MicroStation SS4 Upgrade Guide

Colorado Department of Transportation

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MicroStation® version 08.11.09.714
InRoads® version 08.11.09.845
ProjectWise Explorer® version 08.11.11.590
CDOT Configuration version 06.00.00

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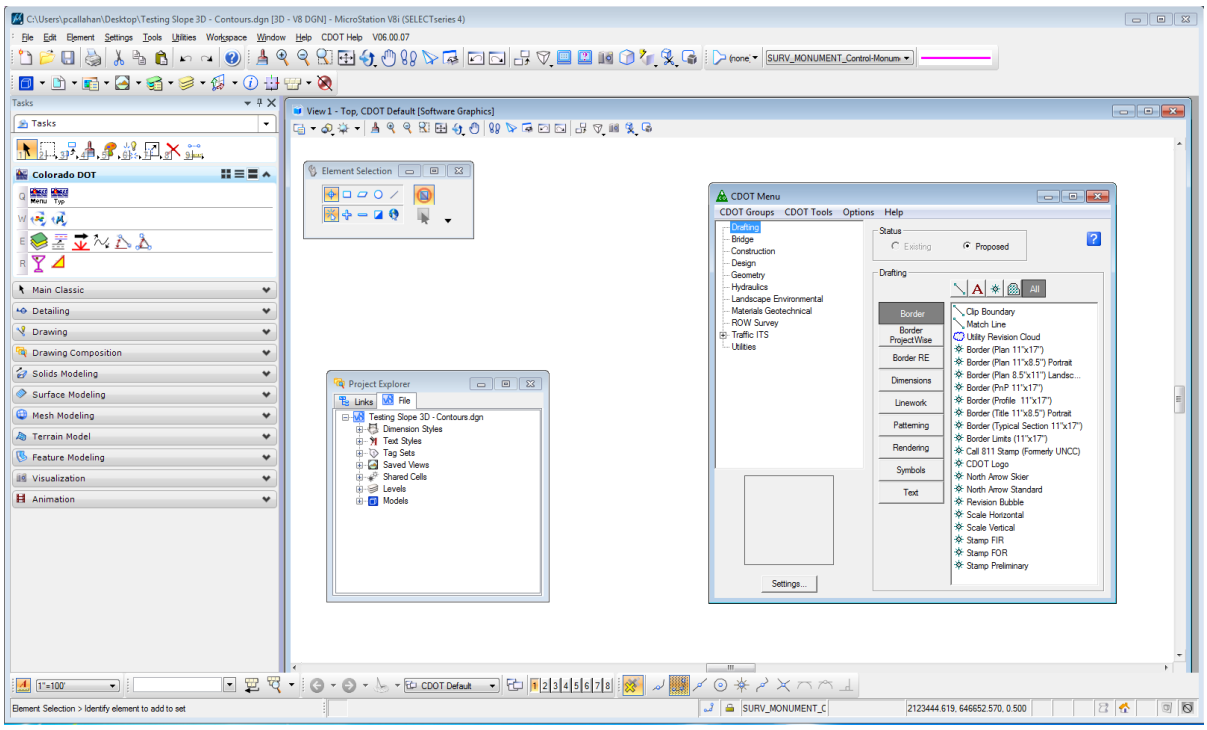
MicroStation (SS4) Upgrade Guide

This guide has been created for existing MicroStation users at CDOT. ***It is not intended to be used as a beginning training manual.*** The manual has been developed to help CDOT users that are familiar with MicroStation V8i SS2 migrate to MicroStation V8i SS4. Even though there are few changes between SS2 and SS4, the goal of this manual is to give the user an introduction to some new interface items along with a review of some new CDOT MicroStation workflows.



MicroStation V8i (SELECTseries 4) CDOT Configuration

User Configuration File

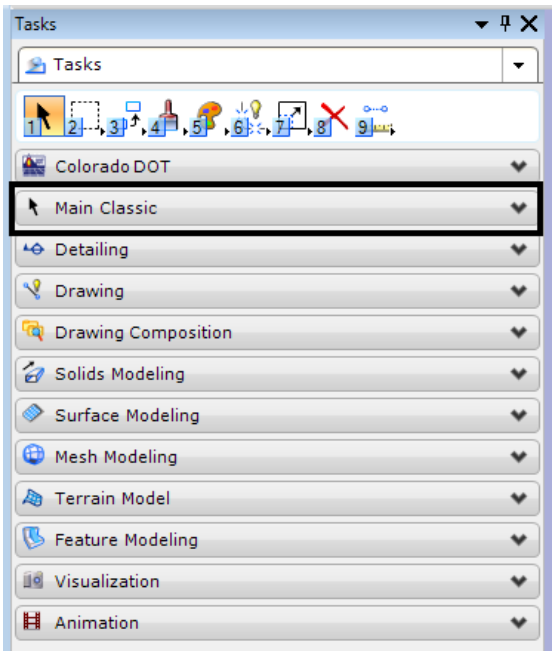
After your computer, has been upgraded with the new SS4 configuration, you will need to create a new user configuration file (UCF) file. This file only needs to be created one time on the user's computer. Follow these steps to create the UCF file:

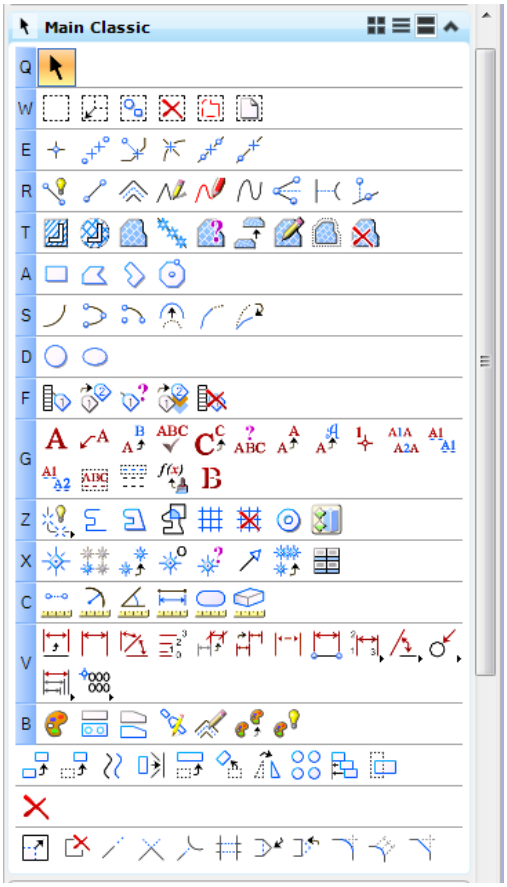
1. Using Windows Explorer, navigate to ***C:\Workspace\Workspace-CDOT_SS4\Standards\exes***.
2. Double click on the file called **manage_ucf.bat**. This will quickly run a batch file creating the users UCF file.

MicroStation Interface

You will not see any major changes to the CDOT default interface.

There is however a new task bar that has been added enabling the user to access many more commands than the Drawing task bar. This task bar is called **Main Classic**.



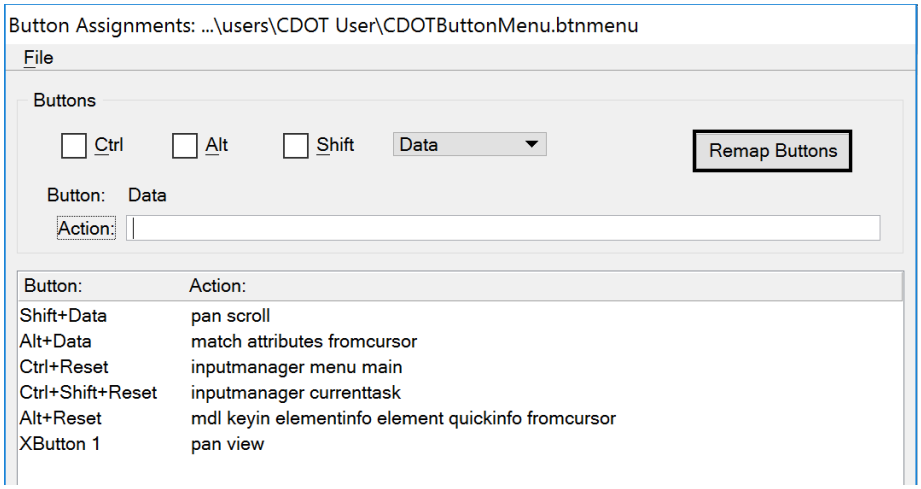


Mouse Button Assignments

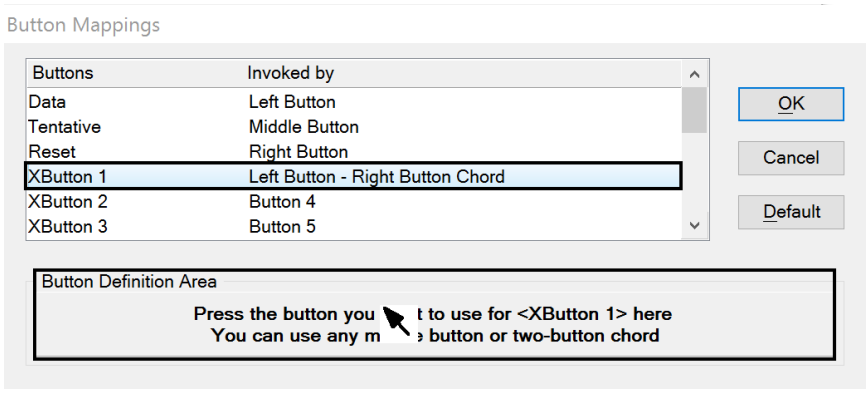
It has been common practice to change the default mouse button settings for Tentative from using the Left Button - Right Button Cord to the Middle button. This makes it easier to tentatively snap to existing data.

Another setting that is recommended, is to set the XButton1 to Left Button - Right Button Cord (pressing the left and right mouse buttons at the same time). This enables the user to activate the pan view by clicking the Left Button and Right Button at the same time.

1. From the ***Workspace*** pulldown, select **Button Assignments**.
2. Click on the **Remap Buttons** button.



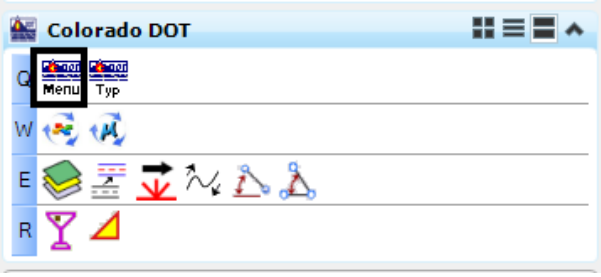
3. Highlight ***XButton1***.
4. Move the cursor into the **Button Definition Area** and click the left button and right button of the mouse at the same time.



5. Review the button assignments to ensure that they match the above image.
6. Left Click the **OK** button to finish,
7. In the Button Assignments dialog box, click **OK** to save the settings.

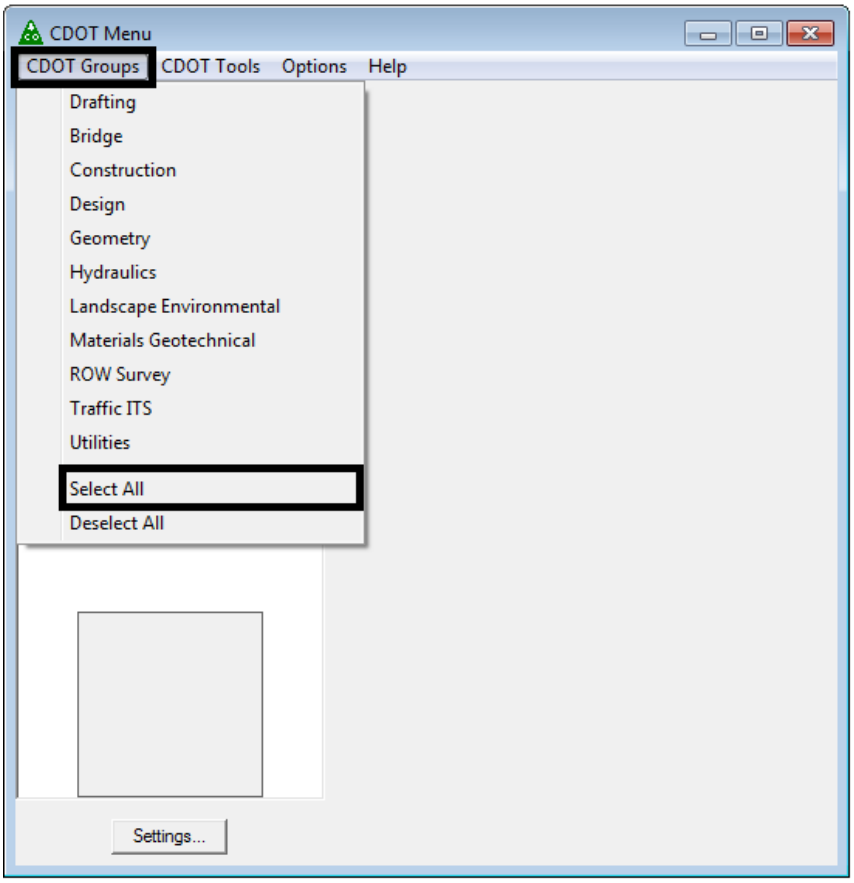
CDOT Menu

The CDOT menu no longer starts up automatically when MicroStation starts. This was changed to allow the Print Organizer to run smoother. The CDOT Menu can still be started from the Colorado DOT custom task bar.



After the CDOT Menu has been started, select the CDOT group or groups that you wish to use. This can be done by clicking on the ***CDOT Groups*** pulldown in the ***CDOT Menu***.

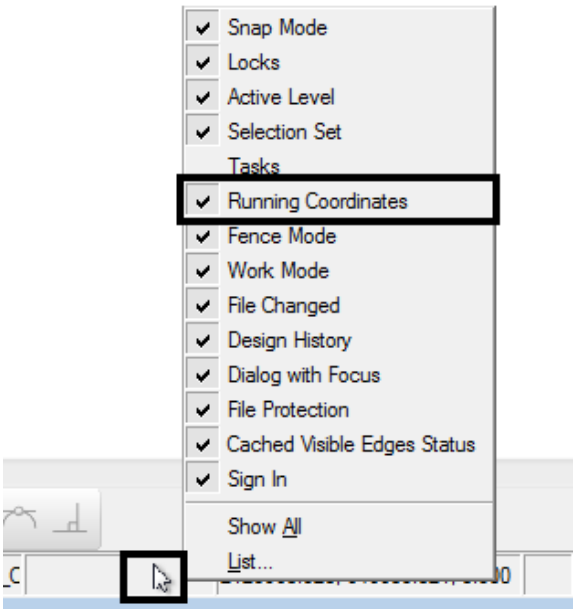
Select All to open all the CDOT Groups.



Status Bar Enhancements

You can modify what is seen in the status bar located at the bottom of the MicroStation interface.

1. Move the cursor onto the status bar and right-click.

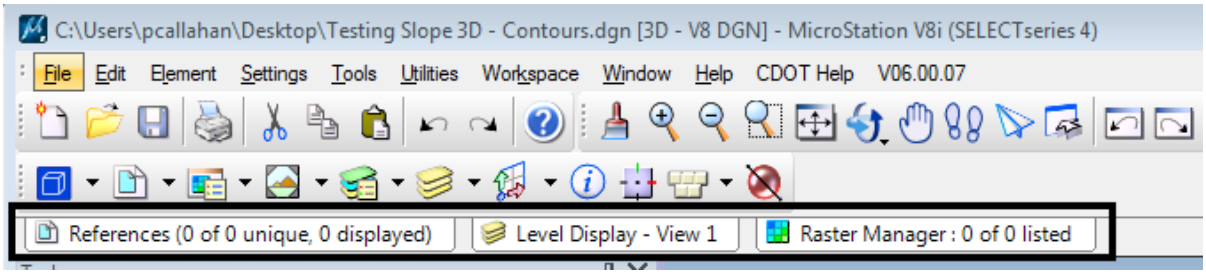


There are some new options such as Running Coordinates and Task.

Dock and Hide Dialog Boxes

Docked dialog boxes can now be grouped together in some cases using the new Pin Group, and Unpin Group icons.

For example, the References, Level Display, and Raster Manager can be grouped together at the top of the screen.



1. This can be achieved by opening a dockable dialog box like references.
2. Drag the dialog box over one of the docking indicators that will appear in the center of the screen or along the edge of the interface window.

3. As soon as you begin to drag the dialog box, a transparent block representing the dialog box will follow your cursor. Move the cursor until it releases to its new position.
4. Release the mouse button.
5. Once the dialog box repositions itself, click on the Pin (pushpin) icon in the upper-right of the box.

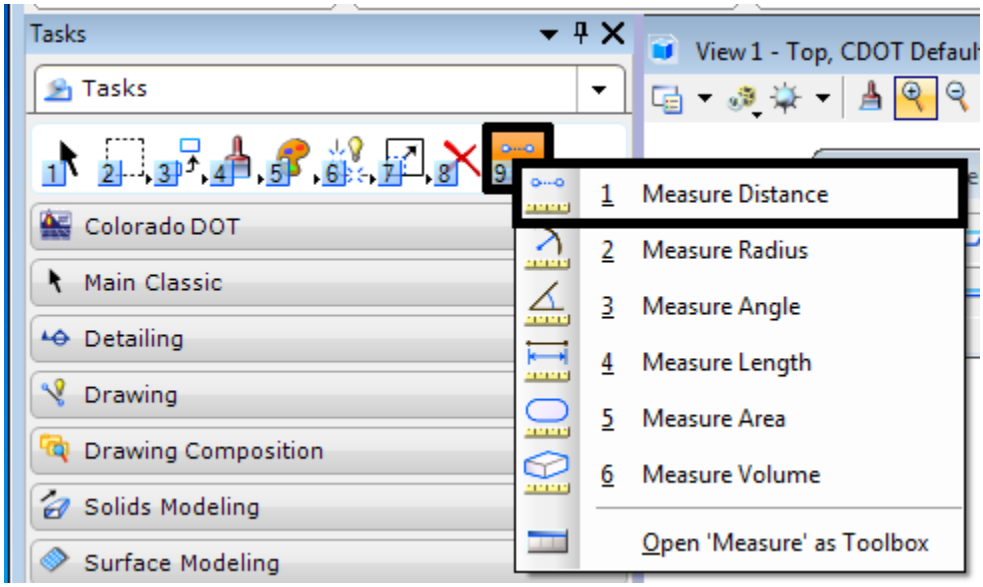
6. The reference dialog will now show up as a tab in the interface window. To temporarily display the docked dialog box, move the cursor over the tab to expand the dialog box.

Measure Tools

Measure Distance

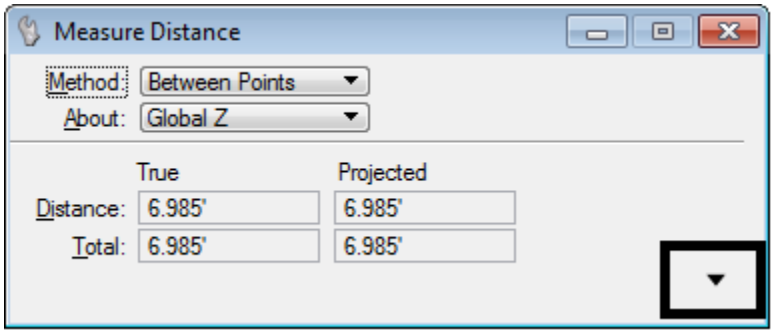
The measure distance tool now includes Start Point, End Point, and Delta for the distance specified.

The Measure Distance tool can be accessed from the task bar by placing the cursor over the Measure tool icon and selecting the Measure Distance command.

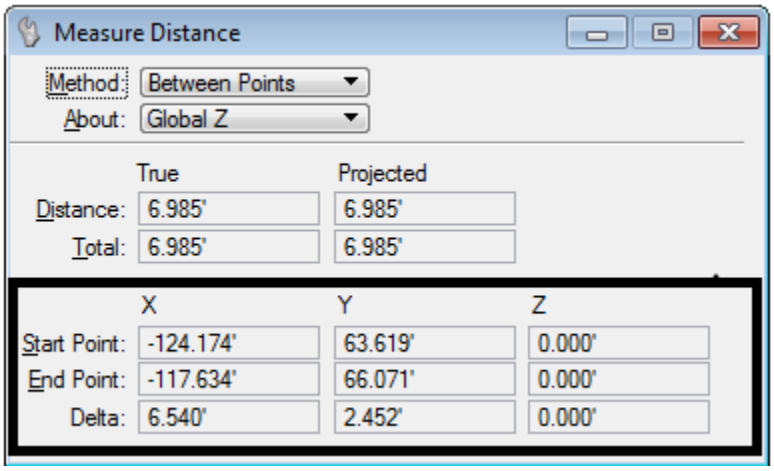


Once the command has been activated, be sure to read the steps located in the bottom left hand corner of MicroStation.

1. The first prompt reads **Measure Distance Between Points > Enter start point**. Left Click on the desired location.
2. Select a second point to define the length to be measured.
3. To see the new measurement outputs, click on the little triangle in the lower right corner for the Measure Distance box.



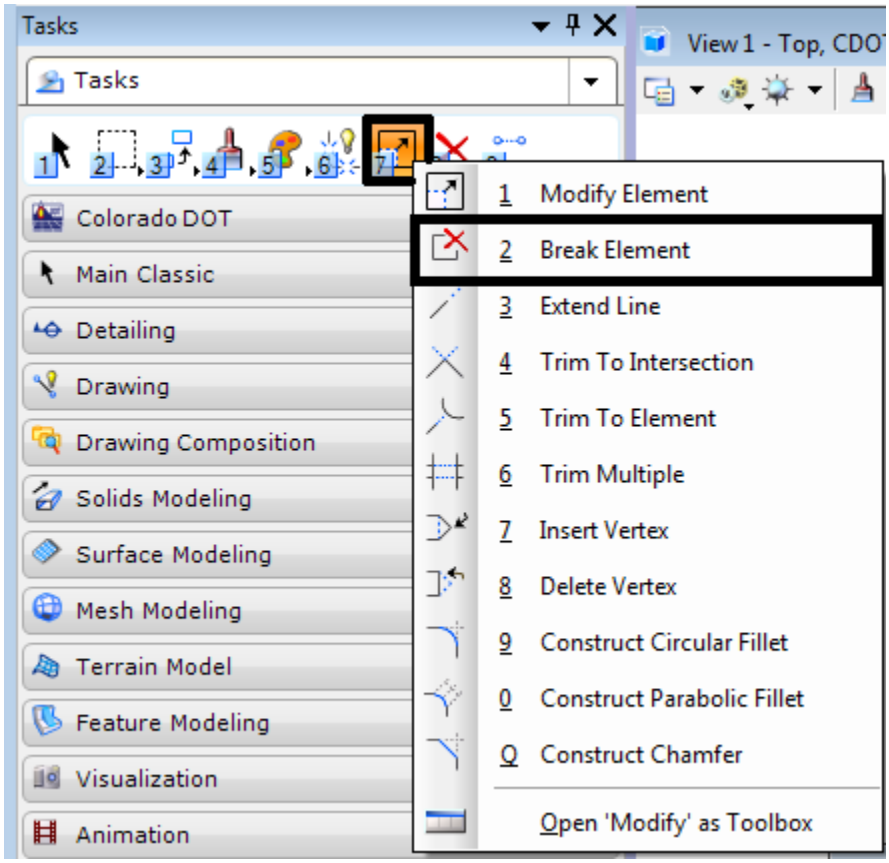
This will open up the dialog box to reveal the new X,Y,and Z information.



Modify Tools

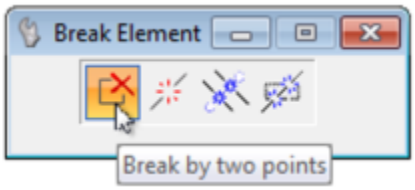
Break Element Tool

MicroStation SS4 has additional tool setting options available for the Break Element tool.



These include:

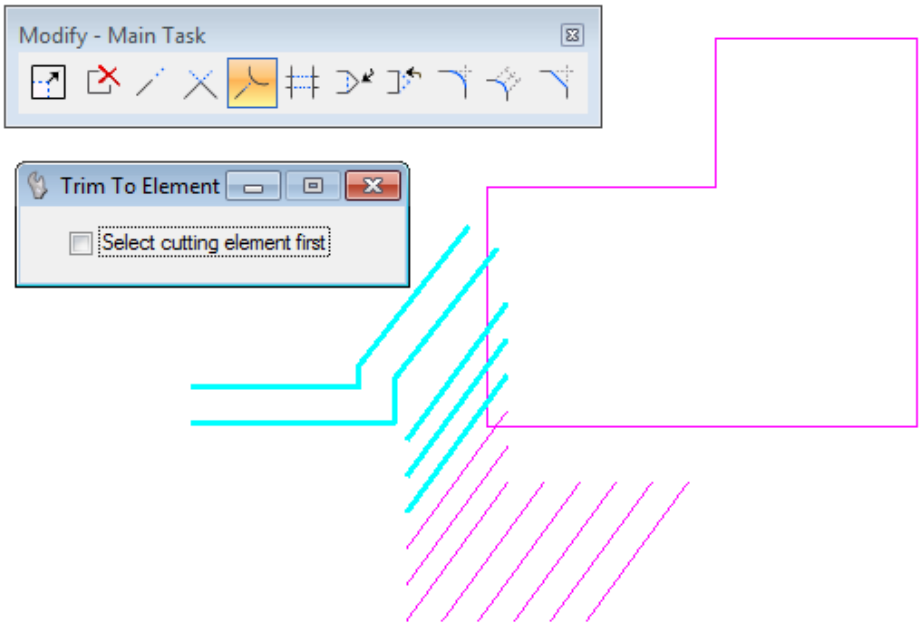
- Break by 2 Points
- Break by Point
- Break by DragLine
- Break by Elements

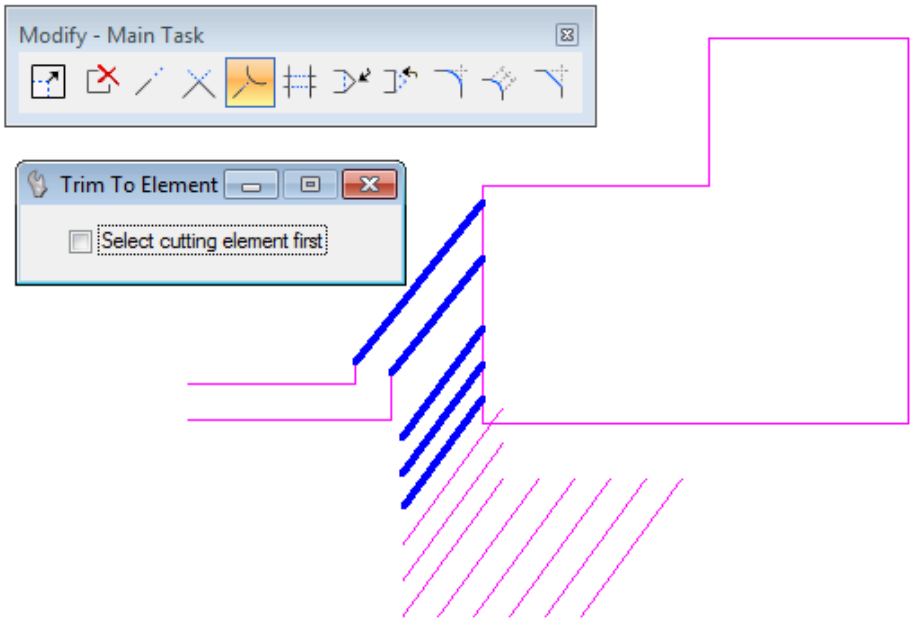


Trim to Element

This tool replaces the **Extend Element** to Intersection command and will take some practice getting used to. This new tool will now work on shapes, complex shapes, solids and multi-lines.

You must use the CTRL key to select additional elements to modify.





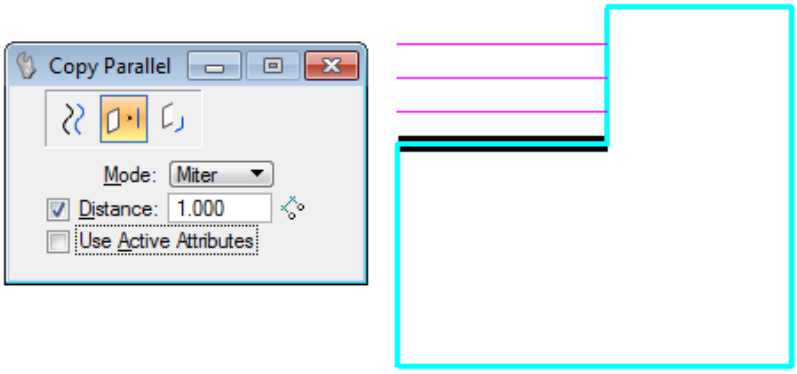
You can also drag a line to select multiple elements when the command asks you to identify elements to modify.

Manipulate Tools

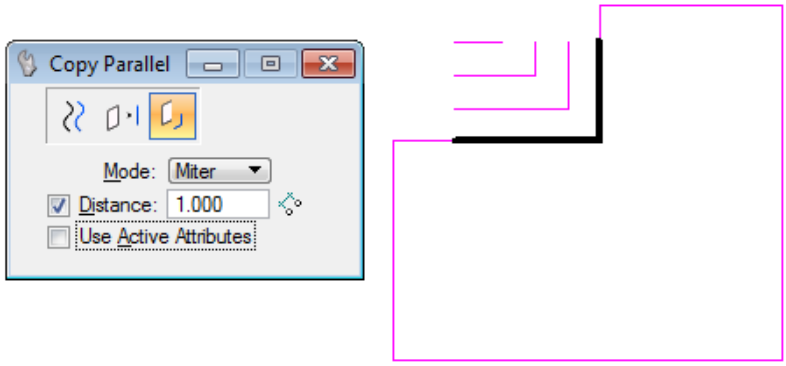
Copy Parallel

The old copy parallel command has had a couple of additional options added.

- Copy Parallel a **Segment of Element**



- Copy Parallel a **Portion of Element**



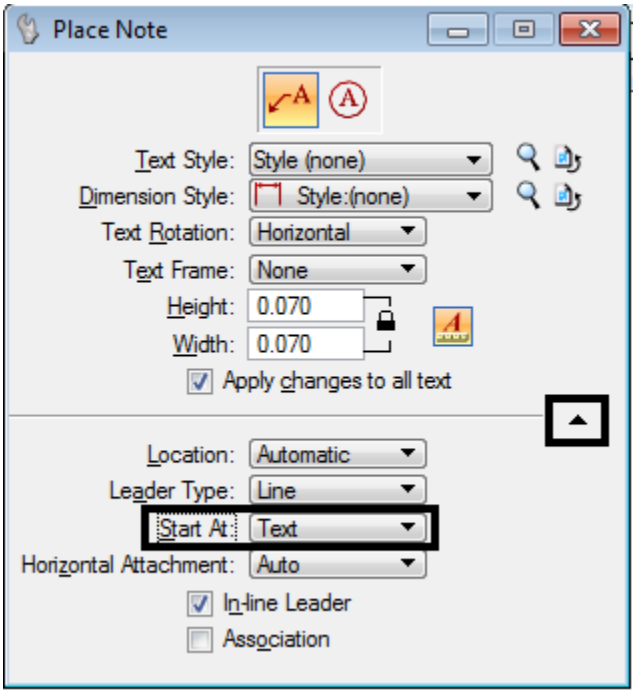
Referencing Shapefiles

MicroStation allows you to reference Shapefiles. When requesting GIS information, you may receive a hand full of files which support the shape file. These files all need to be located in the same folder location. When MicroStation reads the information from the SHP file, it will also read the information from these support files.

Once the shapefile has been referenced, you can use the Element Information tool to see the attribute information.

Place Note

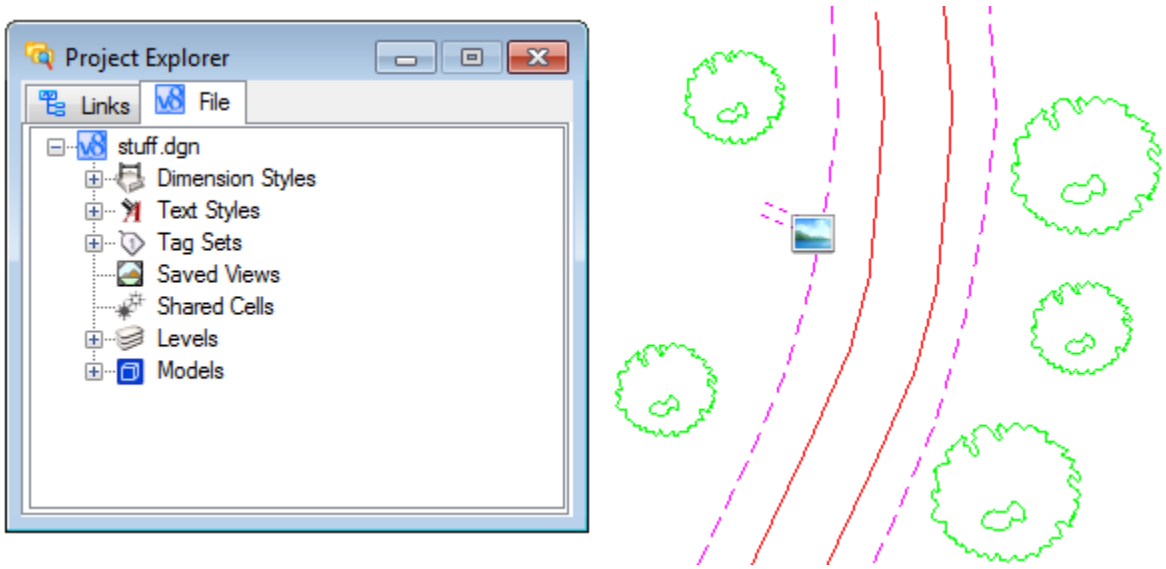
This is not new in SS4 but it is something that has come up many times during training and support calls. The default setting in the Place Note command is to start the terminator when the command starts. You can change this setting by setting the Start At: to Text. This allows you to place the Text first and then the arrowhead.



Project Explorer

Project Explorer is a utility that allows the user to organize project data within MicroStation using links to documents and other tools. When using InRoads SS4, this utility will be used during project design. CDOT is currently exploring additional options to efficiently use this utility.

Project Explorer can be started by using the File pulldown and selecting Project Explorer.

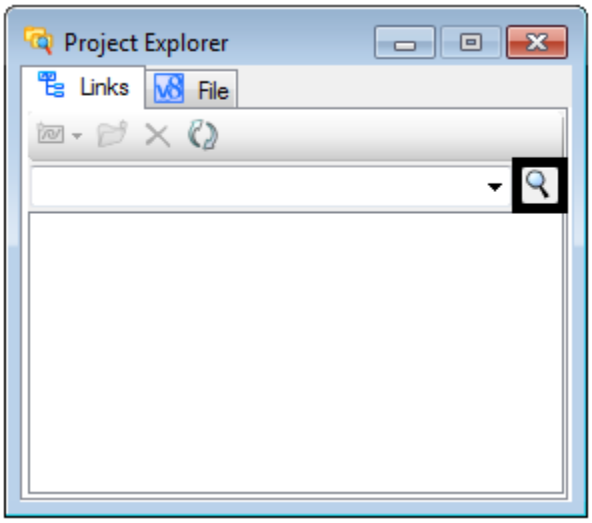


The links section within Project Explorer enables the user to link supporting information to data within MicroStation such as photos and URL links to websites. For example, a link could be created showing a photo of a culvert and a link to a website with information on the culvert information.

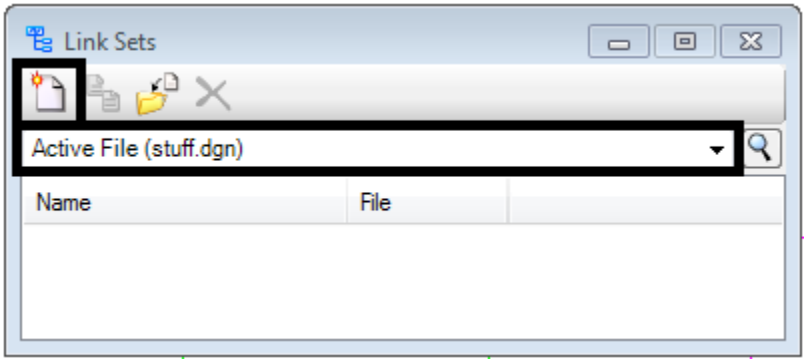
Linking a photo to a cell can be done by using the following steps. Begin by creating a new Link Set.

1. From within MicroStation, select the pulldown **File > Project Explorer**. This will start up the ***Project Explorer*** dialog box.

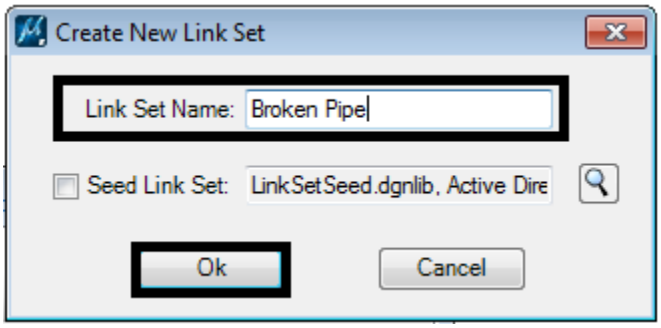
2. Click on the magnifying glass icon. This will open up the ***Link Sets*** dialog box.



3. From the drop down list select **Active File**.
4. Click the **New** button in the ***Link Set*** dialog.

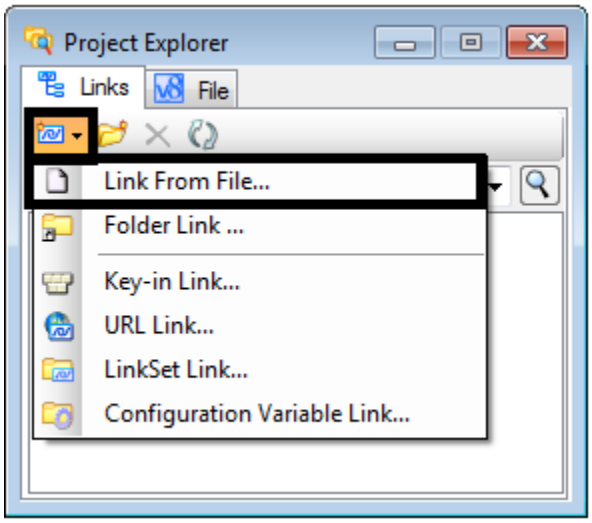


5. Type a ***New Link Set*** name and then click **OK** to create the link set.

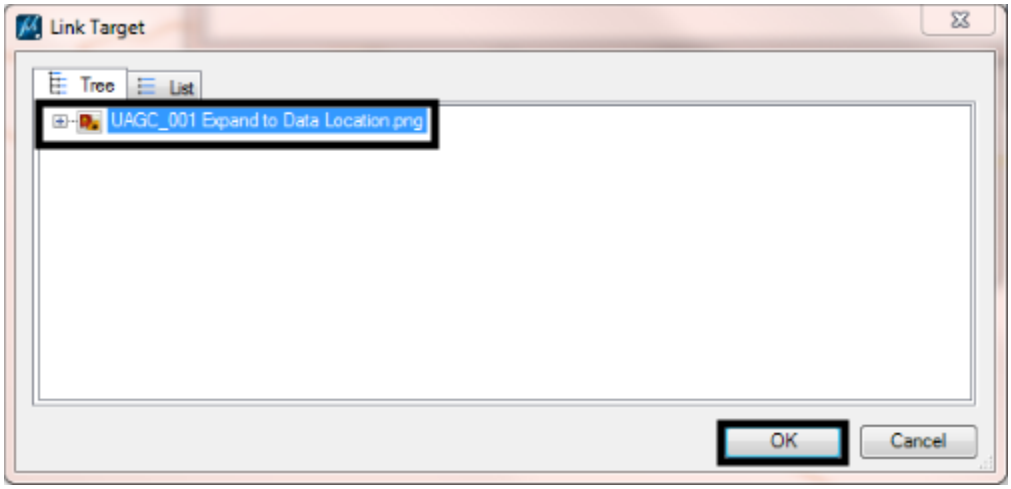


6. Dismiss the ***Link Sets*** dialog box.

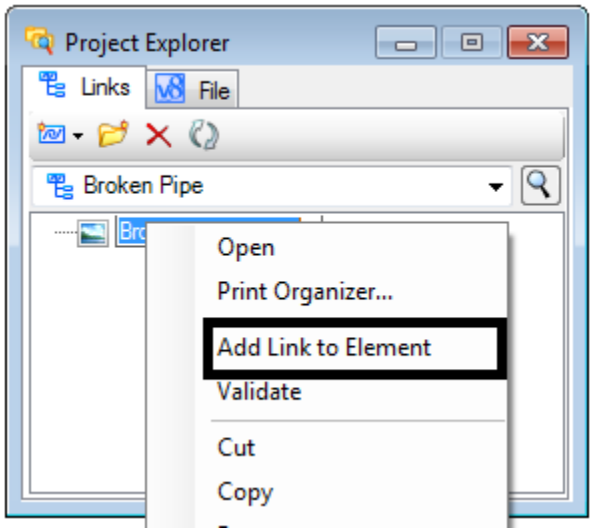
7. Back in the ***Project Explorer*** dialog box, select the new link set and then click on the **Create Link** icon.
8. Click **Link from File…**



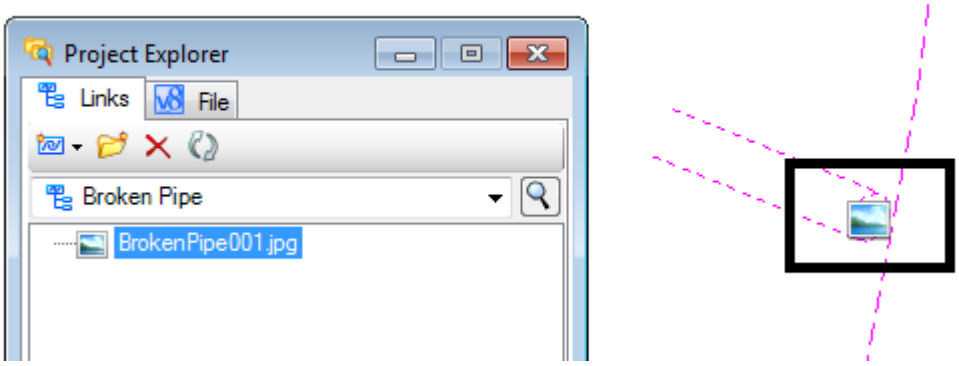
9. Navigate to the photo you wish to link to a MicroStation element.
10. Select the photo and click **Open**. This will bring up the ***Link Target*** dialog box.
11. Highlight the Link Target file name then Click **Ok** to close the ***Link Target*** dialog box.



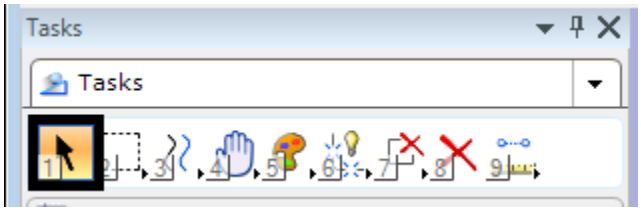
12. In the ***Project Explorer*** dialog box, right click on the photo file and select **Add Link to Element**.



13. Left click on the desired element. This will leave a small photo icon on the element.



14. To verify the image has been attached, click on the Element Selection tool.



15. Then double click on the photo icon. This will bring up the photo in a viewer.

This process can be used to link other document types, such as PDF, Word, and Excel.

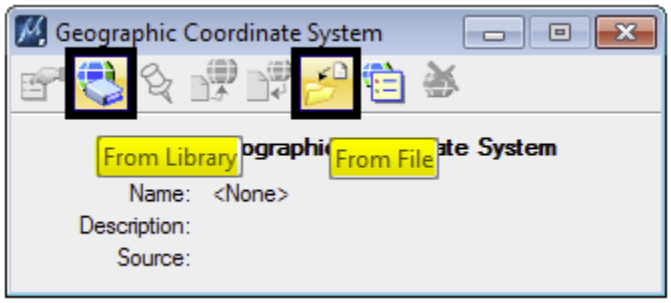
Assigning a Geographic Coordinate System (GCS) to Design File

The key to having design files and imagery properly line up with one another is in the GCS assignments. When referencing imagery, it is important to know the GCS of the file. Without knowing the GCS, there is no guarantee the imagery will line up with the project data.

Note: A detailed workflow with instructions intended to be used by the specialty groups to assign the project Geographic Coordinate System (GCS), created by Survey can be accessed from the CDOT website by using the following link.

Workflow MS-24 – Assigning A Project Geographic Coordinate System (GCS).

The ***Geographic Coordinate System*** dialog box provides the tools for assigning a GCS to the design file. Use these tools to assign a GCS from a list of systems from a library or from another design file which already has a system assigned.

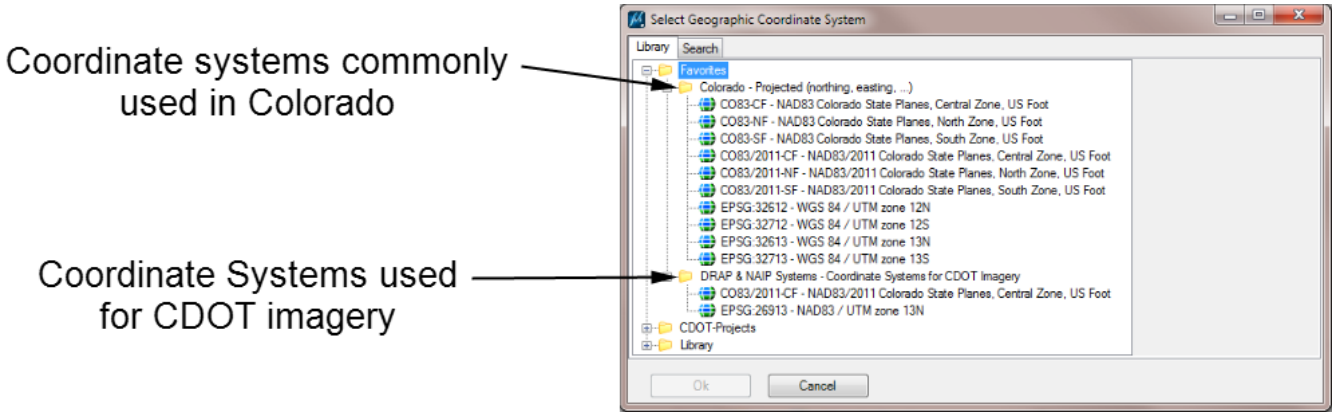


The ***Geographic Coordinate System*** tools can be accessed by using the MicroStation **Tools > Geographic > Select Geographic Coordinate System** pulldowns.

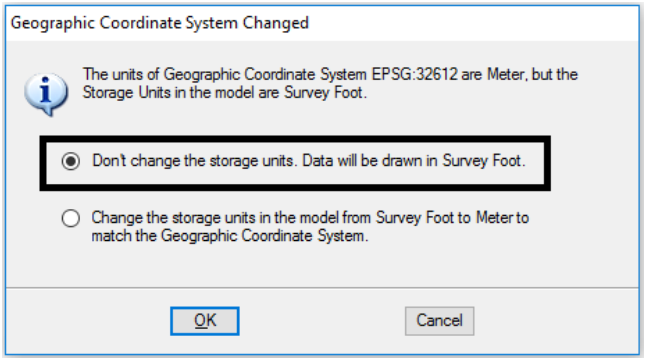
Note: it is recommended that an individual 2D design file be created for each set of images.

Using the ***From Library*** command allows you to select a GCS system from a library of know systems and a list of common systems used in Colorado.

- Expanding the Favorites folder will reveal a Colorado favorites list.



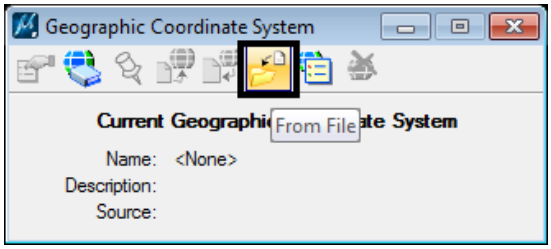
- Click **OK** after selecting the correct system.
- It is possible a message dialog box will appear with a warning message.



- The storage units of the design file should **not** be changed. Click **OK** to continue.
- This will assign the selected GCS to the design file.

Using the ***From Library*** command allows you to select a GCS system from a file that has been assigned with a project coordinate system.

- From the ***Geographic Coordinate System*** dialog box select **From File** this allows you to select a coordinate system that has already been assigned. A good example would be to select the Survey Topo file where the surveyor would have assigned the project coordinate system.



Future Workflows

CDOT is currently developing workflows for some additional tools and add-ins to the SS4 software.

Bentley Descartes

Bentley Descartes adds tools for image editing, enhancement and georeferencing to MicroStation. A major benefit of Descarts will be the ability to take existing large size images and clip out new smaller images to be used on CDOT projects.

Point Cloud Capabilities

Having point cloud data available during the design phase has become increasingly helpful. MicroStation SS4 enables design teams to leverage point cloud data. The capabilities within MicroStation allow for viewing and measuring without the need for additional software.