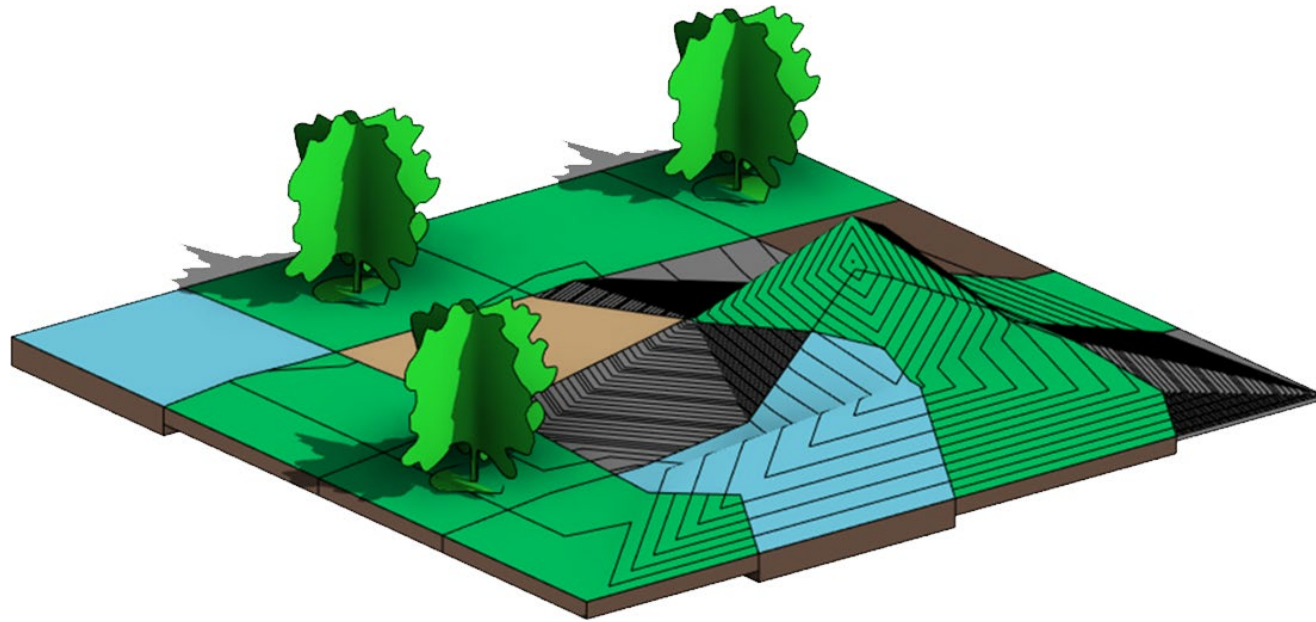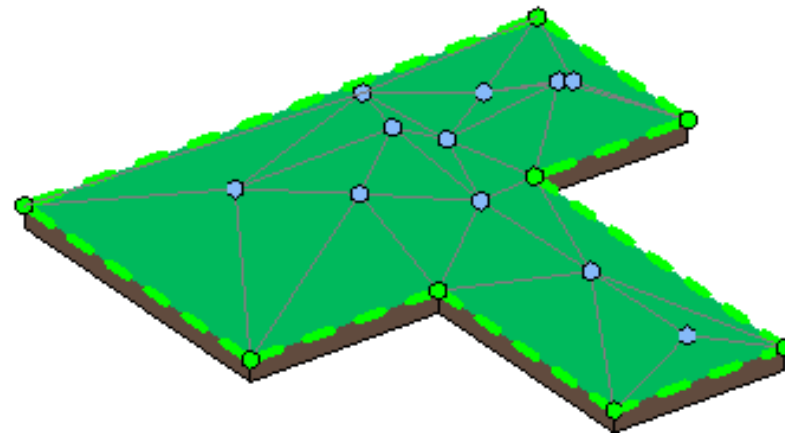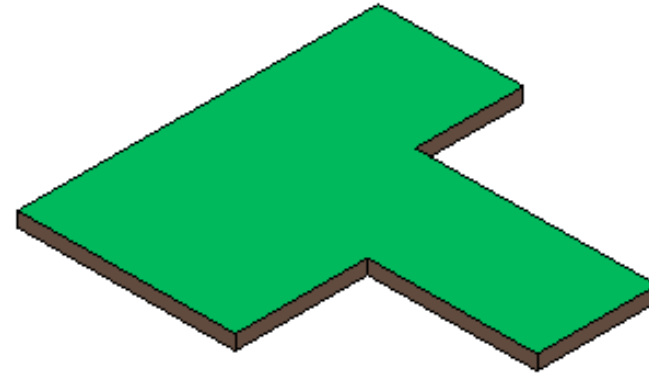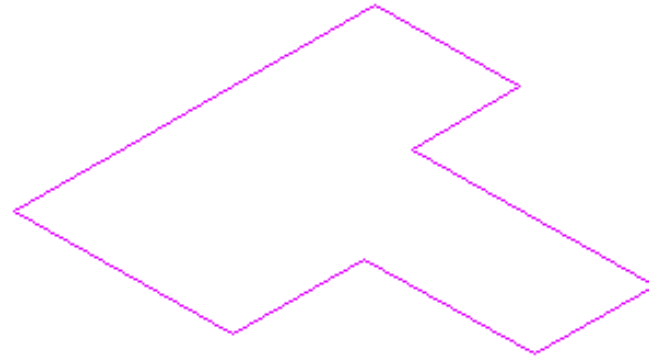# REVIT PURE LIVE #052

Exploring Toposolids

Goodbye Toposurfaces, hello Toposolids!

Toposolids are similar to floors

Toposolid
Grassland - 1200mm

Function	Material	Thickness
Finish 1 [4]	Grass	50.0
Core Bounda	**Layers Above**	**0.0**
Substrate [2]	Sand	150.0
Structure [1]	Earth	1000.0

Toposolid
Water - 2000mm

Function	Material	Thickness
Finish 1 [4]	Water	1500.0
Core Bounda	**Layers Above**	**0.0**
Structure [1]	Earth	500.0

Toposolid
Path - 350mm Concrete

Function	Material	Thickness
Finish 1 [4]	Concrete, C	100.0
Core Bounda	**Layers Above**	**0.0**
Substrate [2]	Gravel	250.0

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Draw a concave shape
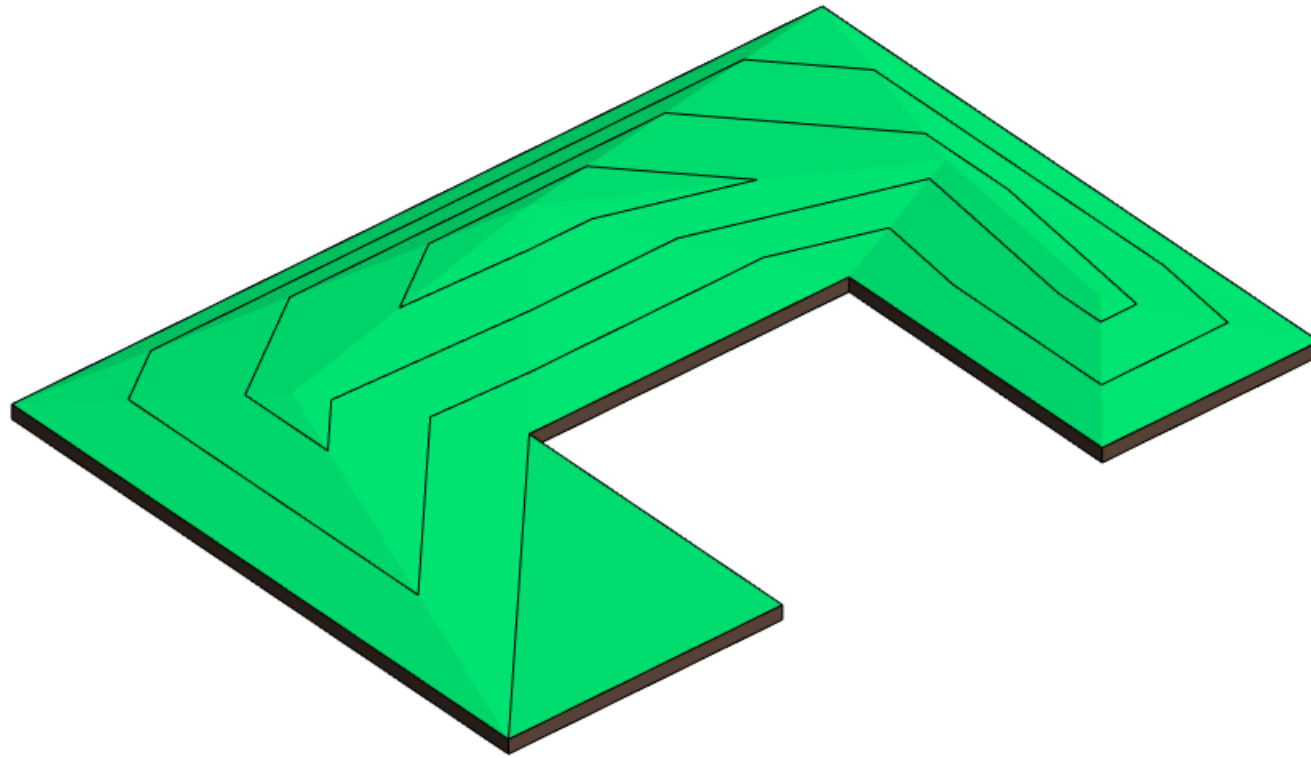
Generate from CAD file
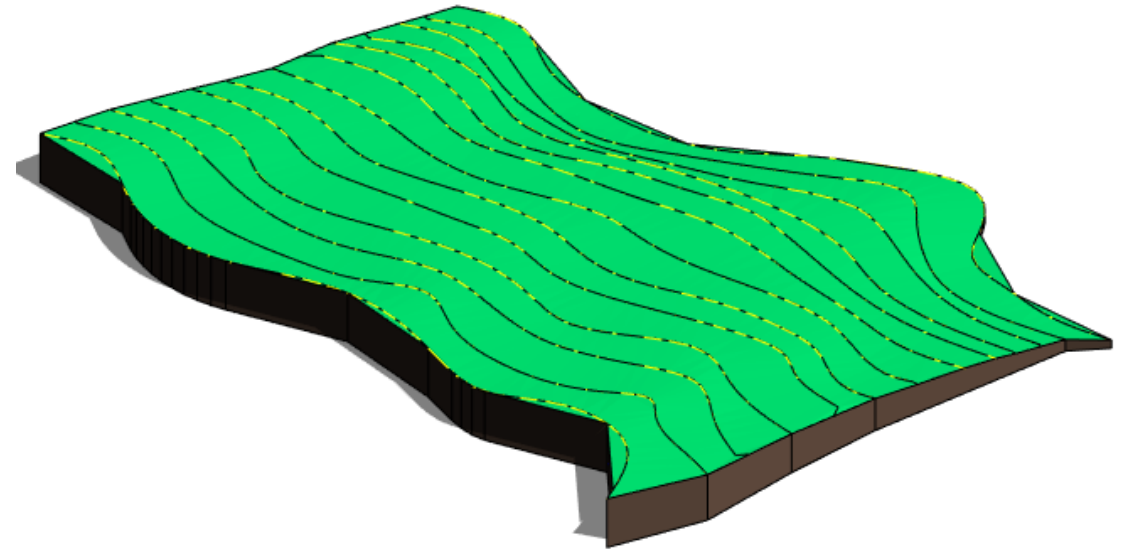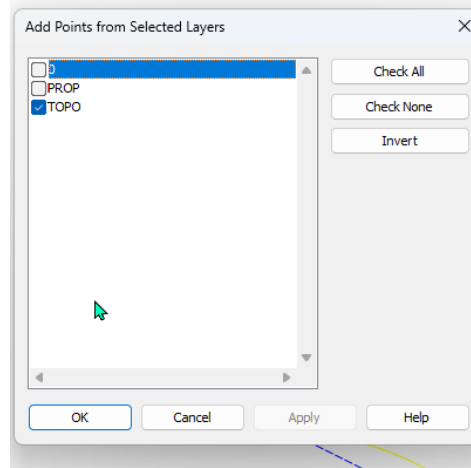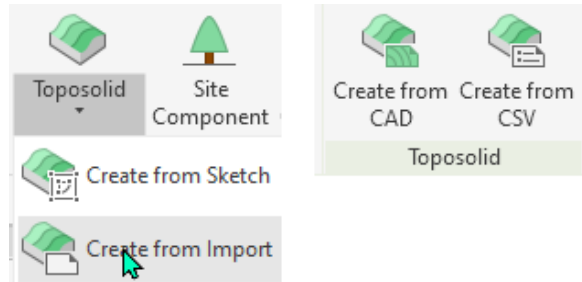
Set points Along Surface vs Absolute
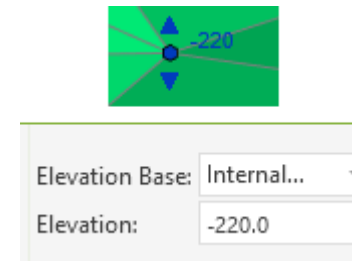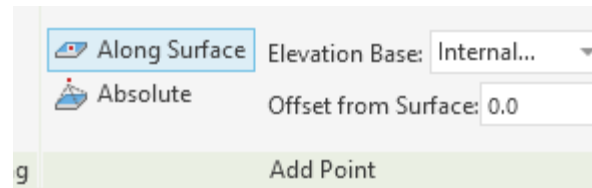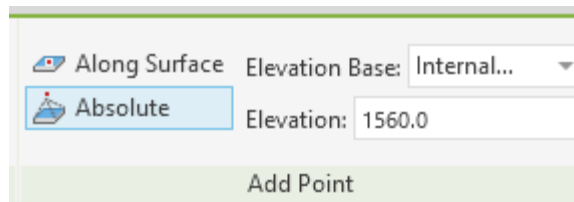
- Along Surface will add the current height of a location to the value you are adding.

- Absolute refers to the origin points of the project.

- When you change the "Elevation Base," the height on each point is updated.

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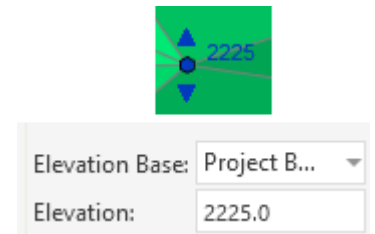
Create Toposolid from Toposurface

• Building pads are ignored

• Subregions are converted to subdivisions

Generate
Toposolid

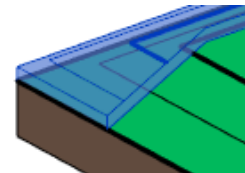No Building Pad when generating toposolid

RP REVIT PURE
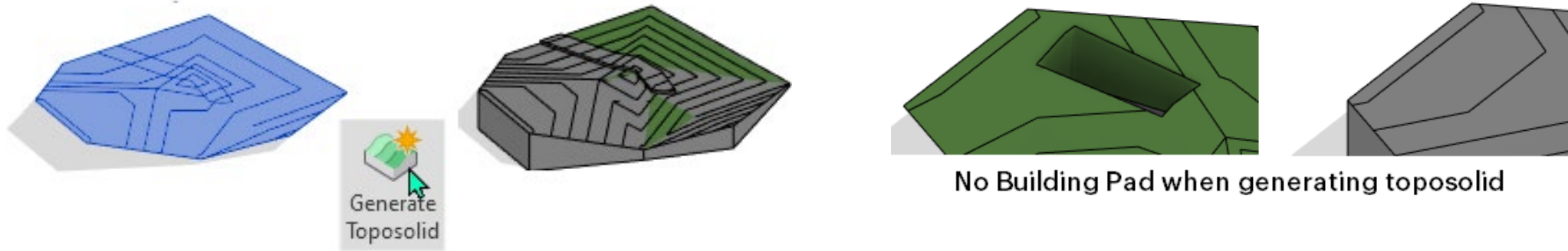
Subdivision on toposolid
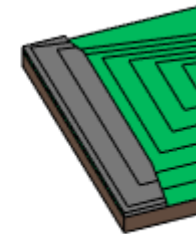
- Subregions are gone!
- Subdivisions: mandatory thickness, can't be negative.
- Can inherit contours or not

Sub-Divide
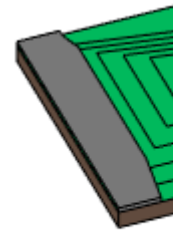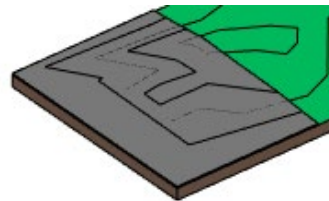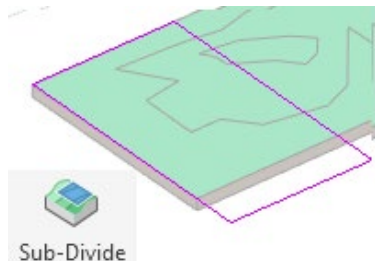
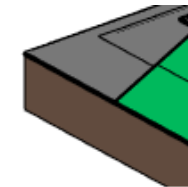Inherit Contours ☐

Inherit Contours ☑

Sub-Division
Material   Asphalt,
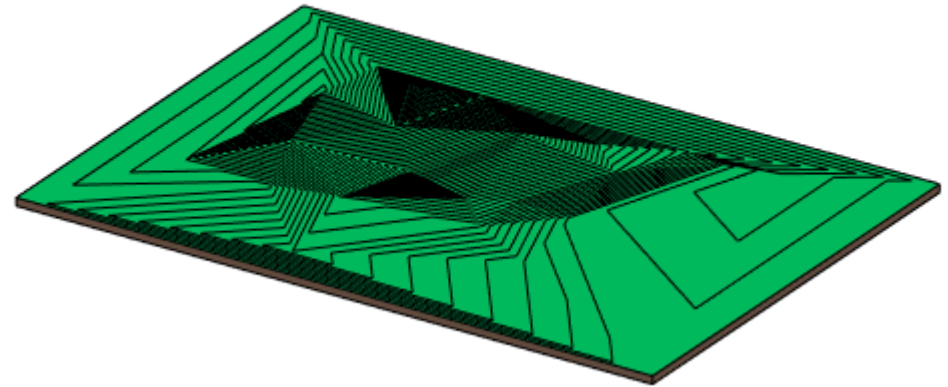Sub-divide Height 305.0

Sub-divide Height 50.0

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Contours

- By type instead of project wide settings.

Contours

- Possible to have no contours at all.
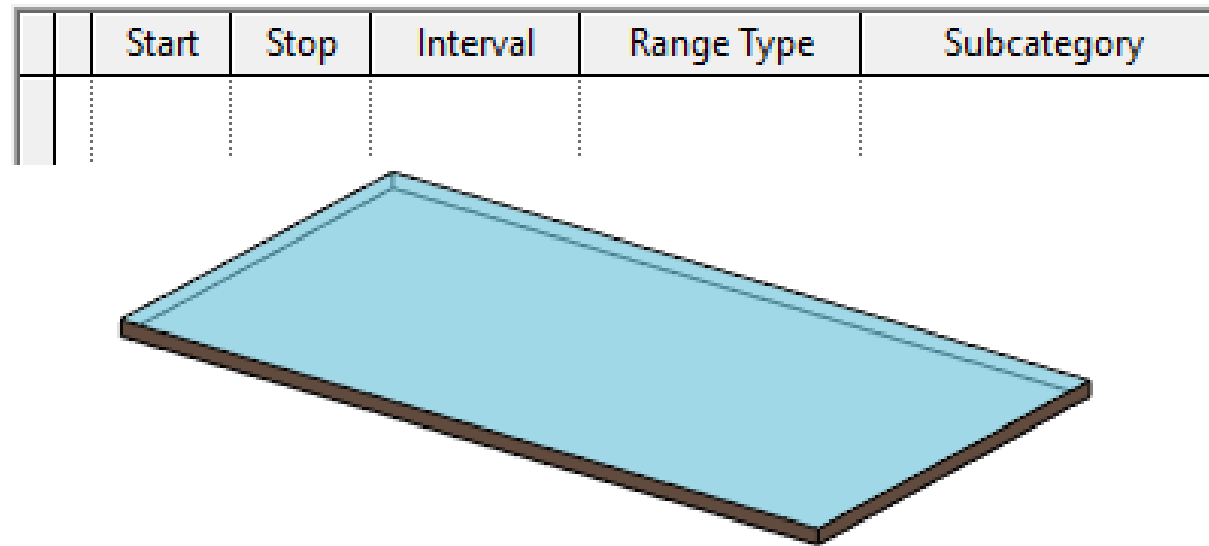
Special unique contour value

• Maybe you want to track an important height.

• Create a new Toposolid subcategory in the Object Style.

• Make it a special color or line pattern if you want.

Toposolid	1	6	■ Black	Solid
<Hidden Lines>	1	1	■ Black	Solid
Common Edges	2	2	■ Black	Solid
Critical Level	4	6	▮ RGB 243-090-232	Dash 3mm

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Special unique contour value

- In the toposolid contour type, create a new contour and set it to Single Value in the range type.

- Select the subcategory you have just created.

- In "Start", set the specific height you need.

- **Stop** and **Interval** are grayed out and useless for this.

Contour Display

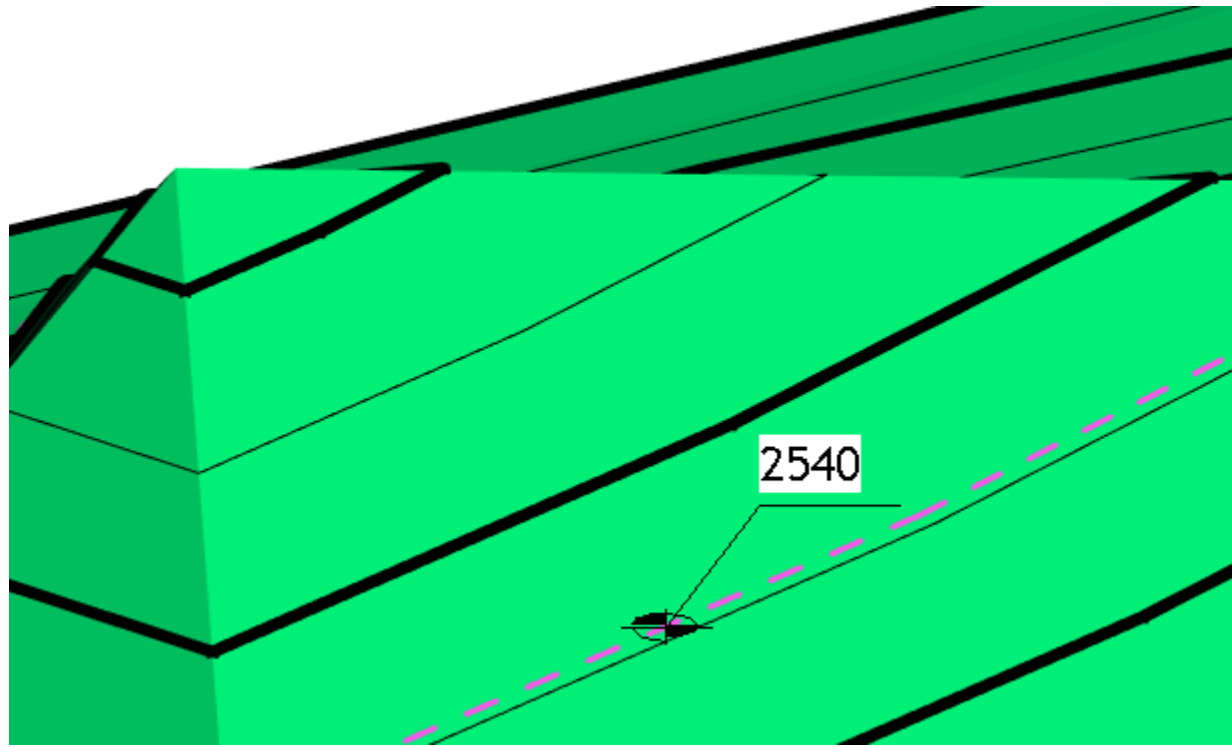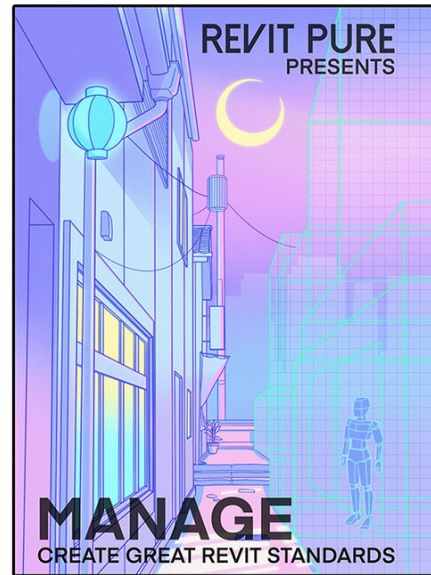|		Start	Stop	Interval	Range Type	Subcategory
1	☑	-30000.0	3000000.0	1000.0	Multiple Values	Primary Contours
2	☑	-30000.0	3000000.0	500.0	Multiple Values	Secondary Contours
3	☑	2540.0	3000000.0	1000.0	Single Value	Critical Level

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Special unique contour value

- This specific height has a contour in the style you have set.

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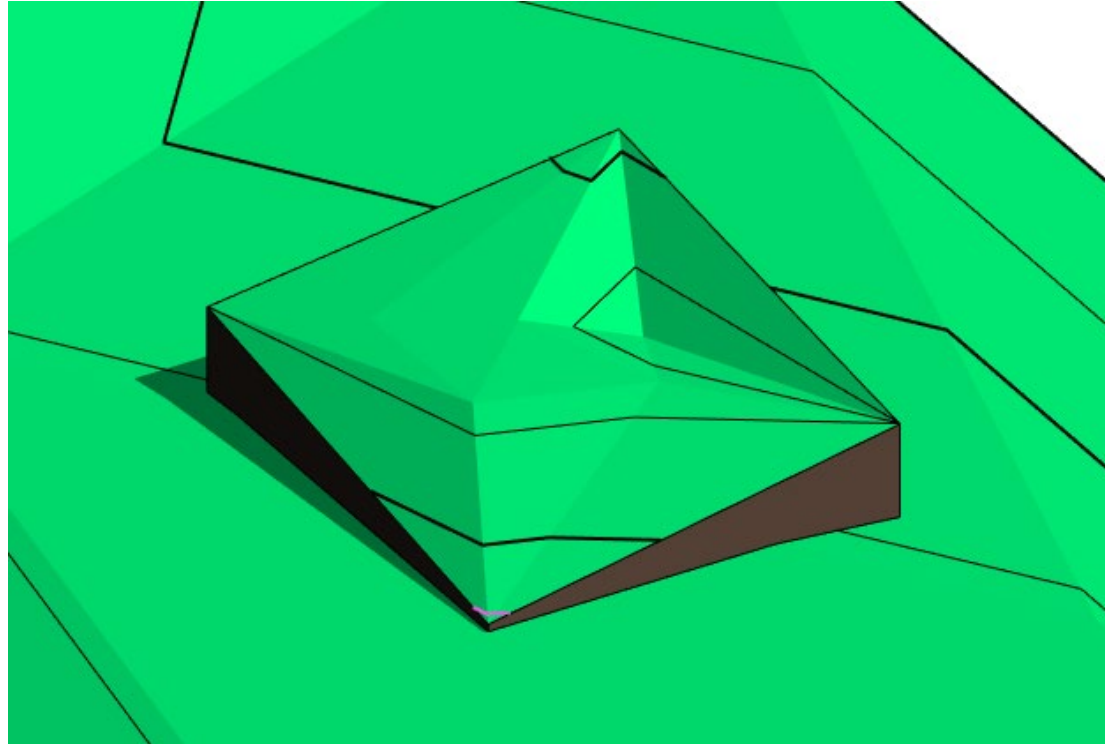offers ends april 14th 2023

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Cut toposolid

- You can cut the toposolid with most categories, such as walls and structural foundations.

- Volumes will be accurately calculated.
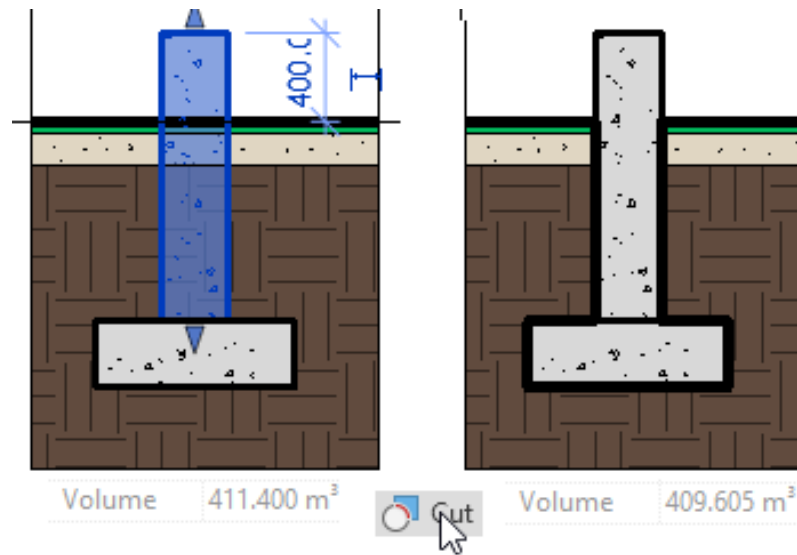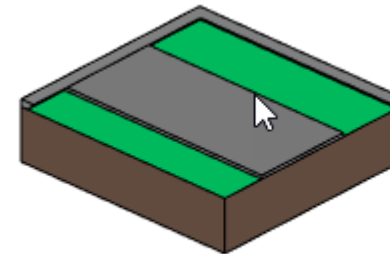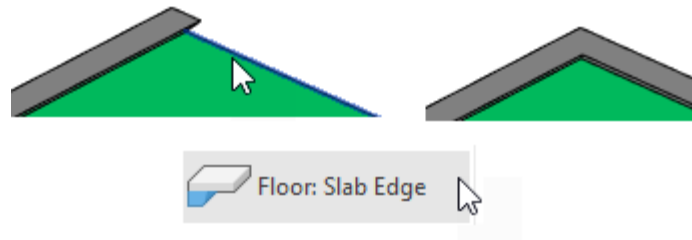
Cut toposolid with toposolid

- You can cut a toposolid with another toposolid.

Slab edges

- Slab edges can be created on toposolids.
- ...but not on subdivision... which makes it not helpful.
- Use railings instead

Floor: Slab Edge

Can't place on sub-division

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Split toposolid

- You can use the SPLIT tool on the toposolid. Draw the division lines. They don't need to form a closed loop.

- Change the toposolid type and change the height offset if you want.
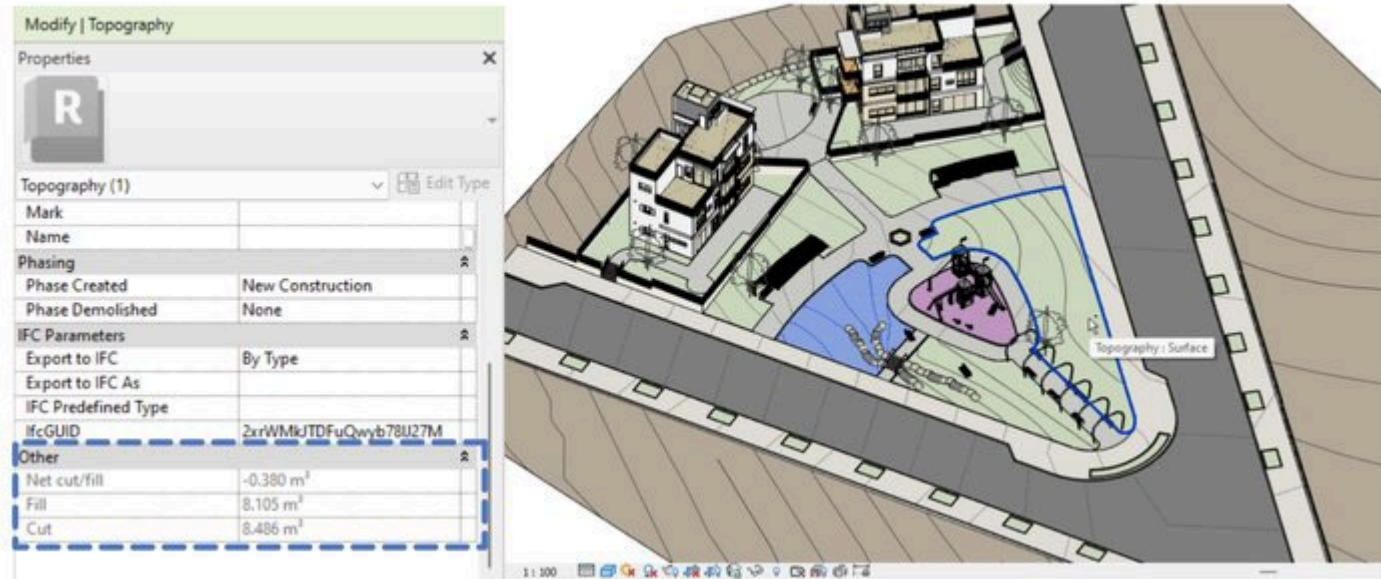
- They cannot be merged after split.

Split the toposolid

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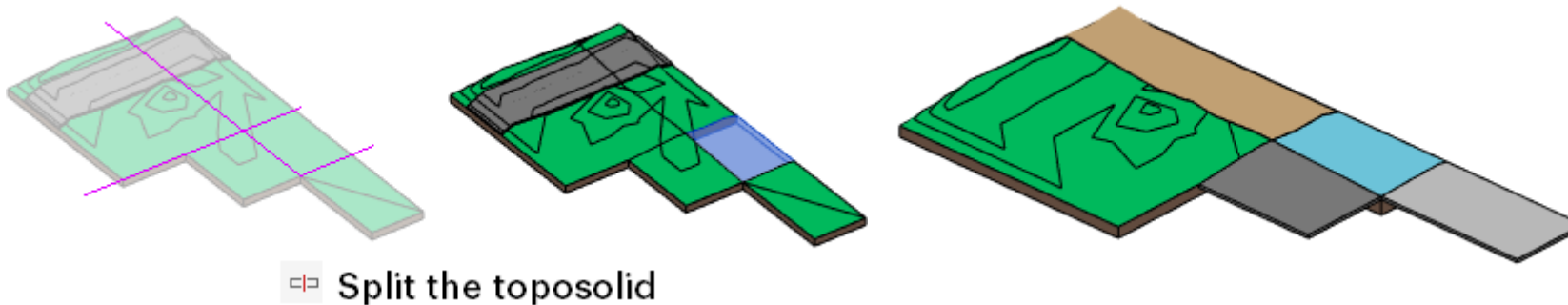
Split toposolid

- Can be helpful to create roads, since subdivisons aren't great.
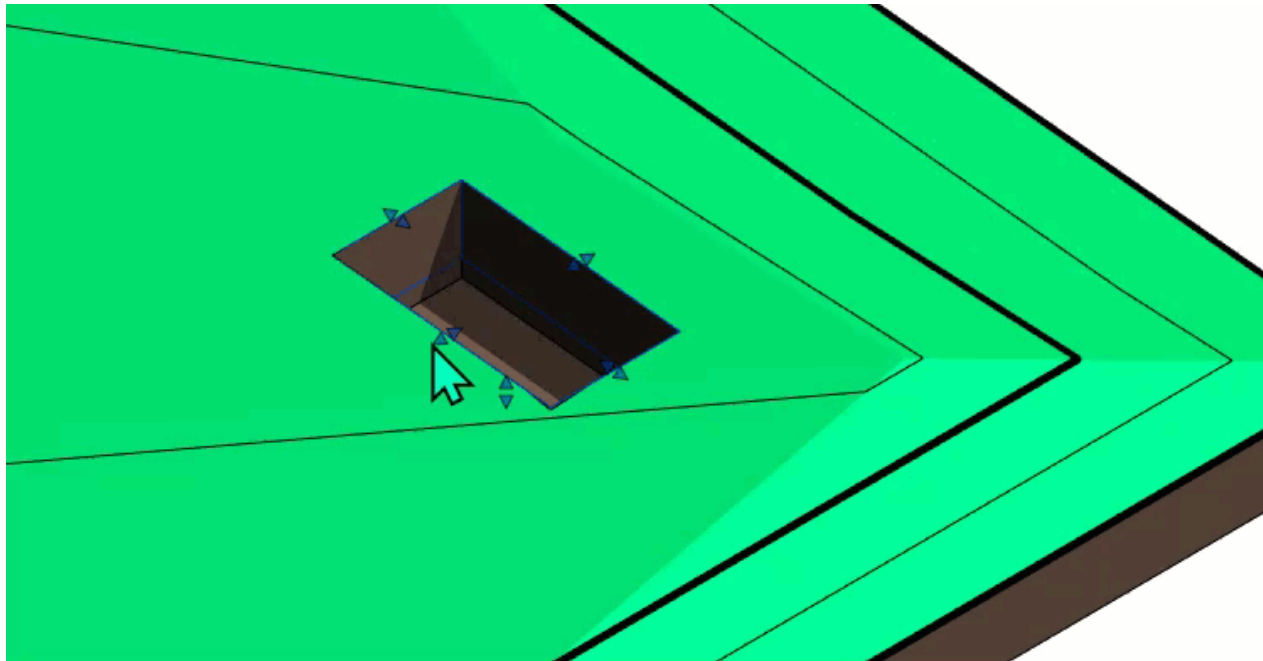- This way, you can set negative offset.
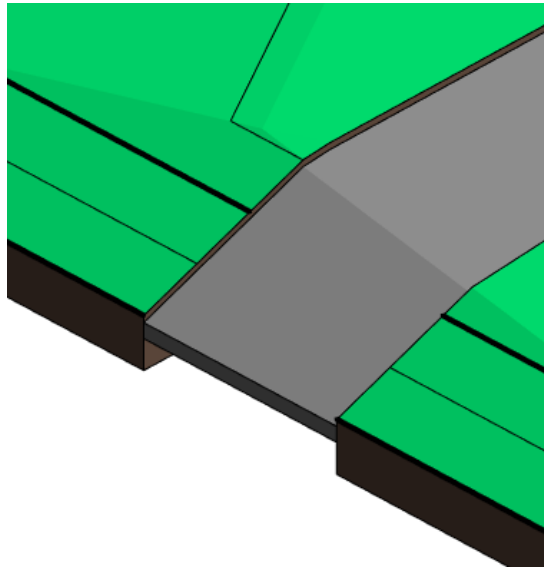
Net/Fill calculations are wrong

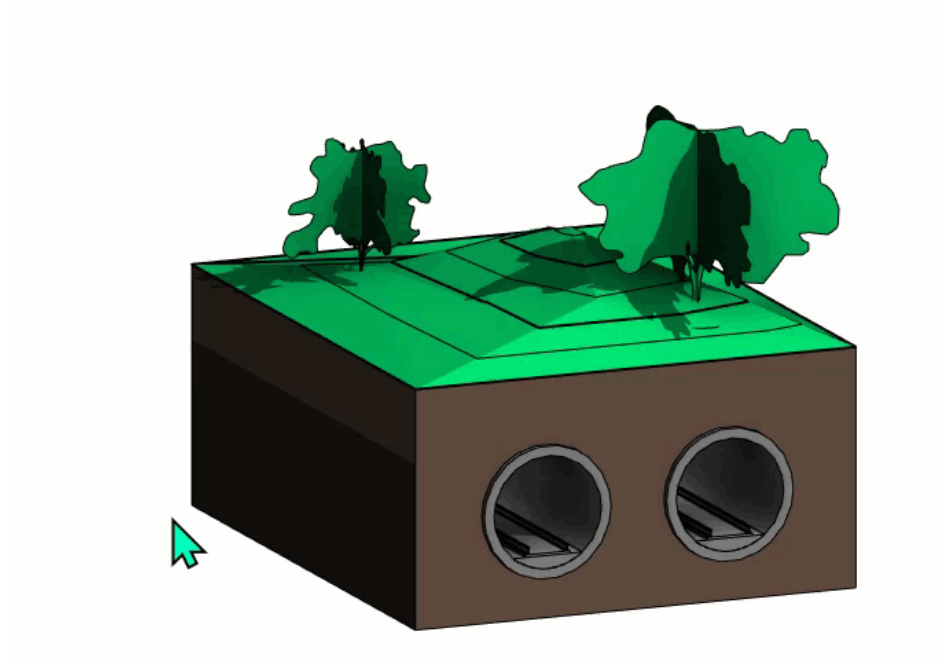- Ba careful! The net cut/fill info is not reliable at the moment.

Building pads replacement

- What about a subway tunnel?
- This is a face-based family with a void.

Tunnels!

- Since you can cut the toposolid, using tunnels is easy.

Thank you! 👋

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