City of Rockville ArcGIS Online Active Development Projects Map Explained

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This document contains an explanation of the steps taken to publish an ArcGIS Online web map of active development projects in the City of Rockville, Maryland. The online map can be found at www.arcgis.com/home/webmap/viewer.html?webmap=24dbf8f910eb417fb1f649af128cae1c and an embedded version on the City of Rockville's website at www.rockvillemd.gov/index.aspx?NID=621.   For more information, contact Clark Larson at clarson[at]rockvillemd.gov.

- When I started this project, Rockville already had an online planning permit status page that showed active planning application details such as the review status, case number, description, and recent and upcoming meetings dates for major planning applications. All of the webpage content were (and still are) edited manually, including the details pages and attachments for each project, to incorporate new application and status changes; fairly straight-forward web editing stuff.
- As a starting point for the map, I created a GIS layer for the projects already listed on the website by tracing or copying their parcel features or area boundaries and entering all attributes we wanted to track (the layer needs to be an SDE Feature Class to be placed online, but can begin as a shapefile or geodatabase feature class). The layer is projected in Web Mercator (WGS_1984_Web_Mercator_Auxiliary_Sphere) so it will display correctly on the Web Mercator-projected ESRI online maps. The map document you work in also needs to be in WGS_1984_Web_Mercator_Auxiliary_Sphere, but if you add your first layer as Web Mercator, the map frame should take that projection automatically. The up-front work of capturing all projects that were already on the web page, going back to about 2010, took a few days, but was doable for the number of projects we had on the website already (see Completed Projects page). We've decided to remove projects once they complete their construction phase.
- Many of the attribute fields are simply provided for information to show up in the HTML pop-up (more on that later), although some are important to how the map works: STATUS_TYPE is the symbolized layer showing the status of the projects on the map, WEB_LINK is a web address that allows someone to click a link on the HTML pop-up to visit the online project details page for a specific project (these pages are created manually on our website for each new project), CENTER_LONG and CENTER_LAT are created using "Calculate Geometry" in decimal degrees for "y" and "x", respectively, and will figure into later steps (for some reason, the order needs to be Longitude before Latitude), SCALE is related to the zoom scale on the ESRI ArcGIS Online zoom bar that is most appropriate to the size of the parcel (19 is the closest zoom level, 18 one step out, and so on), LONG_LAT_LEVEL is a combination of the last three attribute fields and is used as a suffix to the end of the ESRI ArcGIS Online map address so I can create a hyperlink that opens to a specific parcel location for each project. I used the following VB Script expression in the "Field Calculator" window for LONG_LAT_LEVEL: "&center=" & [CENTER_LONG] & "," & [CENTER_LAT] & "&level=" & [SCALE]"
- In order for the layers to look good at all zoom levels, I created layer symbology at three scales to encompass the "ArcGIS Online / Bing Maps / Google Maps" scale ranges. You may need to play with the symbology after loading these scale ranges in the Scale Settings to get what you want. I used 1:150,000 to

1:15,001, 1:15,000 to 1:5,001 and 1:5,000 to <None>, mainly so the layers will display with varying outline thickness and transparency at the two closer scales, but this is flexible. It also helps to customize the Scale Settings in the map document further by removing the scales that you don't need (i.e., those too far or too close to your jurisdiction) and selecting the checkbox to "Only display these scales when zooming"

- One important component of the map is the HTML pop-up that can be created in ArcMap and easily transferred to the ESRI Online Map. There is an "HTML Popup" tab in the Layer Properties window that can be engaged by checking its box at the top. I set the radio button to "As a table of the visible fields" and selected the "Hide field name column" and "Display coded value descriptions in all HTML content" check boxes. Additionally, in the Display tab, I set the "Display Expression" Field to the project name or [PROJ_NAME] to show up at the top of the HTML popup. You can preview what the popup will look like with the "Verify..." button.

- Creating the ESRI ArcGIS Online map is fairly easy, though it does involve some preparation if you are linking GIS layers from your own map service as we do. I'm not an expert on ArcGIS Server so you may need to ask someone in your organization about whether you are able to publish a map service from an enterprise SDE. If you are not using your own map service, you can upload a zipped shapefile or a comma delimited text file to a new ESRI Online Map, but you will then either need to make future edits within the online map or upload new shapefiles each time you have a change.

- If you are publishing a map service to upload to ArcGIS Online, your map document will need to include only those layers you intend to display in the online map. In our case, we included a city limits boundary, property layer, address annotation layer and the project status layer. By grouping the layers that all show up in a given scale range together in a layer group, you can specify the scale range for each group of layers once. This means you will have some duplicates if they are visible at multiple scales, but it works well with the Online Map.

- To make the connection between the Online Map and the website, there is a "Share" button on the saved Online Map that will give you an iframe URL for the map so it can be embedded in a website. There are settings in the embed prompt that let you specify the map size and map controls in the address, as well. Our webmaster worked some magic to include this embed URL on the webpage so it shows up in the right spot.

- If you want to implement the "View Map" links to specific project locations in the Online Map, you can create a link for each project that includes as a prefix the general ESRI Online Map URL (in our case it is www.arcgis.com/home/webmap/viewer.html?webmap=8ddca1f5c9b84b5e86dde74c638ca639) and as a suffix, the LONG_LAT_LEVEL attribute that I mentioned above (for example, &center=-77.1529317855195,39.0883964904886&level=18). So a hyperlink for one project might look like: www.arcgis.com/home/webmap/viewer.html?webmap=8ddca1f5c9b84b5e86dde74c638ca639&center=-77.1529317855195,39.0883964904886&level=18. This is the only way to have a hyperlink on a webpage, take someone to a specific spot and scale on the online map without delving into a whole lot of Java Script, which I don't know. Each time a new project is added, the LONG_LAT_LEVEL attribute needs to be created, appended to the Online Map prefix and provided as a hyperlink on the web page for the new project.

- Hope that all make sense. Good luck!