CI224519-L

The 123's and ABC's of Corridor Model setup, planning, and execution

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Cadd Manager/Roadway Designer

AUTODESK. UNIVERSITY

About the speaker

- Jeff Frye
- 28 years of experience
- 15th AU
- 2nd teaching
- HDR Inc for 6 years

My co-presenter

Charline Fox

Is a cadd professional with over 20 years of design and drafting experience. The last 4 years have been with HDR in the Seattle office. This is her 10th year attending AU. She continues to attend because the knowledge and perspective you gain from your peers is unatonable any other way.

My Team Today

Zac Sharp

This is his 8th year attending AU. He continues to attend AU to learn and be inspired.

Stephen Walz

Autodesk University is one of those awesome experiences that really opens your eyes to see how others are pushing the boundaries with software and developing technology!

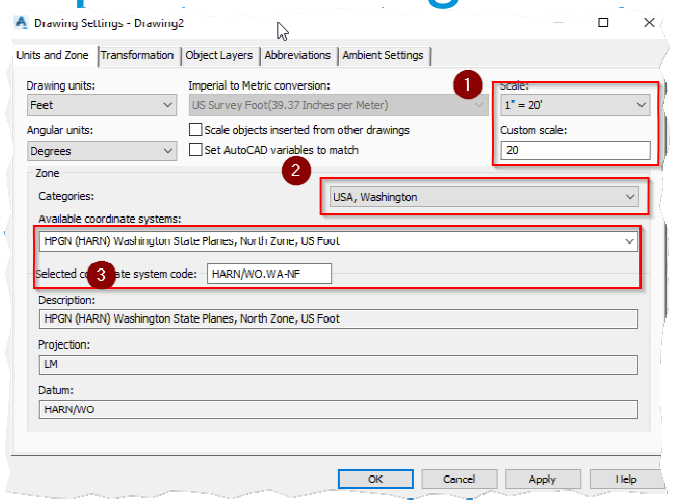
Richard Liggett

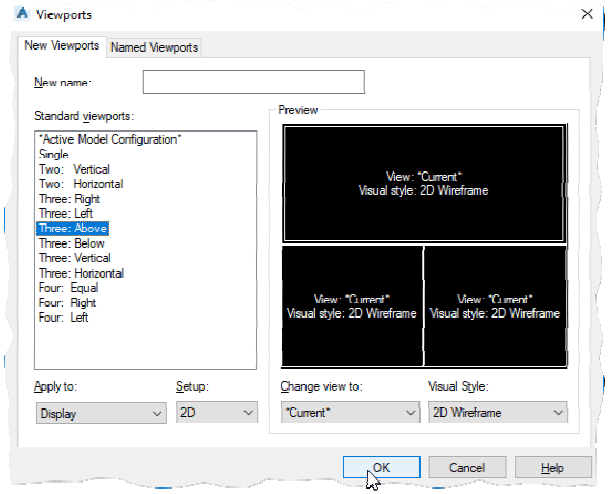
My first trip to Autodesk University was in 2006 every time I come to AU I realize that the possibilities are endless with the software and collaboration of others.

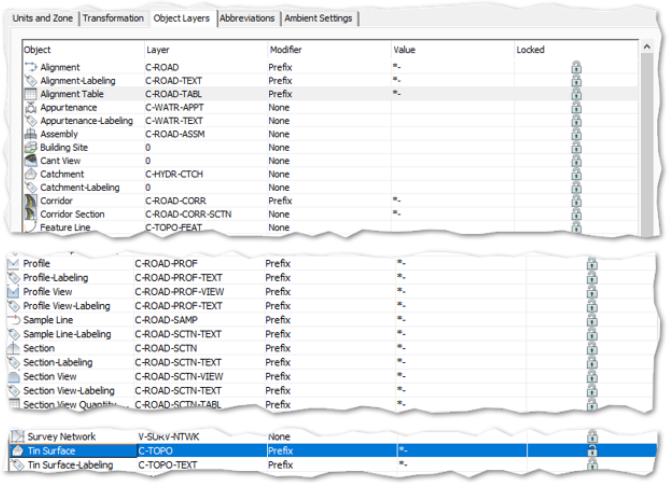
What to expect

1. Template – settings and general file housekeeping
2. Workflow diagrams
3. QTO Manager – Linear Quantities
4. Discuss some of the sub-assemblies we will use and why
5. Create an Assembly
6. Create a corridor
7. Get Corridor Shape Quantities

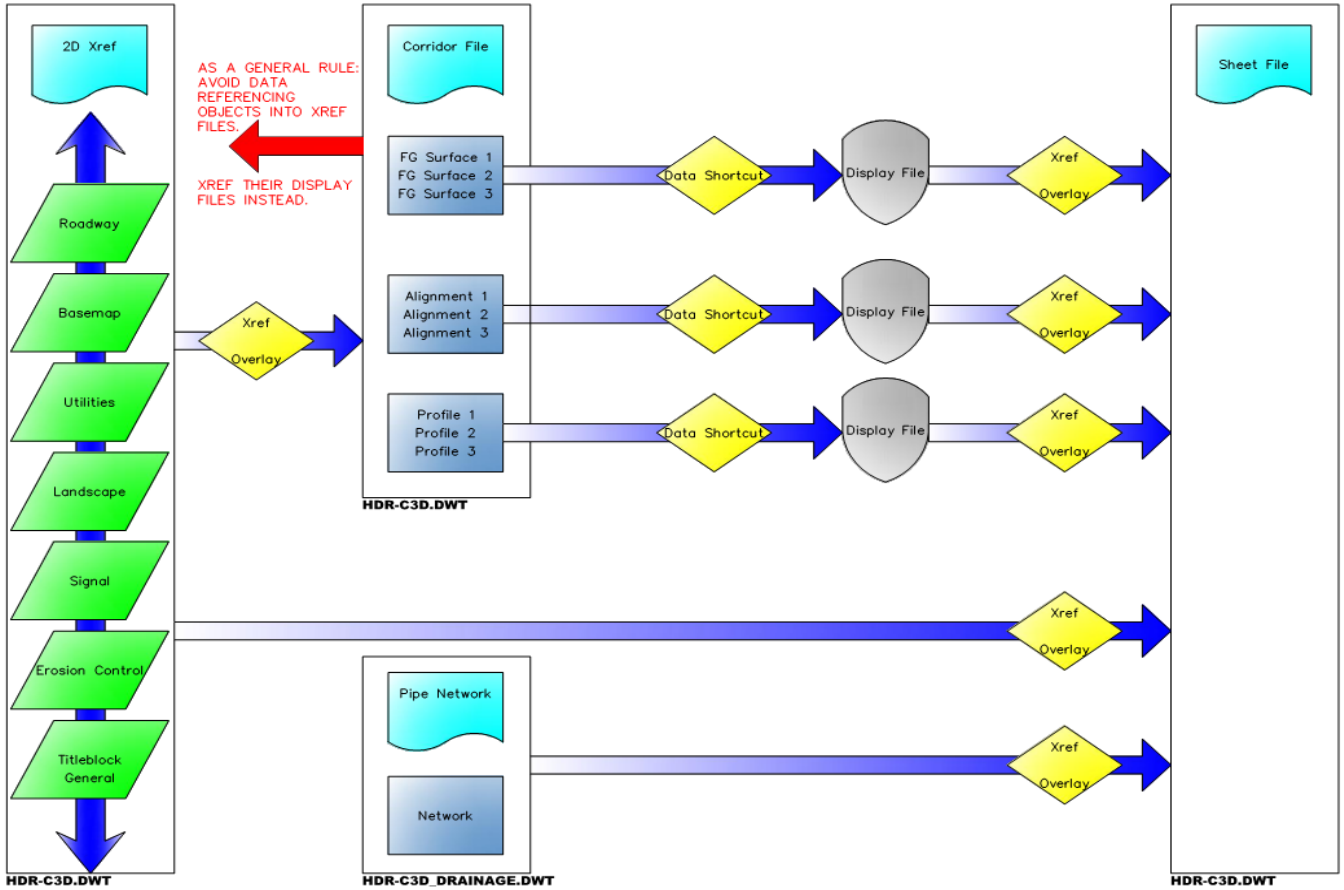
Template settings



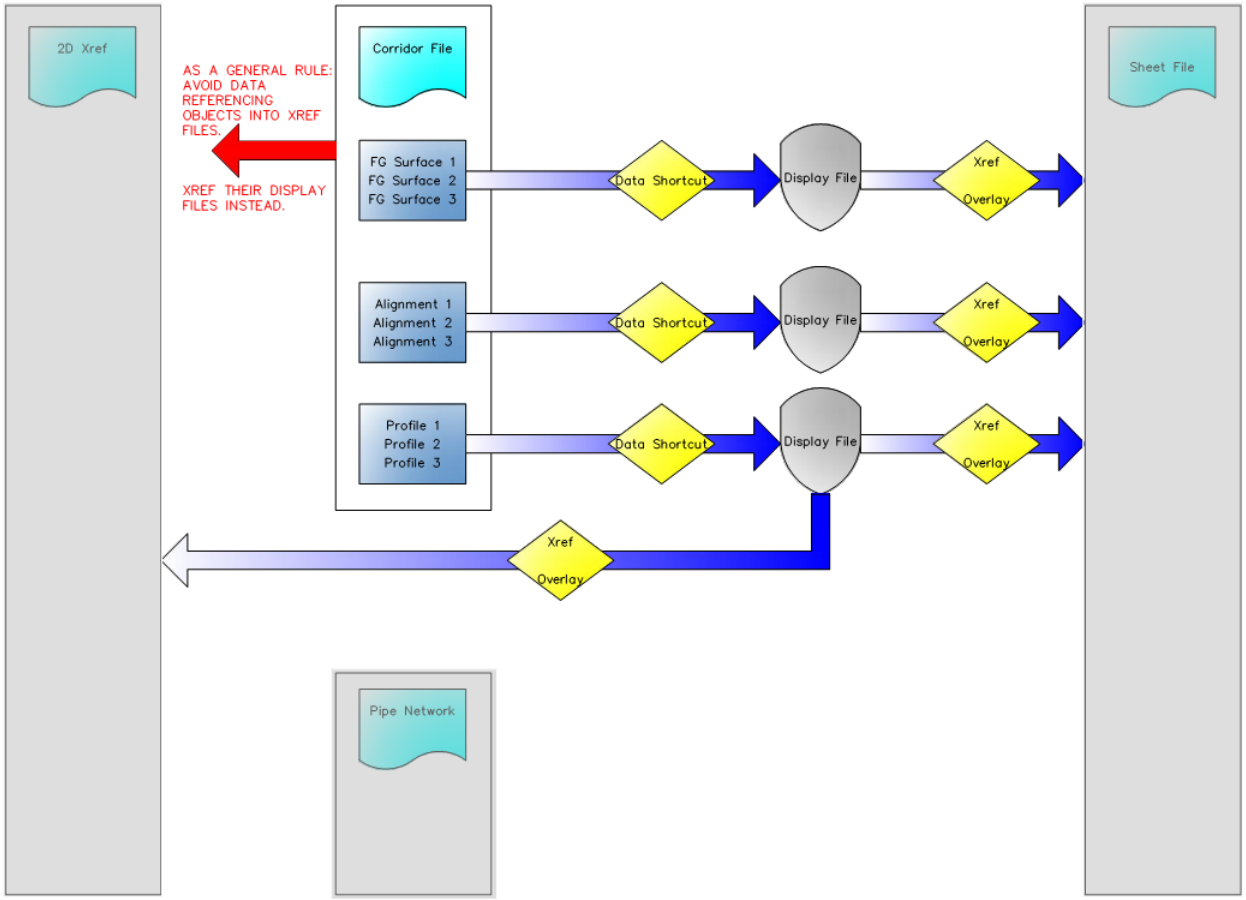




Workflow – Big Picture

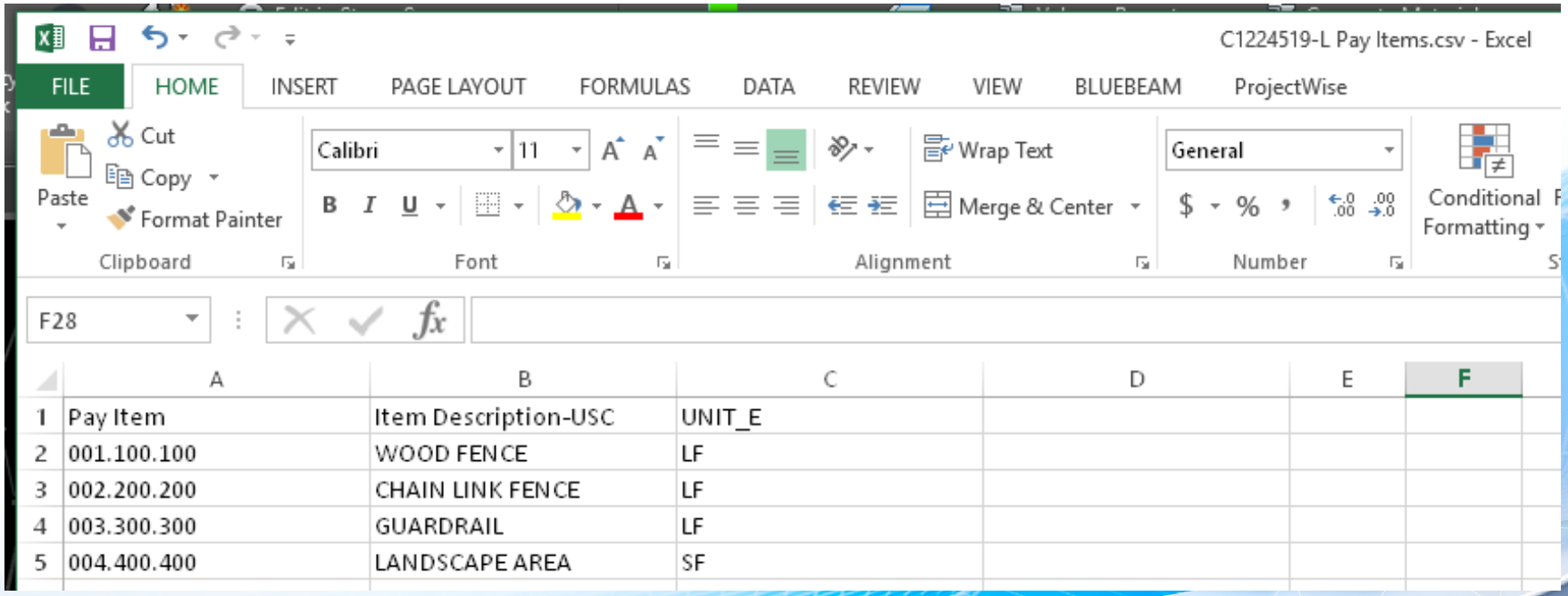


Workflow – Corridor File



Workflow – Questions

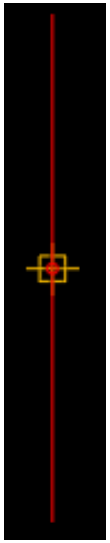
QTO Manager and Pay Items – easier than you think…



Open: 10-QTO.dwg

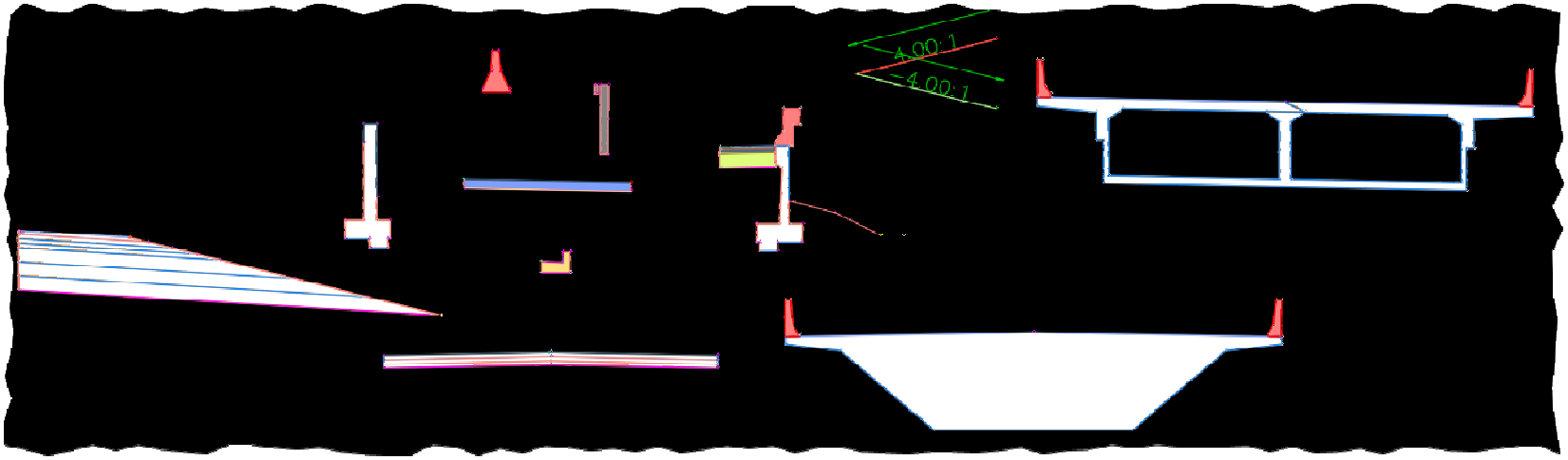
Lets Build a Corridor!

Open: 4-Corridor_CI224519-L.dwg



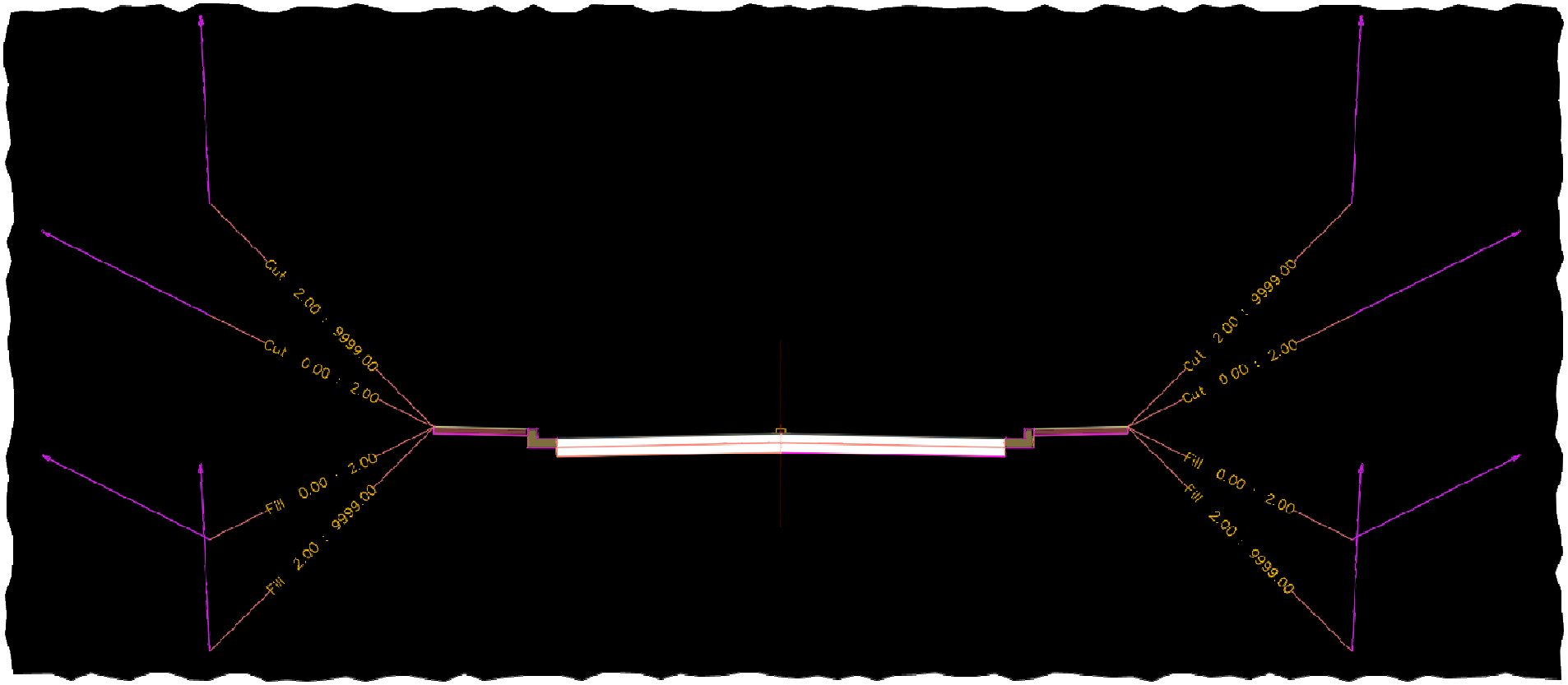
Assembly Marker

An assembly is an AutoCAD Civil 3D drawing object (AECCAssembly) that manages a collection of subassembly objects. Together, assemblies and subassemblies function as the basic building blocks of a roadway or other alignment-based design. An assembly object must be applied along an alignment to form a corridor, and it can reference one or more offsets.



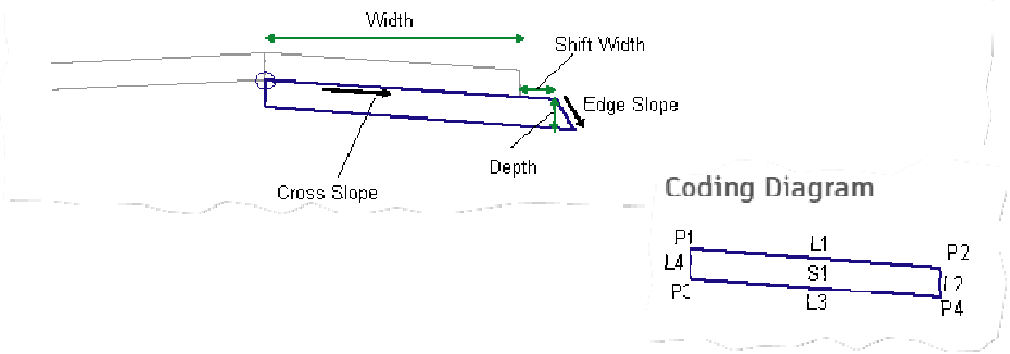
Sub Assemblies

*A **subassembly** is an AutoCAD **Civil 3D** drawing object (AECCSubassembly) that defines the geometry of a component used in a corridor section. About the**Subassembly** Collection (Settings Tab) Use the**Subassembly** collection in the Settings tree to manage **subassembly** settings and commands.*



What we will create today!

This subassembly creates a simple pavement structure with user-definable point, link, and shape codes.

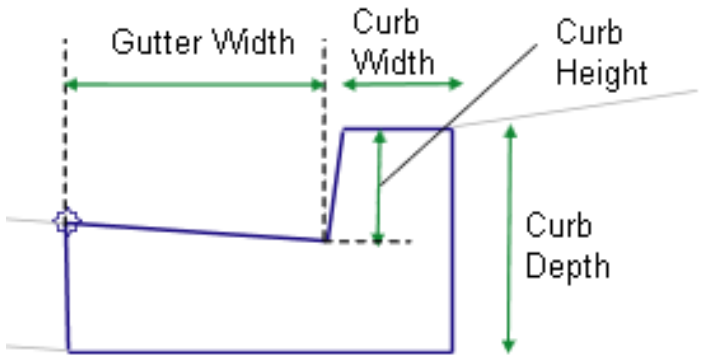


GenericPavementStructure

Behavior

This subassembly builds a skeletal subassembly that lets you specify various parameters. All point, link, and shape codes can be user-defined as needed. Additionally, this subassembly can get slopes from a target parameter (profile), or from the superelevation specified on the alignment. It can also assign the width from an offset alignment.

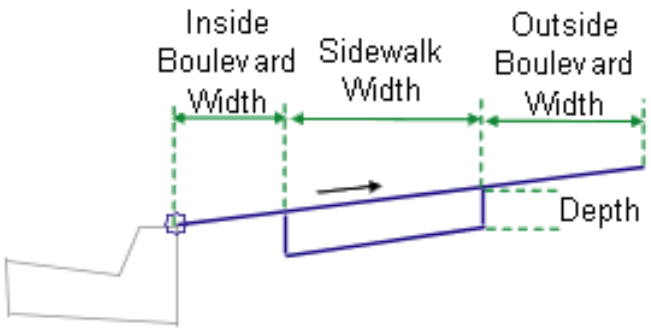
While defining an assembly, you can assign the width of the previous subassembly (the one above), plus a shift width to the subassembly, so that stepped layers are possible.



BasicCurbAndGutter

Behavior

The subassembly builds the shape for a simple curb and gutter with the attachment point either at (a) the inside edge of the gutter (or lip), or (b) the back of the curb. The face of the curb is given a small, constant width to make it non-vertical.

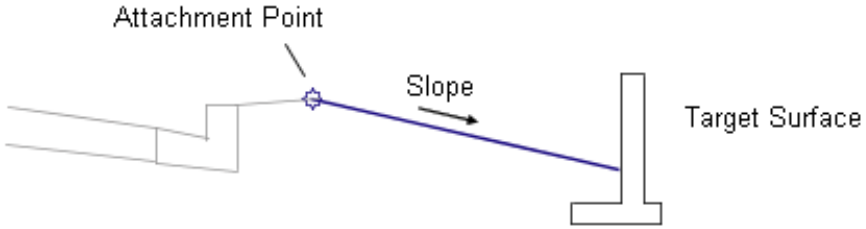


UrbanSidewalk

Behavior

The inside grass strip, sidewalk, and outside grass boulevard links are inserted outward from the attachment point at the given slope. The grass strips can be omitted by specifying a zero-width.

Optionally, various element widths can be attained by attaching to offset alignments. Also, the sidewalk cross slope can be derived by tying into an offset profile.



LinkSlopeToSurface

Behavior

A link is extended to the left or right from the attachment point at the given slope until it intersects the target surface.

By default, a cut or fill link will be added from the attachment point to the target surface. If the link needs to be added only in cut or fill conditions, specify appropriately a value for the Add Link In property of the subassembly. If the cut link and fill links must be at different slopes, then add this subassembly twice, at the same attachment point, once for Cut Only and then again for Fill Only conditions, with slopes as needed.

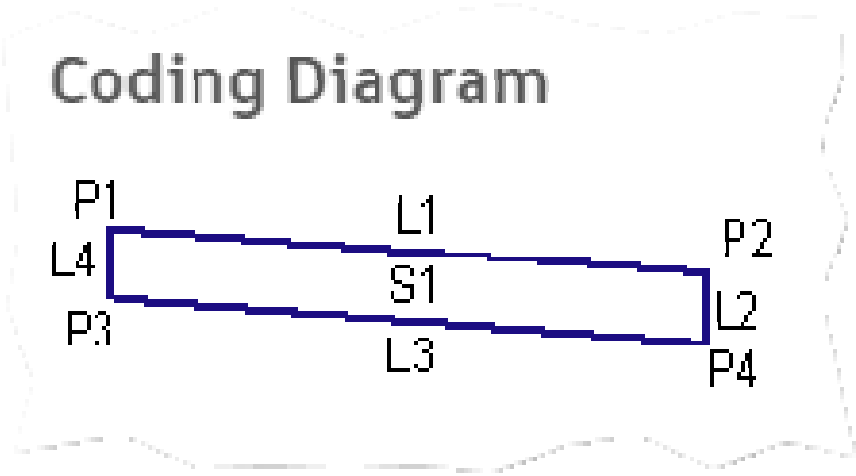
This subassembly includes an optional input parameter named Use Superelevation Slope that lets you specify to use the superelevation slope for the shoulder. This parameter can be set to a) Outside shoulder slope, b) Inside shoulder slope, c)Outside Lane Slope, d)Inside Lane Slope, or e) None. None is the default setting.

Lets Build a Corridor!

Open: 4-Corridor_CI224519-L.dwg

Links Surfaces, Hatching (plan view)

Points Feature lines, Label, Targets, Quantities (Linear)



Shapes Hatching (sections), Quantities (volume)

Code Set Style - All Codes with Hatching

nformation | Codes

Reset Labels

Name	Description	Style	Label Style	Render Material	Material Area Fill Style	Feature Line Style	Pay Item	Classification Code
Channel_Side		Grass Areas	<none>	Sitework.Planting.Grass.Short	Grass Hatch		<none>	
Curb	Link comprising a curb or curb an...	Curb - Top	<none>	Concrete.Cast-In-Place.Flat.Gre...	Concrete Hatch		<none>	
Datum	Bottom finish grade	Datum	<none>	<none>	<none>		<none>	
Daylight	Daylight links	Daylight	<none>	Sitework.Planting.Grass.Short	Grass Hatch		<none>	
Daylight_Cut	Cut daylight links	Daylight_Cut	<none>	Sitework.Planting.Grass.Short	Grass Hatch		<none>	
Daylight_Fill	Fill daylight links	Daylight_Fill	<none>	Sitework.Planting.Grass.Short	Grass Hatch		<none>	
Ditch		Grass Areas	<none>	Sitework.Planting.Grass.Short	Grass Hatch		<none>	
Gravel	Finish grade surfaces above gravel ...	Gravel	<none>	Sitework.Planting.Gravel.Mixed	Gravel		<none>	
Lot		Lot	<none>	Sitework.Planting.Grass.Thick	Grass Hatch		<none>	
Median		Grass Areas	<none>	Sitework.Planting.Grass.Short	Grass Hatch		<none>	
Mill	Pavement removal surface	Mill	<none>	<none>	<none>		<none>	
Pave	Any finished grade surface on a pa...	Pave	<none>	Sitework.Paving - Surfacing.Asp...	Pave		<none>	
Pave1	First pavement surface below finis...	Pave1	<none>	Sitework.Paving - Surfacing.Asp...	Pave Hatch		<none>	
Pave2	Second pavement surface below fi...	Pave2	<none>	Sitework.Paving - Surfacing.Asp...	Pave Hatch		<none>	
RWall	Link comprising retaining wall	Curb - Top	<none>	Concrete.Cast-In-Place.Flat.Gre...	Concrete Hatch		<none>	
Sidewalk	Link comprising sidewalk	Sidewalk	<none>	Concrete.Cast-In-Place.Flat.Gre...	Concrete Hatch		<none>	
Slope_Link		Daylight	<none>	<none>	<none>		<none>	
Sod		Grass Areas	<none>	Sitework.Planting.Grass.Short	Grass Hatch		<none>	
Strip	Topsoil stripping surface	Strip	<none>	Sitework.Planting.Soil	Strip Hatch		<none>	
SubBase	Links on subbase surface of paved ...	SubBase	<none>	Sitework.Planting.Gravel.Crushed	<none>		<none>	
Top	Top formation links	Top	<none>	<none>	<none>		<none>	
Point								
<default>		Basic	<none>			Basic Feature Line	<none>	
<no codes>		_No Markers	<none>			Basic Feature Line	<none>	
Back_Curb		Basic	<none>			Basic Feature Line	<none>	
Cut		Basic	<none>			Corridor Daylight Line - Cut	<none>	
Fill		Basic	<none>			Corridor Daylight Line - Fill	<none>	
Flange		Basic	<none>			Basic Feature Line	<none>	
Flowline_Gutter		Basic	<none>			Basic Feature Line	<none>	
Sidewalk_In		Basic	<none>			Basic Feature Line	<none>	
Sidewalk_Out		Basic	<none>			Basic Feature Line	<none>	
Top_Curb		Basic	<none>			Basic Feature Line	<none>	
Shape								
<default>		Basic	<none>					
<no codes>		_No Shading	<none>					
Asphalt		Basic	<none>					
Barrier	Closed area with in a concrete barr...	Barrier	<none>					
Base	Base course area in paved sections	Base	<none>					
CSBC		Basic	<none>					
Curb	Closed area withing concrete curb ...	Curb	<none>					

Compute Material Quantities

Open: 5-Corridor_CI224519-L - quantity. Dwg

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