NHDOT CAD/D Connect Documentation

CONNECT DOCUMENTATION

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Utility Pole Plotting and Lebeling

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Introduction

Item Type information can be attached to the Existing poles in the *12345-Survey.dgn* as well as the proposed poles to help with annotation as well as with Reporting.   Upon Receipt of the Utility pole relocation sheets this can be started. Proposed poles should be plotted in the *12345-P-Utility.dgn* using Civil Accudraw to ensure the station and offsets are correct as well as to have them as manipulators if they need to move in the future.

Existing Utility Poles – Add Item Type Utility Pole Location

Open the *Survey.dgn's Default-3D* model and use *Element Selector* to select all Annotation Cells and then switch to level and unselect everything that is not a utility pole. Use the *Attach Item* tool and add the *Utility Pole Location Item* to all the poles. Set the alignment name when attaching the item type.

The *XS-Detail* procedures should have been followed to create and label tick marks for the existing point detail features. Details of that process are included in the Cross Section documentation.

Open the *Survey.dgn - Default-3D* model

Use *Element Selector* and select all Cells, then unselect all levels that are not utility poles.

Use the *Attach Item* tool, Select – *Utility Pole Location*, enter the Alignment name and accept to add the item type to the poles.

OpenRoads Modeling > *Utilities* Tab > *Reports* > *Cell Reports* > *Pole Locations*. Review the results and the pole locations and save to an
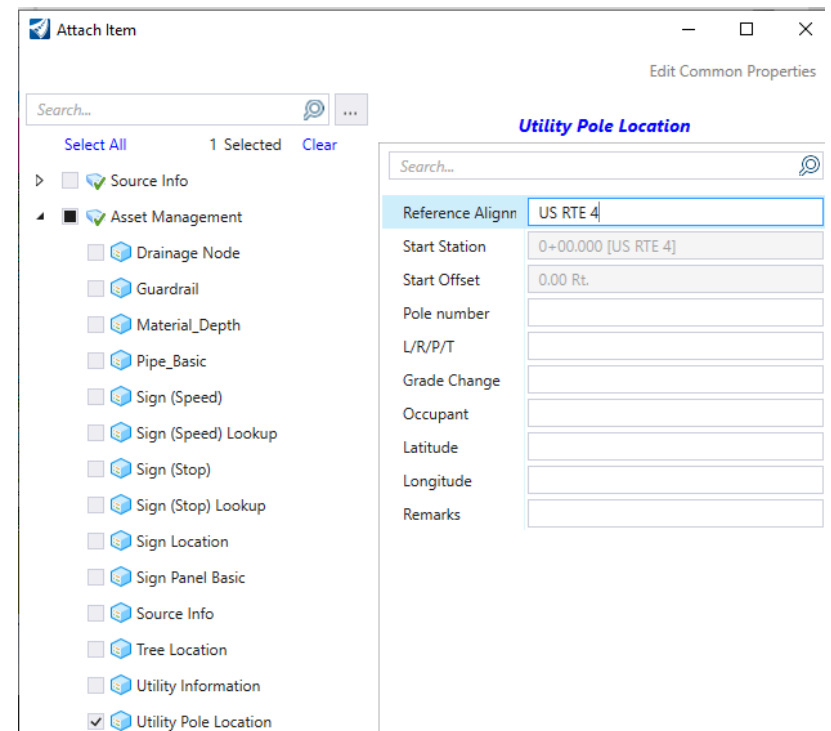
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Excel file. Open the Excel file on the side.

Open the *Geometry dgn* and create an *event point list* for the existing poles (and Proposed poles if available).   Create a new drawing **Pole Xsections** and attach the corridor, and or the *P-Terrain* geometry drives and such. Create sections at the pole locations using the event point list. Cut and fill depths can be scaled from the sections and added to the Excel report which can be used to update the item type information that was added to the poles.

Open 3 views - place dynamic section in the lower view. Alternately, you could add Event points to the geometry and use that to cut section at the pole locations.

Locate station via data point - select the first pole.

In the section view, go to the pole offset and scale the cut or fill amount and fill in on the Excel table.

Repeat for each pole location.

When done, set the *Default-3D* view active - shut off all but the poles and then select each one and add the cut / fill height to the Pole Location item.

If in *Top View* you could also attach the ETXT dgn and add pole numbers to the item info

When done create a new report.

The report can be used in the Geometry dgn to create an *event point list* of all the poles so a set of sections can be cut showing the cut & fill amounts for utility sections use.

If the *XS-Detail* report has been created, the even station sections could be used.

Give the report to the utilities engineer with pdf sections for pole L/R determination format in Excel
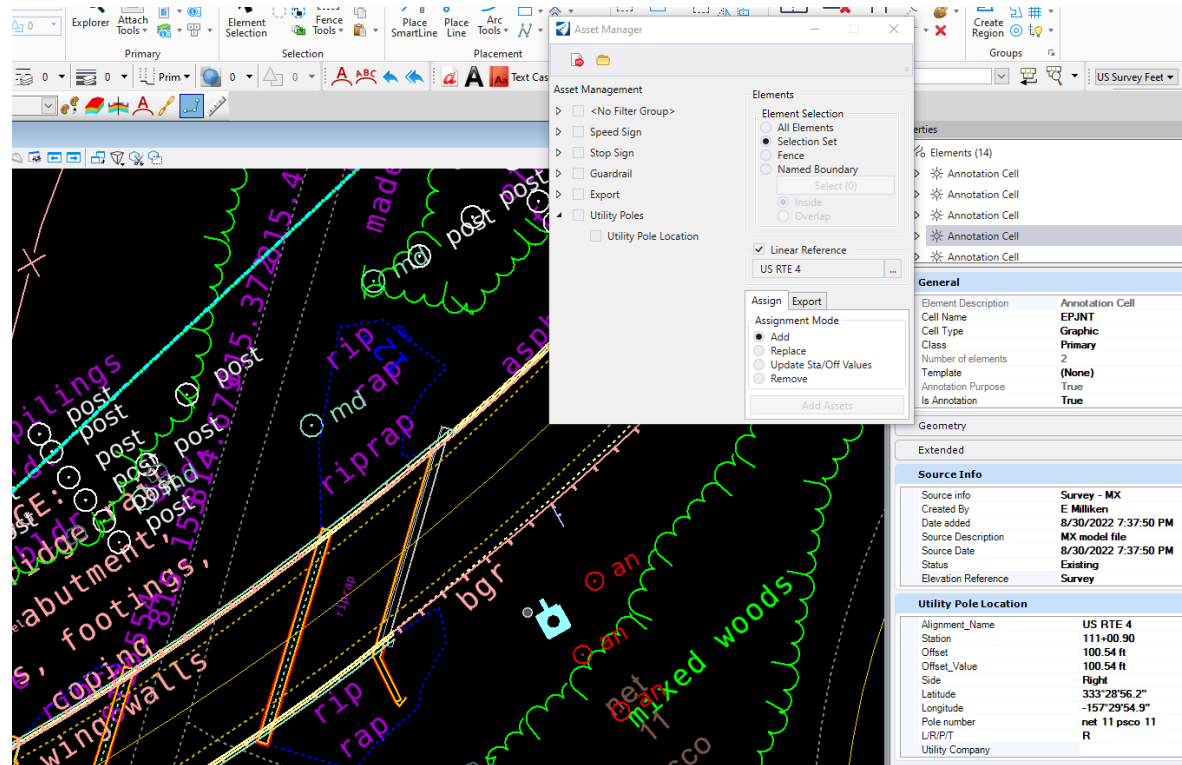
When you receive the pole relocation sheets, open the *Default-3D* model select each pole and add the L/R information to them.

Reselect poles that are not on a particular alignment and then use *Asset Manager* to attach a *Linear Reference*. Repeat for each Road that has poles on it.

Reselect all the poles and use the Utility Pole Relocation sheet and the Properties Box to move through the list of poles and Assign a **L/R/P/T** - *Leave* or *Remove* label to each. These designations are also used to Label the poles in the *P-Utilities.dgn*. With the *ETXT.dgn* attached, the Pole number can be added as ItemType information as you move down the list. Right click on the Annotation Cell and Zoom to each particular pole in top view to see the pole numbers.

View dynamic sections to review the Grade Change information and add to the Item Type entry and verify on the Relocation sheets. Use the View Station Via Data point and hit on each pole with an Origin Hit code to view the section.

Plotting Proposed Utility Poles

Open the *Drainage and Utilities* WorkFlow *Layout* Tab > *Place Node* command to place the first node. Select the appropriate proposed node such as Electric Nodes > **P_Joint Pole** and follow the prompt to select a reference element for elevation by selecting the Composite Terrain model. Accept the Placement Type, *By Minimum Depth*. You can now use a data point on the screen to place the node, or activate Civil Accudraw, Station-Offset, tab to highlight the Offset, then type an **O** (origin) and hit on the alignment as the reference element and then use the station and offset fields to type in a location to place the node. Accept or change the Rotation Mode, then move the cursor around to define the node's rotation and accept.   When using Civil Accudraw's Station/Offset to place a node, the node will have manipulators for the station and offset to easily move it in the future.

The command will continue to allow you to place additional nodes. Select the feature definition for the next item to be placed and repeat the steps for setting its location and rotation.

When working on poles it is sometimes hard to differentiate between existing and proposed. Use the right click menu and select *View Control > Ref Adjust Colors* to tone down all the reference files and more easily see the proposed poles.
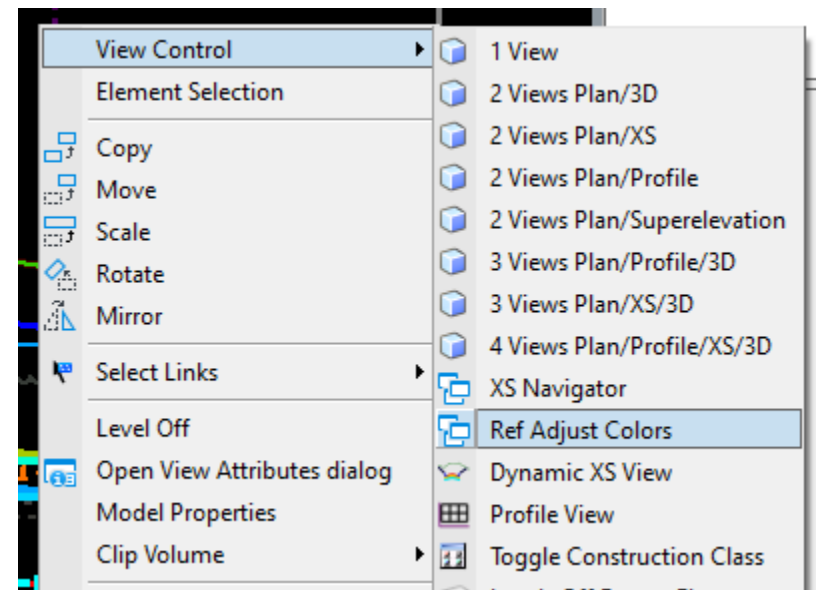
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can open the geometry.dgn and add all proposed pole stations from the Pole Relocation sheets to a proposed pole event point list

Open P-Utilities.dgn

Attach alignment corridors and existing terrain

Default view.

D&U place node

use civil accudraw and place poles

attach station and offset - Node item type or pole location item type.

Dynamic sections could be viewed to determine cut/fill height at the proposed locations

create a PFSONEE report of the proposed pole vs the alignment

open the xs - detail dgn and create all the ticks for all detail or just for the proposed poles

create sections of the proposed and existing pole locations could leave the named boundaries in the p-util and save the sections to a different dgn

remember that pole tick marks are at the even station not at the pole station.

Attach the Gen Plans Cut sheet drawing for Sheet Named Boundary locations. rotate to the first sheet.

Use the PUT task list to label each existing and proposed pole location.

For existing poles... manipulate levels... then "highlight" reference file

For proposed.... asks for identify element.... tentative on the alignment then accept to highlight it.... then use origin code on the proposed pole.

Rotate to each sheet.

Place Utility Pole Notes

Reference the *Default* model of the cut sheet drawing that the pole notes will be plotted on into the *Default* model. Use the Named Boundaries to rotate the view to each cut sheet prior to adding the notes for that sheet. Open or use the *NH_PUT* Tasks. There are 2 sets of tools to label Existing and Proposed Poles one for MicroStation and the other for OpenRoads Designer.

The MicroStation tools use *Place Note* for the L/R, and the *Station/Offset* macro for the Proposed poles.

The OpenRoads Designer tools use the *Place Label* command and pull the information from the node or Item Type properties attached to the nodes or cells.

For L/R notes Select the Tool then Origin hit on the Existing Pole. For MicroStation type an L or R in the text editor and then click where to place the Text. For OpenRoads Designer, after selecting the pole just place the text.
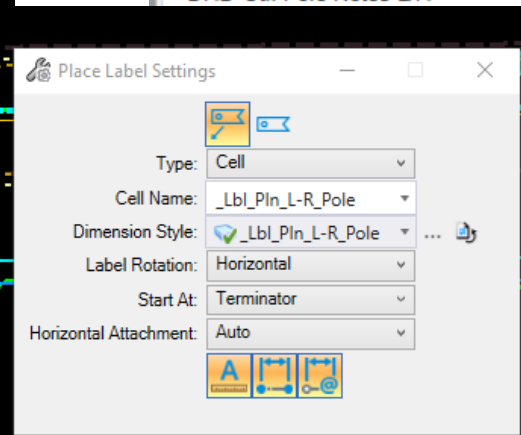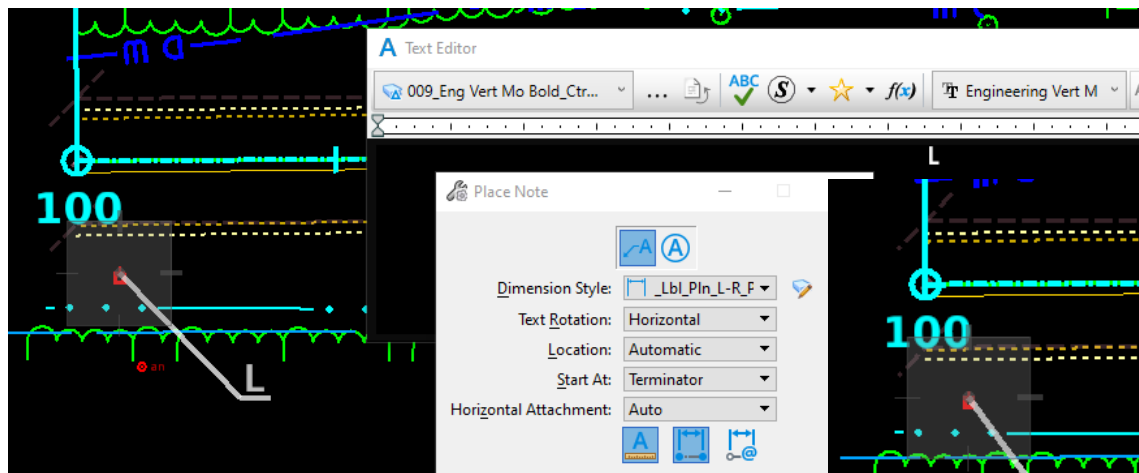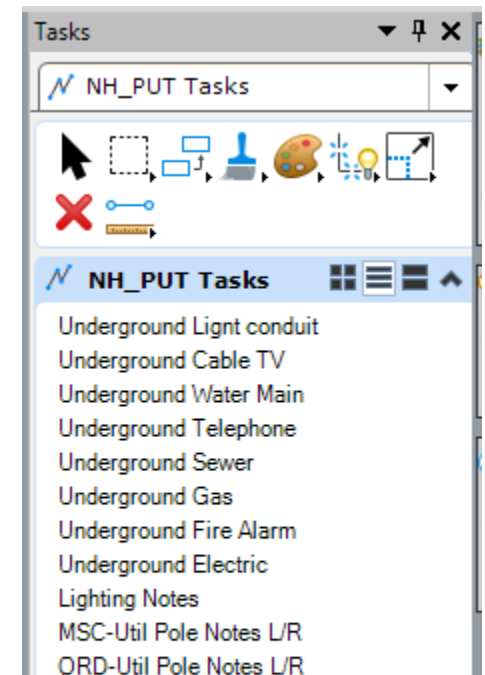
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For the *MSC Proposed Utility Pole Notes,* the tool will Open the [Station/Offset Macro](). Use the *Select Center Line Element* and select the alignment, and accept. Update the *Begin Station* and change the *Type* to **Utility Partial Sta. and Off.** Click Place Label and use an *Origin* hit on the pole and then place the label. Repeat for each Proposed Pole. Remember to rotate to each cut sheet as you proceed.
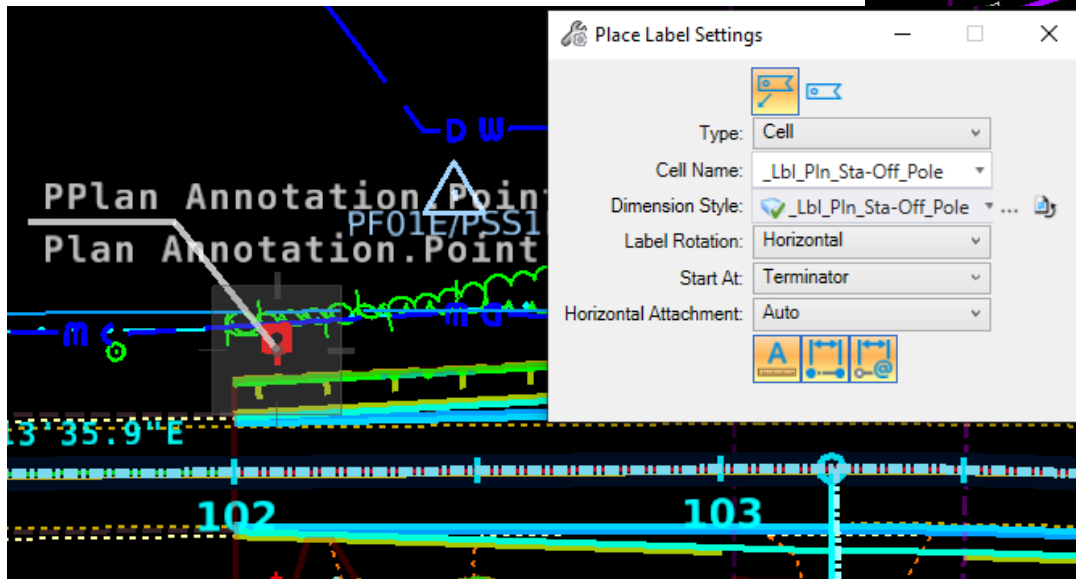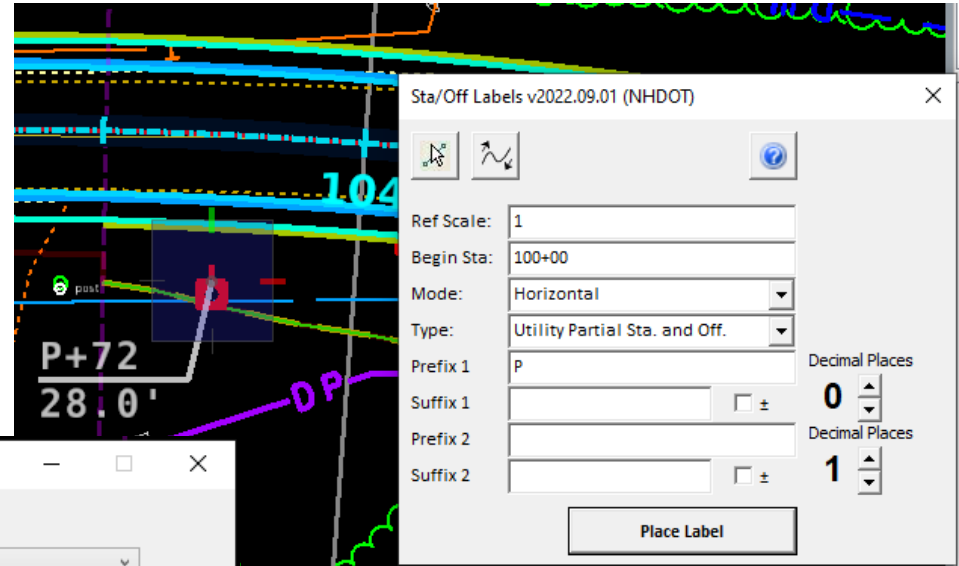
For the *ORD Proposed Utility Pole Notes* the tool will Open the Place Label tool. In the bottom left it will prompt you to **Identify Element** or Data Point. *Tentative Snap* to the alignment to highlight it then *Left Click* to select it and again to accept it. Next use an *Origin* hit on the pole and then place the label. Repeat for each Proposed Pole. Remember to rotate to each cut sheet as you proceed.

When finished Save Settings and Save the DGN.