MONTANA
Department of Transportation

February 2026

# MDT Civil 3D State Kit - Point Station Offset to UDP

YOUTUBE VIDEO DOCUMENTATION

# TABLE OF CONTENTS

**Table of Contents** ..... **2**
**Overview** ..... **3**
**Companion Documentation** ..... **3**
Using the Command ..... 3

# OVERVIEW

The **Point Station Offset to UDP** tool populates COGO point user-defined property (UDP) fields with alignment information for station, offset, radius, side, name, and description. One or two alignments can be used as a reference. Civil 3D point table styles or point label styles can be created to display this data, or the data can be exported to a point file.

This tool is recommended for situations where two alignments need to be referenced for station/offset. If data for only one alignment is needed, an alternate workflow using pipe network structures can also be used.

The **Point Station Offset to UDP** command is developed and provided by WisDOT.

# COMPANION DOCUMENTATION

YouTube Video Link: https://youtu.be/fv9b2dHJFwo?si=0QdV80J8BhlXvlDz

## USING THE COMMAND

1. Type **MDTPointSOtoUDP** at the command line or press the **Point SO to UDP** ribbon button.
2. The **Point Station/Offset to UDP** dialog box will open.

   The **Point Station Offset to UDP** tool runs in a floating dialog box, so it is possible to interact with the Civil 3D application while the command is active. Because the dialog box is modeless, changes in the drawing are not immediately reflected in the dialog box. Use the Refresh button, when needed, to reread the drawing database and refresh the information displayed in the dialog box.

3. Select a point group from the dropdown list. The tool writes UDPs to points by point group rather than selecting individual points. A Create Point Group button is provided to create a point group on the fly.

   **Warning:** Attempting to run the tool in a drawing in which NO point group exists will result in an application error and Civil 3D must be restarted for the tool to function again. (It is rare, but possible, that a drawing would have no point group if the "_All Points" point group was missing.)

4. Select checkboxes for one or two alignments to gather data from. (If left unchecked, points that already have the alignment UDPs assigned, will have the corresponding values updated.)

a. Select alignment(s) from the dropdown list(s). An alignment “Type Filter:” is provided to narrow down the choices.
b. Selecting “<Clear Properties>” from the list will remove the UDP values from the points.
c. Select the “Overwrite Alignment Assignments” checkbox to remove any previously established alignment assignments. Leave blank to keep existing assignments (if applicable).

5. Select the “Detect Radius Points” checkbox to collect radius data.

   The tool will attempt to populate radius values by searching for curves and comparing the center points of all arc subcomponents with the COGO point coordinates for a match.

   a. Select drawings from the list box to search for curves. The current drawing and xrefs are listed. Multiple selections can be made by using *ctrl+click* or *shift+click*.
   b. “Multiple Detected:” If multiple curves are detected for a single point, choose which curve will be used for the radius value:
      i. Prompt to select a value
      ii. Use the smallest radius value
      iii. Use the largest radius value
   c. “Precision:” Set the precision (0-3) for the radius value.
   d. A “Clear Properties” button is provided to remove radius values if desired.
6. Click “Apply” to write the alignment data to the point UDPs. A “Process Complete” message will appear when finished.
7. Repeat steps 3-6 for additional point groups or press “Close” to exit.
8. The point UDP values can be verified by clicking on a point group in the **Toolspace > Prospector tab > Point Groups category** and looking at the point properties in the preview window at the bottom of the Prospector tab. (Scroll to the right.)
9. The point UDP values can be used in a Civil 3D point table, point label, or exported to a text file for use in other applications.

**Note:** Updates to COGO point UDPs are not automatic. If points are moved or alignment geometry is modified, the MDTPointSOtoUDP command needs to be run again to write updated UDP values.