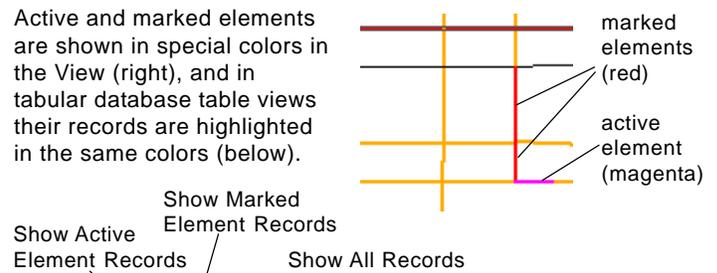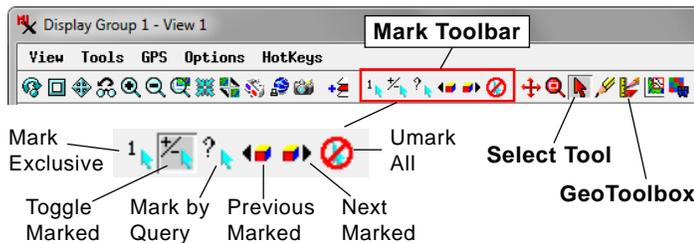# Select Tool and Marking Elements

Elements in geometric objects (vector, CAD, shape, and TIN) can be selected or *marked* in the View window manually or using database queries. You can mark elements in order to see the spatial extents of particular elements or element sets, to examine all of the database attributes associated with them, or to carry out processing or editing operations on the marked elements, among other applications.

Marked elements are shown in special colors in the View window. One element in the marked set is always designated as the *active* element, which is shown in a different color (default magenta) than the remaining *marked* elements (default red). (The Colors selection on the View window's Options menu opens a Select Colors window that lets you choose colors for marked and active elements.) The same colors are used to highlight the records associated with these elements when a tabular view of a database table is open (see illustration to the right).
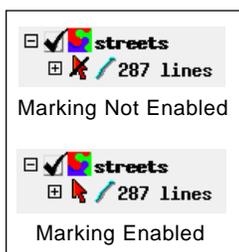
Active and marked elements are shown in special colors in the View (right), and in tabular database table views their records are highlighted in the same colors (below).

marked elements (red)

active element (magenta)

Show Active Element Records
Show Marked Element Records
Show All Records

4 of 287 records shown – 4 related to selected elements

Mark Exclusive: The Select tool marks the geometric element at the cursor location and unmarks any previously-selected element of the same type. (This mode allows only one element of each type to be marked at a time.) Elements of more than one type (e.g., line and polygon) at the location may be marked as determined by the current settings for each type.

Toggle Marked: The Select tool toggles the status of the element at the cursor location: it marks the element if unmarked or unmarks the element if marked. It does not affect the marking status of other elements, and thus allows manual marking of any number of elements.
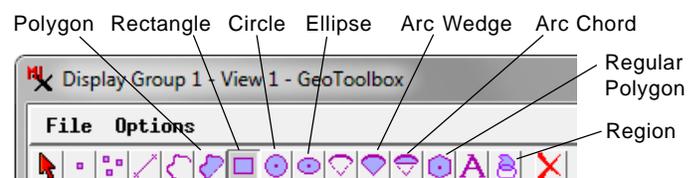
Mark Additional: The Select tool marks the geometric element at the cursor location if unmarked but does not change the status of any other marked elements. Selecting an already-marked element does not change its marking status.

Unmarking Elements

Pressing the Unmark All icon button on the View toolbar unmarks all currently-marked elements in any layer in the View. If you add the Unmark icon button to the toolbar and turn it on, you can use the Select tool to unmark individual marked elements in the View.
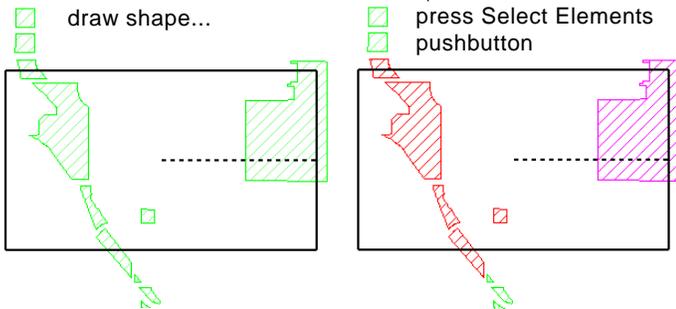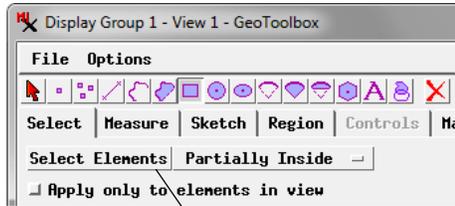
Mark Elements Using GeoToolbox Tools

You can also use any of the area graphic tools in the GeoToolbox (which is opened using the GeoToolbox icon button on the View window toolbar) to mark elements. (The Select tool is also available on the GeoToolbox toolbar.)

(continued)

Mark Toolbar

Mark Exclusive
Toggle Marked
Mark by Query
Previous Marked
Next Marked
Umark All
Select Tool
GeoToolbox

Mark Individual Elements with the Select Tool

The Select tool in the View window toolbar allows you to manually mark individual elements by left-clicking on them in the View window. In order to mark elements for a layer, marking must be enabled for the elements (and for particular element types in vector layers with more than one type). A red arrow icon button next to the element entry in the Display Manager controls this behavior. Marking is initially disabled by default for geometric elements, as indicated by the arrow icon with a slash through it (see illustration to the left). Left-click on the arrow icon button to enable marking. Marking is automatically enabled for the active geometric layer (all element types) by the first use of the Select Tool. Opening a database table from the Display Manager also automatically enables marking for the associated elements in that geometric layer.

Marking Not Enabled

Marking Enabled

The behavior of the Select tool is governed by your selection of a marking mode on the Mark toolbar (see illustration above). Icon buttons for two modes are provided by default: Mark Exclusive and Toggle Marked. An icon button for other modes, Mark Additional and Unmark, can be added using the Customize Hidden Features window (Options / Customize; see the Technical Guide entitled *Spatial Display: Customize the View Window*).

Polygon   Rectangle   Circle   Ellipse   Arc Wedge   Arc Chord

Regular Polygon

Region

After drawing the desired graphic in the View, press the Select Elements pushbutton on Select tabbed panel in the GeoToolbox to mark the elements. The menu next to this pushbutton provides options for the selection operation based on the spatial relationship between the elements and the selection area. The options are Partially Inside, Completely, Inside, Partially Outside, Completely Outside, Centroid Inside, and Centroid Outside.

Rectangle tool in the GeoToolbox used to mark polygons using the Partially Inside selection criterion.

draw shape...

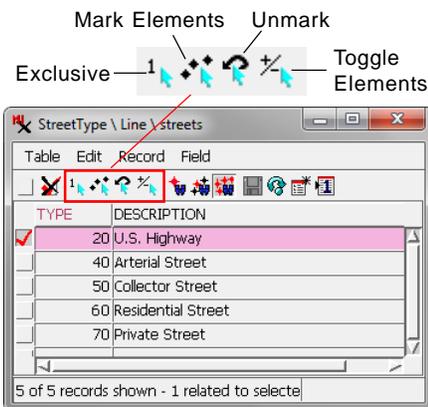press Select Elements pushbutton

Default Tables
When you manually mark elements in the View, a table (if any) containing records attached to the elements opens automatically (if not already open) to show the records for the active and/or marked elements. You can designate a specific table or tables to be opened in this circumstance by choosing the Database Settings option on the right mouse-button menu for the element entry for the layer in the Display Manager (see the Technical Guide entitled *Set Default Tables and Hide Tables* for more information).

If you have not chosen specific tables to show on marking, the automatic opening of a default table is governed by the status of the toggle option *Automatically open default table on selection if no database settings* on the Layer tabbed panel of the Options window that is opened from the Display Manager (Options / View Options).

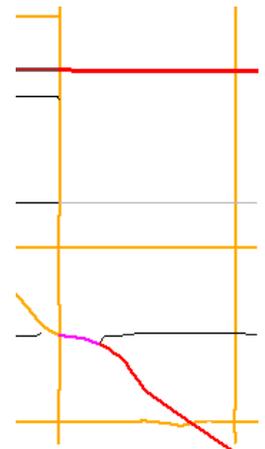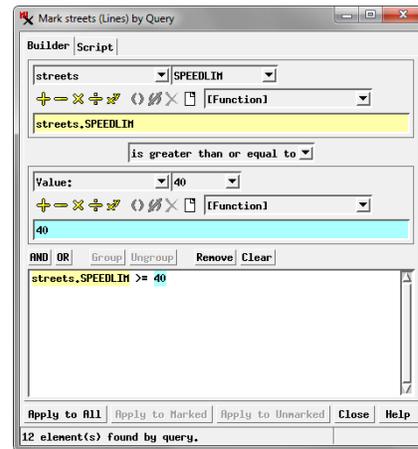## Using Attributes to Mark Elements
When a tabular view of a database table is open, you can also automatically mark elements in the View that are associated with specific records in the table. In the tabular view, left-click in the box icon button to the left of the desired records (a red check mark appears in the box) to select them. Then press one of the mark

Mark Elements Unmark

Exclusive Toggle Elements

icon buttons in the tabular view window's toolbar to mark the elements in the spatial view. The Exclusive and Mark Elements buttons mark all elements that are associated with the selected records. The Exclusive button also unmarks any previously-marked elements, while the Mark Elements button merely adds the new elements to the marked set. The Unmark button unmarks the associated elements, while the Toggle Elements button marks the associated elements if they are not yet marked or unmarks them if already marked.

Mark Elements by Database Query
A more powerful method for marking elements from database information is to use a database query to specify elements with a particular attribute or combination of attributes. Pressing the Mark by Query icon button in the View toolbar opens the Mark by Query window. The Builder tabbed panel in this window provides a convenient interface that lets you build up the components of a database query step by step. When you apply the query, all elements matching the query are marked in the View. See the Technical Guide entitled *Interactive Query Builder* for more information.

Streets with speed limits greater than or equal to 40 miles/hour marked by database query using the Query Builder.

Step Through Marked Elements

Next Marked

Previous Marked

Marking elements is an integral part of operations in the Editor. Many editing operations can be applied to the active element or to all marked elements. But if all of the marked elements are not in the current view extents, or are not shown with sufficient detail at the current zoom level, you may be uncertain whether you can safely apply the operation to all marked elements. You can use the Next Marked and Previous Marked icon buttons on the View toolbar to step forward and backward through the set of marked elements, making each one active in turn. The View is automatically repositioned if necessary to display the current active element. If the toggle option *Zoom when traverse marked elements* is turned on in the View window's Options menu, the View also automatically zooms to the extents of each active element. These options allow you to examine each marked element in turn and decide for each one whether to apply the edit operation to that particular active element.