



STUDY ON THE PERFORMANCE OF LIGHT AND SHADOW EFFECT IN REVIT

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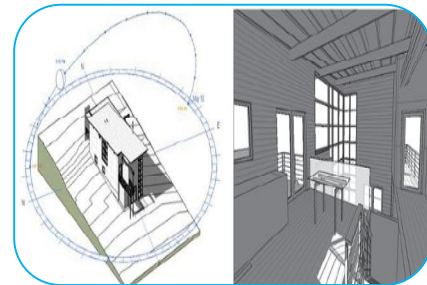
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ABSTRACT

According to J.F. McLennan, the goal of sustainable design is to "eliminate negative environmental impact completely through skillful, sensitive design." Sustainable design manifestations help people connect with the natural environment, use renewable resources, and have little impact on the environment. Consider determining the appearance of a building's shadow when planning its areas. Sometimes, you need to figure out what plants, windows, or exterior walls are shaded by. Utilizing the Solar Analysis tool that comes with the Insight plug-in for the Revit software is one option for obtaining this data. The other option is to use advanced Dynamo and Revit API processes to determine the direction of the sun and the shaded areas of the entire building or of specific Revit models, such as walls, roofs, or windows. This article gives a premise to utilizing BIM models for the plan and examination of feasible structures.



KEYWORDS: effect of light and shadow, Revit, sustainable building design, analysis.

INTRODUCTION

The part of a lighting fixture that produces light, like a light bulb, is called a light source. There is typically only one light source in each family of lighting fixtures. To make a lighting installation that utilizes various light sources, (for example, a ceiling fixture or a bunch of track lights), make a settled family. Placing lights into a Revit project and recording them ought to be simple, yet some way or another it isn't. This is due, to the fact that every light family is formed in a unique manner, resulting in unique behaviors. You must use families that are ideal for you and fit your needs. This document is meant to help you understand the complexities of creating a great lighting family that works well in the processes of design, documentation, calculation, and rendering. We have had a go at making sense of the central issues in a reasonable and brief way and not delve into a staggering measure of detail. It is expected that the peruser is equipped at Revit and at making parametric families.

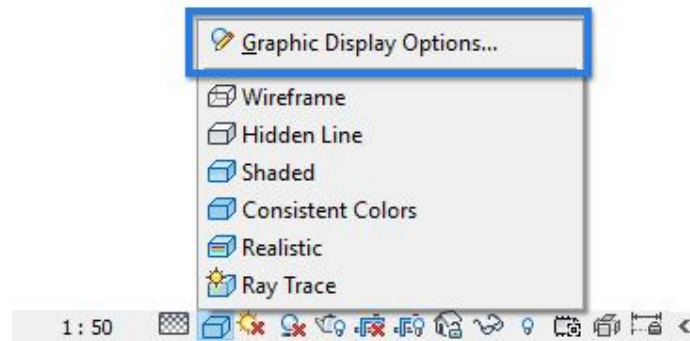
REVIT TOOLS USE IN THE STUDIO

Revit is thought of "not cool" in school, for the most part since it is seen as a specialized device. The professors believe that students will use it to create sterile projects using pre-made parts.

For novices, the design and presentation tools are obscure. This aims to provide students with some pointers on how to defy the stereotype of "boring technical tools" and produce compelling presentation documents.

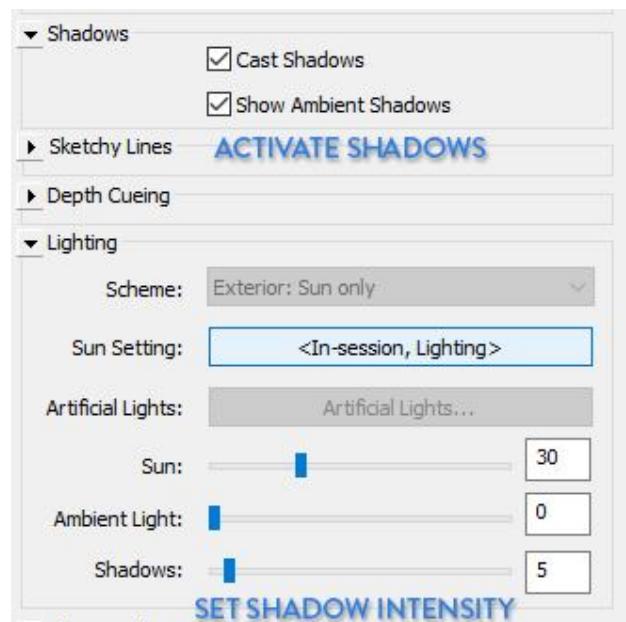
1- SHADOWS

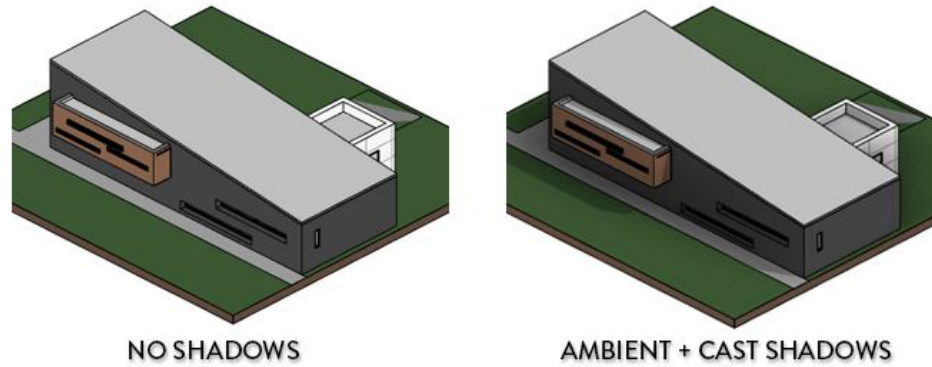
Don't bother trading heights to Photoshop assuming you need shadows. You can do that with Revit.



To access shadows, navigate to Graphic Display Option in the view control bar. In Revit, there are two types of shadows: Cast and Ambient. Encompassing shadows mirror the impacts of an overcast sky. It can deliver extremely intriguing reports, the drawback is that it is absolutely impossible to control the force of the impact.

Create shaded areas force can be changed in the Lighting menu, by diminishing or enlarging the Shadows esteem. Use Sun Setting menu to change sun direction.

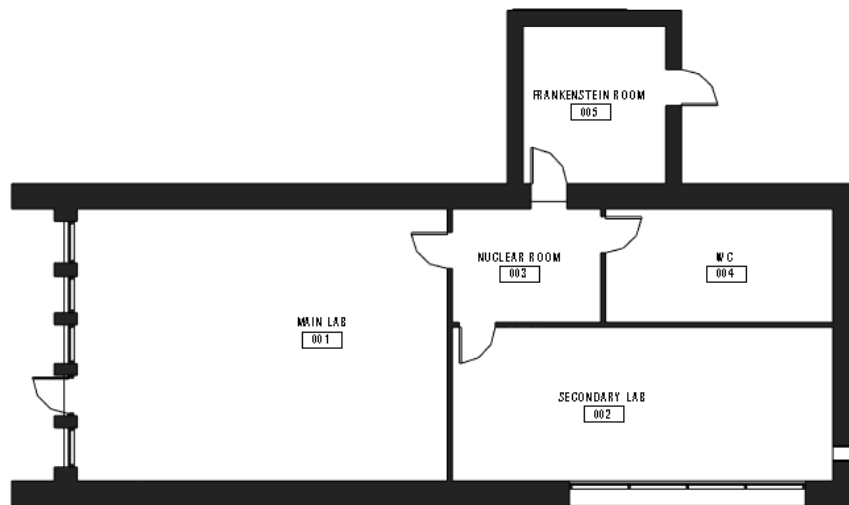




2- POCHE

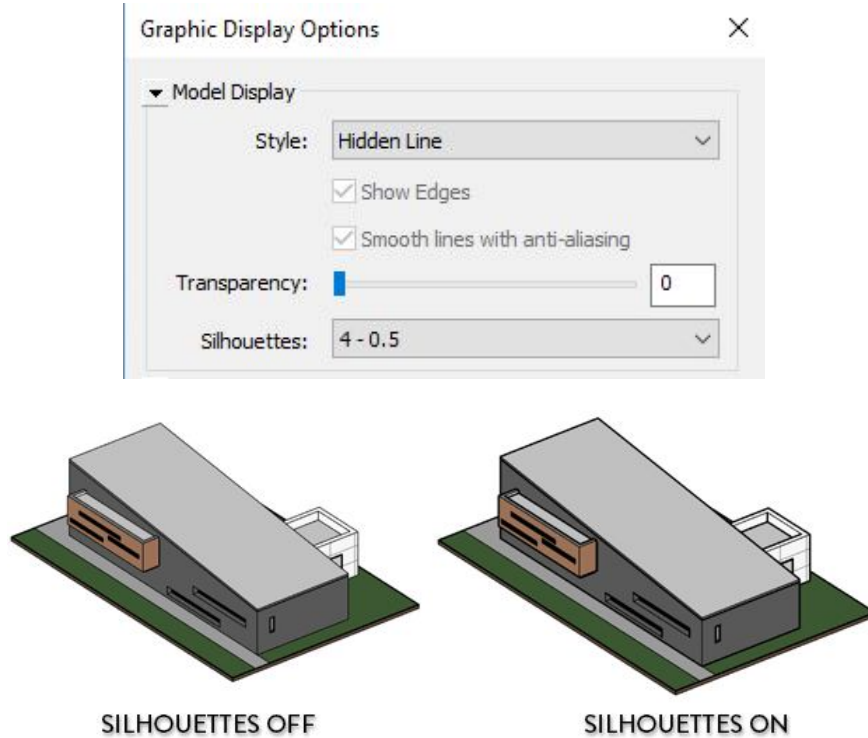
Need a charming show plan with poche? Go to the graphics for visibility (shortcut: VG) and track down the wall classification. Select "Patterns" from the Cut sub-menu. Set the desired color and select solid fill. That is all there is to it! The poche plan is complete.

Visibility	Projection			Cut	
	Lines	Patterns	Transparency	Lines	Patterns
<input checked="" type="checkbox"/> Walls					



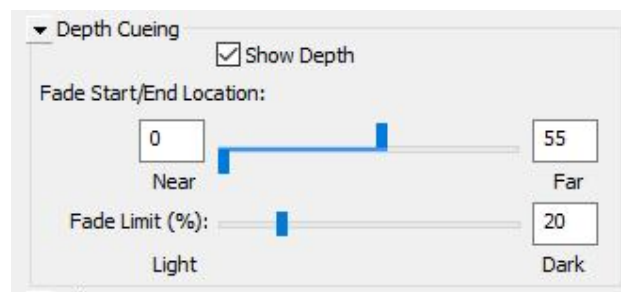
3- SILHOUETTES

3D views and elevations may appear somewhat flat by default. Enact outlines in Realistic Showcase Choices to make edge lines thicker. This instrument is a fast method for giving a feeling of realism. The Lineworks tool might work better for more precision.



4- DEPTH CUEING

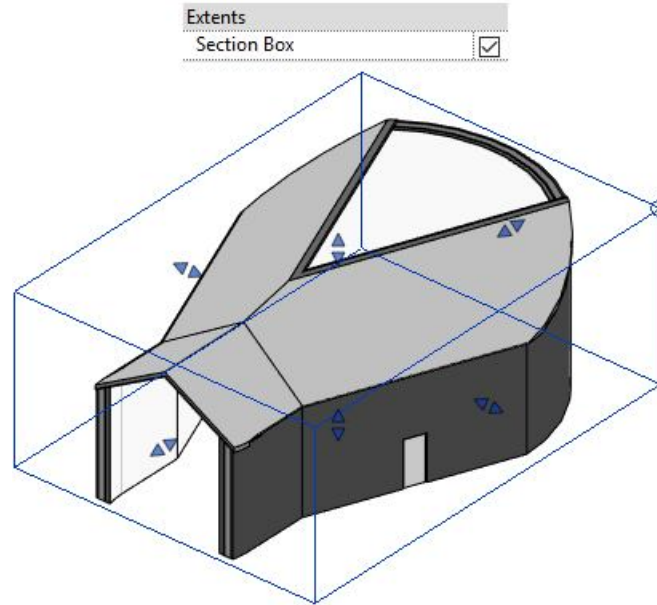
Elevations in Revit are notoriously unsightly. When people realize how powerful the Depth Cueing tool is, I believe this myth will gradually dissipate. Depending on how far apart elements are, it creates a grey gradient. See this post on rises for a total instructional exercise.



ACTIVATE DEPTH CUEING

5- SECTION BOX

You can use this tool to cut through your project in three-dimensional views. To change the section box, just move the blue arrows. This tool can be found in a 3D view's properties.



6- FREE CLOUD RENDERING

Send your Revit model to the Autodesk server, and within less than an hour, you'll get an email with a complete rendering.

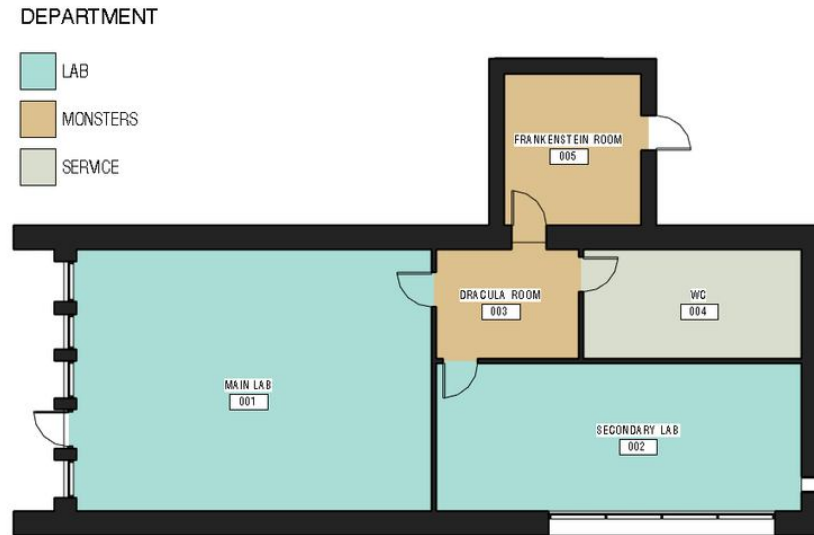
You can create VR rendering and 360-degree panorama views in addition to still images. How cool could it be to give your client VR goggle?



The misconception that renderings should not be done in Revit is also dispelled, according to the image above.

7- COLOR SCHEME

Using Color Scheme, all of can be done automatically in Revit. Utilize the Color Fill Legend tool on the Annotate tab after ensuring that rooms have been created. Set the right division for each room in properties and change the varieties.

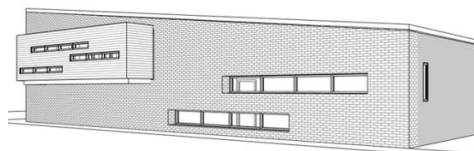


8- VIEW TEMPLATES

Settings from one view can be applied to other views using view templates.

You can see the standard, drab Revit perspective view in the first image. Each time you make another 3D view, this is the look you will get.

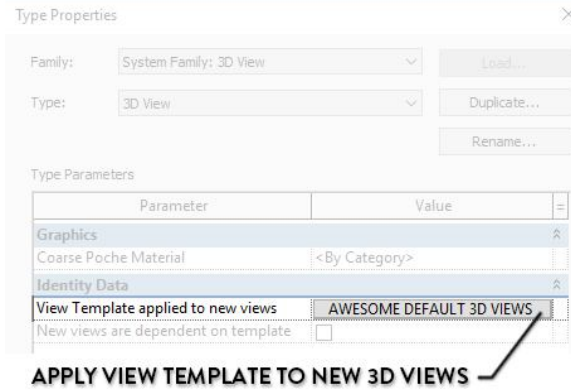
Create a view template based on a favorite 3D view to solve this issue. Then go to 3D perspectives type properties and relegate a view layout. All new 3D perspectives will have the shadows and tones look.



BORING DEFAULT 3D VIEW - NO VIEW TEMPLATE



AWESOME DEFAULT 3D VIEW - VIEW TEMPLATE ASSIGNED



9- SCHEDULES

At some point, we will have to figure out values like area and number of people living there. You can closely monitor these aspects with schedules. Room times are listed below. We ascertain inhabitants and complete region for each room and division.

AREA AND OCCUPANTS			
ROOM NUMBER	ROOM NAME	AREA	OCCUPANTS
LAB			
002	SECONDARY LAB	38 m ²	8
001	MAIN LAB	66 m ²	20
		104 m ²	
MONSTERS			
003	DRACULA ROOM	11 m ²	2
005	FRANKENSTEIN ROOM	17 m ²	3
		28 m ²	
SERVICE			
004	WC	17 m ²	0
		17 m ²	

Creating Better Shaded Views from Revit

how to get better images from Revit for proposals or marketing in this Click Saver. Because everyone believes that you must immediately use a photo editing program, it can be difficult to break old habits. you can get a superior variety base picture from Revit then you perhaps imagined. The following is what most people envision when receiving a color image from Revit.



Before printing the image or even just putting it on a sheet in Revit, we want the image to have more color and shadows to help it look better.



First of all, start with the default 3D view in Revit and use the "Duplicate" tool for plan views. Then, select "Top" from the "View Cube" to obtain the top-down view. You need to utilize the bolts at the upper right of the "View Block" to get the arrangement view pivoted accurately. Once that is finished, will select the Visual Style button on the Viewbar and use the "Graphic Display Options" tool for the subsequent settings.



Most of the time, you'll need to change the "Sun Setting" to get better shadow angles. Single out the "Daylight from Upper Right" and utilize the "Copy" button to make a new Preset. Presently change the "Azimuth" and "Elevation", You could have to fix the "Ground Plane at Level" so the shadows come in accurately,



You will have access to additional image enhancement options in the lower half of the dialog box. You can adjust the "Photographic Exposure" settings if the "Style" setting is set to "Realistic." In the event that the view is a "Camera" work with the "Foundation" drop-down to one or the other add "Sky" or "Slope", or even better add a "Picture" from the place of work. The biggest benefit is that you can use the same settings in multiple views by saving them all to a "View Template." To "Apply" it, use the "View" tab on the Ribbon and the "View Templates" drop-down menu.



With these tools, hopefully you can see how quickly you can improve a color-shaded or black-and-white view. Utilize the "Application Menu" (Purple R), select "Export," then "Images and Animations," and finally "Image" if you only require the image file rather than plotting it.



CONCLUSION

To accomplish this, Architecture 2030 issued the 2030 Challenge asking the global architecture and building community to adopt the following targets:

- The design of all new buildings, developments, and major renovations must meet a performance standard for fossil fuel use, greenhouse gas emissions, and energy consumption that is 70% lower than the regional (or national) average or median for that type of building.
- Every year, an equal amount of the existing building's area must be renovated to meet a fossil fuel, greenhouse gas, and energy consumption performance standard of 70% of the regional (or national) average or median for that type of building.
- The standard for reducing the use of fossil fuels in all new construction and major renovations will be raised to: 80% in 2020; 90% in 2025; and carbon-neutral by 2030 (operating without fossil fuel-derived GHG-emitting energy).
- Innovative sustainable design strategies, the generation of on-site renewable power, and/or the purchase of renewable energy (up to 20% maximum) are all options for achieving these goals.

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