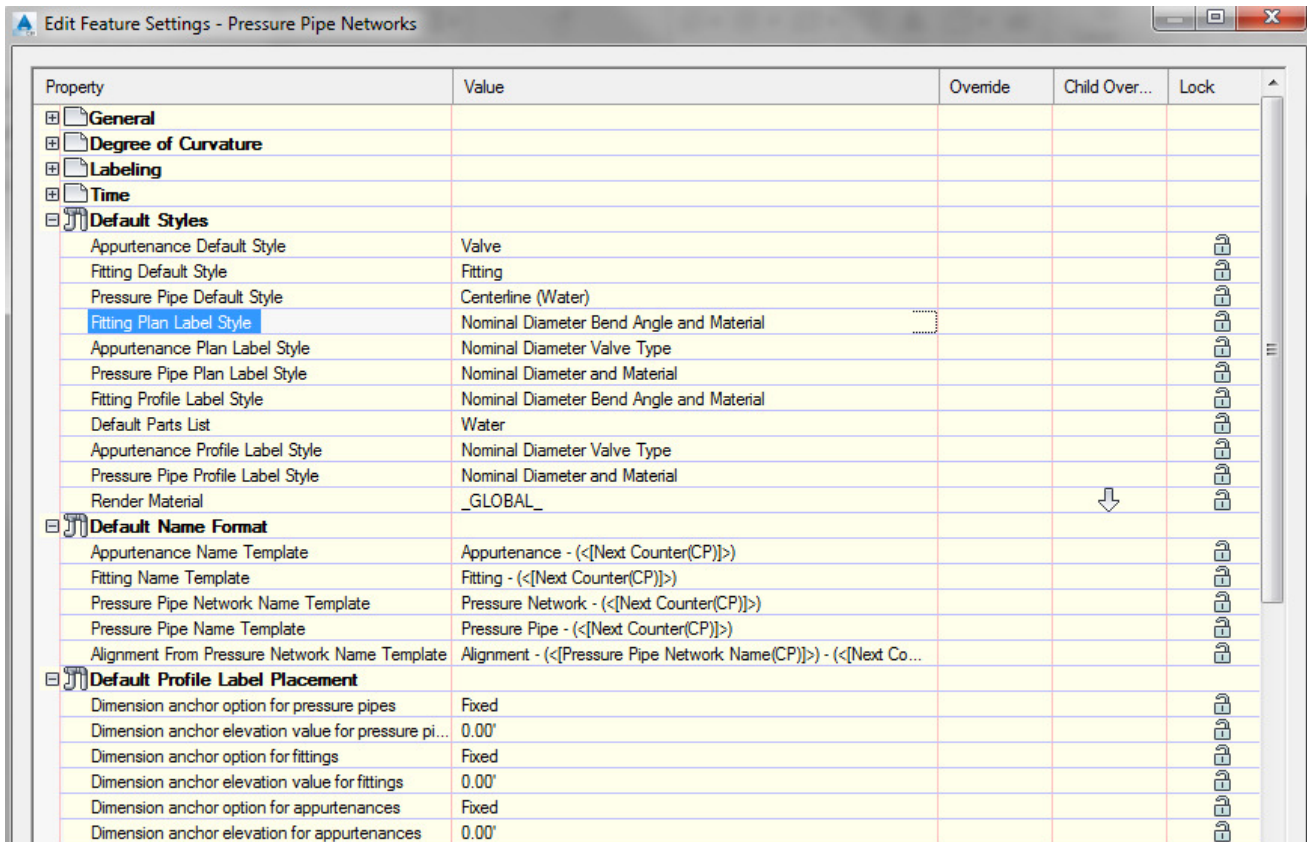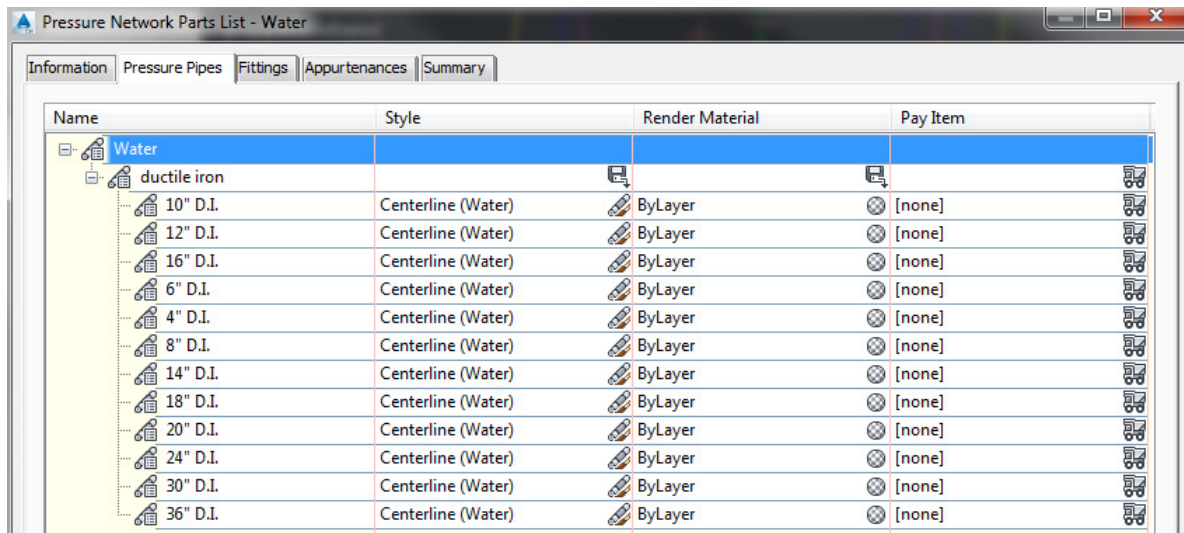# Cheat Sheet – Pressure Pipes

1. Edit the feature settings for the pressure network. Under the settings tab, right-click on "Pressure Network" and then select "Edit Feature Settings".
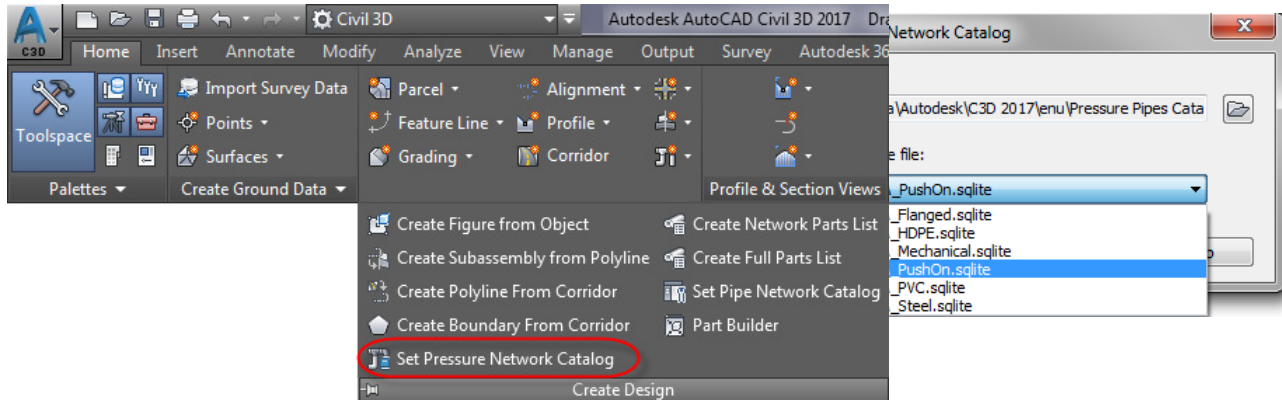

2. Right-click the part list you wish to use and select the edit button.

3. Create and Edit a Parts List

When using pressure pipes in Civil 3D 2017, new parts have been added. You might want to create parts lists for different materials since different parts exist for each material.
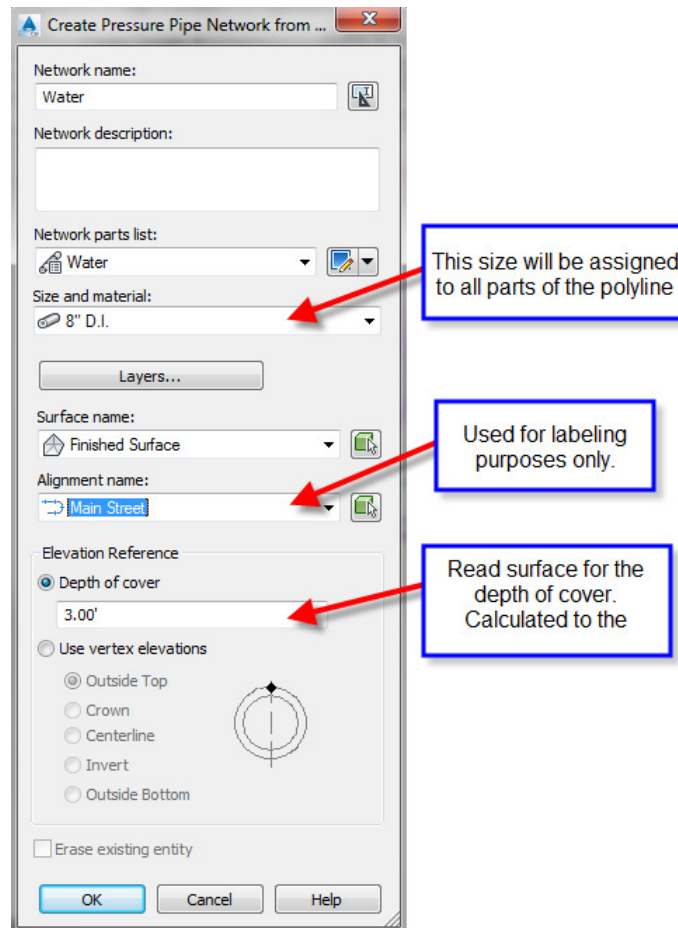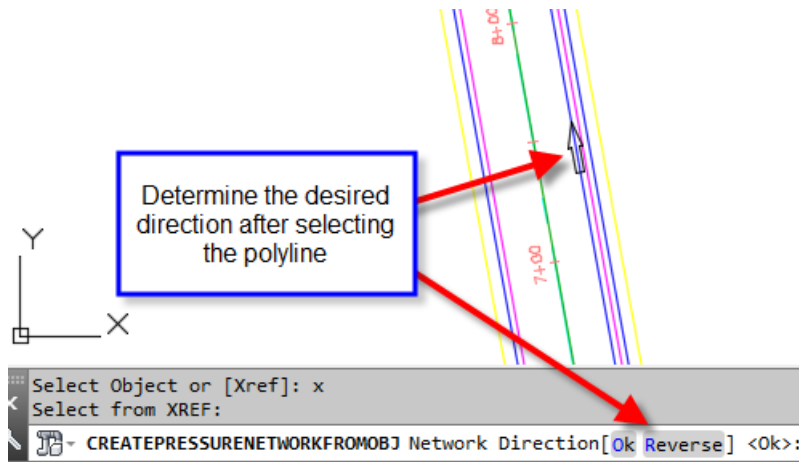

Set the catalog to the desired material, and then create a new parts list for that material. For example, PVC contains a fire hydrant, while others do not.
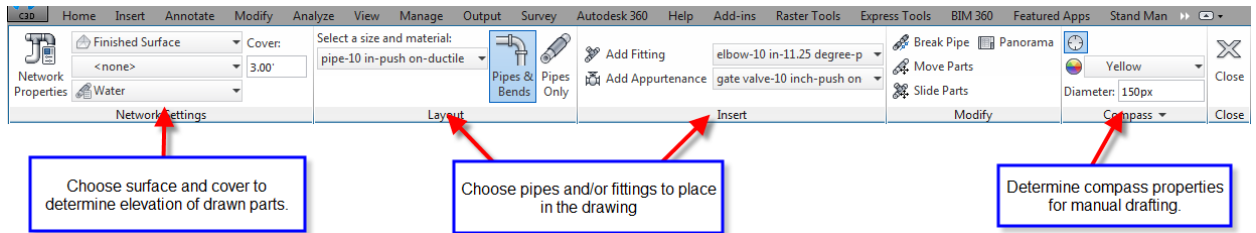
4. Two choices for creating a pressure pipe network: (a) Create from Object, (b) Pressure Network Creation Tools

    a. "Home" ribbon tab > Pipe Network > Create Pressure Network from Object

Determine the desired direction after selecting the polyline

Select Object or [Xref]: x
Select from XREF:
CREATEPRESSURENETWORKFROMOBJ Network Direction[Ok Reverse] <Ok>:

Create Pressure Pipe Network from ...

Network name:
Water

Network description:

Network parts list:
Water

Size and material:
8" D.I.

This size will be assigned to all parts of the polyline

Layers...

Surface name:
Finished Surface

Alignment name:
Main Street

Used for labeling purposes only.

Elevation Reference
- Depth of cover
  3.00'
- Use vertex elevations
  - Outside Top
  - Crown
  - Centerline
  - Invert
  - Outside Bottom

Read surface for the depth of cover. Calculated to the

Erase existing entity

OK   Cancel   Help

b. "Home" ribbon tab > Pipe Network > Pressure Network Creation Tools

During the drawing process, the compass will guide you with only angles that the parts list has. If you draw pressure pipe while in a model view (3D), then you can change the plane of the compass for more choices.

Compass displaying angles available for drafting
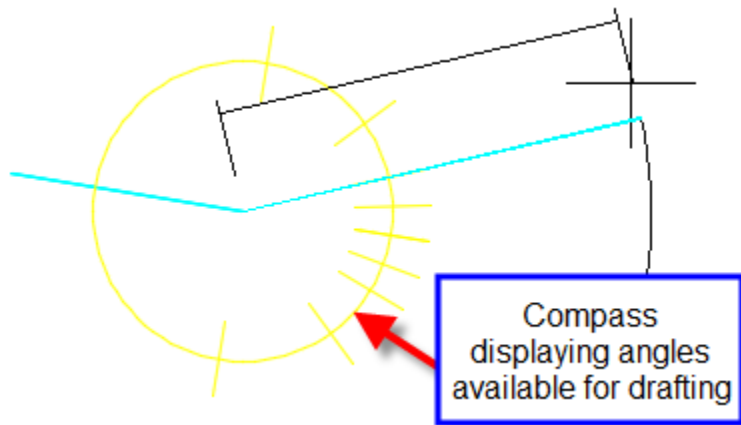
5. "Modify" ribbon tab > Pressure Pipe Network > Network Tools > Draw Parts in Profile

Either select the entire pipe network or select the parts you wish to show in the profile view. You can also click on a part, then right-click and choose add part to profile view. This is also available in the right-click menu after selecting a part. Alternatively, use the Pipe Network tab of the Profile View Properties to turn pipes on and off.
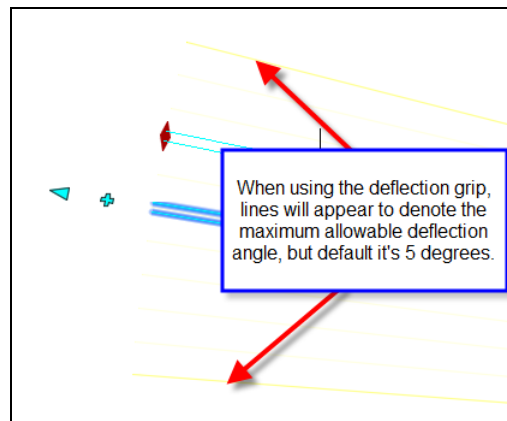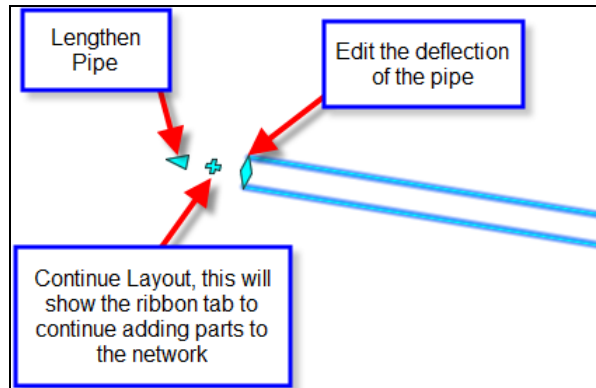
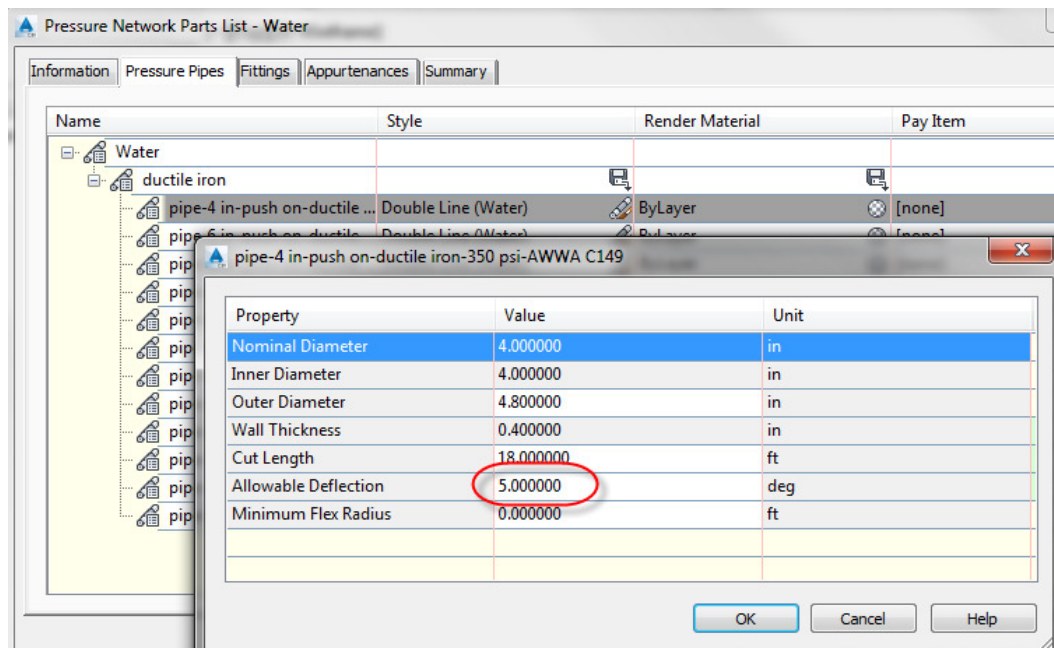6. "Pressure Network" ribbon tab > Add Labels ... or "Home" tab > Add Labels
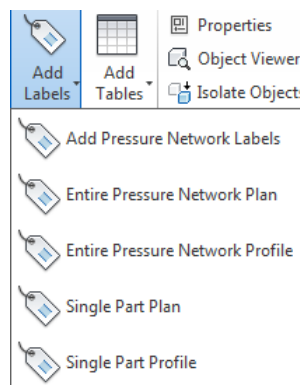
Different Methods of Editing a Pressure Network

1. Using Grips
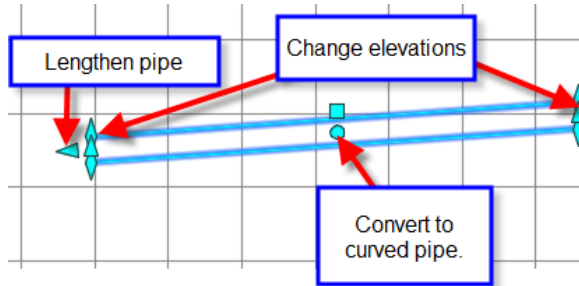
   a. Plan View

You can edit the allowable deflection in the parts list by editing a pipe.

b. Profile View – You can hot grip the invert, centerline, or crown of a pipe. You can also multi-hot-grip grips by holding down shift while selecting the grip.


2. Using the pressure part properties
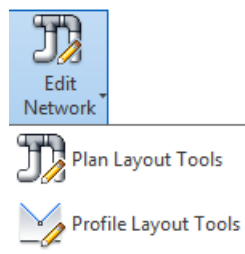
Pressure Pipe Properties	Value
General	
Reference Surface	Finished Surface
Reference Alignment	<none>
Geometry	
Start Part	
End Part	Fitting - (1)
Bearing	S80° 42' 04"E
Start Station	
End Station	
Start Offset	
End Offset	
Slope	-0.65%
Pipe Start Easting	1655969.5002'
Pipe Start Northing	174642.1404'
Pipe End Easting	1656144.9052'
Pipe End Northing	174613.4205'
Start Centerline Elevation	38.78'
End Centerline Elevation	39.93'
Start Invert Elevation	38.36'
End Invert Elevation	39.52'
Start Outside Crown Elevation	39.24'
End Outside Crown Elevation	40.40'
2D Length	177.74'
3D Length	177.74'
Minimum Cover	2.92'
Maximum Cover	3.84'
Part Data	
Part Family Name	pipe-push on-ductile iron-350 psi
Description	pipe-10 in-push on-ductile iron-350 psi-AWWA C151
Cut Length	18.00'
Diameter Inside	
Diameter Outside	11.100"
Type Description	standard
Minimum Flex Radius	0.00'
Thickness	0.550"
Nominal Diameter Description	10 in x 10 in
Id Coating Inside	
Id Coating Outside	
Id Material	ductile iron
Pressure Class	350psi
Maximum Pressure	
Schedule	
SDR	
Series	
Strength Class	
Thickness Class	
Compatible Standard	AWWA C151
Connection Point Count	2
Fid Manufacturer	
Model Name	
Version Number	
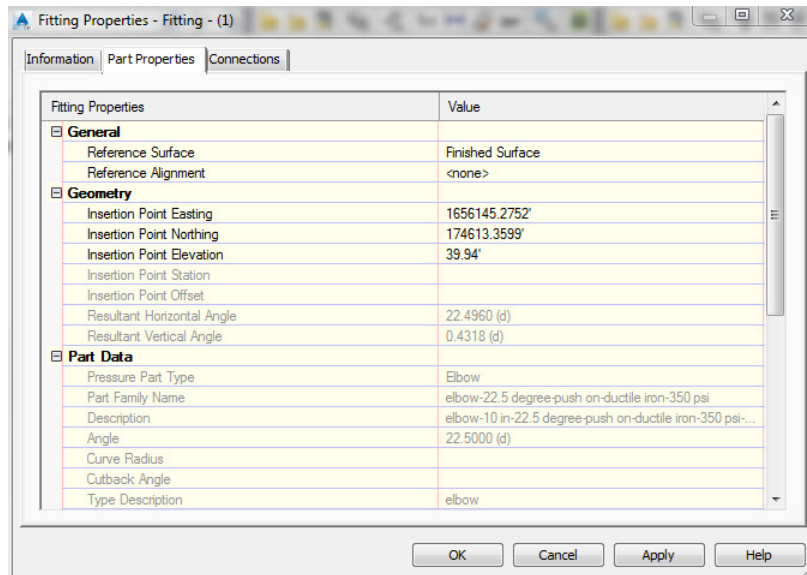
3. Using the Edit Pipe Network Vista.

Switch between tabs to edit properties of each part type
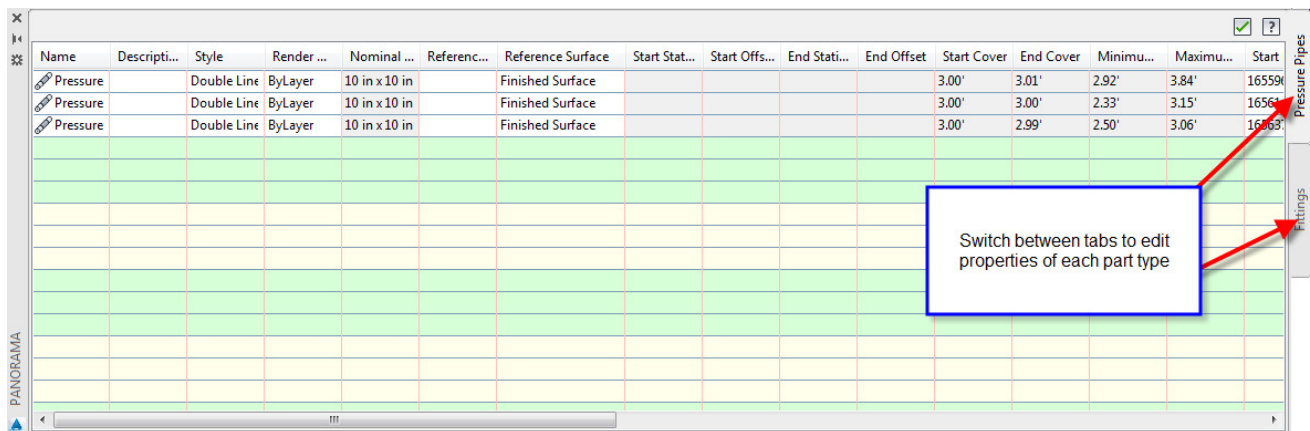
4. Pressure networks allow for plan and profile layout tools during editing.


- Plan layout tools are the same commands described above in this document under pressure pipe layout tools.

- Profile layout tools allow the user to add additional parts as well as change values not allowed in the part properties, such as slope.
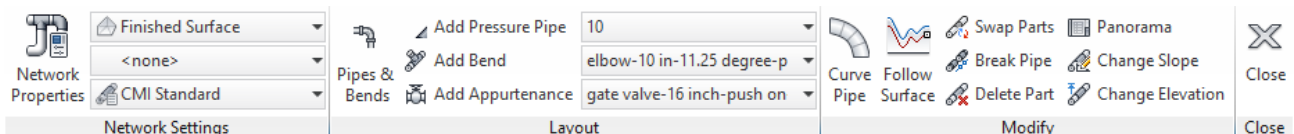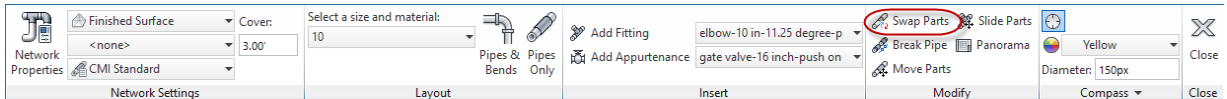
5. Other Tips, Tricks, and Limitations

   a. In Civil 3D 2017, the program allows the user to change the parts once drawn, in previous versions this is not available.
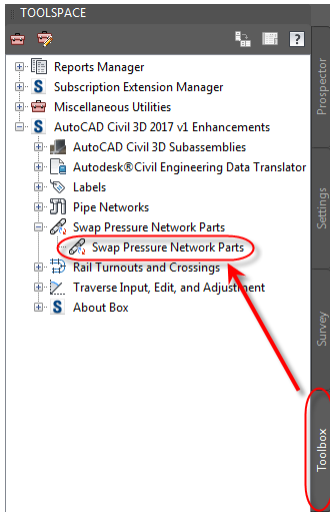
   b. In Civil 3D 2018 and later, the user can swap the parts directly from the edit ribbon tab for pressure networks.

   c. The follow surface command in profile layout tools creates additional vertices to follow the surface more closely. The program does not allow the user to remove those vertices later, the user would have to delete the pipe and draw it again. This function only works with the Push On catalog.

   d. Use Design Check and Depth Check to analyze the pressure network for open connections and cover violations.

   e. Drawing pipes and bends in the profile view creates an efficient way to create these vertical bends. This can also be done in a 3d view.