Address Locator Set Up & Maintenance

Updated: May 21, 2012
Software: ArcGIS for Desktop - ArcCatalog 10.0

Background:

Lists of addresses can be added to a map through a process called geocoding. Geocoding finds the approximate location of an address based on a set of GIS reference data such as a road centerline layer, address point or parcel layer. The accuracy of the input address list and the GIS reference layer determines the success rate of the geocoding process.

Geocoding uses an Address Locator to find the approximate location of each address in the list. Esri provides many address locator styles to choose from when creating a new locator. In Livingston County, the most common address locators rely on the road centerline and address point layers. An address locator has been created for each GIS reference layer. The address point locator called Address Locator 10 is saved in P:\Data\AddressPoints. The road centerline address locator is called Roads Address Locator and is saved in P:\Data\Roads.

A Composite Address Locator is a combination of two or more existing address locators. Source addresses are matched against both locators at the same time. Livingston County utilizes a composite locator based on address points and roads. The composite locator is also saved in P:\Data\Roads.

After the Address Locator is created, the settings are saved so it can be used repeatedly in either ArcMap or ArcCatalog to geocode a list of addresses. Alternatively, the Address Locator can be used in either the ArcMap Find dialog or the Geocoding toolbar to locate a single address. The Find Address functionality in ArcMap is usually faster than searching for the address as part of the parcel layer.

If the reference data is updated, the Address Locator must be rebuilt in order to create a new snapshot of the data for use in geocoding.
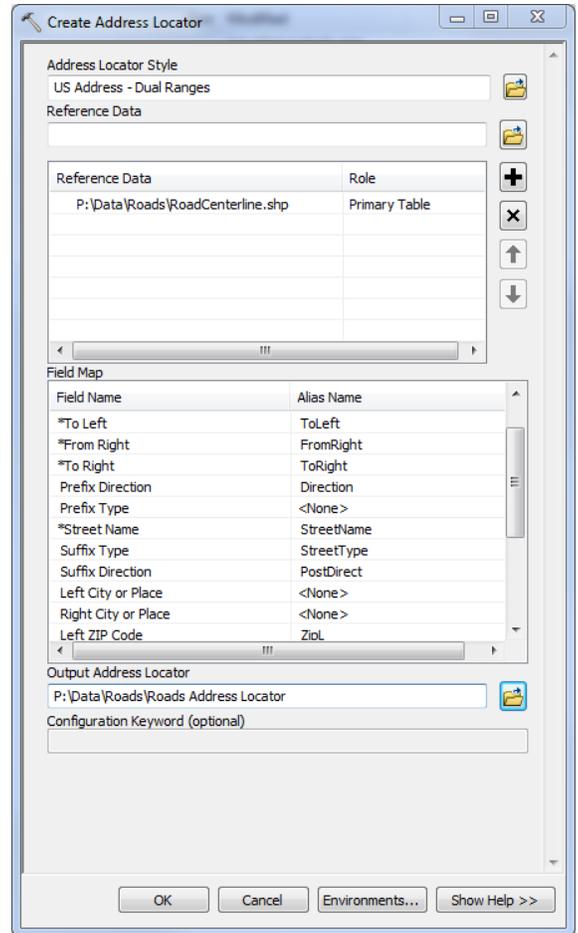
Setting up a New Streets Address Locator:
The road centerline layer lists the address range, road name, and ZIP code for each road segment in the county. For this type of reference data we use US Address – Dual Ranges as the address locator style. The streets address locator will find the approximate location of the address based on the address range.

1. Open ArcCatalog

2. Navigate to the folder where the Address Locator will be saved

   a. Click the + to expand the folder contents (optional)

3. Right-click the folder ➔ New ➔ Address Locator
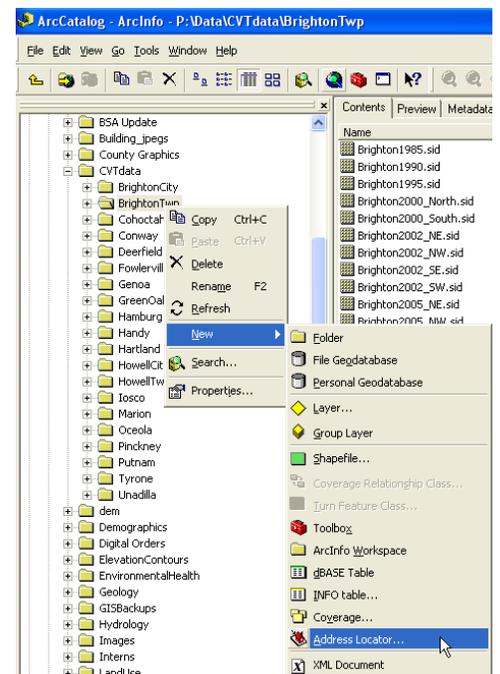
4. In the Create Address Locator dialog window:

    a. Click the folder icon next to Address Locator Style, then select US Address – Dual Ranges

    b. Next to Reference Data, click the folder icon and navigate to P:\Data\Roads. Click RoadCenterline.shp, then click Add.

    c. Make sure the RoadCenterline layer has a Primary Table Role

    d. Set up the Field Map table as shown. Be sure to set From Left as the FromLeft alias name. Set the left and right city name as <none>. The Right ZIP Code should be the ZipR alias field.

    e. Click the folder icon next to Output Address Locator. Navigate to P:\Data\Roads and enter the locator name.

    f. Click OK

Setting up a New Address Point Address Locator:
The address point layer lists the house number, road name, and ZIP code for each address issued in the county. For this type of reference data we use US Address – Single House as the address locator style. The address point address locator will find the location of the address based on where the point is located on the map. Most address points are located on the driveway. However, buildings with multiple addresses (i.e. strip malls or multi-unit condos) show the address points on top of each building.

1. Open ArcCatalog

2. Navigate to the folder where the Address Locator will be saved

    a. Click the + to expand the folder contents (optional)

3. Right-click the folder → New → Address Locator

4. In the Create Address Locator dialog window:

    a. Click the folder icon next to Address Locator Style, then select US Address - Single House

    b. Next to Reference Data, click the folder icon and navigate to P:\Data\AddressPoints. Click AddressPoints_Countywide.shp, then click Add.

    c. Select Primary Table as the Role

    d. Set up the Field Map table as shown.

    e. Click the folder icon next to Output Address Locator. Navigate to P:\Data\AddressPoints and enter the locator name.

    f. Click OK
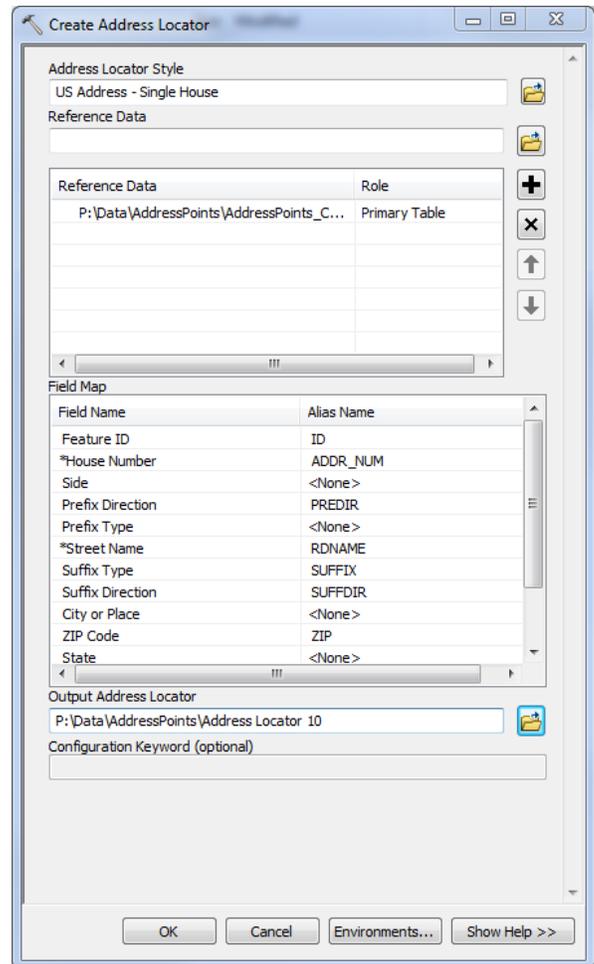
Setting up a New Composite Address Locator:
The address point locator and road centerline locator created in the previous two steps will be used to create a composite locator. The composite locator will first match the address list against the address point locator and then unmatched addresses will be geocoded against the road centerline locator.

1. Open ArcCatalog

2. Navigate to the folder where the Address Locator will be saved

    a. Click the + to expand the folder contents (optional)

3. Right-click the folder → New → Composite Address Locator

4. In the Create Address Locator dialog window:

   a. Click the folder icon next to Address Locators, then navigate to P:\Data\Address Points and select Address Locator 10.

   b. Again, next Address Locators, click the folder icon and navigate to P:\Data\Roads. Click Roads Address Locator.

   c. Make sure Address Locator 10 is first in the list of Participating Address Locators. If it is not, use the up/down arrow keys to move it to the first position.

   d. Click the folder icon next to Output Address Locator. Navigate to P:\Data\AddressPoints and enter the locator name.

   e. Click OK
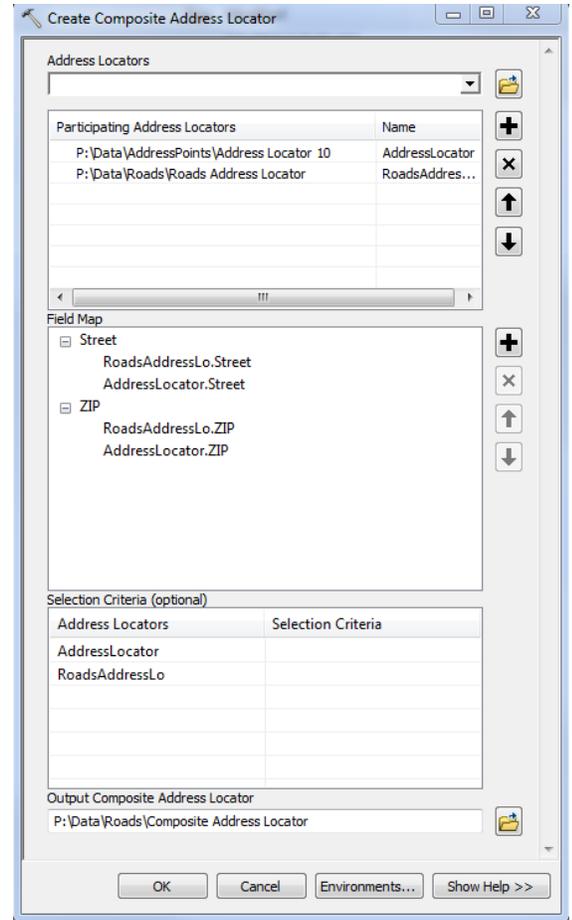
Rebuilding an Address Locator:
The address locator index is actually built from a snapshot of the reference data. Thus, the Address Locator must be rebuilt each time the reference data is updated in order to utilize any new roads or updated address points during the geocode or find address processes. *Note: If the reference data is in use, the address locator cannot be rebuilt.*

1. Open ArcCatalog

2. Navigate to the folder where the Address Locator is saved

   a. Click the + to expand the folder contents

3. Right-click the Address Locator → Rebuild

4. Click OK when prompted to continue rebuilding the address locator