

Address Locator Names – *NYS_Geocoder*

- *1A_AP_ZipName*: Created with SAM Address Points. The City field is populated using the Postal Zip Code name.
- *1B_AP_CityTown*: Created with SAM Address Points. The City field is populated using the City/Town name attribute where it is different than the ZipName attribute. This locator will have a subset of records compared to the ZipName locator.
- *1C_AP_PlaceName*: Created with SAM Address Points. The city name is populated using NYS Villages, Indian Reservations, Census Designated Places, and Alternate Acceptable Zip Code Names from USPS. These names do not exist everywhere so there will be a limited number of points in this locator.
- *2A_SS_ZipName*: Created with NYS Street Segments using the postal zip code name for the city name in the locator. The location is interpolated from an address range on the street segment. The city name can be different for the left and right sides of the streets.
- *2B_SS_CityTown*: Created with NYS Street Segments using the City or Town name for the city name in the locator. The location is interpolated from an address range on the street segment. The city name can be different for the left and right sides of the streets.
- *2B_SS_PlaceName*: Created with NYS Street Segments using an alternate place name for the city field. This field is populated using NYS Villages, Indian Reservations, Census Designated Places, and Alternate Acceptable Zip Code Names from the USPS. These areas do not exist everywhere so there will be a limited number of segments with this attribute. The location is interpolated from an address range on the street segment. The city name can be different for the left and right sides of the streets.
- *NY_ZIP*: Points placed at the centroid of Zip Code polygons.
- *NY_Place*: This locator contains points placed at the centroid of NYS Cities, Towns, Villages, Indian Reservations, Unincorporated Places, and Neighborhoods.
- *POI_Loc*: This locator contains Points of Interest that can be geocoded without a physical address (e.g. Alfred E Smith Building, Albany NY). This locator may be sparsely populated at first, but the goal is to add locations to the source data over time (parks, landmarks, business names, etc.).
- *NYS_Geocoder*: Combination of all 9 locators above in the order they are listed. This is the locator that the service is named after and is visible on the REST page above.

Updates to ArcGIS Pro Locators

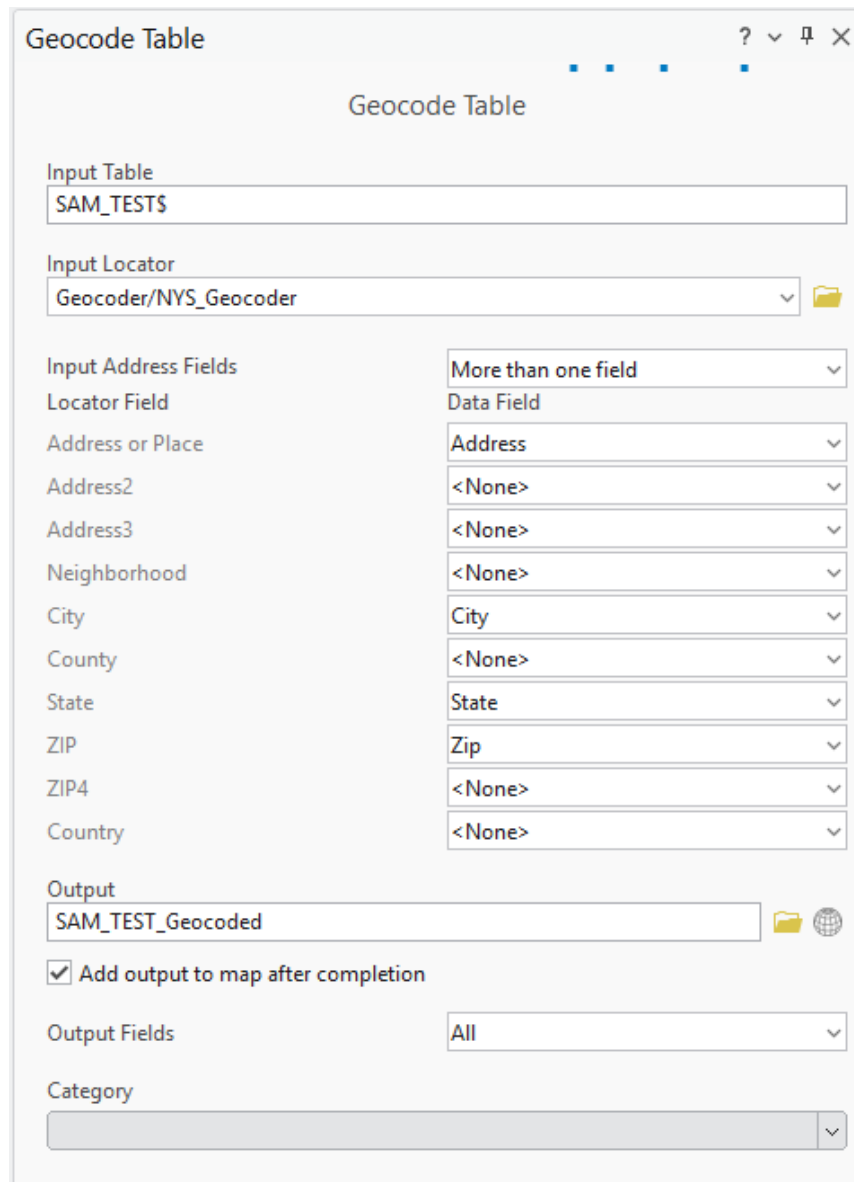
- There is now only one composite locator.
 - The previous locators were set up as 3 different services which meant separating records that didn't geocode and running them through a separate locator and then merging the results all back together. Now, with improvements made in ArcGIS Pro, we can continue to get the same quality (or better) results using a single composite locator eliminating the extra steps and streamlining geocoding workflows.
 - The NY_ZIP, NY_Place, and new POI locators are all incorporated into the single composite, so records that do not geocode to address points or streets are automatically geocoded against these lower-level locators.
- Street Segment locators used to start with 3 (3A, 3B, 3C) – now all start with a 2 (2A, 2B, 2C).

- Street locators in ArcGIS Pro can match an input address to a street segment without address ranges built into the main template. This reduces the amount of time it takes to build the address locators as well as improving the speed at which addresses geocode since there are fewer locators to run the addresses against. **However**, this impacts the results and will require an extra field to identify the type of result found.
- Output Fields:
 - Loc_name – name of the address locator the record matched against.
 - Match_addr – the matching address (always good to compare to the input address for discrepancies)
 - Match results: there is a new field in the locator output named **Addr_Type**, this field is important for determining the type of results output by the locator. There is a complete list [here](#), but these are the ones to watch for:
 - PointAddress – matched to an address point.
 - Subaddress – matched to a point address with subaddressing (e.g. Building 1, Floor 2, Apartment 3, etc).
 - StreetAddress – matched to an address range interpolated along the street segment. These results will be similar to a 3A, 3B, or 3C locators in former ArcGIS 10.2.2 locators.
 - StreetInt – matched to a street intersection.
 - StreetAddressExt – matched to the end of the street segment with the closest address range (if the number does not exist within the assigned range).
 - StreetName – matched to a segment of the street name within the municipality *without* using the address range. **These results will be similar to the old 4A, 4B, and 4C locators.**
 - Postal – matched to a Zip Code centroid.
 - Locality – matched to one of the NY Place centroid points.
 - POI – matched to a record in the Point of Interest address locator.
 - **Match description:**
 - If the locator matches to a **PointAddress**, **Subaddress**, or **StreetAddress** – these are equivalent of getting a match in the Street_and_Address_Composite. **PointAddress** and **Subaddress** are matches to address point locations and **StreetAddress** is a match against the interpolated address range on the street segment.
 - If the locator matches to a **StreetInt**, **StreetAddressExt**, or **StreetName** – these are equivalent of getting a hit on the second composite in the current Production locators and will need further review. These results should **not** be accepted without looking at them first.
- **Match verification:**
 - Use a combination of the **Loc_Name** and **Addr_Type** fields to get an idea of which records need more verification/cleanup.
- Input can be run as a single field OR as a multi field entry. **However**, Esri now recommends using the **multi field** approach for input on the newer locators. It seems that when input as a single field, the NYPlace and NY_Zip locators do not match any records, at least during initial testing.
- **Custom Output Fields:**
 - **UniqueID** – NYAddressPointID for any records that match to an address point and NYStreetID for any records that match to a street segment.
 - **CountyName** – County where the address is located
 - **LeftCountyName/RightCountyName** – Left and right county name where the street segment is located
 - **PointType** – Address point placement location (contains coded value, not description)
 - 1 – Rooftop
 - 2 – Primary Structure Entrance
 - 3 – Driveway
 - 4 – Parcel Centroid
 - 5 – Miscellaneous

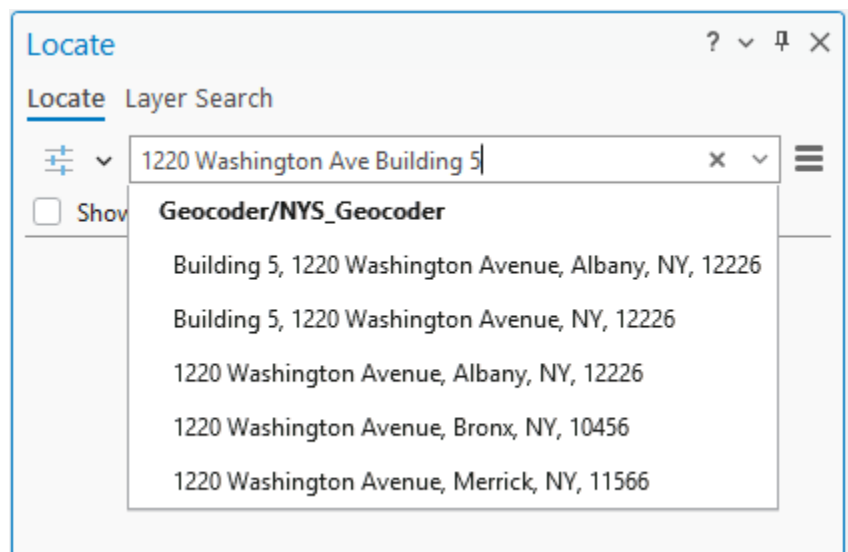
- Geocoding to intersections can be accomplished by using the following symbols between street names: “&”, “|”, “@”, “and”. Zip Code or Municipality names are required for intersection geocoding (e.g. Washington Ave & Central Ave, Albany, NY).
- When geocoding in ArcGIS Pro using the Geocode Table tool, there are some new options at the bottom of the tool after picking the input locator and mapping the input fields. These should be set to the following for best results:
 - Preferred Location Type → Address Location
 - Output Fields → All
 - Category → Do not select any. By leaving all the boxes unchecked, the locator will run the addresses through all the types. If the user selects a type (e.g. Address), only the locators within that category will be used, and the others will *not* be used. However, if a user is looking to only geocode against the address points, they could go in and select the *Address* category along with the *Subaddress* and *Point Address* subcategories. This will prevent the addresses from being checked against the other locators within the composite.
- Subaddressing:
 - The new locators can geocode to subaddressing down to a certain level. The locator template accepts input for Building, Unit, and Floor values. Any input addresses that contain information such as Apartment 1, Unit 3, Suite A, Floor 4, Building 1, etc. will geocode, if it is within the NYS source data. The geocoder can also find combinations of subaddresses, such as Building 1, Floor 2, Apartment 5.
- Suggest:
 - The new locators have the capability to “suggest” addresses, similar to commercial mapping applications. When users start entering an address in ArcGIS Pro or in an application, the locator will start suggesting addresses as the user types. The more the user types, the more accurate the suggestion will become. When the address the user is looking for appears, users can click on it to complete the search, and the locator will bring the user to the location. The suggest functionality works with subaddressing and points of interest as well.
 - There is a limit on the number of suggestions it will show per address, so users may need to enter the base address and hit enter in the Locate tool for subaddresses to show up.

Geocoding in ArcGIS Pro

1. When geocoding in ArcGIS Pro, after loading the locator into the ‘Geocode Address’ tool and selecting the appropriate field mapping, be sure to double check the following settings:
 - a. Preferred Location Type – should be set to Address Location
 - b. Output fields – should be set to All. This adds extra fields compared to the other options, but the custom fields with the Unique ID, County Name, and Point Type will not be output unless ‘All’ is selected.
 - c. Category – can be left blank. You can check the boxes for Address, Postal, and Populated Place, but when nothing is checked, the default checks all the categories.



- Locate tool – in ArcGIS Pro the Locate tool can be used to find one address at a time. This is where the Suggest functionality comes into play. As you type an address, it will ‘suggest’ addresses based on what you have typed.



Notes about POI locators: The POI locators are created by merging 4 point files together to make one POI locator. Originally, Geospatial Services had 4 separate locators set up and included them in their own POI Composite, but the results did not come out well when that was combined with the main Composite locator. We tried adding the 4 individual locators into the main composite, but that slowed down the processing speed. After discussion with ESRI, Geospatial Services came up with a plan to merge the 4 files together into one point file to create a single POI locator and included that in the main composite.

Feedback/Comments:

Please contact Craig Fargione and Jim Levandowski with any questions, comments, or concerns regarding the new address locators. Our contact information:

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ArcGIS Pro Geocoding documentation from ESRI:

<https://pro.arcgis.com/en/pro-app/latest/tool-reference/geocoding/geocode-addresses.htm>

<https://pro.arcgis.com/en/pro-app/latest/tool-reference/geocoding/rematch-addresses.htm>