GEOPAK D&C Manager

## GEOPAK Design and Computation Manager

1) The *Design and Computation Manager* (*D&C Manager*) in GEOPAK is used to draw items into your MicroStation models that are *not* collected in the field and drawn using the *Visualization* tool within GEOPAK Survey. To open the D&C Manager, select **Plan Preparations>D and C Manager** from the *GEOPAK Survey* menu bar. This will open two new dialog boxes.
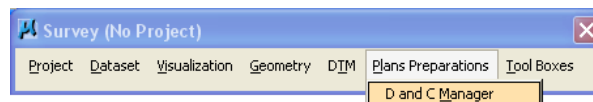

2) The first and smaller of the two *D&C Manager* dialog boxes is shown below. This box is only used when drawing horizontal. Make sure that *Place Influence* is **not checked**.
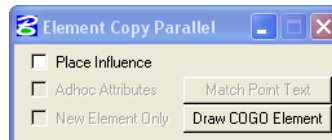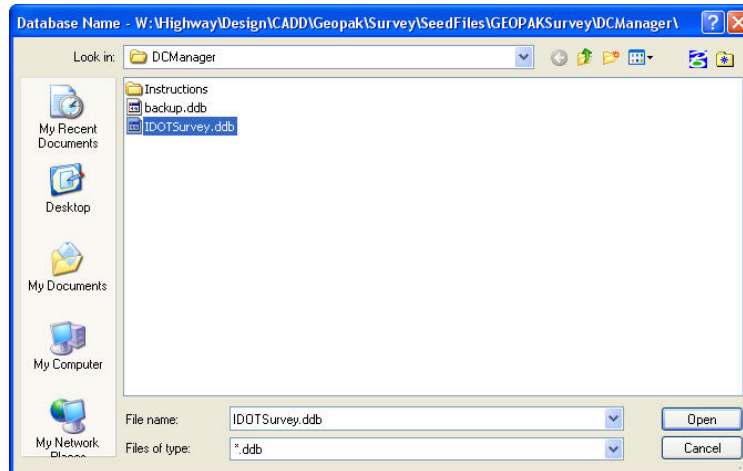

3) The second is the main D&C Manager dialog box. This is where you will double-click to draw items in to your models. Make sure that the D&C Manager that you have open shows the path **W:\Highway\Design\CADD\Geopak\Survey\SeedFiles\GEOPAKSurvey\DCManager\IDOT Survey.ddb**.
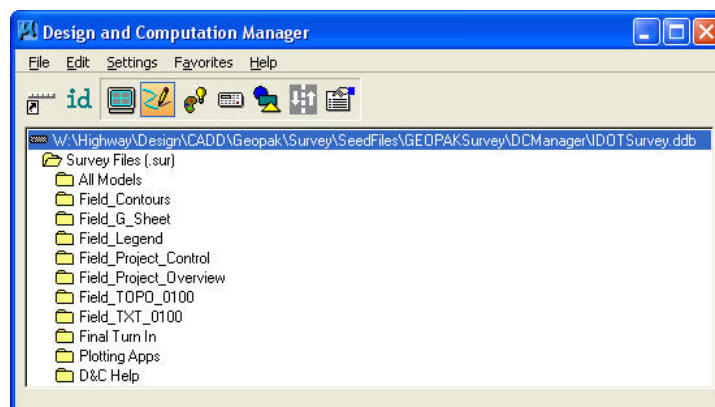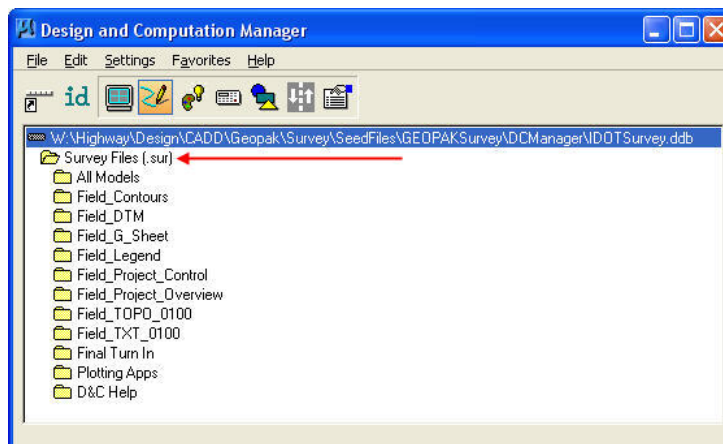

4) If this is not the path or file showing on the top line, select **File>Open**.
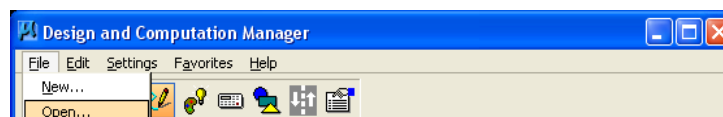
5) Then browse to the correct directory and select the file **IDOTSurvey.ddb**.

6) The first folder shows the file that you should be working in. This is your "**.sur**" file.


7) Within the "*.sur*" folder are subfolders that contain the tool that are needed to complete each individual model. The first folder is called **All Models**. This model contains tools that could be used in all of the models.
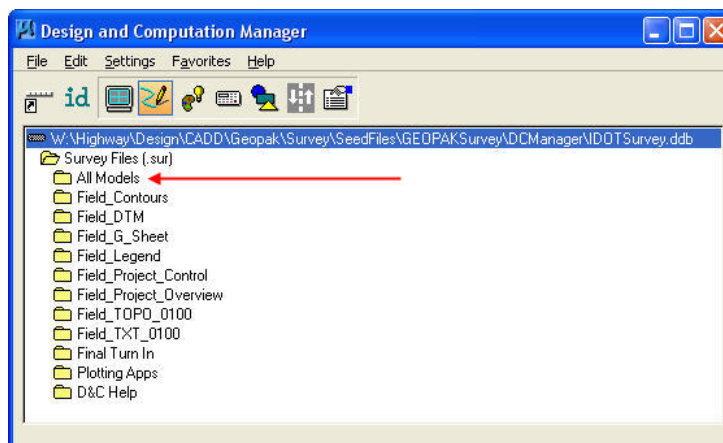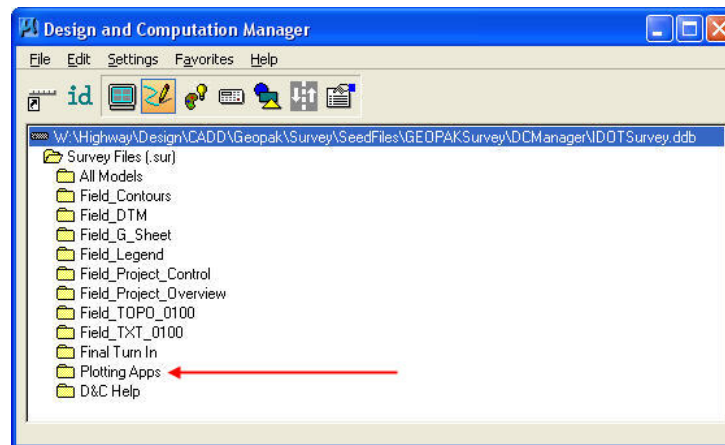
8) The folders shown below represent each model that is in the "*.sur*" file. Each of these folders contains only the tools needed within that particular model.
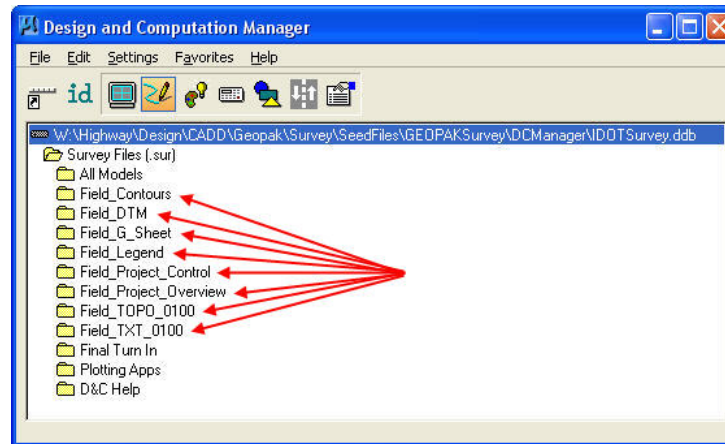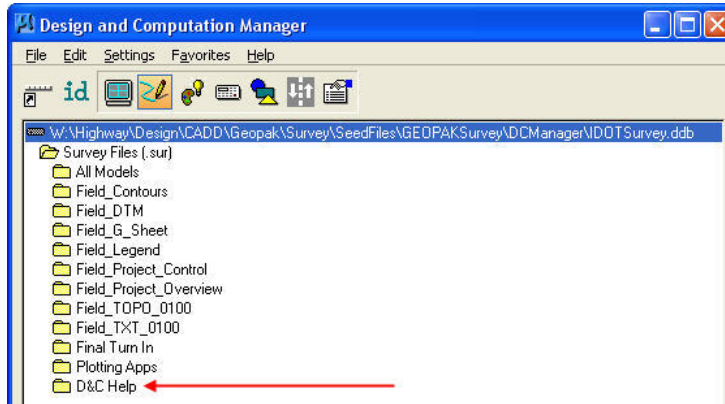

9) The **Final Turn In** folder contains two tools that will be run on the "*.sur*" file before it is released to the design squad.
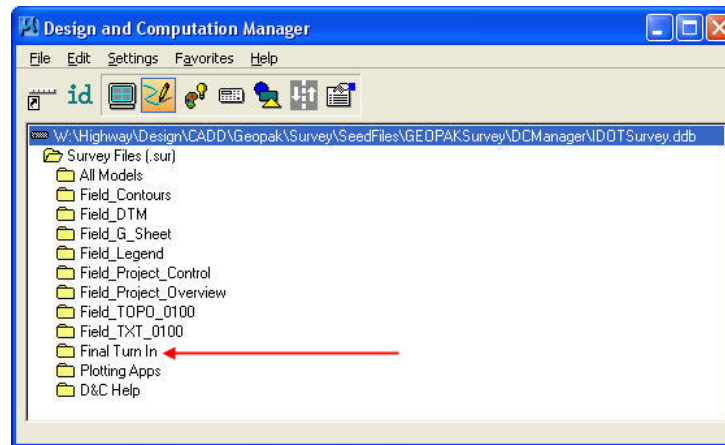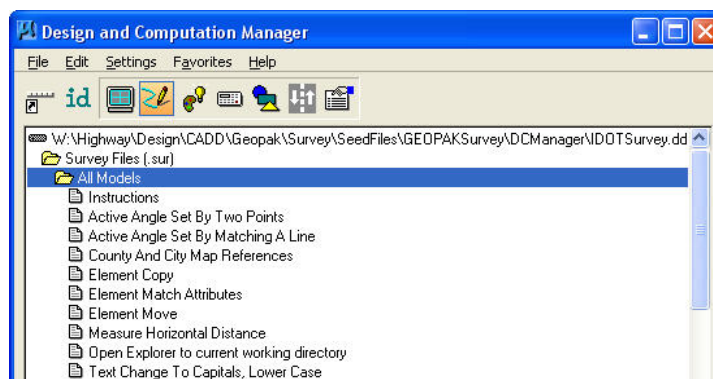

10) The **Plotting Apps** folder contains the MicroStation plotting tool.

11) The **D&C Help** folder contains the help tools for D&C Manager.

12) The **All Models** folder contains tools that could be used in any of the models.

A. **Instructions** – This will open a help file describing how to use the tools.
B. **Active Angle Set By Two Points** – You can set the angle that you want to draw a line or place text by data-pointing in two locations in the model. This will be used most often by clicking on two ends of a line and then placing text at the same angle as the line.
C. **Active Angle Set By Matching A Line** – You can click on a line and the active angle will be set. This tool does not work with lines containing multiple vertices.
D. **County And City Map References** – This tool allows you to place a reference of county or city map into your model.
E. **Element Copy** – Allows you to copy objects in the model.
F. **Element Match Attribute** – Allows you to match the attributes (level, color, weight and style) of one item so that when you create another item it will look the same.
G. **Element Move** – Allows you to move an object within the model.
H. **Measure Horizontal Distance** – Because the items are drawn into a 3d file, the measurements you get with the standard MicroStation tool may not be what you want. Using this measurement tool will give you the horizontal distance between the points that you choose.
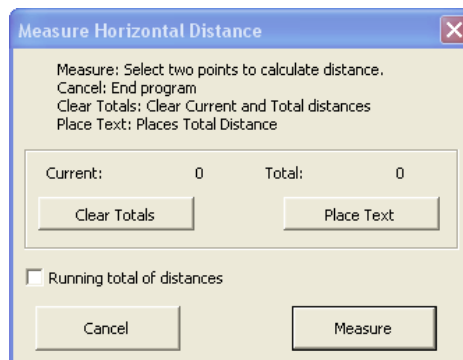
I. **Open Explorer to current working directory** – Opens a session of Windows File Explorer already opened to the folder that contains the Microstation file that you have open.
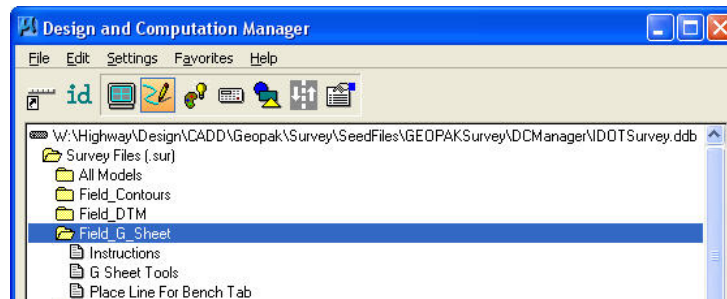
13) The **Field_Contours** folder only contains the instructions on how to populate this model. All steps are done outside of *D&C Manager*.

14) The **Field_DTM** folder only contains the instructions on how to populate this model. All steps are done outside of *D&C Manager*.
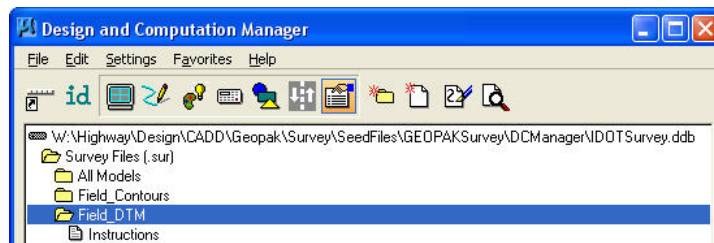
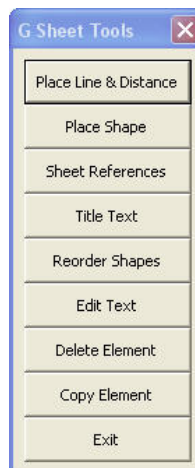15) The **Field_G_Sheet** folder contains the tools needed to complete the G sheet references.

A. **Instructions –** Describes the tools within the folder.
B. **G Sheet Tools** – This toolbox contains everything needed to create the references.

C. **Place Line For Bench Tool** – When using GEOPAK to create the bench mark table, it does not draw the solid line under the headers. Use this tool to draw this line with the correct attributes.
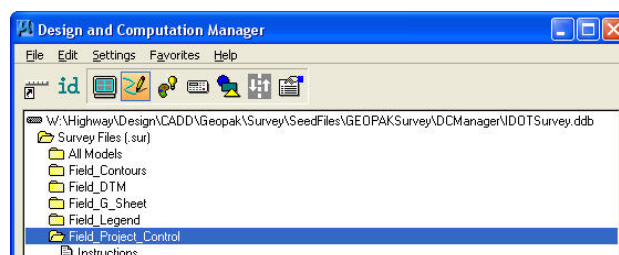
16) The **Field_Legend** folder contains the tools needed to complete the Legend model.
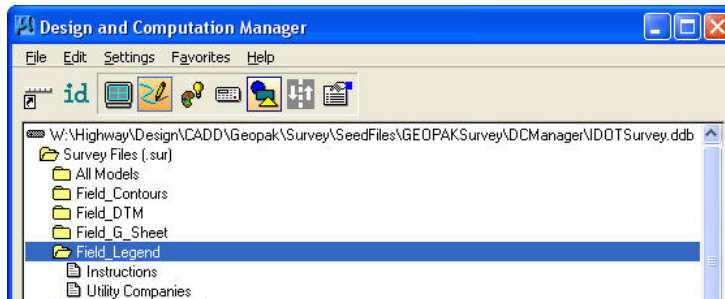
A. **Instructions** – This will open a help file describing how to use the tools.
B. **Utility Companies** – This tool allows you to select the utility type, whether it is a line (underground) or a cell (above ground), company number and the utility companies address and phone number. After filling this in to your liking, press the OK button and then data point in MicroStation where you would like the text placed.
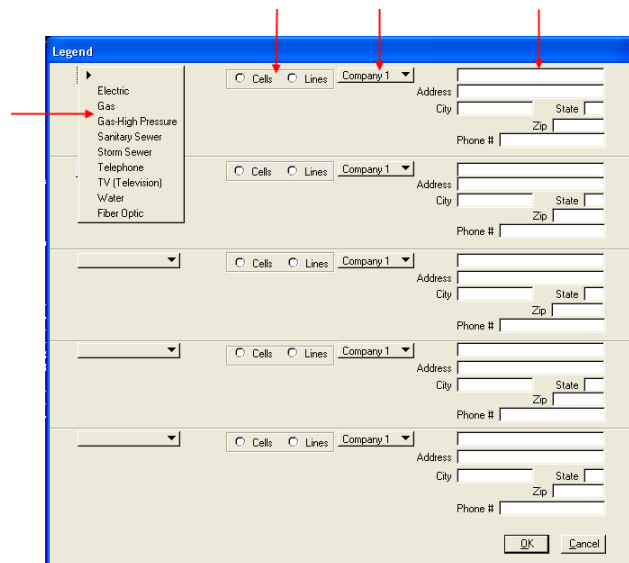
17) The **Field_Project_Control** folder only contains the instructions on how to populate this model. All steps are done outside of *D&C Manager*.

18) The **Field_Project_Overview** folder only contains the instructions on how to use this model. All steps are done outside of *D&C Manager*.
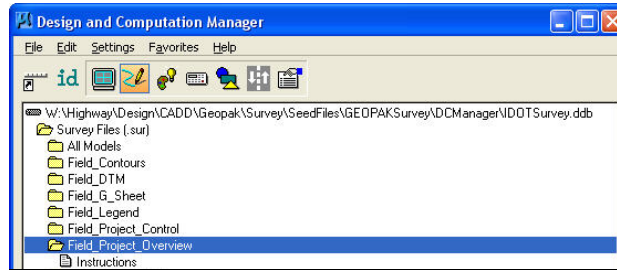
19) The **Field_TOPO_0100** folder contains all of the tools necessary to complete this model.
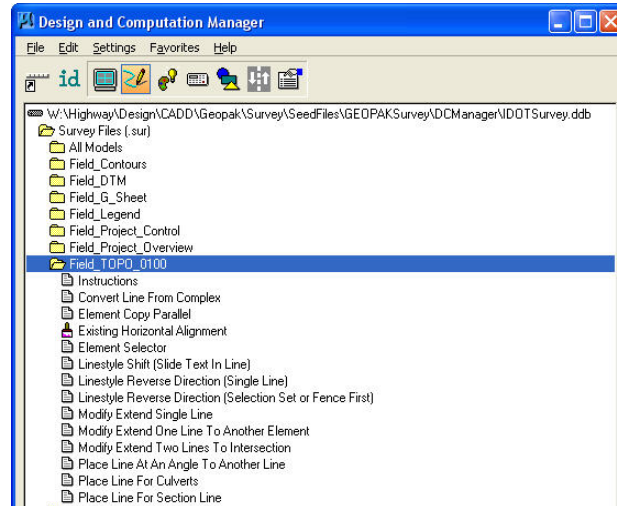

A. **Instructions** – This will open a help file describing how to use the tools.
B. **Convert Lines From Complex** – Some editing tools in MicroStation, such as the "Modify" tools in this folder, do not work with custom lines. You can use this tool to "drop" their complexity and then modify them.
C. **Element Copy Parallel** – You can use this tool to copy an element a specified distance parallel to itself. This tool will be used when giving pipes their width.
D. **Existing Horizontal Alignment** – **Double-clicking** on this selection allows you to draw horizontal alignments into the TOPO model.
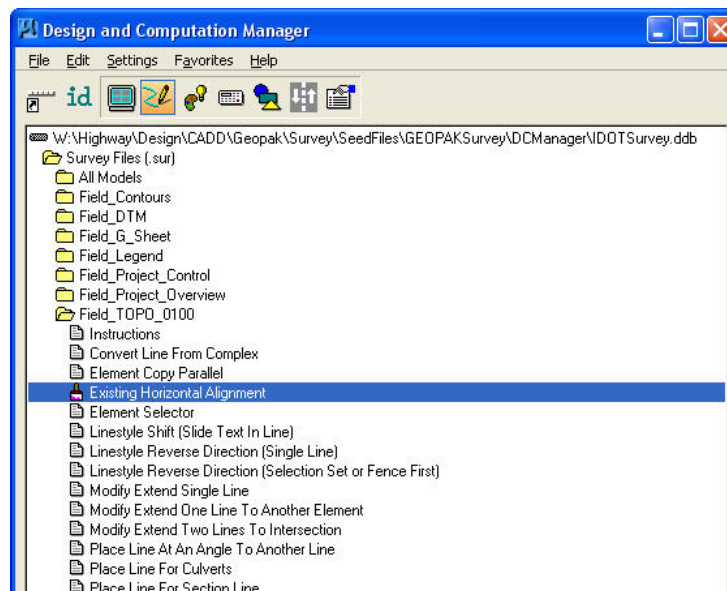
Next, click on the **Draw Plan & Profile** button. This will open the *Draw Plan & Profile* dialog box.
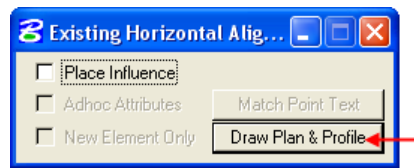
In the *Draw Plan & Profile* dialog box make sure that *Element Type* is set to **Chains**. Next click on the name of the **chain** you want to draw and it will be drawn into the model.
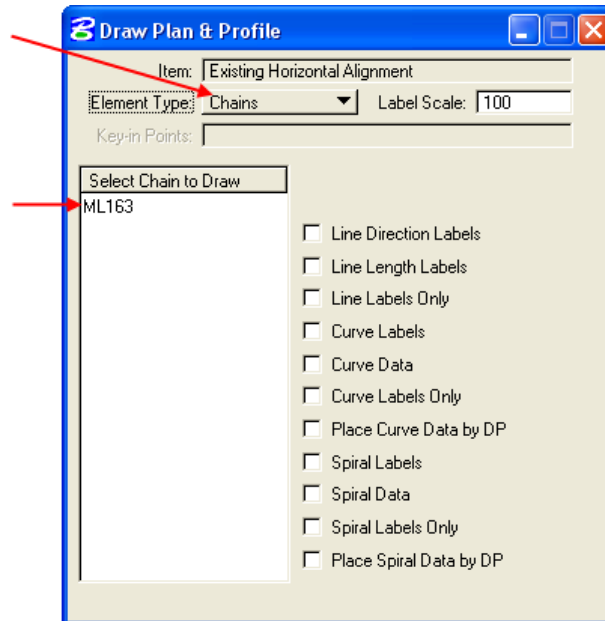
E. **Element Selector** – This tool allows you to select items for manipulation or, when using AccuSnap, to see all survey information stored with the element.

F. **Linestyle Shift (Slide Text In Line)** – This tool allows you to slide the text and arrows in custom linestyles so that they appear how you want them.

G. **Linestyle Reverse Direction (Single Line)** – This tool changes the direction that the text in a custom linestyle is facing so it is not upside down on the plan sheet.

H. **Linestyle Reverse Direction (Selection Set or Fence First)** –Use the Element Selection tool or a fence along with this tool to change the direction of text in multiple custom lines in one step.

I. **Modify Extend Single Line** – Allows you to shorten or lengthen a line.

J. **Modify Extend One Line To Another Element** – Extends or cuts one line where it intersects another line.

K. **Modify Extend Two Lines To Intersection** – Extends or cuts two lines at the intersection of the lines.

L. **Place Line At An Active Angle To Another Line** – This tool draws a line at a certain angle and a certain length from another line. This can be used to draw aprons at a 90 degree angle for one half the apron width from the centerline of pipe.

M. **Place Line For Culverts** – This tool is used to draw culvert lines with the correct attributes (level, color, weight and style).

N. **Place Line For Section Line** - This tool is used to draw section lines with the correct attributes (level, color, weight and style).

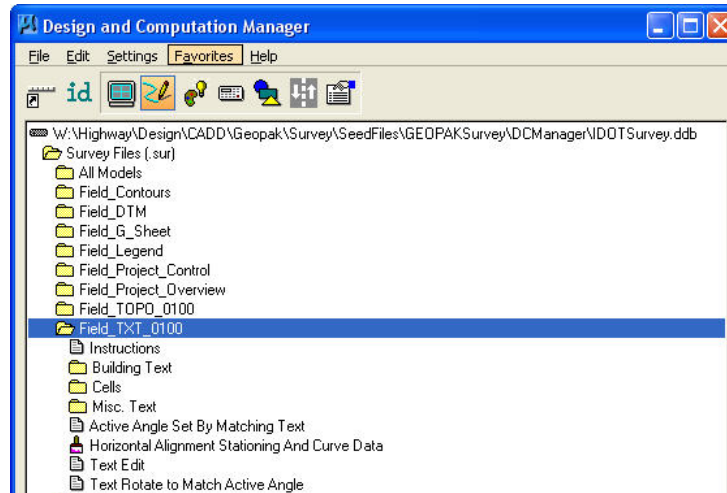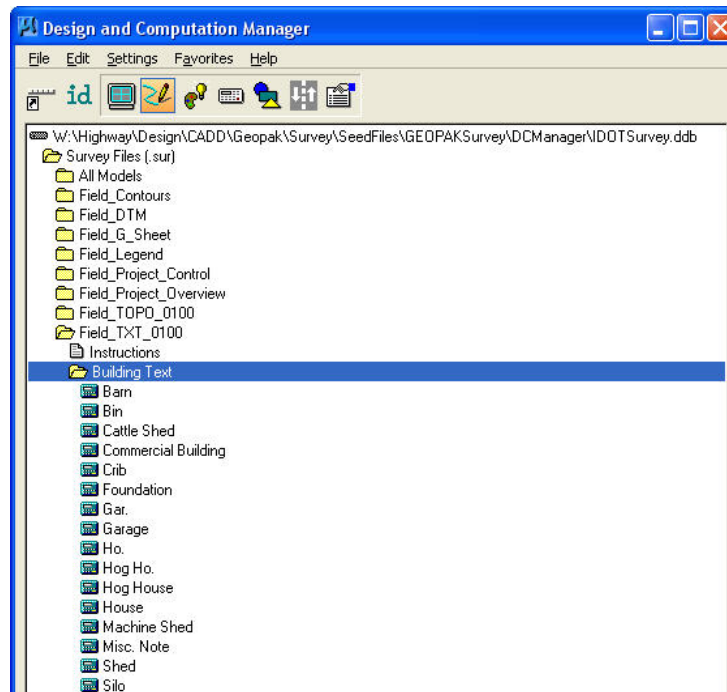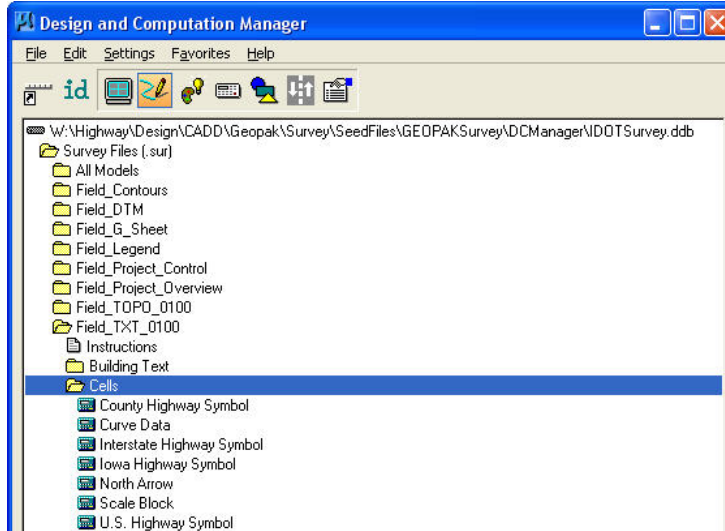20) The **Field_TXT_0100** folder should contain all of the tools for completing the TXT model.

A. **Instructions** – This will open a help file describing how to use the tools.
B. **Building Text** – This folder contains all of the text necessary for any buildings or structures on your project.

C. **Cells** – This folder contains cells available for placement in the TXT model.

D. **Misc. Text** – More text options for the TXT model.
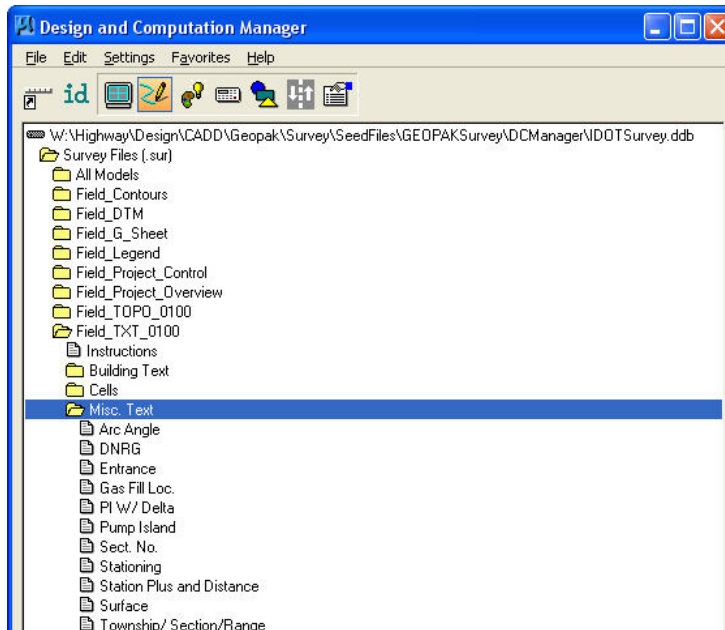

E. **Active Angle Set By Matching Text** – You can set the angle for text you want to place by matching text already placed into the file.

F. **Horizontal Alignment Stationing And Curve Data –** Using this tool will allow you to place the stationing, tick marks, curve data and alignment point labels. **Double-click** on this selection.
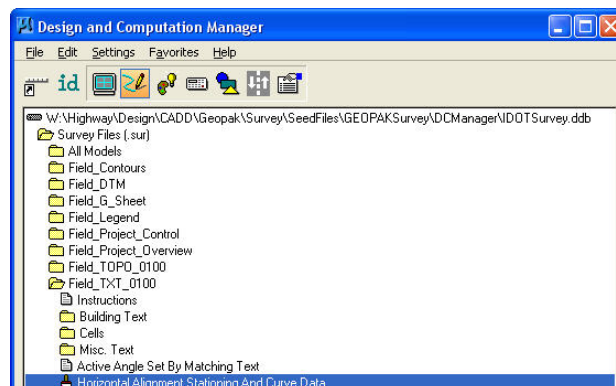
Next, press the **Draw Plan & Profile** button. This will open the *Draw Plan & Profile* dialog box.
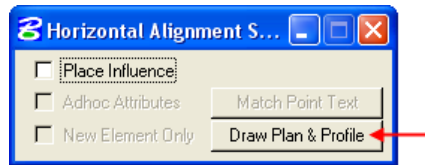
To draw the curve data into the model follow these steps. On the *Draw Plan & Profile* dialog, make sure that *Element Type* is set to **Chains**, *Label Scale* should be **100** and *Curve Data* should be **checked**. Click on the name of the alignment whose information you want to plot once everything is correct. The alignment is drawn into the file along with the curve data, which we do not want. Delete this line from the TXT model.
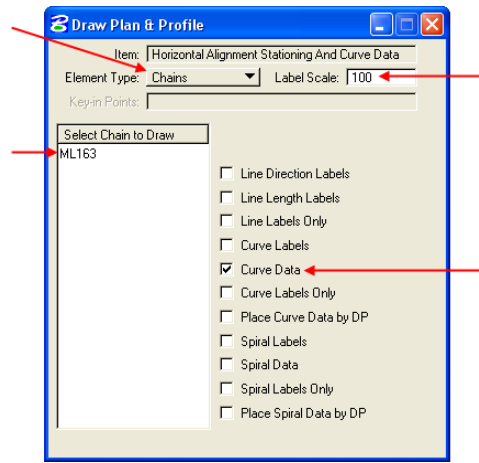

It is now time to place the stationing, tick marks and alignment point labels. Change the *Element Type* to **Stationing**, *Label Scale* should be **100** and all of the boxes should be **checked** for tick marks, stationing and point labels. Lastly, click on the name of the alignment whose information you want plotted in this model.
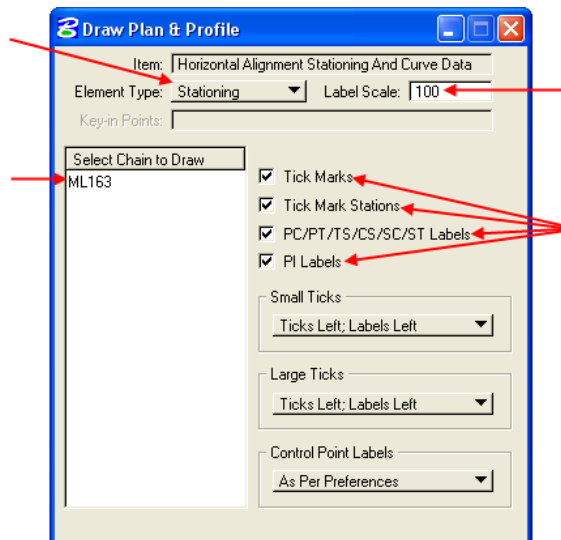

G. **Text Edit –** This tool allows you to edit text that has previously been placed into the model.
H. **Text Rotate to Match Active Angle –** Rotates text to match whatever the active angle is set to.

21) The **Final Turn In** folder contains two tools that are used right before the file is given to the design squads and the instructions on how to use them. <u>These tools will be used by only by the Ames office personnel</u>. These tools should only be used on the *Field_TOPO_0100* and *Field_TXT_0100* models.
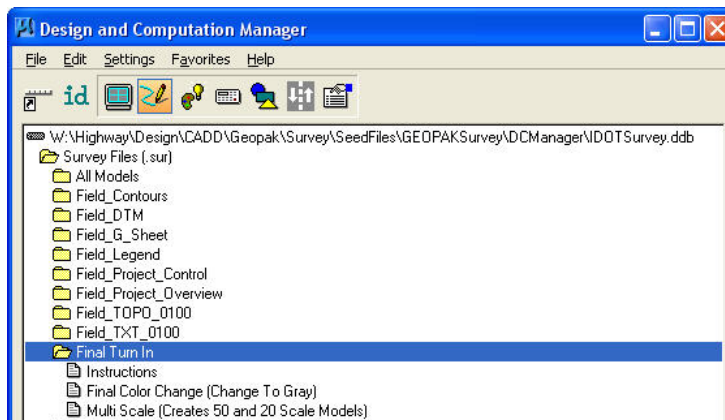

    A. **Instructions** – This will open a help file describing how to use the tools.
    B. **Final Color Change (Change To Gray)** changes the color of all items in the model to gray (color 112).
    C. **Multi Scale (Creates 50 and 20 scale Models)** creates two additional copies of the *TOPO* and TXT models and then scales the items down to be used with that scale of plan sheet.

22) The **Plotting Apps** folder contains instructions and a tool that starts the MicroStation print application.
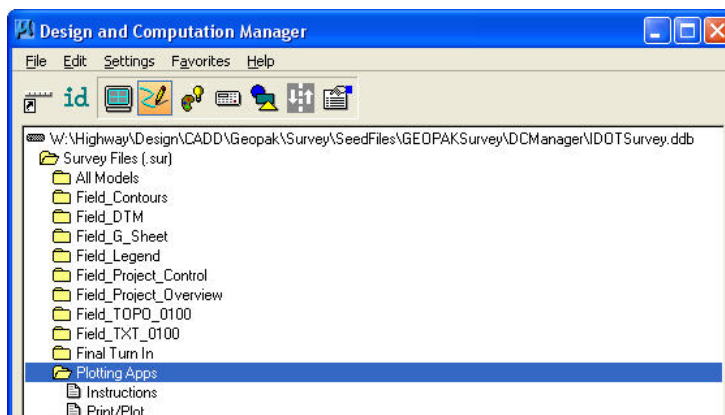
In the *Print* dialog box you can choose what area to print, if you want color or not and the paper size. When you have these settings how you want them, press the printer button in the upper left-hand corner and it will be sent to your printer.
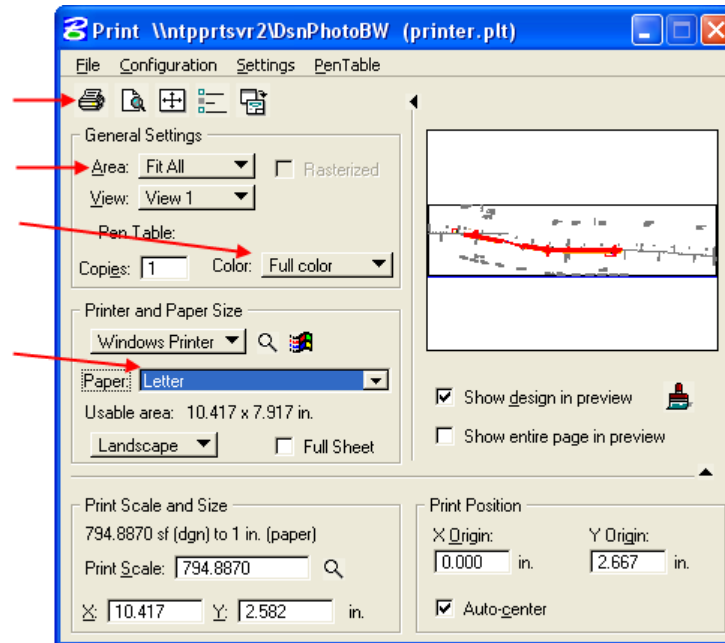
23) The **D&C Help** folder contains the *Search Database* tool. Double-clicking on this selection opens the *Database search* dialog box.
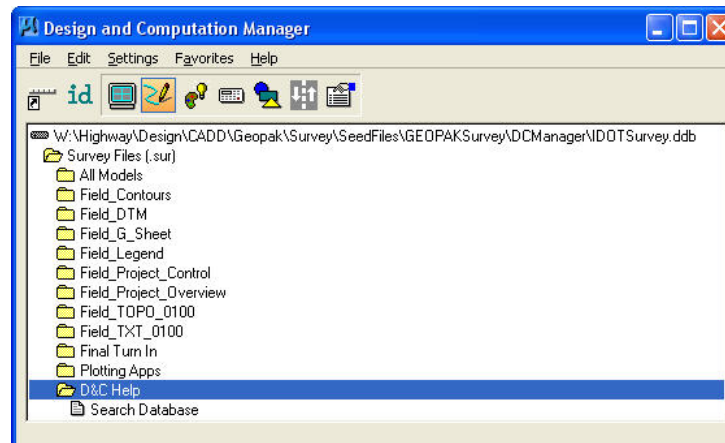
In the Database search dialog box you can type a tool name in the name area or part of the description in its area. You can then check the other boxes or not to search the D&C Manager for a particular item.