

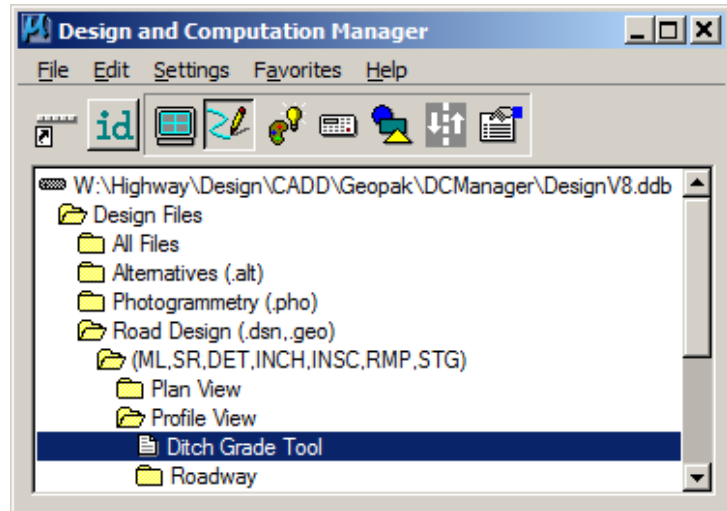
# COGO Ditch Grade Placement Tool

Design Manual  
Chapter 21  
Automation Tools  
Instructions

Originally Issued: 04-17-12

This tool is accessed through the GEOPAK Design & Computation (D&C) Manager as shown at the right.

If is not found as shown, use the D&C *Edit > Find* tool to locate it.



This tool is used to draw correctly formatted ditch grade information into the profile area of a model.

The ability to use this tool requires that a few assumptions are true, which are:

- The ditch grade must already be stored in COGO as a GEOPAK profile
- The ditch grade must be named in COGO using the ditch grade naming conventions found in Section [20D-2](#) of the Design Manual
- The profile portion of the model must contain a GEOPAK Profile Cell that is not 'locked'
- GEOPAK must be activated for the **Ditch Grade** tool to work correctly
- When the GEOPAK Profile Cell is selected, it must be selected in an 'unrotated' MicroStation view for the text to be placed at the correct rotation

When the program is first launched, the **Draw Ditch Grade** dialog box appears, as shown at the right.

Draw Ditch Grade

Profile Cell Information

Job:  
Chain:

Identify Cell

Select Profile

Preview

Start Point:

Grade:

End Point:

Draw Profile

Exit

The first step is to *click* the **Identify Cell** button. This will allow the selection of the appropriate GEOPAK Profile Cell. After a valid profile cell has been chosen, the GEOPAK **Job** number and **Chain** name will be displayed, as well as all of the available profiles for that job number, as partially shown at the right.

Draw Ditch Grade

Profile Cell Information

Job: 030  
Chain: ML030

Identify Cell

Select Profile

DGB39  
DGL7  
DGM32  
DGR16  
DGR26  
DGR31

Preview

Start Point:

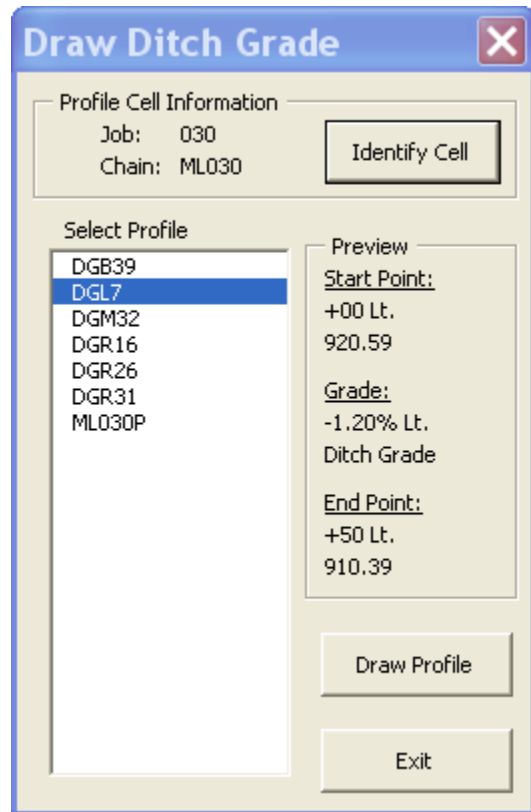
Grade:

Next, select a profile from the list. As soon as a profile is selected, the preview information for that profile will be displayed, as shown at the right. If an incorrect or unwanted profile was selected, simply select a different profile to view. When the correct profile has been selected, click the **Draw Profile** button, which will draw the actual ditch grade.

At this point, a different ditch grade or different profile cell can be selected, or the program can be stopped by clicking the **Exit** button.

The following is miscellaneous information relating to the use of this tool:

- This tool will work in either an English or Metric file. The scale, (placement size), of the text and circles drawn will depend upon the “scale number portion” of the active MicroStation model name.
- The ditch grade elements are drawn with different colors depending on the side of the ditch grade; Left, Right, Both, or Median.
- The Beginning and Ending Station & Elevation text are drawn using the MicroStation Place Note command. As such, the note text can be moved with an ordinary MicroStation Move Element command, and the leader line will automatically reconnect to the new text location.
- This tool draws the Station and Elevation text at a predetermined offset, which can be moved, as stated in the bullet above. Also, the program draws the grade text a single time, centered on the line. If additional copies of the ditch grade text are needed because of a page break, the text must be copied manually using MicroStation commands.
- Each ditch grade is placed within its own graphic group. If an entire ditch grade is to be deleted, turn on the graphic group lock and identify any element within the ditch grade and all information within the ditch grade graphic group will be deleted. This will not hold true for elements that have been copied from the original ditch grade grouping unless the copied elements have been added to the original graphic group.
- Presently, due to the way Geopak works with station equations, the Ditch Grade macro cannot correctly draw a ditch profile located anywhere on the AHEAD side of a station equation on a chain. (This issue will continue to be investigated.)
- A future modification to this tool is planned that will also draw the ditch grade bar information at the same time.



# Chronology of Changes to Design Manual Section:

## 021A-204 COGO Ditch Grade Placement Tool

4/17/2012	NEW
	New