

The Autodesk logo, consisting of the word "autodesk" in a blue, lowercase, sans-serif font, with a registered trademark symbol (®) to its upper right.

White Paper

## **Autodesk® Revit® Stairs Crib sheet**

This document is being provided as a simple reference to graphically demonstrate how the different stair parameters available for stairs in Autodesk Revit 6.0 impact the geometry of those stairs.

The default stairs shown on the next page are used as the base example. Each subsequent page modifies, from the default, one parameter at a time and highlights the results of that change.

The description of that change is provided below the images and in some cases, additional notes are provided to further explain the results or note additional parameters which may impact the geometry.

**Type Properties**

Family: System Family: Stair Load...

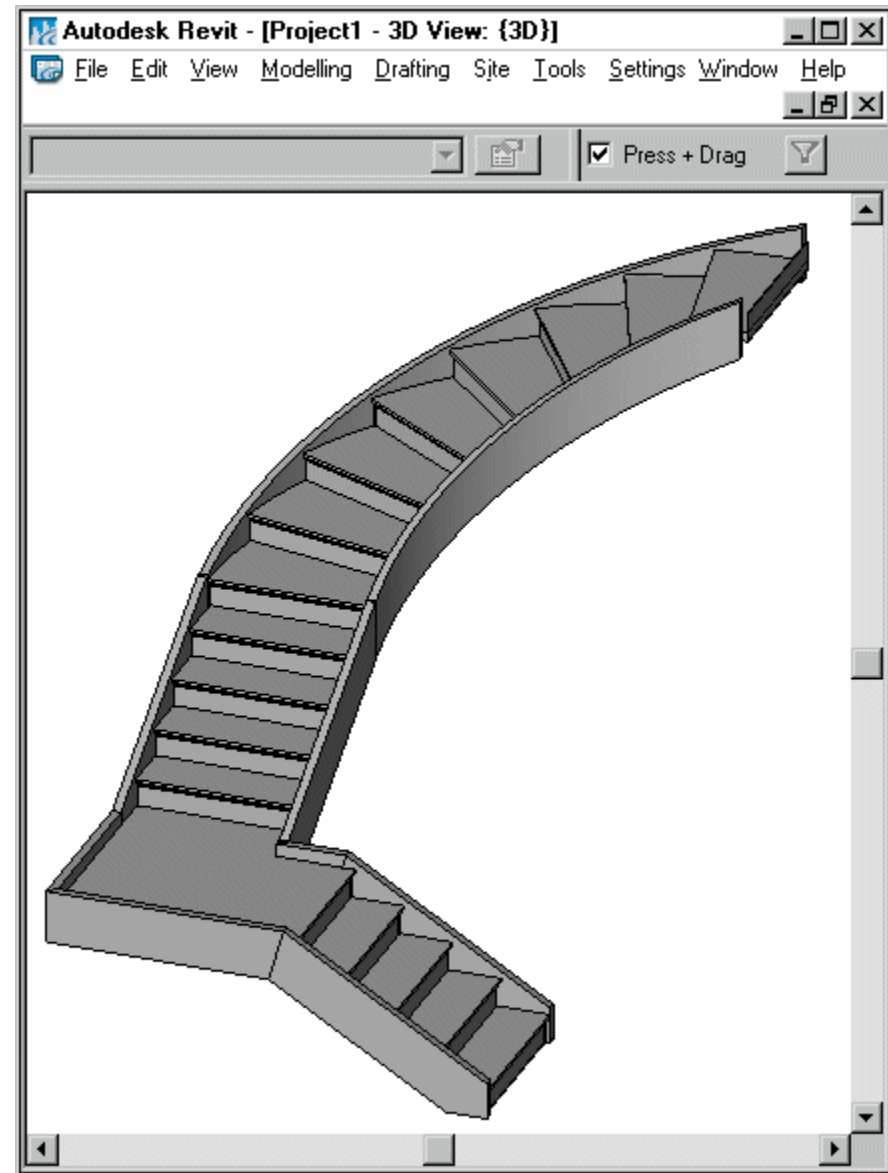
Type: 7" max riser 11" tread Duplicate...

Rename...

Type Parameters:

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	Straight
Riser Thickness	0' 0 1/4"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Stair Nosing - Pan : Stair Nosing - P
Apply Nosing Profile	Front Only
Right Stringer	Closed
Left Stringer	Closed
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

<< Preview OK Cancel Apply



**Default Stairs**

**Type Properties**

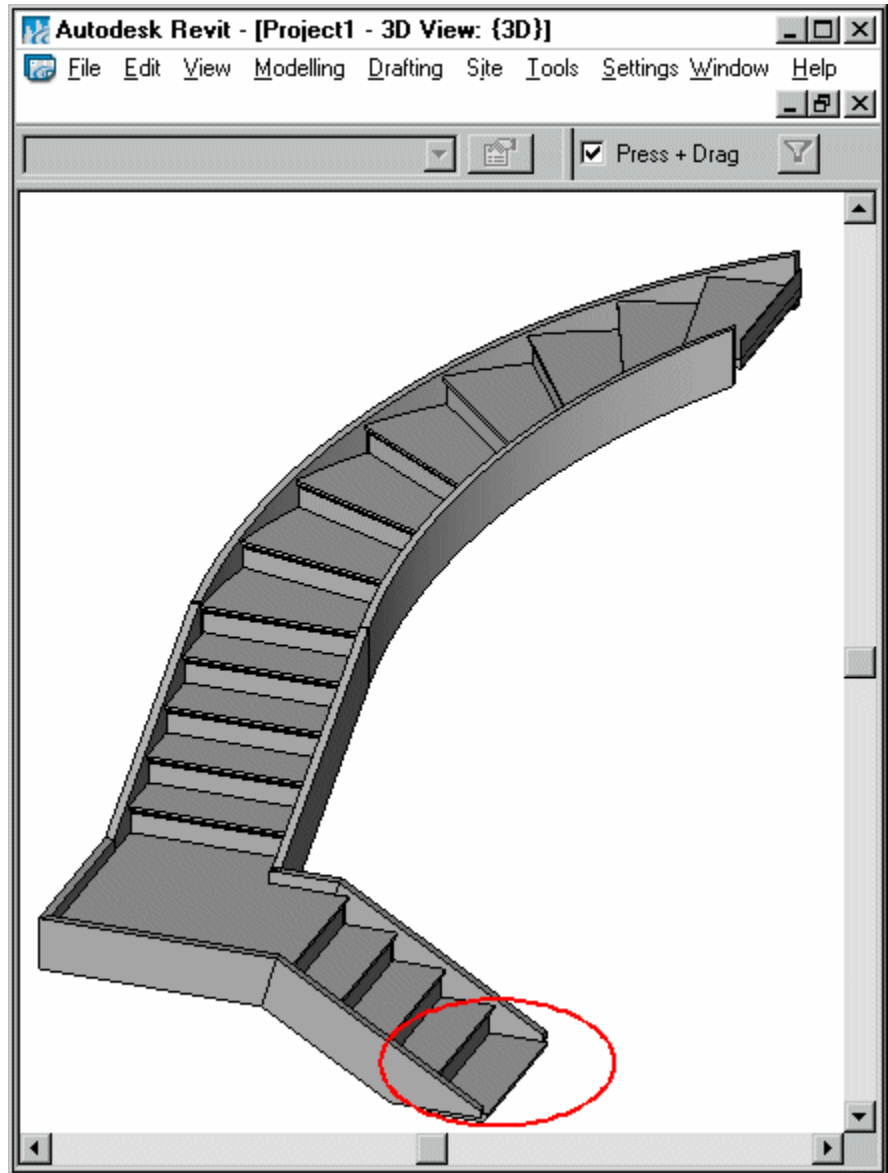
Family: System Family: Stair Load...

Type: 7" max riser 11" tread Duplicate...

Type Parameters: Rename...

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	Straight
Riser Thickness	0' 0 1/4"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Stair Nosing - Pan : Stair Nosing - P
Apply Nosing Profile	Front Only
Right Stringer	Closed
Left Stringer	Closed
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

<< Preview OK Cancel Apply



**Begin with Riser turned OFF**

**Type Properties**

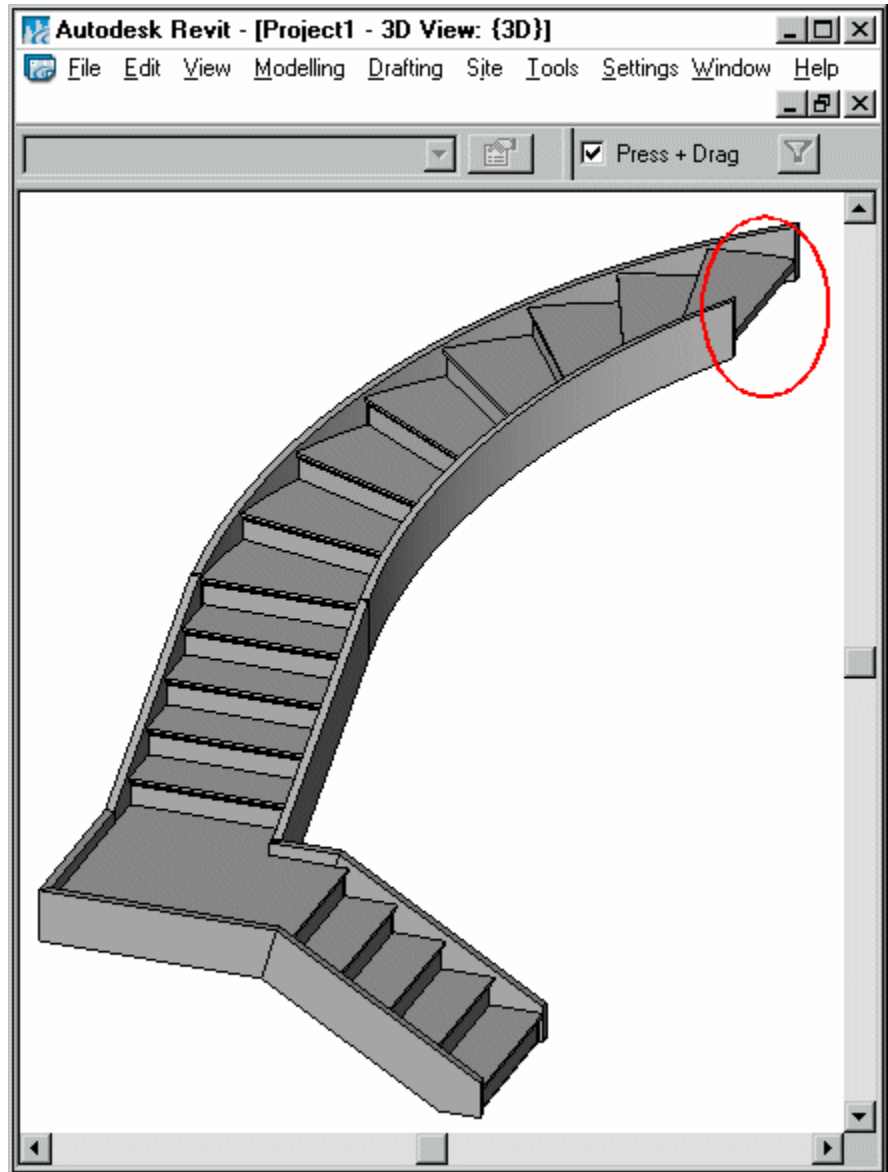
Family: System Family: Stair Load...

Type: 7" max riser 11" tread Duplicate...

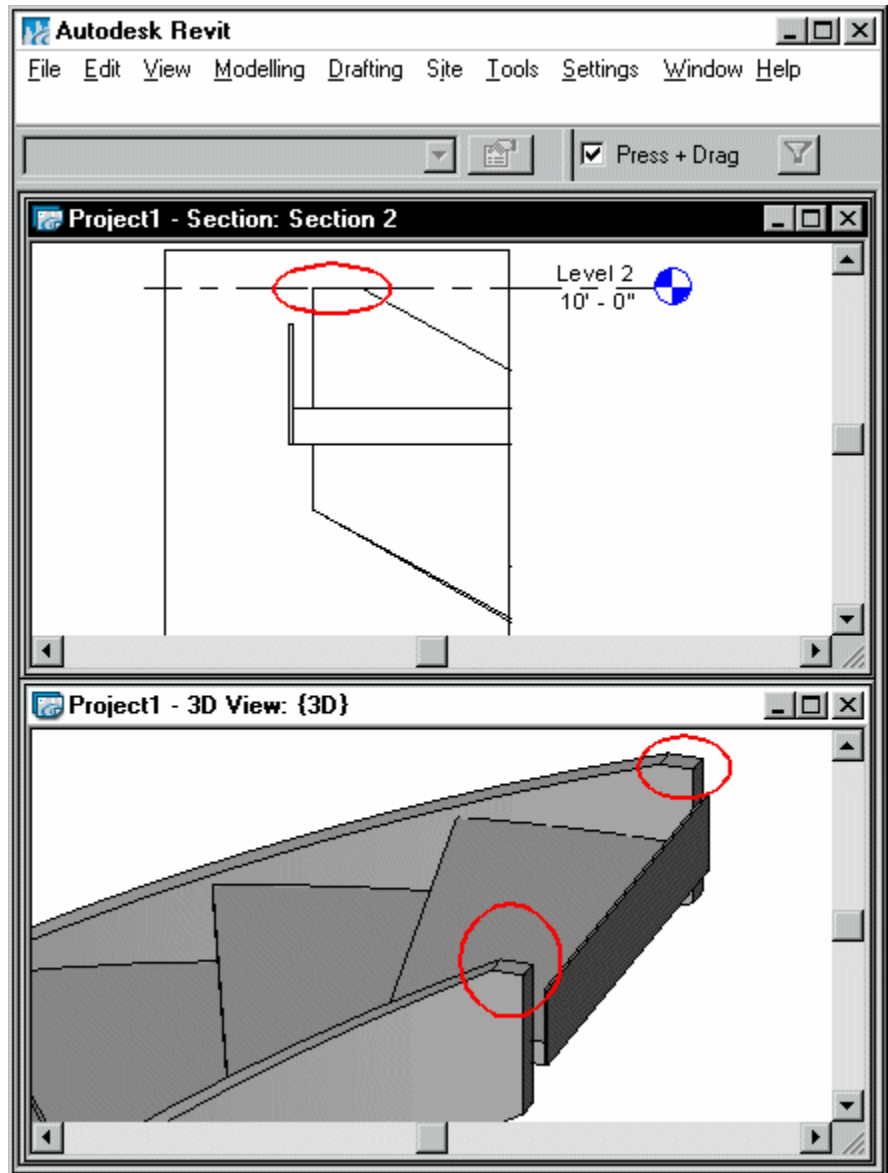
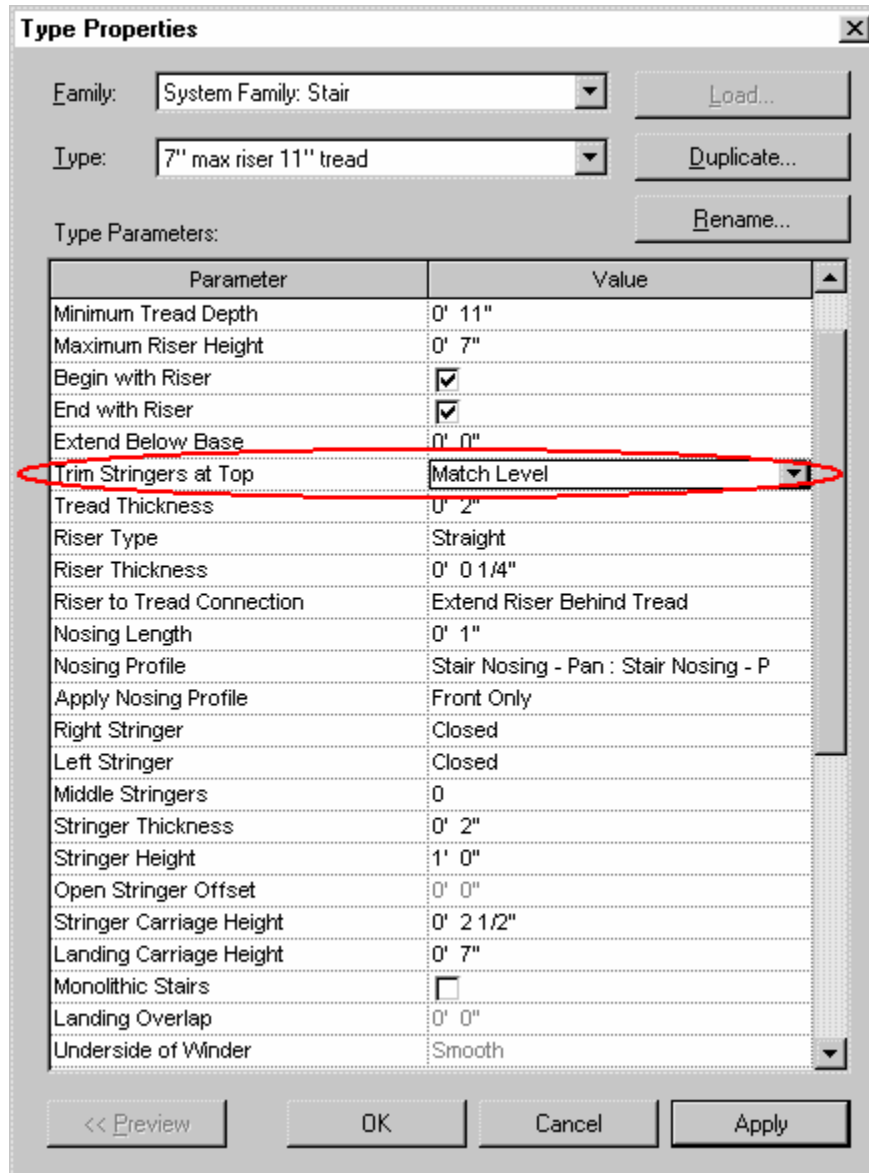
Type Parameters: Rename...

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	Straight
Riser Thickness	0' 0 1/4"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Stair Nosing - Pan : Stair Nosing - P
Apply Nosing Profile	Front Only
Right Stringer	Closed
Left Stringer	Closed
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

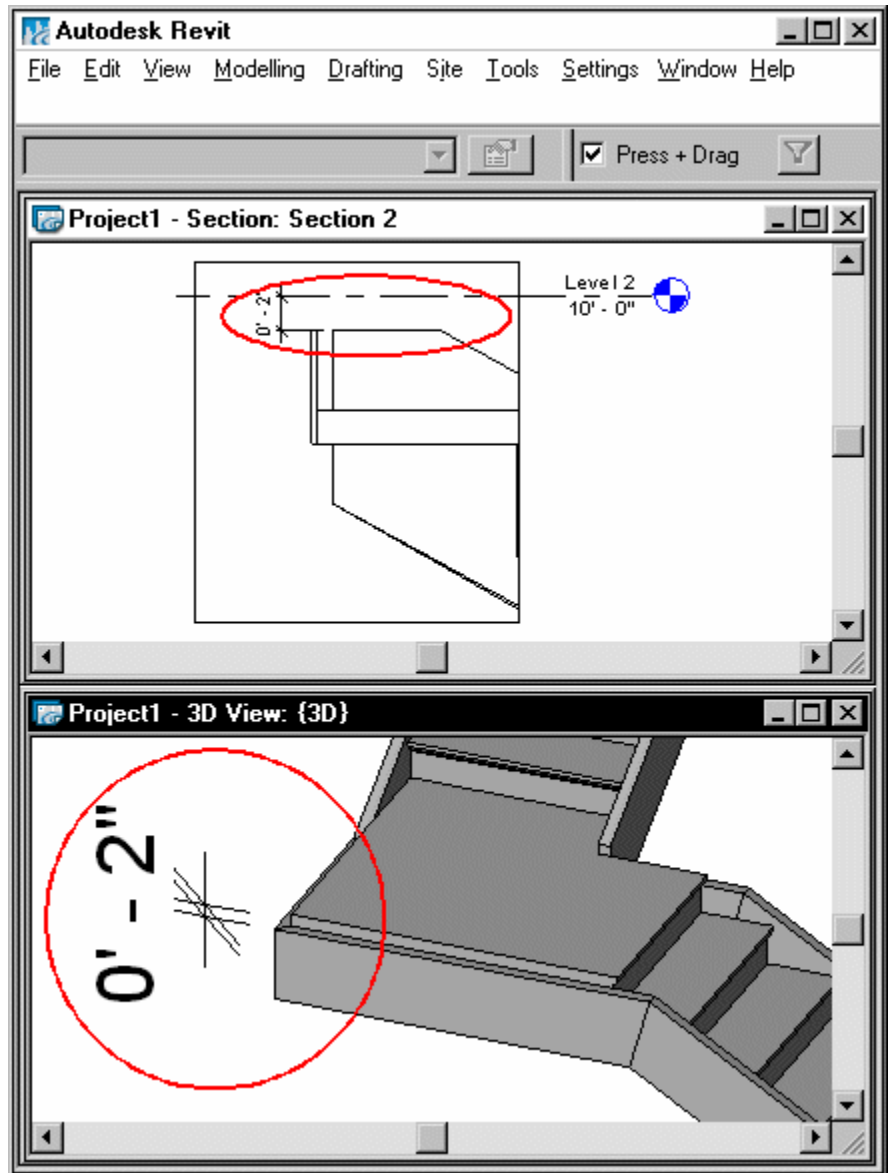
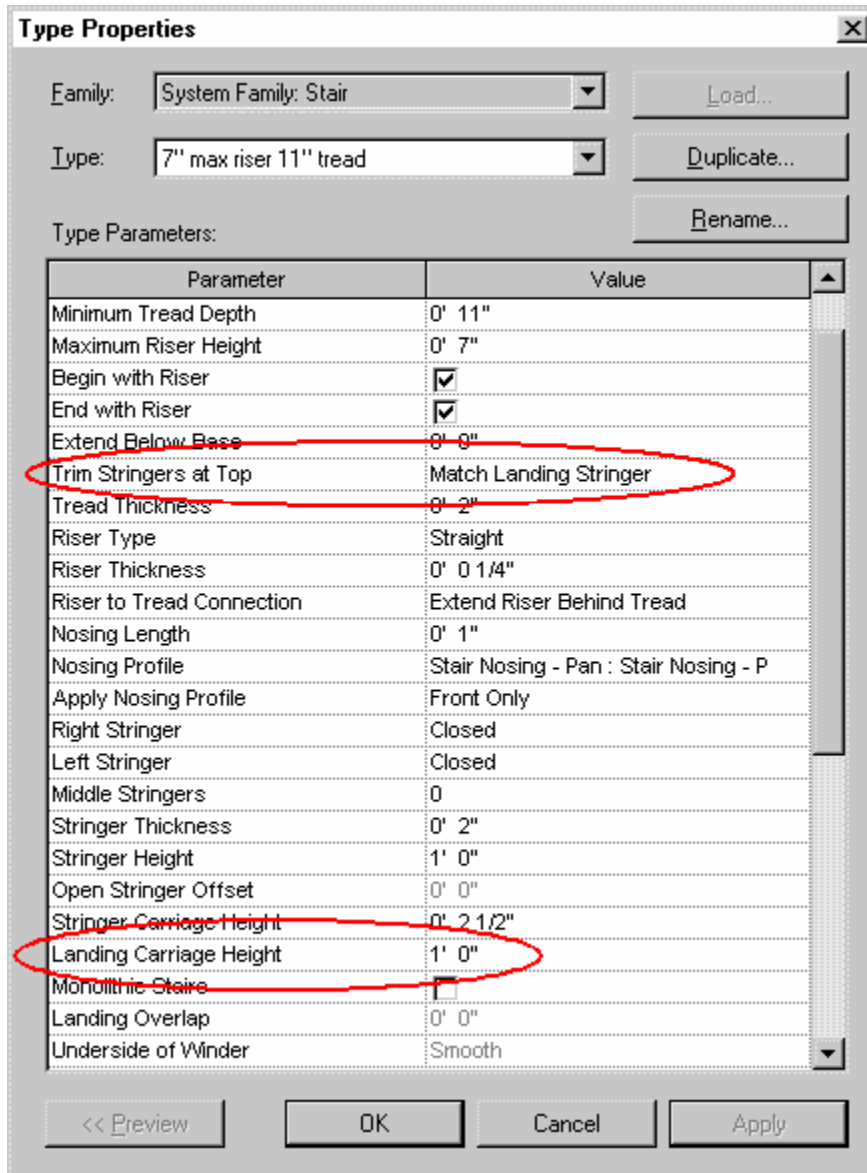
<< Preview OK Cancel Apply



**End with Riser turned OFF**

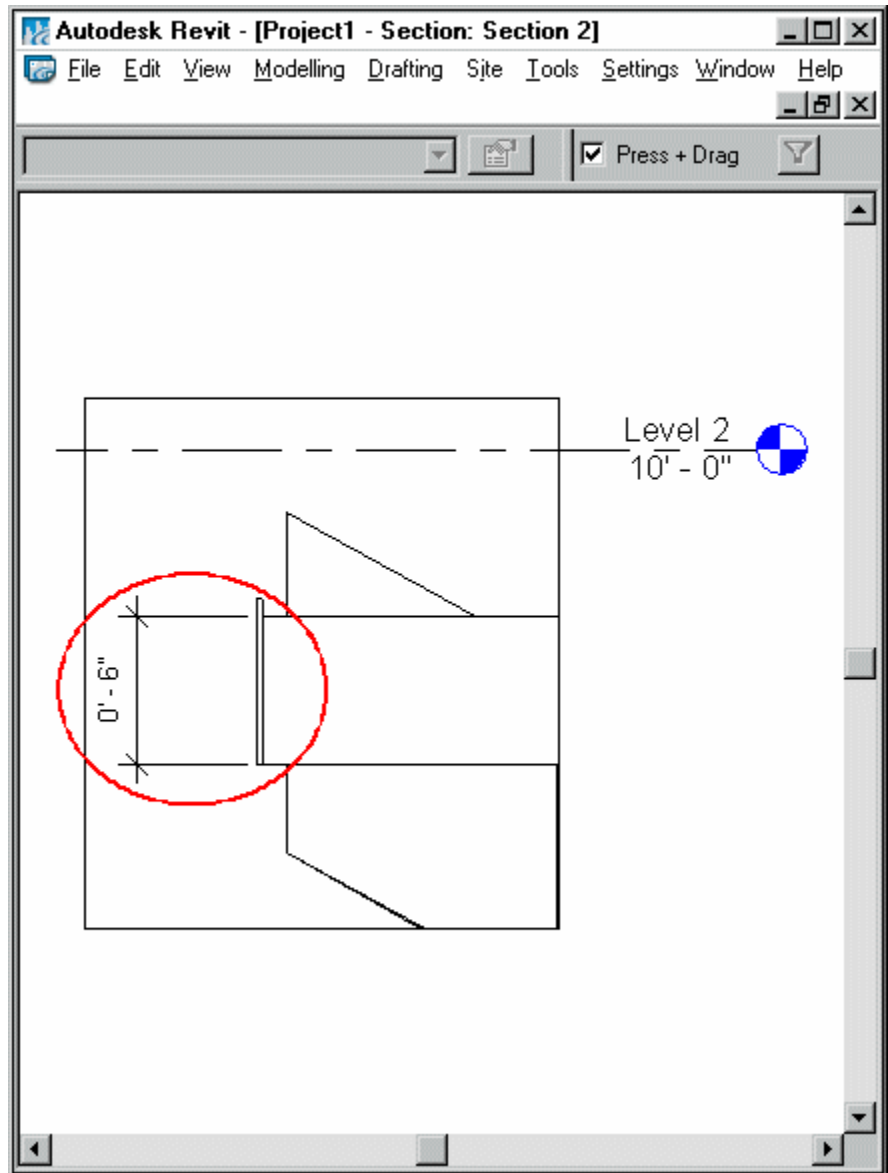
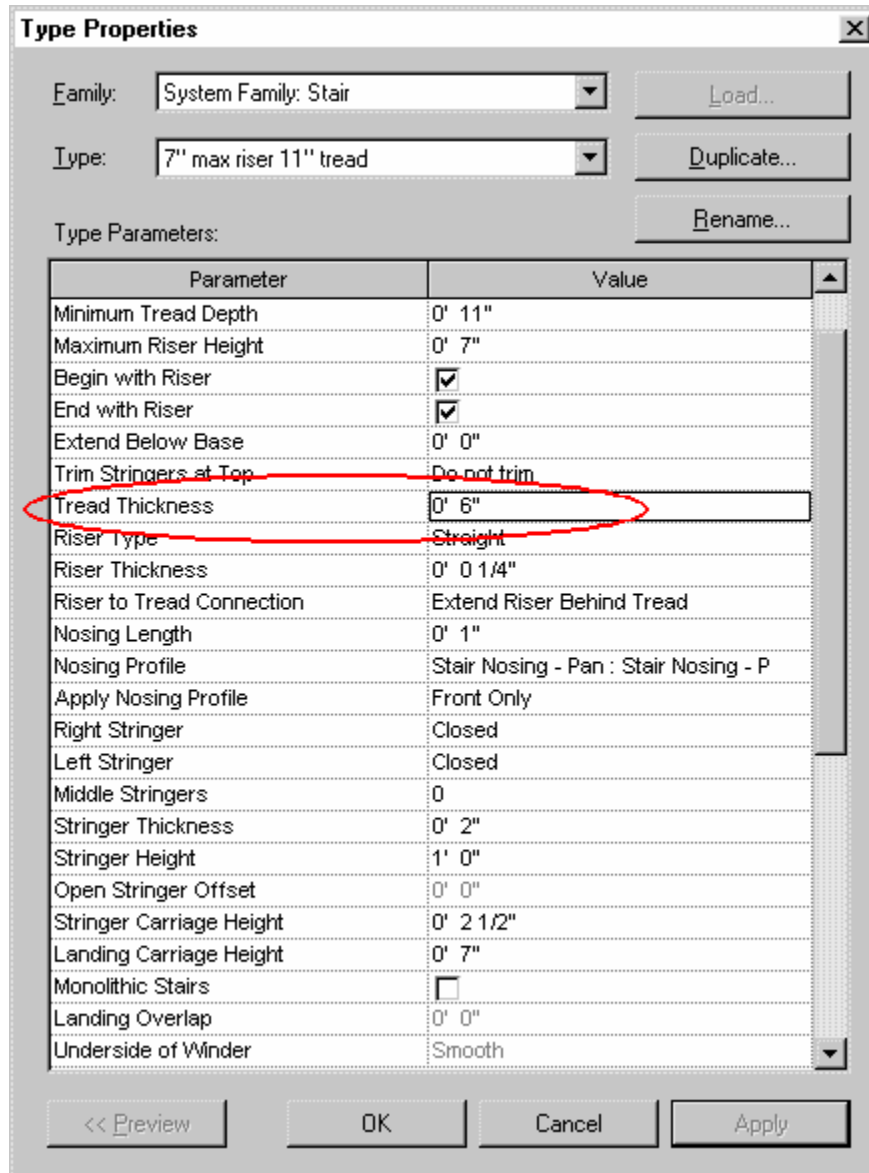


**“Trim Stringers at Top” set to “Match Level”**



**“Trim Stringers at Top” set to “Match Landing Stringer”**

Sets the top of the stair to have the same apparent offset as around the landings (as controlled by Landing Carriage Height – see below)



**“Tread Thickness” set to 6”** (default is 2”)

**Note:** the stringer bottom stays equidistant from the bottom of the tread resulting in a downward movement of the top of the stringer.

**Type Properties**

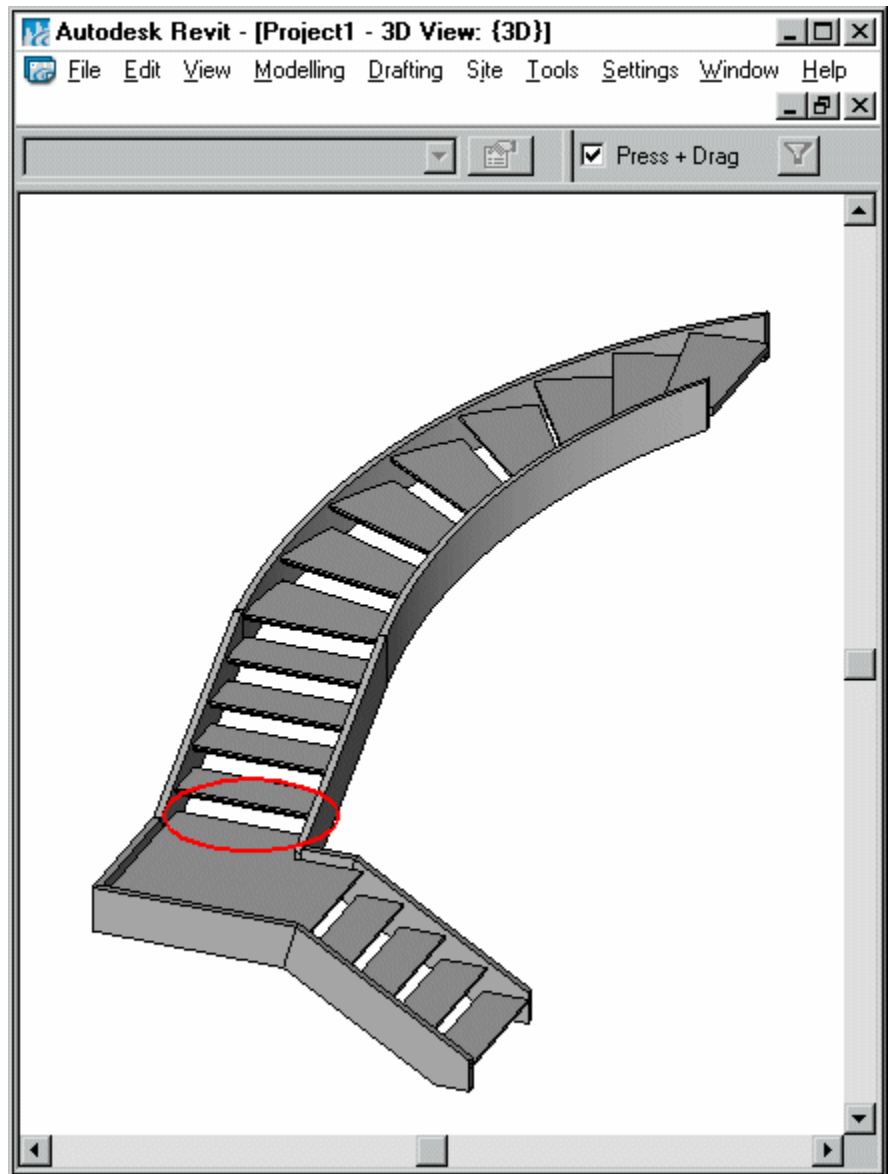
Family: System Family: Stair Load...

Type: 7" max riser 11" tread Duplicate...

Type Parameters: Rename...

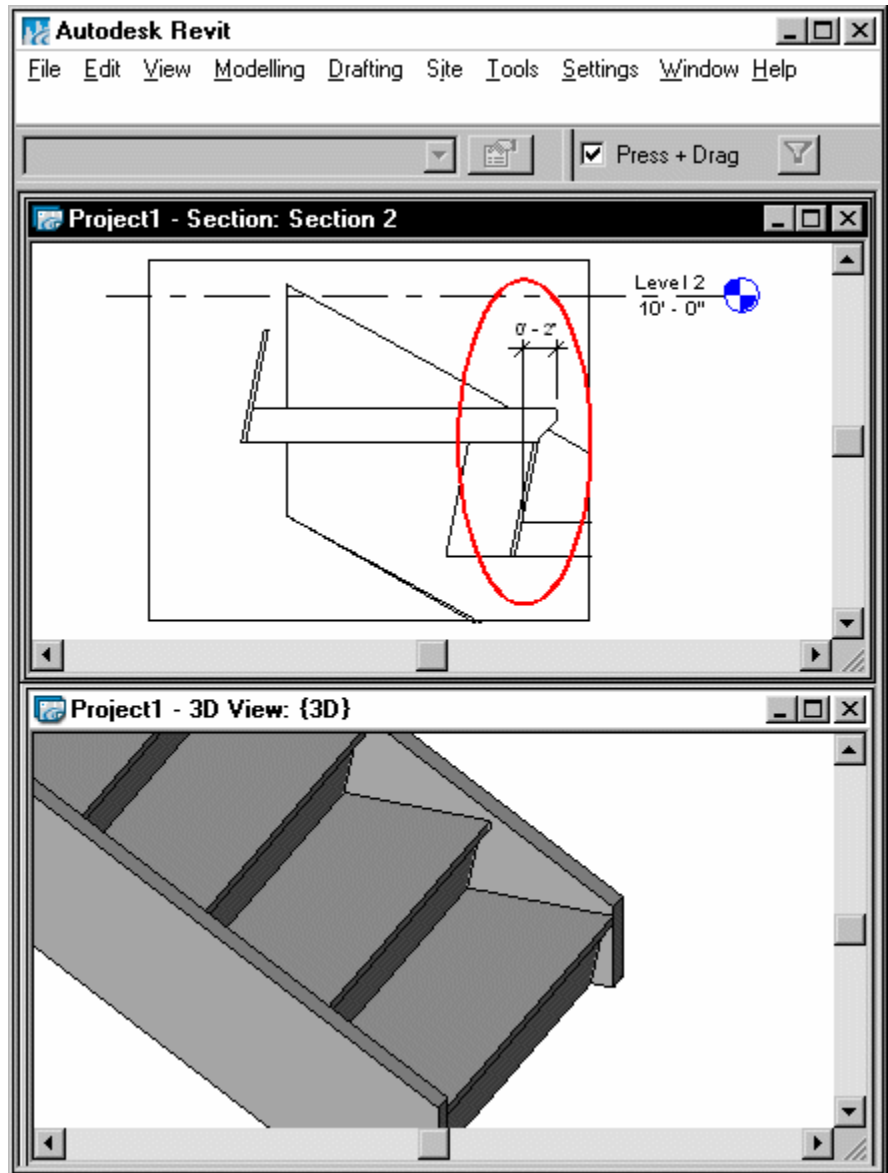
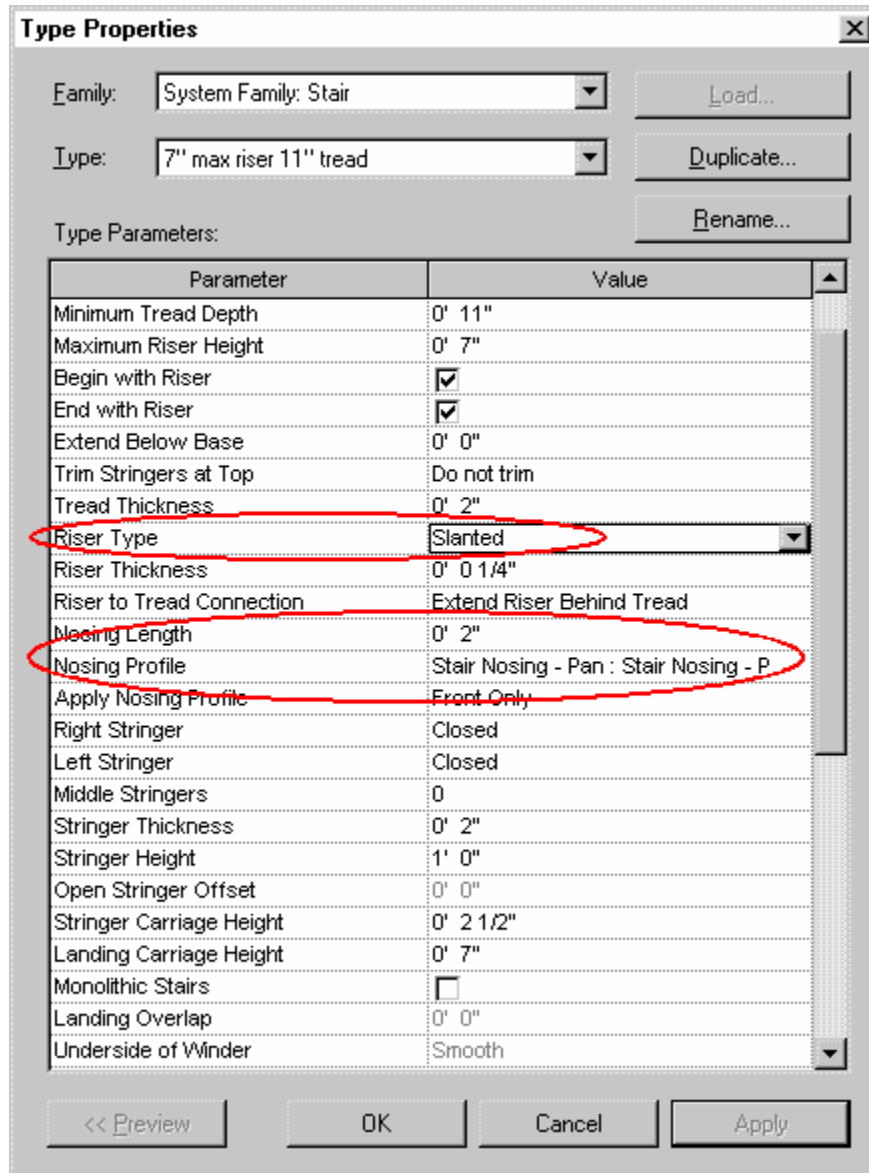
Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	None
Riser Thickness	0' 0 1/4"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Stair Nosing - Pan : Stair Nosing - P
Apply Nosing Profile	Front Only
Right Stringer	Closed
Left Stringer	Closed
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

<< Preview OK Cancel Apply



**“Riser Type” set to “None”**





**“Riser Type” set to “Slanted”**

**Note:** This parameter is dependant on the Nosing Length and Nosing profile. The nosing length is measured from the end of the profile to the back of the next lower tread. A slanted riser goes from the back of the profile to the back of the tread below as whatever angle is required to fill the gap.

**Type Properties**

Family: System Family: Stair [Load...]

Type: 7" max riser 11" tread [Duplicate...]

Type Parameters: [Rename...]

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	Straight
Riser Thickness	0' 1"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Stair Nosing - Pan : Stair Nosing - P
Apply Nosing Profile	Front Only
Right Stringer	Closed
Left Stringer	Closed
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

<< Preview    OK    Cancel    Apply

Autodesk Revit - [Example Stair.rvt - Section: Section 2]

File Edit View Modelling Drafting Site Tools Settings Window Help

Press + Drag

Level 2  
10' - 0"

Click to select, TAB for alternates, CTRL adds, SHIFT unselects. Left i

**“Riser Thickness” set to 0’ 1” (default is ¼”)**

**Type Properties**

Family: System Family: Stair [Load...]

Type: 7" max riser 11" tread [Duplicate...]

Rename...

Type Parameters:

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	Straight
Riser Thickness	0' 0 1/4"
<b>Riser to Tread Connection</b>	<b>Extend Tread Under Riser</b>
Nosing Length	0' 1"
Nosing Profile	Stair Nosing - Pan : Stair Nosing - P
Apply Nosing Profile	Front Only
Right Stringer	Closed
Left Stringer	Closed
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

<< Preview    OK    Cancel    Apply

Autodesk Revit - [Example Stair.rvt - Section: Section 2]

File Edit View Modelling Drafting Site Tools Settings Window Help

Press + Drag

Level 2  
10' - 0"

Click to select, TAB for alternates, CTRL adds, SHIFT unselects. Left i

**“Riser to Tread Connection” set to “Extend Tread Under Riser”** (default is Extend Riser *Behind* Tread)

**Type Properties**

Family: System Family: Stair Load...

Type: 7" max riser 11" tread Duplicate...

Rename...

Type Parameters:

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	Straight
Riser Thickness	0' 1"
Riser to Tread Connection	Extend Riser Behind Tread
<b>Nosing Length</b>	<b>0' 3"</b>
Nosing Profile	Stair Nosing - Pan : Stair Nosing - P
Apply Nosing Profile	Front Only
Right Stringer	Closed
Left Stringer	Closed
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

<< Preview OK Cancel Apply

Autodesk Revit - [Example Stair.rvt - Section: Section 2]

File Edit View Modelling Drafting Site Tools Settings Window Help

Press + Drag

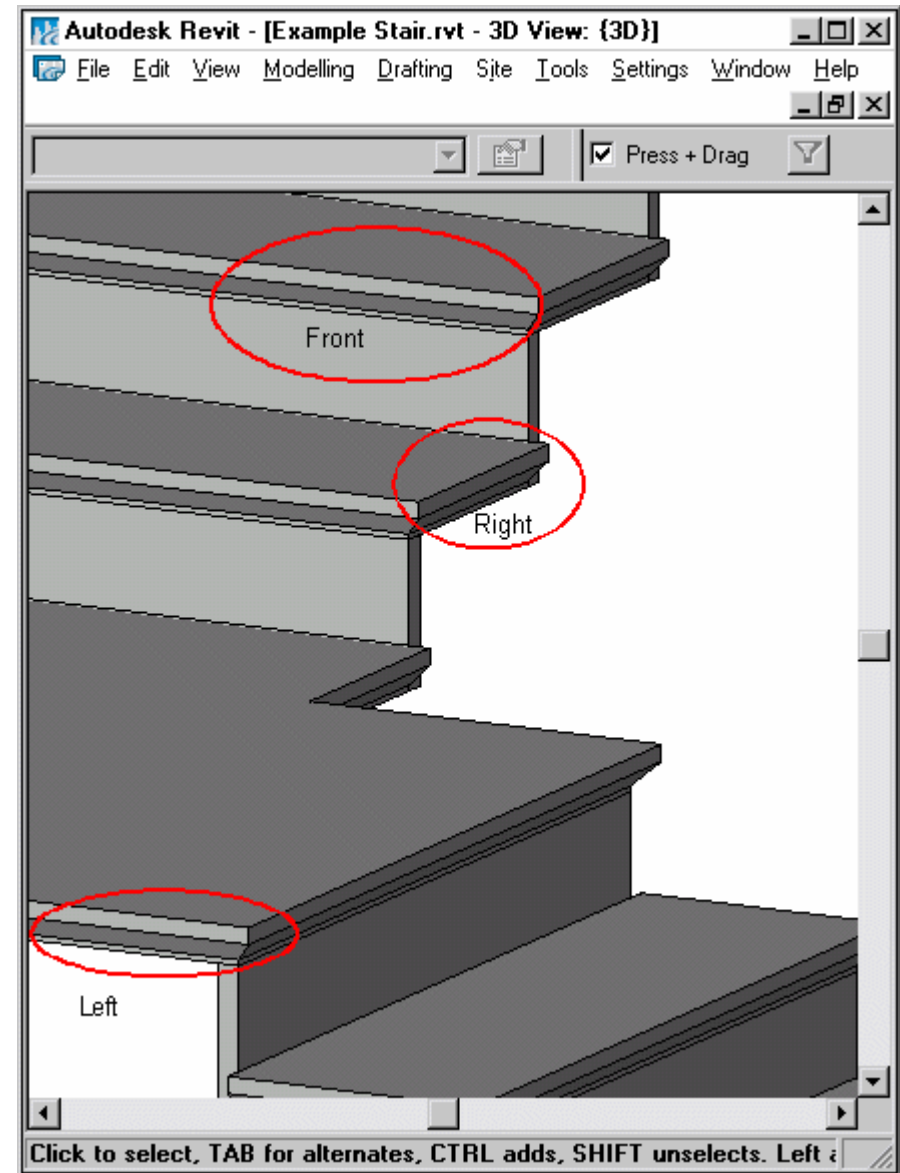
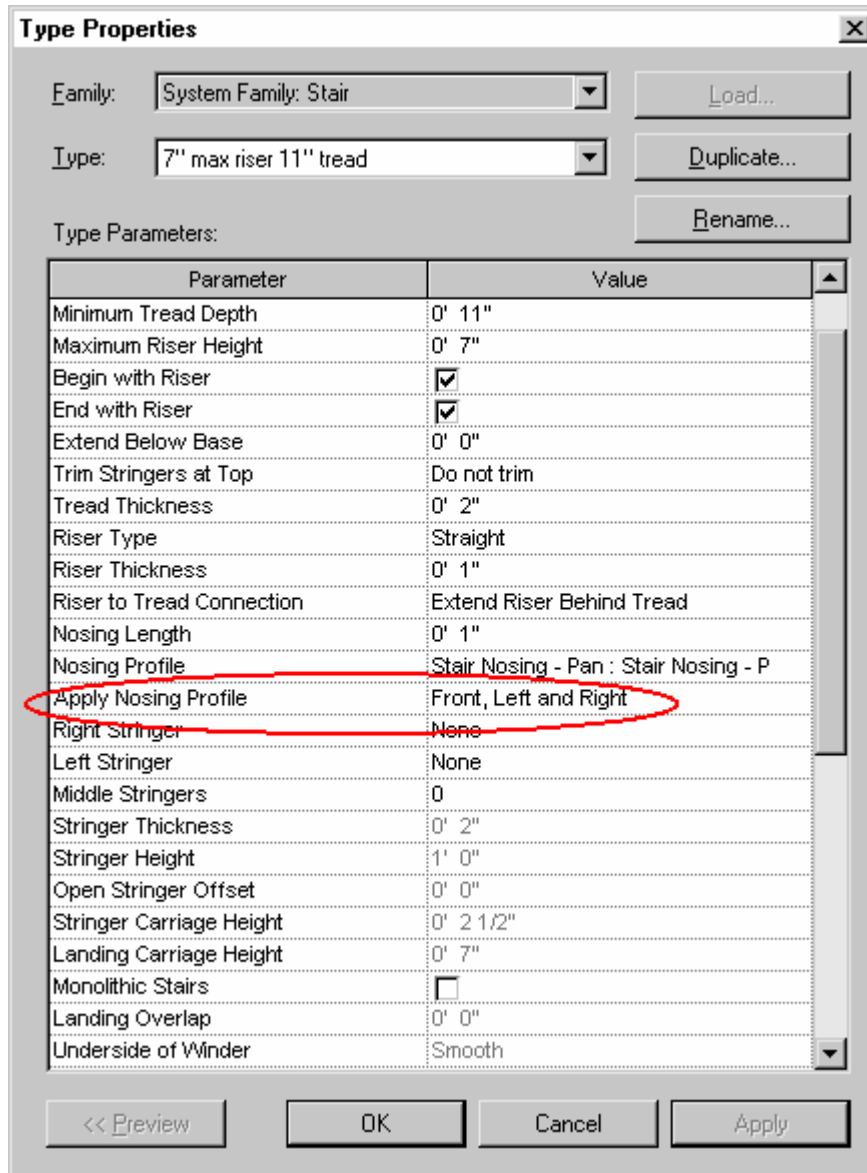
Level 2  
10' - 0"

0' - 3"

Click to select, TAB for alternates, CTRL adds, SHIFT unselects. Left i

**“Nosing Length” set to 3”**

**Note:** The nosing length is measured from the end of the profile to the back of the next lower tread.



**“Apply Nosing Profile” set to “Front Left and Right”** (Other options are – “Front Only”, “Front and Left”, “Front and Right”)  
**Note:** Left and/or Right nosing will only be visible if “Right Stringer” and/or “Left Stringer” parameters are set to “None” or “Open”.

**Type Properties**

Family: System Family: Stair

Type: 7" max riser 11" tread

Type Parameters:

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	Straight
Riser Thickness	0' 1"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Stair Nosing - Pan : Stair Nosing - P
Apply Nosing Profile	Front Only
Right Stringer	Open
Left Stringer	None
Middle Stringers	8
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

Buttons: << Preview, OK, Cancel, Apply

**Autodesk Revit - [Example Stair.rvt - 3D View: {3D}]**

File Edit View Modelling Drafting Site Tools Settings Window Help

Press + Drag

Open

None

Click to select, TAB for alternates, CTRL adds, SHIFT unselects. Left i

**“Right Stringer” set to “Open” / “Left Stringer” set to “None” (default is “Closed”)**

**Type Properties**

Family: System Family: Stair [Load...]

Type: 7" max riser 11" tread [Duplicate...]

Rename...

Type Parameters:

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	None
Riser Thickness	0' 1"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Default
Apply Nosing Profile	Front Only
Right Stringer	None
Left Stringer	None
Middle Stringers	2
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

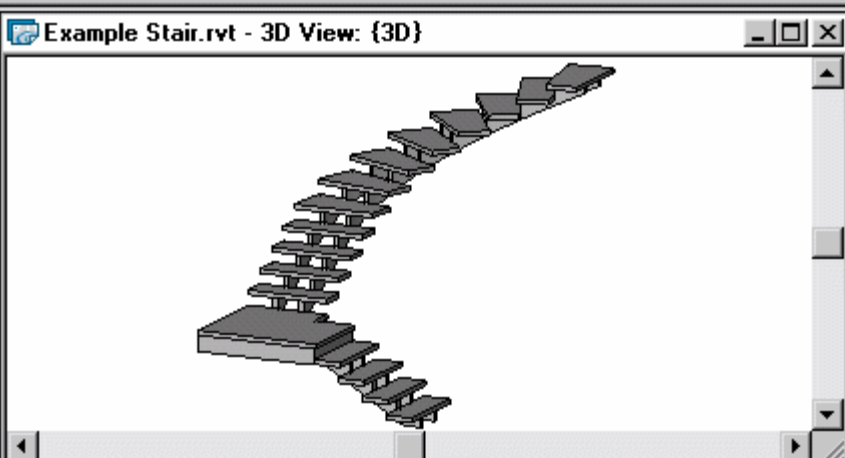
<< Preview    OK    Cancel    Apply

**Autodesk Revit**

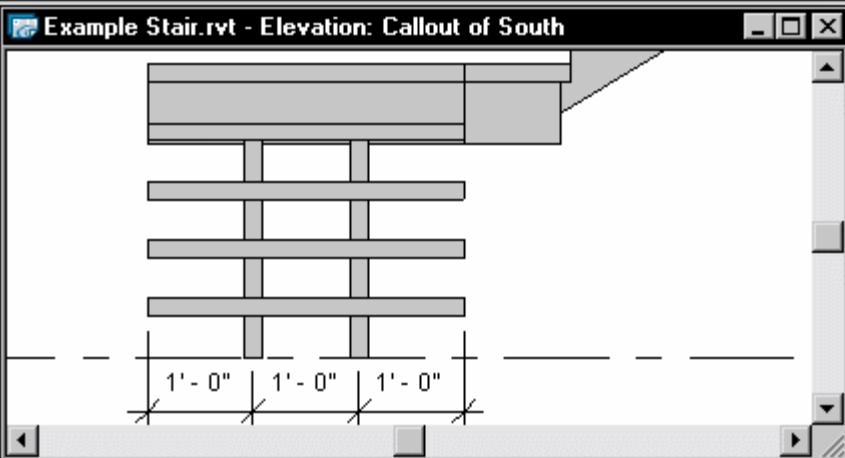
File Edit View Modelling Drafting Site Tools Settings Window Help

Press + Drag

**Example Stair.rvt - 3D View: {3D}**



**Example Stair.rvt - Elevation: Callout of South**



Click to select, TAB for alternates, CTRL adds, SHIFT unselects. Left

**“Middle Stringers” set to “2”**

**Note:** Middle Stringers will be spaced equidistant along their centerlines from the outside edge of the treads.

**Type Properties**

Family: System Family: Stair Load...

Type: 7" max riser 11" tread Duplicate...

Rename...

Type Parameters:

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	Straight
Riser Thickness	0' 1"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Default
Apply Nosing Profile	Front Only
Right Stringer	Closed
Left Stringer	Closed
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 3"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

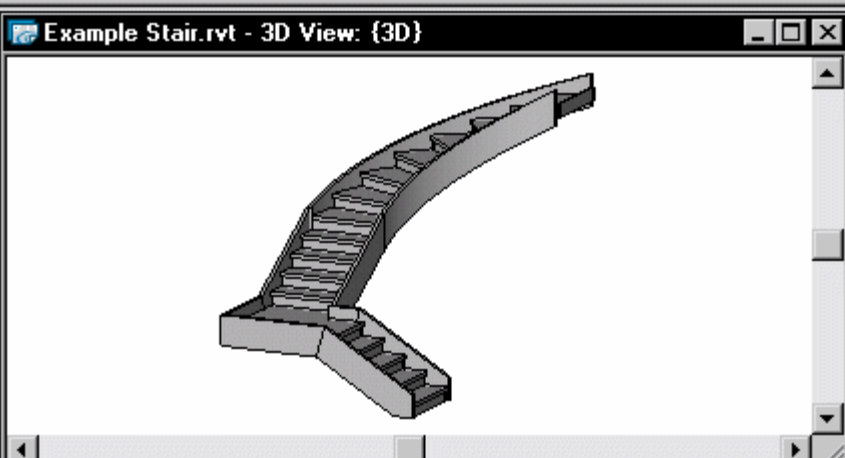
<< Preview OK Cancel Apply

**Autodesk Revit**

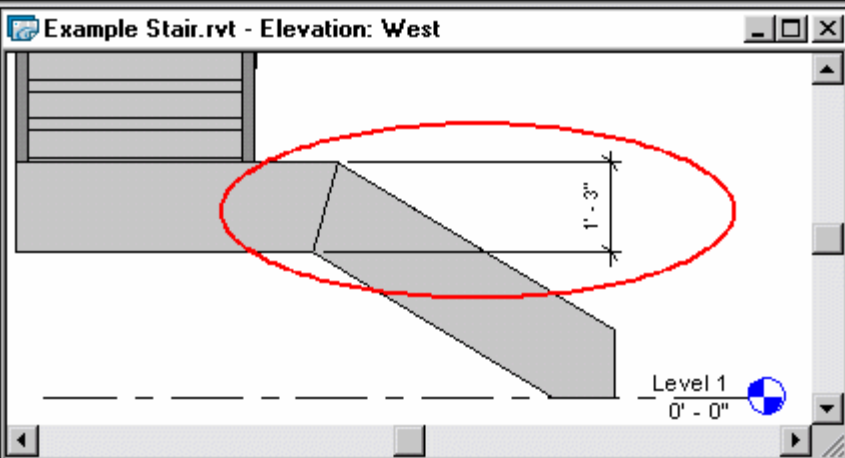
File Edit View Modelling Drafting Site Tools Settings Window Help

Press + Drag

**Example Stair.rvt - 3D View: {3D}**



**Example Stair.rvt - Elevation: West**



Level 1  
0' - 0"

Click to select, TAB for alternates, CTRL adds, SHIFT unselects. Left

“Stringer Height” set to 1’ 3” (default is 1’ 0”)



**Type Properties**

Family: System Family: Stair

Type: 7" max riser 11" tread

Type Parameters:

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	None
Riser Thickness	0' 1"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Default
Apply Nosing Profile	Front Only
Right Stringer	Open
Left Stringer	Open
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 3"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

Buttons: << Preview, OK, Cancel, Apply

**Autodesk Revit**

File Edit View Modelling Drafting Site Tools Settings Window Help

Example Stair.rvt - 3D View: {3D}

Example Stair.rvt - Elevation: Callout of South

Level 1

0' - 3" 0' - 3" 0' - 0"

Click to select, TAB for alternates, CTRL adds, SHIFT unselects. Left

**“Open Stringer Offset” set to 3”**

**Note:** This parameter only works when the left and/or right string is set to open – the dimension is measured as shown above.

**Type Properties**

Family: System Family: Stair

Type: 7" max riser 11" tread

Type Parameters:

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	Straight
Riser Thickness	0' 1"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Default
Apply Nosing Profile	Front Only
Right Stringer	Closed
Left Stringer	Closed
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
<b>Stringer Carriage Height</b>	<b>0' 2 1/2"</b>
Landing Carriage Height	0' 7"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

<< Preview    OK    Cancel    Apply

Autodesk Revit - [Example Stair.rvt - Elevation: West]

File Edit View Modelling Drafting Site Tools Settings Window Help

Press + Drag

Level 0' -

Click to select, TAB for alternates, CTRL adds, SHIFT unselects. Left

“Stringer Carriage Height” set to 2 1/2” (default)

**Type Properties**

Family: System Family: Stair [Load...]

Type: 7" max riser 11" tread [Duplicate...]

[Rename...]

Type Parameters:

Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	Straight
Riser Thickness	0' 1"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Default
Apply Nosing Profile	Front Only
Right Stringer	Closed
Left Stringer	Closed
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 6"
Monolithic Stairs	<input type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

<< Preview    OK    Cancel    Apply

Autodesk Revit - [Example Stair.rvt - Elevation: West]

File Edit View Modelling Drafting Site Tools Settings Window Help

Press + Drag

0' - 6"

Click to select, TAB for alternates, CTRL adds, SHIFT unselects. Left

**“Landing Carriage Height” set to 6” (default is 7”)**

**Type Properties**

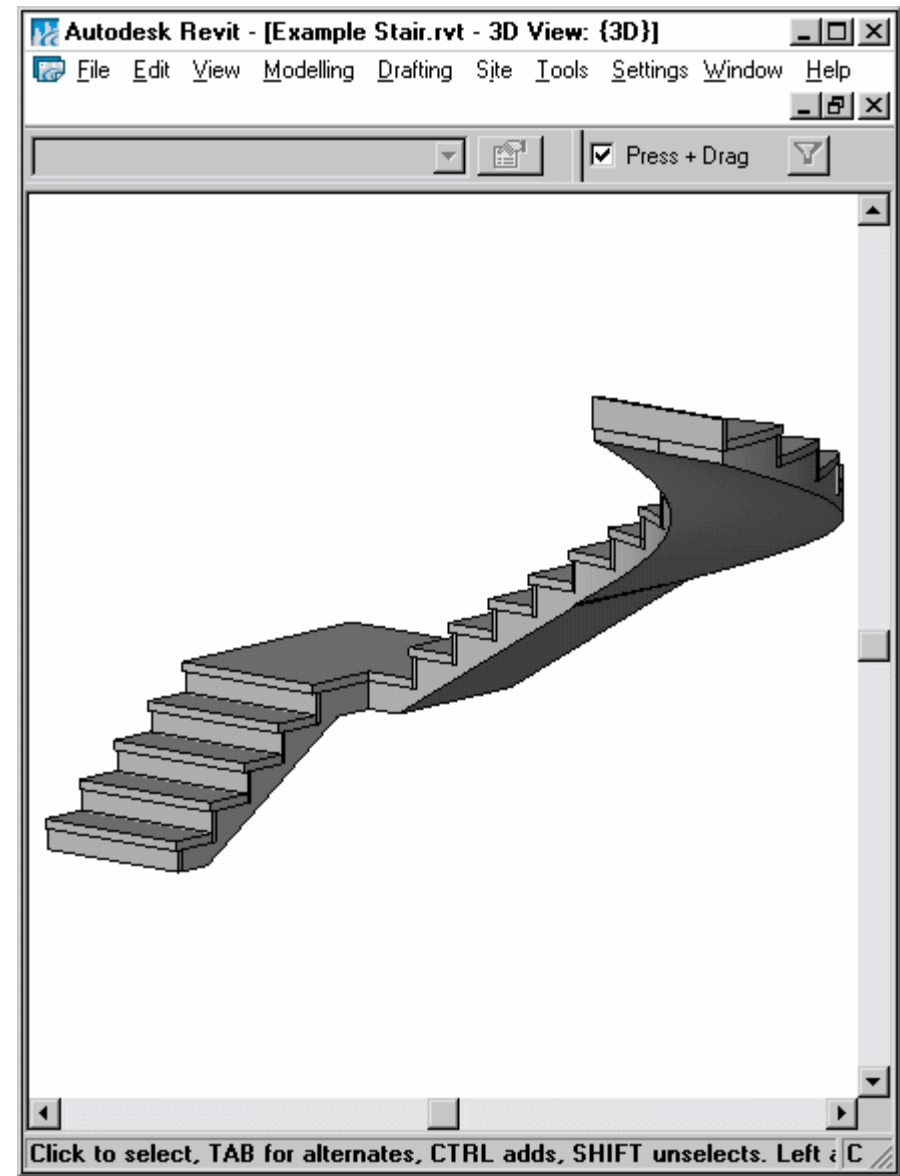
Family: System Family: Stair [Load...]

Type: 7" max riser 11" tread [Duplicate...]

Type Parameters: [Rename...]

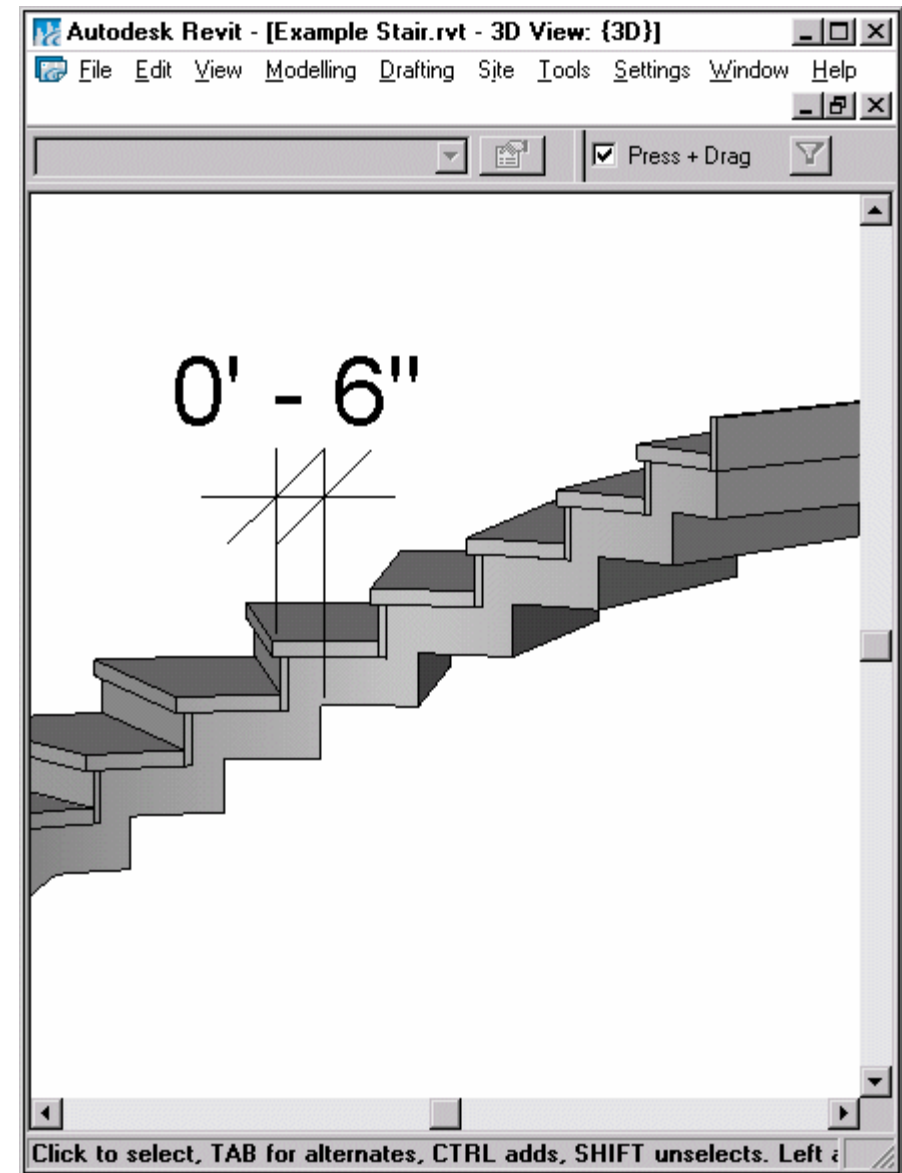
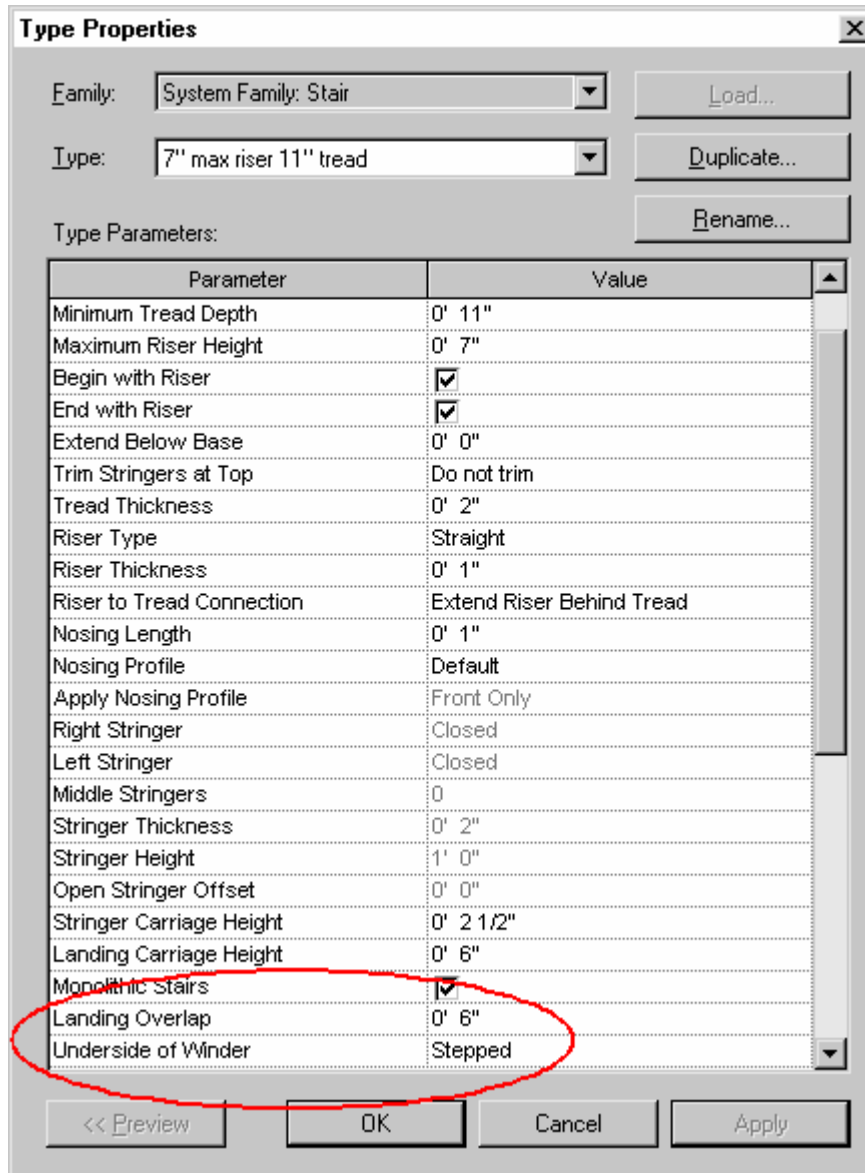
Parameter	Value
Minimum Tread Depth	0' 11"
Maximum Riser Height	0' 7"
Begin with Riser	<input checked="" type="checkbox"/>
End with Riser	<input checked="" type="checkbox"/>
Extend Below Base	0' 0"
Trim Stringers at Top	Do not trim
Tread Thickness	0' 2"
Riser Type	Straight
Riser Thickness	0' 1"
Riser to Tread Connection	Extend Riser Behind Tread
Nosing Length	0' 1"
Nosing Profile	Default
Apply Nosing Profile	Front Only
Right Stringer	Closed
Left Stringer	Closed
Middle Stringers	0
Stringer Thickness	0' 2"
Stringer Height	1' 0"
Open Stringer Offset	0' 0"
Stringer Carriage Height	0' 2 1/2"
Landing Carriage Height	0' 6"
Monolithic Stairs	<input checked="" type="checkbox"/>
Landing Overlap	0' 0"
Underside of Winder	Smooth

<< Preview    OK    Cancel    Apply



**“Monolithic Stairs” turned “On”**

This parameter makes the configuration, more or less, a single mass. The stringers are automatically “opened” treads and risers are maintained as somewhat separate elements for purposes of applying different materials.



**“Landing Overlap” set to 6”** (default is 0) *and* **“Underside of Winder” set to “Stepped”** (default is “Smooth”)

This value is available when Monolithic Stairs is turned on and impacts only the stepped underside of winders. The measurement is taken from the end of the Nosing Profile to the back of the solid (monolithic) winder for the step below