MONTANA
Department of Transportation

Project Development & Delivery - Digital Design and Modeling Services

Tip Guide

Application/Tool(s):	AutoCAD / Civil 3D
Version(s):	13.6.2123.0 Civil 3D 2024.4.6 Update
Environment:	MDT Civil 3D State Kit r2024 v2.3.1
Released/Revised:	3/11/2026

SUPPORT
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IMPORT NAIP TIFF IMAGERY INTO CIVIL 3D

The purpose of this tip is to demonstrate how to add NAIP aerial imagery as a TIFF into a Civil 3D DWG file. The suggested use is to import the imagery into an alignment file, the imagery display file, or any other appropriate file to aid in the visualization of a project's area.

Acronyms/Definitions Used in This Document

ACC – Autodesk Construction Cloud, Autodesk's new cloud storage ecosystem with enhanced tools, which will replace BIM 360 when it is retired

MSDI – Montana Spatial Data Infrastructure

NAIP – National Agricultural Imagery Program

TIFF – Tag Image File Format; one that is used for storing raster graphics images

References

Civil 3D 2024 Raster Data Best Practices

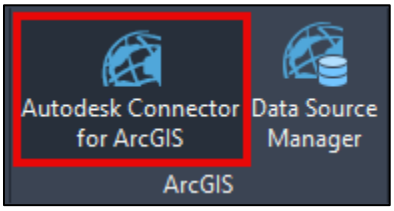
Revisions

3/11/2026	Updates for ADA Accessibility

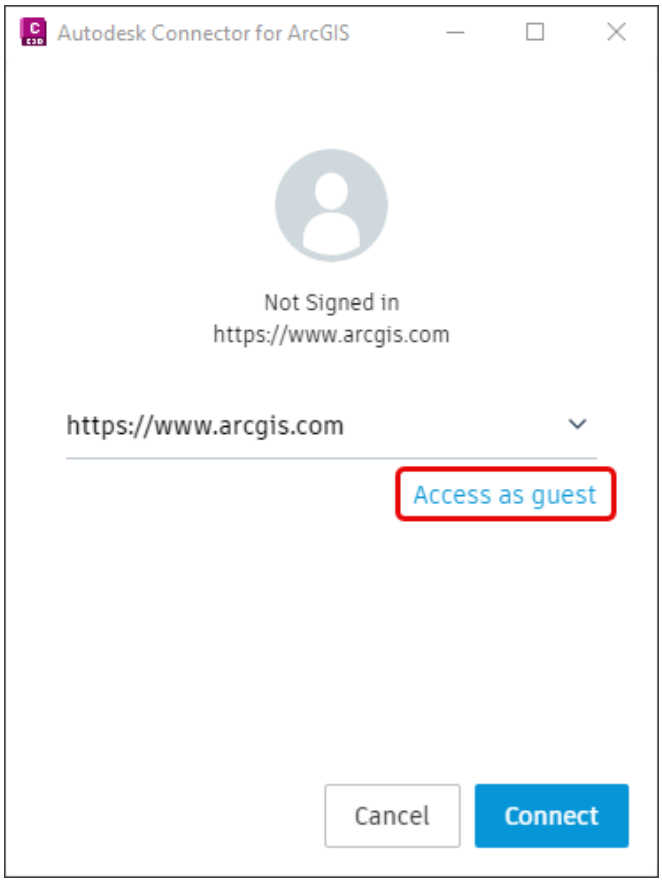
Import NAIP Imagery Using the Autodesk Connector for ArcGIS

NOTE: The file where the imagery will be added must be saved onto BIM 360/ACC prior to inserting the TIFF imagery; otherwise, the imagery will not be properly imported.

1. Open the DWG file where imagery is desired.
2. Set the active layer to ***X-IMAG-AERI***.
3. Select the ***Autodesk Connector for ArcGIS*** from the *ArcGIS* panel in the *Insert* tab.



4. Log into ArcGIS using the appropriate credentials. For MDT users, select ***Access as guest***.



NOTE: If the Autodesk Connector for Access opens with a blank screen, close it and reselect the ***Autodesk Connector for ArcGIS*** from the *ArcGIS* panel in the *Insert* tab.

5. Zoom to the project's area, then select the second icon at the top with a blue box to draw a window around the project location. The green icon on the left uses the window extents as the boundary for the imagery.

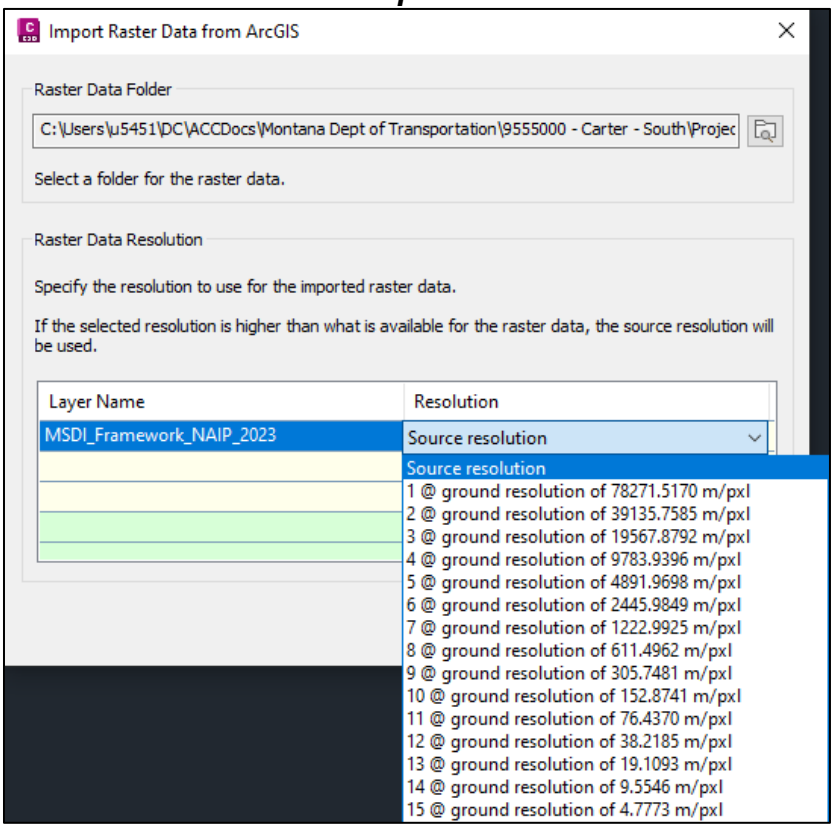


6. In the search bar, type "***Montana NAIP 2023***," press Enter, and check the box in the image preview. This will automatically select the ***MSDI_Framework/NAIP_2023*** layer. Set the feature type to *Imagery* if it is not defaulted. Then select ***Add to my design project***.

NOTE: As of February 2025, the 2023 NAIP imagery does not yet cover the entire state and therefore may have locations where imagery is not available. The 2021 NAIP imagery covers the entire state. Search "***Montana NAIP 2021***" and add the ***MSDI_Framework/NAIP_2021*** layer to the project.

7. In the *Import Layers* popup, select ***Import*** to accept the default settings template.

8. Select the folder icon for the *Raster Data Folder* and specify your work group folder within the appropriate project. Click the dropdown and select ***Source resolution****. Then select ***Import***.



***NOTE:** This Civil 3D help page explains best practices with raster resolutions from ArcGIS maps. Source resolution is ideal for plan and profile sheets when detail is needed.

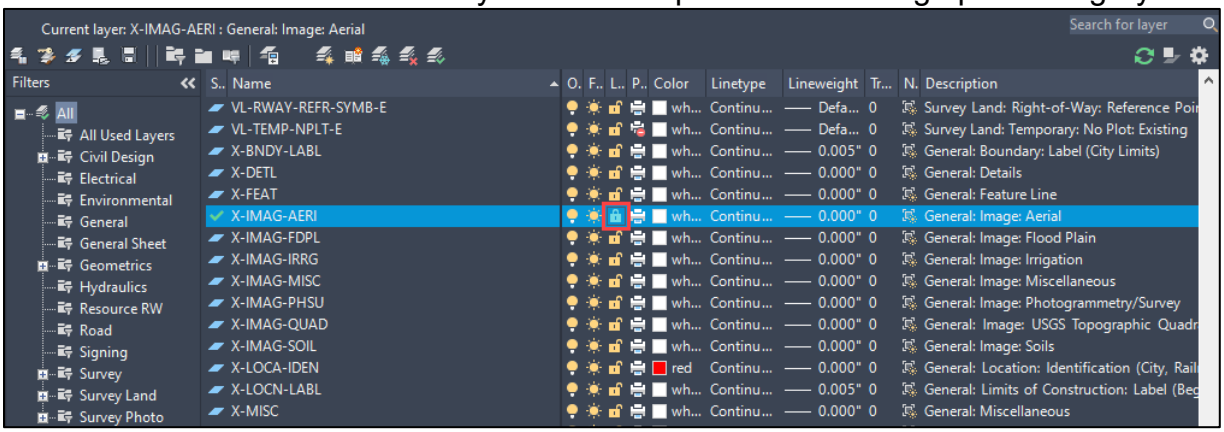
The imagery will take a few moments to download.

9. The raster image is then imported on the active layer (***X-IMAG-AERI***) as a clipped raster (TIFF). If there are design elements within the existing file, the image may cover the elements. If this occurs, select the border of the raster and type the command ***DRAWORDER*** and type ***B*** to send the image to the back, or right click, select ***Display Order***, then select ***Send to Back***.



Details regarding the raster image can be viewed in the XREF Manager, where the raster can also be attached and detached from the file. Additional raster information can be found in the Raster Design Manager, which can be accessed via the command ***IMANAGE***.

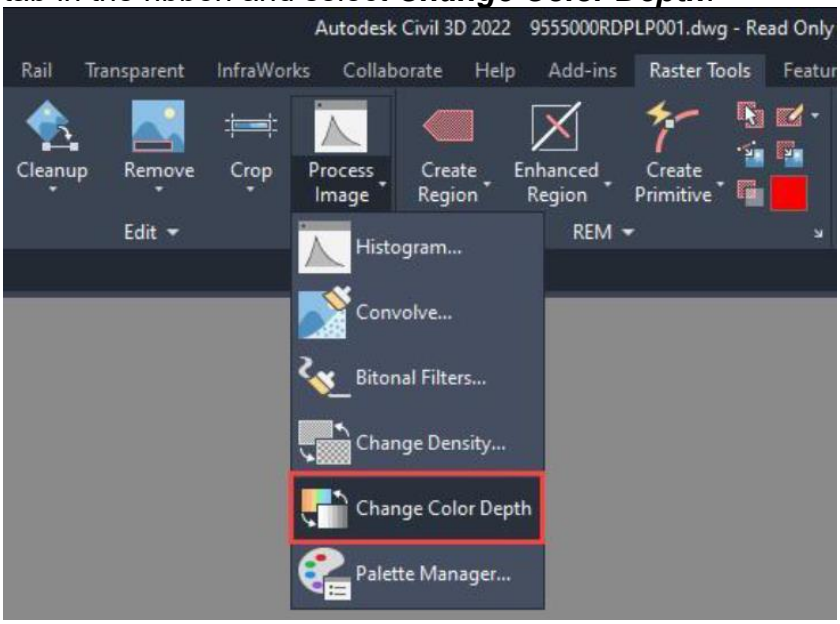
NOTE: The raster image can be scaled by clicking on the grips, so it is recommended to lock the layer when completed with setting up the imagery.



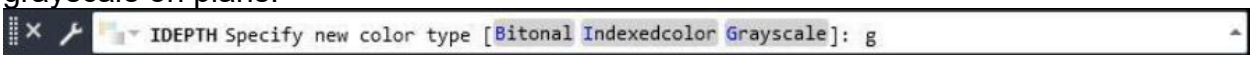
Transform Raster From Color to Grayscale for Plotting

Since the aerial imagery will not plot as grayscale with the MDT – Standard.ctb plot style, the raster must be manually changed to grayscale.

To do this, select the *Process Image* dropdown from the *Edit* panel in the *Raster Tools* tab in the ribbon and select ***Change Color Depth***:



In the command prompt line, type g and press ***Enter*** or select the ***Grayscale*** button in the command line. The image should then process as grayscale and will also plot as grayscale on plans.



Utilize Imagery Download in Other Design Files

The TIFF aerial imagery file sizes created from this process can be larger than a gigabyte, especially for longer projects. Because of this, it is recommended to copy the imagery into other files rather than repeating the process outlined above.

To copy the raster into another file, attach the file containing the raster into the desired destination file. Type the command ***NCOPY*** and select the border of the imagery, then press ***Enter***. Specify the displacement with a value of <0,0,0> to maintain the image's geographic location. Then detach the raster source file.