

Corridors

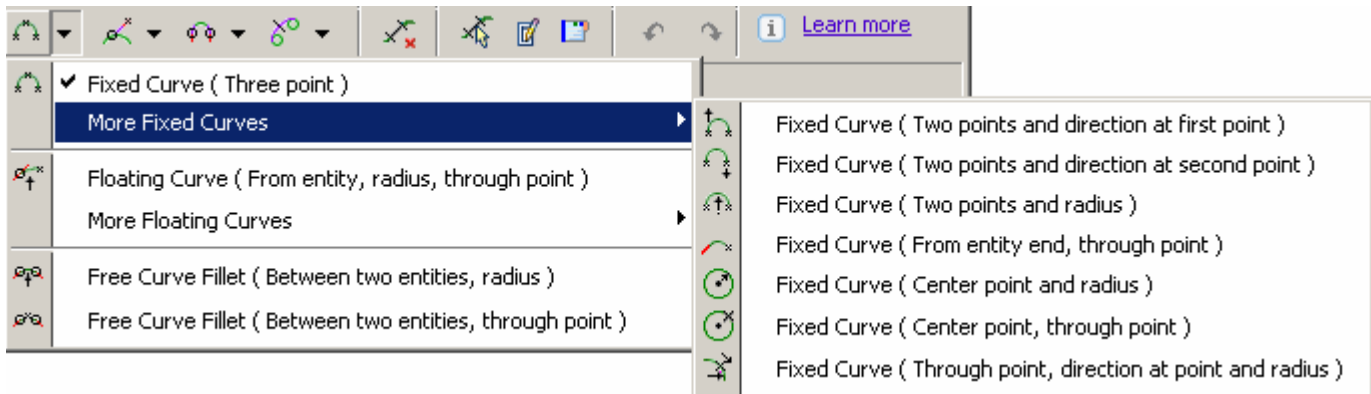
To create a corridor you must have an alignment (baseline), a profile (existing or proposed), and an assembly.

Alignments

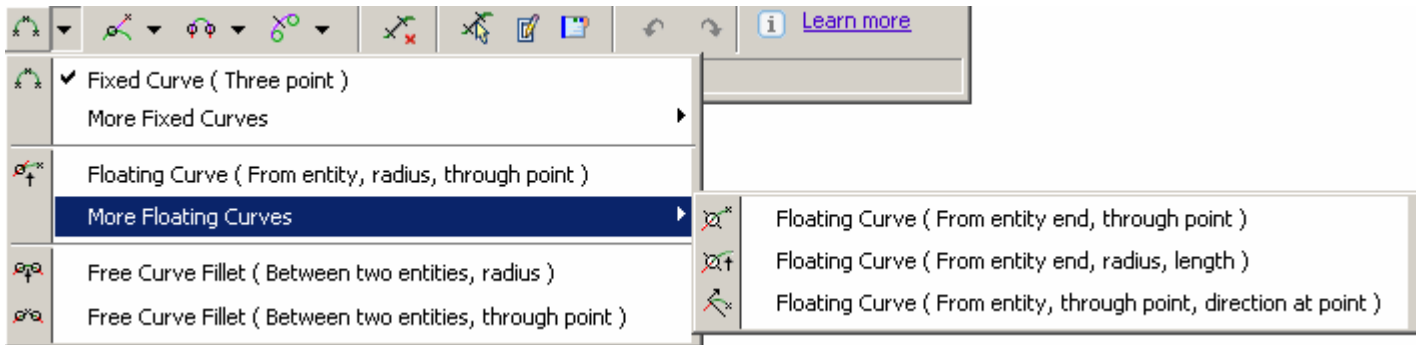
You have 2 choices in defining an alignment: (1) Alignments > Create By Layout, or (2) Alignments > Create From Polyline.

Create by layout gives you the constrained based design options. Constrained based design will maintain tangency based on 3 choices:

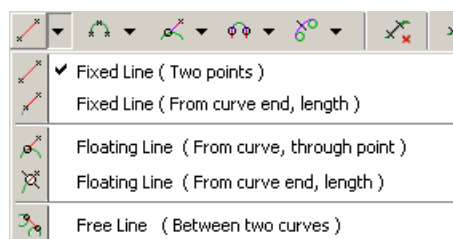
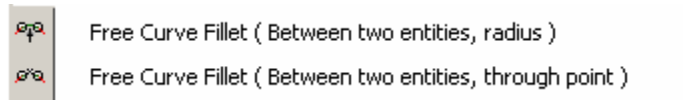
1. Fixed curve - These commands are similar to an AutoCAD arc, but have a third point along the arc.



2. Floating Curve – Maintain tangency at the start, while one end is not connected to another object. For example, curves off the end of a line.

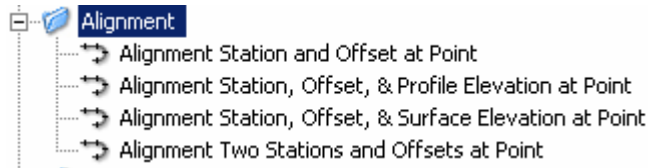


3. Free Curve - These entity types are very similar to the AutoCAD "fillet" command, but give you added control.

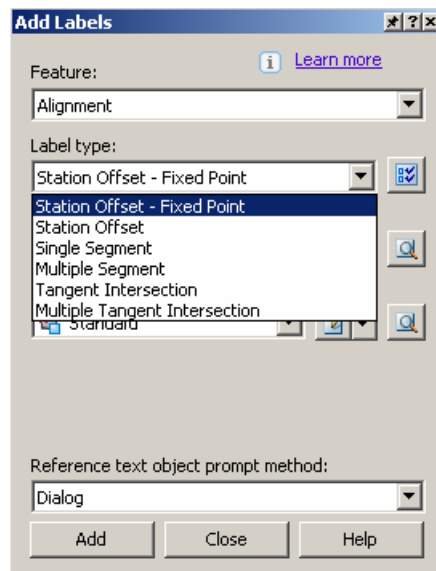


Listing and Labeling off an Alignment

- **General > Show inquiry Tool** – Once in the inquiry tool, there are 4 pre-defined listing commands to obtain information from an alignment.

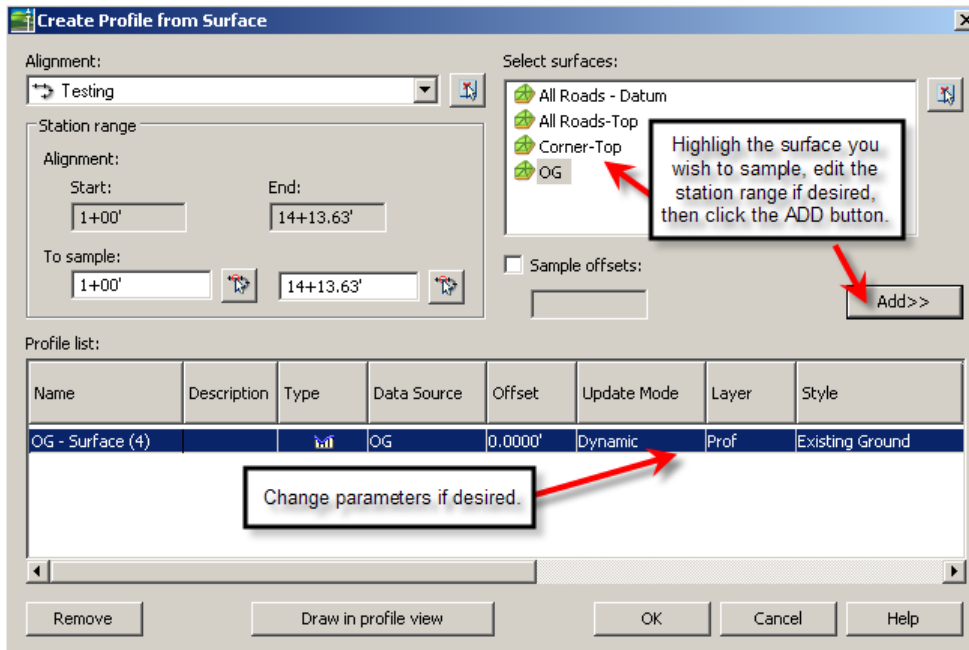


- **Alignments > Add Labels** – This command may add labels to offset stations as well as alignment segments.

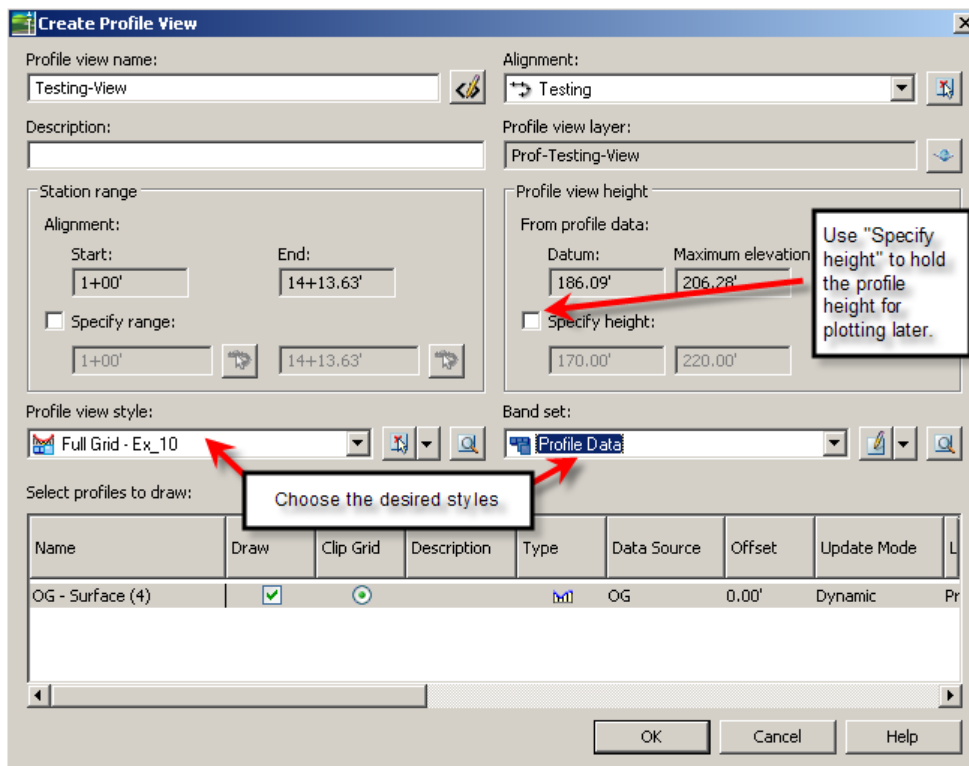


Existing/Proposed Profiles and Profile Views

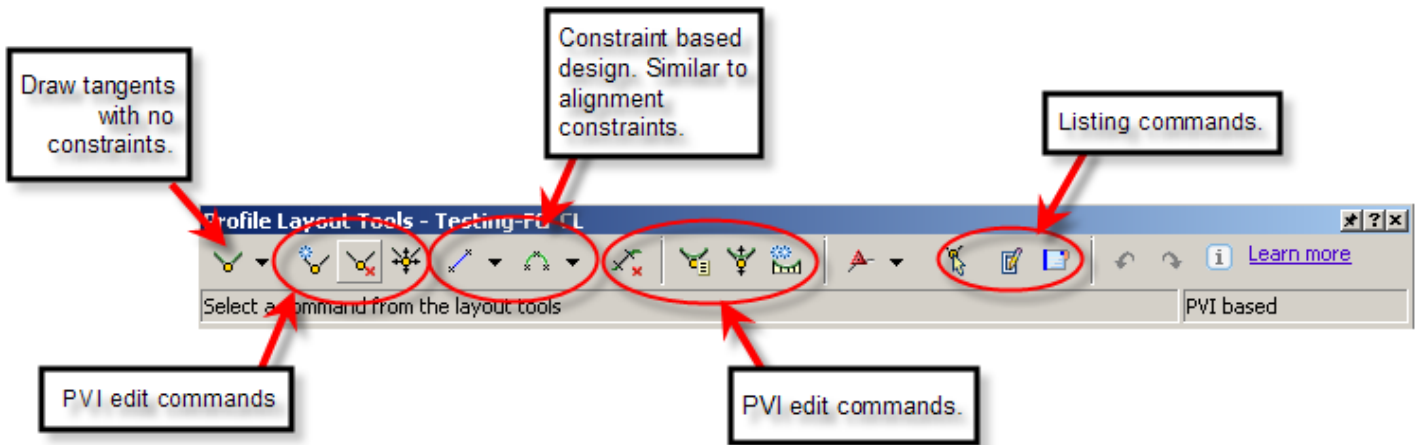
1. Profiles > Create from Surface



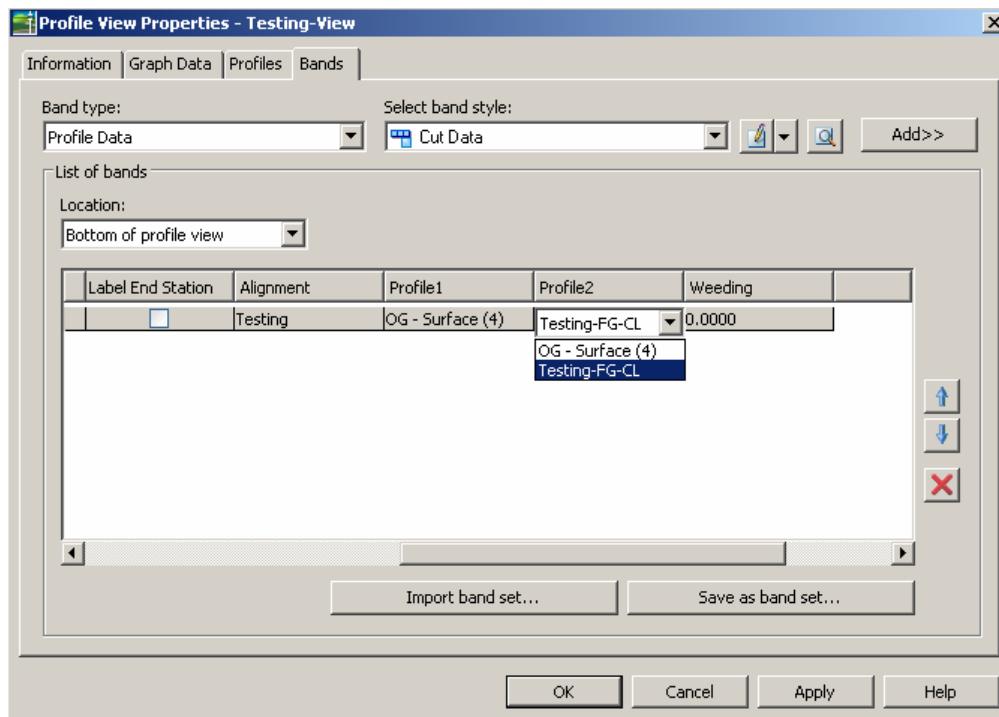
2. Profiles > Create View



3. Profiles > Create By Layout



4. Profile View Properties, “Bands” tab, Set “Profile 2” to the design profile. (If you use a band style with FG and EG elevations.)



Listing and Labeling Profiles and Profile Views

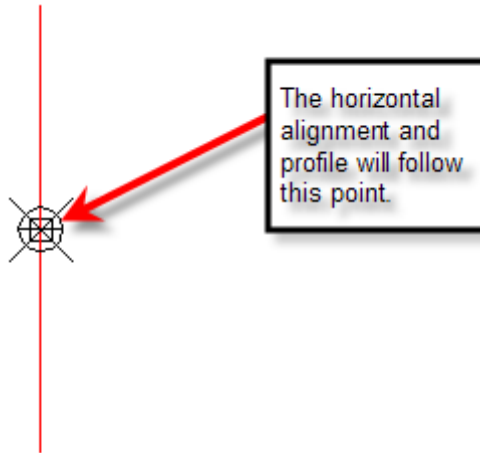
- **General > Show Inquiry Tool** – There are several listing commands for profiles and profile views.



- **Profiles > Add Profile View Labels**

Create/Edit Assemblies

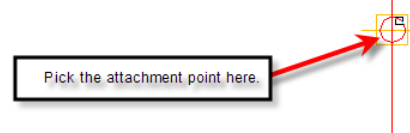
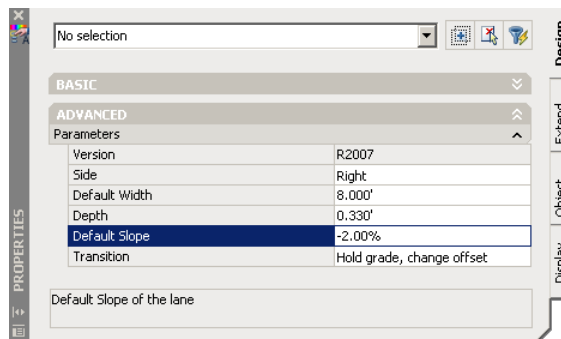
1. **Corridors > Create Assembly** – Choose the appropriate styles and place the baseline somewhere in the drawing.



2. **Corridors > Subassembly Tool Palettes** – This displays the tool palettes that contain pre-defined sub-assemblies to be placed on the assembly.



- a. Find the desired subassembly, left click the tool, fill out the properties, and then choose the attachment point on the assembly.



- b. Rename the subassembly to an appropriate name. This will be important later in the definition of the corridor.

Create/Edit Corridors

3. Corridors > Create Corridor

- a. Choose the horizontal alignment (baseline), then the profile, and finally the assembly.

Create Corridor

Corridor name: New Corridor
 Corridor layer: C-ROAD-CORR-New Corridor
 Description:
 Corridor style: CMI Standard

| Name | Alignment | Profile | Assembly | Start Station | End Station | Frequency | Target | Overrides |
|--------------|----------------|--------------|----------|---------------|-------------|-----------|--------|-----------|
| Baseline (1) | Alignment Name | Corner-FG-CL | | 0+00' | 7+35.40' | | | |
| Region (1) | | | Road | 0+00' | 7+35.40' | 25.0000' | | |

Target Mapping

Corridor name: Corridor (1)
 Assembly name: Road-Sym-Main
 Start Station: 0+00'
 End Station: 7+35.40'

| Target | Object Name | Subassembly | Assembly Group |
|---|-------------------------|-------------------------|----------------|
| Surfaces | <Click here to set all> | | |
| Target Surface | <None> | Main-Sym-Daylight-Right | Group - (2) |
| Target Surface | <None> | Main-Sym-Daylight-Left | Group - (3) |
| Alignments | | | |
| Width Alignment | <None> | Main-Sym-AC&AB-Right | Group - (2) |
| Target Alignment of Inside Boulevard Width | <None> | Main-Sym-Sidewalk-Right | Group - (2) |
| Target Alignment of Sidewalk Width | <None> | Main-Sym-Sidewalk-Right | Group - (2) |
| Target Alignment of Outside Boulevard Width | <None> | Main-Sym-Sidewalk-Right | Group - (2) |
| Target Alignment | <None> | Main-Sym-Daylight-Right | Group - (2) |
| Width Alignment | <None> | Main-Sym-AC&AB-Left | Group - (3) |
| Target Alignment of Inside Boulevard Width | <None> | Main-Sym-Sidewalk-Left | Group - (3) |
| Target Alignment of Sidewalk Width | <None> | Main-Sym-Sidewalk-Left | Group - (3) |
| Target Alignment of Outside Boulevard Width | <None> | Main-Sym-Sidewalk-Left | Group - (3) |
| Target Alignment | <None> | Main-Sym-Daylight-Left | Group - (3) |
| Profiles | | | |
| Outside Elevation Profile | <None> | Main-Sym-AC&AB-Right | Group - (2) |
| Target Profile of Slope | <None> | Main-Sym-Sidewalk-Right | Group - (2) |
| Outside Elevation Profile | <None> | Main-Sym-AC&AB-Left | Group - (3) |
| Target Profile of Slope | <None> | Main-Sym-Sidewalk-Left | Group - (3) |

Frequency to Apply Assemblies

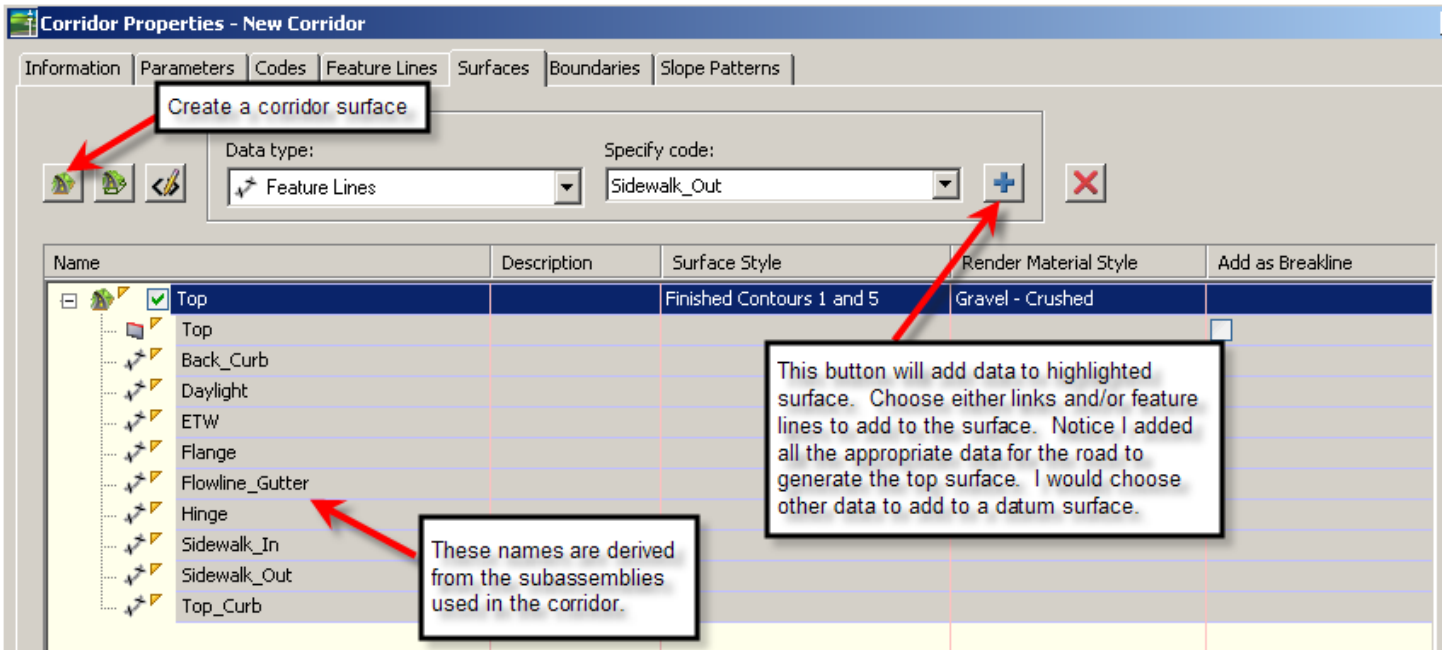
| Property | Value |
|-----------------------------------|----------------|
| General | |
| Corridor Name | Corridor (1) |
| Baseline name | Alignment Name |
| Current range start | 0+00' |
| Current range end | 7+35.40' |
| Apply Assembly | |
| Along tangents | 50.0000' |
| Along curves | 25.0000' |
| Along spirals | 25.0000' |
| Along profile curves | 25.0000' |
| At horizontal geometry points | Yes |
| At superelevation critical points | Yes |
| At profile geometry points | Yes |
| At Profile High/Low points | Yes |

Station | Description

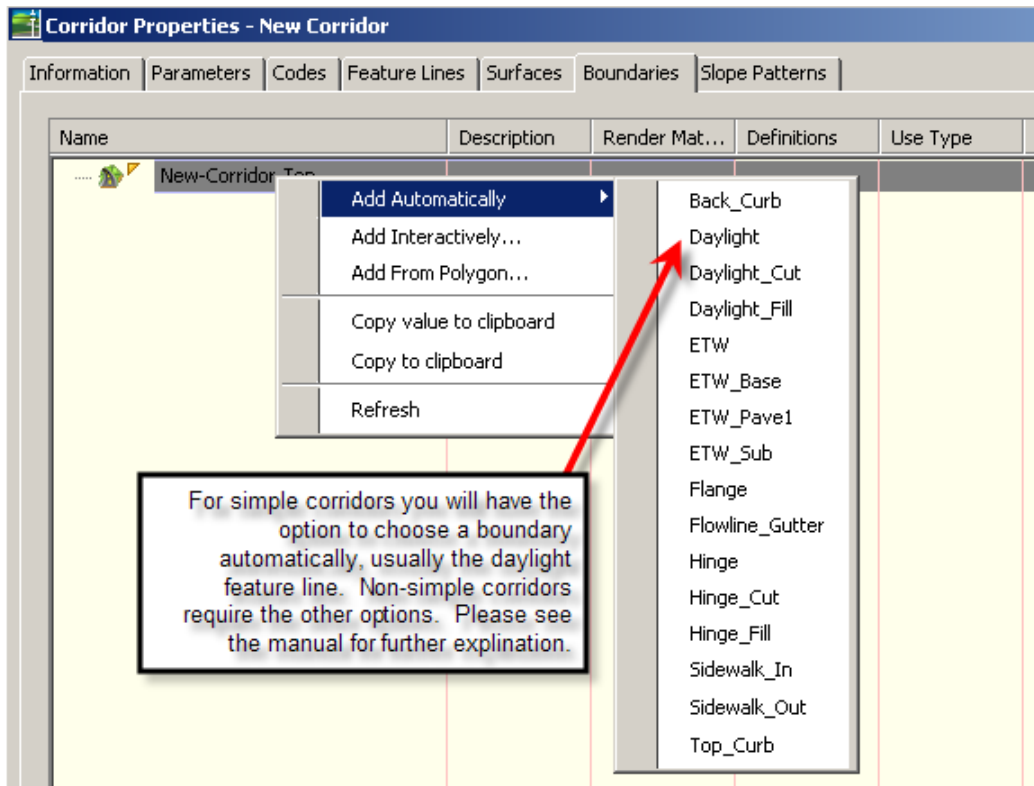
| | |
|----------|------------------|
| 2+21.06' | Start Transition |
| 3+83.16' | End Transition |

4. Create Corridor Surfaces (Within Corridor Properties)

Surfaces can be used to create the finished surface as well as calculate volumes. Typically, the top surface will become the finished ground surface while the datum surface will become the volume calculation surface. See the manual for further detail.



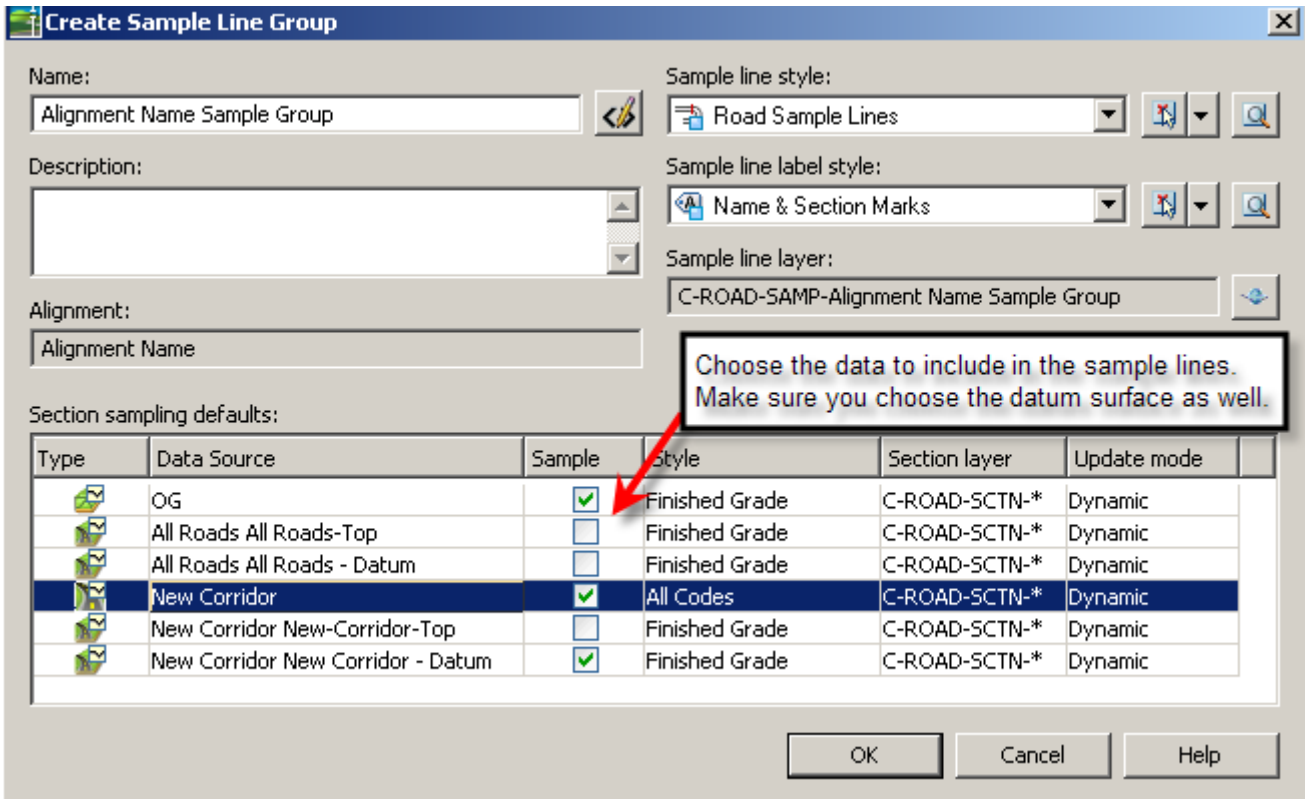
5. Add a Boundary to the Corridor Surface



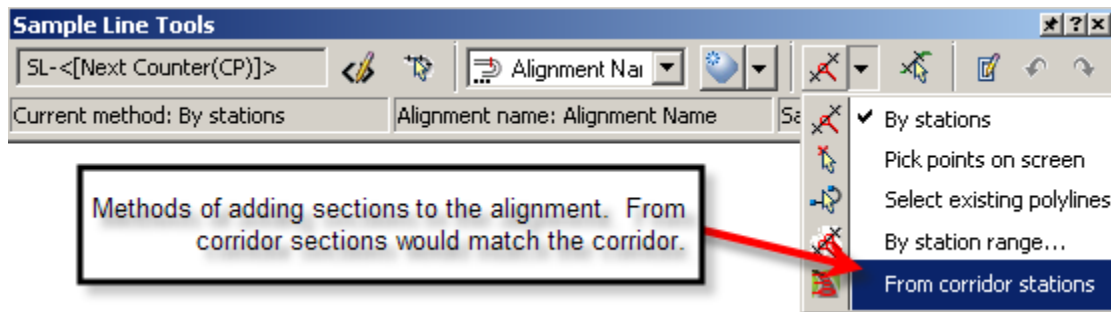
Sections

Sections are used for 2 things: (1) Plotting sections at desired stations, and (2) Calculating the volumes from a corridor. To accomplish the later, you must have added a corridor surface to represent the datum surface before sampling the sections.

1. Sections > Create Sample Lines



Next to appear is the “Sample Line Tools” dialog box. See below for further explanation.



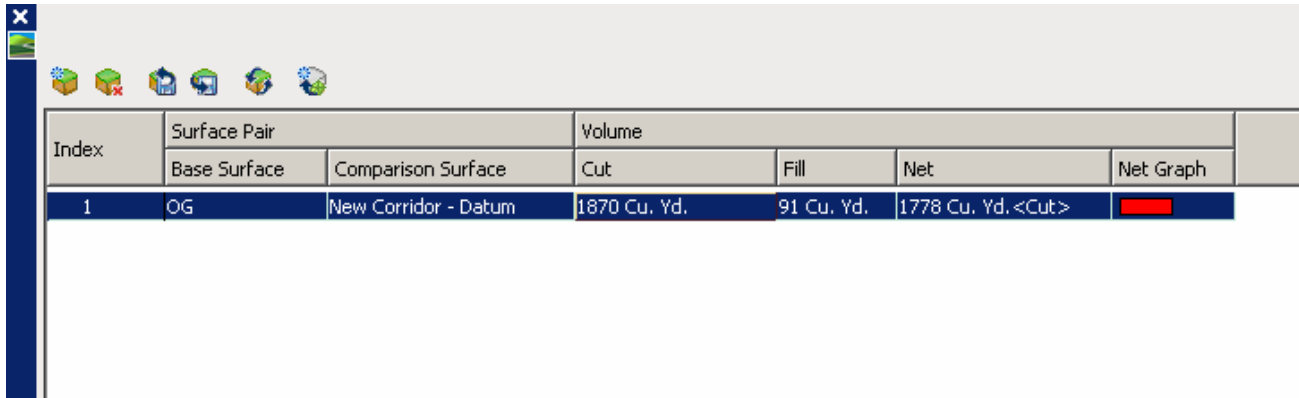
Calculate Volumes


There are two (2) types of volumes you can extract from a corridor: (1) cut and fill; (2) quantity of material.

Cut and Fill

After creating the datum surface in corridor properties, you can simply use the volume calculator to see the volumes.

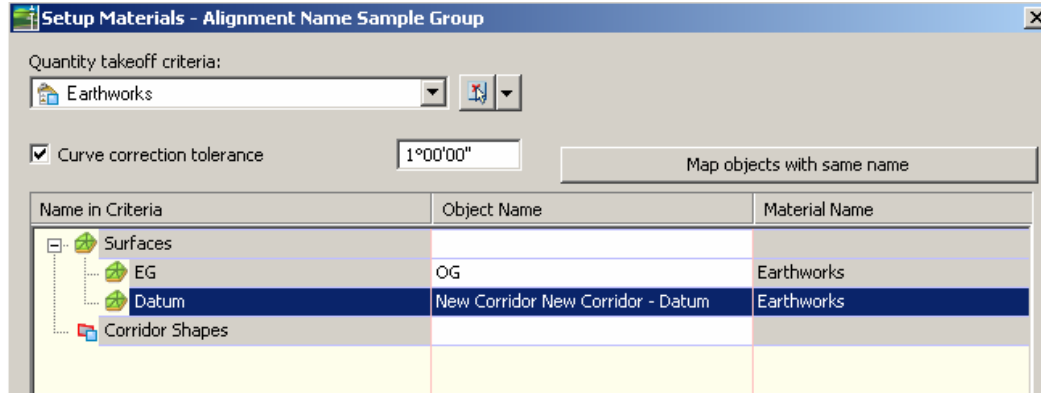
Surfaces > Utilities > Volumes



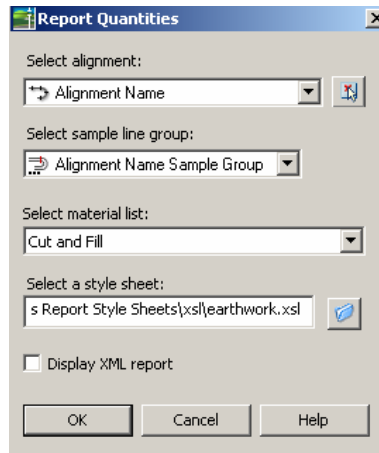
| Index | Surface Pair | | Volume | | | |
|-------|--------------|----------------------|--------------|------------|--------------------|---|
| | Base Surface | Comparison Surface | Cut | Fill | Net | Net Graph |
| 1 | OG | New Corridor - Datum | 1870 Cu. Yd. | 91 Cu. Yd. | 1778 Cu. Yd. <Cut> |  |

Calculating volumes based on station ranges. (Cut and Fill)

1. Sections > Define Materials

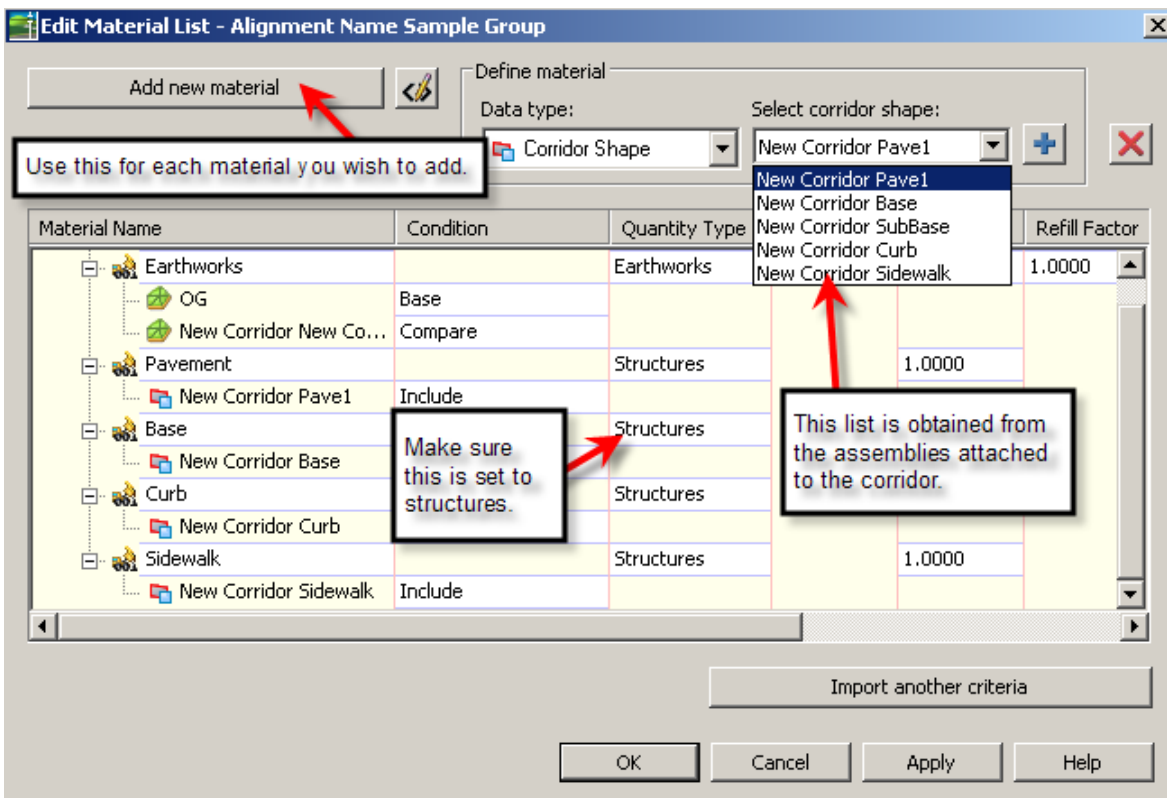


2. Sections > Generate Volume Report

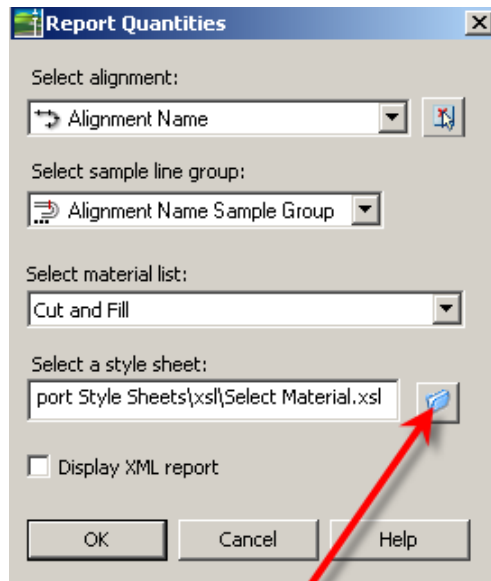


Calculating volumes based on station ranges. (Quantity of Material)

1. Sections > Define Materials



2. Sections > Generate Volume Report



Use this button to change to the select material.xml.

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