Land Records Training Report

Volume 2, Section 3: Parcel Improvement

December 2009

This document was prepared by MGI, LLC to fulfill the requirements of the Gulf Regional Ownership Mapping Project.

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Preface

The following document contains the information from the Mississippi Gulf Base Mapping Project – Cadastral Data workshop held in Waveland MS October 29, 2009. The materials in this document review the topics covered in the class.

Thank you to Troy L. Teadt of the Pearl River Community College Workforce Liaison for arranging for the meeting place and for supporting the training. Thank you also to ESRI for their support and for the course trainer, Arthur Robinson.

Also the information on the on screen magnifier Arte used in the class can be found here.
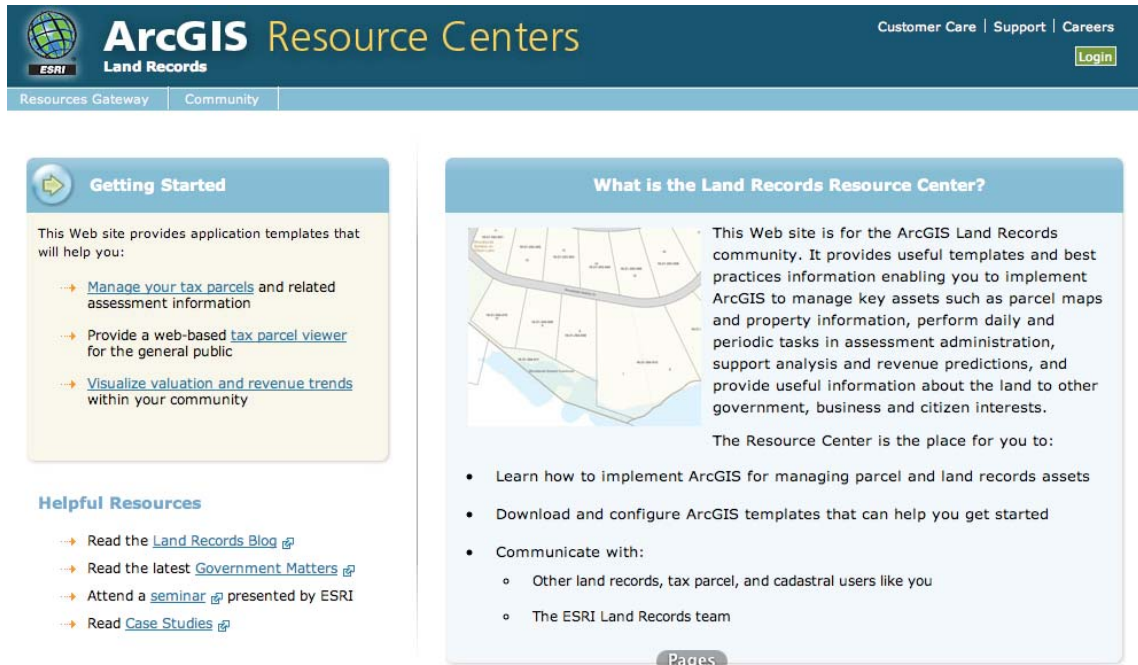
Magnifier for Microsoft mouse
http://www.microsoft.com/hardware/mouseandkeyboard/magnifier.mspx

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1. Land Records Resource Center Training

The ESRI Resource Center has the templates and tools to support parcel mapping. The site is located here http://resources.esri.com/landrecords/

Click on the Community Tab to get to the templates, blogs and media gallery.

The templates are where the tools and sample databases are available for download. The Blog entries are also important to check because that is where updates and additional information on the templates and discussions can be found.

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Scroll down the template gallery to the tax parcel editing template to download the databases, tool bar and instructions that were reviewed in the class.

For the Mississippi Gulf Coast counties, updates to the tool bar program will be provided in the next early part of November. The sample database used in the class was Hancock County's developing parcel database not the database in the Tax Parcel Editing Template. The database and editing mxd in the Tax Parcel Editing download from ESRI did provide a basis for the Hancock data and mxd.

The Tax Parcel Viewer template was also demonstrated in the class and this can be reviewed as a live demo from the template page. Click on the Tax Parcel Viewer words to the left of the ratings or on the map image to open the download and the "view it live" page.

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2. Installation of the Tax Parcel Editing Toolbar

You can put the download file in a temporary directory on your local machine. Run executable file and step through the installation directions.

Template Directory	Item	Description
Maps and Geodatabases	TaxParcelEditingMap.mxd	The map document used to edit tax parcel data
	Sample.gdb	A sample tax parcel geodatabase with content from the Bloomfield Township, MI
Application	TaxParcelEditing.msi	A full compiled executable install package for the tax parcel editing toolbar
	Source Code Folder	The un-compiled source code for the tax parcel editing toolbar
Documentation	DataDictionary.html	An HTML document that contains a description of the Sample.gdb content
	TaxParcelEditingMap.html	An HTML document that describes the contents of TaxParcelEditingMap.mxd
	TaxParcelEditingReleaseNotes.pdf	A PDF document that describes the changes made with each release of the template

In the next few weeks a new .msi file will be provided for the Mississippi Gulf Counties that reflects the updates and edits discussed in the class.

Software Environment
The following software must be installed:

· ArcGIS Desktop 9.3 or 9.3.1 – ArcInfo or ArcEditor
· ArcGIS Desktop 9.3 or 9.3.1 Maplex Labeling Extension
· Microsoft .NET Framework 2.0

Implementation Steps

1. Unzip the Tax Parcel Editing Download you downloaded from the Resource Center and place the contents of the zip file in
the following directory on your computer then unzip the download.

· <your_directory>\ArcGIS Templates\Tax Parcel\TaxParcelEditing

Note: If you do not have these folder structures on your computer, please create them.

2. Install the Tax Parcel Editing Toolbar and Editor Extension on your computer. You must be an administrator on your local
machine to do this.

· Close any ArcGIS applications that are open or running.
· Using Windows Explorer, navigate to the Application directory:

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· <your_directory>\ArcGIS Templates\Tax Parcel\TaxParcelEditing\Application
· Double-click on TaxParcelEditing.msi to install the TaxParcel Editing Toolbar and Editor Extension.
· This install will do the following:
· Install the toolbar in a default directory.
· C:\Program Files
· Create a toolbar called the Tax Parcel Editing.
· Add a Dynamic Values Tab to the ArcMap Editing Options Dialog.
· Place source code in a folder at <install_directory>\ArcGIS Templates\Land Records\TaxParcelEditingToolbar

Note: You can uninstall the ArcGIS Tax Parcel Editing Template by using the Add/Remove Programs function in Windows.

3. Uncompress the Sample.gdb and turn on the Maplex Extension.

· Using ArcCatalog, navigate to the Sample.gdb
· <your_directory>\ArcGIS Templates\Tax Parcel\TaxParcelEditing\Maps and GDB
· Right-click on the Sample.gdb, and select Uncompress File Geodatabase. Select OK.

· Open ArcMap. Navigate to Tools > Extensions. Ensure the Maplex Extension is turned on and then select Close.

4. Open the map document and configure the ArcMap editing environment. Double-click on TaxParcelEditingMap.mxd and
then do the following:

· Turn on the Tax Parcel Editing Toolbar:
· Navigate to View>Toolbars>Tax Parcel Editing, or
· Right-click in the title area of ArcMap and select Tax Parcel Editing from the alphabetical list of toolbars
· Ensure the Tax Parcel Dynamic Values Editor Extension is turned on:
· Click on Editor>Start Editing>Options on the ArcMap Editor toolbar

3. Configuring the Tax Parcel Editing Toolbar

An XML configuration file called TaxParcelDesktopTools.config is included with the Toolbar during installation. By editing the configuration file, you can change the settings for the toolbar. Here is where you can find the configuration file if you used the default installation path.
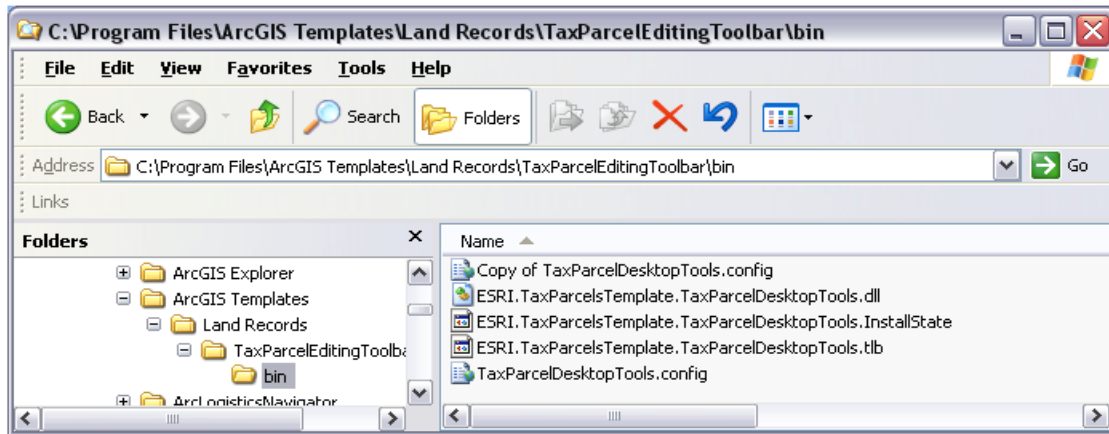
Before editing the file it is a good idea to make a copy as a backup. The file can be opened in Notepad, but it's better to use an IDE application like Microsoft Visual Web Developer 2008 Express Edition to provide color coded text like you will see in the XML code shown throughout this document.

This tool can be downloaded for free at

> http://www.microsoft.com/express/vwd/

When you open the XML configuration file, you will notice that it contains a series of key and value pairs such as the one shown below. The key and value pairs control various behaviors of the toolbar.

`<add key="Search_ParcelID_FeatureClass" value="TaxParcel" />`

Warning: Do not modify the key text. Only the values should be altered.

If you edit the config file you have to close arc map and restart it to register the changes.

The configuration file will also work with SDE installations. This file needs to be located on each desktop machine that will access the tools. The full SDE path name is **not** needed, just use the feature class and attribute names as shown below.

Search Tools

The first part of the configuration file configures the search capability of the toolbar. The keys control each feature class and field name to search on and control the zoom extent around a search result. Here are the keys for the Parcel ID search, for example:

```
<add key ="Search_ParcelID_FeatureClass" value="TaxParcel"/>
<add key ="Search_ParcelID_FieldName" value="PARCELID"/>
<add key ="Search_ParcelID_ExpandX" value="1.5"/>
<add key ="Search_ParcelID_ExpandY" value="1.5"/>
<add key ="Search_ParcelID_ExpandAsRatio" value="true"/>
```

The Parcel ID search looks for a feature in the TaxParcel feature class with a value in the PARCELID field that matches the search value entered. When a parcel is found by the search or when a user clicks on a parcel from the list of results, the display zooms to 1.5 times the extent of the parcel in both the X and Y directions.

Notice in the configuration file that for each of the four types of searches included on the "Search By" list (Parcel ID, Conveyance, Map Page, or PLSS Polygon) there is a set of configurable parameters using XML key and value pairs. The purpose of the keys is as follows:

a. **FeatureClass** - This value is the name of the feature class for the layer in the map that the application will search.

b. **FieldName** - This value tells the application which field in the feature class to use for the search query.

c. **ExpandX (optional)** - If a record is found, the map will zoom to it but zoom out by this amount in the X direction.

d. **ExpandY (optional)** - If a record is found, the map will zoom to it but zoom out by this amount in the Y direction.

e. **ExpandAsRatio (optional)** - Controls whether the zoom out expansion is a ratio or an actual distance.

Search Results Window

When a search query returns multiple results, it is up to the user to manually select the correct record to zoom to. This is done by double clicking a record in the Search Results Window. You can control whether the Search Results Window pops up automatically after every search using the following key.

```
<add key ="Search_SearchResultsWindow_OpenAfterSearch" value="true"/>
```

The valid settings for the value key are:

a. **true** - The Search Window will appear automatically after every search.

b. **false** - The Search Window will remain hidden until the user clicks the button to show it.

Retire Selected Parcels

The Retire Selected Parcels tool provides a quick way to export selected tax parcels to an archive feature class before they are edited. The keys control which feature classes and fields are used during the process.

```
<add key ="RetireTaxParcel_DynamicValuesFeatureLimit" value="1000"/> ▯
<add key ="RetireTaxParcel_OriginFeatureClass" value="TaxParcel"/> ▯
<add key ="RetireTaxParcel_OriginParcelIDField" value="PARCELID"/> ▯
<add key ="RetireTaxParcel_DestFeatureClass" value="TaxParcelHistory"/> ▯
<add key ="RetireTaxParcel_DestParcelIDField" value="PARCELID"/> ▯
<add key ="RetireTaxParcel_DestDocumentReferenceField" value="DOCREF"/>
▯<add key ="RetireTaxParcel_DestHistoryTypeField" value="HISTORYTYP"/> ▯
<add key ="RetireTaxParcel_DestHistoryDateField" value="HISTORYDT"/> ▯
<add key ="RetireTaxParcel_DestCommentsField" value="COMMENTS"/> ▯
<add key ="RetireTaxParcel_HistoryTypeDomainList" value="Retired Tax
Parcel,ROW Vacation,Alley Vacation,Other,Unknown"/>
```

The purpose for each of the keys is described here:

a. **DynamicValuesFeatureLimit** - This is a control valve for the OnCreate trigger for Dynamic Values. Too many records can be very CPU intensive, thus the need for a limit.

b. **OriginFeatureClass** - Selected features will be copied from this feature class.

c. **OriginParcelIDField** - The specified field in the origin feature class will provide the parcel ID attribute value for the new record created in the History layer.

d. **DestFeatureClass** - This feature class is the target for the copied records.

e. **DestParcelIDField** - The parcel ID attribute value will be pasted in this destination feature class field for each record.

f. **DestDocumentReferenceField** - Information entered into the document reference input of the Retire Selected Parcels form is added into this destination feature class field.

g. **DestHistoryTypeField** - The History Type chosen on the Retire Selected Parcels

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form is added to this destination feature class field. An attribute domain that includes the valid history types should be set on this field.

h. **DestHistoryDateField** - This destination feature class field will hold the timestamp of when the record was added to the history layer.

i. **DestCommentsField** - The text entered into the Comments on the form is added into this destination feature class field.

j. **HistoryTypeDomainList** - Enter the valid domain values from your destination feature class history type field here. The drop-down list in the Retire Selected Parcels form comes from here.

Zipper Task

The zipper task uses a form to control which features will be "zipped up" together within a given tolerance.

```
<add key ="ZipperTask_SearchDistance" value="30"/>
```

The value for the SearchDistance key specifies the tolerance in map units for the coordinate search during the zipping process. The zipper task form uses this value.

Snake PIN Task

The Snake PIN task is used to create parcel identification numbers for parcels using a digitized sketch (snake path) by incrementing from a starting value.

```
<add key ="SnakePIN_TargetLayerName" value="TaxParcel"/> 
<add key ="SnakePIN_TargetLayerField" value="PARCELID"/> 
<add key ="SnakePIN_StartValue" value="1"/> 
<add key ="SnakePIN_IncrementValue" value="1"/> 
<add key ="SnakePIN_PrefixValue" value=""/> 
<add key ="SnakePIN_SuffixValue" value=""/> 
<add key ="SnakePIN_IncludeEnds" value="true"/> 
<add key ="SnakePIN_ParsePrefixes" value="false"/>
```

a. **TargetLayerName** - This is the default layer for the task. The form will search for this layer in the map.

b. **TargetLayerField** - This is the default field in the target layer to use for the new PIN values.

c. **StartValue** - This is the default starting value for the first parcel found in the digitized sketch.

d. **IncrementValue** - Each subsequent parcel found along the sketch will have its

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PIN value equal to the last value plus this value.

e. **PrefixValue** - This will put a value in the Prefix box in the form. It is blank by default.

f. **SuffixValue** - This will put a value in the Suffix box in the form. It is blank by default.

g. **IncludeEnds**- This Boolean value specifies whether to update the PIN for the first and last parcels found along the digitized sketch.

h. **ParsePrefixes** - When the results of incremented values exceed the string length of the original value it may be necessary to drop a digit from the Prefix value. Since Prefixes are not always used this value is set to false by default.

Combine Parcels

The Combine Parcels tool uses the built-in Merge command with a little twist. It has the capability to capture shared boundaries before a merge and copy them to a historical line layer. This functionality can be turned on or off.

```
<add key ="MergeCmd_UpdateHistory" value="true"/> 
<add key ="MergeCmd_MergeLayer" value="TaxParcel"/> 
<add key ="MergeCmd_HistoryLayer" value="ParcelBoundary"/> 
<add key ="MergeCmd_HistoryField" value="CARTLNTYP"/> 
<add key ="MergeCmd_HistoryVal" value="Tax Parcel Historical Boundary"/>
```

The purpose of each key is as follows:

a. **UpdateHistory** - This is the toggle for the historical boundary functionality. True = on and false = off.

b. **MergeLayer** - The merge layer is the feature class that contains the selected records that are being merged (tax parcels).

c. **HistoryLayer** - A line feature class that will take the shared boundaries of selected records before they are merged.

d. **HistoryField** - The name of the field in the history layer feature class that is used to symbolize old boundaries.

e. **HistoryVal** - The text value that will be written in the history field for the new record (typically a domain value).

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Dynamic Values

The Dynamic Values extension is used to automatically update attributes when a feature is created or modified. It uses a table in the database to keep track of which functions will be performed on various datasets. Please consult the Tax Parcel Editing Toolbar Functionality Section 4 of this document for more information about this tool and its options for updating fields.

```
<add key ="DynamicValues_TableName" value="DYNAMICVALUE"/> ⯑
<add key ="DynamicValues_EnabledOnStartUp" value="true"/>
```

Following is the purpose of the dynamic value keys:

a. **TableName** - The name of the table that will be used for keeping track of the functions that need to be performed when data is created or changed in registered layer(s). This table should be in the map document.

b. **EnabledOnStartUp** - The extension can be toggled on or off from the toolbar. This parameter controls whether the extension is turned on when ArcMap is opened or not.

Note: If you are running an SDE versioned database the dynamic values table needs to be in the root directory of the SDE database

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4. The Functionality of the Tax Parcel Editing Toolbar

The toolbar includes core ArcGIS Desktop tools commonly used in parcel editing plus some custom tools specifically designed to make parcel editing tasks quicker and easier. If you would like to try these tools out with a sample dataset, open TaxParcelEditingMap.mxd, which you can find in the Maps and GDB folder provided with the toolbar download.

If you would like to use these tools with your own data, you will likely want to make some changes to the default layers, field names, and other settings used by the tools. See Section 3 for how to modify the XML configuration file in the C:\Program Files\ArcGIS Templates\Land Records\TaxParcelEditingToolbar\bin folder.
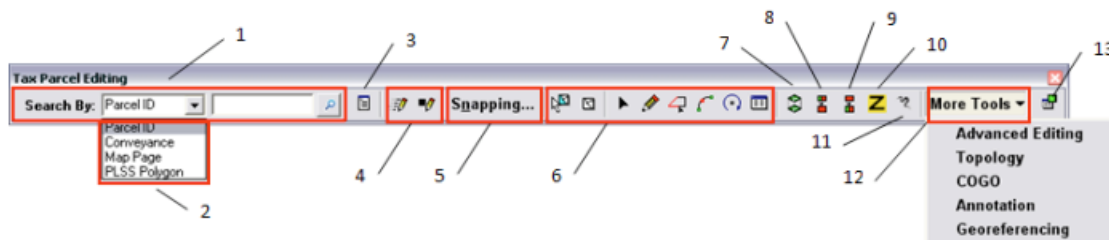

	Tax Parcel Editing Toolbar
1	**Search Tool** –searches for an item and automatically zooms to the first result (can use a partial string)
2	**Search Type** –controls the type of search performed where each type references an individual reference layer
3	**Show Search Results** –toggles on/off the Search Results window (populated with the Search Tool)
4	**Start/Stop Edit Session** – core buttons to start and stop editing
5	**Snapping Environment** – shortcut to the Snapping Environment dialog
6	**Core editing tools** – collection of the most commonly used core tools for parcel editing functions
7	**Retire Selected Parcels** – copies selected parcels to a history layer for later review (not the same as geodatabase archiving)
8	**Combine Parcels** – combines selected parcels using the core Merge tool and updates the symbology for the old boundary
9	**Split Parcel** – splits a selected parcel using the core Cut Polygon task (uses any sketch tool for the split)
10	**Zipper Tool** – moves multiple coincident boundaries simultaneously using a sketch as a reference (uses the tolerance you specify)
11	**Snake PIN Tool** – assigns Parcel Identification Numbers to multiple parcels using a line sketch as a guide for the increment
12	**More Toolbars** – shortcut to other core toolbars that contain essential functions for parcel editing
13	**Dynamic Values** – toggles on/off the automatic attribute updating according to the parameters in the Dynamic Values table

Performing Searches   - One of the first things people do when preparing to edit is go to a specific location in the map. Sometimes they just use spatial bookmarks to easily zoom to a place of reference. But this only works if you have zoomed to this place before. That's why we added the capability to search for a record and zoom to

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it immediately.

1. Choose the type of search you want to perform by clicking on the "Search By" drop-down list. There is a choice of Parcel ID, Conveyance (subdivisions), Map Page, and PLSS Polygon.▢

2. Type a string in the text box. A full string is not required; substrings (without wildcard characters) work with the search tool. If you are using a file geodatabase, note that the search will be case-sensitive.

3. Hit enter or click on the Search button. ▢

4. The Search Results window will appear if it is set to automatic in the config file.

Otherwise click on the Search Results button. ▢ This is useful when there is more than one result from the search. The results window shows all the results of the searches and you can revisit prior searches.

5. Double click on an item in the results window to zoom to that record.

As was discussed in the class the next version of the Tax Parcel Editing Toolbar, which will be provided in November 2009, will also include a select option. So after you search for a feature the feature will be selected for editing.

Basic Editing Toolset - A major goal of the Tax Parcel Editing Template project was to identify the most commonly used tools from the core ArcGIS Desktop software that are effective for parcel editing. Once these functions were identified we wanted to place them on a single toolbar for easy access. Obvious first choices

were the buttons to start ▢ and stop ▢ editing.

If you have been editing for a while then you already know that the selection process is an essential part of performing edits in ArcMap. The **Select Features**

tool ▢ uses the selection environment to select data. The **Clear Selected**

Features button ▢ unselects all selected data. The **Edit Tool** ▢ will select features too, but it has the capability to move features as well. Another distinction is that unlike the Select Features tool, the Edit Tool will only select the topmost overlapping feature if a click on the map is made. To get to the other overlapped features within the selection tolerance press the N key on the keyboard.

For more helpful shortcuts follow this link
http://www.esri.com/library/brochures/pdfs/arcgis-desktop-tips.pdf.

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The editing framework within ArcMap uses the dynamic duo of Tasks and Targets as a control system for creating and modifying data. The **Sketch Tool** , **Trace Tool** , and **End Point Arc Tool** use this system to make edits to data. You may have noticed that the task and target dropdown boxes were curiously omitted from the Tax Parcel Editing toolbar. Instead we are using settings in the config file to automatically adjust the tasks and target when using the custom tools.

The **Rotate Tool** will rotate any selected data when used. It uses a selection anchor as a guide for the pivot. The selection anchor will be the center of rotation. You can move the selection anchor by dragging it to another location, and it will adhere to the snapping environment as well. In addition, you can press the S key on the keyboard and it will produce an auxiliary anchor can be moved by dragging too.

Press the **Attributes** button to open the Attributes dialog. Use this tool to edit any attribute data for selected records.

Custom Tools We added five custom tools to the Tax Parcel Editing toolbar. The tools use the config file to adjust the edit task and target automatically.

Retire Selected Parcels

While doing research for this project we found that some editors just need a quick way to make a copy of the state of a few parcels before they are edited. Use this tool to do just that.
   1. Select one or more parcels and then click the Retire Selected Parcels button.
   2. Fill out the boxes in the form and then click OK.
   3. View the new history parcels by turning on the Tax Parcel History layer.

Combine Parcels
   This tool combines selected parcels using the core Merge tool and updates the symbology for the old boundary using a custom script.

   1. Select two or more parcels and click the button.
   2. Once the core Merge tool pops up, select the parcel that will retain the attributes and click OK.
   3. The old parcel boundary will now be a cartographic history line.

Split Parcel ⬚

This tool splits a selected parcel using the core Cut Polygon task. By default the sketch tool becomes the active tool, but any sketch tool can be used for the split, including the Traverse tool located on the COGO toolbar.

1. Select one parcel and click the button.
2. Start digitizing the sketch for the split line using any sketch tool.
3. Finish the sketch by double clicking or pressing the F2 key on the keyboard.

Zipper Tool ⬚

This tool snaps features to an edit sketch when they are within a tolerance you specify. The Zipper Parameters dialog lets you specify which layers contain the features to be moved and the search distance or tolerance within which features must fall to snap to your sketch. The Zipper tool is very powerful because it allows you to update boundaries and maintain coincidence for layers that don't necessarily participate in a topology, such as zoning layers. If you have a feature with very accurate coordinates surrounded by features that are not as accurate, the less accurate features can be snapped to the more accurate feature by activating the Zipper tool and then using Trace tool to sketch the more accurate feature boundary.
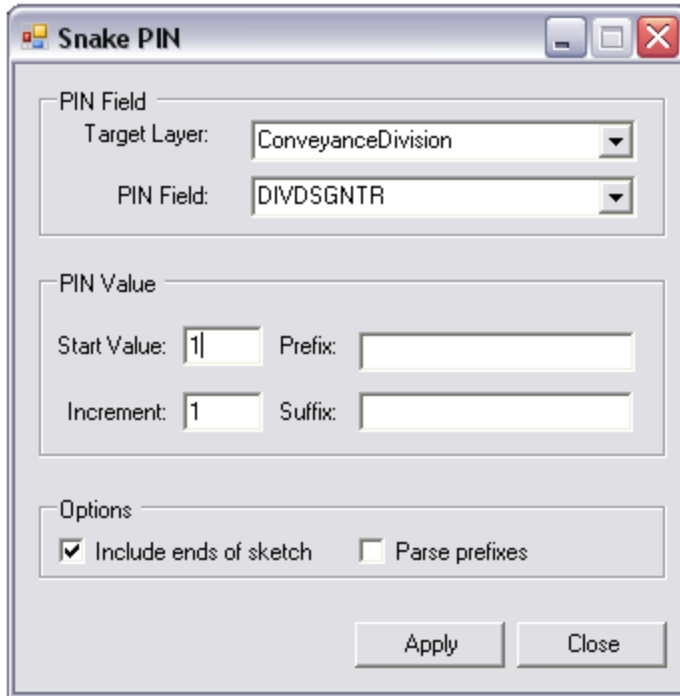
1. Click the button.
2. Start digitizing the sketch. By default the Trace tool is active, but any sketch tool can be used.
3. Finish the sketch by double clicking or pressing the F2 key on the keyboard.
4. A window will appear which will allow you to set the tolerance and select the layers whose features should move. Click OK to finish the process.
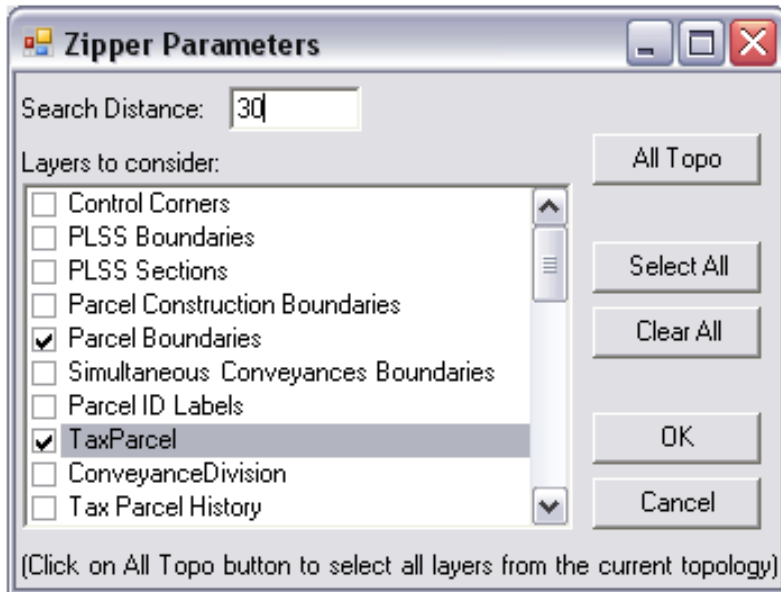
Snake PIN Tool ☐

Creates parcel identification numbers by incrementally counting from a starting
point defined by a digitized sketch. The PIN value parameters are defined in the
form that appears after finishing the sketch.

1. Click the button.
2. Start digitizing the sketch. By default the Sketch tool (pencil) is active, but
any sketch tool can be used (i.e. End Point Arc).
3. Finish the sketch by double clicking or pressing the F2 key on the
keyboard.
4. A window will appear which will allow you to set parameters. Some of
these parameters are set automatically from the config file. Click Apply to
finish the process.

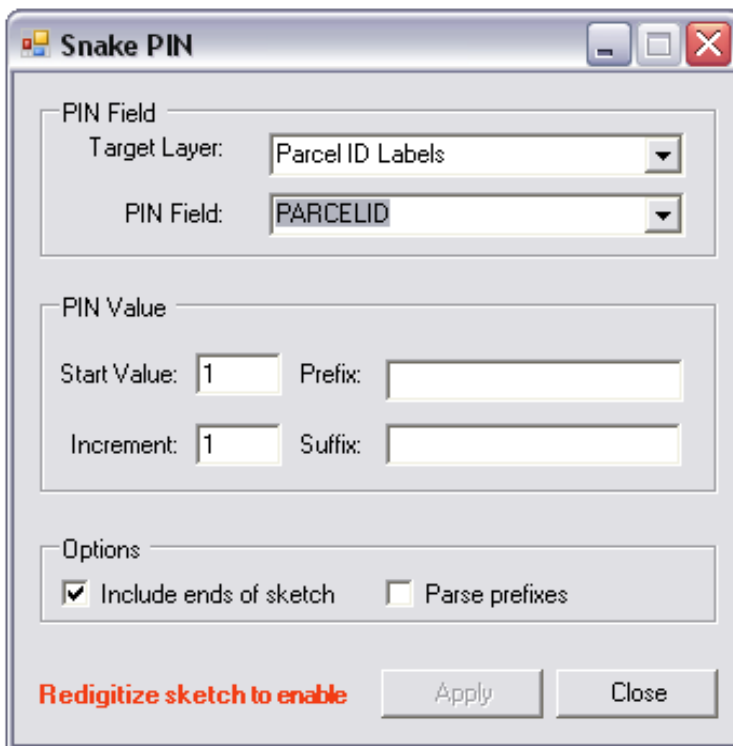5. [Optional] The form remembers the last sketch. If you make a mistake you can change the parameters in the form (except the target layer) and click Apply again. If the Target Layer is changed then a new sketch must be completed before the Apply button is enabled again.

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6. [Optional] This version of the Snake tool has the capability for prefixes. However, as PIN values are incremented they could exceed the string length of the original value. Therefore, you can use the Parse Prefixes option. This will extrapolate the new value by dropping a character from the prefix when the incremented value exceeds the original string length (i.e. single digit to a double digit). In the graphic shown below with parse prefixes turned on, the first parcel label will have the value 1901352001. On the 10th parcel labeled by the tool, our value will be a double-digit (10), so our prefix will be parsed giving us a label of 1901352010. Without parsing, the label would be 19013520010.

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Dynamic Values

Have you ever wanted to automatically populate some attribute data whenever a feature is created? Well, now you have that capability. The Tax Parcel Dynamic Values extension was ported from the Water Utilities Editing template. This extension uses a table named DYNAMICVALUE in the geodatabase to store some parameters (the table name can be changed in the config file). When the parcel editing extension is turned on it will listen for any new features. When a new feature is created the extension will consult the DYNAMICVALUE table for any calculations or expressions to use for populating fields.

Attributes of ParcelTemplate.DBO.DYNAMICVALUE

OBJECTID *	Table Name	Field Name	Value Method	Value Info	Create	Change
1	ParcelBoundary	BNDRYTYP	LAST_VALUE	<Null>	Yes	Yes
5	*	LASTUPDATE	TIMESTAMP	<Null>	Yes	Yes
16	*	LASTEDITOR	CURRENT_USER	<Null>	Yes	Yes
26	ParcelBoundary	CARTLYNTYP	LAST_VALUE	<Null>	Yes	Yes
27	SimultaneousConveyance	CNVYACRG	EXPRESSION	[SHAPE_Area]/43560	Yes	Yes
32	ConveyanceDivision	DIVTYP	LAST_VALUE	<Null>	Yes	Yes
33	TaxParcel	TAXPARCELIND	LAST_VALUE	<Null>	Yes	Yes

Record: 1   Show: All Selected   Records (0 out of 7 Selected)   Options

The Table Name column represents the layer where the attribute edits will take place. If all layers should have a specific edit then you can use an asterisk (*) for the layer name instead. The Field Name column represents the field name where the attribute edit will be stored. The Value Method column stores the type of action to perform. The Value Info column stores optional values/expressions. You can trigger the edits for newly created features or when changes are made.

There are six types of methods that can be performed:

a. **TIMESTAMP** - This method will get the system time/date and put it into the specified field (must be a Date field).⬚

b. **LAST_VALUE** - This method is useful for repetitive feature creation. It will populate the field with the last value entered for that field. This method is limited to **new features only**.⬚

c. **FIELD** - This will copy the value from an existing field (Value Info) in the Table Name layer and paste it into the specified field (Field Name) if it doesn't already have a value.⬚

d. **CURRENT_USER** - This will grab the windows system user and put it into the specified field. With this you can have a record of who made changes to individual parcels.⬚

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     e. EXPRESSION - This method will calculate a value based on an expression (e.g. calculate acreage). Hint: Copy an expression from the Field Calculator dialog. This method is limited to **new features only**.

     f. INTERSECTING_FEATURE - This will copy the field value of an intersecting feature from a specified layer (e.g. grab info from the zoning layer). This method requires special formatting for the Value Info column. The source layer and the target field must both be in the column. Separate them with the Pipe character (e.g. sourceLayerName|sourceFieldName).

To turn the extension on/off click the **Toggle Dynamic Values** button or go to the Editor > Options dialog and toggle it from there. You can also turn off the extension by default by modifying the config file.

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5. Registrants

The following is the list of registrants for the class held October 29, 2009, at the Pearl River Community College in Waveland Mississippi. The bolded names are those that attended.

First	Last	Position	County
Vincent	**Carlisle**		Stone
Tom	**Smith**		Stone
Dwayne	**Raphael**	GIS Coordinator	Hancock
Solomon	**Moody**	GIS Manager	Pearl River
Barbara	**Yassin**		Department of Environmental Quality
Matt	Hayes		Department of Environmental Quality
Paul	**Tristani**	GIS Analyst III	Jackson County, MS GIS Division
Faith	**McNutt**	Sr. GIS Mapping Tech II	Jackson County, MS GIS Division
Shirley	**Balog**	Mapping Supervisor	Harrison
Alicia	**Cothen**	Mapper	Harrison
Larry	**Blakeney**	GIS Mapper	Harrison
Adrian	Newman	GIS Mapper	Harrison
Bob	**Jackson**	Deputy Tax Assessor	Harrison
Nancy	**von Meyer**	GIS Consultant	Fairview Industries
David	**Stage**	GIS Consultant	Stage & Associates
Jimmy	**Bradley**	GIS Manager	Waggoner Engineering
Arthur	**Robinson**	Course Trainer	ESRI