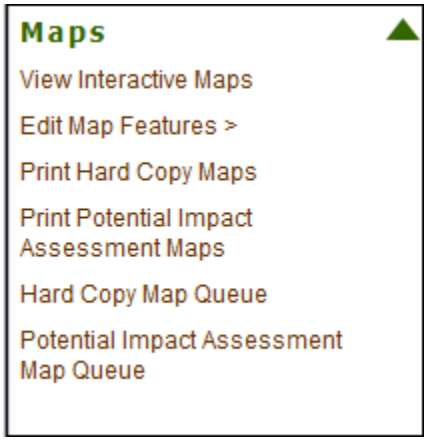
Chapter 3 Functions

3.4 Maps (*Updated 02/15/2016*)

The **Maps** menu allows you to access various types of maps, both interactive and hard copy.



3.4.1 Interactive Maps

A key component of the Environmental Screening Tool (EST) is access to Geographic Information Systems (GIS) data about ETDM projects and environmental resources. GIS is a computer technology that brings together information about anything with a physical location, such as an address or map coordinates. The EST interactive maps are linked to data files that describe an area's features. When you click on a location on the map, the EST can access database information describing the features shown for the selected map location.

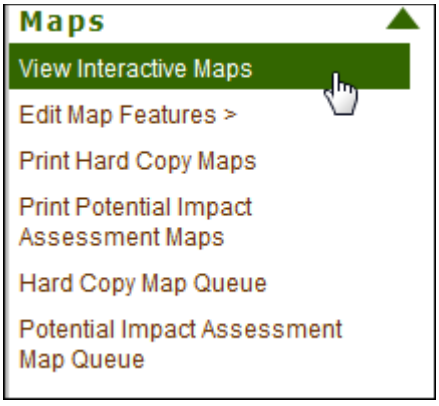
3.4.1.1 *Map Viewer (Updated 11/30/2011)*

The **Map Viewer** provides easy access for selecting features, changing the geographic extent, and querying the database.

You can open the **Map Viewer** by doing any of the following:

- Click the **Maps** menu, and then click **View Interactive Maps**.

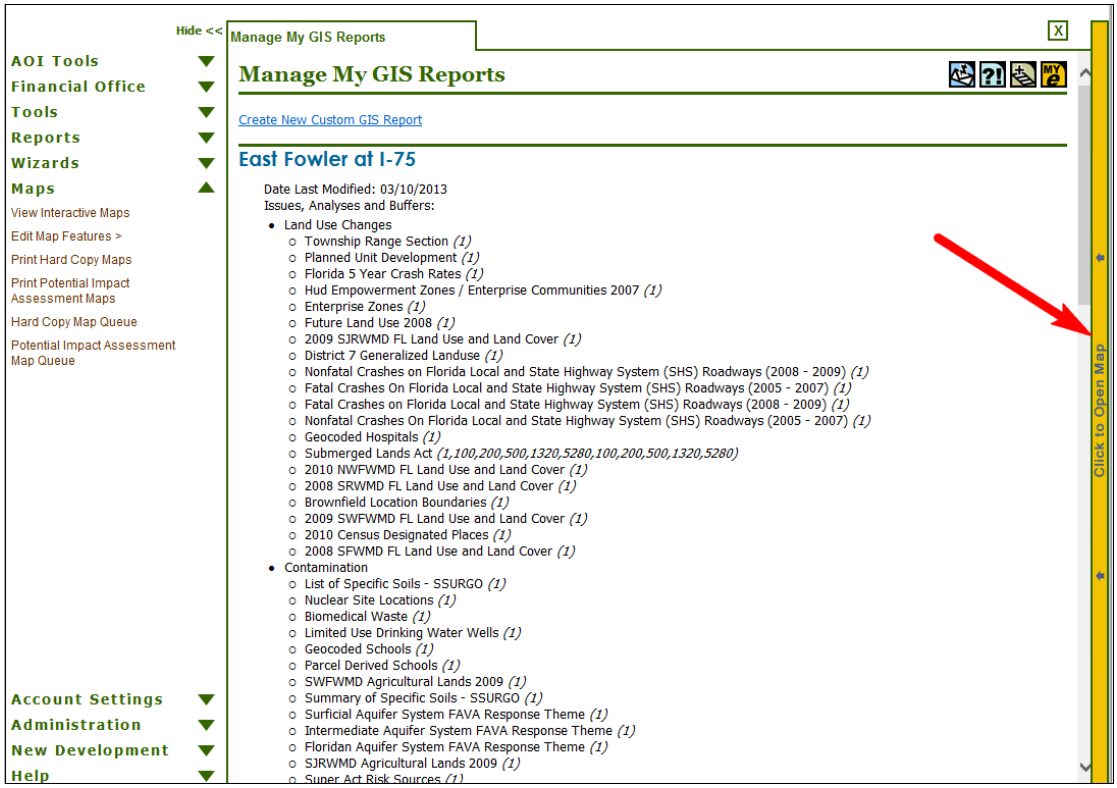
  Note: You do not need to select a project before opening the **Map Viewer**.



The **Interactive Map Viewer** opens and displays either the state of Florida or the project last viewed on the map, depending on the preferences you have set.

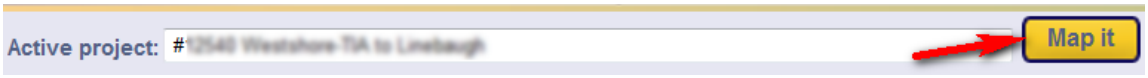
Note: Maps retain the most recently used project selection and map extent unless the user clicks the **Map it** button to refresh the map using new project selections.

- Click the **Click to Open Map** bar.



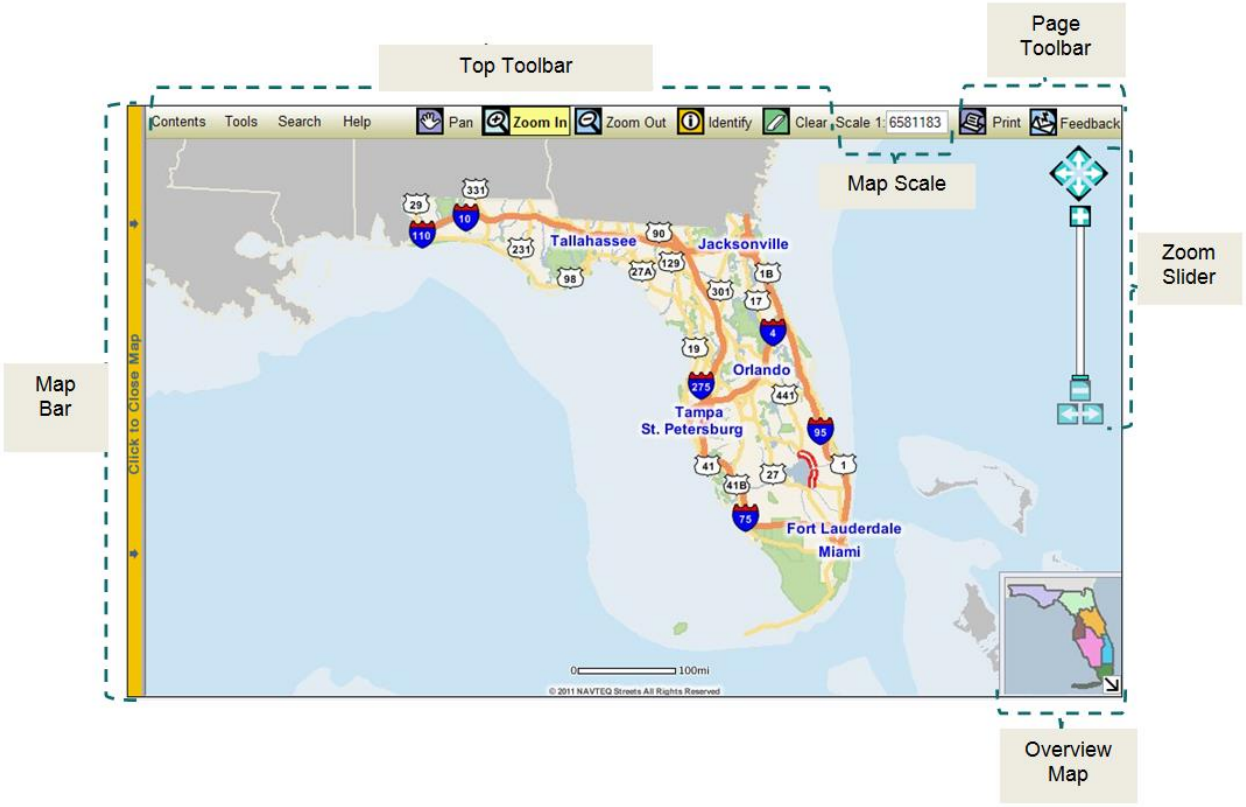
The map opens and covers the EST window. Click the **Click to Close Map** bar to hide the map.

- To zoom to a project location on the map, do the following:
  - Select a project using **Advanced Project Search**, and then click the **Map It** button.



  - Double-click on your target area directly on the **Map Viewer**.
  - Click the **Zoom In** icon on the top toolbar, and then highlight the target area on the **Map Viewer**.

The main portion of the **Map Viewer** screen is the image of the current map. Use the menus and toolbars to select features, change the geographic extent, and query the database from the **Map Viewer** window. The next illustration displays the components of the **Map Viewer**. Instructions for using the main components of the **Map Viewer** are described in the following sections:



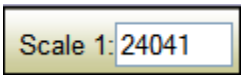
3.4.1.1.1 Overview Map

The overview map displays the general vicinity of the current map view compared with the state of Florida. The corner arrow acts as a toggle button.

- Click the ↖ arrow to open the location map.
- Click the ↘ arrow to close the location map.

3.4.1.1.2 Map Scale

The **Map Scale** is set automatically when the map extent changes. You can set the scale manually by clicking on the **Scale** box and typing a whole number for the desired scale (e.g., to set the relative map scale to 1:24,000, type "24000" in the box).



The available data layers that can be viewed on the map change as you zoom in and out of the map because more detailed data become available as you zoom in. Some layers are scale dependent. Detailed and dense data do not become available until the map is zoomed in to a scale of 1:70,000. Generalized data that have a corresponding detailed layer are turned off when the more detailed layer is made available. For example, rivers and streams that were digitized from 1:100,000-scale maps are available when the map is zoomed to 1:800,000-scale. When the map is zoomed to 1:70,000, these are turned off and the 1:24,000-scale rivers and streams are turned on. Data layers that are made visible (checked check box), but not shown at the current scale, are indicated by a magnifying glass icon, . Zoom in or out to view these layers. The data sets are grouped into four scale-dependent categories:

Zoomed Out More than 1:800,000

Only general map reference information appears, such as FDOT district and county boundaries, urban areas, and a few large water features on the map.

1:250,000 - 1:800,000

More detailed map reference information, such as major highways and city limits, are added to the map. More distinct hydrographic features are added, with a general indication of large wetlands areas. At this scale, the ETDM project centerlines can be viewed on the map.

1:70,000 - 1:250,000

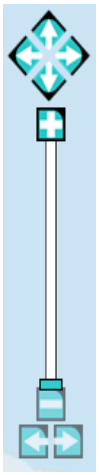
At this scale, the resource data begin to appear in the **Contents** panel. Resources represented by points, generalized lines, and large polygon areas are visible, such as the FDOT Roadways, US Census data, Level 1 of the Florida Land Use Land Cover Classification System (FLUCCS), and Public Lands boundaries.

Zoomed In More than 1:70,000

All of the issues data are visible at this scale, as are the most detailed base map layers. Please be aware that most of the GIS data were developed for planning purposes rather than design and engineering. The most precise data were usually mapped from 1:24,000-scale map sources such as the USGS 7.5-Minute Topographic Map Series. Please read the metadata for information about the accuracy and intended use of each data set before making project-specific decisions and recommendations.

3.4.1.1.3 Zoom Slider

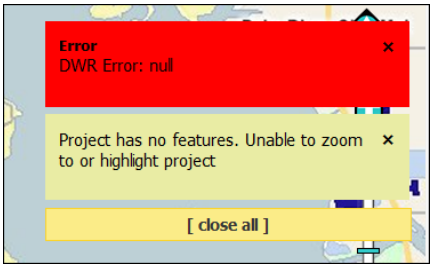
The zoom slider allows you to change the map view extent.



- Click the directional arrows,  , to move the map view north, south, east, or west.
- Drag the zoom slider toward the plus icon,  , to zoom in on an area for more detail.
- Drag the slider to the minus icon,  , to zoom out of an area.
- Click the back arrow,  , to return the map view to the previous extent (works like the "Back" function on a browser).
- Click the right arrow,  , to return the map view to the extent prior to clicking the back arrow (works like the "Forward" function on a browser).

Tip! To change the map from a zoomed area back to the map showing the state of Florida, slide the zoom slider to the minus sign symbol,  .

Note: The **Map Viewer** displays messages in the upper right corner of the map if an error has been encountered or if the **Map Viewer** is unable to zoom to an area or display features in a zoomed area. If you have questions about an error message, contact the ETDM Help Desk at help@fla-etat.org or call 850-414-5334.



3.4.1.1.4 Page Toolbar

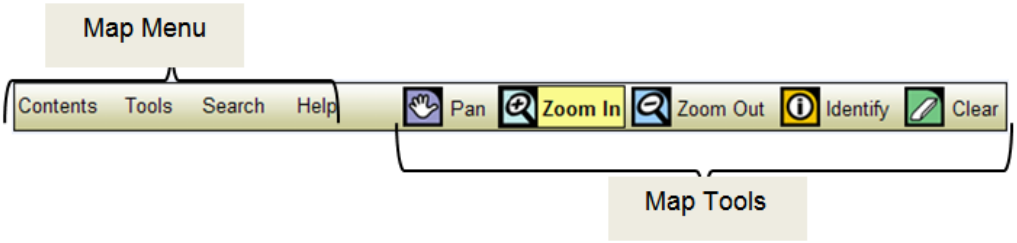
Click the page tools on the top toolbar to:

 Print a copy of the current page.

 Send feedback about the current page.

3.4.1.2 *Map Toolbar: Tools*

The toolbar at the top of the **Map Viewer** screen contains mapping tools and a map menu. Instructions for using the components of the top toolbar are described in the sections that follow.



The tools in the top toolbar enable you to quickly access commonly used map functions. The toolbar icons are described as follows:

Click the **Pan** icon to move the extent of the map view. Click on the map and drag to the desired location.

Click the **Zoom In** icon to enlarge a specific area of the map for greater detail. Click on the map and drag the shaded box to highlight an area you want to zoom to.

Click the **Zoom Out** icon to reduce the magnification level of a specific area. Click on the map and drag the shaded box to highlight an area you want to zoom out of.

Click the **Identify** icon to view information on an area's features. (See the Identify Map Features section for details on using this tool.)

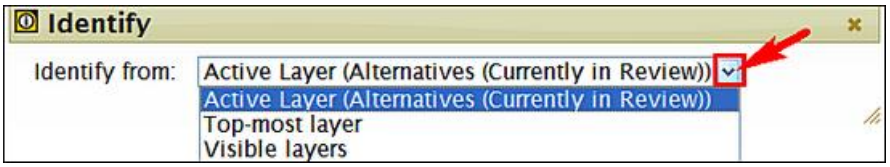
Click the **Clear** icon to clear selected features in the active data layer.

3.4.1.2.1 Identify Map Features

The identify map features component of the EST enables you to view information about an area's features by map layer.

1. Zoom to an area on the map by doing one of the following:
   - Point to a target area on the map and then use the **Zoom In** tool on the map toolbar.
   - Select a project using **Advanced Project Search** and then click **Map It**.
2. Select a feature you want highlighted on the map by turning a layer on or off (See the Table of Contents section of these instructions for information on using map layers).
3. Click the **Identify** icon,  , on the top toolbar; the **Identify** list box appears.
4. Click on the map to view feature information for a selected location.

5. Click the drop-down arrow to expand the list of map layers.

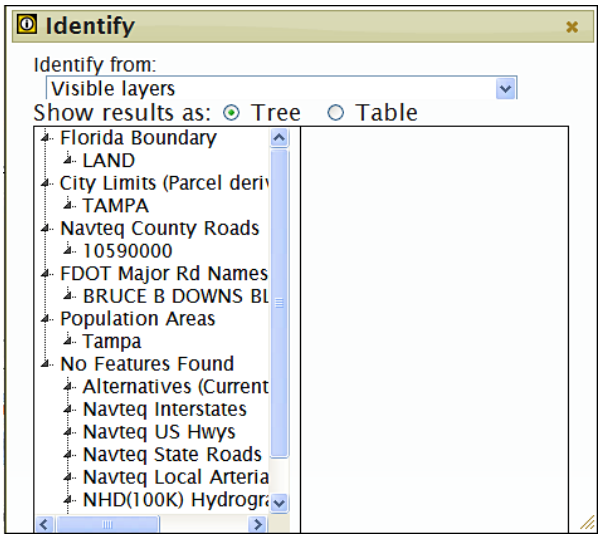


Select the map layer option you want to display on the map.

- **Active Layer (Alternatives (Currently in Review))** – Displays the layer that has been selected as active in the **Contents** panel.
- **Top-most layer** – Displays the dominant layer that overlays the lower layers in a geographic map data frame (i.e., like layer transparencies stacked on top of each other, the topmost layer is at the top of the stack and obscures the layers below it)
- **Visible layers** – Displays all the layers that have been turned on in the layers list

The **Identify** box expands, showing the results for the selected layer. The **Identify** box will also display **No Features Found**, which Lists layers in which no features were found for the selected location.

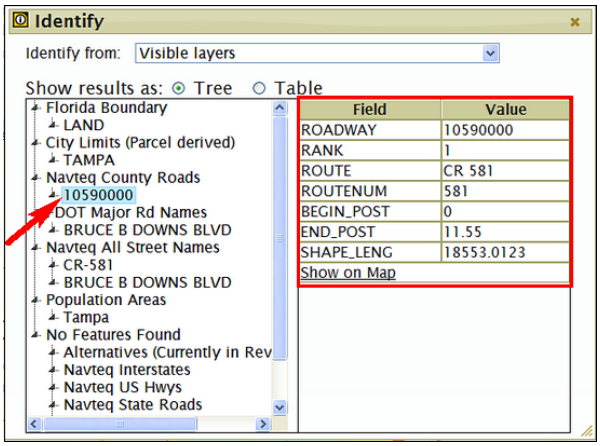
Tip! You can view the results in an outline (tree) format or as a table. Click the **Tree** option button to view the results in an outline format. Click the **Table** option button to view the results in a table format.



Tip! The **Identify** box can be moved or resized to provide a better view of the map. To move the **Identify** box to another part of the map viewer screen, click the title bar at the top of the **Identify** box and drag the box to the desired spot. To reduce the **Identify** box size, click the bottom right corner of the box and drag the corner in the opposite direction. Click and drag the bottom corner to the right to expand the **Identify** box.

6. To display details for a particular area, click the feature listing or click the layer detail. A table appears and shows the data for the selected option.

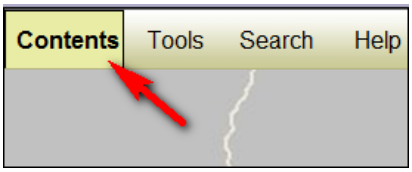
Tip! Click the **Show on Map** link to highlight the area on the map. After you click the **Show on Map** link, the map viewer will zoom to and shade the selected area, and the **Identify** box will refresh and display the feature results for the area.



3.4.1.3 *Map Toolbar: Map Menu*

The map menu displays options for selecting features, turning layers on and off, querying the database, and viewing help for using the map tools.

- Click a map menu button to display the menu panel. The button becomes highlighted when you point to it, as shown in the next illustration.



- The menu panel displays the list of available options for the selected menu item.

3.4.1.3.1 Table of Contents

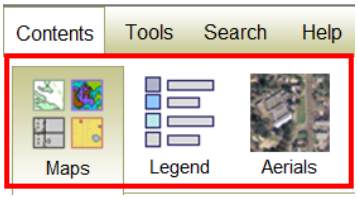
The **Contents** panel in the map menu contains the table of contents for the **Interactive Map Viewer**, enabling you to apply queries and control the type of layers displayed on the map.

Note: A layer is a dataset that represents a single feature class (e.g., roads, streams, forest stands). Each layer that is loaded will be listed in the table of contents.

The **Contents** panel in the map menu displays the following components:

- The **Active project** (if applicable)
- A list of **Maps**, enabling you choose the type of resource issue you want to analyze in the **Map Viewer**
- A list of layers, displaying options to specify the type of analysis you want to run in the **Map Viewer** (e.g., projects in draft editing, projects currently in review, projects previously reviewed, Alternatives and features, demographics, and road information)

- An **Auto-refresh Settings** option that allows you to either set the amount of time the map automatically refreshes after another view is selected or to manually refresh the map by clicking the **Refresh** button.
- **Layer Visibility Settings** that enable you to set the current map as the default map
- A legend that displays a list of symbols for each layer
- A list of digital aerial photography layers that can be toggled on and off

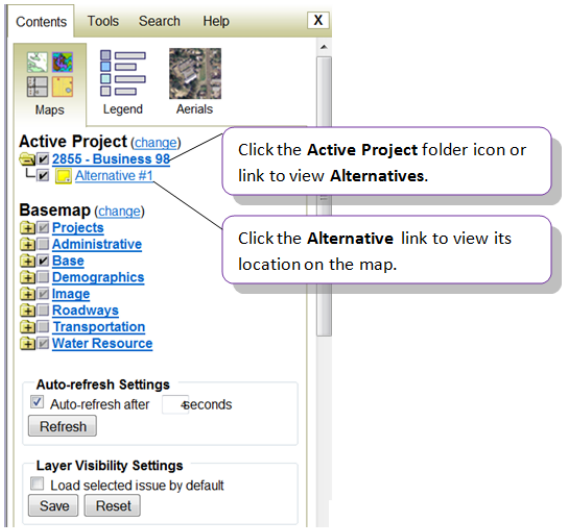


The **Contents** panel displays thumbnails for easy access to the following map components:

- **Maps** – Click to display the list of resource issues (See the list of resource issues in the Selecting Issue Layers and Setting Map Preferences section for a definition of each issue map).
- **Legend** – Click to view the map symbols key.
- **Aerials** – Click to view digital aerial photography of an area (See the Digital Aerial Photography section for details).

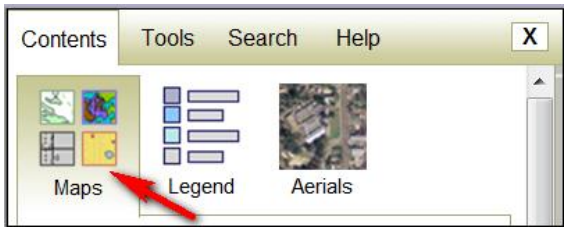
3.4.1.3.1.1 *Selecting Layers and Setting Map Preferences in the Table of Contents*

1. Zoom to an area on the map by doing one of the following:
   - Point to a target area on the map and then use the **Zoom In** tool on the map toolbar, and then click and drag the highlight over your target area.
   - Select a project using **Advanced Project Search** l (as described in the Navigation chapter of the EST Handbook), and then click **Map It**.
2. Click **Contents.**



The Contents panel displays the list of layer options for the current view. If you selected a project and clicked the **Map It** button, the Active project name and number will be displayed**.**

Tip! Click the change link to change the Active project.



3. Click **Maps**.

The **Maps** icon expands, showing a series of thumbnails that represent the issues or categories relating to environmental effects.

The issues displayed in the **Maps** box are listed below, along with a description of each map.

- **Base Map***:* Contains data representing an overview of the project area, for example, major roads, water bodies and rivers, county boundaries, and FDOT District boundaries. These data are not considered an issue for analysis, but as a reference for all other issues being reviewed. Base map data are also included in each of the issue maps.
- **Aesthetics***:* Includes data used to evaluate project effects on community character, including resources that may be sensitive to noise, vibration, and visual intrusions.
- **Air Quality***:* Contains data for the assessment of the air quality surrounding proposed project sites. Used to identify if the project is located in a non-attainment or maintenance area for ozone or particulate matter.
- **Coastal and Marine***:* Pertains to the evaluation of coastal ecosystems, marine life, sensitive shorelines, and degradation/preservation concerns.

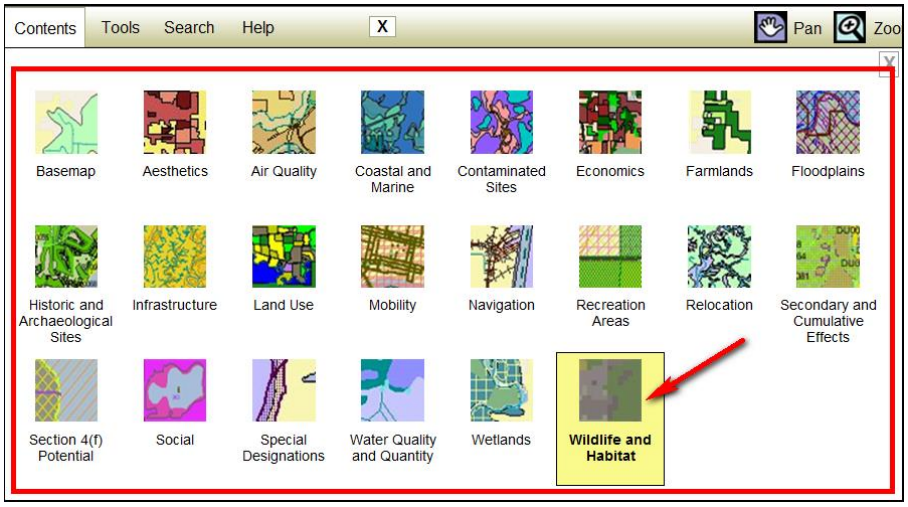
- **Contaminated Sites**: Contains data to support the evaluation of the likelihood of contamination and its impact on the proposed project.
- **Economics**: Includes information to assist with the evaluation of effects to businesses, employment, and changes in the tax base.
- **Farmlands**: Used to determine the potential involvement of any farmlands within the proposed project study/construction area.
- **Floodplains**: Contains data to support the evaluation of the 100-year floodplain within the proposed project study/construction area. Considerations include the type of encroachment, potential for backwater impacts, and project influence on floodplain development.
- **Historic and Archaeological Sites**: Used for assessing the potential involvement with properties eligible for or listed on the National Register of Historic Places.
- **Infrastructure**: Contains data that represent the current infrastructure of the project area in order to determine possible impacts.
- **Land Use**: Used to identify existing and future land uses that show growth potential and the potential for the proposed project to induce area growth.
- **Mobility**: Contains data used to examine the public transportation facilities of an area.
- **Navigation**: Contains data used to determine if a USCG navigation permit is required.
- **Recreation Areas**: Contains data to be used to identify all recreational areas within the proposed project study area.
- **Relocation**: Designed to evaluate the potential displacement of residences, businesses, community institutions, etc.
- **Secondary and Cumulative Impacts**: Contains data sets for the determination of possible secondary and cumulative effects within the proposed project study area.
- **Section 4(f) Potential**: Contains data to be used to identify all potential Section 4(f) designated lands within the project study area.
- **Social**: Concerned with changes in demographics, community cohesion, safety/emergency response, and compatibility with community goals and values.
- **Special Designations**: Used for identifying all specially designated lands within the project study area.
- **Water Quality and Quantity**: Contains data for surface water and groundwater quality and quantity impact assessment.
- **Wetlands**: Used to identify the amount of wetlands affected by the proposed project, the type of wetlands involved, and their overall significance to the surrounding area.
- **Wildlife and Habitat**: Used to consider any species or habitat affected by the proposed project.

Please Note: Data requirements were identified during a series of workshops with representatives from ETAT agencies. Existing data layers were identified to meet those requirements, when available. The best source of available information to meet the requirement has been used in each

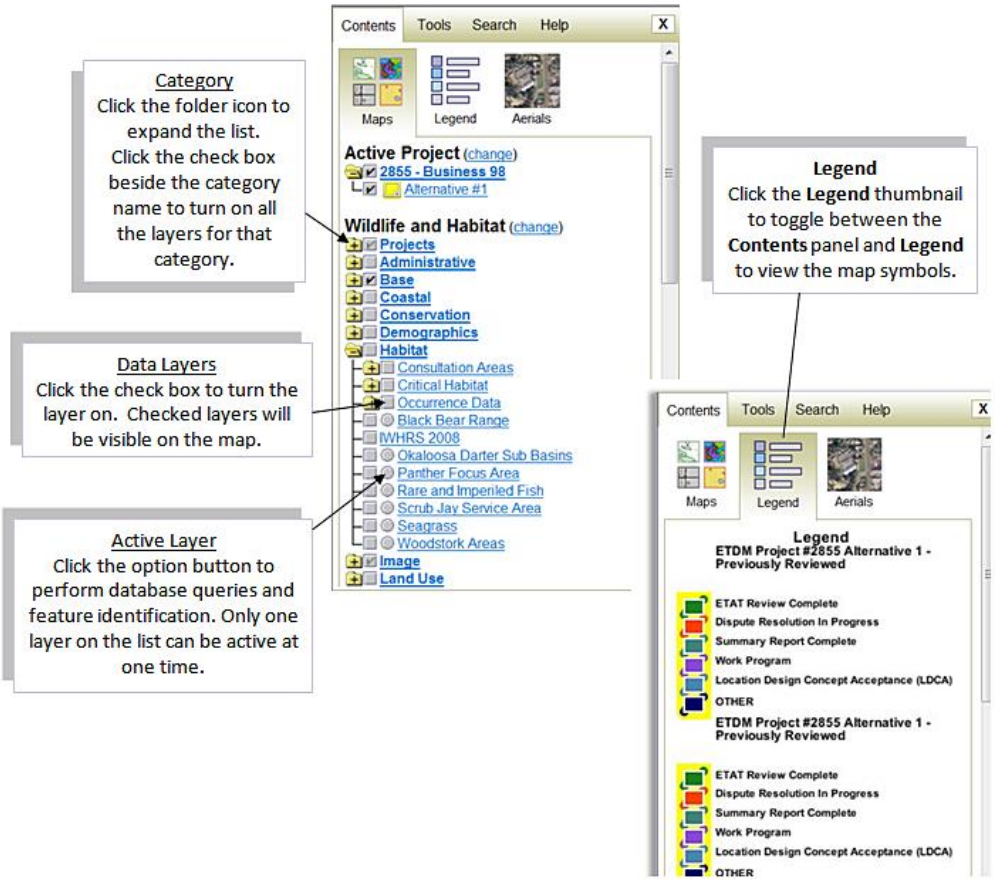
map; however, not all information was available. As new data layers are made available, they are added to the maps. A current list of data layers for each issue can be obtained on the **Frequently Asked Questions (FAQ)** link from the Environmental Screening Tool home page. Contact **help@fla-etat.org** if you have additional data layers to add to these maps.

4. To set map preferences, do the following:

- Select the map you want to use by clicking the appropriate thumbnail for the issue you are reviewing. For the next series of illustrations, **Wildlife and Habitat** is shown as the selected issue related to the **Active project**.



The **Contents** panel automatically refreshes, displaying the list of data layers available in the **Map Viewer** for the selected resource issue.



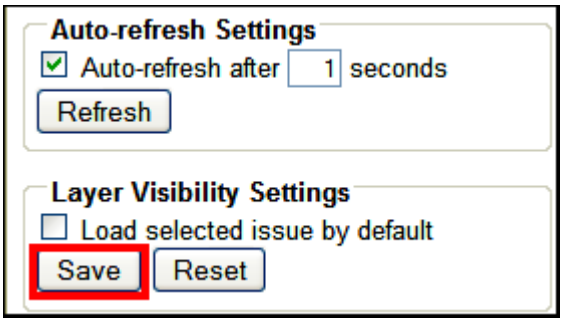
Tip! Click the **change** link beside the resource issue header to display the **Maps** resource issue thumbnails.

- Click the **Category** label or folder icon to expand the list of data layers.
- Click a check box to display a layer on the map. To hide a layer, click the checked box to deselect the layer.
- Click an option button to select the layer you will be working in (this is referred to as the active layer)

Note: Only one layer at a time can be active.

- Click **Refresh** to apply your changes to the map. You can set your map to automatically refresh and set the refresh time by clicking the **Auto-refresh** check box and then typing a number in the **seconds** text box.
- Click **Save**. The following attributes will be saved to the map and will apply to future map viewer sessions:
  - **Layer Visibility Settings** – The map layers that were turned on for the selected issue.
  - **Load selected issue by default** – The current selections automatically load when you open the **Map Viewer**.

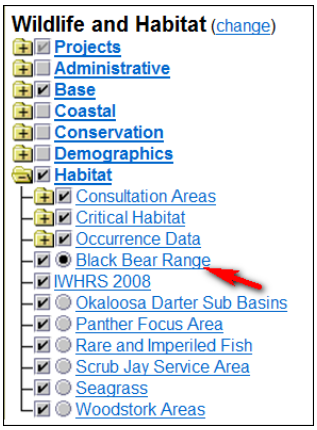
Note: By default, the **Basemap** opens when the **Map Viewer** is first used in a session. You can select a different default issue map by clicking the **Load selected issue by default** check box.



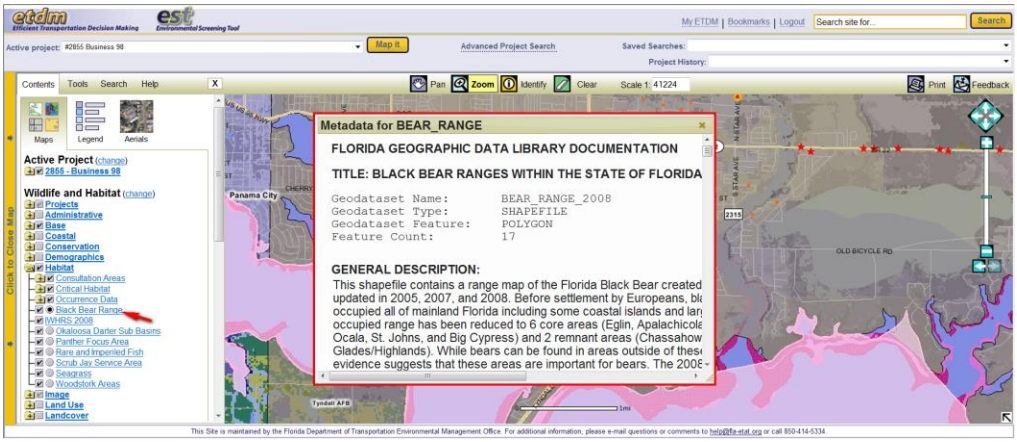
3.4.1.3.1.2 *Viewing Map Layer Metadata*

The **Contents** panel provides access to metadata for each layer, providing detailed information about the source, accuracy, and content of the active data layer. This is especially useful when trying to understand codes and classification systems used in a data set.

Click the data layer name to open the **Metadata** screen. For this illustration, **Black Bear Range** is shown as the selected data layer for viewing the metadata.



The **Metadata** screen appears in the center of the **Map Viewer**.

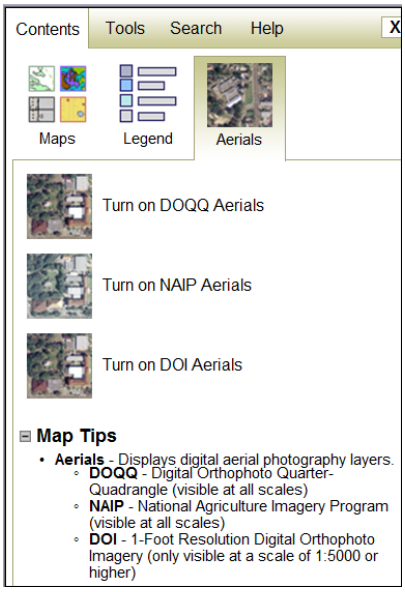


Tip! You can change the size of the **Metadata** screen or move it to another spot on the **Map Viewer** by doing the following:

- To expand or reduce the size of the **Metadata** screen, click and drag the bottom-right corner (move the corner to the left to reduce the screen size; move the corner to the right to increase it).
- To move the **Metadata** screen, click and drag the **Metadata** title bar at the top of the screen to another spot on the **Map Viewer**.
- Click the **X** at the top of the screen to close it.

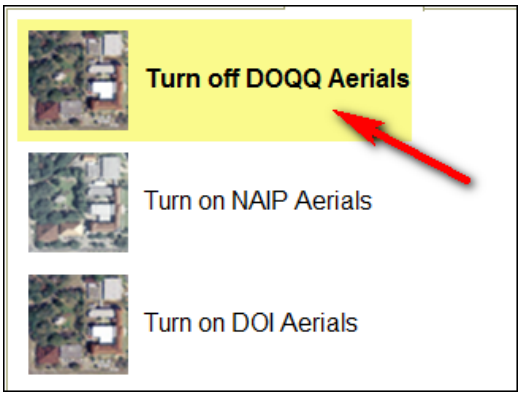
3.4.1.3.1.3 *Digital Aerial Photography*

1. Click the **Aerials** thumbnail in the **Contents** panel to toggle various digital aerial photography layers on and off.



Tip! The **Map Tips** section provides a quick Help reference for each of the functions in the **Contents** panel. Click the plus sign icon,  , to expand the section. Click the minus sign icon,  , to collapse the **Map Tips** section.

2. Point to the digital aerial photography layer you want to turn on. The selected layer becomes highlighted in the **Aerial** panel and on the **Map Viewer**. Click the selection again to turn the layer off.



- **DOQQ** - Turns off all layers except the ETDM Projects and FDOT Major Roads. By using the layer list, any layer can be displayed on top of the imagery.
- **NAIP** – Displays aerial imagery taken during the agricultural growing seasons. Uses the same resolution as DOQQ.
- **DOI** – Provides higher resolution for greater detail of an area that has been zoomed at 1:5000 or closer scale.

3.4.1.3.2 Map Tools

The **Tools** panel in the **map menu** provides easy access to map tools, enabling you to:

- Display photos and documents related to a project or an area.
- Identify an area's latitude and longitude coordinates and measure the distance from one point to another.
- Input query strings to search for features and information in the database or query the database using the **Map Viewer**.

Note: Authorization is required for using the **Edit** tools in the **Tools** panel. Check with your organization's EST administrator or contact the ETDM Help Desk for information about EST privileges.

3.4.1.3.2.1 *Edit Map Features*

See the Map Editor section for information on drawing and editing project features and community boundaries.

3.4.1.3.2.2 *View Ancillary Data*

The **View Ancillary Data** tools found in the **Tools** panel of the map menu allow you to access additional project information. The **View Ancillary Data** tools are as follows:

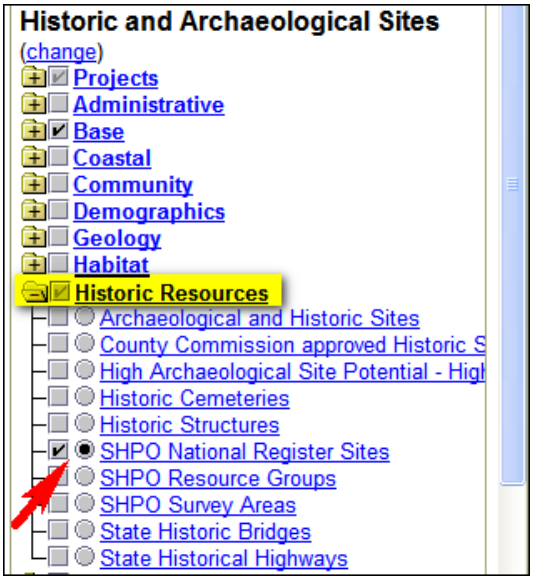
National Register Sites (NRS) – Enables you to access the Florida Department of State, Division of Historical Resources, site files for the National Register of Historic Places sites.

FDOT Video Log Viewer – Enables you to access **FDOT's Video Log Viewer** application for video records of major roadways in the state of Florida.

Project Attachments – Enables you to view documents that have been added to a project record.

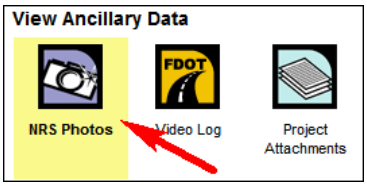
3.4.1.3.2.2.1 Using the National Register Sites (NRS) Tool

1. Zoom to an area on the **Map Viewer**.
2. On the **map menu**, click **Contents**.
3. Click the **Maps** thumbnail, and then select **Historic and Archaeological Sites** to display the **Historic and Archaeological Sites** map layer options.
4. Open the **Historic Resources** category by clicking the folder icon. The category expands and displays the list of associated map layers.
5. Click the **SHPO National Register Sites** check box to turn the layer on.
6. Click the **SHPO National Register Sites** option button to make it the active layer.

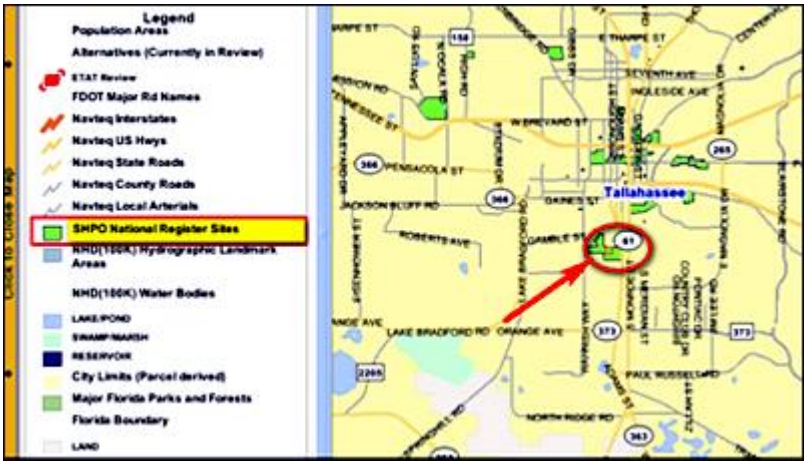


The **Map Viewer** refreshes and displays the **SHPO National Register Sites** symbol, , on the **Map Viewer** (click the **Legend** thumbnail to view the map key).

7. Click the **Tools** link, and then click the **NRS Photos** icon.



8. Click the **SHPO National Register Sites** symbol on the **Map Viewer**. For this illustration, the target site is shown with a red circle around it.

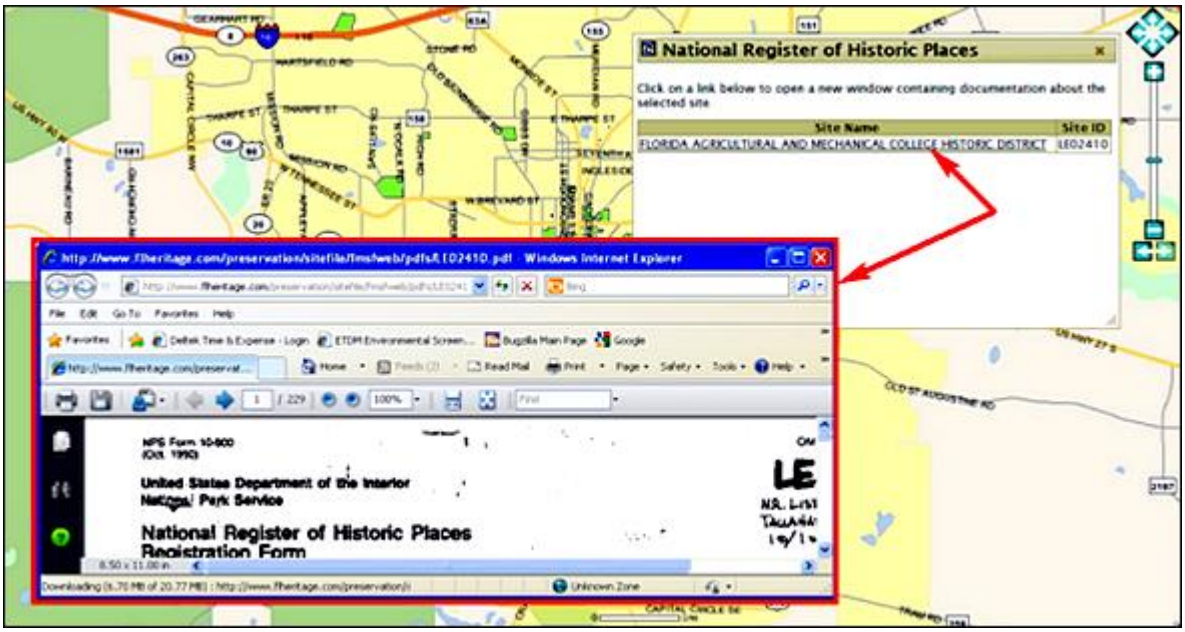


The **National Register of Historic Places** box appears, showing the **Site Name** and **Site ID**.

Tip! You can change the size of a screen or move it to another spot on the **Map Viewer** by doing the following:

- To expand or reduce the size of the **National Register of Historic Places** screen, click and drag the bottom-right corner (move the corner to the left to reduce the screen size; move the corner to the right to increase it).
- To move the **National Register of Historic Places** screen, click and drag the **National Register of Historic Places** bar at the top of the screen to another spot on the **Map Viewer**.
- Click the **X** at the top of the screen to close it.

9. Click the **Site Name** link to view the site information. The site file opens as a PDF in a separate window, enabling you to print or save the file.



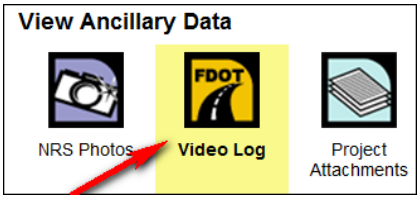
To view information for other sites shown on the **Map Viewer**, simply click the NRS symbol on the **Map Viewer**. The **National Register of Historic Places** box will remain in place, refreshing to display the selected **Site Name**.

Tip! Click the **X** at the top of the **National Register of Historic Places** box to close it.

3.4.1.3.2.2.2 Using the FDOT Video Log Tool

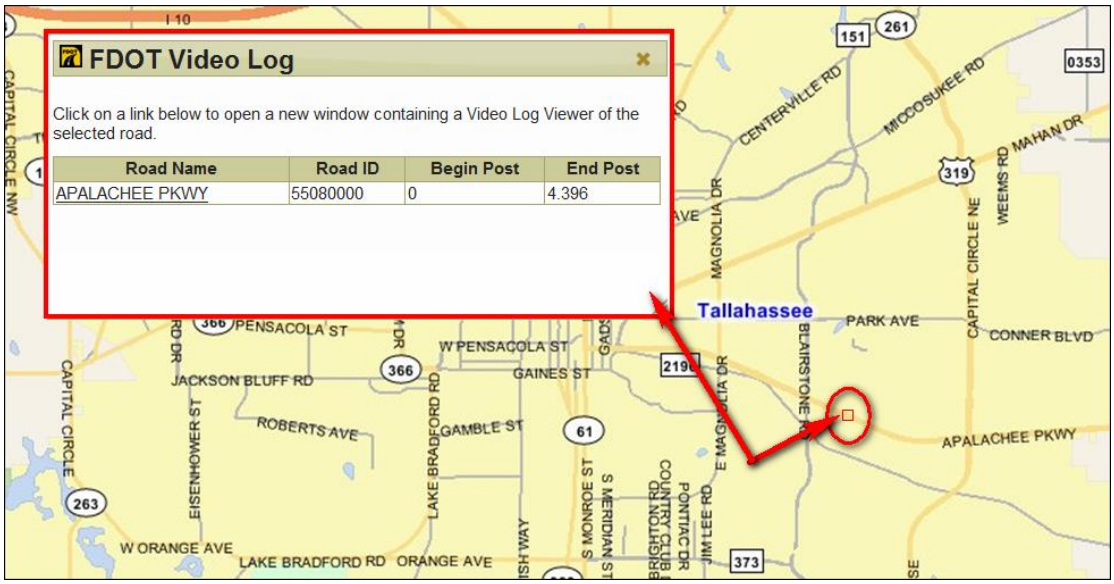
1. Zoom to an area on the **Map Viewer**.

2. Click the **Tools** link, and then click the **FDOT Video Log** icon.

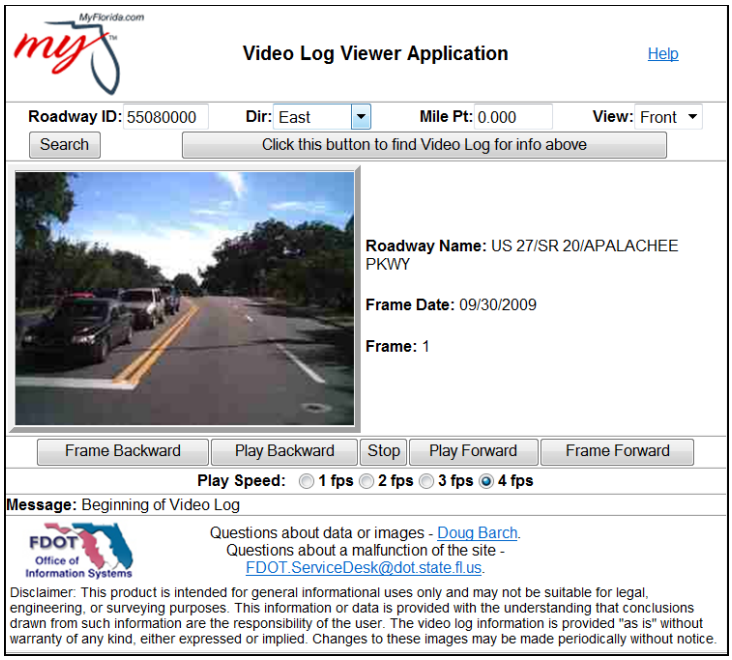


3. On the **Map Viewer**, point and click on a major roadway. The **FDOT Video Log** box appears, showing the **Road Name** and **Road ID**.

Note: Not all roadways have associated roadway IDs and not all Roadway IDs have associated video log footage.



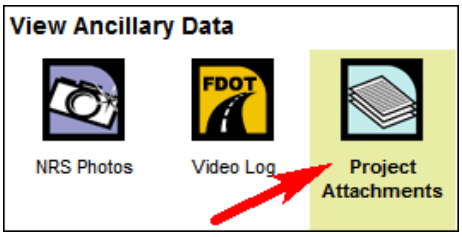
4. Click the **Road Name** link to open the **FDOT Video Log**. The **Video Log Viewer Application** opens in a separate window.



5. To view video logs for other roadways displayed on the **Map Viewer**, simply click the road. The **FDOT Video Log** box will remain in place, refreshing to display the selected **Road Name**.

3.4.1.3.2.2.3 Using the Project Attachments Tool

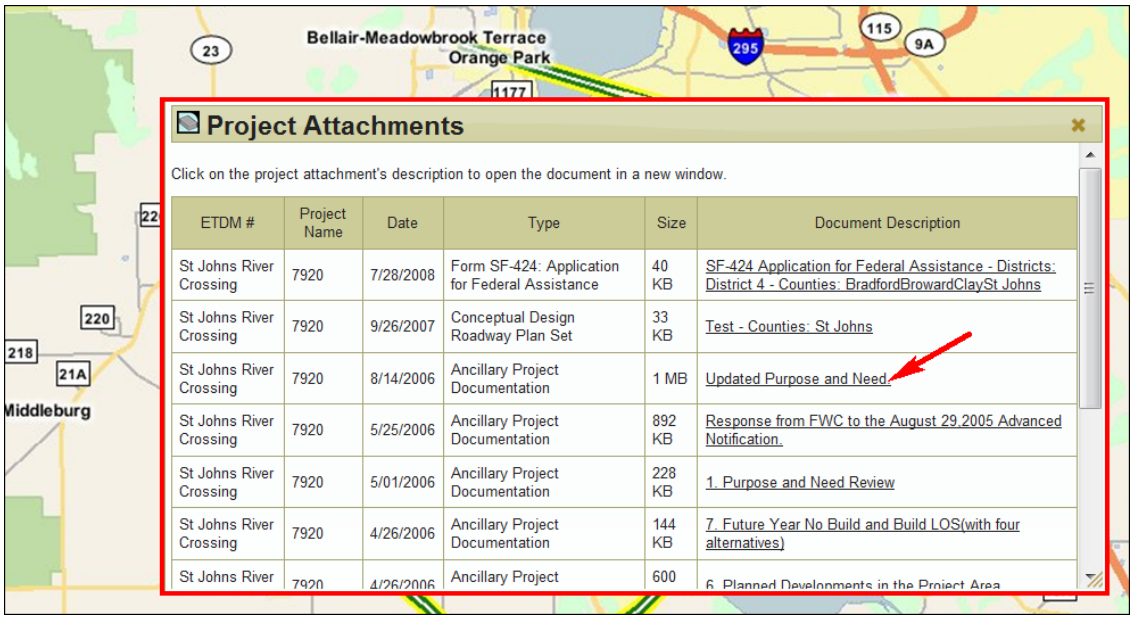
1. Click the **Tools** link, and then click the **Project Attachments** icon.



2. On the **Map Viewer**, point to and click the project you want to view attachments for.

The **Project Attachments** box appears, showing the list of documents associated with the selected project.

3. In the **Document Description** column, click the appropriate link to open the document.



The document PDF opens in a separate window.

3.4.1.3.2.3 *Location and Measurement*

The **Location and Measurement** tools found in the **Tools** panel of the map menu are as follows:

Street View – Connects you to **Google Street View**, providing you with a 360-degree view of an area at street level.

Measure – Enables you to capture the distance measurement between two points, the size of an area, or the latitude and longitude coordinates of a point.

3.4.1.3.2.3.1 Using Street View

1. Zoom to an area on the **Map Viewer.**
2. In the map menu, click **Tools**.
3. Under **Location and Measurement**, click **Street View**.

4. In the **Map Viewer**, select the area you want to view from street level by moving the mouse pointer to the target location and then double clicking the location (signified by the crosshairs).

The **Google Maps Streetview** window opens in the **Map Viewer**.

5. Do any of the following:

- View the area within the **Google Maps Streetview** minimized window.
- Click the **Click here to open the Google Street View in a new window** link to go to the **Google Maps** website.

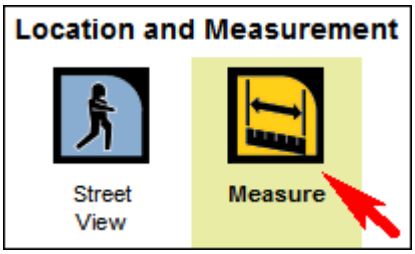
3.4.1.3.2.3.2 Using the Measure Tool

The **Measure** tool displays a search filter that enables you to measure a distance by:

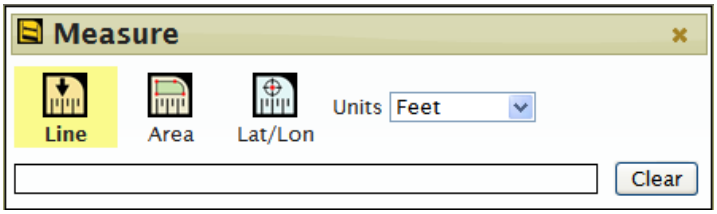
- Line
- Area
- Latitude and longitude

1. Zoom to an area on the **Map Viewer**.
2. In the map menu, click **Tools**.

3. Under **Location and Measurement**, click **Measure**.

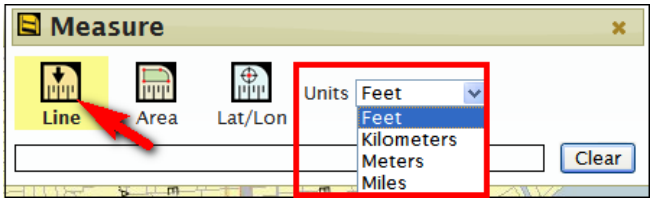


The **Measure** dialog box appears.

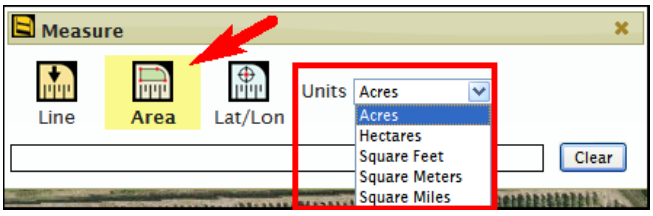


4. Select the type of measurement by doing the following:

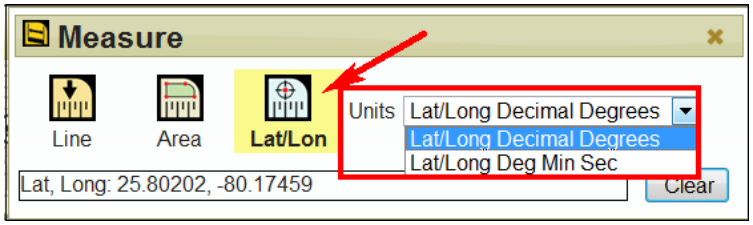
- To measure a distance between two points using the **Line** tool, click the **Line** icon, and then click the **Units** arrow to select a unit of measurement from the list box.



- To measure an area, click the **Area** tool, and then click the **Units** arrow to select a unit of measurement from the list box.



- To view the latitude and longitude coordinates, click the **Lat/Lon** tool, and then select the coordinates from the **Units** list box.



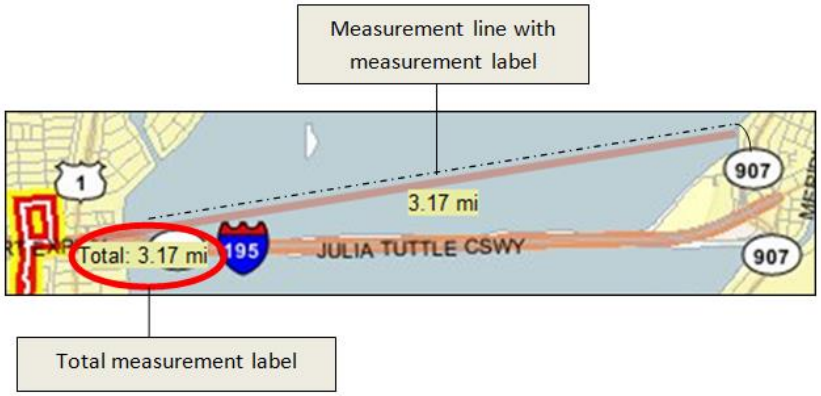
5. Click the point on the **Map Viewer** to activate the line and begin measuring the distance.

Tip! Click the left mouse button once to set your starting point. Drag the line to the point where you want to stop measuring. Do one of the following:

- Single-click the left mouse button to stop the line at a point, and then continue to drag the line in another direction to continue measuring the distance.
- Double-click the mouse button to deactivate the line and end the measurement.

Tip! Click the **Clear** button to erase the drawing.

After you have finished drawing your measurement line, the **Map Viewer** displays the measurement line with the measurement label, as shown in the next illustration.



3.4.1.3.2.4 *Query*

The **Query** tools found in the **Tools** panel of the map menu allow you to search for features, select multiple features, and create a buffer around selected features for the active data set based on the information stored in the database. The **Query** tools are listed as follows:

Query Database – Enables you to search for specific features and attributes based on information stored in the database. You can include multiple attributes, operators, and calculations within one query to specify the features criteria.

Select from Map – Enables you to select features by drawing a box on the **Map Viewer** and then query the database regarding features within the drawn area.

Buffer Features – Enables you to create a buffer around the selected data set features and use that buffer to select features from other data layers. This option is very useful for locating resources that fall within a certain distance of a planned project.

3.4.1.3.2.4.1 Using the Query Database Tool

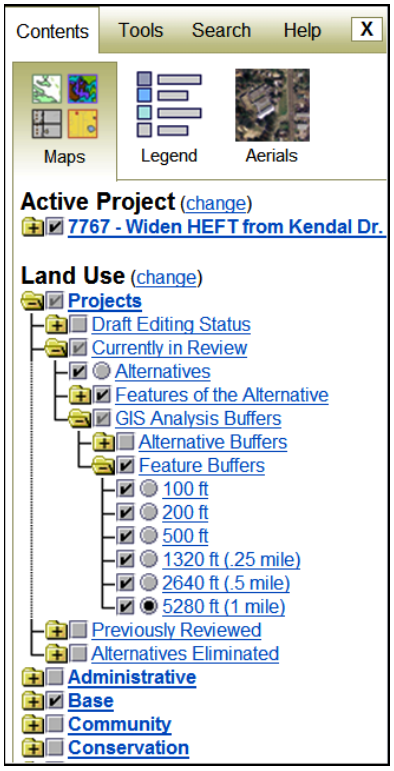
The **Query Database** tool displays a search filter that enables you to search multiple layers of an area on the map using specific criteria. While the **Select From Map** tool allows you to draw an area on your current map view and then query the database, the **Query Database** tool allows you to perform a query search by data elements (i.e., you would use this tool to perform a unique query for features with multiple attributes, such as "Display the areas on the current map view for insurance rates for 100-year flood zones AO and AH").

You can use the **Query Database** tool to search for a single feature (e.g., display a 200-foot buffer around the active project on the map), or you can further narrow your search for multiple features within a single feature boundary (e.g., within 500 feet of the active project, show the map locations for rail lines, wetlands, and historic buildings within the selected land parcel boundary).

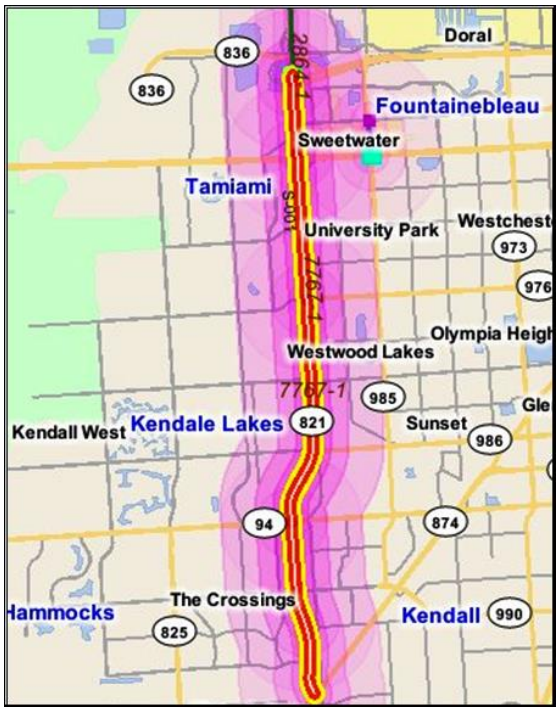
1. Select an area on the **Map Viewer** by doing any of the following:

- Select a project using **Advanced Project Search**, and then click the **Map It** button.
- Double-click on your target area directly on the **Map Viewer**.
- Click the **Zoom** icon on the top toolbar, and then highlight the target area on the **Map Viewer**.
- Click the **Search** link in the map menu to search for the target area or project. Do the following:
  - Type your search query.
  - Accept the **All Searchable Layers** default, or click the drop-down arrow,  , and then select the appropriate layer.
  - Click **Search**.
  - Click the appropriate link from the **Search** results to zoom to the selected area on the **Map Viewer**.

2. In the map menu, click **Contents** to select a resource map and to turn layers on and off (see the Setting Map Layers in the Table of Contents section for details on selecting maps and turning layers on and off). For this illustration, an area around a project is being reviewed: Land Use is shown as the selected Map for a project Currently in Review, with GIS Analysis Buffers set at 5280 ft. (1 mile) and as the active layer.

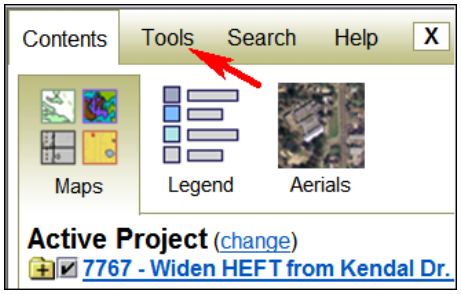


The **Map Viewer** refreshes and displays the selected buffer area, as shown in the next illustration.



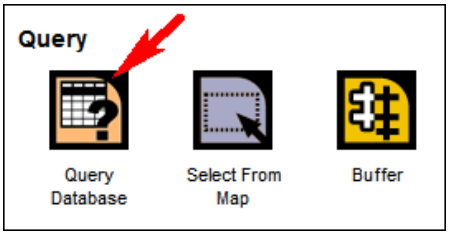
Tip! Click the **Legend** thumbnail in the **Contents** panel to view the color key for the buffer distances.

3. Click the **Tools** link.

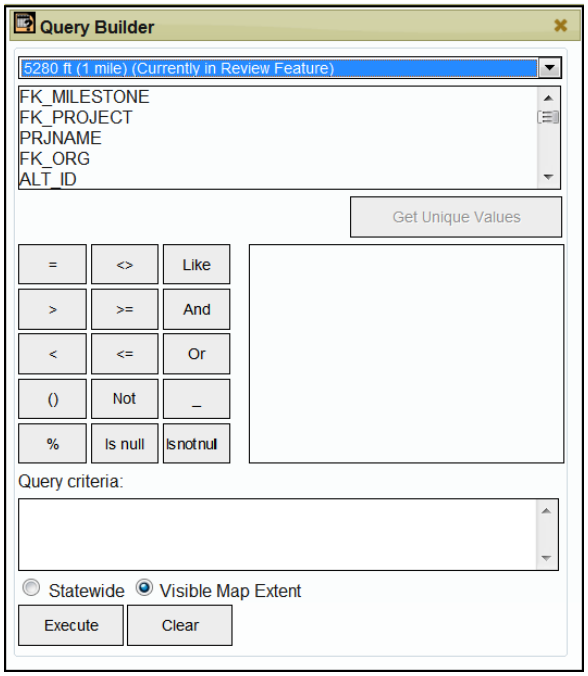


The **Tools** panel opens and displays the list of available tools.

4. Under **Query**, click **Query Database**.

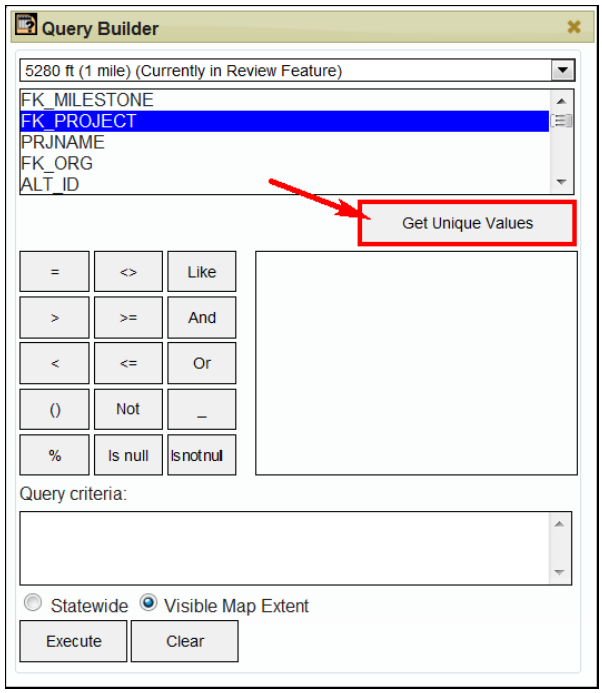


The **Query Builder** dialog box opens, displaying a search filter for selecting feature criteria.

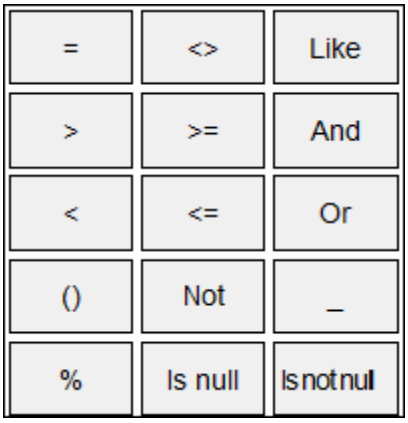


5. In the **Query Builder** dialog box, do the following:

- Click the scroll bar, and then double-click the appropriate layer. For the next illustration, FK_Project is shown as selected to view an area within 5280 ft. (1 mile) of a project.
- Click **Get Unique Values**. A list of values appears in the list box, as shown in the next illustration.

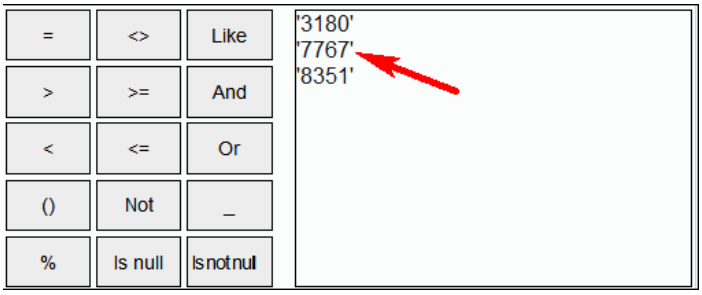


- To build the search string expression, click the appropriate symbol from the operator keypad.



Tip! You can also copy and paste or type the expression into the **Query criteria** text box.

- Click a value from the **Get Unique Values** list.

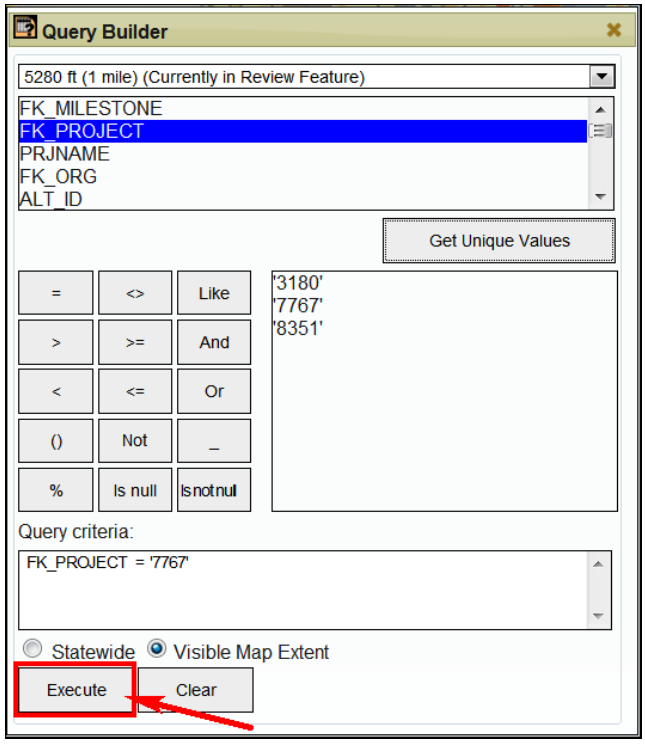


- In the **Query criteria** text box, continue to build the search string by doing any of the following:
  - Click the appropriate symbol on the operator keypad, and then select an option from the **Get Unique Values** list.
  - Copy and paste the search string into the text box.
  - Type the search string into the text box.

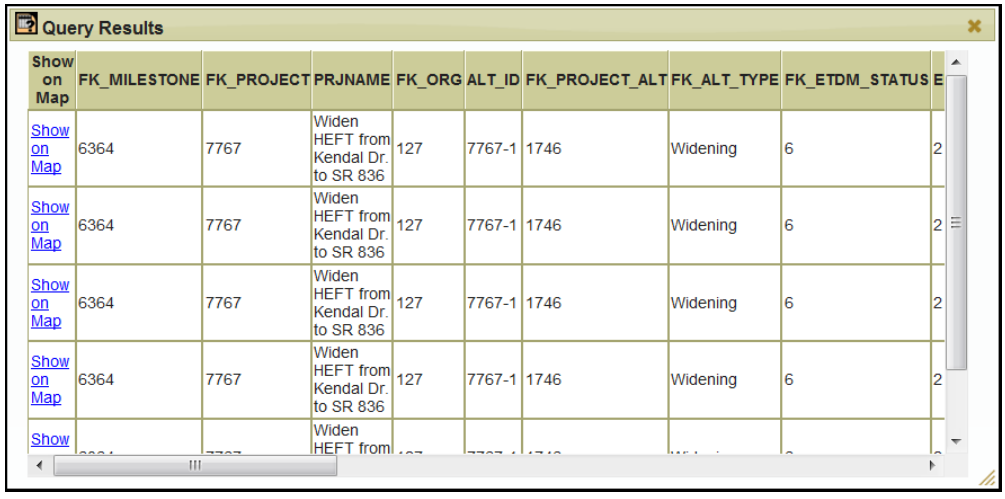
Note: See the Writing Search Strings table for descriptions of commonly used operators and examples for building a string expression in the EST **Query Builder**.

- After you have completed the search string in the **Query criteria** text box, do one of the following:
  - To view all results for the state of Florida, click the **Statewide** option button.
  - To view the results for the current map view, click the **Visible Map Extent** button.

- Click **Execute**.



The **Query Results** screen appears, showing the results of the query search criteria.

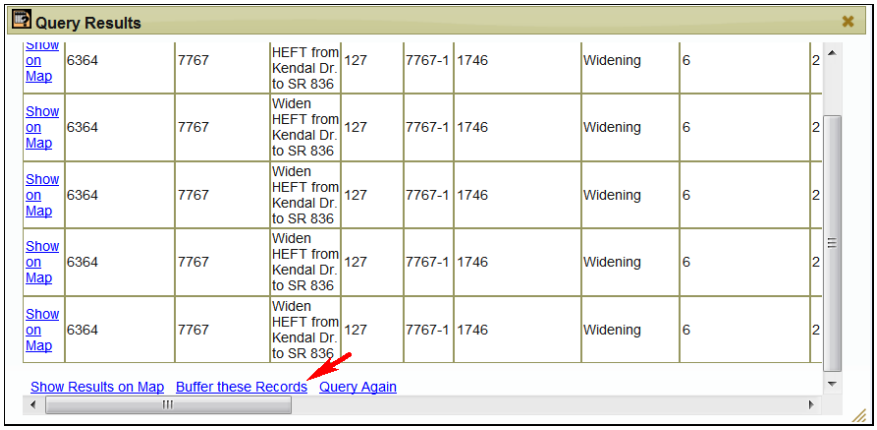


6. Do any of the following:

- To view an individual result on the **Map View**, click the **Show on Map** link on the row of the selected result.
- To view all the results on the **Map View**, click the **Show Results on Map** link at the bottom of the **Query Results** screen.

- To buffer the results, click the **Buffer these Records** link. Go to Step 8 for instructions on selecting features within a buffer area.

Note: Buffering the records listed in the **Query Results** screen enables you to establish a map boundary around the selected area and then search for additional attributes and features within the area or within a set distance outside of the area (e.g., performing a query search within a land use parcel for rail lines that intersect the parcel area).



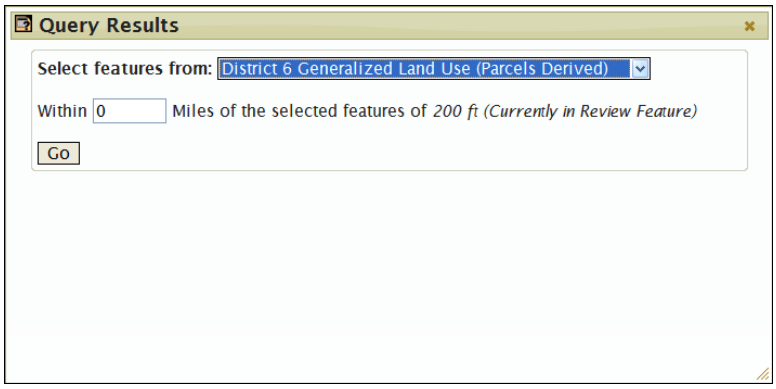
Note: The **Buffer these Records** link only buffers the records that are displayed in the box. If there are more than 25 records, you will need to click the **More Records** link to display and buffer the additional records.

7. You can select features within the buffer zone by doing any of the following:

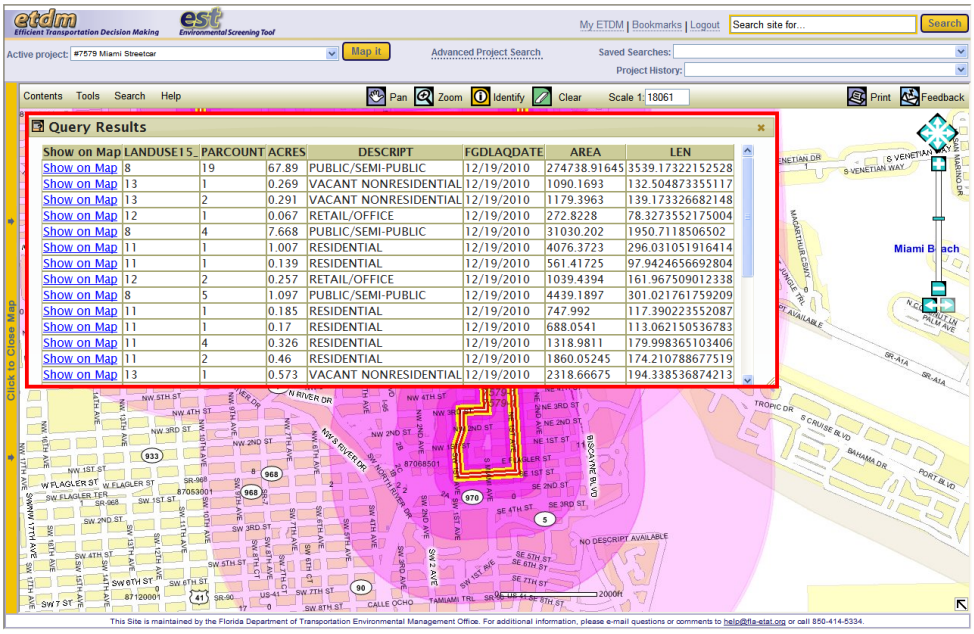
- Use the **Query Results** dialog box. See Step 8 for instructions.
- Use the **Maps** and map layer options in the **Contents** panel (See the Setting Map Preferences section for instructions on using map layers).

8. To select additional features within the buffer zone using the **Query Results** dialog box, do the following:

- Click the **Select features from** arrow to expand the list box. The box populates with the features available in the database.
- Select a variable from the list by clicking it. For this illustration, District 6 Generalized Land Use (Parcels Derived) is shown as selected.



- In the **Within Miles of the selected features of** *Name of Feature* text box, do one of the following:
  - Accept the default, **0 Miles**, if you want to search for features within the established buffer zone.
  - Type the number of miles in the text box if you want to expand the search range beyond the established buffer zone (i.e., searching for schools within the established buffer zone plus number of miles).
  - Click **Go**. The **Query Results** screen refreshes and displays the results for the specific features within the established buffer zone and, if added, the extended distance range. The next illustration shows the **Query Results** screen displaying the results along with the buffered area (shaded areas on map) in the background.



  - Click the **Show on Map** or **Show Results on Map** links to view the results on the **Map Viewer**.

Tip! Clicking the links for **Show on Map** or **Show Results on Map** will zoom to the specified area on the **Map Viewer**. Use the **Scale** box located in the **Map Viewer** toolbar or the zoom slider to zoom out to a distance that allows you to view a feature and buffer area in relation to the project location.

Creating Search Strings in the EST Query Builder

The **Query Builder** dialog box in the Environmental Screening Tool's (EST's) **Interactive Map Viewer** provides a list box containing the available layers and features, enabling you to select the first part of the query string that will appear in the **Query Criteria** text box. Once you have selected your layers from the list box, you can further filter your search criteria by building an expression using the operator keys and then clicking an option from the **Get Unique Values** list. Alternatively, you can copy and paste expressions or type the full expression into the **Query criteria** text box.

The following table provides a quick reference for creating search strings in the EST **Query Builder**:

Table 3-1 Writing Search Strings

Operator	Description	Example
‘ ’	Features within a **WHERE** clause must always be enclosed within single quotes.	**STATE_NAME = ‘California’**
UPPER or **LOWER**	Use either the **UPPER** or **LOWER** function for file-based data sources like file geodatabases or shapefiles.	The following expression will select customers whose last name is stored as either Jones or JONES. **UPPER LAST_NAME = ‘Jones’**
=	Use the equal sign operator to search the database for a specific value.	**FK_Project = ‘7767’**
LIKE	Use the **LIKE** operator (instead of the **=** operator) to search for a particular pattern.	For example, this expression would select Mississippi and Missouri among USA state names: **STATE_NAME LIKE ‘Miss%’**
%	Use with the **LIKE** operator when anything is acceptable in its place. You can use the % operator to represent anything from zero characters to a hundred characters.	**STATE_NAME LIKE ‘Miss%’**
_	Use the underline operator with the **=** operator to treat a character as part of a string. or Use with **LIKE** to represent only one character.	To search for _atherine Smith: **OWNER_NAME = ‘_atherine smith’** To search for Catherine Smith or Katherine Smith: **OWNER_NAME LIKE ‘_atherine smith’**
>	Use to select string values for greater than.	**BUFFER_DISTANCE > '200'**
<	Use to select string values for less than.	**BUFFER_DISTANCE < '200'**
>=	Use to select string values for greater than or equal to.	This expression will select all the cities in coverage with names starting with the letters M to Z. **CITY_NAME >= ‘M’**
<=	Use to select string values for less than or equal to.	This expression will select all the cities in coverage with names starting with the letters A to M. **CITY_NAME <= ‘M’**
< >	Use the not equal operator to exclude values that are equal to a specific value.	This expression will select water bodies where the description is “not.” **‘RESERVOIR’. DESCRIPT <> 'RESERVOIR'**
Is null	Use the **NULL** keyword to select features and records that have null values for the specified field. The **NULL** keyword is always preceded by **IS** or **IS Not**.	To find cities whose 1996 population has not been entered: **POPULATION96 IS NULL**

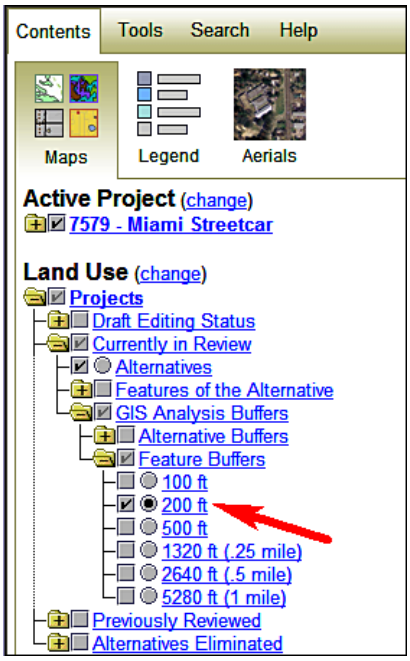
Operator	Description	Example
Is not null		To find cities whose 1996 population has been entered: **POPULATION96 IS NOT NULL**
AND **OR**	Use the **AND** and **OR** operators to filter information based on one or more conditions. The **AND** operator displays records based on both conditions being true. The **OR** operator displays records based on one of the conditions being true. You can combine **AND** and **OR** to form a complex expression.	The following **AND** expression would select all the houses that have more than 1,500 square feet and a garage for three or more cars: **AREA > 1500 AND Garage > 3** The following example demonstrates an **OR** expression: **RAINFALL < 20 or SLOPE > 35** The following example demonstrates a combined **AND** and **OR** expression: **AREA > 1500 AND (Garage > 3 OR Carport > 3)**
NOT	Use the **NOT** operator to find features or records that don't match the specified expression. The **NOT** operator must be placed at the beginning of the expression and can be used in **AND** and **OR** expressions.	**NOT STATE_NAME= 'Colorado'** To find all the New England states except Maine: **SUB_REGION = 'New England' AND NOT STATE_NAME = 'Maine'**
+ **-** ***** **/**	Use arithmetic operators to include calculations in an expression.	Calculation between field and number: **AREA > = PERIMETER * 100** Calculation between fields: **POP1990/ AREA <= 25**
( )	Use the parentheses to establish the precedence in which an expression is evaluated. Expressions enclosed in parentheses are evaluated before the part that isn't enclosed.	**LAST_NAME = 'Smith' (FIRST_NAME = 'John' OR FIRST_NAME = 'Jane')**

3.4.1.3.2.4.2 Using the Select from Map Tool

The **Select From Map** tool enables you perform a spatial query search via the **Map Viewer**.

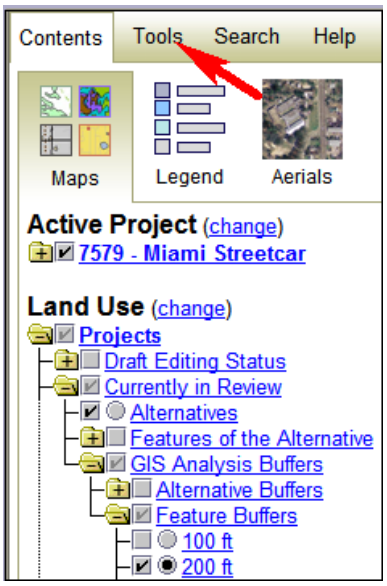
1. Zoom to an area in the **Map Viewer**.

2. In the map menu, click **Contents** to select a resource **map** and to turn layers on and off (see the Selecting Issue Layers and Setting Map Preferences in the Table of Contents section for details on selecting maps and turning layers on and off). For this illustration, an area around a project is being reviewed. Land Use is shown as the selected resource map for a project Currently in Review, with GIS Analysis Buffers set at 200 ft. and as the active layer.



The **Map Viewer** refreshes and displays the selected buffer area. Click the **Legend** thumbnail to view the color key for the buffer distances.

3. Click the **Tools** link.



The **Tools** panel opens and displays the list of available tools.

4. Under **Query**, click **Select From Map**.

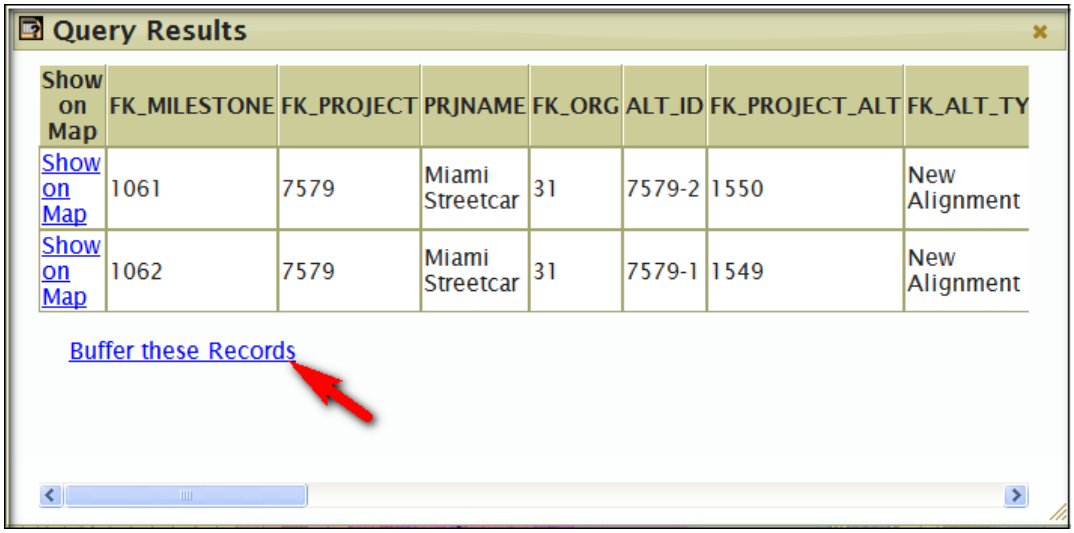
5. Click and drag on the map to draw a rectangular selection area. After you draw the rectangle, the **Query Results** box automatically appears and displays the results for the active layer.

Note: The **Query Results** box only displays 25 records at a time. If there are more than 25 records, click the **More Records** link at the bottom of the **Query Results** box.

6. Do any of the following:

- To view an individual result on the **Map View**, click the **Show on Map** link on the row of the selected result.
- To buffer the results, click the **Buffer these Records** link. Go to Step 7 for instructions on selecting features within a buffer area.

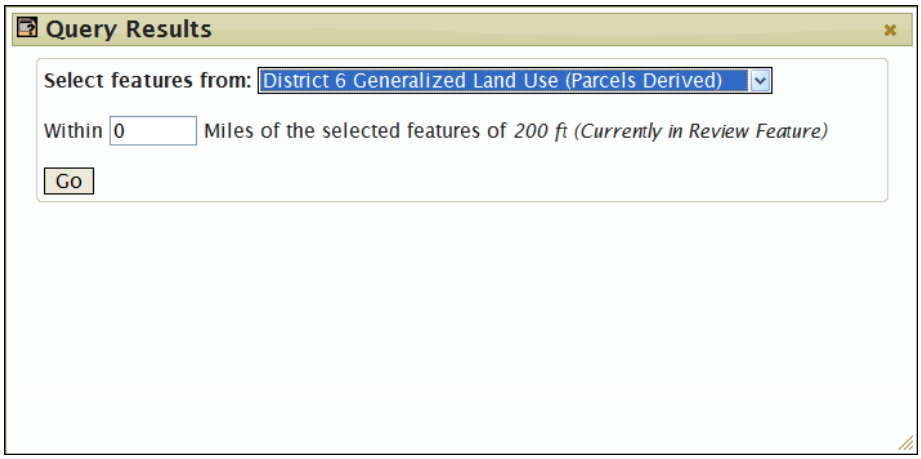
Note: Buffering the records listed in the **Query Results** box enables you to establish a map boundary around the current feature and then search for additional attributes and features within the boundary area or within a set distance outside of the boundary area (e.g., performing a query search within a land use parcel for rail lines that intersect the parcel area).



Note: The **Buffer these Records** link only buffers the records that are displayed in the **Query Results** screen. If there are more than 25 records, you will need to click the **More Records** link to display and buffer the records that are shown on the screen. You will need to click the **Buffer these Records** link for each group of records displayed on the **Query Results** screen (i.e., you would click the **Buffer these Records** link to buffer records 1 through 25, and then after you click the **More Records** link, you would click the **Buffer these Records** link again to buffer records 1 through 50, etc.).

7. You can select features within the buffer zone by using the **Query Results** box to search for features within the current zone. Do the following:

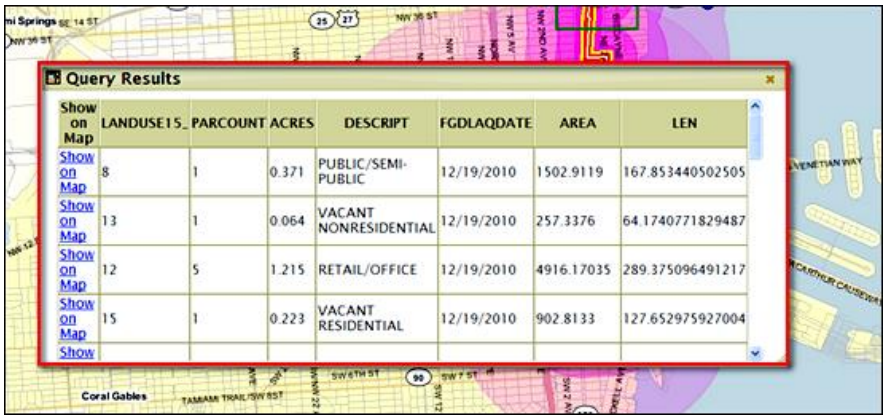
- Click the **Select features from** arrow to expand the list box. The box populates with the features available in the database.
- Select the variable from the list by clicking it. For this illustration, Generalized Land Use (Parcels Derived) is shown as selected.



- In the **Within Miles of the selected features of** *Name of Feature* text box, do one of the following:
  - Accept the default, **0 Miles**, if you want to search for features within the established buffer zone.
  - Type the number of miles into the text box if you want to expand the search range beyond the established buffer zone (e.g., searching for schools within the established buffer zone plus *number of miles* outside the buffer).

For this illustration, the default, **0 Miles**, is accepted because the search range will remain in the established buffer zone.

- Click **Go**. The **Query Results** box refreshes and displays the results for the specific area drawn on the map (solid polygon) within the established buffer zone and, if added, the extended distance range. The next illustration shows the **Query Results** box displaying the results along with the buffered area (shaded area) and drawn area (solid polygon) in the background.



- Click the **Show on Map** link on the data row you want to view on the **Map Viewer**.

Tip! Clicking the **Show on Map** link will zoom to the specified area on the **Map Viewer**. Use the **Scale** box located in the **Map Viewer** toolbar or the zoom slider to zoom out to a distance that allows you to view a feature and buffer area in relation to the project location.

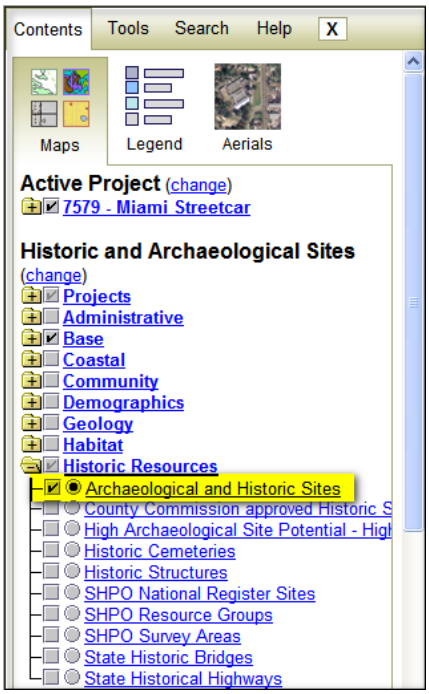
3.4.1.3.2.4.3 Using the Buffer Tool

The **Buffer** tool provides quick access for creating a buffer around an area you want to query. Buffering a selected area enables you to establish a map boundary around the current feature and then search for additional attributes and features within the boundary area or within a set distance outside of the boundary area (e.g., performing a query search within a land use parcel for rail lines that intersect the parcel area).

1. Select an area on the **Map Viewer** by doing any of the following:

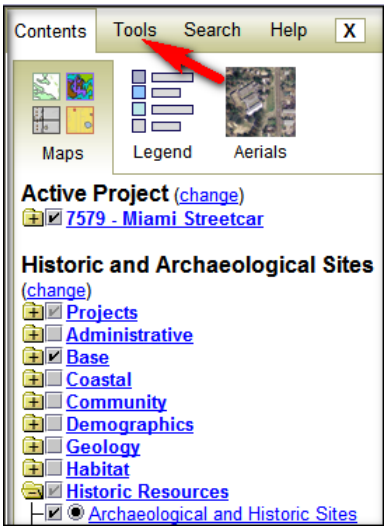
- Select a project using **Advanced Project Search**, and then click the **Map It** button.
- Double-click on your target area directly on the **Map Viewer**.
- Click the **Zoom In** icon on the top toolbar, and then highlight the target area on the **Map Viewer**.
- Click the **Search** link in the map menu to search for the target area or project. Do the following:
  - Type your search query.
  - Accept the **All Searchable Layers** default, or click the drop-down arrow,  , and then select the appropriate layer.
  - Click **Search**.
  - Click the appropriate link from the **Search** results to zoom to the selected area on the **Map Viewer**.

2. In the map menu, click **Contents**, and then click **Maps** to select a resource map. Under the issue heading, click the appropriate check boxes to turn layers on and off (see the Selecting Issue Layers and Setting Map Preferences in the Table of Contents section for details on selecting maps and turning layers on and off). For this illustration, the Historic and Archaeological Sites issue is shown as the selected resource map, with the Archeological and Historic Sites layer shown as the active layer.

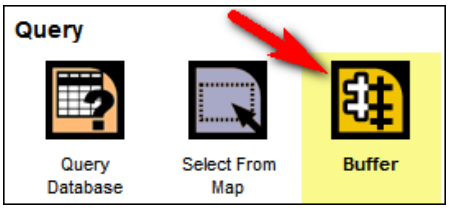


The **Map Viewer** refreshes and displays the Archaeological and Historic Sites layer, with the sites indicated by color (click the **Legend** thumbnail to view the map feature color coding and symbols).

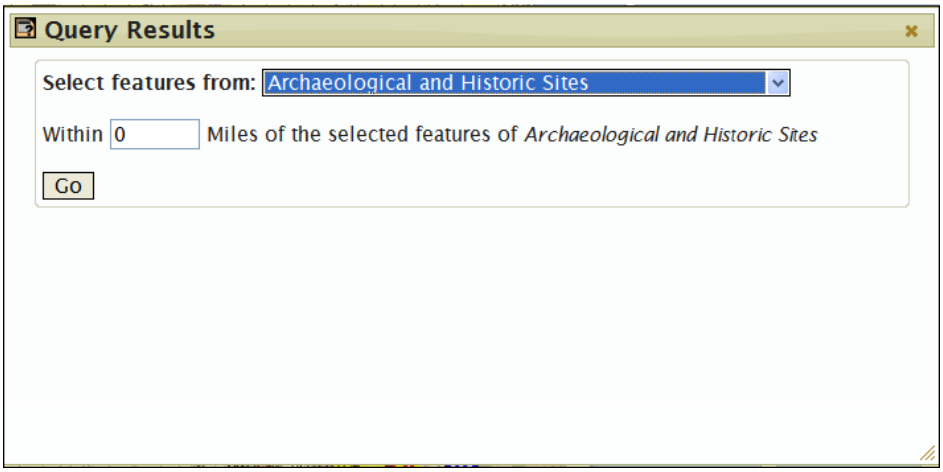
3. Click the **Tools** link.



4. Under **Query**, click **Buffer**.

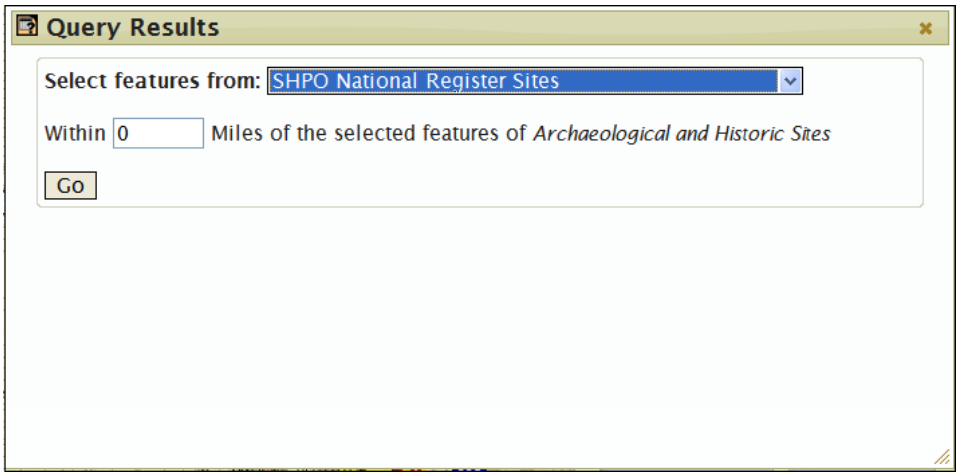


The **Query Results** dialog box appears, showing the **Select features from** list box and text box for setting the distance at or beyond the selected area.



5. You can select features within the selected area by using the **Query Results** dialog box to search for features within the current zone. Do the following:

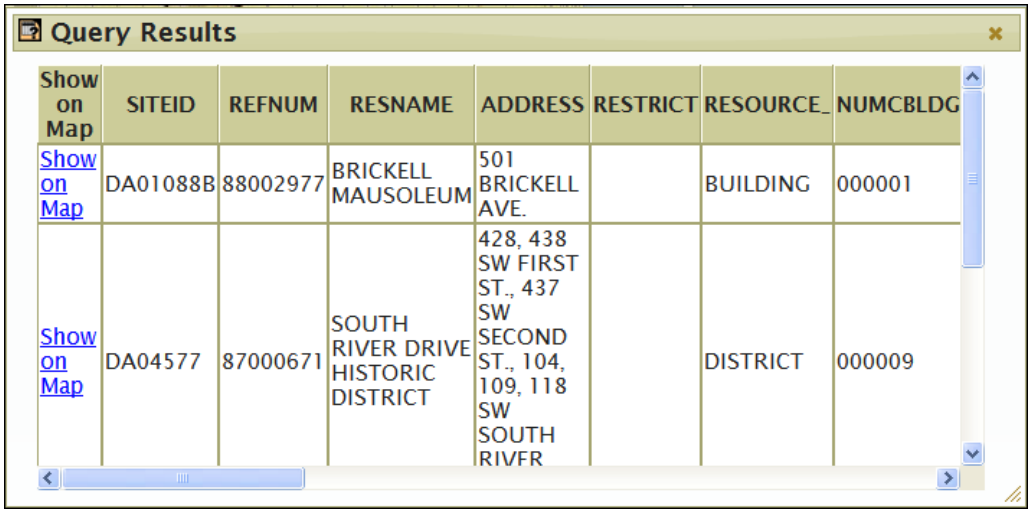
- Click the **Select features from** arrow to expand the list box. The box populates with the features available in the database.
- Select the variable from the list by clicking it. For this illustration, SHPO National Register Sites is shown as selected.



- In the **Within Miles of the selected features of** *Name of Feature* text box, do one of the following:
  - Accept the default, **0 Miles**, to search for features within the established buffer zone.
  - Type the *number of* **Miles** in the text box to expand the search range beyond the established buffer zone (e.g., searching for schools within the established buffer zone plus *number of* miles).

Note: You must use numbers greater than zero in the **Miles** text box.

- Click **Go**. The **Query Results** box refreshes and displays the results for the buffered area.



- Click the **Show on Map** link on the data row you want to view on the **Map Viewer**.

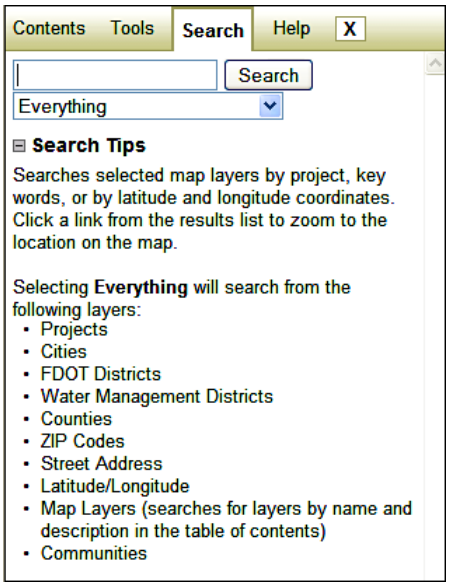
Tip! Clicking the **Show on Map** link will zoom to the specified area on the **Map Viewer**. Use the **Scale** box located in the **Map Viewer** toolbar or the zoom slider to zoom out to a distance that allows you to view a feature and buffer area in relation to the project location.

6. Repeat the steps listed above for buffering additional features within the **Map Viewer**.

3.4.1.3.3 Search

The **Search** feature in the maps menu enables you to search selected map layers by project, key words, or by latitude and longitude coordinates.

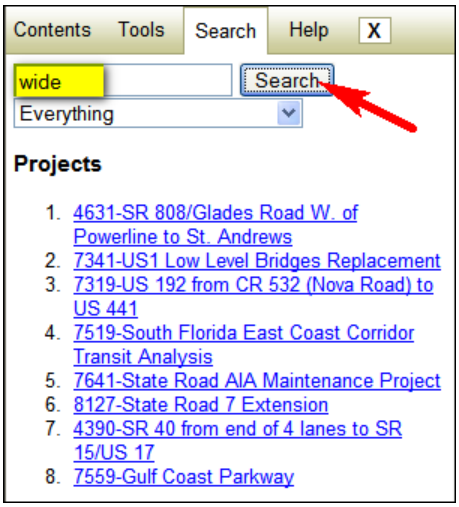
1. Click the **Search** button in the map menu to search for the target area or project. The **Search** panel displays a search filter and a list of layers that are searched.



Tip! Your query can be a partial spelling of a name or keyword.

2. Accept the **Everything** default, or click the drop-down arrow, , and then select the appropriate layer.

3. Click **Search**. For this illustration, just the partial word for widening ("wide") is shown as the search operator for projects involving road widening.

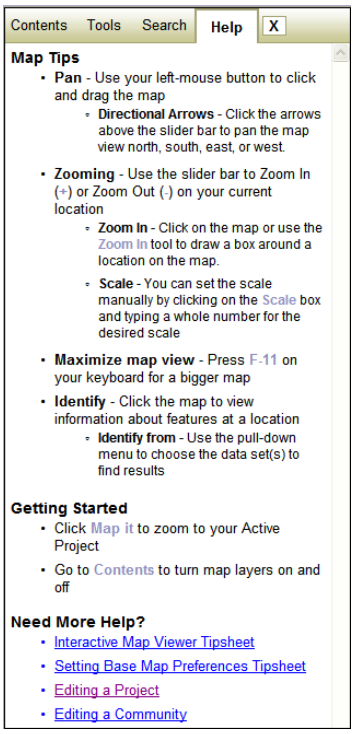


4. Click the appropriate link in the **Search** results to zoom to the selected area on the **Map Viewer**.

3.4.1.3.4 Help

The **Help** feature in the map menu opens a panel that provides quick access to tips for using the **Map Viewer** along with a **Getting Started** section for quick reference to start using the **Interactive Map Viewer**.

Note: You will find additional **Map Tips** at the bottom of the **Contents** and **Tools** panels. The tips found in these panels provide a general overview of the functions shown within the respective panel.



3.4.1.4 *Map Editor (Updated 11/30/2011)*

The **Edit Map Features** tools provide easy access for editing project features and community boundaries.

3.4.1.4.1 Drawing and Editing Project Features

The **Editing Project Features** tool in the **Map Editor** enables authorized users to digitize project features for projects in Draft, QA/QC, or Editing status within their jurisdiction.

Note: Check with your organization's EST administrator or contact the ETDM Help Desk for information about EST privileges.

The **Editing Project Features** tool allows you to do the following:

- Create new project features
- Edit existing projects
- Use an extraction tool to include segments from the RCI map

1. Open the **Interactive Map Viewer** and then go to the project location by doing any of the following:

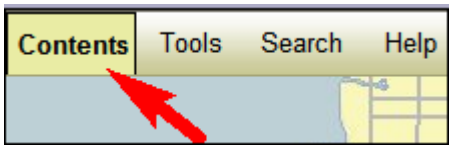
- Zoom to a project location directly in the **Map Viewer**:
  - Click the **Click to Open Map** bar.
  - In the **Map Viewer**, zoom to a location by clicking the area directly on the map or by using the **Zoom In** and **Zoom Out** buttons on the map toolbar.

Note: See the **Map Viewer** section at the beginning of this chapter for information on opening the viewer and using the Map Viewer Top Toolbar.

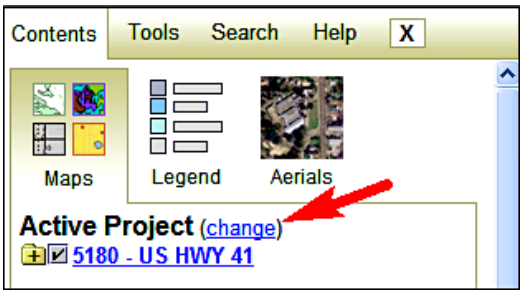
- Select a project using the **Project Navigation** bar and then click the **Map it** button to zoom to the project location.

Note: See the Navigation chapter of the EST Handbook for instructions on using **Advanced Project Search**.

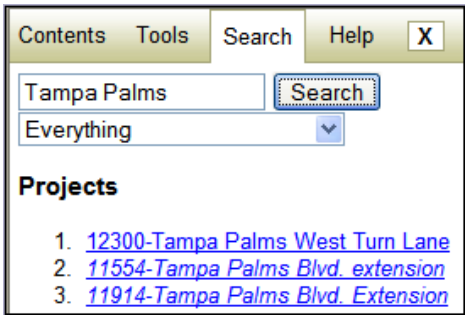
- Change to another project using the **Map Viewer's** table of contents:



  - Click the **Contents** button on the map menu bar. The **Contents** panel expands.
  - Beside **Active Project**, click the **change** link.



- In the **Search** panel, type the project number, the full project name or part of the project name in the **Search** field.
- Click **Search**.
- Under **Projects**, click the appropriate project name from the list of search results. The **Map Viewer** refreshes and displays the project location.

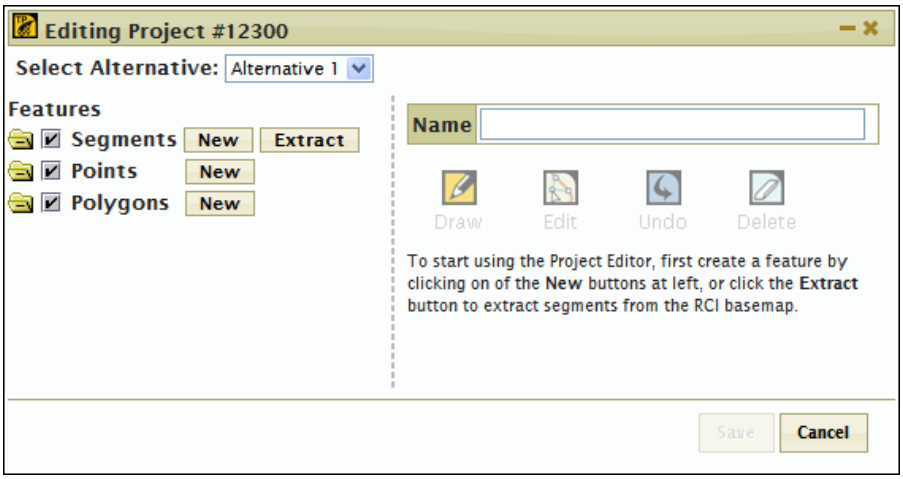


2. After the project location opens in the **Map Viewer**, open the **Map Editor** by clicking the **Tools** button on the map menu.

3. In the **Tools** panel, click **Transportation Projects**.

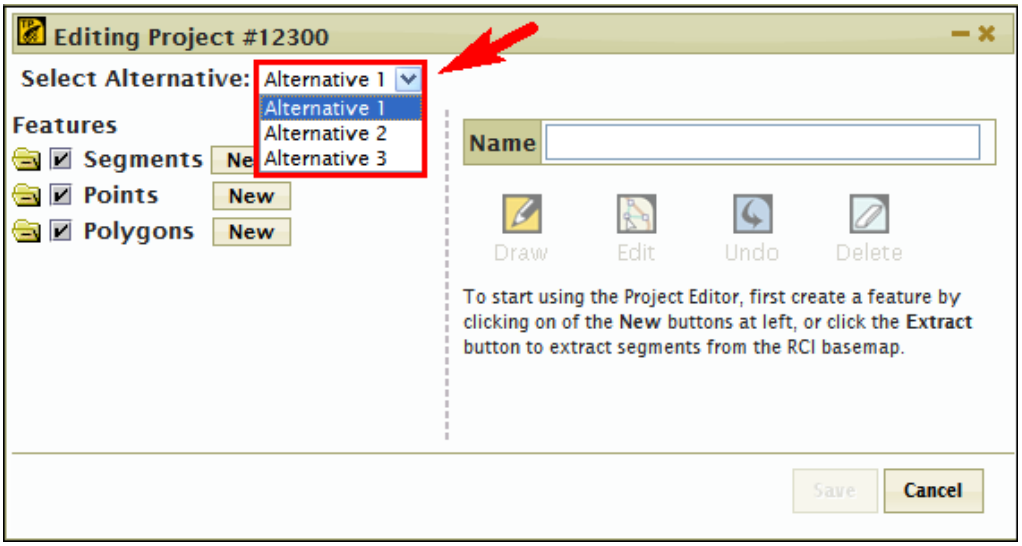
The **Editing Project** dialog box appears and displays the Alternative name (or a list box containing multiple Alternatives), a **Features** table of contents, and drawing tools that allow you to create or modify a feature's shape.

Note: A project must have at least one Alternative before you can create a feature's shape. To add an Alternative to a project in the EST, go to the **Tools** menu, point to **Project Diary**, and then select **Alternative Description** (see the Add/Update Alternative Description section of the Tools chapter in the EST user handbook for detailed instructions).


Editing Project #12300
Select Alternative:
Alternative 1
Features
Segments
New
Extract
Points
New
Polygons
New
Name
Draw
Edit
Undo
Delete
To start using the Project Editor, first create a feature by clicking on of the New buttons at left, or click the Extract button to extract segments from the RCI basemap.
Save
Cancel

4. Click the **Select Alternative** arrow, and select the **Alternative** name from the list box. The features that are drawn on the map will apply to the selected Alternative.

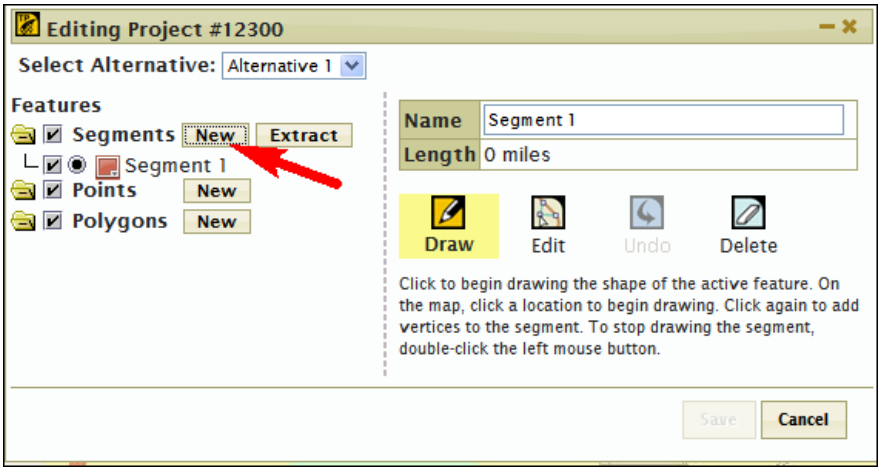
Tip! An Alternative can have one or more features.



5. Create a new feature by doing one of the following:

- Click the **New** button beside the selected feature to create a new shape. Go on to the next step, Step 6, of these instructions.
- Click the **Extract** button beside **Segments** to extract an existing roadway from the RCI map. Go to the Extracting Segments from Existing RCI Roadways section for details on extracting from the RCI map.

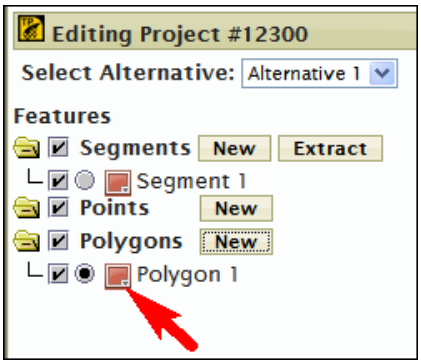
6. After clicking the **New** button beside the selected feature, a check box appears for the new feature and the **Editing Project** dialog box refreshes, displaying a highlighted **Draw** button.



7. In the **Name** field, enter the name of the feature, or you can leave the default name provided by the EST (e.g., Segment 1).

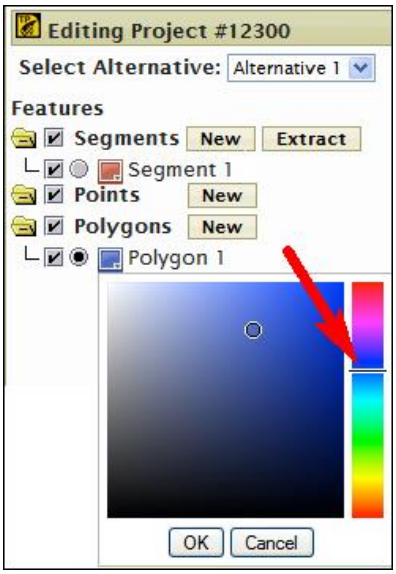
8. If you are creating multiple features, you can assign a different color to each feature. To assign a different color to a feature, do the following:

- Click the color pallet icon beside a feature name.

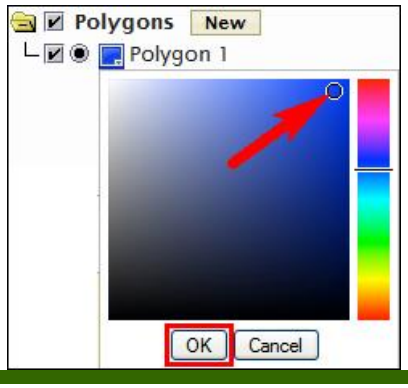


The pallet box will expand, enabling you to select and assign a color for the selected feature.

- On the color hue bar, move the slider bar to select the color range.

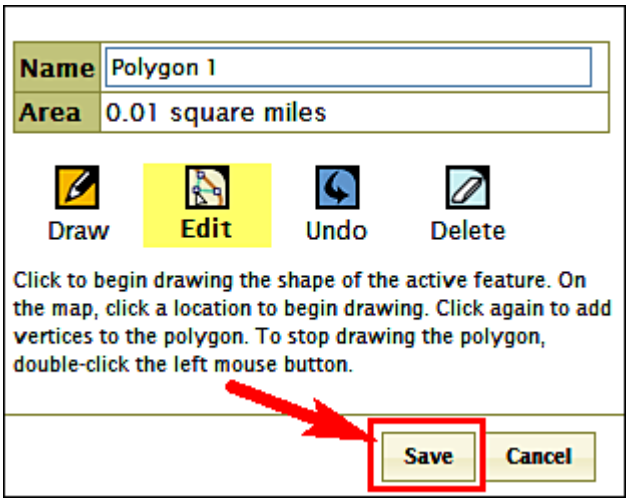


- In the color pallet box, click the color value. A circle appears on the selected value.
- Click **OK**. The color icon shows the assigned color for the feature.



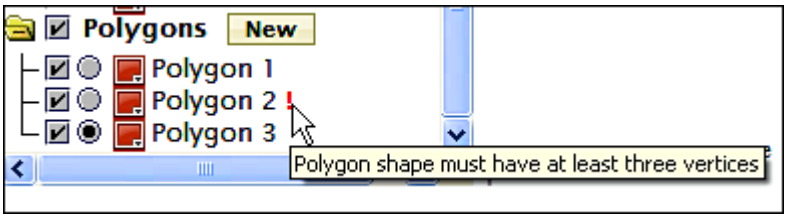
9. In the **Map Editor**, begin drawing the feature (See Drawing Features in the Map Editor and Editing Features in the Map Editor sections of this handbook for instructions on drawing and editing features.)

10. When you have completed drawing and editing features in the **Map Editor**, click **Save**.



When you click **Save**, the features that have been created or edited for the selected Alternative will be saved to the project layer.

Note: A red exclamation mark appearing beside a feature name indicates an issue needs to be addressed regarding the feature. Move the mouse pointer over the exclamation mark to view details, as shown in the next illustration.



3.4.1.4.1.1 *Drawing Features in the Map Editor*

After you have made your selections in the **Features** table of contents, you can begin drawing the active feature's shape on the map.

The steps shown in this section illustrate how to create a feature (i.e., **Segments**, **Points**, and **Polygons**).

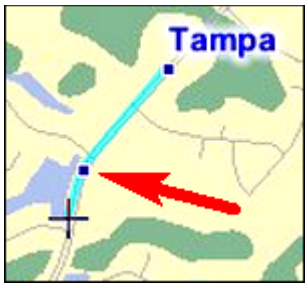
3.4.1.4.1.1.1 Drawing a Segment

In the **Features** table of contents, click the button beside the **Segment**. You can then begin adding segment features to the Alternative in the **Map Editor**.

Note: You need to click a beginning location and an ending location to create a segment.

- On the map, click once on the location where you want to begin drawing. As you move toward the desired end location, a line follows the path of your mouse pointer (shown as crosshairs on the **Map Editor**).

- As you draw, click the locations where you want to place vertices. These locations appear as small dark boxes as you draw.



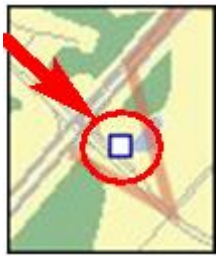
- When you have completed drawing a segment, double-click the left mouse button to stop drawing. Vertices will appear as bold boxes, and midpoints will appear as transparent boxes.

3.4.1.4.1.1.2 Drawing a Point

In the **Features** table of contents, click the button beside the **Point** feature you want to make active. You can then begin adding point features (e.g., bus stops, rail platforms, gas stations) to the Alternative in the **Map Editor**.

Click once on the location where you want to place the point. A single box will appear.

Note: You only need to click once to establish a point feature.

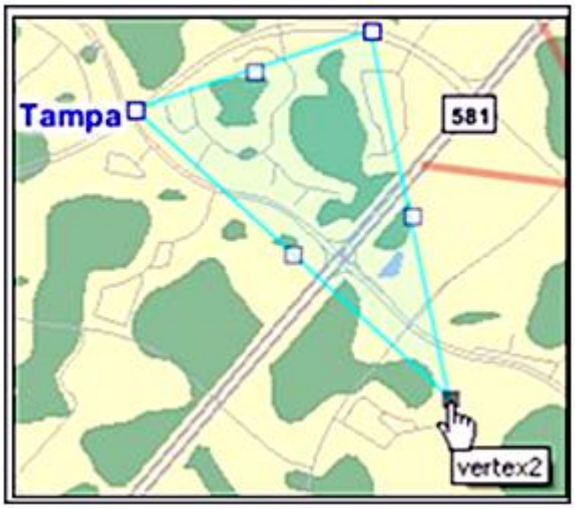


3.4.1.4.1.1.3 Drawing a Polygon

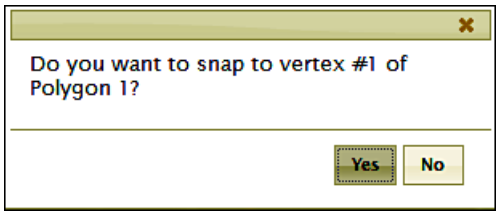
In the **Features** table of contents, click the button beside the **Polygon** feature you want to make active. You can then begin adding polygon features (e.g., bus terminals, rail stations, airports) to the Alternative in the **Map Editor**.

Note: You will need to create at least three locations on the map to create a polygon.

- Click once on the map and draw a line to the second location point.
- Click the map to add the next vertex of the line.
- Continue clicking the map until you have completed the area.
- Double-click the map to add the last vertex and finish drawing the polygon.

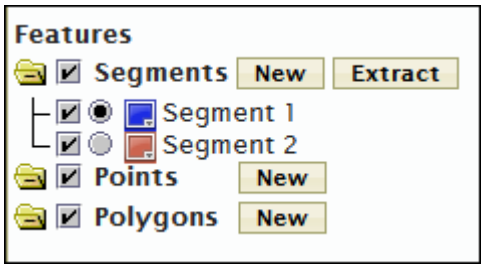


Tip! You can snap a feature's vertex to another feature's vertex by clicking the points where you want the connection to occur, ensuring that consecutive segments form a continuous line. When a message box displays asking if you want to **Snap** the selected vertices, click **Yes** (or **No**), and then continue drawing the feature on the map.



3.4.1.4.1.2 *Editing Features in the Map Editor*

1. In the **Features** table of contents, select which features you want to display on the map and which feature you want to place in active drawing mode. The next illustration shows all features as selected for display, with Segment 1 selected for active drawing mode (i.e., the feature you can edit).

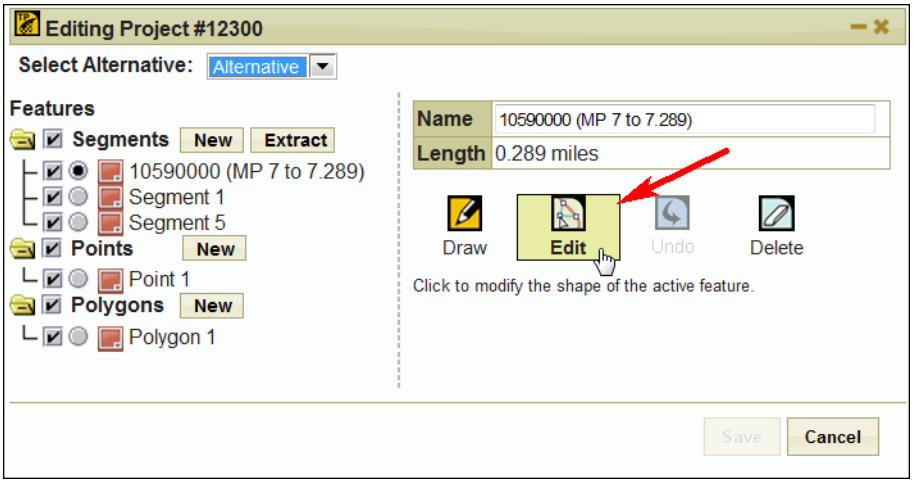


Turn features on by doing the following:

- Click the check box beside the feature you want to display on the map.
- Click a check box beside a folder icon to display all the features for a category.
- Click the option button beside a feature to put it in active drawing mode.

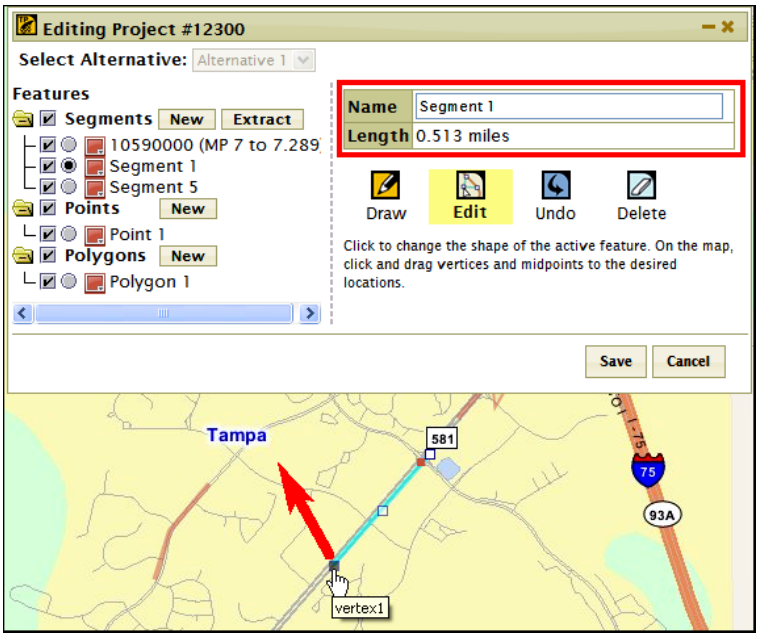
Tip! Click a checked box to turn a feature off.

2. When you finish drawing a feature, the **Editing Project Features** tool automatically goes into edit mode. The **Edit** button in the **Editing Project** dialog box becomes highlighted. If the **Edit** button is not already highlighted, click **Edit**.

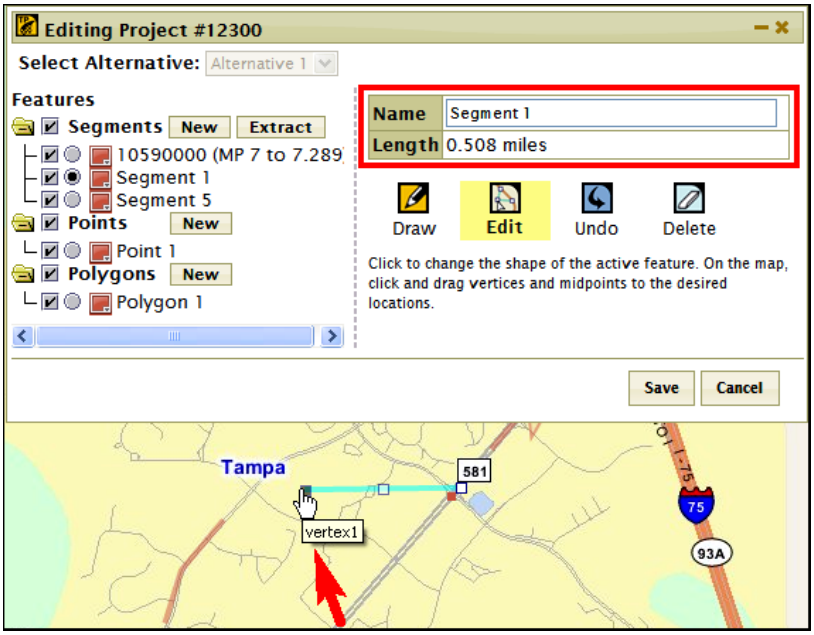


3. On the **Map Editor**, begin making edits to a segment or polygon by doing the following:

- Move a vertex (bold box) to another location on the map by clicking and dragging it to the desired location, as indicated in the next two illustrations. The **Editing Project** dialog box displays the segment **Length** or polygon **Area**.



The lines and midpoints adjust to the new coordinates set by the vertex's change in location. The next illustration shows the segment change from its previous location (Vertex1 and midpoint) and a change in the segment's distance (shown in the **Length** box).

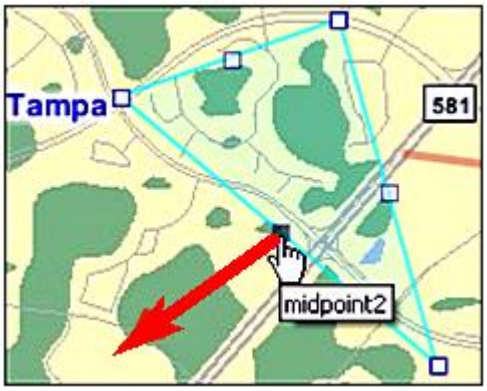


- Click a midpoint (transparent box) and drag it to a desired location on the map.

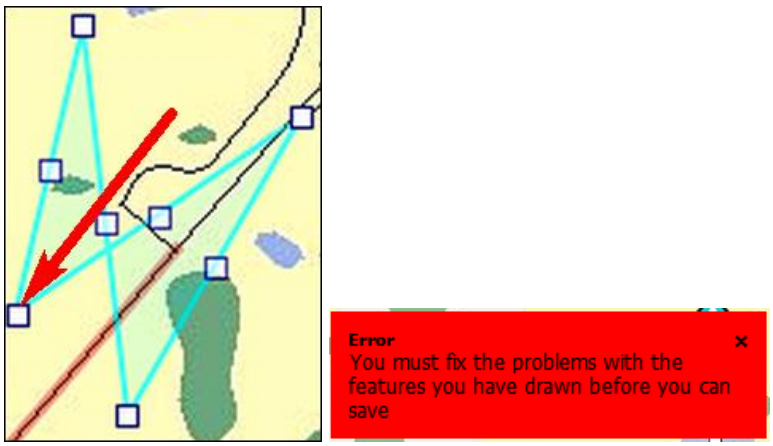
Note: Dragging a midpoint is an effective way to add points to a segment or polygon.

Dragging a midpoint changes the midpoint to a vertex, adds new segments on either side of the midpoint connecting to the adjacent vertices, and inserts new midpoints on the new segments (as shown in the next illustration).

The next illustration displays a polygon in edit mode.



Note: The lines of a single polygon cannot self-intersect. The EST displays an error message if this action occurs, as shown in the next illustration.



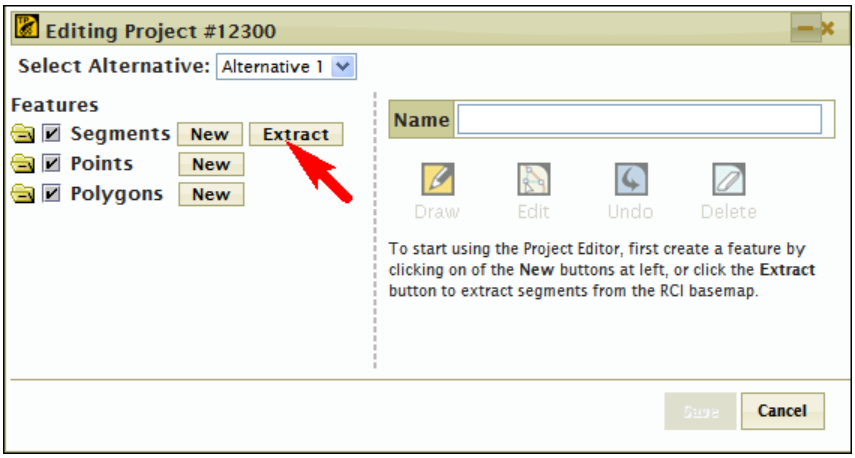
- To edit points, click on the point and drag it to the desired location.

4. Click **Save**.

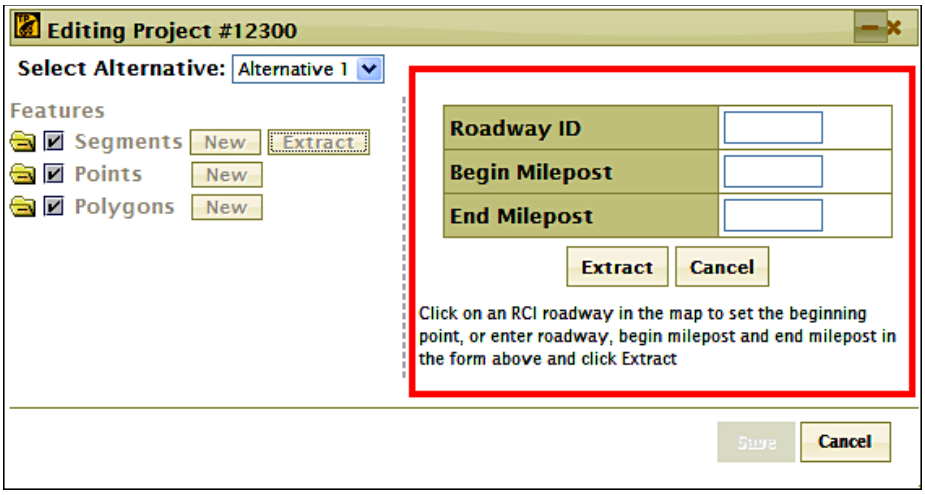
3.4.1.4.1.3 *Extracting Segments from Existing RCI Roadways*

After you have selected an Alternative, you can add new segments by drawing them directly on the map or by extracting them from existing RCI roadways. Once you have completed drawing a segment or extracting it from the RCI map, you can then change the segment's shape using the **Edit** tool.

1. In the **Editing Project** dialog box, click the **Extract** button beside the **Segments** category.

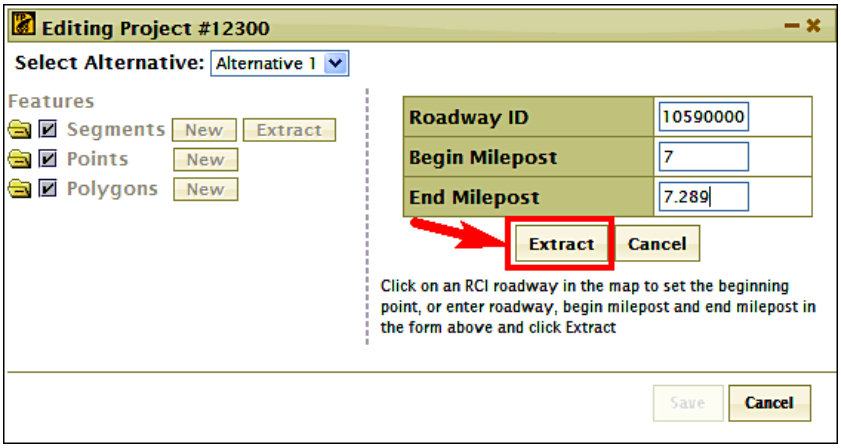


The **Editing Project** dialog box refreshes and displays a form for entering FDOT roadway ID and milepost information.

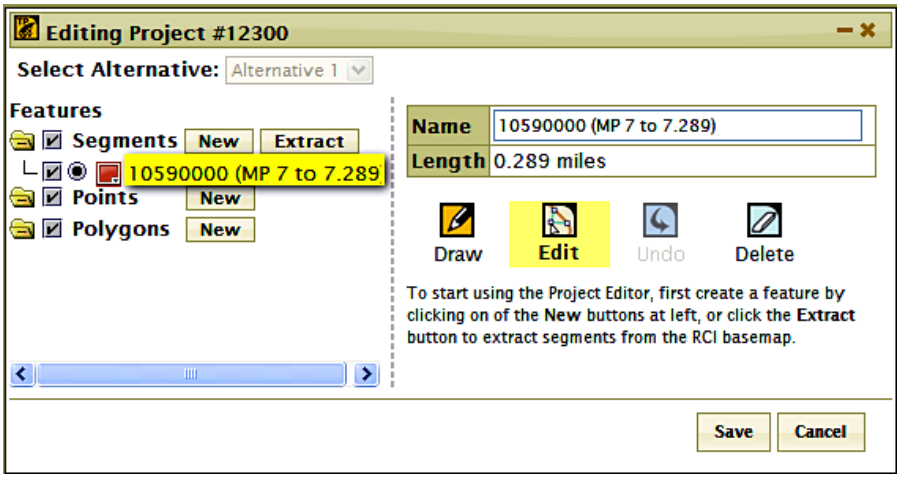


2. You can either extract RCI roadways by using the form (enter **Roadway ID** and **Milepost** locations) or by clicking on an RCI roadway on the map.

- To extract RCI roadways using the form, do the following:
  - Enter the **Roadway ID**, **Begin Milepost,** and **End Milepost** locations into the appropriate fields.
  - Click the **Extract** button.



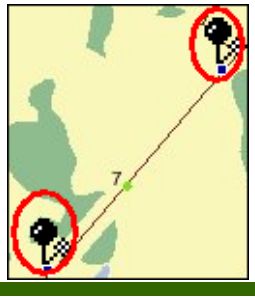
The **Editing Project** dialog box displays the roadway ID (e.g., 10590000) and milepost (MP) information under the **Segments** category and in the **Name f**ield. The length of the segment is also displayed in the **Length** field.



The extracted feature appears on the map, displaying vertices and midpoints.

- To extract RCI roadways using the map, do the following:
  - In the **Map Editor**, click once on the location where you want to begin the RCI segment. The location is marked by a pushpin.

  - Click the next location point to complete the segment extraction. Another pushpin appears. The database automatically extracts the RCI roadway data.



The extracted feature then appears on the map, displaying vertices and midpoints.

Note: Both points must be on the same RCI roadway. Placing points on different roadways or on roadways other than RCI will result in an error message.

The **Editing Project** dialog box displays the FDOT roadway ID (e.g., 10590000) and milepost (MP) information in the Name and Length fields of the form. The roadway ID and MP information also appears under the **Segments** category of the **Features** table of contents.

Tip! You can rename the **Roadway ID** in the **Name** field. The revised name will appear under the **Segments** category after you click **Save**.

3. To assign a different color to an extracted segment, click the color icon beside the segment's name, and then follow the steps listed for assigning a different color to a feature found in the Drawing and Editing Project Features section of this chapter.

4. Click the **Edit** button to alter the shape of the segment. (See the Editing Features in the Map Editor section for details.)

5. Click **Save**.

3.4.1.5 *Edit Communities*

The **Communities** tool in the **Map Editor** enables authorized users to digitize community boundaries within their jurisdiction.

Note: Check with your organization's EST administrator for information about EST privileges, or you can contact the ETDM Help Desk.

With the **Communities** tool, you have the option to do any of the following:

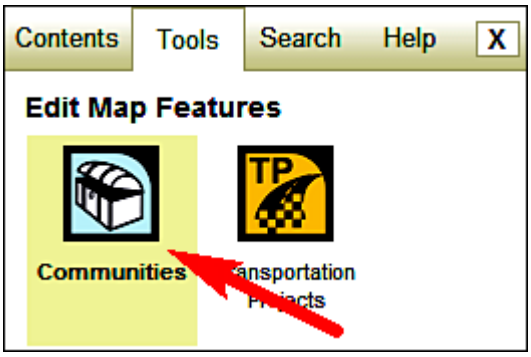
- Create a new community boundary (See the Creating a Community Boundary section for details.)
- Edit existing community boundaries (See the Editing a Community Boundary section for details.)

3.4.1.5.1 Opening the Communities Tool

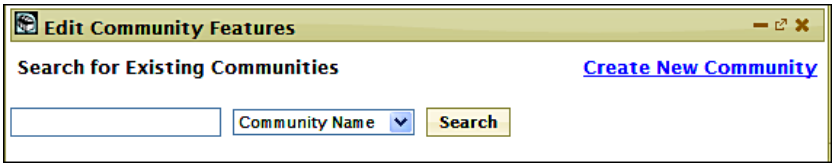
1. Open the **Map Viewer** and zoom to a project location.

2. In the map menu, click **Tools**. The **Tools** panel opens and displays the **Map Editor** icons.

3. Under **Edit Map Features**, click **Communities**.

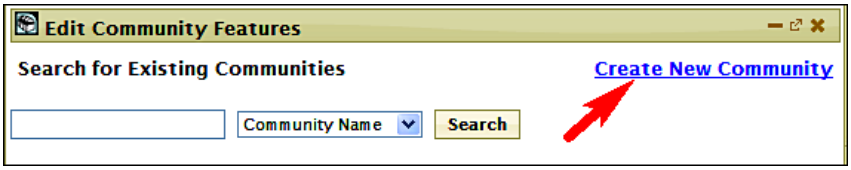


The **Edit Community Features** dialog box appears, giving you the option to create a new community or search for an existing community or ETDM project.

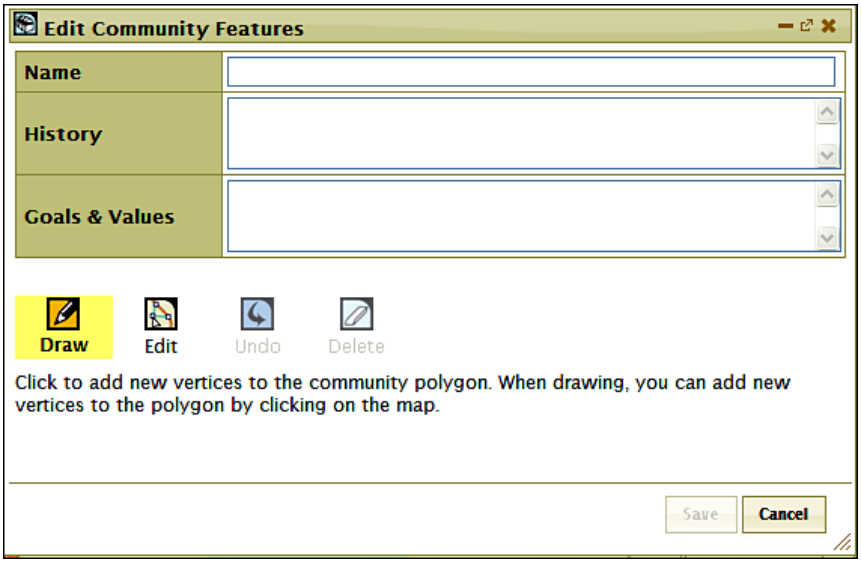


3.4.1.5.2 Creating a Community Boundary

1. In the **Edit Community Features** dialog box, click the **Create New Community** link.



The **Edit Community Features** dialog box refreshes and displays a form along with drawing tool icons.



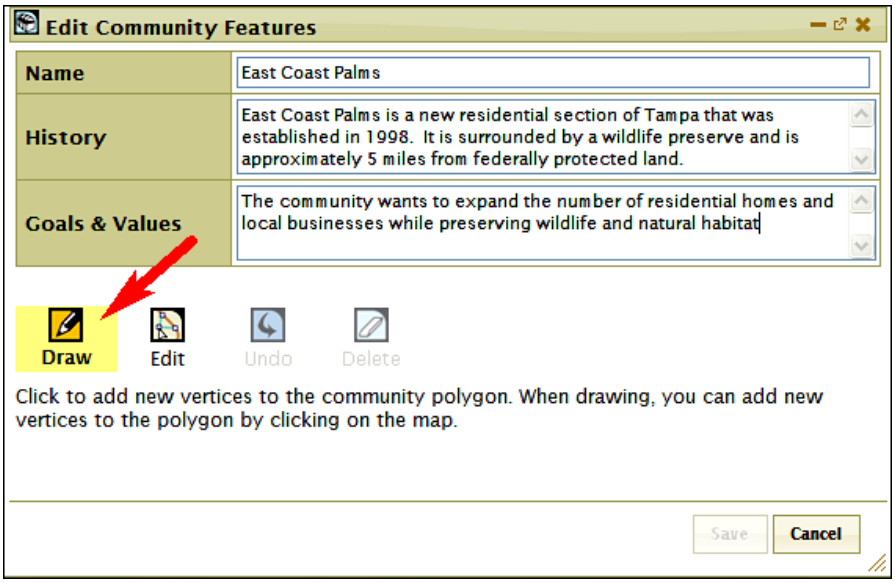
2. In the form, complete the following fields:

- In the **Name** field, assign a name for the community.

Note: The **Name** field is a required field. The **History** and **Values & Goals** fields are optional.

- Provide a brief history of the community in the **History** text box. You can copy and paste or type the information into the text box.
- In the **Goals & Values** text box, type or copy and paste information regarding the community's goals.

3. Click the **Draw** button.



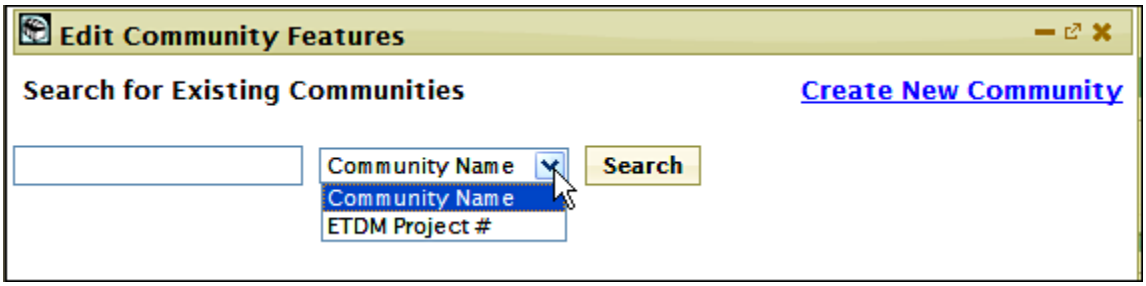
4. In the **Map Editor**, draw the community boundary.

Tip! Refer to the Drawing Project Features and Editing Project Features sections for illustrations of drawing and editing in the **Map Editor**.

5. Click **Save**.

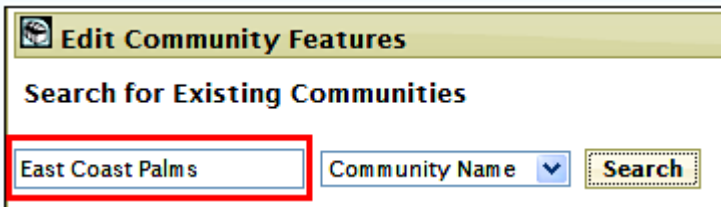
3.4.1.5.3 Editing a Community Boundary

The **Search** function of the **Edit Community Features** tool enables you to select and edit a saved shape. You can search by **Community Name** or by **ETDM Project** # if you are searching for communities within a specified distance of a project.

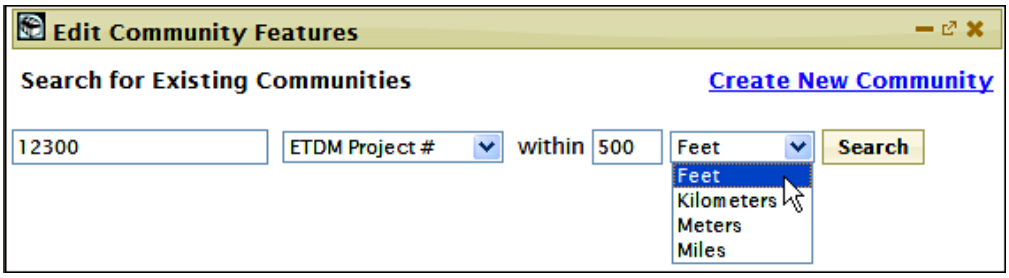


1. In the **Search for Existing Communities** dialog box, do one of the following:

- To search for a community by name, select **Community Name** and then do the following:
  - Enter the name of the community in the first field on the left side of the dialog box.



  - Go to the next step, Step 2, of these instructions.
- To search for communities within a specified distance of a project, click the drop-down arrow and then click **ETDM Project #**. Do the following:
  - Type the **ETDM number** in the first field on the left side of the dialog box.
  - Type the distance in the **within** field.
  - For the unit of measure, click the drop-down arrow and then select a unit of measure from the list.



  - Go to the next step, Step 2, of these instructions.

2. Click **Search**. The **Search for Existing Communities** dialog box expands, displaying the search results along with **Edit Boundary** links.

3. Click the **Edit Boundary** link to display the boundary shape on the map.

4. In the **Map Editor**, click a vertex point (displayed as square boxes) and drag it to the desired location. Continue moving the vertex points until the desired boundary shape is completed.

5. Click **Save**.

3.4.2 Area of Interest (New 02/20/2014)

The Area of Interest (AOI) function allows authorized FDOT users to create and analyze items that are outside of the standard ETDM project review process. As a separate feature, the AOI tool provides you the flexibility to digitize and analyze an area without affecting established ETDM projects. The AOI feature is jurisdictional, which allows you and members of your organization to:

- Define a study area and use the analysis information to support decisions or provide documentation for a file.
- Digitize a shape (point/line/polygon) and apply buffers, if needed.
- Run the Sociocultural Data Report (formerly known as CCI) to view community boundaries and the Standard GIS Study Area Analysis.
- View report results.

The AOI tool is only available to users with the appropriate roles and privileges. This handbook section provides steps for:

- Creating an AOI
- Working with the AOI drawing tool
- Running an analysis on an AOI
- Viewing an AOI Analysis Report
- Printing an AOI
- Searching for and Viewing an AOI
- Editing an AOI
- Removing an AOI

3.4.2.1 *Creating an AOI*

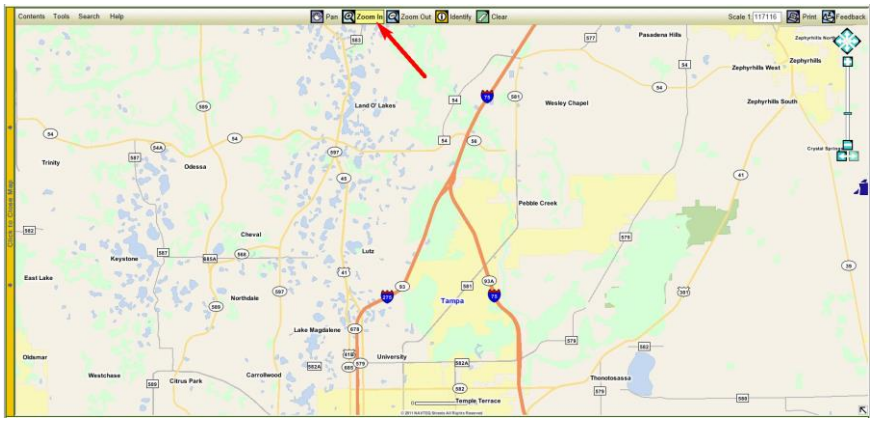
The AOI feature provides a wizard that takes you through the AOI set-up and digitizing process. Tools are provided that allow you to digitize and edit an area.

1. Open the interactive map.

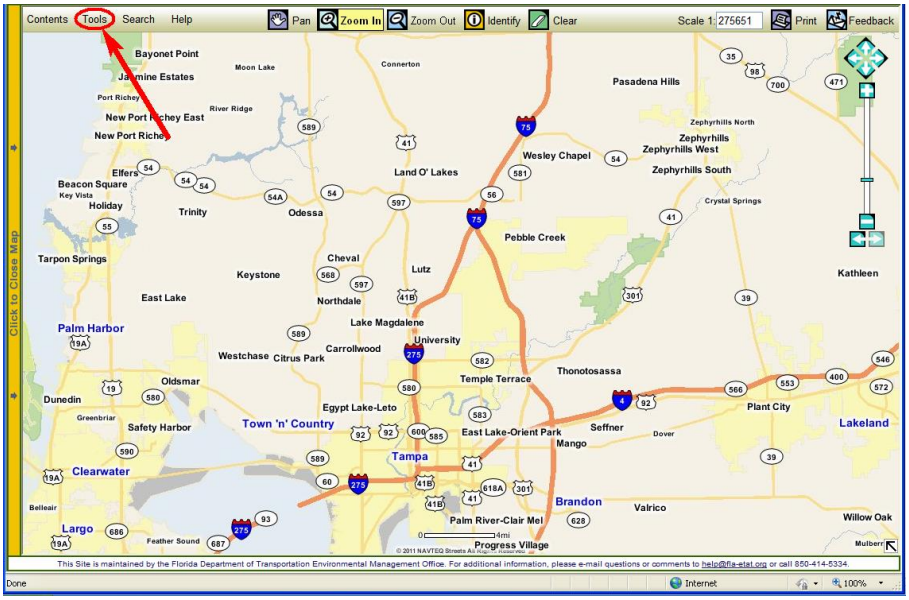
2. On the **state of Florida map**, zoom in to the area you will be working on.

   Tip! To zoom in/out of an area, you can point to the area on the map and double click, use the **Zoom In** and **Zoom out** buttons, or you can use the directional map slider tool located on the right

side of the screen. For more details on using the interactive map, see the Maps chapter of the EST User Handbook.

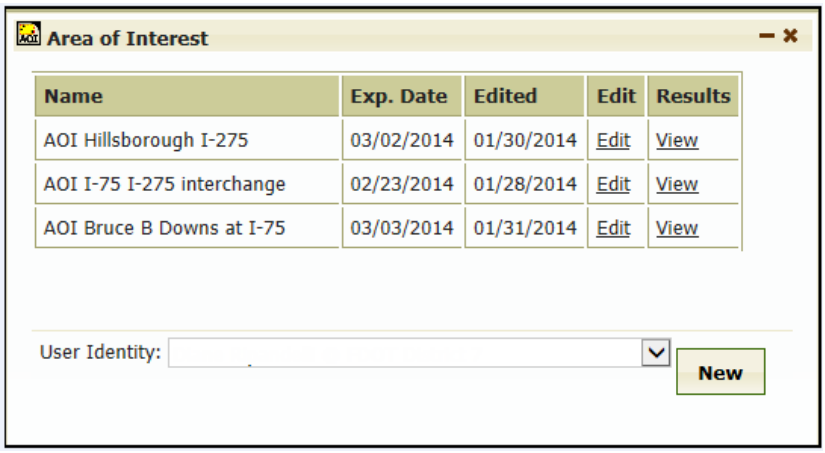


3. Click the **Tools** link.



4. On the **Tools** panel, click **Area of Interest**.

The Area of Interest wizard will display on the screen. The first AOI wizard screen will display a list of AOIs that are available to your organization. For example, if you are a District Coordinator, you will see AOIs that have been created by users within your district.



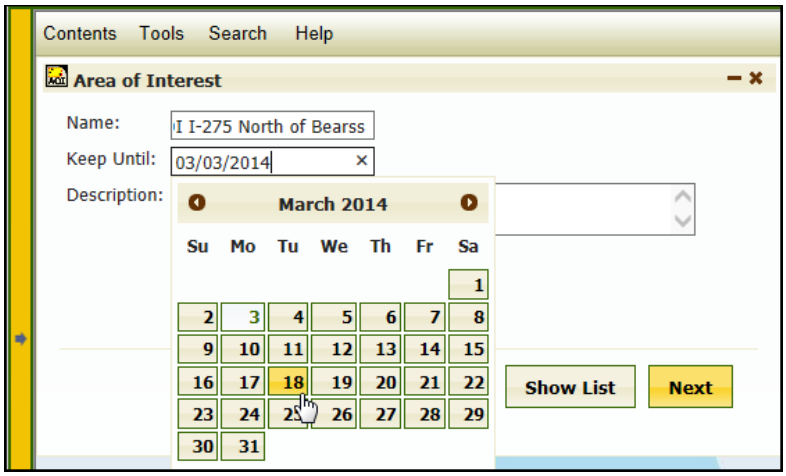
5. Click **New**.

6. Enter the following information:

   - **Name** – By default the name **My Area of Interest** appears in this field. You will want to change the default to a name that applies to the AOI you are creating.

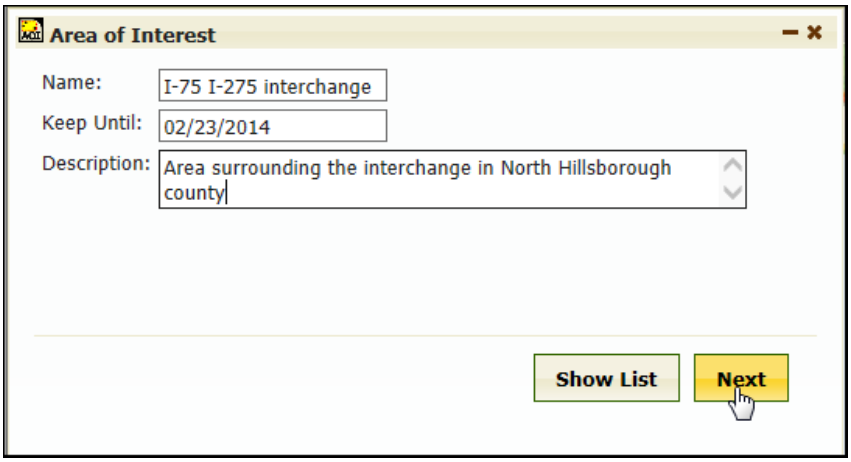
   Note: Be sure the name you give the AOI is unique to prevent confusing it with another AOI created by your colleagues.

   - **Keep Until** – AOIs are kept for a limited time, with a default time limit of 30 days. You can establish the length of time you would like to keep an AOI by typing the expiration date, or you can click the box and use the calendar tool.



   - **Description** – Type a description of the AOI. This can include your name along with any special information that would make the AOI unique.

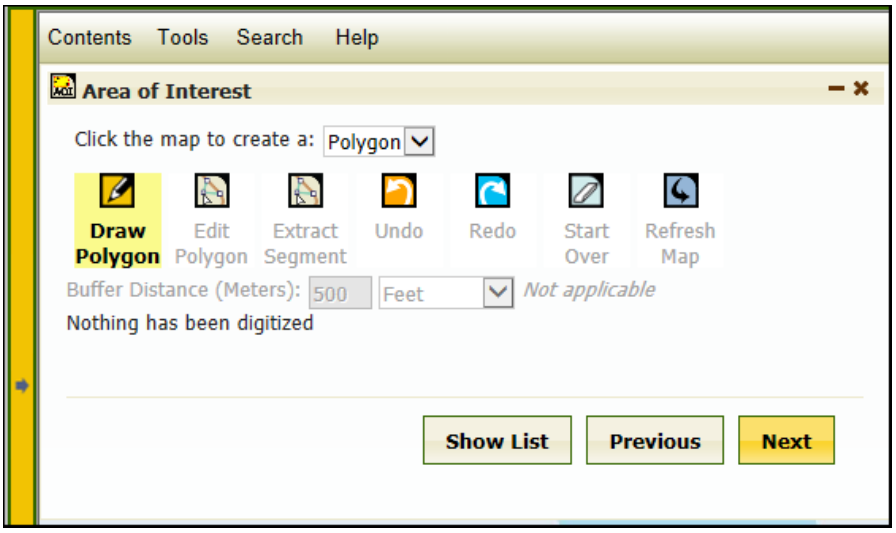
7. Click **Next**.



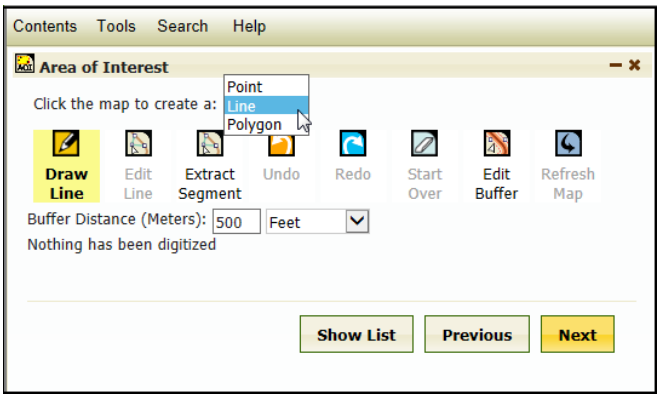
The AOI wizard displays a feature selection list, buffer distance measurement, and drawing tools. By default, the wizard displays the shape as **Polygon**, and the **Draw Polygon** button is highlighted.

3.4.2.2 *Working with the AOI Drawing Tool*

After you have entered the AOI name and have established the AOI expiration date, the AOI wizard takes you to the drawing tool, where you can digitize the AOI shape. The AOI wizard displays a feature selection list, buffer distance selection, and drawing tools. By default, the wizard displays the shape as **Polygon**, and the **Draw Polygon** button is highlighted.

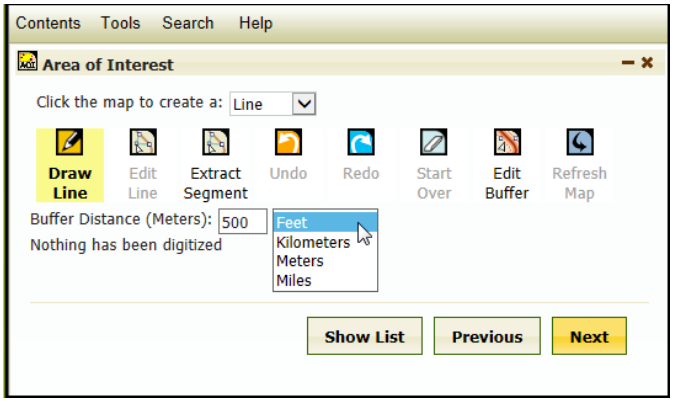


1. Next to **Click the map to create a** label, select a feature type by clicking on one of the list options:



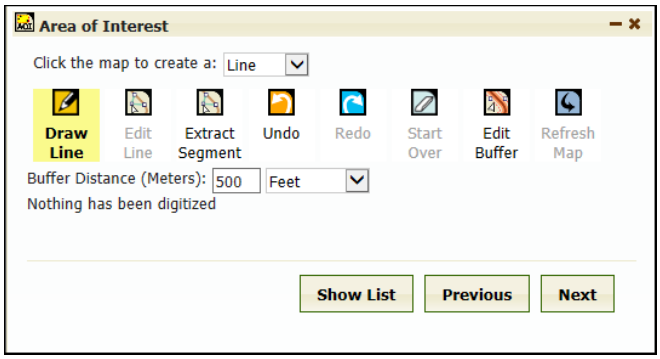
2. Click the **Buffer Distance** dropdown arrow to select the buffer distance and unit.

Note: The **Buffer Distance** option will be grayed out if the **polygon** feature is selected.

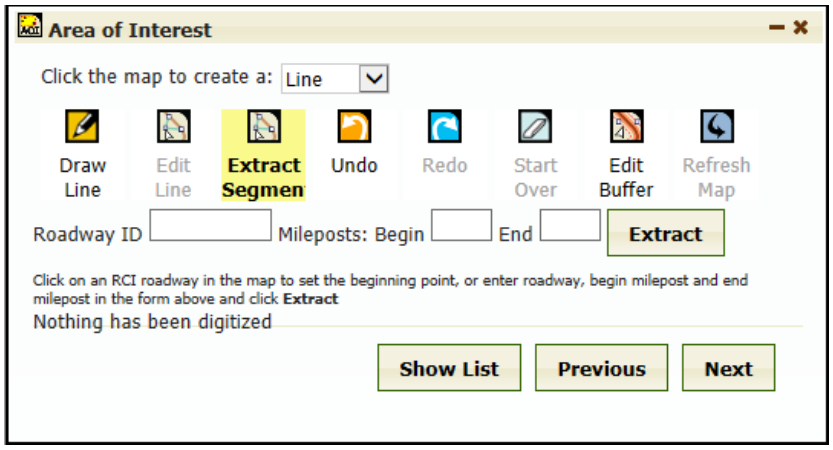


3. Create a new feature by doing one of the following:

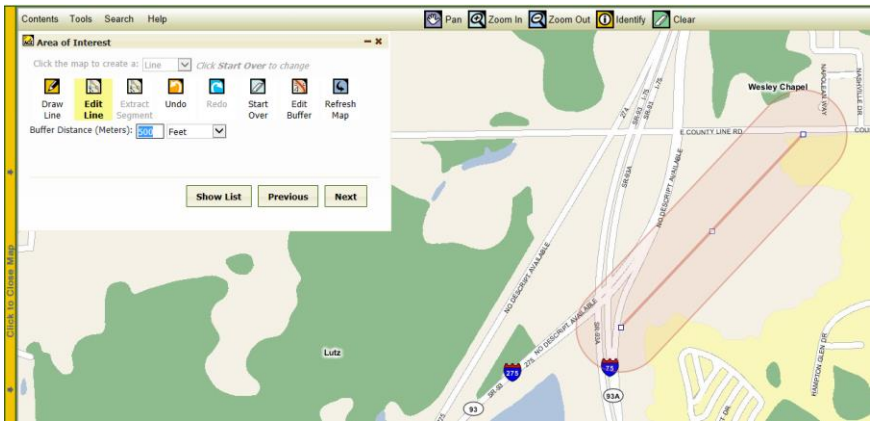
- Click the **Draw** button to digitize the shape by hand.



- Click **Extract Segment** to either extract linear features from RCI roadways by using the form (enter **Roadway ID** and **Milepost** locations) or by clicking on an RCI roadway on the map.



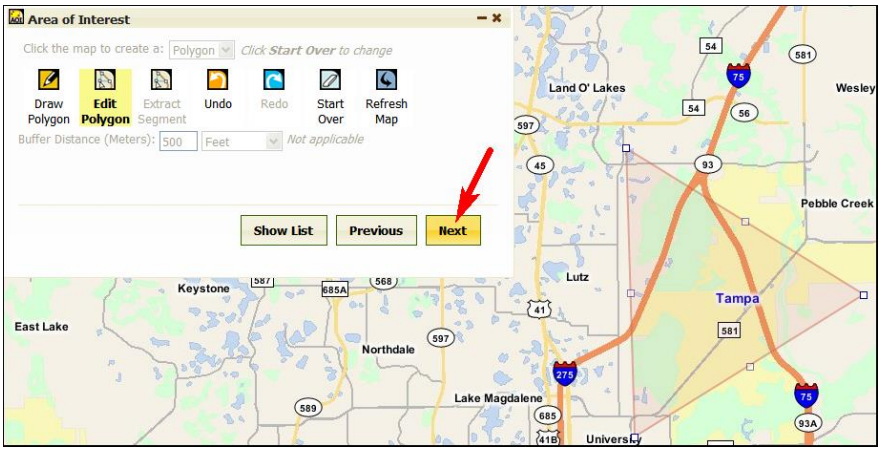
Note: For additional details on extracting segments, see the Extracting Segments from RCI Roadways section of the Maps chapter of the EST User Handbook.



Tip! Click the icons on the **Area of Interest** drawing toolbar to:

- Undo preceding action
- Redo current shape
- Completely erase current sketch and start over
- Edit buffer
- Refresh Map

4. After you begin digitizing your shape, the **Edit** button will become highlighted. You can make changes to the shape—or delete the shape (using the **Start Over** button)--while the tool is in editing mode.



Tip! The AOI training video provides a demonstration about drawing and editing shapes with the AOI tool. You can find the training video under **Help** in the EST's main menu. For additional information about using the Interactive Map Viewer, see the Maps chapter of the EST User Handbook.

5. After completing a shape, click **Next**. This will save the current drawing and take you to the next wizard screen, where you can select the type of analysis to run for the AOI.

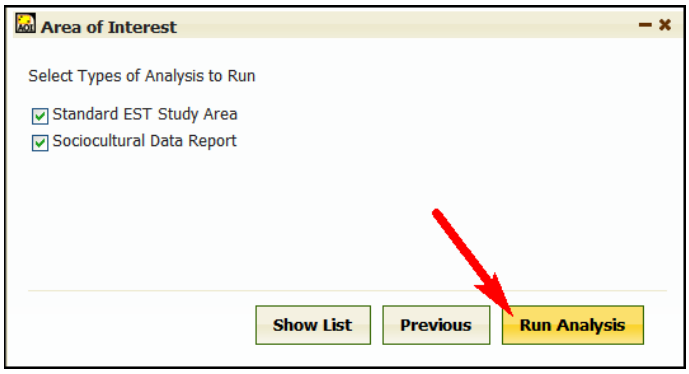
6. Go to Step 1 of the next section: Running an Analysis on an AOI.

3.4.2.3 *Running an Analysis on an AOI*

1. Under **Select Types of Analysis to Run**, select one or both options.

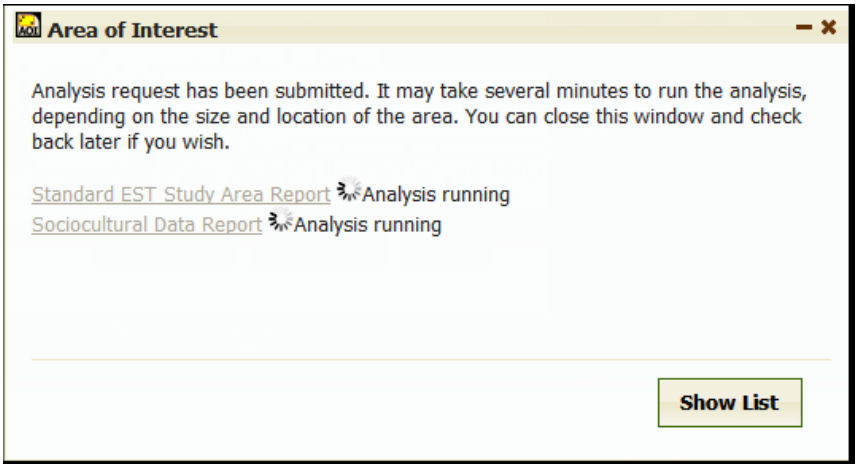
   Note: Both options will be selected by default; click on the checked box to remove a selection. If you choose to run the analyses together, they will be simultaneously generated as separate reports.

   - **Standard EST Study Area** – The GIS Analysis report generates the standard analysis for a study area. (This means the report for an AOI does not include the buffer distances, alternatives, or segments.)
   - **Sociocultural Data Report** – This report replaces the former Community Characteristics Inventory (CCI) report. The Sociocultural Data Report (SDR) provides a sociocultural effects analysis, providing tabular and graphical data of a community's information, such as:
     - Demographics
     - Poverty indicators
     - Housing values
     - Land use types
     - Community Resources



2. Click **Run Analysis**. The analysis for the selected report will begin generating.

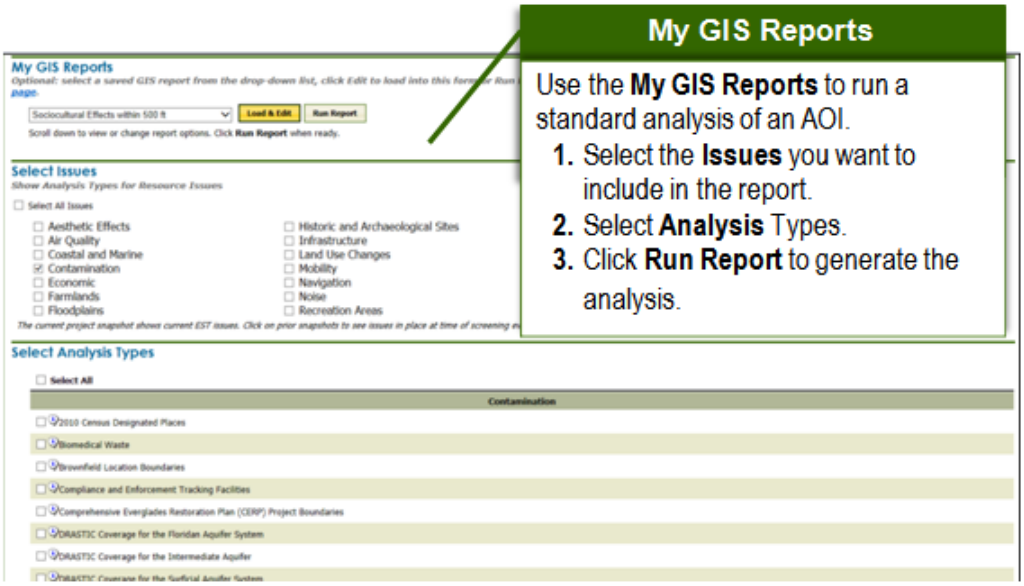
Note: An analysis request may take several minutes to process.



3. To open the report, do the following:

- Navigate to the list of AOIs for your organization (as shown in Steps 1 through 4 of the Creating an AOI section of this guide).
- In the **Results** column click the **View** link for the AOI.

Tip! Details for using the report features appear in separate sections of the EST User Handbook. See the GIS Analysis section of the EST User Handbook to view the details for running and saving standard analysis reports (under My GIS Reports). See the Sociocultural Data Report (SDR) section of the EST for using the SDR report feature.



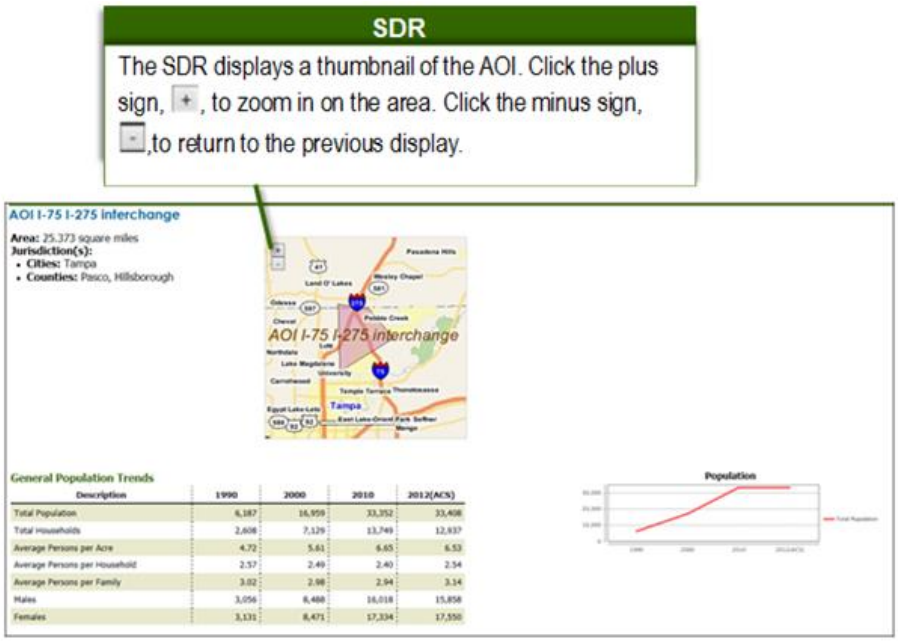
My GIS Reports

Use the **My GIS Reports** to run a standard analysis of an AOI.

1. Select the **Issues** you want to include in the report.
2. Select **Analysis** Types.
3. Click **Run Report** to generate the analysis.

Sociocultural Data Report (SDR)

Use the **SDR** to run a sociocultural analysis of an AOI. The SDR provides a snapshot of an area's demographics, population and income indicators, land use information, and resources.



Tip! Click the toolbar icon on the window to:

- Export the page to a **PDF** file.
- Send feedback about the current page.
- Access online **Help** for the current page.
- Bookmark the page.
- Add the page to your **My ETDM** preferences.

Note: If the boundaries of an AOI are edited or modified, the analysis reports will need to be re-generated.

After generating an analysis report you can save or print the analysis by doing the following:

- For SDRs:
  - Click the **PDF** button to save to a file or print a hard copy.
- For Standard GIS Analysis:
  - Save the analysis by using the **Save My GIS Report** feature on the **GIS Analysis Report** page. (See the GIS Analysis Report section of the EST User Handbook for details on saving a report.)

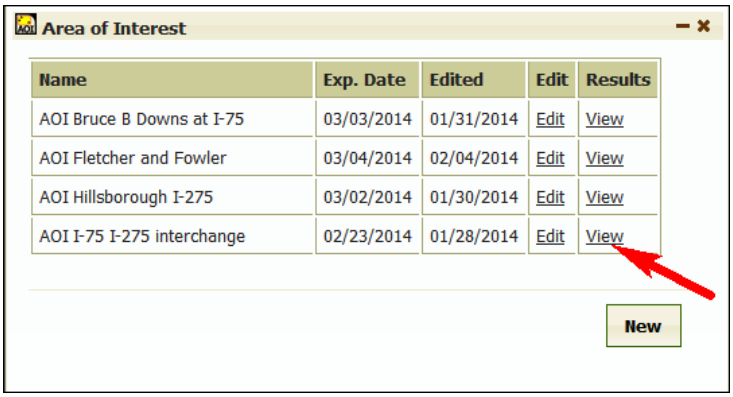
3.4.2.4 *Viewing an AOI Analysis Report*

After an analysis has been run on an AOI, you can view the report for a digitized area by doing the following:

1. Open the Interactive **Map Viewer**.
2. Click **Tools**.
3. Click **AOI**.

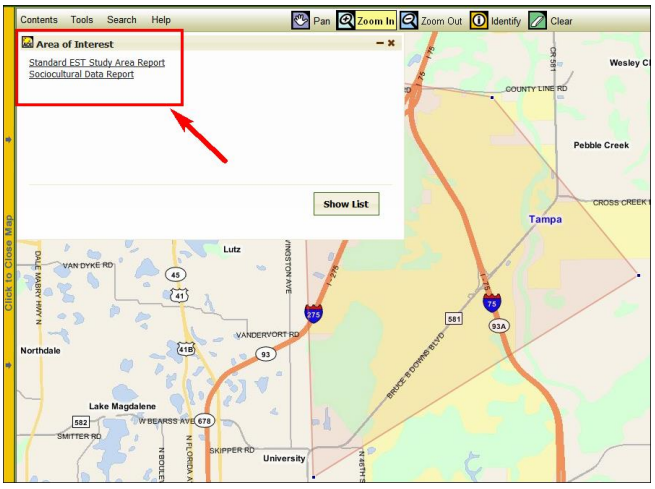
The AOI wizard opens and displays the list of AOIs created by members of your organization.

4. Locate the AOI name and click the **View** link beside it.



The map zooms into the selected AOI area and displays the polygon. The AOI wizard displays the links to the two types of reports.

5. Click the link to open the report.



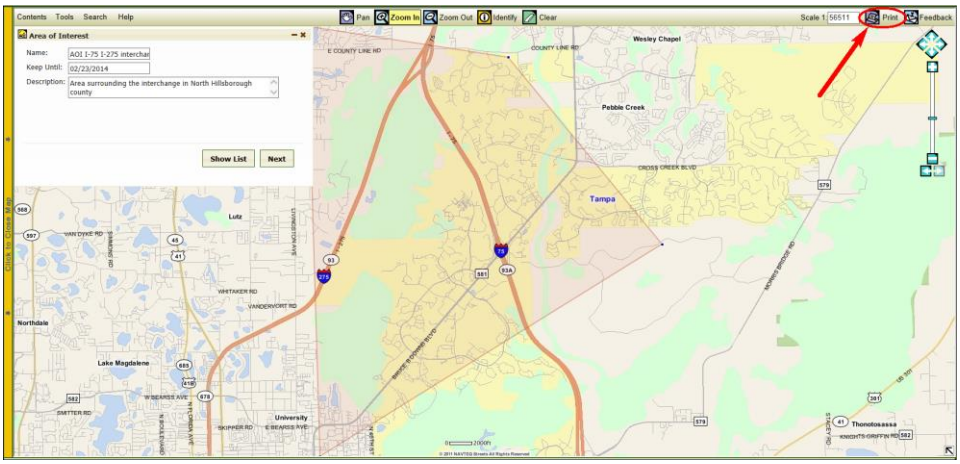
There are a few ways you can search for and access an AOI analysis report. See the section on Searching for and Viewing an AOI for navigation steps..

3.4.2.5 *Printing an AOI*

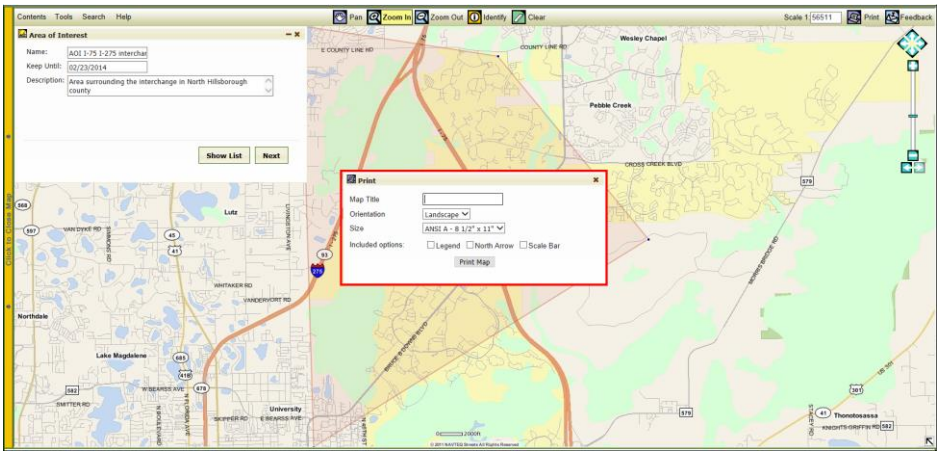
You can print a hard copy of an AOI or download it to a desktop file.

1. On the map viewer, click the **Print** icon that is located on the map toolbar.

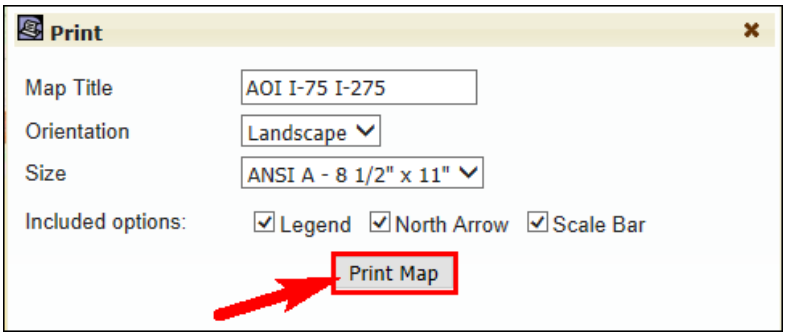
   Tip! See the Maps chapter of the EST User Handbook for additional information on using the EST map viewer.



2. In the **Print** dialog box, enter the map title, specifications, and options.



3. Click **Print Map**.



The EST displays a PDF of the AOI on a separate tabbed page.

3.4.2.6 *Searching for and Viewing an AOI*

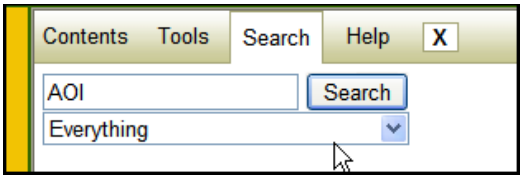
There are a few ways to search for and view active AOIs. You can search by AOI or by analysis report through any of the following access points:

- Interactive map viewer's search
- EST's main search button (called Golden Search)
- SDR feature in the EST reports menu

3.4.2.6.1 Using the Interactive Map Viewer's search tool

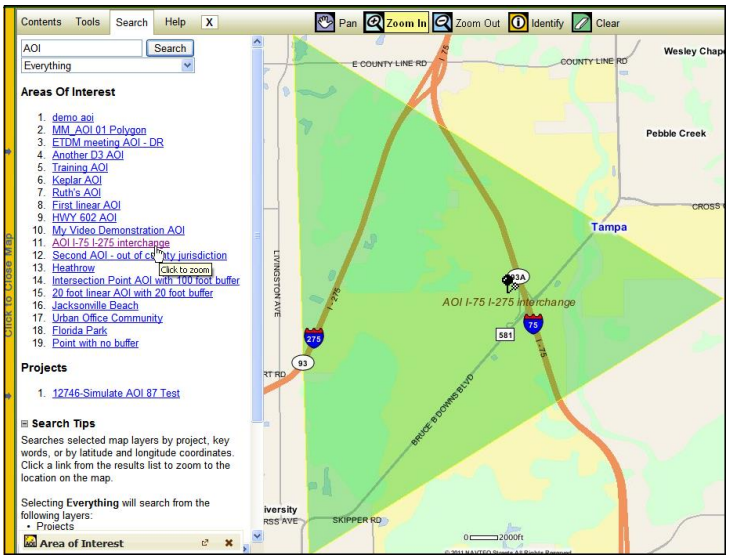
1. In the **map viewer**, click **Search**.

2. Type a **keyword** for the AOI and then click **Search**.



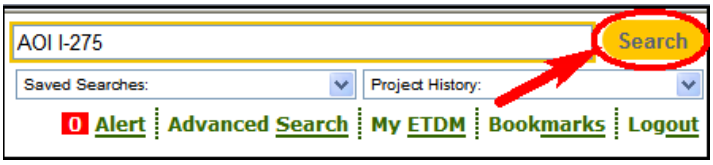
A list of results will appear below the search box.

3. Open the AOI file by clicking the relevant link.

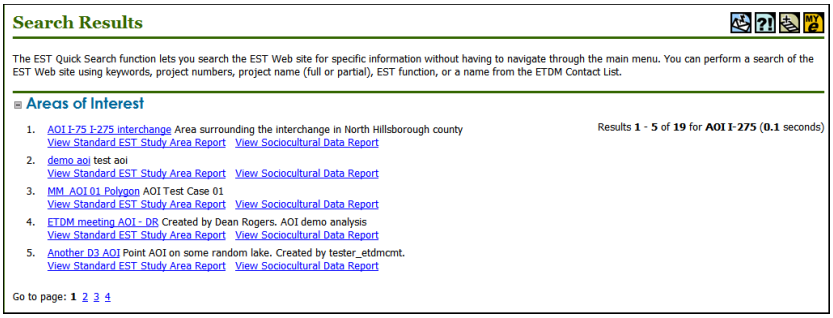


3.4.2.6.2 Using the EST Site Search Button (Golden Search)

1. In the **Search** box, type a keyword for the AOI.
2. Click **Search**.



The **Areas of Interest** section appears, displaying a list of results matching your search query.

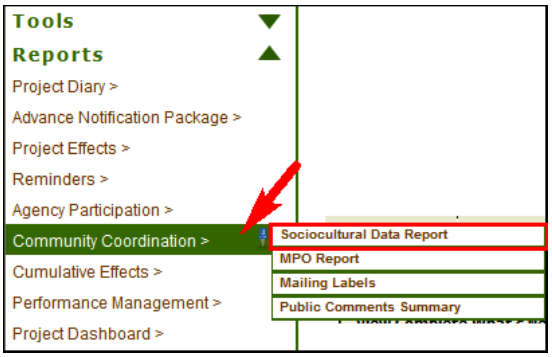


3. Under **Areas of Interest**, click the relevant link for the following:

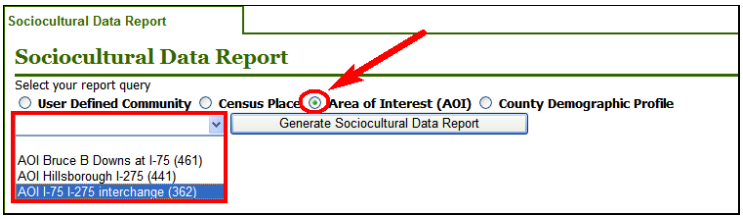
- Click the **AOI** name to open the map viewer.
- Click the **View Standard EST Study Area Report** to open the GIS Analysis Report.
- Click **View Sociocultural Data Report** to open the SDR.

3.4.2.6.3 Using the EST SDR Report Feature

1. In the **Reports** menu, click **Community Coordination**, and then click **Sociocultural Data Report**.



2. On the **Sociocultural Data Report** page, type the keyword or click the drop-down arrow and select the **AOI** from the list.



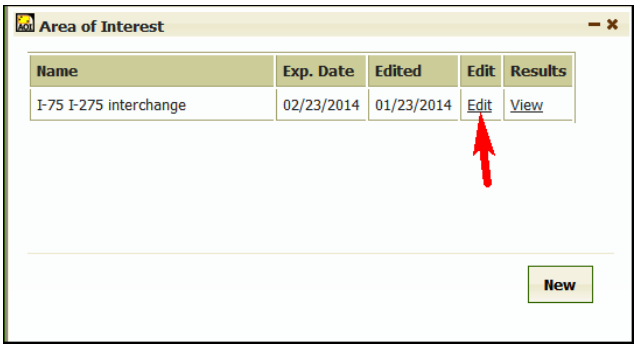
3. Click **Generate Sociocultural Data Report**.

3.4.2.7 *Editing an AOI*

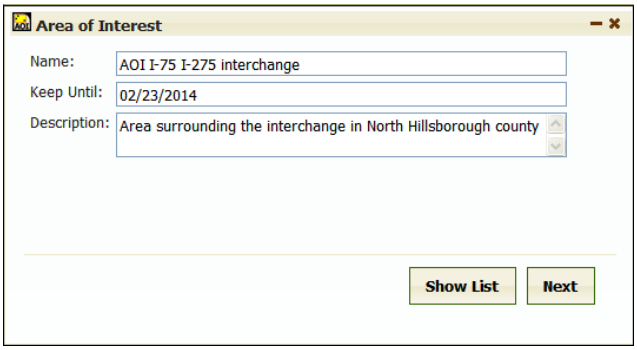
You can make edits to an AOI that has been created by you or another member of your organization.

1. Open the Interactive Map Viewer
2. Click **Tools**.
3. Click **AOI**.

4. In the **Area of Interest** wizard, click the **Edit** link for the AOI.



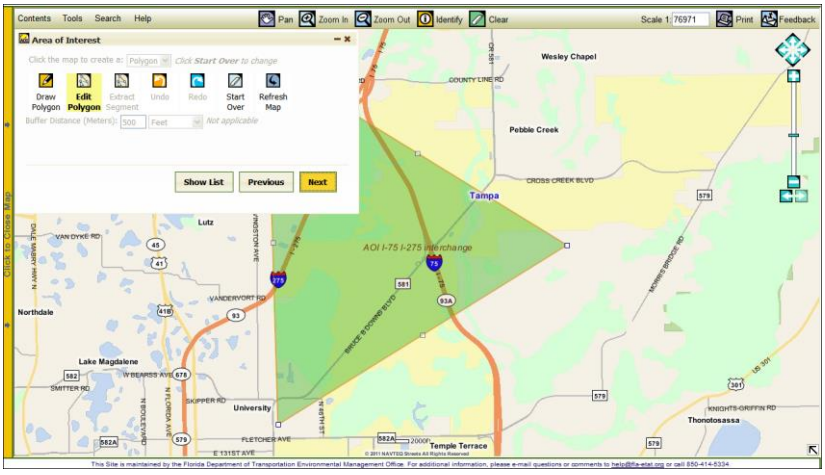
The wizard displays the selected area's descriptive information in edit mode.



You will be able to make any changes related to the AOI's **Name**, **Keep Until** date, and **Description**.

5. Click **Next**.

6. In the **Area of Interest** wizard, the **Edit Polygo**n button is highlighted. Make the changes as needed to the existing polygon.



7. Click **Next**.

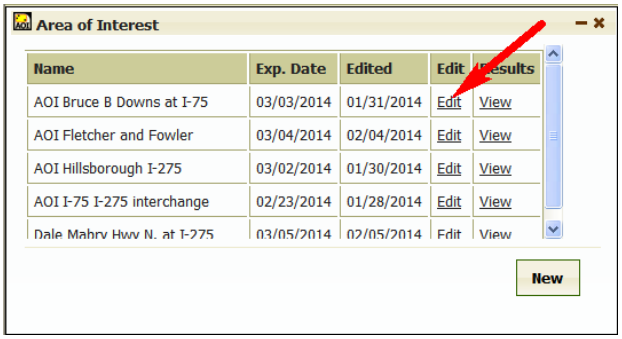
8. Select the type of analysis you want to run on the revised area and then click **Run Analysis**.

3.4.2.8 *Removing an AOI*

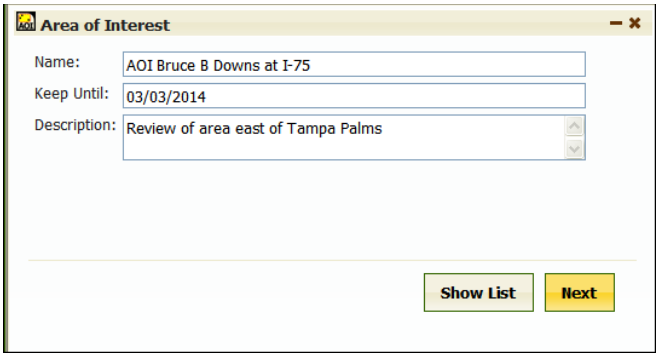
An AOI can be removed from an organization's current AOI list by the person who originally created it or by anyone in the organization with the assigned role and privileges.

1. Open the Interactive **Map Viewer**.
2. Click **Tools**.
3. Click **AOI**.

4. On the **Area of Interest** wizard's list of AOIs, click the **Edit** link beside the AOI you want to remove.

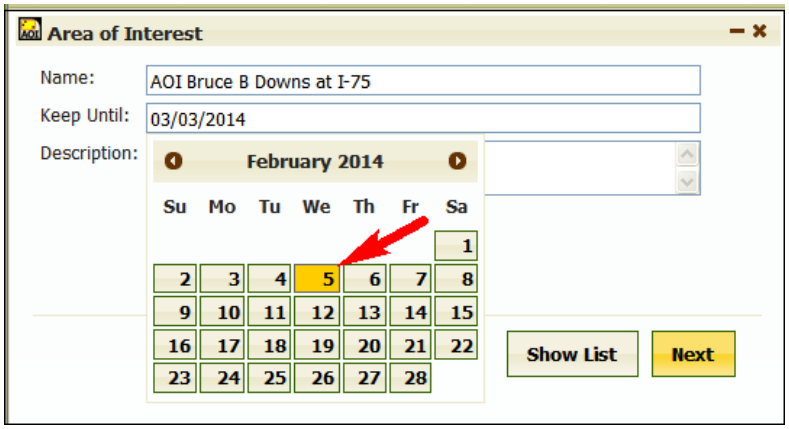


The selected AOI's general information and expiration date are displayed in the edit mode.



5. In the **Keep Until** text box, change the expiration date to the current date—or to a date that occurs earlier than the date shown on the screen.

    - Type or select an earlier expiration date than the date shown on the **Keep Until** box. For this illustration, the date has been moved from 03/03/2014 to 02/05/2014.



The AOI will be removed from the system as of midnight 02/06/2014.

3.4.3 Print Hard Copy Maps (*Updated 02/15/2016*)

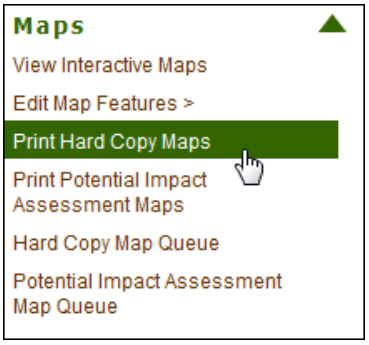
The EST automatically generates single page, 8 ½ x 11 inch size, project maps when the status of a project alternative is set to GIS Analysis Complete or ETAT Review. You can manually generate project maps if GIS data updates are available.

Note: You will not be able to regenerate hardcopy maps during an ETAT review of the project.

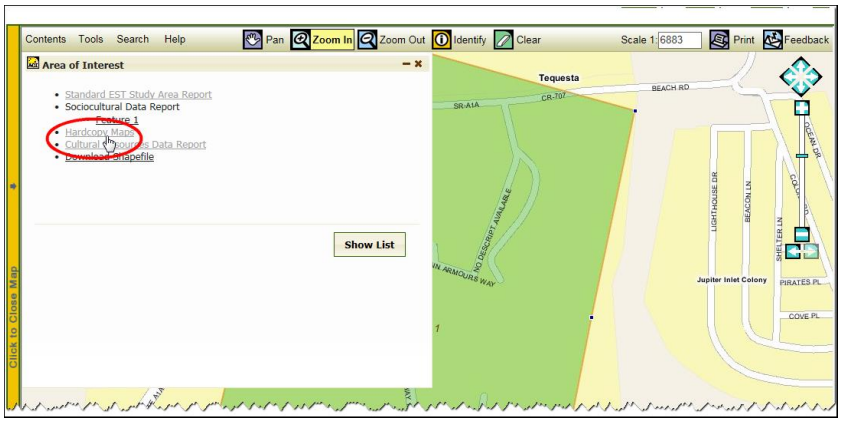
1. Click the **Active project** arrow and select a project from the list.

Tip! You can change the list of **Active projects** using the search tools on the project navigation bar. For more information on how to use the project navigation bar search tools (e.g., selecting projects using **Site Search** and **Advanced Search** functions), refer to the Navigation chapter in the EST User Handbook**.**

2. On the **Maps** menu, click **Print Hard Copy Maps** to open the page.



Tip! To print hard copy Area of Interest (AOI) maps,use the **Area of Interest** tool on the EST map viewer. Open the **Interactive Map**>click **Contents**>**AOI**>**View**>**Hardcopy Maps**. See the EST User Handbook for using the EST's map tools.

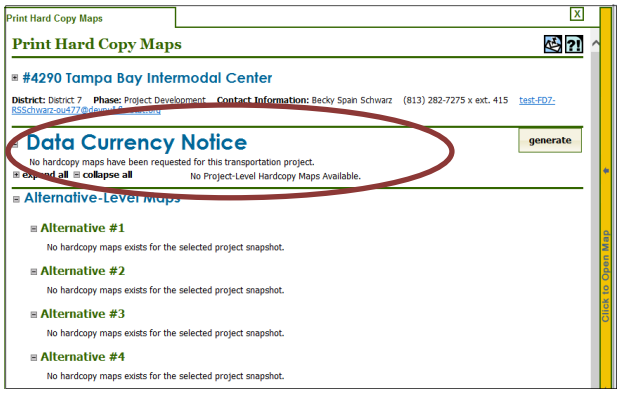


Depending on the project's status, one of the following **Print Hard Copy Maps** screens will appear:

- If maps have been created for a project, the screen shown in the next illustration will display. A list of datasets will be listed under **Project-Level Maps** and **Alternative-Level Maps** along with the last publication date and available formats.

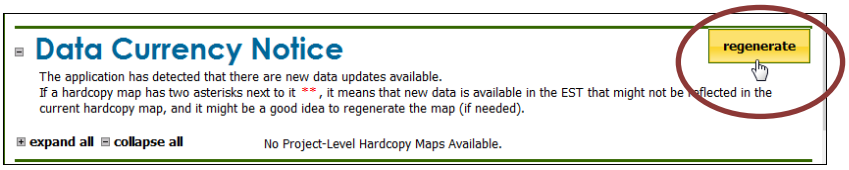
- If maps have not been created for a project or if you do not have draft access privileges, the following screen appears.

  Note: If a message indicates you do not have draft access, contact the ETDM Help Desk for assistance at help@fla-etat.org or by phone at (850) 414-5334.



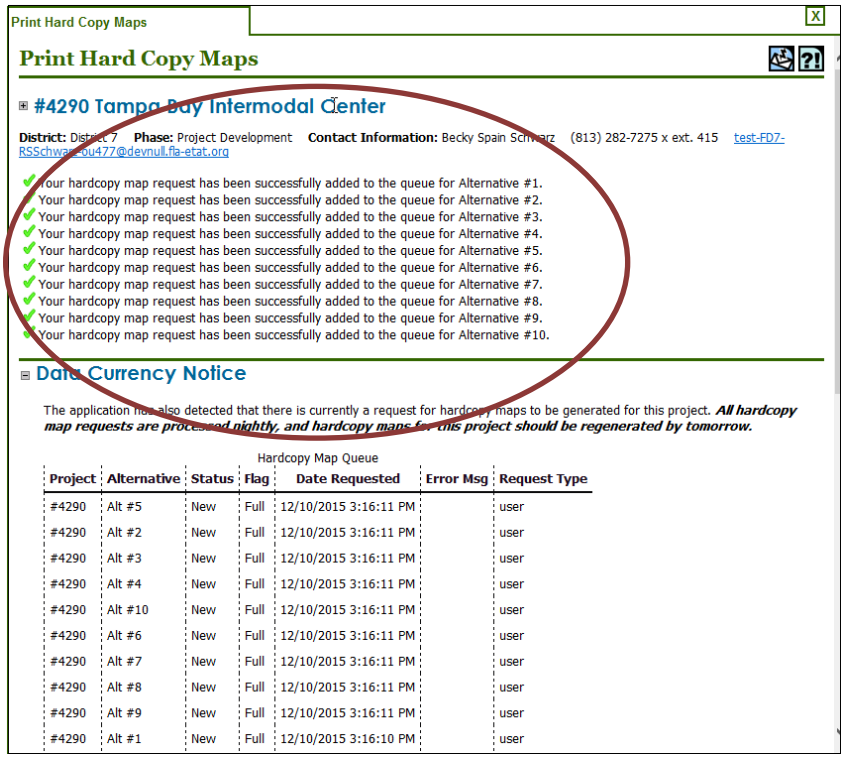
3. Do one of the following:

- To generate maps for the first time – Click **generate**.
- To generate maps with new data updates – Click **regenerate**.



The screen will refresh and display a notice that the maps are in the processing queue.

Note: Maps will be generated by the next business day. If your maps are not completed by the next business day, please contact the ETDM help desk.



4. After the updated maps have been generated, you can select the print format (**JPG** or **PDF**).

5. Print, save, or email the map by following the standard process for saving PDF and JPG documents.

3.4.4 Print Potential Impact Assessment Maps (*In Development*)

3.4.5 Hard Copy Map Queue (*In Development*)

Administrators Only – Shows which hard copy map requests are in the queue

3.4.6 Potential Impact Assessment Map Queue (*In Development*)

Administrators Only – Potential Impact Assessment Map Queue