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## CHAPTER 5 – LINE STYLES

### 5.1 – Introduction to Line Styles

MicroStation comes with 8 standard Line Styles, which is usually only enough for the most basic MicroStation drawing. Custom Line Styles are MicroStation's way of creating other Line Styles for specific purposes. Line Styles for utilities that have text imbedded in the line, fence Line Style with X's along it are examples of Line Styles that can be created. Custom Line Styles, unlike the fonts discussed in Chapter 5, are still contained in resource files with the extension **.rsc**. The information provided in this chapter discusses how EFLHD will access, activate, and place custom line styles for us. Also contained in this chapter is information about the line style resource files including:

Names

Locations

Workflow for attaching resource file

Line Style settings and scaling

### 5.2 – Custom Line Styles

Line Style resource files are automatically read by MicroStation and will be shown as available Line Styles, assuming your machine is properly configured. These files will be attached when entering MicroStation through a project configuration file and the use of these will be seamless. EFLHD uses two .rsc files. One file is shared by all three FLH divisional offices. EFLHD has additional or modified styles that are contained in a separate resource file.

The FLH custom Line Style resource files can be found on the EFLHD network at:

***M:\Engineering\_Software\Cadd\_resource\_v8i\X\_30\Standards\Resources  
FLH\_LineStyles.rsc***

The EFLHD custom Line Style resource files can be found on the EFLHD network at:

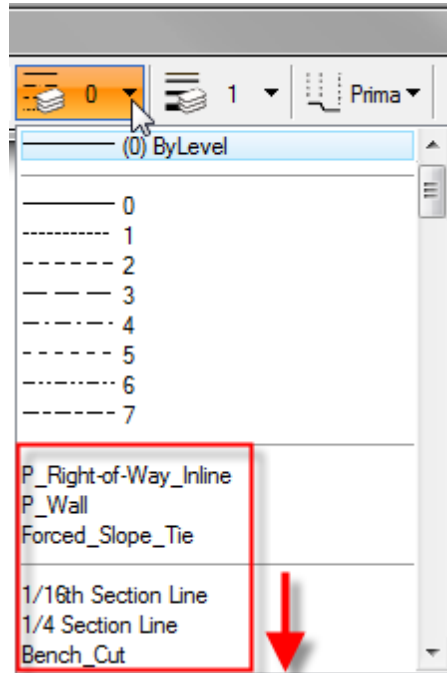
***M:\Engineering\_Software\Cadd\_resource\_v8i\X\_30\Standards\Resources  
EFLH\_Linestyles.rsc***



For EFLHD employees, custom Line Styles are automatically attached while opening a design file using the Project Configuration (\*.pcf). Contact the CADD Coordinator to get properly setup if the correct Line Styles are not displaying.

### 5.3 – Accessing and Placing Custom Line Styles

Selecting custom Line Styles in MicroStation V8i is a simple process as each Line Style found in the attached .rsc file will automatically show up in the Line Styles dropdown menu, as shown below.

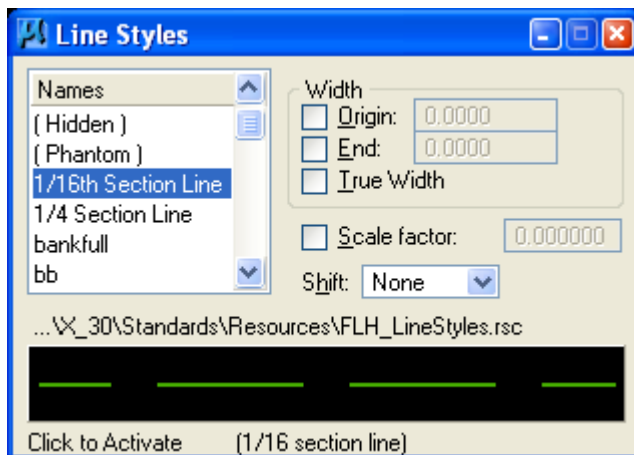
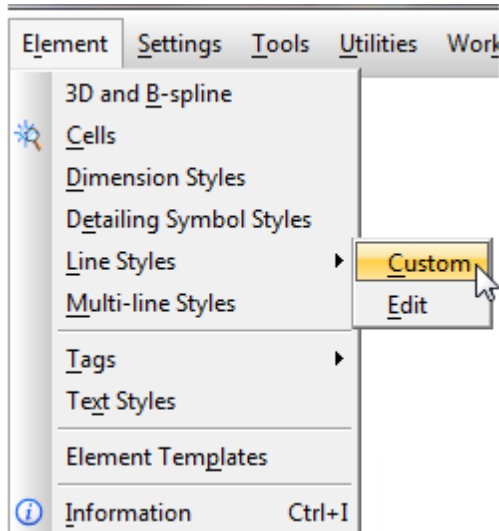


Each of the Line Styles available may be selected by using the scroll bar to find and select the desired Line Style.

As shown above, there is also a selection for ByLevel. This allows a Line Style to be attached to a particular level. Setting the level as the active level will automatically select the Line Style as set in the level library. See Chapter 3, Levels and Symbology, for more information on ByLevel attributes.

#### 5.4 - Custom Line Styles dialog

To view or edit the settings a custom Line Style before placing it, the Custom Line Styles dialog is used. Select **Element > Line Styles > Custom**, as shown below.



With the dialog box for custom Line Styles, shown above, you have the ability to select/set styles and attributes such as **scale factor**. The dialog lists the names of line styles in the open line style libraries. MicroStation searches for and automatically opens the line style libraries specified in the MS\_SYMBRSRC configuration variable settings.

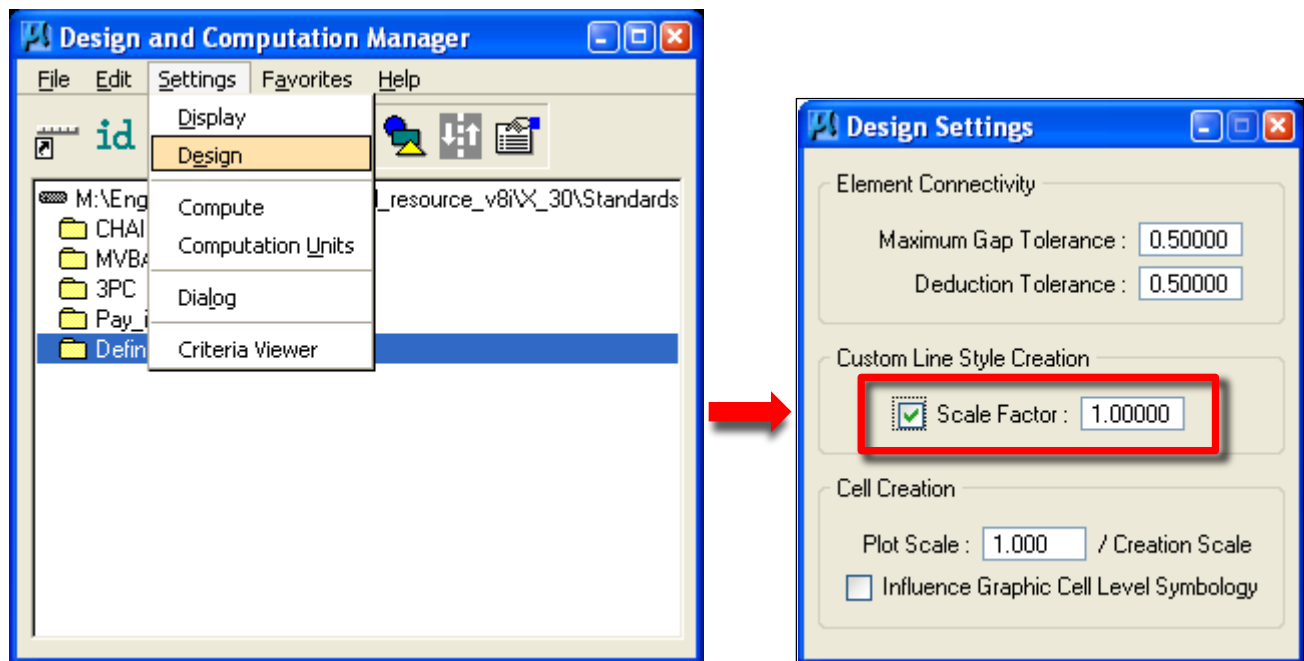
Double-clicking a line style name makes the line style the Active for element placement.

## 5.5 – Line Style Scaling

MicroStation elements should be displayed in plan sets with styles and scales that follow the presentation within the Symbols and Abbreviations Sheet. Line Style scales have been created to be placed at the correct scale for a 1" = 100' plan sheet when a scale factor of 1 is used.

### Line Style Scaling through the D&C Manager

Some of the FLH items within the Design and Computation (D&C) Manager have custom line styles associated to them. The correct Scale Factor needs to be set prior to placement of these items. The Scale Factor is set within the Design Settings from the top menu on the D&C dialog.

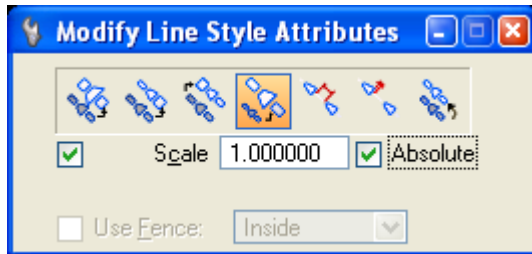


Note that some items in the D&C Manager database do not have line styles set, but the EFLHD Symbols and Abbreviations Sheet has a custom style. These instances are due to differences within the FLH divisional offices for Line Style usage. EFLHD conventional styles need to be applied after placement of the element through the D&C Manager.

## 5.6 – Correcting / Modifying Line Style Scales

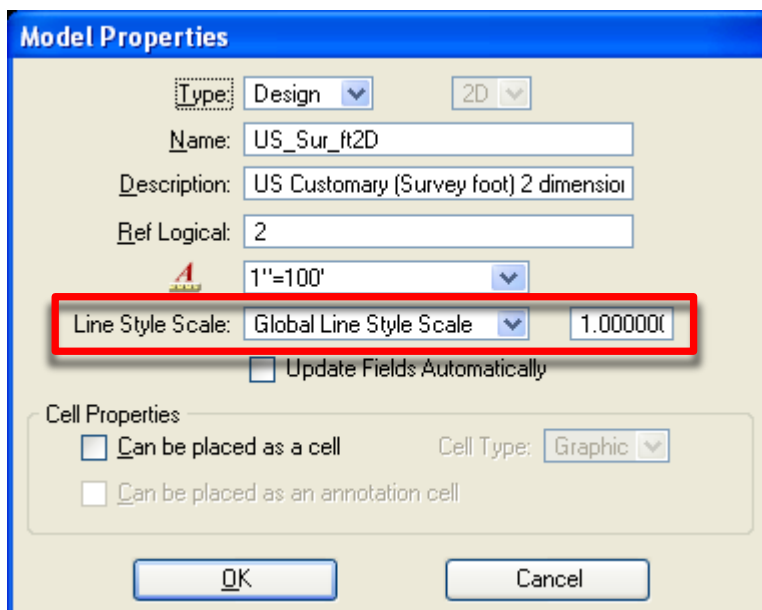
It is difficult to determine the existing scale factor used for a particular MicroStation element. Furthermore, using the “Scale Factor” in the Custom Line Styles dialog only applies a factor to the scale. This can create scales and plan appearances that are not correct. A recommended method for correcting line style scales is by using the “absolute” setting within the **Modify Line Style Attribute** toolbox.

Select the Scale attribute icon, toggle on both the Scale (with the desired “true” scale value) and the Absolute settings.



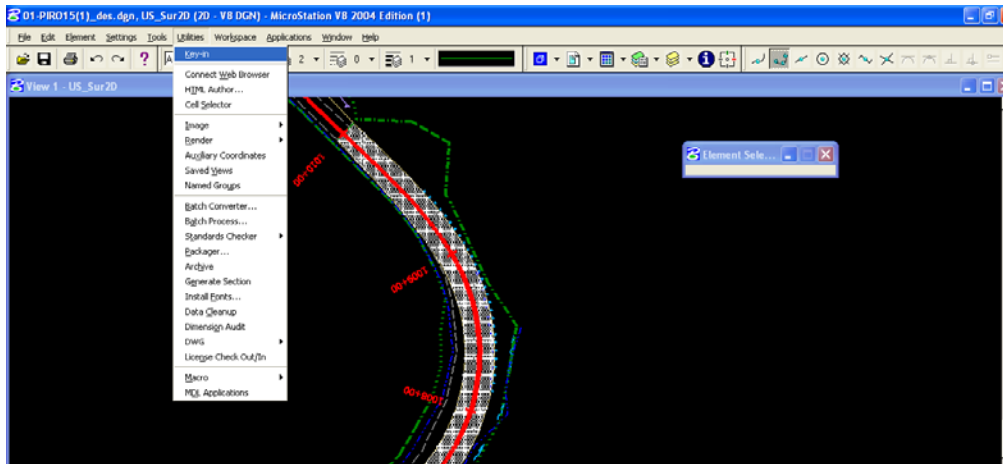
## 5.7 – Global Line Style Scaling

Similar to Annotation Scale with text and dimensions, Line Style scales can now be globally modified within a “Models” property. Changing the Global Line Style Scale will only affect that particular model, but will modify the line style scales within the active model and any referenced models.

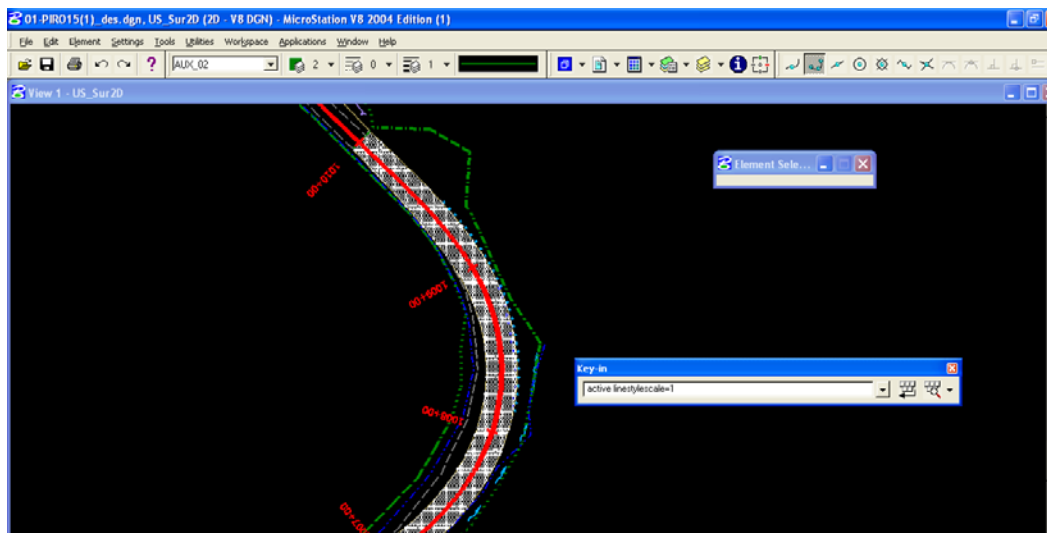


### Workflow for Optimizing Linestyle Scales in CADD

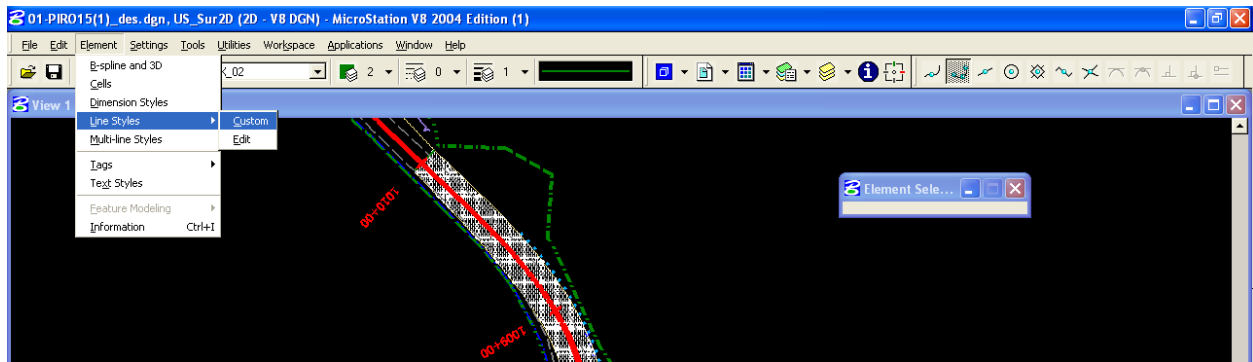
To make plan preparation easy, all base files should be set to a line style scale of 100. Before you begin placing any lines in the base file of a new project, go to **Utilities > Key-in** as shown below.



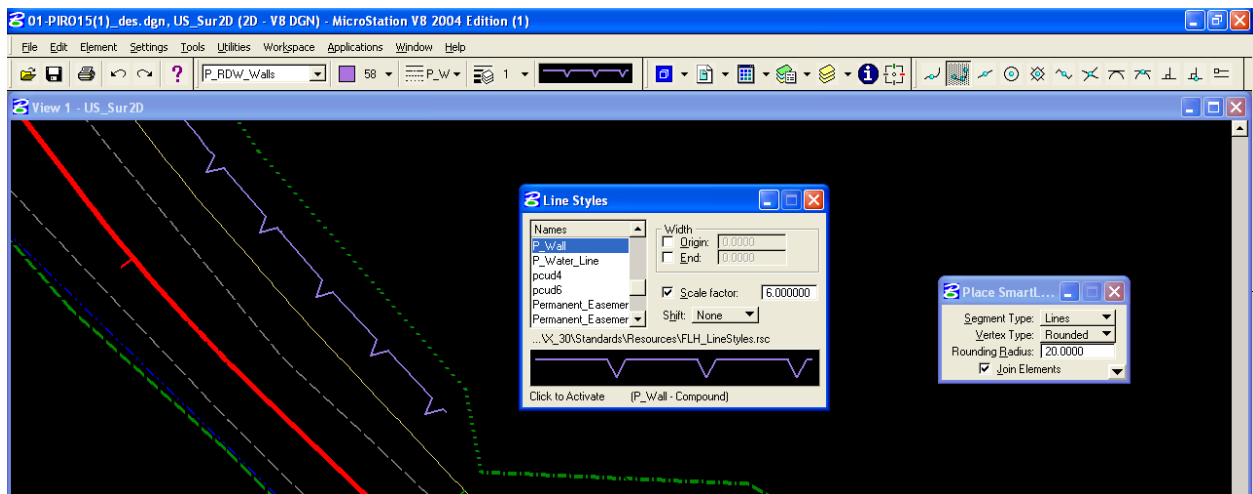
In the **Key-in** dialogue box, type in the following command: **active linestyle scale=1**



Be sure to “save settings” after entering this command (Ctrl + F). With this command, there will be no scaling of the linestyles when they are placed in the base file. Therefore, place all lines to the appropriate scale you would use on a 100 scale plan sheet. Using the D&C Manager, EFLHD already has several items sized for 100 scale plan sheets. However, in the event that the lines do not appear to be displaying at the correct line style scale, you can always edit the line style scale of an individual line, without modifying the line style scale of other lines you have already placed. Go to **Element > Linestyles > Custom** as shown below.



Using this dialogue box, you may change the scale factor by typing in a new scale factor for the line. The dialogue box will instruct you to “Click to Activate” once you have entered a new linestyle scale. Click on the diagram of the line style, and then use the line placement tool to begin placing a new line at the new linestyle scale.



The advantage of using this method is, if you have drawn everything in the base file as you would use on a 100 scale plan sheet, it now becomes simple to cut plan or detail sheets at whatever scale you desire (20, 50, 100, 200, etc.). Simply create the plan sheet as normal with the base file referenced in. (See *GEOPAK V8i Edition Chapter 2 for procedures on creating plan sheets*) Then, bring up the **Utilities > Key-in** dialogue as before. Then type in the linestyle scale of the new sheet you just created.

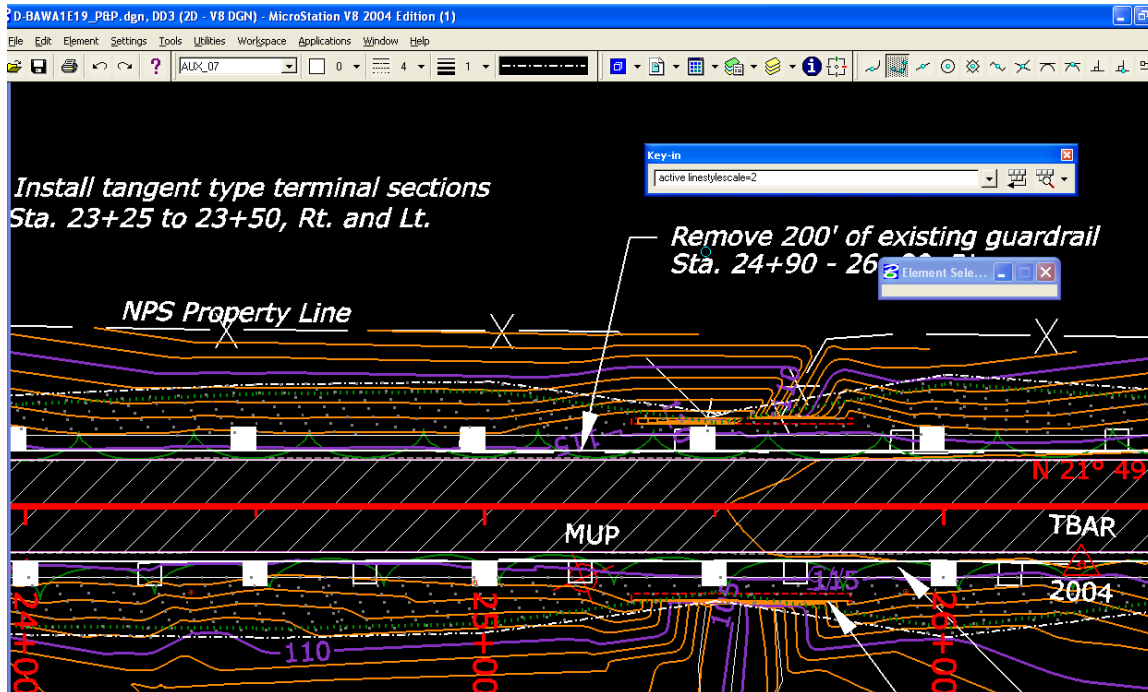
For a 50 scale plan sheet, type in the command: active linestyle scale=0.5

For a 200 scale plan sheet, type in the command: active linestyle scale=2.0

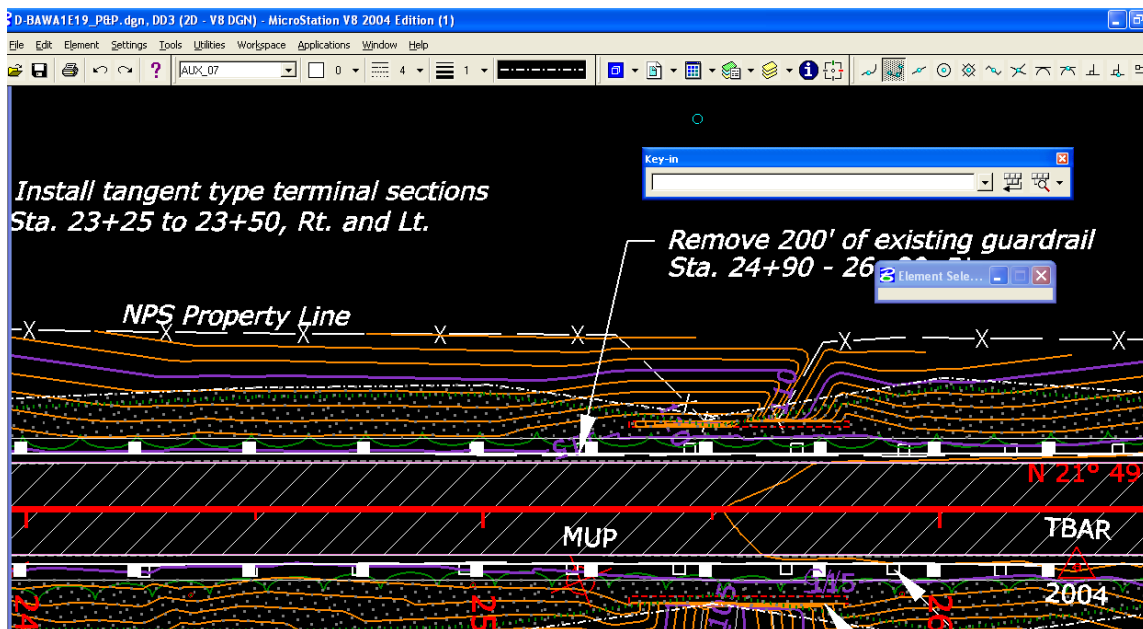
Etc.



The line style scales will automatically update to display at the correct size for the sheet scale you are using. This means, that with a single base file, you can cut plan sheets and details sheets at different scales, and have all of them come out looking correct. Just be sure to “save settings” again after entering the linestyle scale for the sheet you just created.



*Linestyle scale as displayed at 200 scale*



*See the Linestyle scale as displayed at 50 scale.*