2018

MARPLOT Introduction

VERSION 5.1.1

CITY OF WESTMINSTER

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WESTMINSTER
COLORADO

Contents

Disclaimer

This tutorial has been created to provide a simple, introductory user's guide for those who would like to create their own GIS products. The outline of the document was organized based on the drafting of the City of Westminster Risk Assessment (starting with isolating jurisdictional boundaries and narrowing down specific datasets). Due to this, some readers may find some sections of greater interest than others.

As with most computer programs, there may be multiple ways to accomplish the same result. MARPLOT is user friendly and intuitive, so don't assume the procedures outlined here are the best or only way to use this program. If you have recommendations for improvements, please feel free to contact Will Moser at wjmoser35@gmail.com.

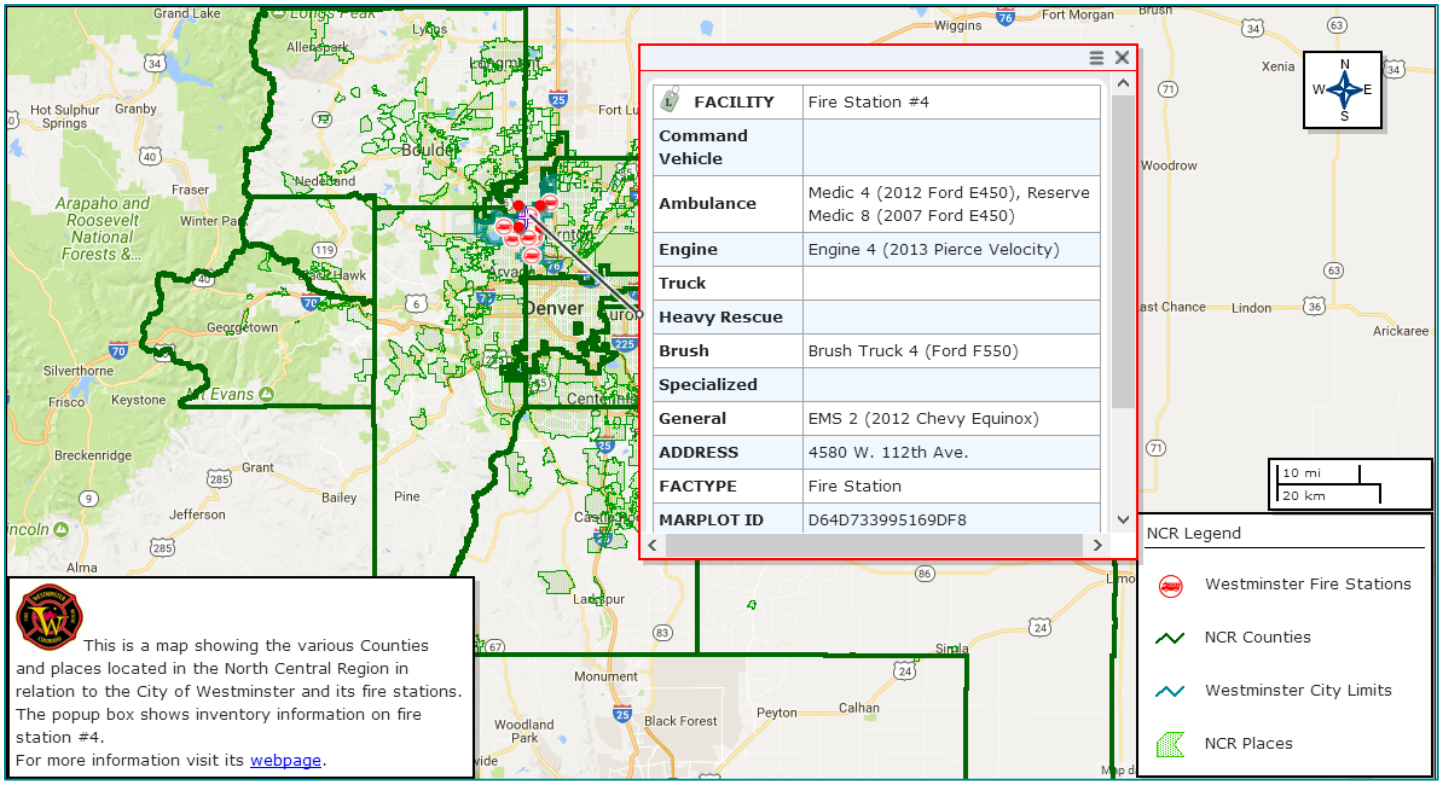
What is MARPLOT

MARPLOT –Mapping Application for Response, Planning and Local Operational Tasks

Development by National Oceanic and Atmospheric Administration's Office of Response and Restoration in conjunction with Environmental Protection Agency's Office of Emergency Management began in 1988 as part of the CAMEO software suite in order to give first responders better access to chemical inventory data.

CAMEO (Computer-Aided Management of Emergency Operations) software suite is a set of four programs:

- CAMEO*fm* & CAMEO Chemicals: Extensive database applications used to keep track of information such as chemical inventories and contact information for facilities. This information is available in a variety of forms including website, mobile app and desktop program. CAMEO*fm* is designed to interact with ALOHA and MARPLOT.
- ALOHA (Area Locations of Hazardous Atmospheres): A hazard modeling program used by entering details about a real or potential chemical release in order to generate threat zone estimates and plume studies for various types of hazards.
- MARPLOT (Mapping Application for Response, Planning and Local Operational Tasks): A general-purpose mapping application program. It allows you to create, view and modify maps quickly and easily. It also allows you to link objects on your computer maps to data in other programs.



How to Download MARPLOT

Website https://www.epa.gov/cameo/marplot-software

EPA United States Environmental Protection Agency

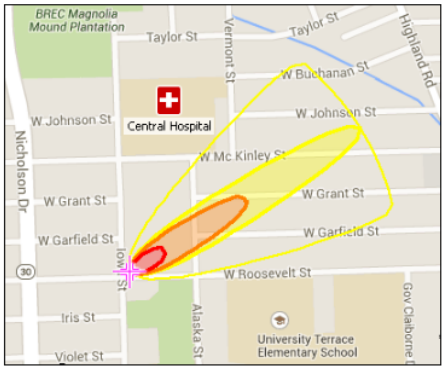
Environmental Topics | Laws & Regulations | About EPA | Search EPA.gov

Related Topics: CAMEO

CONTACT US SHARE

MARPLOT Software

MARPLOT® is the mapping program for the CAMEO® software suite, which is used widely to plan for and respond to chemical emergencies.



MARPLOT's easy-to-use GIS interface allows you to add objects to a map, as well as view and edit data associated with the objects. You can choose between several background basemap images, and you can customize your map further with annotations and online layers from Web Mapping Services. You can also interact with the map in other ways, such as getting population estimates within an area. MARPLOT can be run by itself as a general mapping program. It can also be used interactively with programs in the CAMEO suite to display ALOHA® threat zone estimates on the map or to link map objects to database records in CAMEO*fm*.

Downloading MARPLOT

Download MARPLOT for Windows (Version 5.1.1, Dec 2017, 176 MB EXE)

Download MARPLOT for Mac (Version 5.1.1, Dec 2017, 283 MB DMG)

The Windows version can be run on Windows 7, Windows 8.1, and Windows 10 operating systems. The Macintosh version can be run on Yosemite (10.10), El Capitan (10.11), Sierra (10.12), and High Sierra (10.13) operating systems. Operating systems not listed here have not been tested and are not supported.

Base Maps

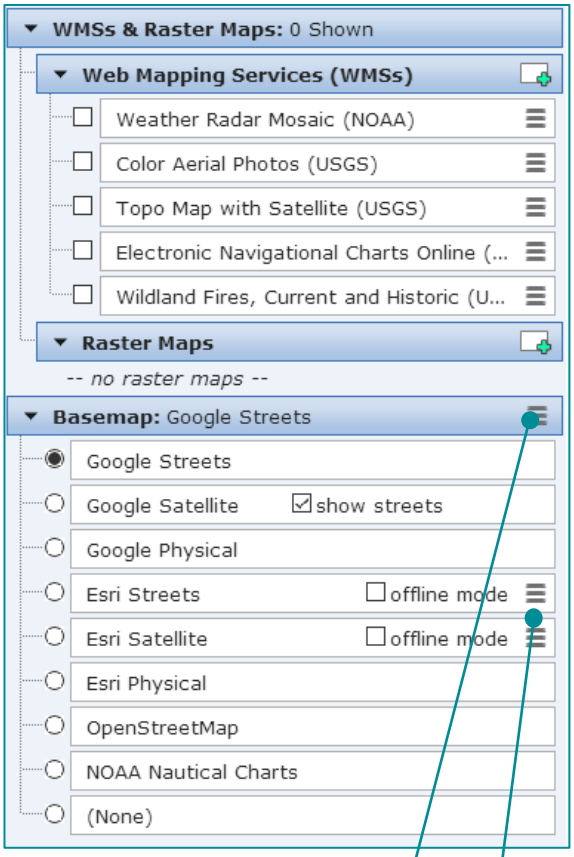
Base Maps and Web Mapping Services (WMS) are background features for data to be overlaid on. There are several online Base Maps to choose from.

Esri tiles can be downloaded for offline use. Esri tiles are downloaded based on county and level of detail. Greater detailed maps (that can be magnified up to 19) are large files that can take several hours to download. Other maps require online access.

Web Mapping Services are basic backgrounds with ArcGIS data (developed by Esri) that give access to weather and wildfire information.

Base Maps

- Google: Based on Google Maps, traffic can be toggled on through Basemap options
- Esri: GIS supplier out of CA, can download map cells for offline use of dynamic quality (more cells with better resolution take more memory)
- Open Street Maps: free editable collaborative online mapping source
- NOAA Nautical Charts: based on charts covering 95,000 miles of shoreline and 3.4 million square nautical miles of water
- Uploaded Raster Maps: Raster maps are GeoTiff (.tif or .tiff), MrSID (.sid) and JPEG2000 (.jp2) files with georeferenced information (either in the file itself or an appropriate external file in the same directory) that can be downloaded into MARPLOT in order to create custom basemaps

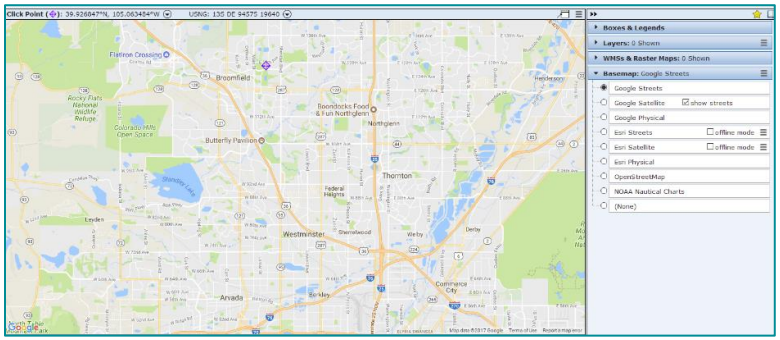


Basemap options

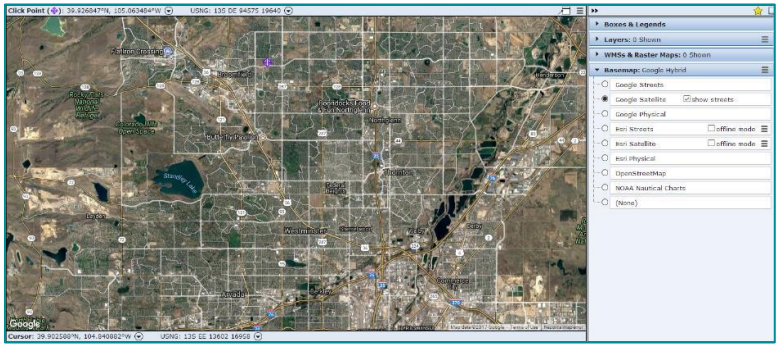
These menus access Esri files to download tiles for offline use

Example Basemaps: The following are several visuals showing some of the default basemaps that appear with MARPLOT.

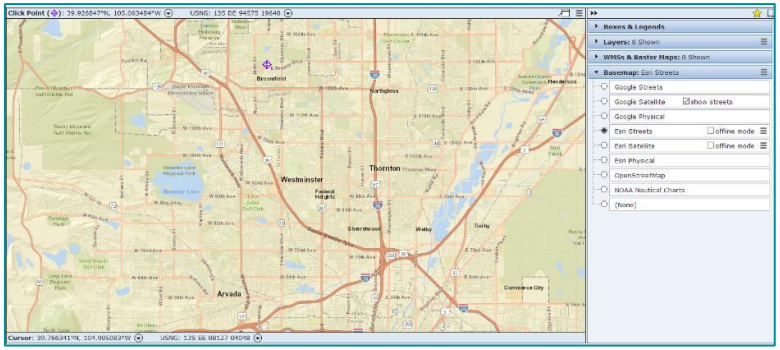
Google Streets



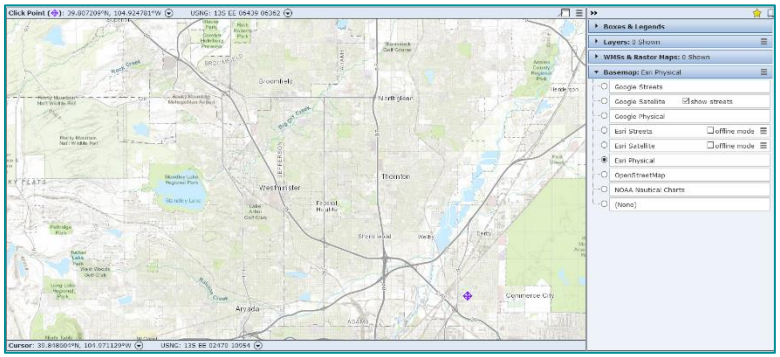
Google Satellite



Esri Streets



Esri Physical



Getting Started

Finding GIS Data: Depending on the size of a community, the easiest way to find data is to request information from either local or state colleagues, or to create files from scratch by drawing shapes or importing Excel spreadsheets. The following is a list of various websites with available GIS data.

MARPLOT utilizes Excel files and zip files to create map layers. In the websites below look for files with these extensions:

- .mpz: MAPLOT zip file for sharing files with other MARPLOT users and backups
- .shp: shapefile sets used by Esri ArcGIS products and other programs
- .kmz: zip file used by Google Earth and Google Maps

National Resources

https://www.epa.gov/cameo/geospatial-data-sources-marplot	
EPA: starter files	
• Brownfield • Census data	
https://www.epa.gov/enviro/topic-searches#facility	
EPA: federally regulated facilities	
• Air – UV, Greenhouse Gases, Releases • Land – Hazardous Waste, Brownfield, Superfund, Cleanups • Water – Sample Collection (systems serving 100,000+), Permit Compliance, Safe Drinking Water • Waste – Hazardous Waste, Superfund, Waste Handlers	• Toxics – Pollution Prevention, Toxic Substances Control, Toxic Release Inventory • Radiation – Facilities, Monitoring Stations • Facility – Environmental Interest, Regulatory Programs • Compliance – Environmental Records • Other – Grants, Multisystem, UV
https://hifld-geoplatform.opendata.arcgis.com/	
DHS' Homeland Infrastructure Foundation-Level Data: information on hazards and critical infrastructure	
• Agriculture • Borders • Boundaries • Chemicals • Commercial • Communications • Education • Emergency Services • Energy • Finance • Food Industry • Geonames	• Government • Law Enforcement • Mail Shipping • Mining • National Flood Hazard • Natural Hazards • Public Health • Public Venues • Transportation – Air • Transportation – Ground • Transportation – Water • Water Supply
https://www.blm.gov/programs/national-conservation-lands/about/maps-data-and-resources	
Bureau of Land Management: land use	
• National Parks • Conservation	

https://catalog.data.gov/dataset/tiger-line-shapefile-2012-state-colorado-current-county-subdivision-state-based
Census Bureau; Data.gov: jurisdictional and census data
• Census Data
https://www.eia.gov/maps/layer_info-m.cfm
Energy Information Administration: energy related critical infrastructure
• Energy Disruptions • Flood Vulnerability Assessment Map • Gulf of Mexico Fact Sheet • Major Oil and Gas Plays • State Energy Profile Maps • U.S. Energy Mapping Systems
http://nationalregisterofhistoricplaces.com/CO/state.html#pickem
National Register of Historic Places
• Historic Places
http://www.spc.noaa.gov/gis/svrgis/
National Oceanic and Atmospheric Administration: storm prediction center
• Tornados • Hail • Wind
https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html
NOAA: 1000 year events
• Precipitation Frequency in Inches
https://www.ncdc.noaa.gov/stormevents/
NOAA: storm events database
• Storm data
https://www.weather.gov/bou/
National Weather Service: severe weather records (303 494-3210)
• Climate and Past Weather Data (enter address)

Colorado Resources

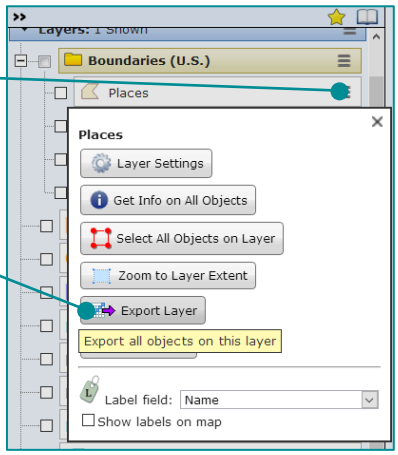
https://data.colorado.gov/	
Colorado Info Clearing House	
• Agriculture • Business • Education • Government	• Health • Public Safety • Recreation • Water
http://www.cohealthmaps.dphe.state.co.us/colorado_community_inclusion/	
Colorado Department of Public Health and Environment: community Inclusion in Colorado for information on vulnerable/special needs populations	
• Key Socio-Demographic Indicators • Disabilities • Ambulatory/Mobility Resources • Cognitive Resources • Early Child Care and Disability Resources • Hearing Resources	• Independent Living and Self Care Resources • Vision Resources • Durable Medical Equipment • Change Over Time
https://www.colorado.gov/pacific/cdphe/facilities-and-providers-type	
Colorado Department of Public Health and Environment	
• Acute Treatment • Ambulatory Surgical Centers • Assisted Living Residences • Community Based Healthcare Providers • Community Clinics • Dialysis Treatment Clinics	• Home Care Agencies • Hospice • Hospitals • Nursing Homes • Rural Clinics
http://cogcc.state.co.us/data2.html#/downloads	
Colorado Oil & Gas Conservation Commission	
• Well Surface Location • Directional Well • Oil & Gas Location	• Oil & Gas Facilities • Other COGCC Data
https://www.colorado.gov/pacific/ops/Petroleum	
Colorado Department of Labor and Employment: Petroleum regulation (request required for storage location)	
• Petroleum Storage • Gas Stations	
http://water.state.co.us/DataMaps/GISandMaps/Pages/GISDownloads.aspx	
Colorado Division of Water Resources	
• Points of Diversion • Wells • Streams/Rivers	• Stream Gages • Canals • Climate Stations
http://water.state.co.us/SurfaceWater/DamSafety/Pages/DamSafety.aspx	
Division of Water Resources: dam safety	
• Dams	
http://ibis.colostate.edu/cwis438/websites/ColoradoView/Data.php?WebSiteID=15	
International Biological Information System	
• Census	• Hydrology

• Local Affairs • Roads • Wildlife • Land Management	• Geology • Soil • Oil & Gas • Natural Resources
http://www.historycolorado.org/oahp/google-earth	
History Colorado: You can also contact Mary Sullivan at mary.sullivan@state.co.us or 303 866-4673 to request importable files. Archeological files are protected. You can get them for official use only and must agree to protect them from public disclosure.	
• Archeological Sites	

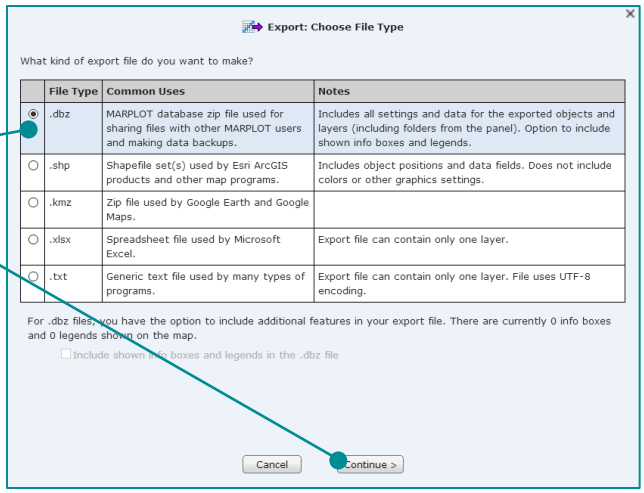
Finding Census Boundaries and Data in MARPLOT: MARPLOT comes installed with shape layers for "Places", "American Indian, Alaska Native, and Native Hawaiian Areas", "Counties", and "States" located in the "Boundaries (U.S.)" folder. These layers show the jurisdictional boundaries of various levels of state and local government and is attached to federal census data. The following steps show how to parse out this data and create a map of a single jurisdiction. **(For more information on exporting and importing see the chapter on Excel Files)**

Copying Layers: Manipulating the layer will delete and/or break up the data, so the first step is to create a copy (and backup) of the layer so that the original can remain complete.

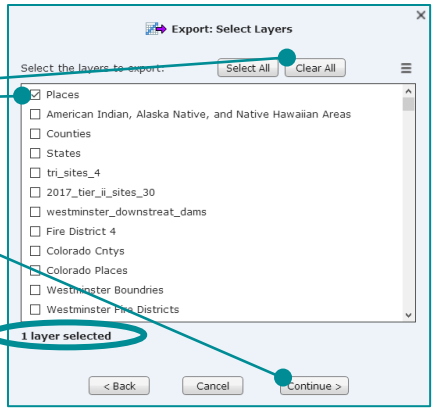
1. Export the layer by opening the menu tab and selecting "Export"



2. In the popup menu select either ".dbz" or ".shp" and click continue (this will create either a MARPLOT zip or a Shapefile, both are convenient ways to backup data for MARPLOT)

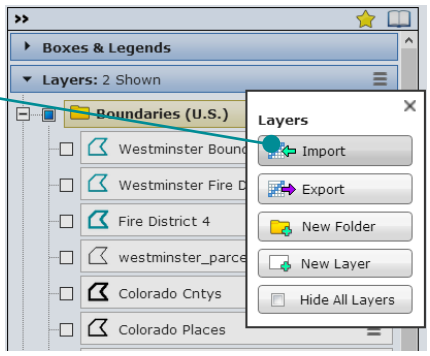


3. In the second popup menu select "Clear All", mark the layer to be exported, make sure there is only the one layer selected and press "Continue"

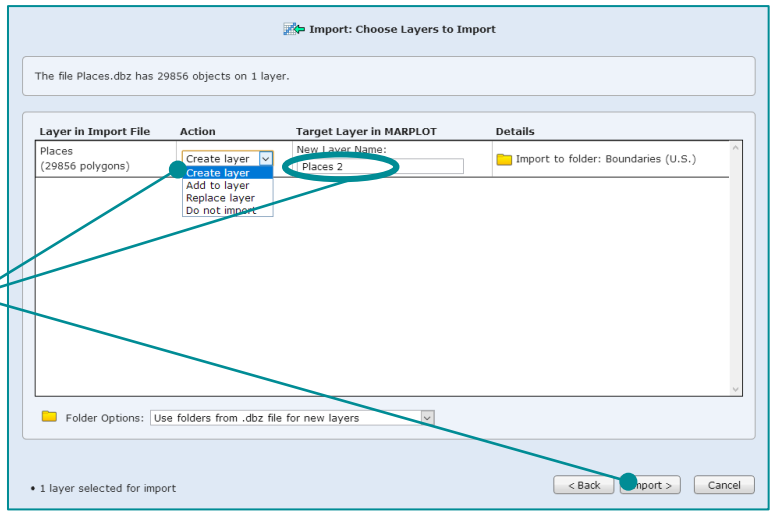


4. Save the file to a convenient location (generally, a folder on the desktop)

5. Reimport the layer by opening the layers menu, selecting "Import" and navigating to the file location

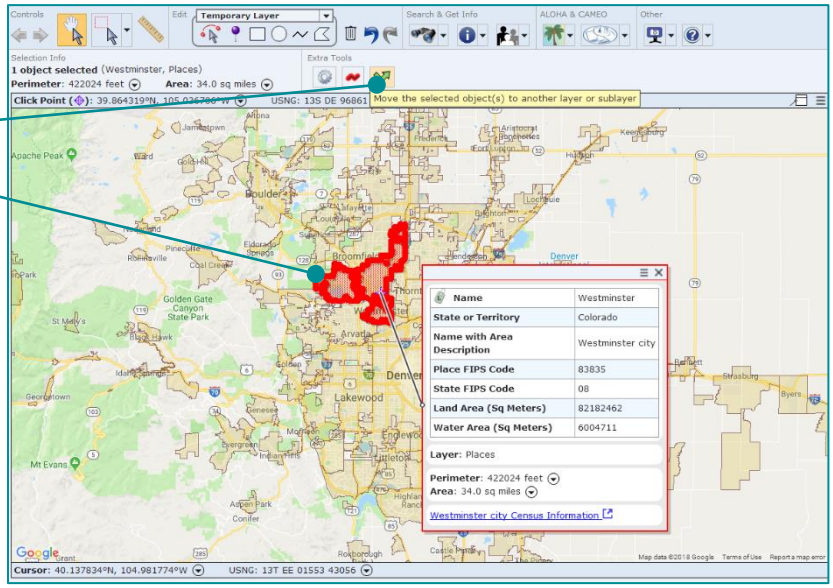


6. In the next popup menu, change the action to "Create layer" and change the name so that the import does not just overwrite the Places layer; then click "Import" and this will create a copy of the Places layer within MARPLOT

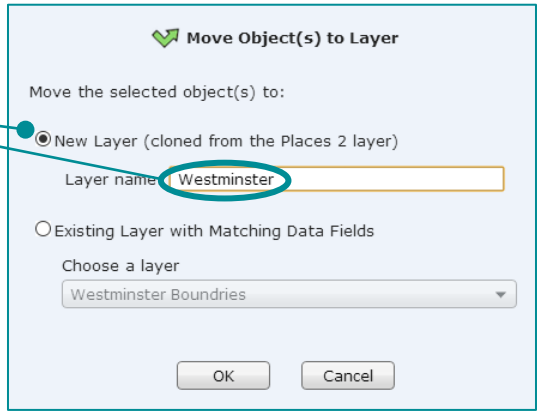


<u>Moving Individual Object(s) to Different Layers</u>: Now that the boundary layer has been copied, the copy can be manipulated without fear of corrupting the original data. Individual jurisdictions can now be separated into different layers.

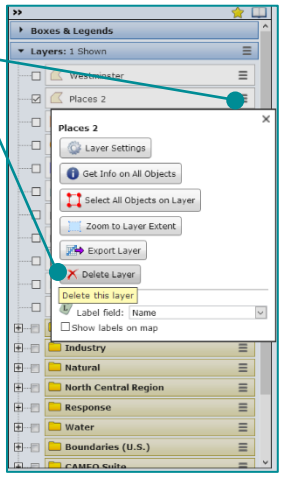
1. Select the needed object and press the "Move" action under "Extra Tools"



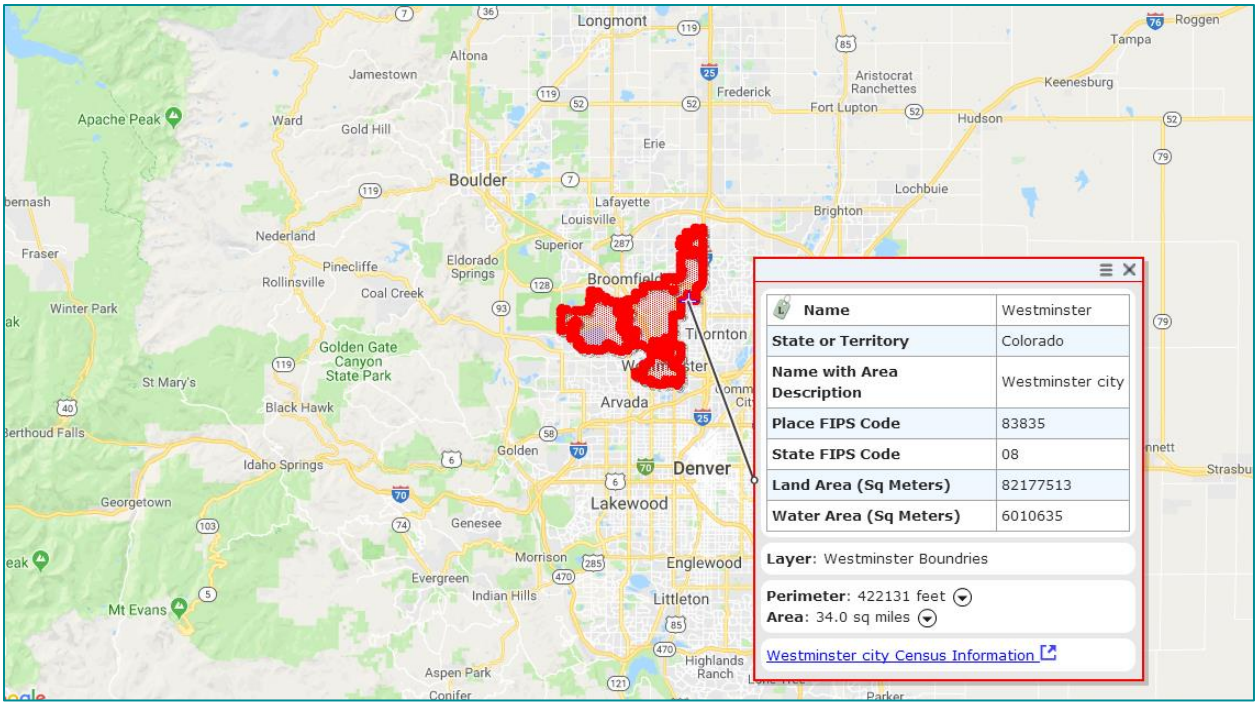
2. In the popup menu select “New Layer” and name it. Repeat this step for each object for which an individual layer is needed.



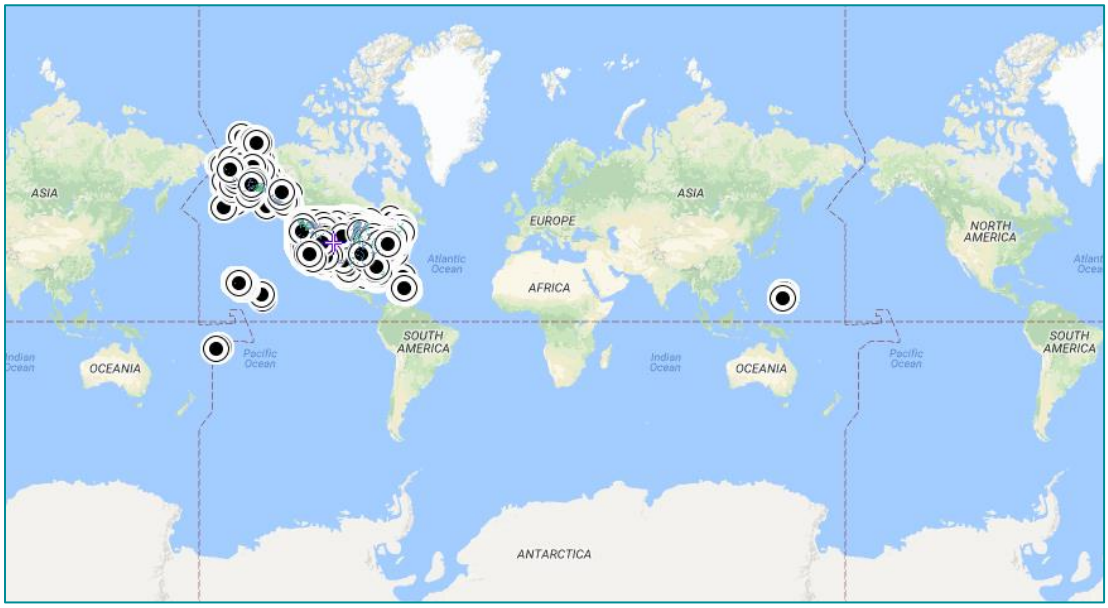
3. After the object(s) have been removed from the layer and moved, the copied boundary layer is incomplete and can be deleted in the menu.



4. The selected jurisdictions are now separated into different layers where data can be analysed more precisely.

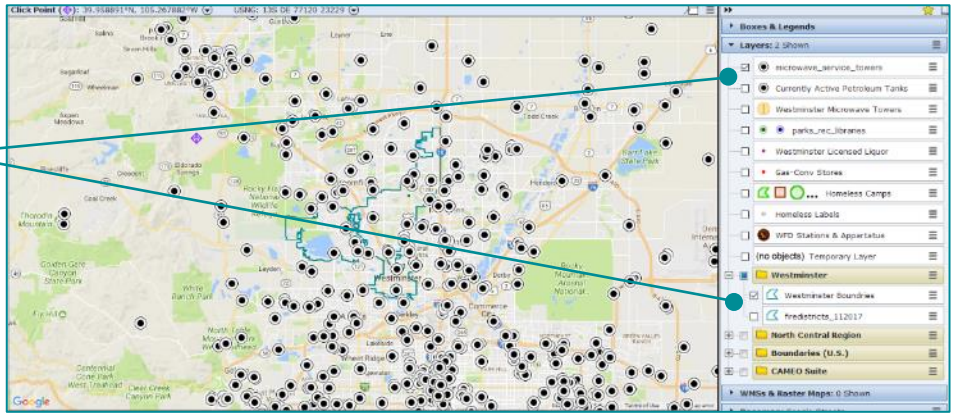


Clipping Data: This section details how to clip specific data from a larger file. The following is list of all the microwave towers taken from DHS' federal database and these are the steps needed to narrow the data to only those towers located within the boundaries of the City of Westminster.

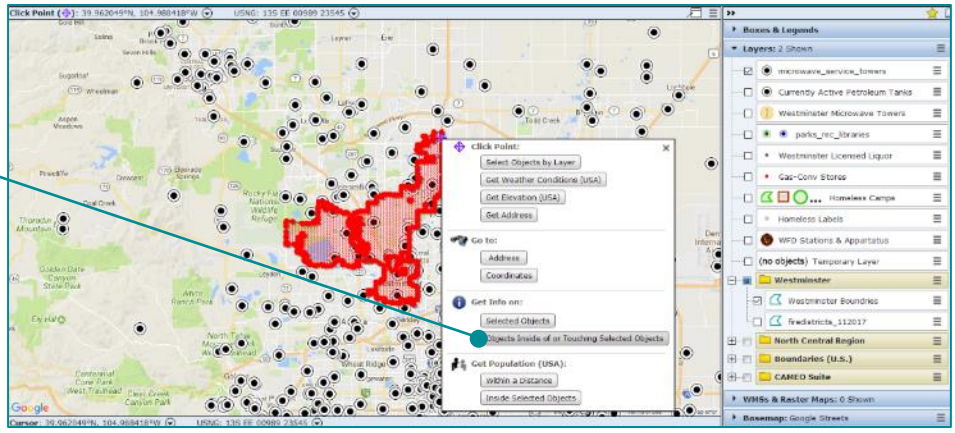


The first step in narrowing the list to only the microwave towers located within Westminster city limits is to delete the majority of the unnecessary data (make sure to make a backup file of any layer before modification).

1. Turn on the layer that is being modified as well as specific geographic region that it is being compared to

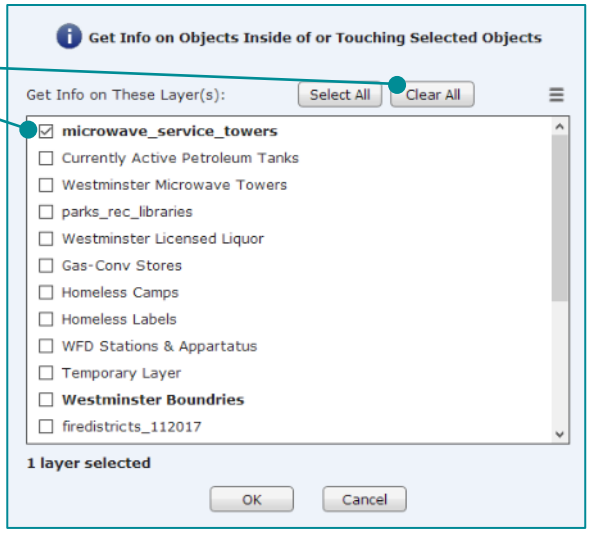


2. Use the Select icon to highlight the geographic region, right click and select “Objects Inside or Touching Selected Area”

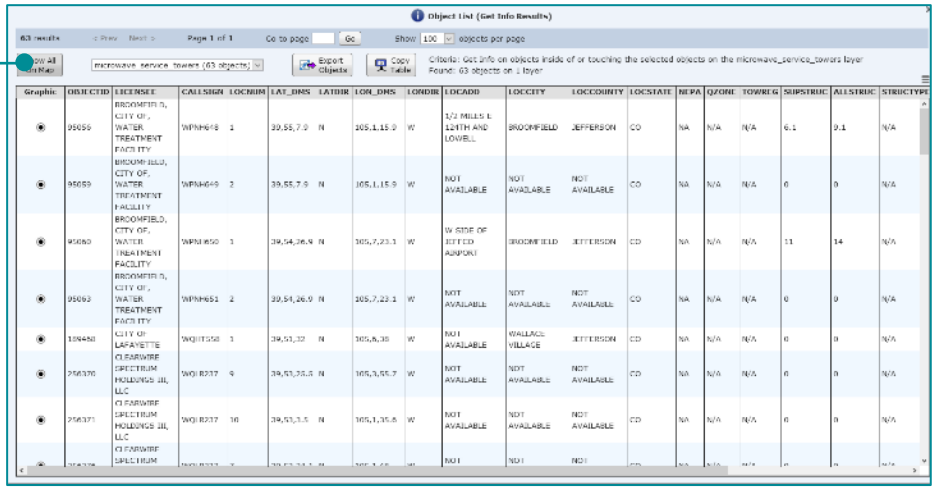


Only one layer is selected and press “OK”

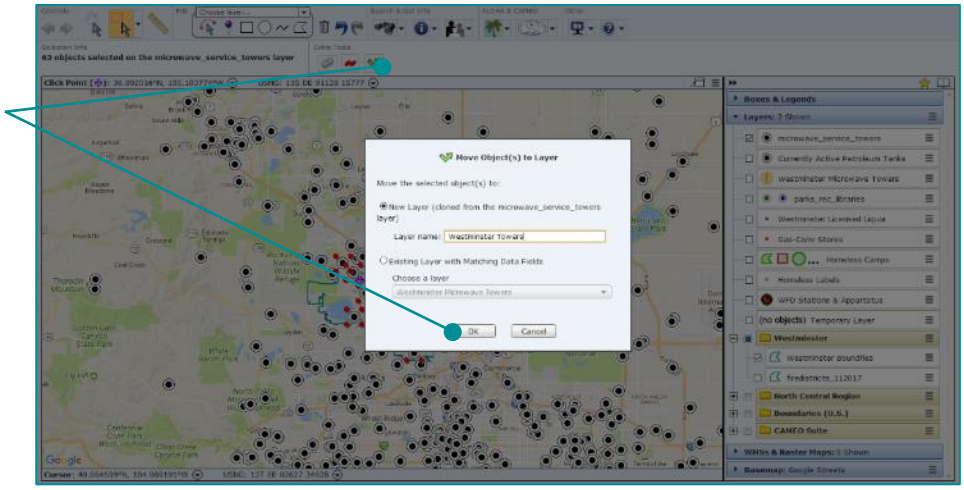
3. In the menu, press “Clear All”, select the layer being modified and press “OK”



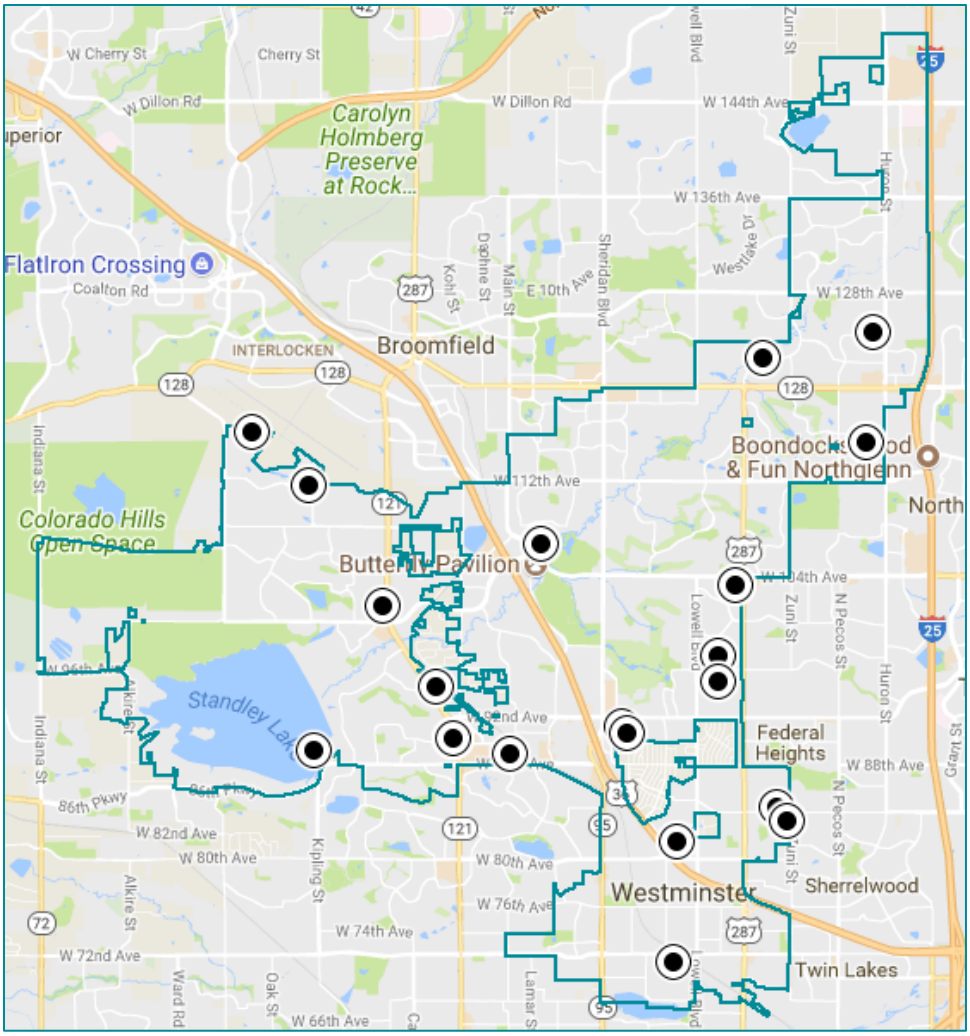
4. In the Popup menu select “Show All on Map”



5. Use the Move icon under Extra Tools and move the objects to a new layer



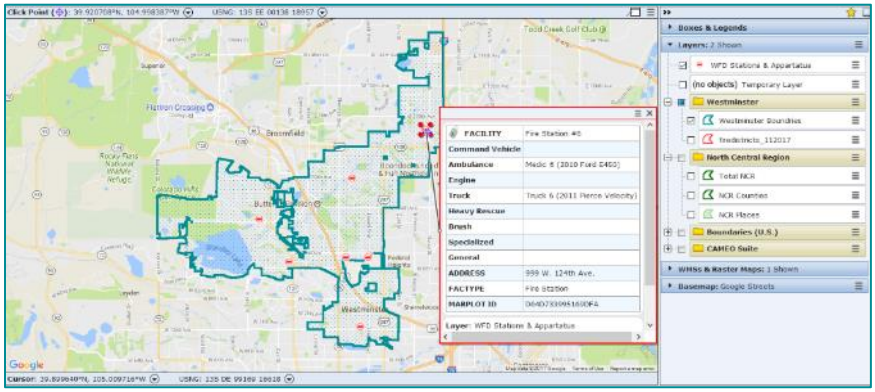
6. The old layer can now be deleted and the new layer will hold all the data specific for that geographic region



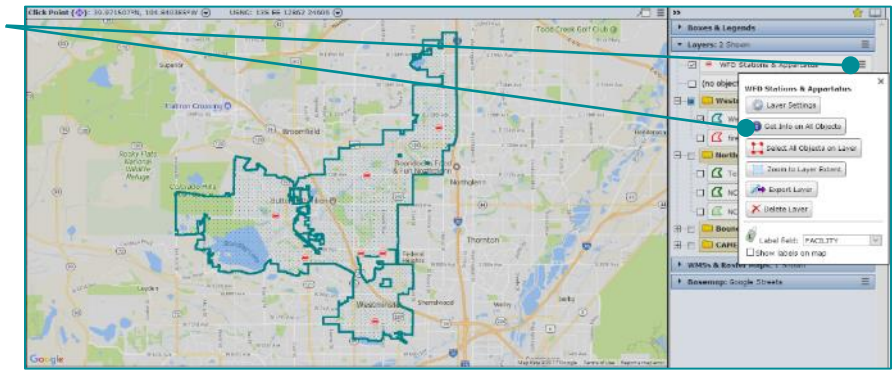
Reading Information

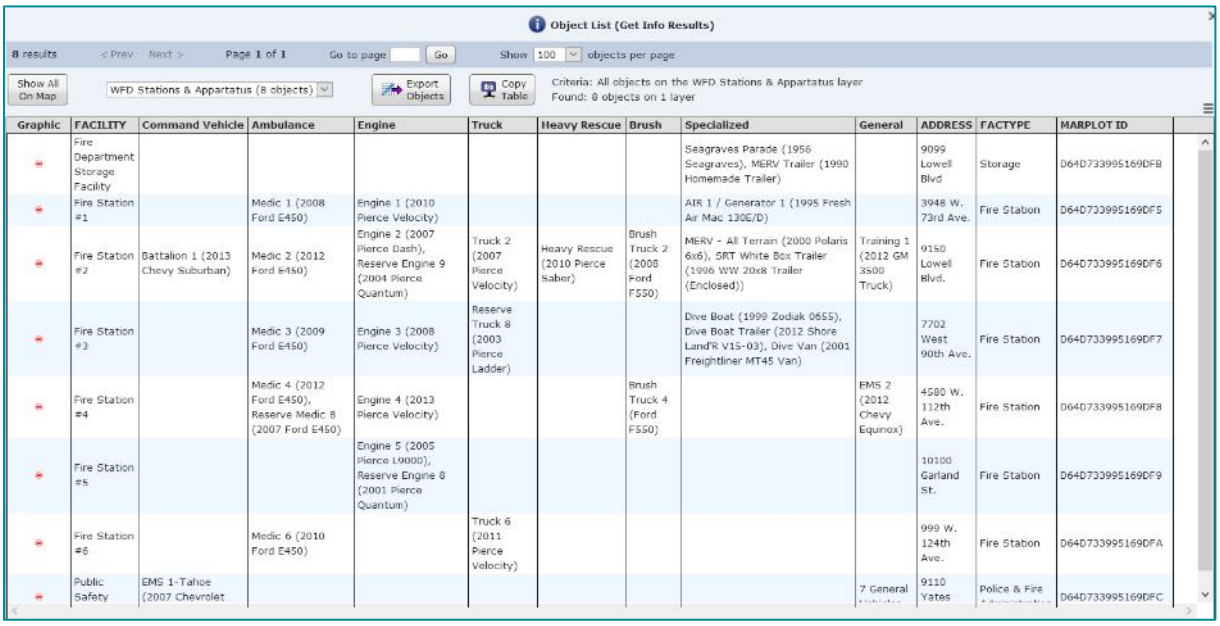
Information attached to layers in MARPLOT can be read and shown in several ways.

<u>Popup Information on a Single Object</u>: left clicking on an object will cause a popup box to appear containing all information listed in MARPLOT concerning that individual object.



<u>Information on All Objects in a Layer</u>: opening the "Layer options" for an individual layer and selecting "Get Info on All Objects" will open a popup Object List containing all information listed in MARPLOT concerning all objects in that layer.





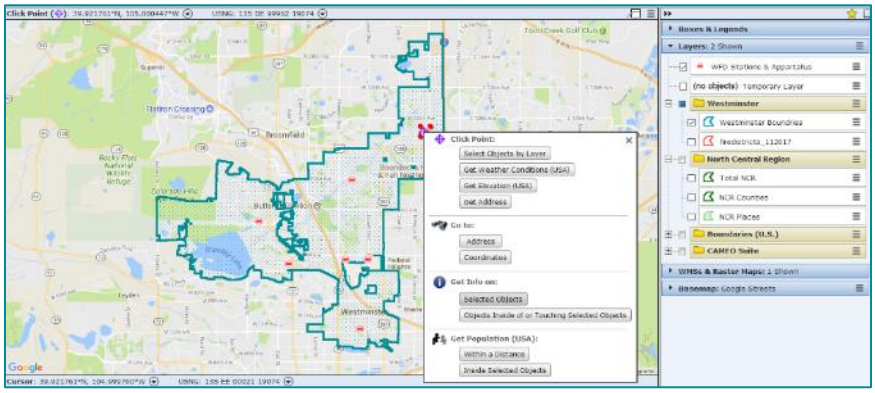
Object List (Get Info Results)

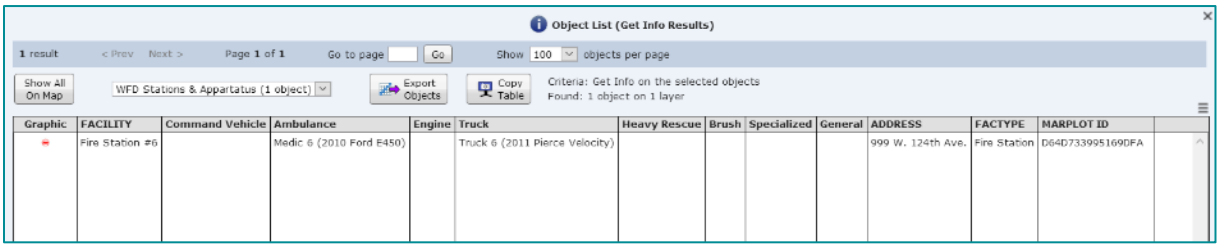
8 results < Prev Next > Page 1 of 1 Go to page Go Show 100 objects per page

Show All On Map WFD Stations & Appartatus (8 objects) Export Objects Copy Table Criteria: All objects on the WFD Stations & Appartatus layer Found: 8 objects on 1 layer

Graphic	FACILITY	Command Vehicle	Ambulance	Engine	Truck	Heavy Rescue	Brush	Specialized	General	ADDRESS	FACTYPE	MARPLOT ID
	Fire Department Storage Facility							Seagraves Parade (1956 Seagraves), MERV Trailer (1990 Homemade Trailer)		9099 Lowell Blvd	Storage	D64D733995169DF8
	Fire Station #1		Medic 1 (2008 Ford E450)	Engine 1 (2010 Pierce Velocity)				AIR 1 / Generator 1 (1995 Fresh Air Mac 130E/D)		3948 W. 73rd Ave.	Fire Station	D64D733995169DF5
	Fire Station #2	Battalion 1 (2013 Chevy Suburban)	Medic 2 (2012 Ford E450)	Engine 2 (2007 Pierce Dash), Reserve Engine 9 (2004 Pierce Quantum)	Truck 2 (2007 Pierce Velocity)	Heavy Rescue (2010 Pierce Saber)	Brush Truck 2 (2008 Ford F550)	MERV - All Terrain (2000 Polaris 6x6), SRT White Box Trailer (1996 WW 20x8 Trailer (Enclosed))	Training 1 (2012 GM 3500 Truck)	9150 Lowell Blvd.	Fire Station	D64D733995169DF6
	Fire Station #3		Medic 3 (2009 Ford E450)	Engine 3 (2008 Pierce Velocity)	Reserve Truck 8 (2003 Pierce Ladder)			Dive Boat (1999 Zodiak 0655), Dive Boat Trailer (2012 Shore Land'R V15-03), Dive Van (2001 Freightliner MT45 Van)		7702 West 90th Ave.	Fire Station	D64D733995169DF7
	Fire Station #4		Medic 4 (2012 Ford E450), Reserve Medic 8 (2007 Ford E450)	Engine 4 (2013 Pierce Velocity)			Brush Truck 4 (Ford F550)		EMS 2 (2012 Chevy Equinox)	4580 W. 112th Ave.	Fire Station	D64D733995169DF8
	Fire Station #5			Engine 5 (2005 Pierce L9000), Reserve Engine 8 (2001 Pierce Quantum)						10100 Garland St.	Fire Station	D64D733995169DF9
	Fire Station #6		Medic 6 (2010 Ford E450)		Truck 6 (2011 Pierce Velocity)					999 W. 124th Ave.	Fire Station	D64D733995169DFA
	Public Safety	EMS 1-Tahoe (2007 Chevrolet							7 General	9110 Yates	Police & Fire	D64D733995169DFC

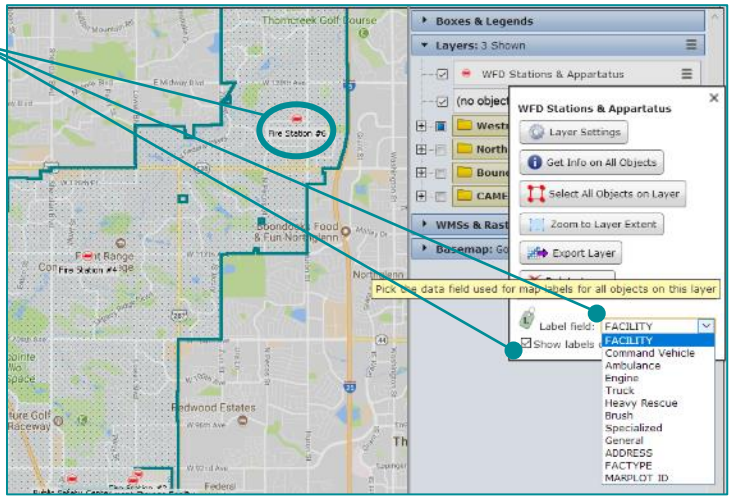
Information on a Single Object: this is similar to popup information on a single object, but the information is listed in the form of a spreadsheet instead of a popup, this allows for multiple objects to be selects by Shift-clicking on additional objects or using the Select tool. Highlight the object (or objects) and right click; in the popup menu click on “Selected Objects” in the “Get Info on” section. This will open an Object List with all selected objects listed.





Graphic	FACILITY	Command Vehicle	Ambulance	Engine	Truck	Heavy Rescue	Brush	Specialized	General	ADDRESS	FACTYPE	MARPLOT ID
	Fire Station #6		Medic 6 (2010 Ford E450)		Truck 6 (2011 Pierce Velocity)					999 W. 124th Ave.	Fire Station	D64D7339951690FA

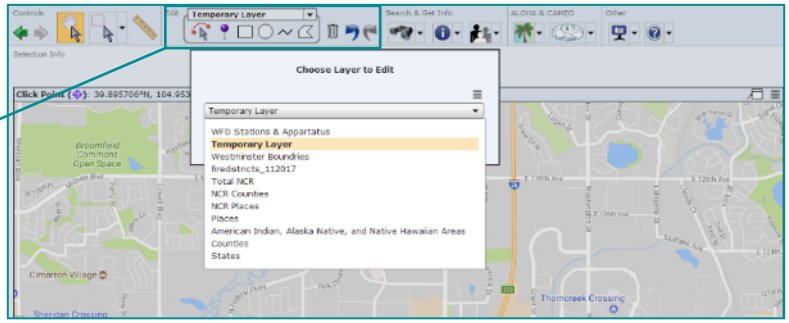
Adding Labels to Objects: this is a feature to turn on labels that show on the map and is toggled on and off by clicking on the box next to “Show labels on map”. The label text is taken from any column in the layer data and is chosen using the pulldown “Label field”.



Drawing Shape Objects

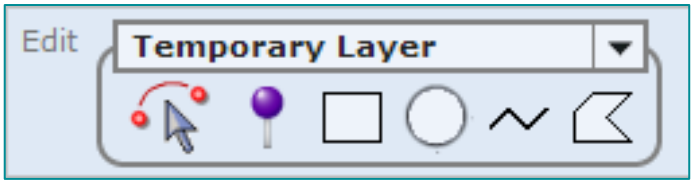
When drawing shapes on MARPLOT, the safest way is to create shapes in the "Temporary Layer" and then move the object(s) to a new layer. This layer can then be exported as a backup before combining or overwriting layers. More experienced MARPLOT users can edit layers directly, but this runs the risk of erasing or overwriting information.

- Under the "Edit" section of the header, select "Temporary Layer"
- The primary features are drawing shapes, delete and undo/redo



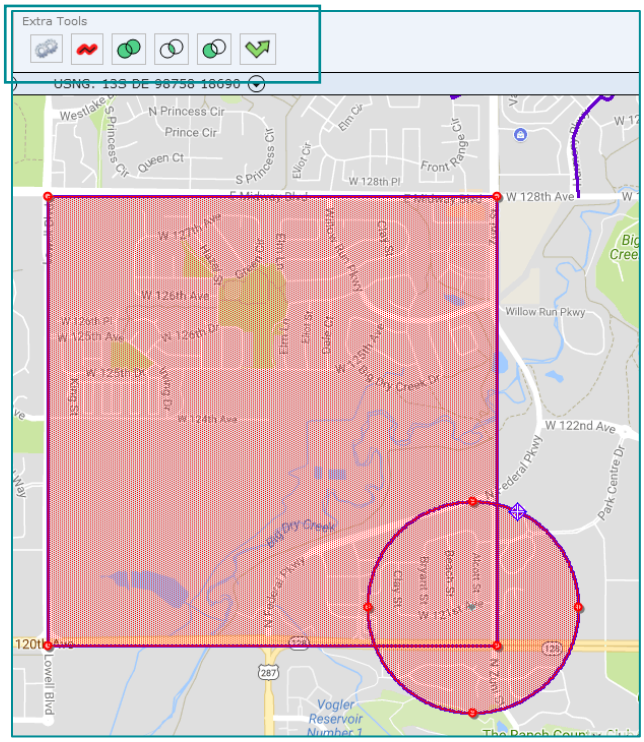
The options available for drawing shapes are:

- Edit and drag selected objects and/or vertices
- Placing Points
- Rectangles
- Circles
- Polylines
- Polygon



<u>Combining Shapes</u>: Shape objects can be combined to create new objects in several ways:

- Edit Settings: Used to adjust graphics for the highlighted objects and add popup notes
- Buffer Zone: Creates a new object that is projected a radius around the highlighted objects
- Combine: Creates a new object that is the combined size of the selected objects
- Intersect: Creates a new object that is the shared area of the selected objects
- Difference: Creates a new object that is the size of one object subtracted from another (highlight the first object and shift-click the second object that is to be subtracted from the first)
- Move: Move highlighted objects from one layer to another layer



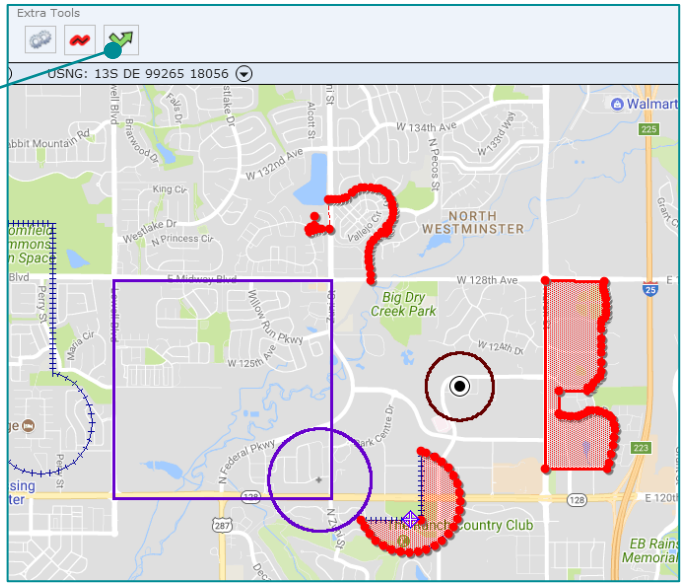
Creating Shape Layers in MARPLOT:

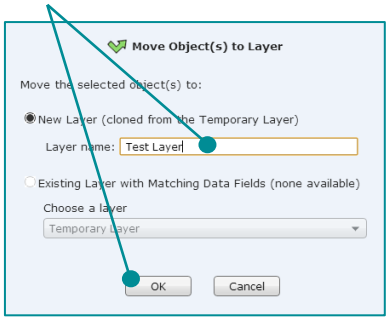
Step 1 – Use the edit tools to create the shapes needed for the new layer

Step 2 – Highlight the shapes that are to be in the new layer by Shift-clicking on each individual shape.

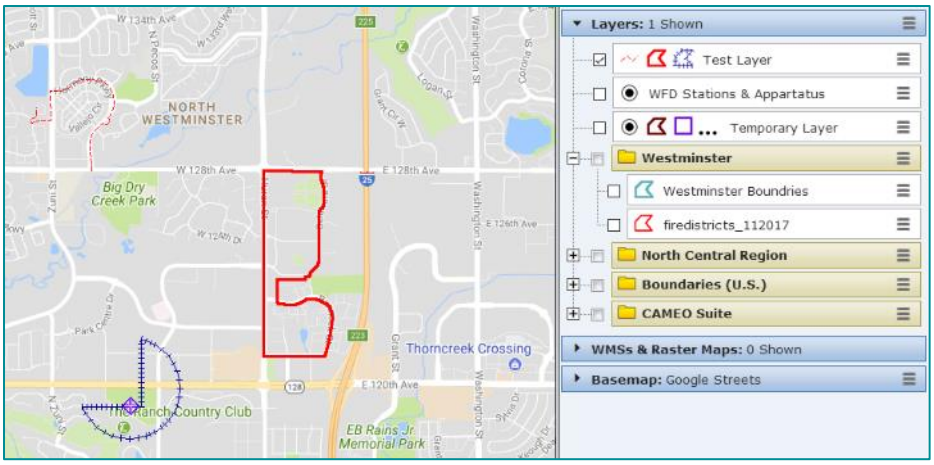
Then press the Move Object icon

When the popup box appears, name the new layer and press "OK"





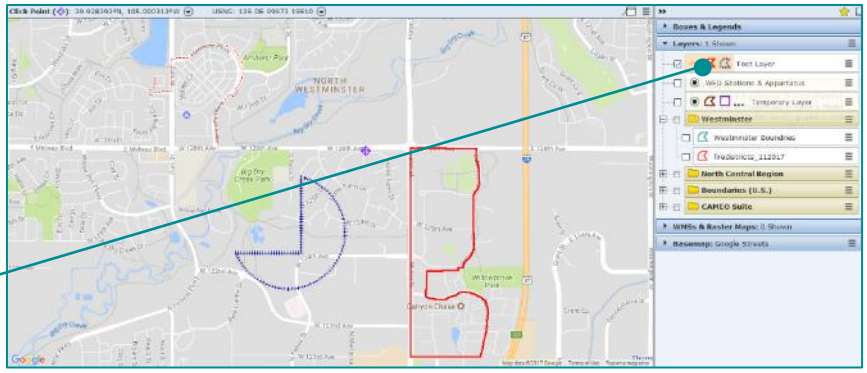
A new layer has now been added to MARPLOT. Before combining this layer with others, it should be first exported as a MARPLOT zip or Shapefile in order to create a backup. **Never combine, modify or replace layers without first creating backup copies**.



Common Graphics and Individual Graphics:

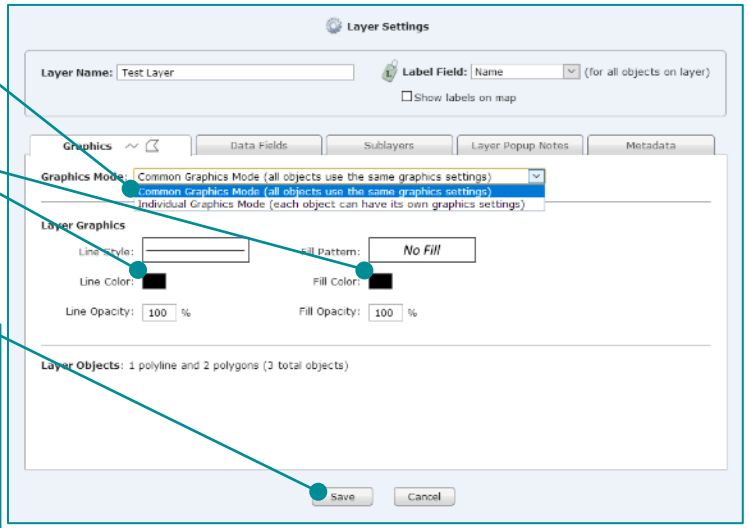
Common graphic will show every shape in the layer with the same colors, line style and fill patter.

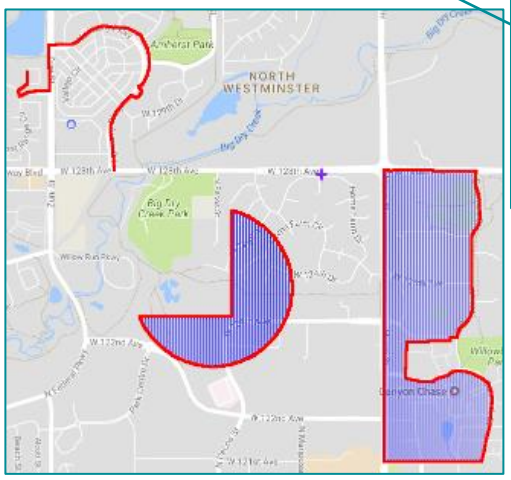
It is set by clicking on the icons next to the layer name.



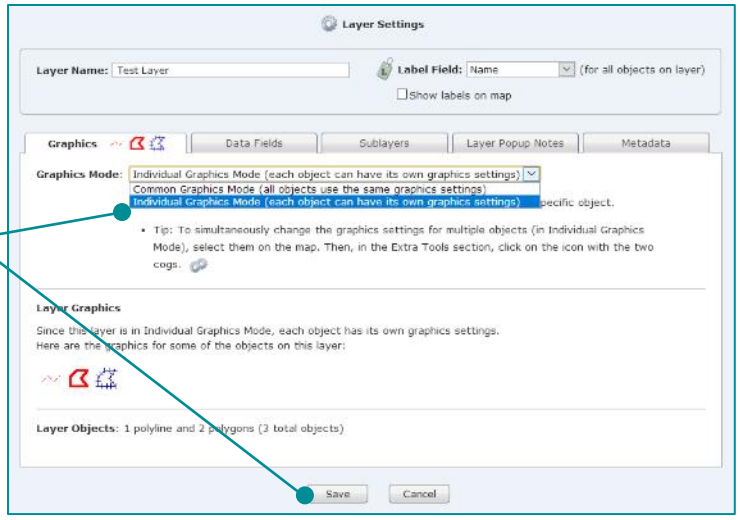
Then select “Common Graphics Mode” in the popup box.

Colors, line style and fill pattern can then be defined in the “Layer Graphics” and click “Save” to finish editing the objects in the layer.

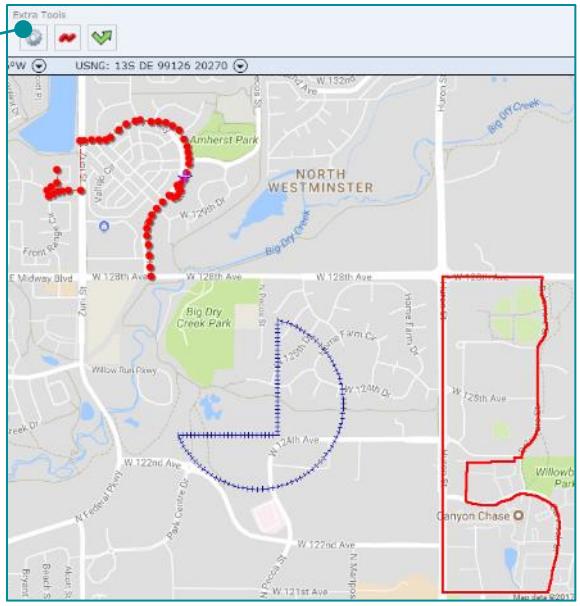




Individual Graphics are created by opening the Layer Settings and instead selecting “Individual Graphics Mode” in the popup window and clicking “Save”.

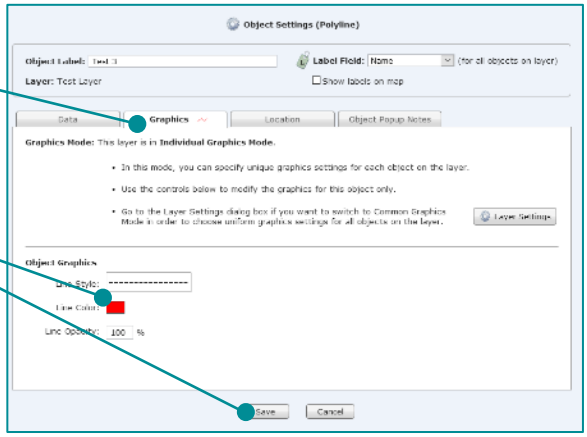


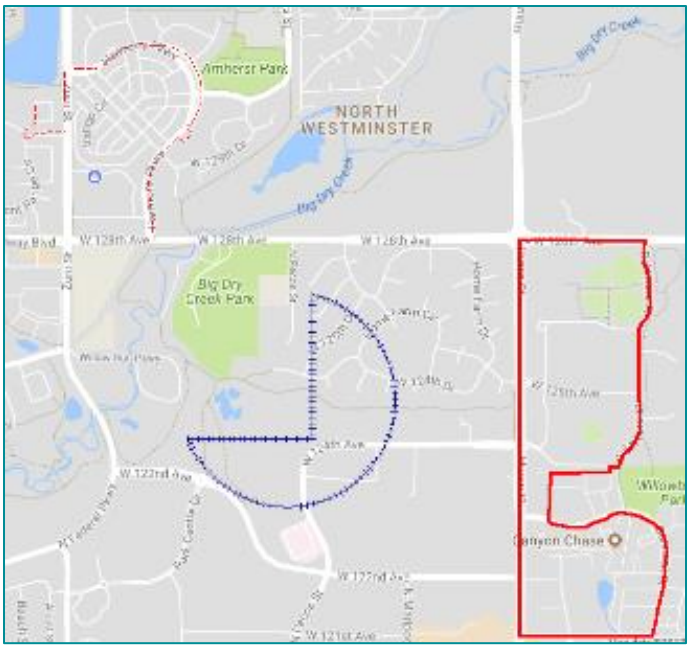
Now, graphics are adjusted by highlighting an object and clicking “Edit Settings” icon above the map.



Now, navigate to the “Graphics” tab.

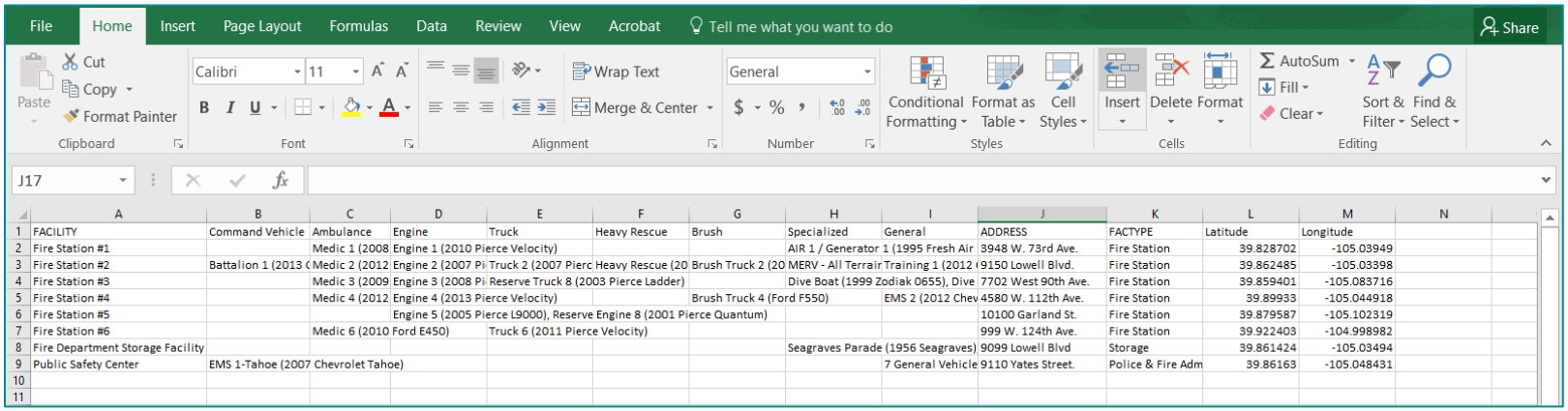
Here color, line style and fill pattern can be selected. Click “Save” to finish editing the object.





Using Excel Files

Excel spreadsheets can be uploaded into, and downloaded from, MARPLOT. These can be used to create points on a map with data attached, they cannot be used for shapes.



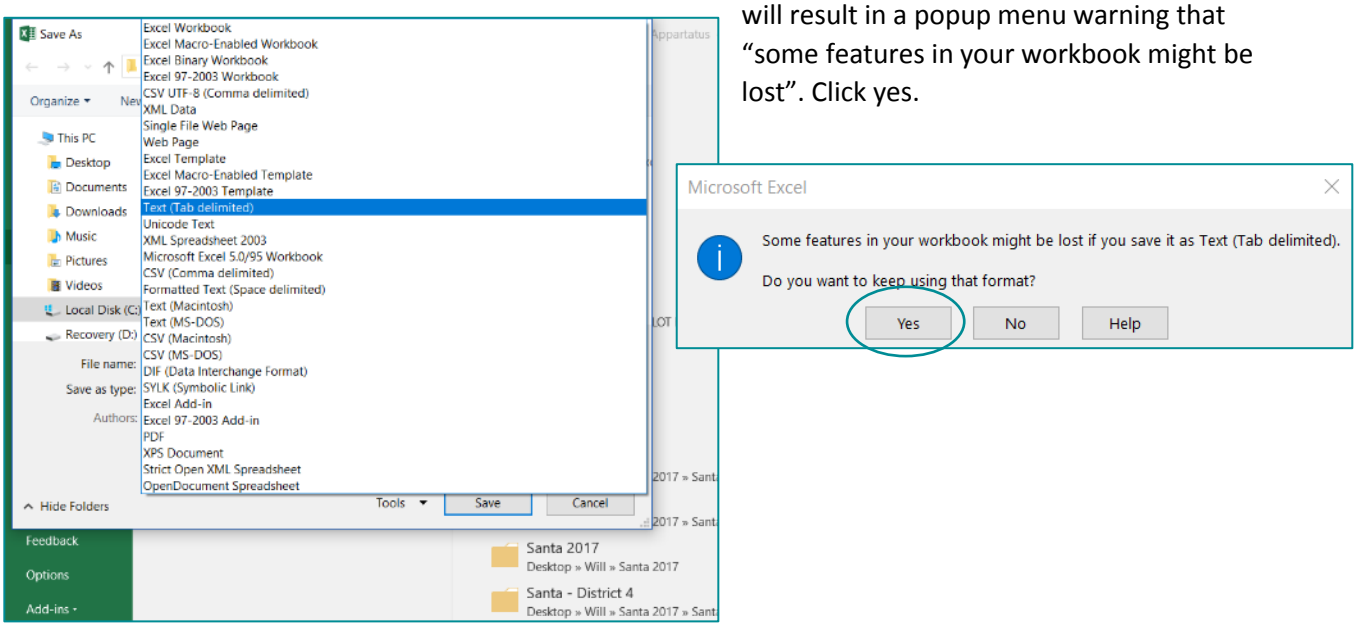
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	FACILITY	Command Vehicle	Ambulance	Engine	Truck	Heavy Rescue	Brush	Specialized	General	ADDRESS	FACTYPE	Latitude	Longitude	
2	Fire Station #1		Medic 1 (2008	Engine 1 (2010 Pierce Velocity)				AIR 1 / Generator 1 (1995 Fresh Air		3948 W. 73rd Ave.	Fire Station	39.828702	-105.03949	
3	Fire Station #2	Battalion 1 (2013 (	Medic 2 (2012	Engine 2 (2007 Pi	Truck 2 (2007 Pierc	Heavy Rescue (20	Brush Truck 2 (20	MERV - All Terrair	Training 1 (2012 (	9150 Lowell Blvd.	Fire Station	39.862485	-105.03398	
4	Fire Station #3		Medic 3 (2009	Engine 3 (2008 Pi	Reserve Truck 8 (2003 Pierce Ladder)			Dive Boat (1999	Zodiak 0655), Dive	7702 West 90th Ave.	Fire Station	39.859401	-105.083716	
5	Fire Station #4		Medic 4 (2012	Engine 4 (2013 Pierce Velocity)			Brush Truck 4 (Ford F550)		EMS 2 (2012 Chev	4580 W. 112th Ave.	Fire Station	39.89933	-105.044918	
6	Fire Station #5			Engine 5 (2005 Pierce L9000), Reserve Engine 8 (2001 Pierce Quantum)						10100 Garland St.	Fire Station	39.879587	-105.102319	
7	Fire Station #6		Medic 6 (2010	Ford E450)	Truck 6 (2011 Pierce Velocity)					999 W. 124th Ave.	Fire Station	39.922403	-104.998982	
8	Fire Department Storage Facility							Seagraves Parade	(1956 Seagraves)	9099 Lowell Blvd	Storage	39.861424	-105.03494	
9	Public Safety Center	EMS 1-Tahoe (2007	Chevrolet Tahoe)						7 General Vehicle	9110 Yates Street.	Police & Fire Adm	39.86163	-105.048431	
10														
11														

Filling in Latitude and Longitude Coordinates
Signed Degrees Format: A latitude or longitude with 8 decimal places pinpoints a location to within 1 millimeter (1/16 inch) • Precede South latitudes and West longitudes with a minus sign • Latitudes range from -90 to 90 • Longitude range from -180 to 180. Useful sources: • https://www.latlong.net/ • Google Maps • https://mynasadata.larc.nasa.gov/latitudelongitude-finder/ • Download an Excel add-in or create an algorithm to auto-populate Latitude and Longitude

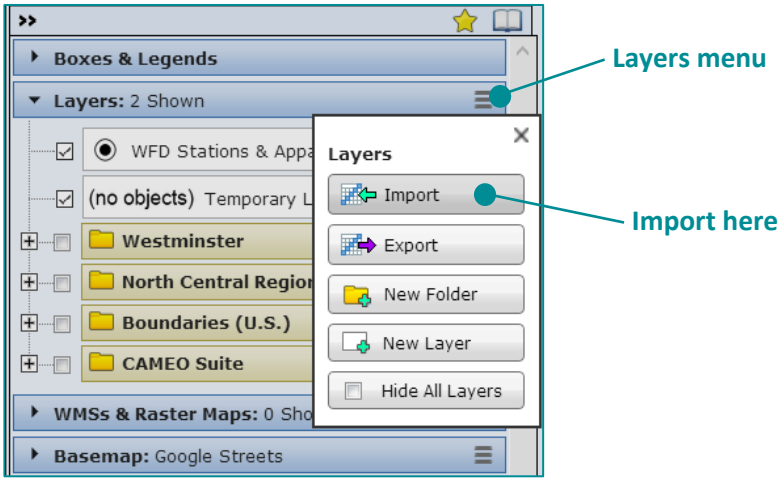
Things to remember:

- The first row should be made of headers with no spaces
- Latitude and Longitude are the only necessary columns
- All other columns can be treated as text

Saving: In order to upload an Excel file into MARPLOT it needs to be saved as “Text (Tab delimited)”. This will result in a popup menu warning that “some features in your workbook might be lost”. Click yes.

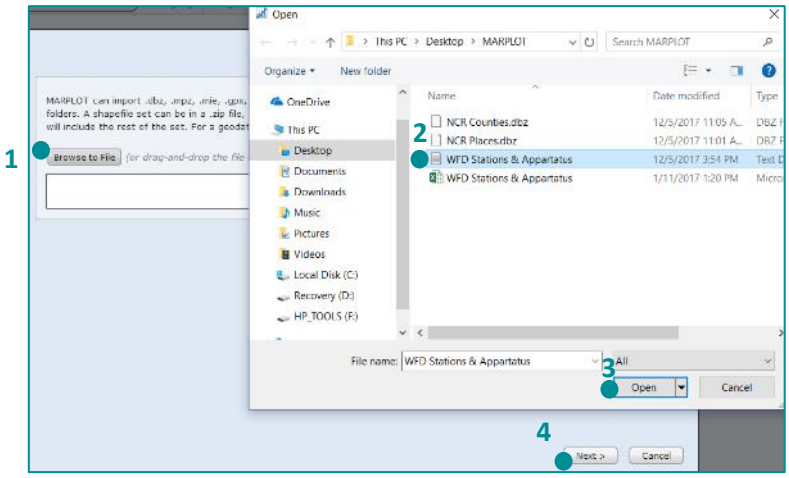


Uploading: Layers can be uploaded by clicking on the “Layers menu” icon and clicking “Import”.



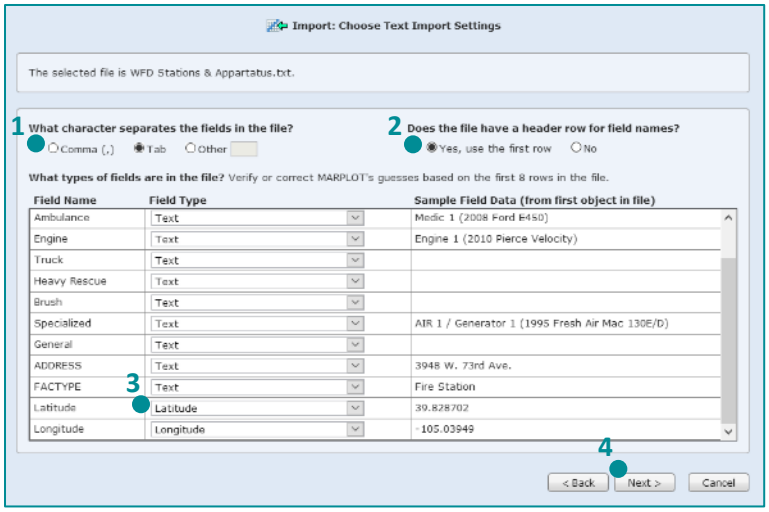
1. Click “Browse to File”
2. Navigate to the Text (Tab delimited) file
3. Click “Open”
4. Click “Next”

(Alternatively, instead of browsing for files, files can be dragged and dropped into the MARPLOT window.)



Text Import Settings: This field verifies how each column in the spreadsheet will be interpreted by MARPLOT. When uploading new spreadsheets, most field types will be auto-set to "Text", "Number" or "General (number or text)". It also defines:

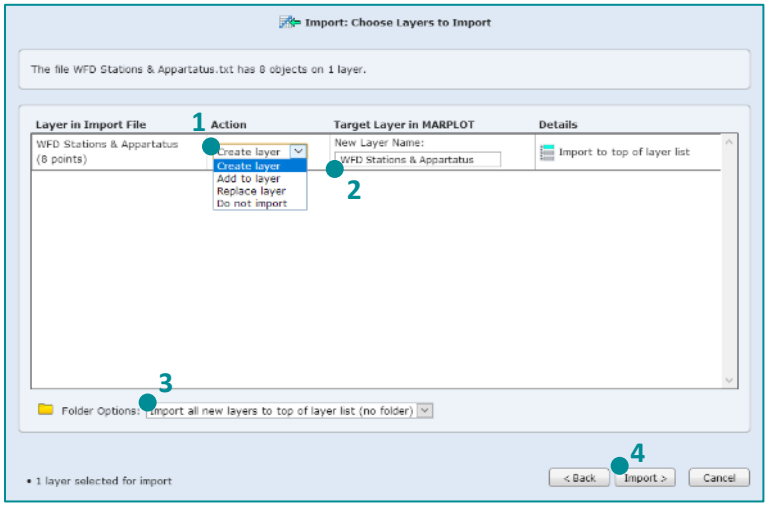
1. How columns are separated
2. Column names
3. Latitude and Longitude
4. Click "Next" to continue



When uploading other files, Field Types can be used to determine symbols, colors, coordinates, date, layer and other details.

Layers to Import: This determines where in MARPLOT the data is uploaded.

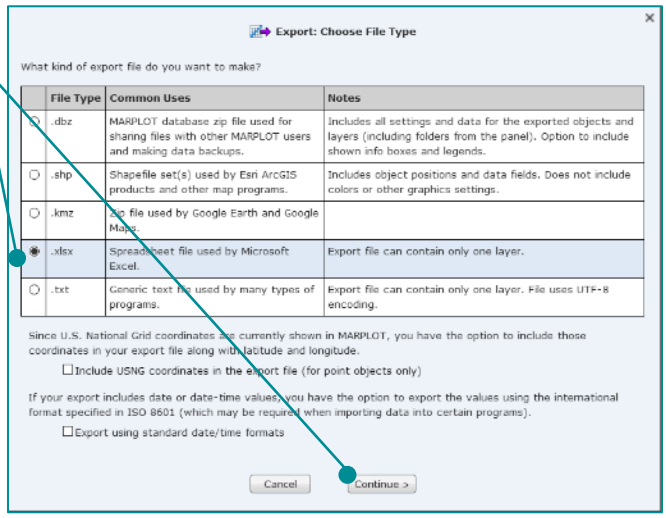
- Actions determine if a new layer is created or if the data is used to modify an existing layer
- The name of the new layer
- Will the layer go into a folder and what is the name of the folder
- Click "Import" to finish importing the file



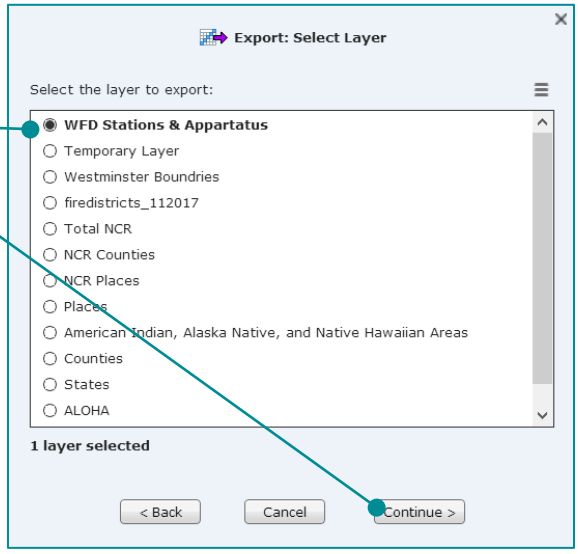
Whenever modifying existing layers, it is important to first export the files in order to have clean backups.

Exporting a Layer as an Excel File: Layers can be exported as Excel files by going to the Layers menu and clicking “Export”.

A menu will then popup to choose File Type; click the option for “.xlsx” and then “Continue”. It is good to remember that only point based layers can be exported as an Excel file. Layers with shape objects will result in an error message. All files can be exported as either MARPLOT zip or Shapefiles.

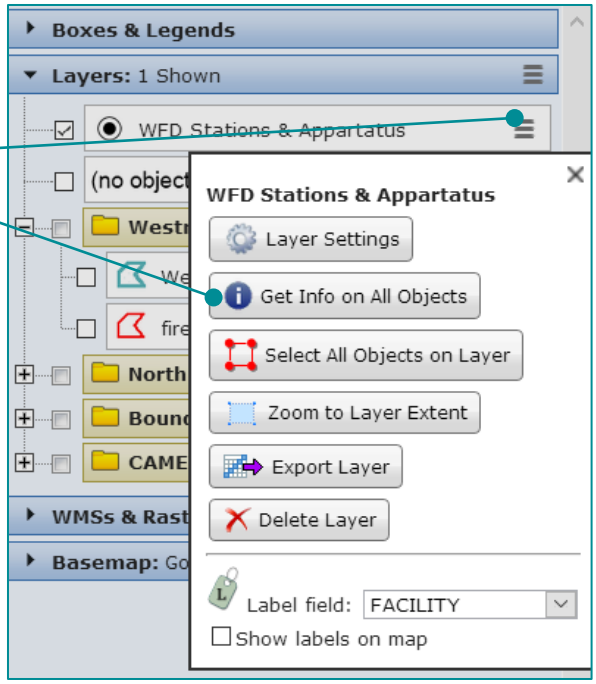


At this point the Layer Selection window will popup. Now select the layer to be exported and click “Continue”. Navigate to where the file is to be saved and click “Save”. The file is now exported.

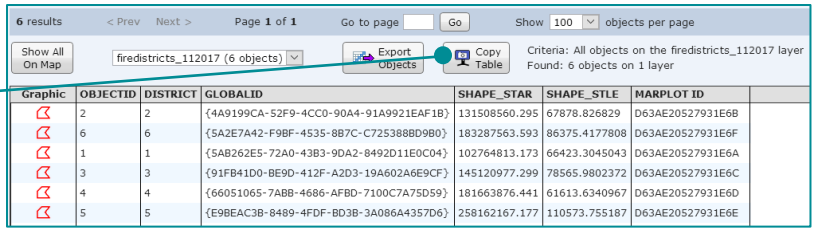


Copying Data into a Spreadsheet: Sometimes it is useful to get data out of MARPLOT, but it can't be exported as an Excel file. In order to do this, first:

- Go to "Layer options"
- Click "Get Info on All Objects"

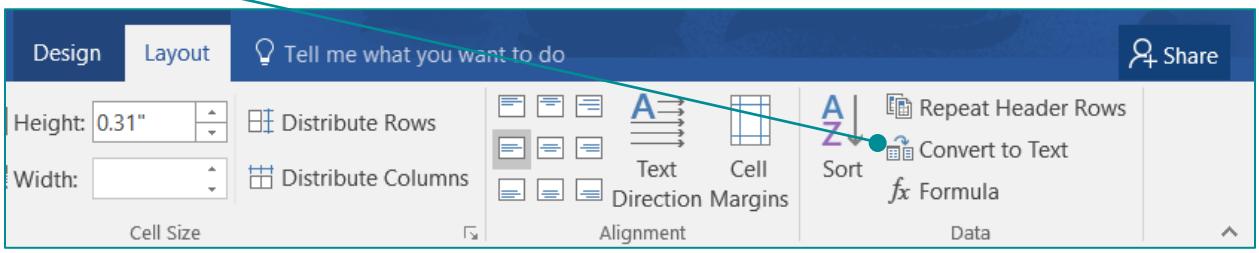


A page will popup showing all the information on the layer selected. On this page click "Copy Table".



Graphic	OBJECTID	DISTRICT	GLOBALID	SHAPE_STAR	SHAPE_STLE	MARPLOT ID
	2	2	{4A9199CA-52F9-4CC0-90A4-91A9921EAF1B}	131508560.295	67878.826829	D63AE20527931E6B
	6	6	{5A2E7A42-F9BF-4535-8B7C-C725388BD9B0}	183287563.593	86375.4177808	D63AE20527931E6F
	1	1	{5AB262E5-72A0-43B3-9DA2-8492D11E0C04}	102764813.173	66423.3045043	D63AE20527931E6A
	3	3	{91FB41D0-BE9D-412F-A2D3-19A602A6E9CF}	145120977.299	78565.9802372	D63AE20527931E6C
	4	4	{66051065-7ABB-4686-AFBD-7100C7A75D59}	181663876.441	61613.6340967	D63AE20527931E6D
	5	5	{E9BEAC3B-8489-4FDF-BD3B-3A086A4357D6}	258162167.177	110573.755187	D63AE20527931E6E

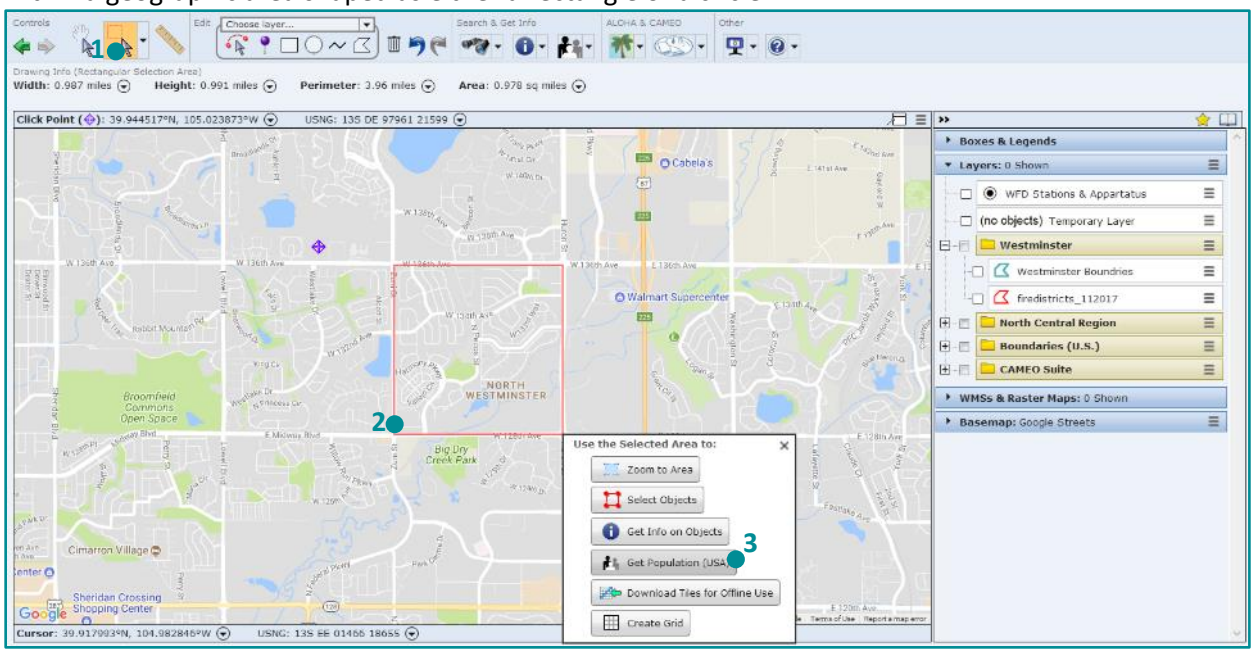
The table can now be "Pasted" into Word or Excel. If the information is in Word and needed in a form other than a table; highlight the table, go under the "Layout" tab in the header and select "Convert to Text".



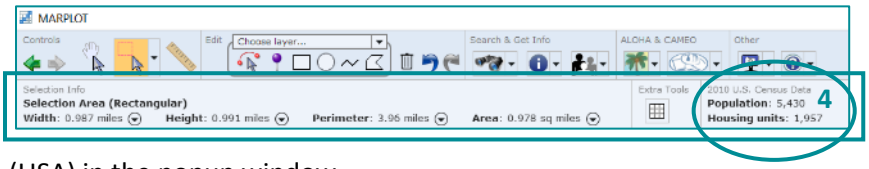
Population Estimates

There are three ways of acquiring population data and, like many tools in MARPLOT, this will only function on areas within the United States.

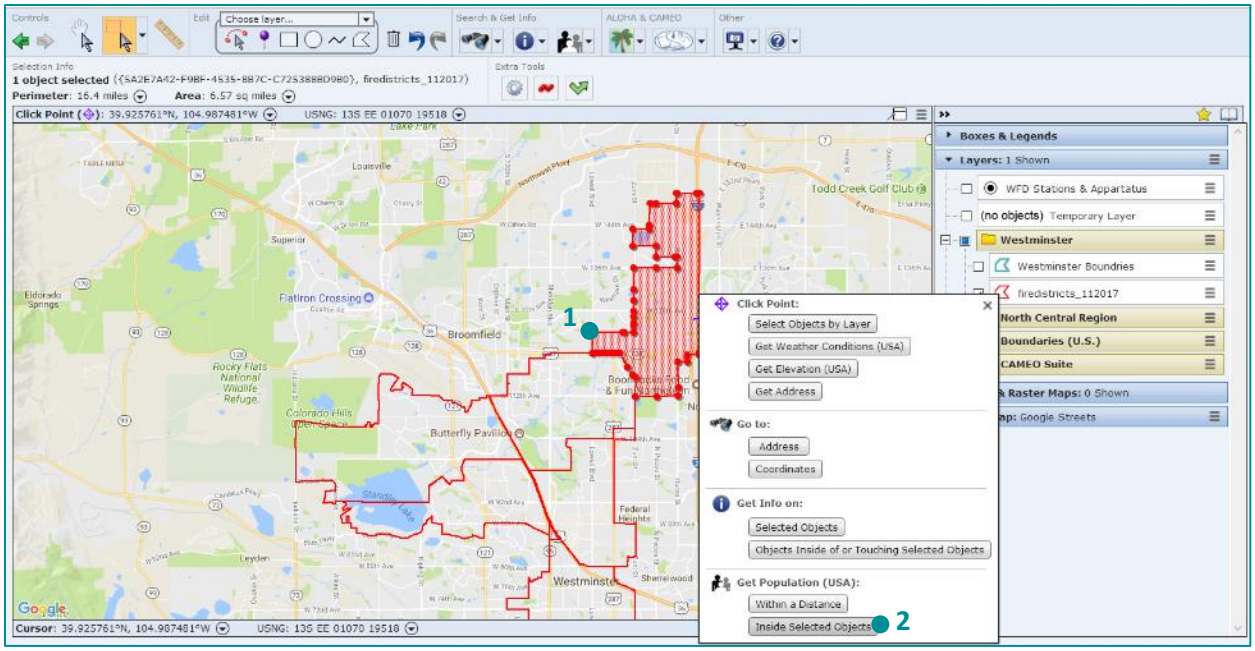
<u>Population data with the selection tool</u>: This works as a quick way of acquiring a population estimate within a geographic area shaped as either a rectangle or a circle.



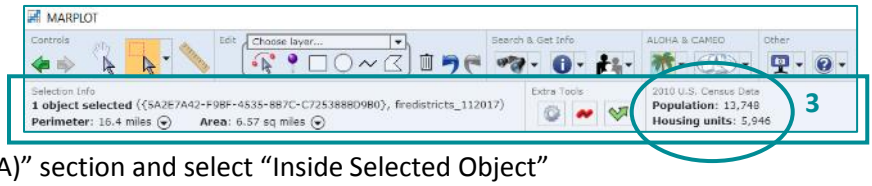
1. Click the "select" icon in the top left
2. Create the desired area
3. Click "Get Population (USA) in the popup window
4. The most current census data will appear at the top of the screen along with area and perimeter information.



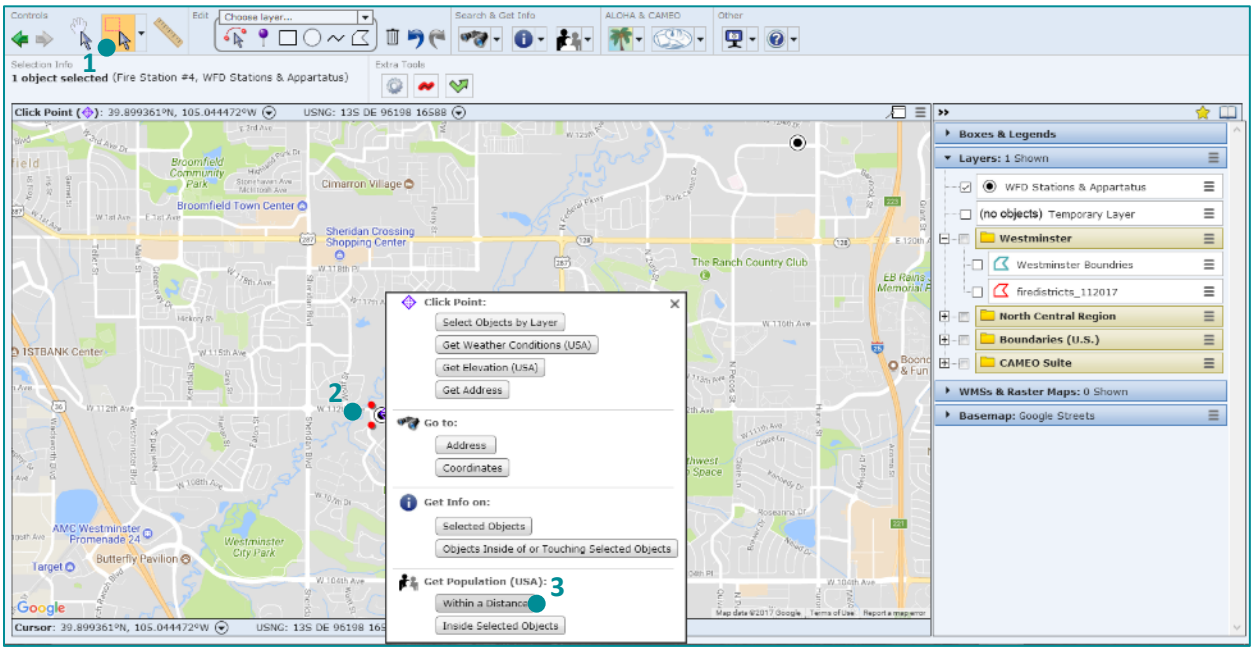
Population data on a specific object: This works to acquire population data within a pre-setup object. This method will not work on “point” objects and will only function on objects with area.



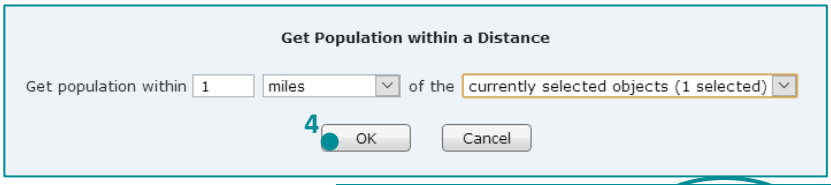
1. Turn on the layer, select an object and right-click
2. In the popup menu find the “Get Population (USA)” section and select “Inside Selected Object”
3. The most current census data will appear at the top of the screen along with area and perimeter information.

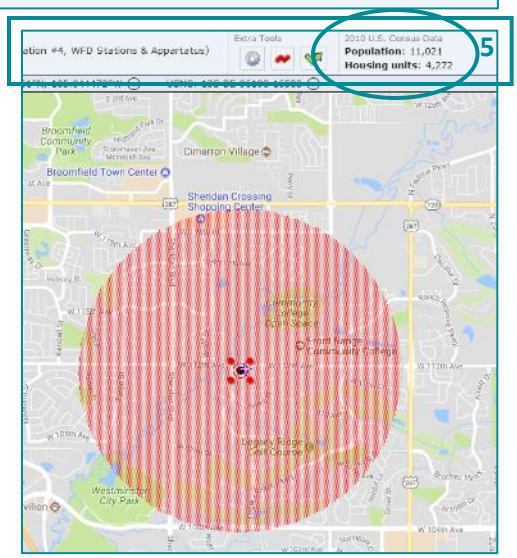


Population data within distance of an object: This works to acquire population data within range of a point on the map or using a pre-setup object. This method will work on any object, including “point” objects.



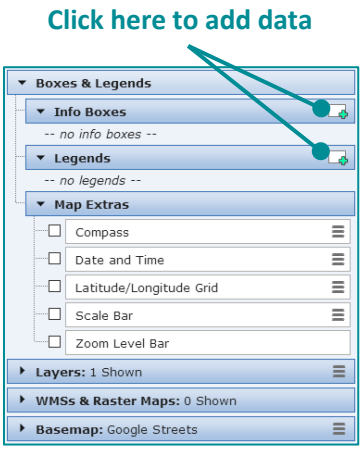
1. Click the “select” icon in the top left
2. Either turn on a layer, select a pre-existing object and right-click; or simply right-click on a point in the map
3. In the popup menu find the “Get Population (USA)” section and select “Within a Distance”
4. In the next popup menu define distance from either the currently selected object or click point and select “OK”
5. Now a shape will be generated showing the defined area and the census information will be generated in the header





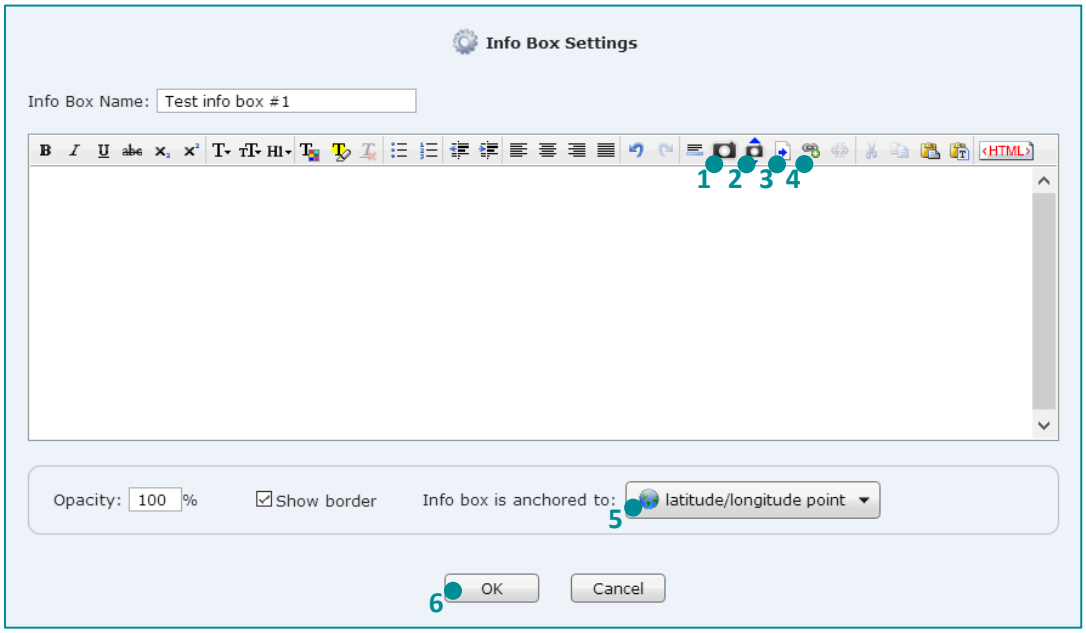
Boxes and Legends

The boxes and legends tab has several features that aid in taking screenshots.



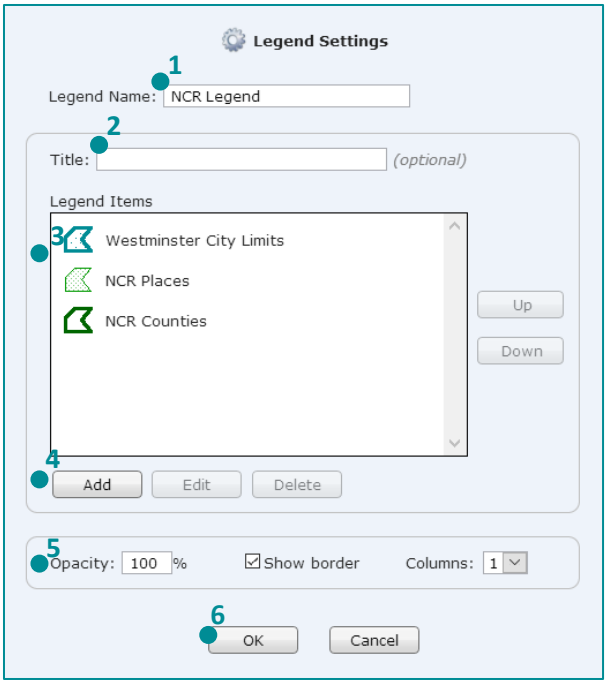
Map Extras: The map extras can be toggled on and off. These features include compass, date and time, latitude/longitude grid, scale bar and zoom level bar. The boarders for these features can be adjusted and each can be moved and placed where needed. The date and time shows the current time for when the map is generated, can show both 12-hour and 24-hour format and can be adjusted for time zone.

Info Boxes: Info Boxes are accessed by clicking on the icon to the right in the blue sidebar. Info Boxes are used to a text box of various information onto a map. This is mostly for taking screenshots and is not attached to a layer. The info box popup functions similar to MS Word with several key differences.



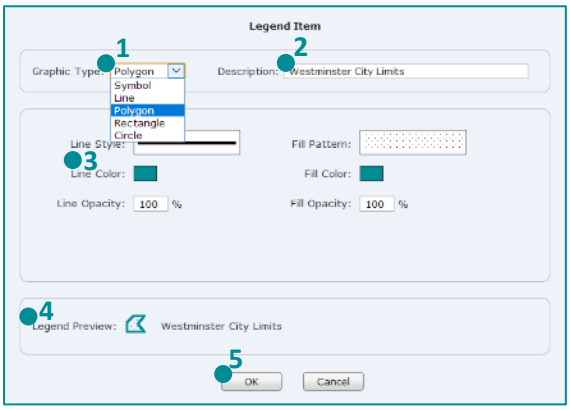
1. This icon is used to insert graphics
2. Picture size is adjusted by highlighting a picture and selecting this icon
3. This icon adds a link to file on the computer, documents linked in this manner will remain on the computer hard drive and is not included when exporting files through MARPLOT
4. The Hyperlink icons are used to link text to a webpage. To use, highlight the text and click the icon. The webpage address can then be pasted into the popup box that appears and the text will turn blue. Now clicking on the Hyperlinked words will lead to the webpage, this form of link is transferred when exporting files through MARPLOT.
5. The info box can either be anchored to a latitude/longitude point or a screen point. This changes the location of the box when the map is moved.
6. When finished editing the info box, click “OK” to create the box/complete the edit

Legends: Legends are like Info Boxes in that they are an extra feature, not attached to a layer, that can be toggled on and off. They are mostly used when taking screenshots to define what the different graphics on a map represent. Legends are accessed by clicking on the icon to the right in the blue sidebar. A popup box will appear with several features:

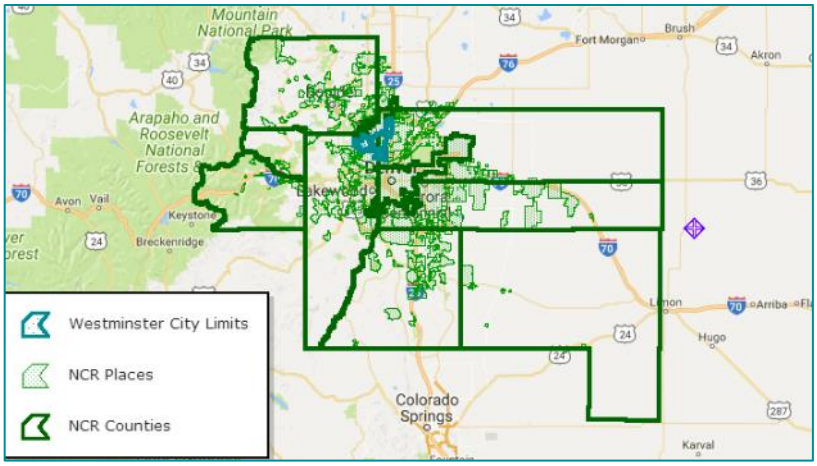


1. Legend Name: This is the name that appears under the blue "Legends" box to the right of the map
2. Title: This is the name that appears on the legend
3. Items: These are all the icons that will appear on the legend, the order can be arranged by selecting an item and clicking on the "Up" and "Down" buttons
4. Adding, Editing and Deleting: Items can be added with the "Add" button and edited or deleted by selecting an item and pressing either the "Edit" or "Delete" button
5. Legend Graphics: This section defines the frame and border of the legends, as well as how many columns are listed in
6. Click "OK" to create the legend

Selecting Add or Edit will bring up another popup box. This is used to define each item, take note of each layer that needs to be represented and recreate the information in these fields:



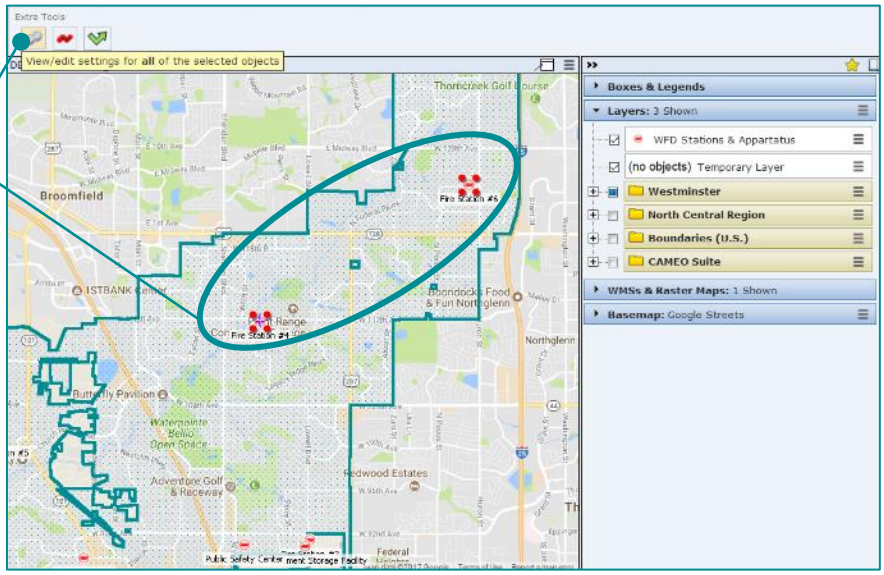
1. Graphic Type: defines the type of object being represented
2. Description: the name written in the legend
3. Graphic Style: the lines, pattern and color
4. Preview: an example of what will be shown on the legend
5. Click "OK" to update the legend with the new graphic



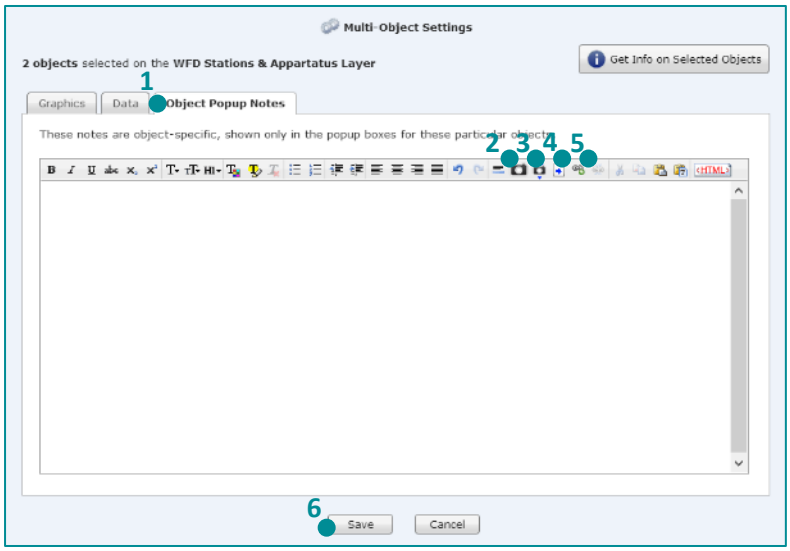
Attaching Information to Layers and Objects

This feature is used to add links and information to the popup box(es) for single or multiple objects.

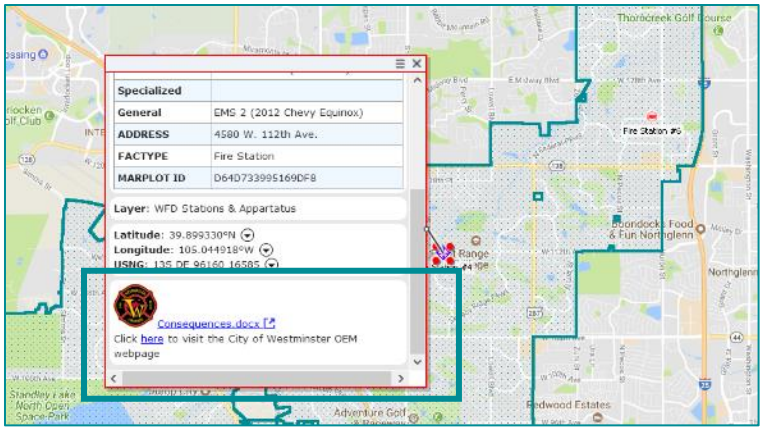
- Select the desired object (or objects using shift-click) and click on "View/edit settings" in the Extra Tools



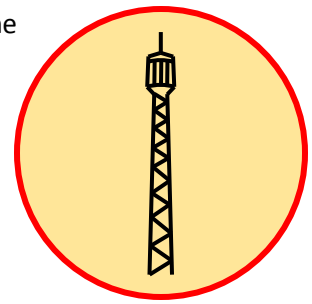
1. A popup menu will appear; under Object Popup Notes
2. This icon is used to add a picture
3. Picture size is adjusted by highlighting a picture and selecting this icon
4. This icon adds a link to file on the computer, documents linked in this manner will remain on the computer hard drive and is not included when exporting files through MARPLOT
5. The Hyperlink icons are used to link text to a webpage. To use, highlight the text and click the icon. The webpage address can then be pasted into the popup box that appears and the text will turn blue. Now clicking on the Hyperlinked words will lead to the webpage, this form of link is transferred when exporting files through MARPLOT.
6. When finished editing the info box, click "OK" to create the box/complete the edit



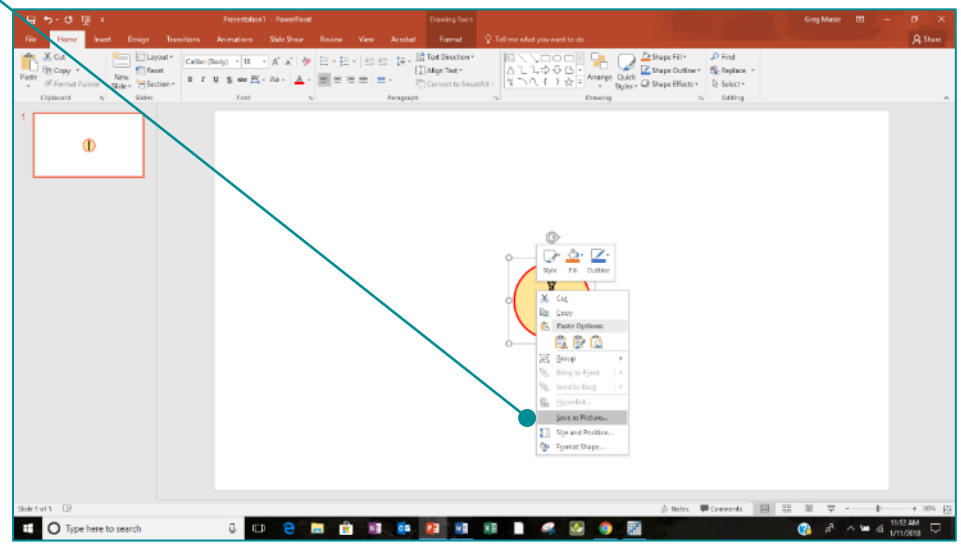
This will add information to the bottom of the popup box when clicking on objects



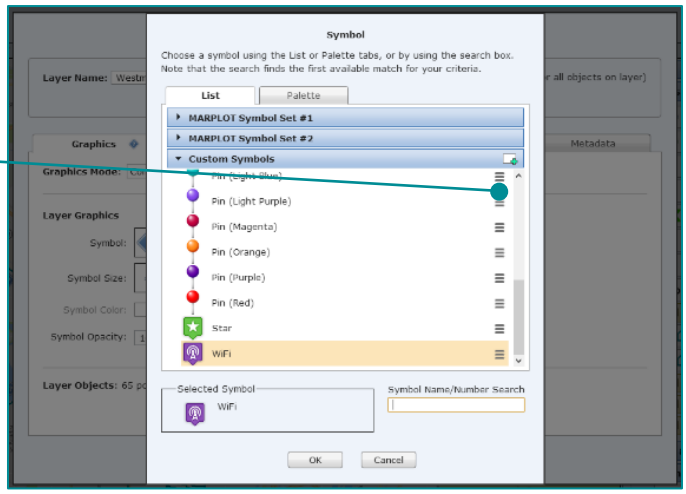
Importing Custom Graphics: Graphics can be added to MARPLOT fairly easily. The simplest way is to find or create the graphic you need and paste it into PowerPoint.

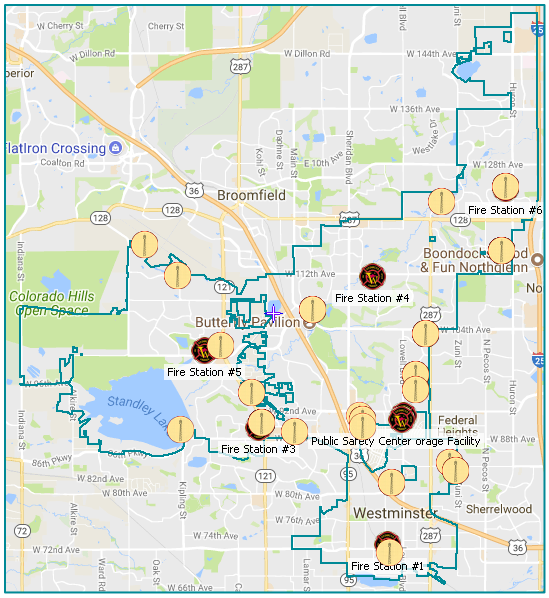


1. In PowerPoint, edit/crop/remove background the graphic to the desired shape
2. Right click on the graphic and select "Save as Picture…" and save as a PNG file



3. In MARPLOT under "Layer Settings → Layer Graphics → Symbol", click the upload button and navigate to the saved graphic





Graphics added to MARPLOT can be adjusted in size, but not color.