CDOT Typical Section Program Help

This document explains the basic functions of the CDOT Typical Section Program. This program writes graphical data to the typical section file at a scale of 1:10. All of the graphical properties such as the levels, patterns, text, and cells are set by default to the standard CDOT configuration.

Opening MicroStation and the Create Typical Sections Program

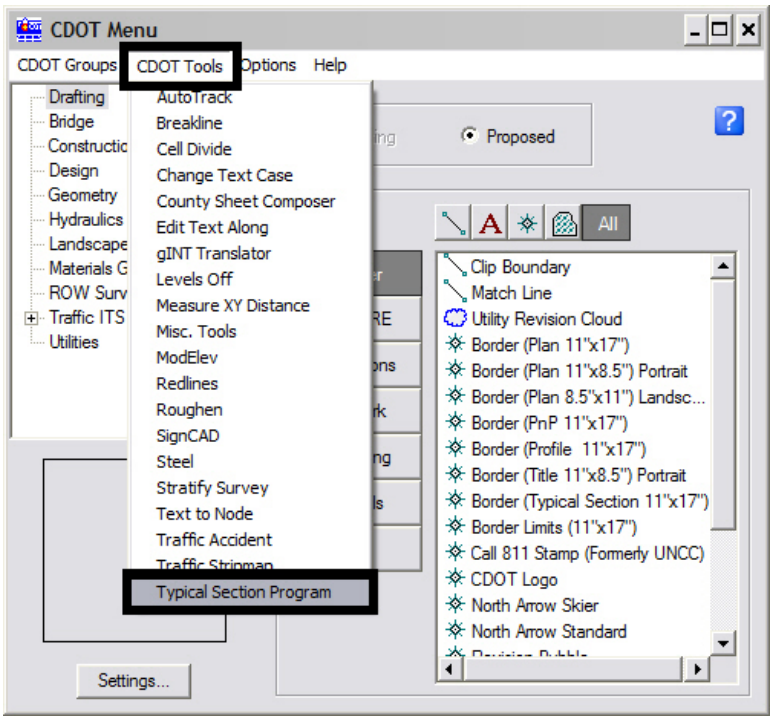
The typical section drawing is a project specific detail. The MicroStation dgn file used for typical sections is created with the project directory by the ***Create Project Directory*** Utility. The ***Create Typical Section*** program is accessed from the CDOT Menu.

1. Open the file ***JPC#DES_TyplSect##.dgn*** found in the directory C:\Project\.....\Design\Drawings\.

   Note: The 5 digit Job Project Code has replaced the 'JPC#' in the filename.

   This will automatically open the CDOT Menu.

2. From the CDOT Menu, select **CDOT Tools > Typical Section Program**.



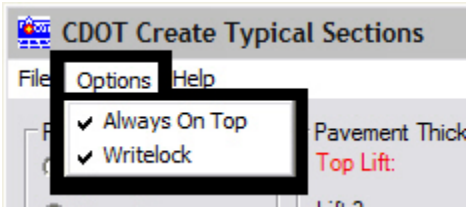
The ***Typical Section Program*** dialog box is displayed.

Options

There are two items under ***Options*** on the menu bar. These are ***Always On Top*** and ***Writelock***.

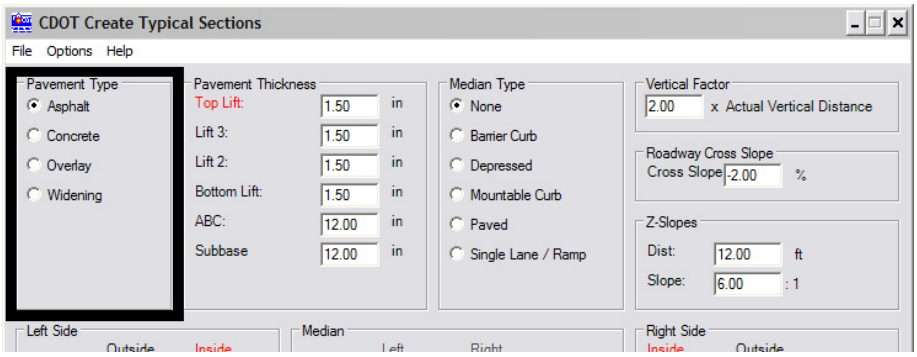
1. The **Always On Top** option will place the ***Create Typical Sections*** dialog box on top of all other open programs so that it is always visible.

2. The **Writelock** option controls the graphics in the file. Select **Options > Writelock** to toggle it ***On*** or ***Off***. If **Writelock** is ***On***, permanent graphics will be generated in the file. When the **Writelock** toggle is set to ***Off***, the graphics are temporary and will disappear when the view is changed or refreshed.



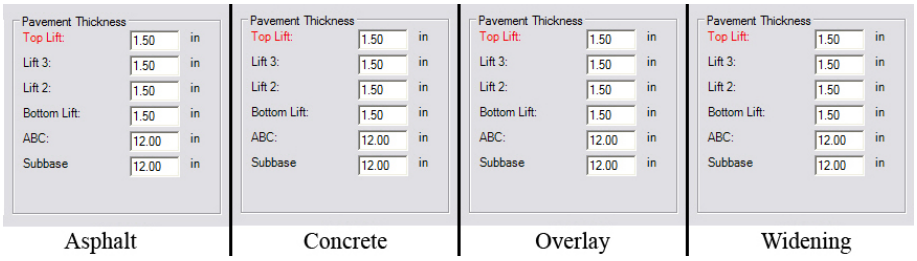
Creating A New Typical Section

1. In the ***Pavement Type*** area, toggle on one of the options.



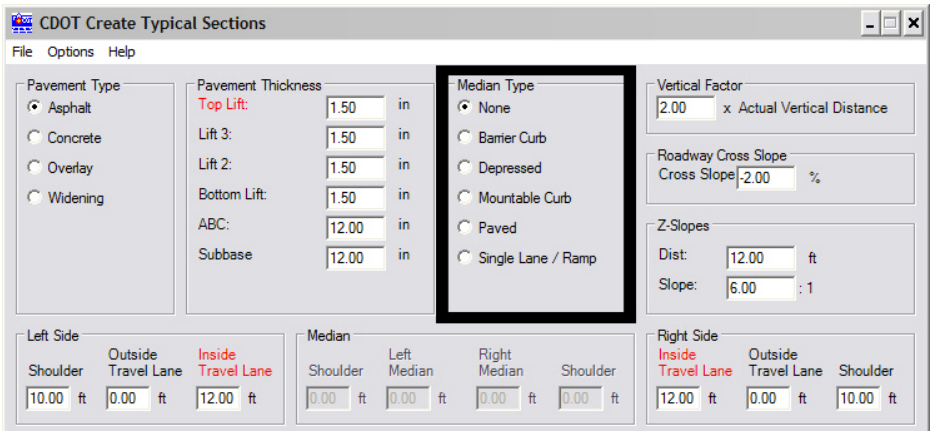
Note: The option selected here will affect the available options in other areas of the dialog box.

2. In the ***Pavement Thickness*** area, enter data in the fields provided to define the Lift thicknesses. The options in this area change with the ***Pavement Type*** selected and are shown below:



Note: The fields with the red titles must have a value greater than zero entered.

3. The ***Median Type*** area is used to specify the presence and type of median to be used on the typical. The ***Median Type*** selected will determine availability and type of fields displayed in the ***Median*** area of the dialog box. Toggle on a median type.



4. The ***Left Side*** and ***Right Side*** areas are use to define the number and width of driving lanes and the presence and width of a shoulder. With all median types, except ***Single Lane / Ramp***, the **Inside Travel Lane** field must contain a value greater than zero. If the ***Single Lane / Ramp*** median type is selected, these fields are disabled.

5. The ***Left Curb*** and ***Right Curb*** areas are use to define the presence and type of curb. If a curb is present, then a sidewalk can be specified. Toggle on the appropriate curb type. If **Barrier** or **Mountable** is selected, a sidewalk can be defined by entering a width in the field provided.

Note: Unlike the ***Left Side*** and ***Right Side*** areas, ***Left Curb*** and ***Right Curb*** are enabled when the ***Single Lane/Ramp*** median type is selected.

Note: The Left and Right options for Side and Curb are independent of each other. Different settings can be used on each to define an asymmetrical template.

6. The fields available in the ***Median*** area are determined by the settings made in the ***Median Type*** area. The options for each median type are shown below:

Barrier Curb, Mountable Curb, or Paved

Depressed

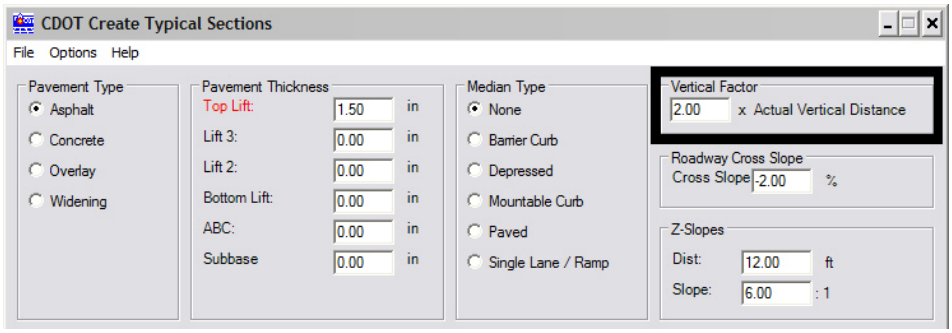
Single Lane / Ramp

The **Lt. Median** and **Rt. Median** fields require inputs with a value greater than zero (when they are present) as does one **Travel Lane** field for ***Single Lane/Ramp*** typical sections.

7. The ***Existing Pavement*** area is enabled only when **Widening** is selected for the ***Pavement Type***. Both the ***Lt. Side*** and ***Rt. Side*** require inputs with a value greater than zero.

8. A ***Bench*** is the backfilled area behind a curb. The bench will be placed outside of a sidewalk if one is defined. The ***Bench*** area is only enabled when either the ***Left Curb*** and/or the ***Right Curb*** toggle is set to **Barrier** or **Mountable**. If only one side has a curb specified then only that side's Bench data field will be enabled. By default, a Bench has a 2% slope towards the road. Toggle on the **Slope Away From Road** option if it is appropriate.

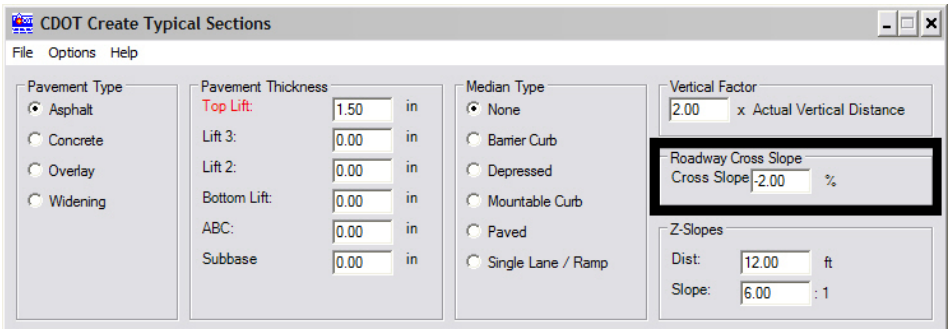
9. The ***Vertical Factor*** is used to increase the vertical scale. This is done to better illustrate the different slopes and layers that make up the typical section. Use the key in field to enter the desired exaggeration factor.



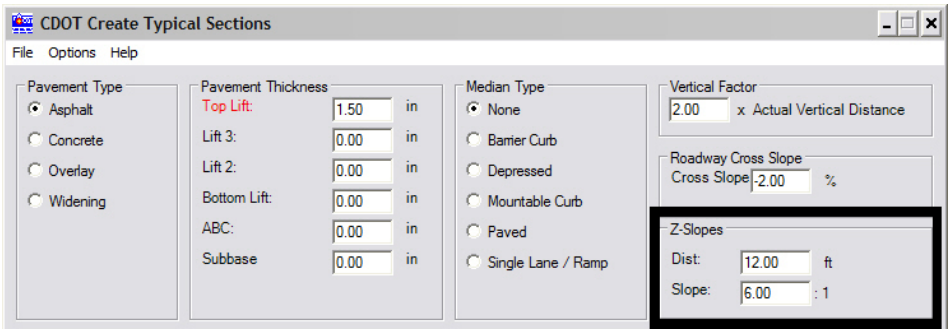
10. The ***Roadway Cross Slope*** determines the percent of slope used on travel lanes and shoulders. This is measured from the center of the typical section out to the end of the shoulder. A negative slope drops down from the center of the typical section and a positive number rises above the center point.

    Roadway Cross Slope works differently when ***Single Lane/Ramp*** is selected as the **Median Type**. This is because a constant slope is used from pavement edge to pavement edge. When creating a ***Single Lane/Ramp*** typical section, a positive **Cross Slope** entry under ***Roadway Cross Slope*** results in a slope up from right to left and a negative **Cross Slope** entry results in slopes down from right to left.

11. Key in an appropriate value into the **Cross Slopes** field.

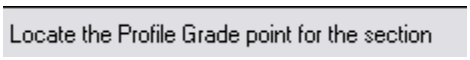


12. ***Z-Slopes*** are located between the edge of pavement (or the end of the ***Bench*** when curb is used) and the POSS. The length and slope of the ***Z-Slopes*** are user defined. To specify the length, use the **Dist** field. The slope of this segment is defined with a run over rise ratio. The **Slope** field is used to specify the run portion of the ratio. If either the **Dist** or **Slope** fields have '***0***' entries, the Z-Slope will be omitted from the drawing.

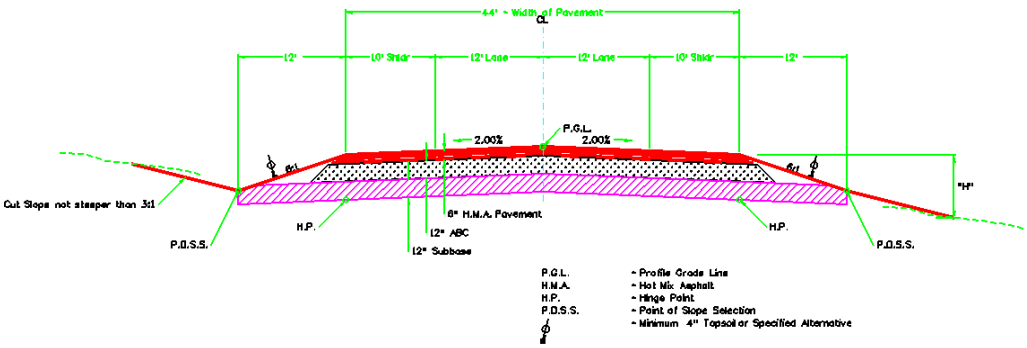


13. After all changes have been made to the settings, **<D> Apply** to begin placement of the typical section.

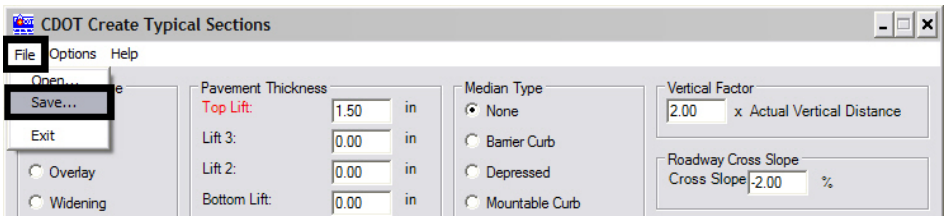
14. The ***Create Typical Sections*** dialog box minimizes and the following message is displayed:



15. **<D>** on the location to display the information and the typical section is placed. Below is an example of a completed typical section.

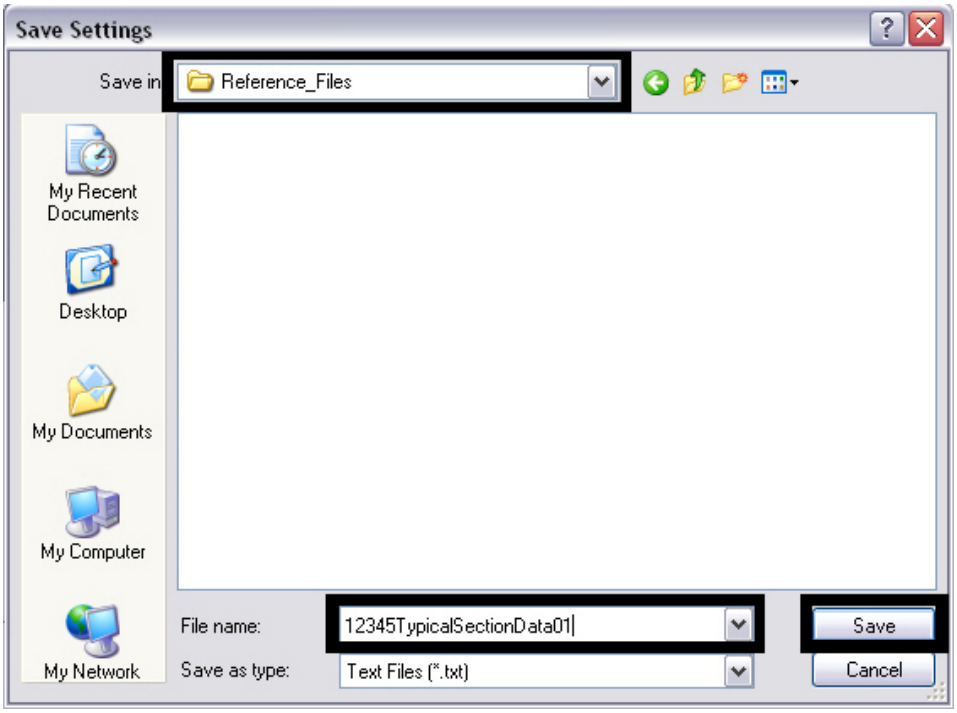


16. When the display of the typical section is complete, the dialog box maximizes. The data entered to create the typical section can be saved to a text file for later use. To make the text file Select **File > Save**. The ***Save Settings*** dialog box is displayed.



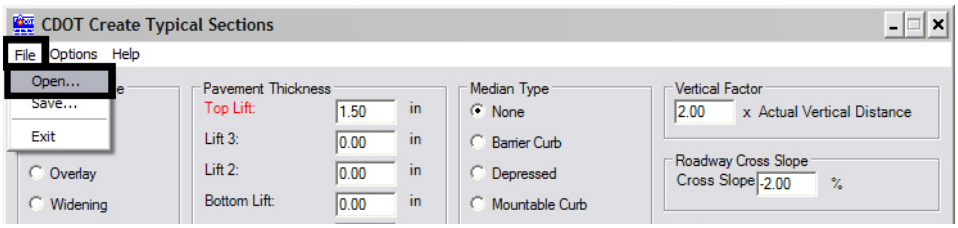
17. In the ***Save Settings*** dialog box, directory from the **Save in** drop-down list.

18. Key in the file name in the **File Name** field.



19. **<D> Save**. The file is placed in the selected directory and the ***Save Settings*** dialog box is dismissed.

20. An existing data file can be loaded into the program for repeated use or modification. To load a file, select **File > Open**. The ***Load Settings*** dialog box is displayed.



21. In the ***Load Settings*** dialog box, select the directory that contains the data file from the **Look in** drop down menu.

22. Select the file from the list then **<D> Open**. The ***Load Settings*** dialog box is dismissed and the data from the file is populated into the ***Create Typical Sections*** dialog box. The data can be edited, deleted, or added to as desired.