

# Making the Most of Maximo and ArcGIS Integration

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ActiveG - Managing Partner

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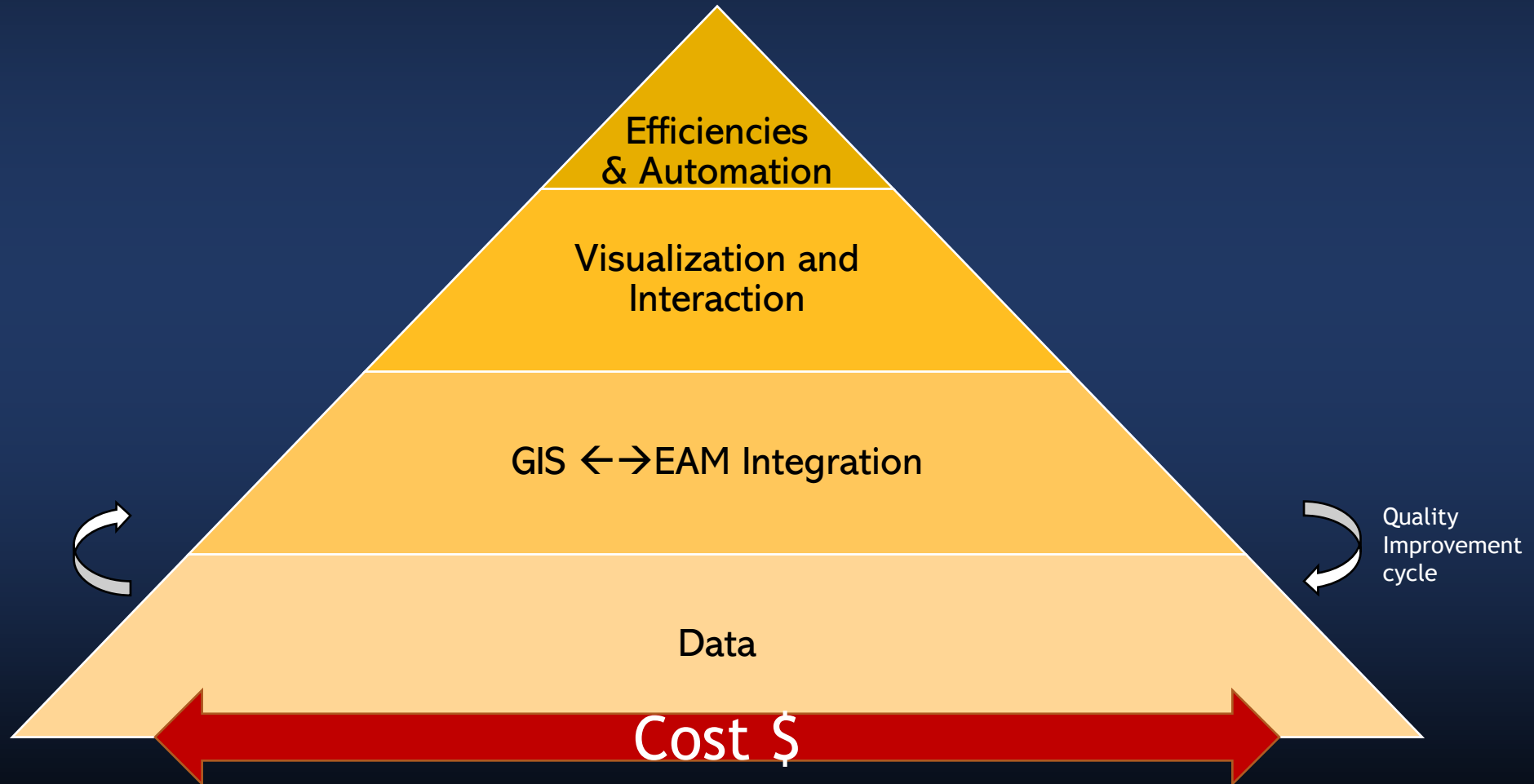




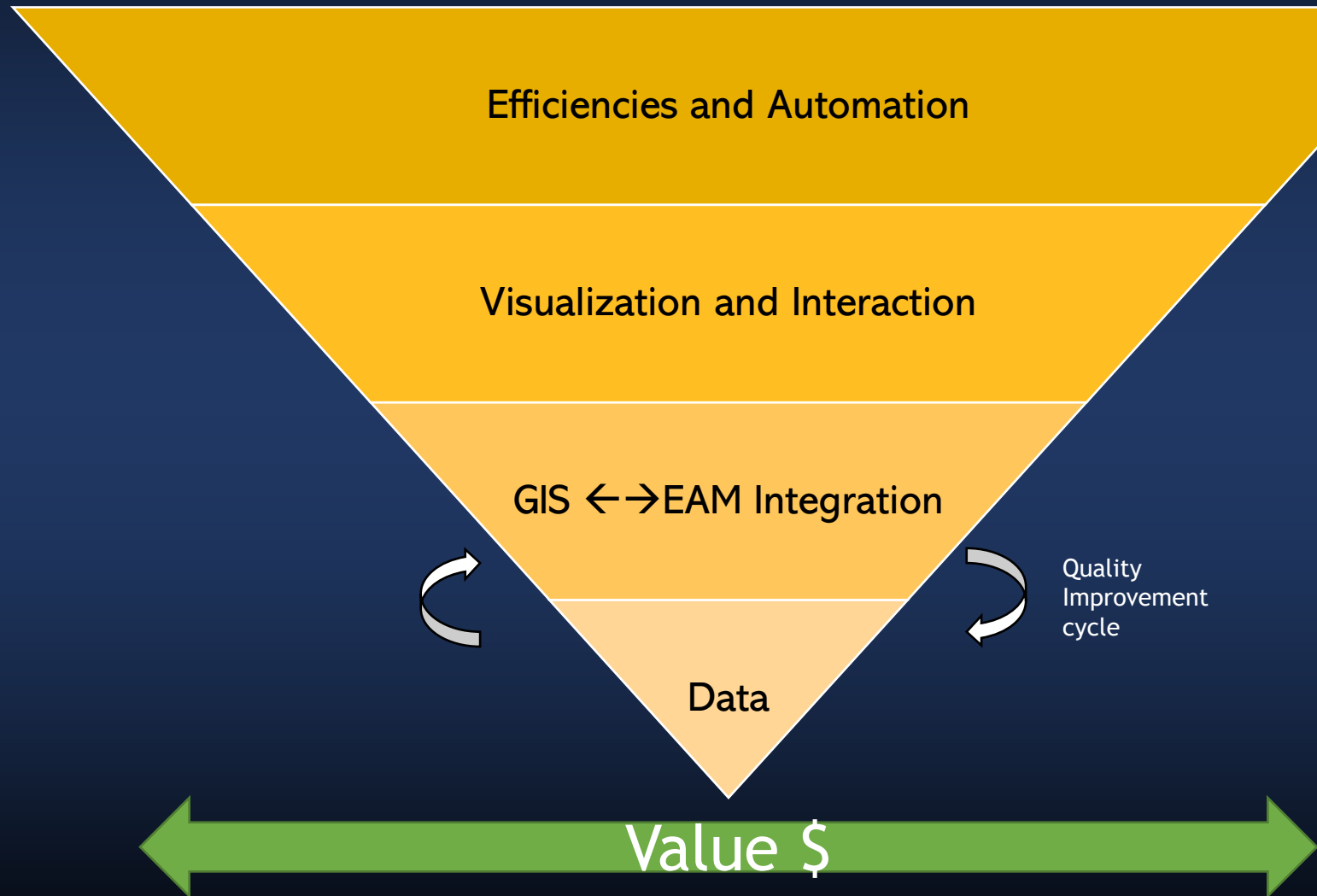
Happy to be  
2<sup>nd</sup> Place

What's happening?

# Building the GIS/EAM integration pyramid

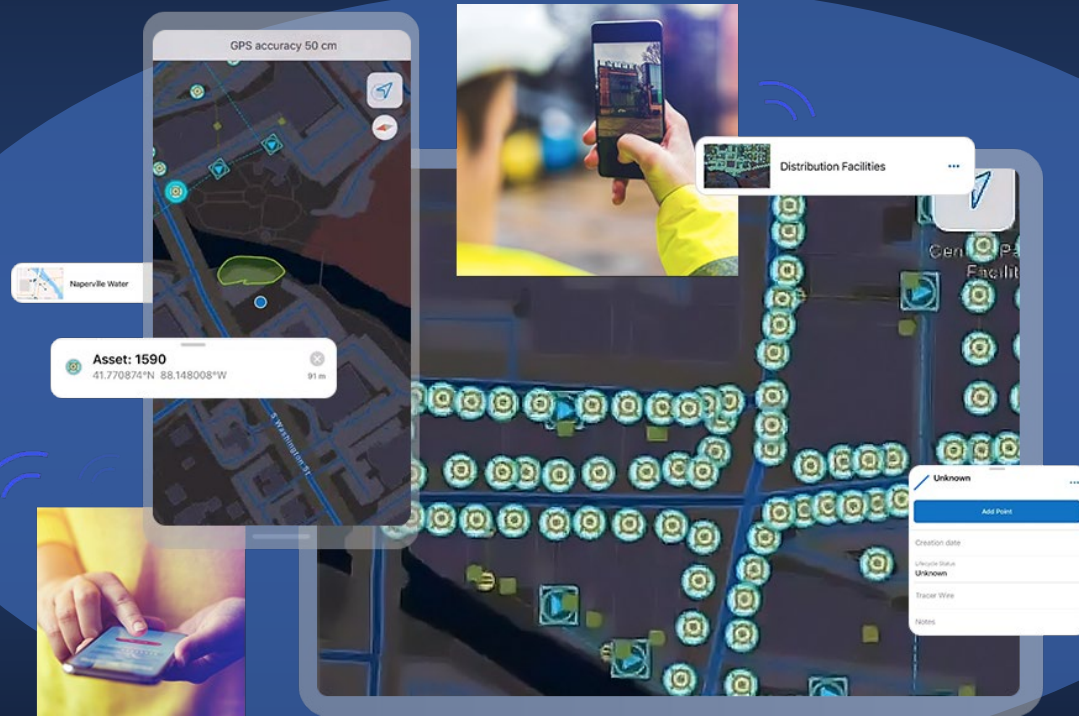
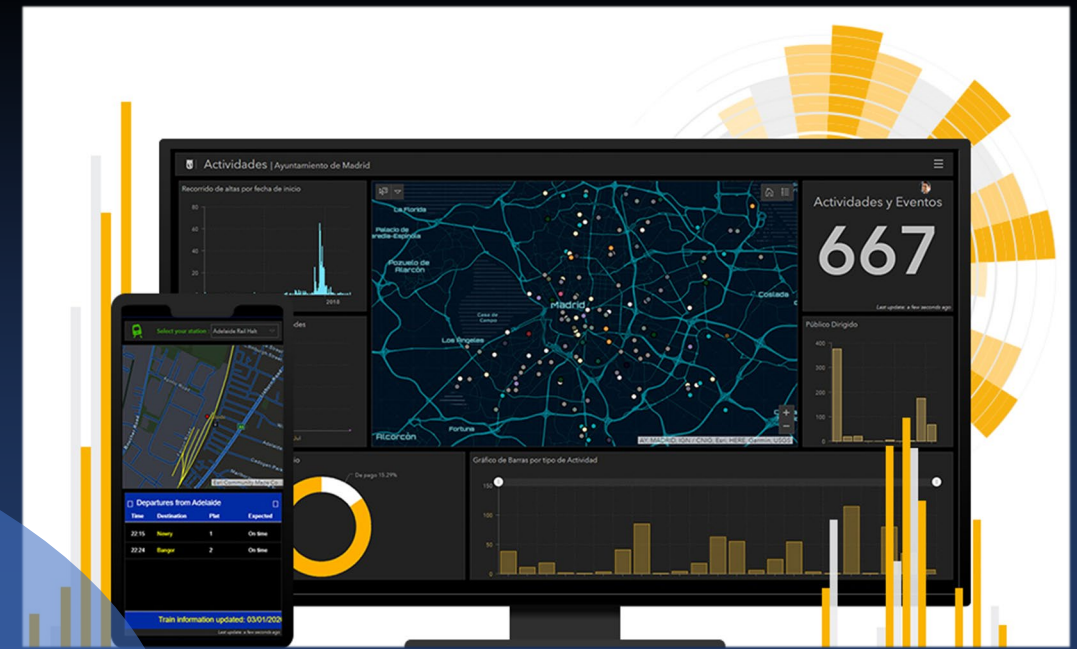


# Building the GIS/EAM integration pyramid





# Esri Solutions



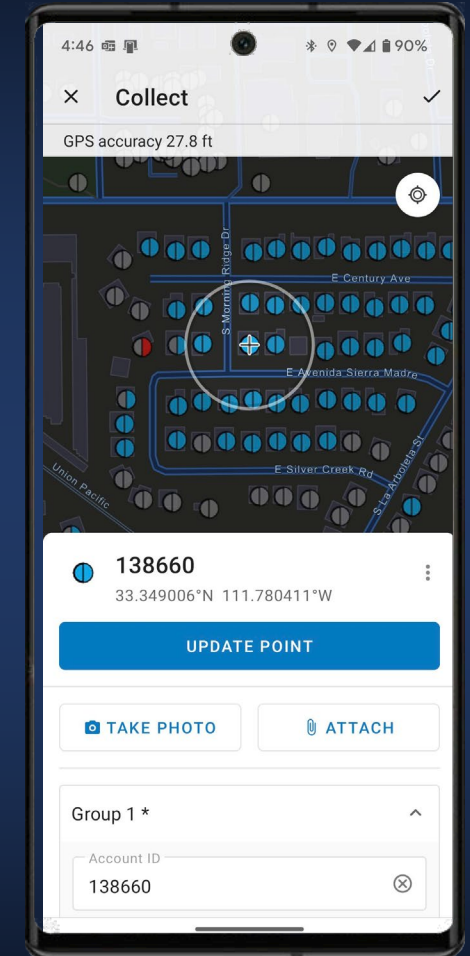
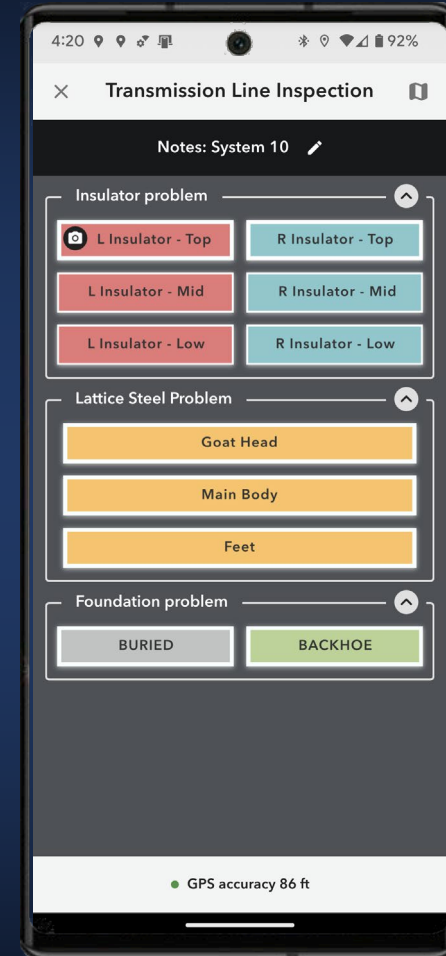
# Esri Solutions

											
<b>Agriculture</b> <ul style="list-style-type: none"> <li>• Monitor invasive pests</li> <li>• Protect Water Quality</li> </ul>	<b>Assessment and Taxation</b> <ul style="list-style-type: none"> <li>• Public Notification</li> <li>• Address Field Operations</li> </ul>	<b>Elections</b> <ul style="list-style-type: none"> <li>• Election Management</li> </ul>	<b>Emergency Management</b> <ul style="list-style-type: none"> <li>• EMS</li> <li>• Damage assessment</li> <li>• Debris reporting</li> </ul>	<b>Fire Service</b> <ul style="list-style-type: none"> <li>• Fire incident dashboard</li> <li>• Hydrant inspection</li> </ul>	<b>Fish and Wildlife</b> <ul style="list-style-type: none"> <li>• Conservation easement monitoring</li> <li>• Wildlife Observations</li> </ul>	<b>Health and Human Services</b> <ul style="list-style-type: none"> <li>• Community Health Assessment</li> <li>• Homeless Point-in-Time Counts</li> <li>• Mosquito Surveillance</li> </ul>	<b>Law Enforcement</b> <ul style="list-style-type: none"> <li>• Daily Activities Dashboard</li> <li>• Special Event Operations</li> </ul>	<b>Natural Resources</b> <ul style="list-style-type: none"> <li>• Dam Safety</li> <li>• Conservation easement monitoring</li> </ul>	<b>Planning and Development</b> <ul style="list-style-type: none"> <li>• Public Notification</li> <li>• Citizen Problem Reporter</li> <li>• Code Enforcement</li> </ul>	<b>Public Works</b> <ul style="list-style-type: none"> <li>• <a href="#">Lead Service Line Inventory</a></li> <li>• ROW Asset Inventory</li> <li>• Citizen Problem Reporter</li> <li>• Public Notification</li> <li>• <a href="#">Fleet Management</a></li> </ul>	<b>Transportation</b> <ul style="list-style-type: none"> <li>• ROW Asset Inventory</li> <li>• Capital Project Tracking</li> <li>• Participatory Budgeting</li> <li>• Citizen Problem Reporter</li> </ul>

# Esri Field Apps

Esri Field Apps help you to:

- Create and configure maps to fit your organization's Maximo and GIS workflows.
- Collect and update information in the field and log your current location.
- Use the apps online or offline—regardless of your network availability.



# Reasons companies choose ArcGIS/Maximo Integration

The screenshot shows a 'Leak Report' form with the following fields and options:

- Break Location?\***: A horizontal line with two radio buttons. The left radio button is selected and labeled 'Service Line'. The right radio button is labeled 'Main Line'.
- Is Field Services needed for a repair?\***: A horizontal line with two radio buttons. The left radio button is selected and labeled 'Yes'. The right radio button is labeled 'No'.
- Water Loss? (Gallons)**: A text input field containing the value '12<sup>3</sup>'.
- Cause of Leak?**: A dropdown menu with the selected option 'BOLTED COUPLING/JOINT'.

- Easy to configure and deploy
  - No coding required
- Spatial visualization baked into the entire process
- Easy to tailor the process to client needs
- Robust reporting
- Closed loop
  - Report→Validate→Repair→Report
- Simple, effective user interface



WUA Hydrants

819

Waiting Inspection

Last update: 13 seconds ago

WUA Hydrants

15,802

Passed

Last update: 13 seconds ago

WUA Hydrants

605

Failed (Total)

Last update: 17 seconds ago

WUA Hydrants

1,189

Needs Attention (Total)

Last update: 17 seconds ago

WUA Hydrants

207

Inoperable (Current)

Last update: 17 seconds ago

WUA Hydrants

1,142

Needs Attention (Current)

Last update: 17 seconds ago

WUA Hydrants

149

Repaired (QA)(Inop)

Last update: 17 seconds ago

WUA Hydrants

11

Repaired (QA)(NA)

Last update: 17 seconds ago

WUA Hydrants

249

Repaired (Inop)

Last update: 17 seconds ago

WUA Hydrants

36

Repaired (NA)

Last update: 17 seconds ago

Private Hydrants

2,276

Waiting Inspection

Last update: 18 seconds ago

Private Hydrants

1,875

Passed

Last update: 18 seconds ago

Private Hydrants

23

Needs Attention

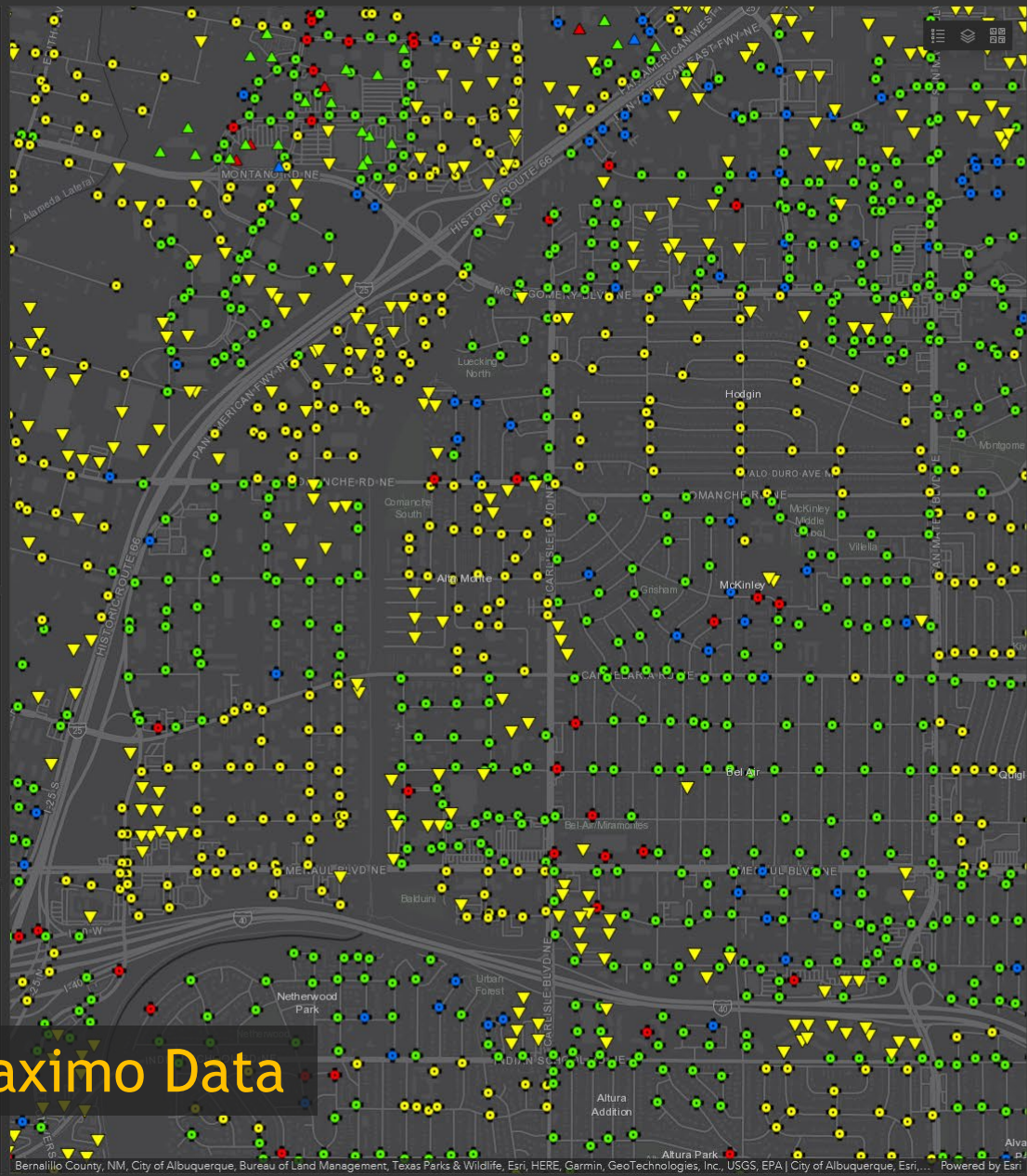
Last update: 18 seconds ago

Private Hydrants

198

Failed

Last update: 18 seconds ago



1 of 200

LAST 200 WUA HYDRANT INSPECTIONS

HydrantInspections: 22338

CreationDate	9/20/2022, 10:56 AM
AssetNUM	22338
Inspector Badge Number	163
Missing hydrant?	No
Water flow problem?	No
Stem nut problem?	Operable
Cap frozen?	No
Threads damaged?	No
Leaking?	No
Will not drain?	No
Loose hydrant?	No
Damaged barrel?	No
Brown water?	No
Mapping error?	No
Horizontal clearance?	No
Needs paint?	No
Needs chains?	Yes
Turned wrong way?	No
Needs Lowered or Raised?	No
Needs attention? Leave notes.	No
Notes	
Inspection Status	Waiting for Inspection
Workorder num	
Creator	Station36_BCFD

Last edited by Station36\_BCFD on 9/20/2022, 10:56 AM.

All InspectionsPrivate Inspections

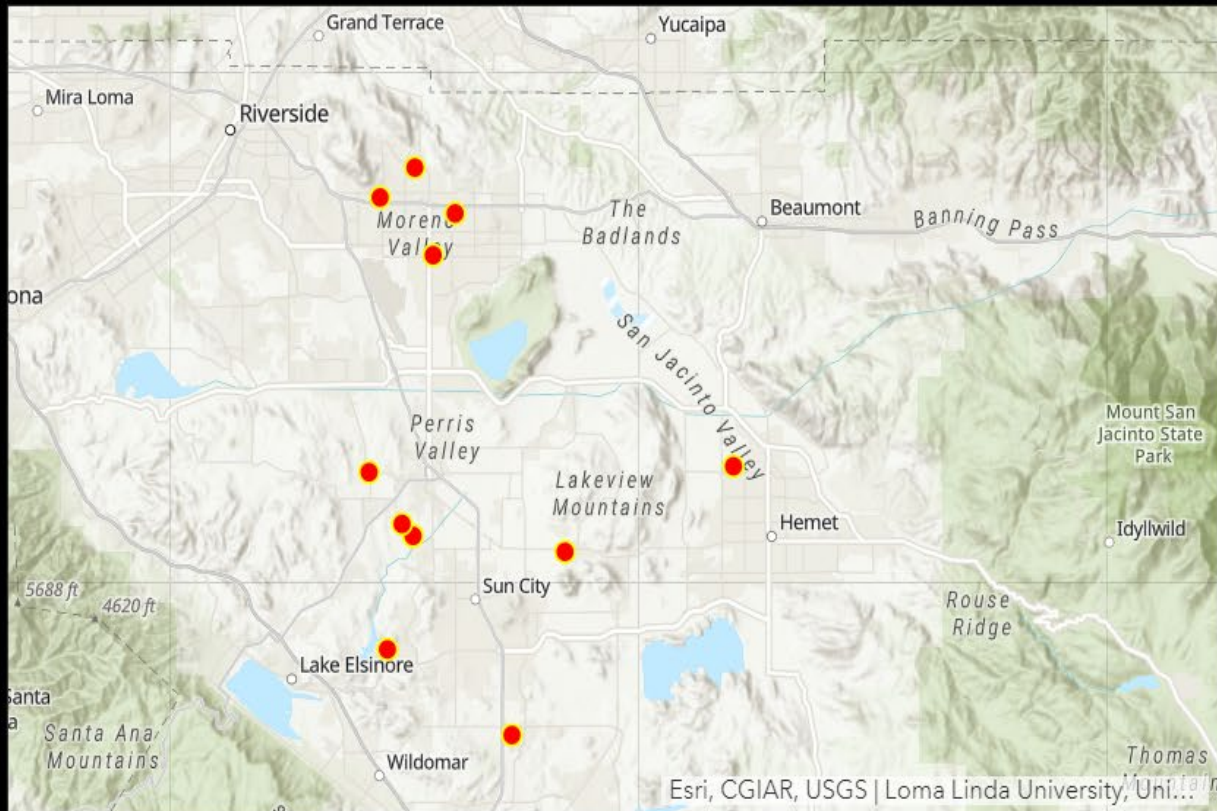
← Maximo Data



Leak Surveys by day



Last update: a minute ago



Esri, CGIAR, USGS | Loma Linda University, UH...

Leak\_Report\_PROD: 15

CreationDate 10/22/2020, 6:05 AM

Creator brennea\_EMWD

wonum 3264184

Break Location? Main Line

Is Field Services No  
needed for a  
repair?

Water Loss?  
(Gallons)

Cause of Leak? JOINT FAILURE

Pipe Size? 08

Pipe Type? Dipped & Wrapped

Last update: a few seconds ago

Total Surveys

13

Last update: a few seconds ago

Need Field Services

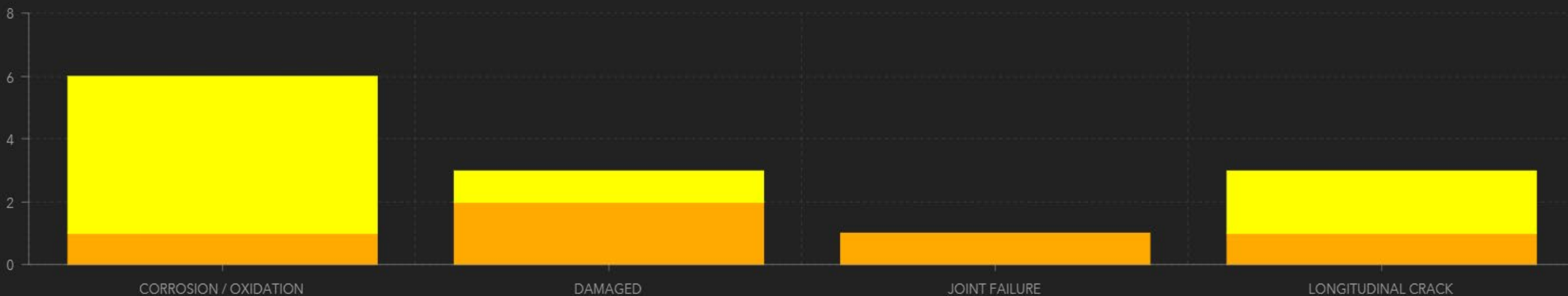
8

Last update: a few seconds ago

No Field Services

5

Last update: a few seconds ago



Last update: a few seconds ago

# Catchbasin Inspections

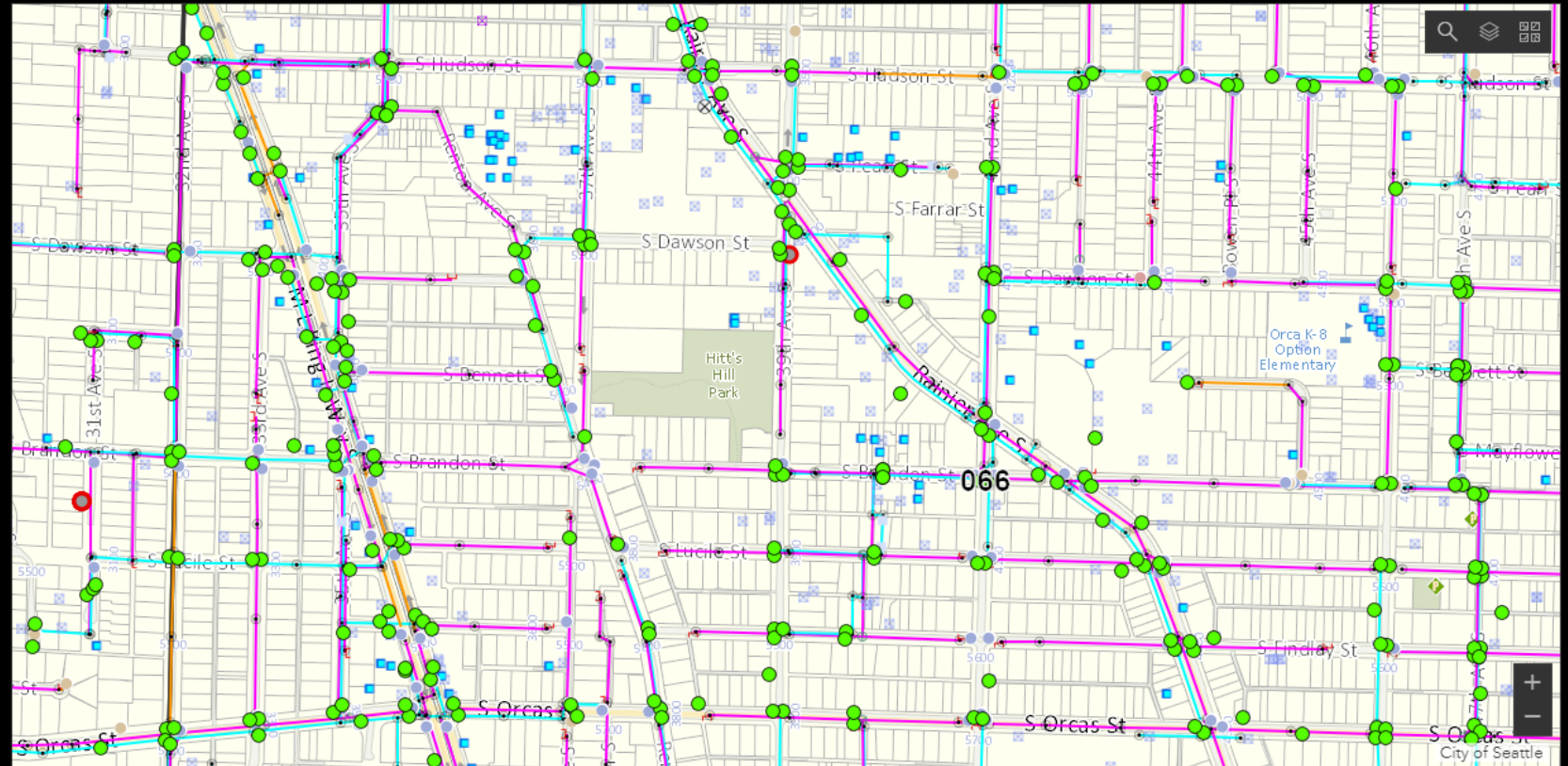
Map Page: All

Insp Status: ALL STATUSES

Date:

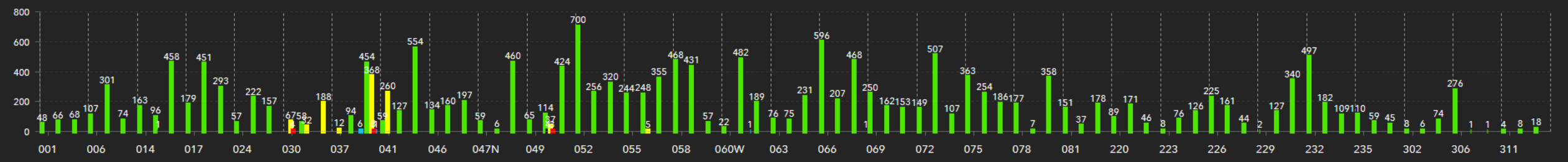
Last Inspector: All

- Catchbasin Inspections
- NOT INSPECTED
  - Complete
  - OVERDUE
  - UTI - CONSTRUCTION SOCK
  - UTI - OTHER
  - UTI - 2ND CREW
- Do Not Inspect
- NOT DUE
  - UNABLE TO INSPECT - DO NOT GO BACK
- Water Valve Functions
- LINE
  - PZ Boundary
  - Pump Station
  - Pressure Regulator
  - Bypass
  - Water Supply
  - Other Air



Inspections by status and map page selected:

17,980



MAP PAGE GROUPED BY STATUS

# Ditch and Culvert Inspections

Last Inspector (Culverts):  
All

Last Inspector (Ditches):  
All

Map Page:  
All Pages

Inspection Status:  
All Statuses

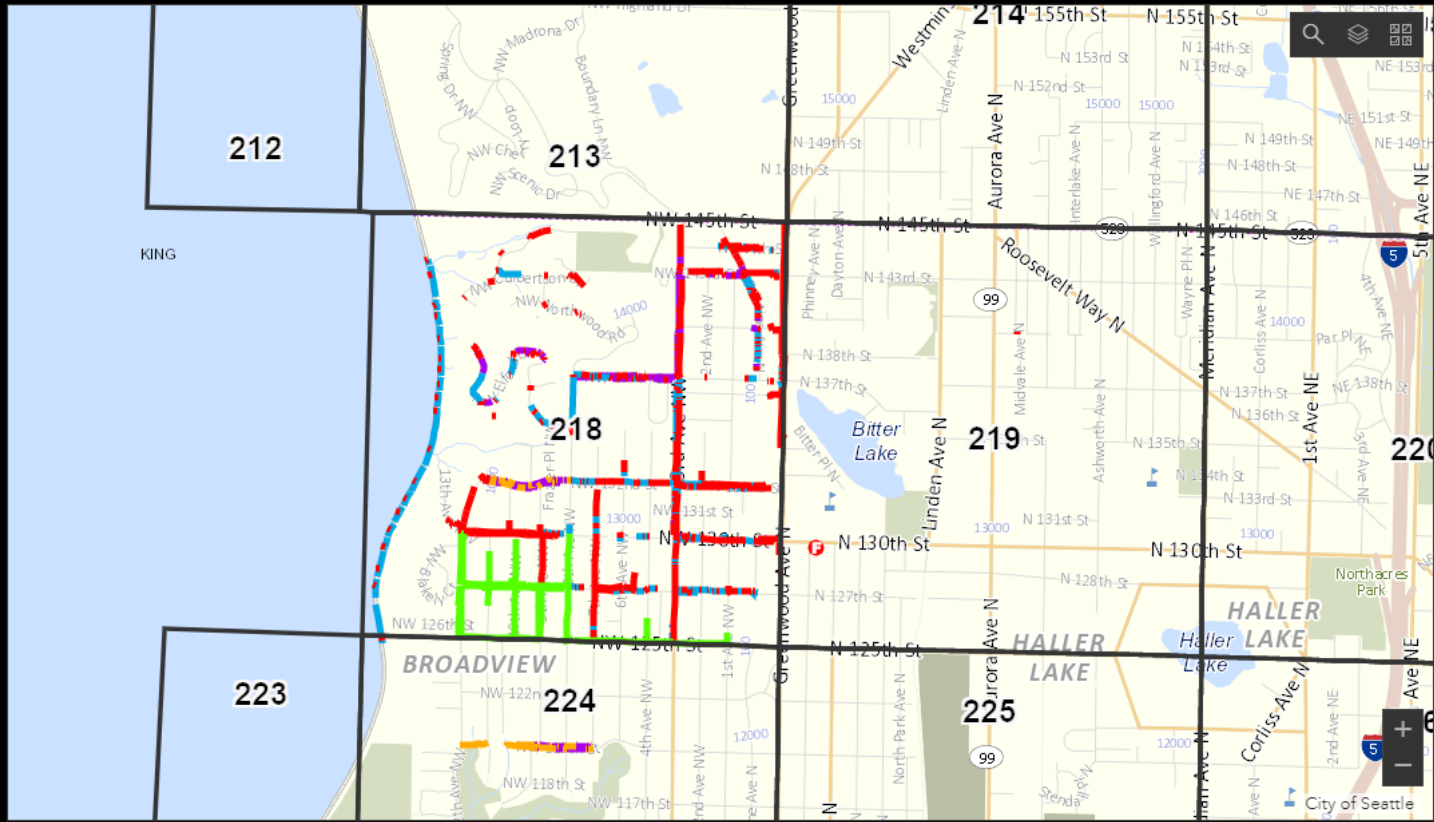
- Inspections: Culverts
- 60 NOT INSPECTED

6, 12 NOT INSPECTED

INSPECTED
- Inspections: Ditches
- 60 NOT INSPECTED

6, 12 NOT INSPECTED

INSPECTED

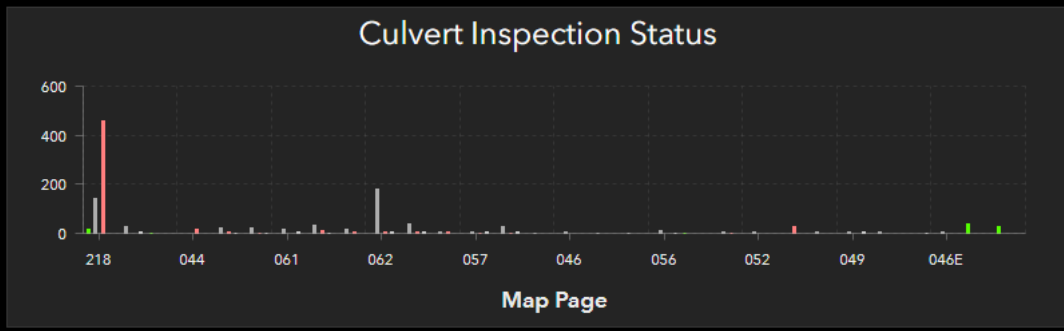
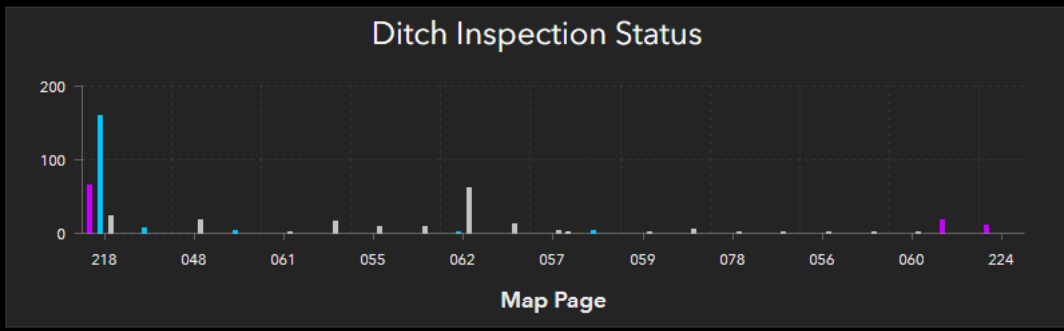


Inspections by status and map page:

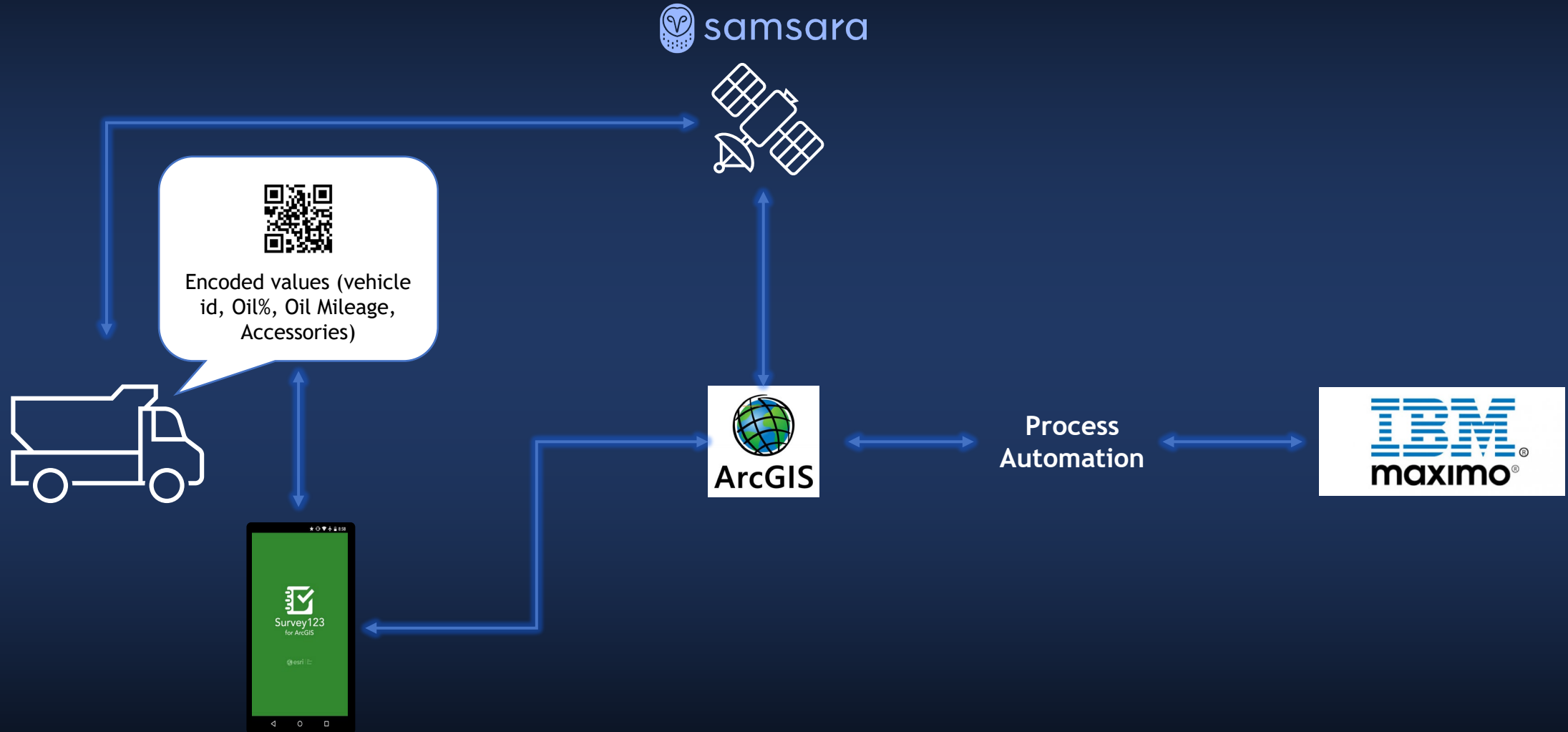
1,265  
Culverts

Inspections by status and map page:

439  
Ditches



# Fleet safety and maintenance management with ArcGIS





General

Search...

☐

Tamping (WAPPR)

☒

Tamping (COMP)

☒

Tamping (APPR)

☒

Drainage

+

Basemaps

☐ Base

☒ Rail

☒ Track Conditions

☒ Geometry Faults

Gauge

Superelevation

Twist

☐ Mitigations

☐ Risk ID

☒ SD Faults

Good (0-1)

Fair (1-2)

Poor (2-3)

Very Poor (3-4)







General

Search...



WO:

2128



1



**Description:**

Water in the stairway

**Status:**

WAPPR

**Location:**

SD.SDCC.1.3.3196

**Lead:**

WATTERS

**Asset #:**

null

**Work Group:**

FACILITY

**Field Assignment:**

null

Edit WO



Set XY Values

Select Child WOs

Logs

Find Vehicle

Add to Maximo List



Street View



Select a Layer

✓ WO



2128: Water in the stairway

1807

# Indoor GIS & Maximo Work Orders

3



# Emergency Dispatch

**Background:** Rapid response to reported gas leaks is critical. Client needed a way to assign the nearest, available, qualified crew to gas emergency work orders.

General

Search...

Job Code:

290 - Leak Repair

Description:

Leak Repair Workorder

Status:

APPR

Location:

LKMX2135016

Address:

167 JEFFERSON AVE RAHWAY, NJ 07065

Asset:

2320467 - R 275 Temperature Compensated

Field Lead:

null - null

Find Vehicle

Add to Maximo List

Name	Travel(min.)	Miles
Cape May Utility Worker #4	65	56.8

Filter

Assign

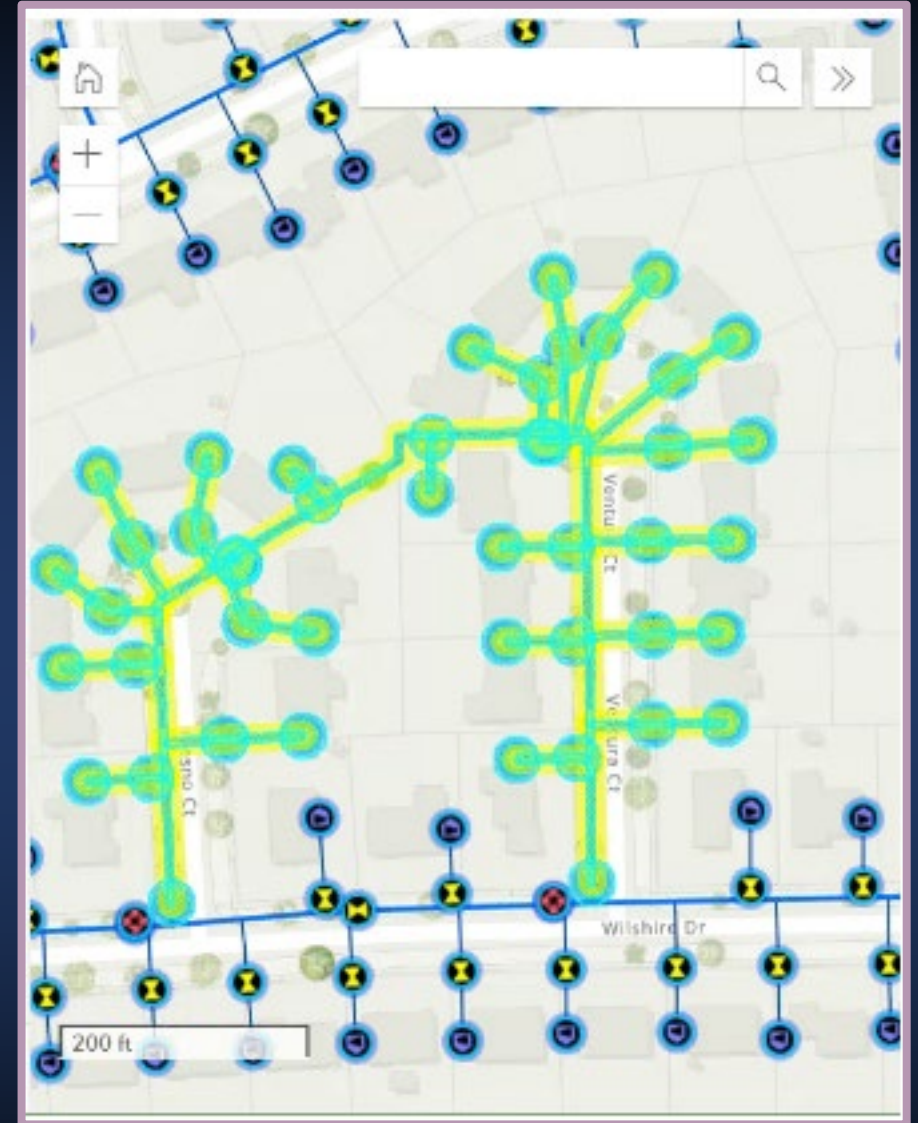
3 Parts:

- Visualize real-time vehicle locations (originating from Fleetboss) via Esri map services provided
- List of vehicles closest (est. travel time) to a reported leak (Maximo work order).
- Assign emergency work order to closest vehicle with relevant skills (Maximo labor/skills)



# ArcGIS Utility Network

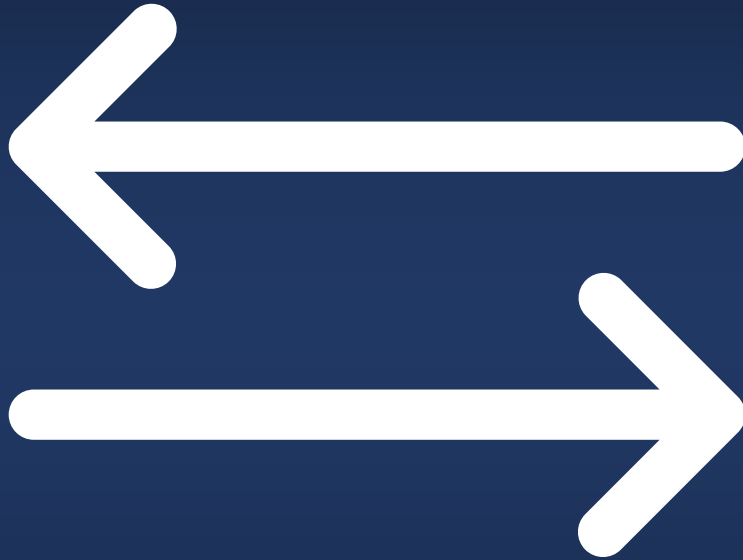
- Network domains let you model operation and structural networks in an integrated fashion,
- Network rules help you build networks that suit your business requirements.
- Trace network features upstream or downstream from a given location.
  - water utilities can determine which valves to shut off when a pipe bursts.
  - an outage from an electrical network can affect the delivery of another resource, such as gas or water.



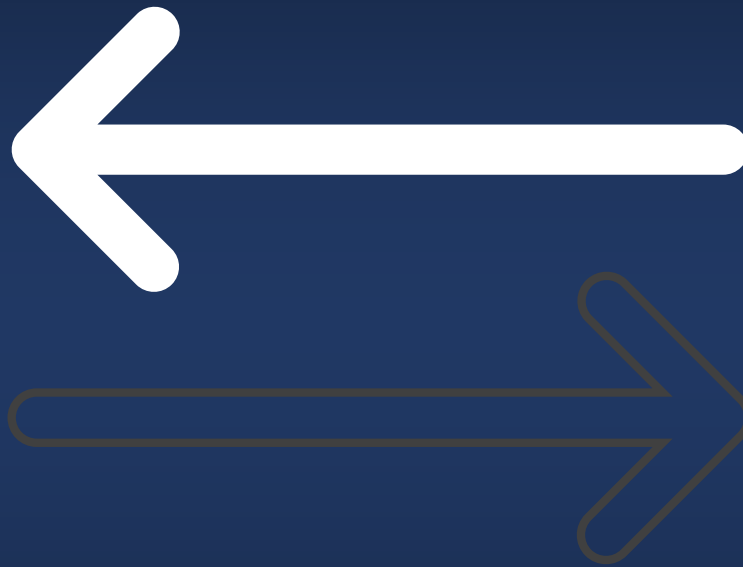
# 4 Keys to Useful GIS/Maximo Integration

- Start with data sync
- Only sync essentials needed for decisions
- Build fit-for-purpose processes
- Leverage location intelligence to streamline user experience





Start with data sync



Only sync essentials for decisions

# Build fit-for-purpose processes

4:20 92%

Transmission Line Inspection

Notes: System 10

Insulator problem

<input checked="" type="radio"/> L Insulator - Top	<input type="radio"/> R Insulator - Top
<input type="radio"/> L Insulator - Mid	<input type="radio"/> R Insulator - Mid
<input type="radio"/> L Insulator - Low	<input type="radio"/> R Insulator - Low

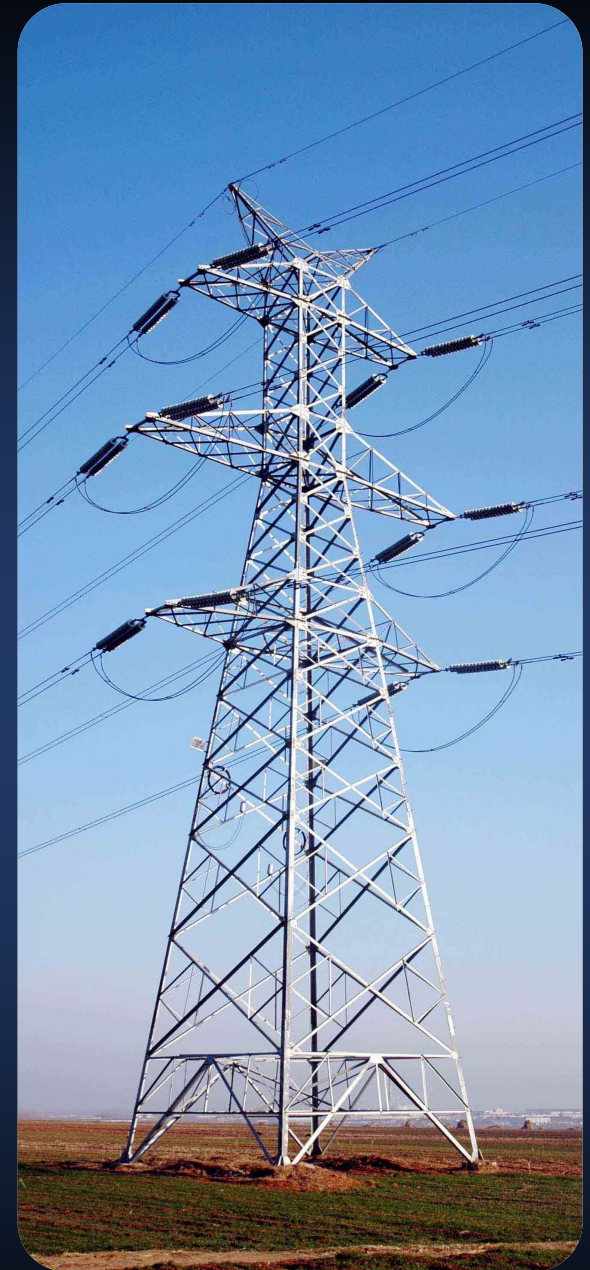
Lattice Steel Problem

<input type="radio"/> Goat Head
<input type="radio"/> Main Body
<input type="radio"/> Feet

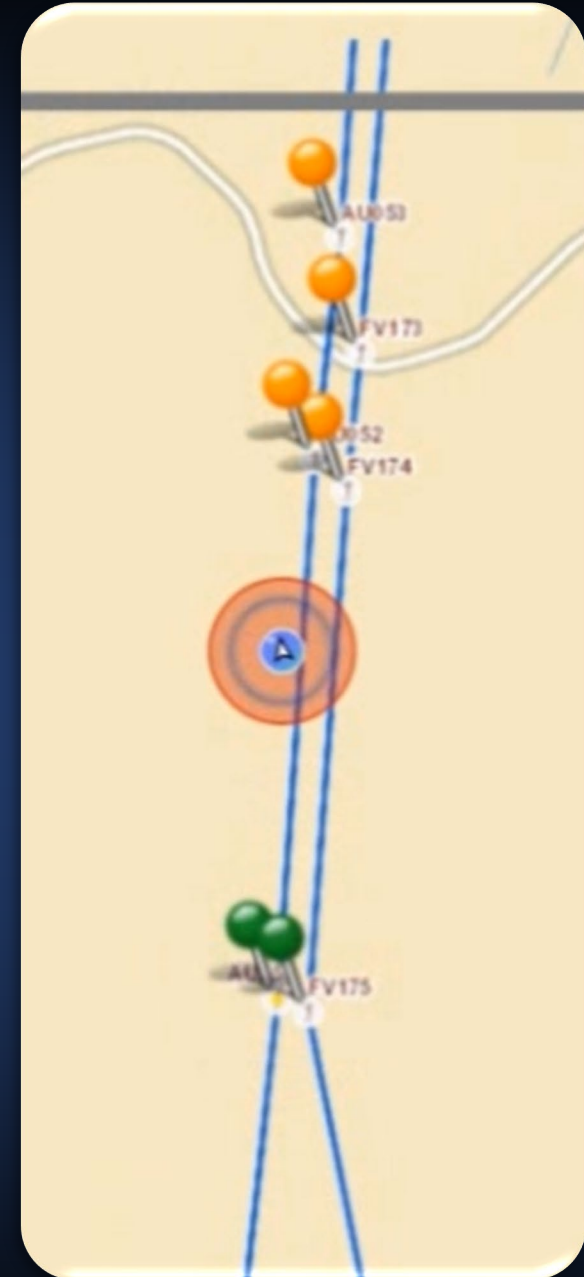
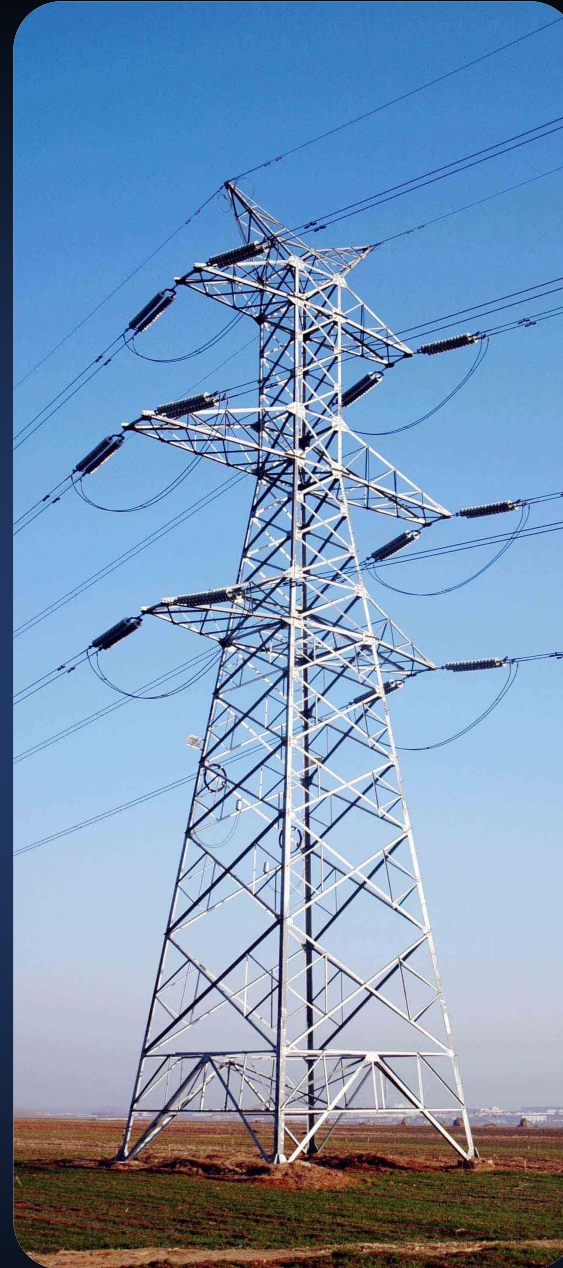
Foundation problem

<input type="radio"/> BURIED	<input type="radio"/> BACKHOE
------------------------------	-------------------------------

GPS accuracy 86 ft



Leverage location  
intelligence to  
streamline user  
experience



# 4 Keys to Useful GIS/Maximo Integration

- Start with data sync
- Only sync essentials needed for decisions
- Build fit-for-purpose processes
- Leverage location intelligence to streamline user experience