

Location and Vicinity Map Guide



Website: <https://www.tn.gov/tdot/roadway-design/tdot-cadd-support.html>

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Location Maps

This document provides the directions to set up a location map in a Microsoft Word document as per the TDOT Roadway Design Guidelines.

The location map is first prepared in **MicroStation** using a standard 8.5 x 11 form cell with a design and/or raster map file attachment. A raster image file of the completed location map is then created in MicroStation which can then be inserted into a **Microsoft Word** document.

To use the TDOT Design Division county map files, download from

<https://www.tn.gov/content/tn/tdot/roadway-design/design-standards/design-cadd-files/tennessee-map-files-for-microstation.html>.

The files are listed by county name. All maps are in NAD 83 English mapping coordinates as set up in the standard TDOT Design Division English MicroStation DGN seed file. Graphics are set for scale 1" = 5280'

Attach the County Map(s) to the Location Map Form

1. Create a new DGN file (2D Seed) for the location map.
2. Reference your alignment DGN file to the location map DGN file.
3. Set the active scale = 5280.
4. Place a location map cell so the alignment is centered in the map area. In MicroStation running the TDOT interface, go to **TDOT > Permits & Forms** or in Geopak's D&C Manager go to **Drafting Standards > Sheets > Permits & Forms**.
5. Reference the county DGN file to the location map DGN file. In MicroStation go to **File > Reference**. In the **Reference** dialog box, go to **Tools > Attach** and select the county DGN file. Set Attachment Method to **Coincident** (or Coincident World) and select **OK**.

NOTE: Sometime the actual location does not always line up with the roadway alignment when referencing. To correct such issue, user shall use **Move** or **Rotate** tools in the **Reference** dialog box under **Tools** to adjust the county map before clipping.

6. Fence the map area you need on the location map and do a clip boundary for the DGN county file.
 - a. In the **Reference File** dialog box, select the county map DGN, go to **Tools > Clip Boundary**. In the MicroStation Tool Settings box set Method to **Active Fence**, click on **Use References Dialog List** and data point to accept.

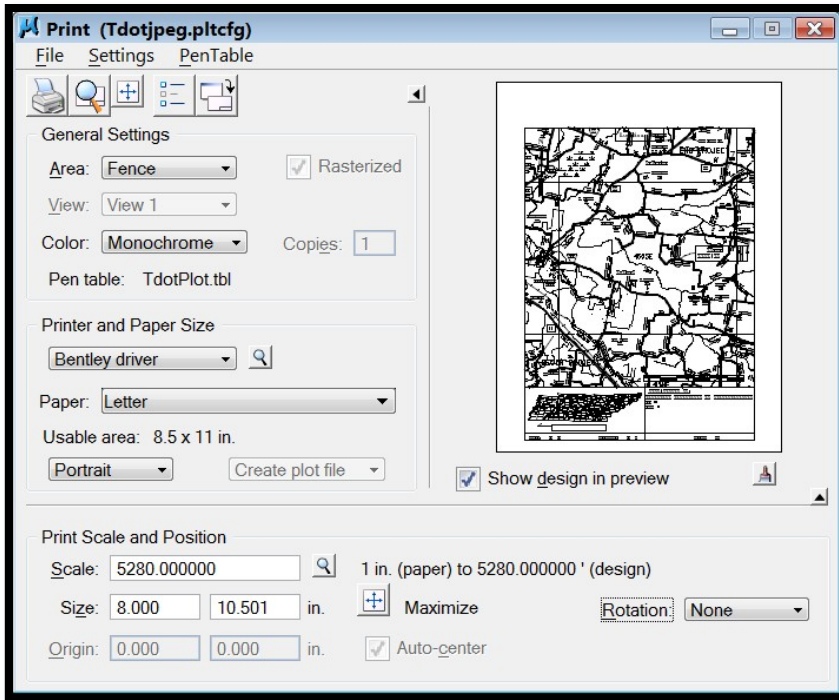
NOTE: Sometime the actual location does not always line up with the roadway alignment when referencing. To correct such issue, user shall use **Move** or **Rotate** tools in the **Reference** dialog box under **Tools** before clipping.

7. In MicroStation, turn off level **DESIGN - SCRATCH - User 1, (#30)**, in the county DGN reference and go to **File > Save Settings**.
8. Annotate & move the map as needed

Note: The location map will plot at **1" = 5280'**.

Generate JPG Image File of Location Map

1. In the MicroStation location map DGN file, set the view attributes to **Line Weights** on, **Data Fields** off, **Fill** on.
2. Create a fence by snapping to the green snap points on the location map cell. This will place the fence just inside of the 8.5" x 11" border lines.
3. Use MicroStation Print to create the JPG file. Go to **File > Print**. Then go to **File > Select Bentley Driver**. In the MicroStation Print dialog, attach the **Tdotjpeg.pltcfg** plotter driver.
4. Set the **Print Scale** to 5280 or otherwise to match the map scale.



5. Go to **File > Print** (first icon) and save the JPG file to the project folder.

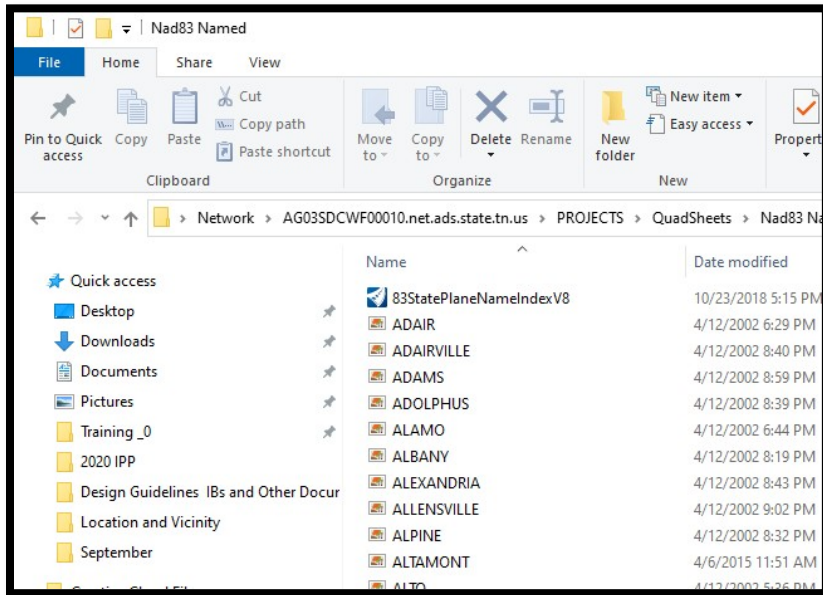
Insert JPG Image File into Microsoft Word Document

1. Open the Word document for the location map. Go to the **Page Layout** ribbon menu and click on **Margins**. Choose **Custom Margins** and set the margins on all sides to 0.25 inches.
2. Go to the **Insert** ribbon menu and click on **Picture**. Navigate to & select the image file created with MicroStation Print.
3. The image will come in to the available margin space in the Word file and if you used the green snap points on the form then the image size will be 8" X 10.5" which will be to scale. After insertion the **Picture Tools** ribbon menu is opened automatically and **Size** at the far right shows the width and height. For other map sizes, adjust these values to achieve the correct scale.
(Map dimension in inches = Width in MicroStation / Scale).

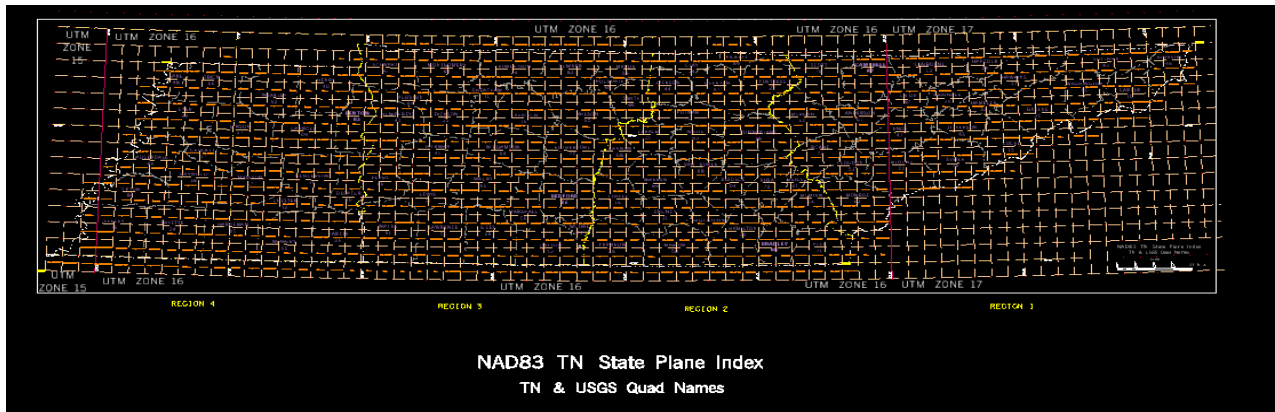
Vicinity Maps

In the Permit Applications process for a project a Vicinity Map usually is included with the Permit Sketches. An example of how the Vicinity Map should look is shown in Fig.3-8 in [Roadway Design Guidelines Section 3](#). A Vicinity Map shows the area of the project superimposed on a Quadrangle Map. The Quadrangle Maps are located in the folder:

<\\AG03SDCWF00010.net.ads.state.tn.us\PROJECTS\QuadSheets\Nad83 Named>.

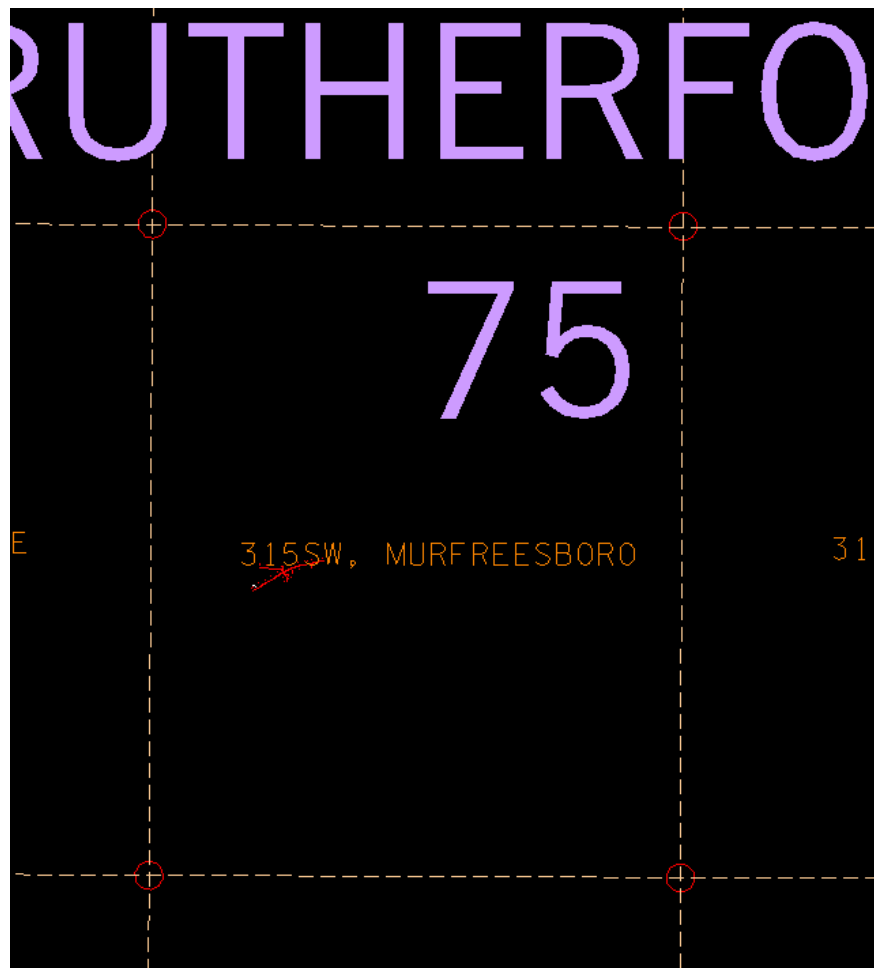


The Quad Maps are in the form of raster files. There is also a MicroStation file named 83StatePlaneIndexV8. This file contains an outline of the state of Tennessee with blocks named corresponding to the raster Quad Maps.



Attach the Quad Map(s) to the Vicinity Map Form

1. Copy **83StatePlaneIndexV8.dgn** to your project folder.
2. Create a new DGN file (2D Seed) for the vicinity map.
3. Reference your alignment DGN file and 83StatePlaneIndexV8.dgn to the vicinity map DGN file.
4. Set the active scale = 2000.
5. Open the vicinity map DGN file and locate your project in the state map. In this example the project is located in Rutherford County in the “Murfreesboro” Quad block.



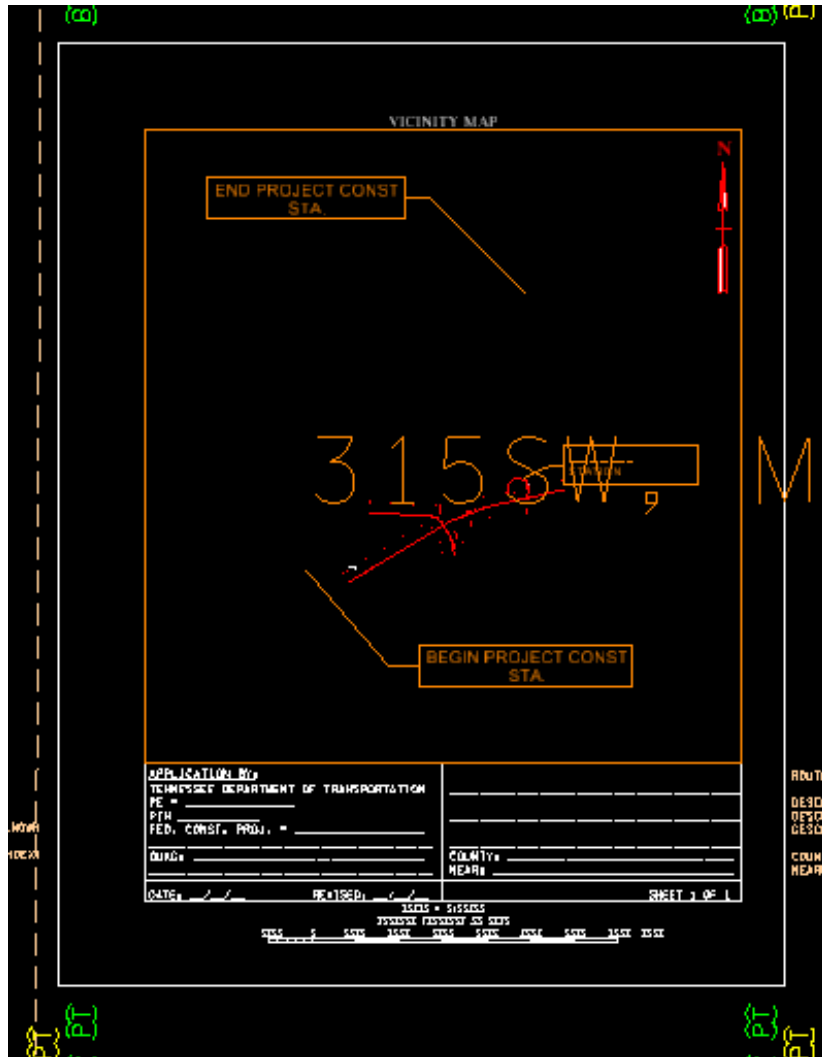
6. In the Quad Map folder locate the raster file corresponding to the block in which the project is located. Copy this file to your project folder.

7. Attach the raster file by selecting **File> Raster Manager**. Then select **File> Attach> Raster**. Browse to select the file you copied to your project folder earlier. Select **Attach** and the appropriate Quad Map will appear in the correct block location. The reference display for the state plane index file can be turned off.



NOTE: When referencing alignment to raster file, the alignment and desire vicinity area do not always line up. To line them up, user can utilize **Move & Rotate** tools under **Raster Manager** dialog before clipping.

- Place a vicinity map cell so the alignment is centered in the map area. In MicroStation running the T.D.O.T. interface, go to **T.D.O.T > Permits & Forms** or in GEOPAK's D&C Manager go to **Drafting Standards > Sheets > Permits & Forms**.

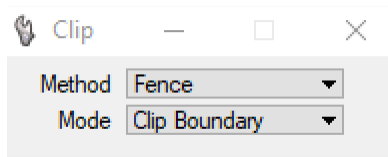


(Note: This example shows the Portrait view sheet with the raster reference turned off.)

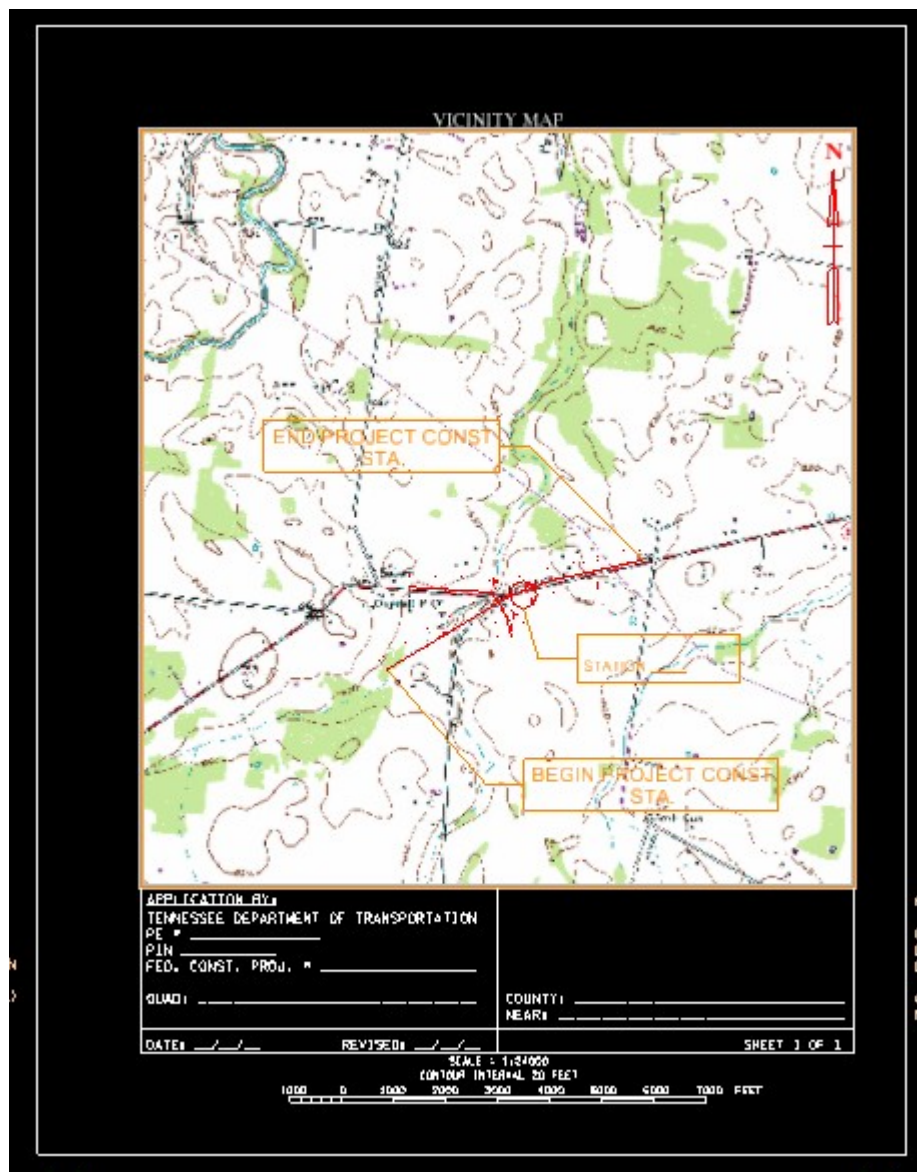
- Drop status on the sheet cell to move the flags to their proper locations.

10. Clip the raster file at the display boundary.

To clip the raster file, select **Clip** under **Edit** in **Raster Manager** dialog and then choose



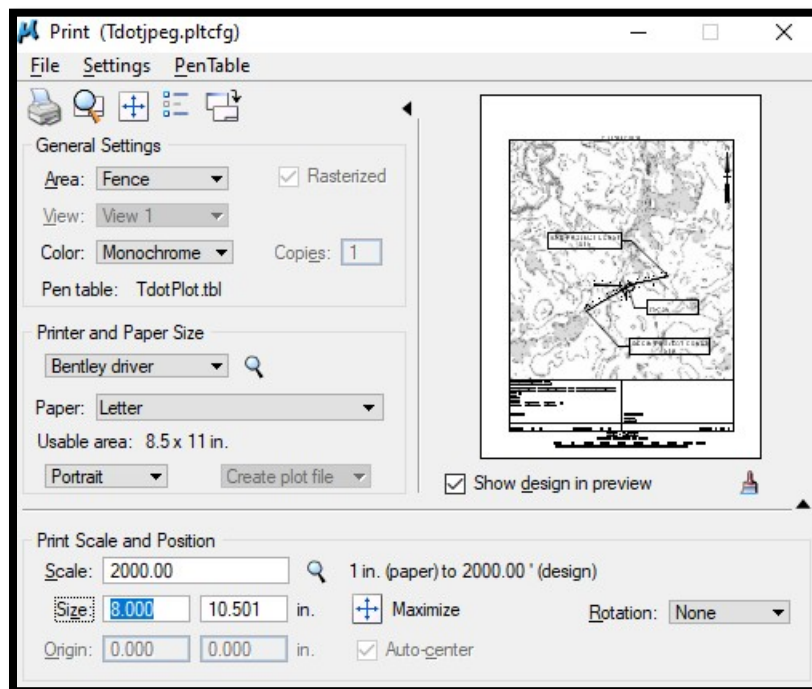
Fence Method/ Clip Boundary Mode. Fence desire boundary area and data point to clip.



11. Complete by filling all information in the data fields.

Generate JPG Image File of Vicinity Map

1. In the MicroStation vicinity map DGN file, set the view attributes to **Line Weights** on, **Data Fields** off, **Fill** on.
2. Create a fence by snapping to the green snap points on the location map cell. This will place the fence just inside of the 8.5" x 11" border lines.
3. Use MicroStation Print to create the JPG file. Go to **File > Print**. Then go to **File > Select Bentley Driver**. In the MicroStation Print dialog, attach the **Tdotjpeg.pltcf** plotter driver.
4. Set the **Print Scale** to 2000 to match the map scale.
5. Change the **Color** to True Color. This allows for the Vicinity Map to be printed in color and not black and white.



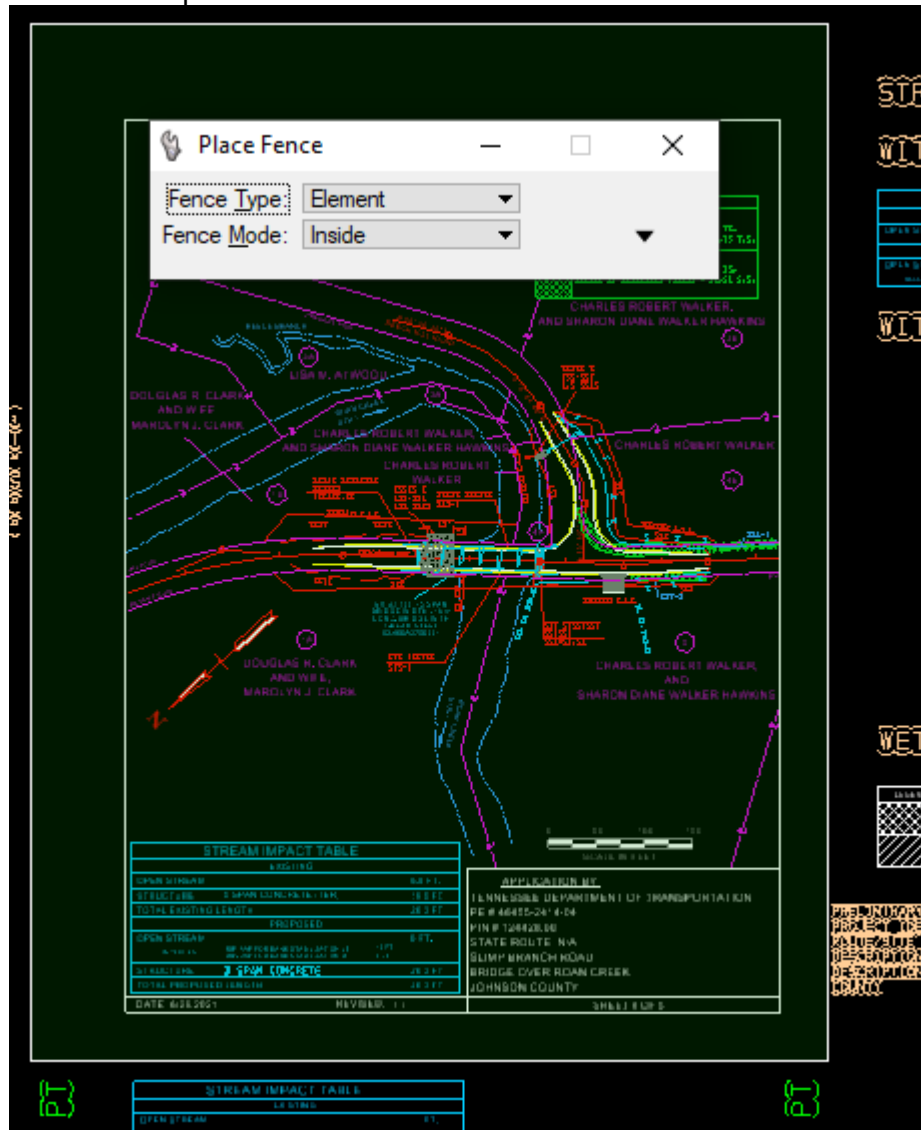
6. Go to **File > Print** (first icon) and save the JPG file to the project folder.

Insert JPG Image File into Microsoft Word Document

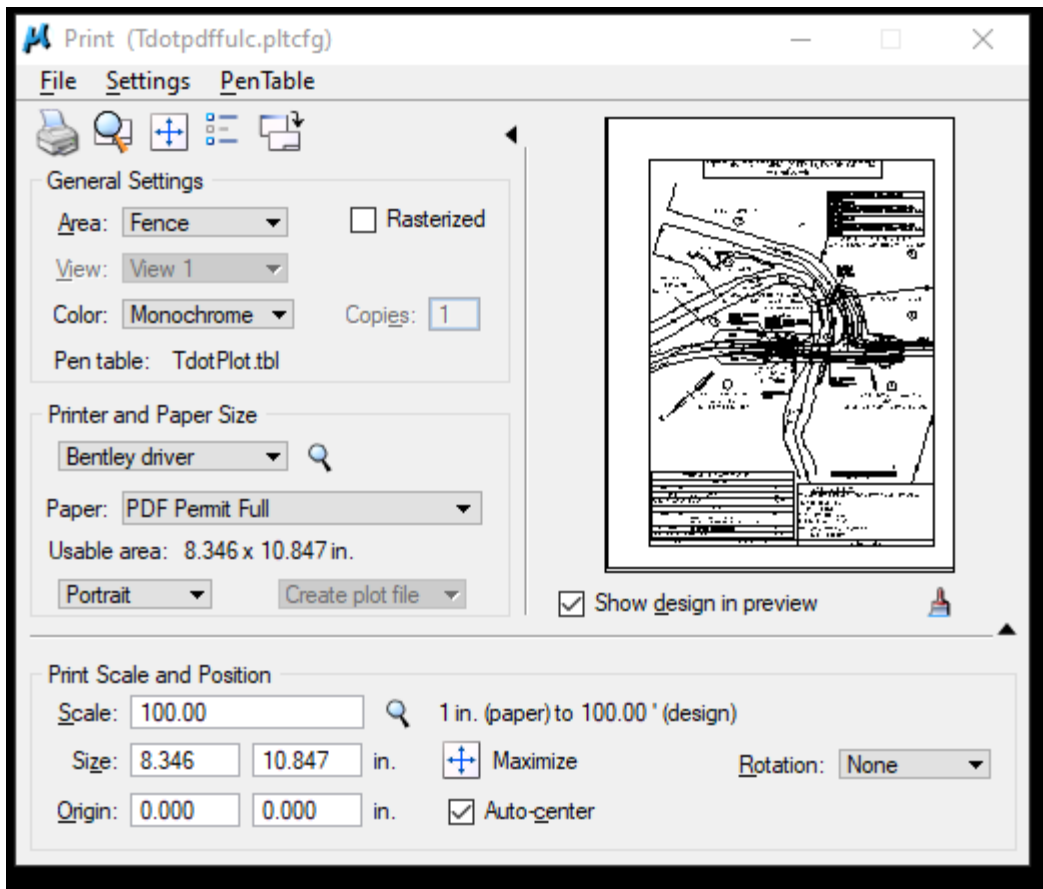
1. Open the Word document for the location map. Go to the **Page Layout** ribbon menu and click on **Margins**. Choose **Custom Margins** and set the margins on all sides to 0.25 inches.
2. Go to the **Insert** ribbon menu and click on **Picture**. Navigate to and select the image file created with MicroStation Print.
3. The image will come into the available margin space in the Word file. If you used the green snap points on the form, the image will be to scale and at a size of 8" X 10.5". After insertion, the **Picture Tools** ribbon menu is opened automatically. The **Size menu** is at the far right and shows the width and height. For other map sizes, adjust these values to achieve the correct scale. (Map dimension in inches = Width in MicroStation / Scale).

Permit Sketch Printing

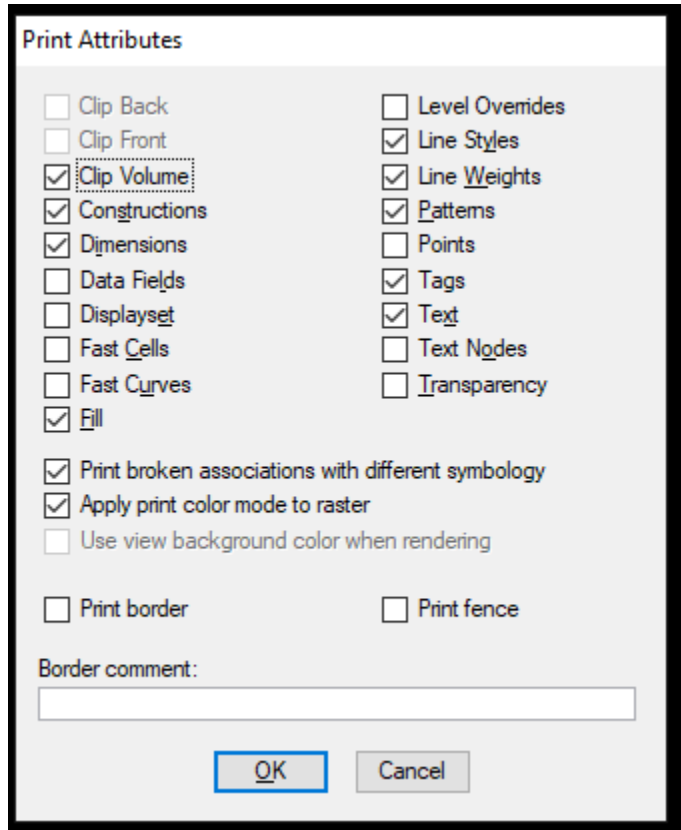
1. Fence in the area to print



- a.
2. Select Print
3. Area should automatically be fence but can be changed if not.
4. Select magnifying glass
 - a. Select TDOTPDFFULC or TDOTPDFFUL
5. Change color to monochrome
6. Changed paper to PDF Permit Full
7. Select maximize box



8. Go to settings – print attributes
 - a. Mark line weights
 - b. Unmark Data Fields



9. Select the print icon
 - a. The output file naming shall include .pdf extension such as PermitSketchexample.pdf
 - b. Click save.