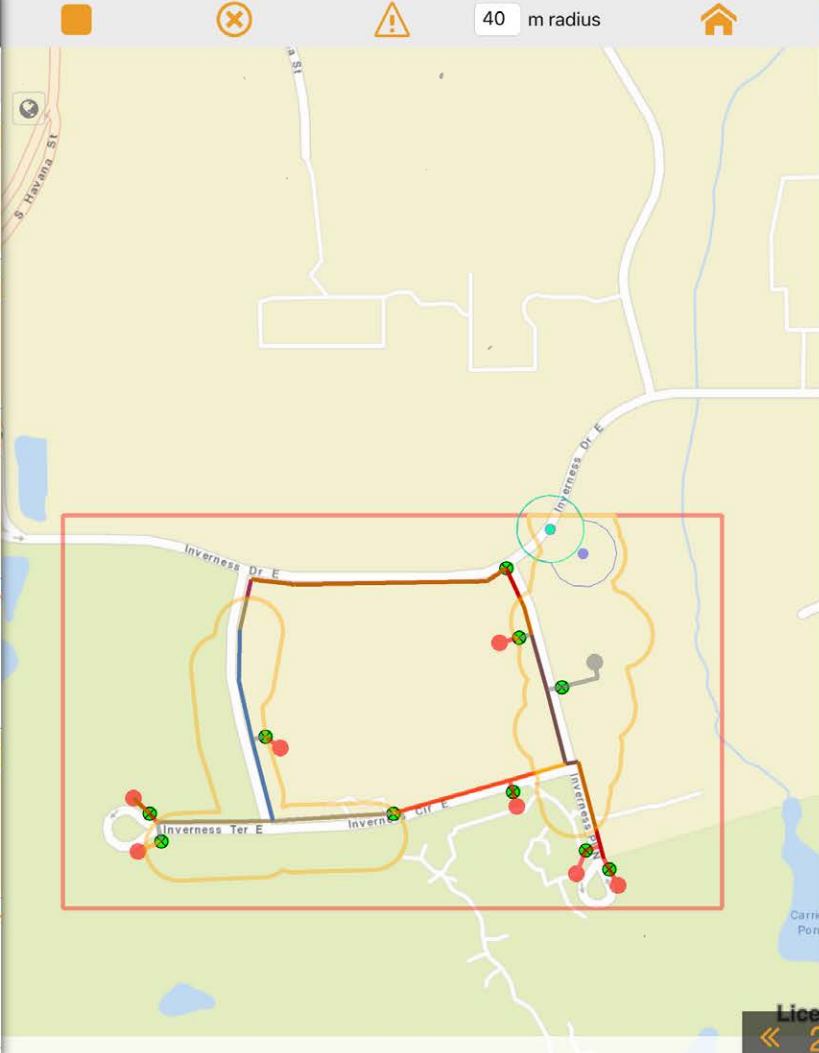
MapGrid (CQ58)

Leak Survey (Survey Details)



My Work Events

- Leak Survey
- Denver Leak Survey
- Leak Survey (Survey Details)
Priority 1 | Started, Due 02/24/2017
- MapGrid (BO76)
- Leak Survey (Survey Details)
Priority 10 | Started, Due 02/26/2017
- Isolation Areas (12--40)
- Leak Survey (Survey Details)
Priority 57 | Started, Due 02/26/2017
- Isolation Areas (7--425)
- Leak Survey (Survey Details)
Priority 88 | Due 03/01/2017
- Isolation Areas (23--275)
- Leak Survey (Survey Details)
Priority 65 | Started, Due 03/02/2017
- Work Polygons (Test 100 Leak)
- Leak Survey (Survey Details)
Priority 1 | Due 03/25/2017



Facilities

Facility	ID
Pipe	4924

< Back

Aboveground Valve Inspection

▼ Inspection Details

Current Operating Position*

Open Closed Pinched

Operable*

Yes No

Atmospheric Corrosion*

Yes No

Employee Name*

Stephanie Smith

This valve has been inspected applicable to all policies and procedures as of this date*

Yes

Inspected Date*

7/22/2020

▼ Exceptions

> Exception: Valve Not Accessible

▼ Exception: Leak Found

▼ Leak Investigation Form

Report Origin*

Routine Survey

Leak detected by*

CGI DPIR HFI

Gas Classification Results*

Gas % LEL %

Gas Valve (2-D-1)

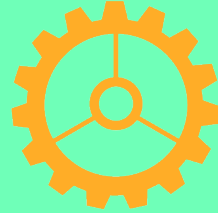
Recorded Date: 07/22/2020

Inspected By: Stephanie Smith





Plan Inspection or Survey

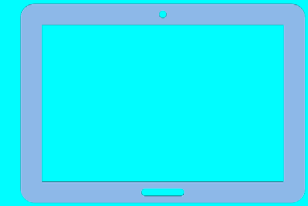


Create Work Areas & Schedule



Assign & Dispatch Work

7 Primary Functions of Compliance Manager



Complete Work in Field



Report Compliance



Dashboards to Monitor Progress



Back Office Support

Enhanced Quality

Record Exceptions in the Field

and

View Exceptions Reporting at All Levels

UDC Reports Exception

Jan 1, 2018 - Dec 31, 2018

DIABLO

219
Exception count

Activity

- CP EC ISSP

Program Type

- CP ISSP Inspection

Facility

- ISSP Service Carrier

Exception AOC Critical X

Exception by Area

- HAY51E15 : 2
- CND\51A07 : 0
- CND\50F13 : 0
- CND\50F09 : 0
- CND\50E12 : 0
- CND\50E11 : 0

Exception: ISSP Service Carrier 2441364X

- AOC Critical
- Severity: High
- Activity: CP EC ISSP
- [Zoom to](#) [View Event Detail](#)



◀ Exceptions for BP80_3

Select All

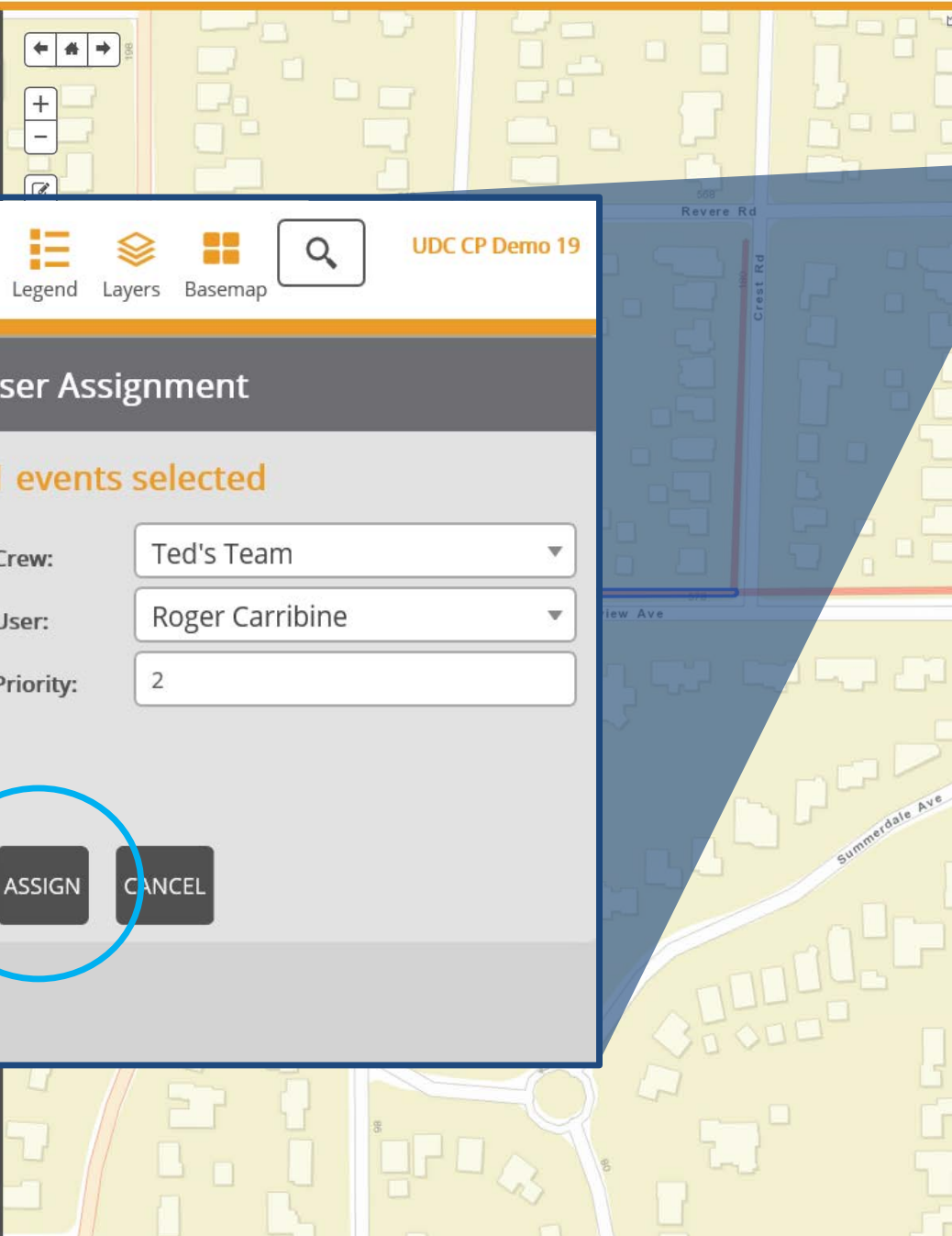
Search:

Exception	Program	Activity	Facility	ID	Inspected	Cleared	D
Gas Leak Found	3 Year Gas Leak Survey	Gas Leak Survey	Pipe	GM-748	7/24/2017		
Gas Leak Found	3 Year Gas Leak Survey	Gas Leak Survey	Pipe	GM-749	7/24/2017		8/23/
Follow-on Program:	Gas Leak Grade 2 Recheck	Activity: Grade 2 - Leak Recheck		Due Date:	8/23/2017		
Gas Leak Found	3 Year Gas Leak Survey	Gas Leak Survey	Pipe	GM-2237	7/24/2017		
Gas Leak Found	3 Year Gas Leak Survey	Gas Leak Survey	Pipe	GM-2244	7/24/2017		8/23/

Exceptions for BJ83

View: Names:Gas Leak Found Search:

Exception	Program	Activity	Facility	ID	Inspected	Cleared	Due	Detail
Gas Leak Found	Leak Survey	Gas Leak Survey	Pipe	GM-1543	7/9/2019			
Gas Leak Found	Leak Survey	Gas Leak Survey	Pipe	GM-1544	7/9/2019			
Follow-on Program: Gas Leak Grade 2 Recheck Activity: Grade 2 - Leak Recheck Due Date: 8/8/2019								
Gas Leak Found	Leak Survey	Gas Leak Survey	Pipe	GM-1540	8/5/2019			
Gas Leak Found	Leak Survey	Gas Leak Survey	Pipe	GM-1579	9/13/2019			



Legend Layers Basemap UDC CP Demo 19

User Assignment

1 events selected

Crew: Ted's Team

User: Roger Carribine

Priority: 2

ASSIGN CANCEL

User Assignment

1 events selected

Crew: Ted's Team

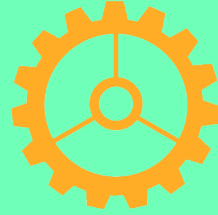
User: Roger Carribine

Priority: 2

ASSIGN CANCEL



Plan Inspection or Survey

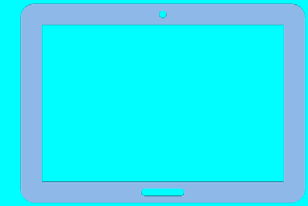


Create Work Areas & Schedule



Assign & Dispatch Work

7 Primary Functions of Compliance Manager



Complete Work in Field



Report Compliance



Dashboards to Monitor Progress



Back Office Support

Jan 1, 2018 - Jan 1, 2019

Downtown

85.5%

1.7%

Completed - 402 Events in Exception - 7

Activity

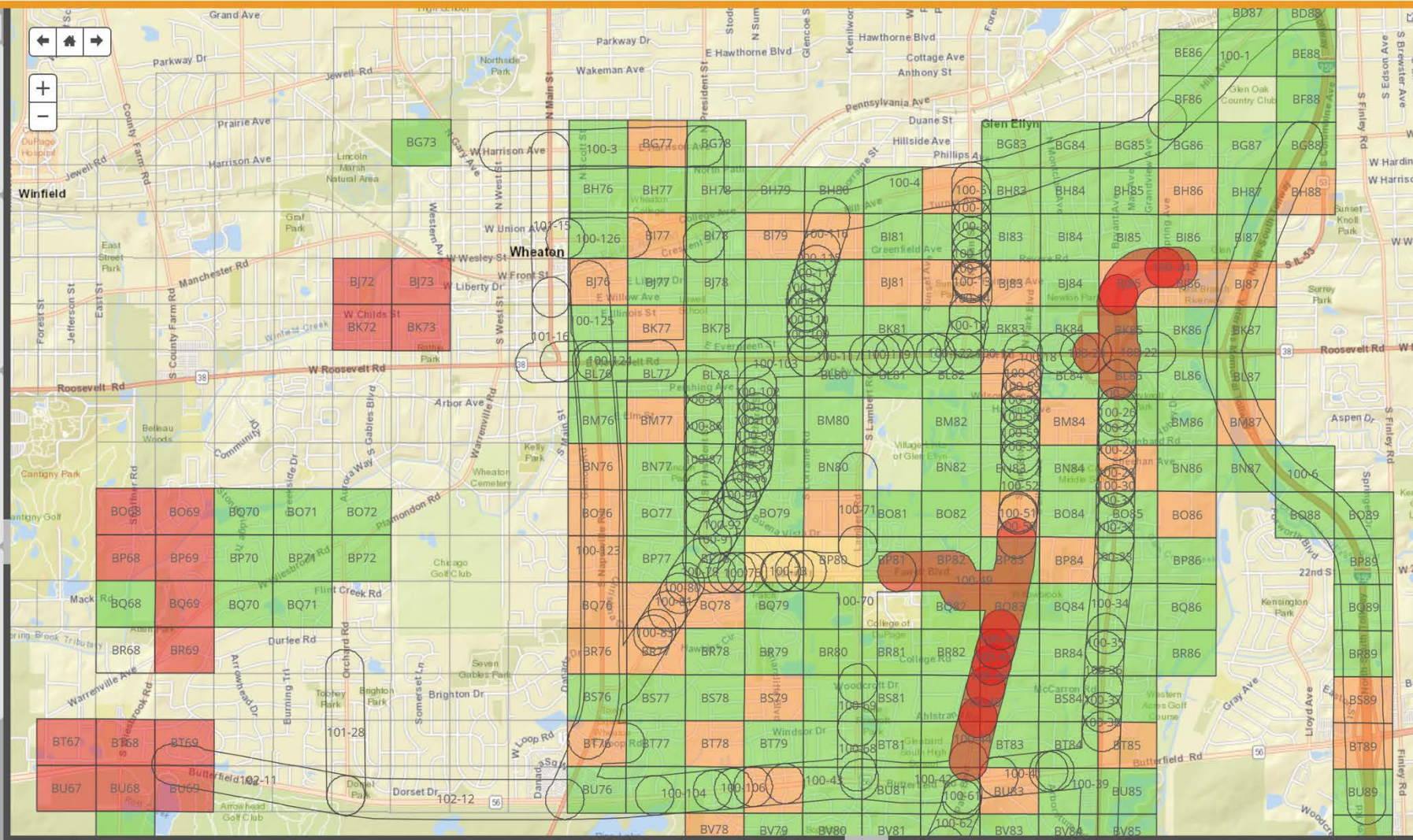
- Gas Leak Survey
- CP Area
- CP Survey Anode
- CP Survey Test Points
- Gas Valve Inspection
- Grade 2 - Leak Recheck

Program Type **Gas Survey X**

- Cathodic Protection
- Gas Survey
- Gas Inspection
- Gas Maintenance

Facility

- MapGrid
- CP System Area
- Anode
- Gas Valve
- Pipe
- Test Point



Progress Overview

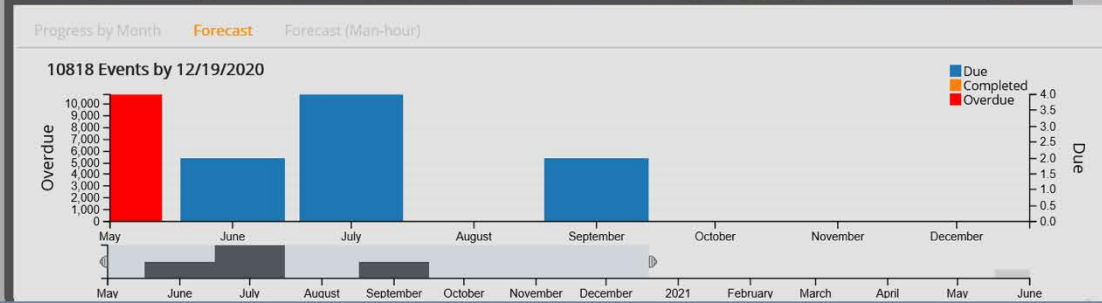
Metroville Gas Company NI North Downtown

Progress 17.1% Behind

Completed 82.9%

%Completed vs Due

- Ahead
- Behind 1-10%
- Behind 10-25%
- Behind >25%



Progress by Area

Search:

Showing 1 to 250 of 347 entries

Name	Completed	Due	Total
BJ72	0 (0.0% completed, 100.0% behind)	1	1
BJ73	0 (0.0% completed, 100.0% behind)	1	1
BK72	0 (0.0% completed, 100.0% behind)	1	1
BK73	0 (0.0% completed, 100.0% behind)	1	1

Jan 1, 2018 - Jan 1, 2019

Downtown

85.5%

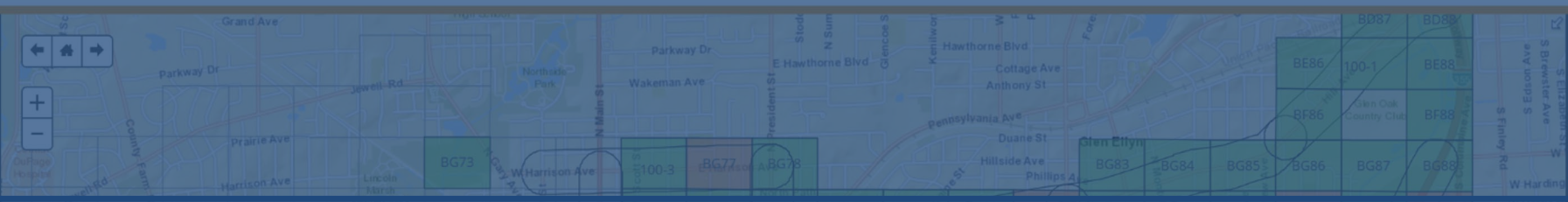
1.7%

Completed

Activity

Program Type

Facility

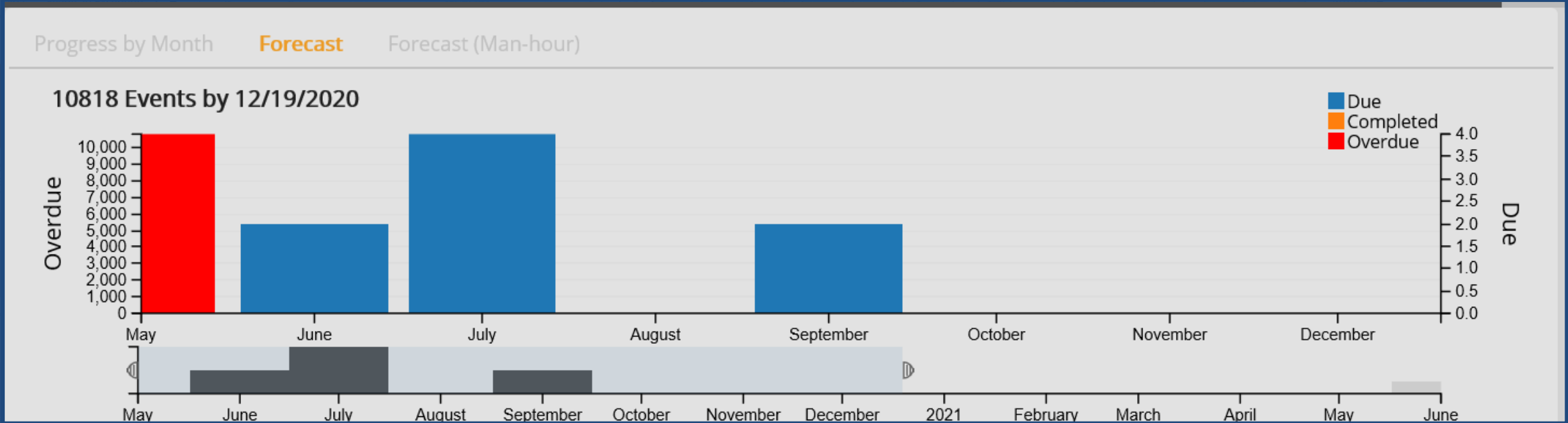


Progress Overview

Metroville Gas Company

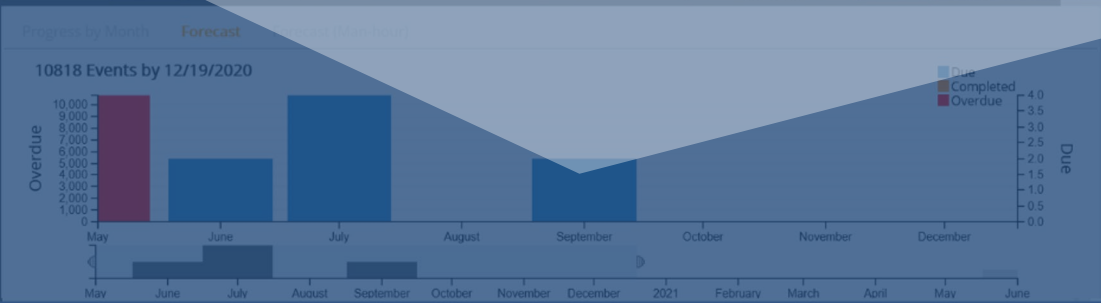
NI North

Downtown



%Completed vs Due

- Ahead
- Behind 1-10%
- Behind 10-25%
- Behind >50%
- Behind 25-50%

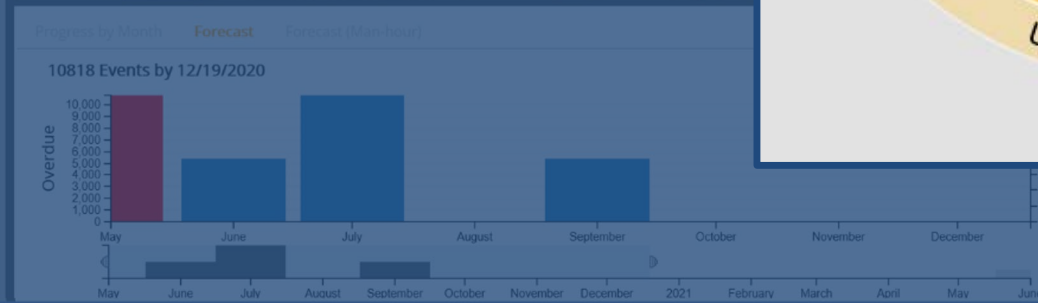
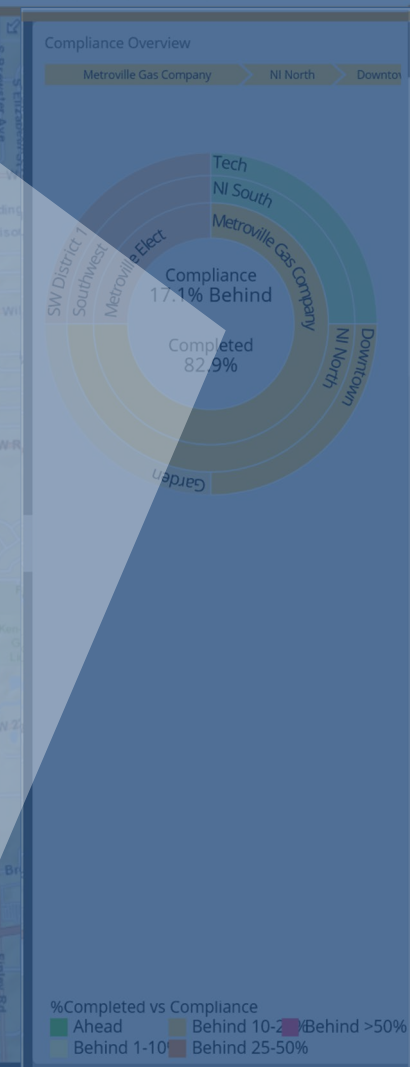
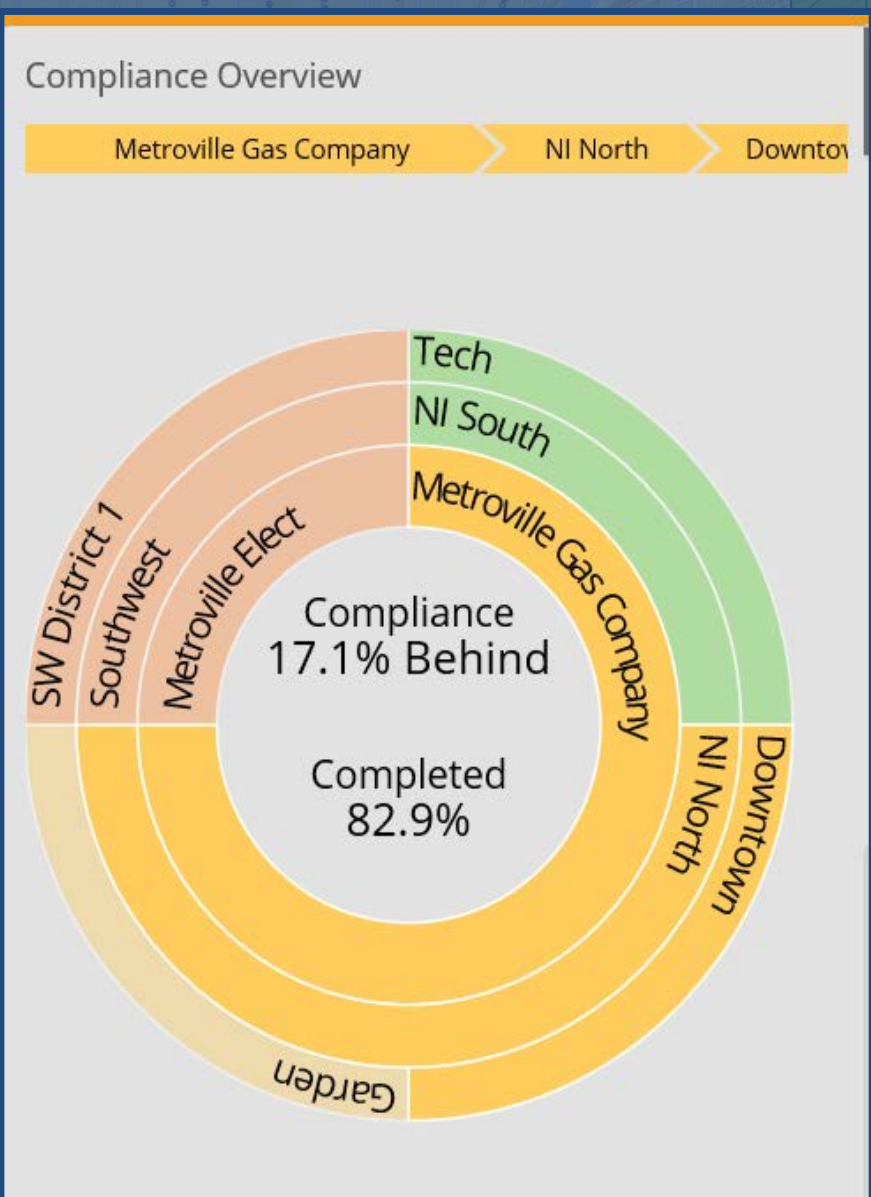
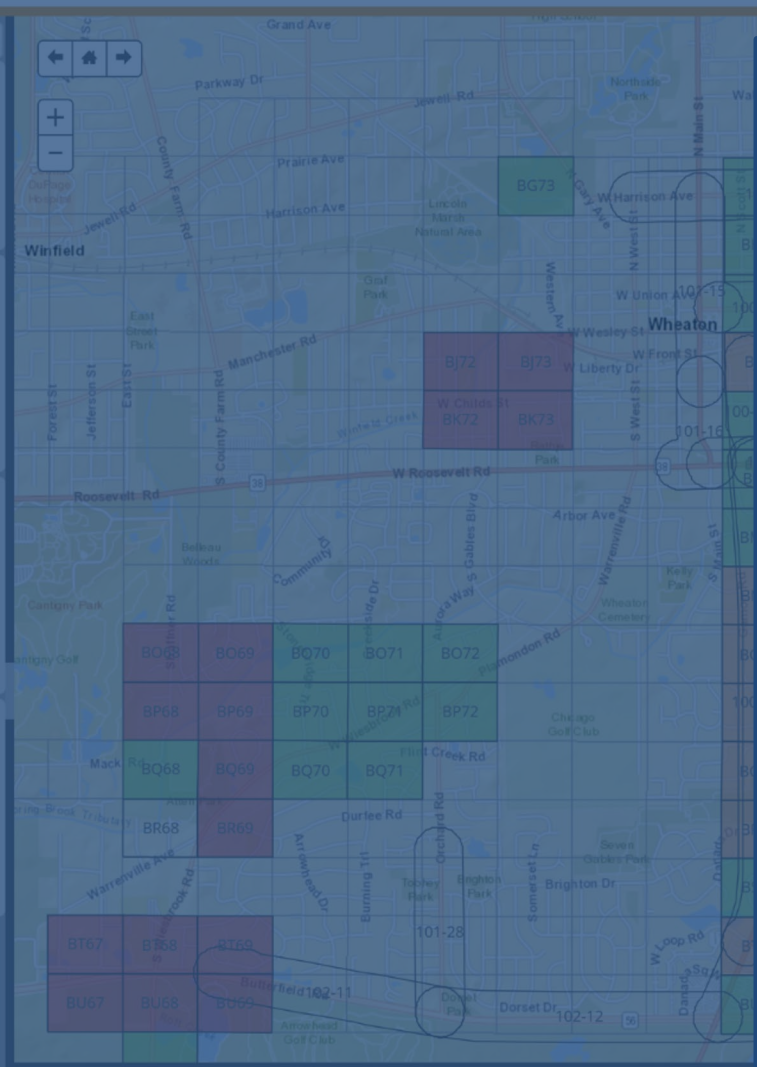
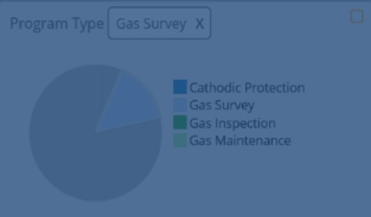
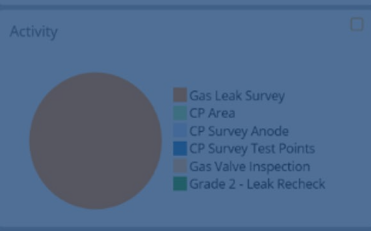
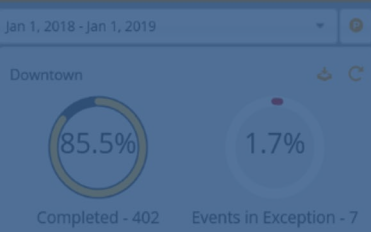


Progress by Area

Search:

Showing 1 to 250 of 347 entries

Name	Completed	Due	Total
BJ72	0 (0.0% completed, 100.0% behind)	1	1
BJ73	0 (0.0% completed, 100.0% behind)	1	1
BK72	0 (0.0% completed, 100.0% behind)	1	1
BK73	0 (0.0% completed, 100.0% behind)	1	1

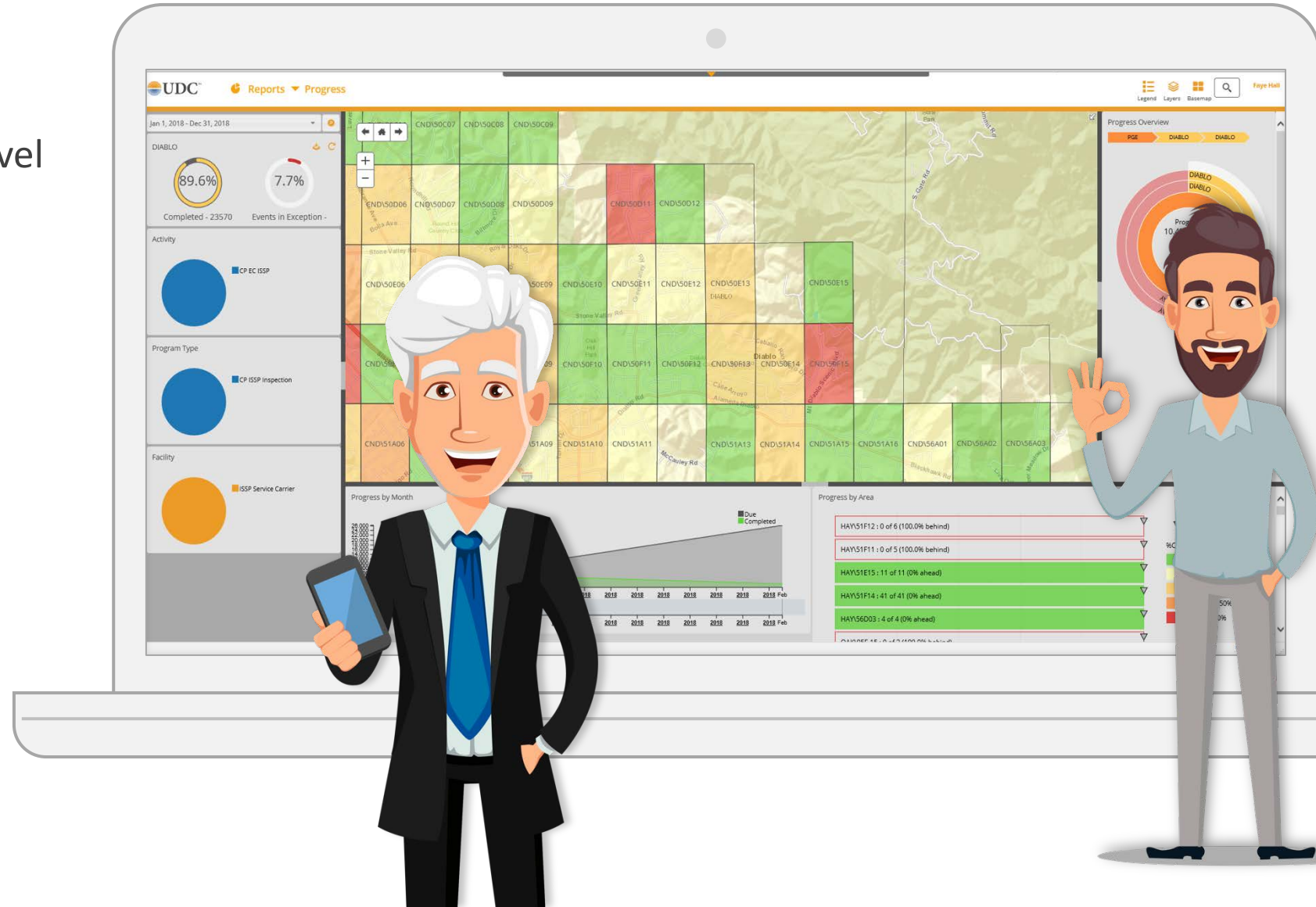


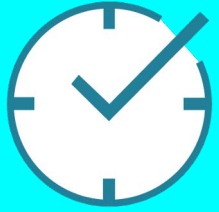
Item	Due	Total
BJ73	0 (0.0% completed, 100.0% behind)	1
BK72	0 (0.0% completed, 100.0% behind)	1
BK73	0 (0.0% completed, 100.0% behind)	1

Meeting Compliance Deadlines

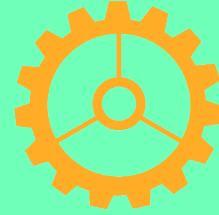
Built-in Monitoring & Reporting

- Visually see the status of all compliance activity at any level
 - Company
 - Division
 - District
 - Field Operator
- Dashboards available to all interested parties
- No extensive manual prep required for reporting





Plan Inspection or Survey

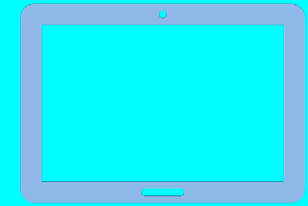


Create Work Areas & Schedule

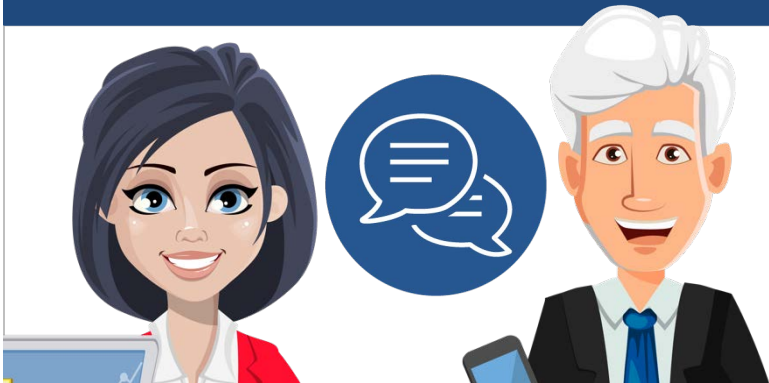


Assign & Dispatch Work

7 Primary Functions of Compliance Manager



Complete Work in Field



Report Compliance



Dashboards to Monitor Progress



Back Office Support

Jan 1, 2018 - Jan 1, 2019

Downtown

85.5% Completed - 402

1.7% Events in Exception - 7

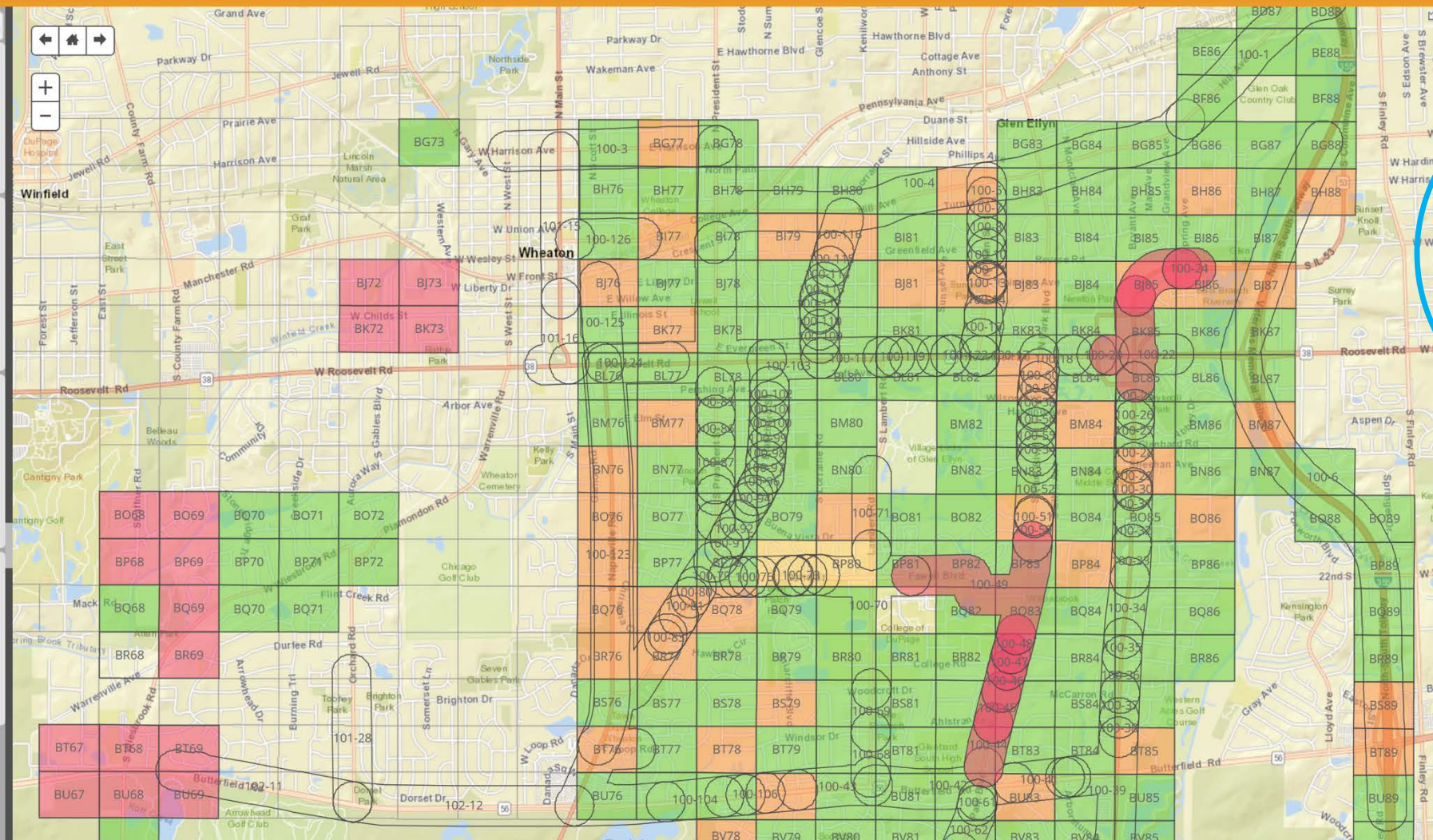
Activity

- Gas Leak Survey
- CP Area
- CP Survey Anode
- CP Survey Test Points
- Gas Valve Inspection
- Grade 2 - Leak Recheck

Program Type: Gas Survey X

Facility

- Cathodic Protection
- Gas Survey
- Gas Inspection
- Gas Maintenance



Compliance Overview

Metroville Gas Company NI North Downtown

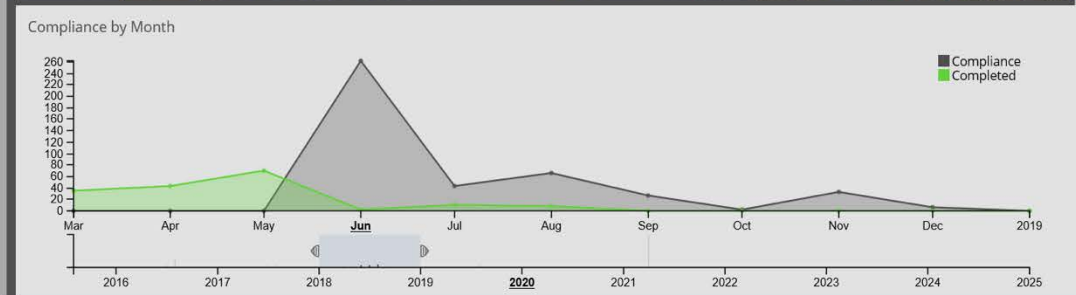
Compliance 17.1% Behind

Completed 82.9%

SW District 1 South West Metroville Elect Metroville Gas Company NI North Downtown Garden

%Completed vs Compliance

- Ahead
- Behind 10-25%
- Behind >50%
- Behind 1-10%
- Behind 25-50%

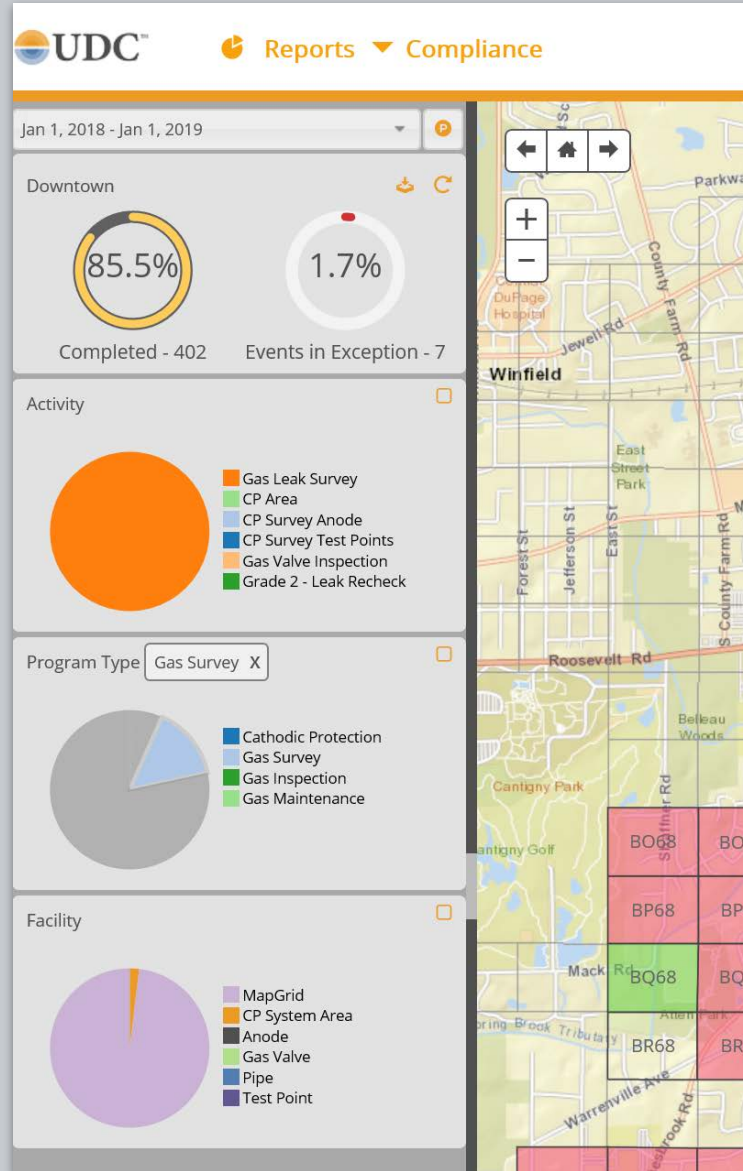


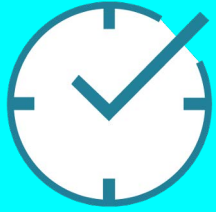
Compliance by Area

Search:

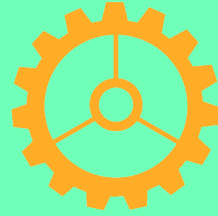
Showing 1 to 250 of 347 entries

Name	Completed	Due	Total
BJ72	0 (0.0% completed, 100.0% behind)	1	1
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BK72	0 (0.0% completed, 100.0% behind)	1	1
BK73	0 (0.0% completed, 100.0% behind)	1	1





Plan Inspection or Survey

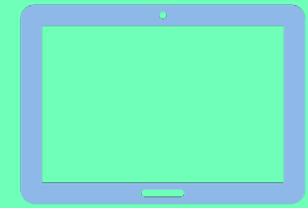


Create Work Areas & Schedule



Assign & Dispatch Work

7 Primary Functions of Compliance Manager



Complete Work in Field



Report Compliance



Dashboards to Monitor Progress



Back Office Support

UDC's Digital Utility[®] Compliance Manager

Esri ArcGIS Enterprise Platform



- Fully leverages the complete ArcGIS Enterprise Platform
- Provides Scalability
- Functionality to the field and back including web and mobile



Optional Interfaces

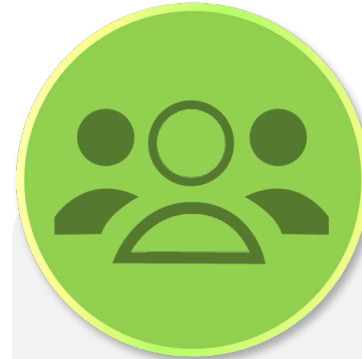
Compliance Manager



Work
Management
System



Enterprise
Asset
Management



Enterprise
Resource
Management



Esri Mobile
Component
Included



Thank You

Continue the
Conversation...

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www.udcus.com

