

August 2024 MDT Civil 3D State Kit Survey Tools

RELEASE 2024 V2.0.0

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OVERVIEW

This document provides a user focused overview of the **Survey Tools** available for use with the MDT Civil 3D State Kit (hereafter referred to as "State Kit"). Basic functions for use with the State Kit are described to provide users with the fundamentals for processing survey data.

COMPANION DOCUMENTATION

MDT Civil 3D State Kit Overview - Release 2022

https://www.mdt.mt.gov/other/webdata/external/ESDC/library/2022StateKit-Gen.pdf

To Convert a RW5 File into an FBK File

https://knowledge.autodesk.com/support/civil-3d/learnexplore/caas/CloudHelp/cloudhelp/2017/ENU/Civil3D-UserGuide/files/GUID-4B3A7744-0C39-4F05-B464-7F3AE1C5798F-htm.html

DISCLAIMER

The Survey Tools are verified to work on internal MDT workstations and MDT internal networks. The customizations are also verified to work with a standard "out-of-the-box" Civil 3D installation. Every effort is made to make the Survey Tools compatible with any Civil 3D configuration, but in the event, there are conflicts between the Survey Tools and your Civil 3D configuration, please submit an <u>MDT Engineering Systems (CADD)</u> <u>Request</u> for guidance or assistance.

MDT Engineering Systems (CADD) Request:

https://mt.accessgov.com/mdt/Forms/Page/engineering-division/cadd-support-request/0

SURVEY TOOLS

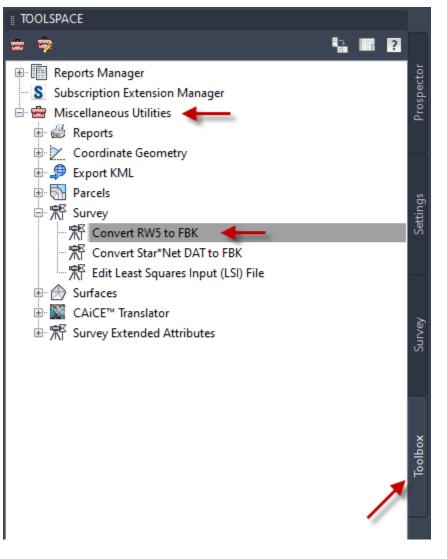
MISCELLANEOUS UTILITIES - SURVEY

Miscellaneous Utilities for Survey are delivered as out-of-the-box utilities with installation of Civil 3D. These tools are useful for MDT to aid in content creation workflows and data processing.

To Convert a RW5 File into an FBK File is available for further information.

CONVERT THE MDT SURVEYPRO RAW TO CIVIL 3D 2020 FBK

- 1. Go to the Toolspace > Toolbox > Miscellaneous Utilities.
- 2. Expand Survey and right click and execute Convert RW5 to FBK.



- 3. From the Select RW5 File dialog change the File name filter from RW5 files (*.rw5) to All files (*.*) and path to the RAW files.
- 4. Select RAW files one at a time in the dialog and click Open.

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5. The Save Field Book File dialog will appear saving the file to a FBK format. Click the Save button. The file will be saved and the dialog will close.

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ENHANCE FIELDBOOK

The Enhance Fieldbook tool adds linework codes to fbk files converted from RAW files.

ENHANCE THE FIELDBOOK FILE

- 1. Go to the Toolspace > Toolbox > MDT State Kit Tools
- 2. Expand **Survey Extended Attributes** and right click and execute **Enhance Fieldbook**. The Open Field Book dialog will appear.
- 3. In the Open Field Book dialog select the FBK files you want to enhance. You can pick multiple files at once. Then click Open.

C Open Field Book												×
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Note: This routine will overwrite the FBK files adding the point code and line codes to the fieldbook.

IMPORT THE ENHANCED FBK FILE

1. Import the FBK using Import Survey Data.

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Specify Network	Fieldbook RAW		
Import Options			
	, Create New Survey Database	Edit Survey Database Settings	
	Back	Next Cancel Help	

2. Specify the data source type Field Book File and Select the Enhanced FBK file.

C Import Survey Data - S	pecify Data Source	×
Specify Database	Specify the data source type and select the data.	
Specify Data Source	Data source type:	
Specify Network	Field Book File	/
Import Options	Selected file:	
	Back Next Cancel Help	

3. In the Specify Network setup Create a new Network.

C Import Survey Data - Specify Network				
Specify Database	Select an existing survey network, or create a new one. Survey networks			
Specify Data Source	Name	Description		
Specify Network	🔀 Survey01 🔶			
Import Options				
		Create New Network		
		Back Next Cancel	Help	

4. In the Import Options setup set it to MDT Figure Prefix Database and MDT Linework code set. Toggle YES Insert network object and Insert survey points.

Import Survey Data - Im	port Options	×
Specify Database Specify Data Source	Specify the import settings for the selected data source. Import settings	
Specify Network	Property	Value
▶ Import Options	 Field book filename (.FBK) Current equipment database Current equipment Show interactive graphics Current figure prefix database Process linework during import Current linework code set Process linework sequence Import event name Import event description Assign offset to point identifiers Point identifier offset Insert network object Insert figure objects Insert survey points Display tolerance errors in Event Viewer 	C:\dgn_MDT-OR-Training\Survey_Data No Yes MDT Figure Prefix Database Yes MDT Linework By import order TP01.fbk No Yes No Yes No
	Bac	k Finish Cancel Help

Note: The figure prefix database has both sets of codes in it. For example, "FENCE" and "FN". Fence is used by the CSV file for the point code as well as the figure code. The Fence is used by the FBK for the point code, and FN is used by the fieldbook for the linework. There is a change to the Linework codes to force explicit start and end for the figures. Without this, Fence would be used to create a duplicate set of features that would all be strung together and would shoot between fieldbooks. The figure prefix database has the breakline flag set per the MDT standard.

3RD PARTY MDT STATE KIT TOOLS FOR SURVEY

Survey Extended Attributes is a utility that isn't delivered in the State Kit and only expected to be delivered as out-of-the-box with Civil 3D installation in a future release. <u>MDT Civil 3D State Kit Overview - Release 2022</u> is available for further information on installation of 3rd Party MDT State Kit Tools.

IMPORT EXTENDED SURVEY ATTRIBUTES

The Import Extended Survey Attributes tool adds Property Set data to points and survey figures from fbk or csv files.

ADD THE ATTRIBUTE SET DATA TO THE POINTS AND SURVEY FIGURES

- 1. Go to the Toolspace > Toolbox > MDT State Kit Tools
- 2. Expand **Survey Extended Attributes** and right click and execute **Import Extended Survey Attributes**. The Open Field Book dialog will appear.

Note: This will add the property set data from the first point of a survey figure to the figure itself. It will also read the enhanced fieldbook and add the attributes as property set data.