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Rhode Island Energy
System Data Portal

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Overview

Rhode Island Energy has created a collection of interactive maps to help customers, contractors, and developers identify potential project sites and development opportunities.

The maps provide the location and specific information for selected electric distribution lines and associated substations and assets within the Rhode Island Energy electric service area of Rhode Island.

Rhode Island Energy's electric system is dynamic. System configurations can change for a variety of reasons both planned and unplanned. Rhode Island Energy will update the contents on a periodic basis so please be aware that the same location may show different information over time.

Please note that the Portal and maps are not a guarantee that generators can interconnect at any particular time and place. A number of factors drive the ability and cost of interconnecting distributed generation to the electric system and actual interconnection requirements and costs will be determined following detailed studies. These studies will consider your specific project location, operating characteristics and timing. Additionally, environmental and other required permits are independent of our interconnection process and may limit the suitability of a particular site.

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Link to the Rhode Island System Data Portal

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You can access the Rhode Island System Data Portal through the Rhode Island Energy customer webpage here:

https://www.rienergy.com/site/other-parties/business-partners/rhode-island-system-data-portal

Direct access to the Rhode Island System Data Portal Map is available here:

https://experience.arcgis.com/experience/b7f446f95c6b4d548d694737c9e66846



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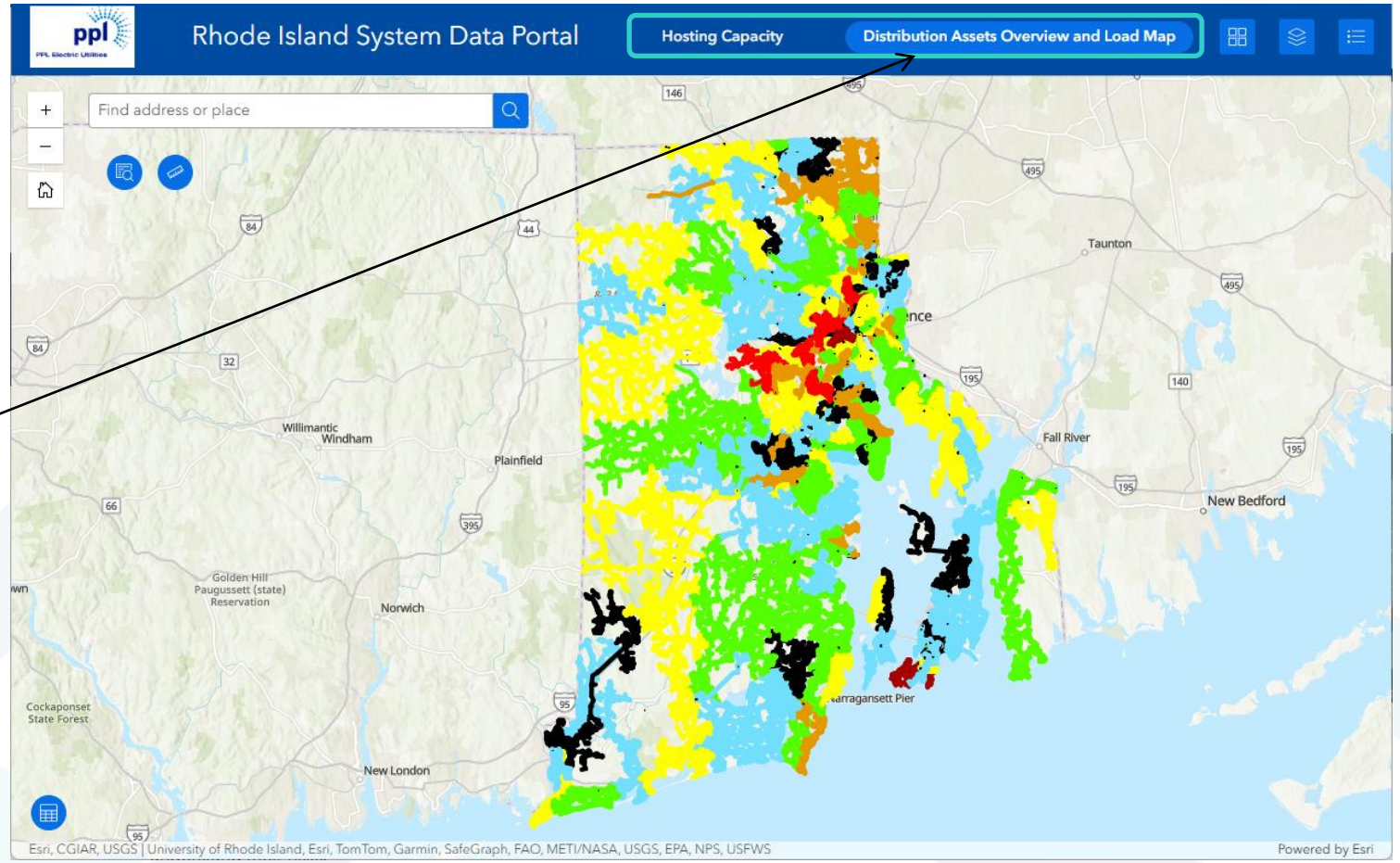
Navigation

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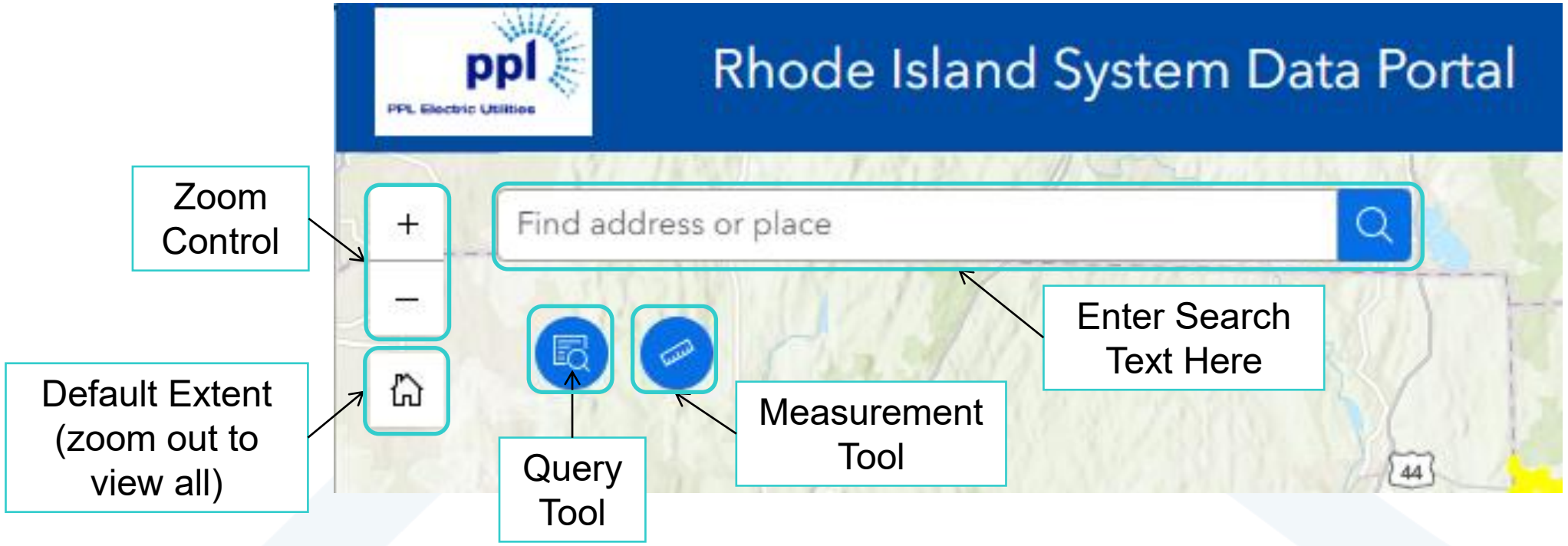
Navigation - Tabs

- The Rhode Island System Data Portal contains tabs for easy navigation.

Select the tabs to navigate between different parts of the Portal

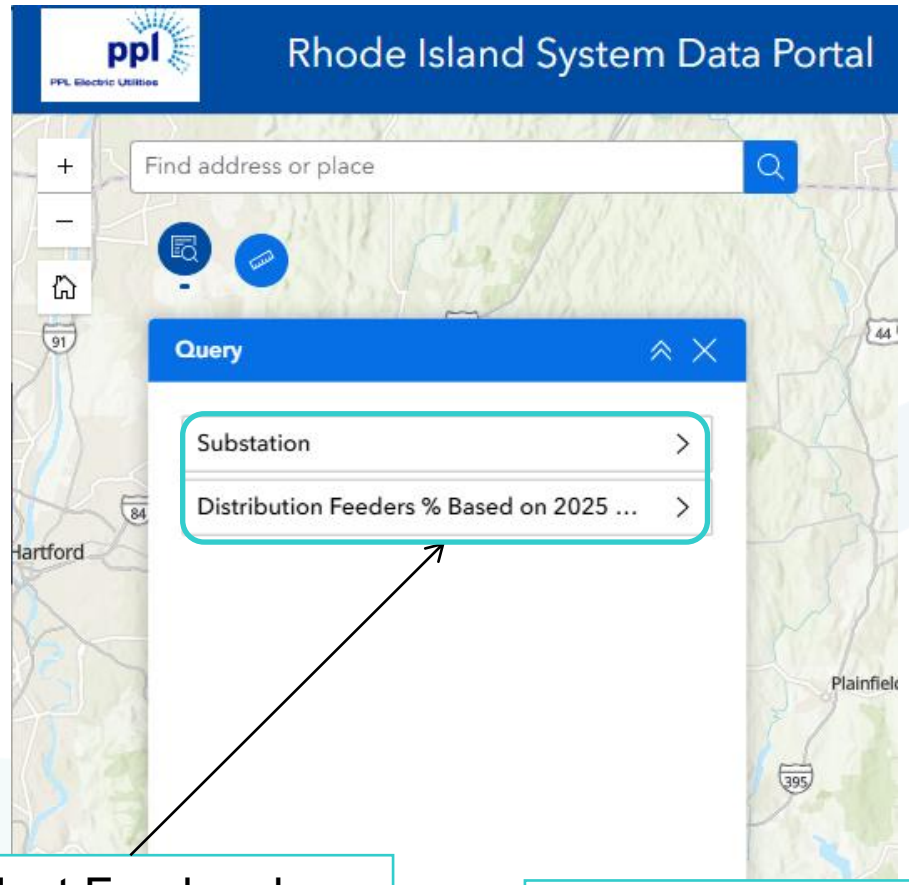


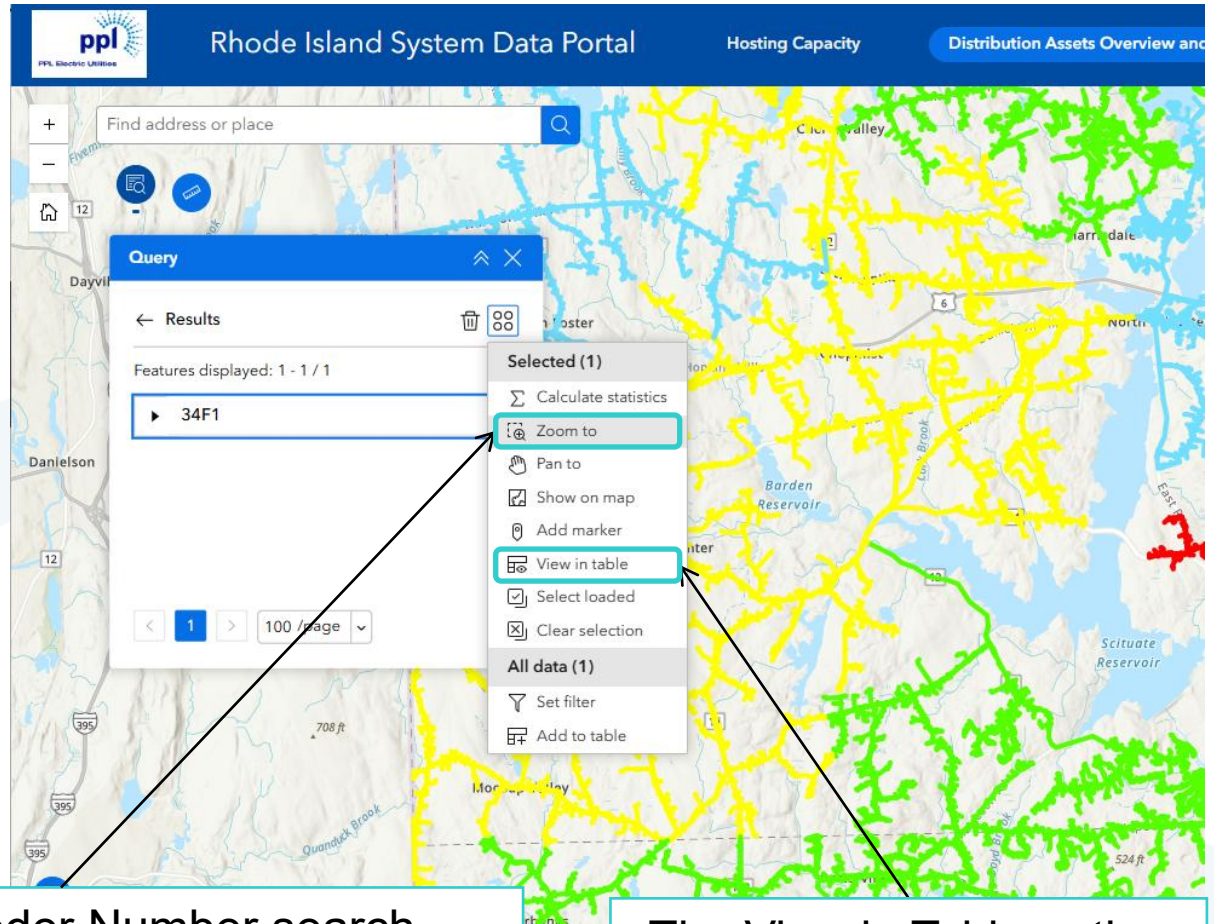
Navigation – Map Search



- Use the Search Text bar to find an address or place, similar to Google Maps.
- Or, use the Zoom Controls or mouse wheel to locate a specific location, feeder or substation.

Navigation – Query Tool





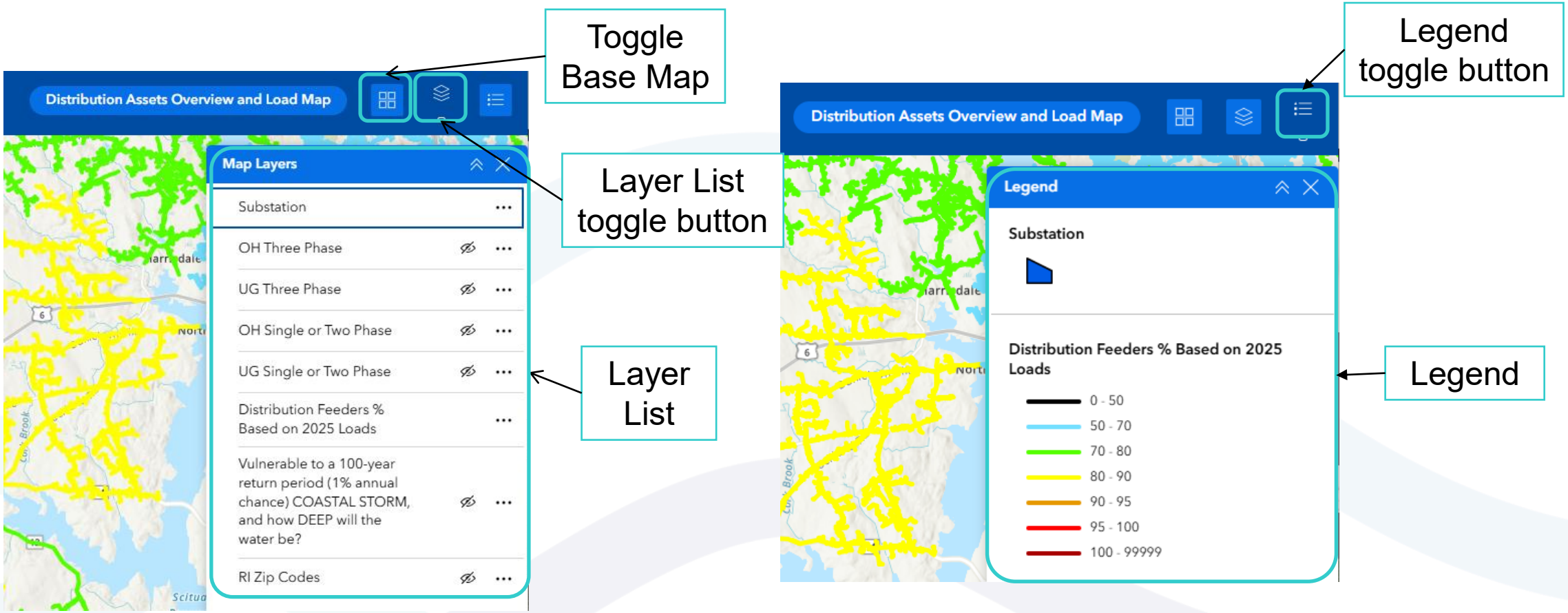
Select Feeders by Substation Name or by Feeder Number

Using the Feeder Number search method, search for a specific feeder (i.e. 34F1). Then selecting Zoom to will zoom the view extent to the selected feeder

The View in Table option will bring the feeder attributes in a pop-up table.

Navigation – Base Maps, Layers and Legend

- A Layer List can be toggled to show different assets of the map system.
- A Legend can be toggled to show the color coding of the feeders.



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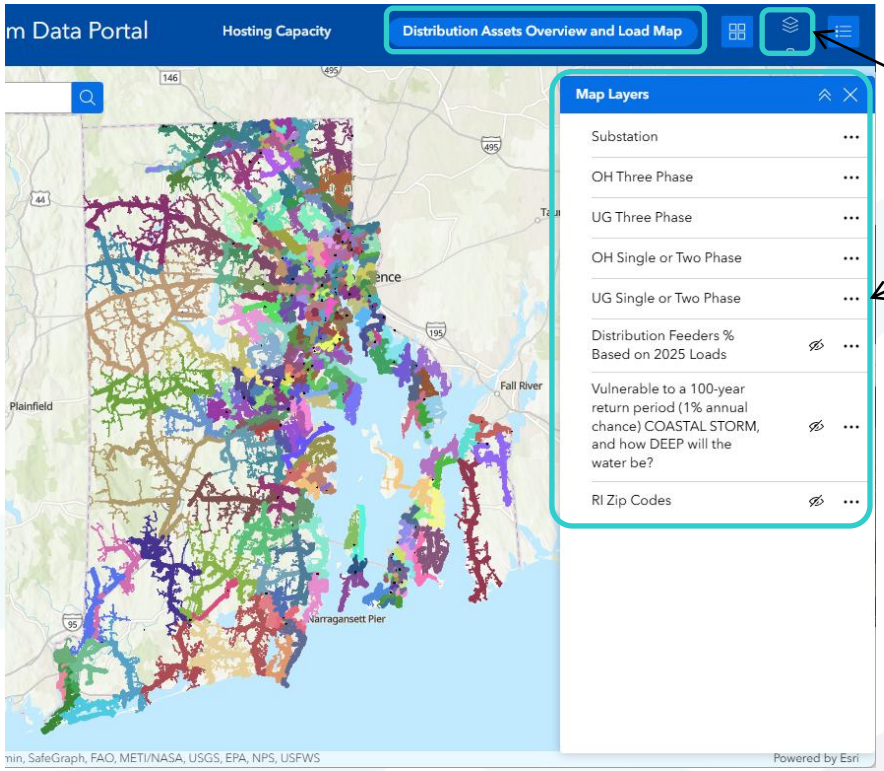
Tabs and Map Resources

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Tab – Distribution Asset Overview and Load Map

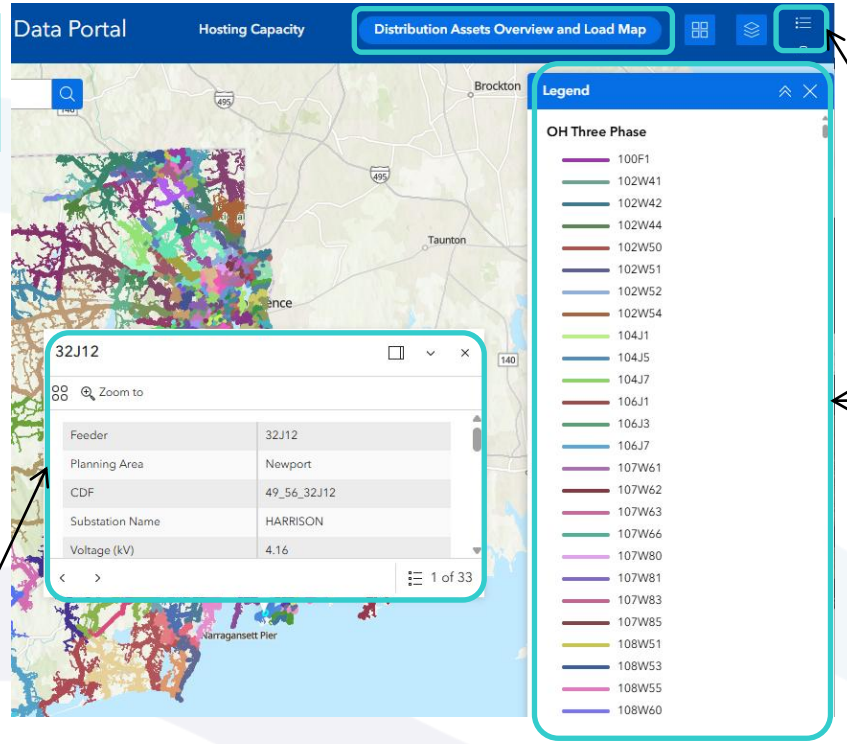
- The Distribution Assets Overview and Load tab can be configured to show Rhode Island Energy electric distribution assets, which includes circuits (feeders) by phase.
- Circuits are color coded by feeder name on the Map and in the Legend.

CR1



Layer List toggle button

Layer List



Legend toggle button

Feeder Legend

Pop-up window with feeder info

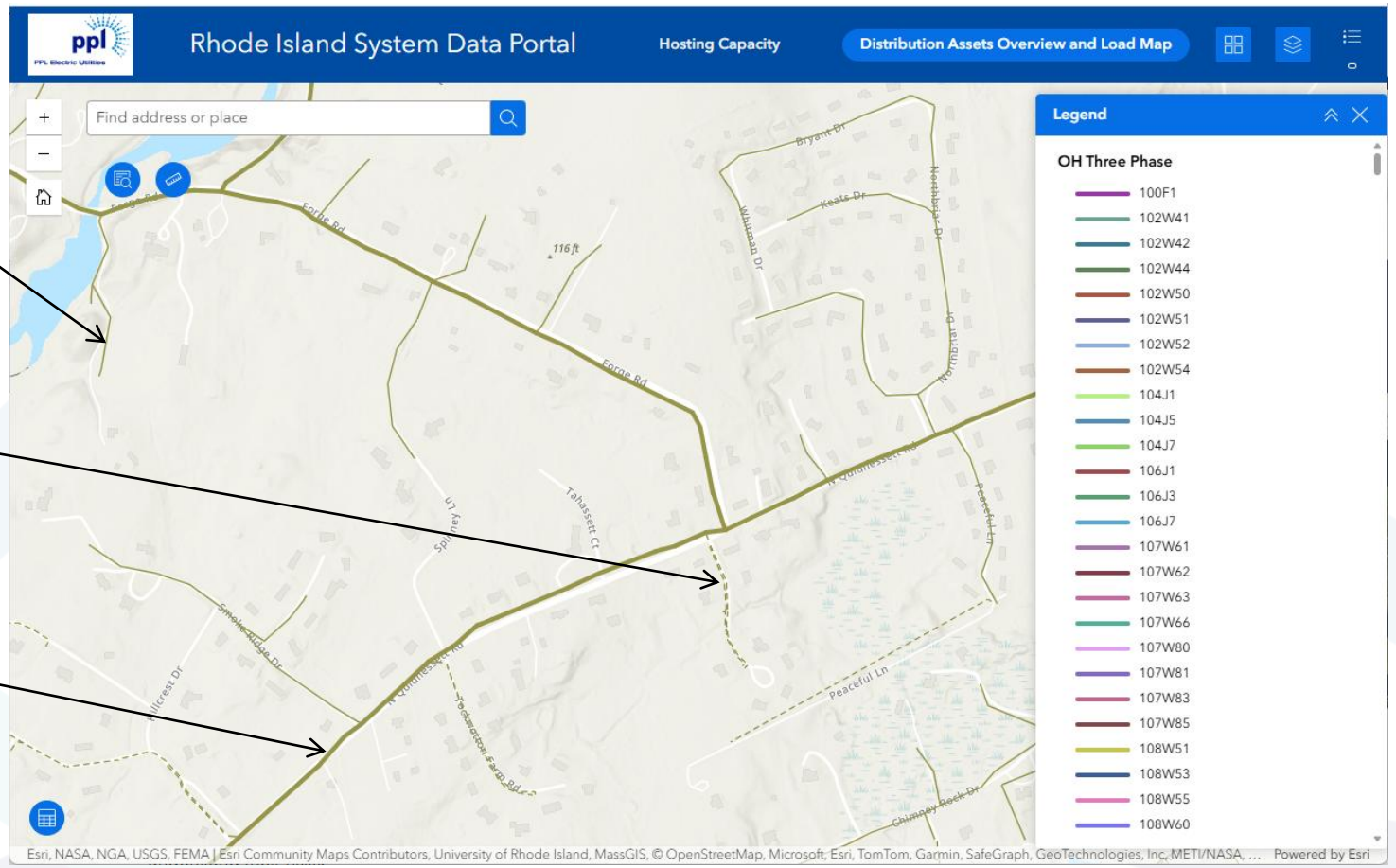
Tab – Distribution Asset Overview and Load Map

- Circuit types are coded by line thickness and dash style.
  - Thin lines denote single- or two-phase lines while thick lines denote three-phase.
  - Solid lines denote overhead lines while dashed lines denote underground lines.

Thin solid line:
single- or two-phase overhead section of circuit

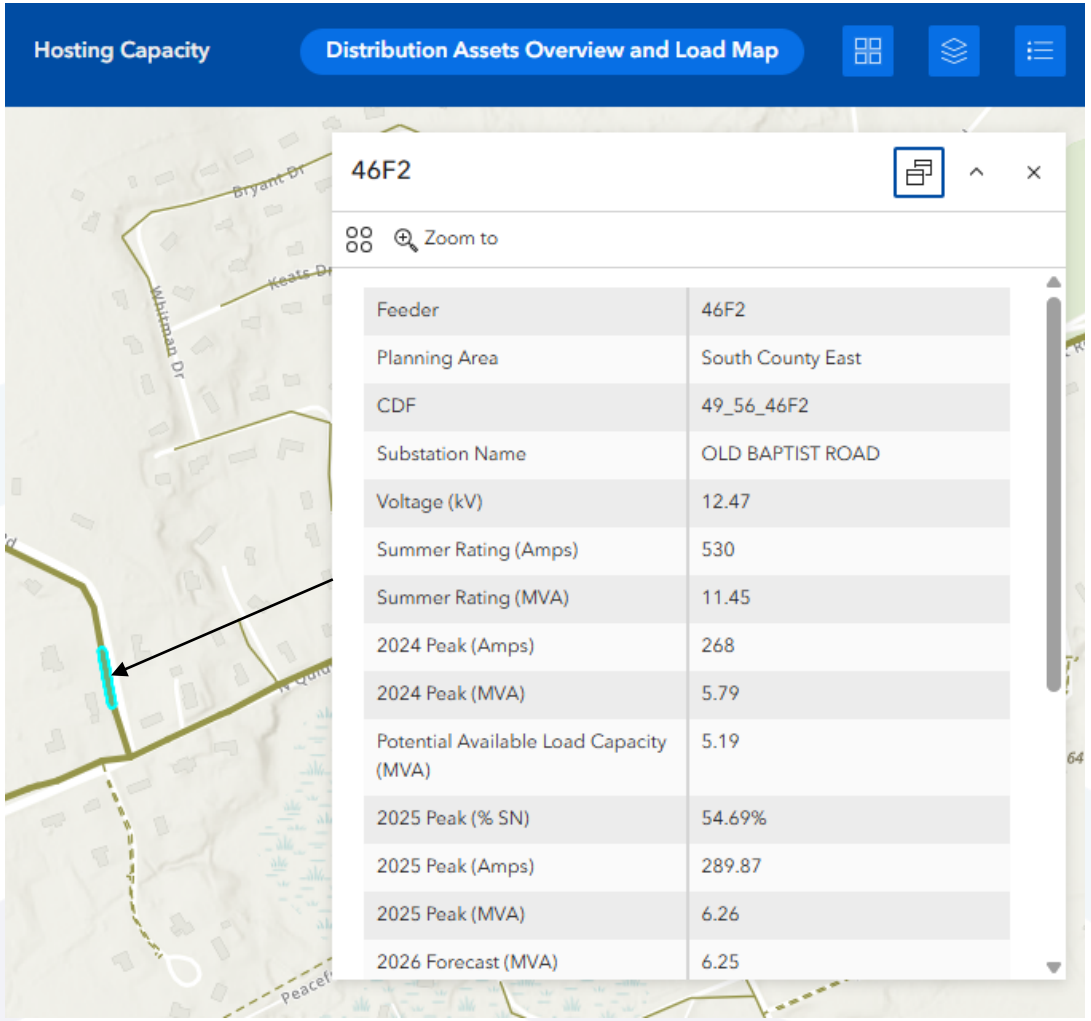
Thin dashed line:
single- or two-phase underground section of circuit

Thick solid line:
three-phase overhead section of circuit



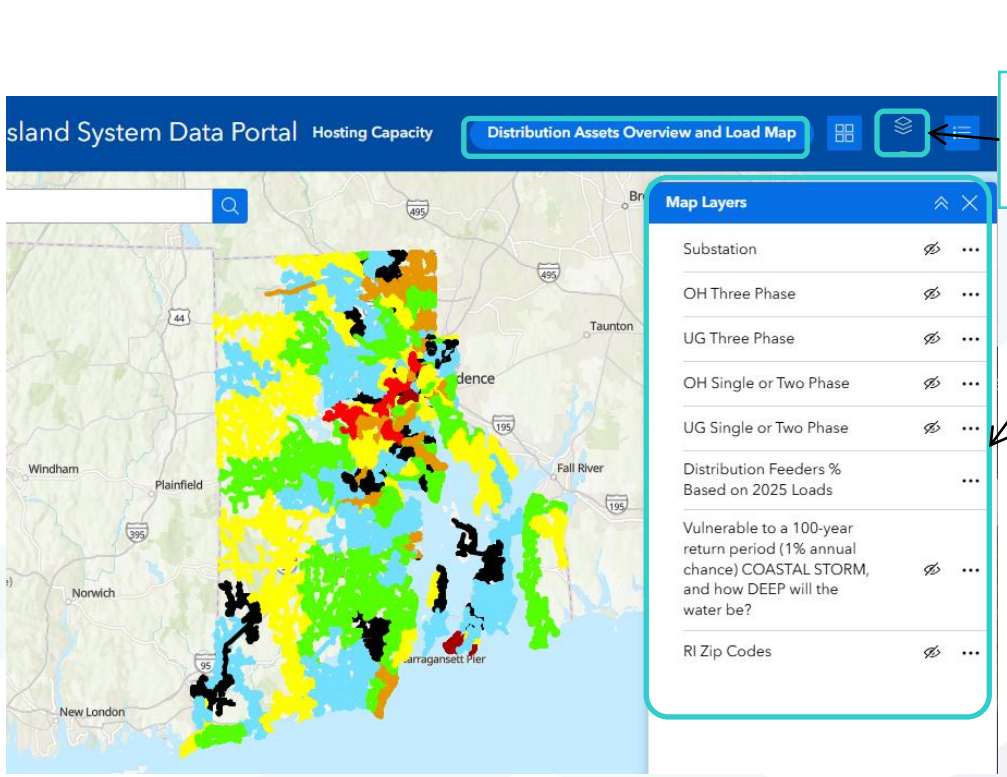
Tab – Distribution Asset Overview and Load Map

- When selected, each feeder will reveal specific information.
  - Feeder ID
  - Planning Area, Substation, and Operating Voltage
  - Summer Rating
  - Loading information for 10 years in the future



Tab – Distribution Asset Overview and Load Map

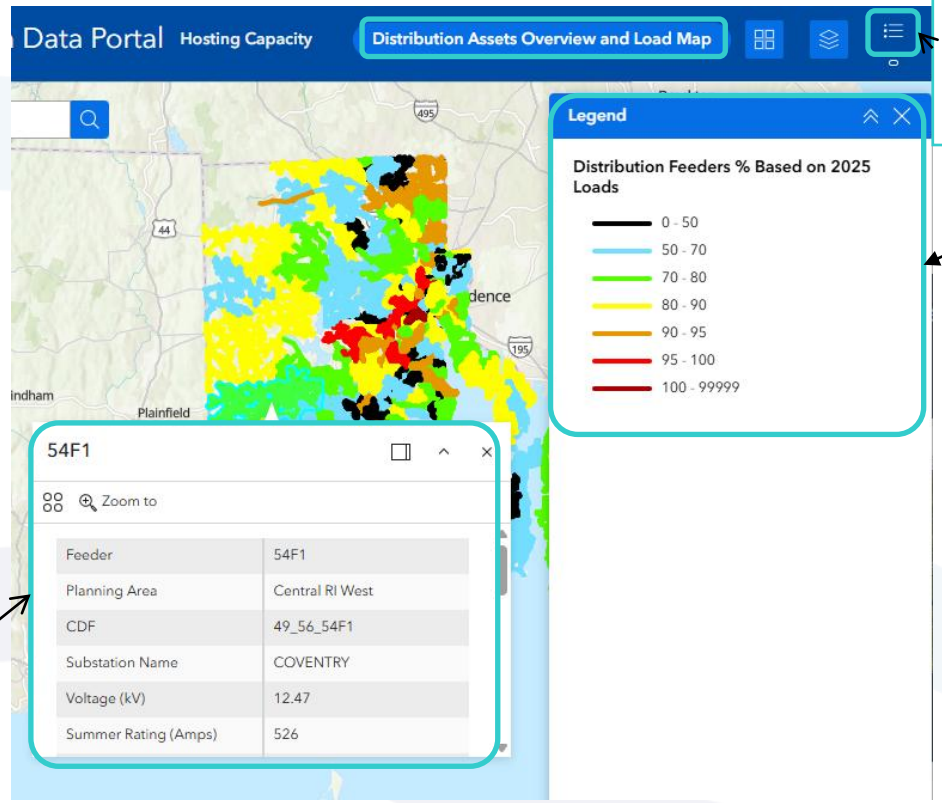
- The Distribution Assets Overview and Load tab can be configured to show circuits color coded by the latest analysis year % Forecasted loading, as stated in the layer list.
- Feeder selection will display a variety of operating attributes and data.



Layer List toggle button

Layer List

Pop-up window with feeder info



Legend toggle button

Feeder Legend

Tab – Distribution Asset Overview and Load Map

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The Load Map is an interactive map that displays relevant electric load information for the Rhode Island Energy electric distribution network in Rhode Island.

The Rhode Island electric distribution circuits shown on this interactive Load Map are color coded based on their most recent annually forecasted percent loading, with the specific year identified in the map legend (e.g., 2025 Load). This information is intended to help Distributed Energy Resource (DER) developers identify distribution circuits that are loaded to 80% or more of their Summer Normal (SN) feeder rating. This interactive map is also intended to identify where additional capacity exists and can accommodate beneficial electrification of high efficiency heat pumps and electric vehicles (EVs), and to help EV infrastructure developers identify locations on the Rhode Island Energy electric distribution network.

The Load Map legend details corresponding color-coding for feeder loading.

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Tab – Distribution Asset Overview and Load Map

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The “Potential Available Load Capacity (MVA)” value in the feeder detail pop-up illustrates the potential available capacity on the feeder for additional load and is calculated from the following formula:

CR1

“Potential Available Load Capacity” = “Summary Rating (MVA)” – “[Year] Peak (MVA)”

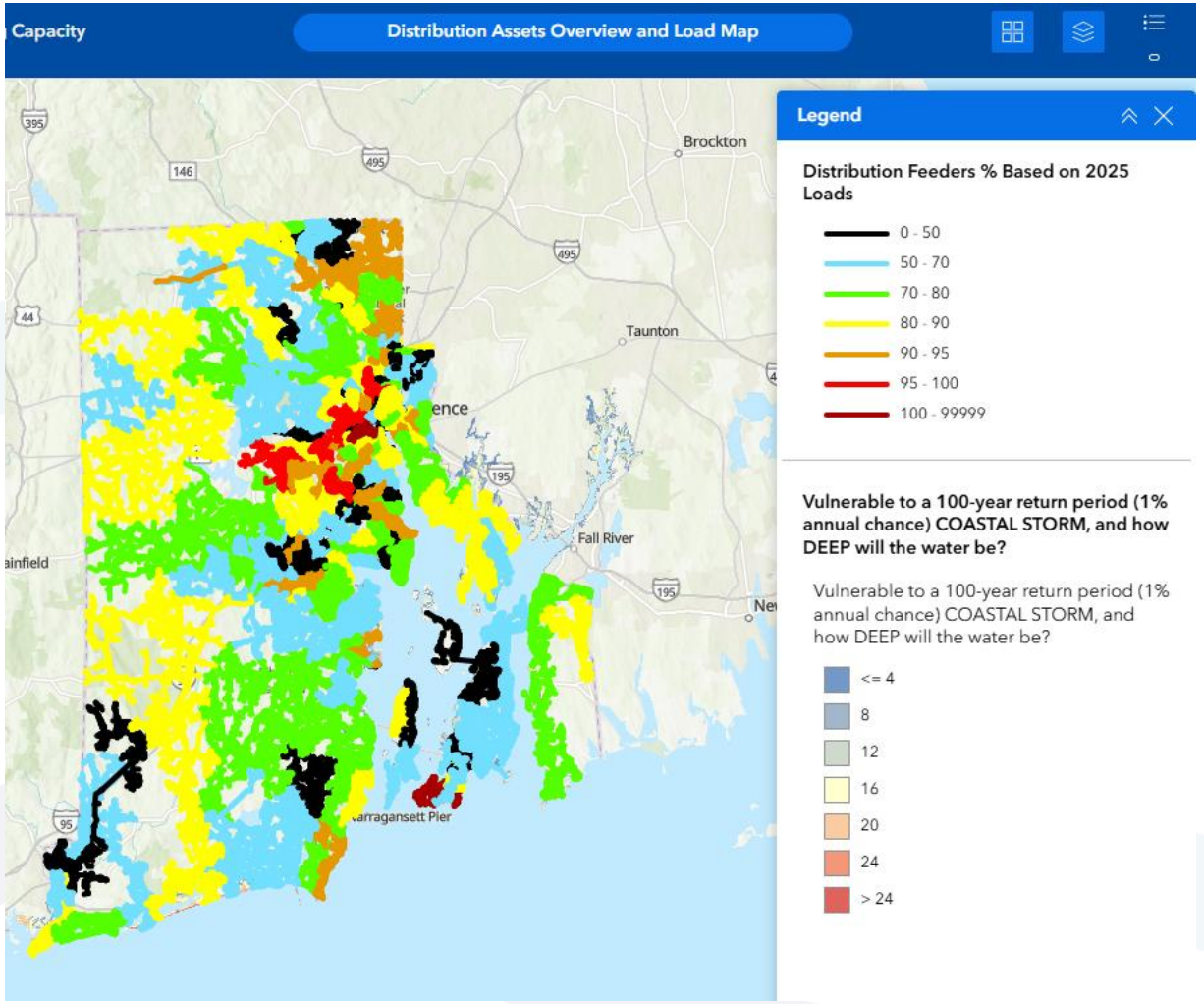
with the “[Year]” as the most recent calendar year provided in the feeder detail pop-up (e.g., “2025 Peak (MVA)” following the 2025 dataset update). This value, coupled with the detail provided by the color-coded layer, can help provide insight to project, load, and electric infrastructure planning.

Note that this value is informative rather than prescriptive for planning purposes and may differ depending on feeder conditions throughout the year. The most up-to-date information for EV infrastructure and grid solution providers is best acquired through project contact channels.

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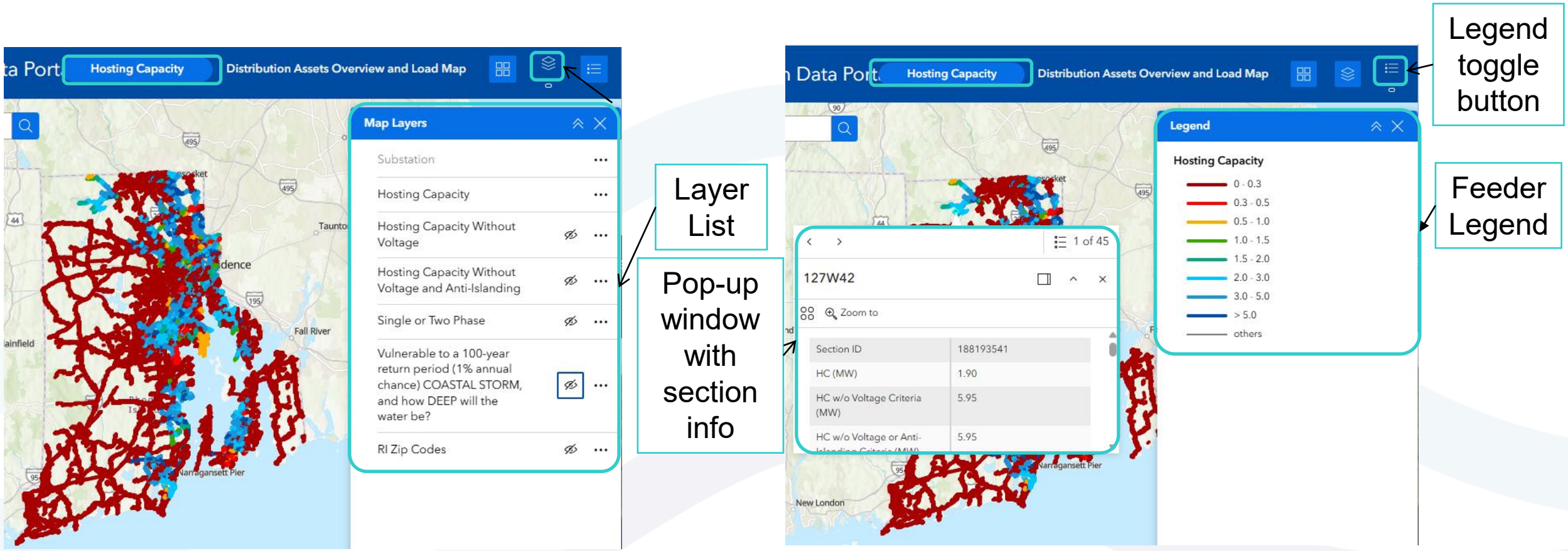
Tab – Distribution Asset Overview and Load Map Storm Tools

- **RI STORM TOOLS**: a toggle button in the layer lists is available to turn on a map layer from RI STORM TOOLS. The layer shows the how deep the water will be during a 100-year coastal storm. It can be used by developers to assess flood risk for potential distributed generation and load site locations in Rhode Island.



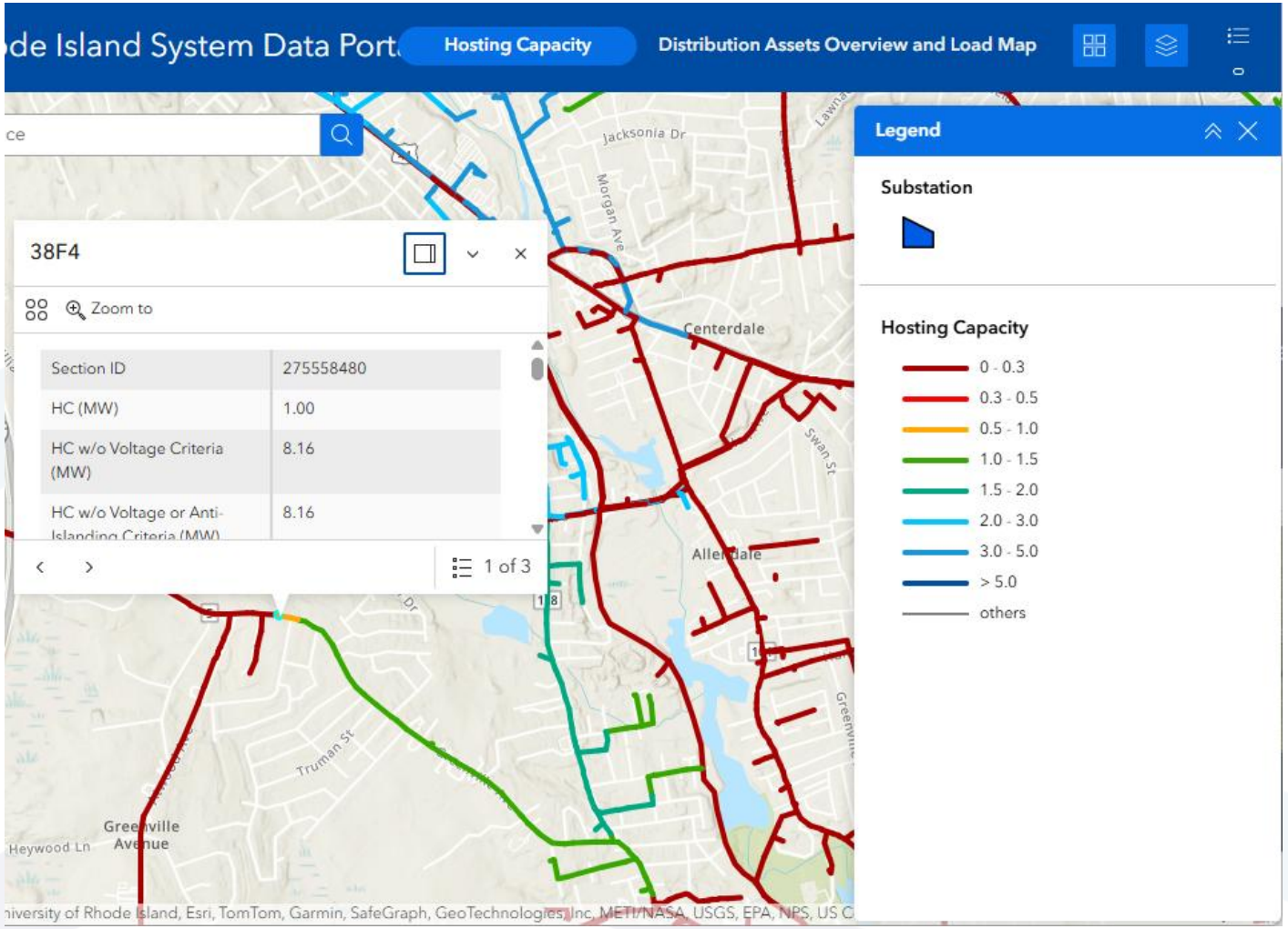
Tab – Hosting Capacity Map

- The Hosting Capacity tab show circuits color coded by the latest hosting capacity analysis results, as stated in the layer list.
- Section selection will display a variety of attributes and data.



Tab – Hosting Capacity Map

- The Hosting Capacity Map contains nodal level hosting capacity results.
- The Hosting Capacity Map features selectable sections that have hosting capacity within ranges specified in the legend. This means the hosting capacity will vary along the length of each feeder.



Tab – Hosting Capacity Map

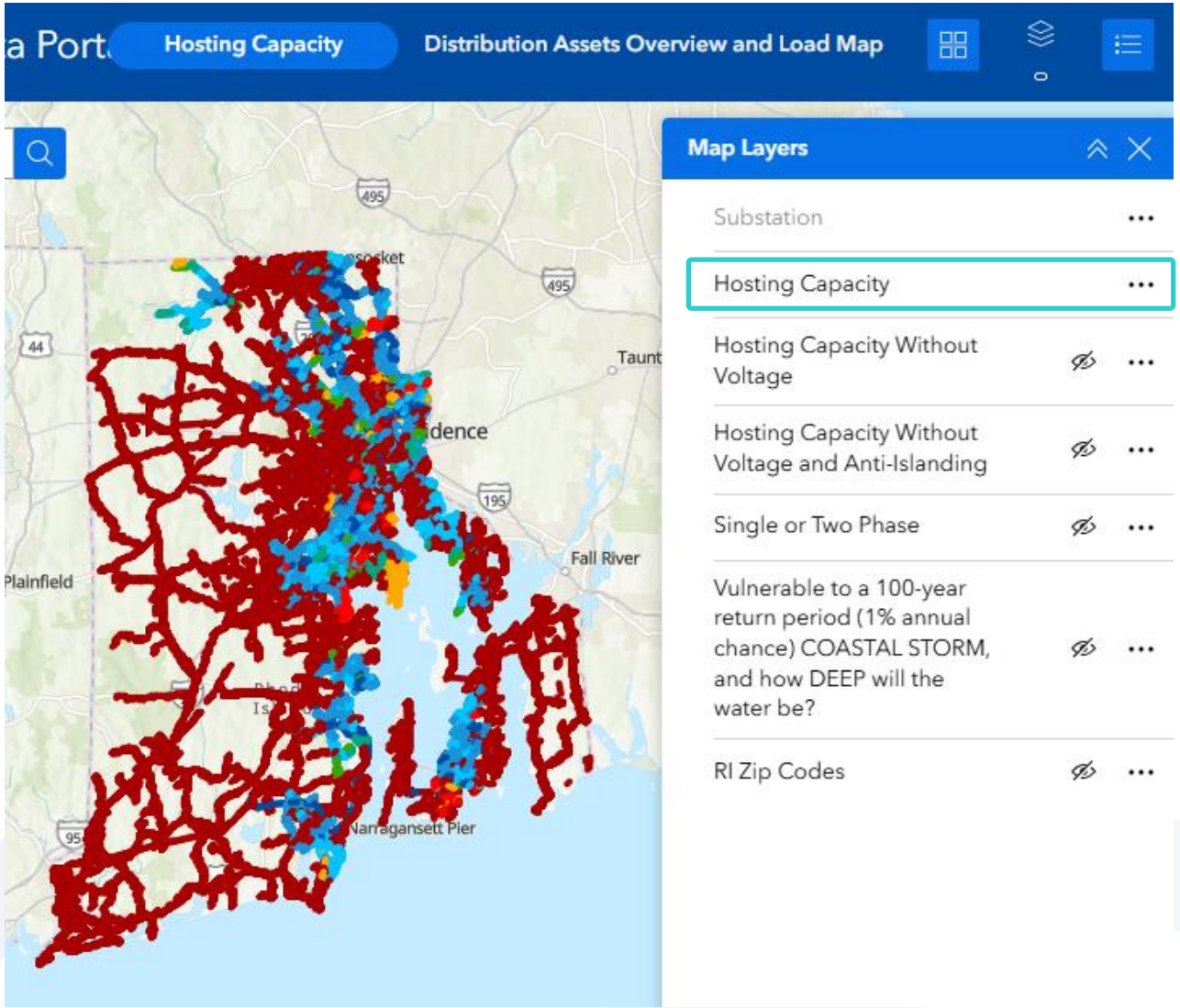
- The analyses presented in this map provide the nodal level hosting capacity for the distribution circuits evaluated. Hosting Capacity is an estimate of the amount of DER that may be interconnected without adversely impacting power quality or reliability under current configurations with no infrastructure upgrades.

- Rhode Island Energy has updated its presentation of hosting capacity to provide developers and installers with more information. With this update, developers and installers are able to access data on three sets of hosting capacity analytical results, with the objective of supporting collaboration that can result in lower-cost and faster interconnection for DER. The Hosting Capacity Map has three different layers that color code sections with hosting capacity based on different sets of criteria:
  - Hosting Capacity with All Criteria
  - Hosting Capacity without Voltage Criteria
  - Hosting Capacity without Voltage or Anti-Islanding Criteria

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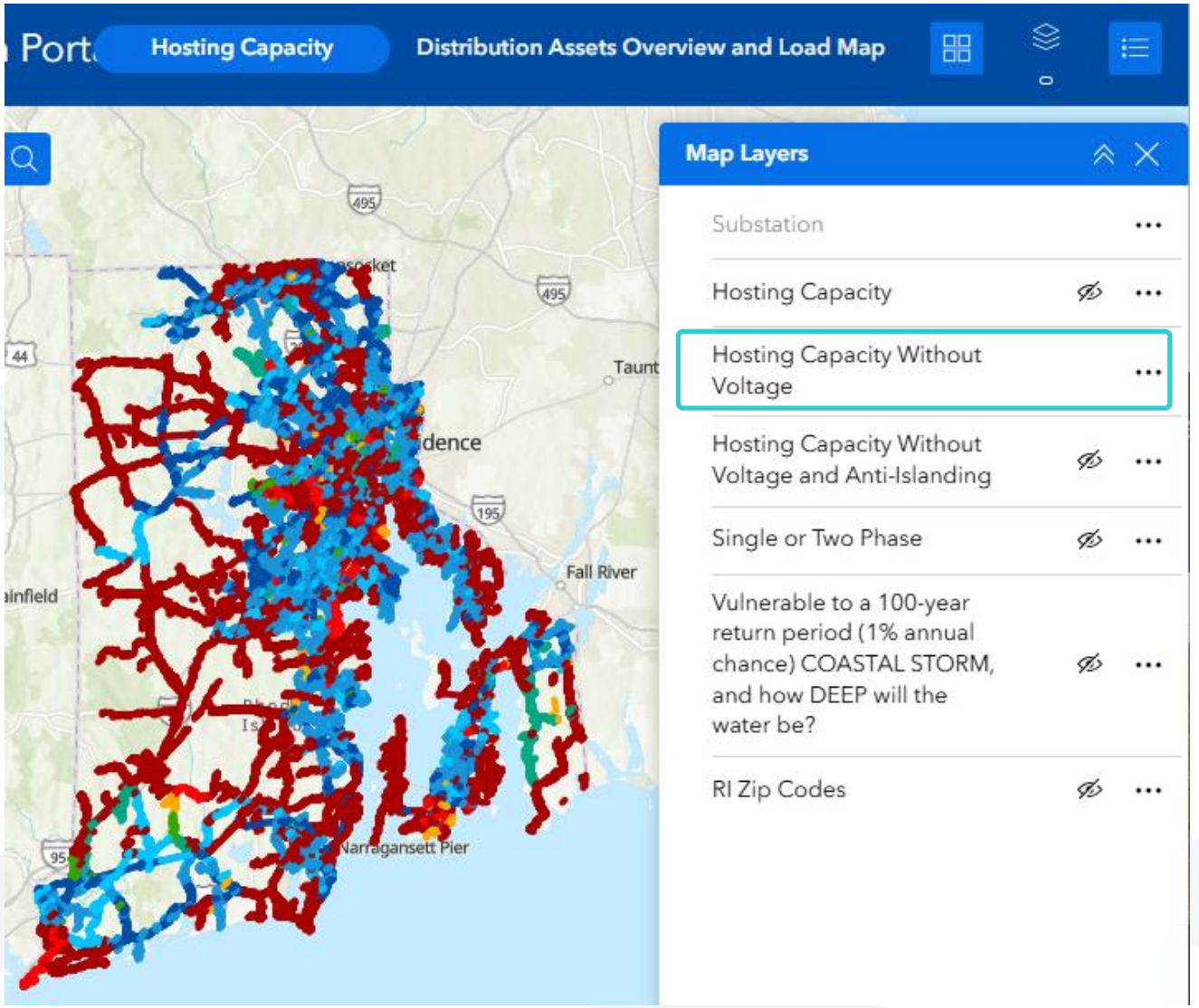
Tab – Hosting Capacity Map

- Hosting Capacity with All Criteria is the most conservative estimated amount of DER that may be interconnected to RIE's existing electric power system without adversely impacting power quality or reliability.



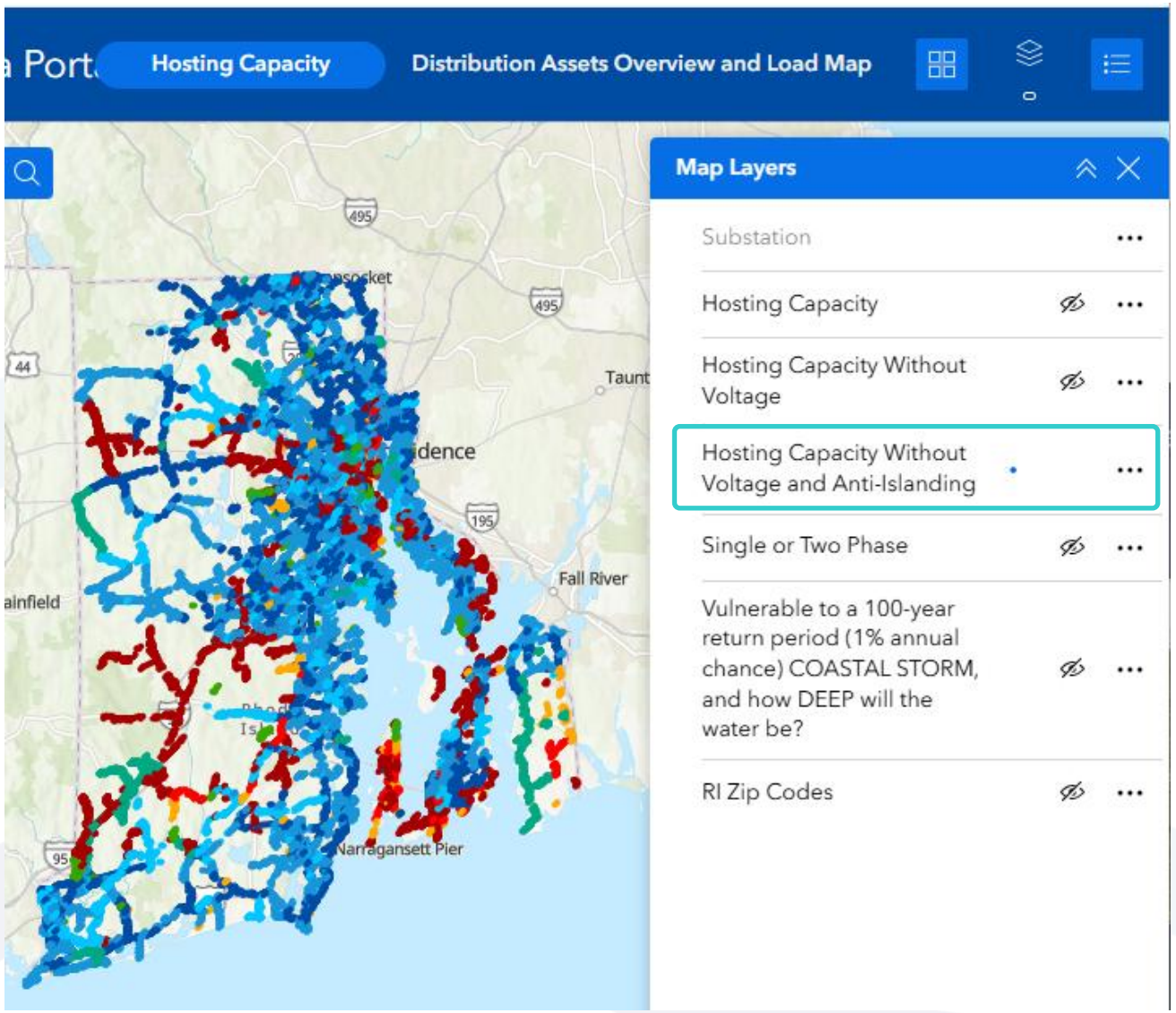
Tab – Hosting Capacity Map

- Hosting Capacity without Voltage Criteria is a less conservative estimated amount of DER that may be interconnected to RIE's existing electric power system without adversely impacting reliability. Some voltage regulating infrastructure upgrades or advanced DER controls may be required to prevent adversely impacting power quality.



Tab – Hosting Capacity Map

- Hosting Capacity without Voltage or Anti-Islanding Criteria is the least conservative estimated amount of DER that may be interconnected to RIE's existing electric power system without introducing potential overloads. Some voltage regulating infrastructure upgrades or advanced DER controls may be required to prevent adversely impacting power quality. Some recloser upgrades may be required to prevent unintentional energization of equipment that is disconnected from RIE's electric power system.



Tab – Hosting Capacity Map

- Please note that this analysis was conducted under current configurations, with interconnected DER (at the time of refresh), and prior to infrastructure upgrades such as; installing a recloser or remote terminal unit at the Point of Common Coupling, replacing a voltage regulating device or controller to allow for reverse flow, substation-related upgrades including 3V0 protection, or other protection-related upgrades.

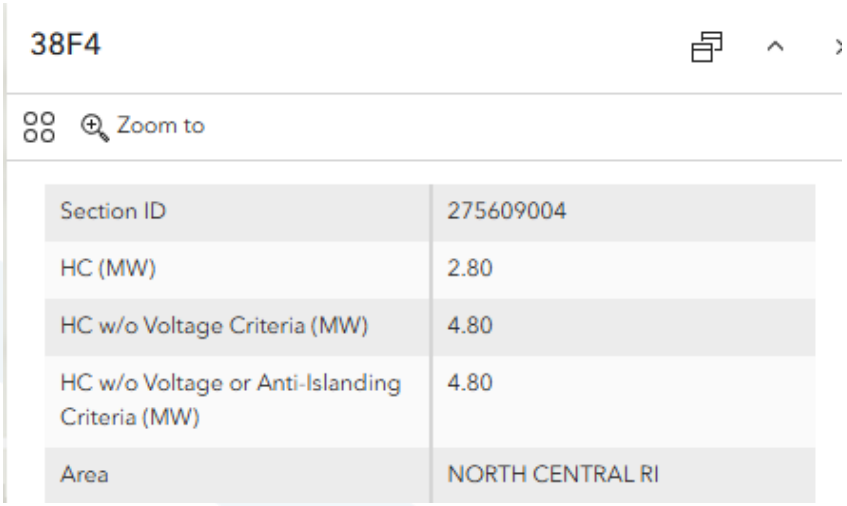
- The analyses do not account for all factors that could impact interconnection costs (including substation constraints).

- Please note that issues related to circuit protection require further analysis to make a definitive determination of hosting capacity. This data is being provided for informational purposes only and is not intended to be a substitute for the established interconnection application process.

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Tab – Hosting Capacity Map Pop-Up Data

- **Section ID:** The number that Rhode Island Energy uses to identify the selected section.
- **HC (MW):** The hosting capacity that can be accommodated on the selected section.
- **HC w/o Voltage Criteria (MW):** The hosting capacity without voltage criteria that can be accommodated on the selected section.
- **HC w/o Voltage or Anti-Islanding Criteria (MW):** The hosting capacity without voltage or anti-islanding criteria that can be accommodated on the selected section.



Tab – Hosting Capacity Map Pop-Up Data

- **Area:** The study area that the selected feeder is within.
- **Feeder:** The number that Rhode Island Energy uses to identify the selected circuit.
- **Substation:** The substation that the selected feeder is connected to.
- **Voltage (kV):** The nominal voltage of the selected feeder. Note that there may be transformers along the feeder that step-up or step-down the voltage in certain areas so the local voltage may not be representative of the nominal voltage at the substation.

Area	NORTH CENTRAL RI
Feeder	38F4
Substation	PUTNAM PIKE
Voltage (kV)	12.47
Feeder SN (MVA)	11.12
Challenging Feeder?	N

- **Feeder SN (MVA):** The thermal rating of the limiting element on the selected feeder under normal operating conditions during the summer months. The limiting element always is between the feeder transformer and the first node on the feeder where the load splits between two or more branches.
- **Challenging Feeder?:** A “Yes” or “No” stating whether it will be challenging to integrate new DG on to the selected feeder. Some reasons the feeder can be deemed challenging include:
  - Limited or no hosting capacity remaining on the feeder
  - Ineffective grounding
  - Network feeder
  - Other known issues identified in area studies and/or previous interconnection studies.

Tab – Hosting Capacity Map Pop-Up Data

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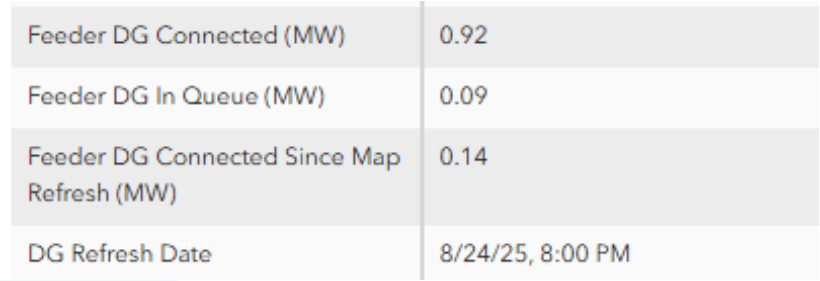
- **Feeder Max HC (MW):** The maximum hosting capacity that can be accommodated on the selected feeder.
- **Feeder Min HC (MW):** The minimum hosting capacity that can be accommodated on the selected feeder.
- **Feeder Max HC w/o Voltage Criteria (MW):** The maximum hosting capacity without voltage criteria that can be accommodated on the selected feeder.
- **Feeder Min HC w/o Voltage Criteria (MW):** The minimum hosting capacity without voltage criteria that can be accommodated on the selected feeder.
- **Feeder Max HC w/o Voltage or Anti-Islanding Criteria (MW):** The maximum hosting capacity without voltage or anti-islanding criteria that can be accommodated on the selected feeder.

Feeder Max HC (MW)	7.30
Feeder Min HC (MW)	1.00
Feeder Max HC w/o Voltage Criteria (MW)	8.26
Feeder Min HC w/o Voltage Criteria (MW)	2.48
Feeder Max HC w/o Voltage or Anti-Islanding Criteria (MW)	8.26
Feeder Min HC w/o Voltage or Anti-Islanding Criteria (MW)	2.48
Feeder DG in HCA (MW)	0.83
Map Refresh Date	8/24/25, 8:00 PM

- **Feeder Min HC w/o Voltage or Anti-Islanding Criteria (MW):** The minimum hosting capacity without voltage or anti-islanding criteria that can be accommodated on the selected feeder.
- **Feeder DG in HCA (MW):** The total distributed generation on the selected feeder included in the model used to perform the hosting capacity analysis.
- **Map Refresh Date**: The date the most recent hosting capacity analysis was conducted, and results were posted to the Rhode Island Energy System Data Portal.

Tab – Hosting Capacity Map Pop-Up Data

- **Feeder DG Connected (MW)**: The aggregated distributed generation that was connected on the selected feeder at the listed distributed generation refresh date.
- **Feeder DG in Queue (MW)**: The aggregated distributed generation that was in the interconnection process on the selected feeder at the listed distributed generation refresh date.
- **Feeder DG Connected Since Map Refresh (MW)**: The aggregated distributed generation that has been connected on the selected feeder since the listed map refresh date.
- **Distributed Generation Refresh Date**: Date of last distributed generation pop-up data refresh.



Feeder DG Connected (MW)	0.92
Feeder DG In Queue (MW)	0.09
Feeder DG Connected Since Map Refresh (MW)	0.14
DG Refresh Date	8/24/25, 8:00 PM

Tab – Hosting Capacity Map Pop-Up Data

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- **Substation Bank:** The substation transformer bank that the selected feeder is connected to.
- **Substation Bank SN Rating (MVA):** The substation transformer bank thermal rating under normal operating conditions during the summer months.
- **Substation Bank Peak Load Last Year (MVA):** The historical substation transformer bank peak loading last year.
- **Substation Bank Anti-Islanding HC (MW):** The substation transformer bank hosting capacity according to the anti-islanding criteria used (67% of the light load recorded at the substation transformer bank).

Substation Bank	Putnam Pike #38 T2
Substation Bank SN Rating (MVA)	64.94
Substation Bank Peak Load Last Year (MVA)	22.02
Substation Bank Anti-Islanding HC (MW)	3.67
Substation Bank DG Connected (MW)	1.89
Substation Bank DG In Queue (MW)	0.22
Substation Bank DG Connected Since Map Refresh (MW)	0.48

- **Substation Bank DG Connected (MW):** The aggregated distributed generation that connected on the selected substation transformer bank at the listed distributed generation refresh date.
- **Substation Bank DG in Queued (MW):** The aggregated distributed generation that is currently in the interconnection process on the selected substation transformer bank at the listed distributed generation refresh date.
- **Substation Bank DG Connected Since Map Refresh (MW):** The aggregated distributed generation that has been connected on the selected transformer bank since the listed map refresh date.

Tab – Hosting Capacity Map Pop-Up Data

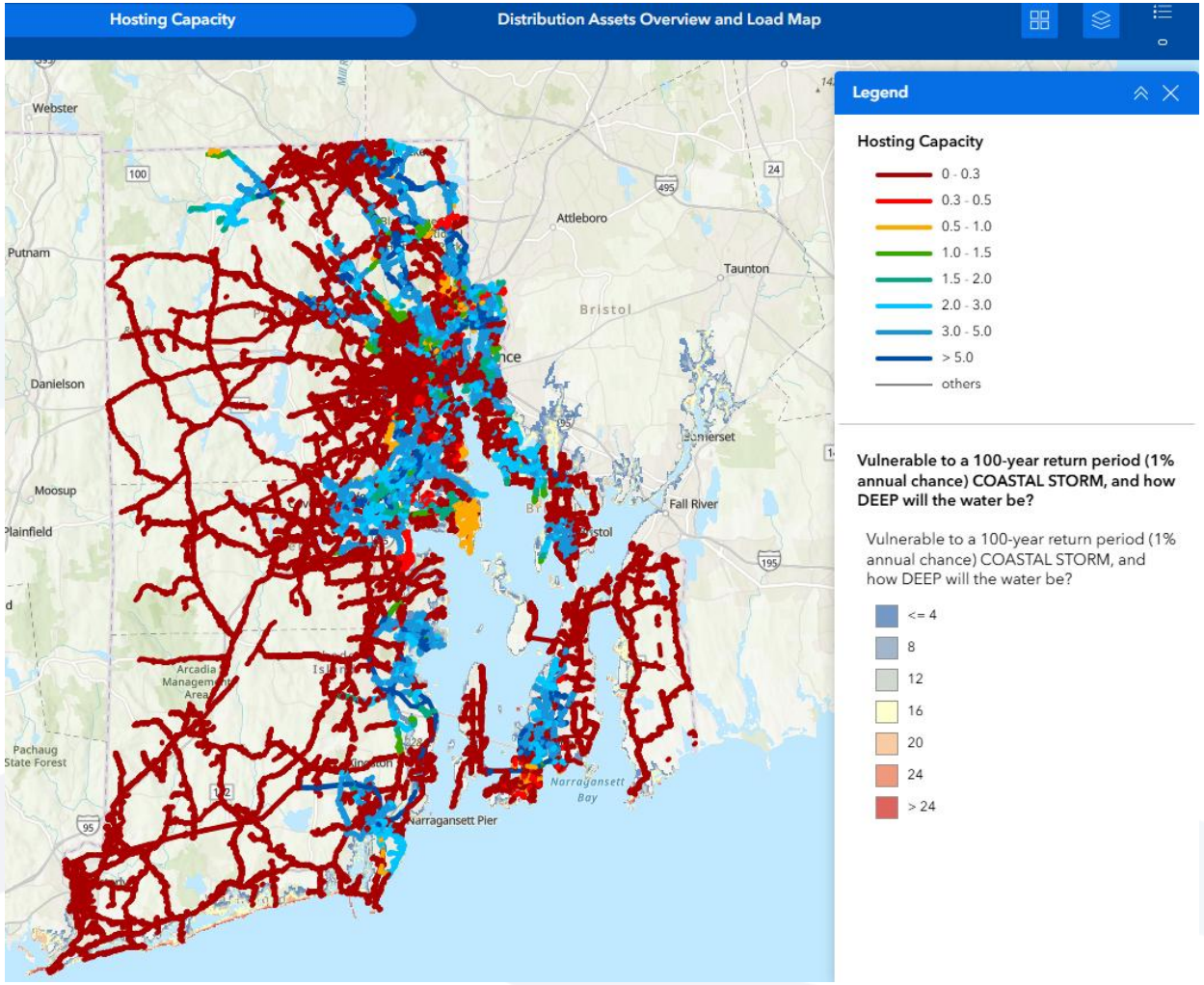
Substation Bank DG Connected Since Map Refresh (MW)	0.48
Substation Bank 3V0 Protection (MW)	Yes
Substation Bank Estimated 3V0 Protection Threshold (MW)	

- **Substation Bank 3V0 Protection:** A “Yes”, “No” or “Pending” that represents the status of distributed generation protection at the substation.
  - **Yes** - An interconnection study and the required upgrades (*i.e.:* 3V0) have been completed or the station is constructed such that 3V0 or additional protection upgrades are not needed
  - **Pending** - An interconnection study has been completed and the required upgrades are scheduled for construction
  - **No** - Covers a range of conditions[2]
- **Substation Bank Estimated 3V0 Protection Threshold (MW):** For stations without substation 3V0 protection installed or pending, this is the estimated amount of distributed that could be interconnected before 3V0 protection is required. A value of zero means that 3V0 has been triggered by projects in the queue, but has not reached a planned construction stage.

[2] An interconnection study has NOT been completed; An interconnection study has been completed where 3V0 was required for that installation but was not implemented (*i.e.:* developer dropped the proposal); Current status unknown (e.g. records incomplete, etc.)

Tab – Hosting Capacity Map Storm Tools

- **RI STORM TOOLS**: a toggle button in the layer lists is available to turn on a map layer from RI STORM TOOLS. The layer shows the how deep the water will be during a 100-year coastal storm. It can be used by developers to assess flood risk for potential distributed generation and load site locations in Rhode Island.



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Future Updates

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Future Updates

- Load Hosting Capacity Tab: A new tab will show circuits color coded by load hosting capacity analysis results. Similar to the existing distributed generation hosting capacity tab, the load hosting capacity tab will visualize nodal analysis of load hosting capacity that includes loading and voltage criteria.

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