

# Extending Utility Workflows with Esri's Experience Builder

The Future of Utility Web Apps

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# Topics

- Overview – experience what?!
- Navigating the sunset of Web AppBuilder
- Web AppBuilder vs. Experience Builder
- Common use cases
- Configuration and customization
- Working with templates
- Widgets and Actions
- Working with embedded apps
- Working with URL Parameters
- Working with Utility Network
- Beyond the desktop

# Experience Builder Overview

- Low-code configurable app apart of Esri's low-code/no-code suite that is available through Enterprise and AGOL.
- Standard edition and developer edition available
- Key features
  - Single and multipage configuration for short form or long forms apps
  - Configuration for desktop and mobile users
  - Mix 2D and 3D content
  - Highly extensible with interconnected widgets
  - It's no longer just about the web map!

# Web AppBuilder's Sunset

- ArcGIS API for JavaScript retired in July 2024, replaced by ArcGIS SDK for JavaScript
- Retirement timeline:
  - Enterprise February 2023 (deprecated) – will be available through Enterprise through June 2025 (retired)
  - AGOL October 2025 (retired)
  - Dev edition July 2024 (retired)
- Rebuild and replace ([Migrate a Web AppBuilder app to Experience Builder, Esri](#))
- Not all functionality is equal ([Web AppBuilder and Experience Builder functionality matrix, Esri](#))

# Web AppBuilder vs. Experience builder

Feature	Web AppBuilder	Experience Builder
<b>Purpose</b>	Create web apps that interact with ArcGIS data	Create web apps and web pages that interact with ArcGIS data
<b>Underlying technology</b>	ArcGIS API for JavaScript	ArcGIS Maps SDK for JavaScript
<b>Customization with out-of-the-box configuration (WYSIWYG)</b>	Limited	High
<b>App types</b>	Single-page map-centric apps	Single, multipage, and longform apps (map-centric or not)
<b>Content support</b>	2D content only (3D only available in later editions of Enterprise and AGOL)	2D and 3D content
<b>Layouts</b>	Fixed layouts	Responsive layouts that adapt to any device (mobile first design)
<b>Widget interactions</b>	Limited	Action triggers that create interactions between widgets
<b>Ease of use</b>	Easy to use for beginners	More complex, but offers more flexibility
<b>Future development</b>	No longer being actively developed	Esri's primary app builder for the future

# Common Use Cases for Experience Builder

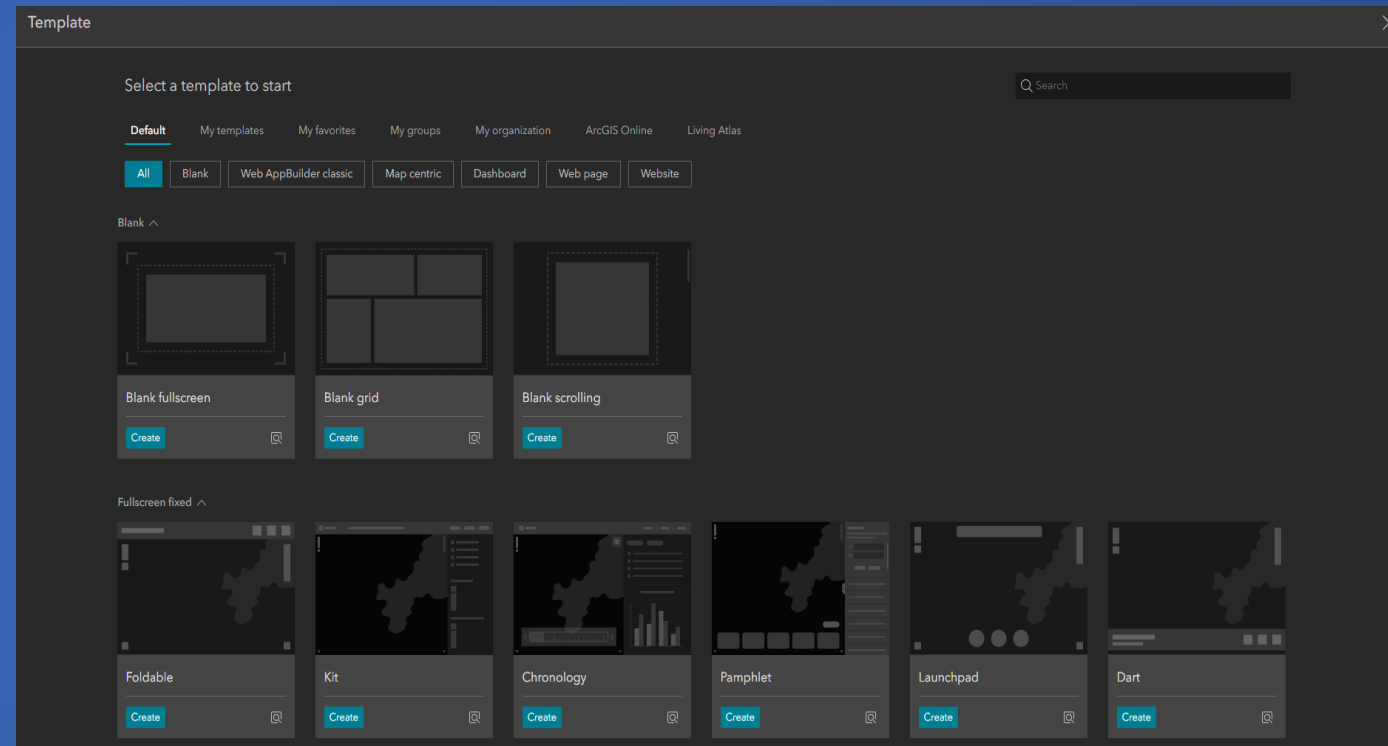
- Simple to complex data collection, data editing or referencing
- Simple to complex spatial analysis
- Network tracing
- Dynamic data visualizations—“mapcentric” or not
  - Dashboard integration for dynamic data displays

# Configuration and Customization

- WYSIWYG
- No code out-of-the-box configuration.
- Ability to customize applications with low-code elements, like HTML and CSS available in out-of-the-box configuration properties.
- Highly customizable with developer edition, requires self-deployment.

# Working with Templates

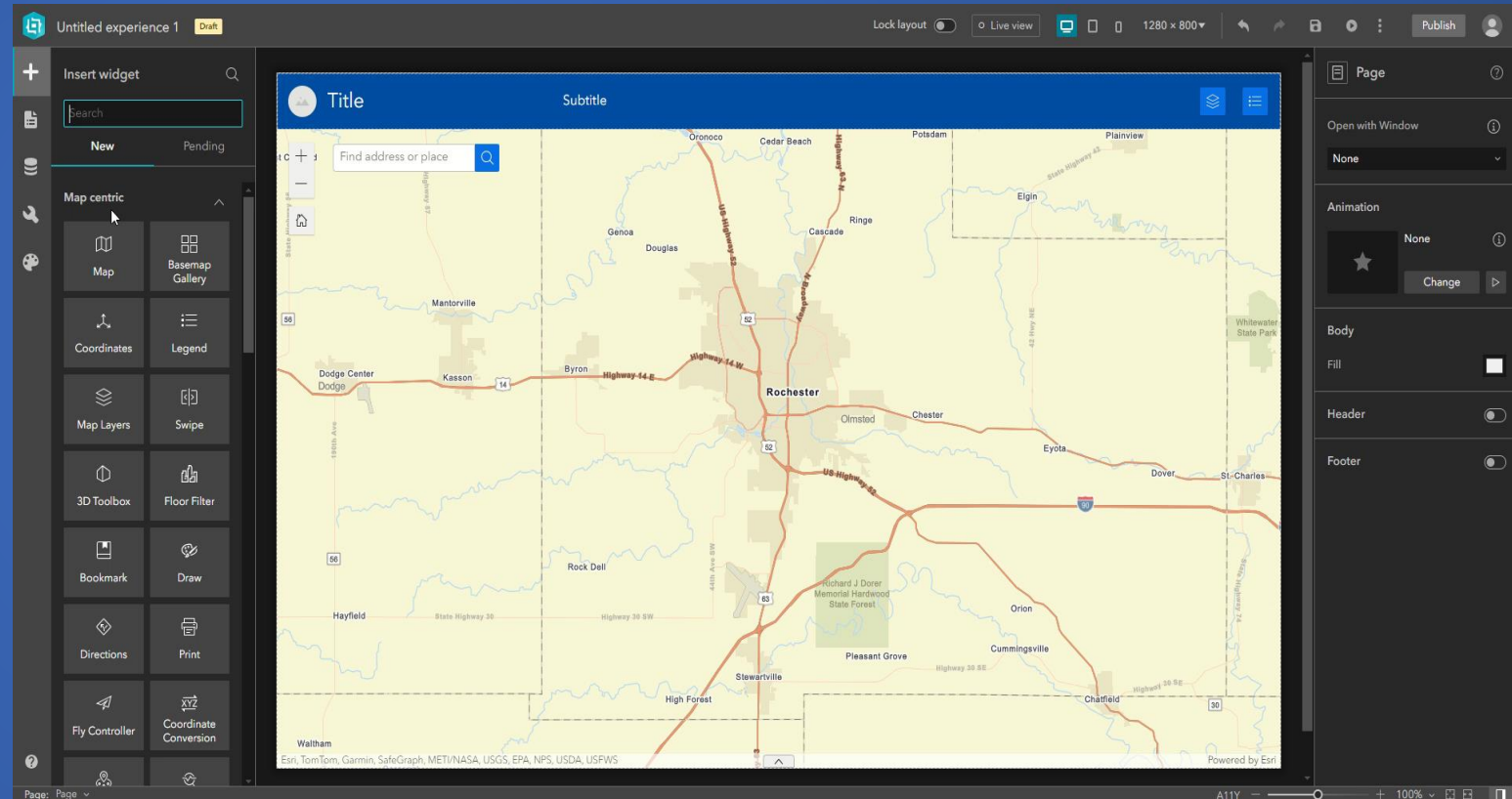
- Out-of-the-box templates vs. customized templates
- Web AppBuilder templates are available in Experience Builder
- Templates include map focused and non-map focused designs.





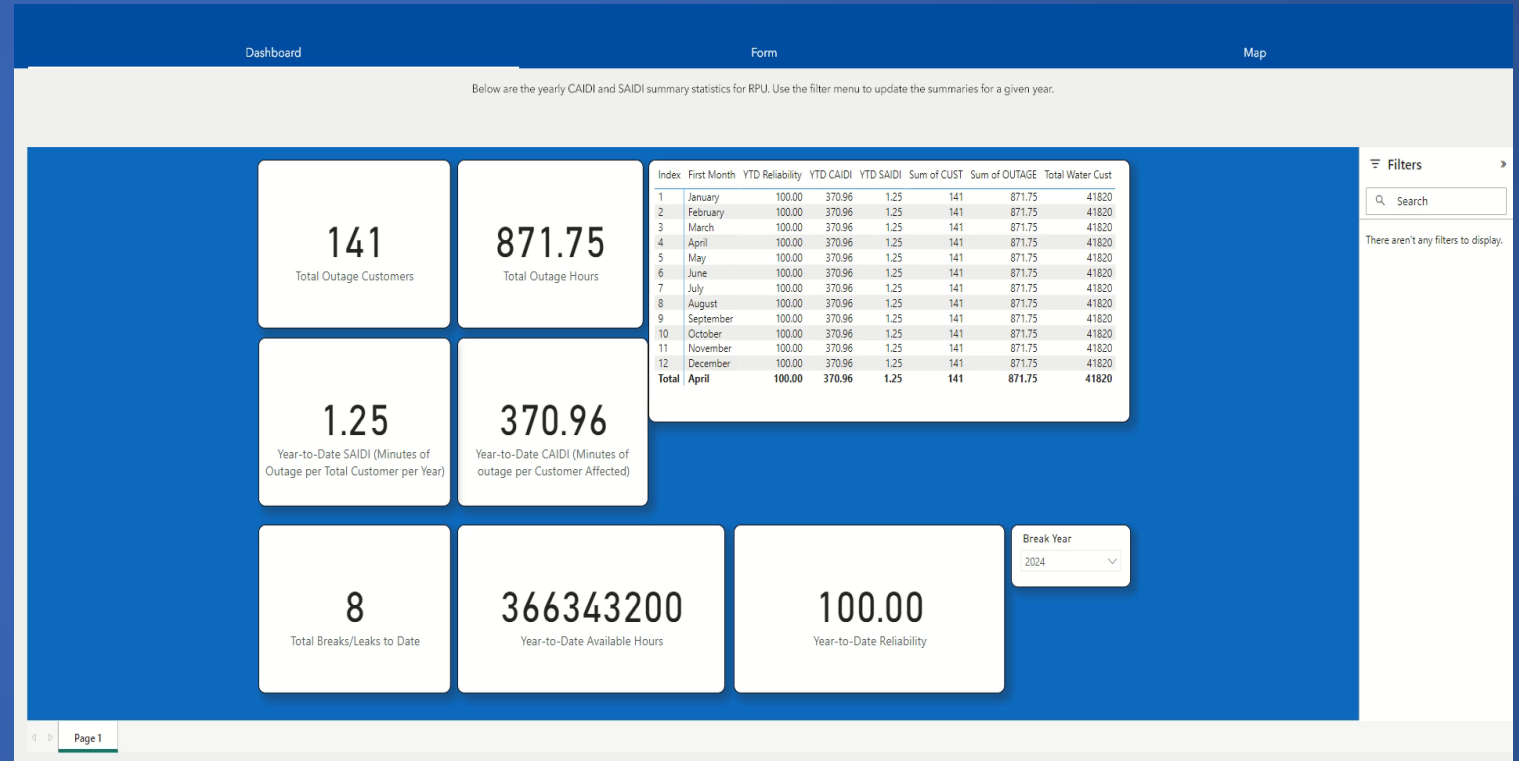
# Widgets and Actions

- 70+ widgets available
- Organized by widget behavior
- Availability dependent on platform (AGOL vs. Enterprise)
- Actions are configured within widgets, there are two types
  - Message Action
  - Data Action



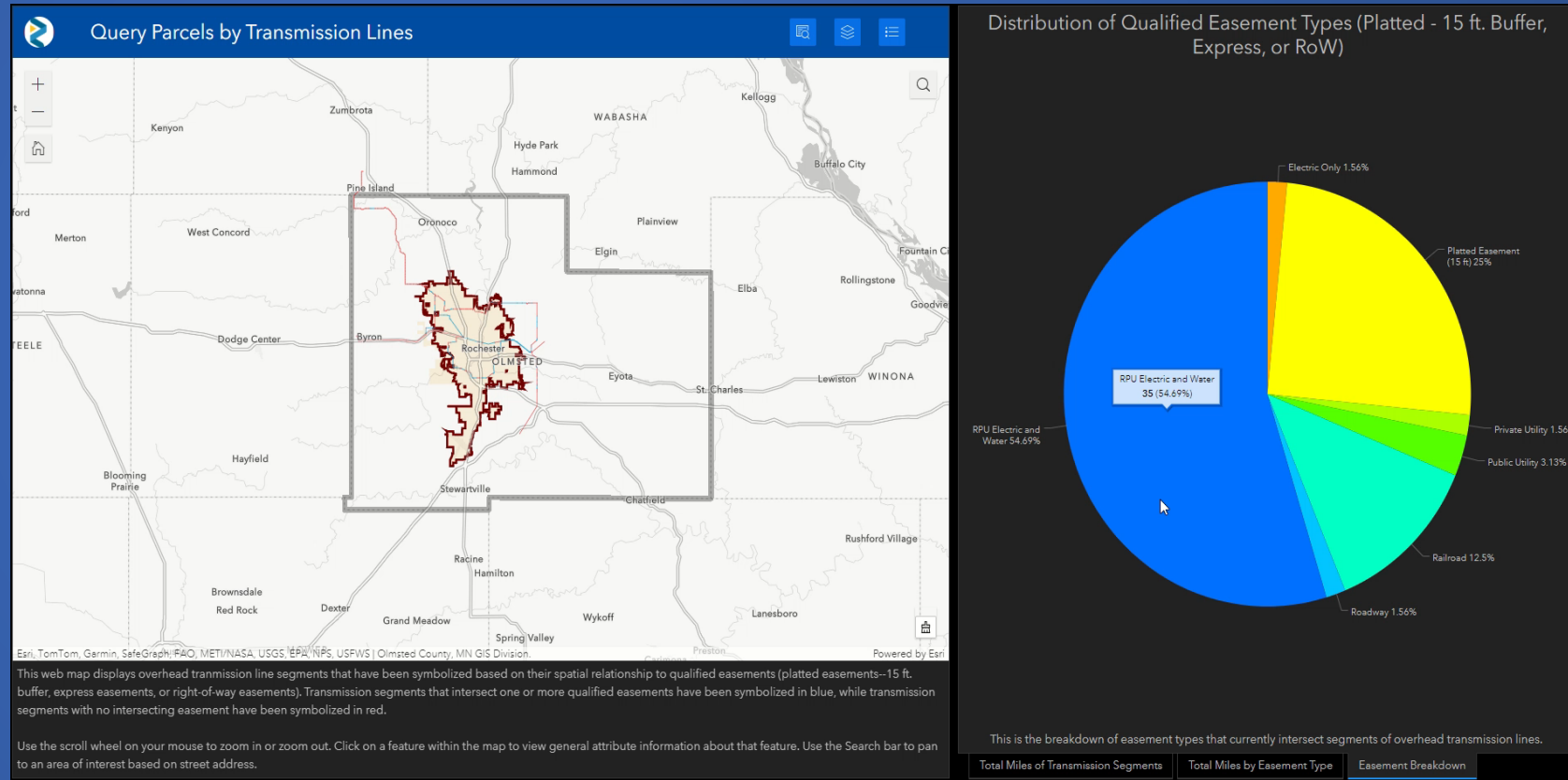
# Working with Embedded Apps

- Both ArcGIS native and non-native content can be embedded within Experience Builder apps.
- Content can be embedded using dynamic URLs or custom HTML code



# Working with Embedded Apps

- Embed Experience Builder in Dashboards
- For more info on data expressions, check out Eris GitHub: [https://github.com/Esri/arcade-expressions/tree/master/dashboard\\_data](https://github.com/Esri/arcade-expressions/tree/master/dashboard_data)



# Working with URL Parameters

- General URL Parameters for controlling styling on the screen
- Data-driven URL Parameters for controlling visuals and widgets

The screenshot displays a web application interface with a sidebar on the left and a main content area on the right. The sidebar has a blue background and contains a vertical menu with the following items: "Data", "List" (highlighted with a mouse cursor), "General", and "Actions".

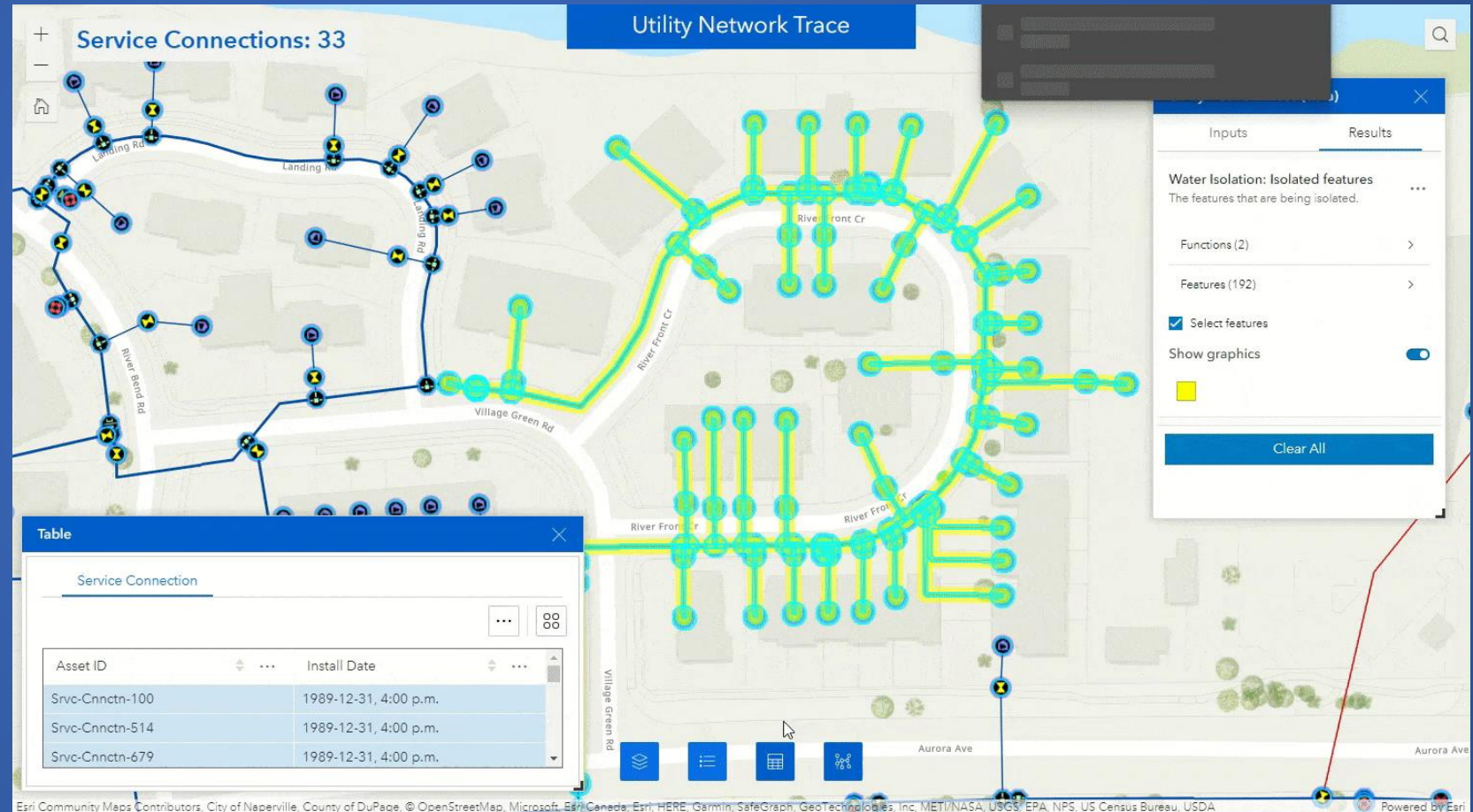
The main content area is titled "List" and is divided into two sections:

- Data options:** This section includes a "Show data table" button, a "Layer: licenses\_easements\_intersect" field with a "Change" button, a "Filter" field with a "+ Filter" button, a "Maximum features displayed" field set to "25" with up/down arrows, and a "Sort by" field with an "Add field" dropdown.
- List:** This section displays a list of easement records. Each record includes a small square icon (shaded or green), followed by the following fields:
  - Easement Type:** Railroad
  - License Number:** 062502
  - Start Date:** 7/14/2002, 7:00 PM
  - End Date:** (blank)
  - Area:** 3012.442289102483
  - Easement Comments:** Underground Electric Distribution Line South of NLY ROW Line 7th St NW
  - Easement Document Page:** 062502



# Working with Utility Network Trace

- Utility Network Trace widget is available in Experience Builder
  - Enterprise 10.9+
- Prerequisites:
  - Web map with trace configuration
  - Feature service that supports UN
  - Topology enabled and validated
  - ArcGIS Utility Network user type extension (Before Enterprise 11.1)
- [Configure an Application to Trace a Utility Network](#), [Alix Vezina, 2022](#)



The screenshot displays the Utility Network Trace widget in ArcGIS Experience Builder. The main map area shows a network of utility lines and nodes, with a blue line representing the trace path. The widget title is "Utility Network Trace" and it shows "Service Connections: 33".

A table window is open, displaying the following data:

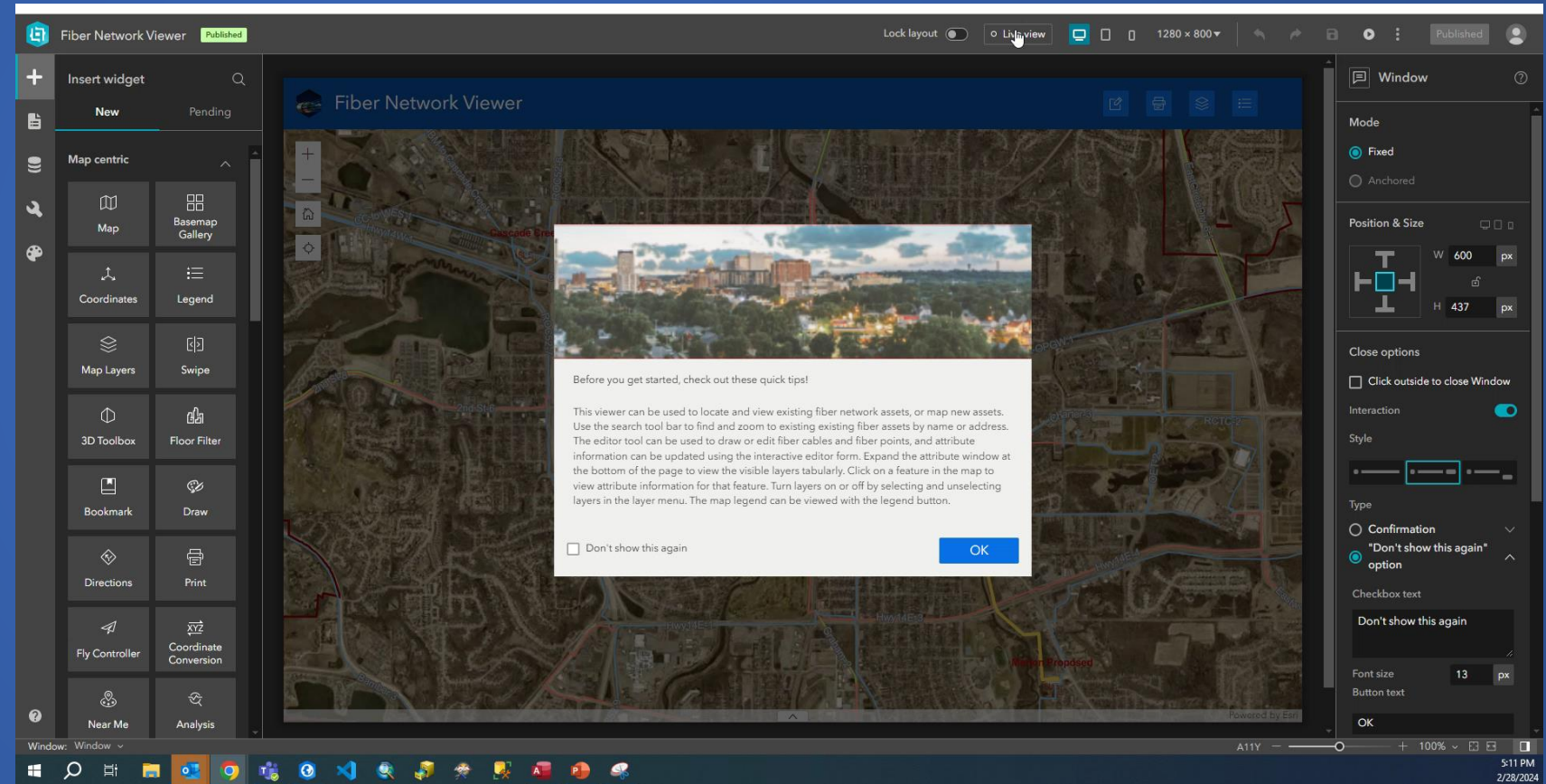
Asset ID	Install Date
SrvC-Cnnctn-100	1989-12-31, 4:00 p.m.
SrvC-Cnnctn-514	1989-12-31, 4:00 p.m.
SrvC-Cnnctn-679	1989-12-31, 4:00 p.m.

A results panel is also visible, showing the output of the trace operation. It includes a "Water Isolation: Isolated features" section, a "Functions (2)" section, and a "Features (192)" section. The "Select features" checkbox is checked, and the "Show graphics" toggle is turned on. A "Clear All" button is located at the bottom of the results panel.

At the bottom of the screenshot, the following text is visible: "Esri Community Maps Contributors, City of Naperville, County of DuPage, © OpenStreetMap, Microsoft, Esri, Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, MET/NASA, USGS, EPA, NPS, US Census Bureau, USDA. Powered by Esri."

# Beyond the Desktop

- Layout options include desktop and mobile options
- Configure different layouts for various screen sizes
- Widgets and controllers are configured for each layout



# References

- Jianxia Song and Eva Moyer (2023). ArcGIS Web AppBuilder Roadmap for Retirement. <https://www.esri.com/arcgis-blog/products/web-appbuilder/announcements/arcgis-web-appbuilder-roadmap-for-retirement/>
- Esri. Migrate a Web AppBuilder app to Experience Builder. Low-code/No-code app builders, ArcGIS Developers. <https://developers.arcgis.com/documentation/app-builders/low-code/arcgis-experience-builder-wab-app-migration-exb/>
- Esri. Web AppBuilder and Experience Builder functionality matrix. ArcGIS Web AppBuilder, Esri Products. <https://doc.arcgis.com/en/web-appbuilder/latest/create-apps/wab-exb-widget-functionality-matrix.htm>
- Vezina, Alix (2022). Configure an Application to Trace a Utility Network. ArcGIS Blog. <https://www.esri.com/arcgis-blog/products/utility-network/mapping/configure-apps-to-trace-a-utility-network/>

# Questions