



West Ward Asset Map User Guide

LAFAYETTE
COLLEGE

Lafayette College
Technology Clinic
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Greater Easton
Development
Partnership

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Part 2

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Map Overview

What is QGIS?

QGIS is a **geographic information system software** that can analyse and edit spatial information and export the product in a geographical **map format**. QGIS software displays information as **colored shapes**, thus allowing the user to see a simple visualisation of complex and extensive data with ease.

How Does the Map Work?

This map provides a **visual representation of the assets located in the West Ward** section of Easton, PA, using a combination of **Northampton County data and internal GEDP data**. When accessed in QGIS, the map is largely editable and can be viewed in different capacities. Data can be reorganised based on different land use code categorization. Additionally, the map can be used as a starter tool for acquiring additional information about West Ward assets.

The Video Bank


What is the Video Bank?

QGIS can be tricky to use. To make your user experience as smooth as possible, we've created a **series of video demonstrations** that teach you how to navigate, create, and edit maps in QGIS.

How Can I Access Video Bank Content?

The video bank is hosted on the **Lafayette College Technology Clinic website**. It is accessible at **this (hyperlink here) link**. You can also access the video bank by clicking the **link provided here: (INSERT LONGFORM LINK)**

How Do I Know Which Content Comes with a Video?

Almost all steps throughout this guidebook are accompanied by a video bank tutorial. Wherever this symbol () appears, it means that a video tutorial is available for this step. Videos, like all other links, will be hyperlinked and will appear like this.

Additionally, **general information** will appear on a dark green slide and **active tutorial steps** will appear on a lighter background.

Using the Asset Map

Downloading QGIS

To fully navigate and use the map, it must be accessed via the QGIS desktop software, therefore, you must have the QGIS software installed on your computer.

To install the QGIS software onto your desktop device, visit www.qgis.org. Example videos that detail the installation process are available [here](#) for Windows OS and [here](#) for Mac OS. The Linux installment process is significantly more complicated and is demonstrated [here](#). To open the software after installation, simply click on the QGIS icon on your desktop.

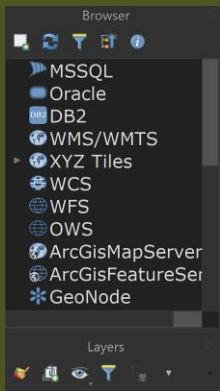


Using the Asset Map

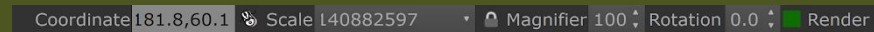
Introduction to Menus



This is the **main toolbar** at the top of the screen. Although it has many icons and options, there are only a select few that you need to know. These will be pointed out as they become relevant.



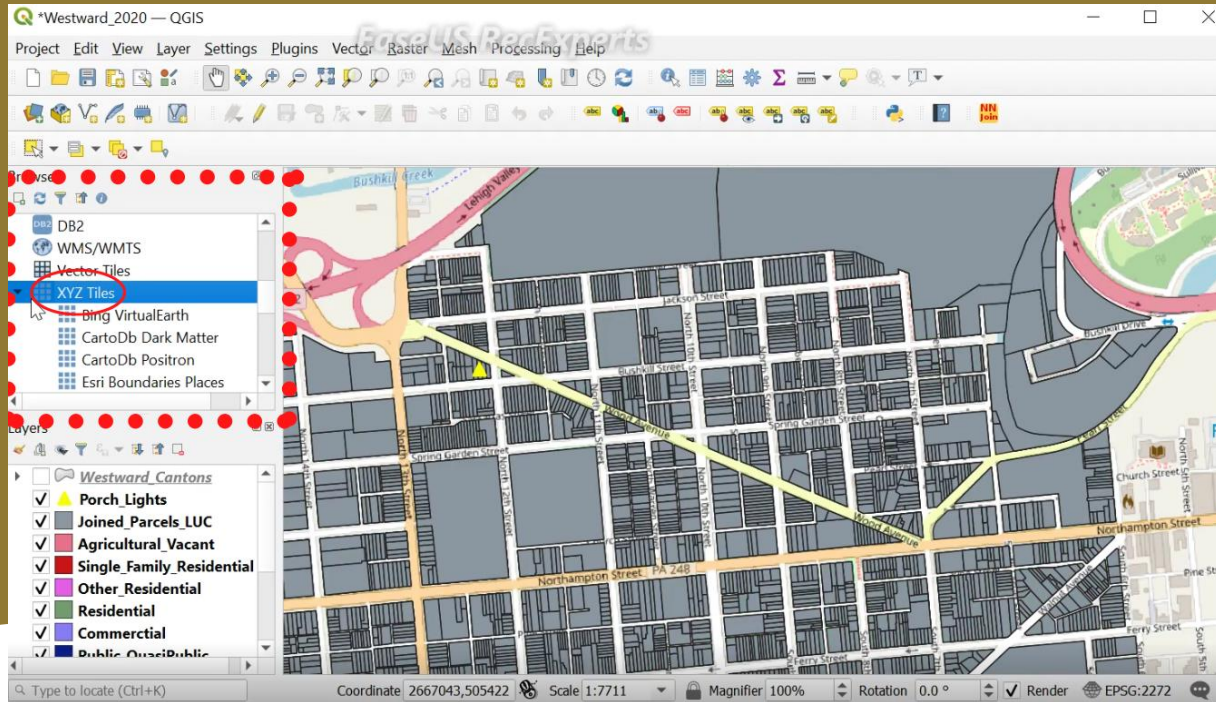
On the left-hand side of the screen, there's a **browser tool** and **layer panel**. The browser panel is a quick tool for adding data to the map. It has the same file structure setup as any folder on your computer. The layers panel displays layers that are in the map and what order they appear in. Layers will be drawn from the lowest on the list to the highest, and the highest layer in the list will cover the layers below it.



At the bottom of the screen is the **status bar**. The status bar displays basic information about the map.

Using the Asset Map

Adding Base Layers

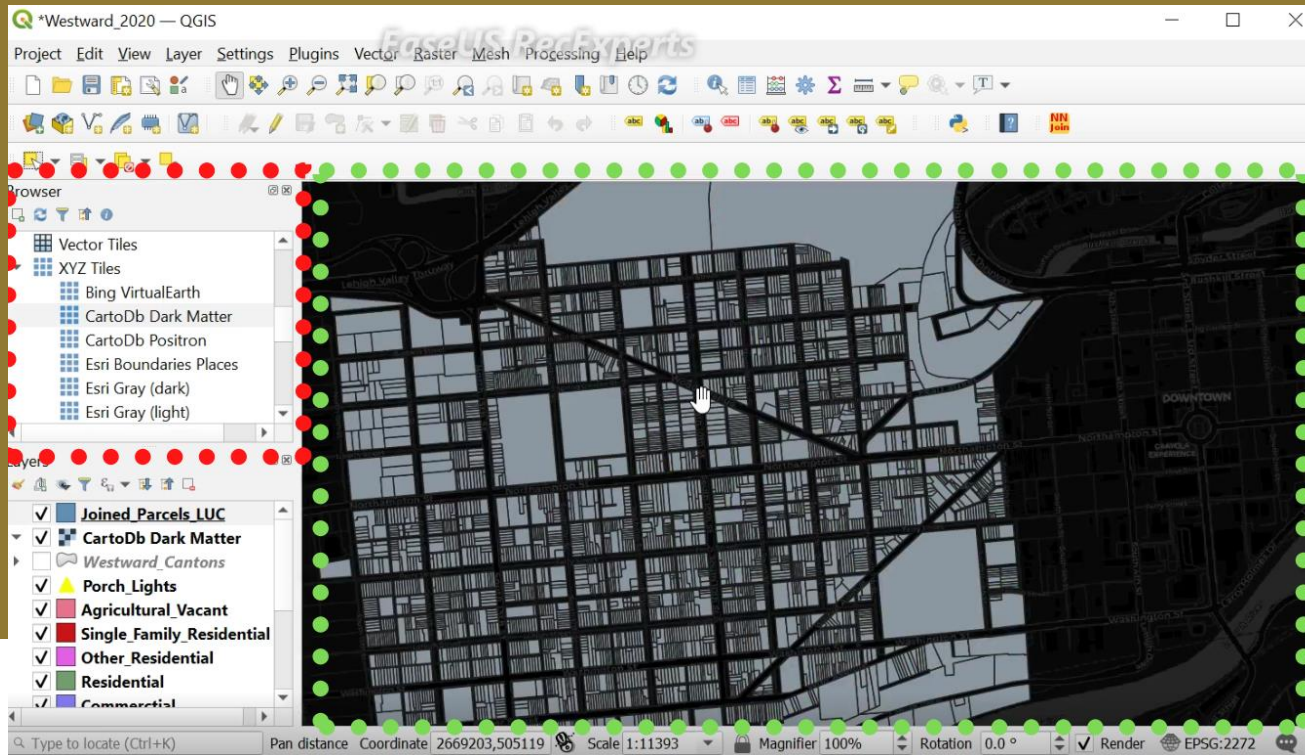


Video 30

In the **browser panel**, there's a sub-menu called '**XYZ Layers**'. This menu controls the style of the base layer of the map. Your map will, by default, use the Open Street Map layer.

Using the Asset Map

Adding Base Layers



Video 30

To experiment with other XYZ labels, click on their title from the XYZ Layer drop down menu indicated in the browser panel on the left.

Using the Asset Map

Adding Base Layers

```
# Sources
sources = []
sources.append(["connections-xyz","Google Maps","","","https://mt1.google.com/vt/lyrs=m&x=%7Bx%7D&y=%7By%7D&z=%7Bz%7D","","19","0"])
sources.append(["connections-xyz","Google Satellite","","","https://mt1.google.com/vt/lyrs=s&x=%7Bx%7D&y=%7By%7D&z=%7Bz%7D","","19","0"])
sources.append(["connections-xyz","Google Terrain","","","https://mt1.google.com/vt/lyrs=t&x=%7Bx%7D&y=%7By%7D&z=%7Bz%7D","","19","0"])
sources.append(["connections-xyz","Google Terrain Hybrid","","","https://mt1.google.com/vt/lyrs=p&x=%7Bx%7D&y=%7By%7D&z=%7Bz%7D","","19","0"])
sources.append(["connections-xyz","Google Satellite Hybrid","","","https://mt1.google.com/vt/lyrs=y&x=%7Bx%7D&y=%7By%7D&z=%7Bz%7D","","19","0"])
sources.append(["connections-xyz","Stamen Terrain","","","Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under ODbL","http://tile.stamen.com/terrain/%7Bz%7D/%7Bx%7D/%7By%7D.png","","20","0"])
sources.append(["connections-xyz","Stamen Toner","","","Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under ODbL","http://tile.stamen.com/toner/%7Bz%7D/%7Bx%7D/%7By%7D.png","","20","0"])
sources.append(["connections-xyz","Stamen Toner Light","","","Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under ODbL","http://tile.stamen.com/toner-lite/%7Bz%7D/%7Bx%7D/%7By%7D.png","","20","0"])
sources.append(["connections-xyz","Stamen Watercolor","","","Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under ODbL","http://tile.stamen.com/watercolor/%7Bz%7D/%7Bx%7D/%7By%7D.jpg","","18","0"])
sources.append(["connections-xyz","Wikimedia Map","","","OpenStreetMap contributors, under ODbL","https://maps.wikimedia.org/osm-intl/%7Bz%7D/%7Bx%7D/%7By%7D.png","","20","1"])
sources.append(["connections-xyz","Wikimedia Hike Bike Map","","","OpenStreetMap contributors, under ODbL","http://tiles.wmflabs.org/hikebike/%7Bz%7D/%7Bx%7D/%7By%7D.png","","17","1"])
sources.append(["connections-xyz","Esri Boundaries Places","","","Requires ArcGIS Onlinesubscription","https://server.arcgisonline.com/ArcGIS/rest/services/Reference/World_Boundaries_and_Places/MapServer/tile/%7Bz%7D/%7By%7D/%7Bx%7D","","20","0"])
sources.append(["connections-xyz","Esri Gray (dark)","","","Requires ArcGIS Onlinesubscription","http://services.arcgisonline.com/ArcGIS/rest/services/Canvas/World_Dark_Gray_Base/MapServer/tile/%7Bz%7D/%7By%7D/%7Bx%7D","","16","0"])
sources.append(["connections-xyz","Esri Gray (light)","","","Requires ArcGIS Onlinesubscription","http://services.arcgisonline.com/ArcGIS/rest/services/Canvas/World_Light_Gray_Base/MapServer/tile/%7Bz%7D/%7By%7D/%7Bx%7D","","16","0"]])
```

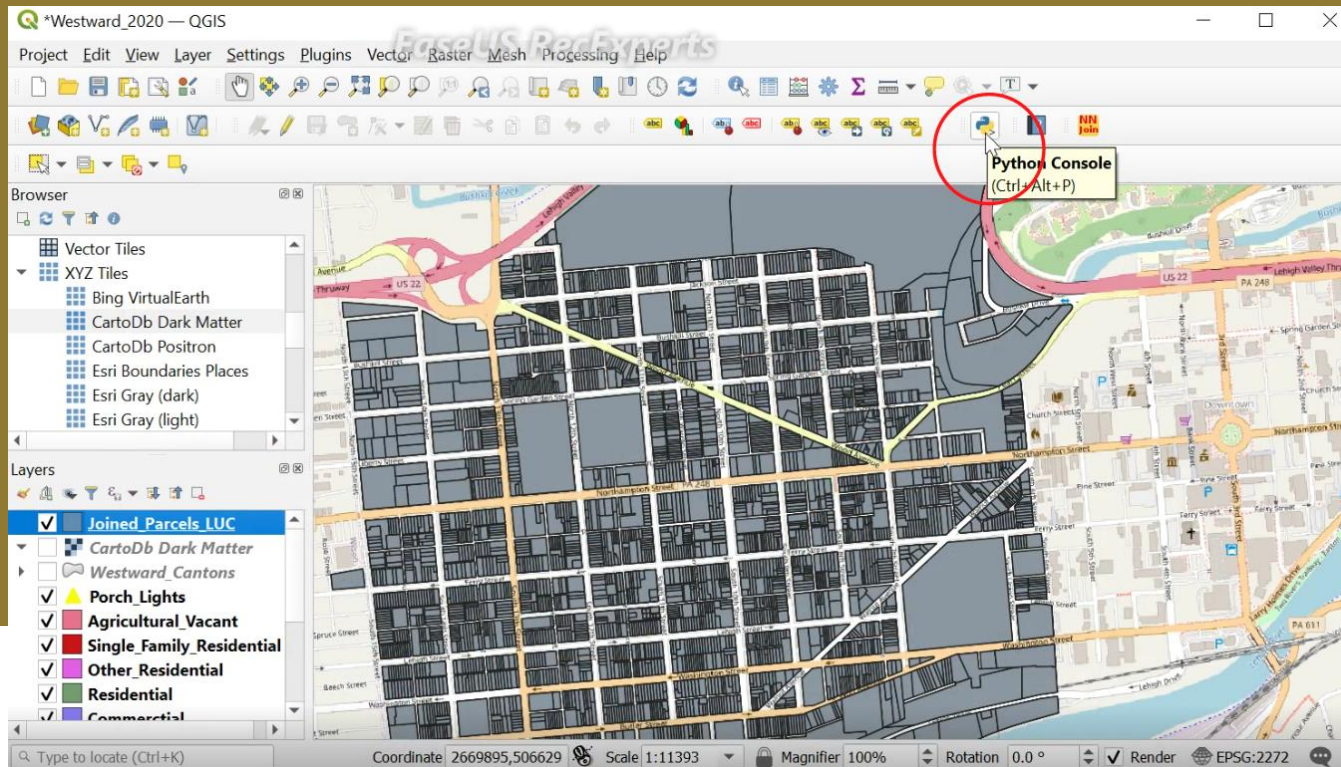


Video 30

Click on **THIS LINK** [link needed] to access the code necessary to download addition base layers. On this webpage, select and copy all the text below the 'Sources' line.

Using the Asset Map

Adding Base Layers



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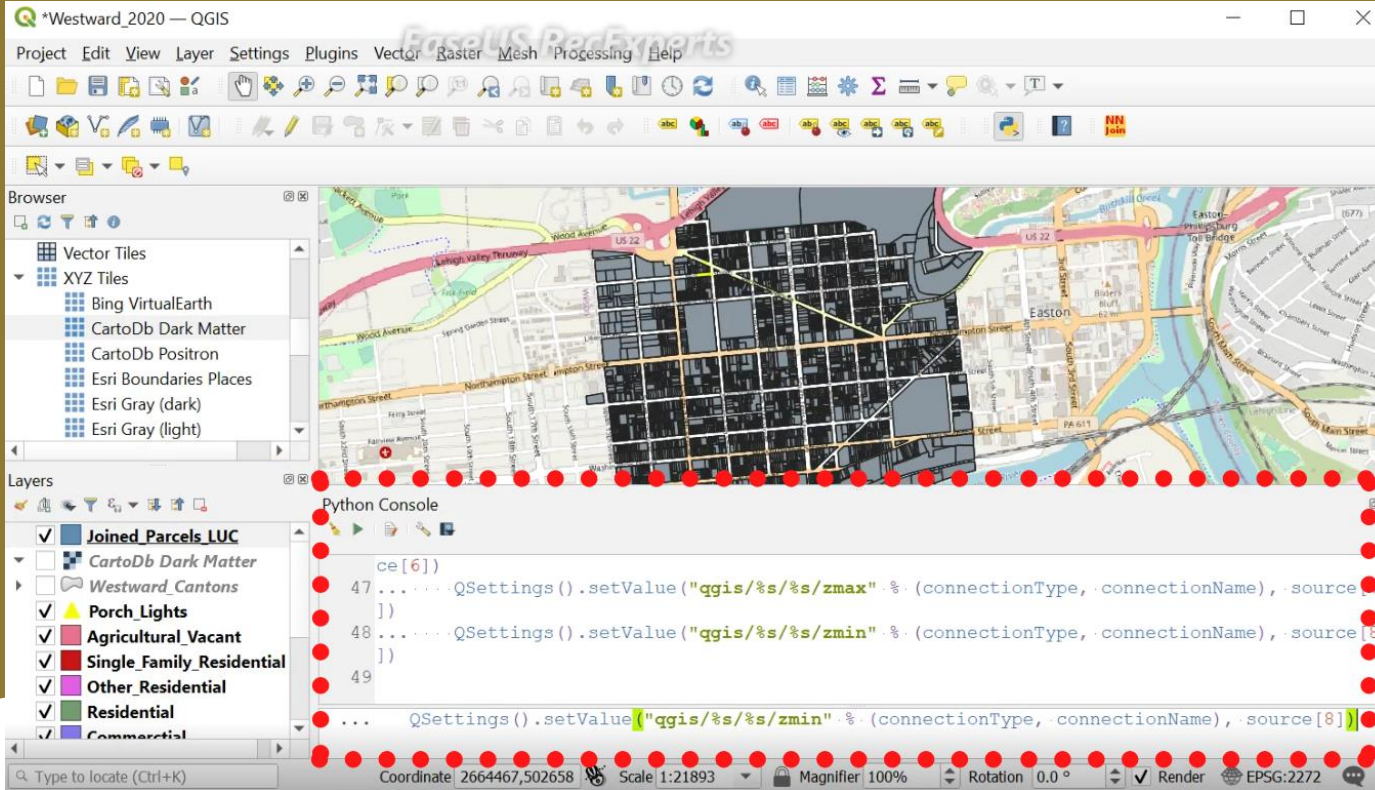


Video 30

In QGIS, locate the 'Python Console' from the top toolbar. Click it.

Using the Asset Map

Adding Base Layers

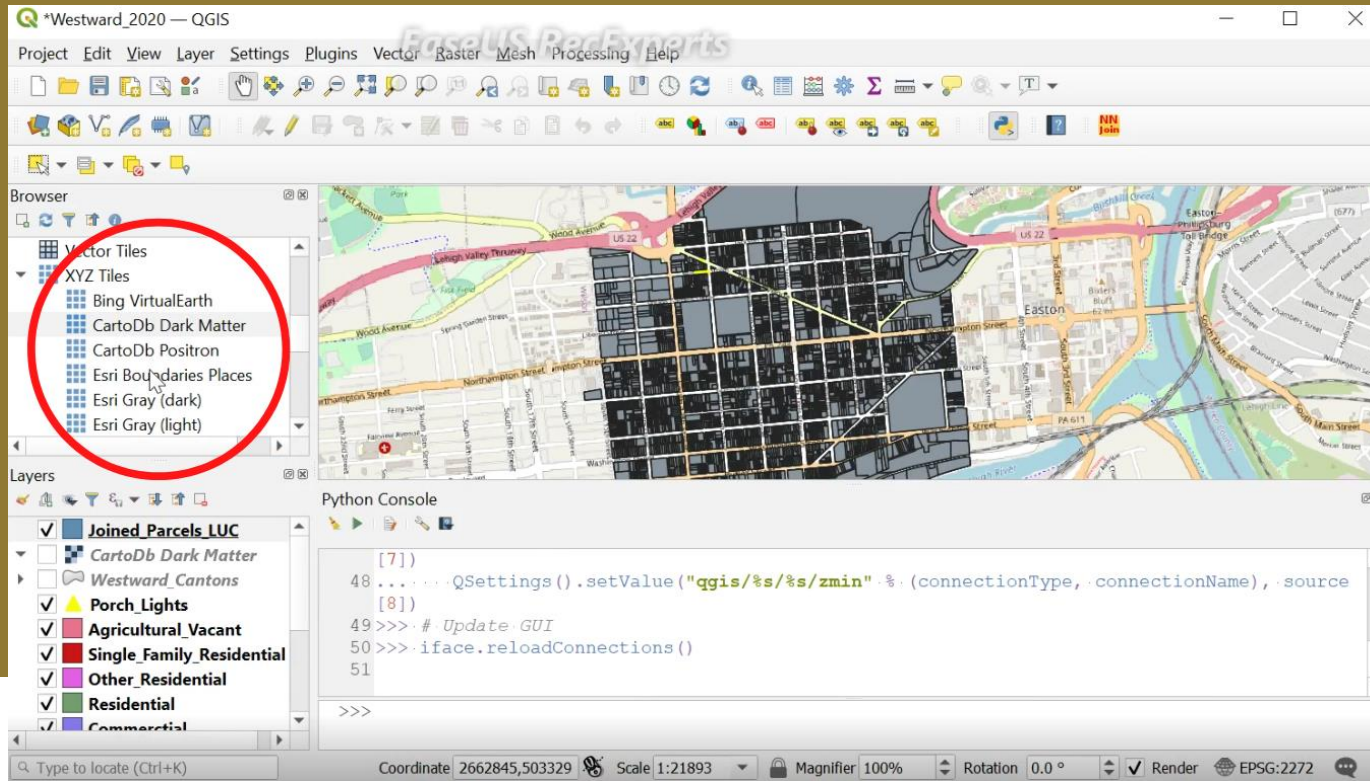


Video 30

A python console will open. Paste in all of the text copied from the QGIS webpage in Step 3. Hit 'Enter'.

Using the Asset Map

Adding Base Layers

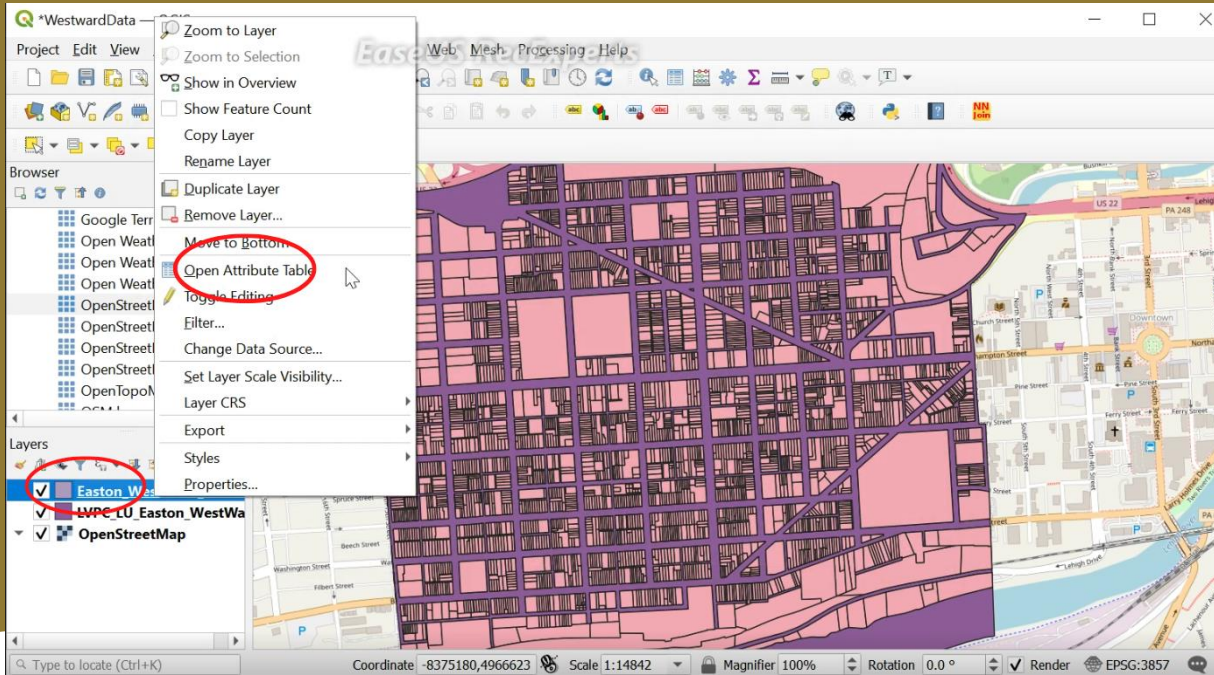


Video 30

An option to run this code will appear. Click 'run'. Once the code has been applied, your browser panel XYZ menu will be full of alternative base layers to explore.

Using the Asset Map

Using Attribute Tables



Video 3

Opening attribute tables allows you to view all the numerical data illustrated throughout the map. To open an attribute table, **select the relevant layer** that you want to view data for (there may only be one layer available if all layers are merged) and **right click the title**. From the menu that appears, select the **'open attribute table'** option.

Using the Asset Map

Using Attribute Tables

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Video 3

Easton_WestWard_Parcels — Features Total: 3226, Filtered: 3226, Selected: 0

PARCEL_ID	CAMA_ID	MAP	BLOCK	LC
1	L9SE1B 7 5	L9SE1B	7	5
2	L9SE2A 1 11	L9SE2A	1	11
3	L9SW3B 8 9A	L9SW3B	8	9A
4	L9SE1B 31 9	L9SE1B	31	9
5	L9SE1A 10 20	L9SE1A	10	20
6	L9SE1A 17 3A	L9SE1A	17	3A
7	L9SW2B 14 2	L9SW2B	14	2
8	L9SE4A 8 12-1	L9SE4A	8	12-1
9	L9SE1B 16 13	L9SE1B	16	13
10	L9 28 2	L9	28	2

LVPC_LU_Easton_WestWard — Features Total: 13, Filtered: 13, Selected: 0

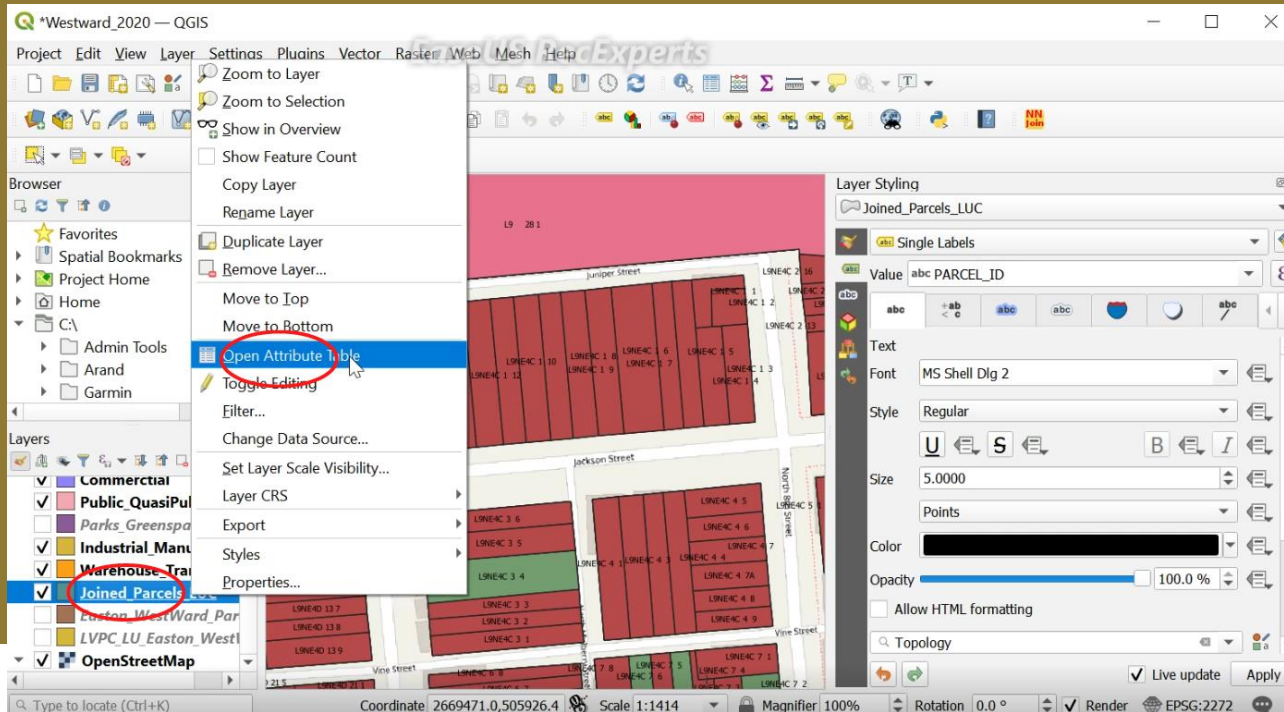
Code_Cheat	Code_Che_1	MUNICODE	NAME	GISACRES
3	1 Residential	15	EASTON	861.816761383...
4	9 Agriculture & Va...	2	ALLEN	3004.24846019...
5	1 Residential	2	ALLEN	1252.06792343...
6	6 Transportation, ...	15	EASTON	82.90406231850
7	5 Office & Business	15	EASTON	106.698197431...
8	4 Warehouse & Di...	15	EASTON	1.41222096861
9	3 Industrial & Ma...	15	EASTON	158.703680219...
10	990 Right of Way	15	EASTON CITY	759.752283270...
11	9 Agriculture & Va...	15	EASTON	381.220784574...
12	8 Parks & Other O...	15	EASTON	229.813851967...

Depending on which layer you select to view, an attribute table will appear in a new window. The column labels do not make sense without the data dictionaries provided Northampton County so be sure to have them on hand when using the map. The content displayed in attribute tables will vary based on the layers.

Consult the data dictionaries to make sense of these tables.

Using the Asset Map

Searching Features Through Attribute Table

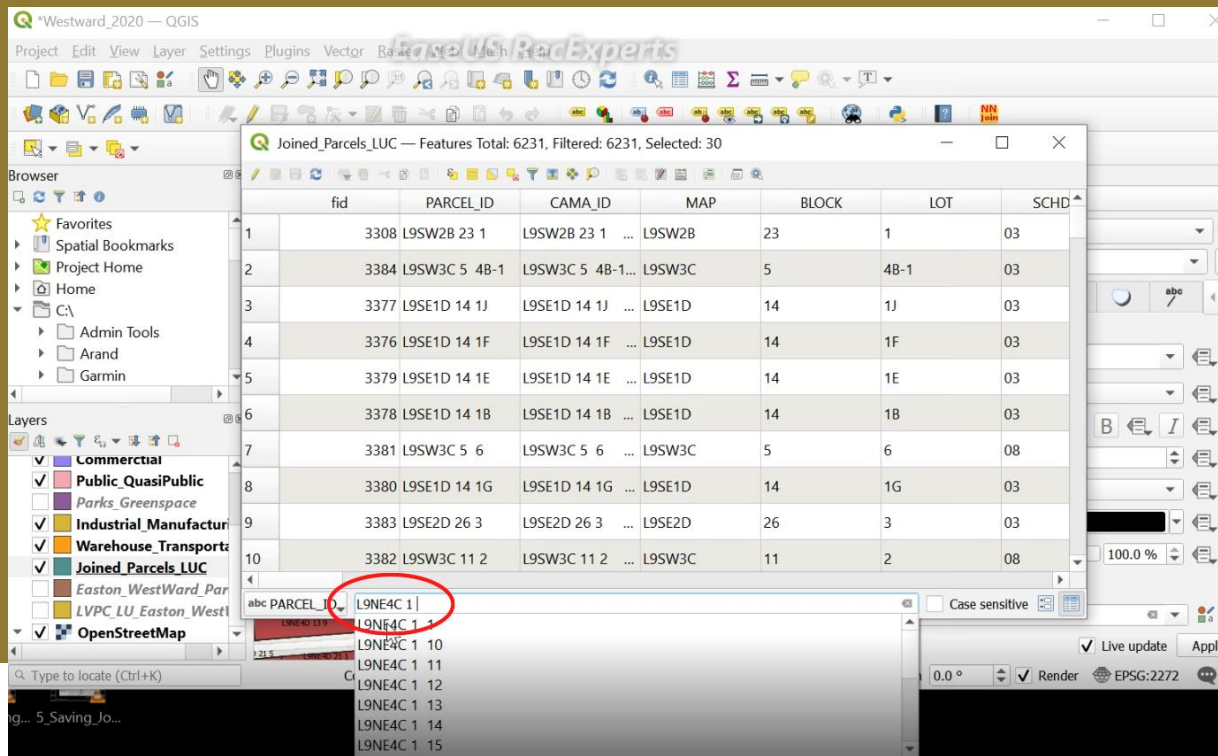


Video 12

One way to search for features in the asset map is through the attribute table. To open the attribute table, locate the joined parcel layer in the layers menu on the left-hand side of the screen and right click it. From the emergent menu, select 'Open Attribute Table'.

Using the Asset Map

Searching Features Through Attribute Table



The screenshot shows the QGIS interface with the 'Joined_Parcels_LUC' layer selected. The attribute table is open, displaying columns: fid, PARCEL_ID, CAMA_ID, MAP, BLOCK, LOT, and SCHD. A search bar at the bottom of the attribute table is active, with 'L9NE4C 1' entered. A red circle highlights the search bar and the first few rows of the filtered results, which all contain 'L9NE4C 1' in the PARCEL_ID column.

fid	PARCEL_ID	CAMA_ID	MAP	BLOCK	LOT	SCHD
1	3308 L9SW2B 23 1	L9SW2B 23 1 ...	L9SW2B	23	1	03
2	3384 L9SW3C 5 4B-1	L9SW3C 5 4B-1...	L9SW3C	5	4B-1	03
3	3377 L9SE1D 14 1J	L9SE1D 14 1J ...	L9SE1D	14	1J	03
4	3376 L9SE1D 14 1F	L9SE1D 14 1F ...	L9SE1D	14	1F	03
5	3379 L9SE1D 14 1E	L9SE1D 14 1E ...	L9SE1D	14	1E	03
6	3378 L9SE1D 14 1B	L9SE1D 14 1B ...	L9SE1D	14	1B	03
7	3381 L9SW3C 5 6	L9SW3C 5 6 ...	L9SW3C	5	6	08
8	3380 L9SE1D 14 1G	L9SE1D 14 1G ...	L9SE1D	14	1G	03
9	3383 L9SE2D 26 3	L9SE2D 26 3 ...	L9SE2D	26	3	03
10	3382 L9SW3C 11 2	L9SW3C 11 2 ...	L9SW3C	11	2	08



Video 12

With the data dictionary on hand, type in the Parcel ID of the type of asset you're interested in selecting. In this example, we chose L9NE4C 1 . Make sure to leave a space after the last value in the title you're typing. Hit enter.

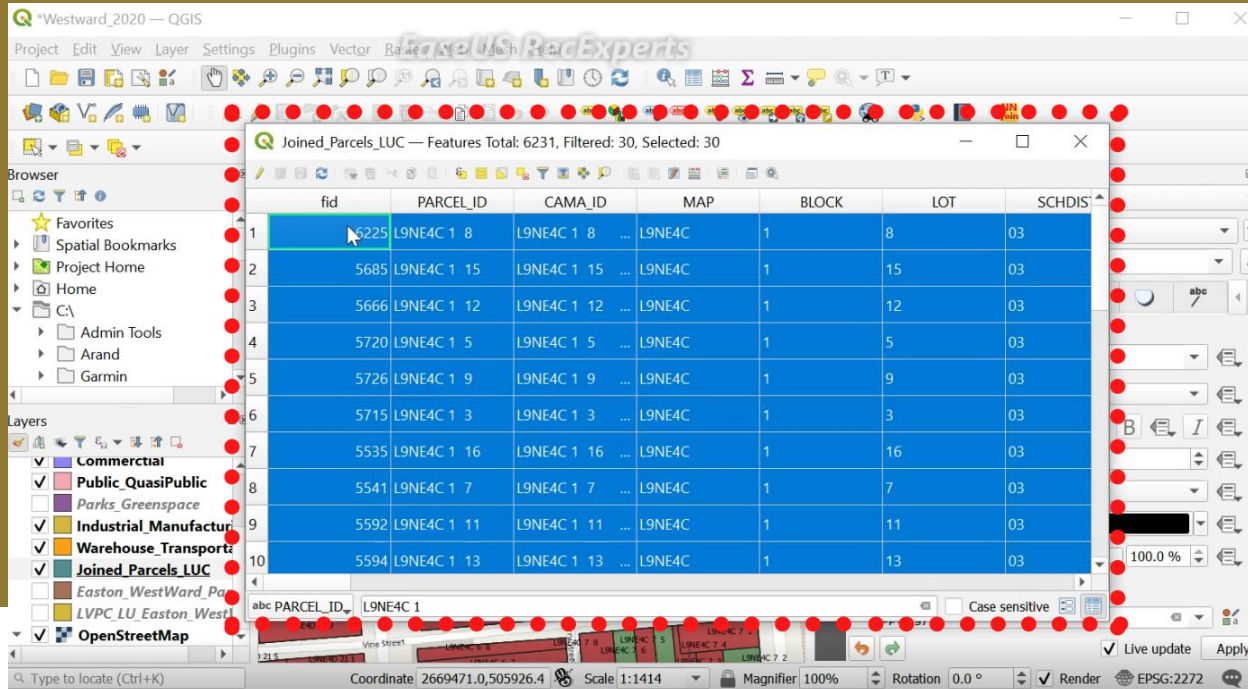
Using the Asset Map

Searching Features Through Attribute Table

12



Video 12



Once you hit enter, the attribute table will reappear. This time, all the relevant entries that are classified under the Parcel ID code you entered will be highlighted. If you accidentally click off the highlight, you can re-select all of them by clicking and dragging the numbers on the left.

Using the Asset Map

Searching Features Through Attribute Table

Joined_Parcels_LUC — Features Total: 6231, Filtered: 30, Selected: 30

fid	PARCEL_ID	CAM	Pan map to the selected rows (Ctrl+P) K	LOT	SCHDIS
1	6225 L9NE4C 1 8	L9NE4C 1 8 ...	L9NE4C	8	03
2	5685 L9NE4C 1 15	L9NE4C 1 15 ...	L9NE4C	15	03
3	5666 L9NE4C 1 12	L9NE4C 1 12 ...	L9NE4C	12	03
4	5720 L9NE4C 1 5	L9NE4C 1 5 ...	L9NE4C	5	03
5	5726 L9NE4C 1 9	L9NE4C 1 9 ...	L9NE4C	9	03
6	5715 L9NE4C 1 3	L9NE4C 1 3 ...	L9NE4C	3	03
7	5535 L9NE4C 1 16	L9NE4C 1 16 ...	L9NE4C	16	03
8	5541 L9NE4C 1 7	L9NE4C 1 7 ...	L9NE4C	7	03
9	5592 L9NE4C 1 11	L9NE4C 1 11 ...	L9NE4C	11	03
10	5594 L9NE4C 1 13	L9NE4C 1 13 ...	L9NE4C	13	03

abc PARCEL_ID, L9NE4C 1

30 feature(s) se Coordinate: 2669471.0,505926.4 Scale: 1:1414 Magnifier: 100% Rotation: 0.0° Render EPSG:2272

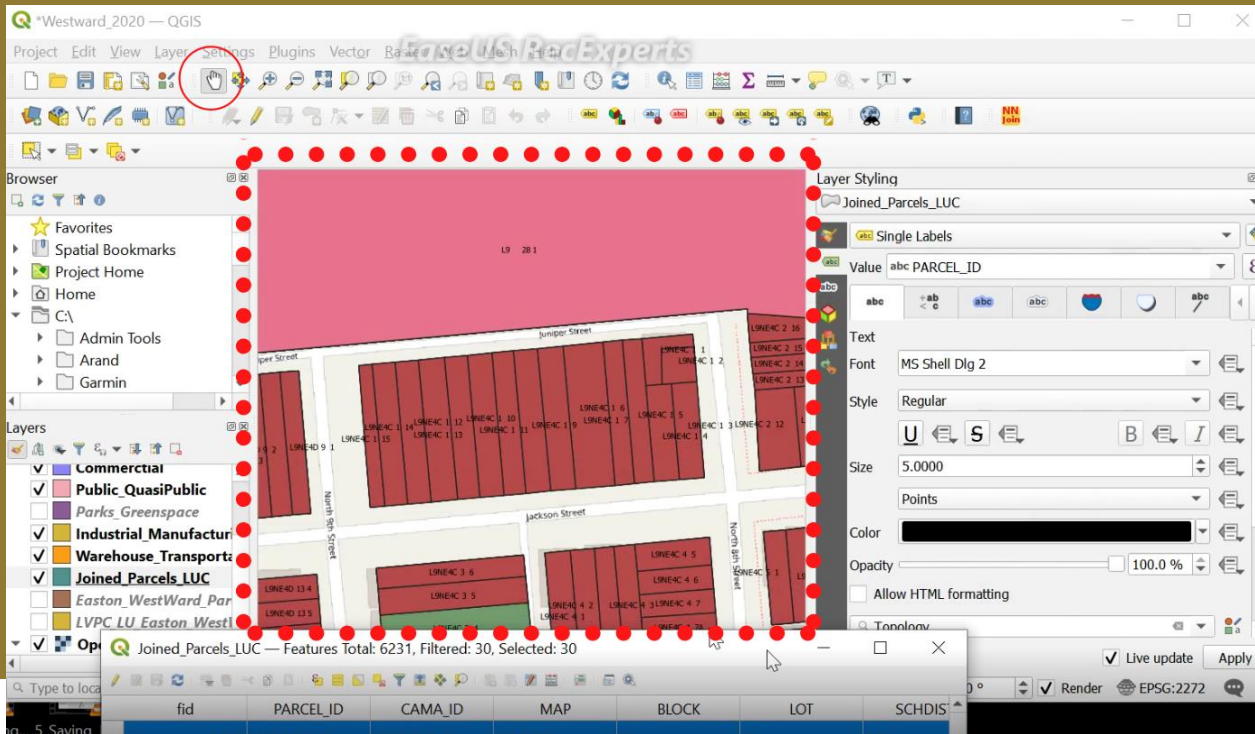


Video 12

From here, you can locate and click the 'Pan map to the selected rows' button which is available on the attribute table toolbar.

Using the Asset Map

Searching Features Through Attribute Table



14

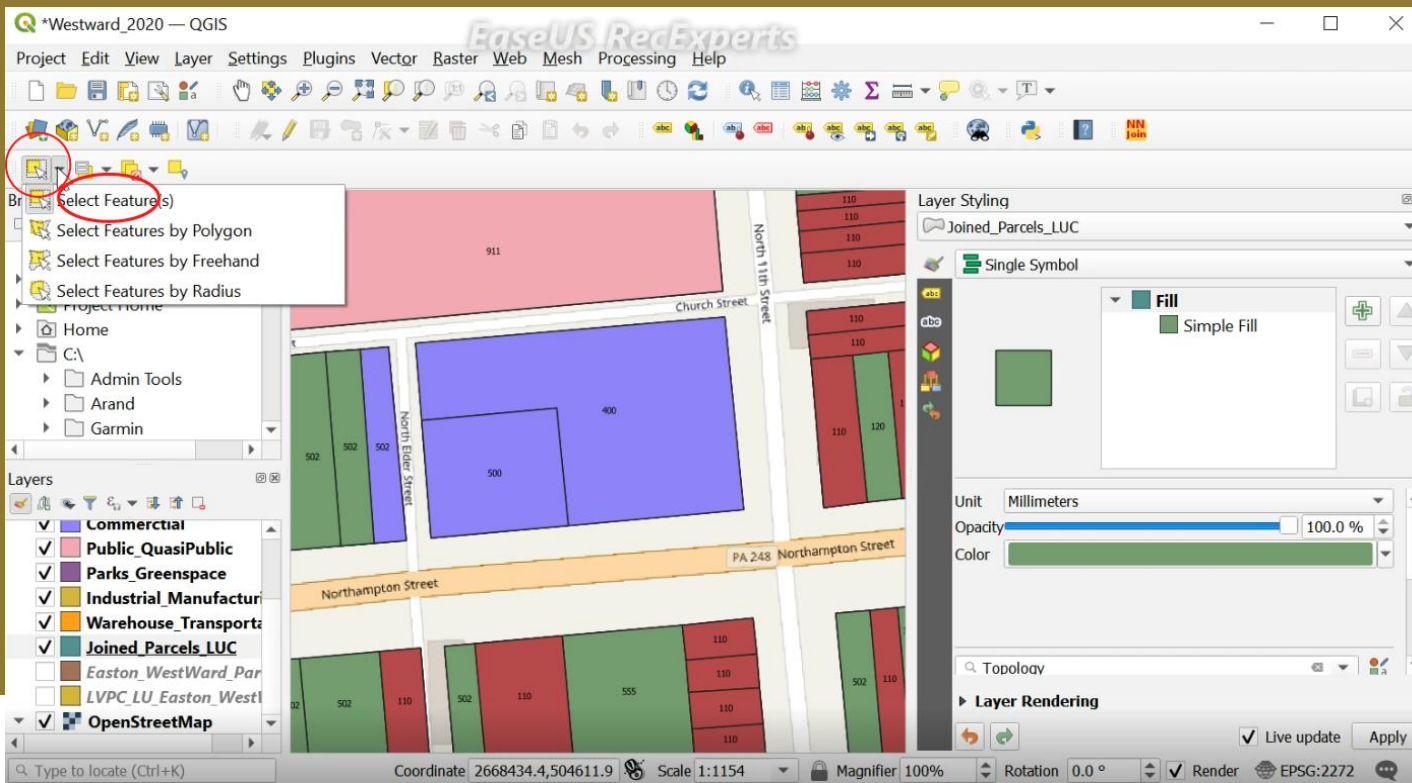


Video 12

Once you click the pan button, the main asset map will appear. The map will be zoomed in to display the type of assets you selected to view. Be sure to click the hand icon located on the toolbar to enable scrolling so you can scroll around within this zoomed in section.

Using the Asset Map

Searching Features Through Visual Map



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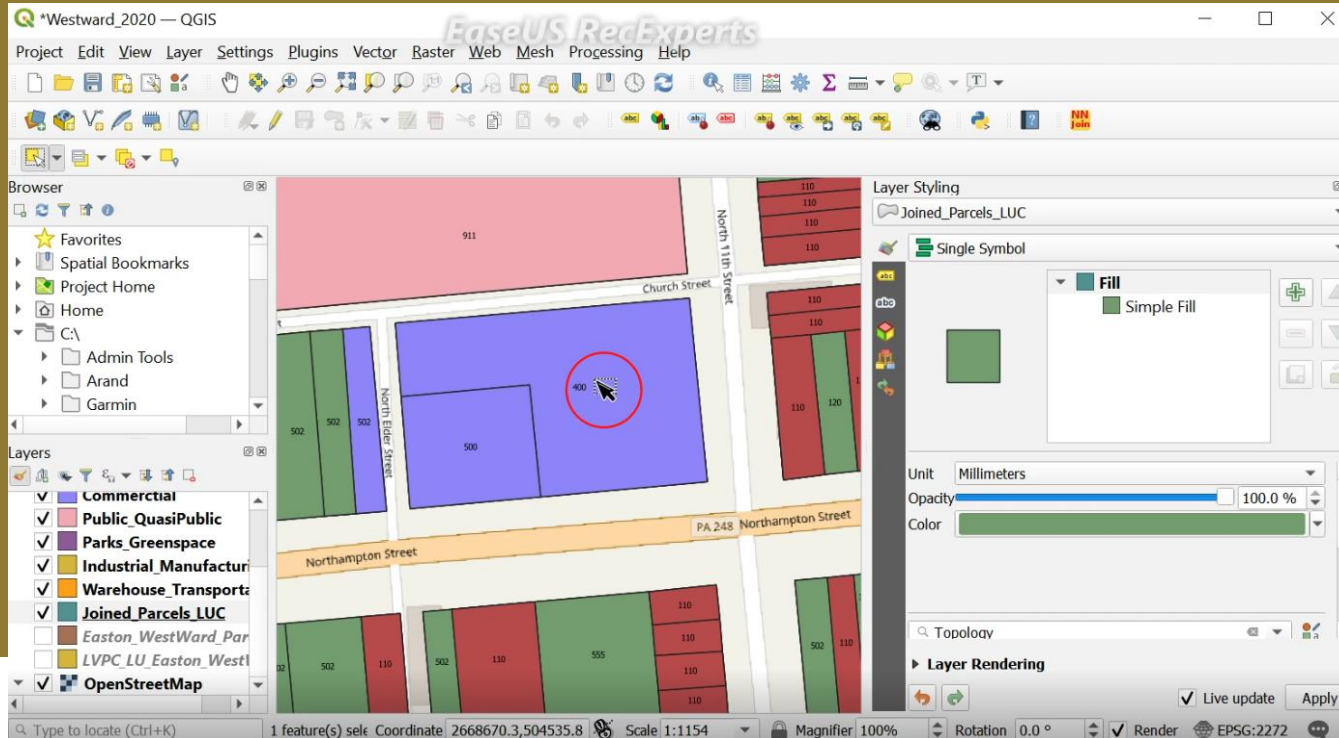


Video 13

An alternative way to search for features is through the visual map itself. To do this, locate the indicated symbol on the toolbar and click the 'Select Features' option.

Using the Asset Map

Searching Features Through Visual Map



16

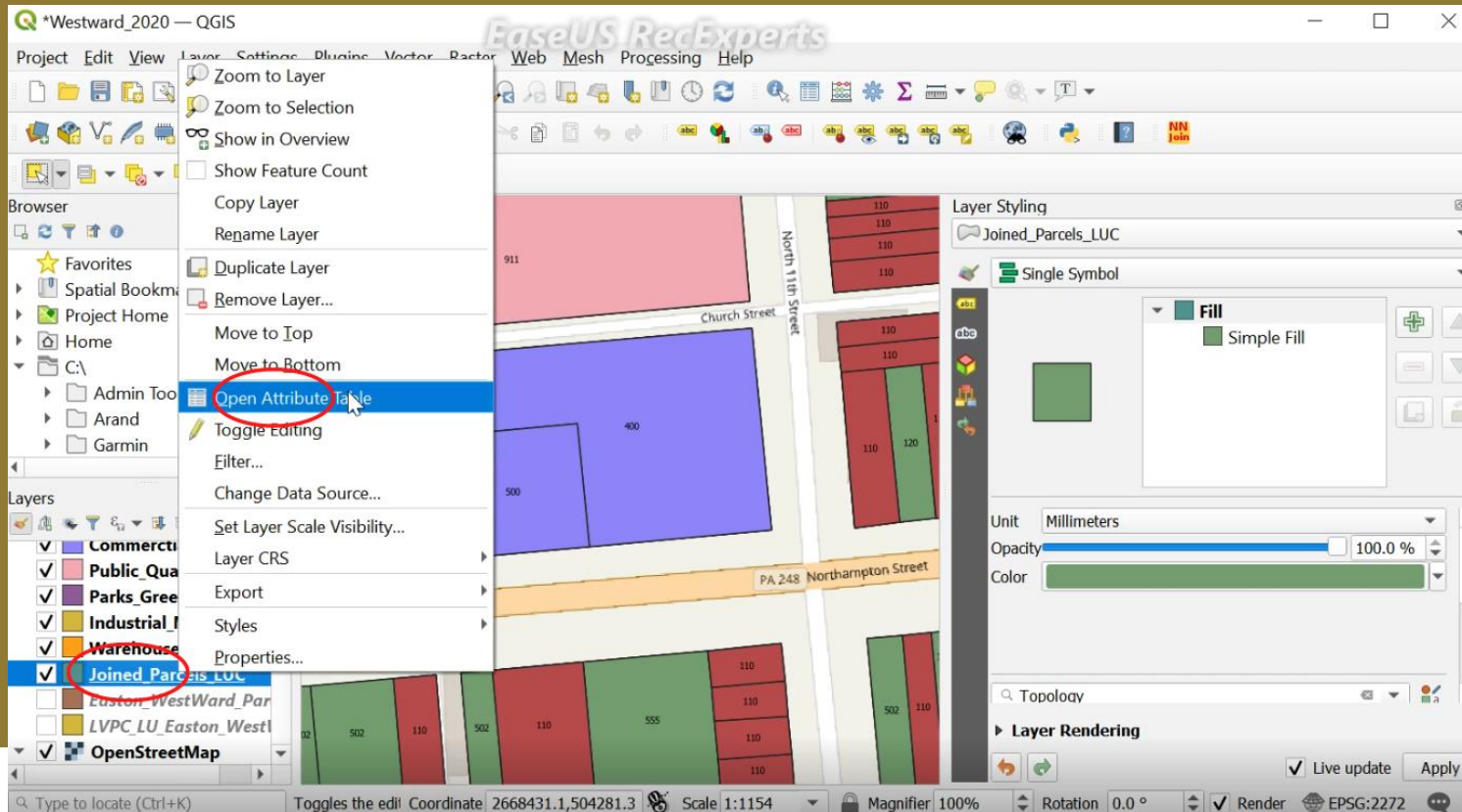


Video 13

A black cursor will appear, along with a draggable box marked with dashed lines. Use the cursor to **drag and select** the feature you want to highlight. The status bar will indicate when a feature has been selected.

Using the Asset Map

Searching Features Through Visual Map



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Video 13

Next, ensure that the joined parcel layer is selected and right click it. Select the 'Open Attribute Table' option.

Using the Asset Map

Searching Features Through Visual Map

The screenshot shows the QGIS interface with a parcel map on the left and an attribute table on the right. The attribute table is titled 'Joined_Parcels_LUC' and contains the following data:

fid	PARCEL_ID	CAMA_ID	MAP	BLOCK	LOT	SCHD
1	3308	L9SW2B 23 1	L9SW2B 23 1 ... L9SW2B	23	1	03
2	3380	L9SE1D 14 1G	L9SE1D 14 1G ... L9SE1D	14	1G	03
3	3381	L9SW3C 5 6	L9SW3C 5 6 ... L9SW3C	5	6	08
4	3382	L9SW3C 11 2	L9SW3C 11 2 ... L9SW3C	11	2	08
5	3383	L9SE2D 26 3	L9SE2D 26 3 ... L9SE2D	26	3	03
6	3376	L9SE1D 14 1F	L9SE1D 14 1F ... L9SE1D	14	1F	03
7	3377	L9SE1D 14 1J	L9SE1D 14 1J ... L9SE1D	14	1J	03
8	3378	L9SE1D 14 1B	L9SE1D 14 1B ... L9SE1D	14	1B	03
9	3379	L9SE1D 14 1E	L9SE1D 14 1E ... L9SE1D	14	1E	03
10	3384	L9SW3C 5 4B-1	L9SW3C 5 4B-1... L9SW3C	5	4B-1	03

A context menu is open over the attribute table, showing the following options:

- Show All Features
- Show All Features
- Show Selected Features
- Show Features Visible On Map
- Show Edited and New Features
- Field Filter
- Advanced Filter (Expression)
- Stored Filter Expressions

The 'Show Selected Features' option is circled in red.

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Video 13

Once the attribute table opens, find the 'Show All Features' button and select the 'Show Selected Features' option.

Using the Asset Map

Searching Features Through Visual Map

GIS_ACREAG	ASMT_ACREA	DEED	LOCATION	LUC	NBHD	TOTAL_VALU
0.53	0.5309	848 00040	1101 -07 NORT...	400	C014	823700

19

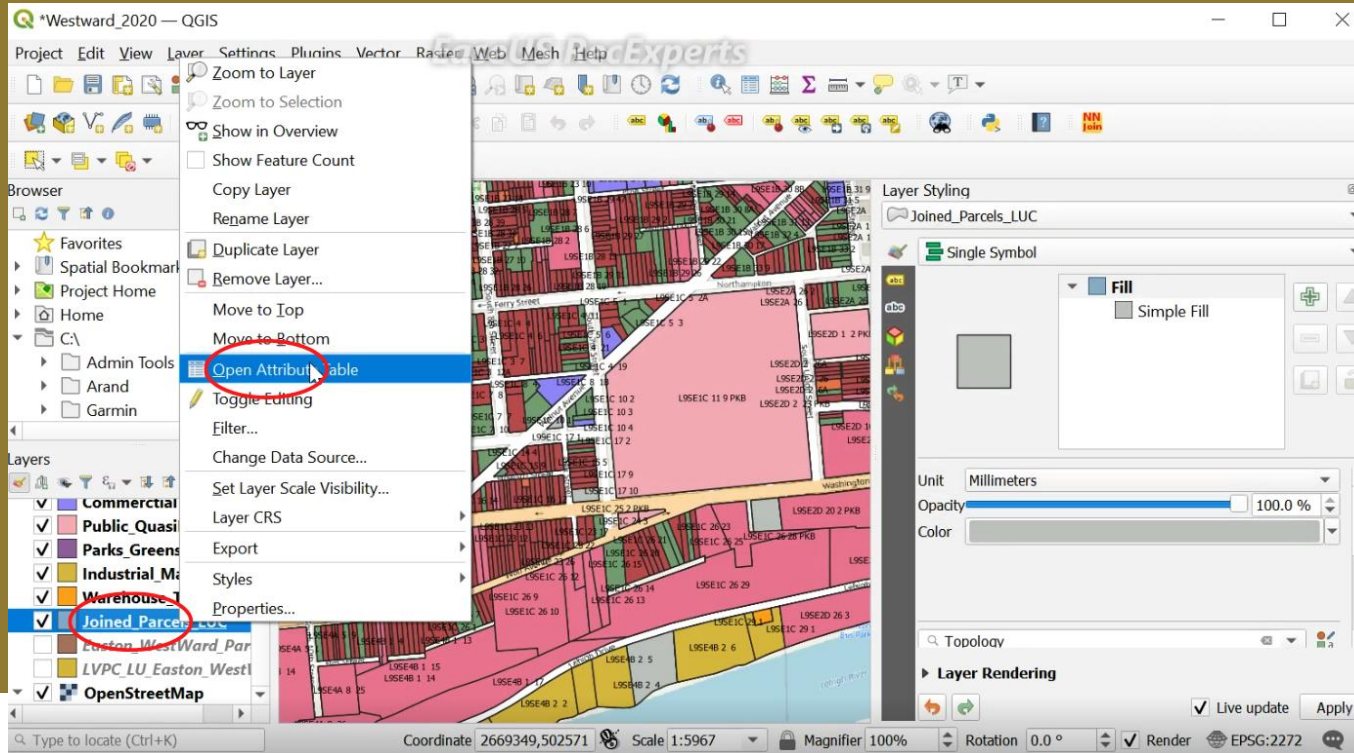


Video 13

A new version of the asset table will open up, however, there will only be one item in the table because only one feature is selected. When you've finished viewing this asset, you can close this window out.

Using the Asset Map

Isolating Layers and Features



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Video 14

To isolate and display certain features on the map, start by selecting the joined parcel layer from the layers menu and right click it. Select 'Open Attribute Table'.

Using the Asset Map

Isolating Layers and Features

Project Edit View Layer Settings Plugins Vector Browser

Browser

- ★ Favorites
- Spatial Bookmarks
- Project Home
- Home
- C:\
- Admin Tools
- Arand
- Garmin

Layers

- Commercial
- Public_QuasiPublic
- Parks_Greenspace
- Industrial_Manufacturing
- Warehouse_Transportation
- Joined_Parcel_LUC
- Easton_WestWard_Parcel_LUC
- LVPC_LU_Easton_WestWard
- OpenStreetMap

Joined_Parcel_LUC — Features Total: 6231, Filtered: 6231, Selected: 0

fid	PA	MAP	BLOCK	LOT	SCHD
1	3308 L9SW2B 23 1	L9SW2B 23 1 ... L9SW2B	23	1	03
2	3384 L9SW3C 5 4B-1	L9SW3C 5 4B-1... L9SW3C	5	4B-1	03
3	3377 L9SE1D 14 1J	L9SE1D 14 1J ... L9SE1D	14	1J	03
4	3376 L9SE1D 14 1F	L9SE1D 14 1F ... L9SE1D	14	1F	03
5	3379 L9SE1D 14 1E	L9SE1D 14 1E ... L9SE1D	14	1E	03
6	3378 L9SE1D 14 1B	L9SE1D 14 1B ... L9SE1D	14	1B	03
7	3381 L9SW3C 5 6	L9SW3C 5 6 ... L9SW3C	5	6	08
8	3380 L9SE1D 14 1G	L9SE1D 14 1G ... L9SE1D	14	1G	03
9	3383 L9SE2D 26 3	L9SE2D 26 3 ... L9SE2D	26	3	03
10	3382 L9SW3C 11 2	L9SW3C 11 2 ... L9SW3C	11	2	08

Show All Features

Topology

Layer Rendering

Live update Apply

Type to locate (Ctrl+K) Coordinate 2670022,504384 Scale 1:5967 Magnifier 100% Rotation 0.0° Render EPSG:2272

21

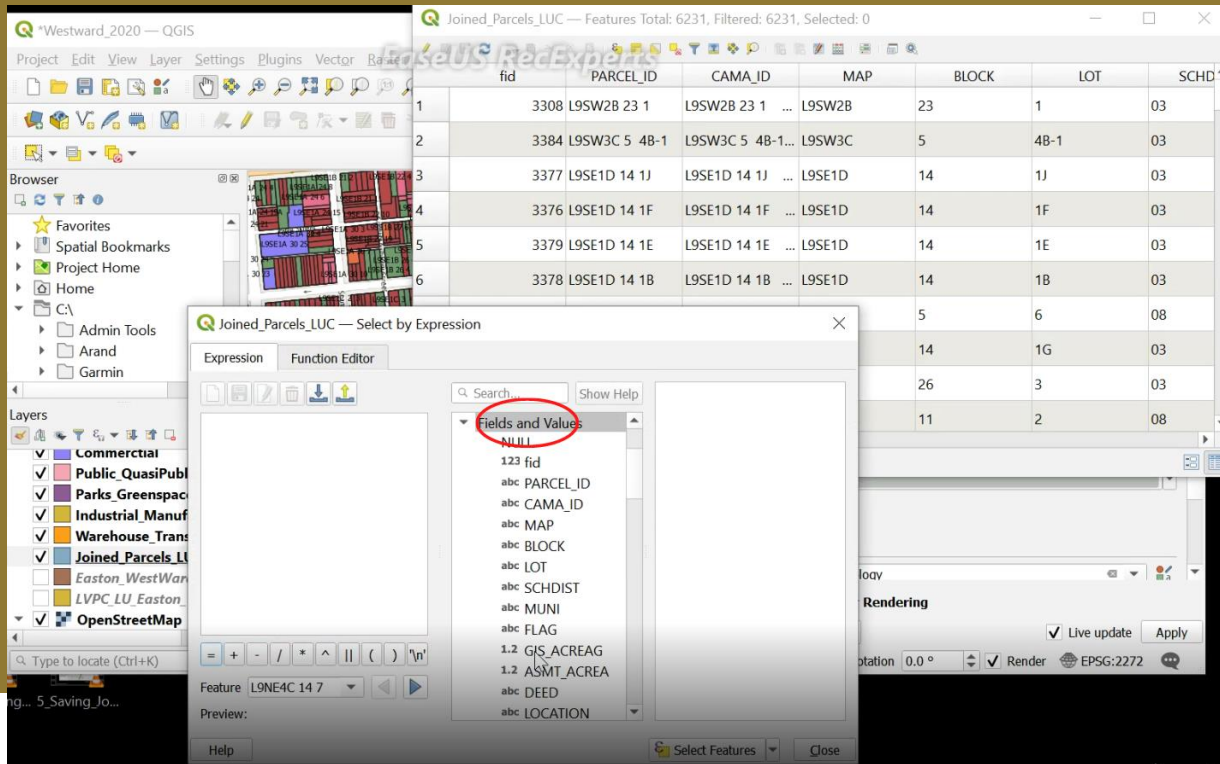


Video 14

Locate the 'Select features using an expression' function on the attribute table toolbar. Click it.

Using the Asset Map

Isolating Layers and Features



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Video 14

Scroll through the middle column until you find the 'Fields and Values' option. Single click it. From there a drop down menu will appear. Select the 'LUC' option from the drop down.

Using the Asset Map

Isolating Layers and Features

The screenshot shows the QGIS interface with a parcel map on the left and a data table on the right. The data table has columns: fid, PARCEL_ID, CAMA_ID, MAP, BLOCK, LOT, and SCHD. The 'Select by Expression' dialog box is open, showing the expression editor with the expression `"LUC" = '90'`. The field list on the right includes 'LUC' and '90', both circled in red. The 'All Unique' button in the values menu is also circled in red. A red dashed box highlights the dialog box.

fid	PARCEL_ID	CAMA_ID	MAP	BLOCK	LOT	SCHD
1	3308 L9SW2B 23 1	L9SW2B 23 1 ...	L9SW2B	23	1	03
2	3384 L9SW3C 5 4B-1...	L9SW3C 5 4B-1...	L9SW3C	5	4B-1	03
3	3377 L9SE1D 14 1J	L9SE1D 14 1J ...	L9SE1D	14	1J	03
4	3376 L9SE1D 14 1F	L9SE1D 14 1F ...	L9SE1D	14	1F	03
5	3379 L9SE1D 14 1E	L9SE1D 14 1E ...	L9SE1D	14	1E	03
6	3378 L9SE1D 14 1B	L9SE1D 14 1B ...	L9SE1D	14	1B	03
				5	6	08
				14	1G	03
				26	3	03
				11	2	08

23



Video 14

Double click the 'LUC' option. Green text will appear in the box on the left-hand side. Then locate the 'All Unique' button. Single click it. You can use the drop down menu or the search bar to select the right LUC number you want to highlight on the map. Click 'Select Features'.

Using the Asset Map

Isolating Layers and Features

The screenshot shows the QGIS interface with the 'Joined_Parcels_LUC' layer selected. The attribute table is open, displaying a list of features with columns for 'fid', 'PARCEL_ID', and 'LUC'. The 'LUC' field is highlighted in blue, and the 'Field Filter' option is circled in red in the context menu.

fid	PARCEL_ID	LUC
1	3308 L9SW2B 23 1	L9S
2	3384 L9SW3C 5 4B-1	L9S
3	3377 L9SE1D 14 1J	L9S
4	3376 L9SE1D 14 1F	L9S
5	3379 L9SE1D 14 1E	L9S
6	3378 L9SE1D 14 1B	L9S
7	3381 L9SW3C 5 6	L9S
8	3380 L9SE1D 14 1G	L9S
9	3383 L9SE2D 26 3	L9S
10	3382 L9SW3C 11 2	L9S

The context menu for the 'LUC' field is open, showing options such as 'Show All Features', 'Show Selected Features', and 'Field Filter' (circled in red).

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Video 14

Alternatively, instead of performing steps 20-23, you can open the attribute table for the joined parcel layer, click 'Select Features', and click 'LUC'.

Using the Asset Map

Isolating Layers and Features

The screenshot shows the QGIS interface with a parcel map on the left and an attribute table on the right. The attribute table has the following columns: fid, PARCEL_ID, CAMA_ID, MAP, BLOCK, LOT, and SCHD. The search box at the bottom of the attribute table contains the text 'abc LUC' and '90'. A red circle highlights the search box.

fid	PARCEL_ID	CAMA_ID	MAP	BLOCK	LOT	SCHD
1	3308 L9SW2B 23 1	L9SW2B 23 1 ...	L9SW2B	23	1	03
2	3384 L9SW3C 5 4B-1	L9SW3C 5 4B-1...	L9SW3C	5	4B-1	03
3	3377 L9SE1D 14 1J	L9SE1D 14 1J ...	L9SE1D	14	1J	03
4	3376 L9SE1D 14 1F	L9SE1D 14 1F ...	L9SE1D	14	1F	03
5	3379 L9SE1D 14 1E	L9SE1D 14 1E ...	L9SE1D	14	1E	03
6	3378 L9SE1D 14 1B	L9SE1D 14 1B ...	L9SE1D	14	1B	03
7	3381 L9SW3C 5 6	L9SW3C 5 6 ...	L9SW3C	5	6	08
8	3380 L9SE1D 14 1G	L9SE1D 14 1G ...	L9SE1D	14	1G	03
9	3383 L9SE2D 26 3	L9SE2D 26 3 ...	L9SE2D	26	3	03
10	3382 L9SW3C 11 2	L9SW3C 11 2 ...	L9SW3C	11	2	08

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Video 14

Type in the desired LUC value into the box at the bottom of the attribute table and hit enter.

Using the Asset Map

Isolating Layers and Features

	GIS_ACREAG	ASMT_ACREA	DEED	LOCATION	LUC	NBHD	TOTAL_V
225	0.13	0.1343	2017-1 270353	NORTHAMPTO...	90	1004	
226	0.1	0.0967	741 001069	1343 FERRY ST	90	1004	
227	0.03	0.0251	2005-1 150794	903 FERRY ST	90	1004	
228	0.07	0.0718	624 000028	PINE ST	90	1004	
229	0.09	0.09	2010-1 102055	1000 LEHIGH DR	90	1004	
230	0.57	0.57	2017-1 004887	JEFFERSON ST	90	1004	
231	0.12	0.1212	2004-1 118300	1075 LEHIGH DR	90	1004	
232	0.03	0.0328	NULL	1320 LYNN ST	90	1004	
233	0.05	0.0466	NULL	1061 LEHIGH DR	90	1004	
234	0.02	0.0196	2005-1 482247	929 WALNUT AVE	90	1004	

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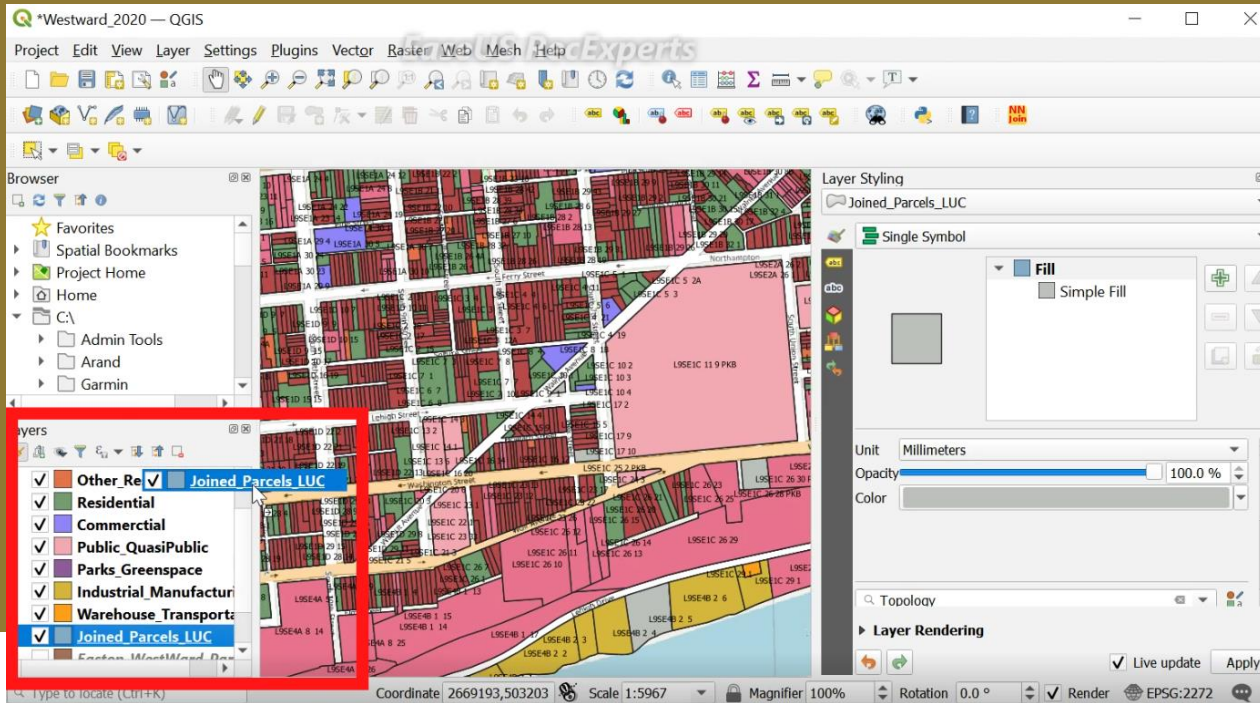


Video 14

The attribute table will now contain all of the data entries categories under the value in the LUC list. In this example, the selected value was 90. Shift, click, and select all of the values in this table to highlight all of the values. Once everything is selected, click the box labelled 'abc LUC' and click the 'Show Selected Features' option.

Using the Asset Map

Isolating Layers and Features



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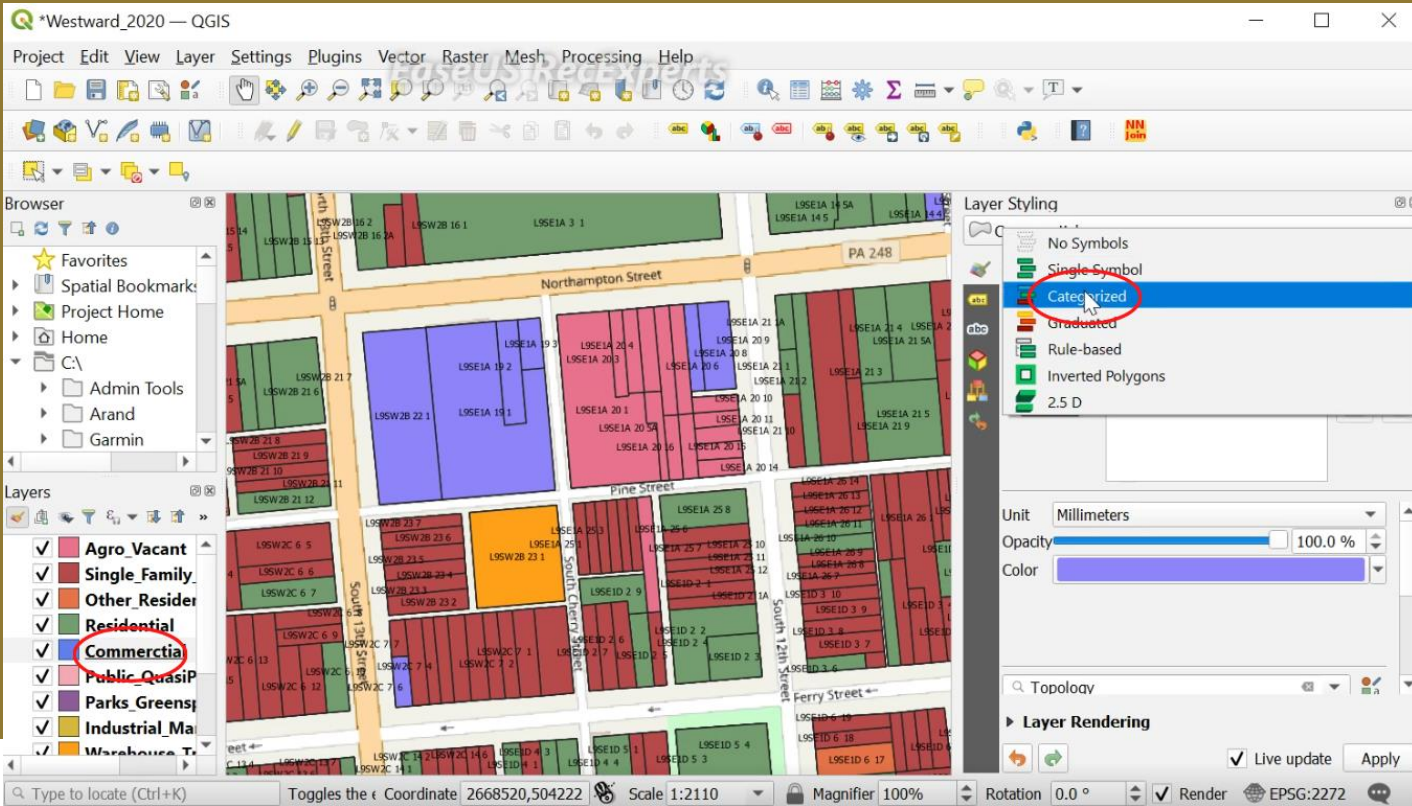


Video 14

Now, the map will create a new layer which only displays the features you selected, however, this layer will not immediately be visible because it will be buried underneath other layers. To fix this, locate the newly-created layer containing your desired features and drag it up to the top of the layers menu list.

Using the Asset Map

Categorizing Data



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Video 22

To make certain layers more visible, click on the LUC layer you want to edit. The style menu will open on the left. Ensure that the correct layer is selected in the top-most drop down menu.

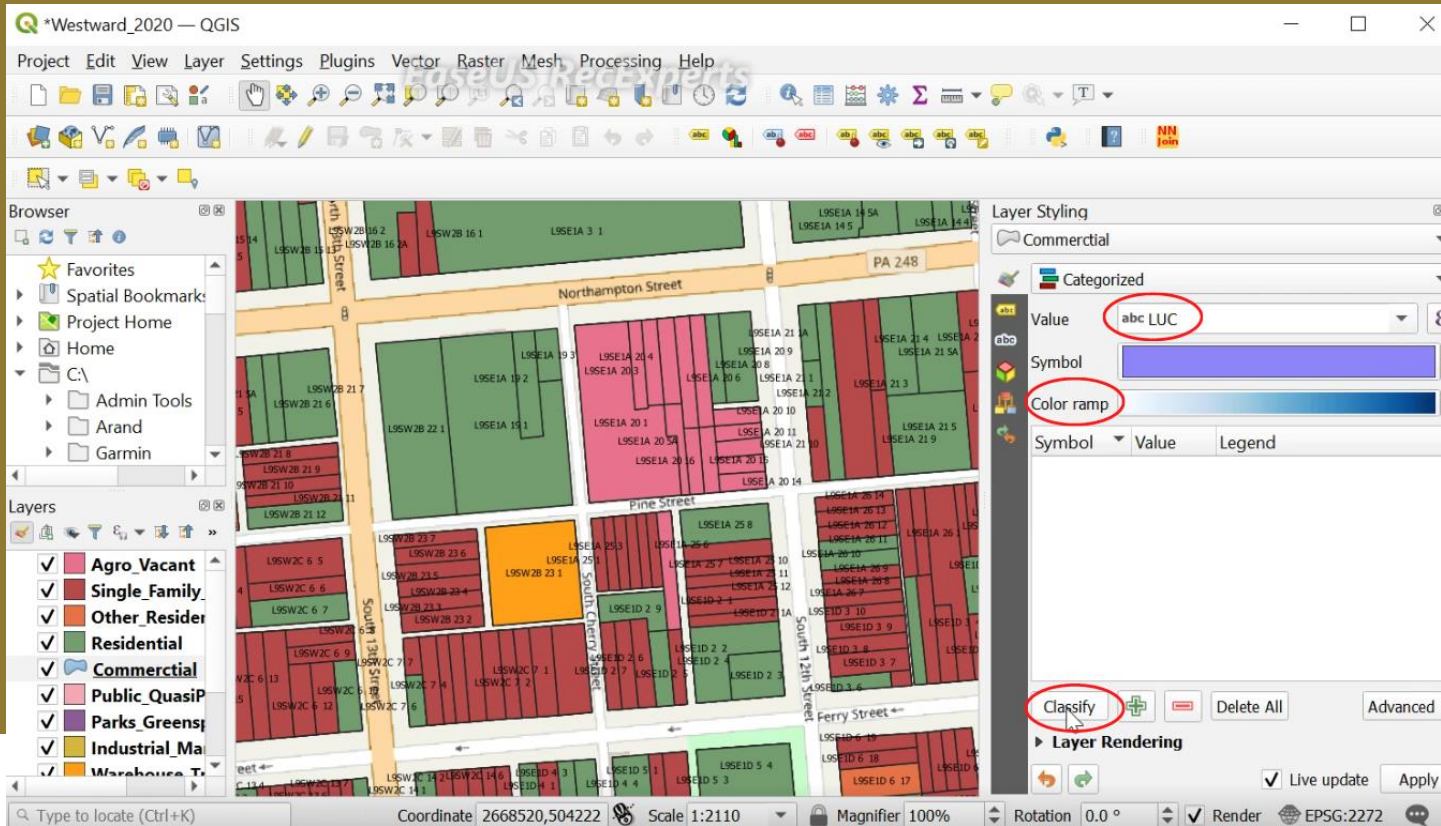
Using the Asset Map

Categorizing Data

29



Video 22



Then, go to the 'Color ramp' drop down menu. This feature allows you to use different shades of the same color to visually indicate different subcategories within one LUC. Click 'Classify' to see the product.

Using the Asset Map

Categorizing Data

30



Video 22

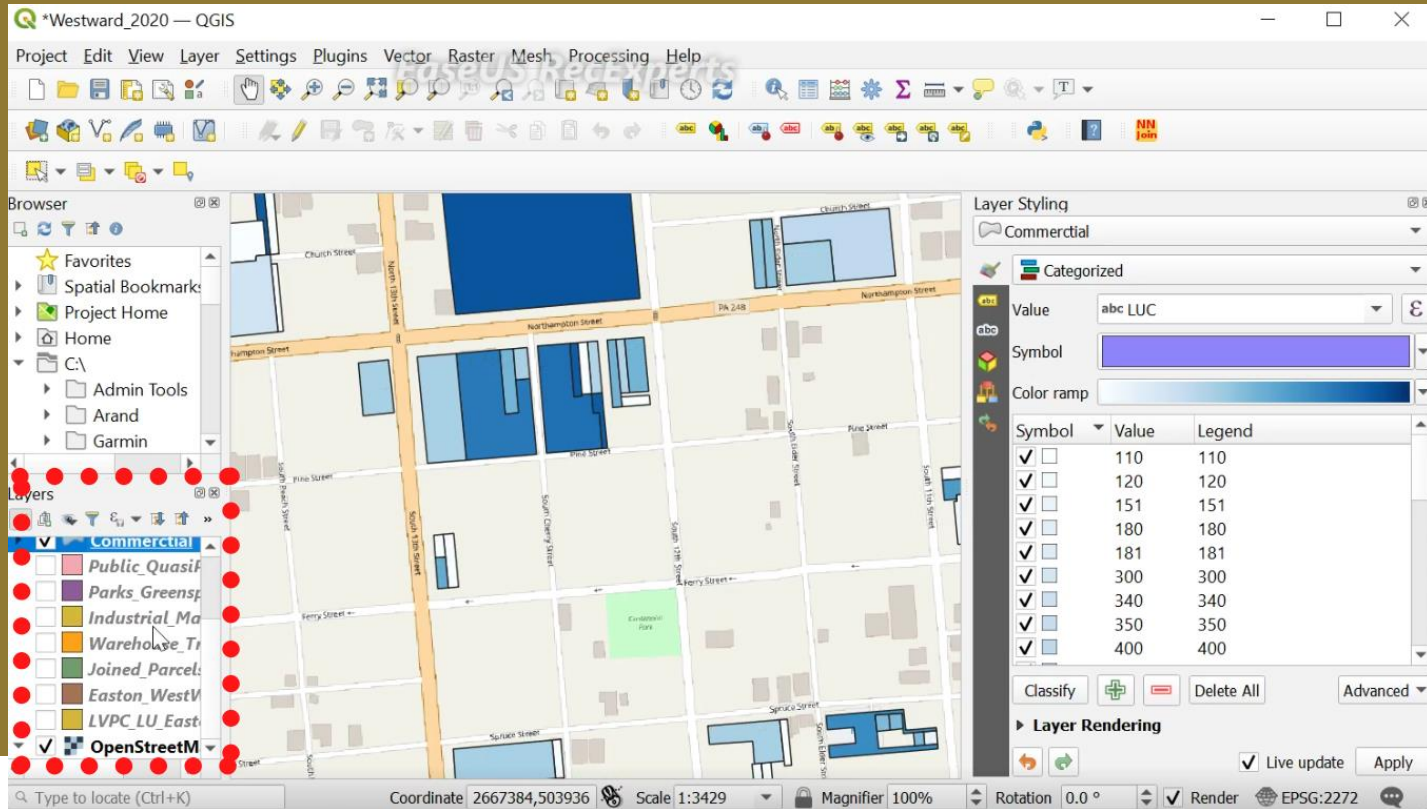
The screenshot shows the QGIS interface with a map of land use data. A red circle highlights a specific parcel. The Layer Styling panel on the right shows a 'Categorized' legend with a table of values and symbols.

Symbol	Value	Legend
<input checked="" type="checkbox"/>	110	110
<input checked="" type="checkbox"/>	120	120
<input checked="" type="checkbox"/>	151	151
<input checked="" type="checkbox"/>	180	180
<input checked="" type="checkbox"/>	181	181
<input checked="" type="checkbox"/>	300	300
<input checked="" type="checkbox"/>	340	340
<input checked="" type="checkbox"/>	350	350
<input checked="" type="checkbox"/>	400	400

Once you've hit classify, the menu on the left will indicate which color corresponds with each subsection of the LUC.

Using the Asset Map

Categorizing Data



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Video 22

To make this visualization even clearer, you can toggle the other layers on and off using the check boxes in the layers menu on the left-hand side.

Using the Asset Map

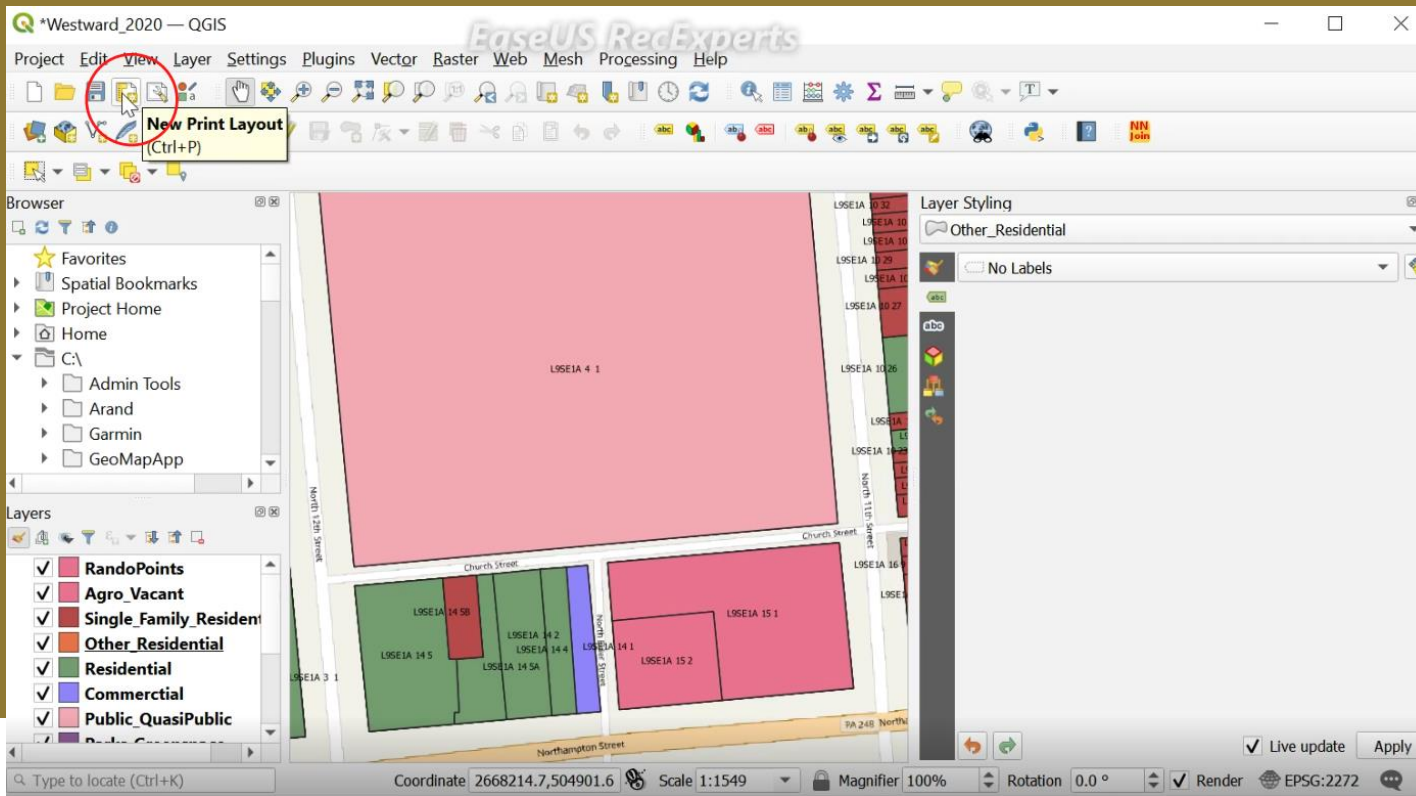
Using the Map for Research

Whilst QGIS can provide a lot of information, such as address and codes, it does not allow for the insertion of images or additional information, such as ownership status and other relevant statistics.

If you need information on a specific asset to enable further research, **follow steps 9-19** to isolate the feature(s) you want to research. The attribute table will provide the street address which can be used as a foundation for external research.

Using the Asset Map

Exporting the Map



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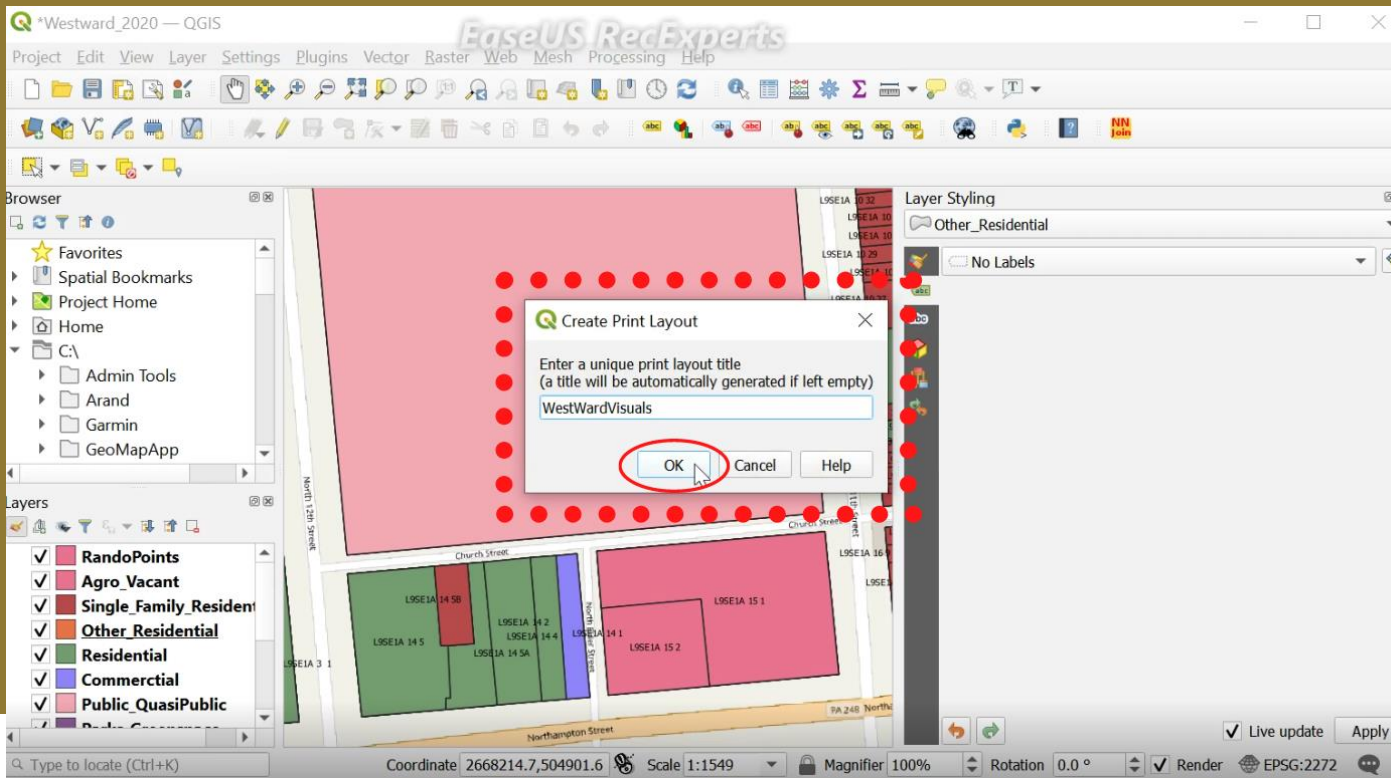


Video 16

To begin the process of exporting the map, locate and click the 'New Print Layout' option on the toolbar.

Using the Asset Map

Exporting the Map



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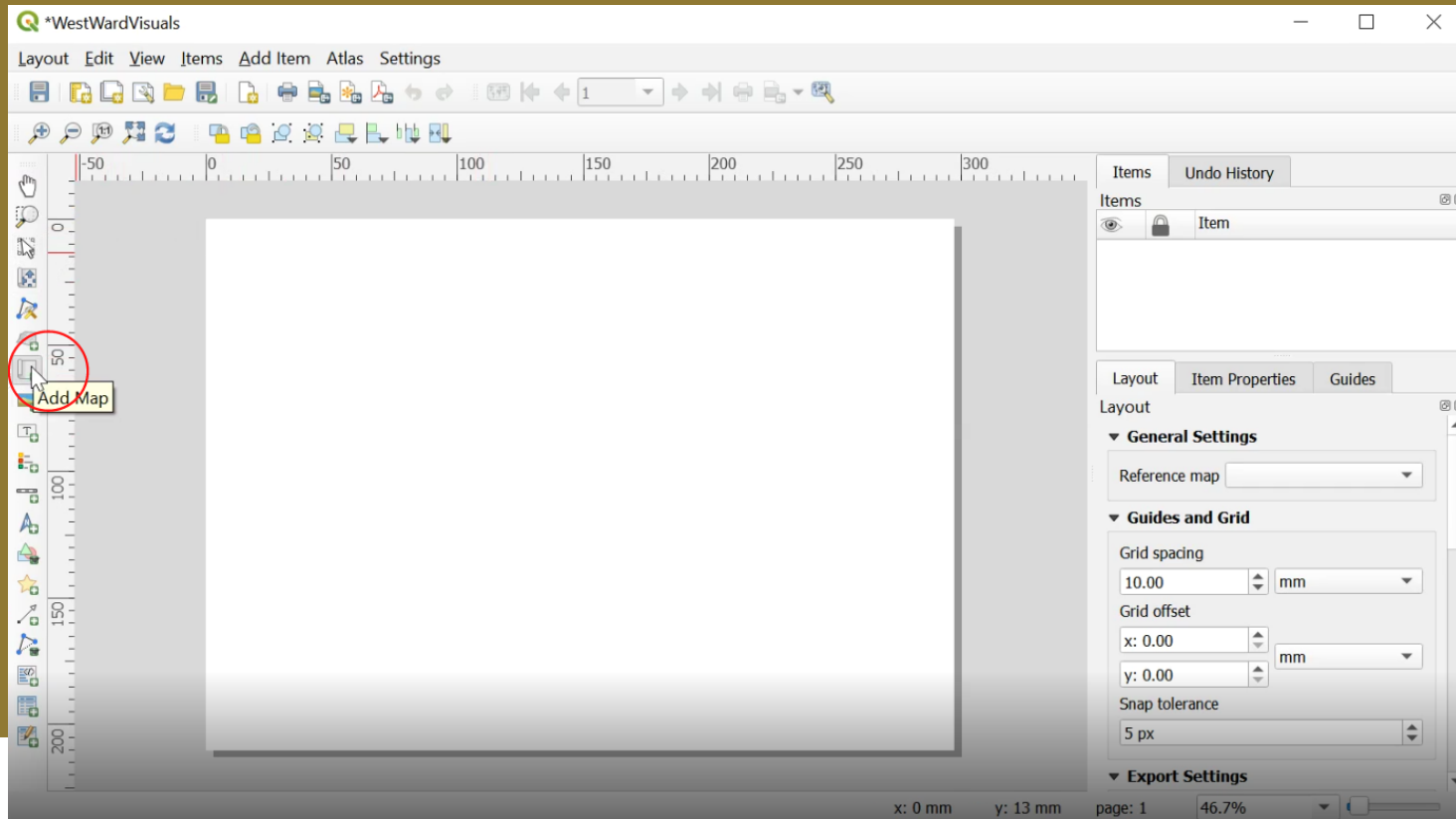


Video 16

A pop-up menu will appear where you can enter the desired title for your exported map. If you don't type anything, a random title will be generated.

Using the Asset Map

Exporting the Map



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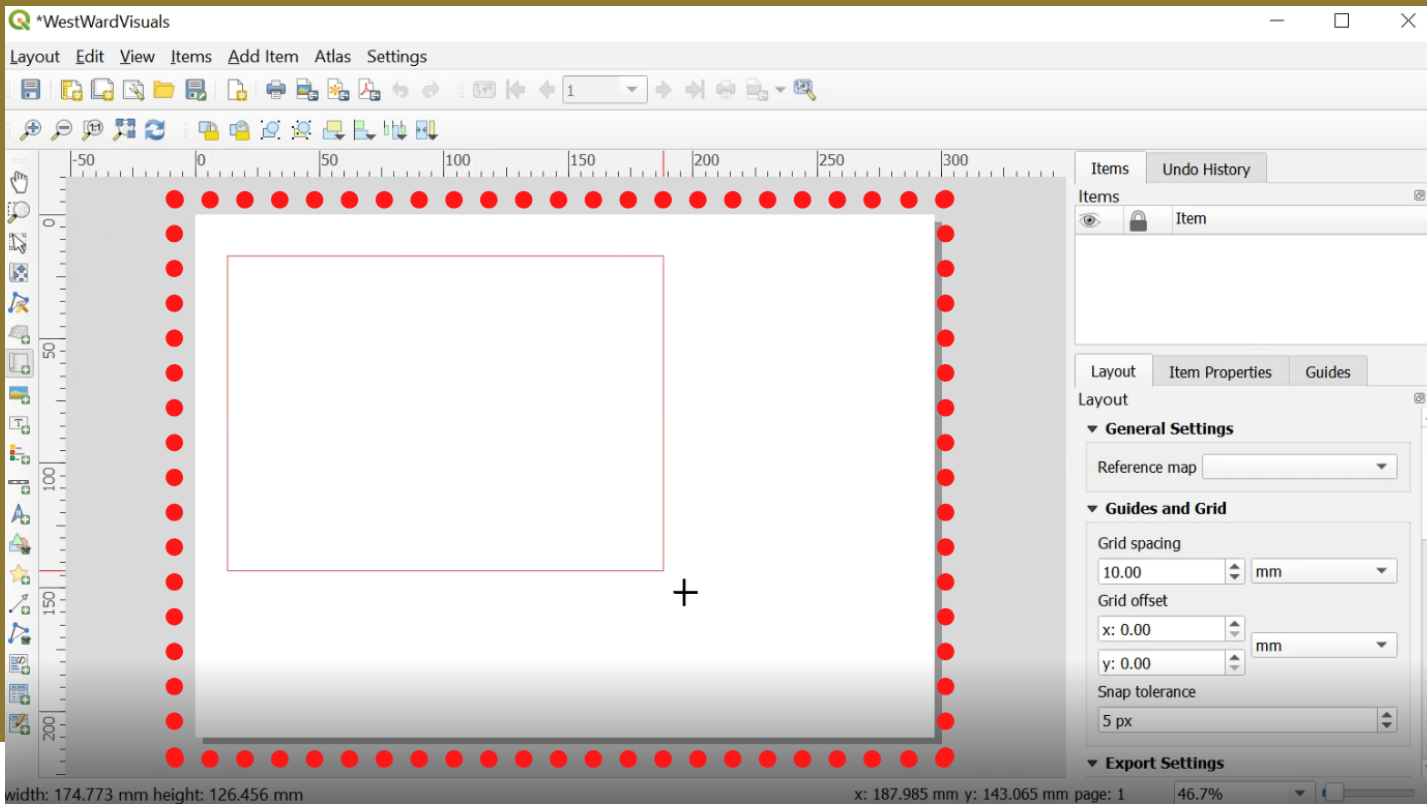


Video 16

Once a blank canvas opens up, click the 'Add Map' button on the left of the screen.

Using the Asset Map

Exporting the Map



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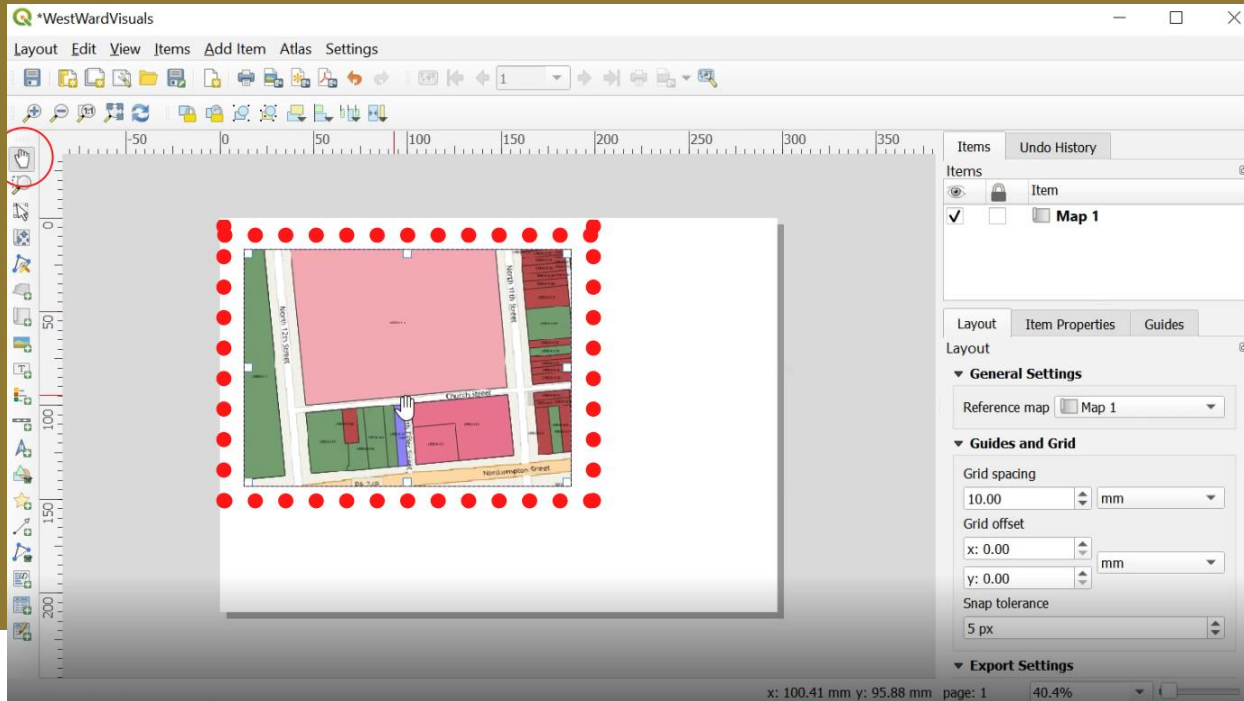


Video 16

A draggable shape feature will open. Use this feature to **allocate the desired size of your map.**

Using the Asset Map

Exporting the Map



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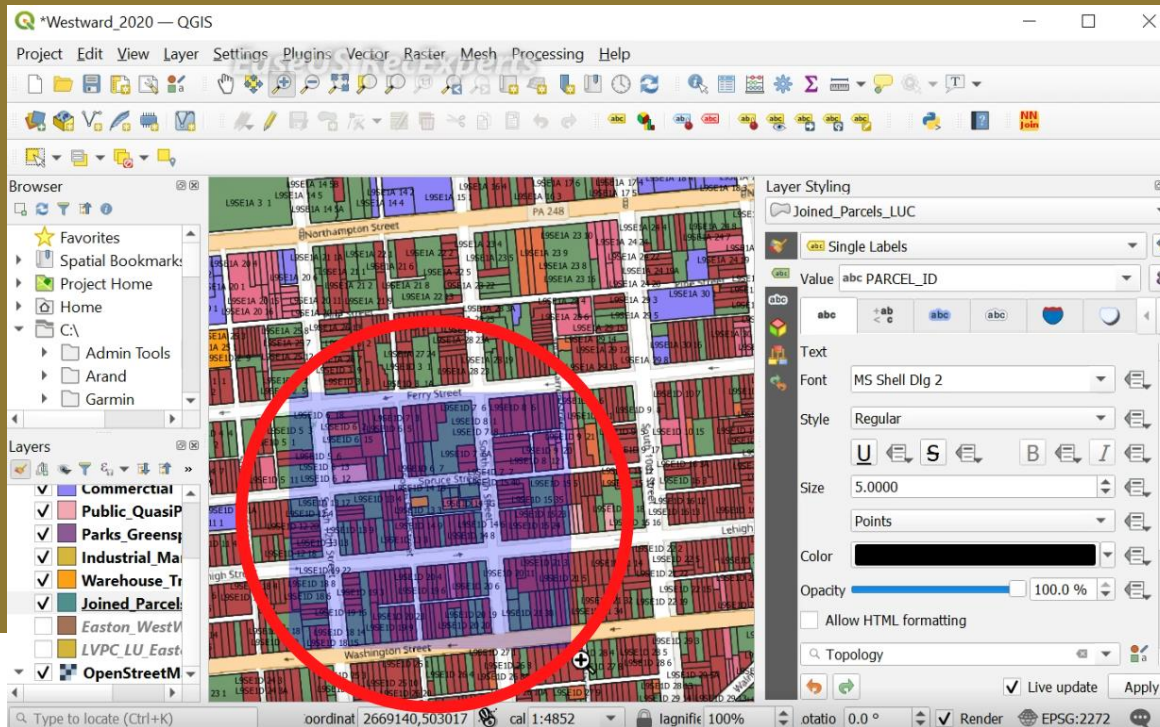


Video 16

Once you release the click, the space will be filled with a section of the map. Click the **hand icon** on the left-hand side menu and use it to scroll around the map to find the desired section. You can also use the **zoom in and zoom out features** which are indicated with magnifying glass symbols on the top toolbar.

Using the Asset Map

Exporting the Map



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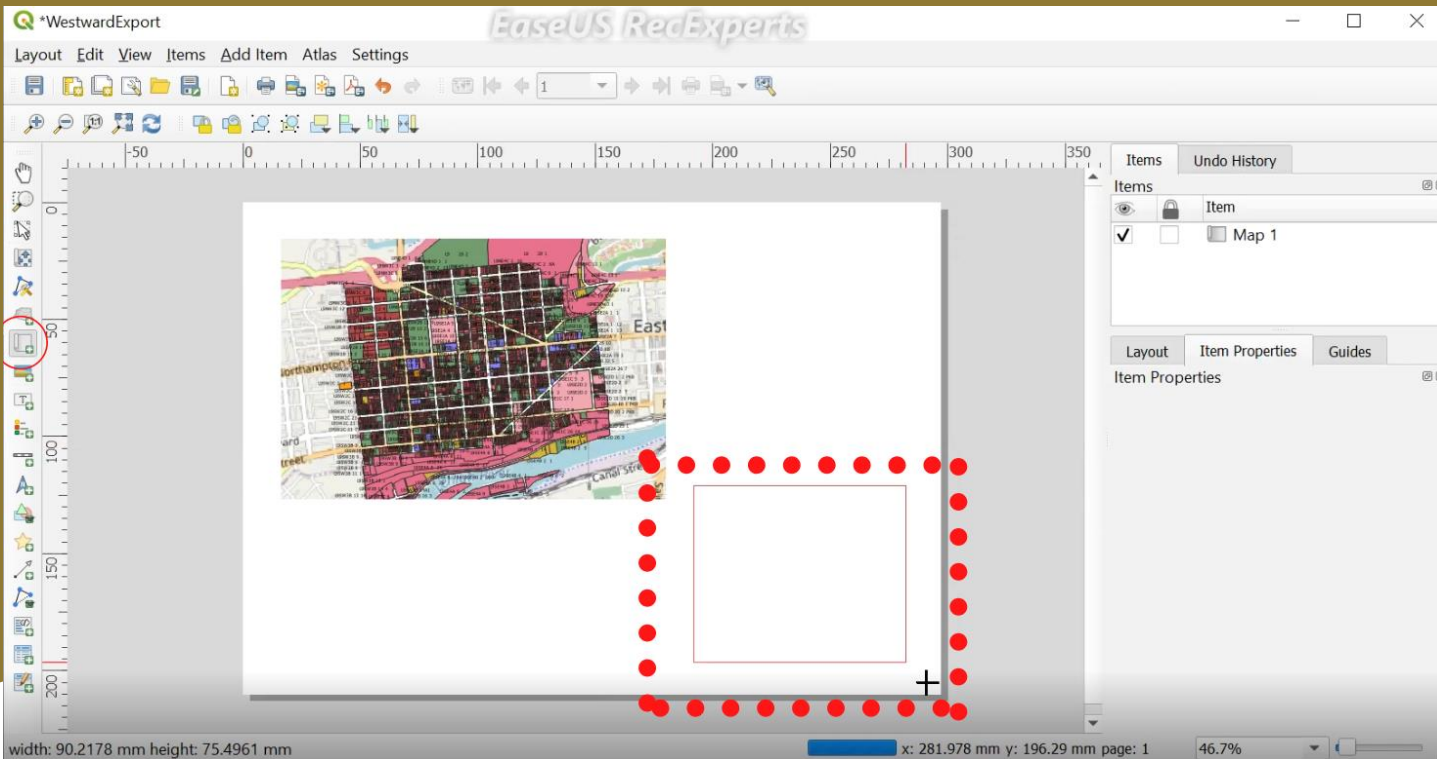


Video 16

Steps 37-41 explain how to insert a second, more focused spotlight map into your map export. These steps are optional. To insert a spotlight map, click on the regular map window which is located behind the map export window. Use the zoom in tool to zoom into the desired section.

Using the Asset Map

Exporting the Map



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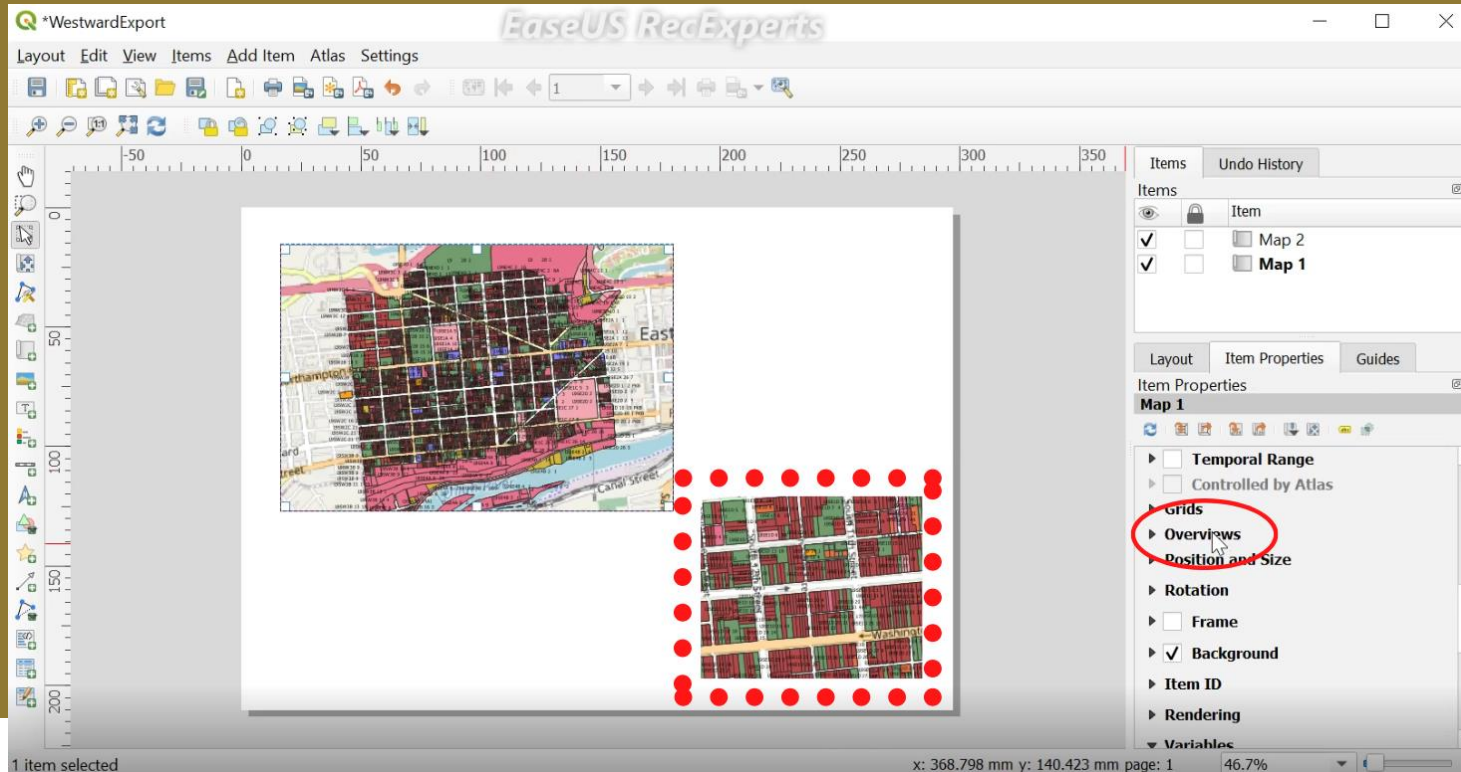


Video 17

Use the 'Add Map' feature to size your second map. Remember, the 'Add Map' feature will draw exactly the image that is in the frame in the main map window.

Using the Asset Map

Exporting the Map



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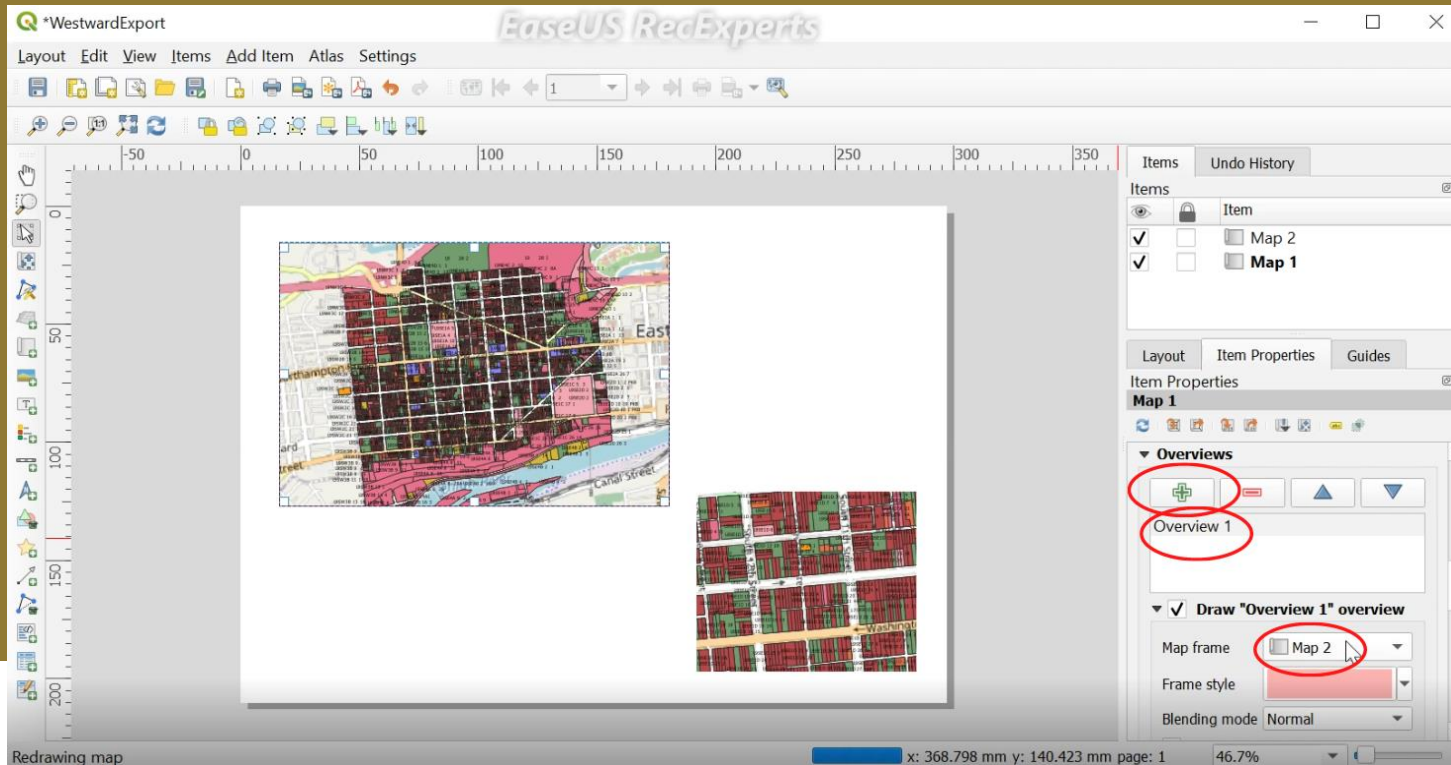


Video 17

Next, insert a translucent overlay on the large map which indicates the area depicted in the spotlight map. Move towards the right-hand side menu and select the 'Overview' option.

Using the Asset Map

Exporting the Map



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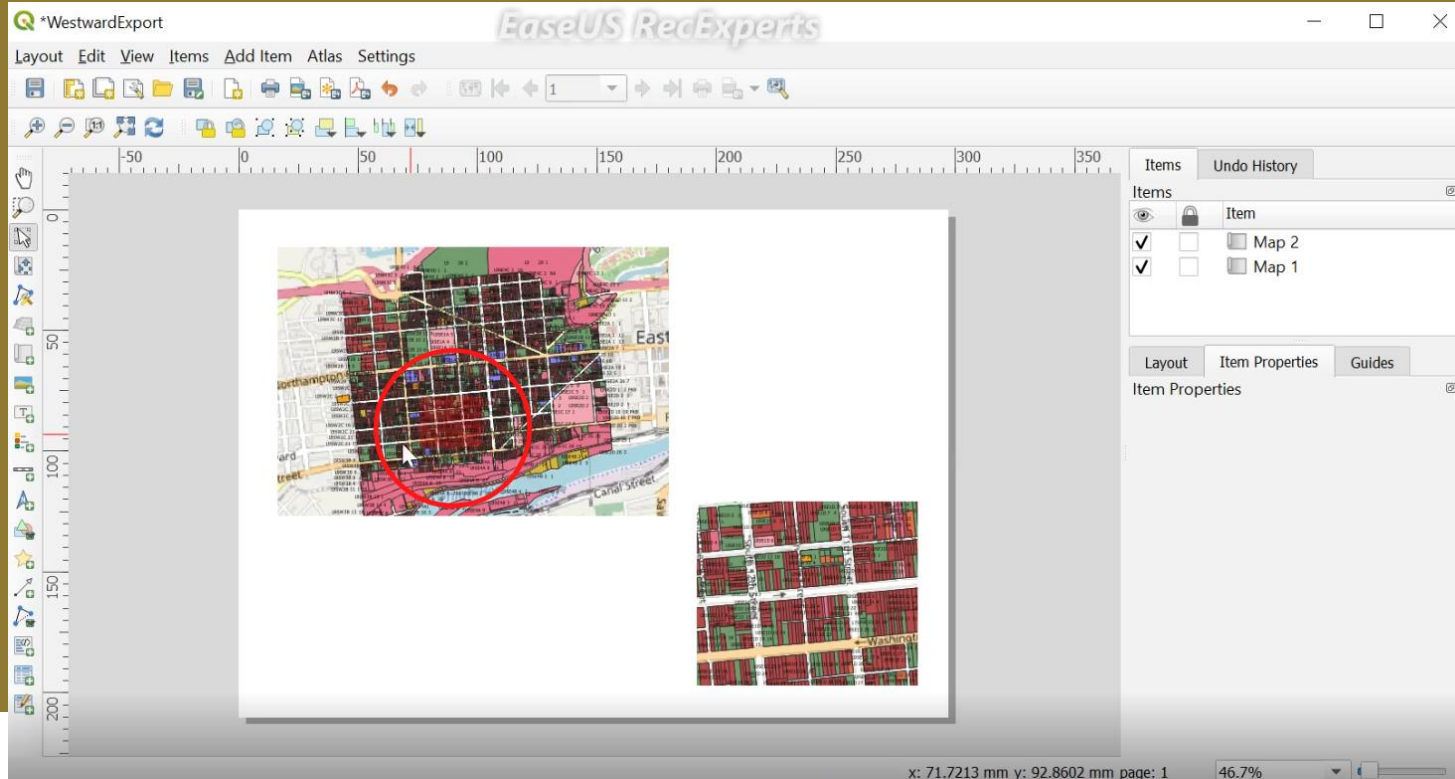


Video 17

Click the green '+' sign. 'Overview 1' will appear in the box below. Ensure that the 'Draw Overview 1 Overview' box is checked. Under the Map Frame option, ensure that 'Map 2' is selected.

Using the Asset Map

Exporting the Map



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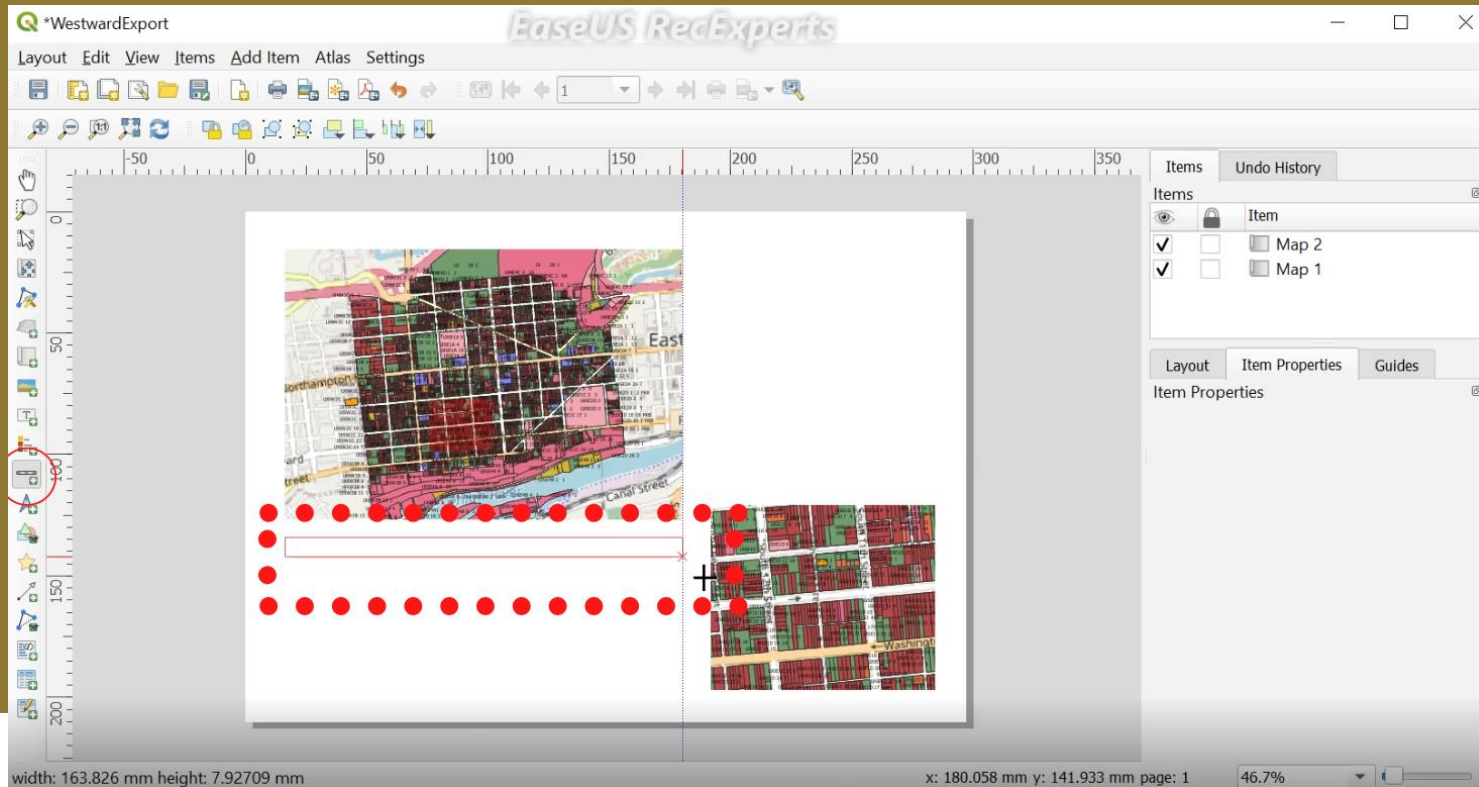


Video 17

Once the features described in step 40 are enabled, a sheer overlay will appear on the larger map to indicate the area depicted in the spotlight map.

Using the Asset Map

Exporting the Map



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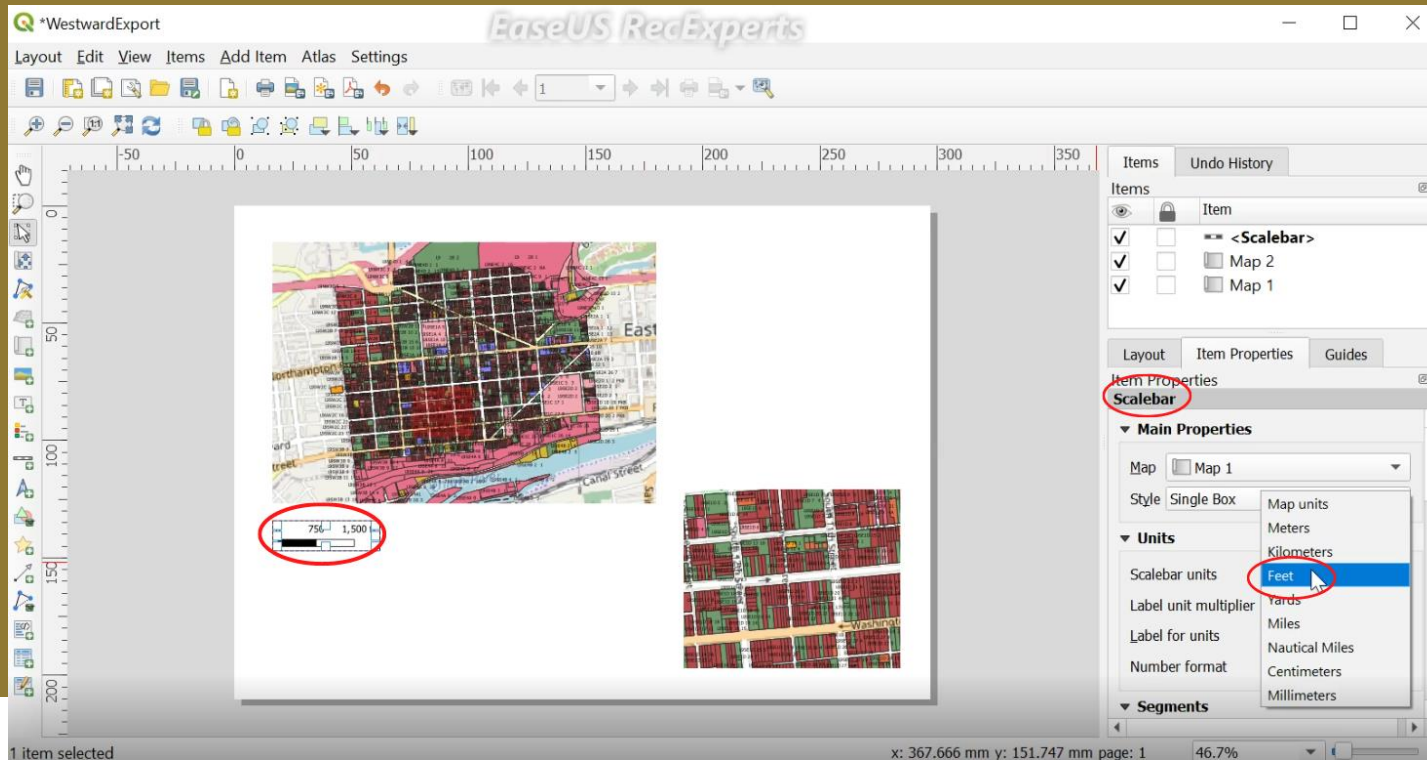


Video 17

You can use the 'Insert Scale' option, available on the left-hand side menu, to create scales. Scales are drawn out in the same way that maps are inserted.

Using the Asset Map

Exporting the Map



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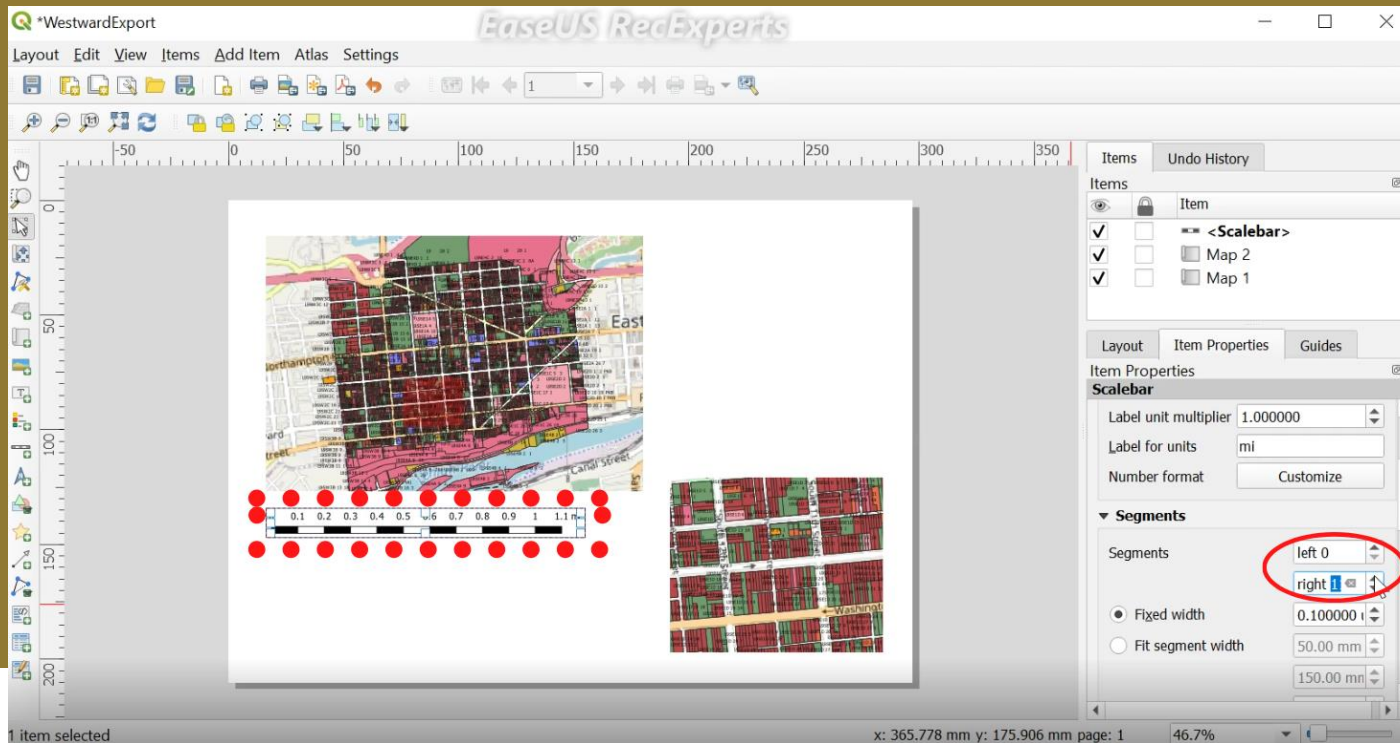


Video 17

To edit the details of scale bars, locate the 'Item Properties' tab on the right-hand side. Scroll down to the 'Main properties' features. In these settings, you can edit the unit of measurement.

Using the Asset Map

Exporting the Map



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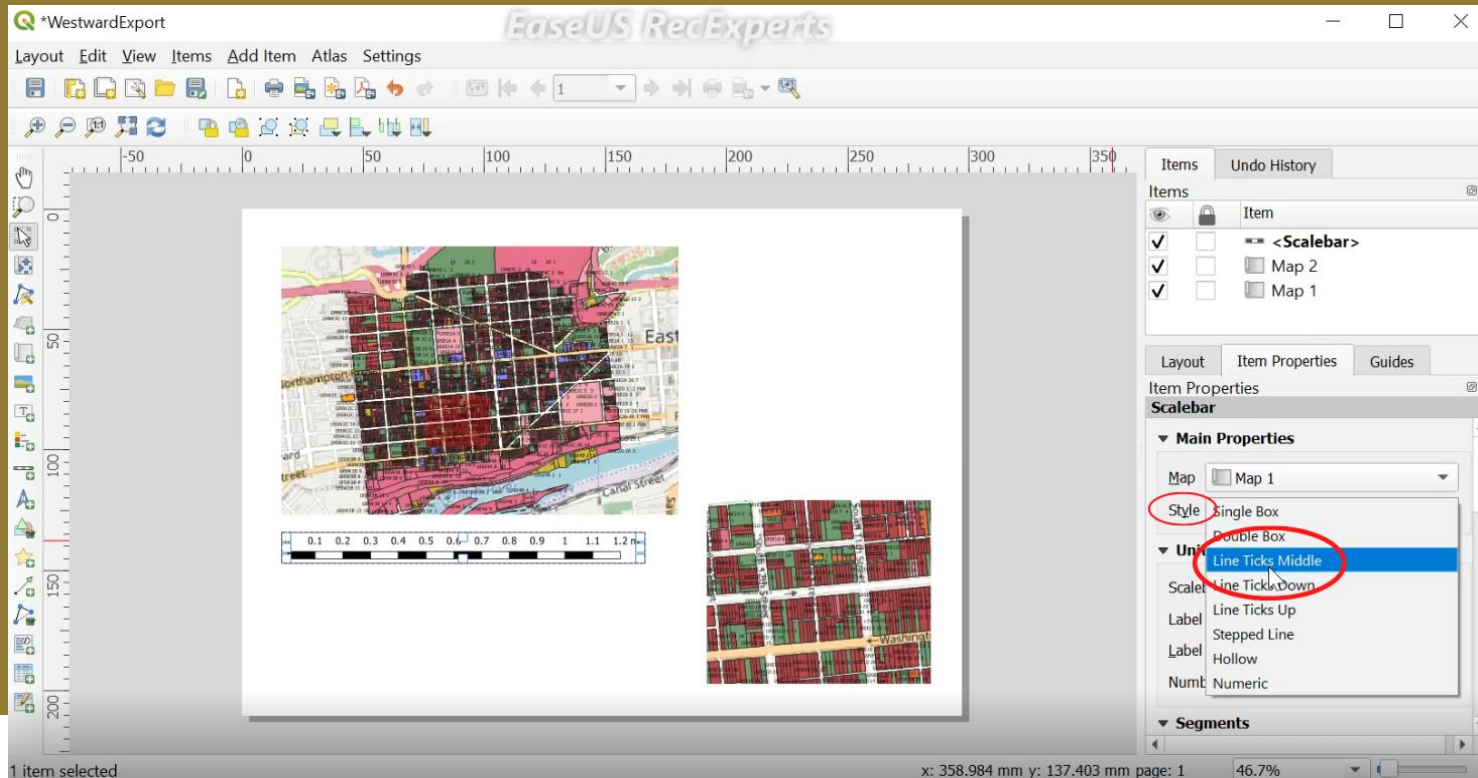


Video 17

Under the 'segment' section, you can adjust the segment increment and style.

Using the Asset Map

Exporting the Map



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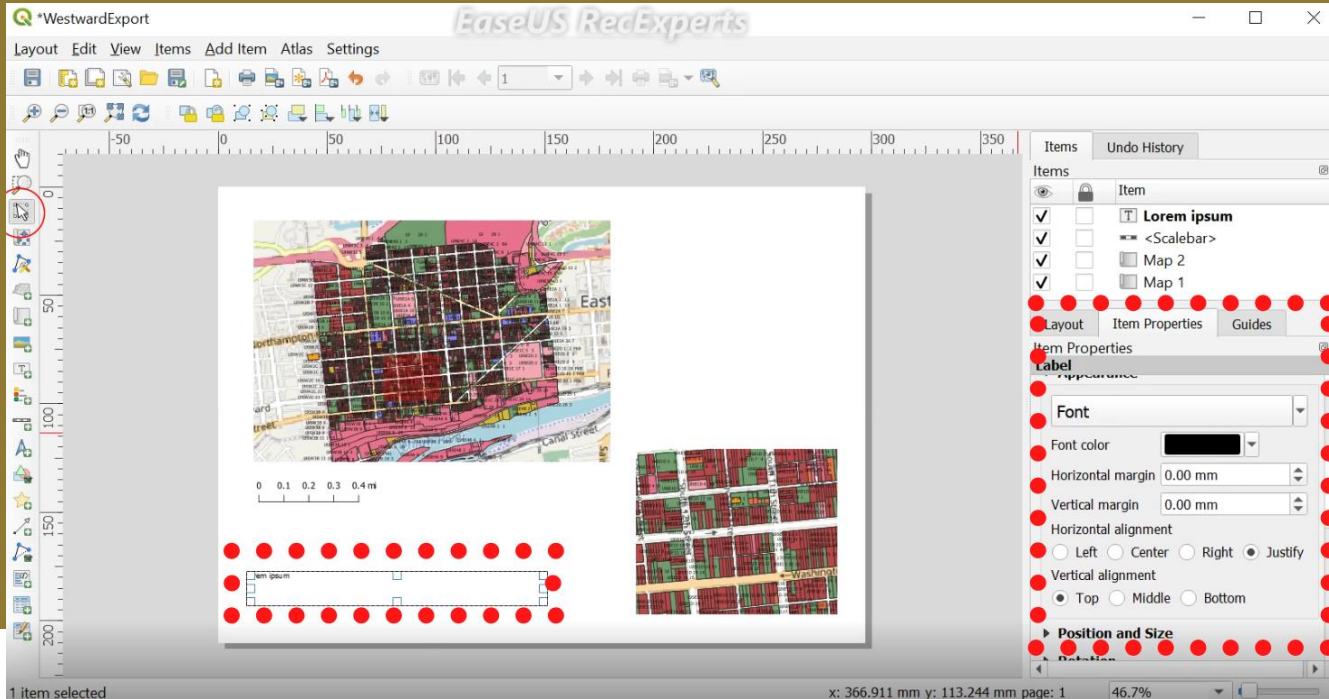


Video 18

You can also use the 'Main Properties' segment to edit the style of the scale bar.

Using the Asset Map

Exporting the Map



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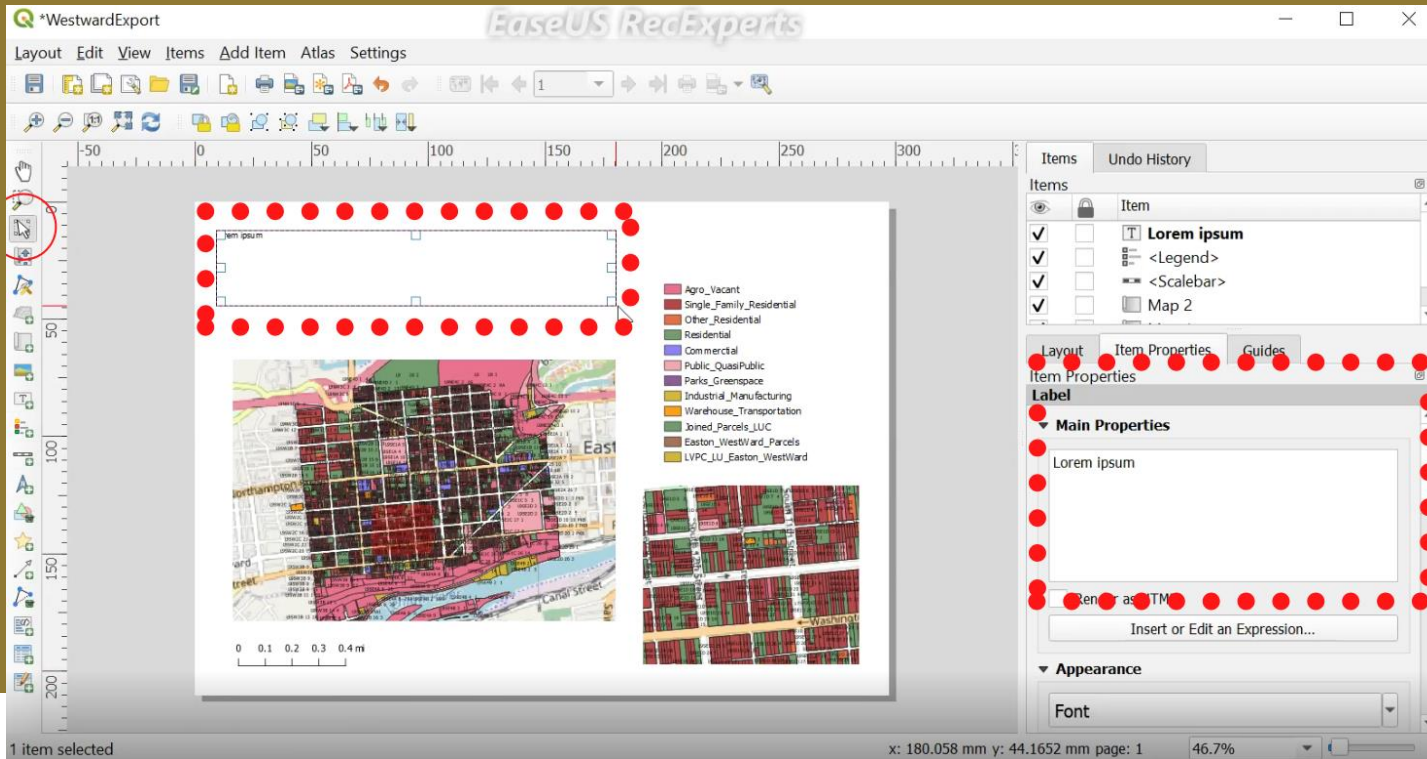


Video 18

Text boxes can be created using the 'Insert Textbox' function on the left-hand side toolbar. Textboxes can be used to create titles, citations, and general inserts. To edit the style of the text in the text box, find the 'Label' segment under the 'Item Properties'.

Using the Asset Map

Exporting the Map



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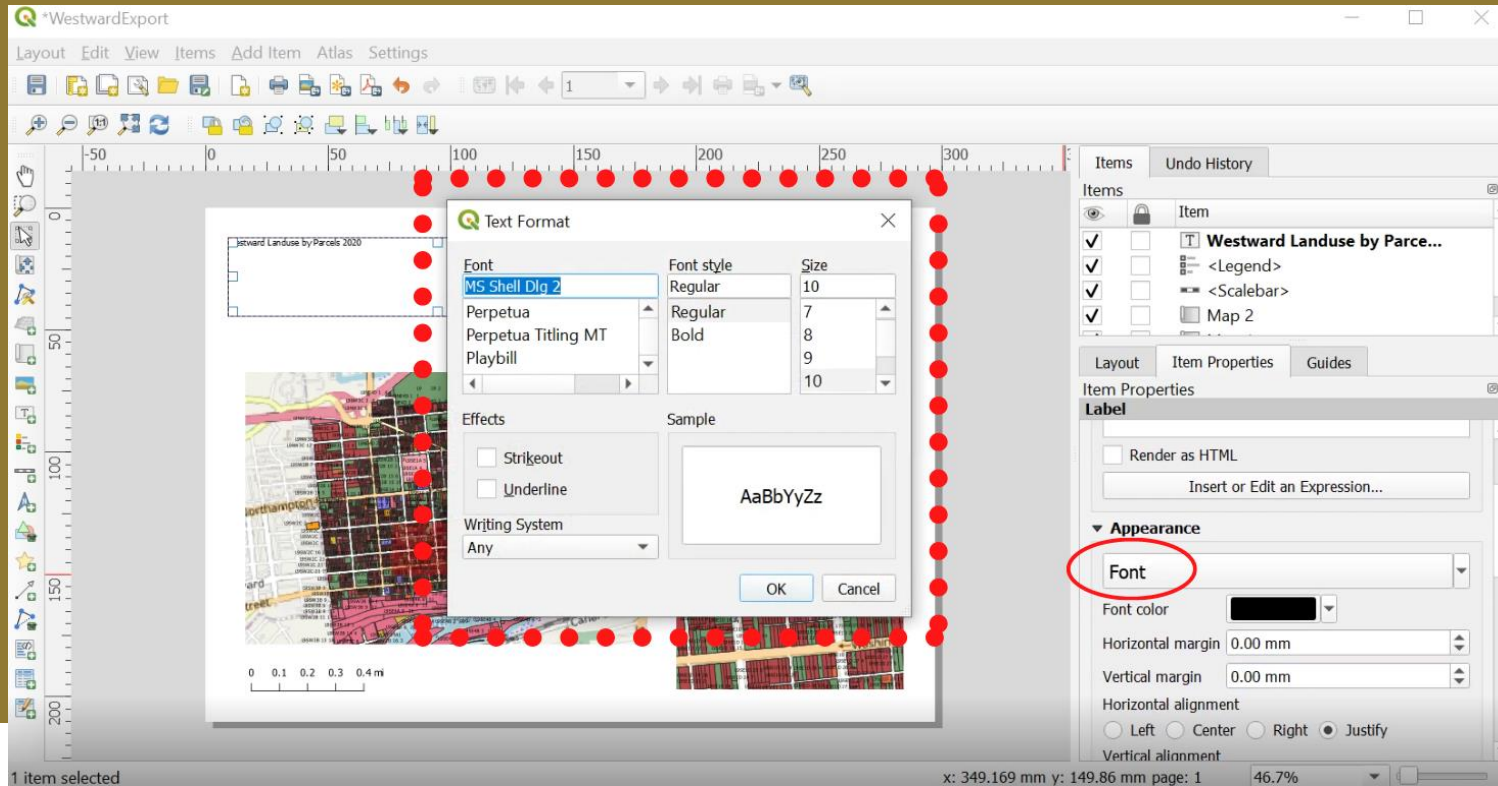


Video 19

The only way to edit the content of text boxes is by double-clicking the text box itself and inserting/editing text via the box which appears on the right.

Using the Asset Map

Exporting the Map



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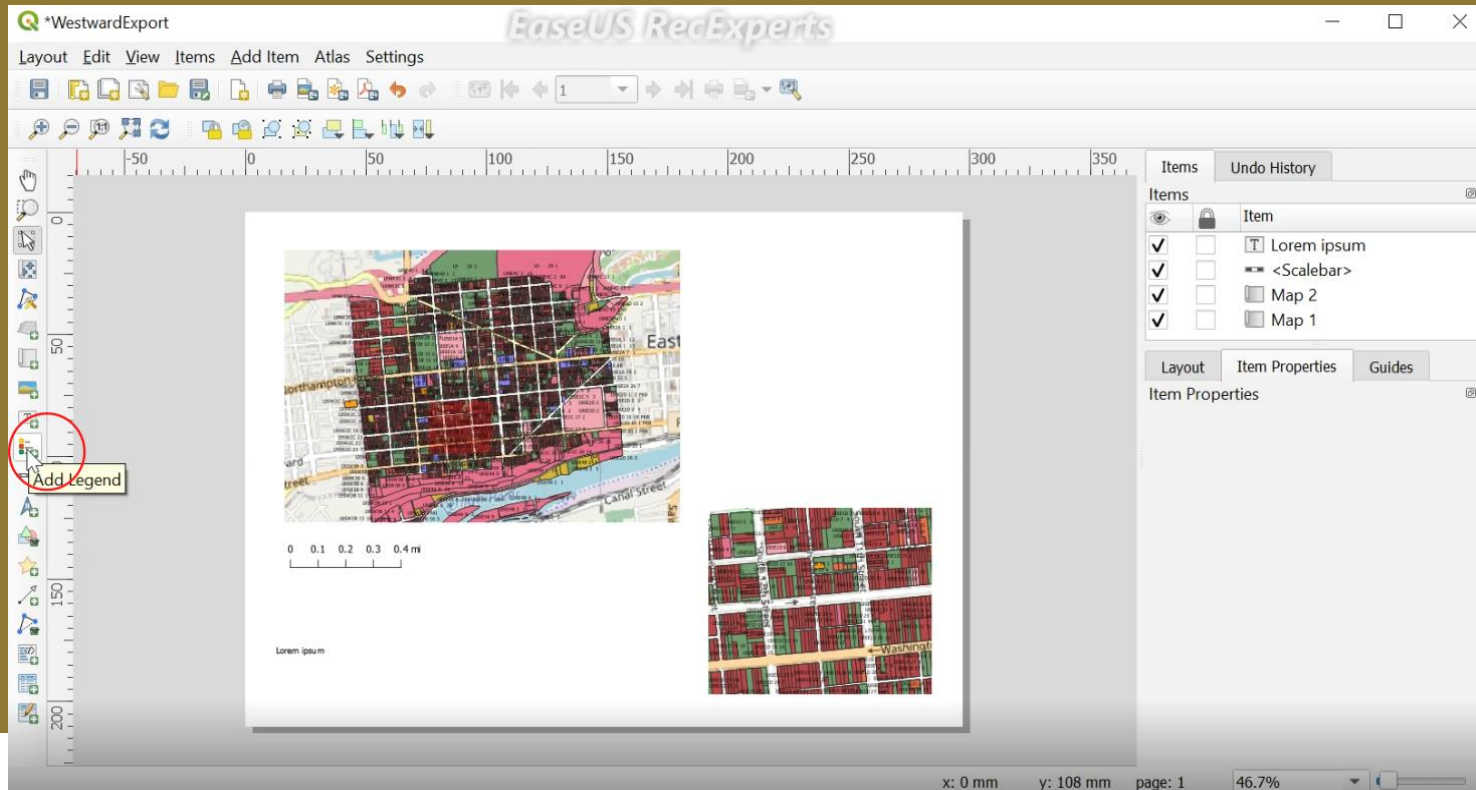


Video 19

You can access the more detailed text editing menu by double-clicking the 'Font' option under the 'Label' segment.

Using the Asset Map

Exporting the Map



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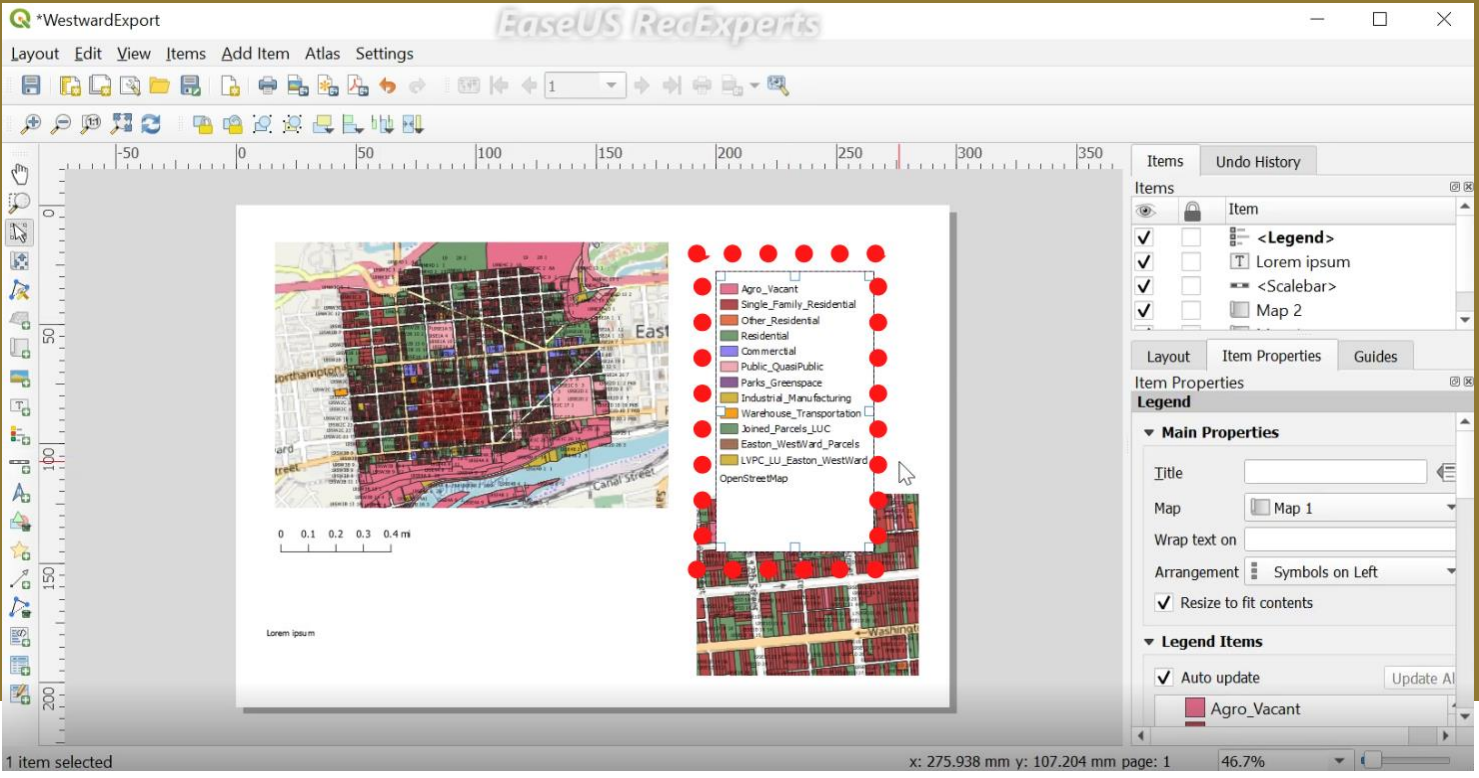


Video 19

You can insert a legend using the 'Add Legend' button on the left-hand side toolbar.

Using the Asset Map

Exporting the Map



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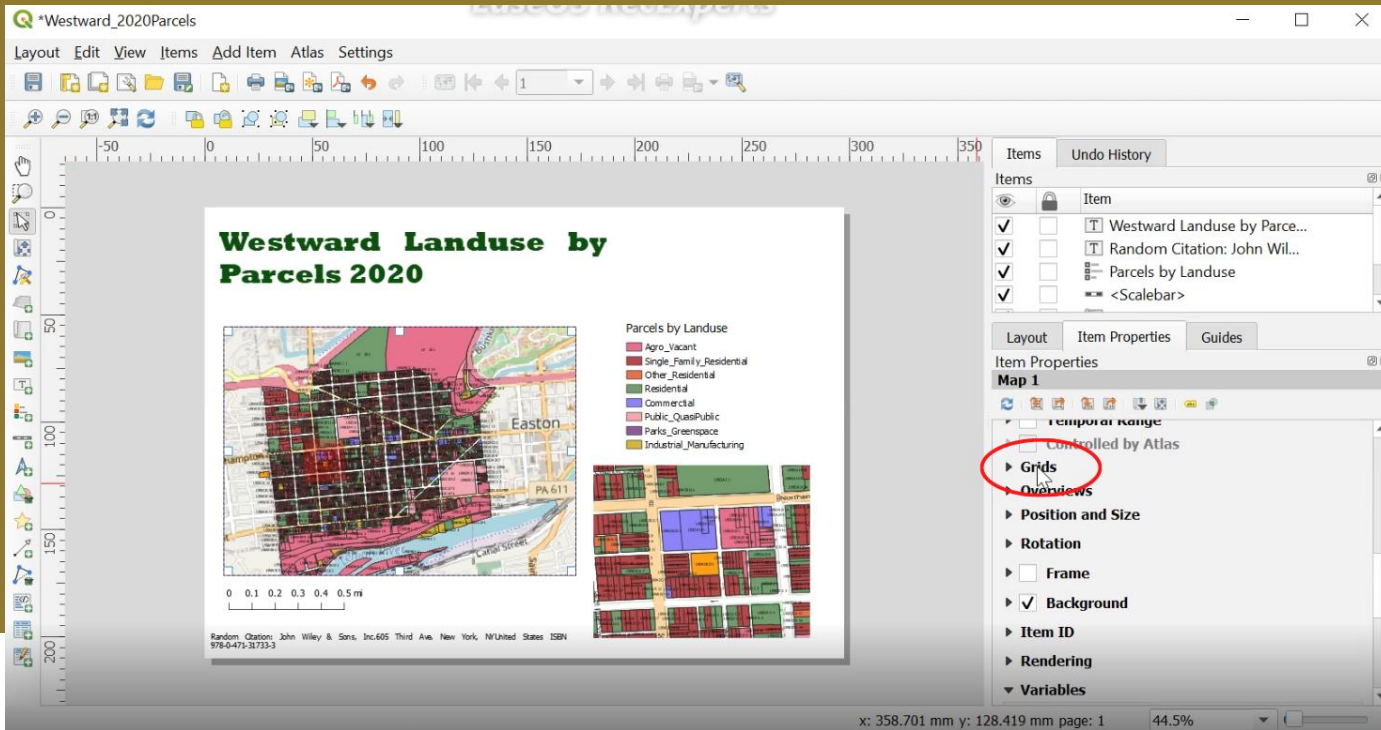


Video 19

This is an example of how the legend will appear once initially inserted.

Using the Asset Map

Exporting the Map



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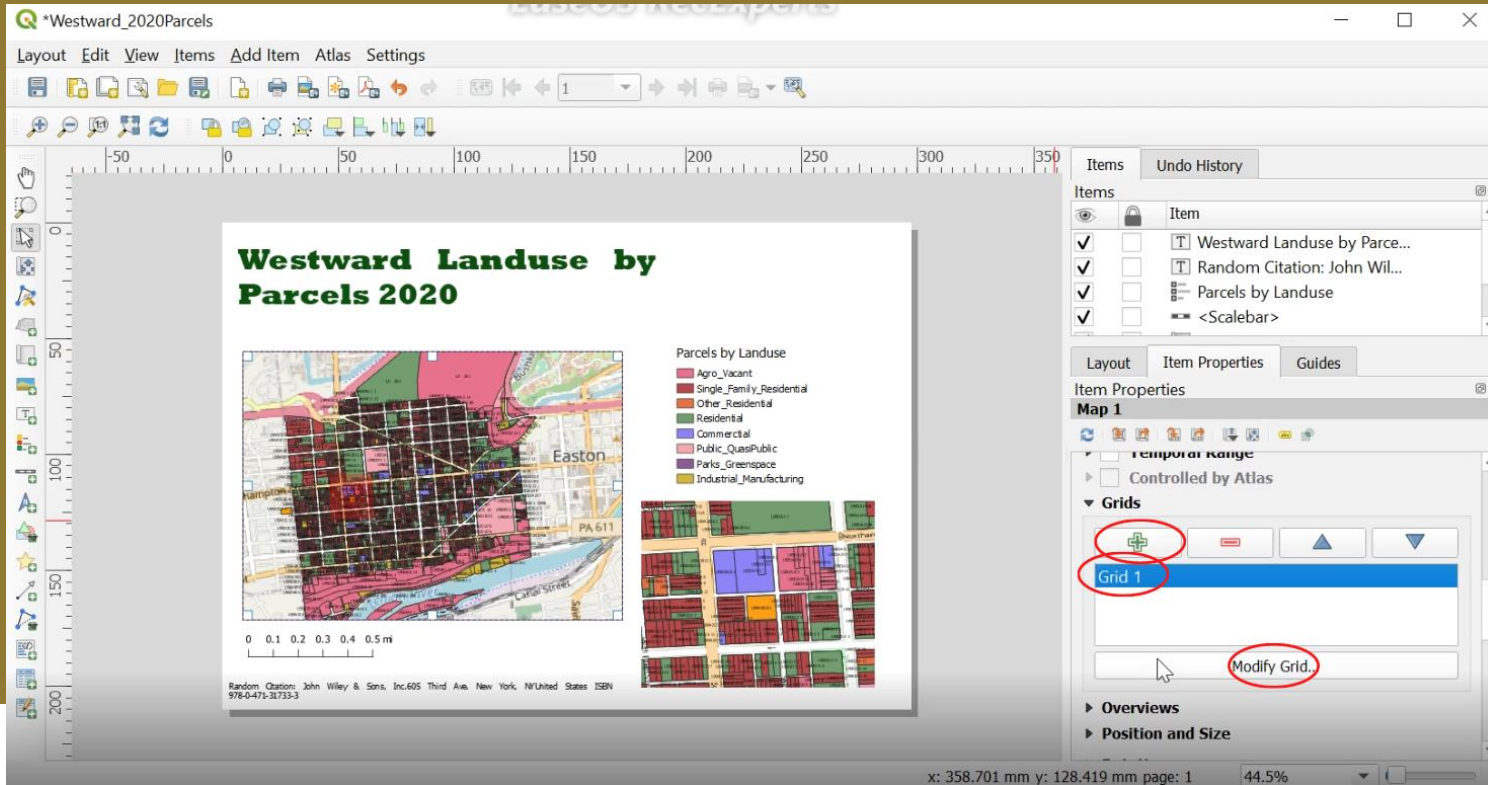


Video 20

You can also insert a grid overlay onto your maps to help separate out the spatial distribution of certain groups of assets. To do this, find the 'Grids' option under the 'Item Properties' tab.

Using the Asset Map

Exporting the Map



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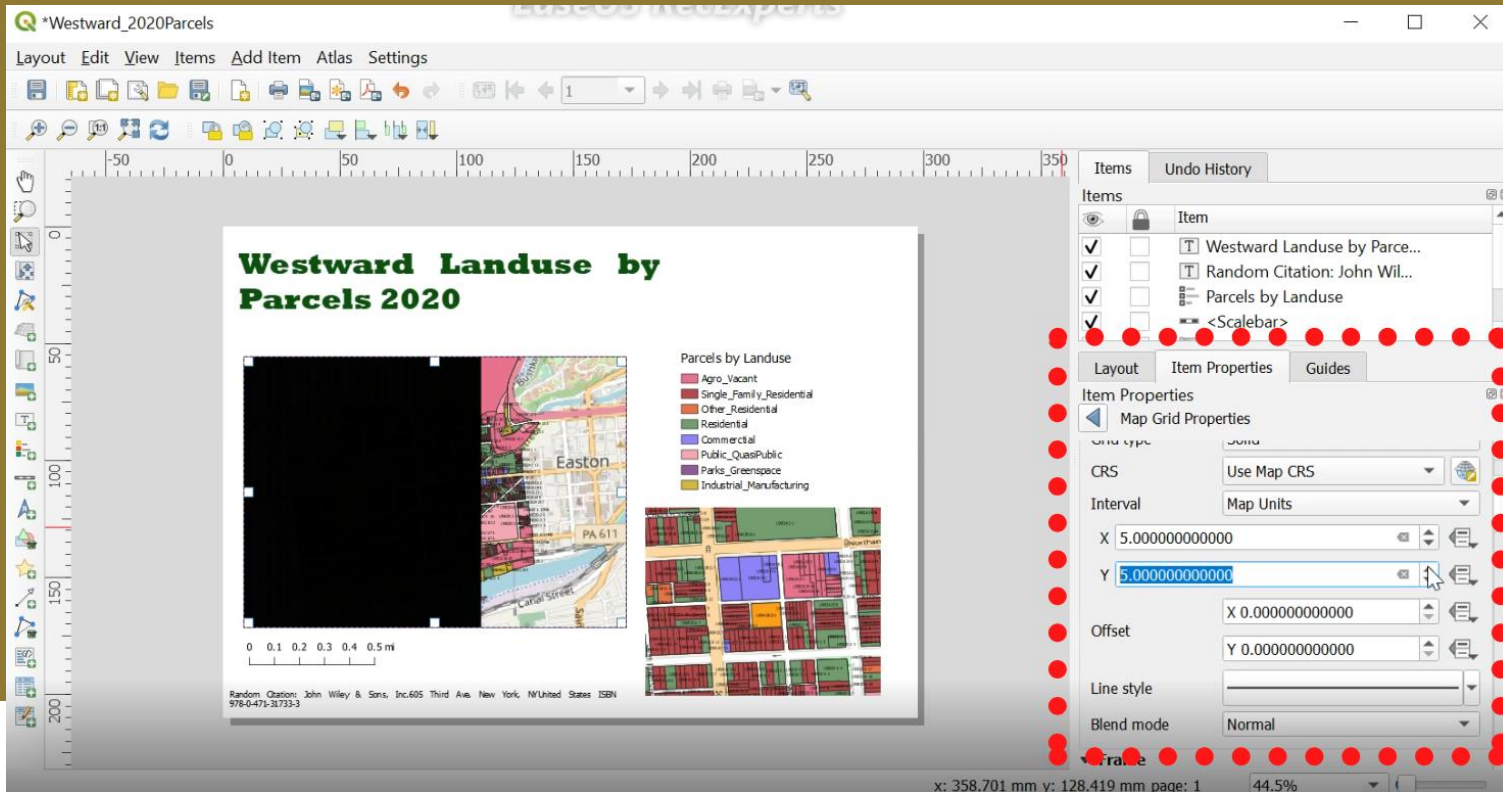


Video 20

Click the green '+' symbol and a grid label will appear in the box below. Click the 'Modify Grid' button.

Using the Asset Map

Exporting the Map



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Video 20

The specific grid settings can be edited using the panel indicated on the right-hand side. The grid can sometimes take time to load in. Don't panic if your map appears partially blank while the grid develops.

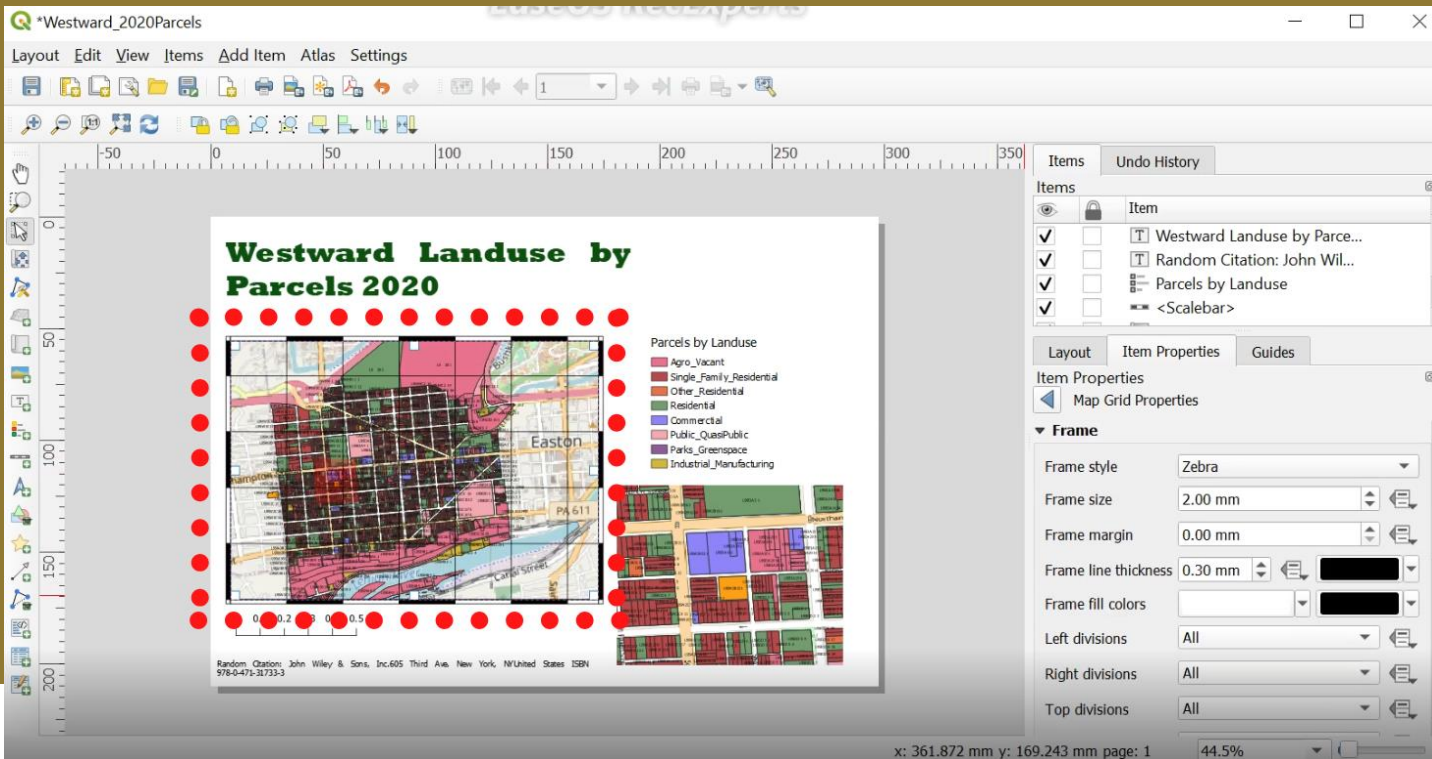
Using the Asset Map

Exporting the Map

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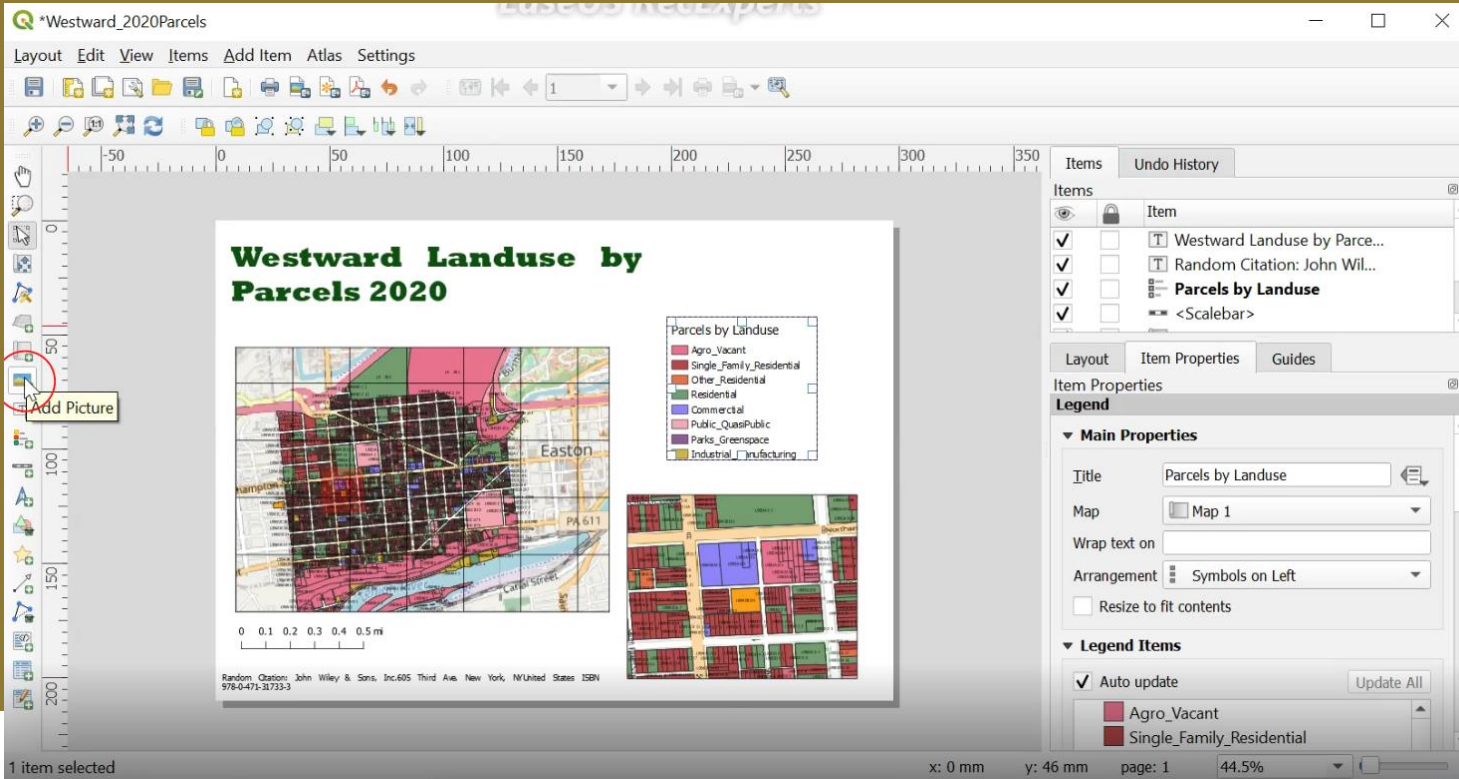
Video 20



You can also design a frame to outline your maps. Frames are available under the 'Frame' section of the 'Item Properties' tab.

Using the Asset Map

Exporting the Map



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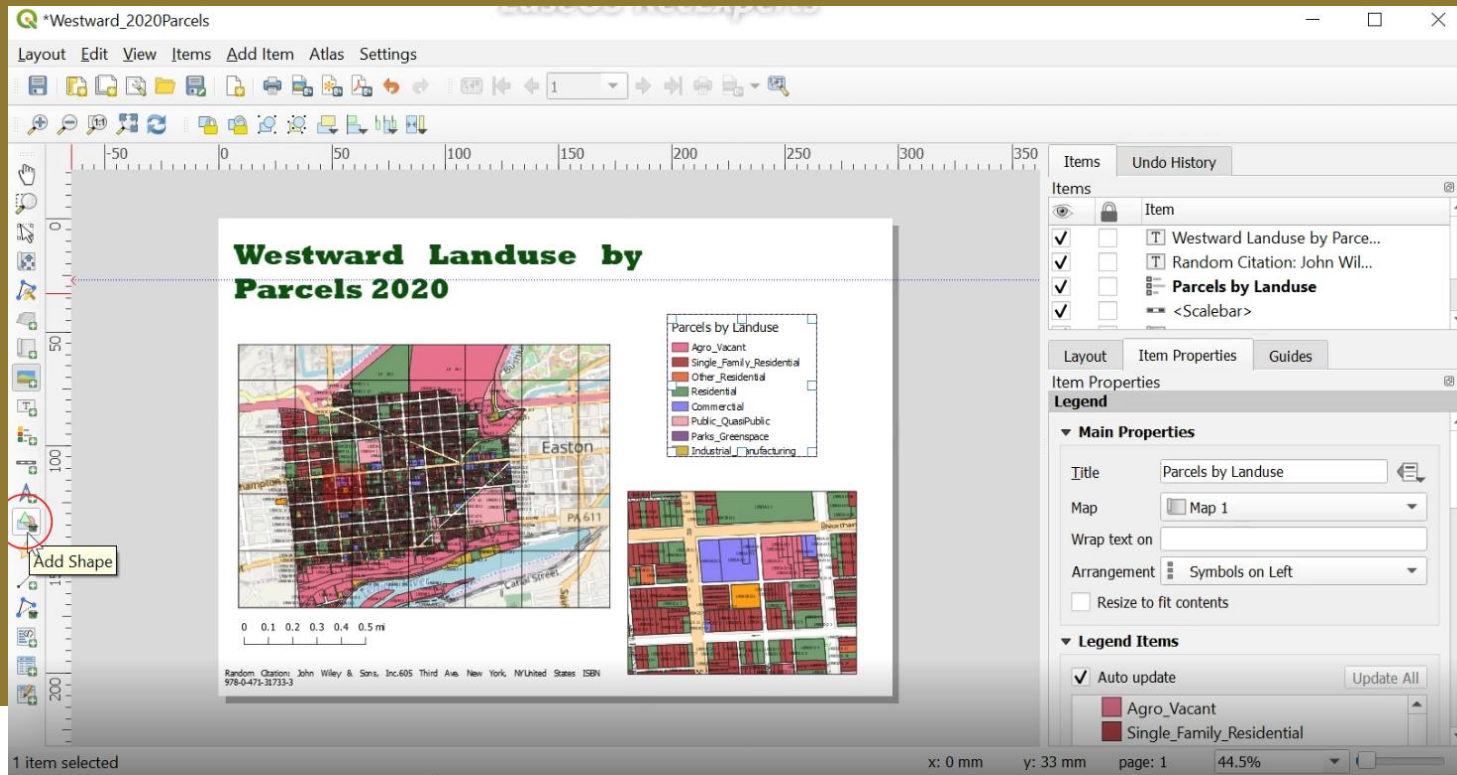


Video 20

You can experiment with inserting pictures into your export. Pictures can be added using the 'Add Picture' button on the left-hand side toolbar.

Using the Asset Map

Exporting the Map



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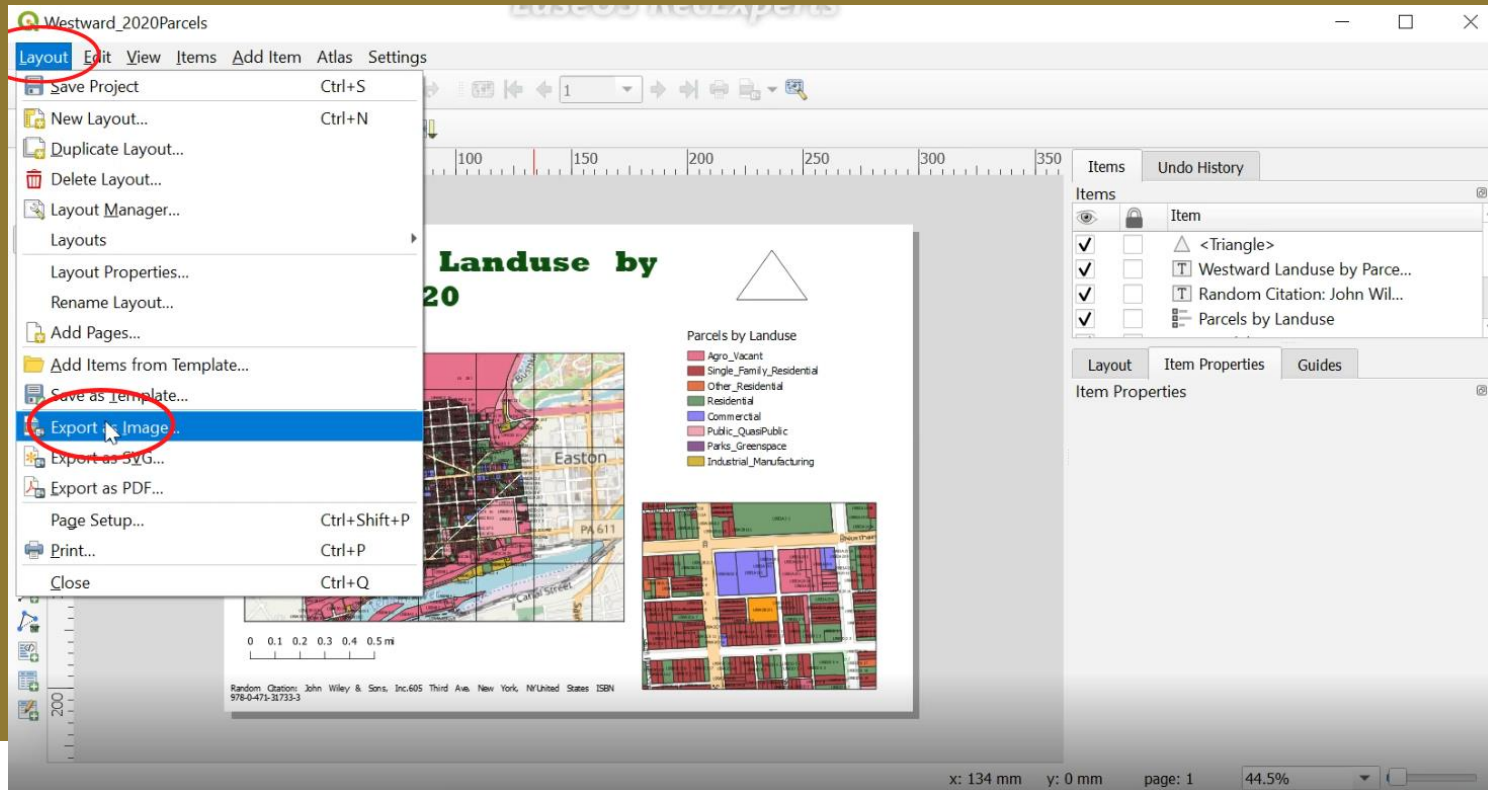


Video 20

You can also experiment with adding shapes. Shapes are available under the 'Add Shape' button located in the toolbar on the left-hand side.

Using the Asset Map

Exporting the Map



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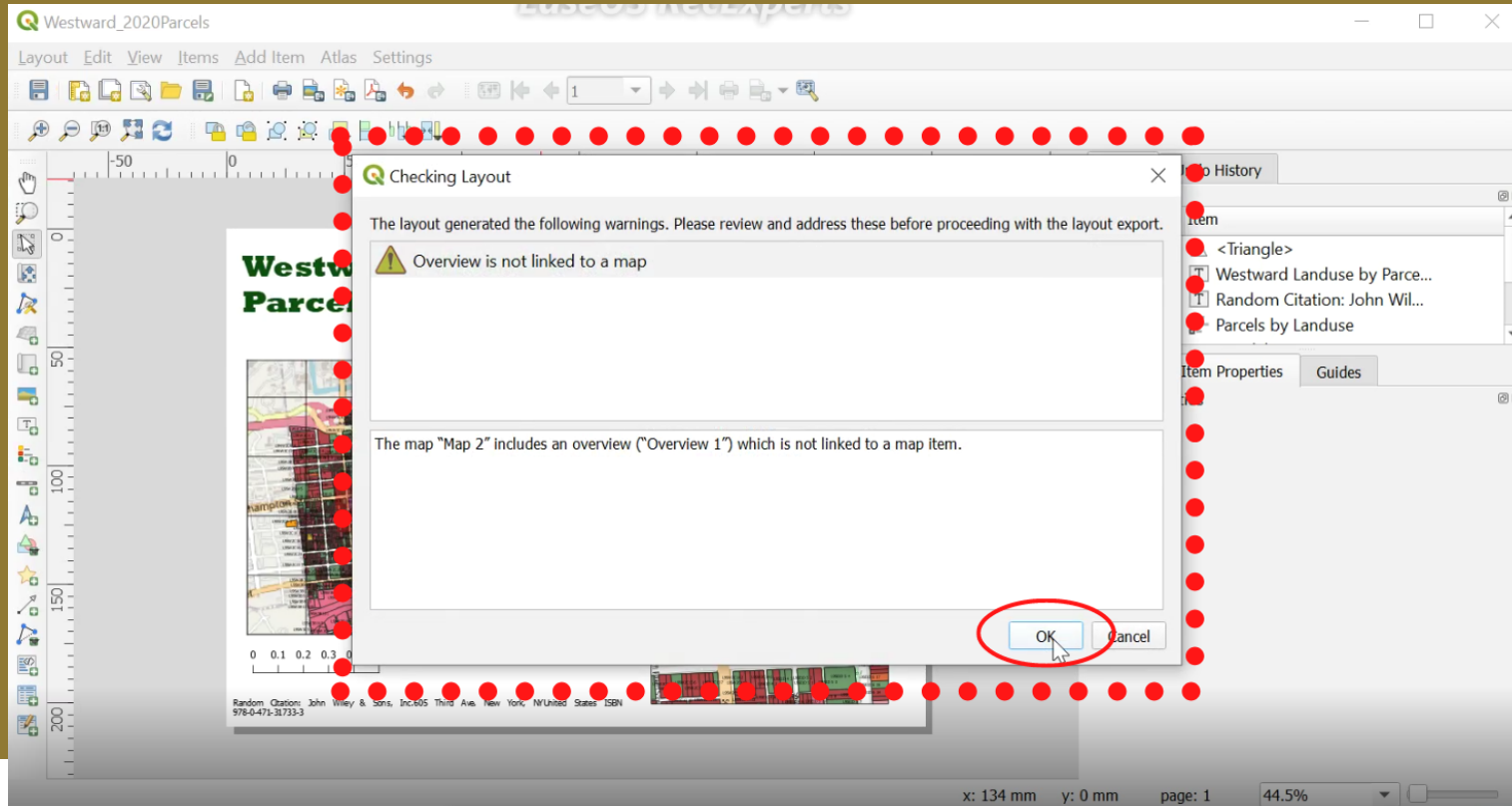


Video 21

When you've finalized all the additional features you'd like, go to the top toolbar and find the 'Layout' option. Click the 'Export Layout' option.

Using the Asset Map

Exporting the Map



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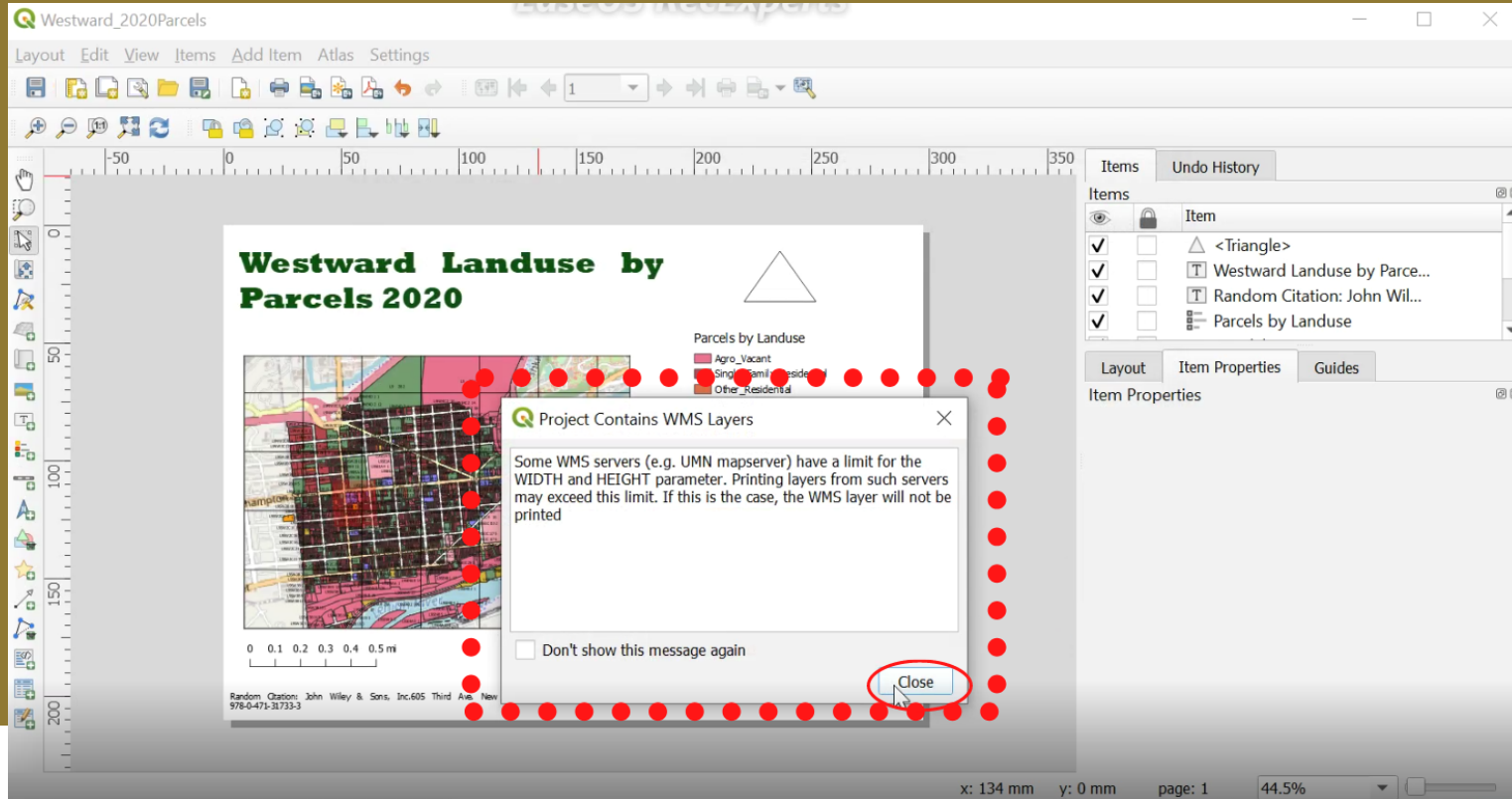


Video 21

A 'Checking Layout' window will open. Click 'OK'.

Using the Asset Map

Exporting the Map



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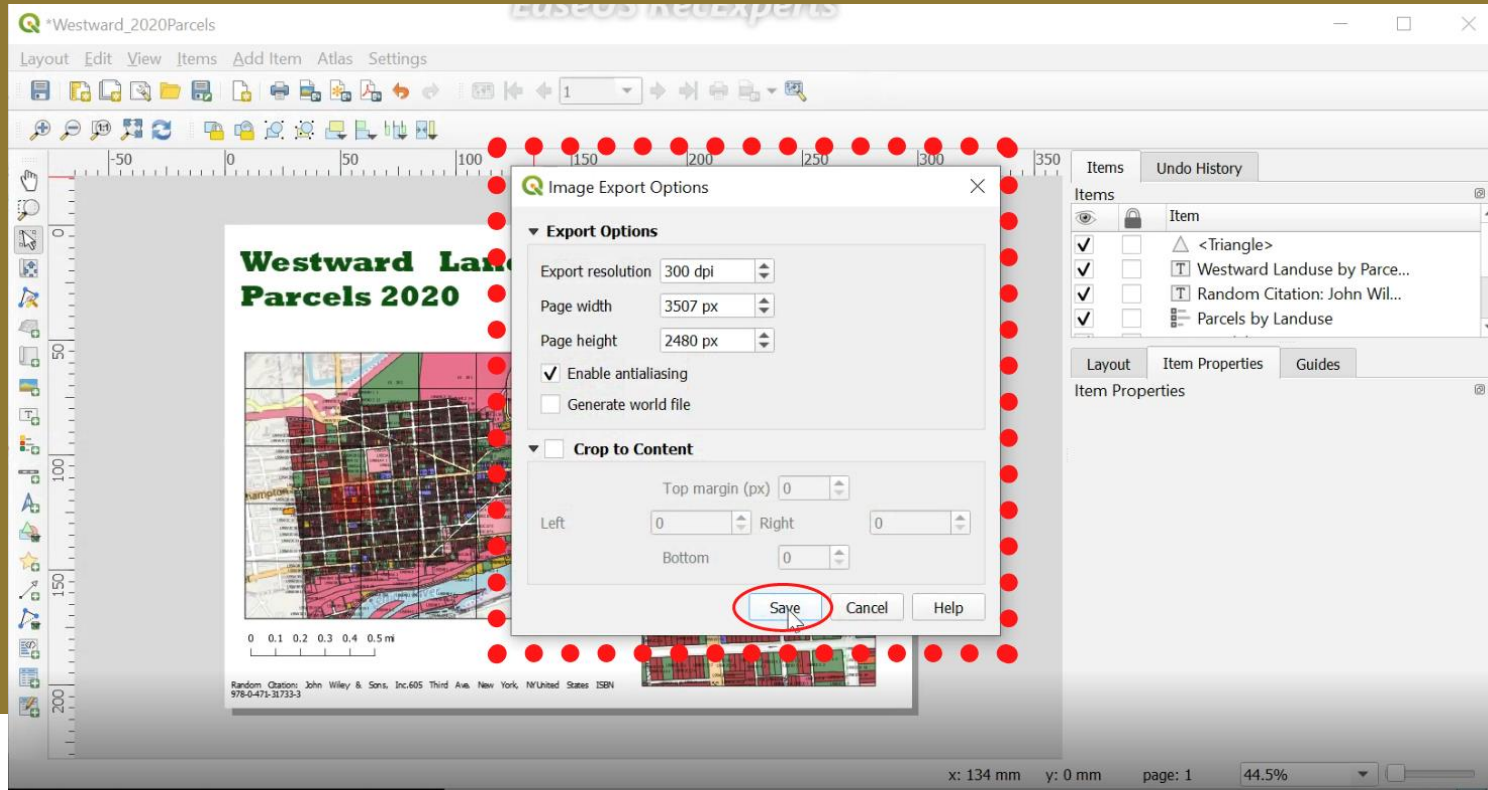


Video 21

Another window will appear. Click 'close'.

Using the Asset Map

Exporting the Map



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Video 21

An Image Export window will appear. Ensure that the desired dimensions are desired. Hit 'Save'.

Obtaining New Data

Data Overview

Base Data

There are two types of data features throughout the map. The first category is called **base data** and includes elements such as vacant and occupied commercial space, rental status, and public green space information. **All base data is available through Northampton County.** Base data comprises the vast majority of the overall map data, hence why it's called base data: It creates the tangible base for the majority of the map. New and updated base data is available from the County approximately once a year. Every time that new base data is released and you want to reflect that update using the map, we recommend that you perform a **complete map update**. This will be explained in more detail in the next section of the guidebook.

Accessorial Data

The second type of data included in the map is called **accessorial data**. Accessorial data is any category of data that falls outside the scope of base data. Examples of accessorial data include information on trees, streetlamps, and porch initiative. Accessorial data can originate from multiple sources but the major origin of accessorial data is the GEDP.

Obtaining New Data

Acquiring Updated Base Data

Updated base data is available annually via Northampton County. To access this new data free of charge, a GEDP representative must contact the County's GIS analyst, **Joseph Laky** via email at JLaky@northamptoncounty.org. The letter of relational acknowledgement is available at the end of the guidebook for reference.

When requesting updated data, **ensure that you request the following:**

- West Ward Boundary
- West Ward Parcels
- Lehigh Valley Planning Commission LU Data
- Data Dictionary for parcel data
- Data Dictionary for Northampton County Assessment LU Codes

The County will provide the data via an attachment in an email. Pages 72-73 explain how to save, store, and organise this data.

Obtaining New Data

Acquiring Updated Accessorial Data

Since accessorial data originates from sources other than Northampton County, there is no rigid process for acquiring it.

Obtaining New Data

Sorting Datasets

For QGIS to function correctly, it's imperative that **all data is stored in the same location on the user's computer.**

The simplest way to organize all incoming datasets is to **create a separate folder for map data on the user's computer desktop.** Every time that a) new data is downloaded or b) the map wants to save a layer, always be sure to save that information into this designated map data folder.

Every time you **create a new map**, it is recommended that you also **create a new map data folder** for that specific map to make sure that the data is easily identifiable without becoming confusing.

Updating the Asset Map

Why Update?

This asset map is static, meaning that it isn't connected to the internet nor does it receive automatic updates when changes occur within the data: These changes must be accounted for manually to keep the map up to date with recent West Ward progress. Due to the nature of QGIS' single-subscription system, only one person owns the license to edit this map, meaning whoever owns the license is responsible for either providing someone else with access to update the map data, or they must update it themselves. It's crucial that the map remains as up to date as possible so as to maintain value.

Complete Updates

The first type of update is called a **complete map update**. Complete map updates require the user to essentially create a whole new map using the QGIS software because the updates to the data are so significant that it's more efficient to recreate a new map rather than make these individual edits in an existing version of the map. Complete map updates are not difficult to perform, however, we only recommend doing so when a significant data update occurs.

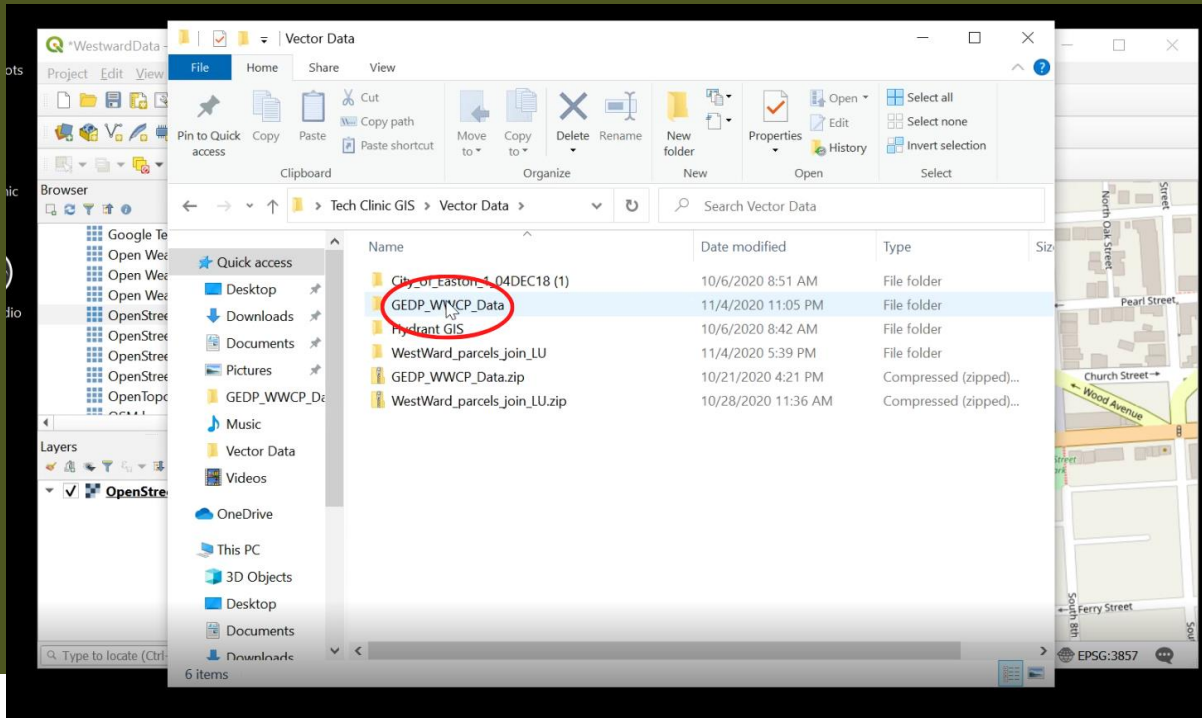
Otherwise, we recommend **partial map updates**.

Partial Updates

Partial map updates are the second type of update. Unlike complete map updates that require starting a new map from scratch and display whole new datasets, partial map updates are the equivalent of tweaking one or two cells of data. Partial map updates are recommended when there are only a few elements that require updating. This process requires going into an existing iteration of the map and working within QGIS to make minor changes.

Updating the Asset Map

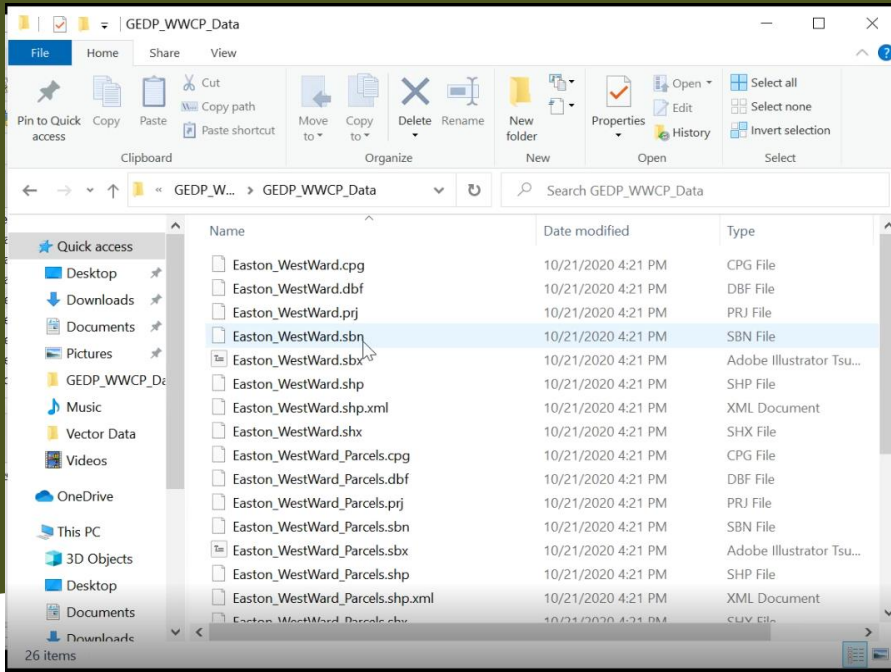
Update Prerequisites



It is very important that all data pertaining to the map you're creating/viewing is stored in the same folder to ensure that QGIS functions as desired. You can give this folder any title but do not touch any of its contents.

Updating the Asset Map

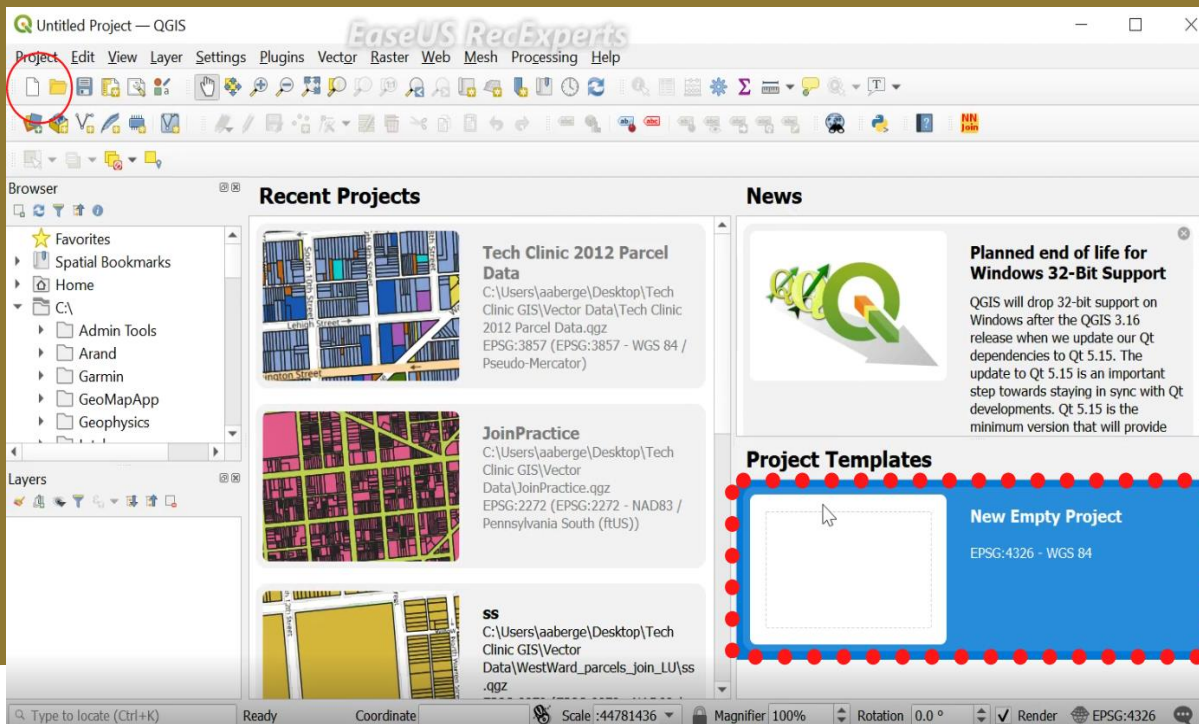
Update Prerequisites



This is an example of the data provided by the County. There is a large number of files, each with different extensions. **Do not touch any of this data.** If the map you're creating/viewing contains a combination of base and accessorial data, make sure that both the base data subfolder and accessorial data subfolder are housed together in a master folder.

Performing a Complete Map Update

Setting Up the Map



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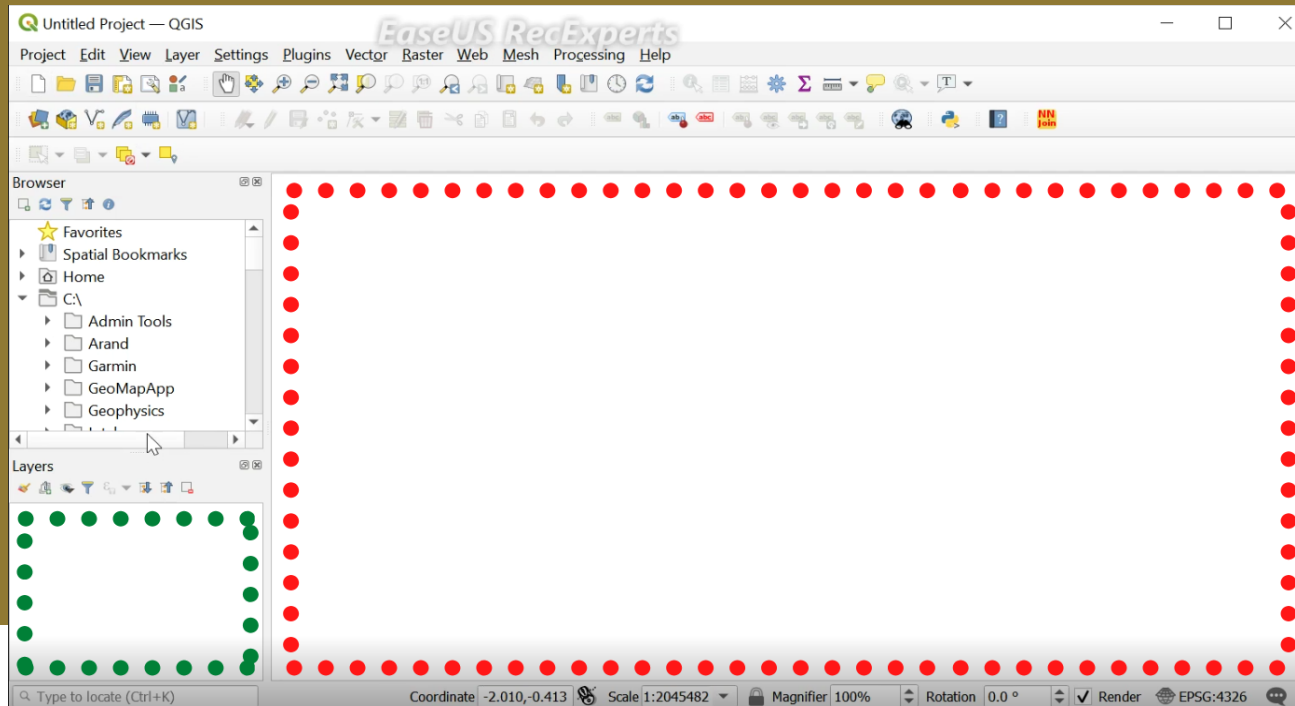


Video 1

Open the QGIS software from your desktop. Once the program is open, there are two ways to start a new project. The first method is by clicking the box under 'Project Templates' labelled 'New Empty Project'. The second method is by going to the toolbar and identifying the 'New Project' button which is marked with a blank page icon. Both methods of opening a new project do the same thing.

Performing a Complete Map Update

Setting Up the Map



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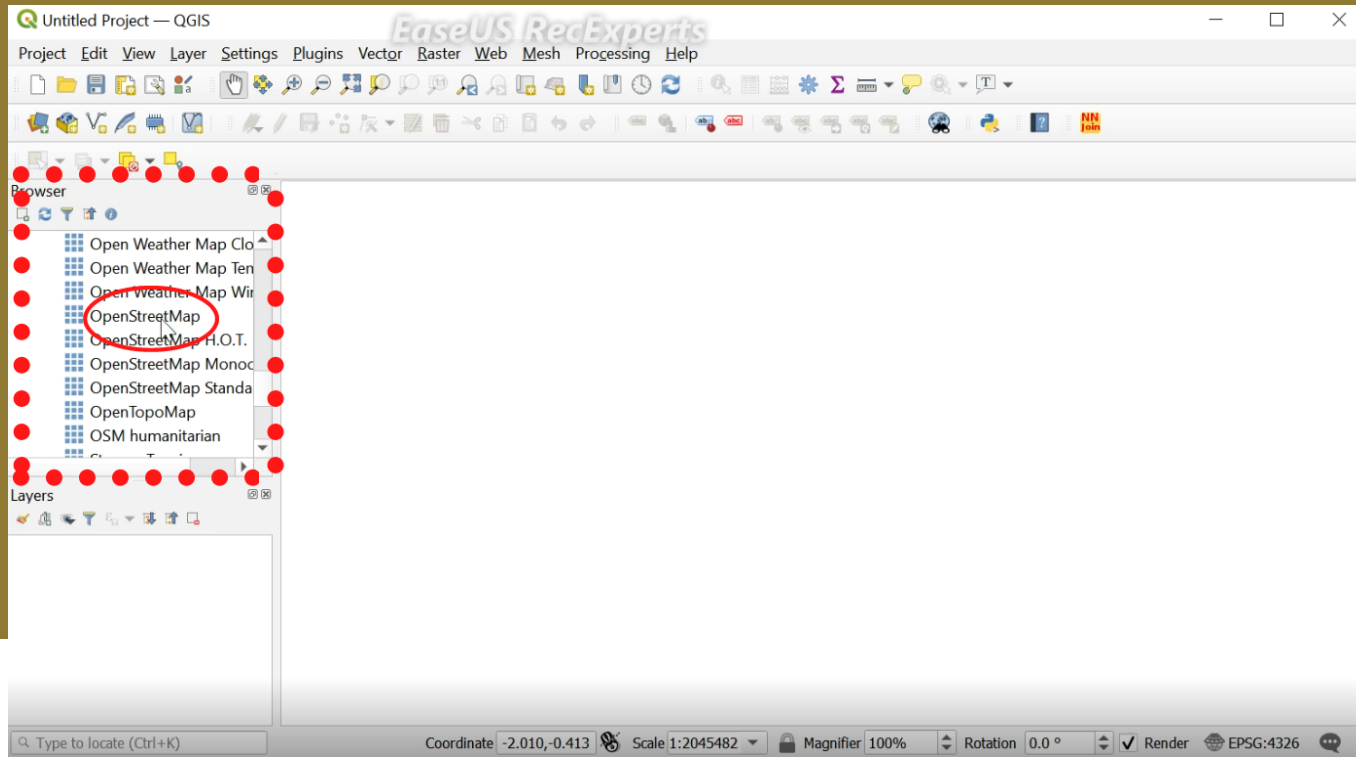


Video 1

Once a new project opens up, there will be two large blank spaces. The space indicated in red represents the area that your map will occupy. The area marked in green is where your layers will begin to appear once data is inserted.

Performing a Complete Map Update

Setting Up the Map



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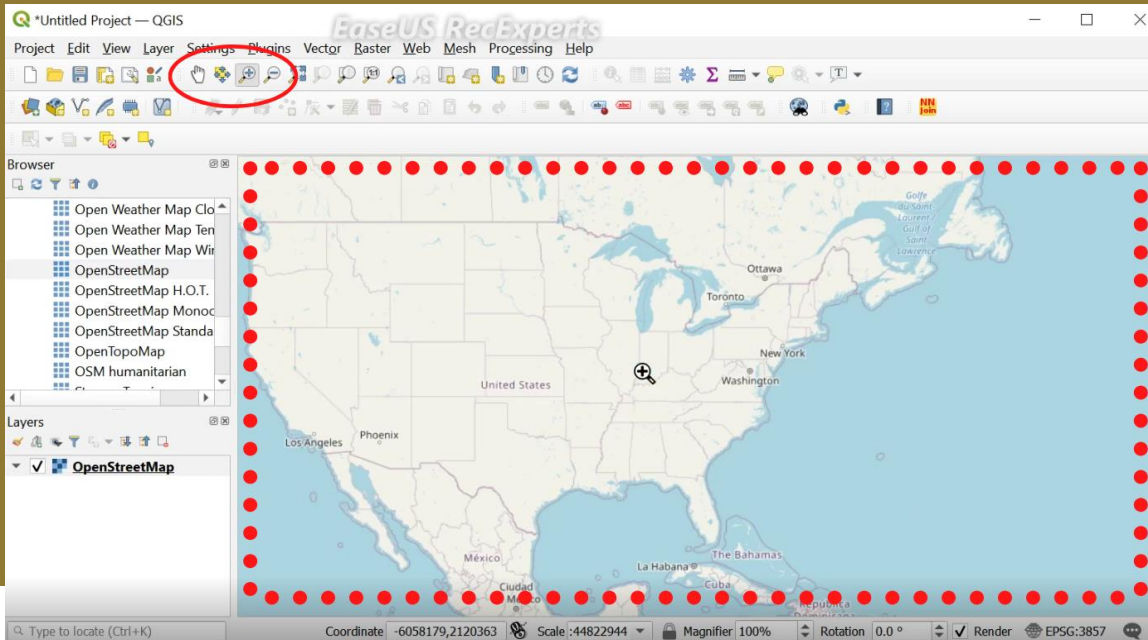


Video 1

In the browser panel, scroll down until you see the option 'OpenStreetMap'. Double click on this option. By opening the street map, you're creating the foundation of the asset map.

Performing a Complete Map Update

Setting Up the Map



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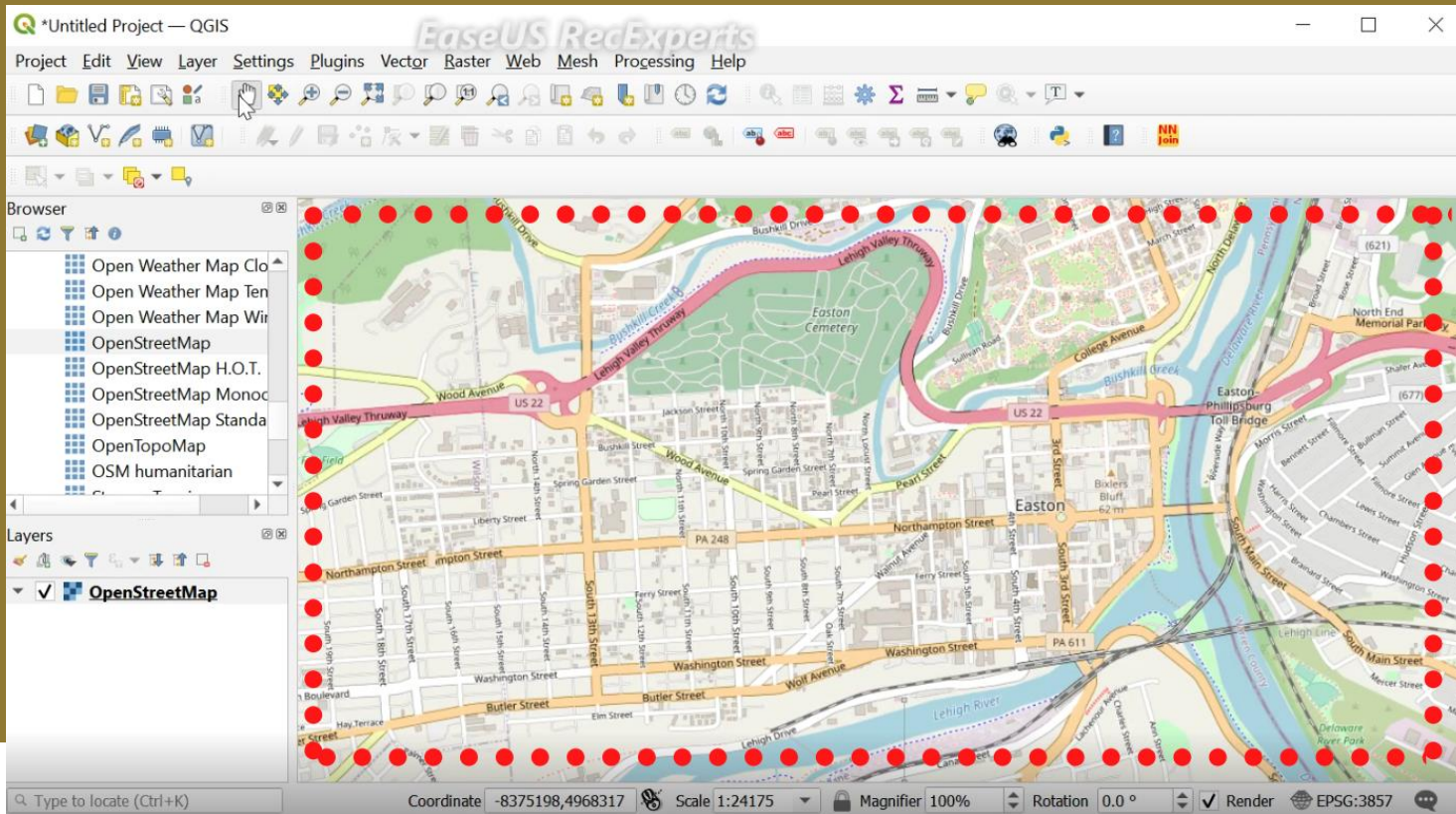


Video 1

When the street map first opens, it will be very zoomed out. Go to the toolbar located at the top of the screen and identify the ‘**increase zoom**’ icon. Hover over the relevant portion of the map and **left click to zoom in**. Keep zooming into Easton until your map looks like the one presented on the next page. Remember that once you’re done zooming, you need to **revisit the toolbar and click on the white hand symbol** which will allow you to scroll around the map instead of continuing to zoom indefinitely.

Performing a Complete Map Update

Setting Up the Map



65

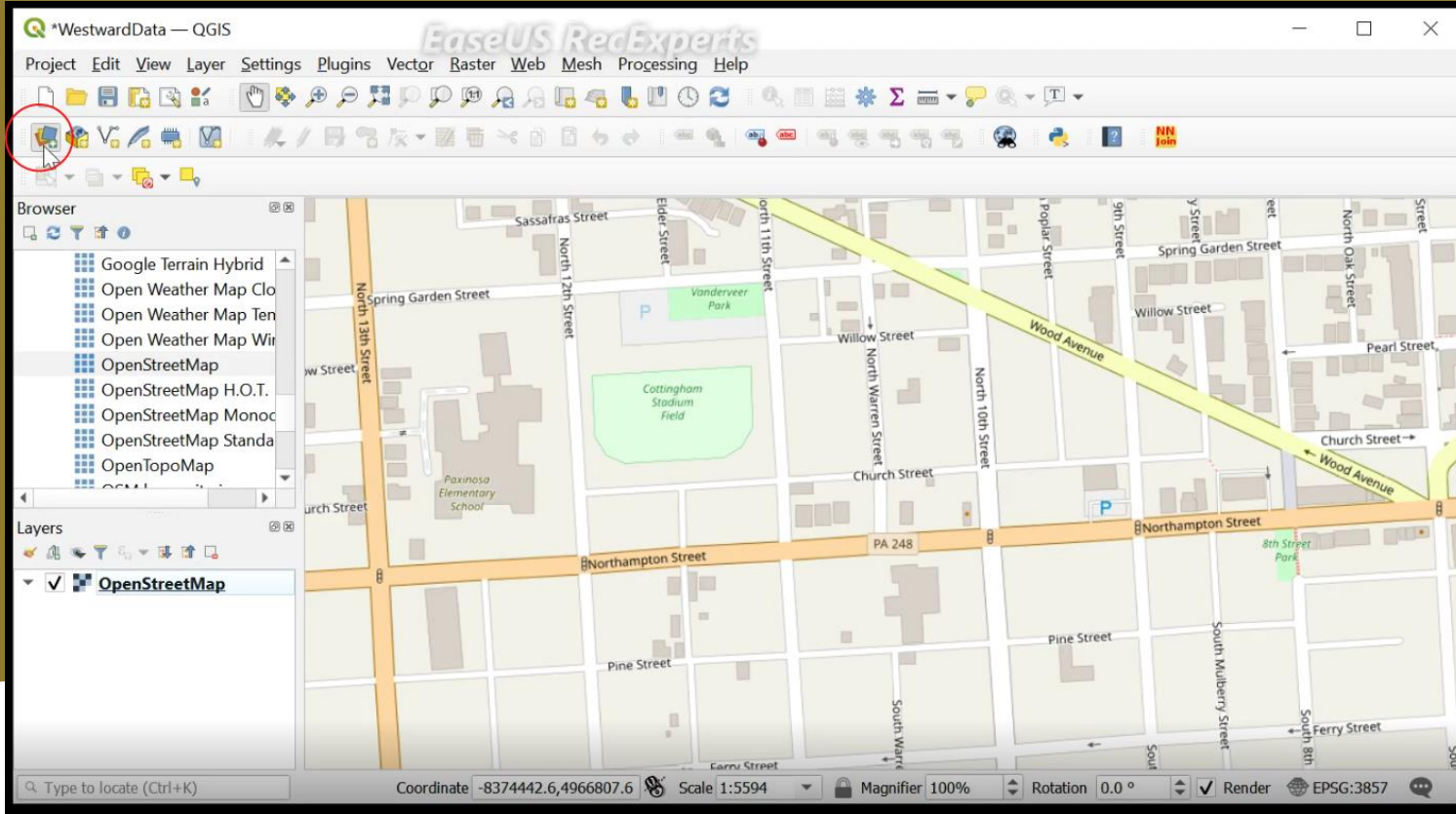


Video 1

This is what your map should look like once you've finished zooming in on Easton.

Performing a Complete Map Update

Inserting Data into the Map



66



Video 2

To insert data into the blank map, go to the toolbar and click the icon indicated in this image.

Performing a Complete Map Update

Inserting Data into the Map



67

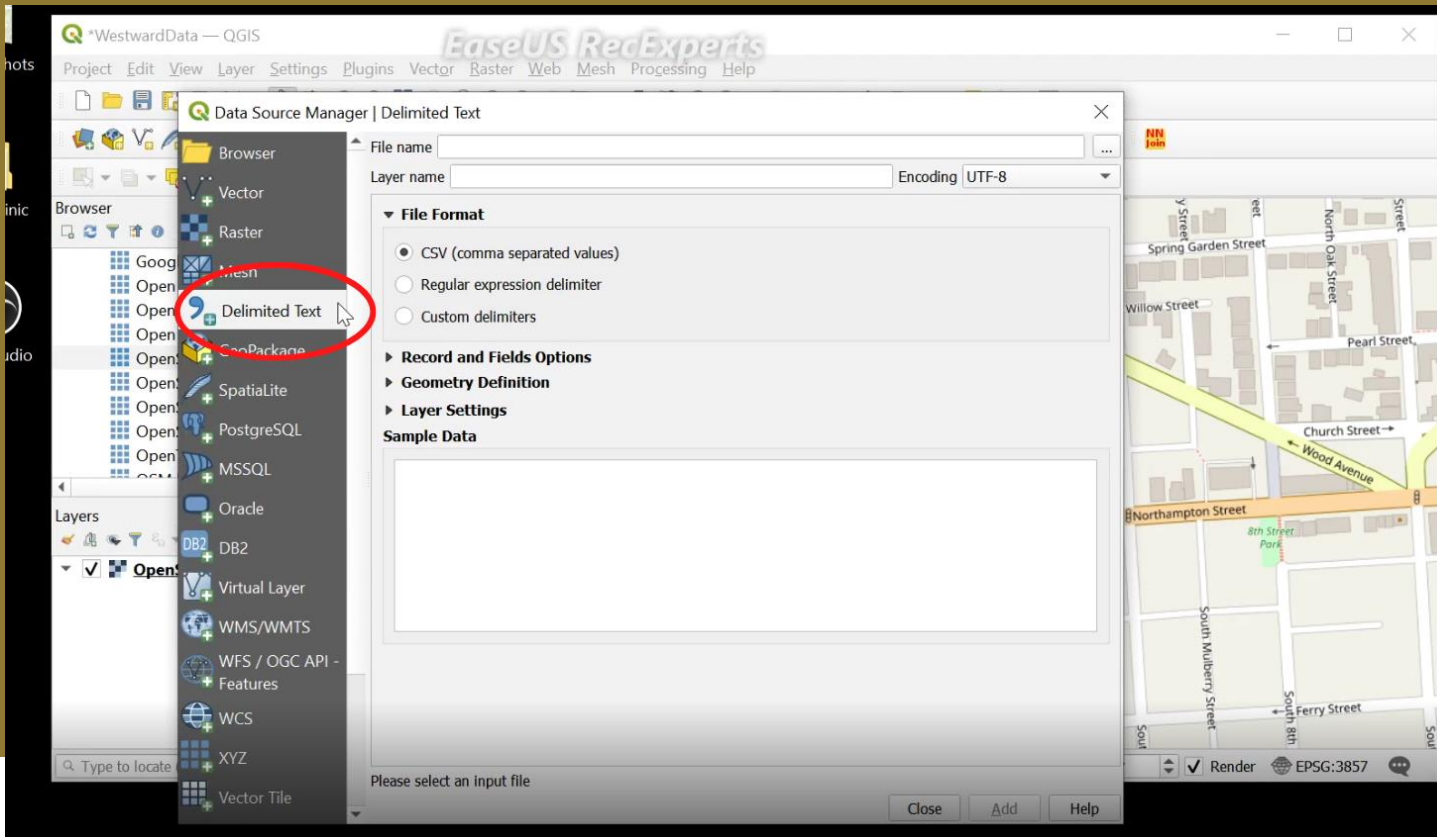


Video 2

Clicking this icon will open up the source data manager in a separate window, as pictured here. Notice that the source data manager, by default, opens up into the vector setting (left hand side of the window).

Performing a Complete Map Update

Inserting Data into the Map



68

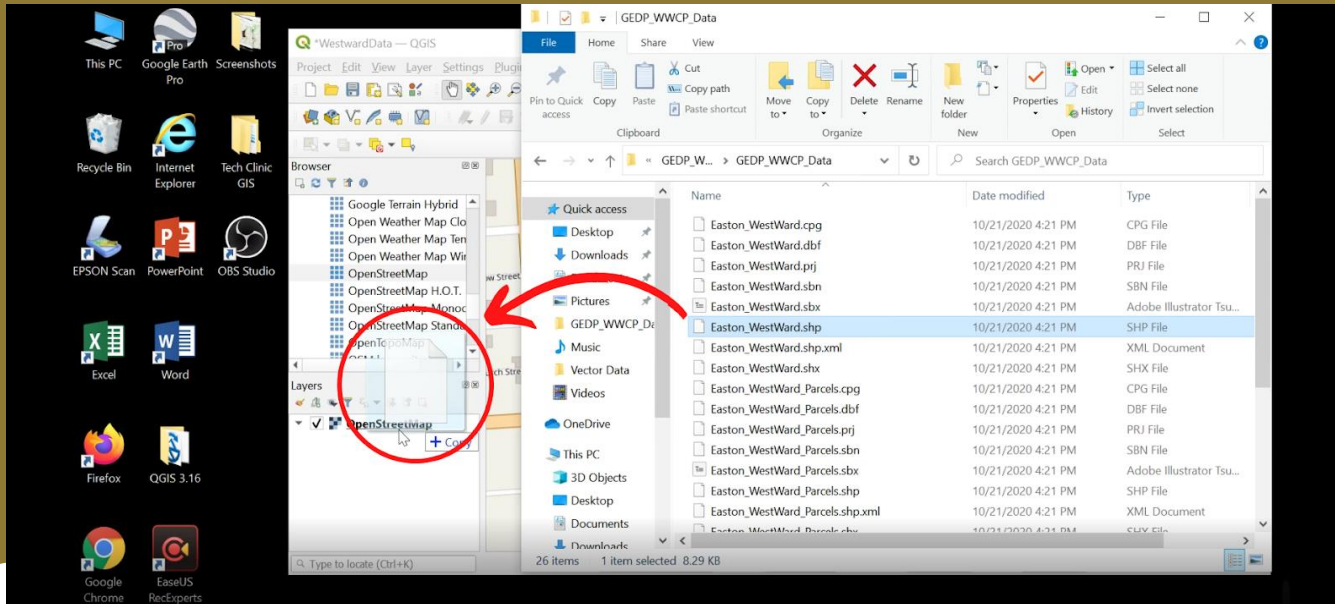


Video 2

On the left hand side menu, select the 'Delimited Text' option.

Performing a Complete Map Update

Inserting Data into the Map



69

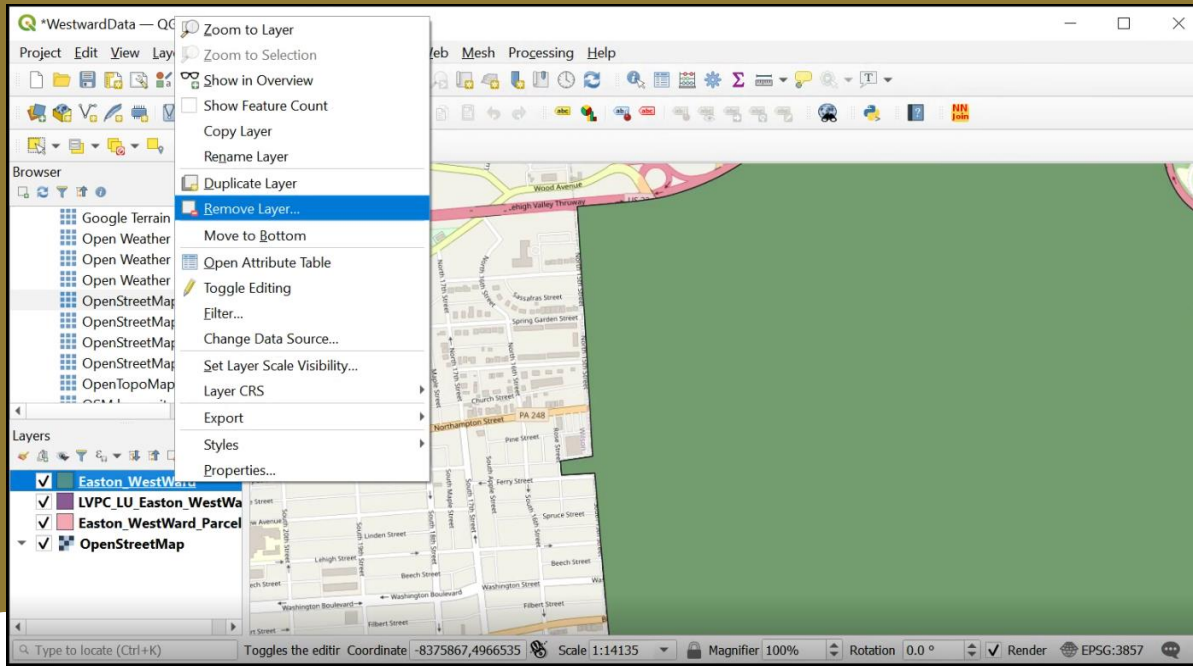


Video 2

Keeping the QGIS window open but minimised, locate your data on your desktop. This example illustrates the process using base data from the County, however, the process is exactly the same for adding accessorial data. Open the County data folder. There are three files in that folder that will end with the extension .shp. These files are shapefiles and they are the most important at this stage. Find the first .shp file and drag it from the files window into the layers portion of the QGIS window. Repeat this process with the other two .shp files in the folder.

Performing a Complete Map Update

Inserting Data into the Map



70

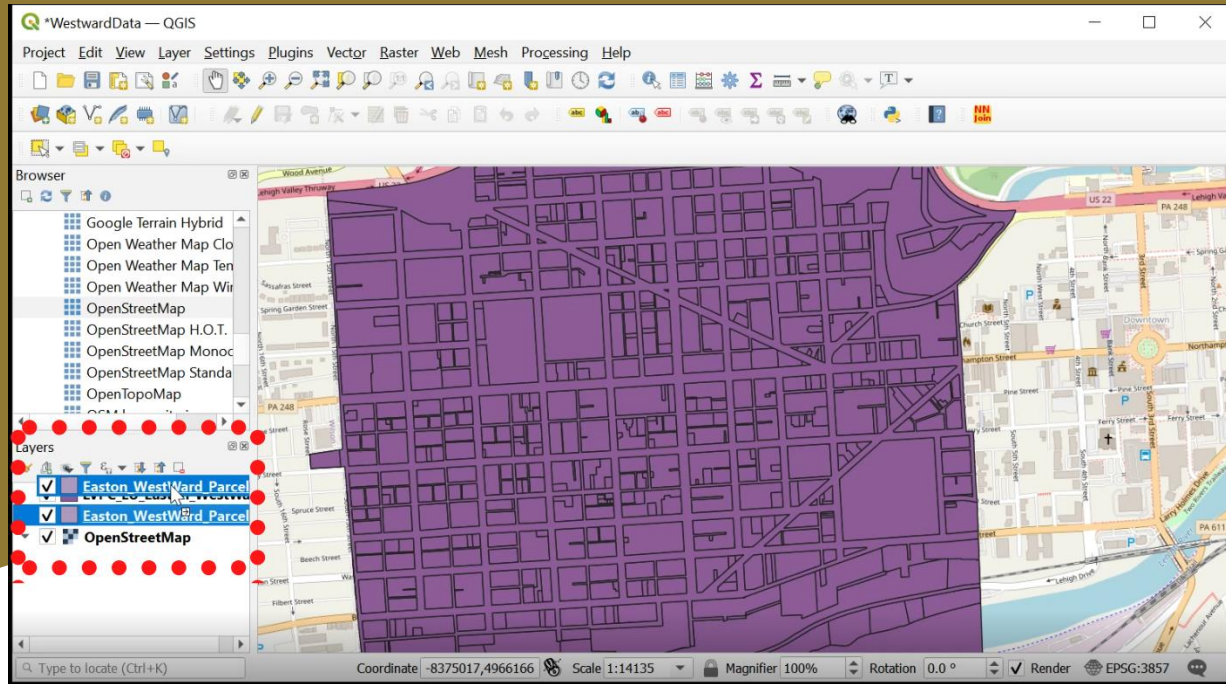


Video 2

You can now close out the source data manager. Within the layers menu in QGIS, three layers will be inserted. One of the layers will be one big block of color. You can delete this layer by right clicking on its title. Find and click the 'remove layer' option. Whilst you will opt to delete this layer, it's important that you still go through the process of inserting it. Do not attempt to bypass it.

Performing a Complete Map Update

Inserting Data into the Map



71

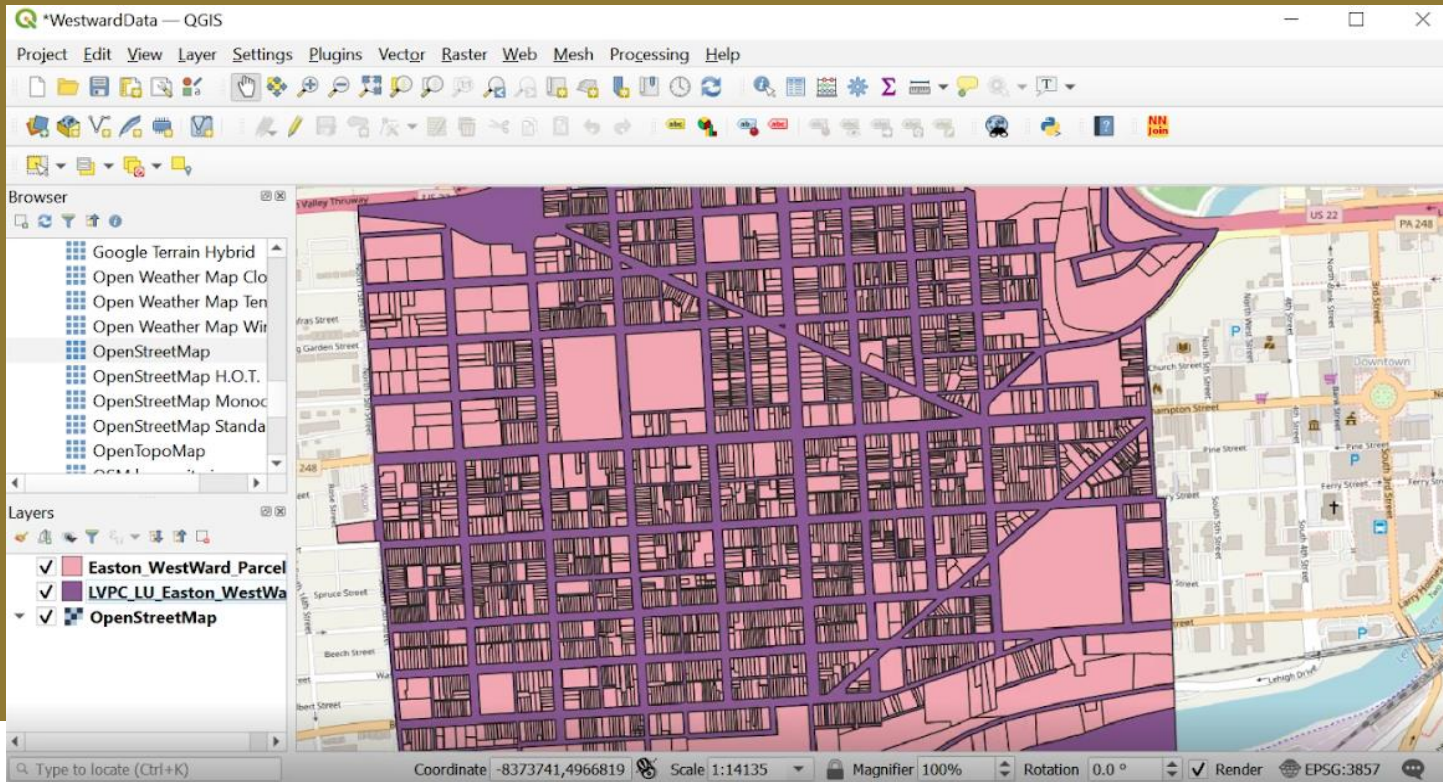


Video 2

The goal is to stack the layers of the map from least detailed to most detailed. To do this, go to the layers menu. If you want to bring a layer forward, **drag and drop** it near the top of the layers menu. If you want to send a layer back, drag and drop its title towards the bottom of the title list. To bring a layer to the very front of the map, drag and drop it at the very top of the title list. To send a layer all the way to be back, drag and drop it at the very bottom of the title list.

Performing a Complete Map Update

Inserting Data into the Map



72

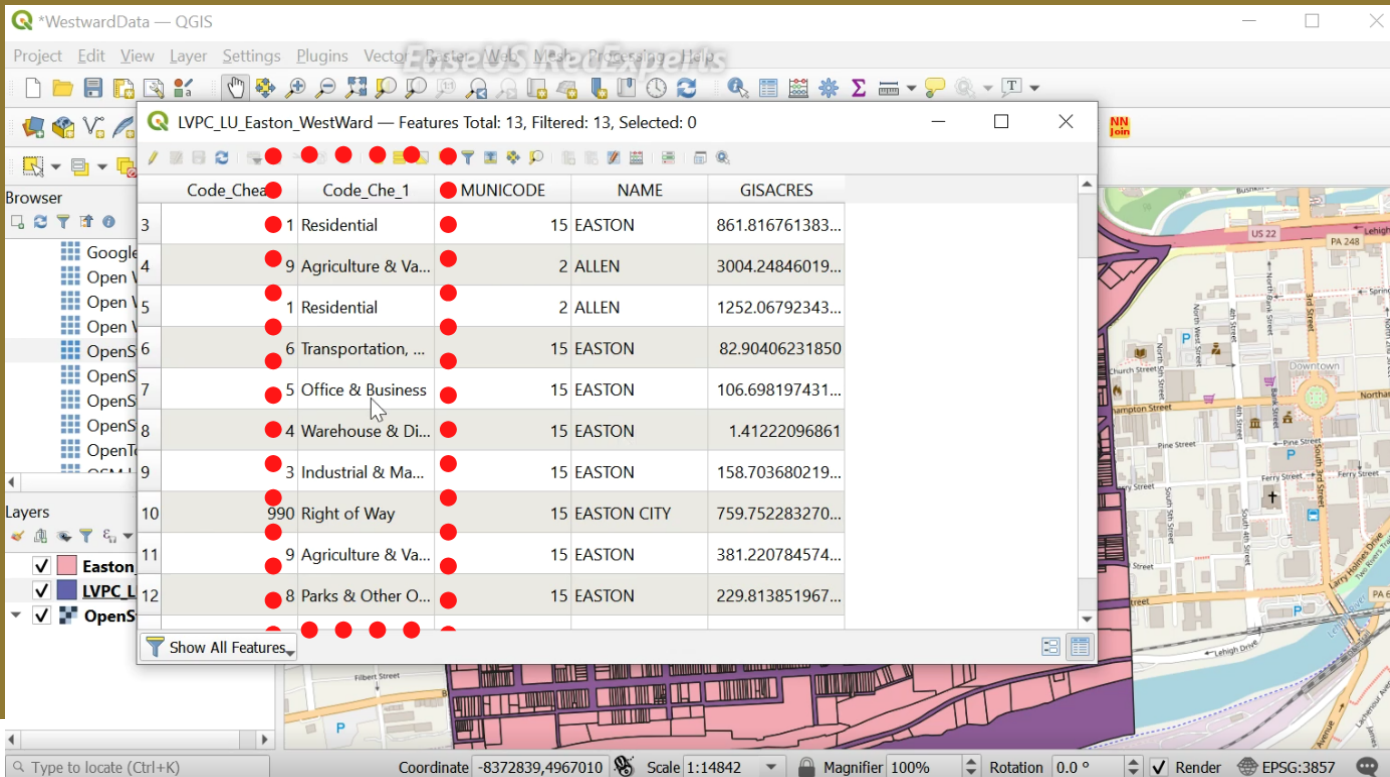


Video 2

Once you've completed all of the stages thus far, your map should look something like this with two colored layers organised from least detailed at the bottom to most detailed at the top.

Performing a Complete Map Update

Inserting Data into the Map



The screenshot shows the QGIS interface with a map of Easton, PA, and an attribute table for the LVPC_LU_Easton_WestWard layer. The table contains 13 rows of data, each with a unique ID and various attributes including land use codes and names.

Code_Che	Code_Che_1	MUNICODE	NAME	GISACRES
3	1 Residential	15 EASTON	861.816761383...	
4	9 Agriculture & Va...	2 ALLEN	3004.24846019...	
5	1 Residential	2 ALLEN	1252.06792343...	
6	6 Transportation, ...	15 EASTON	82.90406231850	
7	5 Office & Business	15 EASTON	106.698197431...	
8	4 Warehouse & Di...	15 EASTON	1.41222096861	
9	3 Industrial & Ma...	15 EASTON	158.703680219...	
10	990 Right of Way	15 EASTON CITY	759.752283270...	
11	9 Agriculture & Va...	15 EASTON	381.220784574...	
12	8 Parks & Other O...	15 EASTON	229.813851967...	

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Video 2

Open the attribute tables for both layers of data. In the LCVP dataset, we are most concerned with the column labelled 'Code_Che_1'. This column contains categorical data in the form of descriptive labels that indicate what kind of space exists in a certain part of land.

Performing a Complete Map Update

Inserting Data into the Map

PARCEL_ID	CAMA_ID	MAP	BLOCK	LOT	SCHDIST	MUNI
1 SE1B 7 5	L9SE1B 7 5 ...	L9SE1B	7	5	03	10
2 SE2A 1 11	L9SE2A 1 11 ...	L9SE2A	1	11	03	10
3 SW3B 8 9A	L9SW3B 8 9A ...	L9SW3B	8	9A	03	10
4 SE1B 31 9	L9SE1B 31 9 ...	L9SE1B	31	9	03	10
5 SE1A 10 20	L9SE1A 10 20 ...	L9SE1A	10	20	03	10
6 SE1A 17 3A	L9SE1A 17 3A ...	L9SE1A	17	3A	03	10
7 SW2B 14 2	L9SW2B 14 2 ...	L9SW2B	14	2	03	10
8 SE4A 8 12-1	L9SE4A 8 12-1 ...	L9SE4A	8	12-1	03	10
9 SE1B 16 13	L9SE1B 16 13 ...	L9SE1B	16	13	03	10
10 28 2	L9 28 2 0...	L9	28	2	03	10

DEED	LOCATION	LUC	NBNS
NULL	410 N 10TH ST	961	C036
2017-1 268429	1237 BUTLER ST	110	1004
2018-1 245585	1042 BUTLER ST	110	1004
2015-1 168639	25 N 9TH ST	110	1004
2017-1 012712	701 -03 NORTH	500	C014
2020-1 192104	717 WOOD AVE	110	1004
2004-1 065995	1415 LIBERTY S	110	1004
640 000130	685 PEARL ST	110	1004
2017-1 113473	124 N 14TH ST	400	C016
2006-1 079946	675 PINE ST	562	C016

74

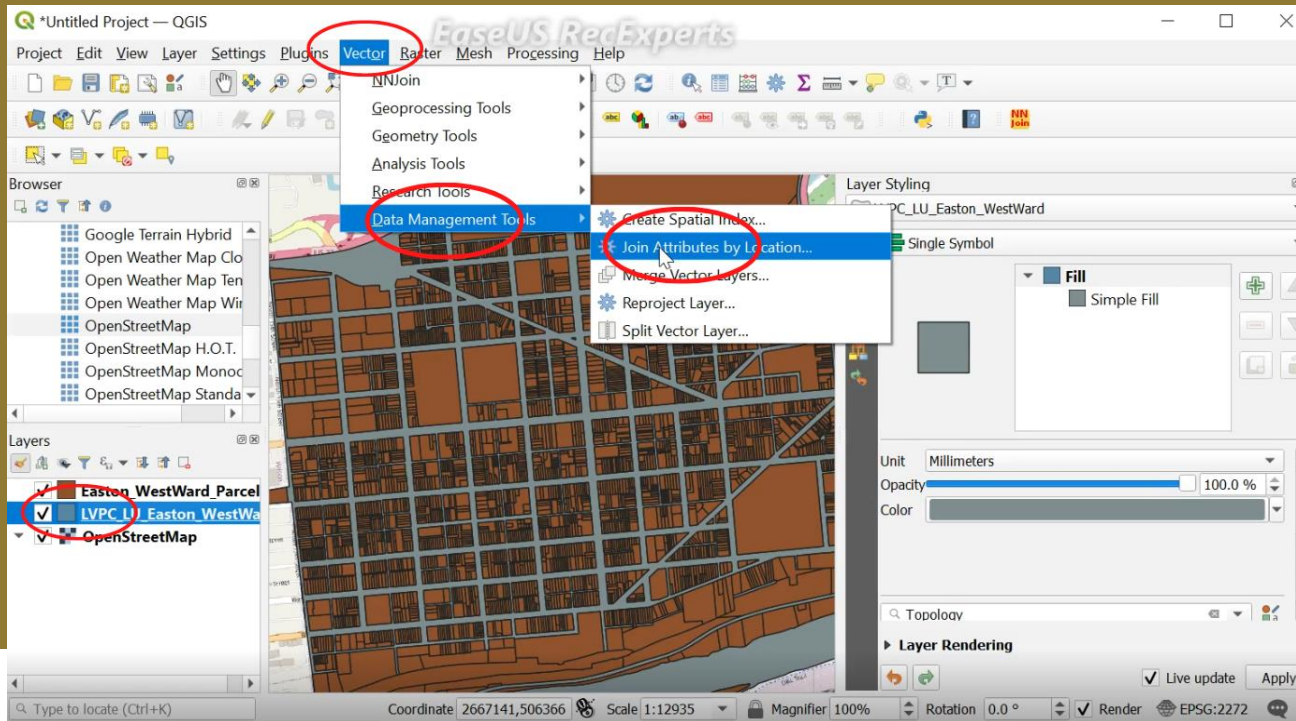


Video 2

The column labelled 'LUC' refers to land use codes, similarly to those in the Code_Che_1 column except in even more detail. The numbers that appear in the LUC column correspond to a label described in the something dictionary. Additionally, the 'Parcel_ID' column is also very important. Both attribute tables contain vital information so we need to merge the layers together in order to combine their attribute tables.

Performing a Complete Map Update

Spatial Joining



75

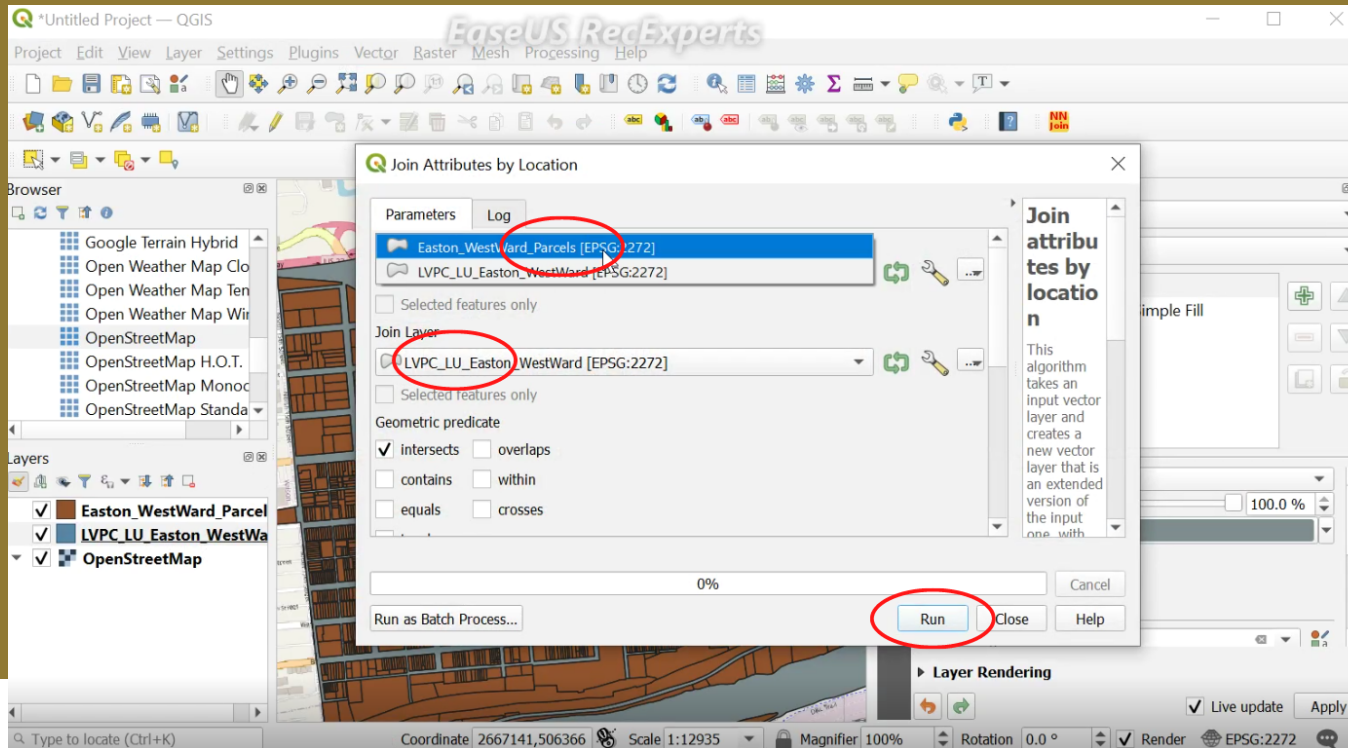


Video 4

To ensure that the layers remain manageable as you progressively add more, you need to join them together to make them behave as one. To do this, click on one of the layers you want to join in the layer menu on the left. Then, click 'vector' on the top menu. Scroll down and select 'Data Management Tools'. Then, click 'Join Attribute Table by Location'.

Performing a Complete Map Update

Spatial Joining



76

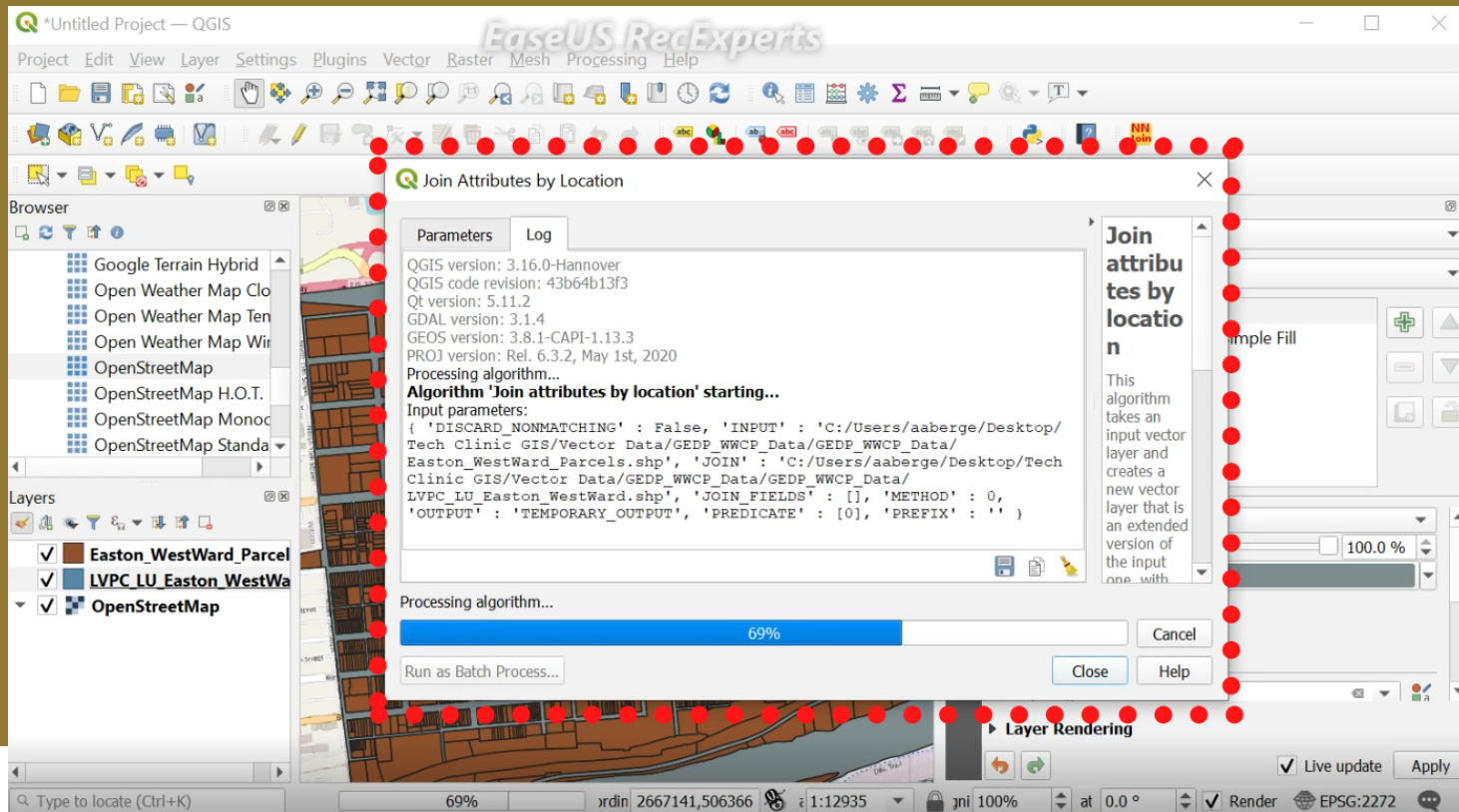


Video 4

A new window will pop up. Under the 'parameters' tab, click the first drop down menu and select the title of one of the layers you wish to join. Then, click on the second drop down menu and select the other layers you want to join. Then, click 'Run'.

Performing a Complete Map Update

Spatial Joining



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Video 4

After you hit 'run', a progress bar will appear. Wait for it to finish.

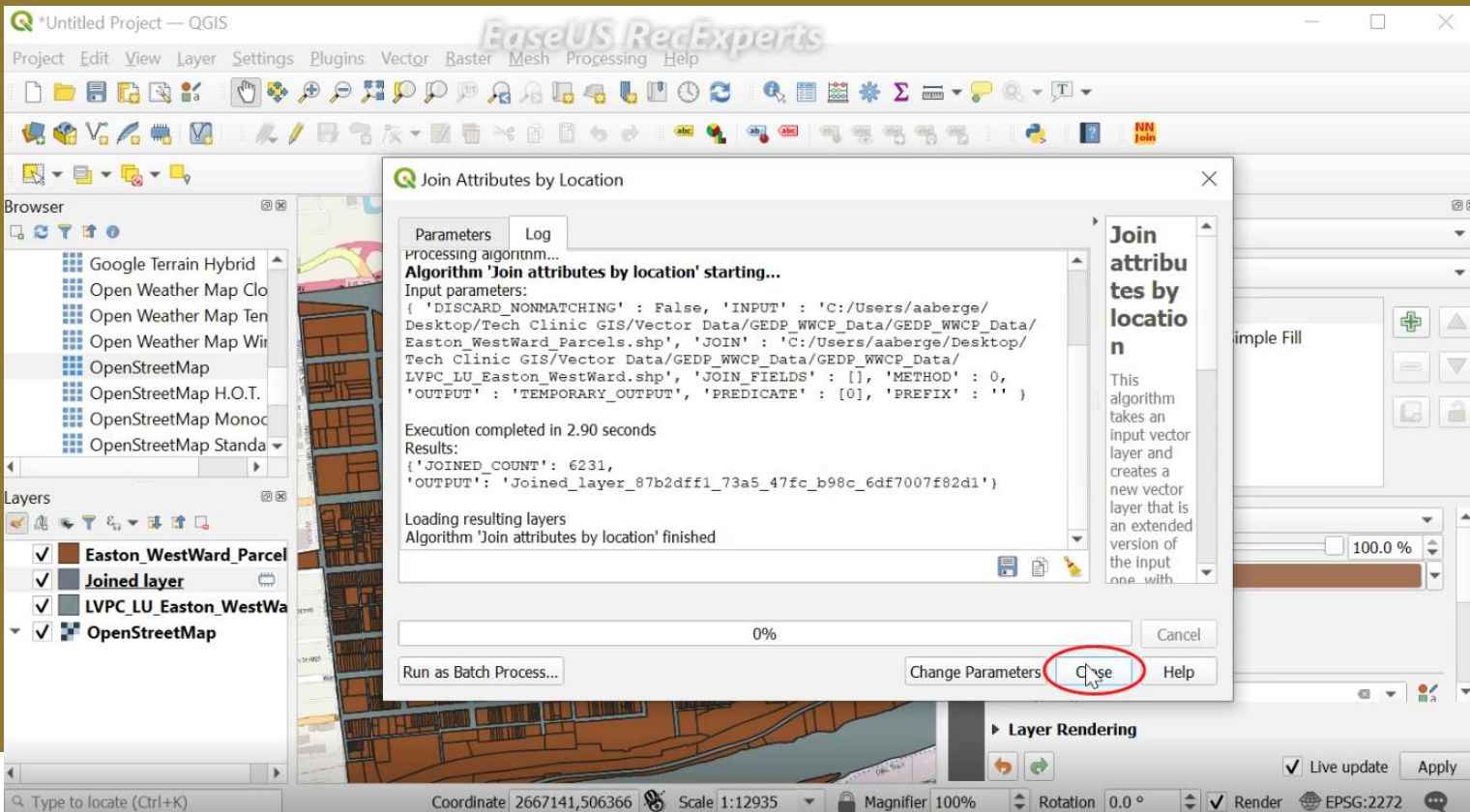
Performing a Complete Map Update

Spatial Joining

78



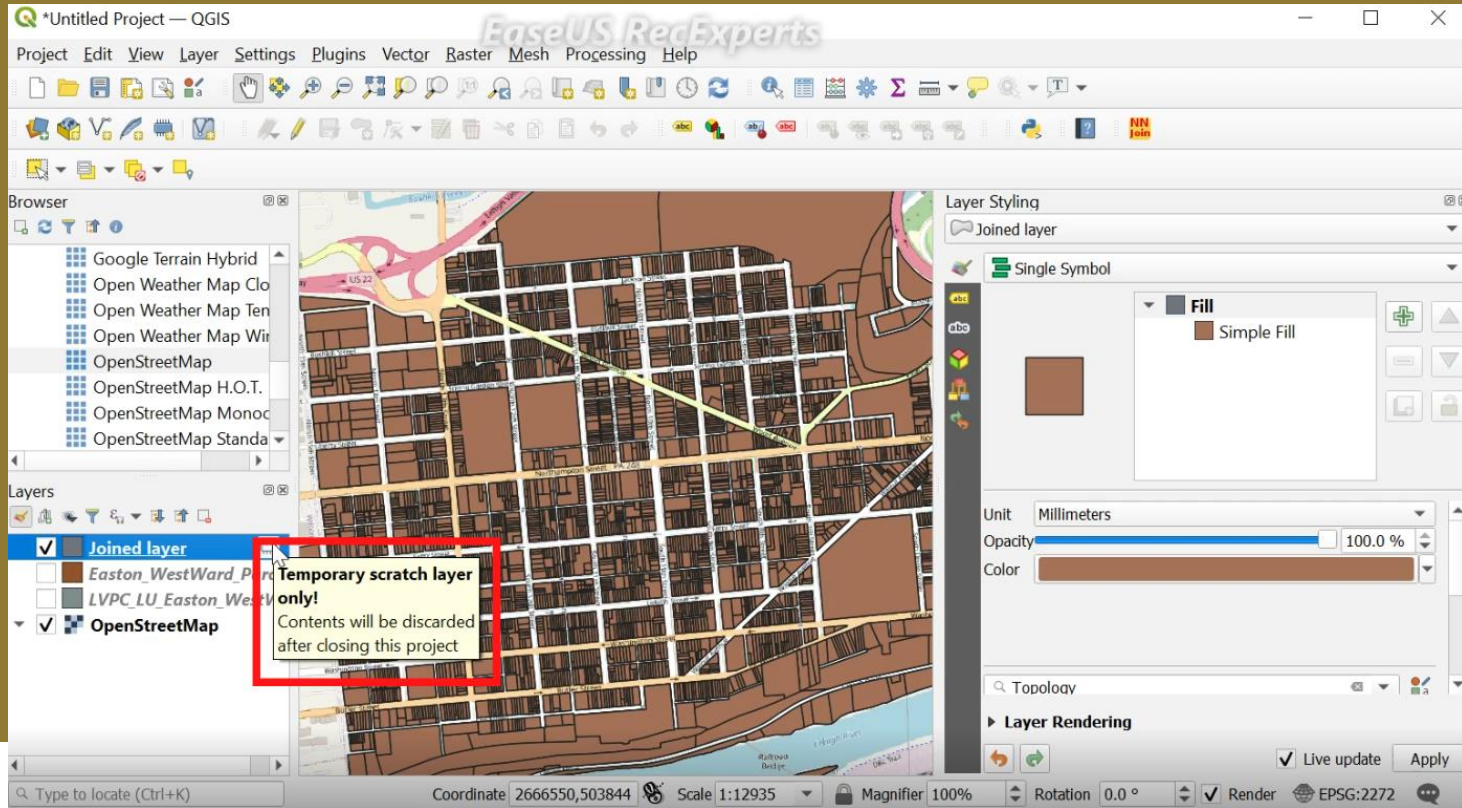
Video 4



Once the progress bar has finished, hit 'close'.

Performing a Complete Map Update

Spatial Joining



79

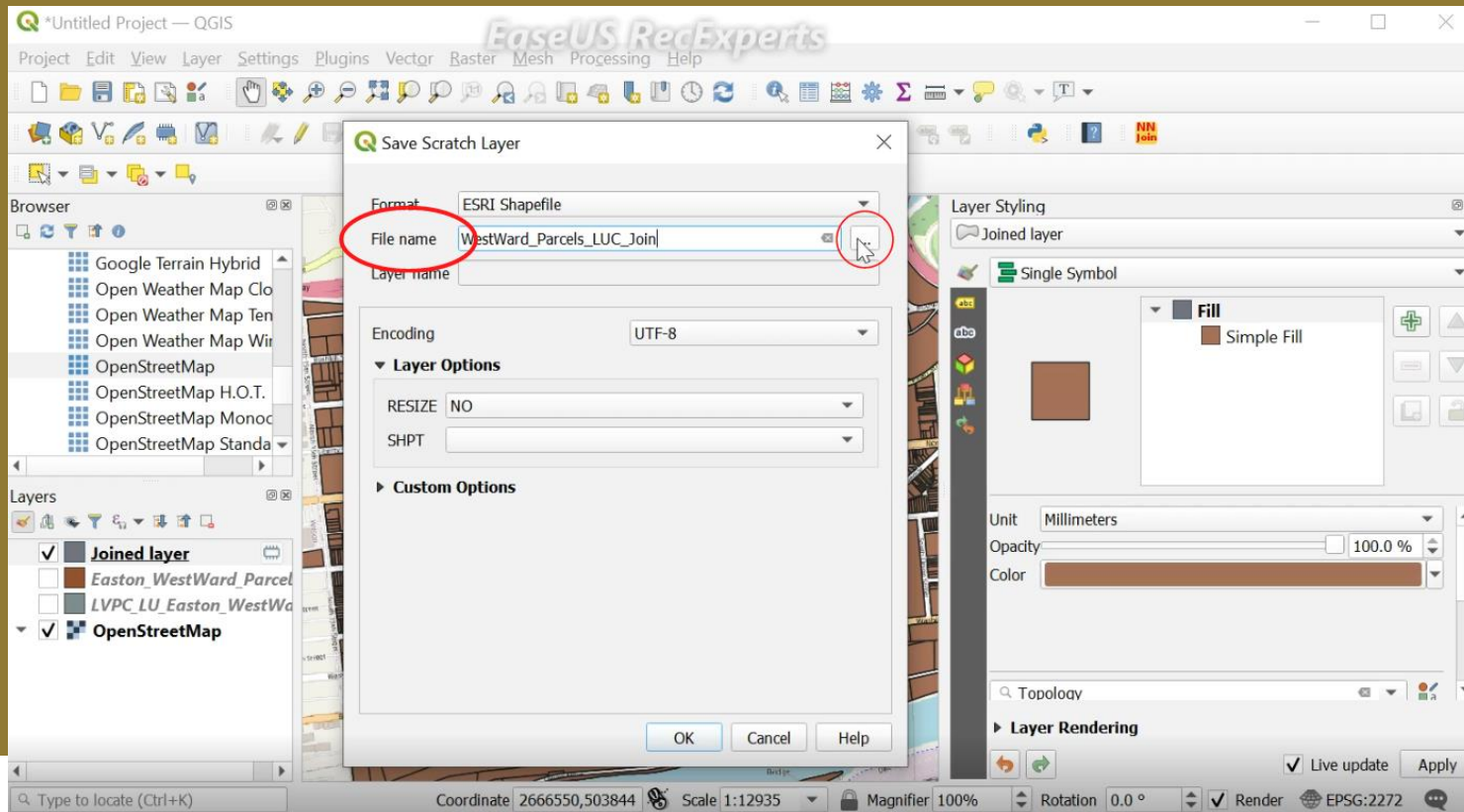


Video 4

Once the new joint layer has been created, it will exist as a temporary layer. This is indicated by the small symbol next to its title in the layers menu. Click on the symbol.

Performing a Complete Map Update

Spatial Joining



80

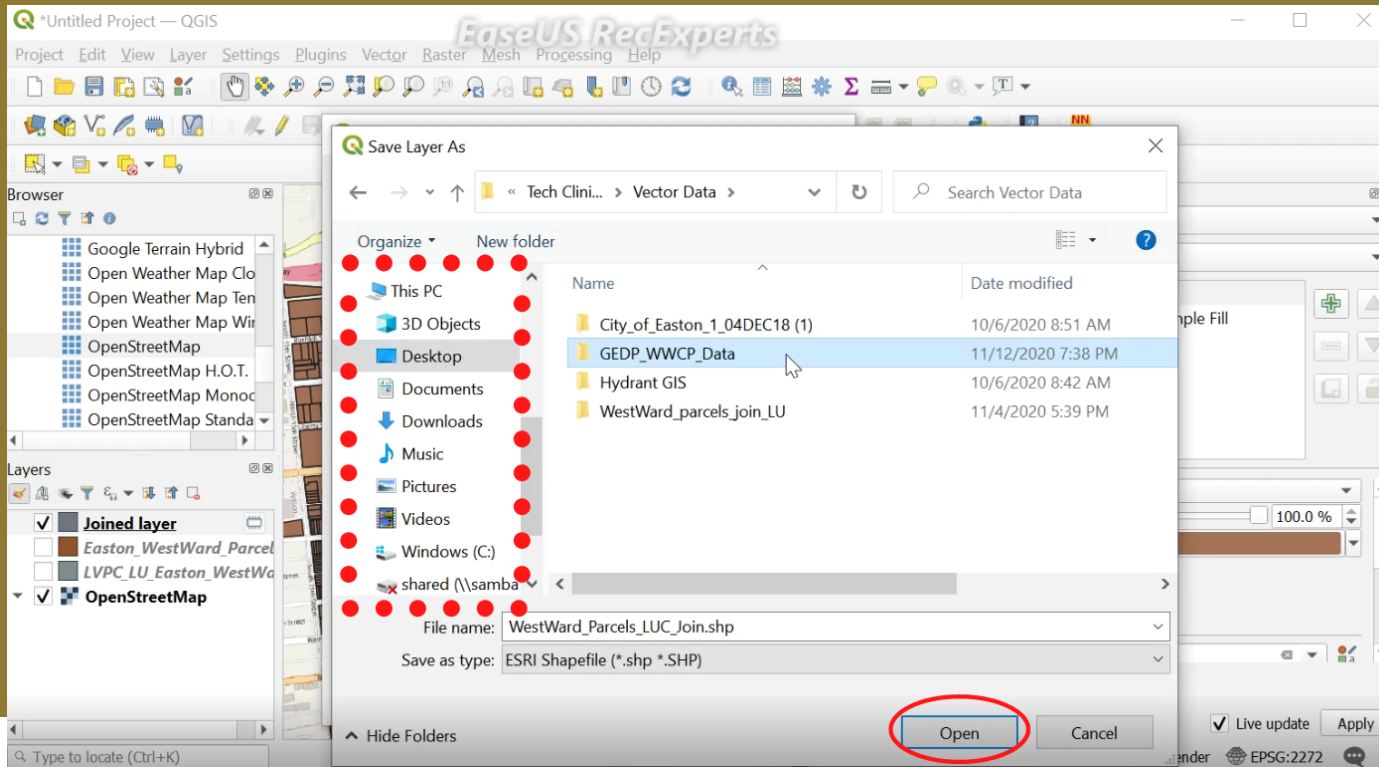


Video 4

A save window will open. In the box labelled 'File name', enter the name you want to save this new joint layer under. Then, click the icon with three dots.

Performing a Complete Map Update

Spatial Joining



81

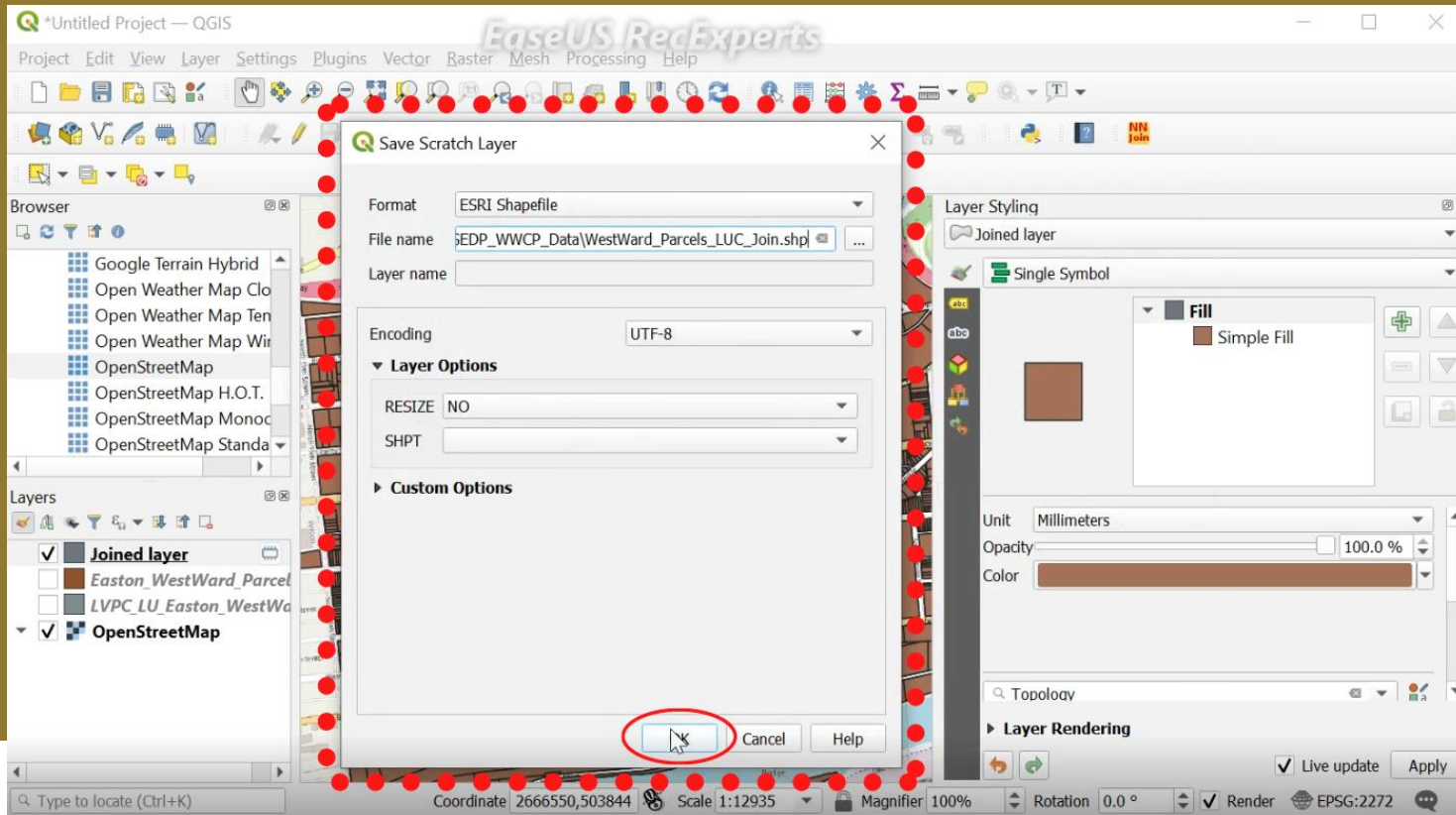


Video 4

A new save layer window will appear. Enter the same title in the file name box. Make sure you use the menu on the left to locate your map data folder to make sure that this layer save is saved in the same folder as the rest of your map data. Hit 'Open'.

Performing a Complete Map Update

Spatial Joining



82

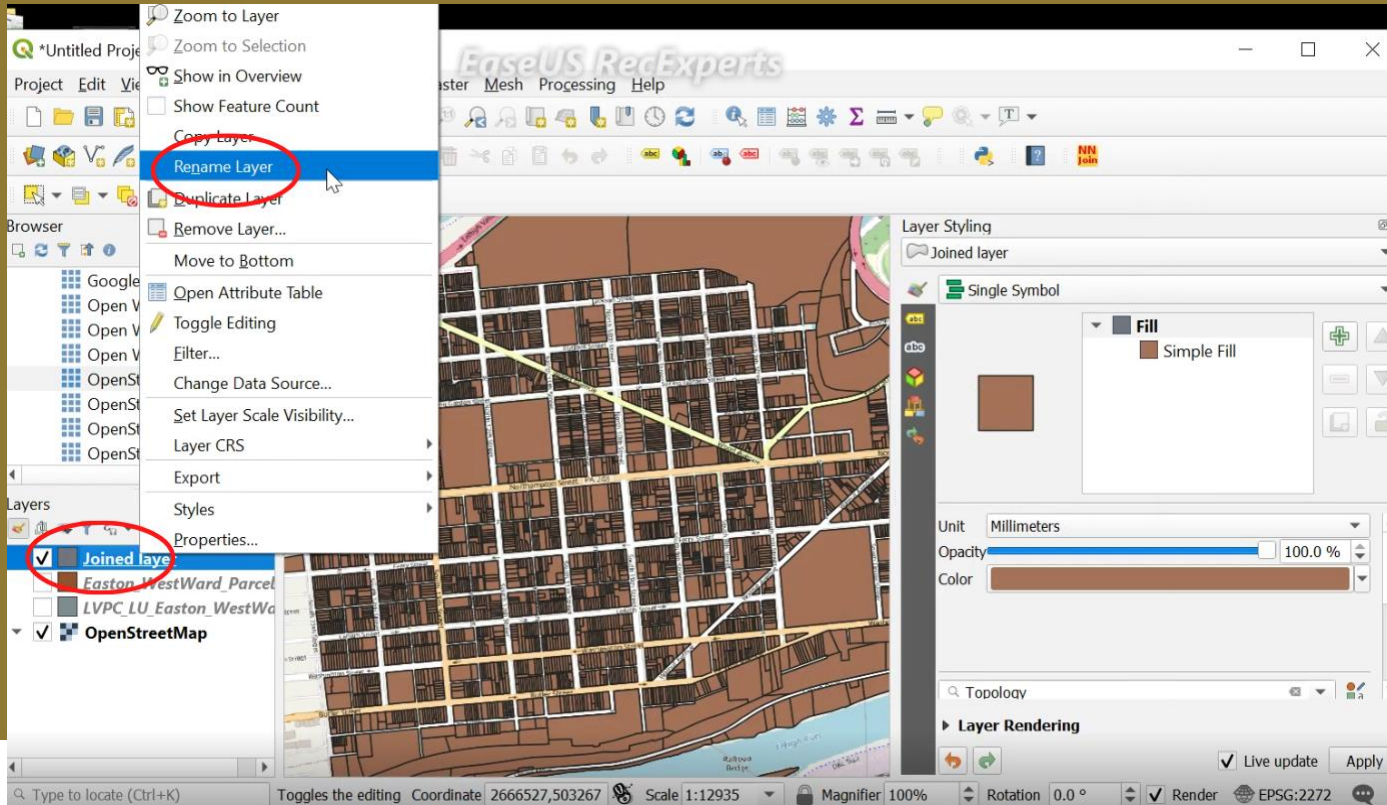


Video 4

You'll be returned to the previous save window. Hit OK.

Performing a Complete Map Update

Spatial Joining



83

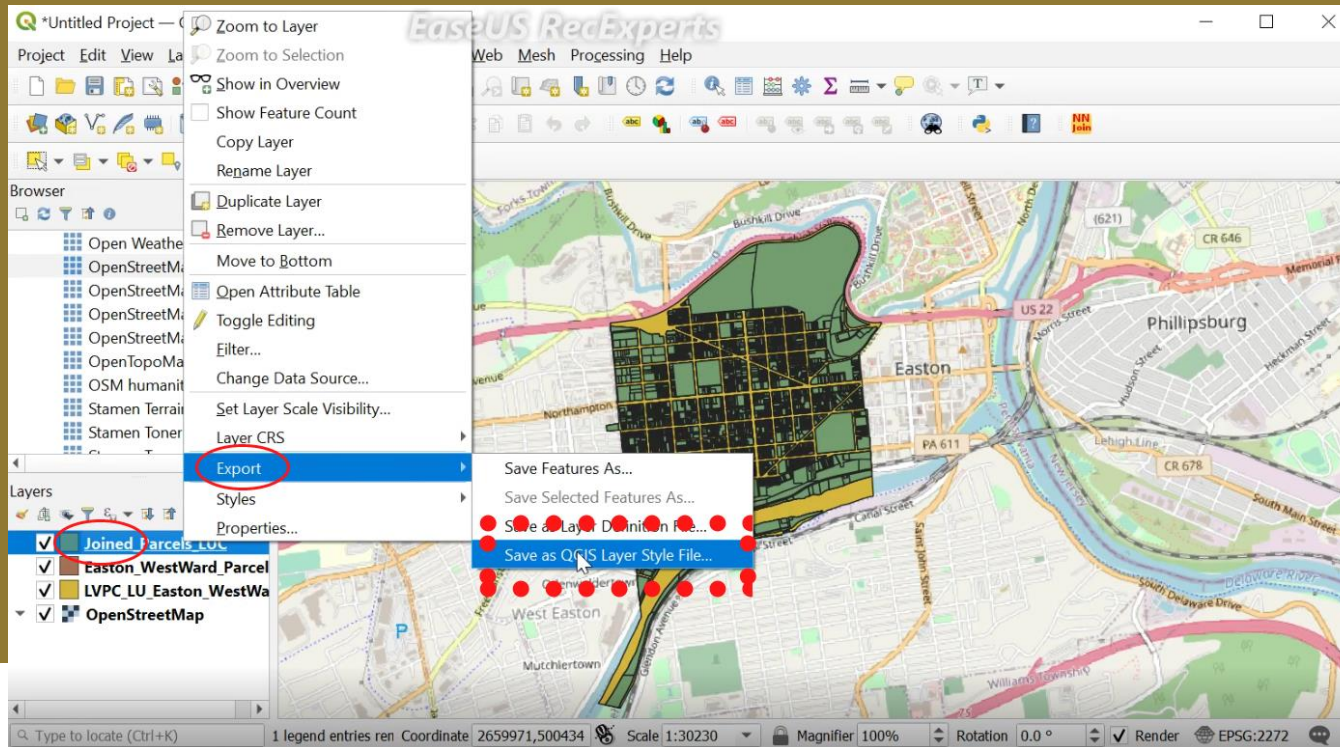


Video 4

You can rename this new joined layer at any point by right clicking the title name from the layer menu and selecting 'Rename layer'.

Performing a Complete Map Update

Saving Joined Layers



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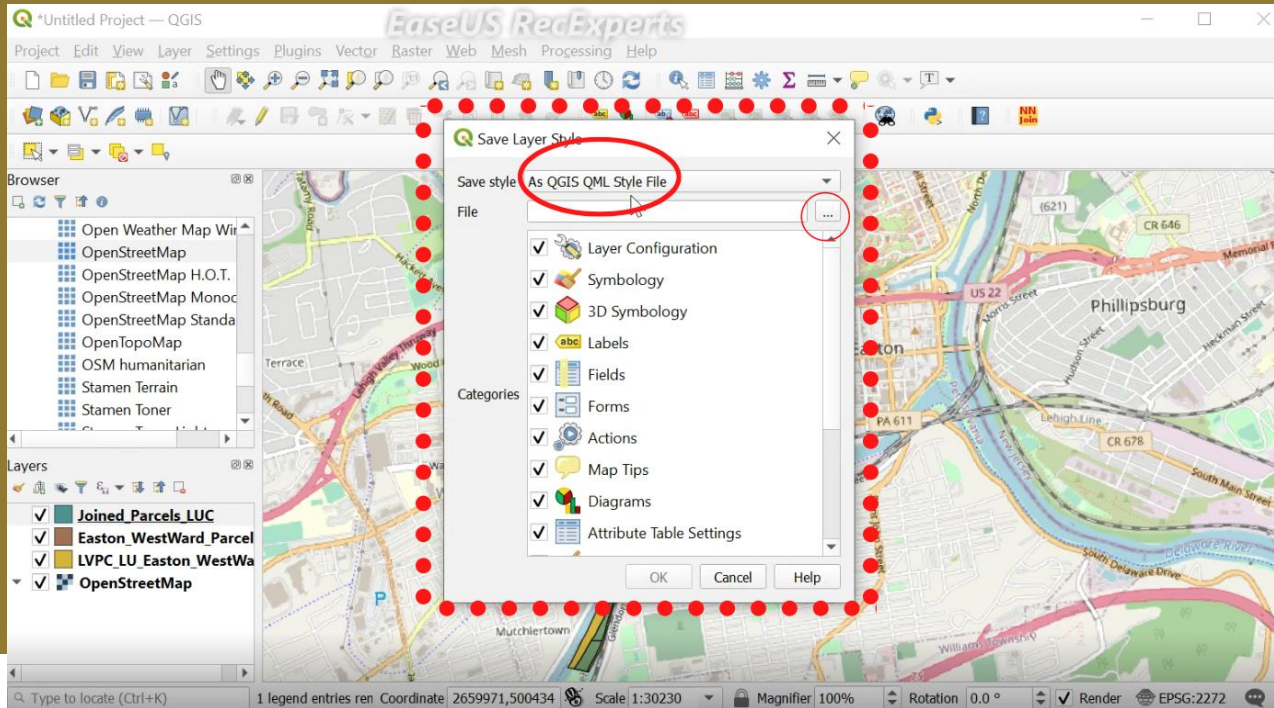


Video 5

To save the new joint layer you just created, find the title of the layer in the layer menu, right click it, select the 'export' option, and then select the 'save as QGIS layer style file' option.

Performing a Complete Map Update

Saving Joined Layers



85

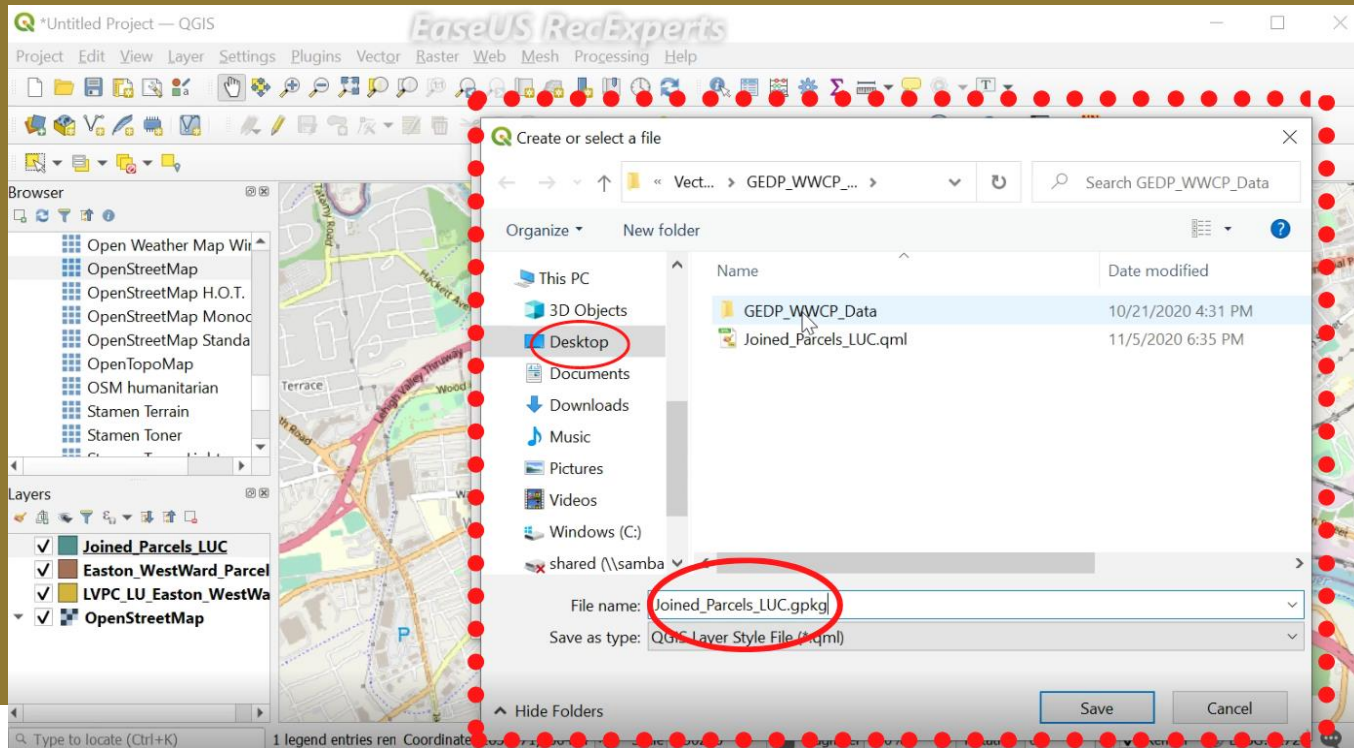


Video 5

Once you've selected 'save as QGIS style layer file', a new window will open. Ensure that the drop down menu at the top is set to 'As QGIS layer style file'. This is the default setting but you should still double check. Click on the three dots indicated in the circle to the right of the pop up window.

Performing a Complete Map Update

Saving Joined Layers



86

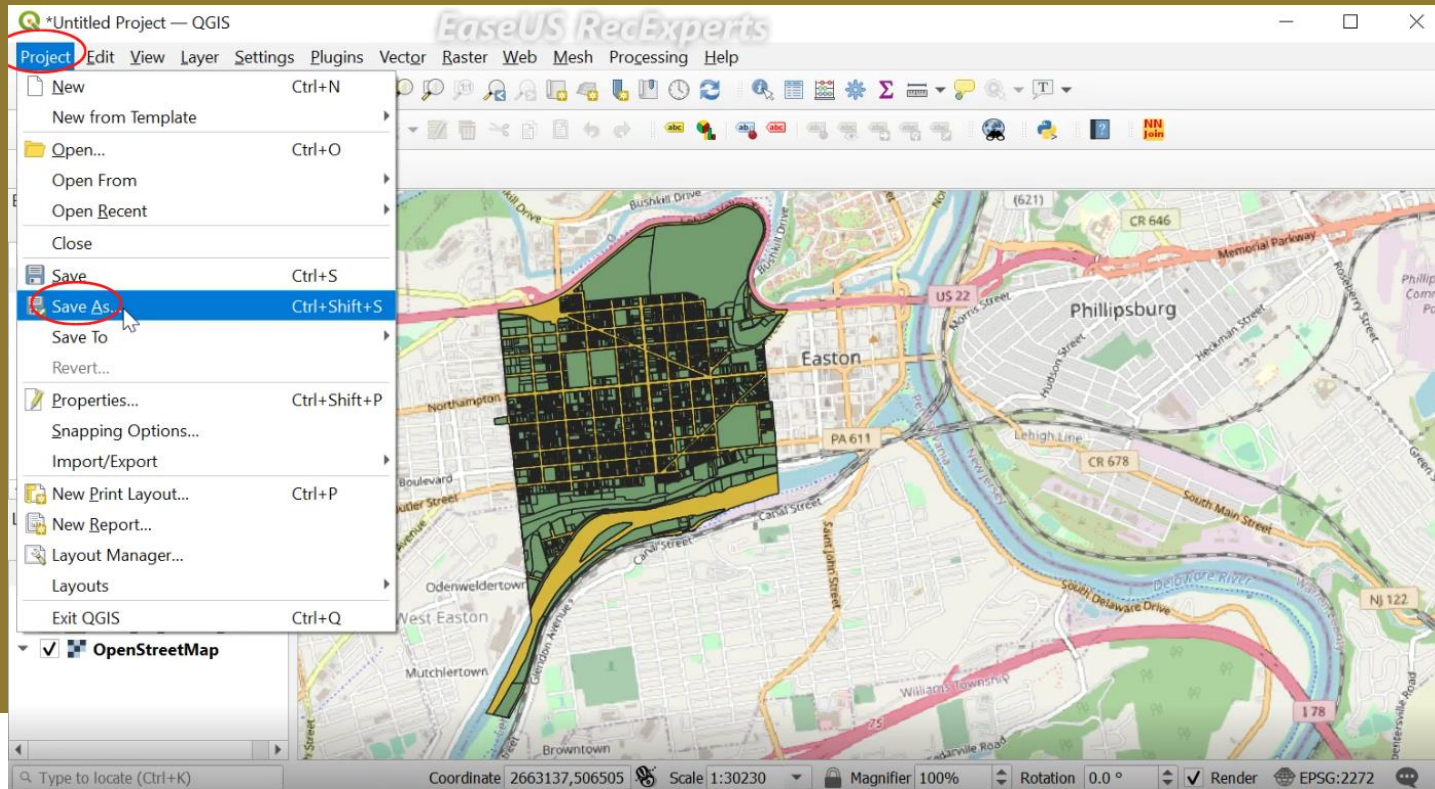


Video 5

Another window will pop up. Use the menu on the left to locate your designated map data folder. Then, **save the layer under the automatic title that is generated for you.** Click **save** to exit out of this window. The joined layer you've created is now saved. This is important for later.

Performing a Complete Map Update

Saving the Project



87

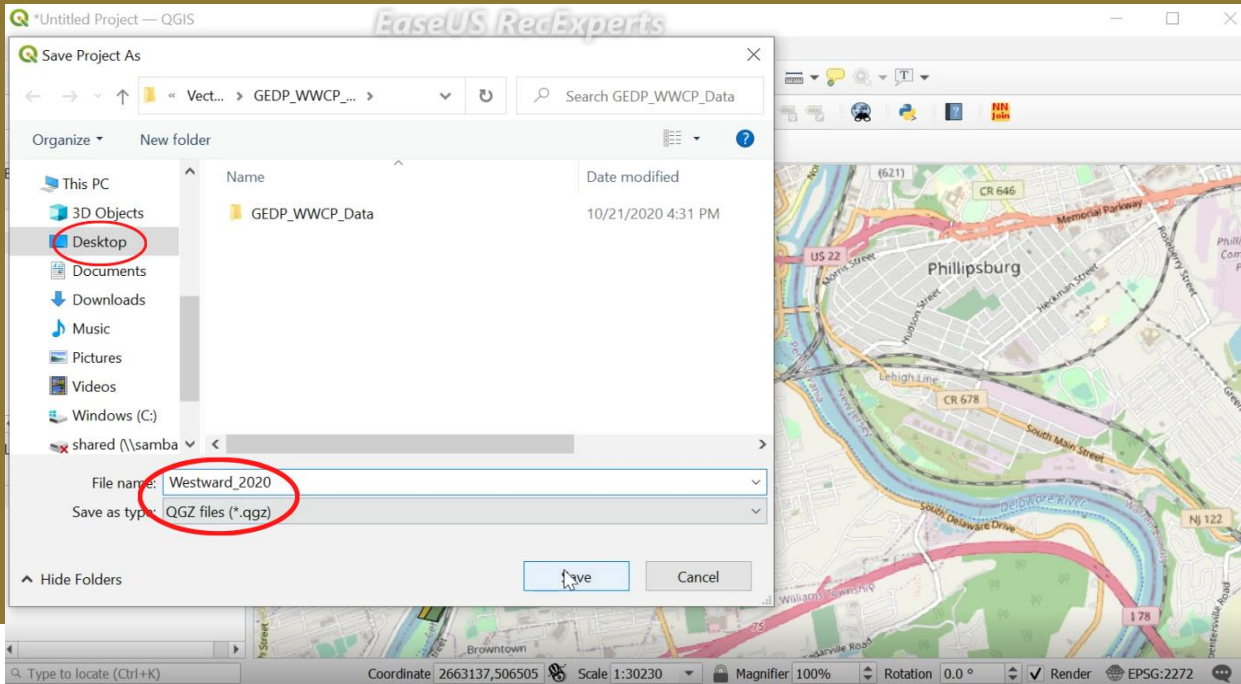


Video 6

The next step is to save the whole project. To do this, find the 'project' button towards the left of the toolbar. Select the 'save as' option.

Performing a Complete Map Update

Saving the Project

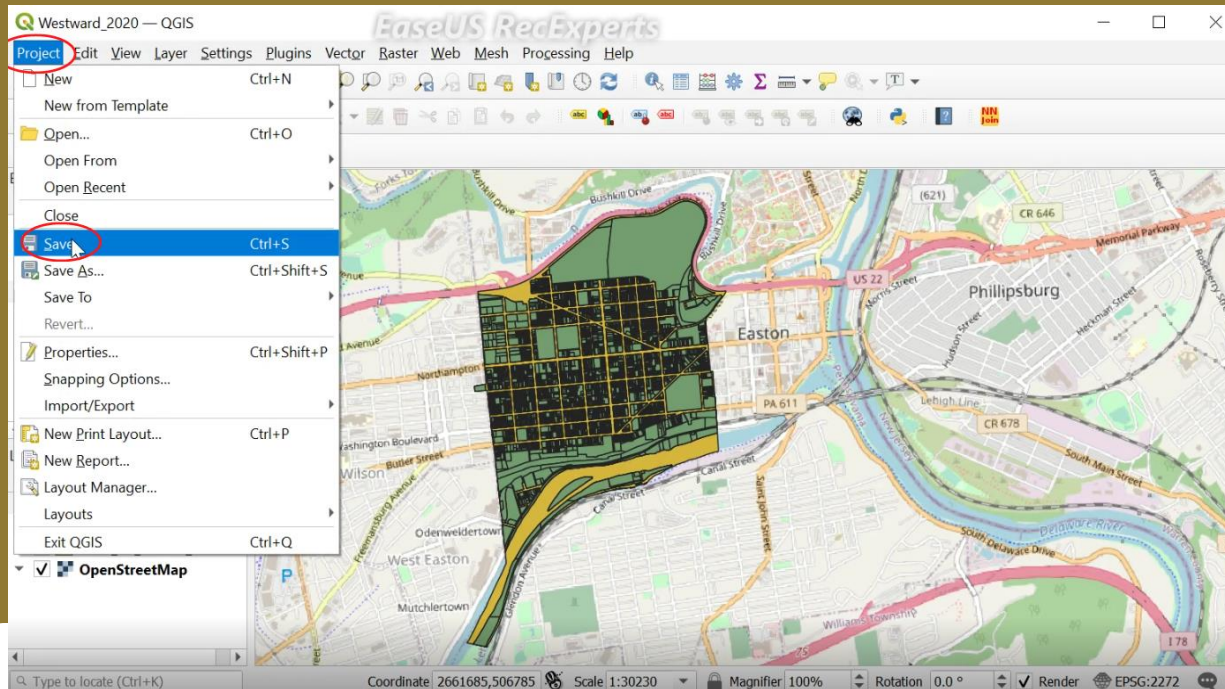


Video 6

A new window will open. Similarly to when you saved the joint layer in the designated map data folder, use the menu on the left to find the location of your designated data folder and ensure that the project is also saved in that folder. Unlike the joint layer, you can title this whatever you want. The title you insert here will be displayed as the title of the whole map so ensure that it's descriptive enough to make it clear which section of data is being shown.

Performing a Complete Map Update

Saving the Project



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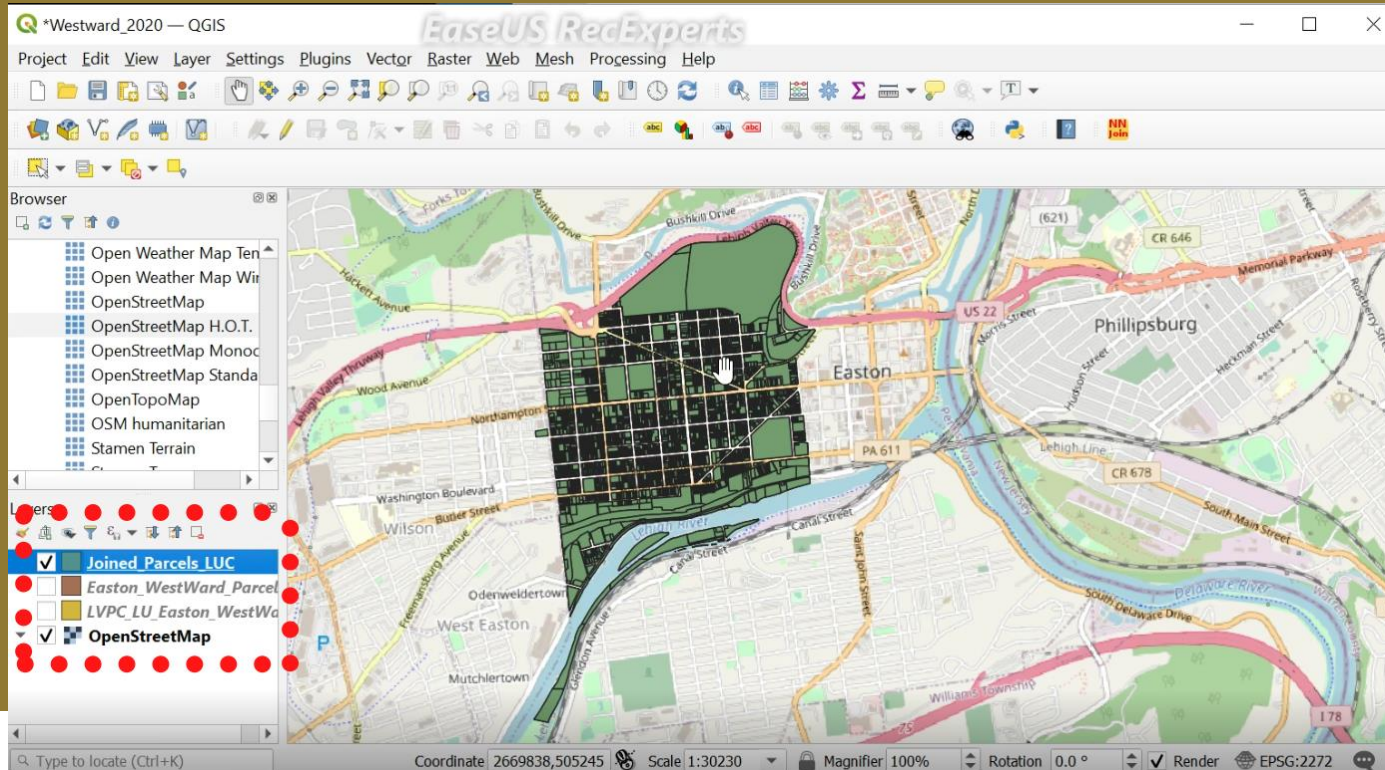


Video 6

Additionally, you want to make sure that you're saving your periodically from this point onwards. To do so, click the 'project' button on the toolbar and select the 'save' option. Do this every time that you make a change to the map to ensure that your progress is saved. QGIS is not an online platform so it doesn't save your work for you as you go.

Performing a Complete Map Update

Saving the Project

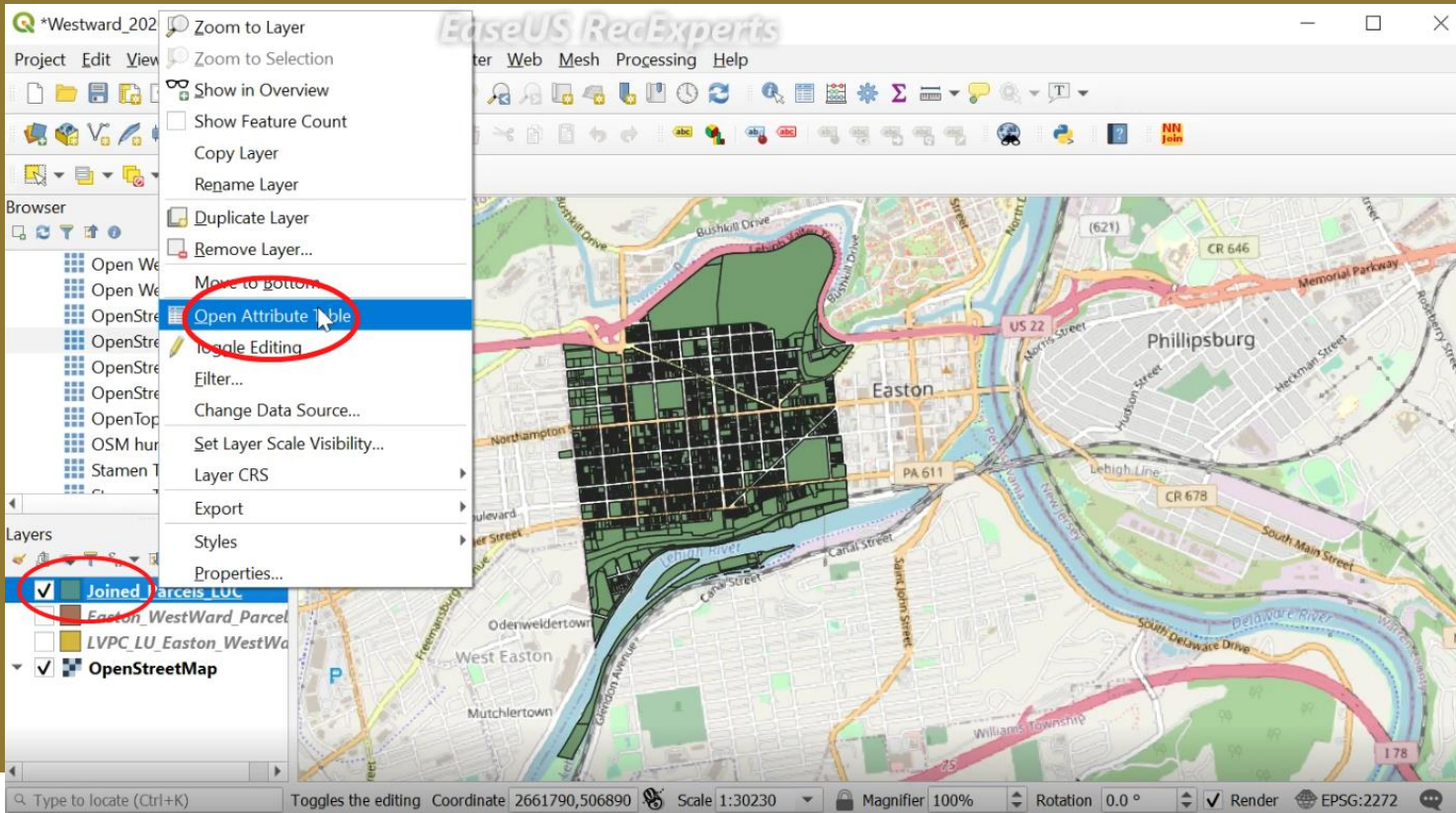


Video 6

For convenience, we recommend that you **deselect** all layers that aren't the joint layer. To do so, go to the layer menu and click to **uncheck** the boxes to the left of layer titles you no longer wish to display.

Performing a Complete Map Update

Saving Attributes



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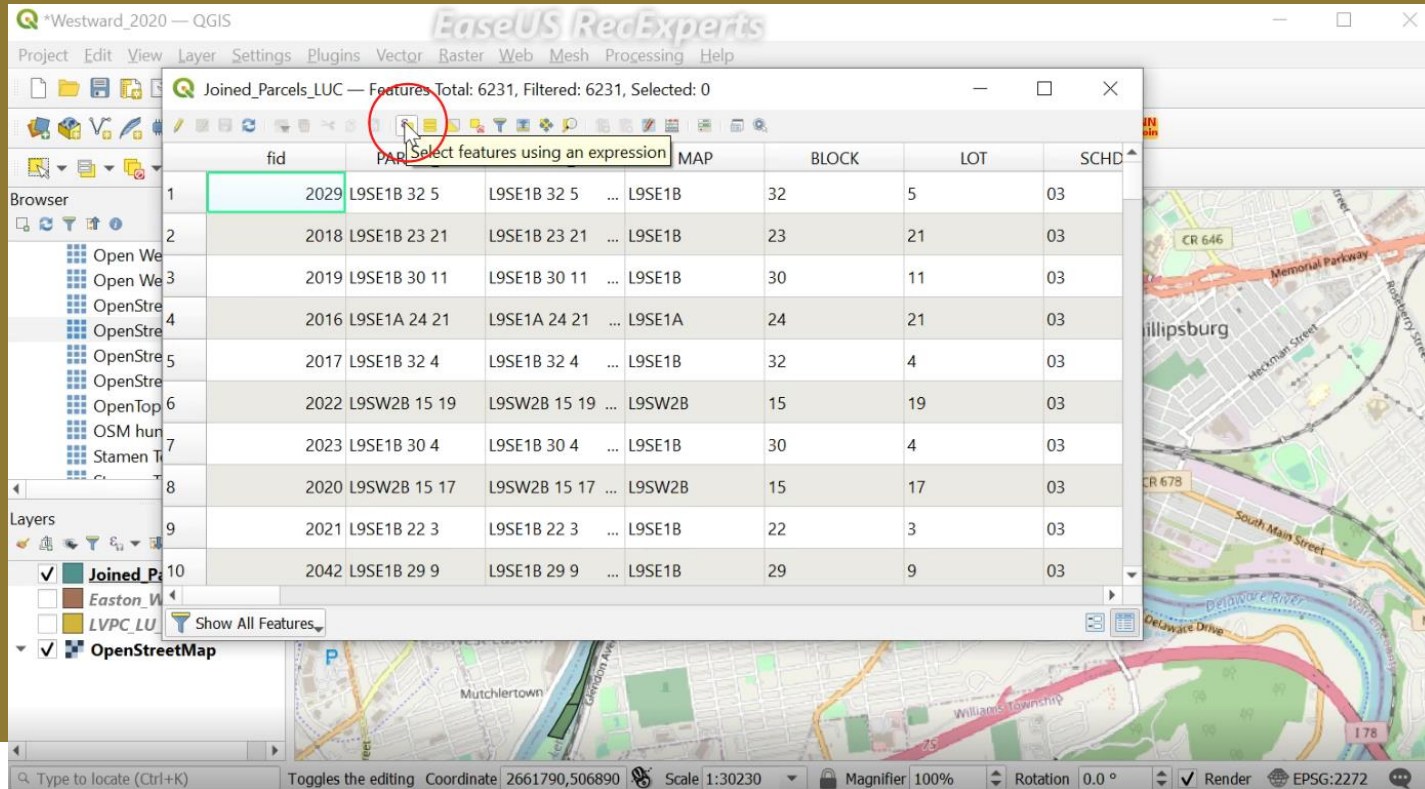


Video 7

Select the combined layer from the layer menu and open the attribute table.

Performing a Complete Map Update

Saving Attributes



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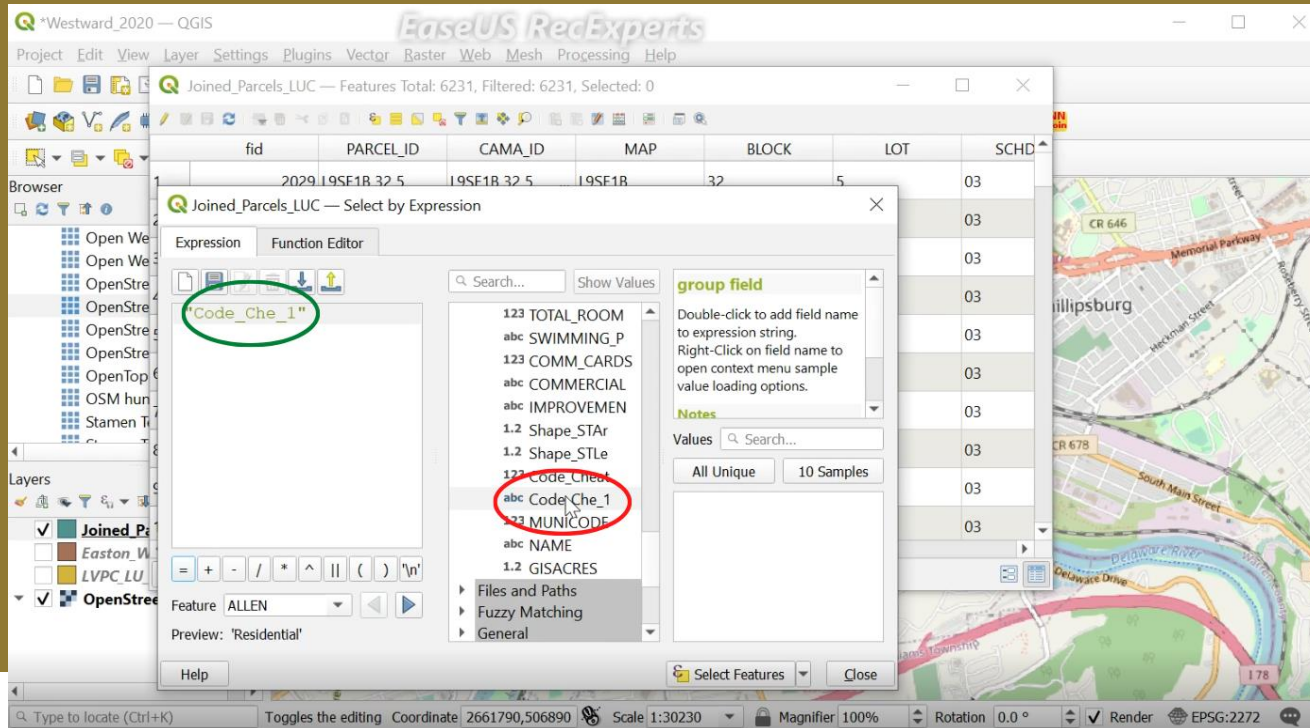


Video 7

Within the attribute map table window that will open up, find the toolbar at the top and select the icon labelled 'Select features using an expression'.

Performing a Complete Map Update

Saving Attributes



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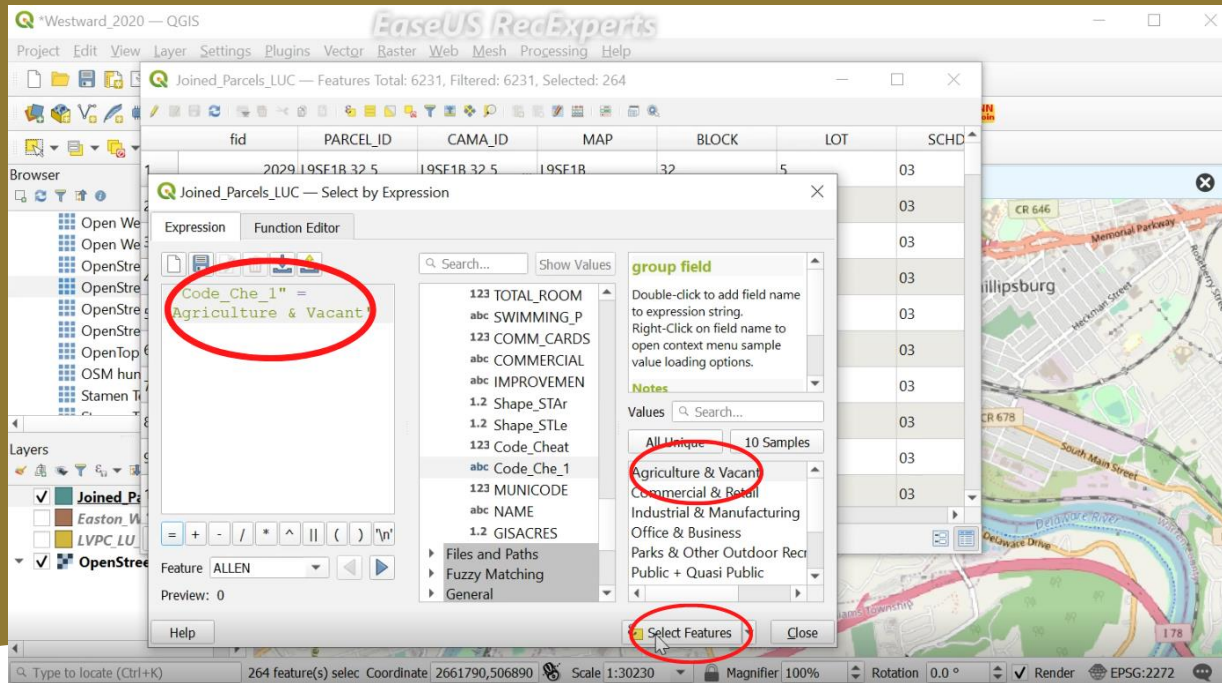


Video 7

Once you've clicked on the small gray arrow, a list of options will drop down below. Scroll through this list of options until you find the option labelled 'Code_Che_1'. Double click on Code_Che_1. Once you've double clicked, text will begin to appear in the box on the left of the screen.

Performing a Complete Map Update

Saving Attributes



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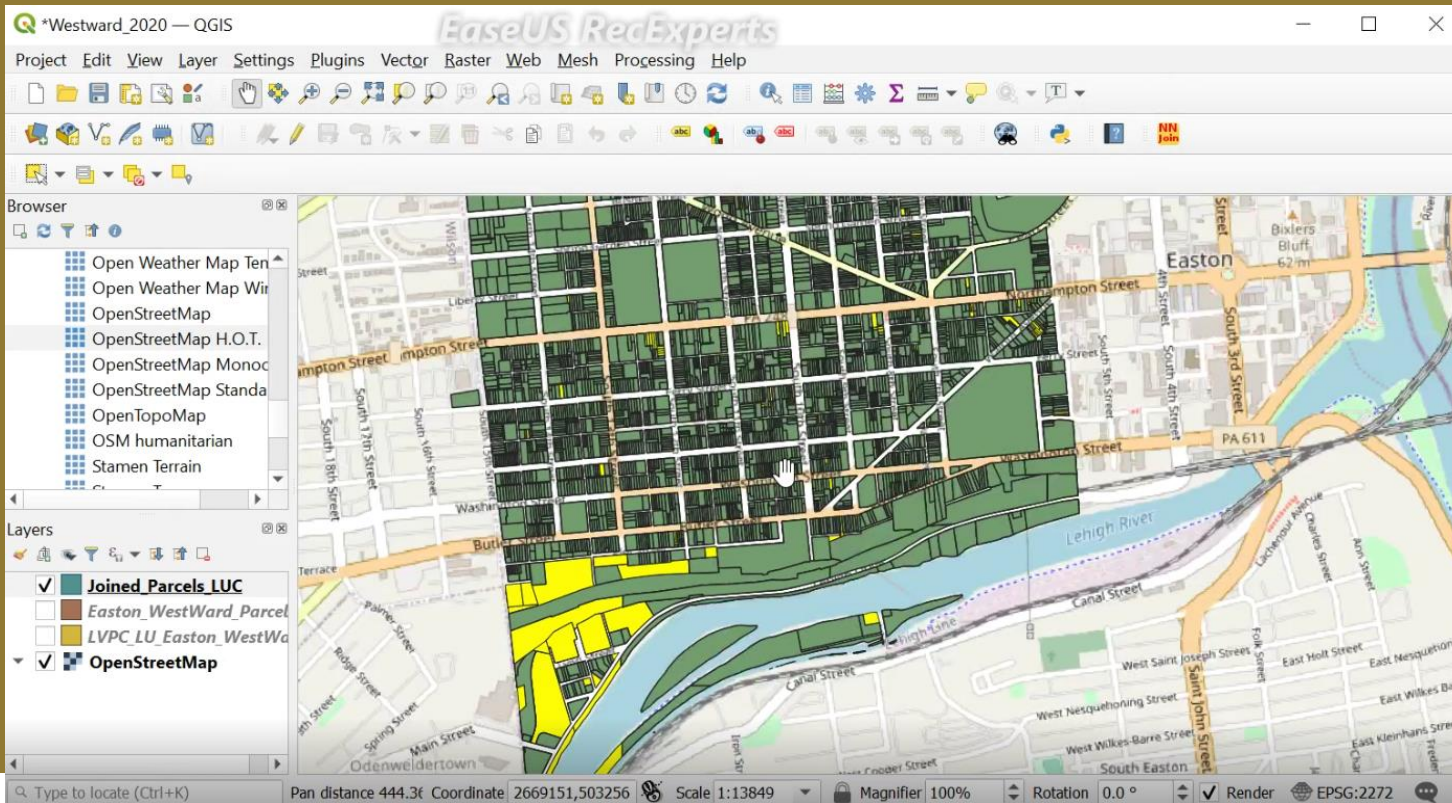


Video 7

In the box on the left where the green text has appeared, type an '=' symbol after the last bit of green text. Then, find the button labelled 'All Unique'. Click on All Unique. Scroll through the list of options that appear in the box underneath and select the option that you're interested in. In this case, we started by sectioning out the Agricultural and Vacant data first, so we clicked 'Agricultural and Vacant'. Hit the 'Select Features' button at the bottom. Then, hit close.

Performing a Complete Map Update

Saving Attributes



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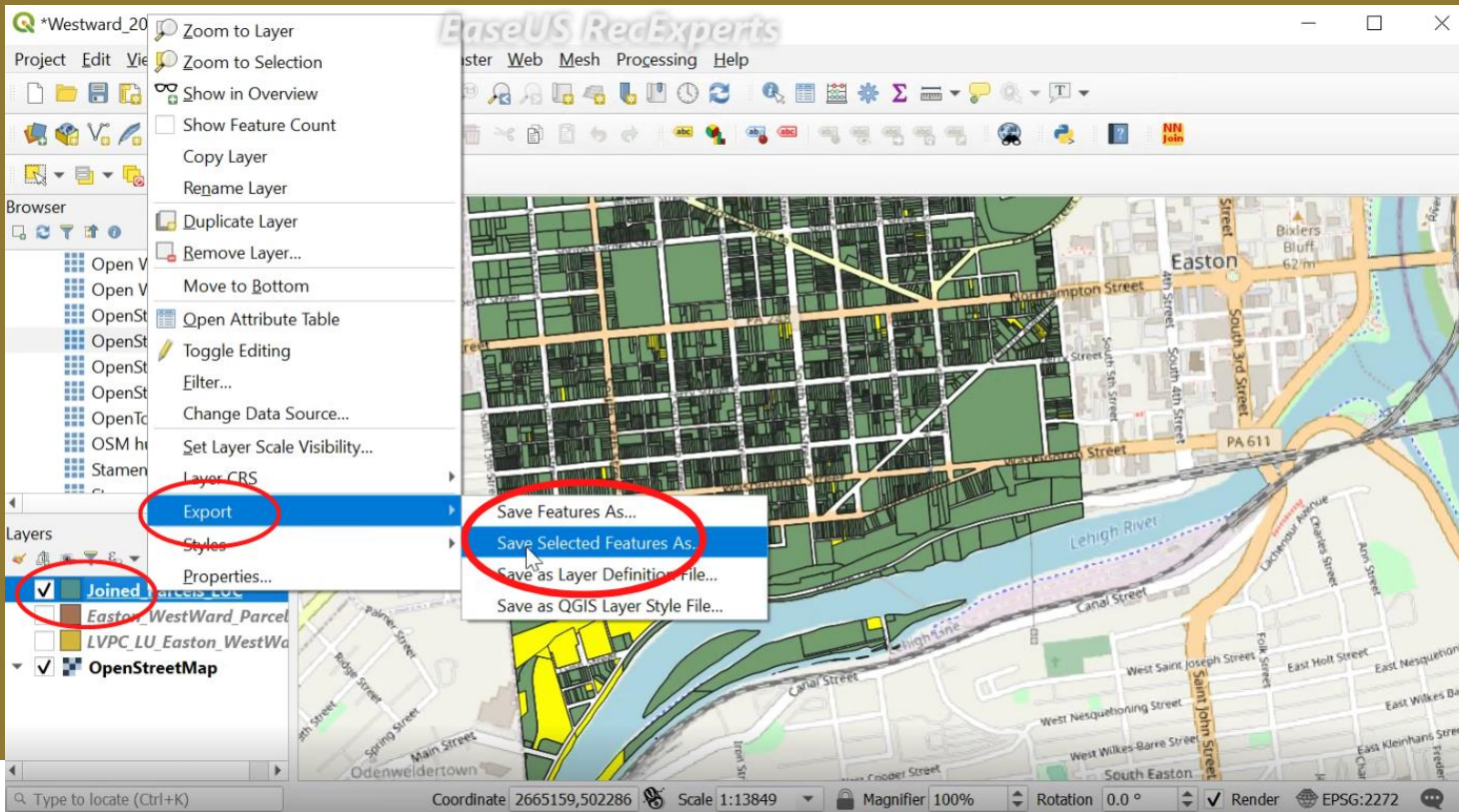


Video 7

You can then close out of the attribute table. Now, you'll notice that the features we just selected are highlighted in a different color on the map.

Performing a Complete Map Update

Saving Attributes



97

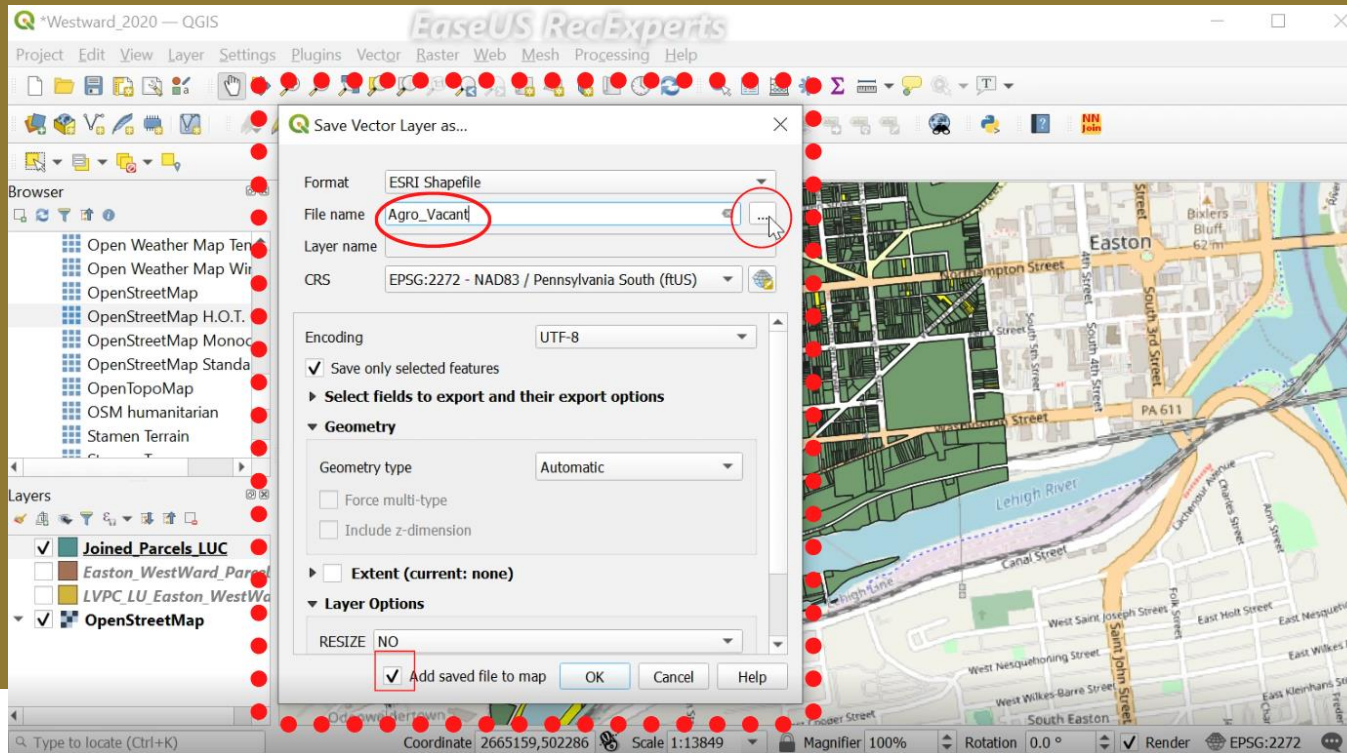


Video 7

To save these new highlighted features, right click on the combined layer title in the layers menu, select 'Export', and then select 'Save Selected Features As'.

Performing a Complete Map Update

Saving Attributes



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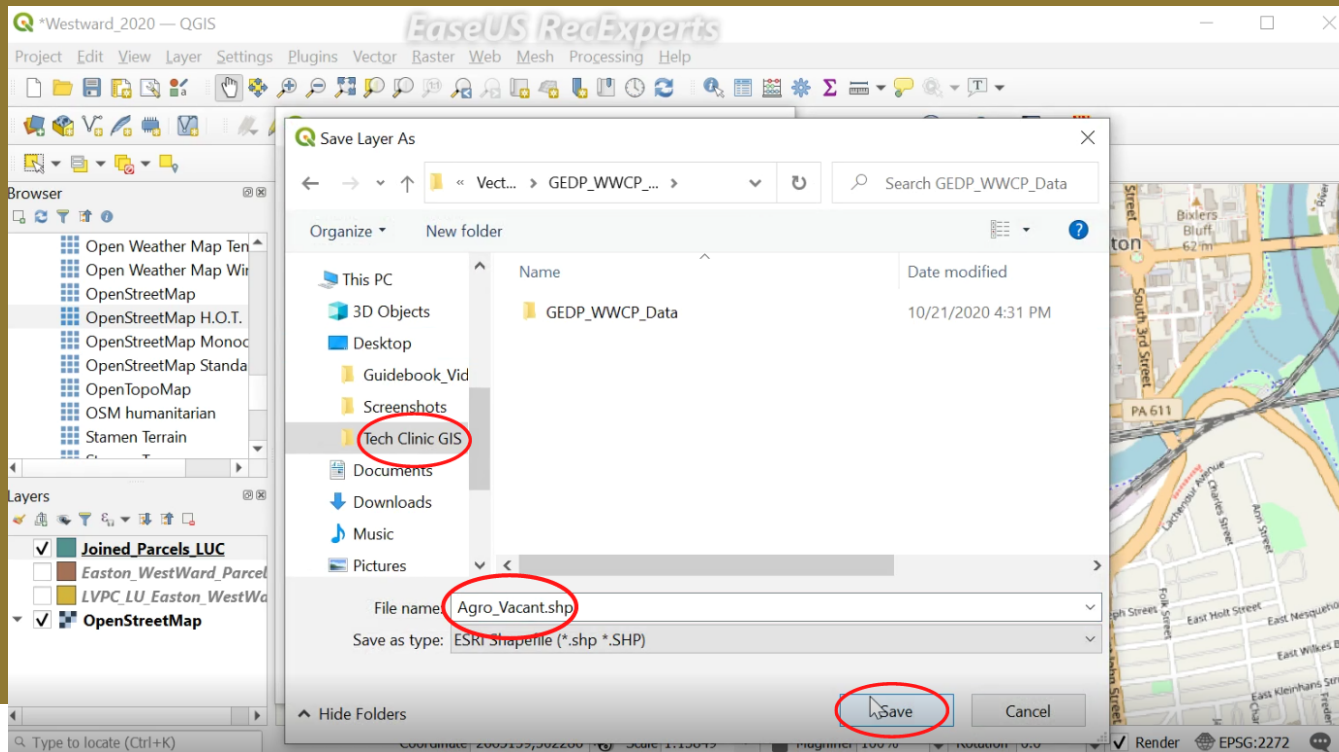


Video 7

A new window will appear. In the box labelled 'File Name', enter the name you want to use to locate and describe this layer of data. We called this one 'Agro_Vacant'. After entering the file name, hit the three dots next to the file name box.

Performing a Complete Map Update

Saving Attributes



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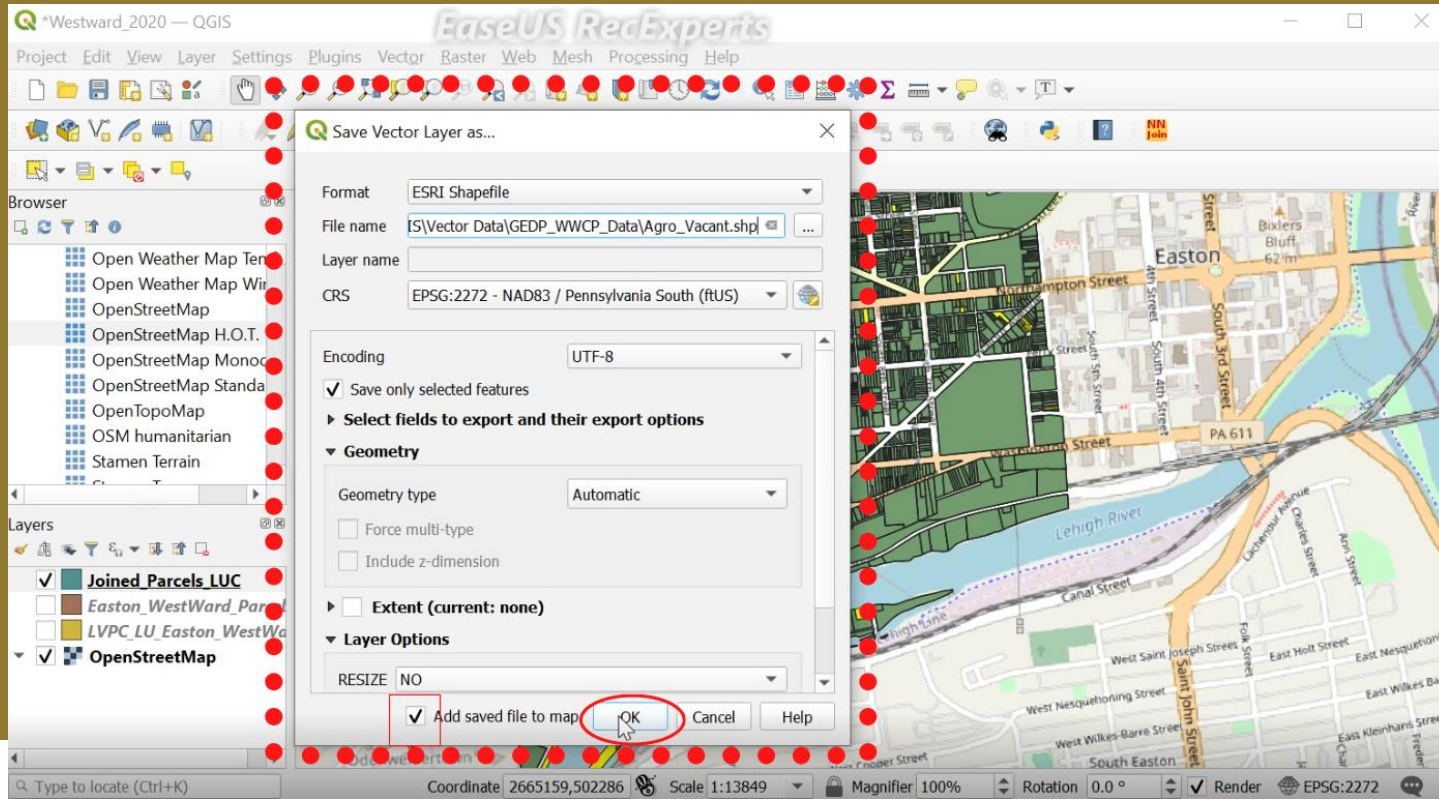


Video 7

Another new window will open. Using this new window, we are going to save the layer in your master folder full of map data. Just as you did before, be sure to use the menu on the left to locate your master map data folder. Once this is done, hit **save** and the window will close out.

Performing a Complete Map Update

Saving Attributes



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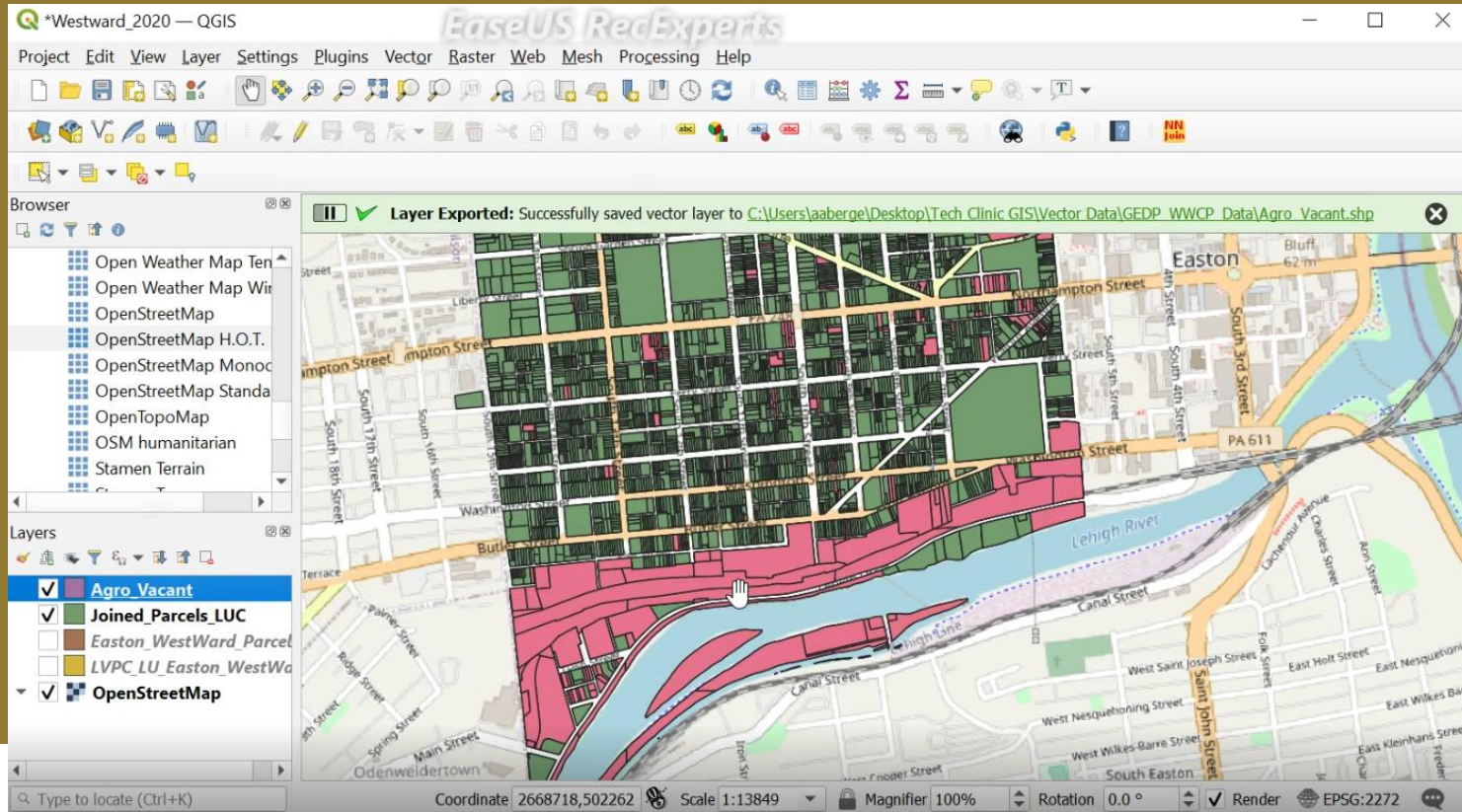


Video 7

You'll be brought back to the window we were just working in before. At this stage, make sure that the option labelled 'Save only selected features' is enabled. Also, make sure that the option to 'Add saved file to map' is enabled. Hit OK.

Performing a Complete Map Update

Saving Attributes



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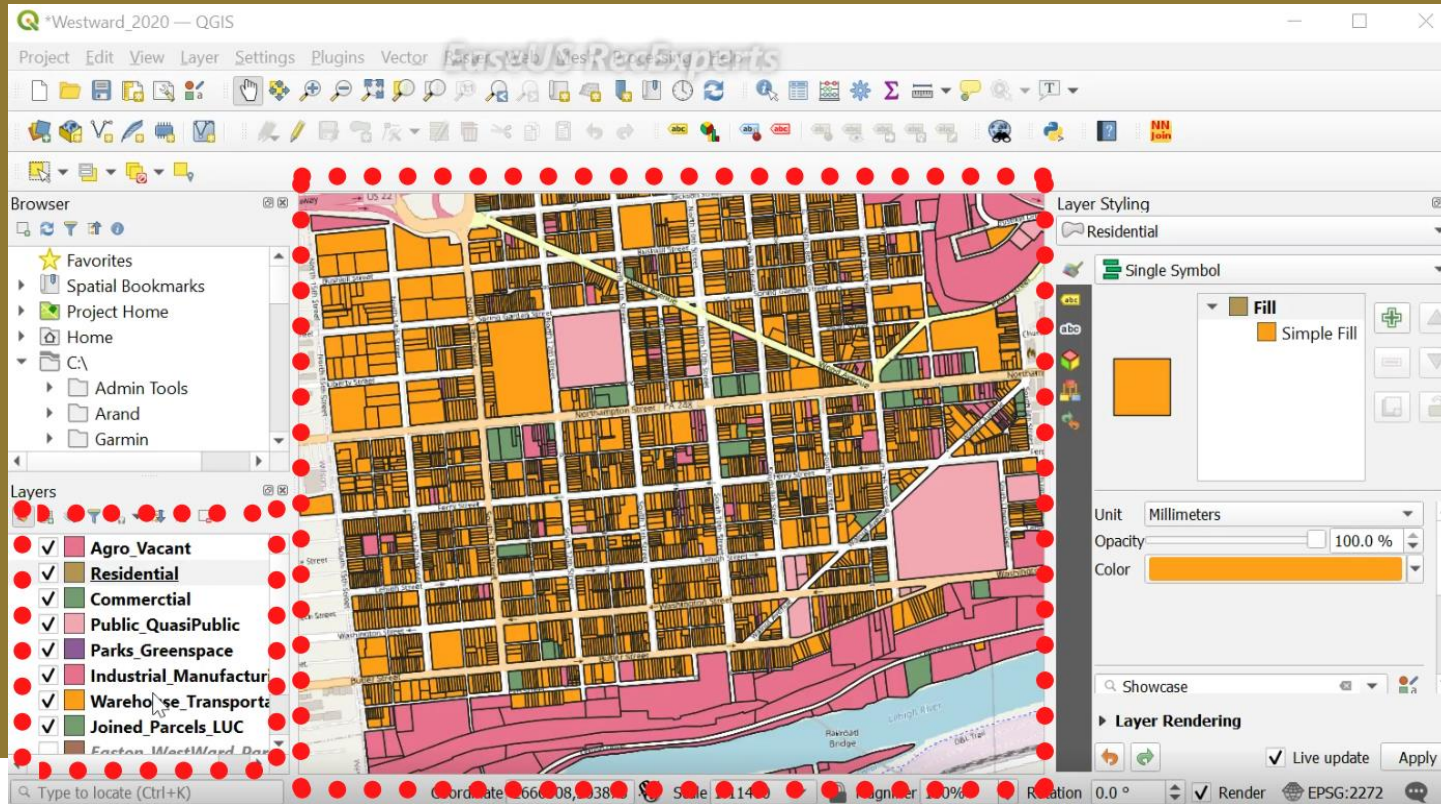


Video 7

A new layer has now been created that displays only your agricultural and vacant data. Remember that even though we've programmed this layer to appear as an independent layer, it is still only a subsection of the larger combined layer.

Performing a Complete Map Update

Saving New Layer Features



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Video 8

Repeat this process of separating out data according to the Code_Che_1 categorisation until all layers have their own layer in the layers menu. The next step is to separate out the smaller data.

Performing a Complete Map Update

Saving New Layer Features

LUC	GIS Code	Class	Description	Short Name
90	100	R	Residential Vacant Land	Vacant Land
90	160	R	Large Vacant Tracts with unknown potential	Vacant Land
90	600	E	Vacant Residential Exempt Land	Vacant Land
92	100A	R	Developer Vacant Land	Vacant Land, Developers Lots
93	2001	C	No Zoning Under 5,000 SF (.12 acre)	No Zoning Vacant Land
93	2002	C	No Zoning 5,000-10,000 SF (.12-.23 acre)	No Zoning Vacant Land
93	2003	C	No Zoning 10,001-20,000 SF (.23-.46 acre)	No Zoning Vacant Land
93	2004	C	No Zoning 20,001-30,000 SF (.46-.69 acre)	No Zoning Vacant Land
93	2005	C	No Zoning 30,001-40,000 SF (.69-.92 acre)	No Zoning Vacant Land
93	2006	C	No Zoning 40,001-60,000 SF (.92-1.38 acres)	No Zoning Vacant Land
93	2007	C	No Zoning 60,001-87,120 SF (1.38-2.0 acres)	No Zoning Vacant Land
93	2008	C	No Zoning 2.00-4.99 acres	No Zoning Vacant Land
93	2009	C	No Zoning 5.00-9.99 acres	No Zoning Vacant Land
93	2010	C	No Zoning 10.00-19.99 acres	No Zoning Vacant Land
93	2011	C	No Zoning 20.00-29.99 acres	No Zoning Vacant Land
93	2012	C	No Zoning 30.00-49.99 acres	No Zoning Vacant Land
93	2013	C	No Zoning 50 acres - over	No Zoning Vacant Land
94	2101	R	Residential Under 5,000 SF (.12 acre)	Residential Vacant Land
94	2102	R	Residential 5,000-10,000 SF (.12-.23 acre)	Residential Vacant Land
94	2103	R	Residential 10,001-20,000 SF (.23-.46 acre)	Residential Vacant Land
94	2104	R	Residential 20,001-30,000 SF (.46-.69 acre)	Residential Vacant Land
94	2105	R	Residential 30,001-40,000 SF (.69-.92 acre)	Residential Vacant Land
94	2106	R	Residential 40,001-60,000 SF (.92-1.38 acres)	Residential Vacant Land
94	2107	R	Residential 60,001-87,120 SF (1.38-2.0 acres)	Residential Vacant Land

103

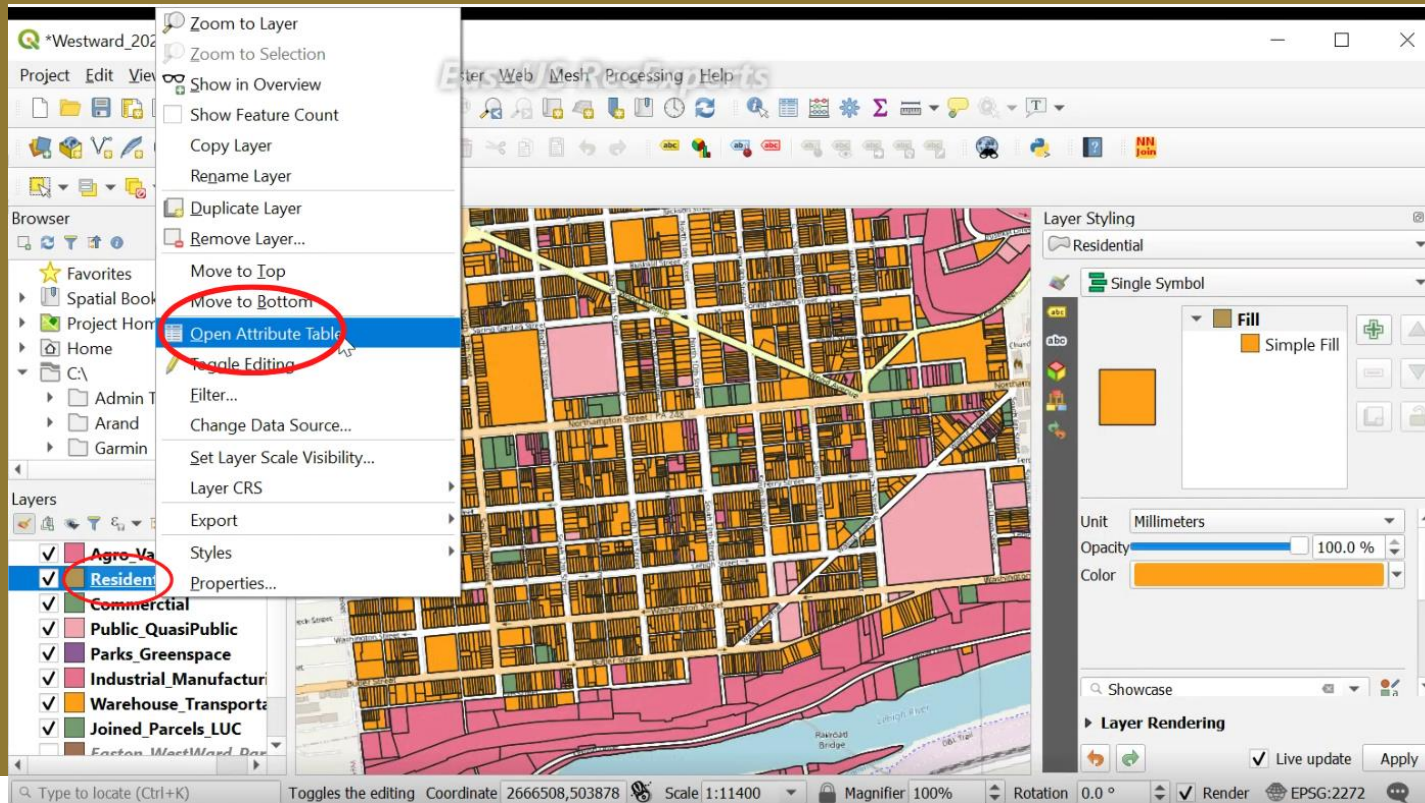


Video 8

At this stage, we advise that you review the Land Use Codes as displayed in the Data Dictionary provided by County. Whilst the Code_Che_1 categories were self-explanatory because they use categorical labels, the detailed land use codes need to be translated using the Data Dictionary.

Performing a Complete Map Update

Saving New Layer Features



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Video 8

From the layers menu on the left, select which type of data you'd like to separate in more detail. We started with Residential data for this demonstration. Right click on the layer title. Then, select the 'open attribute table' feature.

Performing a Complete Map Update

Saving New Layer Features

The screenshot shows the QGIS interface with the 'Residential' layer selected. The attribute table is visible, showing columns for 'fid', 'PARCEL_ID', 'CAMA_ID', 'MAP', 'BLOCK', 'LOT', and 'SCHD'. The 'Select by Expression' dialog box is open, and the 'Fields and Values' menu item is highlighted in the grey menu. The 'Expression' field is empty, and the 'Function Editor' is also empty. The 'Fields and Values' menu is open, showing a list of fields and values including 'NULL', 'fid', 'PARCEL_ID', 'CAMA_ID', 'MAP', 'BLOCK', 'LOT', and 'SCHDIST'. The 'Fields and Values' menu item is circled in red. The 'Select Features' button is also circled in red. The 'Close' button is also circled in red. The 'Live update' checkbox is checked. The 'Render' button is also visible.

105

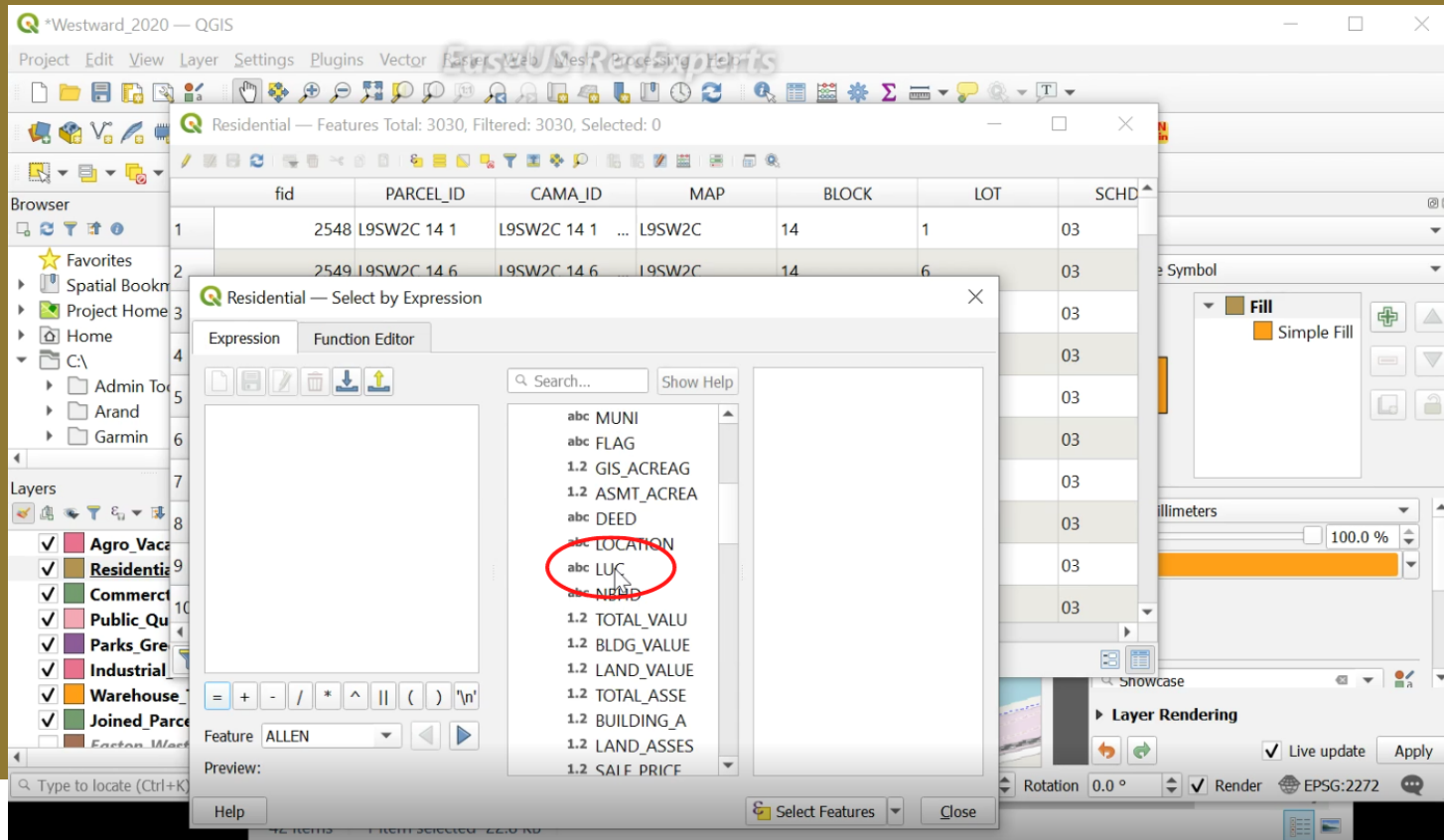


Video 8

Use the toolbar on in the attribute table window to **open the expression box**. Similarly to as before, select the list labelled '**Fields and Values**' from the grey menu in the middle. Hit the **small black arrow to the left of the text**.

Performing a Complete Map Update

Saving New Layer Features



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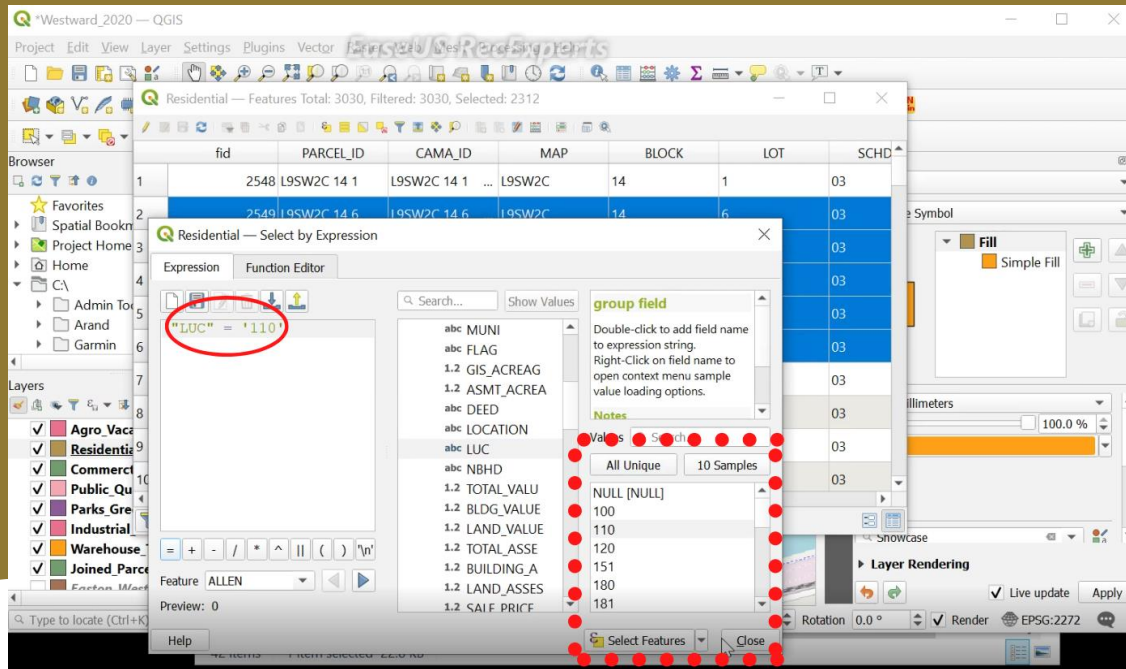


Video 8

This time, scroll down until you find the option called 'LUC'. Double click it and green text will appear in the box on the left.

Performing a Complete Map Update

Saving New Layer Features



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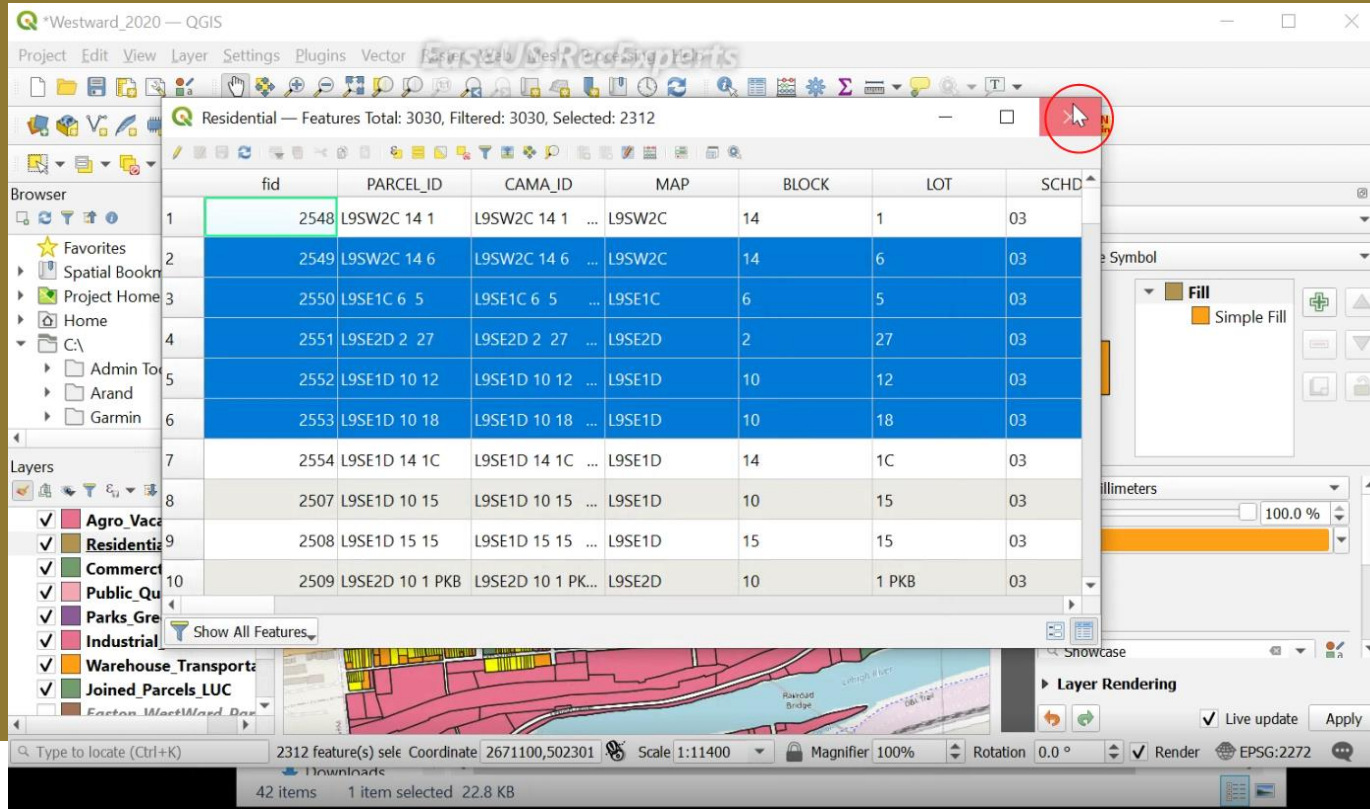


Video 8

Type '=' after the green text. Now, go over to the box in the bottom right and select 'All Unique'. A list of numbers will appear. Each of these numbers correspond with an explanation available in the Data Dictionary. Double click the number that you're interested in and it will appear in the box on the left. Hit the 'select features' button at the bottom right of the screen.

Performing a Complete Map Update

Saving New Layer Features



108

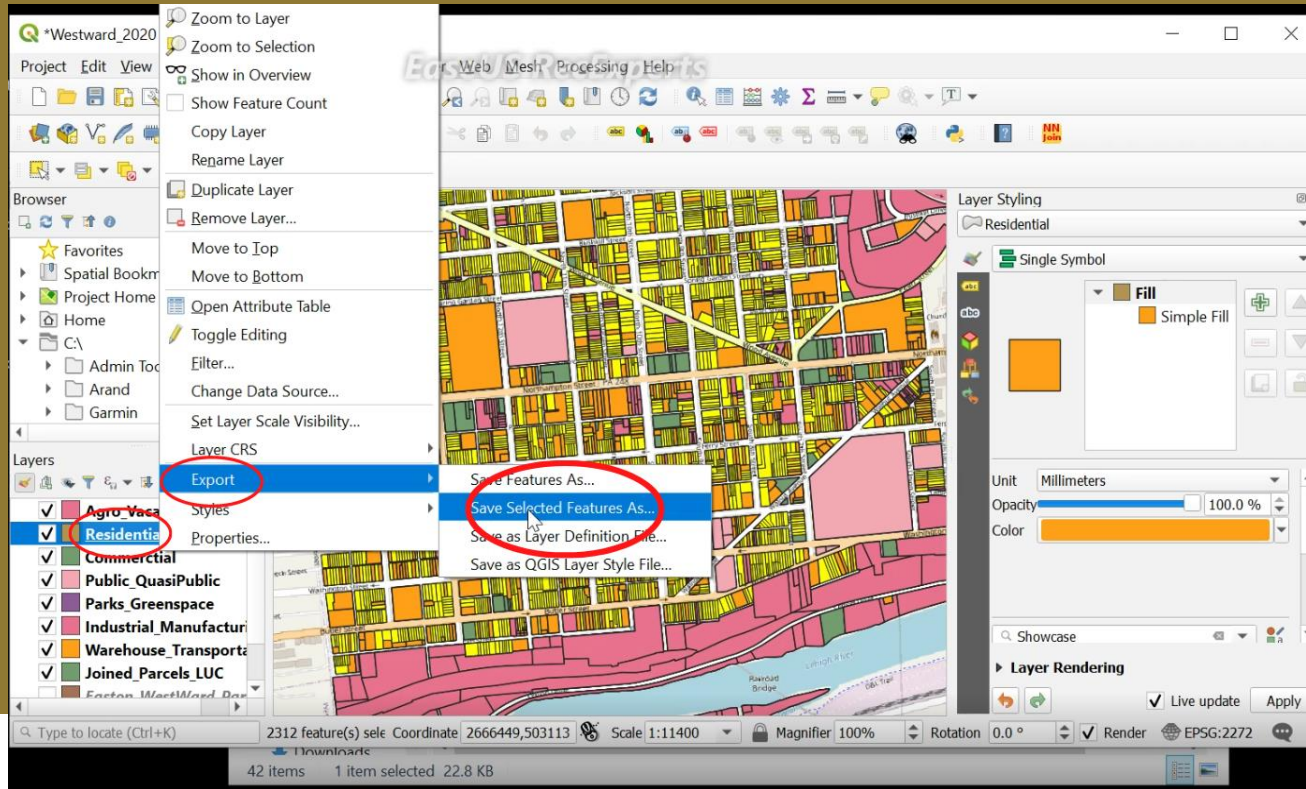


Video 8

After the expressions windows closes, you'll be left with the attribute table behind it. Close this out.

Performing a Complete Map Update

Saving New Layer Features



109

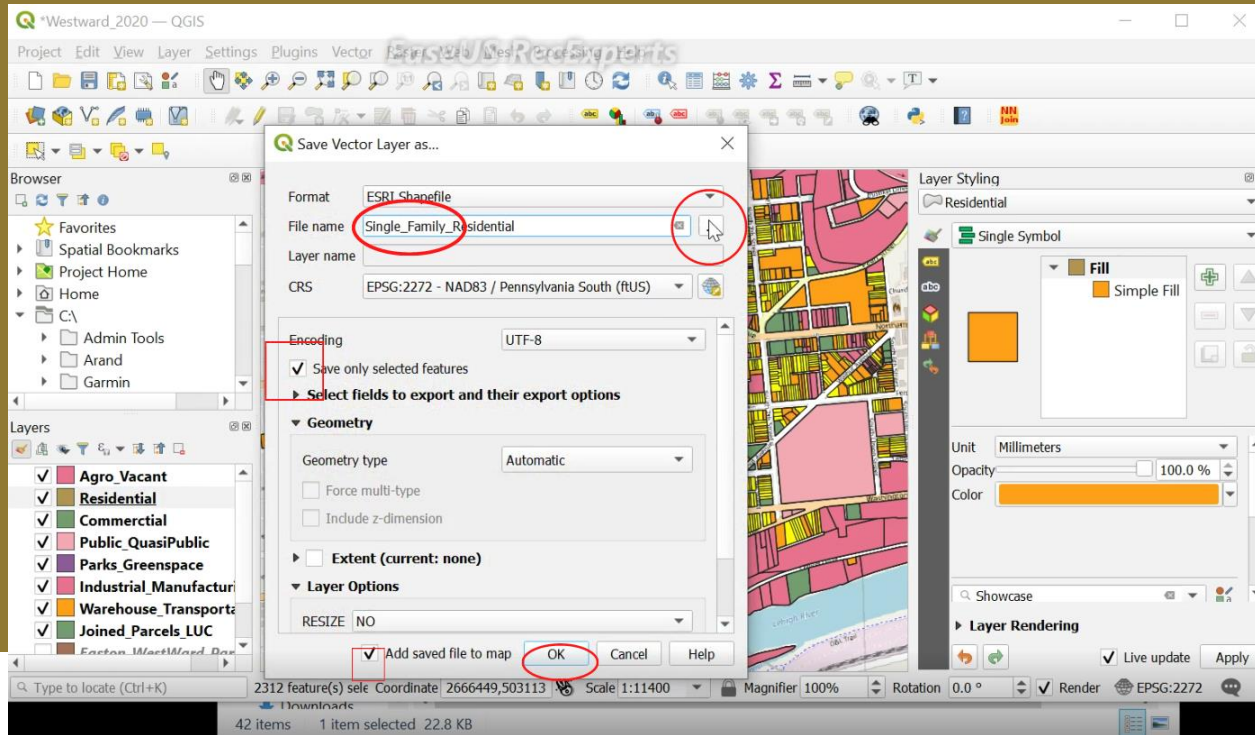


Video 8

To save these new extracted layers within the residential layer, right click on the residential layer in the layers menu, select export, and then select 'save selected features as'.

Performing a Complete Map Update

Saving New Layer Features



110

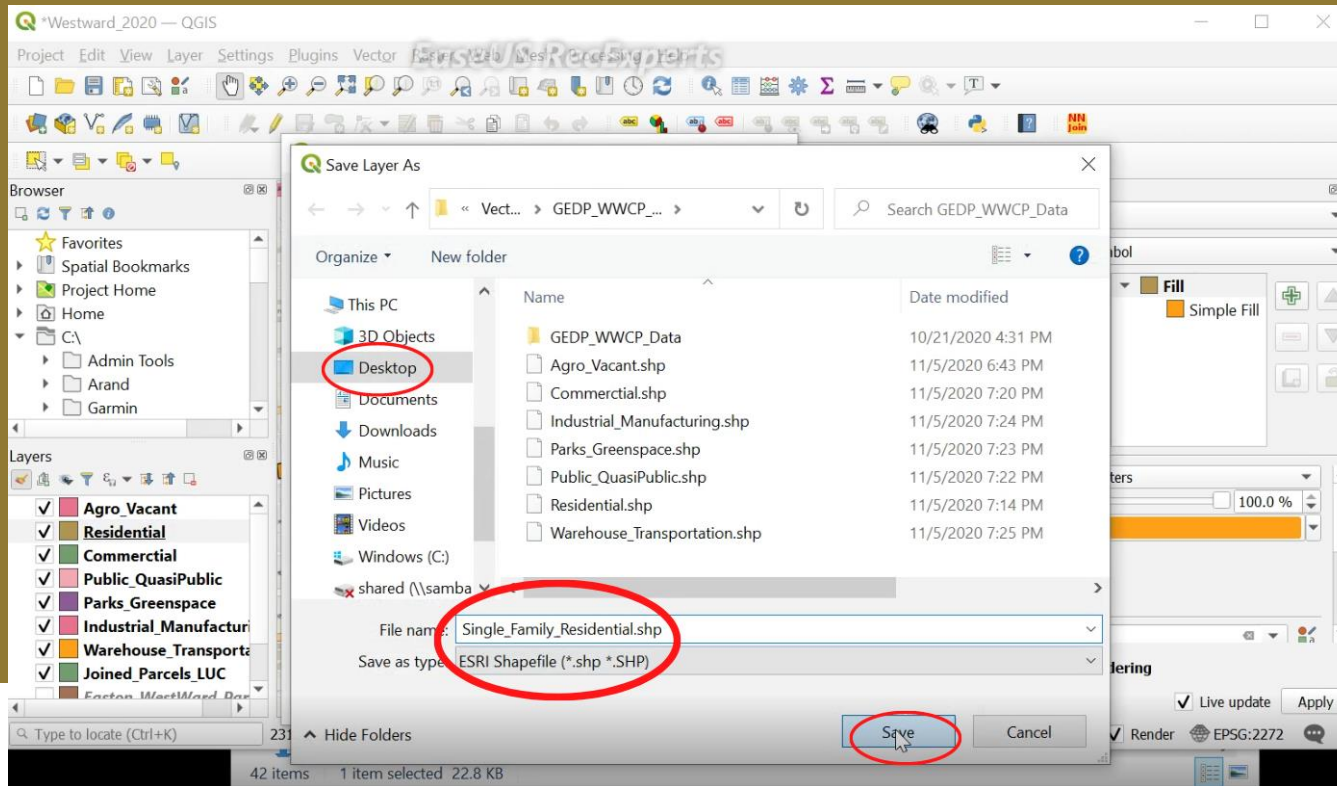


Video 8

Find the box titled 'file name' and enter the desired name. Ensure that the checkbox next to 'save only selected features' is enabled and do the same for the checkbox at the bottom labelled 'Add saved file to map'. Then click on the icon with three dots.

Performing a Complete Map Update

Saving New Layer Features



111



Video 8

Use the menu on the left to locate your master map data folder. Save the file into this folder by hitting save at the bottom of this window.

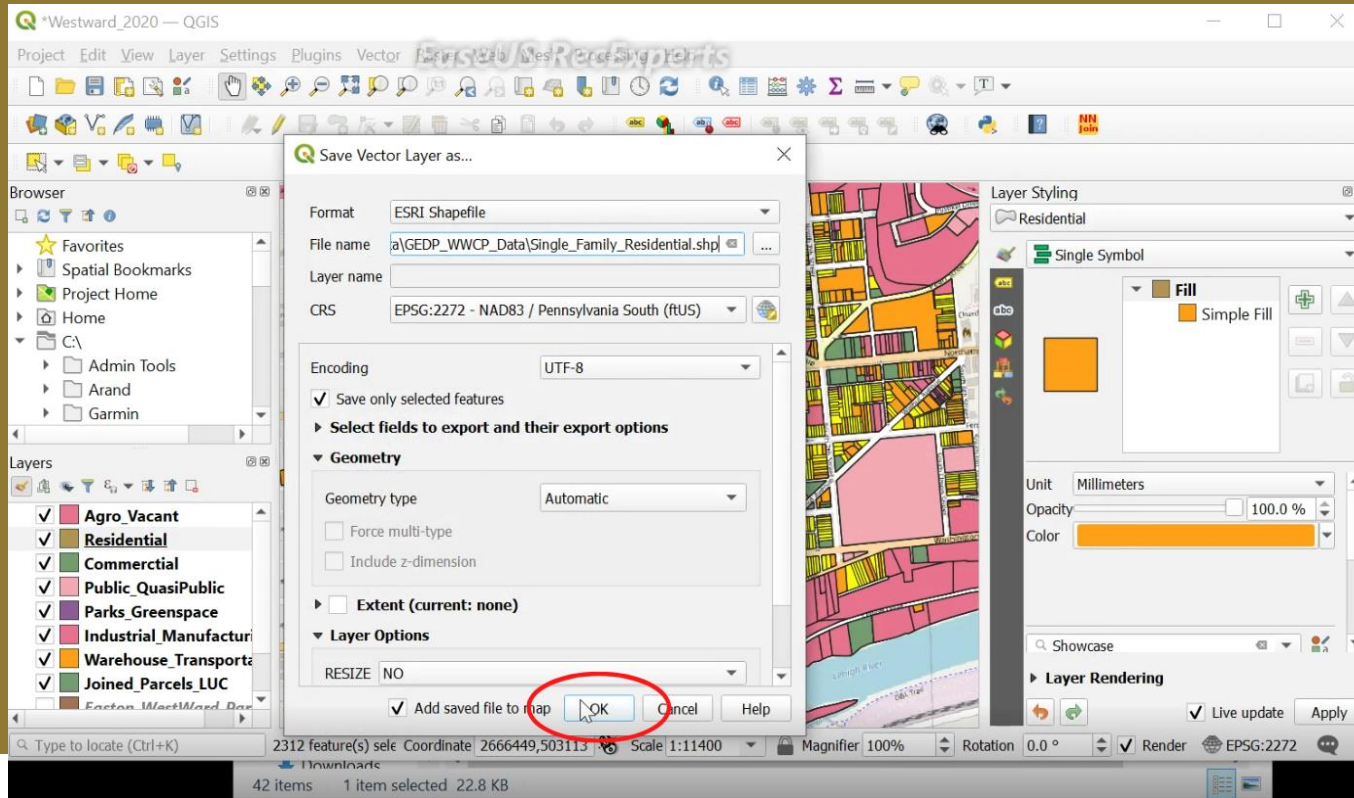
Performing a Complete Map Update

Saving New Layer Features

112



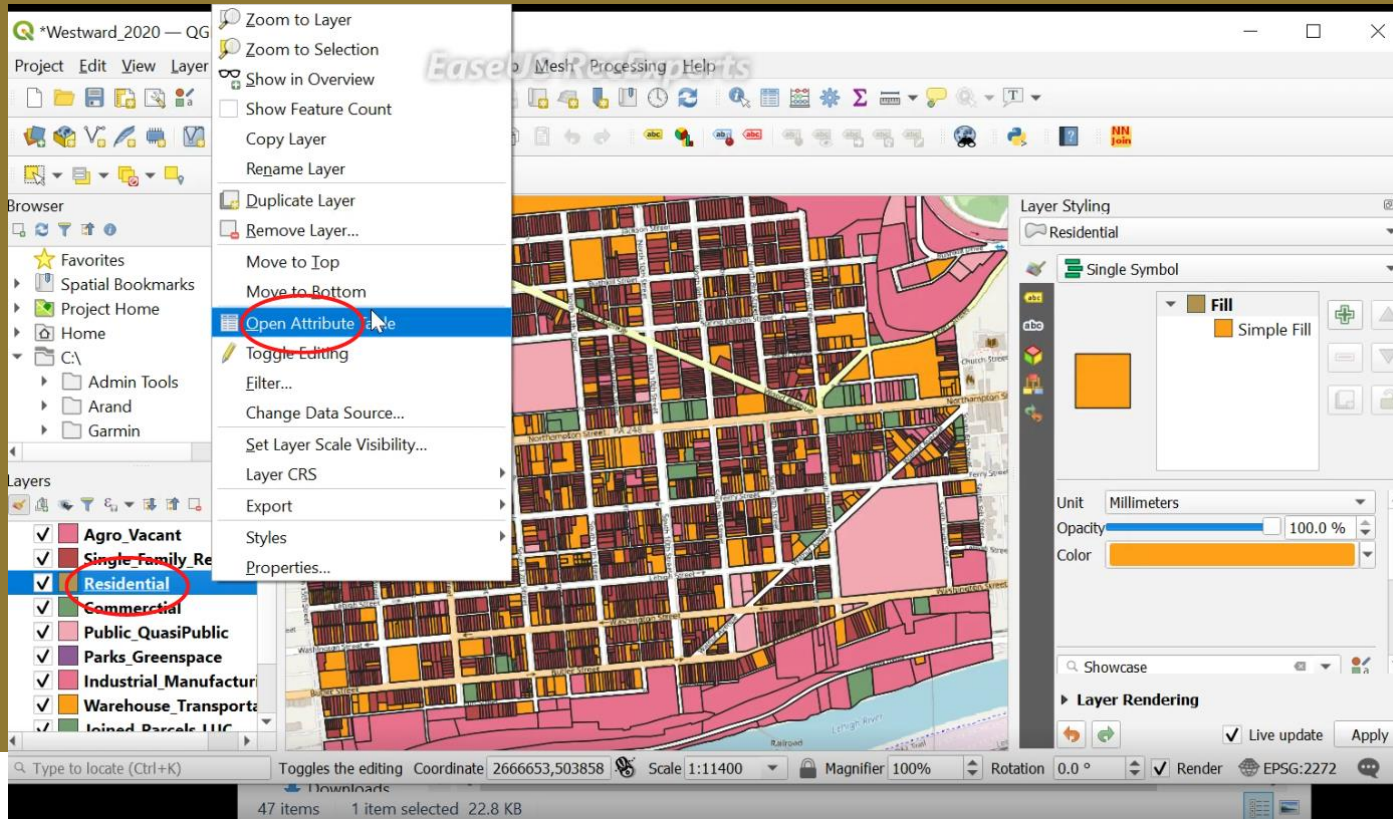
Video 8



You'll be returned to this screen. Hit OK. The sublayers (land use codes) are now saved within the larger category of residential data (Code_che_1).

Performing a Complete Map Update

Exporting Multiple Features



113

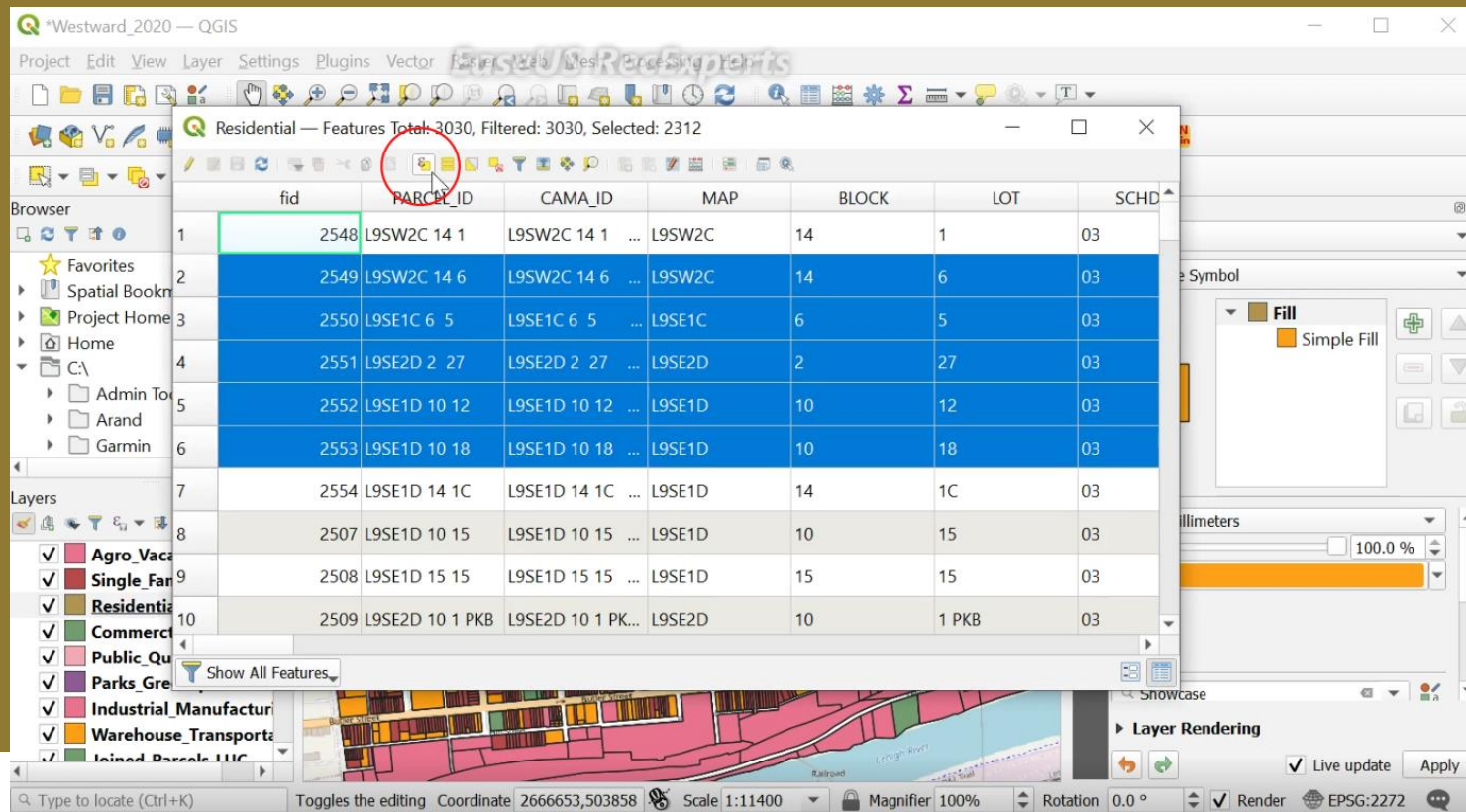


Video 9

Select which layer you'd like to insert data into. Find the title of that layer in the layers menu. Right click the title and select the 'open attribute table' option.

Performing a Complete Map Update

Exporting Multiple Features



114

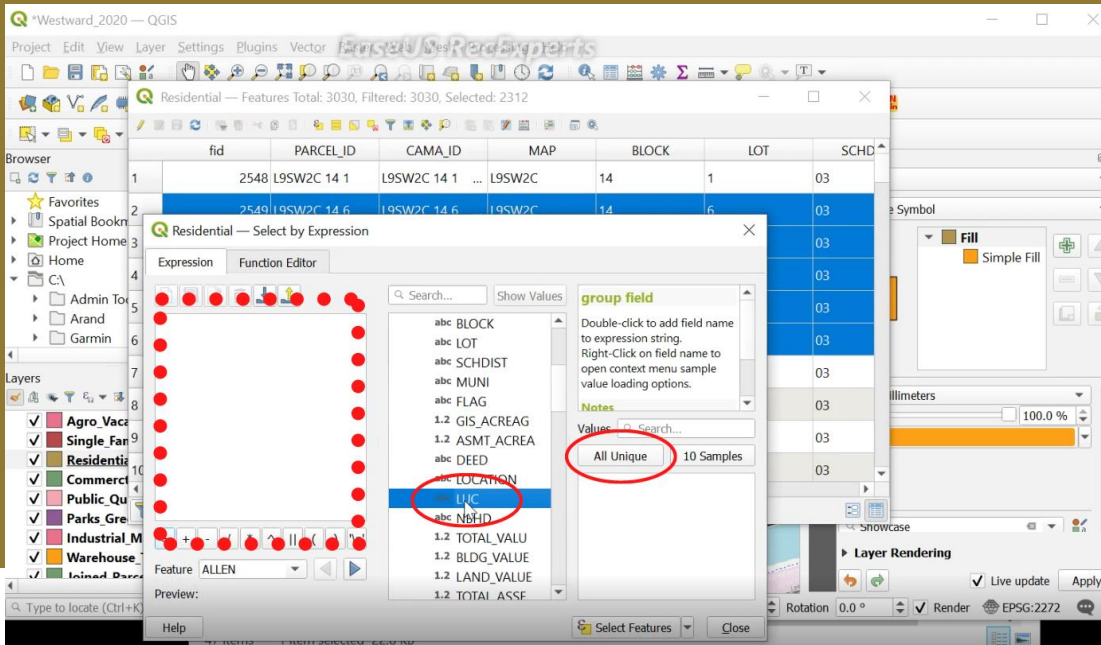


Video 9

Identify and select the option to open the expressions window.

Performing a Complete Map Update

Exporting Multiple Features



115



Video 9

Scroll down the central column until you find the 'Field and Values' option. Click on the small black arrow to the left of the text. From the menu that drops down, scroll until you find 'LUC' and double click it. Once doubled clicked, green text will appear in the box indicated on the left. Type a '=' symbol after the green text and hit the 'All Unique' button on the right. Select the appropriate number that corresponds to the data you wish to highlight.

Performing a Complete Map Update

Exporting Multiple Features

116



Video 9

fid	PARCEL_ID	CAMA_ID	MAP	BLOCK	LOT	SCHD
1	2548	L9SW2C 14 1	L9SW2C	14	1	03
2	2549	L9SW2C 14.6	L9SW2C	14	6	03
3						03
4						03
5						03
6						03
7						03
8						03
9						03
10						03

After you double click on the appropriate number in the All Unique box, that value will appear along with the text on the left. After the end of the existing text in the window on the left, **type the word 'or',** preceded and followed by a space.

Performing a Complete Map Update

Exporting Multiple Features

117



Video 9

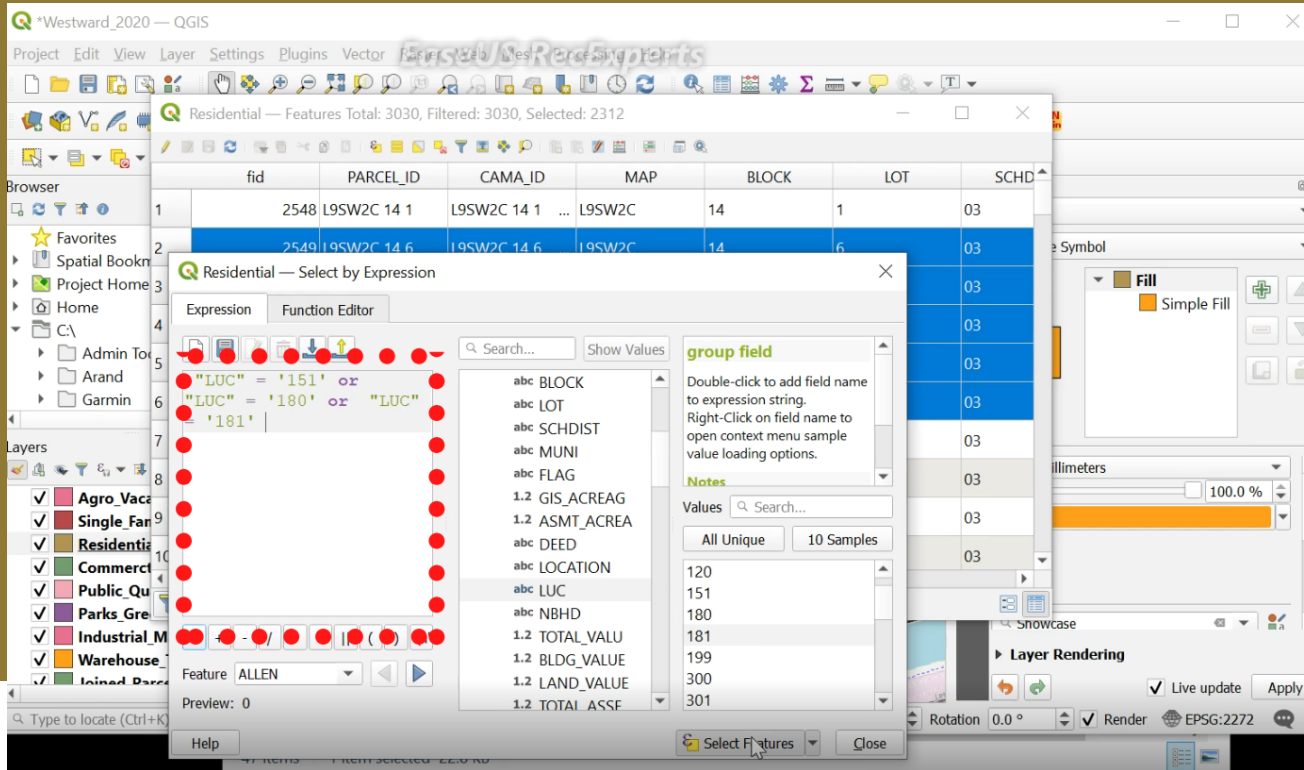
The screenshot shows the QGIS interface with a data table and a 'Select by Expression' dialog box. The data table has columns: fid, PARCEL_ID, CAMA_ID, MAP, BLOCK, LOT, and SCHD. The 'Select by Expression' dialog box is open, showing the 'Function Editor' tab. The expression is '"LUC" = '151''. The 'group field' dropdown is set to 'LUC'. The 'All Unique' button is circled in red. The 'Values' list shows '151' selected.

fid	PARCEL_ID	CAMA_ID	MAP	BLOCK	LOT	SCHD	
1	2548	L9SW2C 14 1	L9SW2C 14 1 ...	L9SW2C	14	1	03
2	2549	L9SW2C 14 6	L9SW2C 14 6	L9SW2C	14	6	03
3							03
4							03
5							03
6							03
7							03
8							03
9							03
10							03
11							03
12							03
13							03
14							03
15							03
16							03
17							03
18							03
19							03
20							03
21							03
22							03
23							03
24							03
25							03
26							03
27							03
28							03
29							03
30							03
31							03

Now, repeat that same process of selecting LUC from the central column, hitting All Unique, and picking a different number that corresponds to data you want to store in the same layer as the data contained under the first code.

Performing a Complete Map Update

Exporting Multiple Features



118

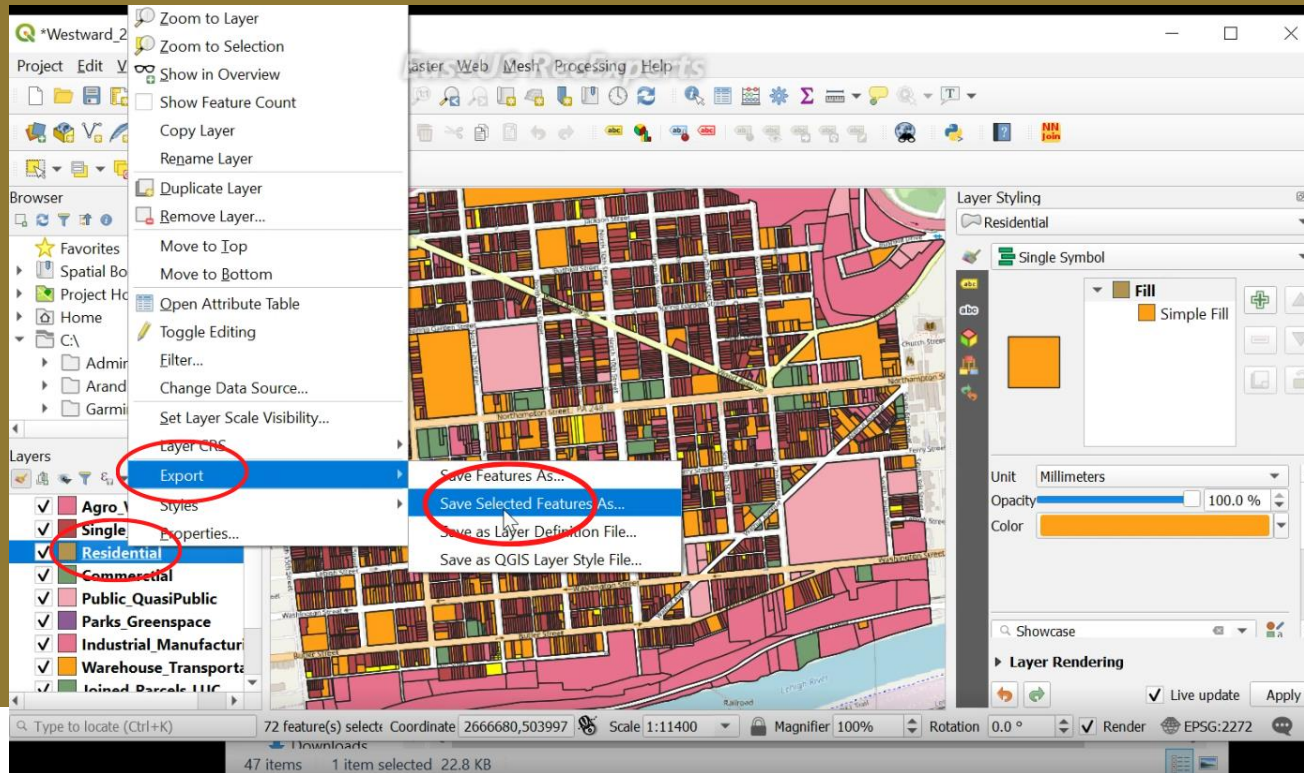


Video 9

This process can be repeated as many times as you like, providing that expressions are separated using the 'or' phrase. Click 'select features' when you're done to return to the map.

Performing a Complete Map Update

Exporting Multiple Features



119

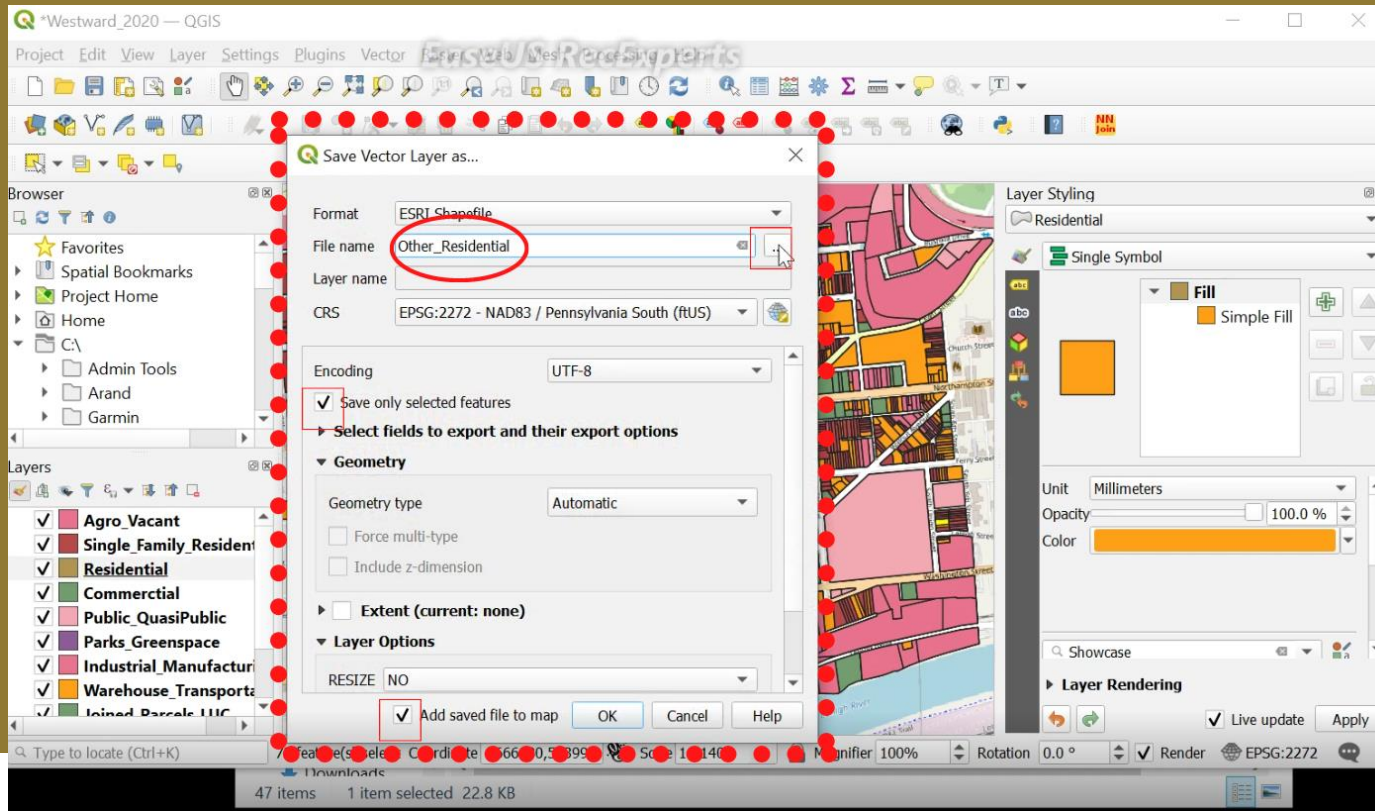


Video 9

To save this new layer that you've created, right click the broader label within which this layer is contained. Select the **export** option followed by the 'save selected features as'.

Performing a Complete Map Update

Exporting Multiple Features



120

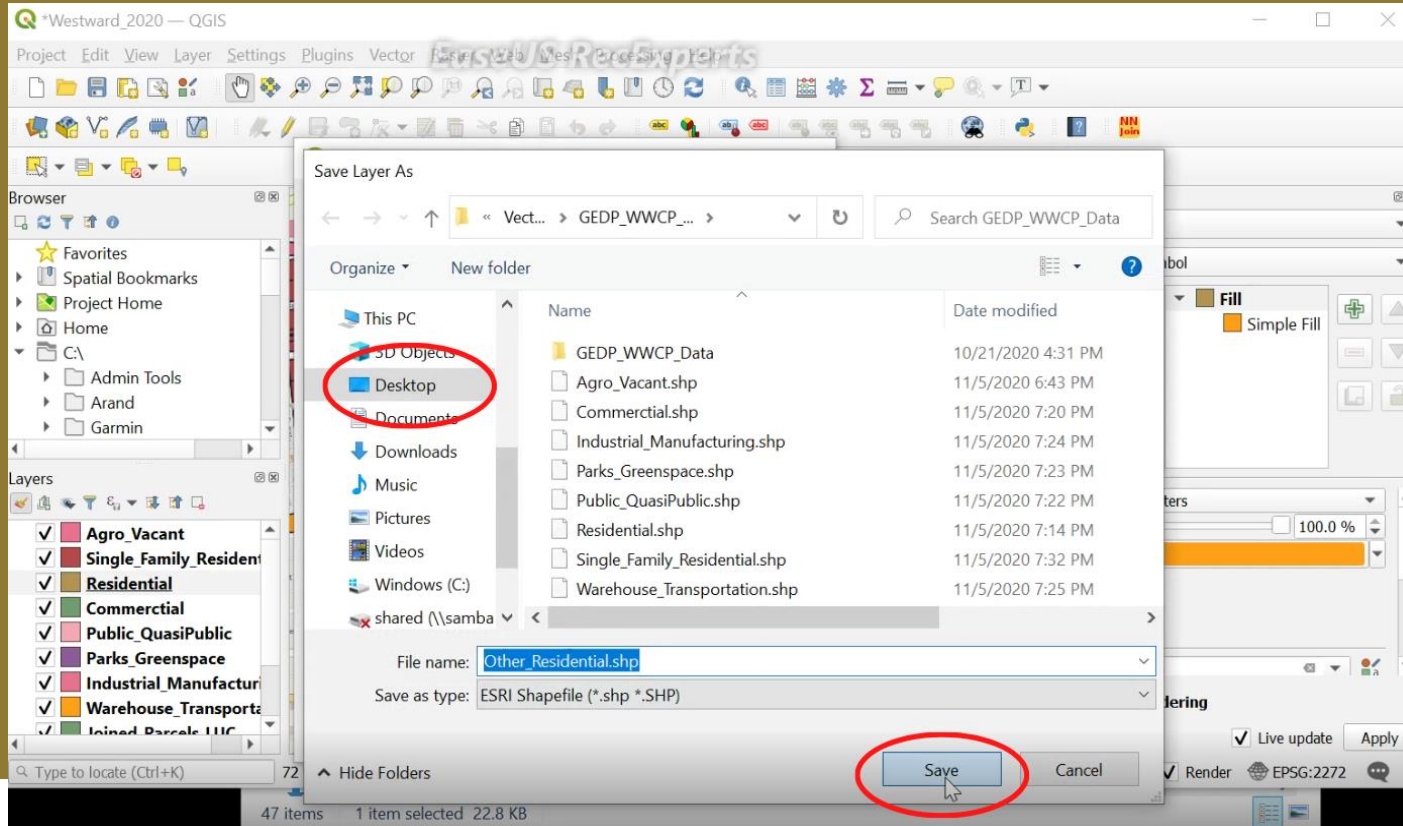


Video 9

Title the layer as desired. Ensure that the indicated boxes are checked. Click on the icons with the three dots.

Performing a Complete Map Update

Exporting Multiple Features



121

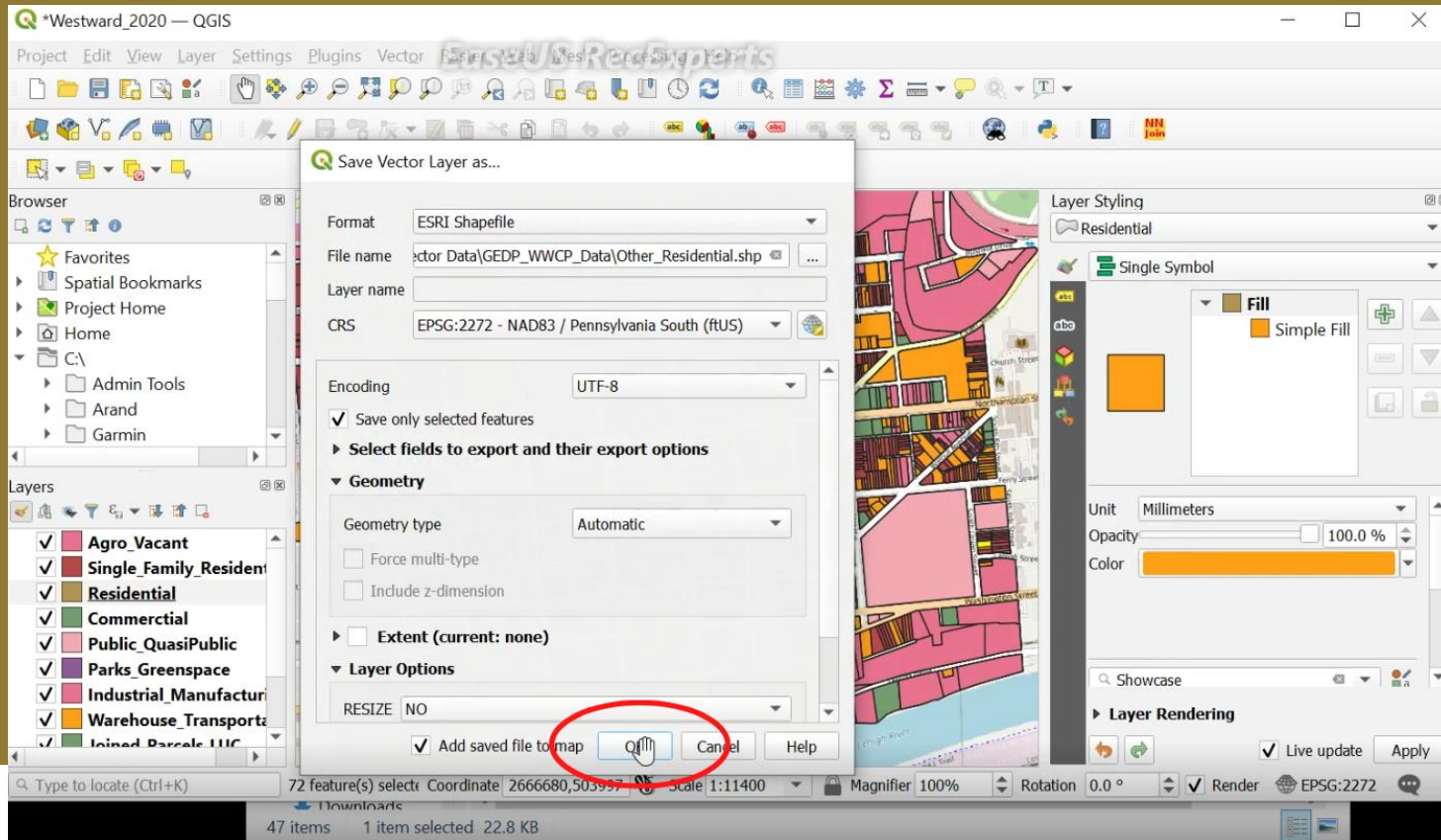


Video 9

Ensure that the layer is being saved into the correct desktop folder. Enter the title and hit save.

Performing a Complete Map Update

Exporting Multiple Features



122

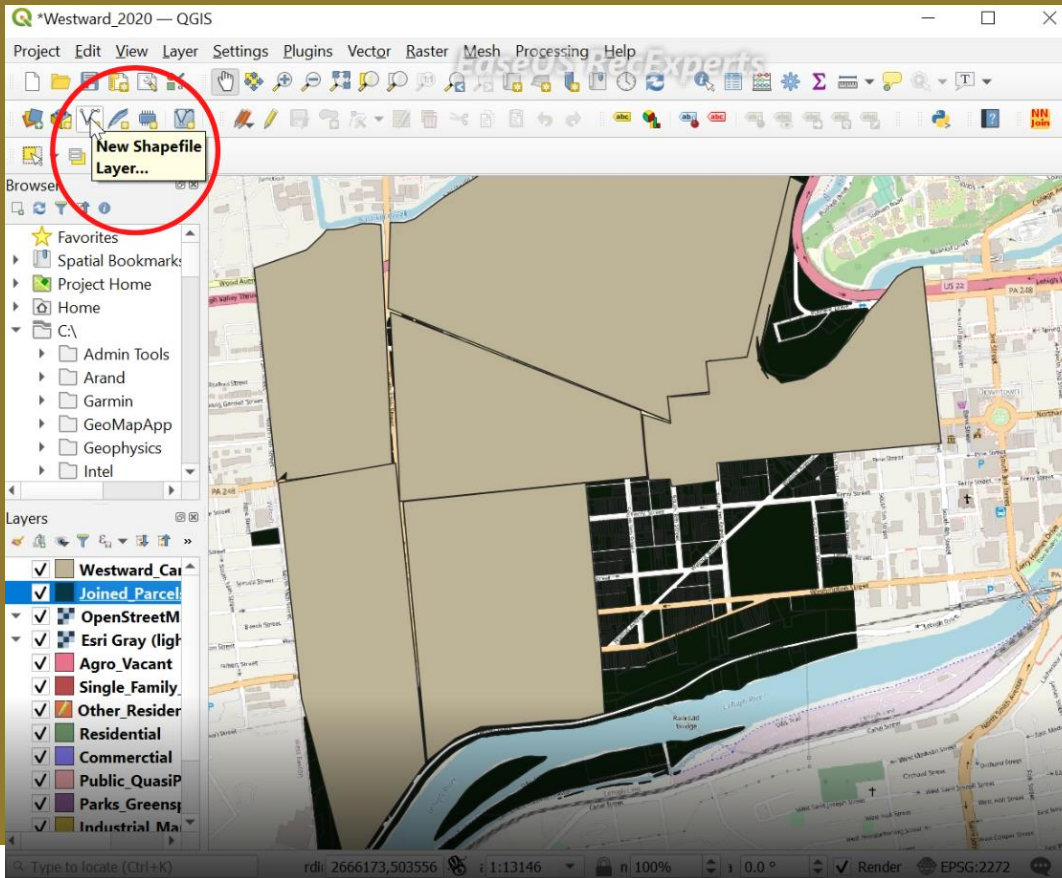


Video 9

Hit OK. The new layer has now been saved.

Performing a Partial Map Update

Toggle Editing via the Map



123

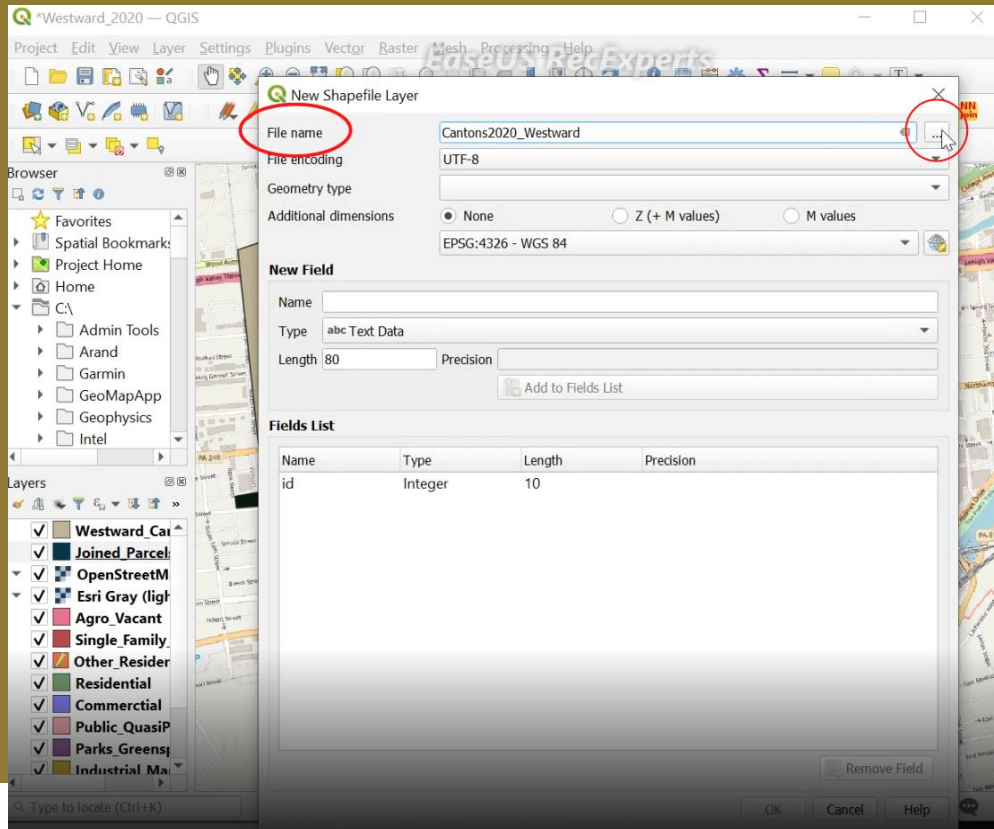


Video 23

To begin toggle editing the map, ensure that the `Joined_Parcel` layer is selected in the Layer menu. Then, select the 'New Shapefile Layer' from the top toolbar.

Performing a Partial Map Update

Toggle Editing via the Map



124

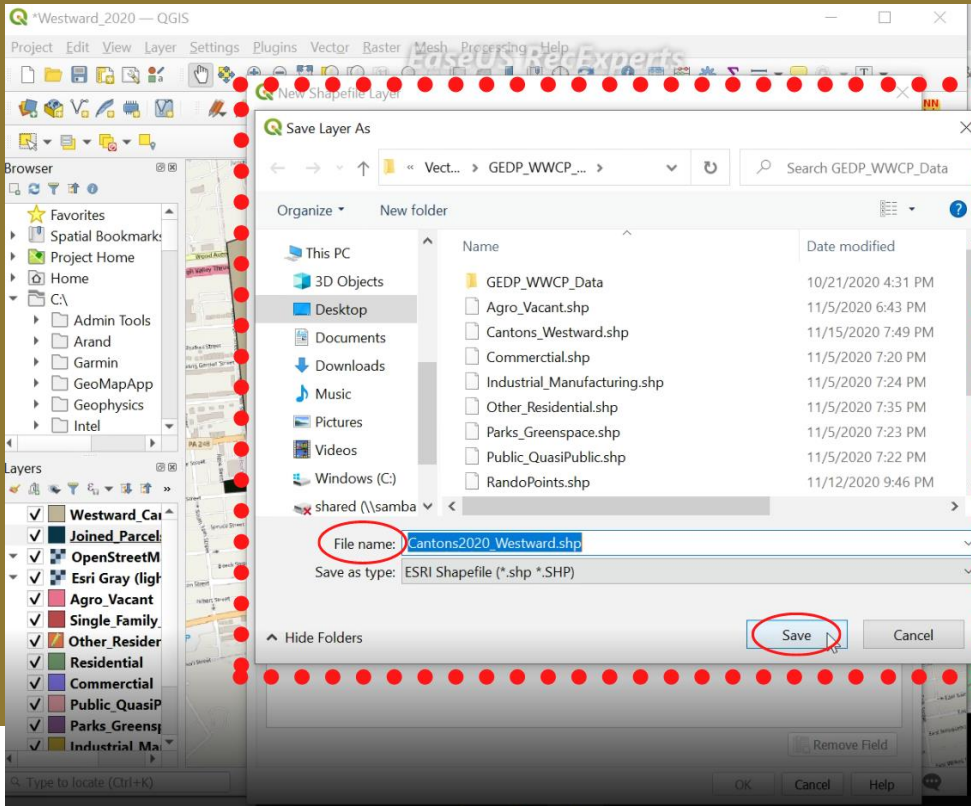


Video 23

Design a title for the cantons you are about to create. Enter this title into the 'File name' section. Then, click the icon with the three dots next to the title you just entered.

Using the Asset Map

Toggle Editing via the Map



125

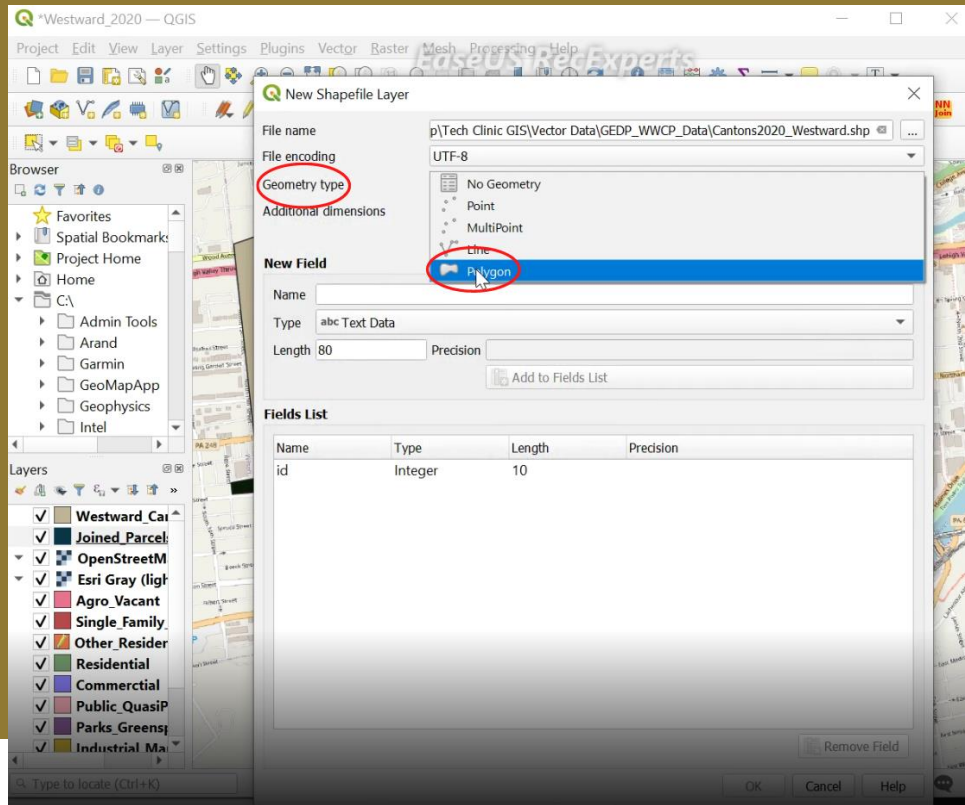


Video 23

A secondary save menu will appear. Ensure, using the menu on the left hand side, that this file is being saved into your QGIS map folder on your desktop. When you are sure all the information is correct, hit save.

Performing a Partial Map Update

Toggle Editing via the Map



126

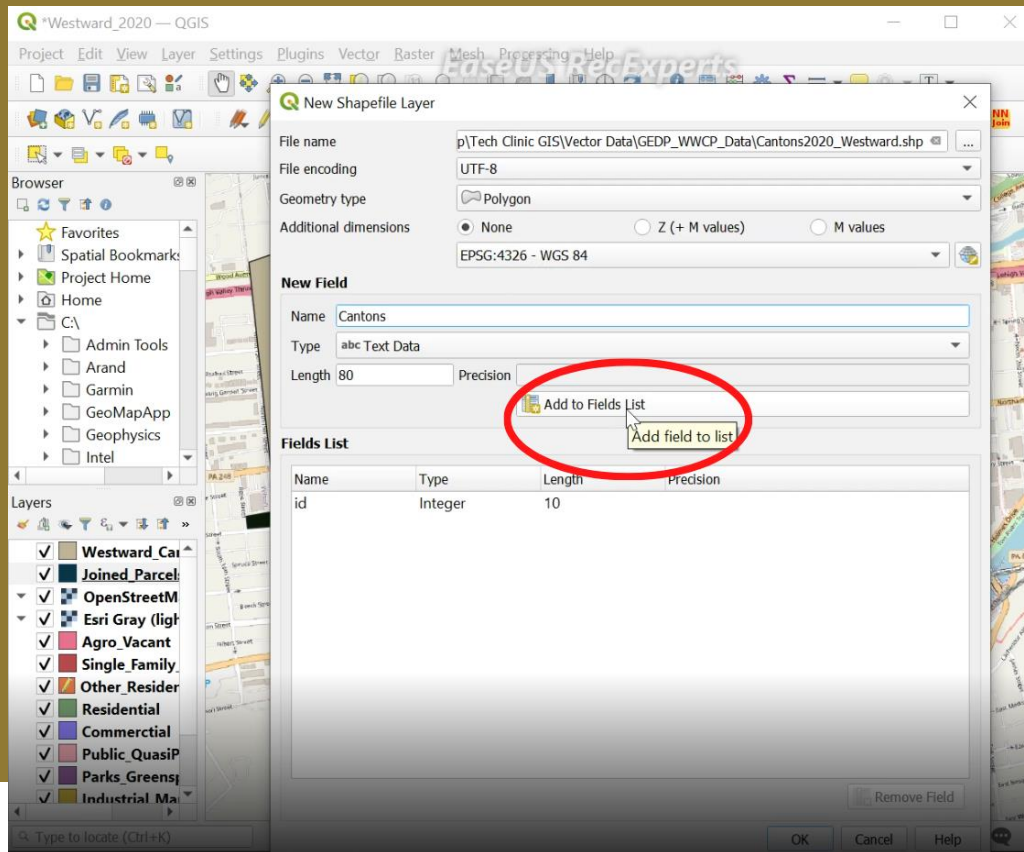


Video 23

You'll be returned to the window you were just working in. Locate the **geography type** section of the window and **open the drop down menu**. From the menu, choose the **polygon** option.

Performing a Partial Map Update

Toggle Editing via the Map



127

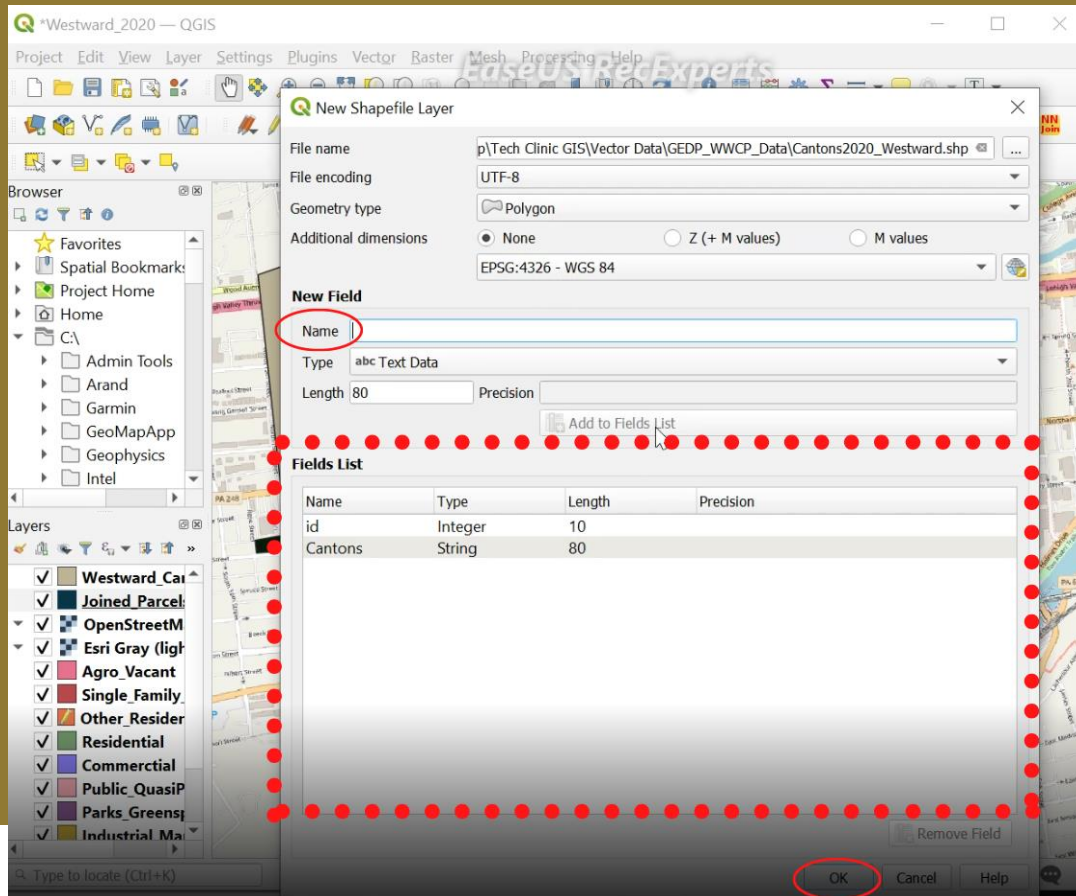


Video 23

Then, under the new field section, insert a title. We called this field 'cantons'. Once the title has been entered, click the 'add to fields list' option.

Performing a Partial Map Update

Toggle Editing via the Map



Once you've completed these steps, your window should look like this.

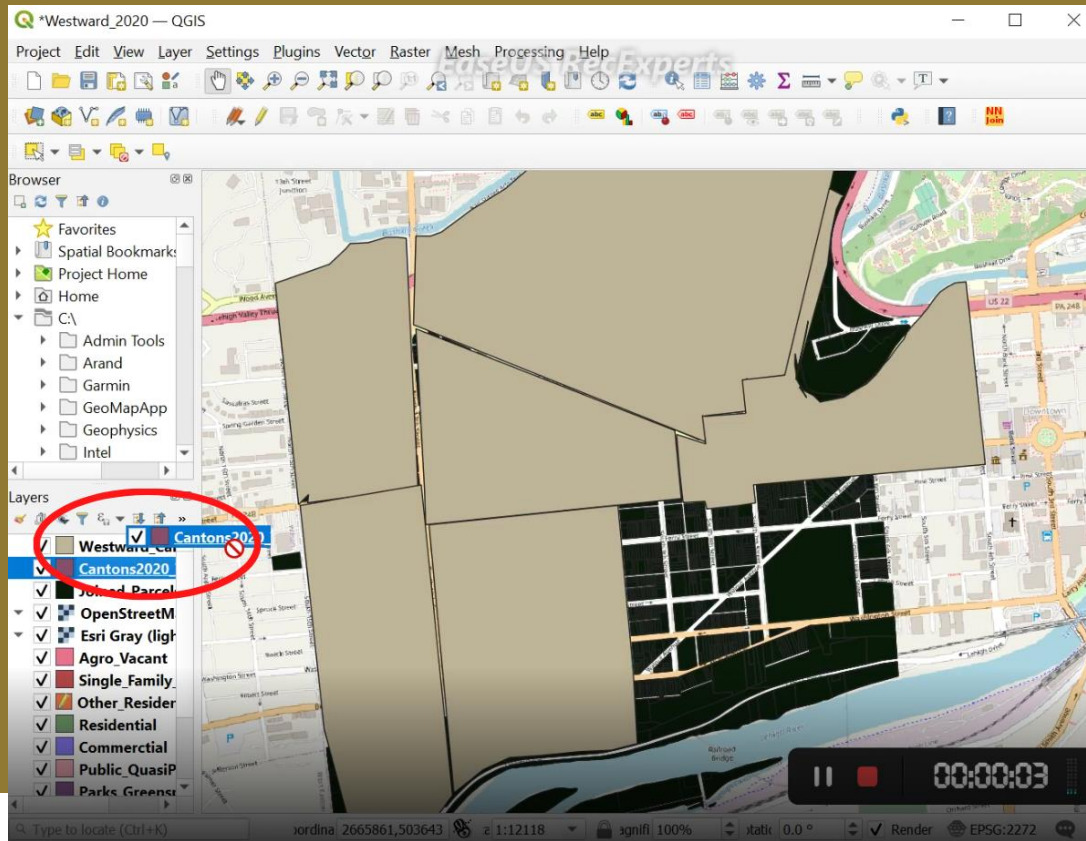
128



Video 23

Performing a Partial Map Update

Toggle Editing via the Map



129

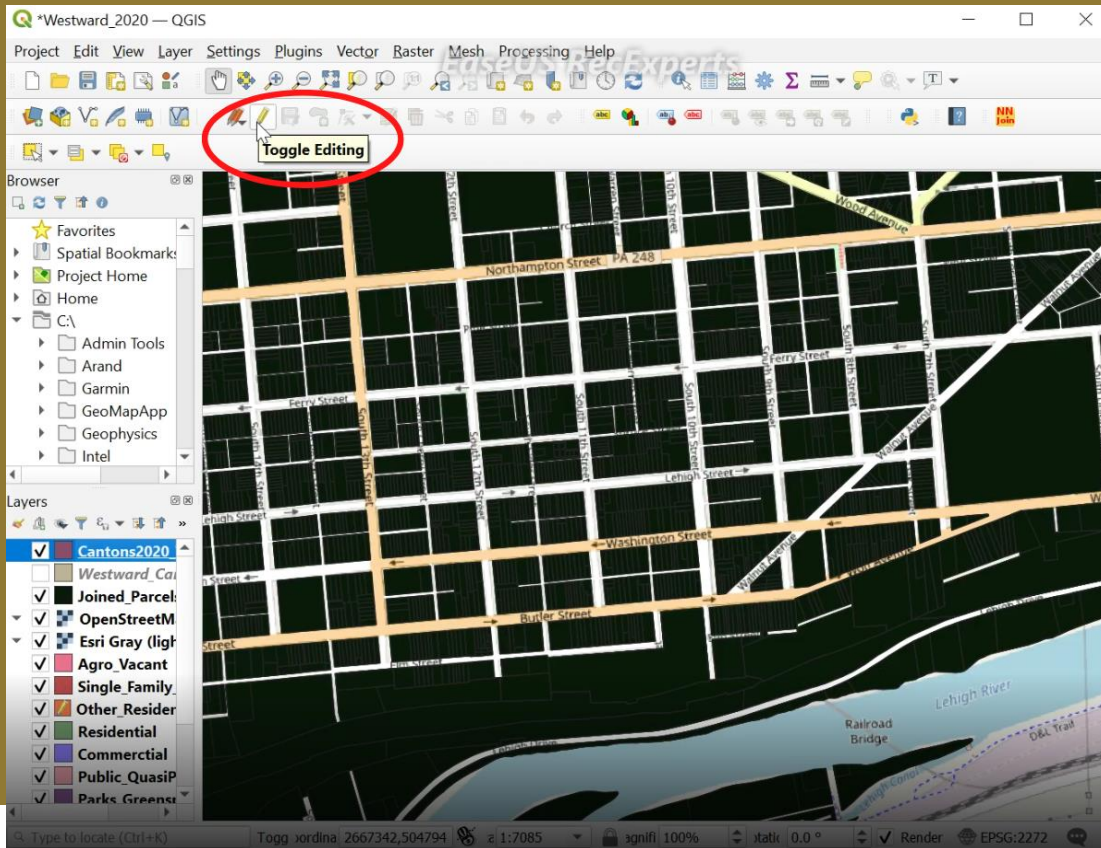


Video 24

To make the newly-created cantons layer visible, drag and drop the cantons layers, using the layers menu, up to the top.

Performing a Partial Map Update

Toggle Editing via the Map



130

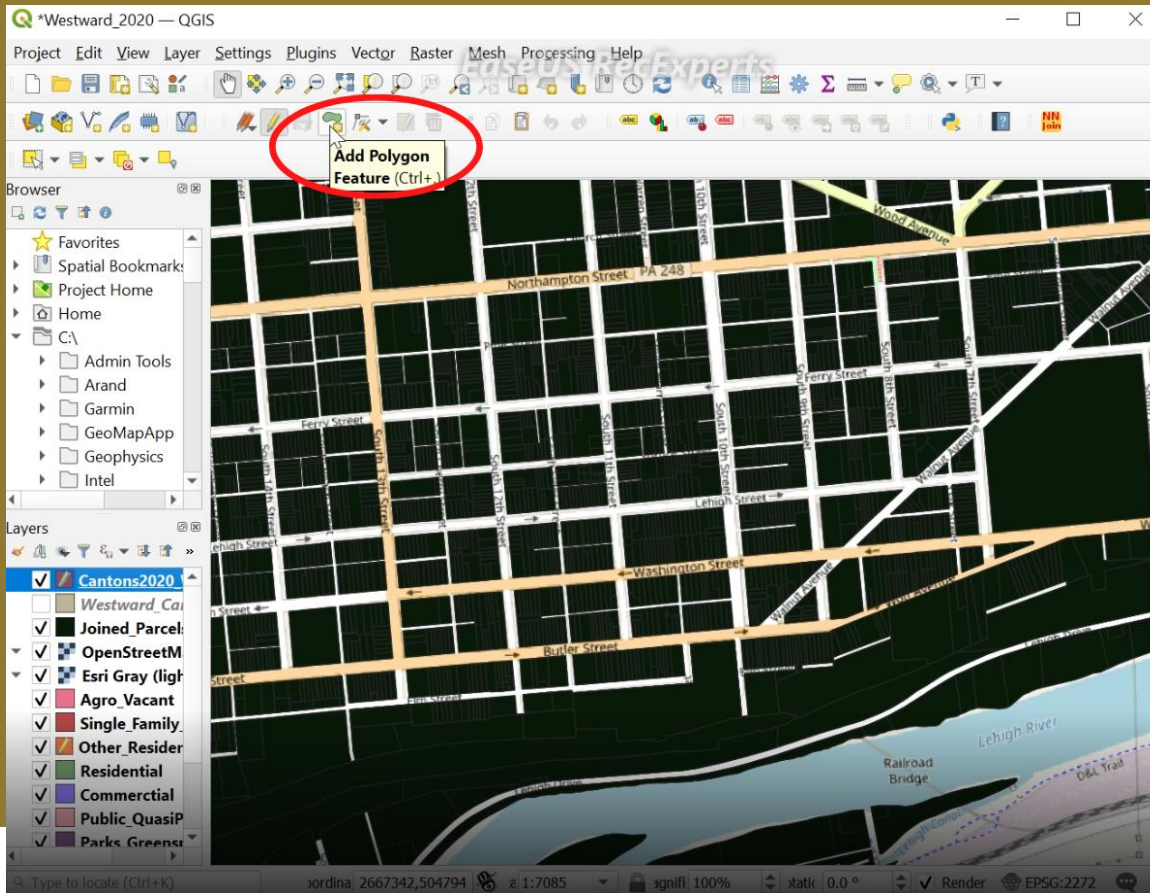


[Video 24](#)

Once the canton layer is at the top of the layers menu list, select the toggle editing option from the top toolbar.

Performing a Partial Map Update

Toggle Editing via the Map



131

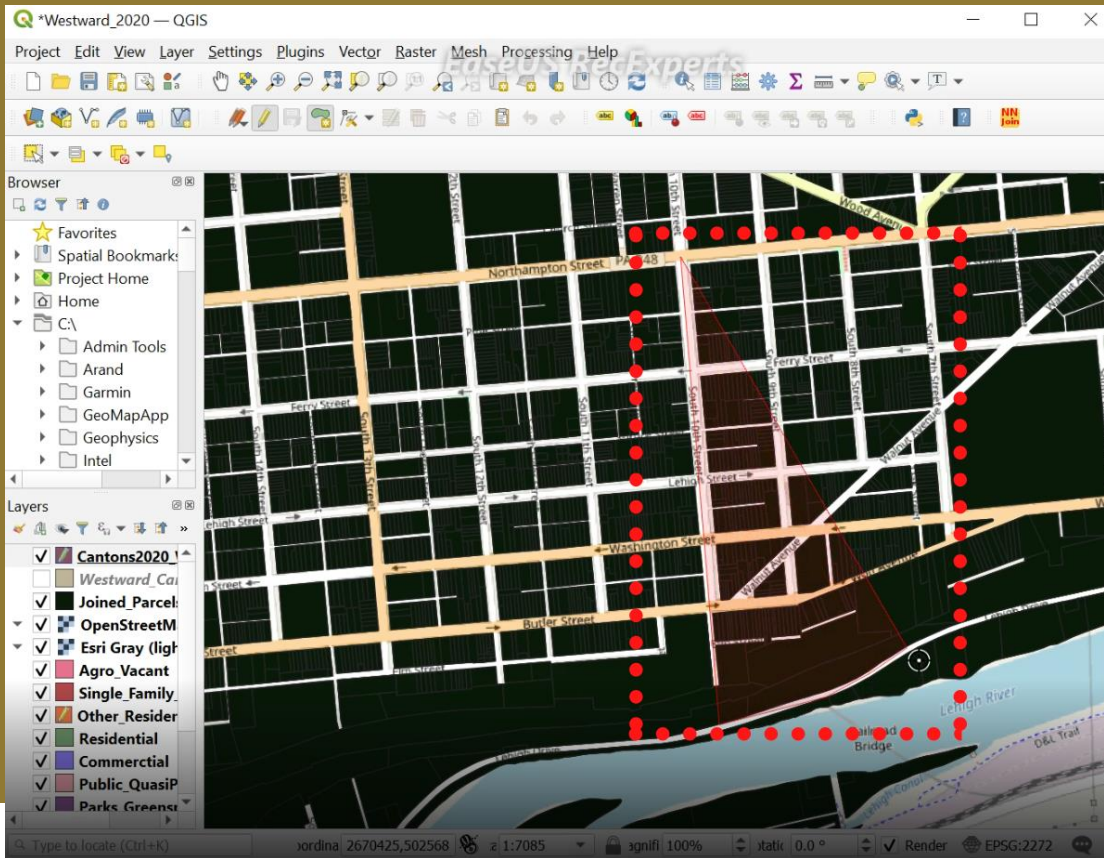


Video 24

Then, click the add polygon option, also available on the toolbar.

Performing a Partial Map Update

Toggle Editing via the Map



132

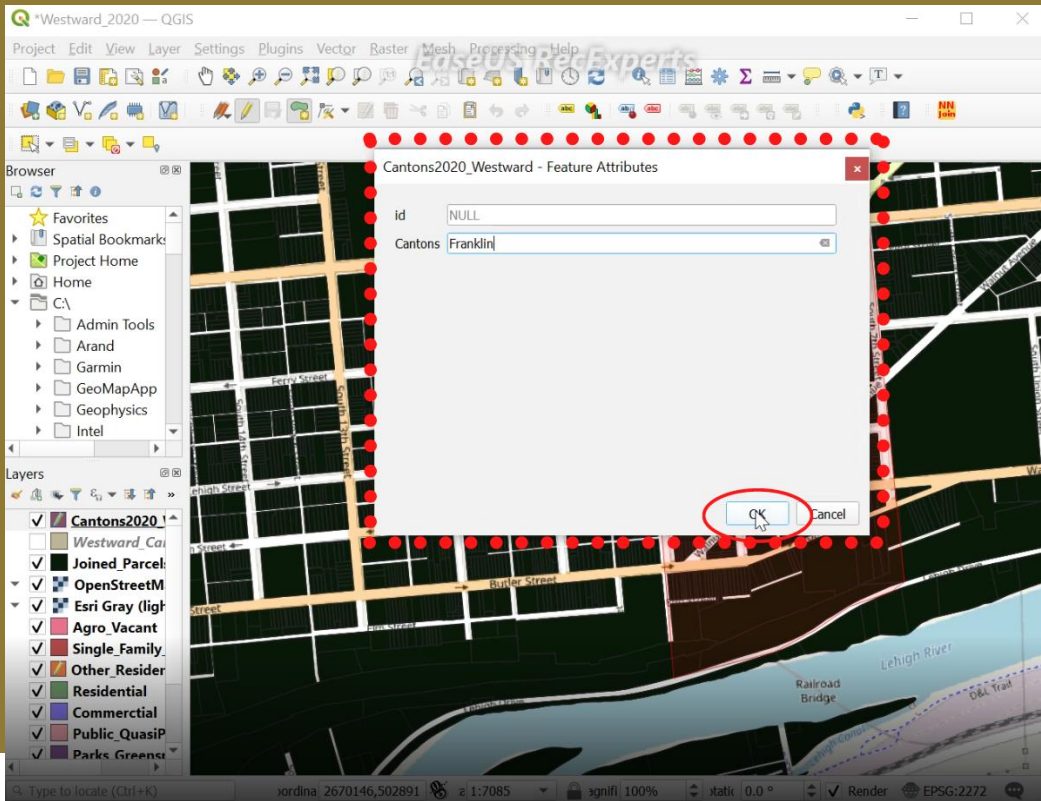


Video 24

A polygon-drawing tool will appear. Use this tool to select and mark the external points of your desired polygon on the map.

Performing a Partial Map Update

Toggle Editing via the Map



133

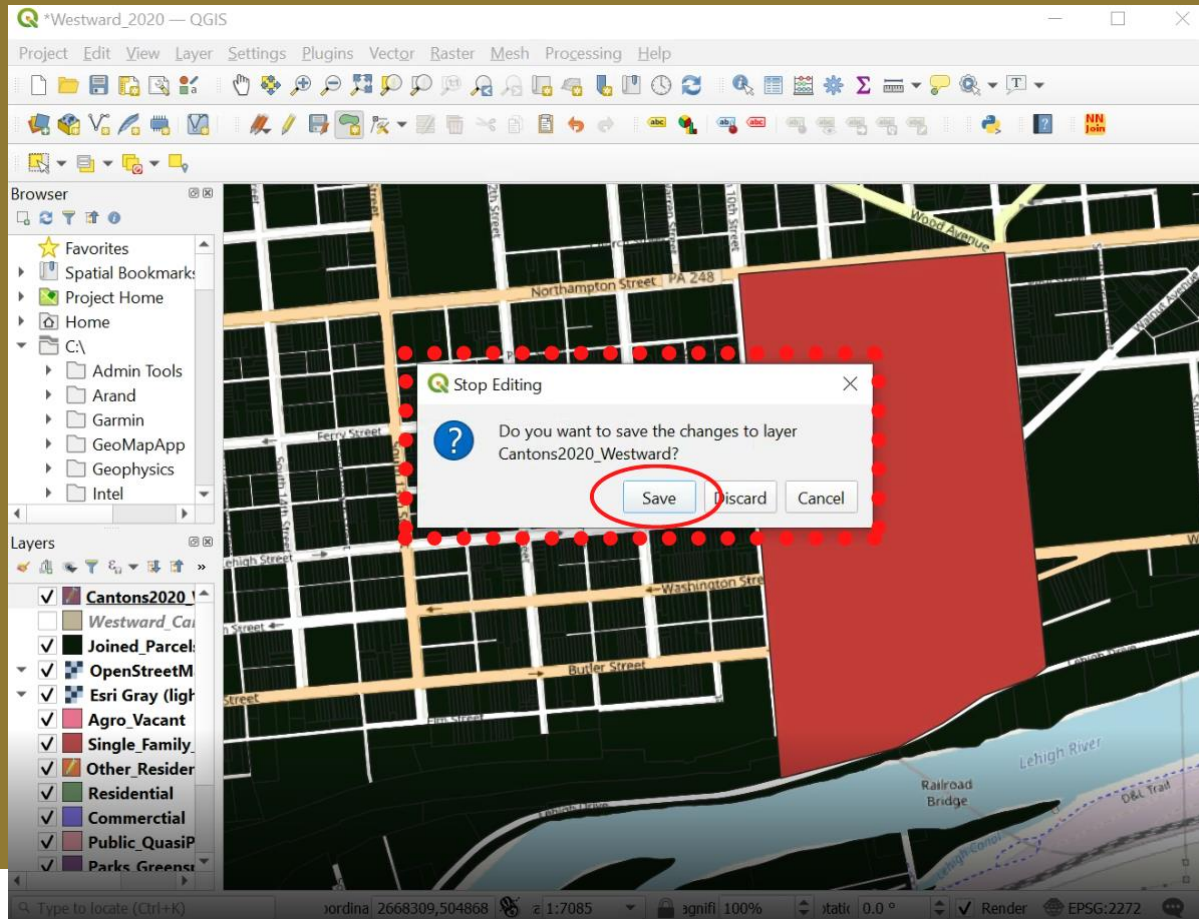


Video 24

Once you've finished drawing the desired polygon, right click using the mouse to release the drawing tool. This window will appear. Enter the label you'd like to assign to this new canton. Then, click OK.

Performing a Partial Map Update

Toggle Editing via the Map



134

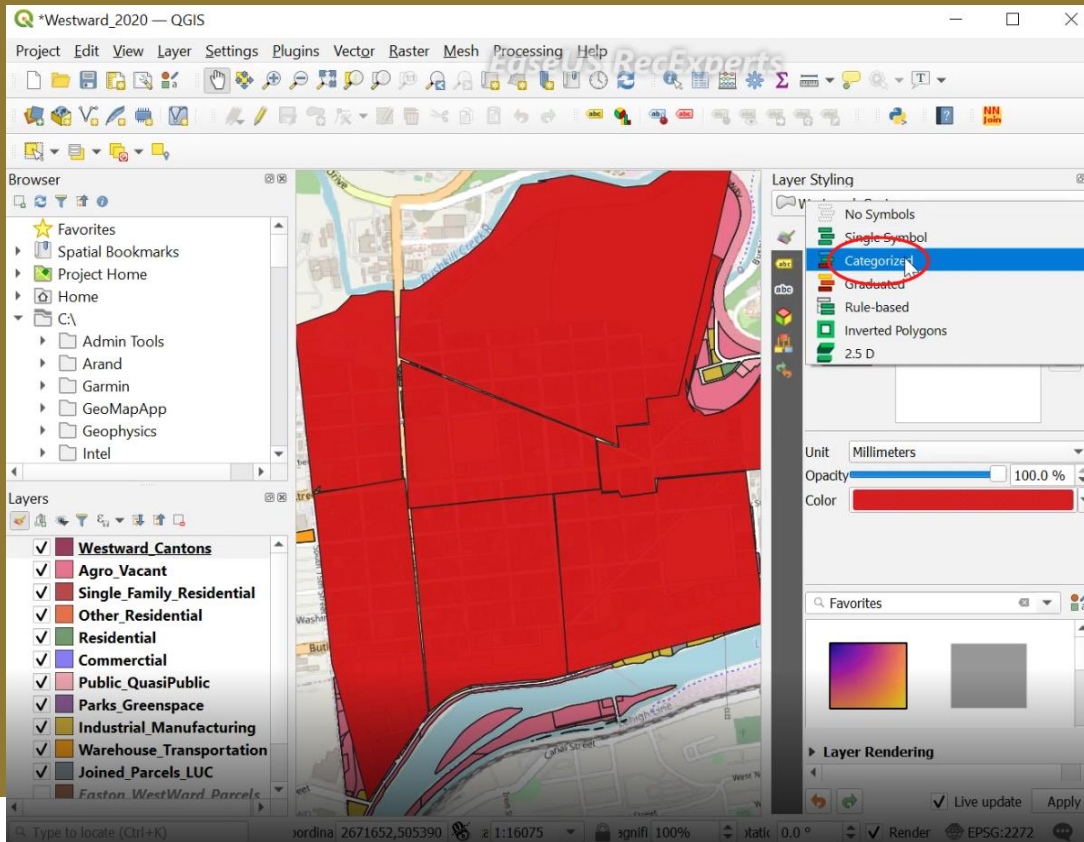


Video 24

When this window appears, click save.

Performing a Partial Map Update

Toggle Editing via the Map



135

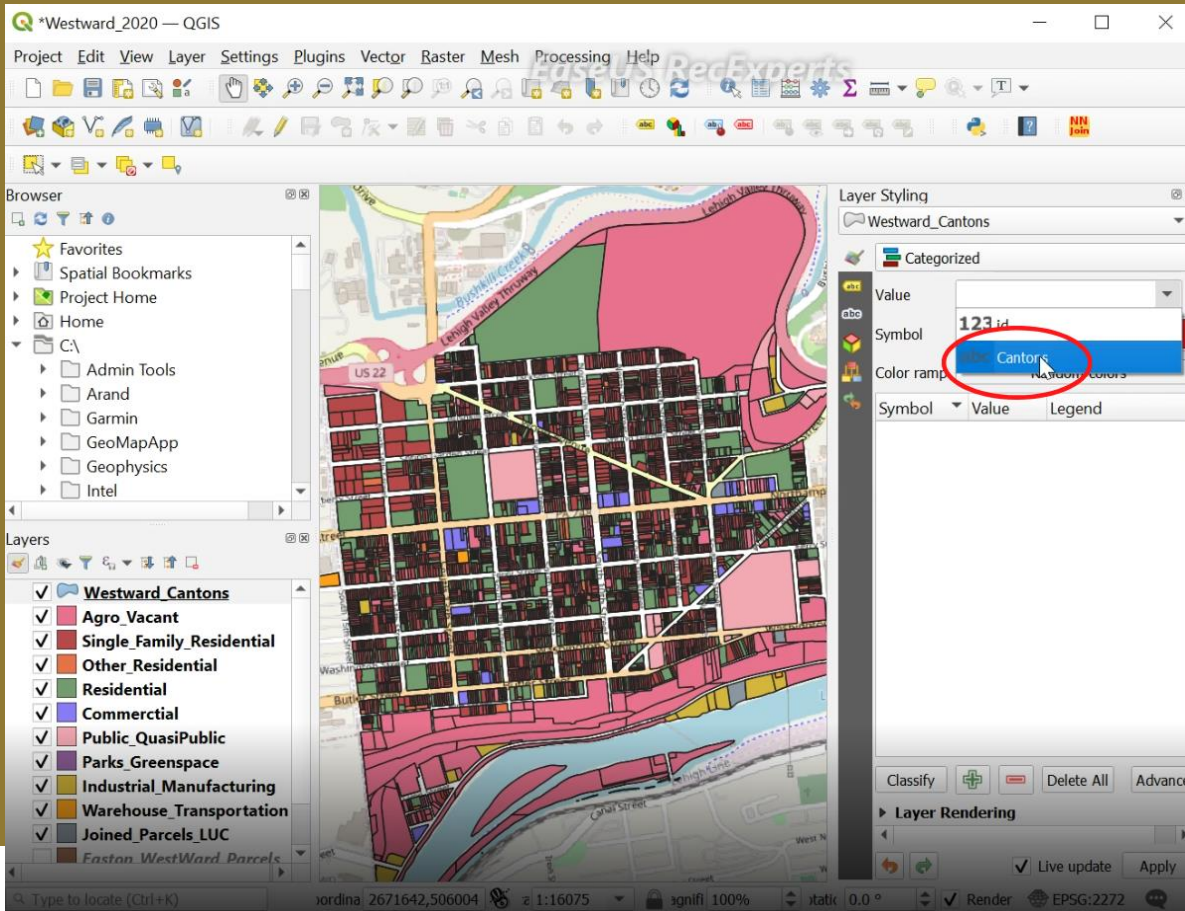


Video 25

Once all of your cantons are drawn in as desired, use the style menu to tailor their appearances. Click the layer styling drop down menu and select 'categorised'.

Performing a Partial Map Update

Toggle Editing via the Map



From the value menu, select the Canton option.

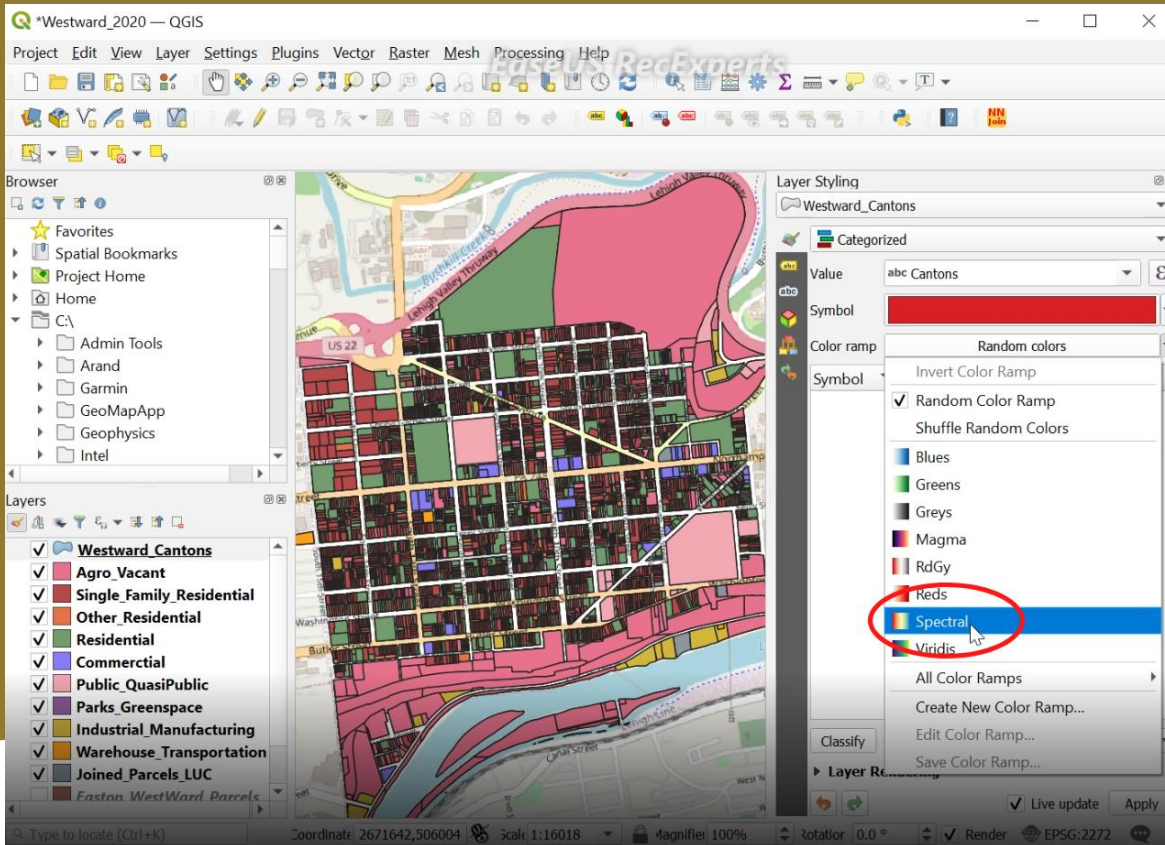
136



Video 25

Performing a Partial Map Update

Toggle Editing via the Map



137

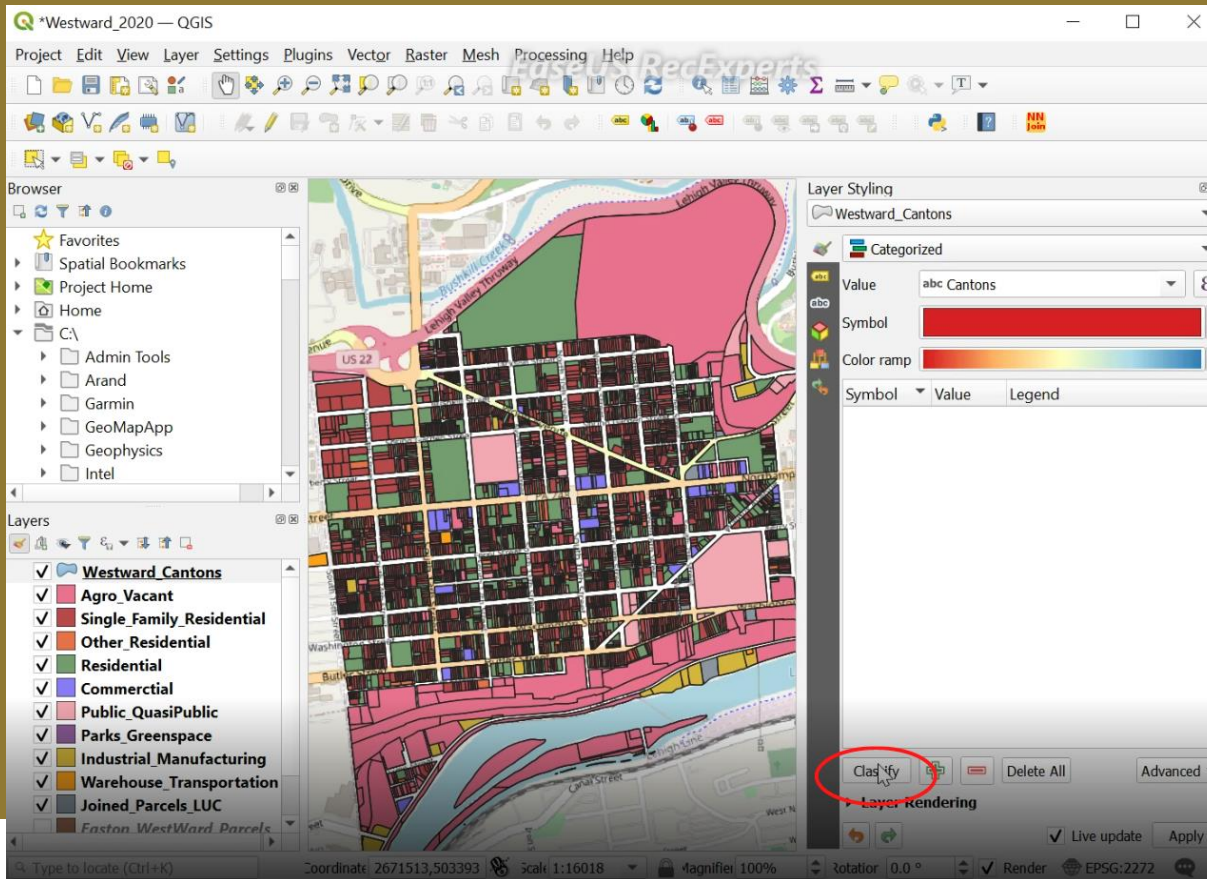


Video 25

From the color ramp menu, select the palette you'd like. For this example, we chose spectral.

Performing a Partial Map Update

Toggle Editing via the Map



138

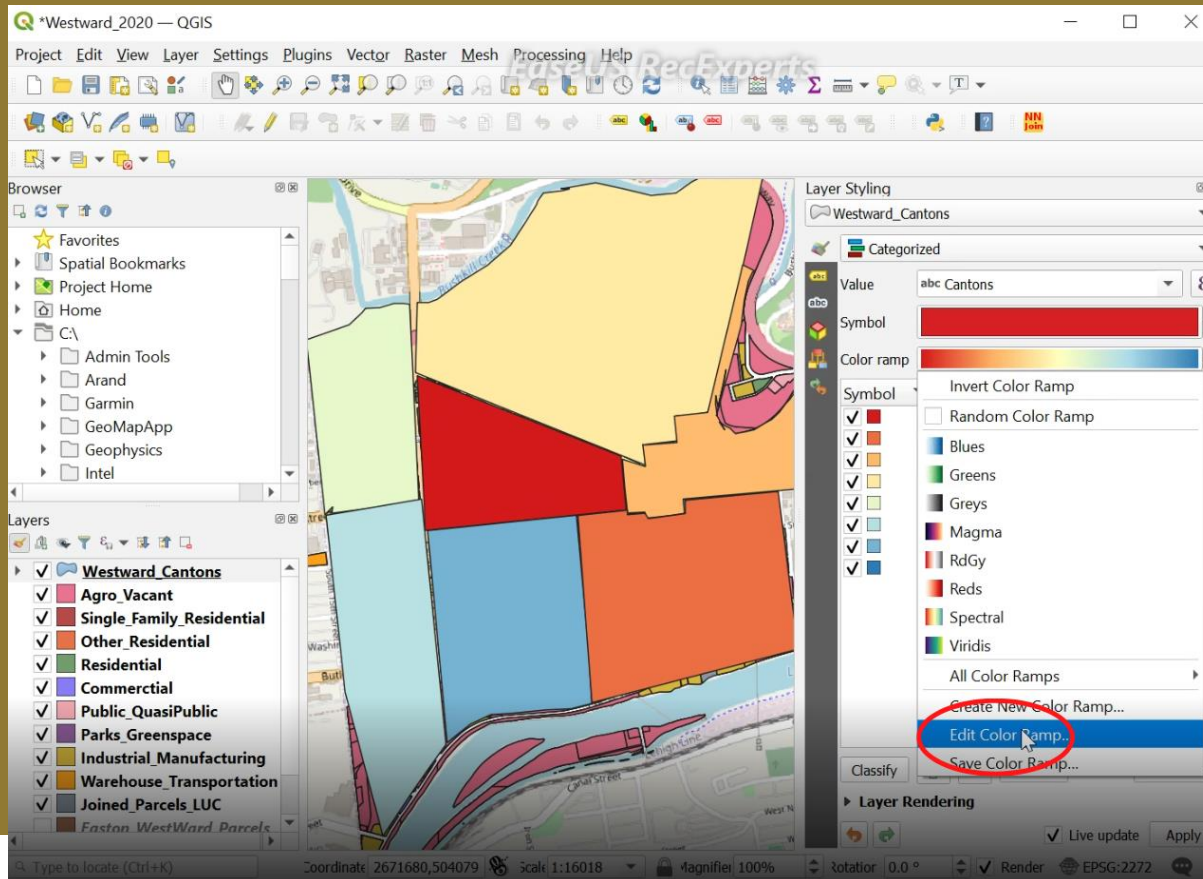


Video 25

Select the 'clarify' option.

Performing a Partial Map Update

Toggle Editing via the Map



139

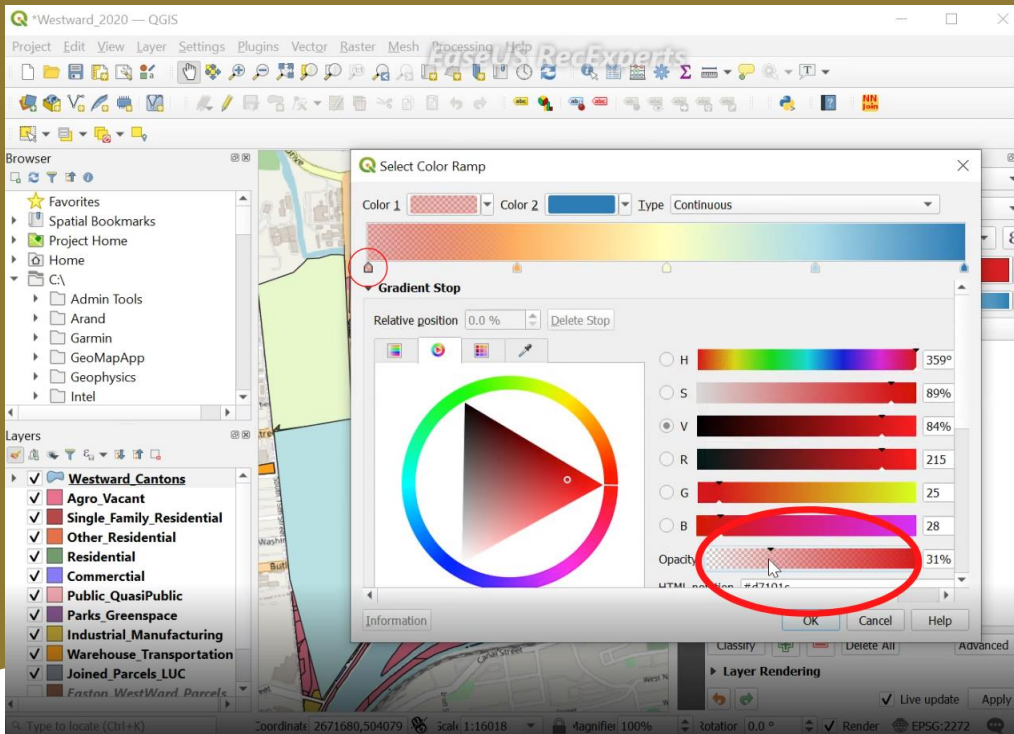


Video 25

Select the 'edit color ramp' option.

Performing a Partial Map Update

Toggle Editing via the Map



140

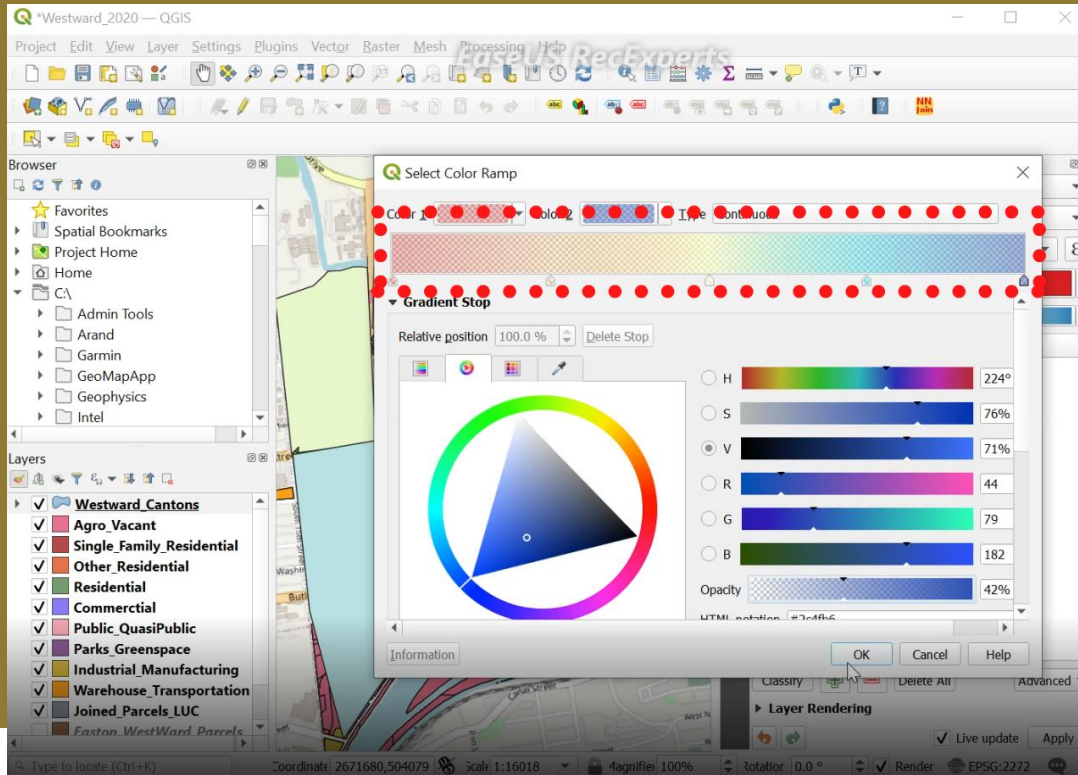


Video 25

Click on the small notch under the red portion of the color scale. Then, once it is selected, locate the transparency setting towards the bottom of this window. Reduce the transparency to ensure that details of the map can be seen through the canton layers.

Performing a Partial Map Update

Toggle Editing via the Map



141

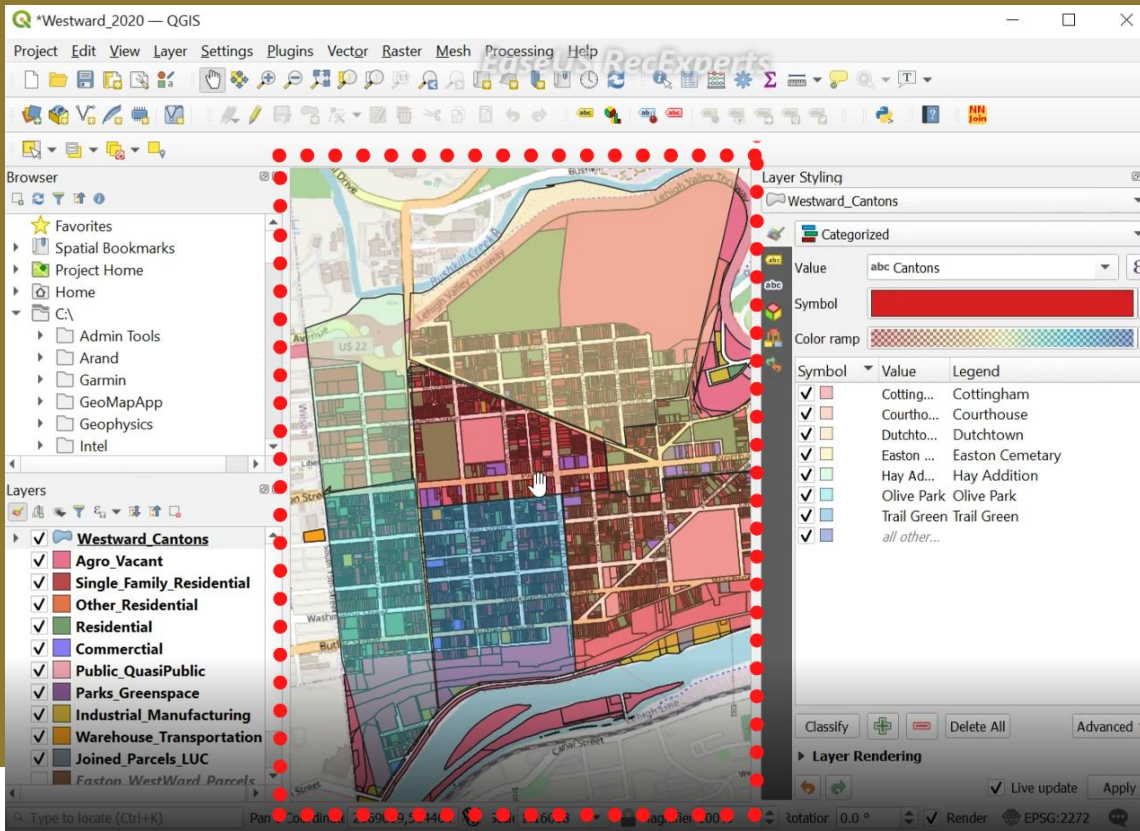


Video 25

Continue to repeat this process for all the colored notches along the color ramp spectrum, reducing the transparency for each one. You can also adjust the brightness of the colors using the color wheel.

Performing a Partial Map Update

Toggle Editing via the Map



142

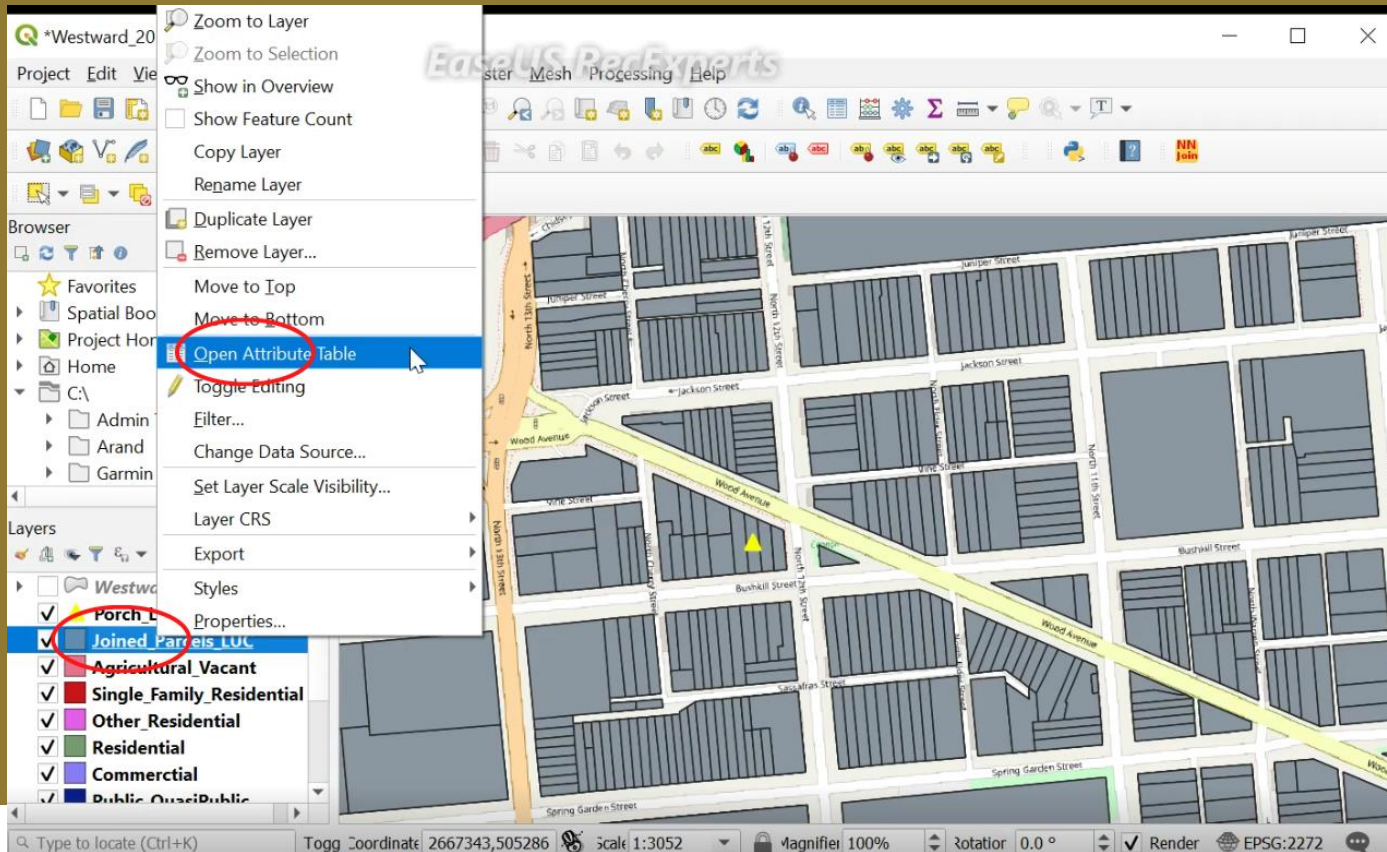


Video 25

This is what your map should eventually look like. The canton layer can be adjusted using the layers menu to make it more or less visible.

Performing a Partial Map Update

Toggle Editing the Attribute Table



143



Video 28

Select the Joined Parcel layer in the layers menu and open the attribute table by right clicking 'open attribute table'.

Performing a Partial Map Update

Toggle Editing the Attribute Table

The screenshot shows the QGIS interface with the attribute table for 'Joined_Parcels_LUC' open. The toolbar above the table has a red circle around the 'Toggle editing mode (Ctrl+E)' icon. The attribute table has the following columns and data:

	RCEL_ID	CAMA_ID	MAP	BLOCK	LOT	SCHD
1	3308	L9SW2B 23 1	L9SW2B 23 1 ... L9SW2B	23	1	03
2	3372	L9SW3C 5 5	L9SW3C 5 5 ... L9SW3C	5	5	03
3	3373	L9SE1D 14 1H	L9SE1D 14 1H ... L9SE1D	14	1H	03
4	3374	L9SE1D 14 1D	L9SE1D 14 1D ... L9SE1D	14	1D	03
5	3375	L9SE1D 14 1	L9SE1D 14 1 ... L9SE1D	14	1	03
6	3368	L9SW3B 13 1	L9SW3B 13 1 ... L9SW3B	13	1	03
7	3369	L9SW2C 2 1	L9SW2C 2 1 ... L9SW2C	2	1	03
8	3370	L9SE1C 29 1	L9SE1C 29 1 ... L9SE1C	29	1	03
9	3371	L9SE1C 29 1	L9SE1C 29 1 ... L9SE1C	29	1	03
10	3364	L9SE2D 20 2 PKB	L9SE2D 20 2 PK...	20	2 PKB	03

144



Video 28

Once the attribute table is open, select the 'toggle editing mode' option from the toolbar.

Performing a Partial Map Update

Toggle Editing the Attribute Table

123fid = E Update All Update Selected

fid	PARCEL_ID	CAMA_ID	MAP	BLOCK	LOT	SCHD
1	3308 L9SW2B 23 1	L9SW2B 23 1 ...	L9SW2B	23	1	03
2	3372 L9SW3C 5 5	L9SW3C 5 5 ...	L9SW3C	5	5	03
3	3373 L9SE1D 14 1H	L9SE1D 14 1H ...	L9SE1D	14	1H	03
4	3374 L9SE1D 14 1D	L9SE1D 14 1D ...	L9SE1D	14	1D	03
5	3375 L9SE1D 14 1	L9SE1D 14 1 ...	L9SE1D	14	1	03
6	3368 L9SW3B 13 1	L9SW3B 13 1 ...	L9SW3B	13	1	03
7	3369 L9SW2C 2 1	L9SW2C 2 1 ...	L9SW2C	2	1	03
8	3370 L9SE1C 29 1	L9SE1C 29 1 ...	L9SE1C	29	1	03
9	3371 L9SE1C 29 1	L9SE1C 29 1 ...	L9SE1C	29	1	03

Show All Features

Type to locate (Ctrl+K) Togg Coordinate: 2667461,505869 Scale: 1:3052 Magnifier: 100% Rotation: 0.0° Render EPSG:2272

145



Video 28

Now, you can edit the information contained within any cell of the attribute table.

Performing a Partial Map Update

Toggle Editing the Attribute Table

The screenshot displays the QGIS interface with the attribute table for the 'Joined_Parcels_LUC' layer. The table has columns for 'fid', 'AG', 'ASMT_ACREA', and 'DEED'. The 'Field Filter' menu is open, showing options like 'Show All Features', 'Show Selected Features', and 'Field Filter'. The 'Field Filter' option is circled in red. The 'MAIL_ADDRS' field is selected in the field list, also circled in red. A 'Downloads' dialog box is visible at the bottom, showing 84 items and 1 item selected.

fid	AG	ASMT_ACREA	DEED
1	0.31	0.3114	2008-1 247433
2	0.08	0.082	2010-1 063827
3	0	0	2020-1 193433
4	0	0	2005-1 143418

Field Filter menu options:

- Show All Features
- Show Selected Features
- Show Features Visible On Map
- Show Edited and New Features
- Field Filter
- Advanced Filter (Expression)
- Stored Filter Expressions
- Show All Features

Field List:

- 123 fid
- abc PARCEL_ID
- abc CAMA_ID
- abc MAP
- abc BLOCK
- abc LOT
- abc SCHDIST
- abc MUNI
- abc FLAG
- 1.2 GIS_ACREAG
- 1.2 ASMT_ACREA
- abc DEED
- abc LOCATION
- abc LUC
- abc NBHD
- 1.2 TOTAL_VALU
- 1.2 BLDG_VALUE
- 1.2 LAND_VALUE
- 1.2 TOTAL_ASSE
- 1.2 BUILDING_A
- 1.2 LAND_ASSES
- 1.2 SALE_PRICE
- abc SALE_DATE
- abc SALE_VALID
- abc SALE_TYPE
- 123 SQFT_LIVIN
- abc OWNERS_NAM
- abc OWNERS_N_1
- abc MAIL_ADDRS
- abc MAIL_ADD_1
- abc MAIL_ADD_2
- abc FLAG_1_319
- abc FLAG_2_LER
- abc FLAG_3_HMS
- abc FLAG_4_FMS
- abc FLAG_5_ACT
- abc FLAG_6_ACT
- abc FLAG_7_ACT
- abc FLAG_9_BIL
- abc FLAG_10_KO
- 123 NUMBER_OF_
- 1.2 NUMBER_OF1
- abc EXTERIOR
- abc BASEMENT
- 123 YEAR_BUILT
- abc BUILDING_S
- 123 NUMBER_O_1
- 123 NUMBER_O_2
- 123 NUMBER_HAL
- 123 TOTAL_ROOM
- abc SWIMMING_P
- 123 COMM_CARDS
- abc COMMERCIAL
- abc IMPROVEMEN
- 1.2 Shape_STAr
- 1.2 Shape_STLe
- 123 Code_Cheat
- abc Code_Che_1
- 123 MUNICODE
- abc NAME
- 1.2 GISACRES

146



Video 28

Select the show all features option. Open the field filter menu. Select MAIL-ADDRS.

Performing a Partial Map Update

Toggle Editing the Attribute Table

123 fid = £

	CAMA_ID	MAP	BLOCK	LOT	SCHDIST	MUNI	FLAG
1	L9NE4D 14 6 ...	L9NE4D	14	6	03	10	NULL

abc MAIL_ADDRE 1205 bushkill st

Type to locate (Ctrl+K) Togg Coordinates: 2667616,505064 Scale: 1:3052 Magnifier: 100% Rotator: 0.0° Render EPSG:2272

147

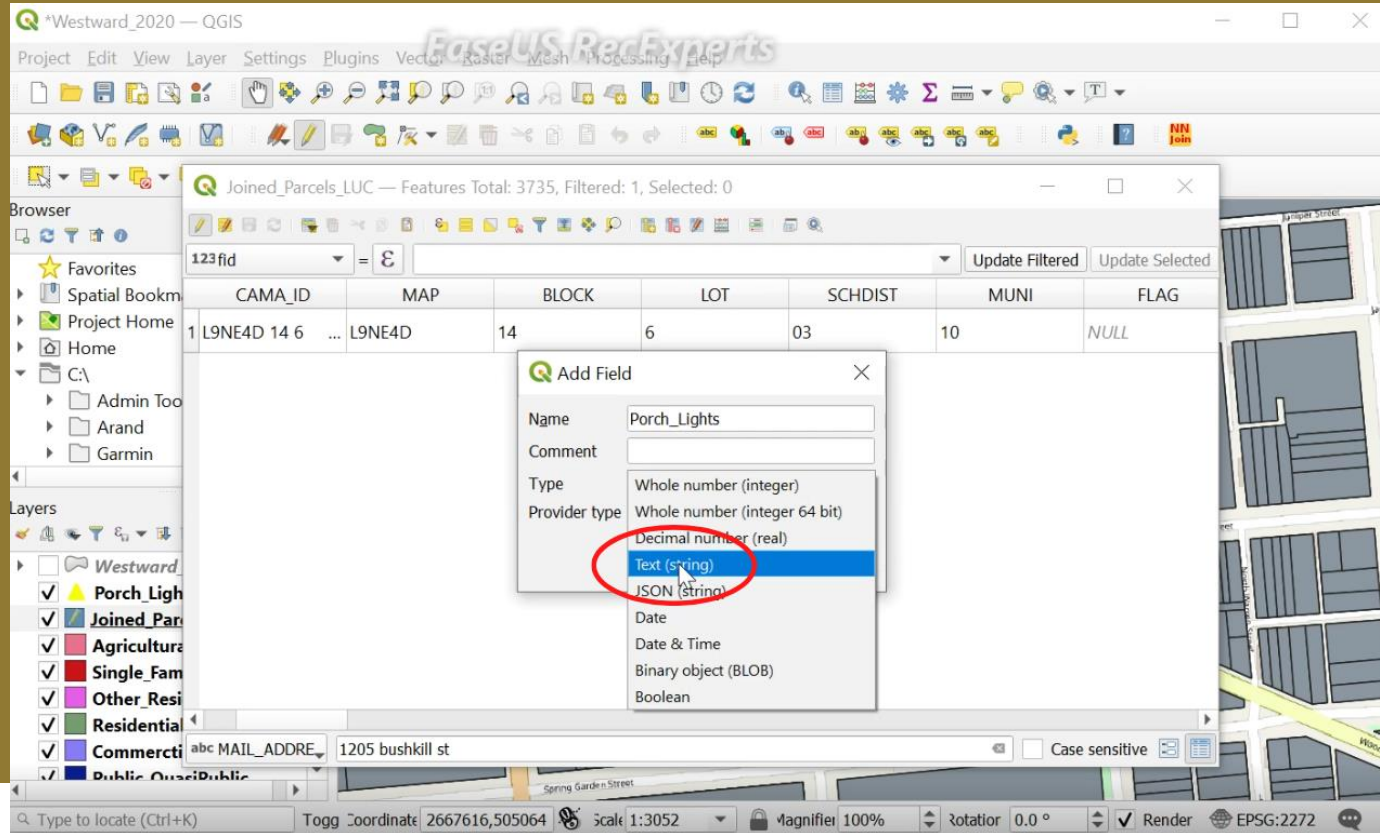


Video 28

From here, click the New field option from the toolbar.

Performing a Partial Map Update

Toggle Editing the Attribute Table



148

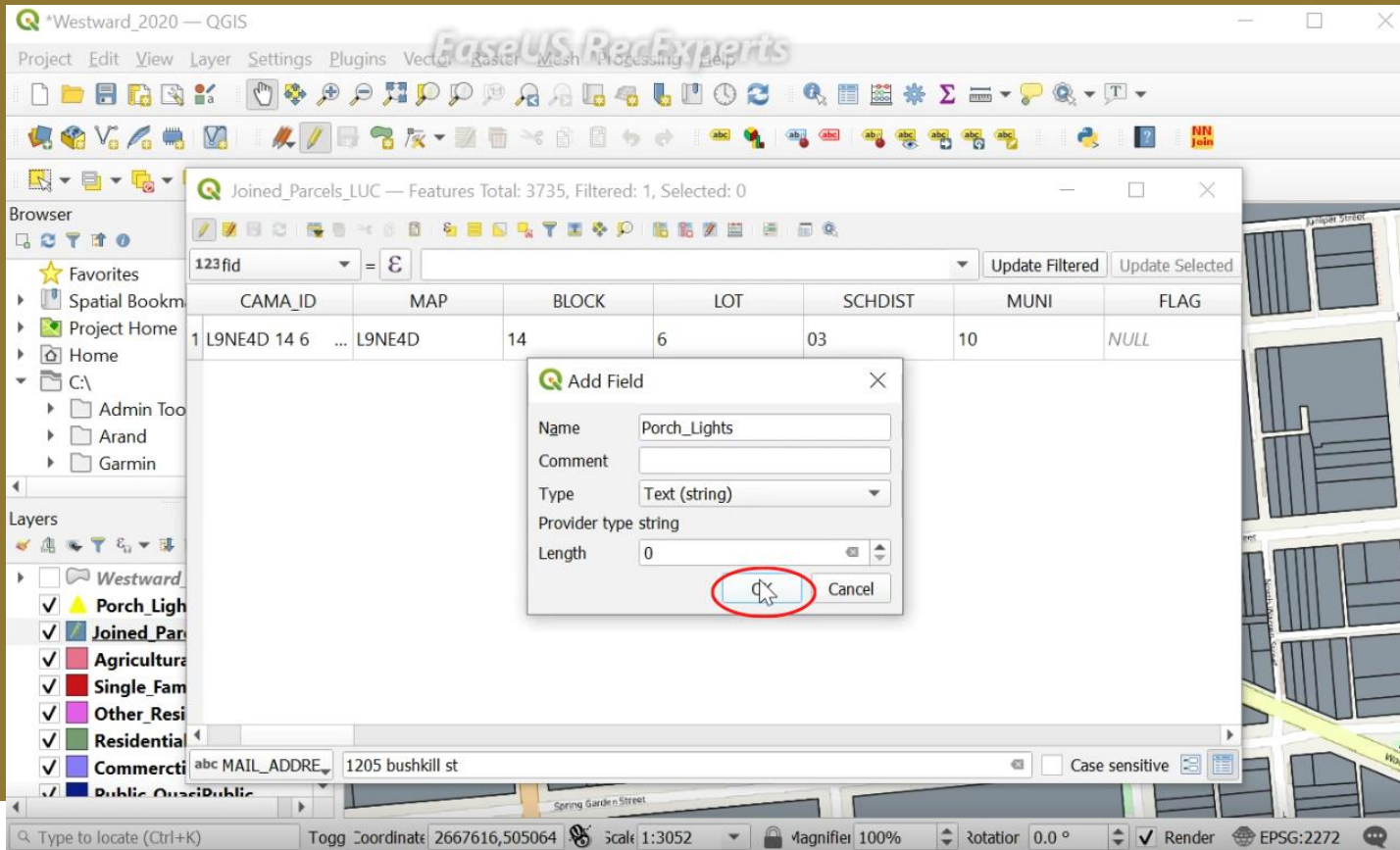


Video 28

Fill in the information into the window that appears. Open the 'type' drop down menu and select the text (string) option.

Performing a Partial Map Update

Toggle Editing the Attribute Table



149

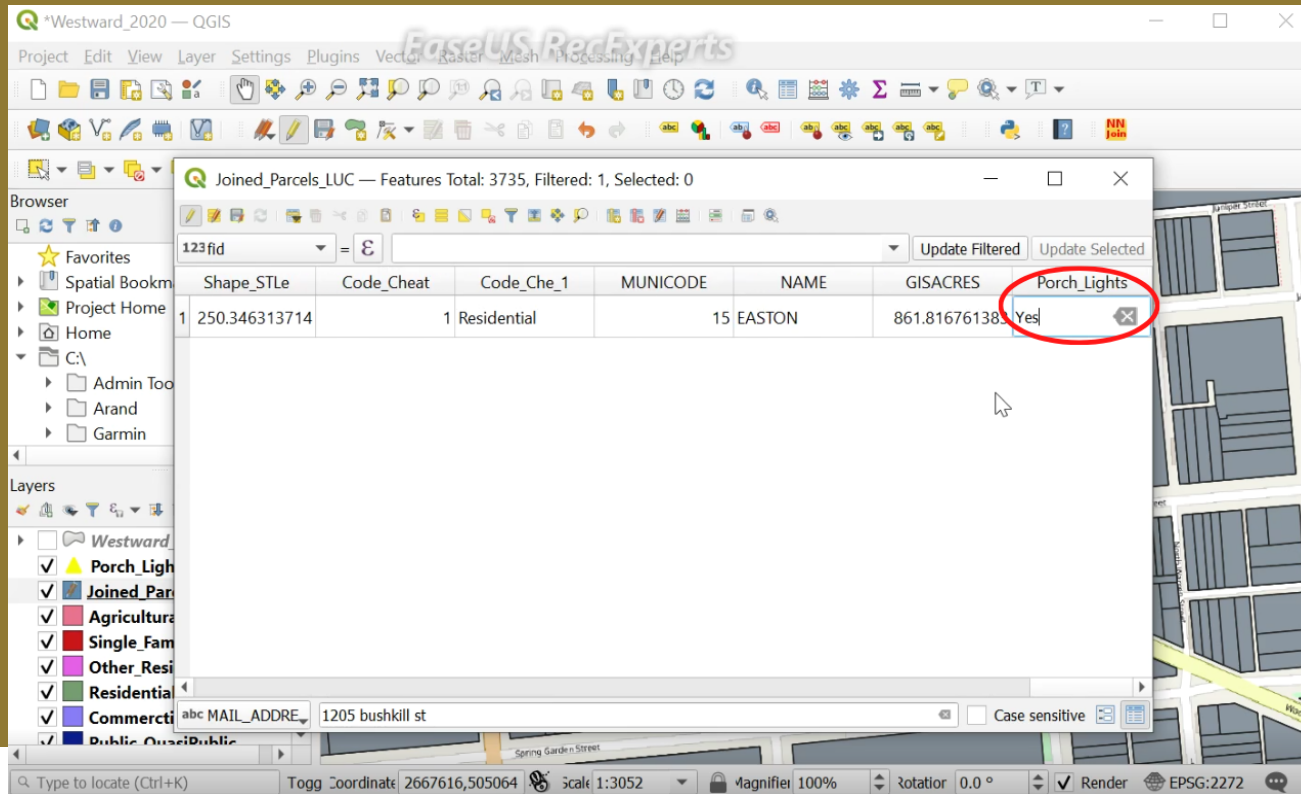


Video 28

Hit OK.

Performing a Partial Map Update

Toggle Editing the Attribute Table



150

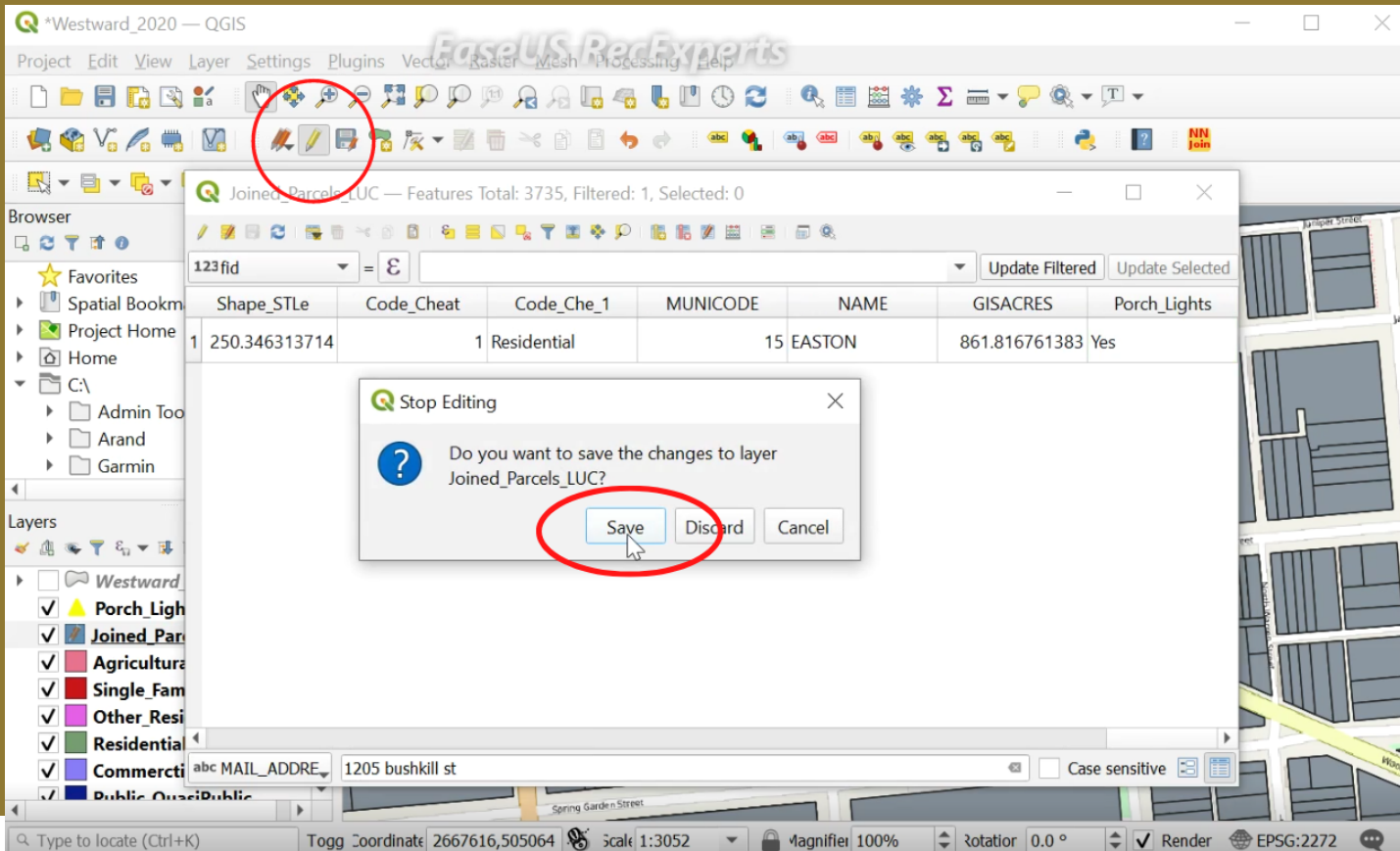


Video 28

You'll be returned to the attribute table for the porch lights layers. You'll notice that a new column has been added. This column can be used to indicate whether a property is participating in the porch light initiative or not.

Performing a Partial Map Update

Toggle Editing the Attribute Table



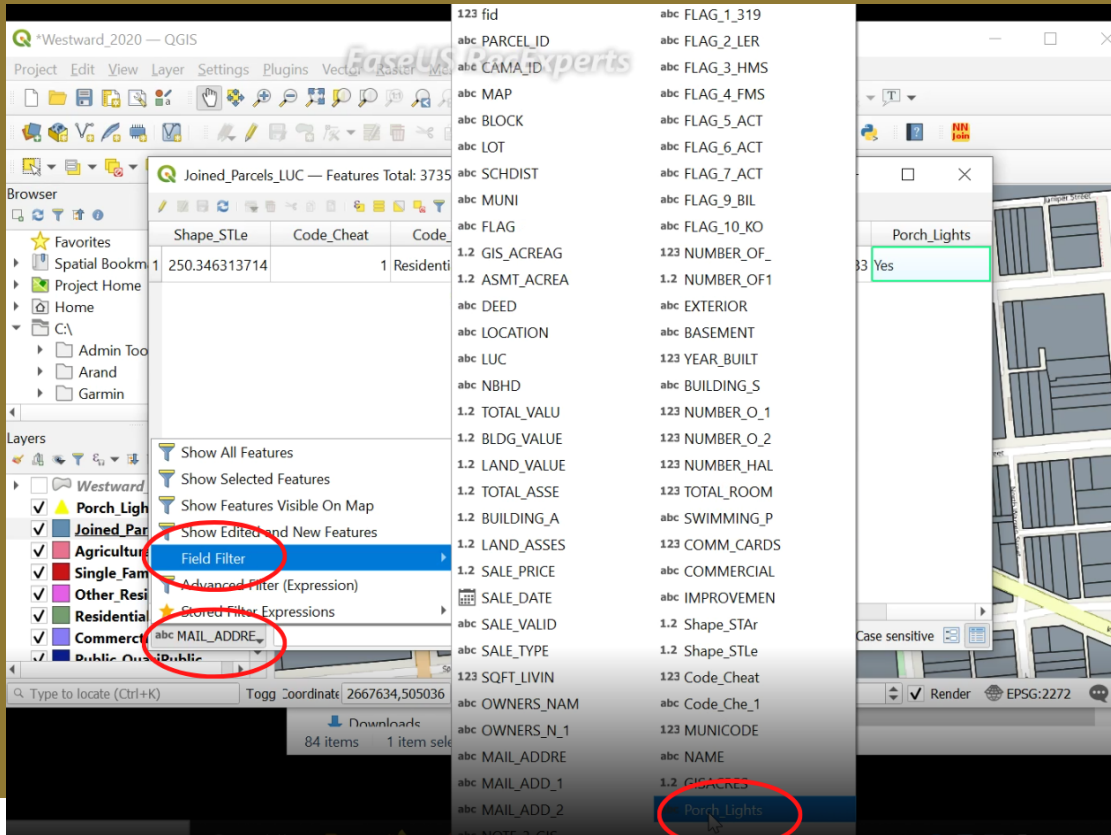
151



Video 28

To exit the editing settings for the attribute table, click the toggle editing button and this window will appear. Click save.

Performing a Partial Map Update Toggle Editing the Attribute Table



152



Video 28

In the porch lights attribute table, click show all features. In the field filters menu, select the porch lights option.

Performing a Partial Map Update

Toggle Editing the Attribute Table

The screenshot shows the QGIS interface with a map of parcels and an attribute table. The attribute table has the following data:

Shape_STLe	Code_Cheat	Code_Che_1	MUNICODE	NAME	GISACRES	Porch_Lights
250.346313714	1	Residential	15	EASTON	861.816761383	Yes

The search bar at the bottom of the attribute table contains the text 'Porch_Lights' and 'Yes'.

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Video 29

In the bottom-most search bar, enter the word 'yes'. Hit enter. You'll now be shown every property in the map that is listed as being involved in the porch light initiative.

Performing a Partial Map Update

Scheme Data: Porch Lights Example

C	D	E	F	G	H
	Address	Street	City	State	Zip
	?	?	Easton	PA	18042
N	1205	Bushkill St.	Easton	PA	18042
	915	Bushkill St.	Easton	PA	18042
	1011	Bushkill St.	Easton	PA	18042
N	905	Bushkill St.	Easton	PA	18042
	1008	Bushkill St.	Easton	PA	18042
	1146	Bushkill St.	Easton	PA	18042
N	1360	Butler St.	Easton	PA	18042
	949	Butler St.	Easton	PA	18042
	949	Butler St.	Easton	PA	18042
N	902	Butler St.	Easton	PA	18042
	1236	Elm St.	Easton	PA	18042
	1028 B	Elm St.	Easton	PA	18042
	1044	Ferry St.	Easton	PA	18042

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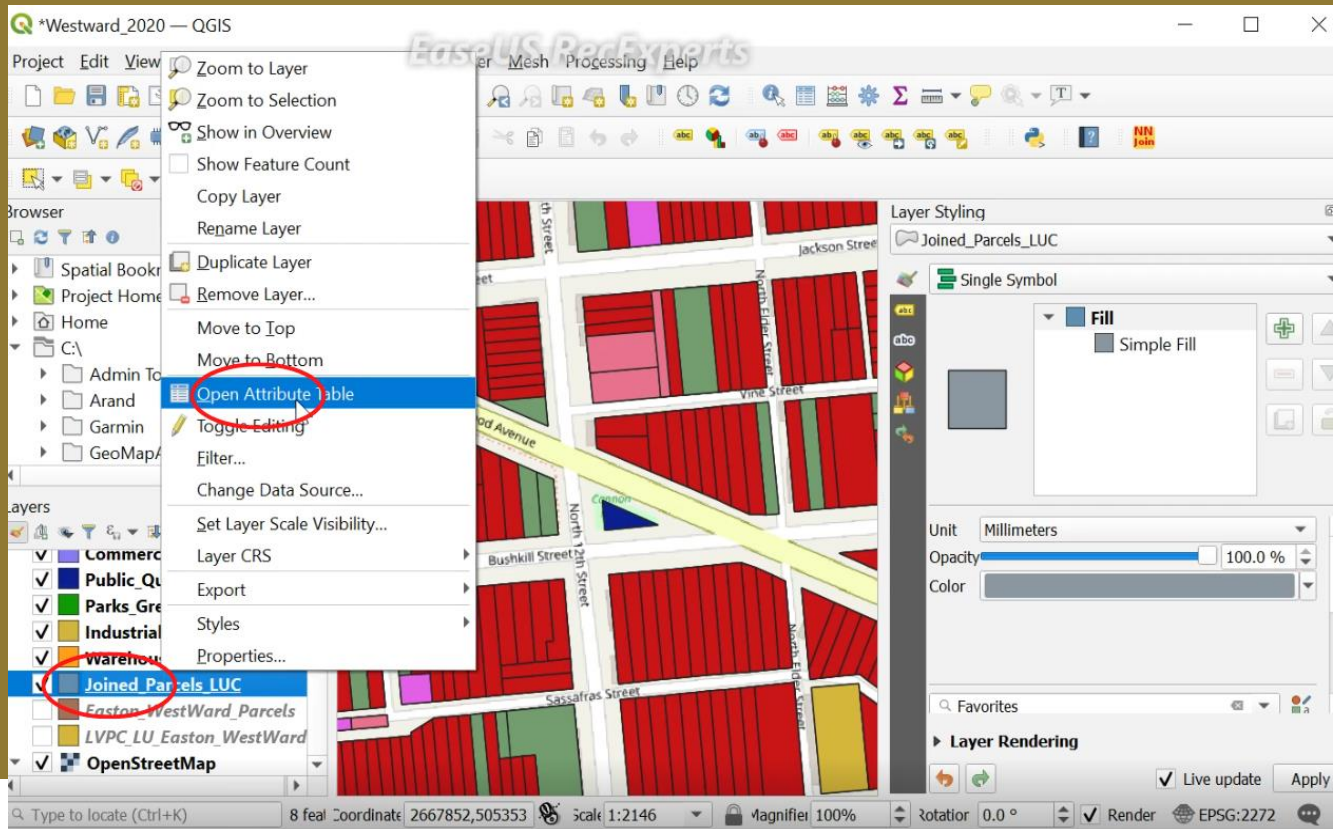


Video 26

To start creating a layering system for identifying/mapping the extent of a particular scheme, for example the porch light initiative, the first step is open all documents which contain relevant information, In this example, we've opened the porch light initiative data document.

Performing a Partial Map Update

Scheme Data: Porch Lights Example



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Video 26

Next, ensure that the Joined_Parcel layer is selected from the layers menu and right click it to locate the open attribute table option.

Performing a Partial Map Update

Scheme Data: Porch Lights Example

The screenshot displays the QGIS interface with the attribute table for the 'Joined_Parcels_LUC' layer. The table has columns 'fid' and 'PARCEL_ID'. The 'fid' column contains values 1 through 10. The 'PARCEL_ID' column contains values like 'L9SW2B 23 1', 'L9SE1D 14 1F', etc. The 'Field Filter' menu is open, showing options like 'Show All Features', 'Field Filter', and 'Advanced Filter (Expression)'. The 'MAIL_ADDRS' field is highlighted in the attribute table. A red circle highlights the 'MAIL_ADDRS' field in the attribute table, and another red circle highlights the 'Field Filter' option in the menu.

fid	PARCEL_ID
1	3308 L9SW2B 23 1
2	3376 L9SE1D 14 1F
3	3377 L9SE1D 14 1J
4	3378 L9SE1D 14 1B
5	3379 L9SE1D 14 1E
6	3380 L9SE1D 14 1G
7	3381 L9SW3C 5 6
8	3382 L9SW3C 11 2
9	3383 L9SE2D 26 3
10	3384 L9SW3C 5 4B-1

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Video 26

From the attribute table, select the show all features option. Then, select field filters and then click MAIL_ADDRS.

Performing a Partial Map Update

Scheme Data: Porch Lights Example

The screenshot displays the QGIS interface with a data table window titled 'Joined_Parcels_LUC'. The table contains 10 rows of parcel data. A search bar at the bottom of the table shows the text '1205' and '1205 Brushkill St' highlighted in blue. A red circle is drawn around the search bar area. The background shows a map view with various layers and a search bar at the bottom of the QGIS window.

fid	PARCEL_ID	CAMA_ID	MAP	BLOCK	LOT	SCHD
1	3308 L9SW2B 23 1	L9SW2B 23 1 ...	L9SW2B	23	1	03
2	3376 L9SE1D 14 1F	L9SE1D 14 1F ...	L9SE1D	14	1F	03
3	3377 L9SE1D 14 1J	L9SE1D 14 1J ...	L9SE1D	14	1J	03
4	3378 L9SE1D 14 1B	L9SE1D 14 1B ...	L9SE1D	14	1B	03
5	3379 L9SE1D 14 1E	L9SE1D 14 1E ...	L9SE1D	14	1E	03
6	3380 L9SE1D 14 1G	L9SE1D 14 1G ...	L9SE1D	14	1G	03
7	3381 L9SW3C 5 6	L9SW3C 5 6 ...	L9SW3C	5	6	08
8	3382 L9SW3C 11 2	L9SW3C 11 2 ...	L9SW3C	11	2	08
9	3383 L9SE2D 26 3	L9SE2D 26 3 ...	L9SE2D	26	3	03
10	3384 L9SW3C 5 4B-1	L9SW3C 5 4B-1...	L9SW3C	5	4B-1	03

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Video 26

Using the data from the porch lights dataset, begin typing in the address of a house that you know is part of the initiative.

Performing a Partial Map Update

Scheme Data: Porch Lights Example

The screenshot shows the QGIS interface with a map of parcel data. A dialog box titled "Joined_Parcels_LUC" is open, showing a table with the following data:

fid	PARCEL_ID	CAMA_ID	MAP	BLOCK	LOT	SCHDIST
1	577 L9NE4D 14 6	L9NE4D 14 6	L9NE4D	14	6	03

A red circle highlights the minimize button in the dialog box's title bar.

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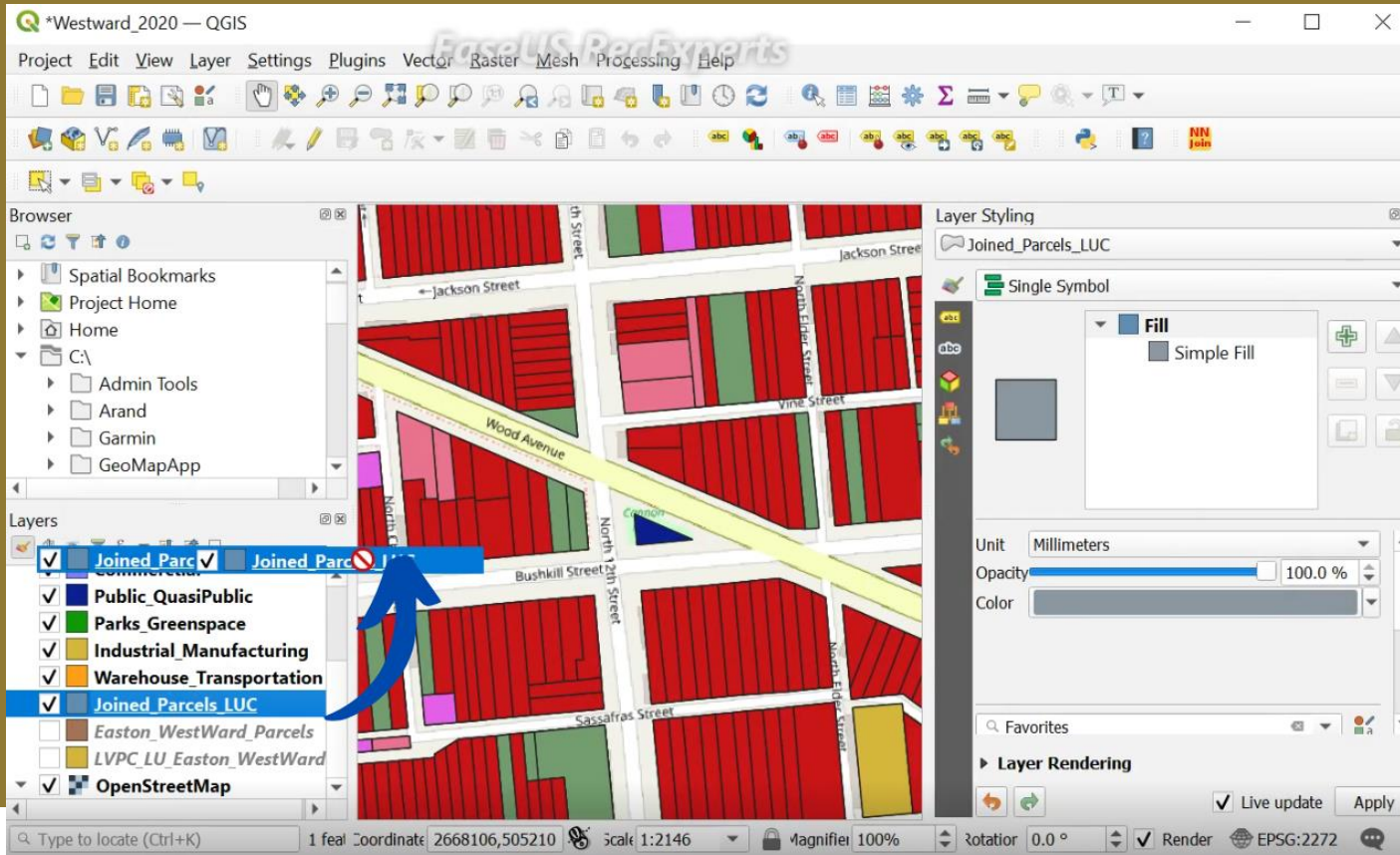


Video 26

After hitting enter, a modified version of the attribute table will appear which only contains this singular address. You can minimise this window, but don't close it.

Performing a Partial Map Update

Scheme Data: Porch Lights Example



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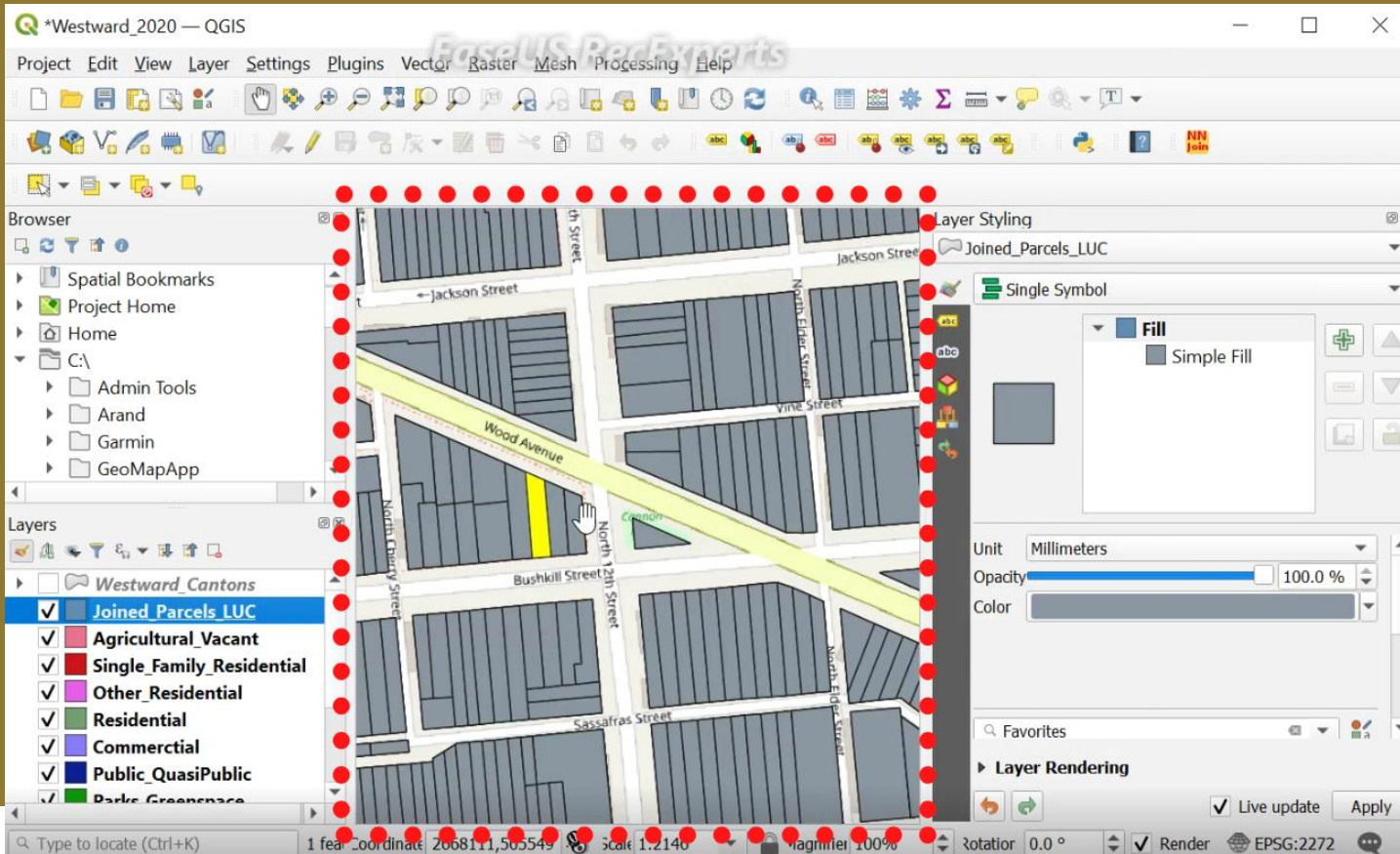


Video 26

Next, drag the Joined Parcel layer up to the top of the layers menu to make these new changes visible.

Performing a Partial Map Update

Scheme Data: Porch Lights Example



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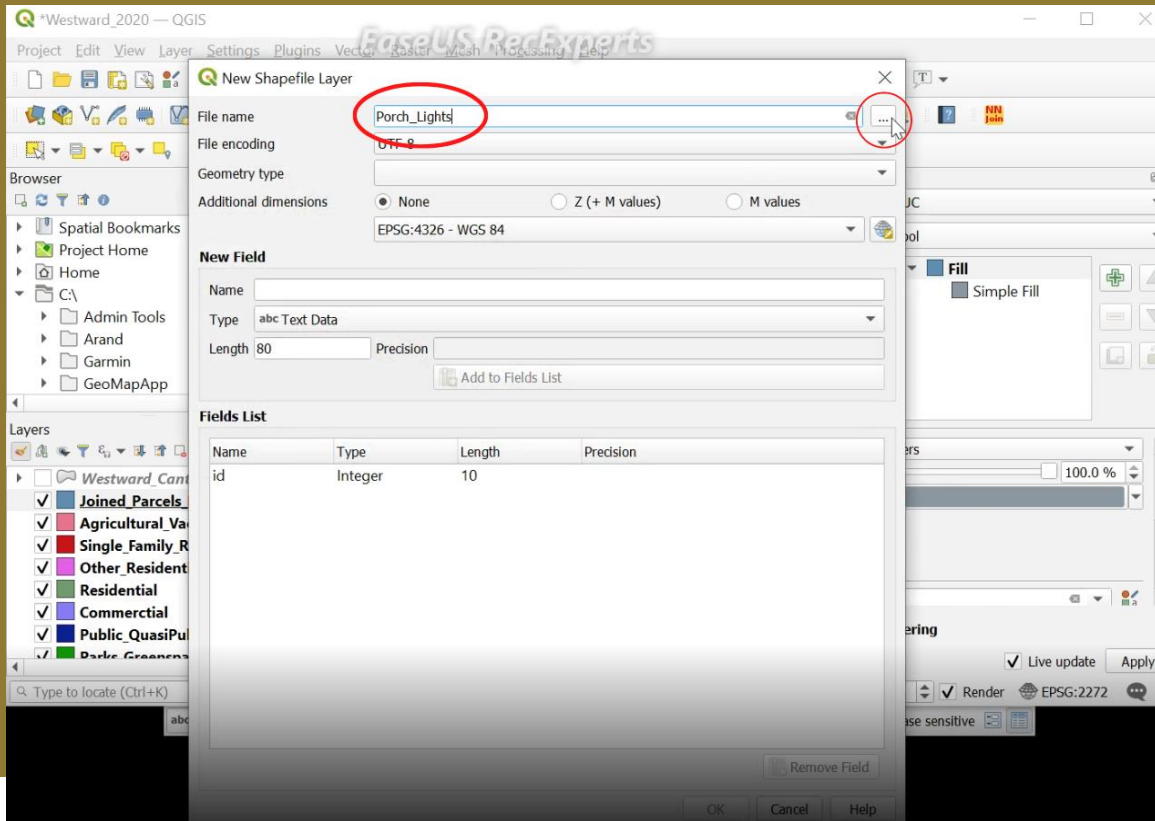


Video 26

As demonstrated in this image, your map will now highlight that single address that we identified as being a component of the porch light initiative.

Performing a Partial Map Update

Scheme Data: Porch Lights Example



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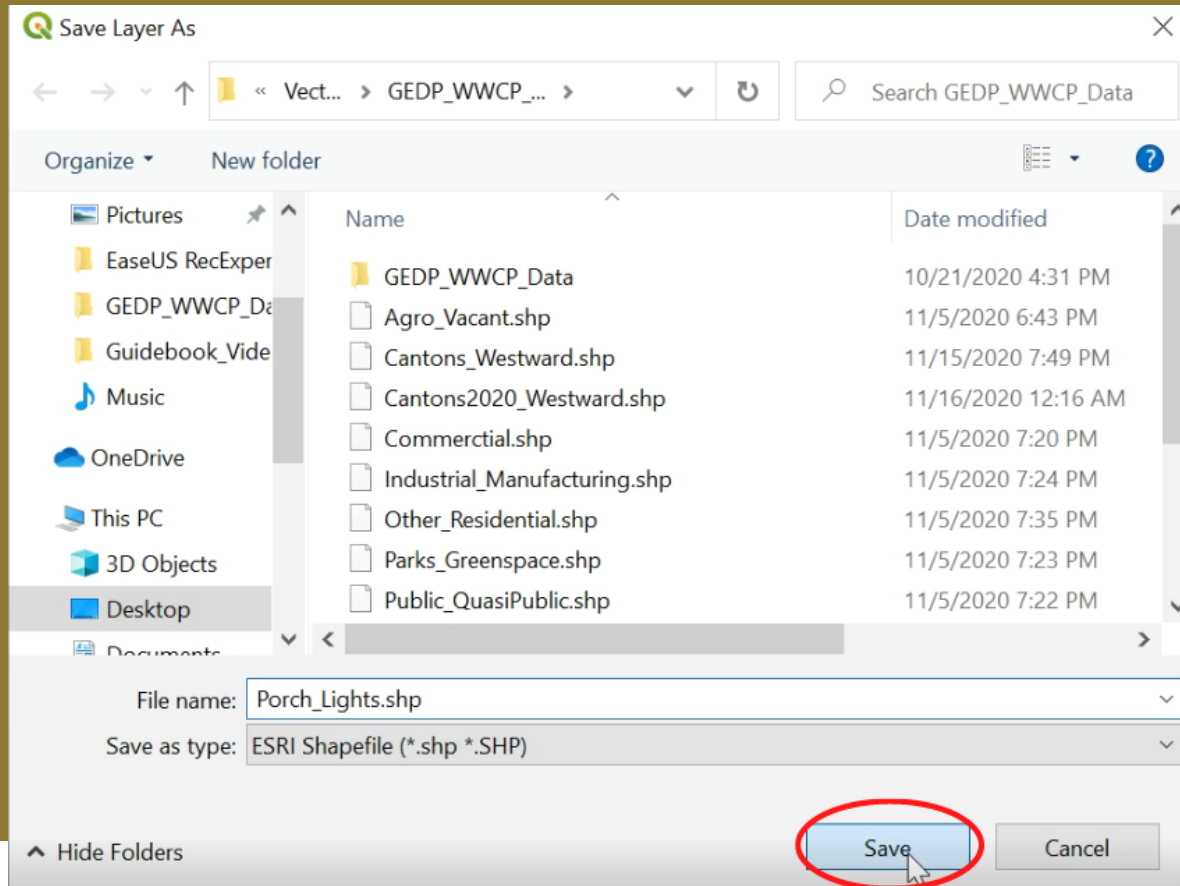


Video 26

From the toolbar at the top of the window, select the **New Shapefile Layer** option. This window will appear. Title this new layer. We called it Porch Lights in this example. Then click the icon with the three dots.

Performing a Partial Map Update

Scheme Data: Porch Lights Example



The secondary save menu will appear. Ensure that the data is saving to the right location and then **select save**.

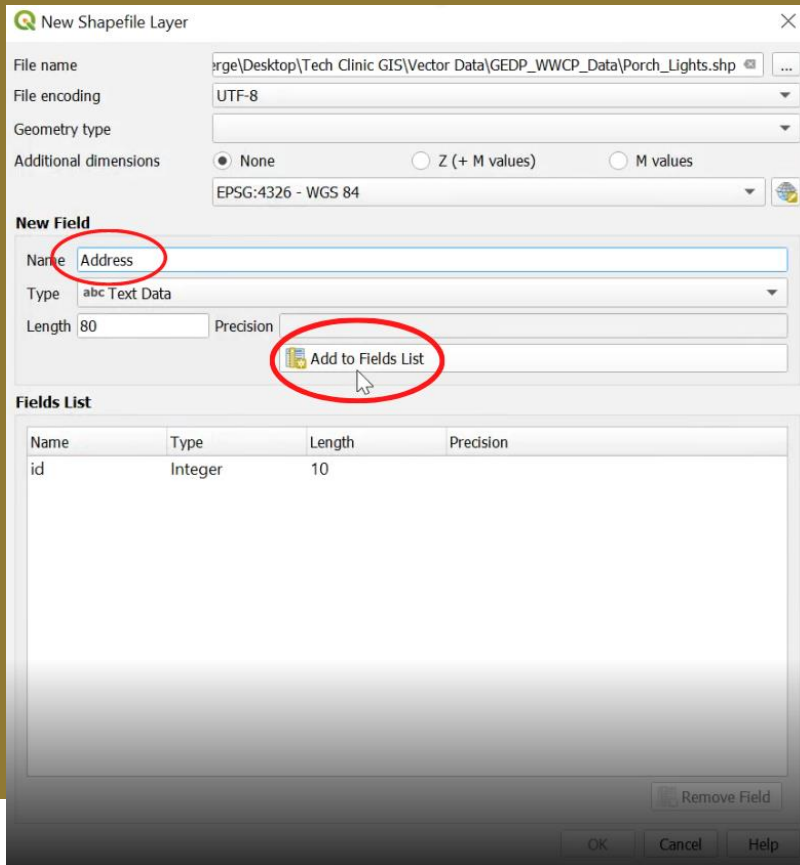
162



Video 26

Performing a Partial Map Update

Scheme Data: Porch Lights Example



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Video 26

In the new field option, enter the text 'address'. Then, hit 'add to fields list'. An address option will then appear in the field list box.

Performing a Partial Map Update

Scheme Data: Porch Lights Example

New Shapefile Layer

File name: C:\Users\user\Desktop\Tech Clinic GIS\Vector Data\GEDP_WWCP_Data\Porch_Lights.shp

File encoding: UTF-8

Geometry type:

Additional dimensions: None Z (+ M values) M values

CRS: EPSG:4326 - WGS 84

New Field

Name: Owner Name

Type: Text Data

Length: 80 Precision:

Add to Fields List

Fields List

Name	Type	Length	Precision
id	Integer	10	
Address	String	80	

Remove Field

OK Cancel Help

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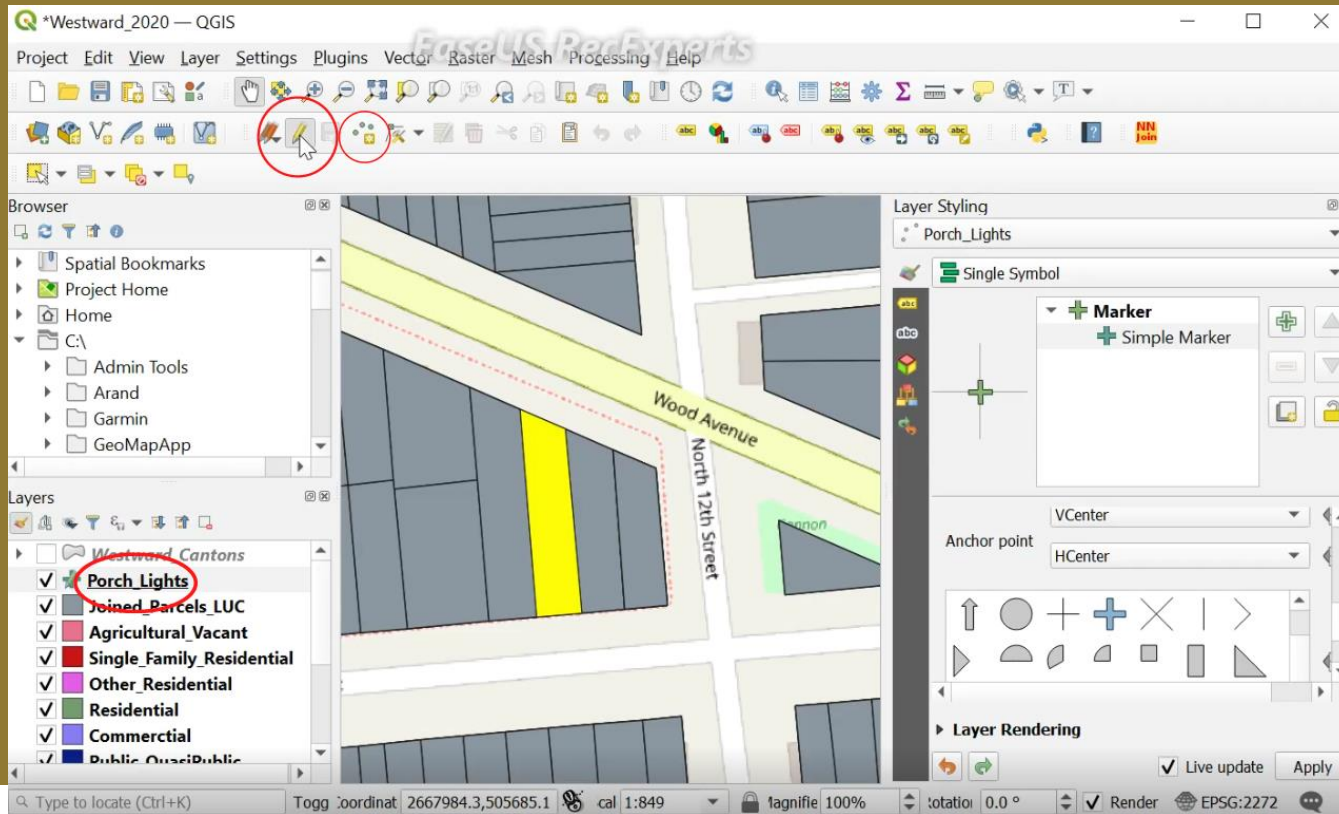


Video 26

Repeat this process, this time entering the text 'Owners Name'. Hit 'add to field list'. Then, hit OK.

Performing a Partial Map Update

Scheme Data: Porch Lights Example



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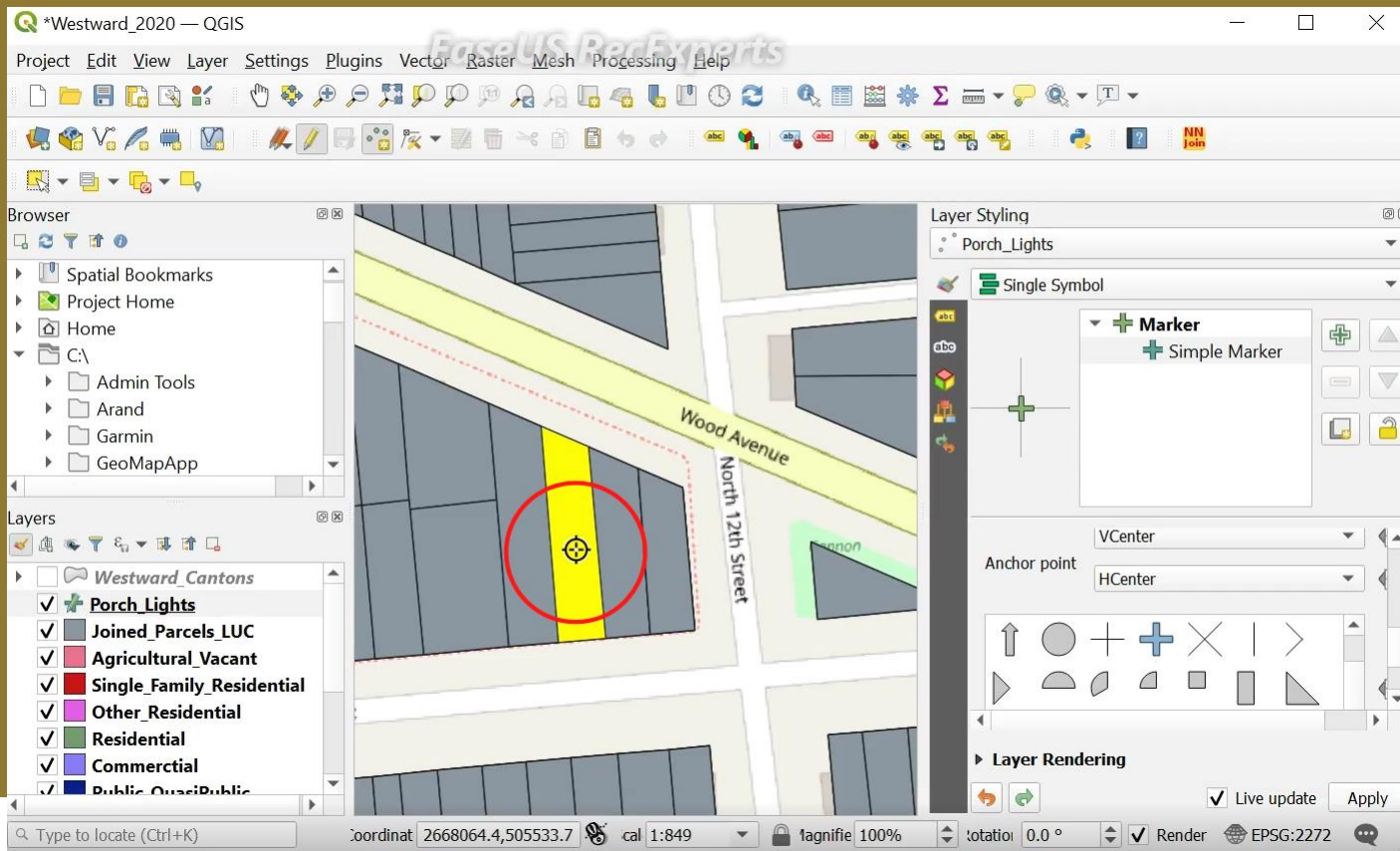


Video 27

Ensure that the porch lights layer is selected using the layers menu. Then, hit the toggle editing option on the toolbar. Immediately after, click the 'add points' button, also located on the toolbar.

Performing a Partial Map Update

Scheme Data: Porch Lights Example



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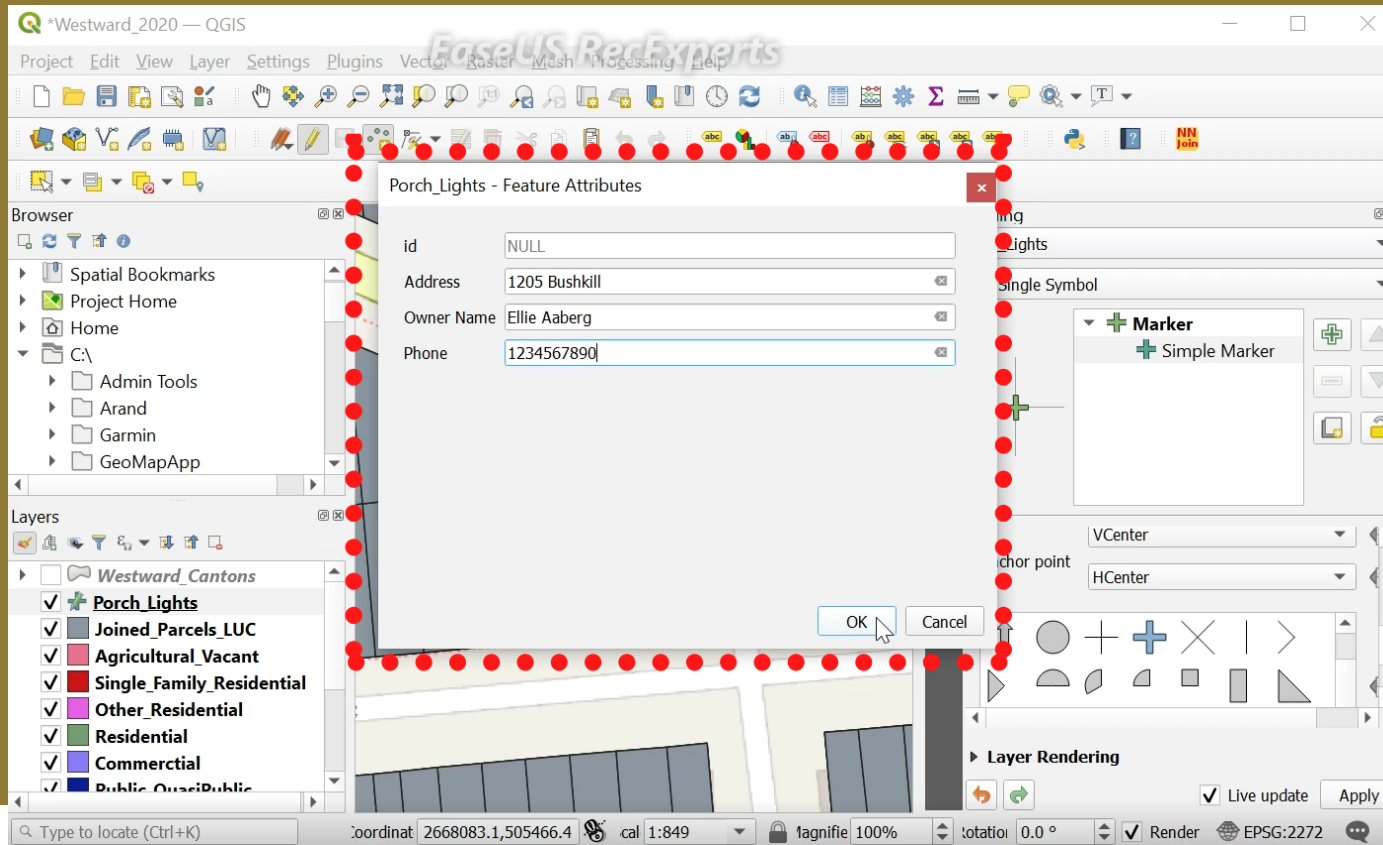


Video 27

Your cursor will turn into a pointing tool. Center this cursor tool directly in the middle of the address that has been highlighted.

Performing a Partial Map Update

Scheme Data: Porch Lights Example



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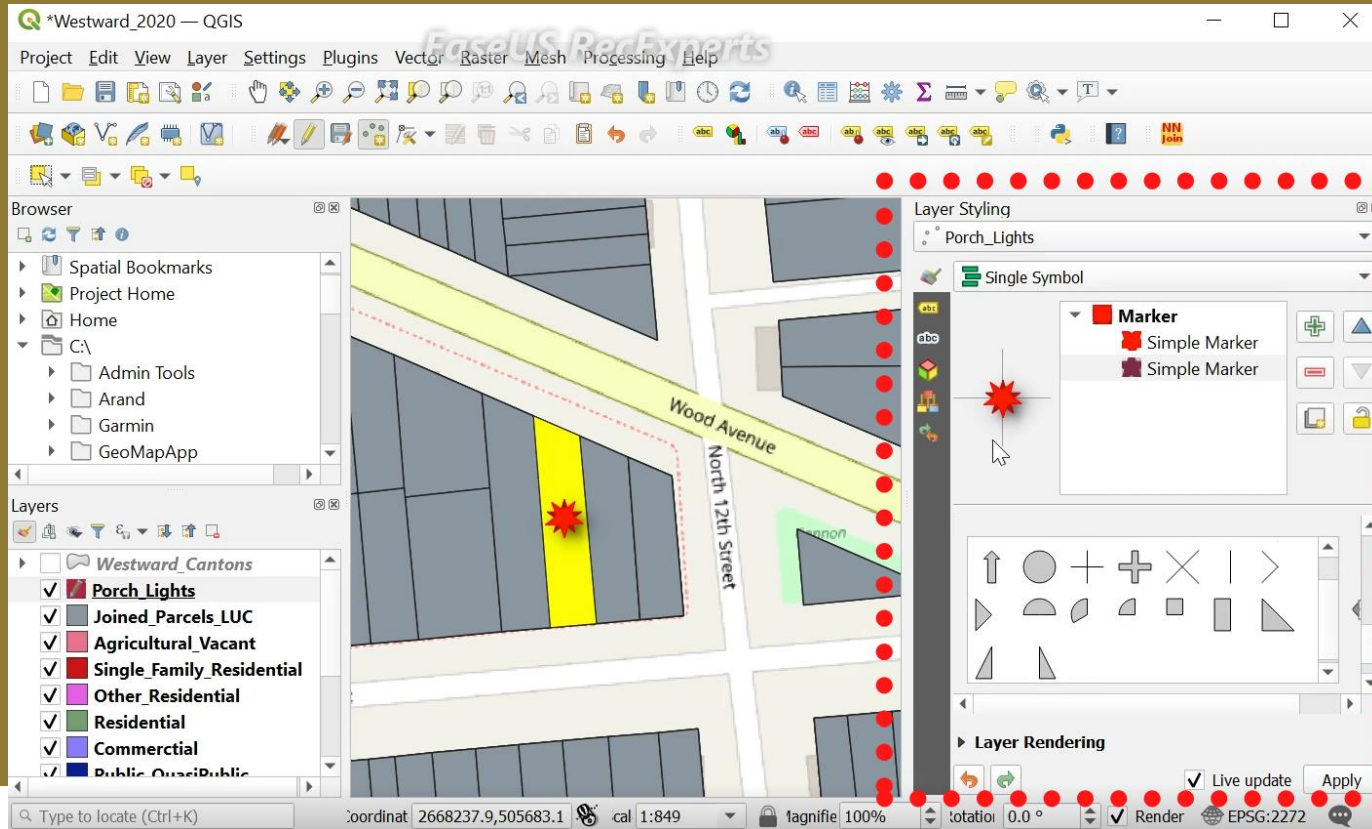


Video 27

A feature attributes table will open up. In this window, use the porch light dataset to fill in the boxes. Then, hit OK.

Performing a Partial Map Update

Scheme Data: Porch Lights Example



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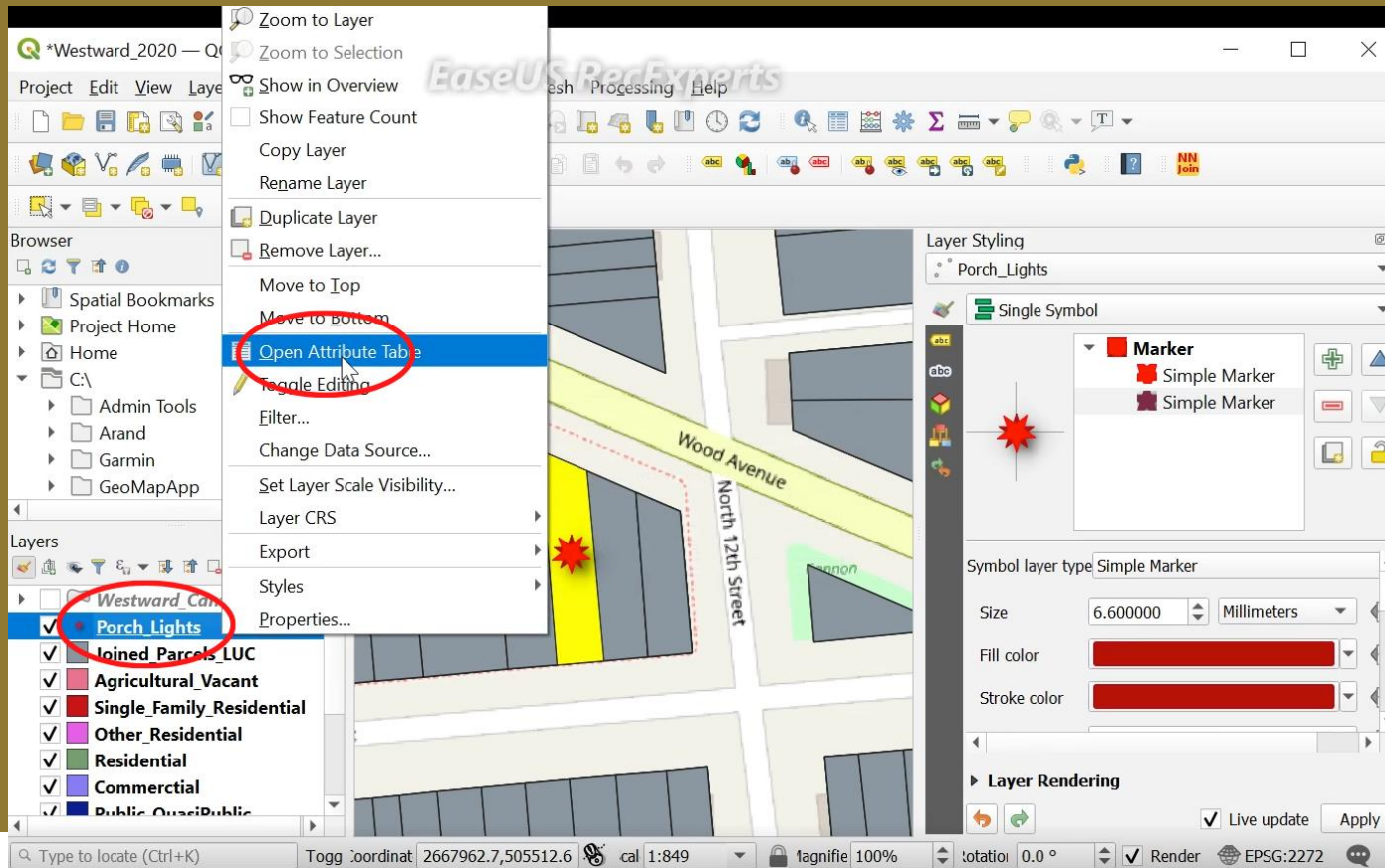


Video 27

A marker will appear over the property you selected. Use the style menu on the left to customise the icon style.

Performing a Partial Map Update

Scheme Data: Porch Lights Example



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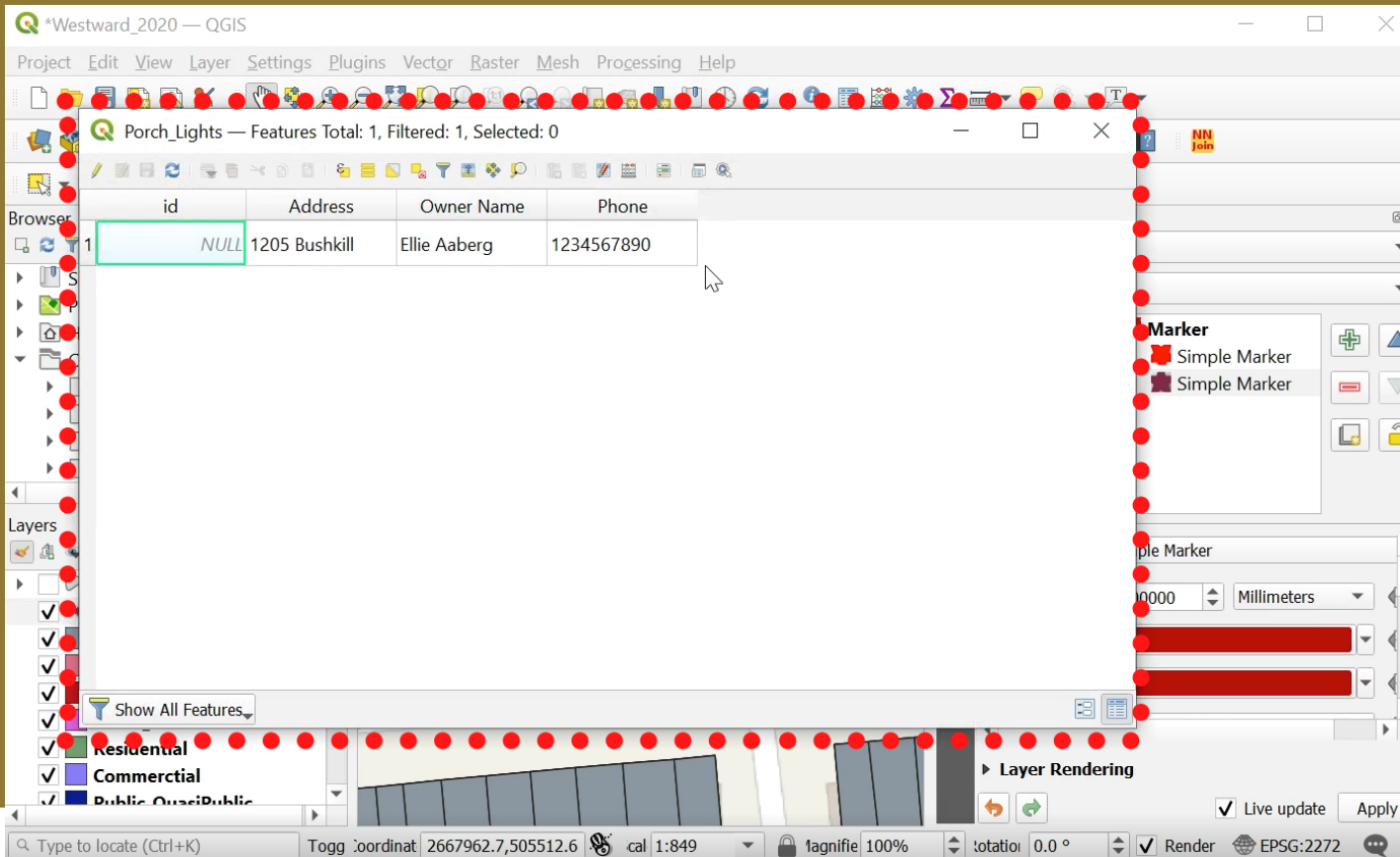


Video 27

Open up the porch lights attribute table by selecting the porch lights layer from the layers menu. Right click it and select open attribute table.

Performing a Partial Map Update

Scheme Data: Porch Lights Example



The screenshot shows the QGIS interface with a table window open. The table has the following data:

id	Address	Owner Name	Phone
1	1205 Bushkill	Ellie Aaberg	1234567890

The table is titled "Porch_Lights" and shows "Features Total: 1, Filtered: 1, Selected: 0". The "id" column contains the value "1", and the "Address" column contains "1205 Bushkill". The "Owner Name" is "Ellie Aaberg" and the "Phone" is "1234567890". The "id" cell is highlighted with a green border.

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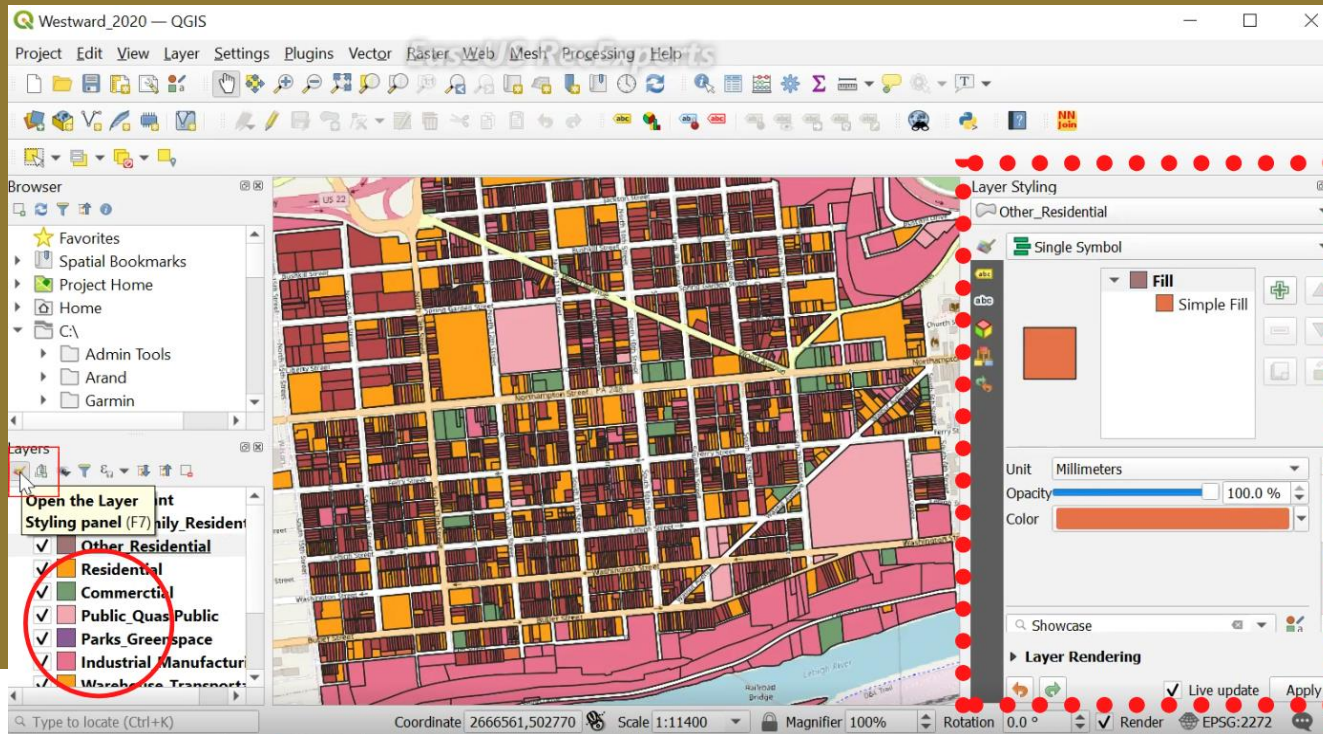


Video 27

A special attribute table will open up. At this stage, there will only be one address in this table.

Performing a Partial Map Update

Styling the Map



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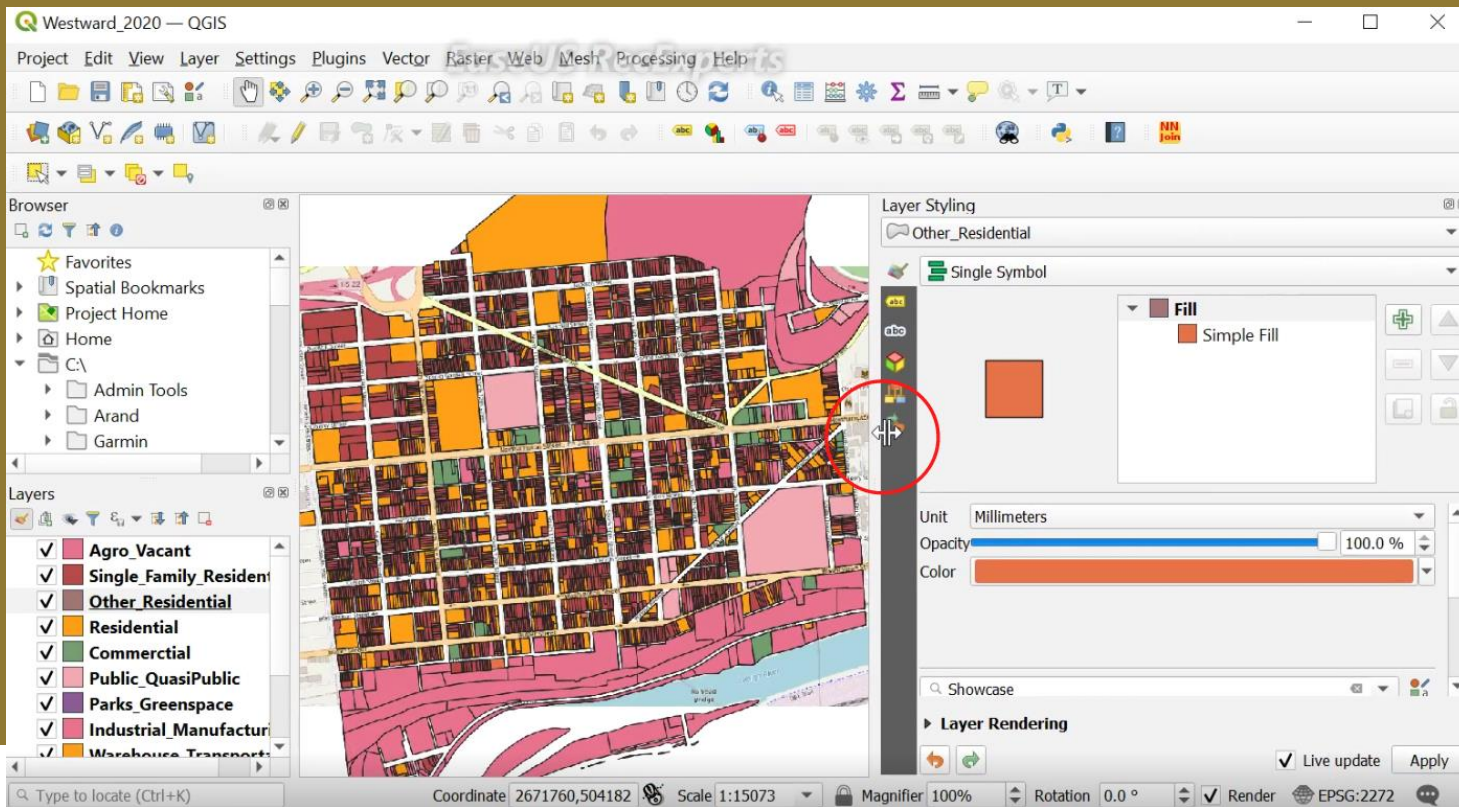


Video 10

The style menu allows you to change the color and style of your labels. To access the style menu, first, single click on the relevant layer from the layer menu. Then, click on the button labelled 'Open the Layer Styling panel'. A menu will appear on the right-hand side of the screen. You can toggle this menu on or off at any time using the 'Open the Layer Styling panel'.

Performing a Partial Map Update

Styling the Map



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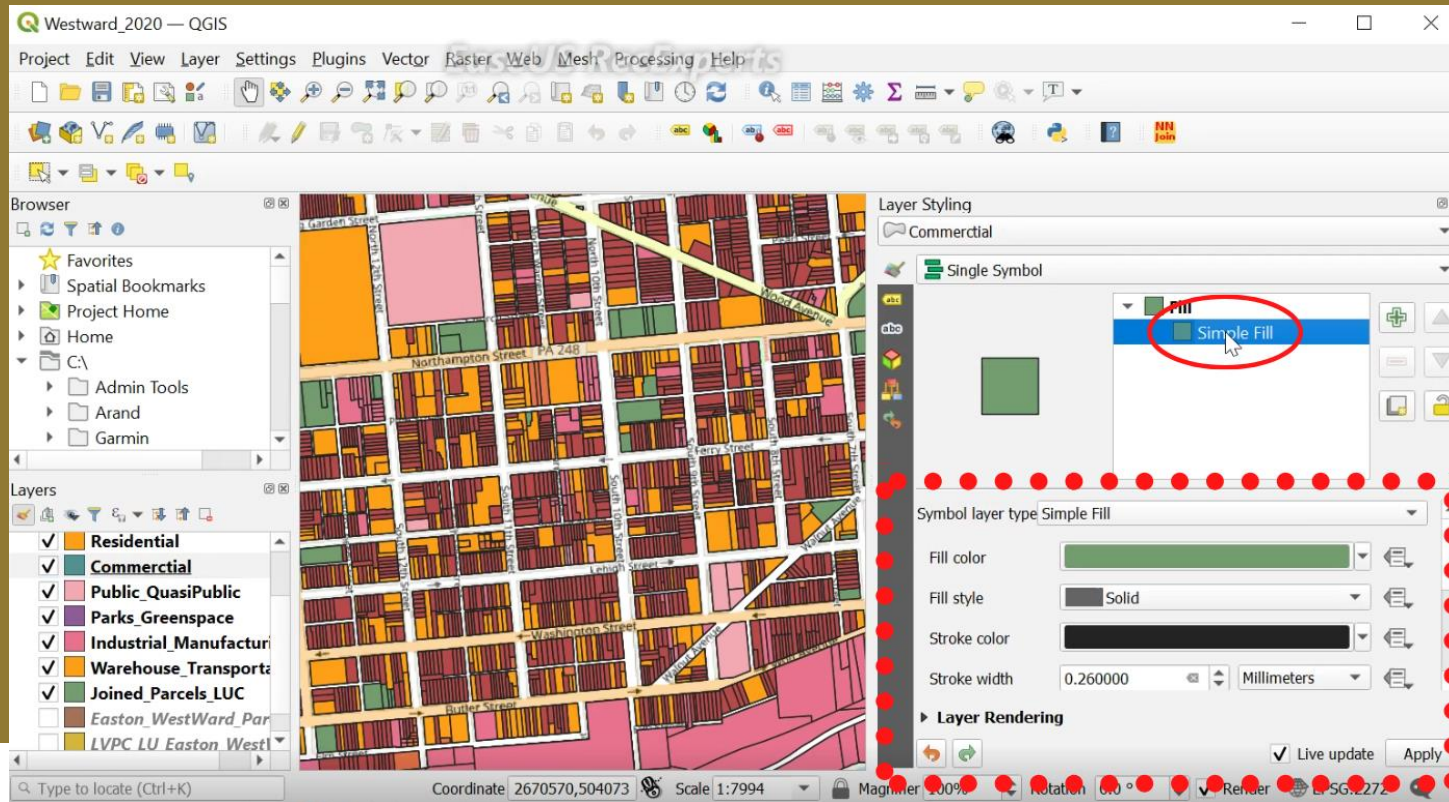


Video 10

To expand or shrink the style menu, hover the mouse over the left-hand border of the panel and the cursor will change to indicate that you can now drag the borders of the menu inwards or push it outwards.

Performing a Partial Map Update

Styling the Map



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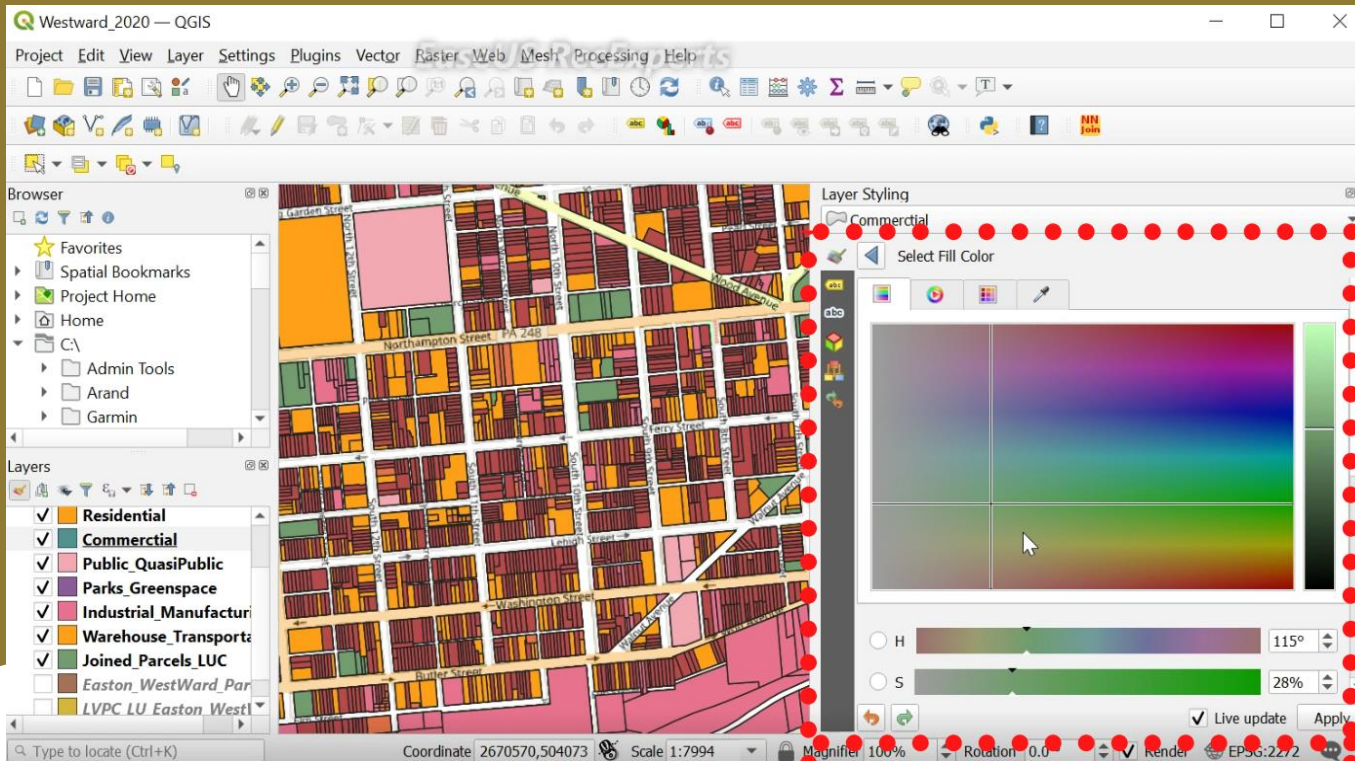


Video 10

Click on the simple fill option. Below, you'll now have access to edit both the shape fill and line style of different layers. To change the color of a component, flick on the color bar that you want to edit. (For example, click on the green bar next to the label 'fill color' in order to change it.)

Performing a Partial Map Update

Styling the Map



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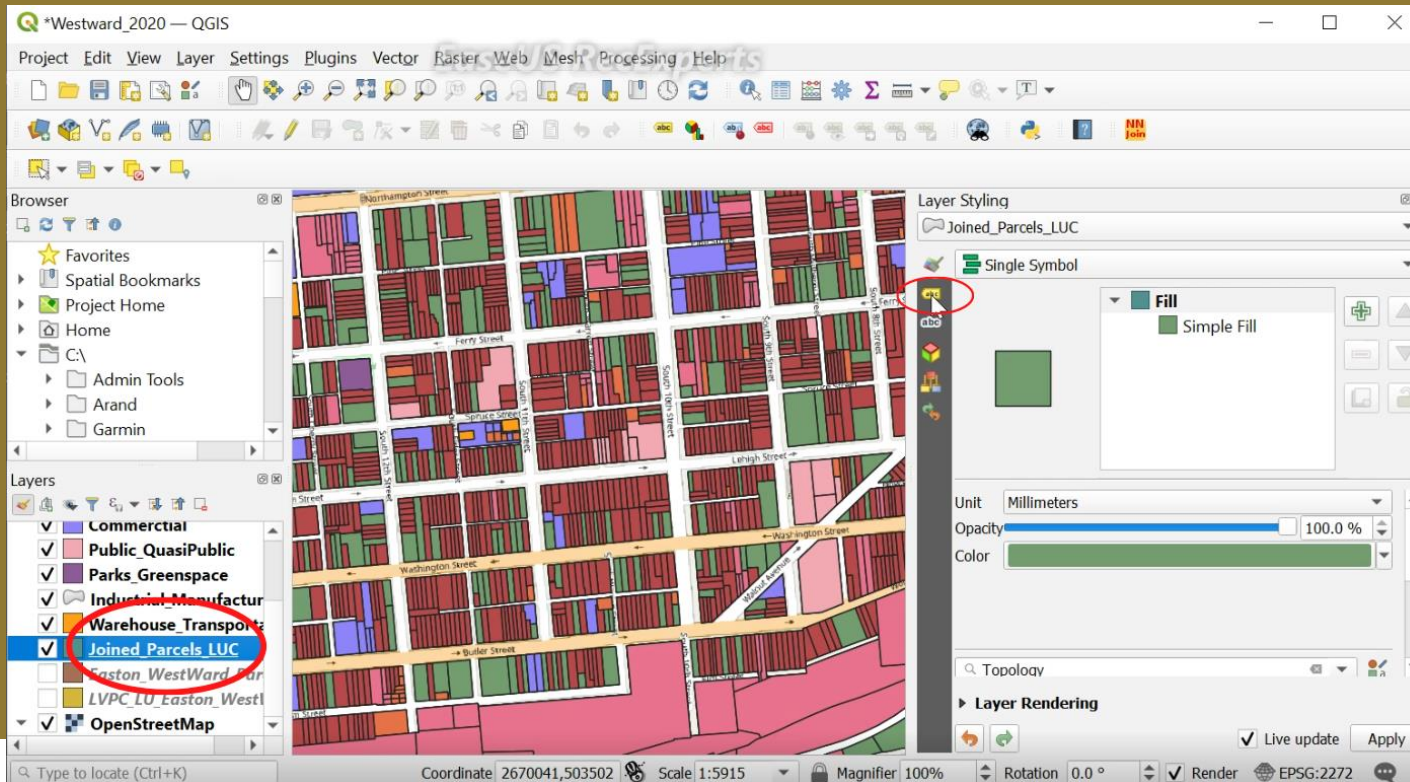


Video 10

Once you've clicked on which component you want to edit, a color menu will appear. You can explore this color menu to decide how best to coordinate the colors of that map. Once you've selected a color that you like for this layer, just toggle off the style menu using the button above the layers menu - your changes will save automatically.

Performing a Partial Map Update

Adding Labels



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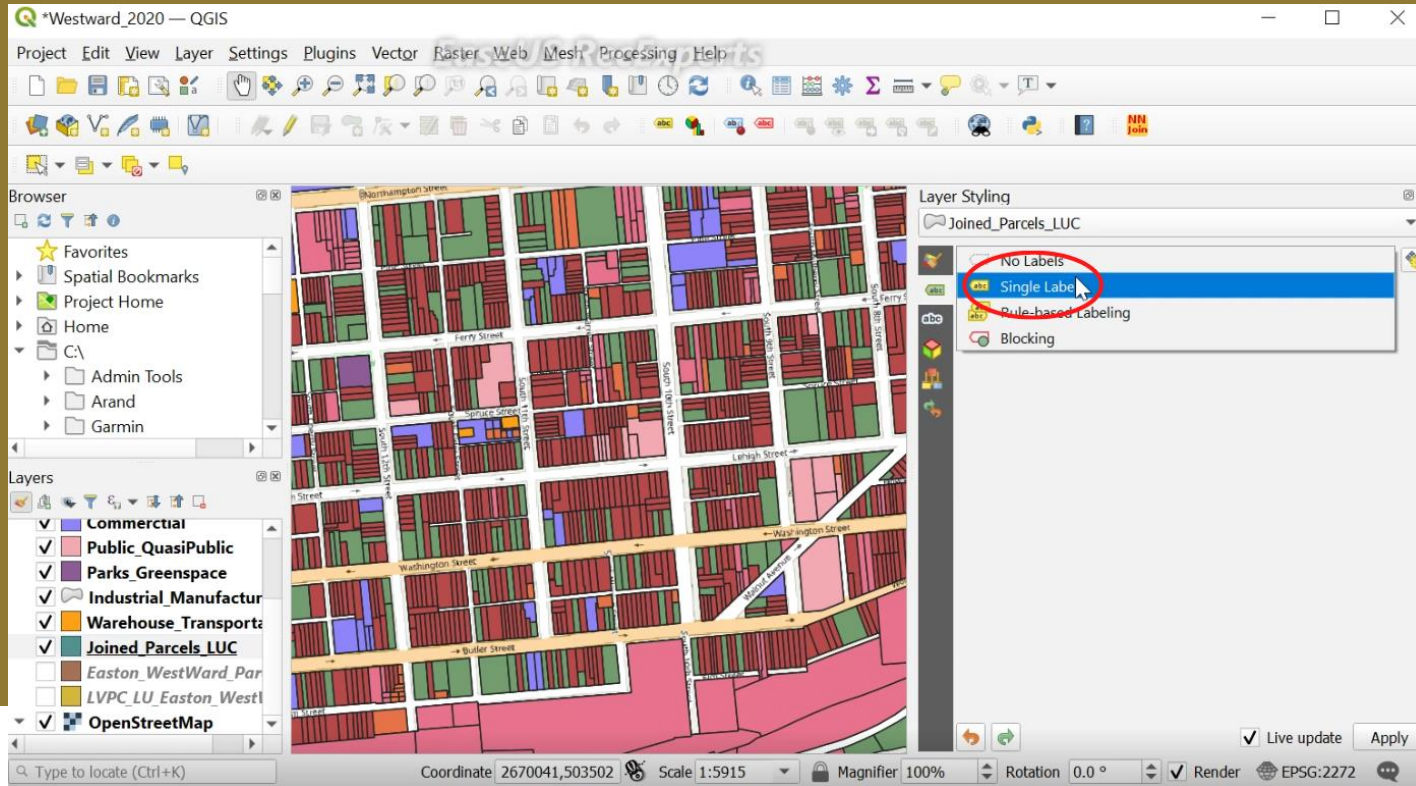


Video 11

To add labels to your map, first make sure that the joined layer is selected in the layer menu. Then, **open the style menu** and look for the label icon at the top of the menu on the left hand side of the style panel.

Performing a Partial Map Update

Adding Labels



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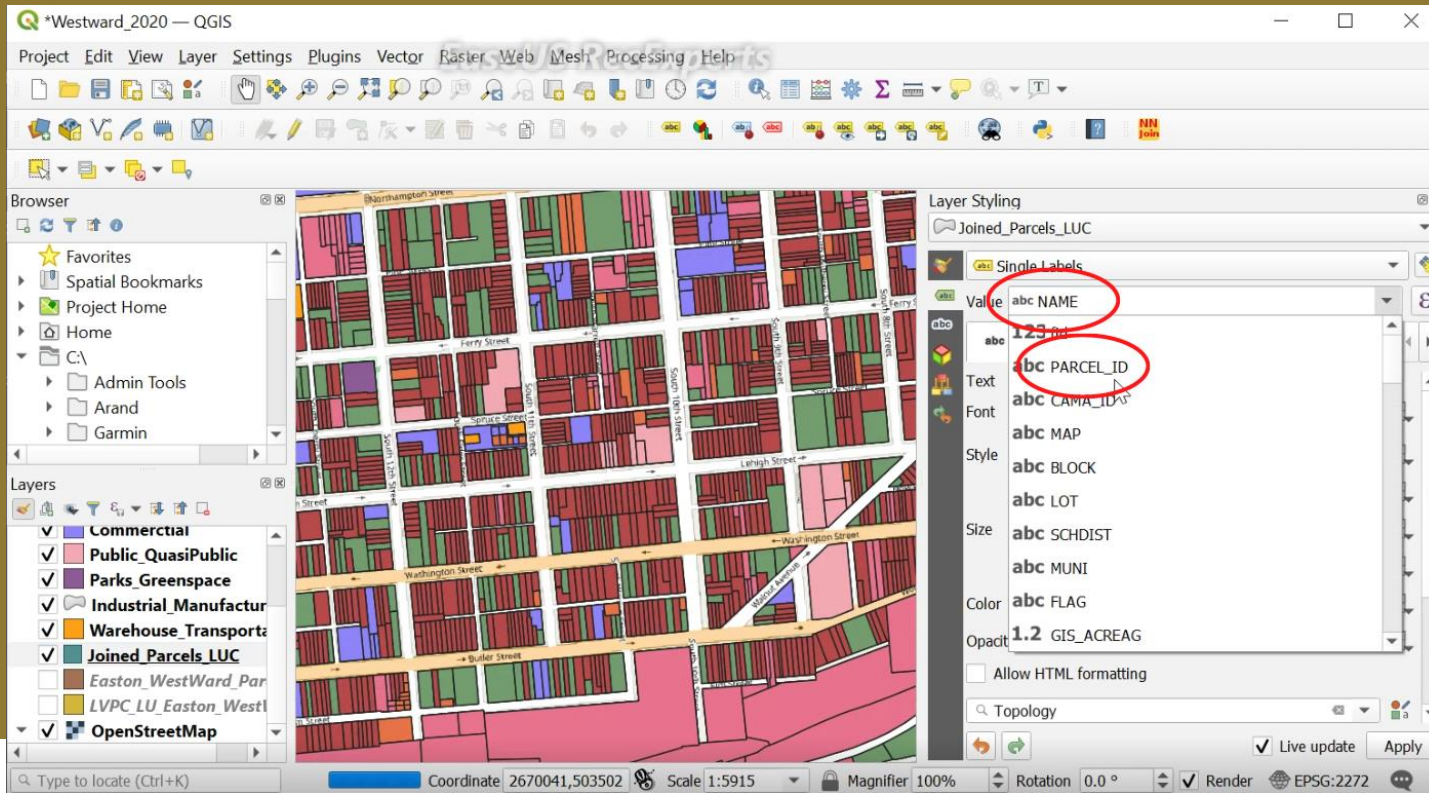


Video 11

From the drop down menu currently labelled 'No Label', click and select the 'Single Label' option instead.

Performing a Partial Map Update

Adding Labels



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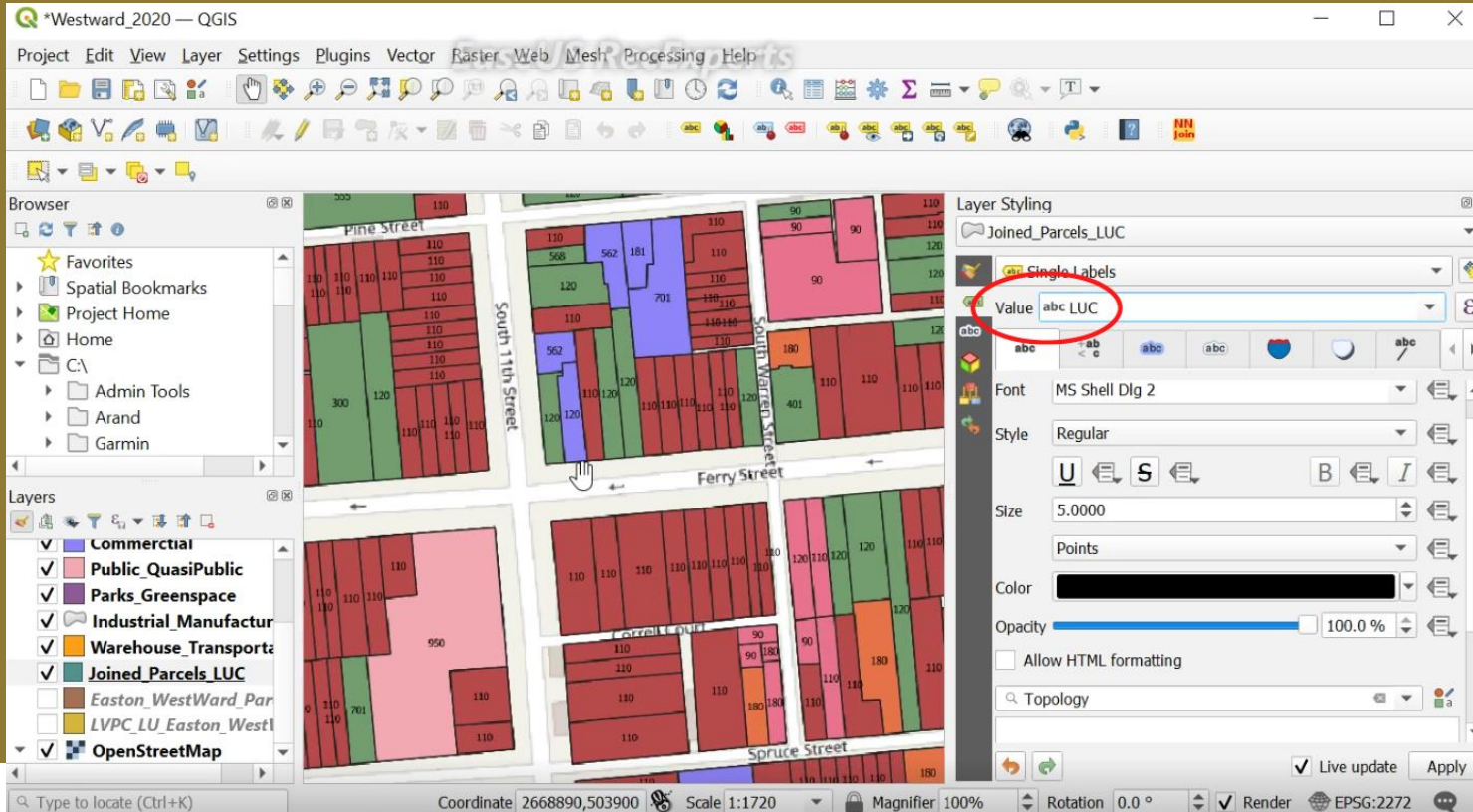


Video 11

The values menu located below the 'Single Label' setting will, by default, be set to 'Name'. Click on that option and select the 'Parcel ID' option from the drop down menu that appears. When you do this, you'll notice that the labels on the map change.

Performing a Partial Map Update

Adding Labels



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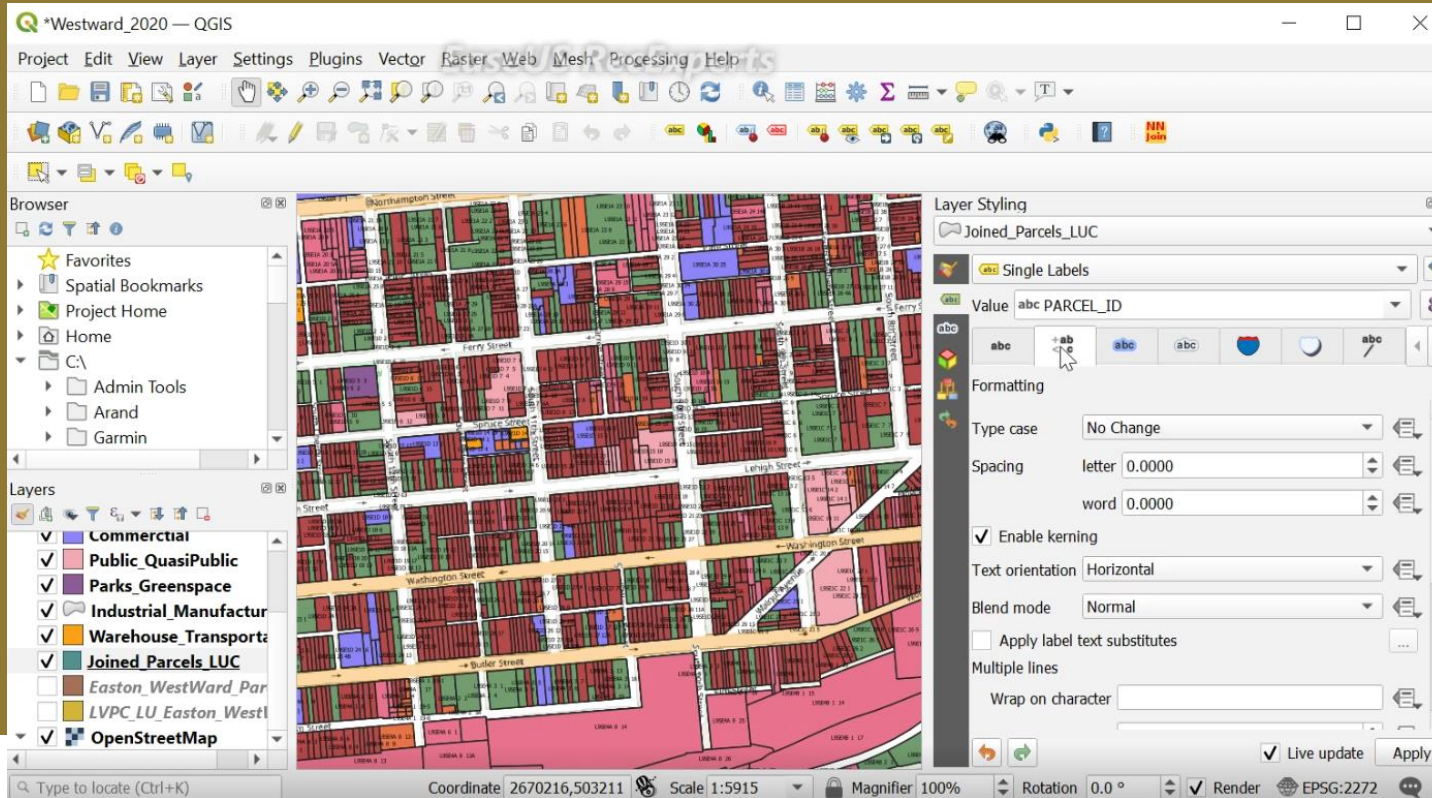


Video 11

Alternatively, you can select the 'LUC' option from the values drop down menu to display the land use code labels on the map instead.

Performing a Partial Map Update

Adding Labels



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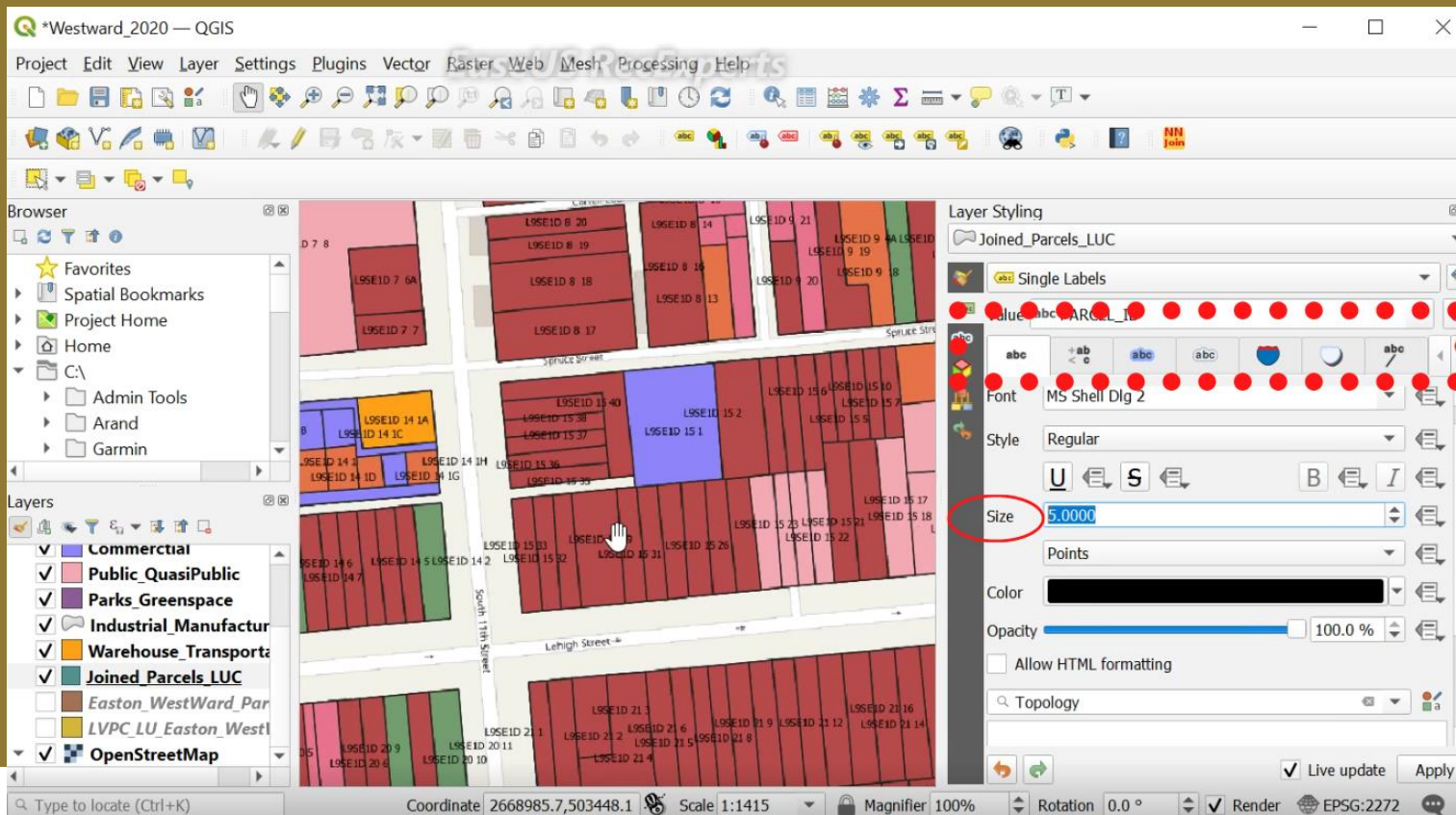


Video 11

Adding labels to the map can make it look very busy and somewhat unreadable. We recommend using the zoom feature to zoom in enough to be able to read the text.

Performing a Partial Map Update

Adding Labels



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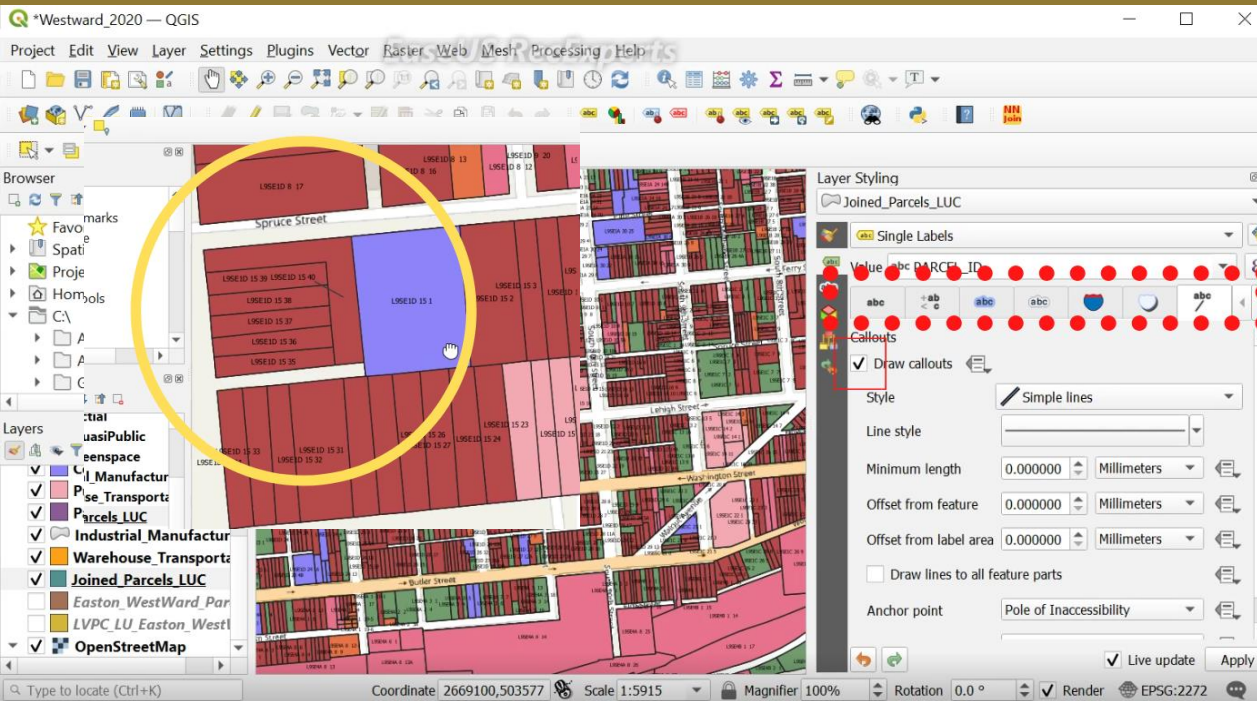


Video 11

One way to reduce the busyness of the map, in addition to zooming in, is to reduce the font size of labels. We recommend using a size 5 font.

Performing a Partial Map Update

Adding Labels



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Video 11

Another way to enhance the clarity of labels is by using callouts. Callouts are small lines that indicate which piece of land a label is referring to. From the toolbar at the top of the style panel, select the option on the far most right. Click the checkbox labelled 'Callouts'. Callouts will now appear where necessary. This setting can be toggled on or off at any time using this panel.

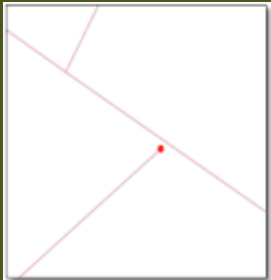
Troubleshooting

Identifying Topology Errors

Topology errors occur when lines or polygons do not accurately intersect. Topology errors can create obstacles for map users and editors.

Linear

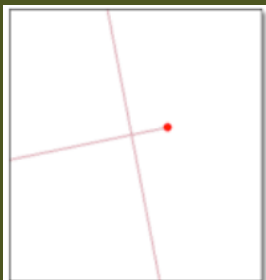
Undershoot



Correct

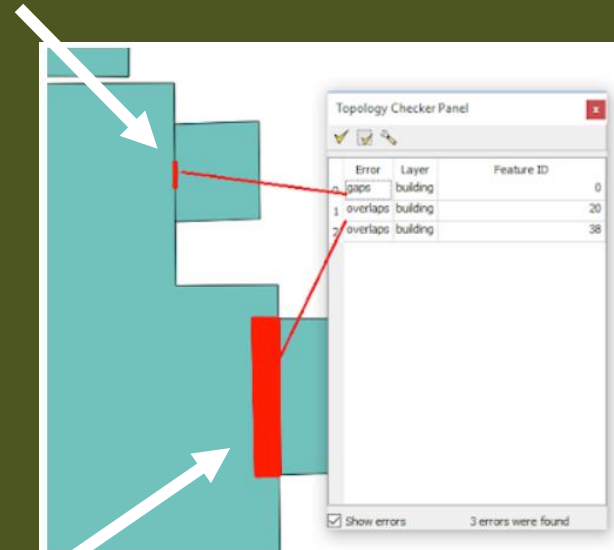


Overshoot



Polygon

Undershoot



Error	Layer	Feature ID
gaps	building	0
1 overlaps	building	20
2 overlaps	building	38

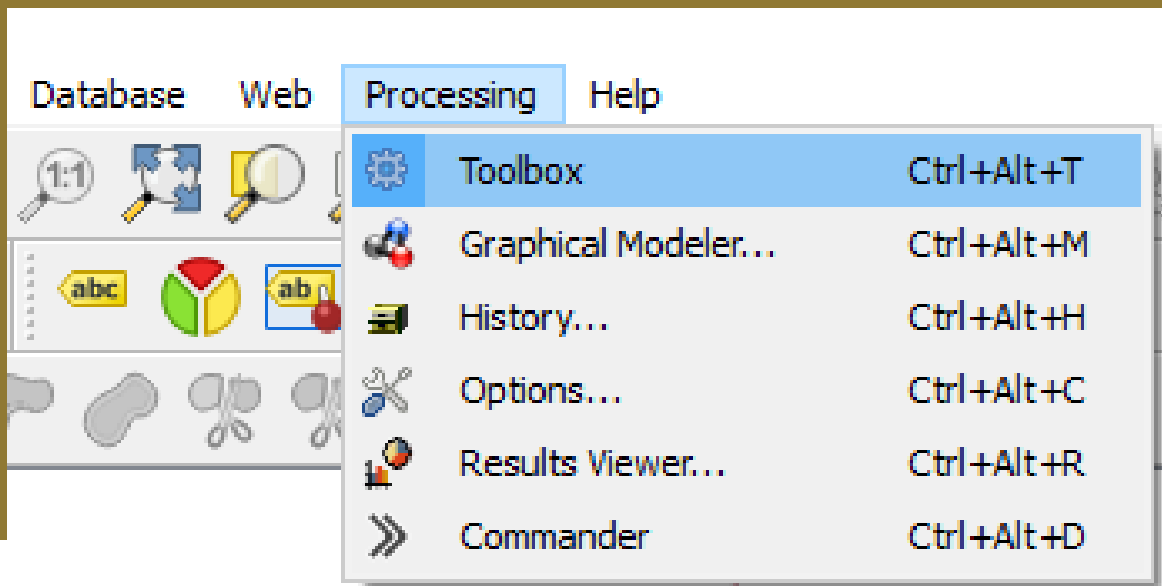
Show errors 3 errors were found

Overshoot

Troubleshooting

Fixing Linear Topology Errors

182

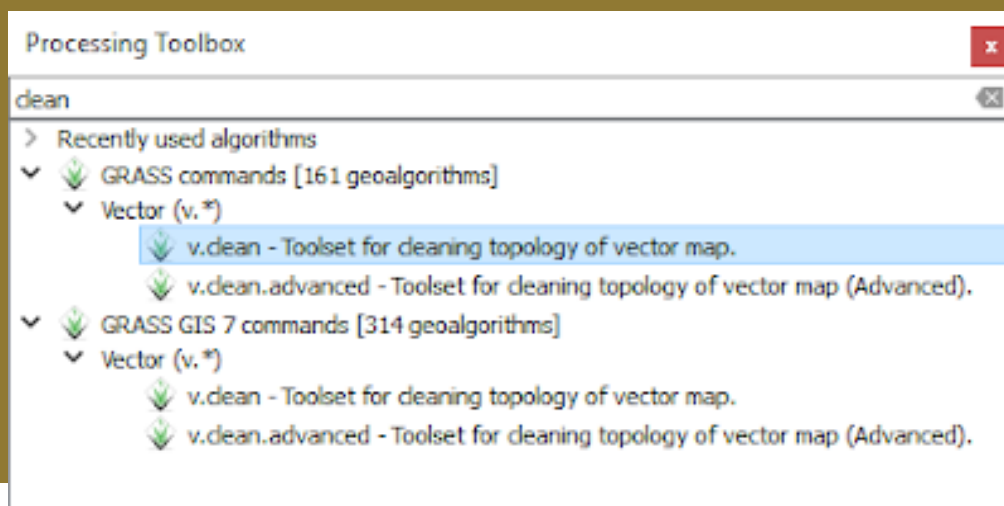


v.clean is a tool built in to QGIS that is designed to resolve topology errors. To access v.clean for linear fix usage, go to the toolbar and click 'processing'. Then, select the 'Toolbox' option.

Troubleshooting

Fixing Linear Topology Errors

183

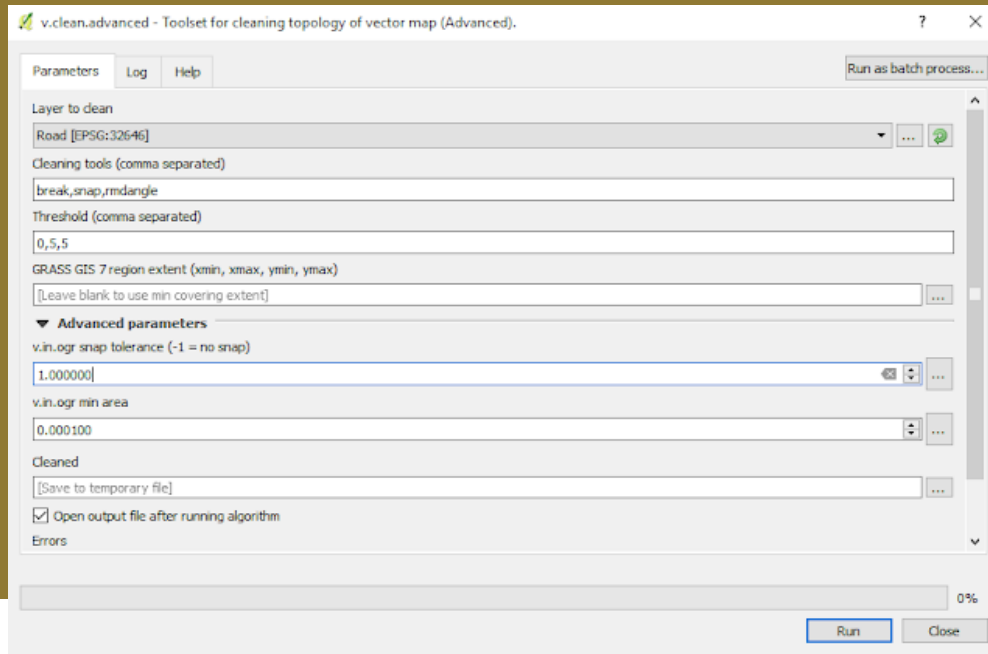


From 'Toolbox', select the '**v.clean - Toolset for cleaning topology of vector map**' option.

Troubleshooting

Fixing Linear Topology Errors

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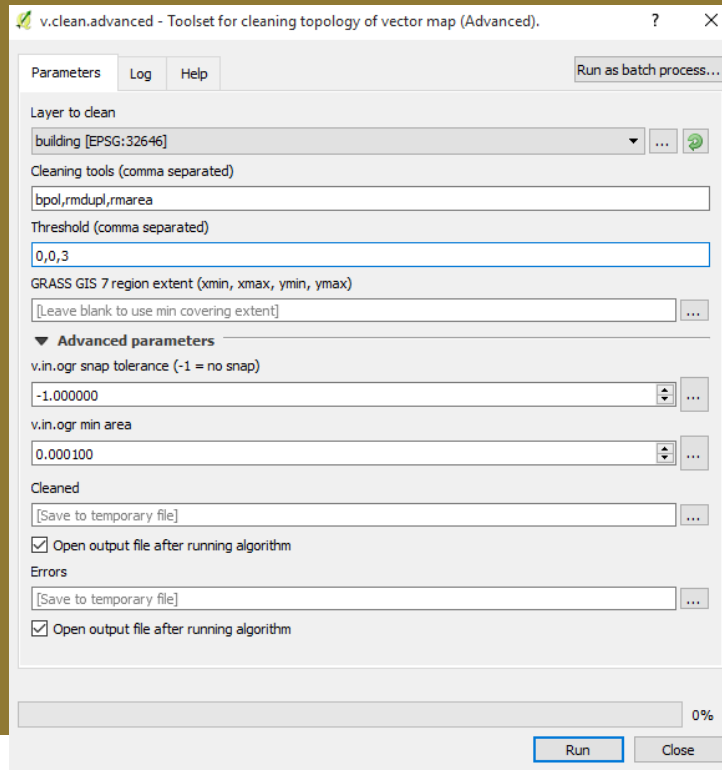


The v.clean.advanced window will open up. In the 'Layer to clean' box, select 'Road'. In the 'cleaning tools' box, enter the following three functions, each separated using a comma: **break, snap, rmdangle**. In the 'threshold' box, enter: **0, 5, 5**. Then, push the 'Run' button.

Troubleshooting

Fixing Polygon Topology Errors

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To address polygon errors, repeat steps 182-184. In the 'Layer to clean' box, select 'building'. In the 'cleaning tools' box, enter the following three functions, each separated using a comma: **bpol, rmdupl, rmarea**. In the 'threshold' box, enter: **0, 3, 3**. Then, push the 'Run' button.

Troubleshooting

Restoring Unsaved Work

Sometimes, the QGIS program software may crash or close unexpectedly at a time where your current work hasn't yet been saved.

To avoid losing work, we recommend that you install that QGIS autoSaver extension. The extension is available for download here: <https://plugins.qgis.org/plugins/autoSaver/>

Essary, use this plugin to restore any unsaved work. We do, however, recommend that you take all actions to prevent needing to use the autoSaver function, just to be safe. It is available if necessary, though.