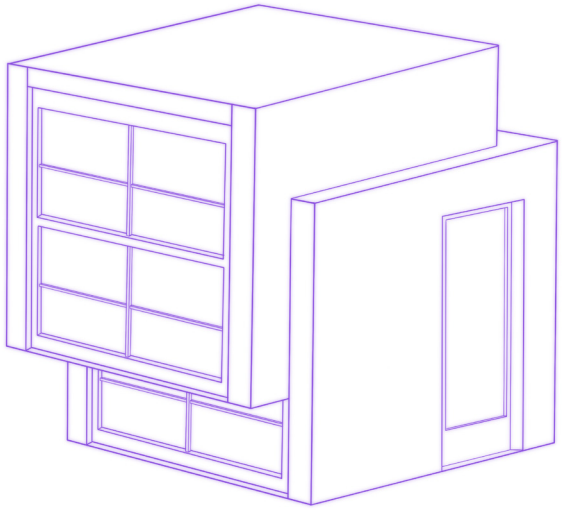

REVIT PURE
BASICS

HERE IS YOUR BASICS STAIRS SAMPLE



Thank you for download this BASICS sample. The goal of this course is to make Revit simple, fun and pure. Stay tuned for the release of the full course.

LEGAL DISCLAIMER

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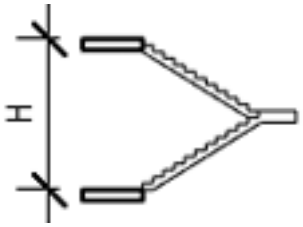
UNDERSTAND STAIRS

Making a stair in Revit is easy. You define all settings for your stairs, select two levels to join, and BOOM, a wild stair appears. Sounds too good to be true, right? For this level of simplicity to be achieved, you need to understand certain crucial parameters, whether automatically calculated or manually set. Please read the following definitions.

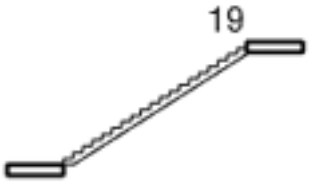
BASE AND TOP LEVELS

Stairs are based on selected levels that already exist in the project. You can add an **offset** on these levels if required.



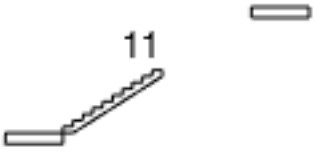
DESIRED STAIR HEIGHT

Total distance between the base and the top of the stairs, including offsets.



DESIRED NUMBER OF RISERS

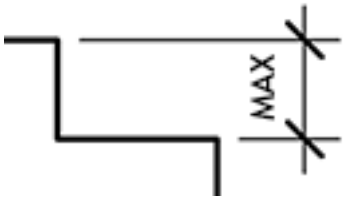
Automatically calculated by Revit, dividing **Stair Height** by **Maximum Riser Height**. You can change this number, which will modify the stair slope.



ACTUAL NUMBER OF RISERS

The number of risers you modeled so far.

STAIRS

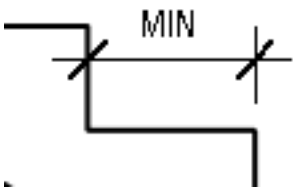


MAXIMUM RISER HEIGHT

The riser height for your stair will never go above this value. This parameter is set on the stair type. Usually, the value is on par with code requirements.

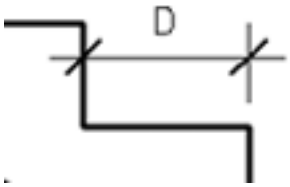
ACTUAL RISER HEIGHT

This distance is automatically calculated by Revit, dividing the **Stair Height** by the **Desired Number of Risers.**



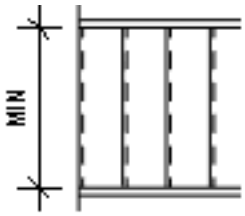
MINIMUM TREAD DEPTH

On the stair type, specify the minimum tread depth. When you start modelling your stair, you can go above this number, but not below.



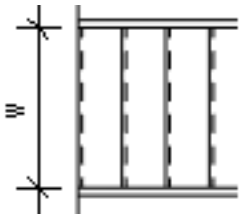
ACTUAL TREAD DEPTH

By default, this value is equal to the minimum tread depth set in the stair type. However, you can set a larger value if you want more depth.



MINIMUM RUN WIDTH

Set on the stair type, you can specify the minimum run width. This does not include support (stringers).



ACTUAL RUN WIDTH

By default, this will be the same as the minimum run width. You can set a higher value than the minimum, but a lower value will result in a Warning.

CREATE A BASIC STAIR

1. SET MINIMUM AND MAXIMUM VALUES

Select the stair tool in the architecture tab. Then, click on Edit Type in the properties. Adjust **Maximum Riser Height**, **Minimum Tread Depth** and **Minimum Run Width.** Usually, these values are set to satisfy code requirements. Be aware these modifications will affect all stairs using this type.

Calculation Rules	
Maximum Riser Height	180.0
Minimum Tread Depth	280.0
Minimum Run Width	1000.0

ADJUST THESE VALUES

2. SET BASE AND TOP LEVELS

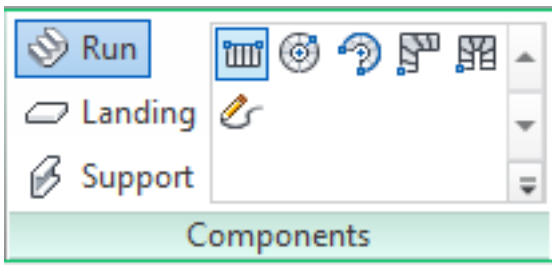
Select your base and top levels and set offsets. **Desired Stair Height** will be automatically calculated.

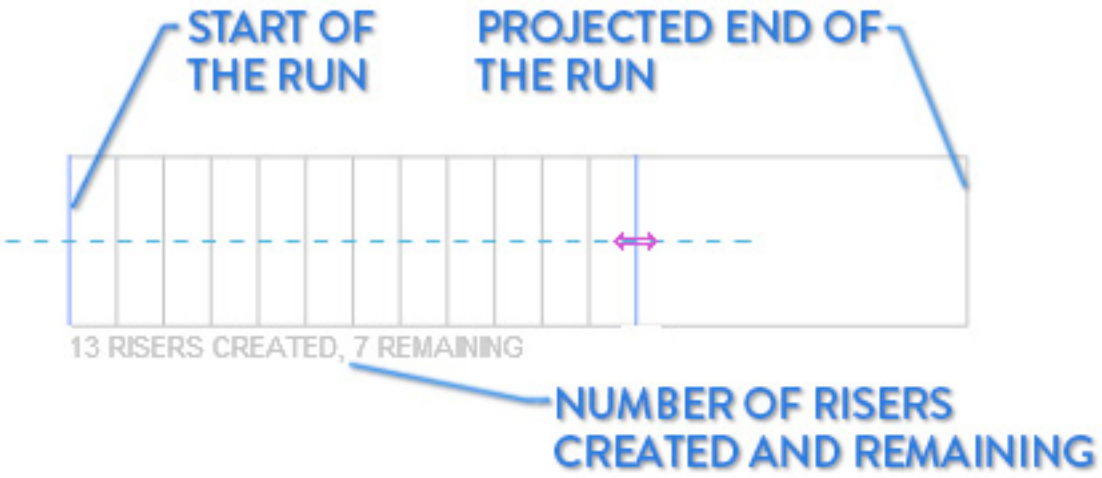
Constraints	
Base Level	FIRST FLOOR
Base Offset	300.0
Top Level	2ND FLOOR
Top Offset	0.0
Desired Stair Height	3700.0

SET LEVELS AND OFFSETS

3. DRAW THE STAIR

You can now begin to draw your stair! There are many stair shape options; for now, let's use the most common **Straight** one. Click a first time to set the start point of your stair. Next, move your cursor to see the projected shape of your run based on the tread depth you have set previously. Finally, click again to complete the run.





9 ESSENTIAL STAIRS TIPS

1- STAIR ALWAYS GO FROM BOTTOM TO TOP

When drawing a stair path, you start at the low point and end at the top of the stairs. If you did it backward, flip the stairs by clicking the Flip button or clicking the → arrow.

2- HAVE A CLOSE LOOK AT OPTIONS BAR

When entering stair creation mode, have a look at the **options** bar. For example, you can change the **Location Line** to decide if you want to draw the stairs based on the side or on the center of the run. You can also change the **Actual Run Width** to go above the minimum you specified previously.

3- USE 3D VIEWS AND SECTIONS

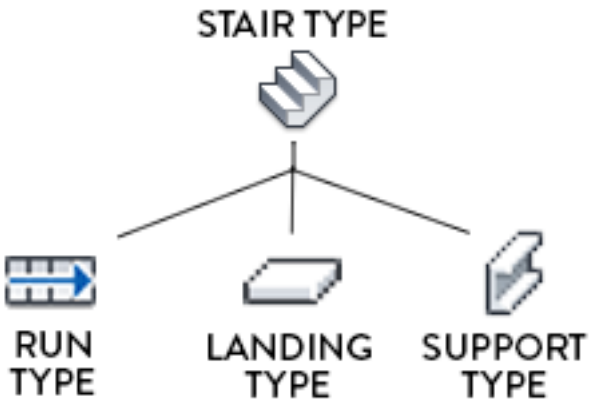
Using 3D views with plan views and sections is a great way to build and understand stairs. Use **Selection Box** to isolate the stair in the 3D view if required. To create stairs from a 3D view, make sure the **Workplane** is set to a plan level, else you will receive a warning.

4- UNDERSTAND WHERE TO FIND ALL PARAMETERS

STAIR TYPE

Inside this menu, you can set the **dimension rules** of your stairs, like riser height, tread depth and run width.

Inside **Stair Type**, you will get access to the Run Type, Landing Type and Support type.



To modify these types, either go to **Stair Type**, or use **TAB** to individually select a run, landing or support. Then click Edit Type.

RUN TYPE

Inside this type, you can modify **Tread Thickness** and set a **Nosing Length** to your treads. You can also set **Riser Thickness** and decide if you want them **slanted**. Also, use this panel to set **materials** for treads and risers.

LANDING TYPE

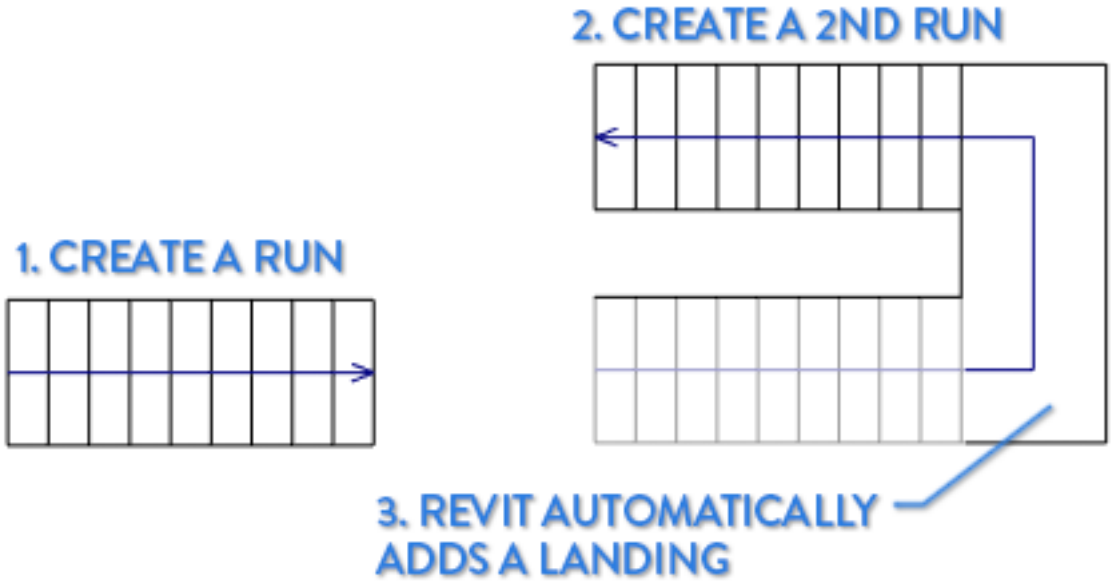
By default, this will be the same as Run Type. Uncheck the box Same as Run ☑ to customize landing material, thickness, nosing, etc.

SUPPORT TYPE

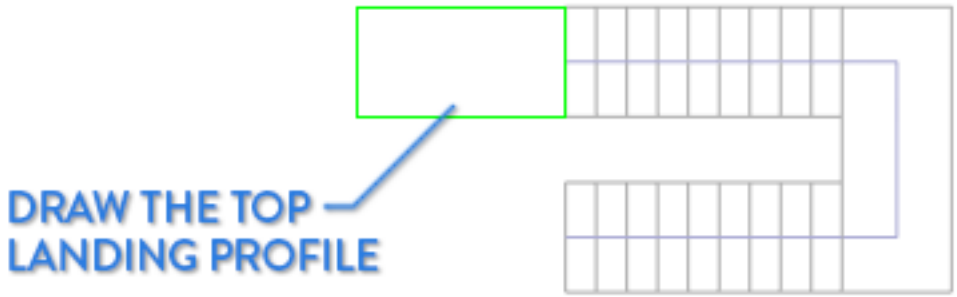
Use this menu to specify whether to use **Carriage** or **Stringer** style support. You can also set support **Material**, **Width** and **Depth**. See advanced tips for more information.

5- LANDINGS ARE AUTOMATIC BY DEFAULT

Revit will automatically add a landing to join the two stairs if you draw two runs next to one another. You can uncheck this feature when in the options bar while creating the stairs (see tip 2).

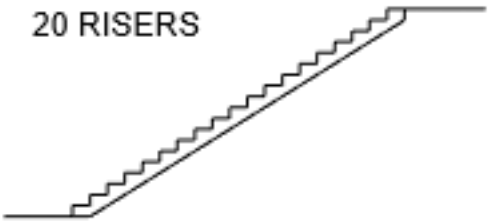


Landings at the top or the bottom of the stairs are never automatic, and they have to be created manually. Use the Landing Component and select Create Sketch button. Then draw the **outline** of the landing.



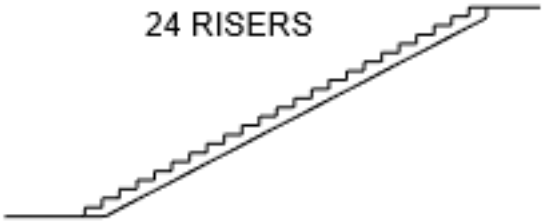
6- ADJUST "*DESIRED NUMBER OF RISERS*" TO CHANGE STAIR SLOPE

20 RISERS



Dimensions	
Desired Number of Risers	20
Actual Number of Risers	20
Actual Riser Height	175.0
Actual Tread Depth	280.0

24 RISERS



Dimensions	
Desired Number of Risers	24
Actual Number of Risers	24
Actual Riser Height	145.8
Actual Tread Depth	280.0

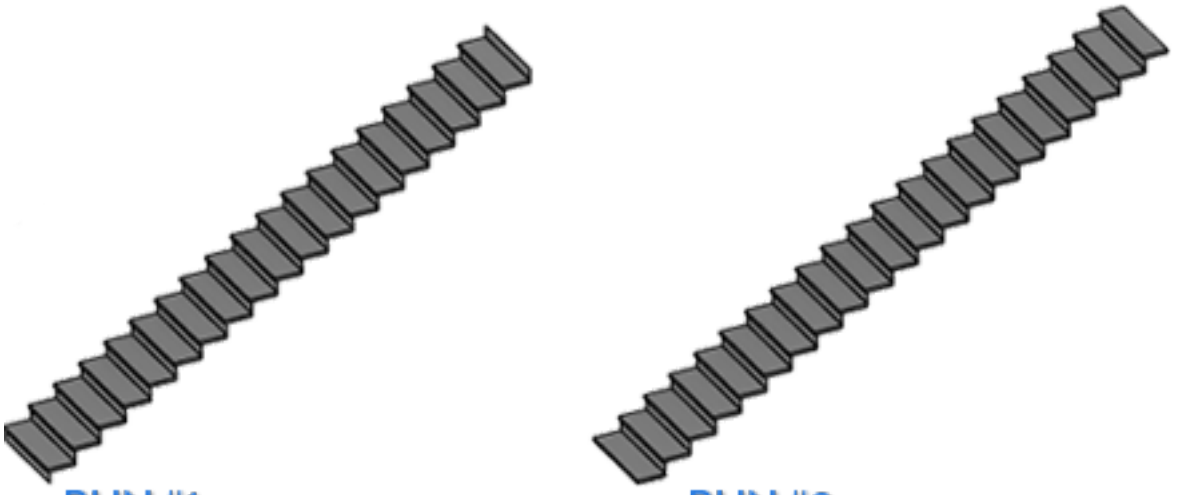
By default, **Desired Number of Risers** will be equal to the lowest number of risers you need to not go beyond **Maximum Riser Height**. However, you can specify more risers to get a softer stair slope. Don't ever put less risers than the calculated minimum, else you will receive a warning !

7- ADJUST "*ACTUAL TREAD DEPTH*" FOR A LONGER RUN

If you want a softer slope, you can put a larger value to **Actual Tread Depth**. Changing this value will make the run longer. But, again, don't put a number below the **Minimum Tread Depth**, else, you will receive a warning. Warnings are annoying and mean that you are not following your own rules.

8- ADJUST "*BEGIN WITH RISER*" AND "*END WITH RISER*"

In the image below, **RUN #1** has the default settings: it begins and ends with a riser. However, we changed the settings for **RUN #2**, which begins and ends with a tread instead of a riser. You can change this option by clicking on a run and checking/unchecking the parameters.



RUN #1

Construction	
Extend Below Riser Base	0.0
Begin with Riser	☑
End with Riser	☑

RUN #2

Construction	
Extend Below Riser Base	0.0
Begin with Riser	☐
End with Riser	☐

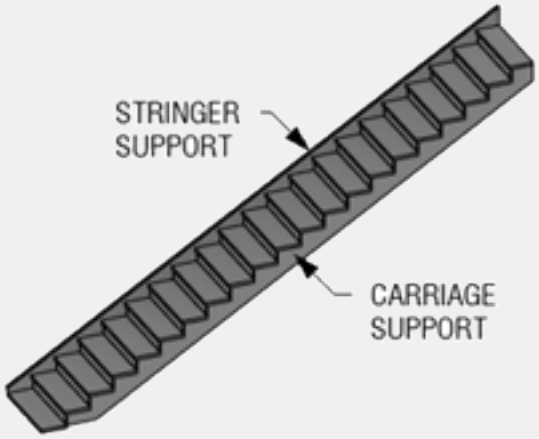
9- SELECT RAILING TYPE WHILE CREATING STAIRS

While creating stairs, railings will automatically be added to your stair. The default type will be the last one selected. To change it, click the railing button and select another type, or select **None** for a stair without railing. Chapter 13 is dedicated to the creation of railings.

3 ADVANCED STAIRS TIPS

1- SELECT CARRIAGE OR STRINGER SUPPORT TYPE

A **Carriage Support** is underneath the stair, following the shape of treads and risers. This is a type usually used for a wooden residential stair type. A **Stringer Support** will be separate from the stairs, usually on par with metallic stairs construction type. These settings are found in **Stair Type**.

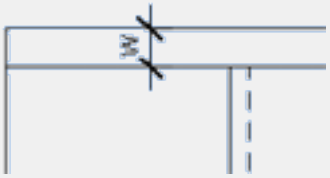


Supports	
Right Support	Carriage (Open)
Right Support Type	Carriage - 50mm
Right Lateral Offset	0.0
Left Support	Stringer (Closed)
Left Support Type	Stringer C 305mm
Left Lateral Offset	0.0
Middle Support	☐
Middle Support Type	<None>
Middle Support Number	0

2- SET SUPPORT DIMENSIONS

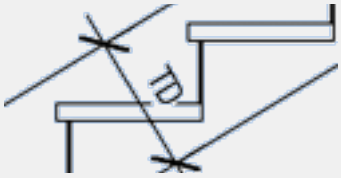
On the **Support Type** properties, set all support dimension. See next page to understand what all this stuff means.

Dimensions	
Section Profile	Default
Flip Section Profile	☐
Structural Depth On Run	50.0
Structural Depth On Landing	200.0
Total Depth	305.0
Width	50.0



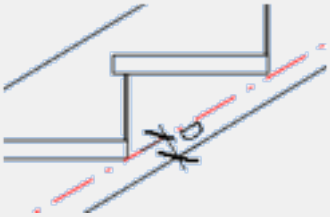
WIDTH

The width of the support. This value is always independent from **Actual Run Width**. That means you have to add 2 supports width to get the total stair width.



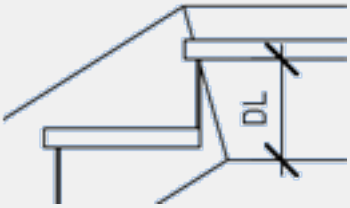
TOTAL DEPTH

This value is the perpendicular distance between the top and bottom of the support.



STRUCTURAL DEPTH ON RUN

This is the distance between the bottom of the tread and the bottom of the support, parallel to the support diagonal.

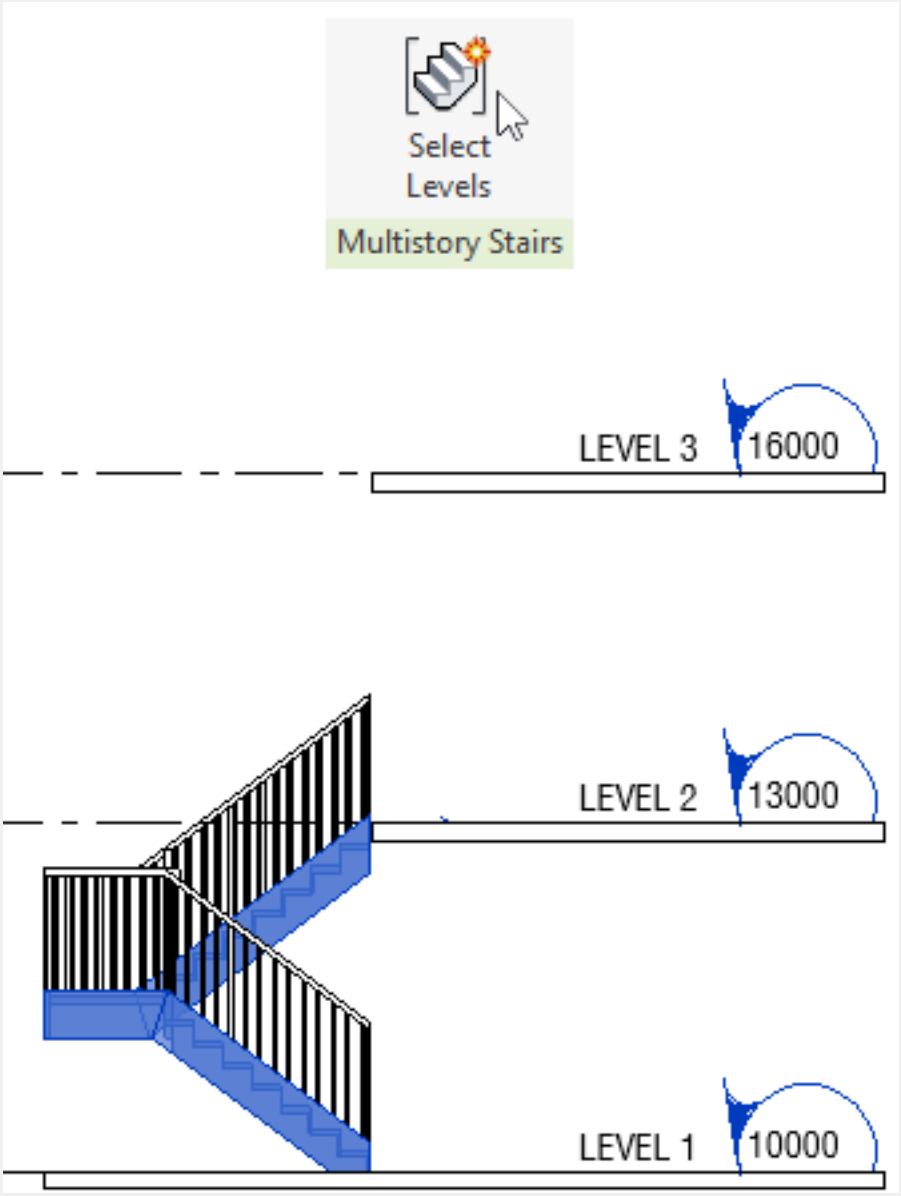


STRUCTURAL DEPTH ON LANDING

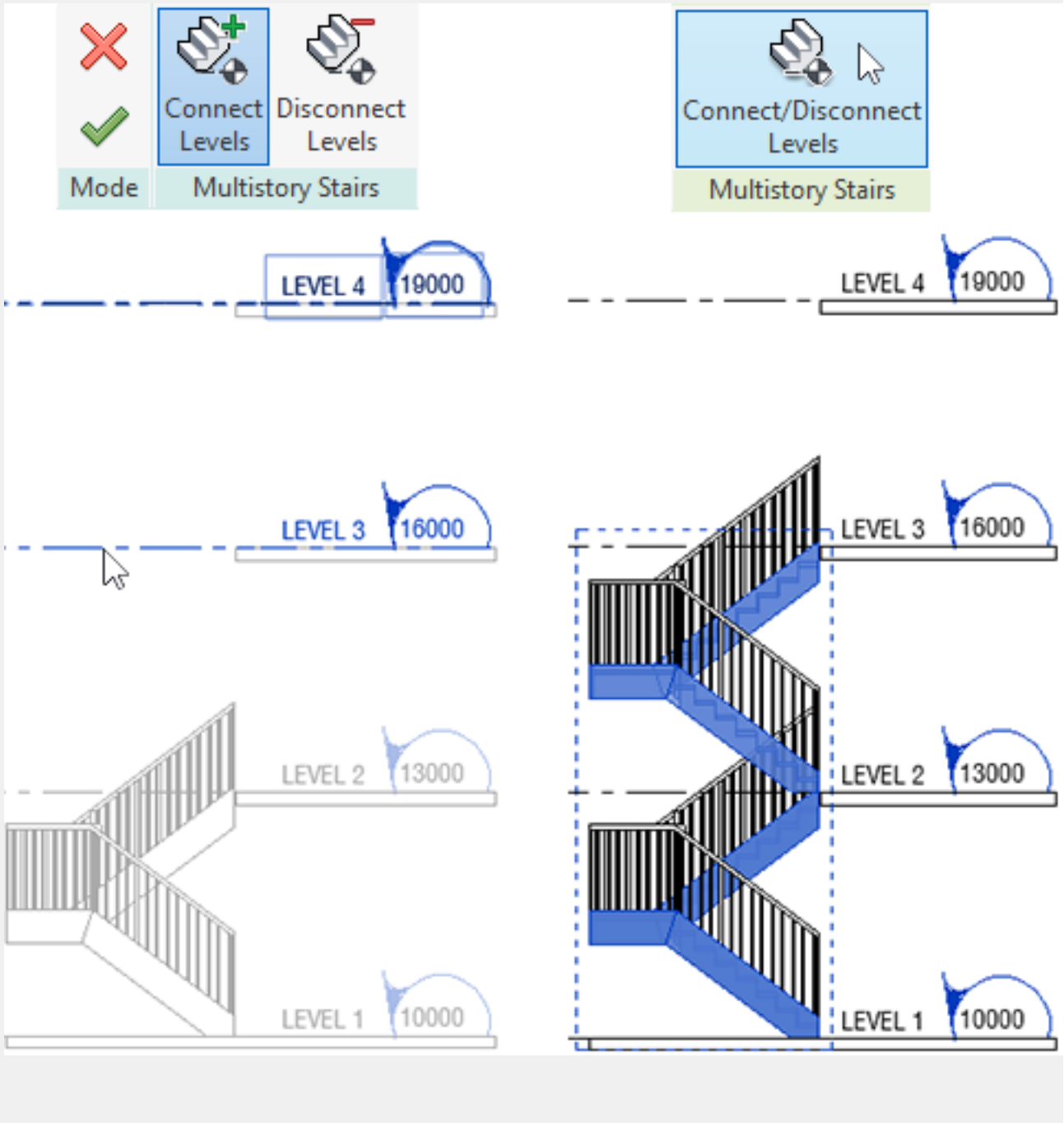
This value is the distance between the bottom of the landing and the bottom of the support.

3- CREATE MULTISTORY STAIRS

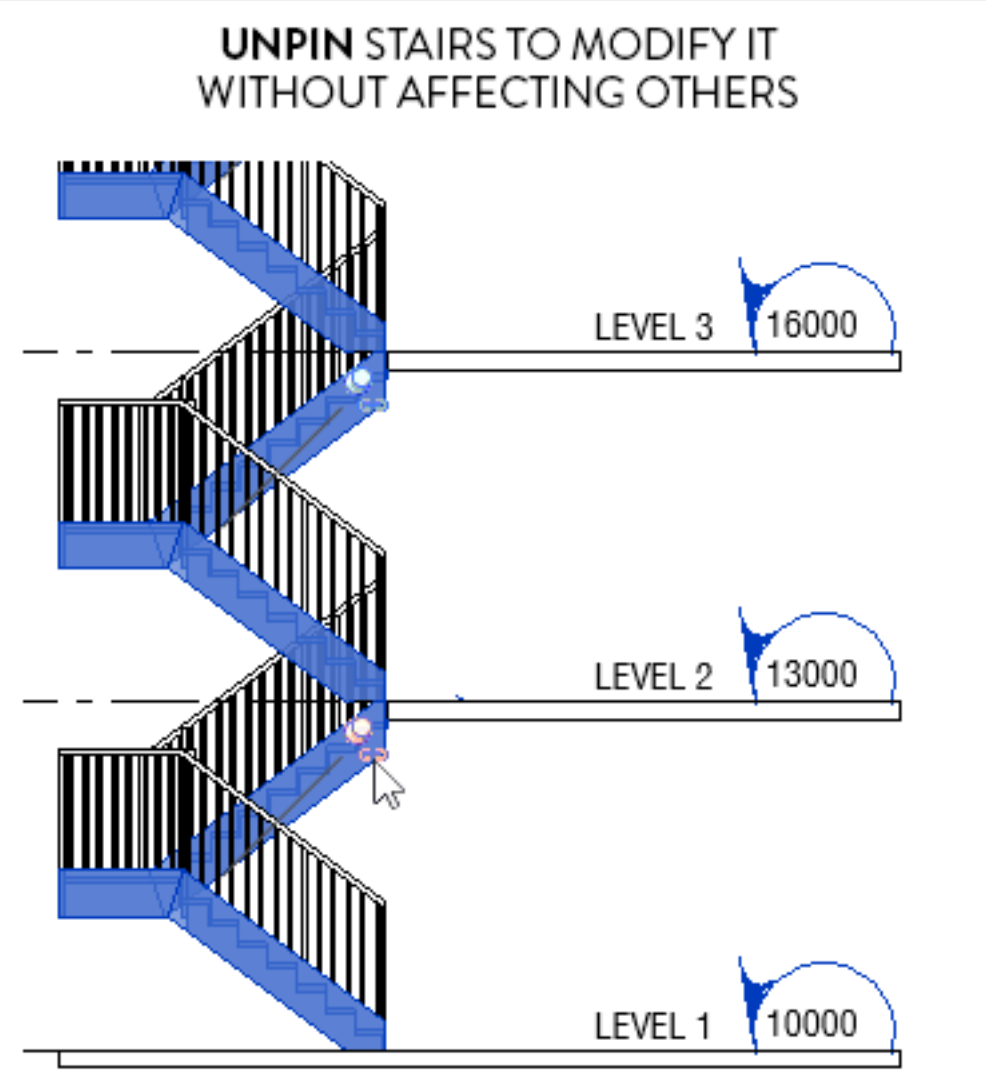
Use the **Multistory** stairs feature to repeat a stair among multiple levels. Select the stairs and click on **Select Levels** in the contextual tab.



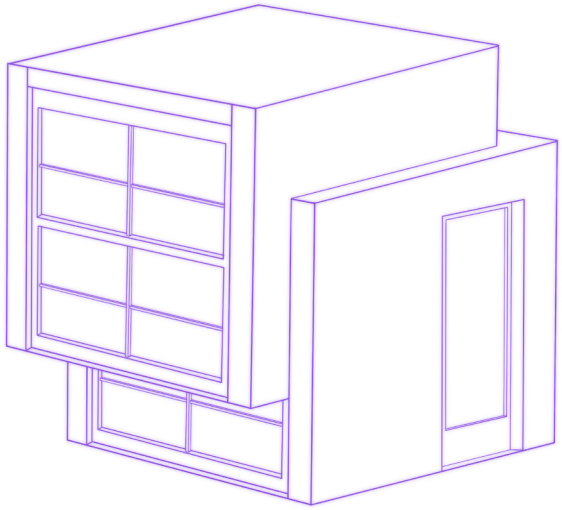
To create the multistory stairs, pick the levels you want to connect and click the green check. After creating the multi-stair, use the **Connect/ Disconnect Levels** tool to change the selected levels.



PIN / UNPIN INDIVIDUAL STAIRS: When creating a multi-story stair, stairs behave like a group. That means modifying one of the stair will affect all other stairs of the same height. To avoid that, select one of the stair and unpin it. You can then modify that specific stair without affecting all the others.



THANKS FOR READING THE SAMPLE!



We hope you've enjoyed the sample. Stay tuned for the release of the complete course.