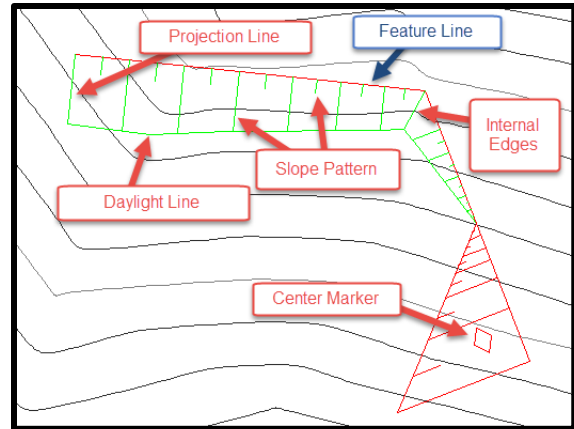<u>**Overview:**</u> Use Grading *styles* & Feature lines *styles* along with layers to control how Civil 3D grading objects are displayed.

<u>*Software:*</u> AutoCAD Civil 3D 2016, NRCS C3D 2016 template

Gradings and Layers

Grading Objects get put onto the 1.C3D.Grad.[Site Name] layer. But the Grading *Style* used will control how individual components of a grading object are displayed. A grading has the following components that can be displayed:

- Center Marker
- Daylight Line
- Projection Line
- Internal Edges
- Soild Shading
- Slope Pattern

Example: A grading that uses the style of *Embankment Grading* will have the Daylight line controlled by the C.Topo.Embk.Ctch layer and the other items controlled by the C.Topo.Embk.Slop layer.

Feature Lines and Layers

Feature Lines get put onto the 1.C3D.Feat.[Site Name] layer. But the Feature Line *Style* used will control how individual components of a feature line are displayed.
Example: A feature line using the style of *Embankment Feature Line* is displayed based on the C.Topo.Embk.Feat layer. Similarly the *Embankment Catch Line* style display is controlled by the C.Topo.Embk.Ctch layer.
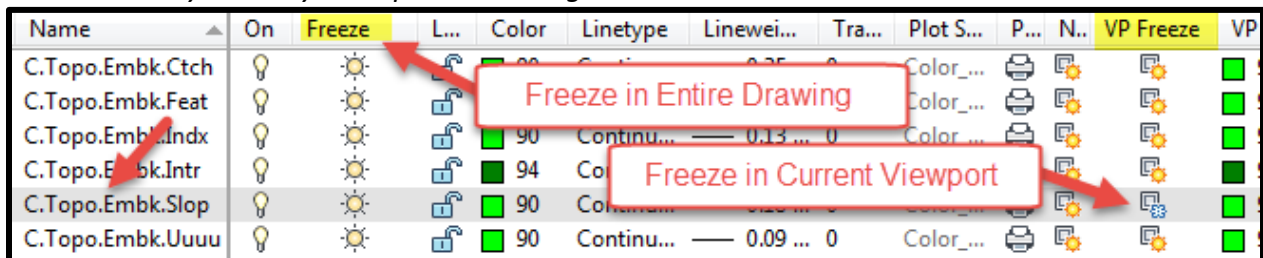
Layers control

 Use the Layer Properties Manger to control the layers.

 Do not use the Layer Freeze or Layer Off buttons to try to control the display of Feature Lines and Gradings.

Example: To Freeze the display of embankment slope projection lines in one viewport only.
1. <u>Switch</u> into the Modelspace of the viewport of a Layout tab.
2. *Home… Layers... Layer Properties Manager*

To prepare a pond drawing for final output:
Select each grading that is used for the embankment and AS layout. Go to the properties box and change the *Grading Style* to **Embankment Grading**. You probably cannot select all of them at the same time since some gradings might be cut/fill and other grade to elevation.

The slope projections will be able to be turned off using the **C.Topo.Embk.Slop** layer in the layer manager. Note that you can't use the Layer Off tool and click onto the slope projections since you would really be selecting a C3D grading which is on a different layer (1.C3D.Grad.[site name]).

The catch lines are on **C.Topo.Embk.Ctch**. The general embankment feature lines are on **C.Topo.Embk.Feat**. You will want to leave those on.

Select the core trench grading. Go the properties and change the *Grading Style* to **Core Trench Grading**. Select the core trench catch line. In properties change the *Grading Style* to **Core Trench Catch Line**. In layer manager you can turn off these using the **C.Topo.Cort.Feat, C.Topo.Cort.Ctch,** & **C.Topo.Cort.Slop** layers.

Layers that control the display of:

Grading Style name	Layer for: Catch Lines	Layer for : Projection lines & other		Layers for related Feature Lines
Embankment	C.Topo.Embk.Ctch	C.Topo.Embk.Slop		C.Topo.Embk.Feat
Core Trench	C.Topo.Cort.Ctch	C.Topo.Cort.Slop		C.Topo.Cort.Feat
Borrow	C.Topo.Borr.Ctch	C.Topo.Borr.Slop		C.Topo.Borr.Feat
Structure Excavation	C.Topo.Stex.Ctch	C.Topo.Stex.Slop		C.Topo.Stex.Feat
Finished	C.Topo.Fini.Ctch	C.Topo.Fini.Slop		C.Topo.Fini.Feat

If you have other gradings that you want to completely turn off, such as stream channel cleanout, select all of the gradings associated with that surface and set the *Grading Style* to **_Grading(1Red)** or the next unused grading style. You will be able to completely shut off this grading using the **1.C3D.Grad.Red** layer.

Layers that control the display of:

Grading Style name	Layer
_Grading(1Red)	1.C3D.Grad.Red
_Grading(2Yellow)	1.C3D.Grad.Yell
_Grading(3Green)	1.C3D.Grad.Gree
_Grading(4Cyan)	1.C3D.Grad.Cyan
_Grading(5Blue)	1.C3D.Grad.Blue
_Grading(6Magenta)	1.C3D.Grad.Mage

Use Freeze Layers to control the display of objects on Sites:
Freezing the *1.C3D.Grad.Stage Storage* layer would hide all of the grading objects on a Stage Storage site. Freezing the *1.C3D.Feat.Stage Storage* layer would hide all of the feature lines. "Off" will not work.