HARRIS GOVERN R&D

101-STD-FRM-008 Matix Integration

Integration in Govern V6

Release 6.0/6.1 Version 1

Last Revision Update: 2017/12/12

Version History

Version	Date	Modify By	Description
1.0	2015/02/02	Cyril Viron	Create document
2.0	2015/10/09	Cyril Viron	Update document with new parameters and Govern section (6.0.1509 for SAMA)
2.1	2015/10/13	Olusegun Olaniyan	Review and Edit
2.2	2015/11/03	Olusegun Olaniyan	Update
2.3	2015/11/19	Olusegun Olaniyan	Update
2.4	2015/11/30	Olusegun Olaniyan	Update
2.5	2016/01/10	Olusegun Olaniyan	Update
2.6	2016/05/06	Olusegun Olaniyan	Update
2.7	2016/06/08	Olusegun Olaniyan	Update (Updated selection tools)
2.8	2016/11/18	Cyril Viron	Update (Moved BP GIS parameters to GNA Matix editor, added Themes)
2.9	2016/12/01	Olusegun Olaniyan	Update of document
2.10	2017/03/09	Olusegun Olaniyan	Update of document
2.11	2017/05/01	Olusegun Olaniyan	Measure feature and document Update
2.12	2017/12/05	Olusegun Olaniyan	UI and Menu Updates

Disclaimer

Harris Govern has taken due care in preparing this manual. However, nothing contained herein modifies or alters in any way the standard terms and conditions of the purchase, lease, or license agreement by which the product was acquired, nor increases in any way the liability of MS Govern to the customer.

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OVERVIEW

Matix leverages the power and flexibility of ESRI's ArcGIS Server, and web-based mapping services, to provide an everyday tool for performing statistical analysis and visualizations. Matix integration allows the Govern application to load the Matix plugin from CCI. This is done through a Govern custom control.

When configured the integration is presented as another "child" of the integration controls, similar to the Govern *Web Browser Integration* (**WBI**). As a result of similarities with the WBI, previous users will see commonalities such as the configuration of the custom control.

NOTE: The standard distribution will consist of the Web Browser Integrator (WBI) (101-std-frm-003), the Application Browser Integrator (std-frm-005) and the MATIX Integrator.

Classes

The following is the class for the Matix Integration control.

`MsGovern.OpenForms.CustomControls.MatixIntegration_Control`

What's New

This section lists new features that have been added to the Matix Integration. These features are indicated by "**NEW!**" preceding the description.

Changes to Selection Tool Access and UI Modifications

Further updates have been made that are related to the Measurement tool. In addition to live switching from meter to feet, there are significant UI modification to tool selection. This modification is available in the following releases; 6.0.1702, 6.1.1611 and 6.1.1702

- New *Mode* menu
- All *Selection Tools* have been moved beneath the *Mode* menu; cascading menus for tool selection
- New *Clear Parcel* Tool
- No more three step tool selection process

NOTE: If no changes in your UI have been observed, ensure that your administrator has updated to the most recent build.

Measurement Tool and User Interface Modifications

The Matix integration has been updated with distance measurement tool that allows users to take linear measures off their currently selected base map. In addition changes have been made to the Tools User Interface. *See Line Measurement Tool and Matix Ribbon Layout Changes in this document.* This modification is available in the following releases; 6.0.1703, and 6.1.1703

Changes to GIS Synchronization Process

An enhancement has been made to the GIS Synchronization process that will eliminate the use of the GIS Synchronization Batch process. When ESRI geodatabases are configured with layers that match one of the three Govern columns in the PC_PARCEL table, the manual GIS Synchronization Batch process will not be required. *See GIS Synchronization Process in this document.*

Parameter for Secure Base Map functionality

A new parameter called ESRI Layer Type, has been added to Base Maps that enables the functioning of Secure Base Maps. This modification requires the running of the Verify Database process prior to use. This modification is available in the following releases; 6.0.1611.199, 6.0.1702.279, 6.1.1611.168, and 6.1.1702.471. *See Secure Base Maps in this document.*

Theme Maps

With theme maps users are able to view their data based upon themes configured in the Govern New Administration (**GNA**). For example maps representing sales price, roof type, and so on can be viewed with visual themes such as gradients, or circles representative of relative amounts. In addition, it is possible to configure multiple Theme Maps. When correctly configured, theme maps can be displayed on the fly in the Matix interface. *See Theme Maps in this document.*

Display Base Maps on the Fly

It is now possible to configure multiple Base Maps in GNA. Configured base maps can then be displayed on the fly in the Matix interface in Govern. *See Multiple Base Maps in this document.*

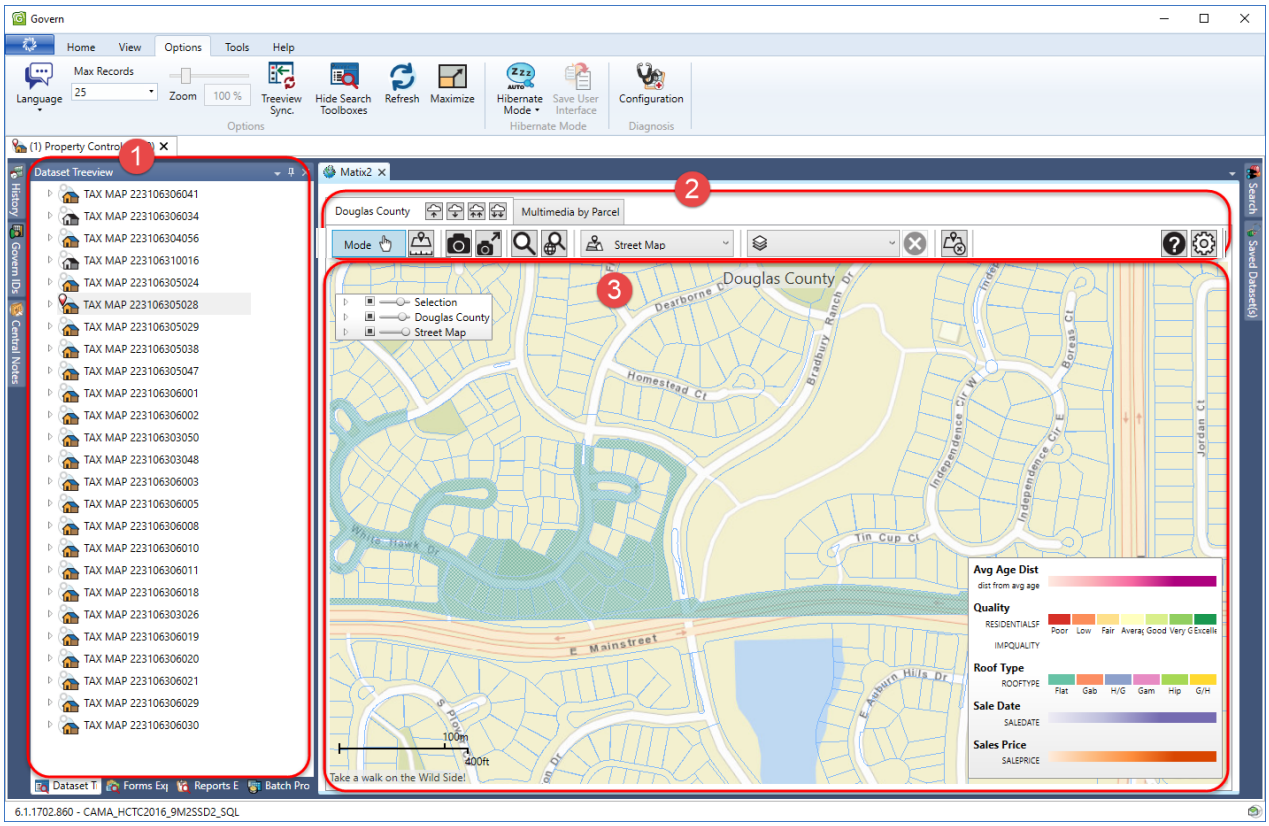
Save Images for Multimedia Documents

Create a .PNG for the maps to add to reports or other multimedia documents. *See Save Images for Multimedia Documents*.

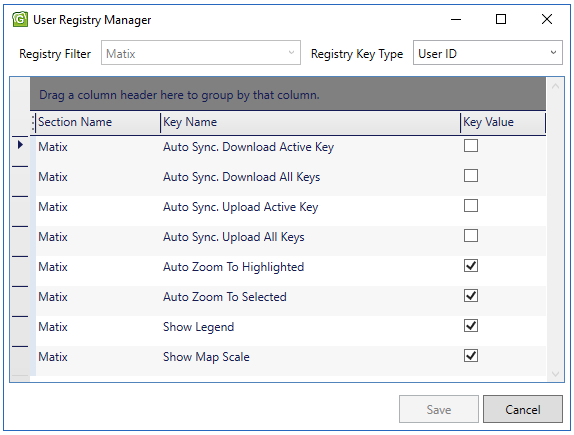
Additional Selection Tools

For greater selection flexibility, additional selection tools have been added to the Matix tool box.. *See Multiple Base Maps in this document.*

USER INTERFACE

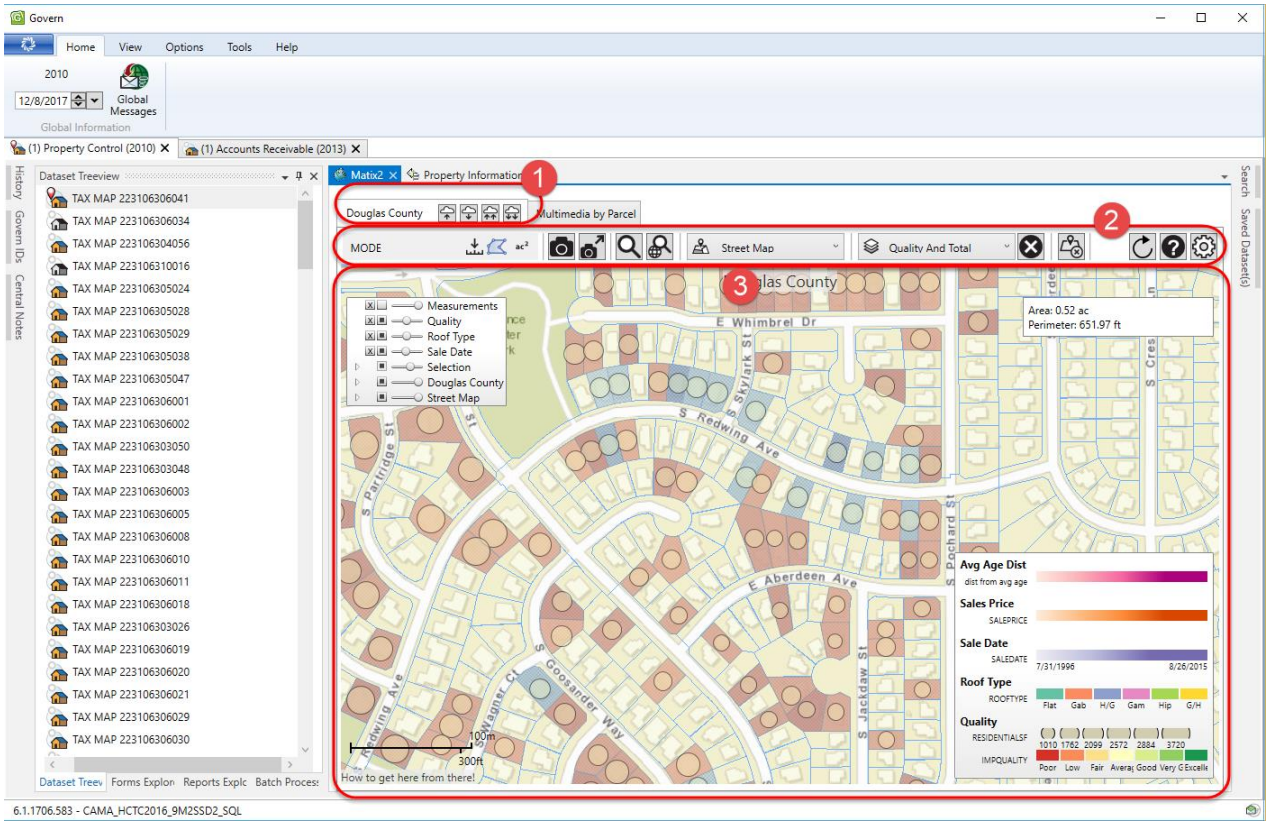


When opening the Matix form, you will see three (3) principal areas that make up the user interface. The first area is the **Govern Dataset Treeview** (1), a govern standard, which is used for displaying search results; expanding the results provides access to related OpenForms. The second area is the **Matix Ribbon** (2), this area contains the principal controls that allow users to interact with configured base maps. The third area is the **Matix Map** (3) pane; this area displays the configured GIS map. In addition there are controls that are used to modify the display of maps, their layers, and selected parcels. The *Dataset Treeview* and the *Matix Map* pane can be configured to update and display information automatically (**Auto-Synch**), or manually (**Manual-Synch**).



Configuring the UI for *Auto-Synch*, or *Manual-Synch* operation is achieved through selections made in the **Govern User Registry Manager** form. *See Auto-Synch Configuration and Manual-Synch Configuration in this document.*

Govern Matix Ribbon and Interface



The Matix tab

The Matix Tab (1) contains the user definable name for the Matix form. This tab is also the area that additional controls for synchronization are displayed. *See Auto-Synch and Manual-Synch operation in this document for details*.

NOTE: Previous users of Matix will notice changes to the User Interface (UI).

Matix Synchronization tab icons

User should note that some, or all, of the following synchronization icons may be displayed on the Matix tab. *Refer to Auto-Synch and Manual-Synch operation section in this manual for details about the synchronization process.*

TIP: To quickly understand the conventions used in the Matix tab icons, users should consider the map displayed in the user interface is located on the server on a network, i.e. the "cloud" or Website. Information on the map in the cloud, i.e. the server, can be sent to Governs' Dataset Treeview, or from the Dataset TreeView to the cloud.

Synchronize Govern Key to Website – This button is displayed in the Matix tab when the **Auto Synch**. **Upload Active Key option** in the **User Registry** is disabled. When a parcel is selected in then Dataset Treeview, click this button to perform a manual synchronization. This will set the current Treeview selection as the active selection on the maps selection layer.

Synchronize Website Key to Govern – When the **Auto Sync. Download Active Key** in the **User Registry Manager** is disabled, this button is displayed in the Matix tab. Click this button to manually set an active selection on the map to be the current selection in the Dataset Treeview.

Synchronize All Govern Keys to Website – This button is displayed in the Matix tab when the **Auto Sync. Upload All Key option** in the **User Registry Manager** is disabled. When a record set consisting of one or more records are loaded in the Dataset Treeview, a manual synchronization is required. Click this button to update all records in the Dataset Treeview with the displayed map.

Synchronize All Website Keys to Govern – When the **Auto Sync. Download All Keys** in the **User Registry Manager** is disabled, this button is displayed in the Matix tab. When one or more records are selected on the map, click this button to perform a manual synchronization. This will load records from the map to the Dataset Treeview.

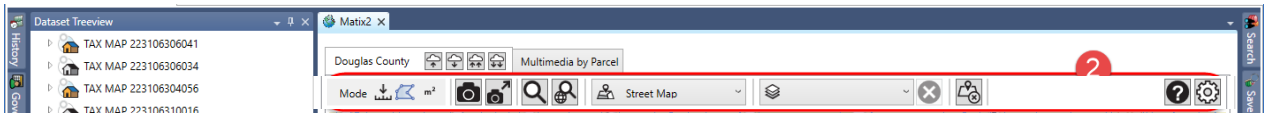
The Matix Ribbon

Matix Ribbon Layout Changes

NEW! As of release 6.0.1706/6.1.1706, enhancements to existing functionality have been made in the areas tool selection. Tool selection is centralized in the new **Mode** menu.

Matix Ribbon Controls

Ribbon controls are displayed below the Matix tab.



NOTE: Matix users will note a streamlining of the UI that enhances the functionality of selection tools. The changes are available in releases 6.0.1702, 6.1.1611 and 6.1.1702.

Matix Selection Modes

There are three (3) modes for viewing and making selections. These three modes are found under the Mode menu:

- **Pan** – Used for scrolling over the map, and individual parcel selections.

- **Select** – Mode of choice to make new, add to, or remove, selections.
- **Measure** – For user defined linear or area measurements.

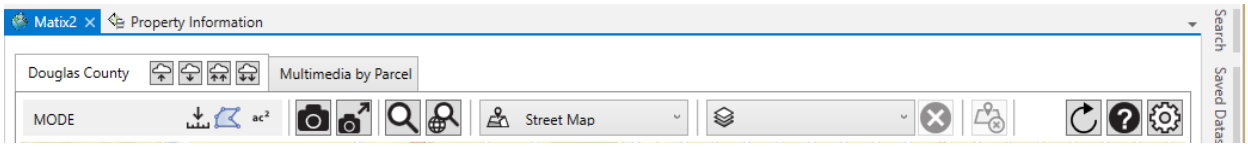
Pan

The *Pan* mode is the default state of the interface and it will allow the user to scroll over the displayed map. When engaged, the mouse cursor is presented as a "scroll" hand. This mode allows users to quickly scroll around the map area. To scroll around the map, click, while pressing on the Left Mouse Button (LMB), drag the map. While in *Pan* Mode, users can select parcels of interest.

TIP: When in *Pan* Mode, a double click on the map will zoom into the by a factor of 2 (i.e. 2x zoom).

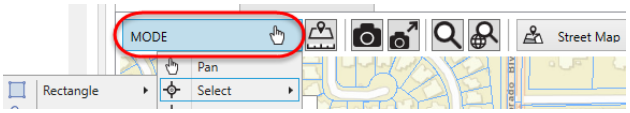
TIP: **NEW!** After selection of any action or tool, the Pan mode can be restored with a click on **ESC** on the keyboard. While in Pan Mode, users may also scroll over the map in the map pane using the cursor arrows on the keyboard [↑], [↓], [←], and [→].

The *Matix Ribbon* appears at the top of the base map display area (2). The ribbon contains parameters combo-boxes, and command buttons for users to interact with the map and control the interface.



Making Selections (New procedure)

Previous users of Matix should note that there is a new tool selection process. Selections are initiated from the *Mode* menu, the first selection on the Matix ribbon. All tools have been relocated under the Mode menu.



Selection Tool Status

At a glance the selected tool or mode can be determined by looking at the Mode menu. A selection of Mode > Measure > Polygon > Acres, will result in the mode menu displaying the following icons:

…Likewise as selection of Mode > Select > Freehand > Remove, will result in the mode menu displaying the following icons

Selections

When the *Direct Selection* mode is chosen, the following selection tools are available from the *Matix Selection Toolbox*:

- Rectangle
- Free Hand
- Polyline
- Polygon
- Point
- Circle
- Ellipse
- Triangle

*See **Selection Tool Types** below for details about each selection tool.*

Line Measurement Tool

When a series of parcels have been selected, the area and linear measurements of each parcel can be obtained.

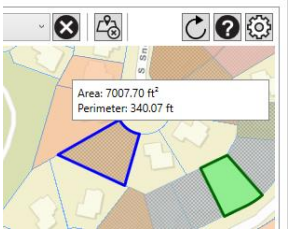
Measurements

Measure Parcel – Click *Measure Parcel* to obtain the Area and Perimeter measurement of a selected parcel. This result will be displayed in a rectangular box in the upper right hand corner directly in the display area.

The measure tool, when configured, will provide approximate area and linear measurements from the map. This tool can be used on a per parcel basis, when in *Pan* mode. The measure tool may also be used while in the *Measure* mode, i.e. when selected from the *Mode* menu.

Quick Measure of a Parcel

To obtain a quick measure of a selected parcel…



1. Change to the *Pan Mode*. From the Mode menu, select *Mode* > **Pan**).
2. In *Pan* Mode your cursor will change to the scroll hand; click once to select one of the selected parcels. The selected parcel will be highlighted with a dark blue outline.
3. On the immediate right of the Mode menu, the **Measure Selected Parcel** button will be active. Click the *Measure Selected Parcel* button.

4. In the upper right hand corner of the interface, the area and perimeter of the selected parcel will be displayed in feet and square feet, respectively.

In the Pan mode, the displayed linear and area measurements will persist until a new selection has been made **and** the **Measure Selected Parcel** button has been selected; selecting a new parcel alone will not immediately display the measurements.

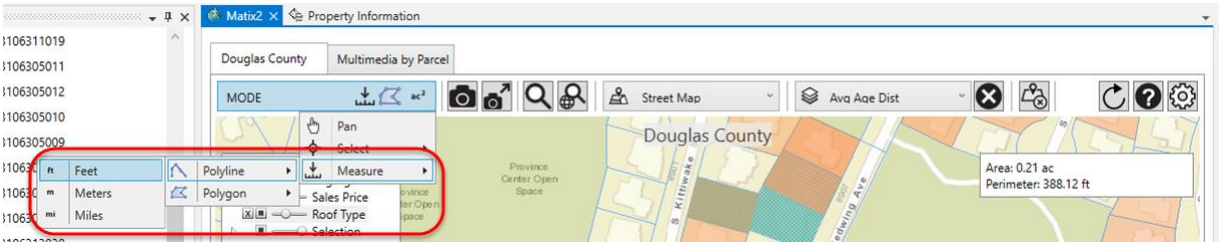
Changing Unit of Measurement

The default unit of measure is Feet and Square Feet. Linear Units can be displayed as Feet, Miles, or Meters. Area Units can be displayed as Square Feet, Square Mile, Acres, or Square Meters.

NOTE: When *Acres* are the units selected for area measurements, the linear measurements will be presented in *Feet*.

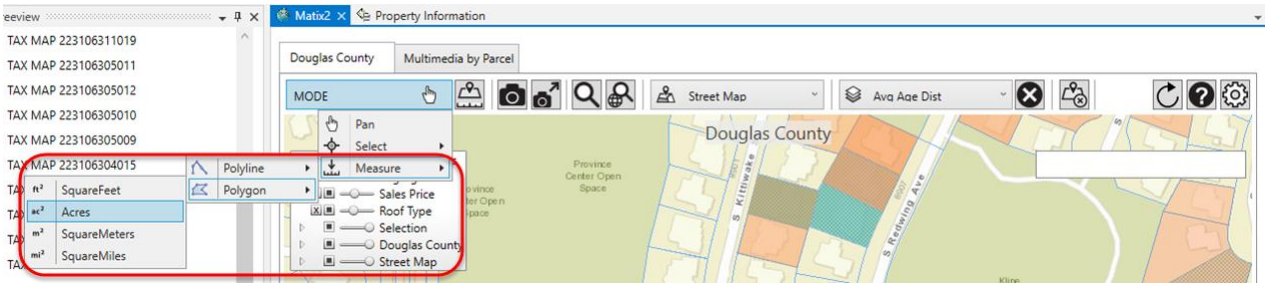
To change the default units of measurements:

1. For linear measurements, under the *Mode* menu click to select: *Mode* > *Measure* > *Polyline* > **Feet** / **Meters** / **Miles**



OR

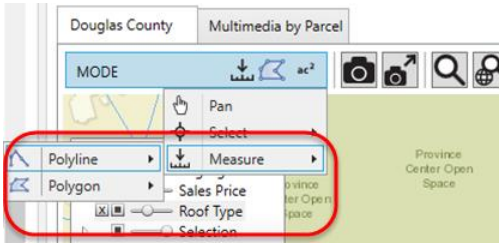
2. For area measurements, under the *Mode* menu, click to select Mode > Measure > Polygon > **Square Feet** / **Acres** / **Square Meter** / **Square Miles**



NOTE: Select Polyline for linear measure units, or select Polygon for area measure units.

User Defined Area Measurements

As seen above, measurements of parcels can be obtained in *Pan* Mode. When a measure is required that is user defined, e.g. multiple parcels, expanses of land, and so on, then the Measure tool should be selected to access the Measure Mode. When the *Measure* mode is selected, the following selection tools can be used to define the area to be measured:

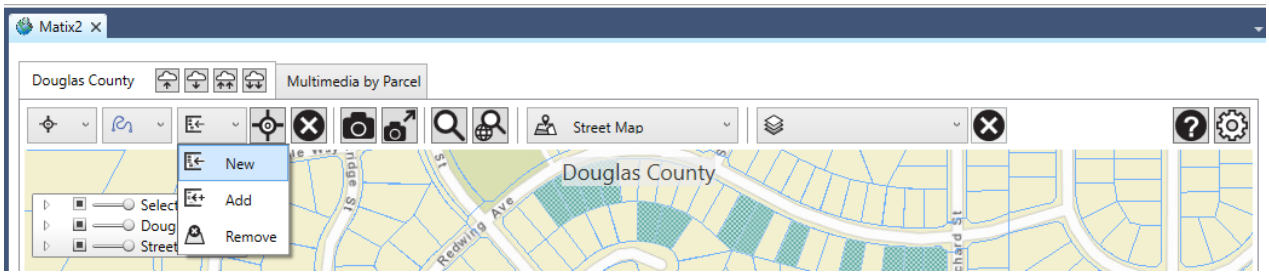


- Polyline
- Polygon

*See **Selection Tool Types** in this document for details about each selection tools. See Making a Linear Measure for details about using the measure tool.*

Selection Actions

After a *Direct Selection Tool* has been chosen, you will need to select the type of follow up action to perform. This is selected from the cascaded menu. All menu selection options are **presented when the** combo-box.



Selection Action options are the following:

New

Select **New** to clear any selected parcels displayed on the map; only your new selections are displayed.

Add

When selecting **Add**, the result of your selection is added to any selected parcels displayed on the map.

Remove

Select **Remove** to remove the result of your selection from any selected parcels that are displayed on the map.

Select Tool

 After making a Selection Action, a click on the **Select** tool is required to begin your selection. The results of your selection is a combination of your **Selection Tool** and **Selection Action**. *See the How to Make Selections on a Map section in this document.*

[] **Remove parcels** – When selected, the Remove parcels tool, depending on the selection tool chosen, will remove one or more parcels from selected parcels. When this tool has been used, it will immediately be deselected and revert back to the default scroll hand.

NOTE: This tool cannot be selected without first selecting a parcel.

[] **Clear** – Click Clear to deselect all selected parcels.

TIP: For a fast reload of all parcels in the Treeview, click **Synchronize All Govern Keys to Website**. 

Save Images for Multimedia Documents

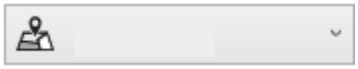
[] **Capture Image** – To capture a snap shot image of the map area, click Capture Image. The image will be immediately displayed by the system default image viewer; typically Microsoft Paint or any other program that is configured to display the .PNG file type. *See Map Properties Group in this document for related information.*

 **Export Image to Multimedia** – This options in the same manner as the Capture Image above with the exception that the captured image is added as a new Multimedia record. *See Generate Image for Multimedia Documents in this document.*

 **Search Parcels** – Click Search Parcels to display the *Search Parcel* window to perform a search. *See Using Governs Dynamic Search in this document for details*.

 **GIS Search** – Select GIS Search to perform searches on the GIS layer. *See GIS Layer Search in this guide.*

Base Maps

 See Base Maps in this document.

Theme Maps

 See Theme Maps in this document.

 **Clear Theme Maps** – Click *Clear Theme Map* to clear, i.e. remove the theme map currently displayed in the combo box from the Matix display.

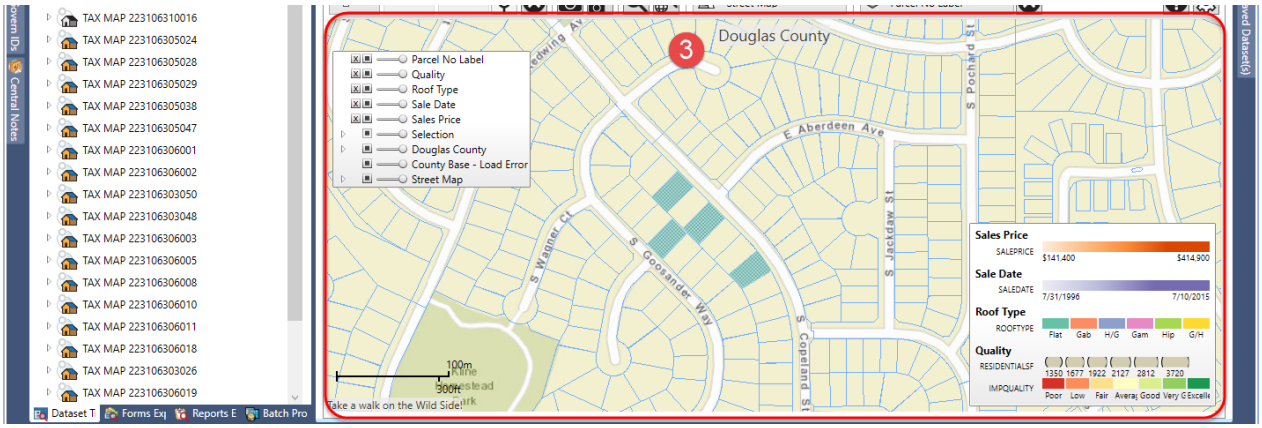
 **Clear Parcels** – Click *Clear Theme Map* to clear, i.e. remove the theme map currently displayed in the combo box from the Matix display.

 **Help** – To access Wiki Help pages that are relevant to the Matix integration, click this button.

 **Options** – To access Matix user options click Options.

The Map Pane

Below the Matix Ribbon is the Map Pane. The map pane is where the map, and any associated layer controls are displayed. *Refer to the [Configuration in the GNA] section in this document for configuration details.*



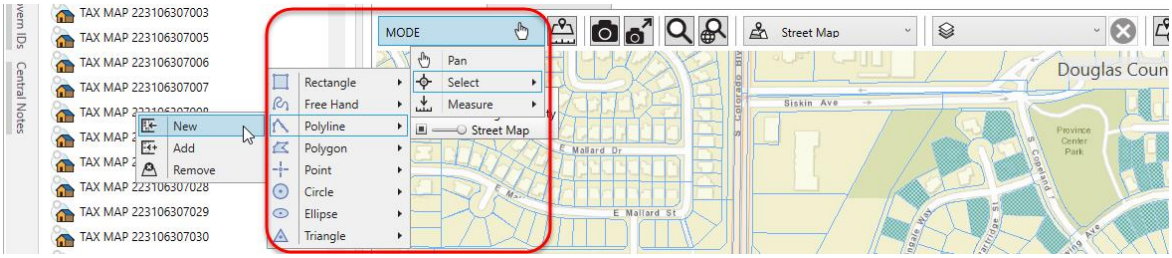
How to Zoom in / Zoom Out of the Map

To zoom into the map, or to zoom out of the map…

1. Hover you cursor over the area of interest on the map.
2. Roll the scroll wheel on your mouse to Zoom in (roll up), or Zoom out (roll down).

Selection Tool box

The Matix selection tool box, when active, is a drop down menu, i.e. combo-box, with tools that offer multiple selection types. The menu selection options are dependent on the tool that is selected.



Selection Tool Types

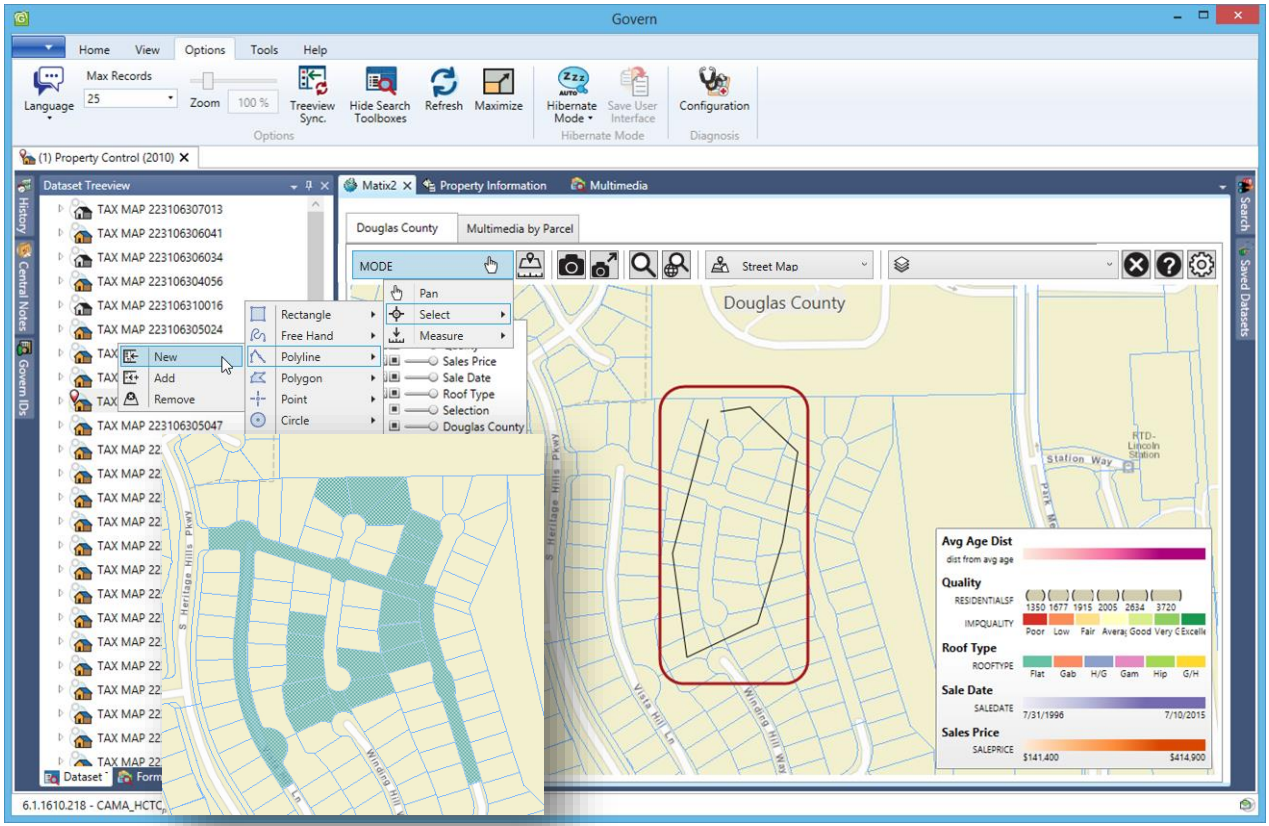
TIP: While any of the following tools are selected, users may scroll over the map in the map pane using the cursor arrows on the keyboard [↑], [↓], [←], and [→].

[] **Rectangle** – Use the *Rectangle tool* to make a rectangular area selection. Any parcels that the drawn line crosses over or contacts is encompassed within your selection.

[] **Free Hand** – Using the freehand tool to make a selection is similar to the action of drawing with a pencil. In this case any parcels that the drawn line crosses over or contacts becomes a part of your selection.

[] **Polyline** – Selecting with the Polyline tool allows you to make irregular shaped selections that are *non-encompassing*. This means that selections are on the perimeter that is defined by the Polyline tool. Any parcels that the Polyline tool touches is immediately selected. Note that a **Double Click** of the mouse button is required to stop the drawing process.

TIP: When the drawing tool is selected, a **Double Click** of the mouse button can be used to terminate drawing processes.



[ ] **Point** – The Point tool is used to select single parcels; this is a point and click to select process for individual parcels.

Selection Shapes

The following shape tools allow the selection of parcels using graphics primitive shapes, e.g. circle, triangle, and so on. With the exception of the Point tool, all selections areas are made with a "click and drag" motion. The parcels selected are those that are touched by, and encompassed within the drawn shape. All shapes are drawn from the center point and radiate outwards.

[ ] **Polygon** - Selecting with the polygon tool allows you to make irregular shaped selections. As with the *Polyline* tool a double click of the mouse button is required to stop the drawing process.

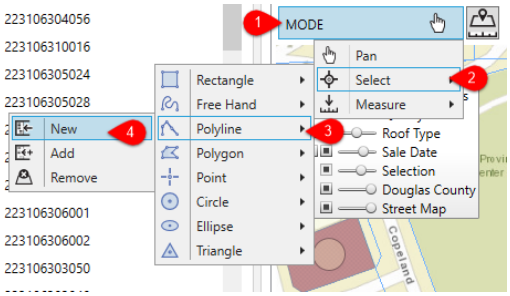
[ ] **Circle** – To make circular selection of parcels, use the circle tool. The selection will encompass the area that is covered by the circle.

[ ] **Ellipse** – Use the Ellipse tool to make elliptical selections. The selection will encompass the area that is covered by the ellipse.

[ ] **Triangle** – Select the Triangle tool for selections of a triangular nature. The selection will encompass the area that is covered by the triangle. Note that approximation is required for an equilateral triangular shape.

How to Make Selections on a Map

NEW! Selecting a single parcel, collection of parcels, or obtaining a linear measurement, is a sequential step process. The next logical step for the selected is presented via cascading menus. As a result, each step below is followed by menus that will present the options for the next step.



STEP 1 – Select the required mode, i.e. Pan, Select, or Measure.

STEP 2 – Depending on the Mode selected, Select or Measure, choose a drawing tool from the *Select* menus.

*...for the **Measure** menu,* depending upon the selection tool, i.e. **Polyline** or **Polygon**, select the unit of measure, linear or area.

NOTE: No selection tools are associated with the Pan Mode.

STEP 3 – Make a selection from the Selection Action tools; **New**, **Add**, or **Remove**.

NOTE: After a selection is made the selection tool will remain until another tool is chosen, or the **ESC** key is selected to revert back to its default state, the **Pan Mode** icon.

Removing Parcels

To refer to the three (3) steps above.

Making a Linear Measure

NEW! The Measure tool allows users to make quick approximate measurements of the areas of a parcel. When selected, two selections tools are available for selection:

- **Polyline** – Linear measures are taken with the Polyline selection tool. Selections with the Polyline tool allows you to make irregular shaped selections that are *non-encompassing*, i.e. not closed, like a polygon, e.g. distances.
- **Polygon** – Use the Polygon selection tool to obtain closed linear measurements like areas and perimeters.

To make a **Linear** measurement…

1. From the Mode menu, select *Mode* > *Measure* > *Polyline* > **Unit** (**Feet**, **Meters**, or **Miles**)
2. Click on the map to begin your selection, drag your pointer to the end of the linear distance you wish to measure.
3. Double click to end the process.
4. Your measure will be displayed in the upper right hand corner of the map pane.

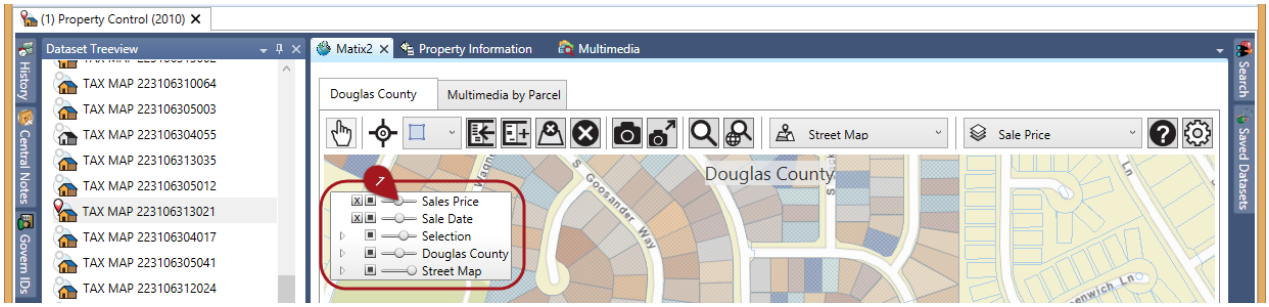
To make an **Area** / **Perimeter** measurement…

1. From the Mode menu, select *Mode* > *Measure* > *Polyline* > **Unit** (**Feet**, **Meters**, or **Miles**).
2. Click the selection tool combo-box to select the Polygon tool.
3. Click on the map to begin your selection, drag your pointer to the next point, and continue until your selection encompasses the area that you need to measure.
4. Double click to end the process.
5. Your area and perimeter measure are displayed in the upper right hand corner of the map pane.

Your final linear or area measurement is displayed the units of the measure that are configured in the administrative interface of the Govern New Administration (GNA). *See the Geometry group in the Configuration section of this document.*

Additional Layer Controls

Modifying the Layer Transparency



The GIS information that is displayed in the Matix pane is presented as a series of discrete layers. The appearance of these layers can be modified by the user. There are three (3) sliders which correspond to the **Selection**, **Parcels**, and **Street** layers.

Selection – This layer represents the target or selected parcel.

Parcels – Displayed parcels corresponds with those that are identified in the ClientMapURL. The parcel name displayed will the one that was defined in the

Streets – The Streets layer contains the image of the base-map that is referenced in the BaseMapURL.

Alpha Channel or Transparency

By manipulating the layer sliders, the “Alpha Channel” or “Transparency” of the layer can be changed to create a translucent or “glass-like” effect. This can improve viewing of selections and maps in the pane.

The three (3) layers that correspond to Selections, Parcels, and Streets, can be altered with the slide controls that are on the upper left hand side within the Matix pane.

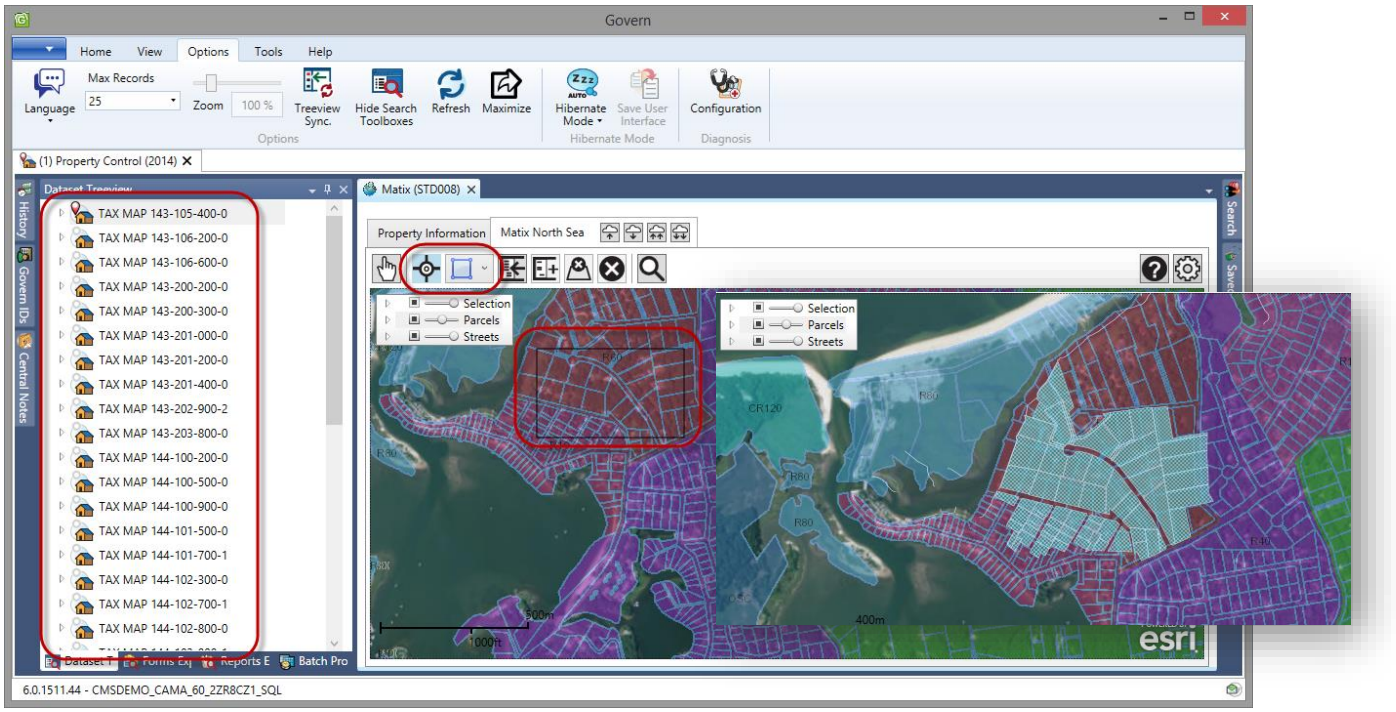
NOTE: When modifying the transparency, as the resulting color is a percentage of the full color displayed in the *Themes* legend, there will be discrepancies.

The Dataset TreeView

Records that appear in the Dataset TreeView are the results of searches made through the Search form. *For details about the Dataset TreeView refer to the Govern Release 6.x user guide.*

Adding Parcels to the Dataset Treeview

New parcels are added to existing ones by using any of the selection tools. For example drawing a rectangular selection with the rectangle tool will result in any parcels that are contacted by the rectangle being added to the selection.

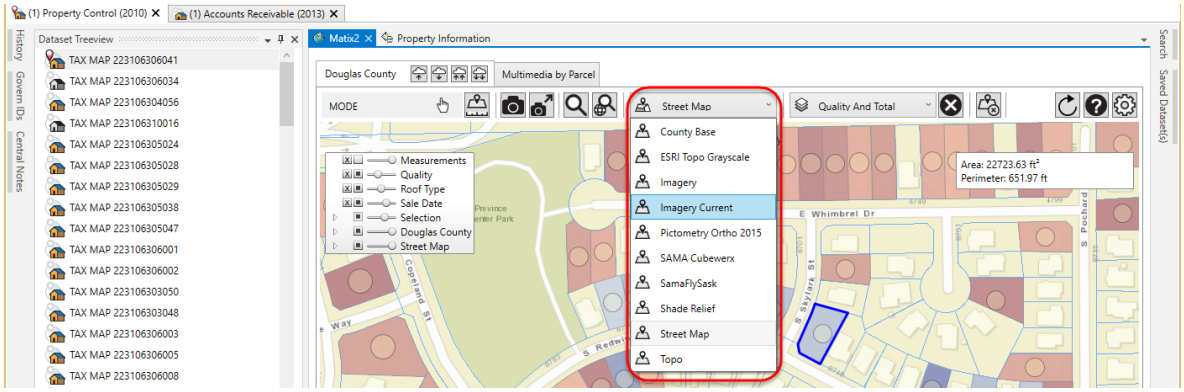


From the rectangular selection above, a number of parcels have been added to the map. These parcels are then sent to the Govern Dataset TreeView automatically if the UI is configured for Auto-Synch Operation. *See Auto-Synch or Manual-Synch configuration in this document.*

Base Maps

When visible, the combo box beside **Base Maps** label displays all configured base maps. Click to select the base map that you would like to display from the combo box.

NOTE: The **Base Maps** user control will only be displayed if 2 or more base-maps are configured.



The base map that appears is the one that has been set as the “Default” in the Base Map tab in the Matix Configuration form in the *Govern New Administration* (**GNA**).

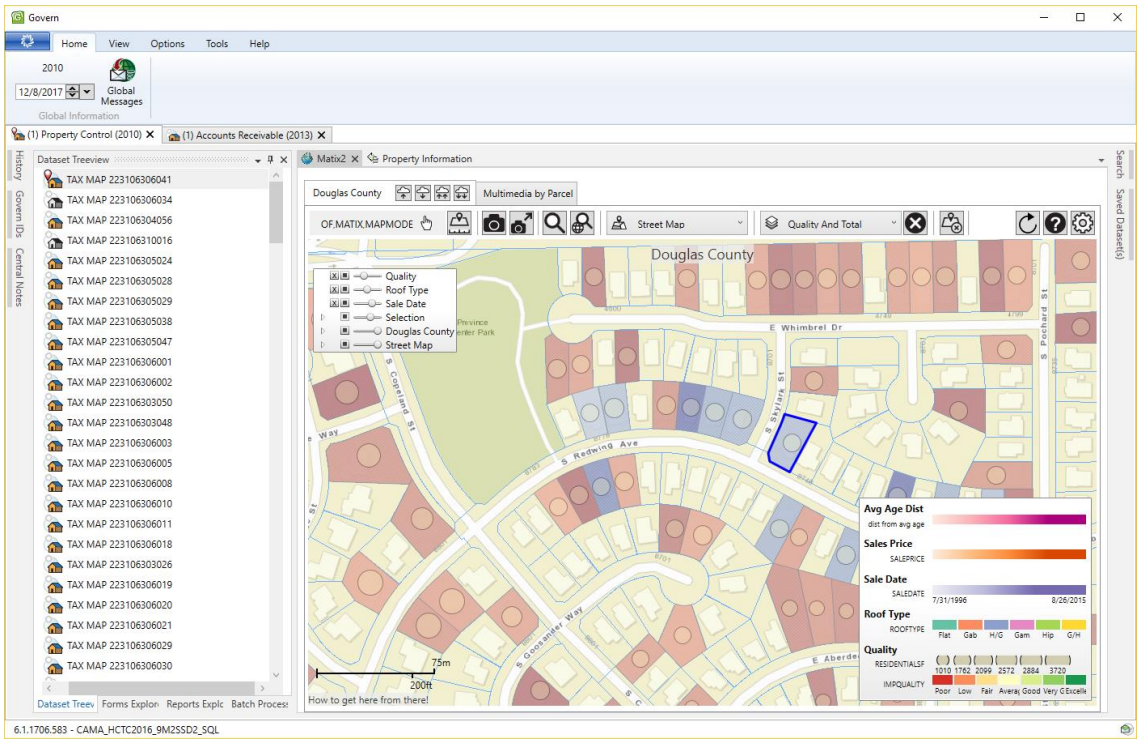
Theme Maps

When visible, the combo box beside the Base Maps combo box displays all configured theme maps.

Adding Themes in Govern

Themes are applied with a click to select a theme map from the list displayed in the combo box.

NOTE: The Theme Maps user control will only be displayed if 1 or more theme maps are configured.



As soon as a theme is selected, it is automatically applied. When applied, the following occurs:

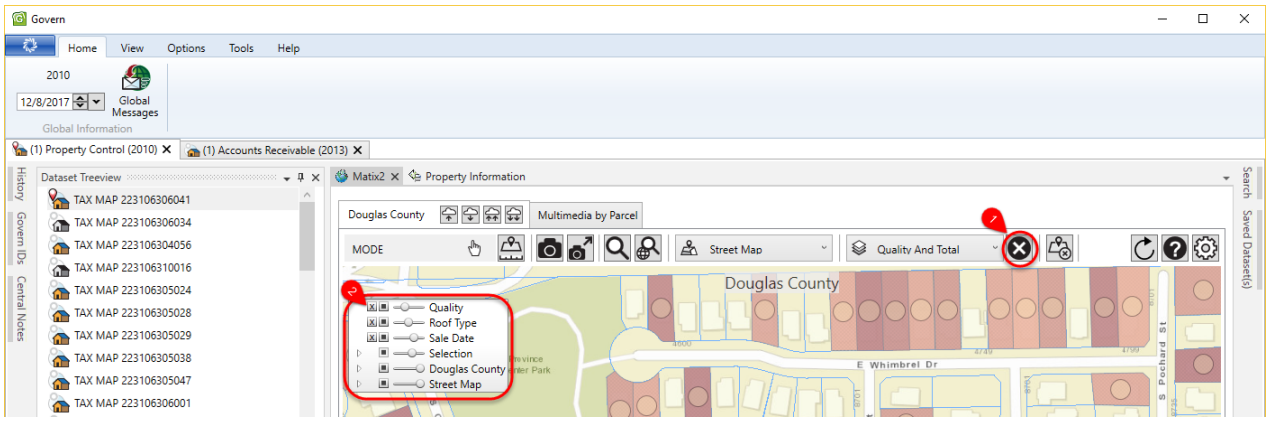
- The layer representing the theme map is appended to the top of the **Layers** legend that appears in the upper left hand corner of the Matix map interface. As is standard with the layers legend, the transparency can be modified. *See Modifying Transparency*.

NOTE: When modifying the transparency, as the resulting color is a percentage of the full color displayed in the *Themes* legend, there will be discrepancies.

- The newly selected theme is appended to the **Themes** legend that appears at the lower right corner of the Matix map interface.
- As multiple themes are added, the legends will increase in size.

Removing Theme Maps in Govern

Theme maps can be removed in the following manner:



1. On the Layers legend, click to select the “x” (**1**) that appears in front of the theme map legend besides the particular theme
2. A click on the “x” button (**2**) located beside the selected theme in the Themes combo box, will remove the theme.

When the theme has been removed, it will no longer be displayed in the two legends (*Layers* and *Themes*).

Hiding a Theme Map

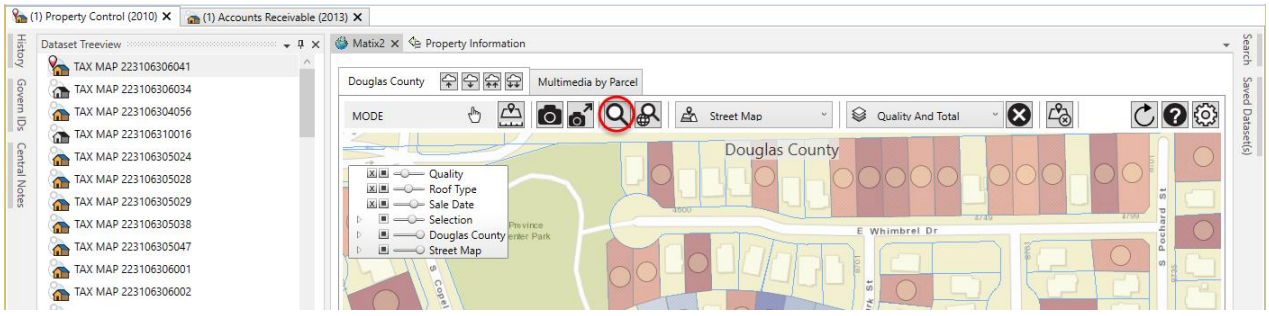
The button displayed between the [x] and the slider is a switch to hide the layer. This is useful when adjusting the transparency with the slider is not sufficient.

Governs’ Dynamic Search

Using Governs’ Dynamic Search

The Govern Dynamic search interface is used to select parcels that populate the Dataset Treeview. The Dynamic Search interface is presented as a combo box that contains all search styles from the search group that was configured in the OFD Matix custom entity. This search interface is accessed with a click on the Search button (magnifier icon).

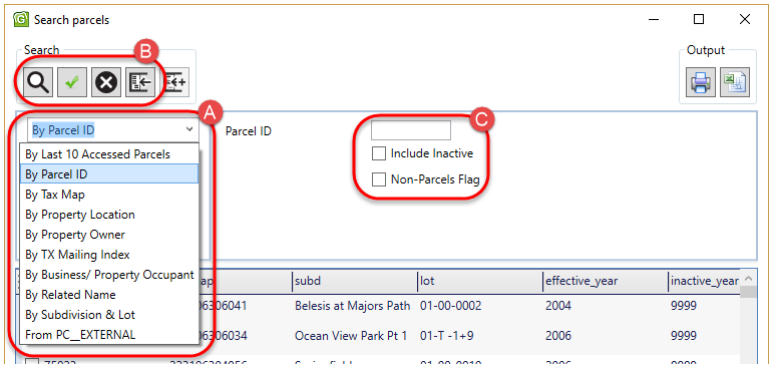
To perform a search…



1. Click the Search (magnifier icon) on the Matix ribbon.

2. The Quick Search Window is displayed; select one of the preconfigured searches from the combo box or specify a parcel ID (P_ID).
3. Click Load Selected Parcels to load search results to the Treeview.

To perform a search…



4. Click the Search (magnifier icon) on the Matix ribbon.
5. The Quick Search Window is displayed; select one of the preconfigured searches from the combo box or specify a parcel ID (P_ID).
6. Click Load Selected Parcels to load search results to the Treeview.

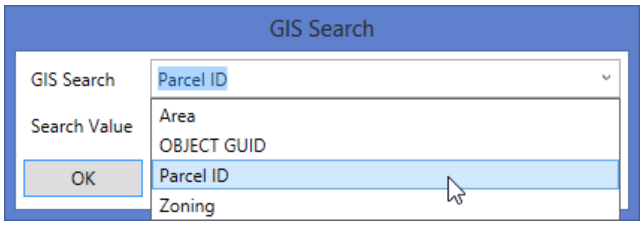
GIS Intersection Layer Search

Matix integration is able to perform queries on the GIS layer. Users are able to select a feature on a layer and select all features on the target parcel and all intersecting parcels. This information is passed on to Matix in .XML format. The GIS Search will allow users to search for parcels that interest with a target parcel. For example there may be a requirement to find all parcels that are connected to a specific P_ID to generate an abutter list.

To perform a GIS intersection search…

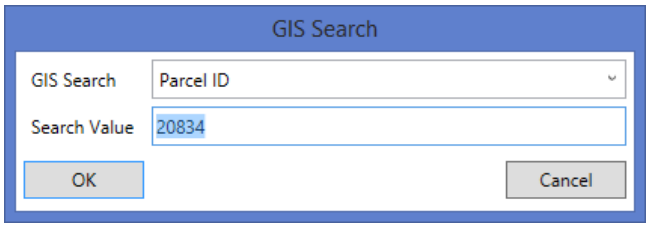
1. Click GIS Search on the Matix ribbon.
2. In the GIS Search window, click to select a layer to search from the **GIS Search** combo-box; these are the searchable layers that are available on the configured base-map.

For this example a search will be performed for a Parcel ID (P_ID).



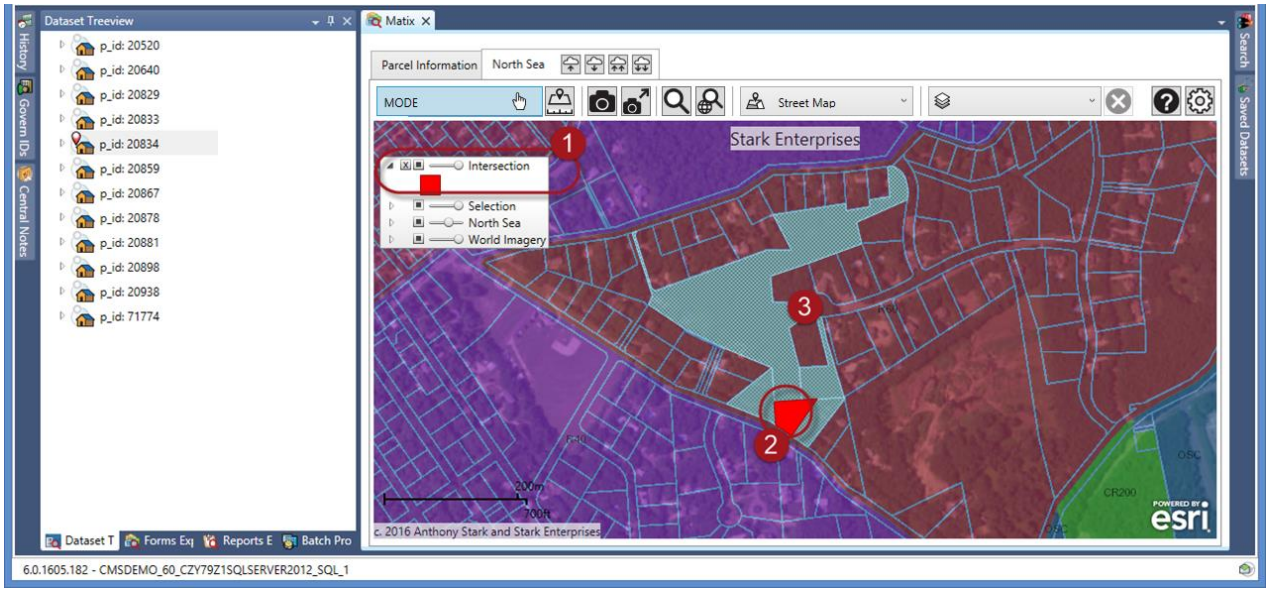
3. Enter the target Search Value, e.g. Parcel ID (P_ID).

4. Click OK to perform the search.



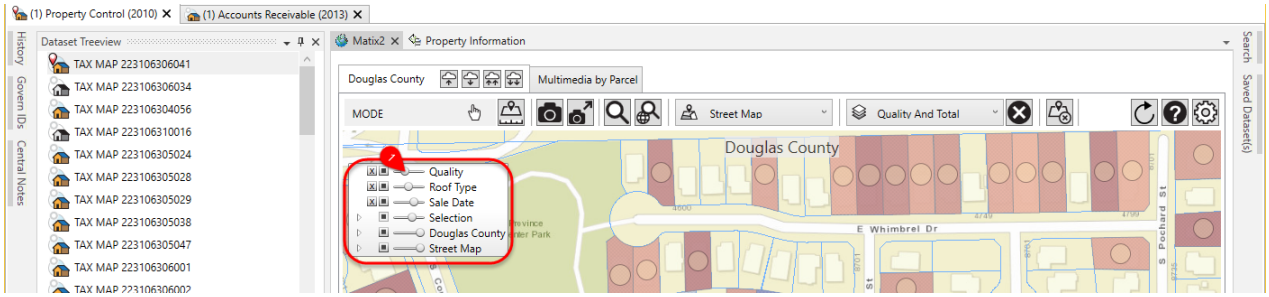
The resulting search will yield all parcels that intersect with the entered target. In addition the following changes will be seen in the interface:

1. The target parcel (1) is added as an additional slider to control its transparency.
2. A highlight is applied to the target parcel (2).
3. All intersecting parcels are identified (3).



Additional Layer Controls

Modifying the Layer Transparency



The GIS information that is displayed in the Matix pane is presented as a series of discrete layers. The appearance of these layers can be modified by the user. There are three (3) sliders which correspond to the **Selection**, **Parcels**, and **Street** layers.

Selection – This layer represents the target or selected parcel.

Parcels – Displayed parcels corresponds with those that are identified in the ClientMapURL. The parcel name displayed will the one that was defined in the

Streets – The Streets layer contains the image of the base-map that is referenced in the BaseMapURL.

Alpha Channel or Transparency

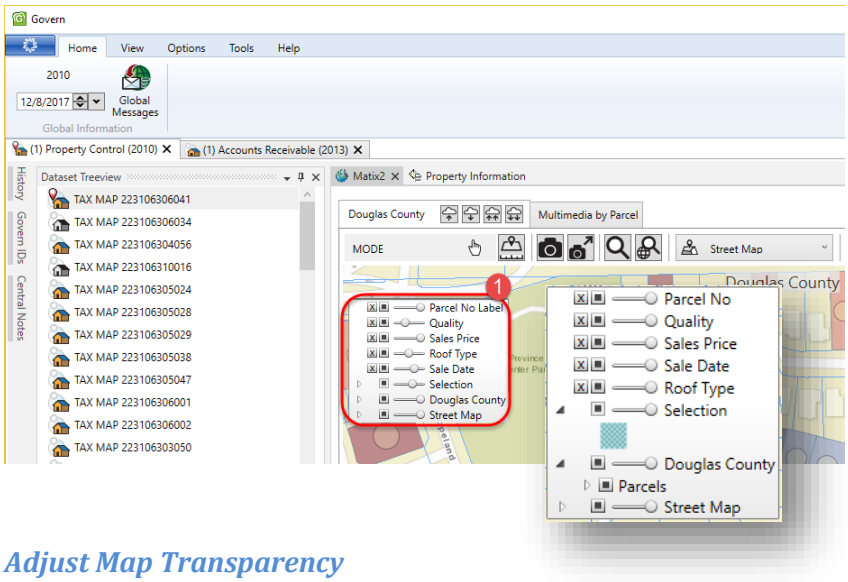
By manipulating the layer sliders, the "Alpha Channel" or "Transparency" of the layer can be changed to create a translucent or "glass-like" effect. This can improve viewing of selections and maps in the pane.

The three (3) layers that correspond to Selections, Parcels, and Streets, can be altered with the slide controls that are on the upper left hand side within the Matix pane.

NOTE: When modifying the transparency, as the resulting color is a percentage of the full color displayed in the *Themes* legend, there will be discrepancies.

Map Layer Control Panel

On the Map Layer Control panel are controls (1) that are made up of a series of sliders and selection buttons. These buttons and sliders, allow users to display, or hide, or manipulate the appearance of maps by changing their transparency.



Adjust Map Transparency

A map can be made to appear faded by adjusting its transparency on the Map Layer Control panel. The slider control on the immediate right of the square button will allow you to change the transparency from 100% (far right) to 0% (far left). *For additional details about Transparency see the Modifying Transparency section in this guide*.

NOTE: Adjusting the transparency to 0% will give the appearance of a hidden layer.

Hiding a Map

A click on the square button with the pointer will hide a map.

Hiding a Map Layer

When maps have one or more layers, the layers can also be manipulated in the same manner as the map. Map layers can be faded or hidden away.

NOTE: Users should note that the "x" button that appears to the left of the slider is used to remove a layer, any intersection model layer, and any theme layer.

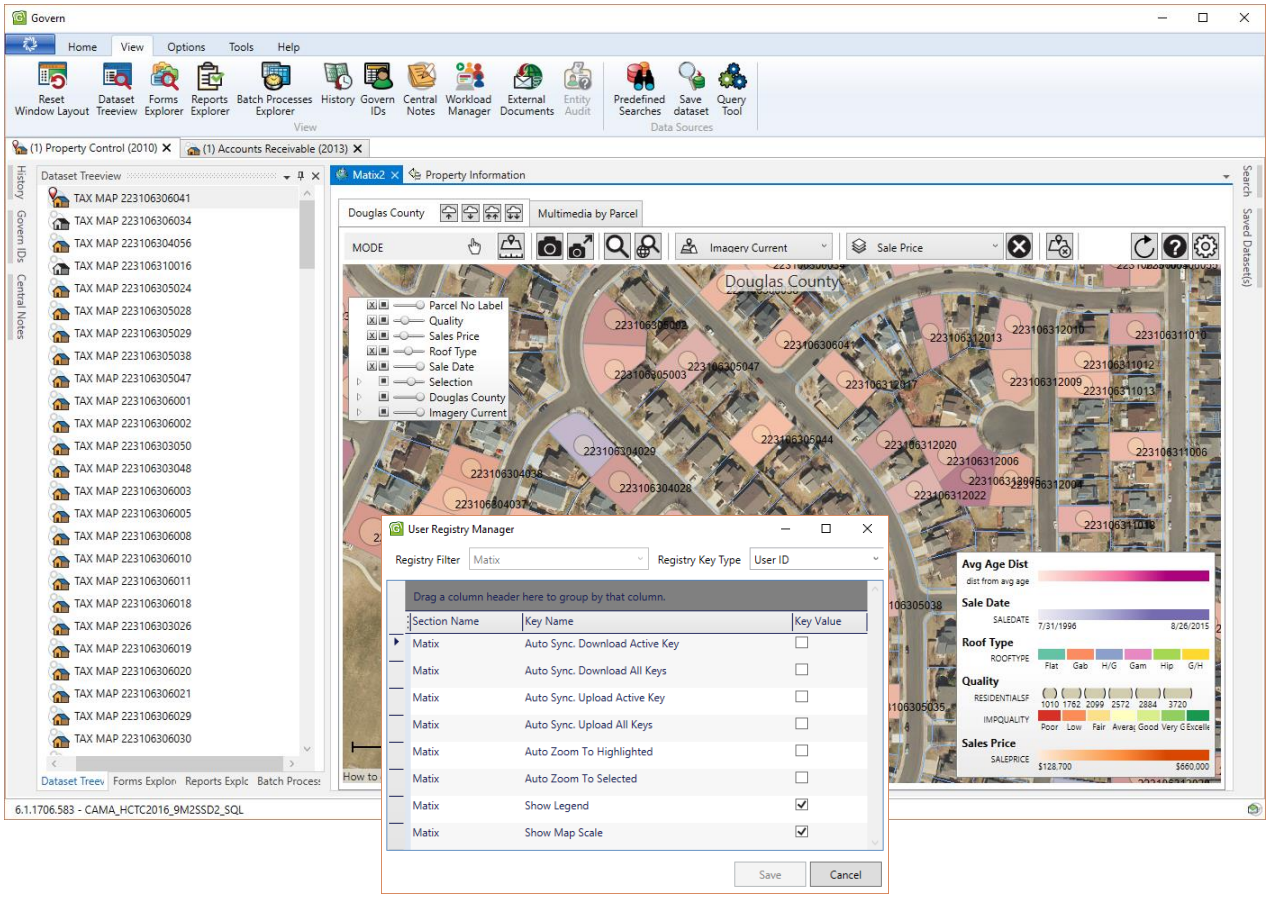
How to Access a Map Layer

On the Map Layer controls are arrowheads that are used to expand or collapse the layers that are present on a map. To expand or contract the layers on a map:

1. Locate the slider that represents the map on the Map Layer Control
2. Click on the arrowheads to expand the layers available on the map. Layers on a map may also contain sub-layer of their own.

User Settings

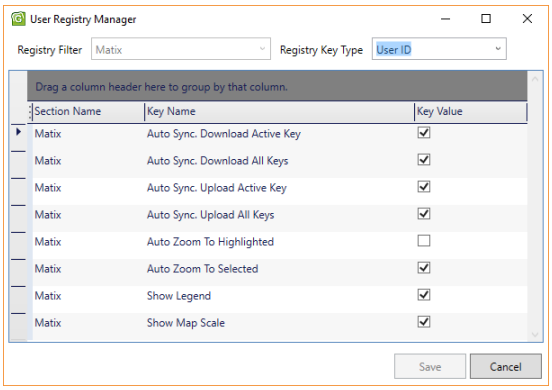
Matix and the Govern User Registry



NOTE: Users of Govern applications should note that the User Registry configuration, i.e. Registry Manager Form, for Matix Integration differs from those of Govern by its point of access to the parameters form. All Matix related parameters are accessed from this point.

User Level configuration occurs in the Govern User Registry Manager. These parameters are used to modify UI behavior. The User Registry Manager for Matix is accessed from the **Options** button located on the upper left hand corner of the application.

Accessing the User Registry Manager



To access the User Registry Manager to modify the Matix Integration mode of operation...

1. In the Govern UI click to select the OpenForm that contains the Matix Display pane.
2. Click the Registry Manager icon; by default the Registry Filter will be set to “Matix”.
3. Select the required options.

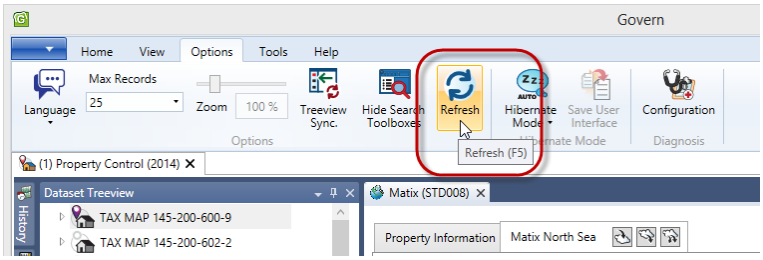
The following options can be selected with the check box under the Key Value column.

Saving User Registry Options

After selecting your options, in order to save them, click **Save**. All Matix settings in the *Registry Manager* form are saved in (Table: **USR_REGISTRY**), where the **SECTION_NAME** is **MATIX**, the buttons for manual synchronization in the Matix tab may not appear automatically; a refresh may be required. *See Using the Govern Refresh below.*

Using the Govern Refresh

To refresh the Matix tab and display the manual refresh buttons…



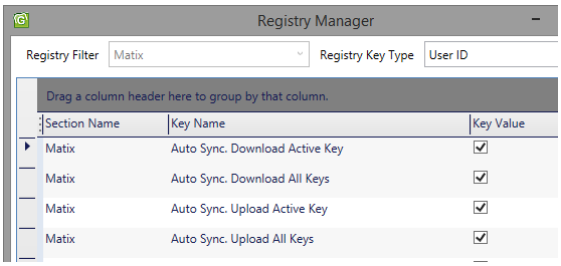
1. Locate the Govern ribbon.
2. Select *Options (tab)* >**Refresh**, to update the Matix tab

Auto-Synch operation

When configured for Auto-Synch operation, selections that are made in the Matix display pane are automatically reflected in the Dataset Treeview. For example a click on one, or a selection of multiple parcels, in the Matix display pane, will result in immediate population of the Dataset Treeview. Likewise the opposite is true, selecting a parcel in the Dataset Treeview will highlight the parcel in the Matix display pane.

Auto-Synch Configuration

Auto-Synch configuration is achieved by selecting all four (4) Auto Sync options in the Registry Manager form.



Manual-Synch operation

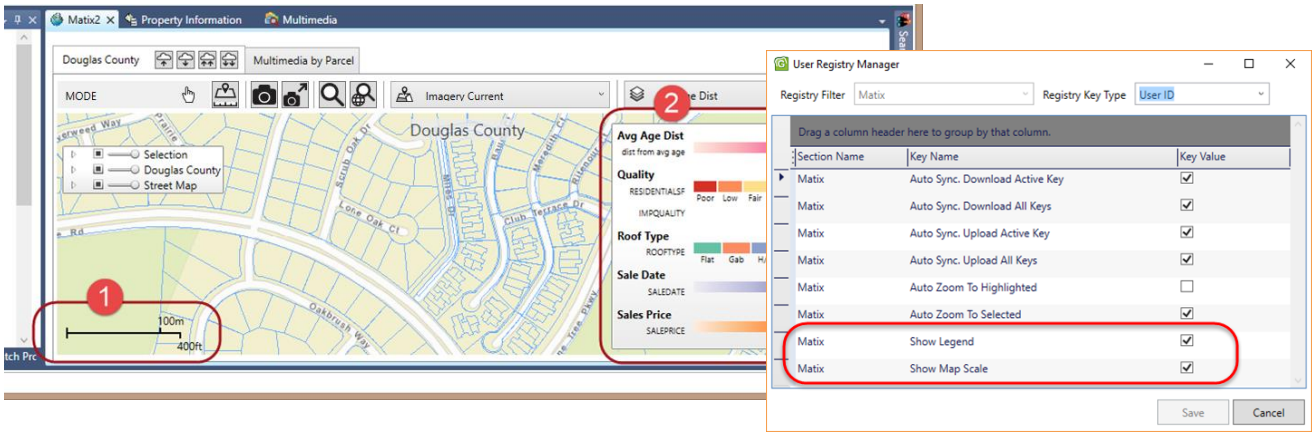
Configuring for manual synch operation will result in the need for manual updates of the Dataset Treeview or the Matix pane. This is the typical default configuration of the integration and is the recommended setup for the majority of users.

This method of operation is useful for building customized recordsets wherein, there could be potential performance issues with the continuous updates associated with a Auto-Synch setup. This setup is recommended for users that deal with large recordsets on a daily basis, or simply wish to control when either the Dataset Treeview, or the Matix display pane is updated.

Manual-Synch Configuration

A **Manual-Synch** configuration is achieved by deselecting all four (4) Auto Sync options in the Registry Manager form.

Mapping Elements



Show Legend

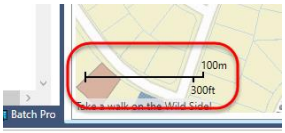
In the context of maps, a legend is a listing of the symbols that are used on a map, and what they depict. With the enhancement of theme maps, users can now optionally display a legend depicting the various theme maps that have been configured. This feature is enabled in the User Registry Manager.

To hide or display the Legend...

1. Locate the toolbar in the Govern Matix Interface.
2. Click **Options** to display the **User Registry Manager**.
3. Select the checkbox beside the **Show Legend** Key Name to display the *Legend*.
4. Click **Save** to save the option.

Show Map Scale

The map scale is now a user controlled option that is displayed on the lower left hand corner of the Matix map pane. The scale is displayed in black, and may not be visible when there isn't sufficient contrast with the background. The scale is enabled through the *User Registry Manager*. To hide or display the Map Scale...



1. Locate the toolbar in the Govern Matix Interface.
2. Click **Options** to display the **User Registry Manager**.
3. Select the checkbox beside the **Show Map Scale** Key Name to display the *Map Scale*.
4. Click **Save** to save the option.

CONFIGURATION

Pre-configuration Steps

To configure Matix, the following steps will need to occur. One of the first steps requires the configuration of an ArcGIS Server. This step is beyond the scope of this document and would require an administrator that is conversant with the steps to configure an ESRI ArcGIS server.

NOTE: Configuration for the Govern integration occurs at both the administrator level, and the user level through the *Govern User Registry Manager*. All configuration of the Matix Custom Entity must be completed by a user with administrator level access.

Required Configuration Steps

After verification that there is a correctly configured ESRI ArcGIS Server running, the Govern level configuration can proceed. The following will need to occur:

- Configuration in the Govern New Administration (GNA) in the following areas
    - Client Map – See Creating a New Map Entry in this document.
    - Base Map and Geometry Service URL – Refer to the Configuring Base Maps section in this document.
    - Theme Map (as required...) – See the Theme Maps section in this document
- Matix form configuration in the OpenForms Designer (OFD)

Configuration in the Govern New Administration (GNA)

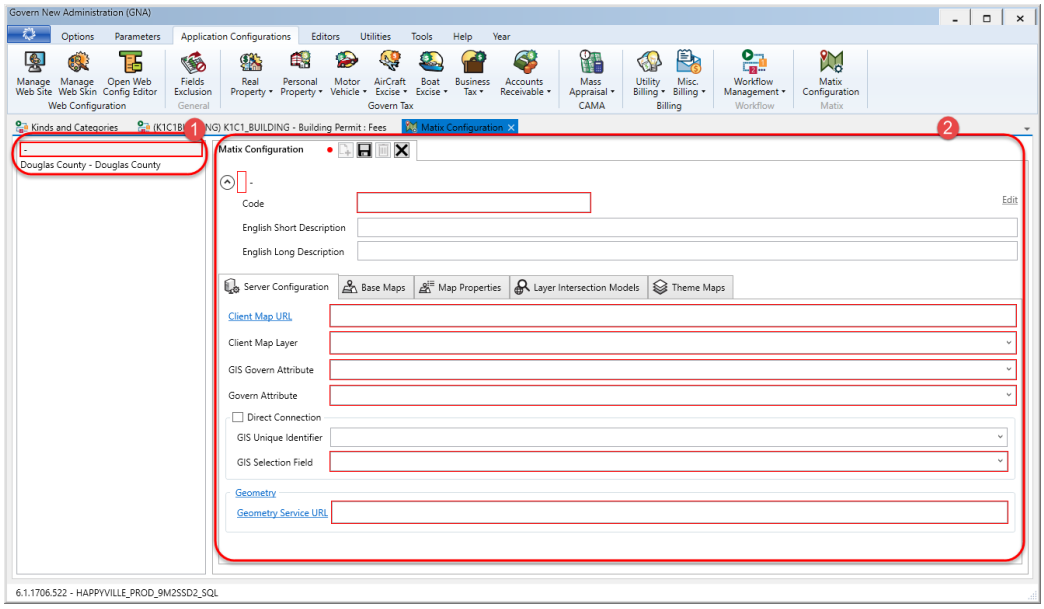
As with other Govern integrations, the configuration that is required for Matix is primarily in the Govern New Administration (**GNA**). To begin the setup process:

1. Launch GNA.

2. In GNA click the **Application Configurations** tab.
3. Locate Matix in the ribbon and click **Matix Configuration**.

Matix Configuration form

The layout of the Matix Configuration form is standard with other Govern configuration forms. There is a pane on the left hand side (1) that lists the Maps that are to be made available to Matix. As each configured map is selected, the parameters for the map are displayed in the body of the form (2).



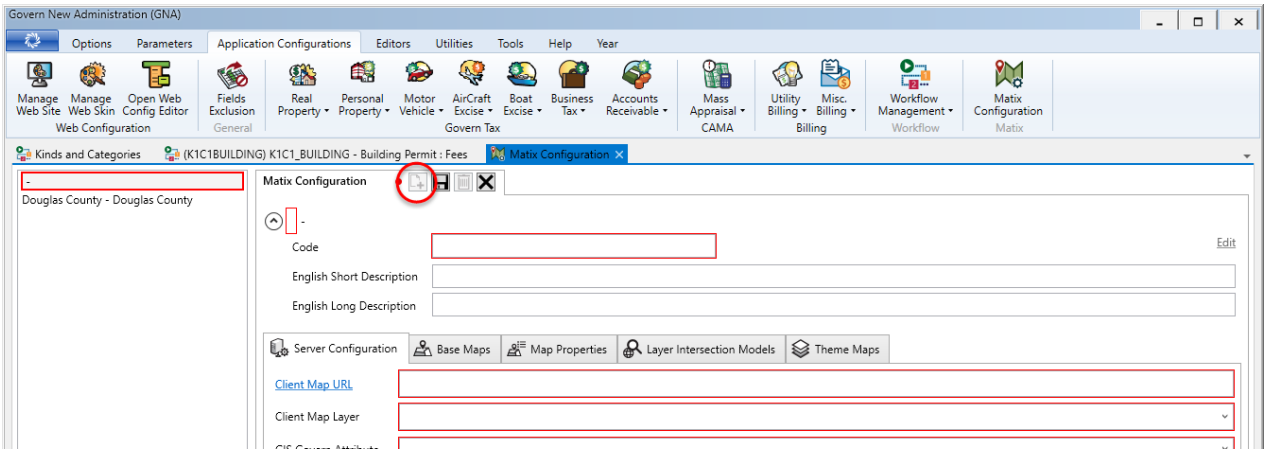
Matix Configuration tab (*Geomap*)

In the *Govern New Administration* (**GNA**) the **Matix Configuration** form is used to define one or more client maps for the Matix integration to access.

NOTE: This step is performed prior to any configuration in the *OpenForms Designer* (**OFD**)

Creating a new Map entry

On the Matix Configuration tab, click **Create a new item** to create a new entry. The required parameters will be highlighted in red.

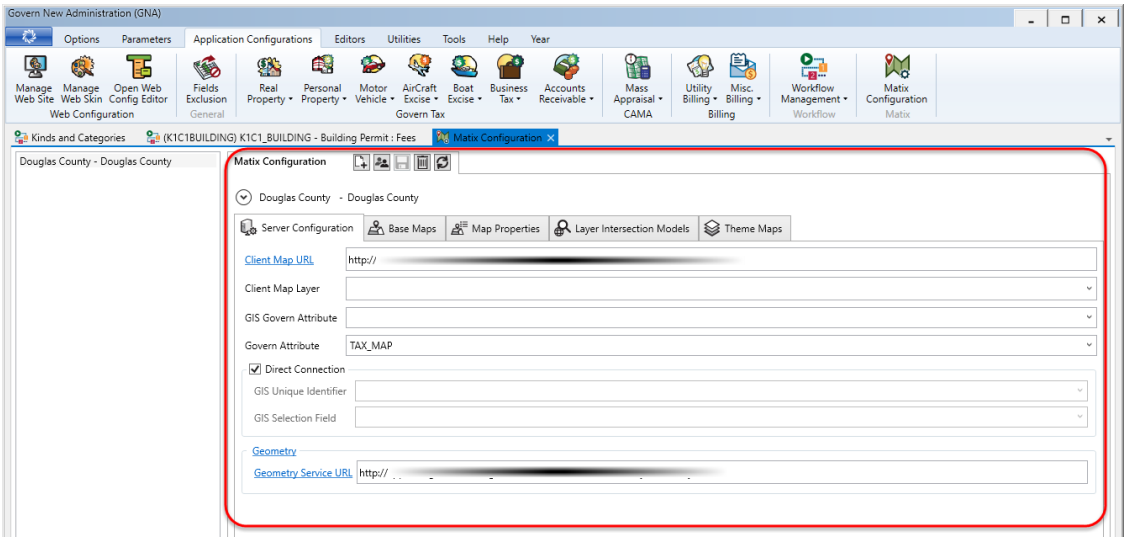


Matix Sub Forms

Matix configuration parameters are located in tabbed sub-forms. The additional configuration sub-tabs available are as follows…:

- **Server Configuration** – Specify the configuration of multiple client maps.
- **Base Maps** – Used to configure raster or vector imagery that makes up the background setting of a map.
- **Map Properties** – Specify branding and copyright information on the map presented in the interface.
- **Layer Intersection Models** – These are the searchable layers on the base map.
- **Theme Maps** – Theme maps are visual representation of data used to represent the information that is being presented in the Matix map pane. For example showing the different sales dates of building on the map.

Server Configuration tab



Client Map URL – Enter the path to the client map. When valid, click on the URL link beside the parameter to link to the information that is available on the server.

Client Map Layer – A Client Map is the selection layer of the client map representing parcels. The client map is presented as an overlay on the base-map; select one from the combo box.

GIS Govern Attribute – This is the attribute on the ESRI client map that will be mapped to an equivalent Govern attribute.

Govern Attribute – Select the Govern attribute that will be synchronized with the GIS Govern Attribute. When there is a 1:1 mapping, Govern and the geomap service will be synchronized.

Direct Connection group

When configuring a custom client map, it is necessary to map an element in the map layer to the equivalent in Govern,

Direct Connection group parameters

GIS Unique Identifier – A unique identifier is required for all ArcGIS layers. The unique identifier is displayed here. Typically the OBJECTID is used.

GIS Selection Field – When a selection is made, it will be made on the field that is set in this parameter.

NOTE: This group is only active when the option for Direct Connection is not selected. When Direct Selection is checked, i.e. selected, the Govern will all use this as an indication that there is a 1:1 mapping of the ESRI Client Layer map and one of the Govern PC_PARCEL attribute.

Geometry group

Geometry Service URL – This is a link to a geometry service that contains methods which provide access to frequently used geometric operations. This geometry service can be used to buffer, project, and simplify geometry; calculate areas and lengths for geometry; and determine spatial relations and label points. A click on the URL link beside the parameter will link to the Geometry Server or corresponding directory containing information that is available on the server.

Base Maps tab

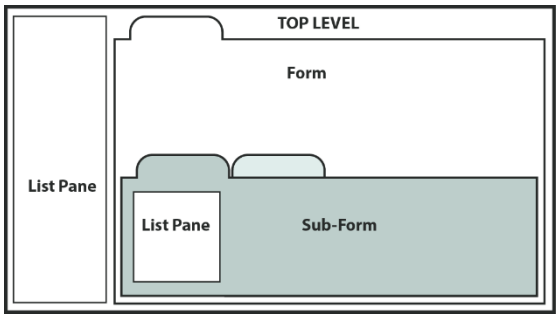
A **base map** is a collection of raster or vector imagery that makes up the background setting of a map. The layers of a base-map can include landmasses, roads, digital elevation models (DEM), waterways, political boundaries, and landmarks. The requirements of the map will determine what layers are included in a base-map. *See **Multiple Base-maps** below for details.*

Code – Enter a name that will be used to identify the base-map in the OpenForms Designer (OFD) and on the Matix Integration OpenForm tab in Govern. As with the naming procedure for all Govern codes, a click on the expand arrow on the left of “Code”, will display additional description parameters. Additional information includes Short, Long, and second language descriptions.

Configuring Base-maps

Map List pane

The Base Map tab is a **Sub-Form**. As with the top level **Form**, it is made up of a List pane for maps on the left hand side, and a Sub-Form body on the right. As Base Maps are configured and added to the form, they are listed in the pane. When there is a requirement to change base maps "on the fly" in the Matix user interface, the required base maps would take their configuration form this location. Once configured, they would then be available for selection.



Base Maps tab parameters

Code: Enter a name or code for the base-map. Name length is a maximum of 15 alphanumeric characters.

English Short Description: Enter a short description. This is used for fast data entry and look-ups if space is limited on forms. Description length is a maximum of 25 alphanumeric characters.

English Long Description: Enter a long description. This is displayed during look-ups and on forms and reports. Description length is a maximum of 25 alphanumeric characters.

NOTE: Depending upon your configuration, additional language description parameters may be present.

TIP: When configuring, you can quickly copy the name of one parameter to other fields with the following steps:

1. Highlight the name in the parameter.
2. Click and hold the *CTRL* key.
3. Using the mouse pointer right-click on the highlighted name, and drag the pointer to the next parameter.
4. Once in the next parameter, release the mouse button first.

NOTE: Once the code has been saved, the name cannot be changed.

About Secure Base-maps

When sensitive information is on a base-map, it may be necessary to restrict user access to specific layers. Layers can be secured by restricting user access on the server. When security is in place user access credentials can be entered through the following parameters:

Is Default: When there are 2 or more base-maps configured, select this option to indicate that this selected map will be the default base-map displayed. To select another base-map as the default, click to select the base-map from the list and select **Is Default**. When only one base-map is configured, this option will be selected, but "ghosted", preventing any access.

URL: This is the *Uniform Resource Locator* (**URL**), or Web address, to the base-map on the ArcGIS server.

ESRI Layer – The following options are available for the ESRI layer.

Dynamic – Select this option to work with a dynamic map service resource. A dynamic map service generates images on the fly.

Feature – A feature layer is a grouping of similar geographic features—for example, buildings, parcels, cities, or roads. Features can be points, lines, or polygons (areas). You can set properties for feature layers—such as transparency, or labels that appear in the map. This option is selected when the layer is a feature.

Tiled – This layer is selected when the base-map images are stored as tiled images.

WMS – Select this option of the layer to be used is a *Web Map Services* (**WMS**)

User Name: This is the username that will be required to access a layer that has been secured.

Password: Enter the password that corresponds with the username that will access a password protected base-map layer.

Sub Layers: Enter the name of the secured sub layer.

Spatial Reference ID: A Spatial Reference System Identifier (SRID) is a unique value used to unambiguously identify projected, un-projected, and local spatial coordinate system definitions. These coordinate systems form the heart of all GIS applications.

Add / Remove a Base Map

To add a base map…

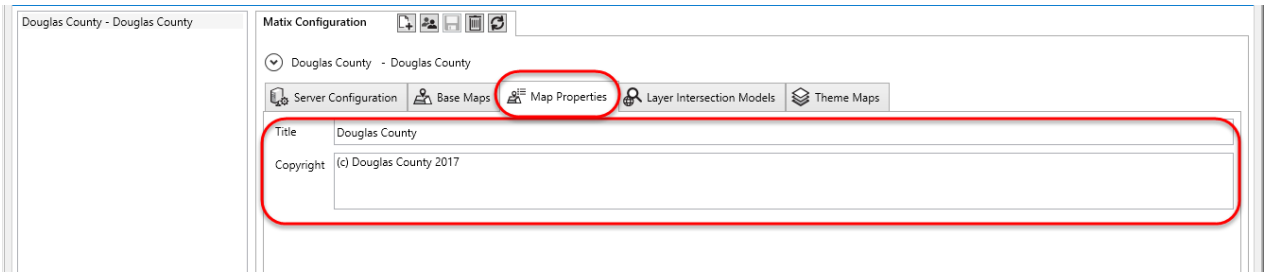
1. On the base map tab click [+].
2. Enter a code in the **Code** parameter; click the expand arrow to add a Short and Long descriptions.
3. Complete any required parameters.
4. Click **Save** on the main *Matix Configuration* tab.

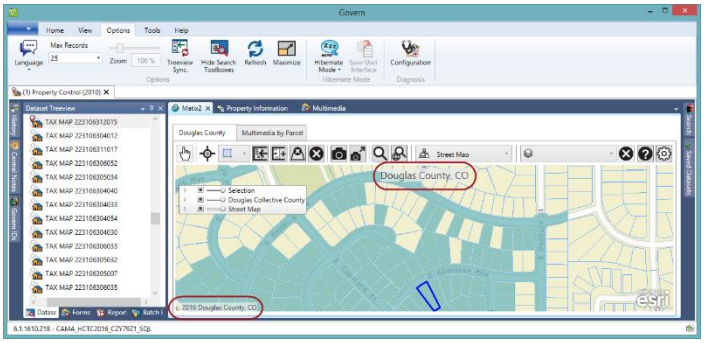
To remove a base map…

1. Click to select the base map to be deleted on the base map list pane.
2. On the base map tab click [-].
3. The base map will be deleted.
4. Click **Save** on the main *Matix Configuration* tab.

Map Properties

Users that require an image capture of parcels or areas to append or embed within reports, or for reference purposes, can use the **Capture Image** or **Export Image to Multimedia** features of Matix. *See the Image Capture feature* in this *manual.* An additional feature is the ability to brand the image with a default title, and, or copyright notice.





Title – The *Title* parameter provides a means of branding images when the **Capture Image** option is used. Enter a title that will appear as an overlay centered at the top of the map area. Title length is a maximum of 270 alphanumeric characters; multiple lines are not supported.

Copyright – Additional branding information can be entered in the *Copyright* space that is reserved on the lower left hand side of the screen. An unlimited amount of text can be entered for the Copyright, but caution should be used as excessively long text on multiple lines can obscure the map area.

Adding Copyright information for Exported Images

To add copyright information to extracted images of parcels:

1. In the GNA click to select the Application Configuration tab.
2. In the Matix group, click Matix Configuration.
3. Click to select the map that the copyright notice will be added to from the left hand column.
4. Under the Matix Configuration tab, Locate the Map Properties group.
5. In the **Title** parameter enter the title that will appear centered at the top of the exported image.
6. Enter in the Copyright parameter the information that will be stamped along the bottom of the exported image.

NOTE: This information can be updated as required. Copyright information must be entered for each map, when multiple maps are maintained.

Presentation in Govern

When configured copyright notifications will be displayed in Govern after a refresh or a restart of the application.

When an image of the interface is exported, the copyright notice will be presented as indicated on the interface.

Layer Intersection Models

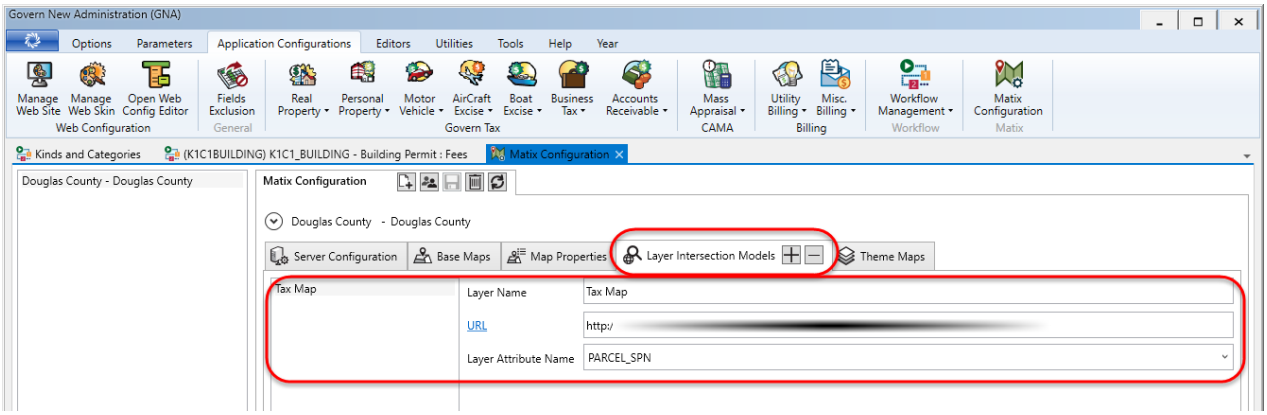
Intersects calculate the geometric intersection of feature classes and feature layers. The features that are common to all inputs (i.e. intersects) are then given as an output. If you were to imagine two or more groups, the intersection would be a collection of only the commonalities between all groups.

Layer Intersection Models (tab)

Layer Name – These are the name of searchable layers on the base map.

URL – Enter the Uniform Resource Locator (URL), or server path to the resource. When valid, a click on the link to the left of this parameter will open the information page in your browser.

Layer Attribute Name – This is the name of the layer as it is known on the server.

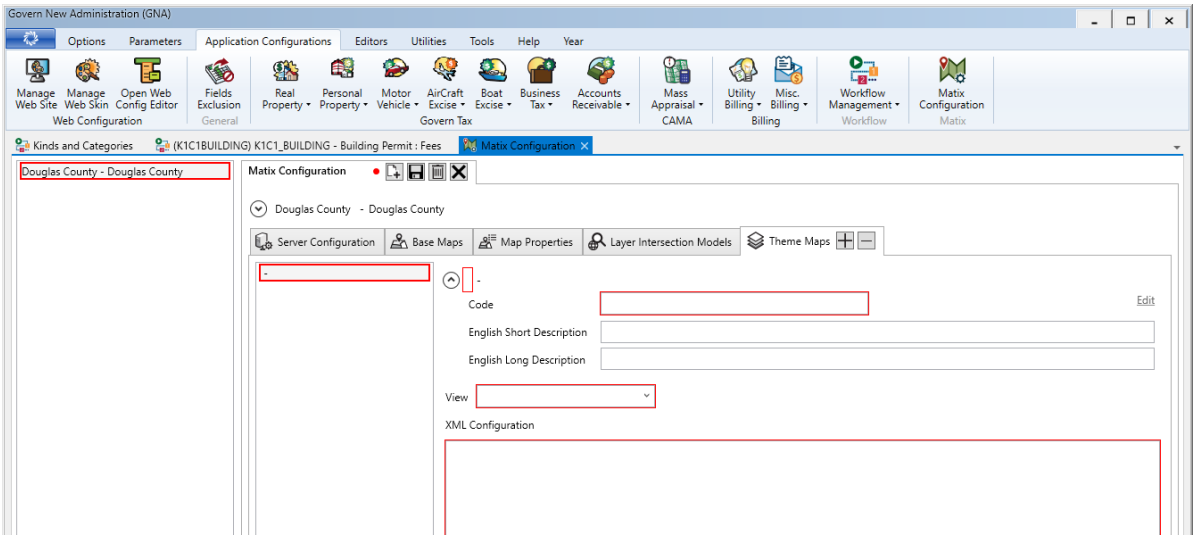


Theme Maps

Theme maps are visual representation of data that is used to add value to the information that is being presented in the Matix map pane.

Theme Maps (tab)

The *Theme Maps* tab is a sub form. As with the top level Form, it is made up of a List pane on the left hand side containing configured themes. On the right is a sub form body with the required parameters.



Map List pane

As Theme Maps are configured and added to the form, they are listed in the pane. When there is a need to change theme maps “on the fly” in the Matix user interface, theme maps could be configured here. Once configured, they would be available for selection.

Theme Maps tab parameters

Code: Enter a name or code for the theme map; name length is a maximum of 15 alphanumeric characters.

English Short Description: Enter a short description. This is used for fast data entry and look-ups if space is limited on forms. Description length is a maximum of 25 alphanumeric characters.

English Long Description: Enter a long description. This is displayed during look-ups and on forms and reports. The description length can be a maximum of 25 alphanumeric characters.

NOTE: Depending upon your configuration, additional language description parameters may be present.

TIP: When configuring, you can quickly copy the name of one parameter to other fields with the following steps:

1. Highlight the name in the parameter.
2. Click and hold the CTRL key.
3. Using the mouse pointer right-click on the highlighted name, and drag the pointer to the next parameter.
4. Once in the next parameter, release the mouse button first.

NOTE: Once the code has been saved, the name cannot be changed.

View: This "View", in the context of SQL, retrieves a dataset based upon which themes contain the GIS Selection Field values that correspond to the TreeView P_IDs, and can be displayed correctly. This view contains validations and so must adhere to the following:

- The name must be preceded with
  - **V_**MATIX_, i.e. *Govern supplied* views, or **VW_**MATIX_ for *user customized* views that are executed as soon as there is interaction with the dataset TreeView.
- The View must contain a P_ID column.
- All **<RequiredFields> ... </RequiredFields>** entries defined in the **XML Configuration** parameter below, must be represented as column names of the view. This means that the View can perform the lookup between the P_ID and the selection field, and display the correct theme element based on the correct selection value.

XML Configuration: The theme is typically defined by an XML file. The **<ThemeDefinition>** ... **</ThemeDefinition>** class object within the file is parsed from Matix. This XML file is the result of an output from the **Matix Theme Manager**(R) application. The correct process to generate this file is to use the Matix Theme Manager to create the theme you want, the result is saved as an XML file that is then copied and pasted into the XML Configuration parameter.

NOTE: Validations have been added to the file in order to maintain the integrity of the XML file.

How to Add a Theme Map

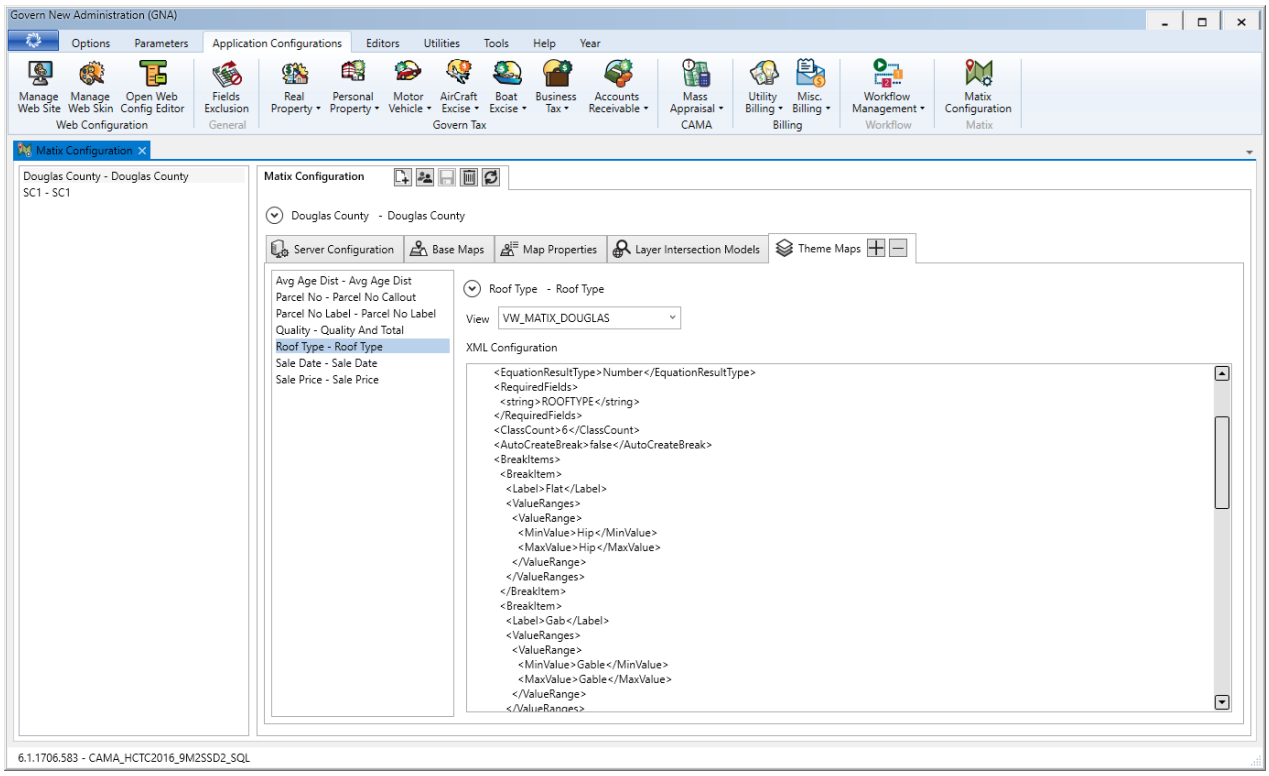
To add a theme map…

1. On the theme map tab click [+].
2. Enter a code in the Code parameter; click the expand arrow to add Short and Long descriptions.
3. Complete any required parameters.
4. Click Save on the main Matix Configuration tab.

Removing a Theme Map

To remove a theme map…

1. Click to select the theme map to be deleted on the theme map list pane.
2. On the theme map tab click [-].
3. The theme map will be deleted.
4. Click Save on the main Matix Configuration tab to finalize the deletion.



Configuration in the GNA

In the *Govern New Administration* (**GNA**), the next step of the configuration of the *Matix* integration will take place. The forms were configured in the GNA, now...

1. Define any required **Base Maps**.
2. Define required **Theme Maps**.

NOTE: The above 2 processes can be performed at any time, or after executing the Batch Process.

3. The batch process that will be used to synchronize the Govern parcels with the ESRI geodata will be created.
4. The form containing the Matix Integration, and the newly created GIS Synchronization batch process will both be added to a profile.

The Synchronization Process

In Govern we can have two kinds of profiles; based on P_ID or NA_ID; GIS works with profiles that are based on the P_ID.

In order to ensure that the Govern database and the Geodatabase are aligned, a synchronization process between the two is required. This is achieved by running a GIS synchronization batch process.

NOTE: Prior to running the GIS synchronization process, it may be necessary to clear the two following tables, otherwise the process may need to be run repeatedly to correct generated errors. These errors

correspond with parcels that are in the GIS database but not in Govern, or in Govern but not in the GIS database.

Target Tables to Clear:

- (Table: PC_LK_PARCEL_GIS)
- (Table: PC_GIS_FEATURES)

Administrators with access to the database can run the following queries in a database management application like MS SQL Management Studio:

```
----------RUN THESE LINES----------
DELETE FROM PC_LK_PARCEL_GIS;
DELETE FROM PC_GIS_FEATURES;
----------STOP----------
```

Should the above mentioned tables not be cleared, errors may be displayed. These errors correspond with parcels that are in the GIS but not in Govern.

TECHNOTE: The following query can be used to see which Govern parcels (P_ID) match with records that exist in the ESRI Geomap.

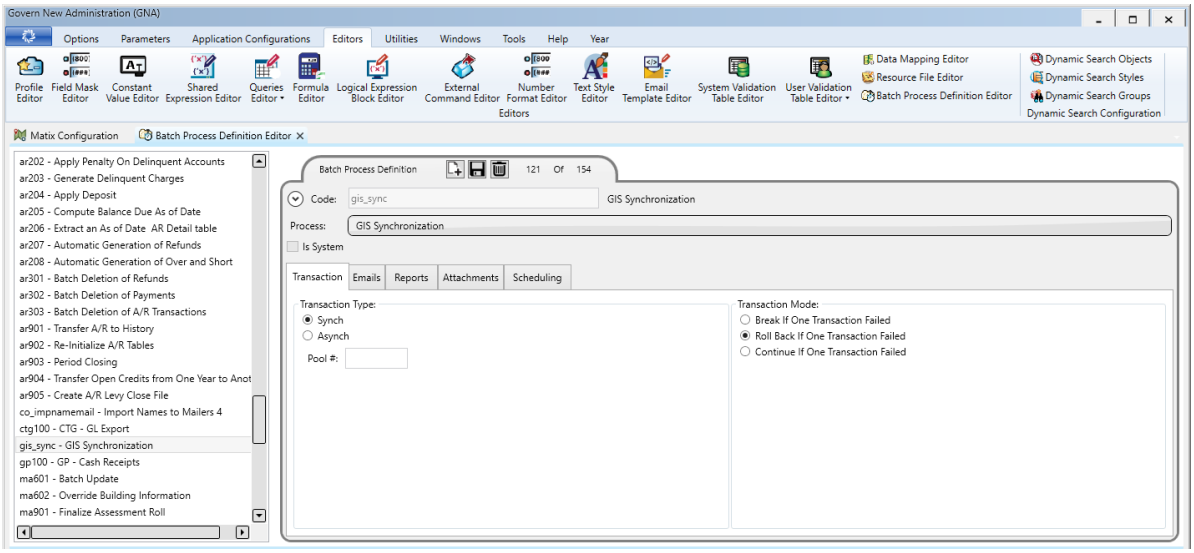
```
----------RUN THESE LINES----------
SELECT p.P_ID, f.OBJECT_GUID
FROM PC_PARCEL p
INNER JOIN PC_LK_PARCEL_GIS lk on lk.P_ID = p.P_ID
INNER JOIN PC_GIS_FEATURES f on f.GIS_RECORD_ID = lk.GIS_RECORD_ID
----------STOP----------
```

Security

As a custom entity, security is configured directly in the *OpenForms Designer* (OFD) in Security mode.

Creation of the GIS Synchronization Batch Process

After clearing the tables, in GNA you will need to create a Batch Process called GIS Synchronization (GIS_Synch). To create the required batch process…



1. In the GNA ribbon select *Editors* > **Batch Process Definition Editor**.
2. Enter a code, e.g. **GIS_Synch**.
3. Select **GIS Synchronization** from the Process combo box; all other options are set to the default.
4. Save the Process.

Once saved, this batch process will be included with the profile containing the Matix form in the **Profile Editor**.

Combine the Batch Process with the Profile

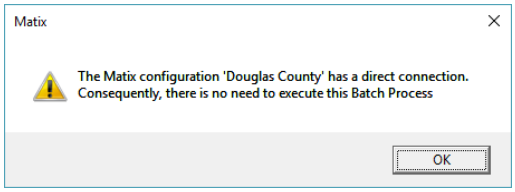
The next step is to link the Batch Process with the Profile containing Matix in the *GNA Profile Editor*.

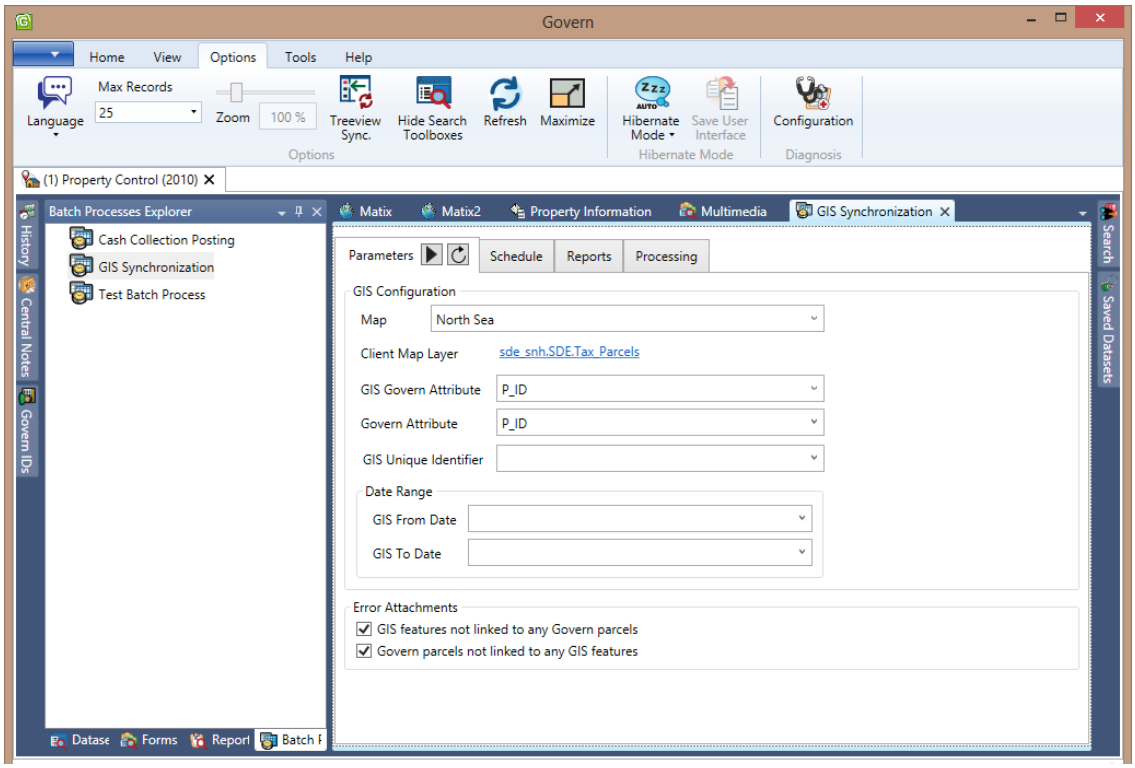
To link the newly created GIS Synchronization batch process to the profile in GNA:

1. Select *Editors* > **Profile Editor** on the GNA ribbon.
2. Select the profile from the list on the left hand side.
3. Click the Links tab.
4. Under the Batch Processes section, click Add; select your batch process (GIS_Synch).
5. Click **Save**.

GIS Synchronization Batch Process in Govern

The GIS Synchronization Batch Process, when configured, is accessed and run through the profile that it has been combined with. Users that attempt to launch the synchronization process when the *Direct Connection* option was selected in their configuration will be presented with a warning screen. This screen indicates that a Synchronization is not required. *See Changes to the GIS Synchronization Process below for details.*





GIS Synchronization Batch Process parameters

GIS Configuration group

Map – Select an available map from the combo box.

Client Map Layer – This is the active link to the client map layer on the ArcGIS server.

GIS Govern Attribute – This parameters was to have been defined in the GIS Synchronization Batch Process. This parameter has been moved to the *Govern New Administration* (**GNA**). This combo box contains all fields available from the selected Client Map layer; select one from the combo box. The selected field is the one from ESRI that makes the lookup to our Govern field. In the example, below ESRI.PARCEL_SLN fits with our PC_PARCEL.TAX_MAP field.

Govern Attribute – Previously was to have been defined in the GIS Synchronization Batch Process. This has since been moved to GNA – This combo box contains a hardcoded list of fields available from our PC_PARCEL table; i.e. {P_ID, TAX_MAP, TAX_MAP_UFMT}; select one from the combo box. The selected field is the one from Govern that makes the lookup to the previous ESRI field. In the example, below our PC_PARCEL.TAX_MAP field fits with the ESRI.PARCEL_SLN.

GIS Unique Identifier – Two possible hardcoded maximum choices: GlobalID or OBJECTID. Maximum because the selected client map layer is scanned to verify that both fields, or, at least one field is present. By definition, the way ESRI maps are constituted, the OBJECTID field is mandatory and should always be present. On the other hand, GlobalID, whose form is 38-character length ("{" + a Guid format (length of

36) + "}"), was mandatory until Release 1609. Previously it was hardcoded. The code has now been modified to handle layers without old, former GlobalID fields. In this example, only the **OBJECTID** field is present in the *ESRI* layer, so this item has been automatically selected and the combo box is disabled.

GIS Selection Field – The field from the ESRI layer whose values are the ones used for the selection on Matix map. What allows us to select a parcel on Matix, to have the highlighted border. If you choose the wrong field, a clock icon will be displayed besides the selection layer in the top-left layer legend in Govern Matix and selection on the map will do nothing, as selecting any parcels on the treeview. The lookup will be broken.

Synchronization Process

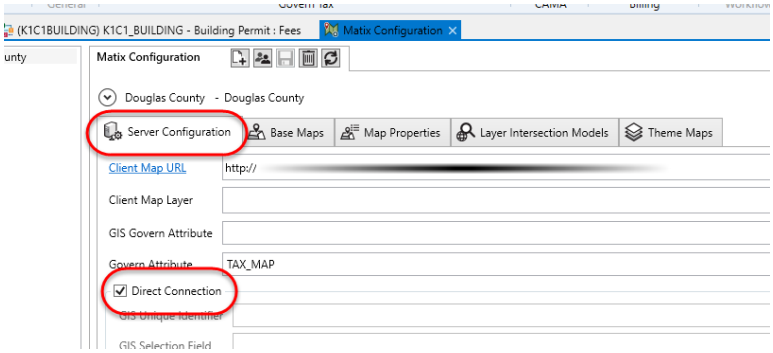
Changes to the GIS Synchronization Process

A direct synchronization option is possible using (Table: TAX_MAP_UFMT) and the Map Service. Instead of using the intermediary GIS_SYNCH batch process to synchronize your configuration between Govern's (Table: PC_PARCEL) and ESRI's geodatabase PC_GIS_FEATURES layer, a direct one to one synch process is now possible. When ESRI client map layer fields are configured so that the values of one of the fields matches the content of one of 3 possible fields in Govern's (Table: PC_PARCEL), the batch process is eliminated. Governs' PC_PARCEL tables are as follows:

- PC_PARCEL.P_ID
- PC_PARCEL.TAX_MAP
- PC_PARCEL.TAX_MAP_UMFT (unformatted)

When any of the above fields are aligned, there is a direct relationship that maintains a synchronization; i.e. there is no longer a need to perform the conversion of the GIS Synchronization Batch Process.

In GNA there is an option under the Server Configuration tab called **Direct Connection**. When *Direct Connection* is selected, the Govern system will match the value entered in the **GIS Govern Attribute** with the value in **Govern Attribute**; no synchronization process will be required.



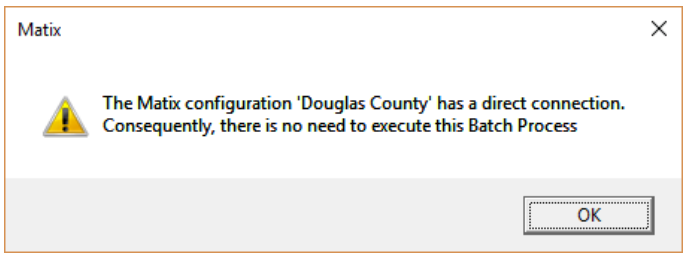
*See **Server Configuration** tab in this document for details.*

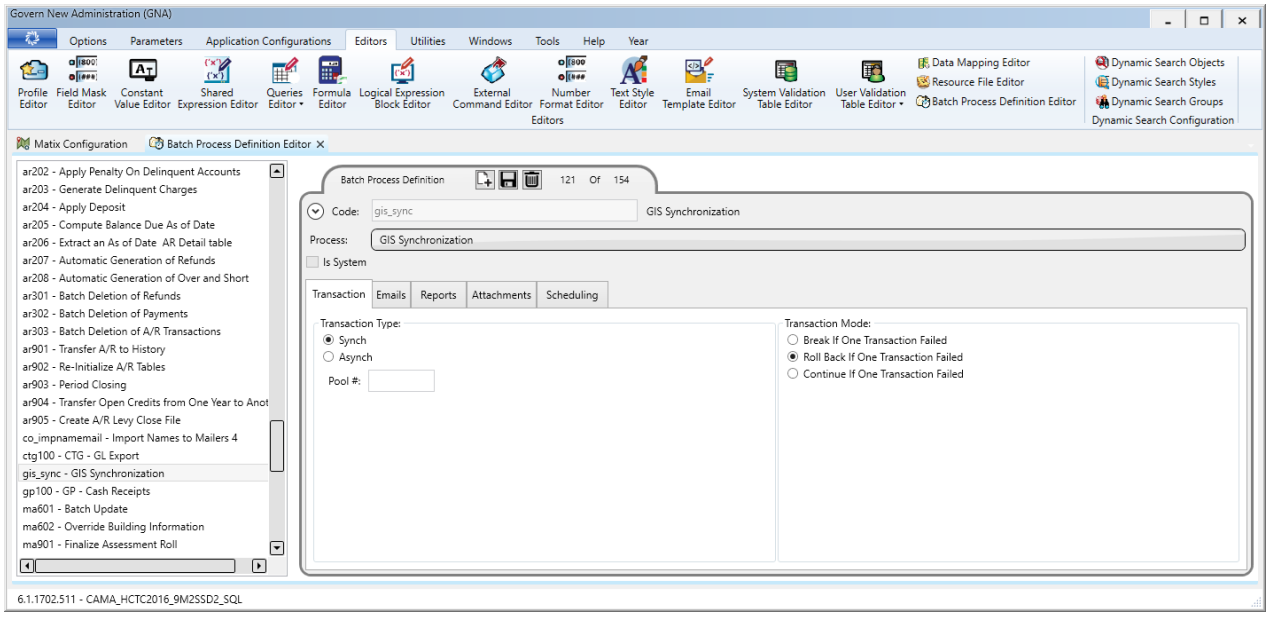
Once the ESRI Map is configured, the GNA configuration checks to if the "Direct Connection" checkbox has been enabled. This method has been simplified compared to the previous method of configuration.

By using this methodology, the following are automatically disabled and set:

Running the GIS Synchronization Process in Govern

NOTE: When the **Direct Connection** option is enabled, i.e. checked, in the Matix Configuration form in GNA, any attempts to run the process will result in a warning being displayed. The process will not run. *See Direct Connection group in this document.*





When a GIS Synchronization Batch Process is required, the steps are as follows:

1. Launch Govern. If the application was still open, click *Options* > **Refresh**.

NOTE: It may be necessary to close and re-open the profile.

2. In Govern open your profile.
3. Click the Batch Process tab.
4. You will see the GIS Synchronization batch process.

GIS Configuration group

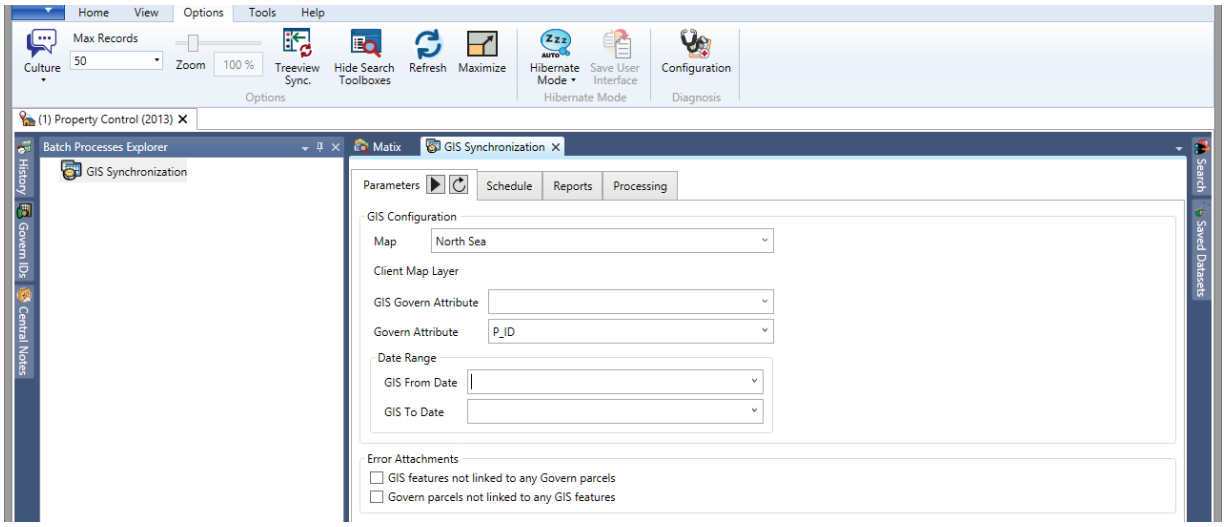
GIS features not linked to any Govern parcel – Click this option to display a list of the parcels that exist in the geodatabase, but do not correspond, i.e. not linked, with a Govern parcel.

Govern parcels not linked to any GIS feature – Select this option to display the Govern parcels not linked to any records in the geodatabase after running the batch process.

1. Under the Parameters tab, in the GIS Configuration group, select your layer map from the **Map** combo box.
2. Select the **GIS Govern Attribute**, and the **Govern Attribute** that is mapped to the base map.
3. In the **Date Range** group, select a date range if a specific year range is required; the default setting has no date range chosen.

Error Attachments

4. In the **Error Attachments** group, select one or both options to save any outstanding parcels as a .txt attachment that can be reviewed from the batch process **Processing** tab.



Executing the Batch Process


On the **Parameters** tab click **Execute** to run the batch process.

Updates Made to GeoMap Server Configurations

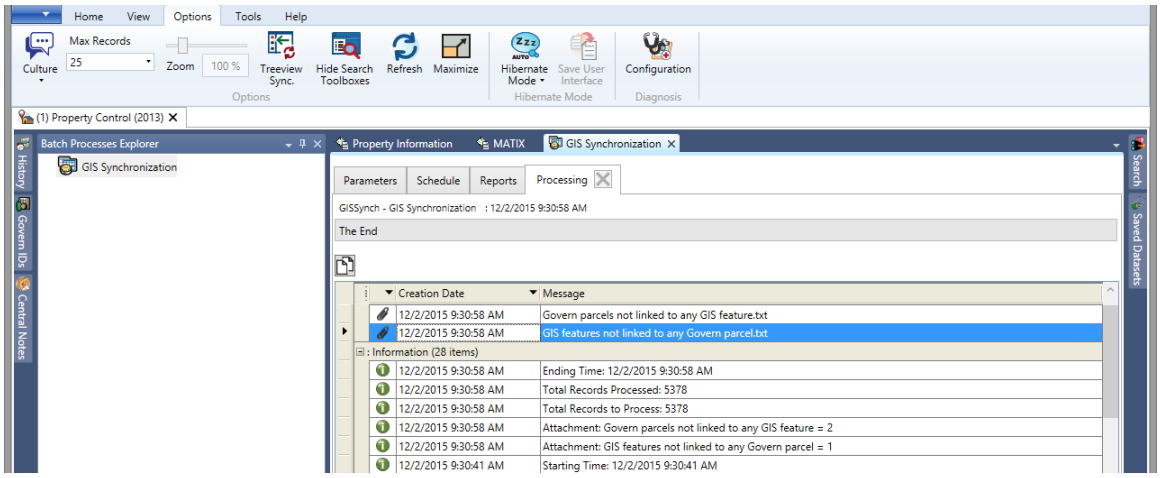

In the event that changes were made to the GeoMap configuration, e.g. changes to URL's, addition of new geomaps, and so on, click **Refresh** to update the system with the new path information. In addition run the **Synchronization Process** again, particularly if there is a new geo map.

Errors from the Batch Process Update

When Error Attachment options are selected, after the batch process is complete the following resultant errors can be viewed as a .txt text file:

- Govern features not linked to any Govern parcels
- Govern parcels not linked to any GIS features

A double click on the attachment icon will display the file.



Configuration in the OpenForms Designer (OFD)

Setup of the Custom Control

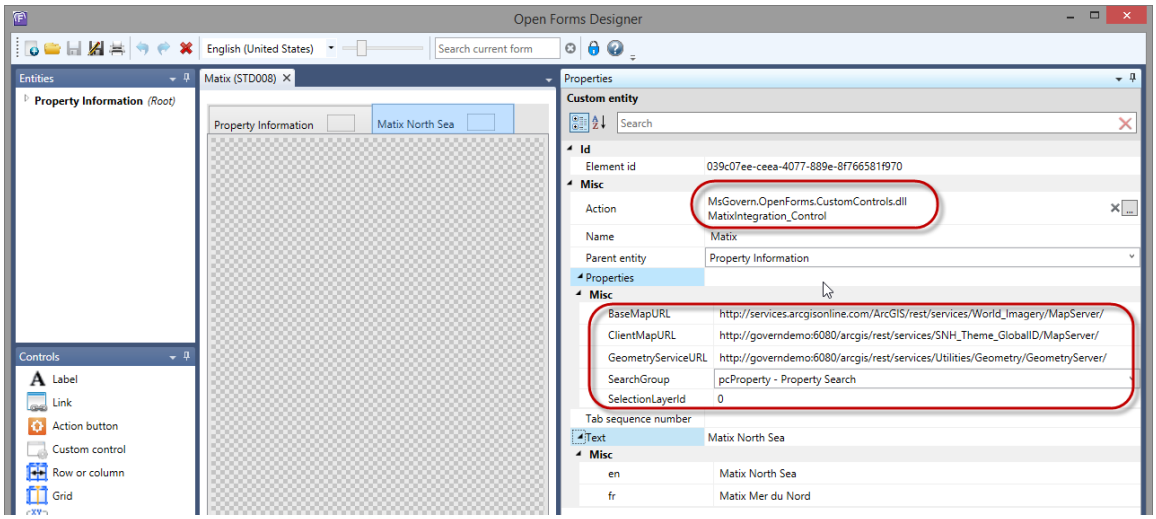
Configuration of Matix Integration is carried out as follows, each stage of configuration must be completed for proper operation. A key to success is the use of the **Refresh** feature under the *Options* tab in the Govern Ribbon.

OpenForms Designer (OFD)

In the *OpenForms Designer* (**OFD**) you will need to add the Matix custom control to a form such as *Property Information (PC001)*.

Configuration for the integration occurs at both the administrator level, and the user level through the *Govern User Registry Manager*. All configuration of the Matix Custom Entity must be completed by a user with administrator level access.

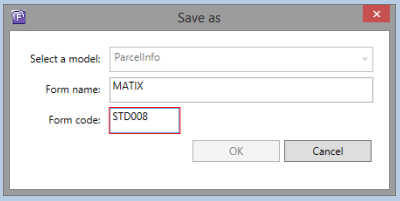
*See the **Configuring Matix Integration** section in this document.*



In the OFD…

1. Open a form that the Matix Custom Control will be added to; typically the *Property Information (PC001)* form is used.

NOTE: The *Property Information (PC001)* form may be duplicated (use **Save as…**) to create a copy. Any tabs in the duplicated form that are not required may be deleted. Name the duplicated form as **Matix**, use STD008 as the form code.



2. In the Controls pane, click and drag **Custom entity** to the Matix form; a new tab will be added.
3. Click the blank tab to begin configuring the parameters.

Configuration parameters

Click on the tab of the Custom Control to configure the required parameters as follows:

Properties	
Id	
Element id	*System generated (default)*
Misc	
Action	*(click on the ellipsis […] to browse options)* Assembly – MsGovern.OpenForms.CustomControls.dll Class – MatixIntegration_Control
Name	Matix (*…or other user designation*)
Parent entity	Parcel Information (the root entity)

Properties	
Misc	Configuration - Select the GeoMap
	MultimediaCode
	MultimediaFormCode
	MultimediaSubCode
	SearchGroup - Specify a default search group
Tab sequence number	
Text	Map Area Name (*…or other user designation; i.e. North Sea*)
Misc	en – Map Area Name (*…or other designation; i.e. North Sea*)
	fr – Alternate language area name

After completing the configuration, save the changes to the form.

4. Select the Matix form, STD008.
5. Enter the required configuration parameters. *See Configuration parameters OpenForms Designer (OFD) below.*

This is the last step before using Matix in Govern. Should you wish to configure additional Base Maps or add Theme Maps, refer to the respective sections in this user guide. *For Base Maps refer to the **Multiple Base-maps** section in this document, and for Theme Maps see **Theme Maps**.*

APPENDIX

Database Changes for Measure Feature

The following changes have been made to the database in order to implement the Measure feature.

Two new fields have been added to (Table: USR_PARM_MATIX):

- MEASURE_TO_PROJECTION_ID (dropped)
- MEASURE_UNIT_ID (dropped)

1. MEASURE_TO_PROJECTION_ID (int, null):
    a. Used to retrieve the ID that is to be converted from measure to projection
    b. This is the WK ID from ESRI that can be found at: ArcGIS Rest API Projected coordinate systems (http://resources.arcgis.com/en/help/arcgis-rest-api/index.html#/Projected_coordinate_systems/02r3000000vt000000/)
    - This value will be known to the map designer.
2. MEASURE_UNIT_ID (int, null):
    a. This is used to display the measure unit label

    Comes from the ESRI ScaleLineUnit enumeration