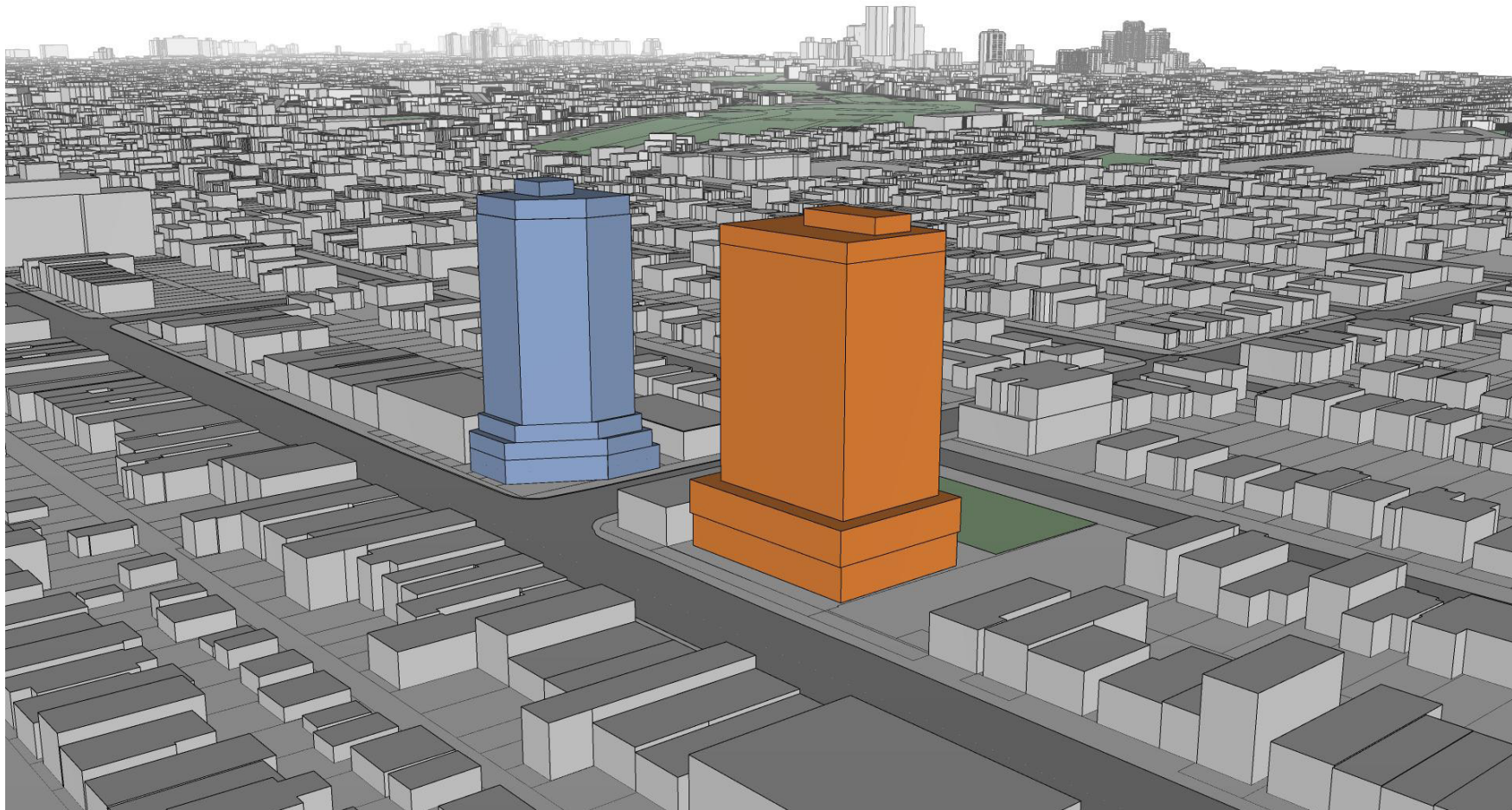


# 3D Massing Graphics Using SketchUp: Tips and Tricks



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**Details**

**Data quality score**  
Silver

**Data last refreshed**  
Dec 8, 2023

**Refreshed**  
Annually

**Data type**  
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**Topics**  
Locations and mapping

**More information**  
External Link

**Licence**  
Open Government Licence - Toronto

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**About 3D Massing**

Exploring new ways to share information with each other is a cornerstone of improving the planning process. To do this it is essential to have city-wide data in accessible formats. A variety of 3D digital information and models exist but currently the data is not readily available to the general public. Providing a consistent city-wide 3D data source will link these digital city planning models and materials together and will allow us to imagine our city from different perspectives. The Open Data site will enable access to application developers, designers, urban planners and architects, and the public. Ideally this will enable the creation of a visual portal and access to a large collection of city building ideas.

Further to the Open Government Licence, the Context Massing Model is being provided by City Planning on the Open Data website for information and illustrative purposes only. City Planning does not warrant the completeness, accuracy, content, or fitness for any precision purpose or use of context massing model for such purposes, nor are any such warranties to be implied or inferred with respect to Context Massing Model as furnished on the website.

City Planning and the City are not liable for any deficiencies in the completeness, accuracy, content, or fitness for any particular purpose or use of Context Massing Model, or applications utilizing Context Massing Model, provided by any third party.

Context Massing Model MUST BE VERIFIED BY THE USER FOR LEGAL OR OFFICIAL USE.

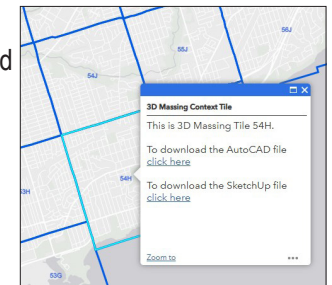
Please use this [Interactive Map](#) to locate the 3D Massing tiles for SketchUp and AutoCAD format

## ① Download the City of Toronto Context Massing Model

This document shows you how to generate a finished rendering using **Trimble's SketchUp**. You can find the entire **City of Toronto 3D Context Massing Model** posted on Open Data Catalogue at: <https://open.toronto.ca/dataset/3d-massing/>

In addition to SketchUp, other CAD and GIS file formats are available for you to use to create your model. Use this guide to convert your model to SketchUp for the final rendering.

**SketchUp** and **DWG** files can be accessed using the interactive tile map.

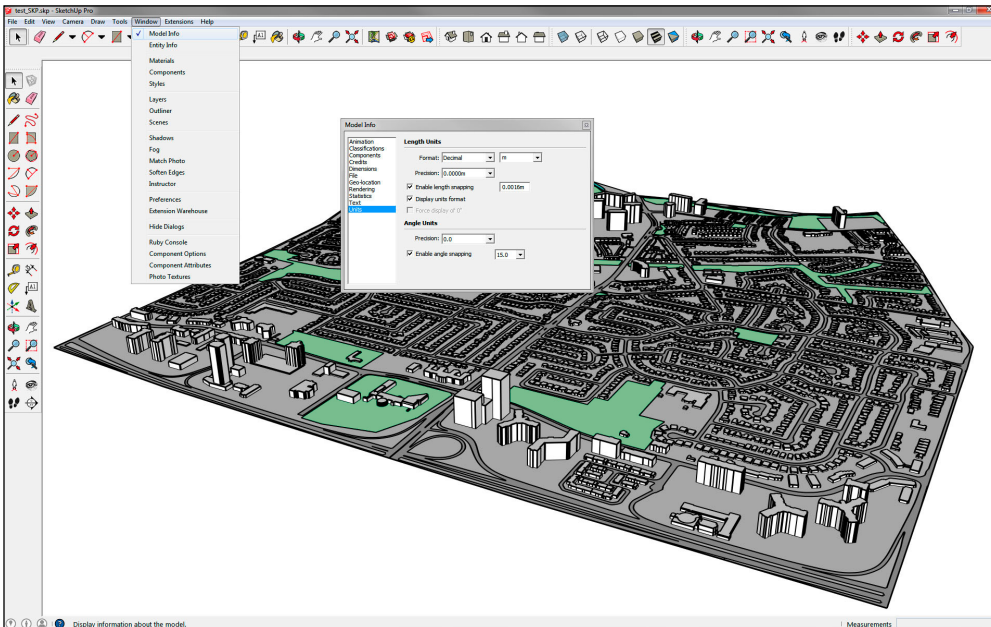


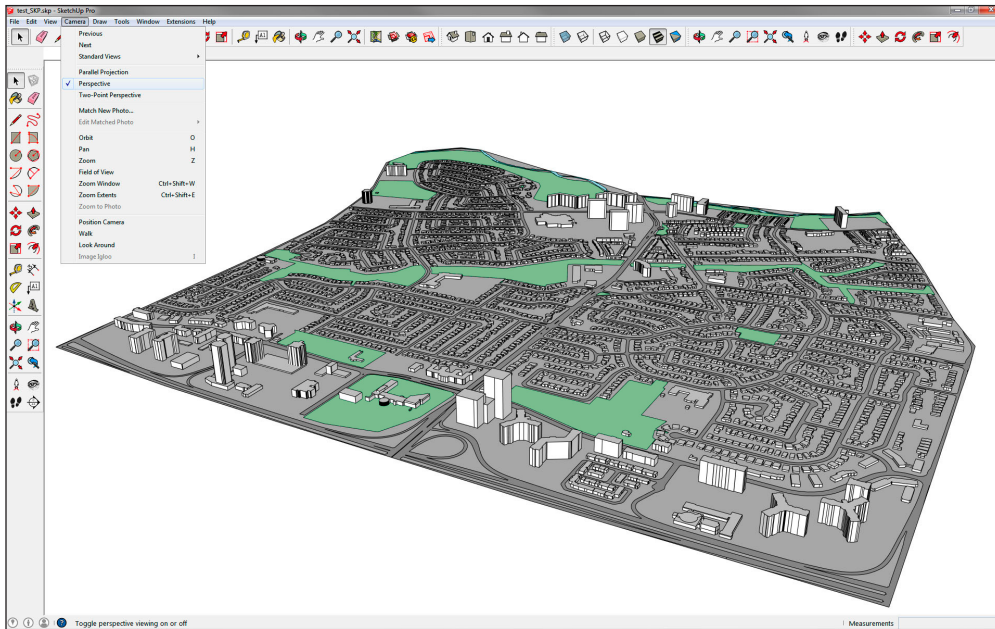
## ② Using the SketchUp Massing Model Files

Open the SketchUp file that contains the **context area** that surrounds the site of your proposed development.

Check to see that the units for your model is set to **metres**.

Choose: **Window > Model Info > Units > Decimal > Metres**

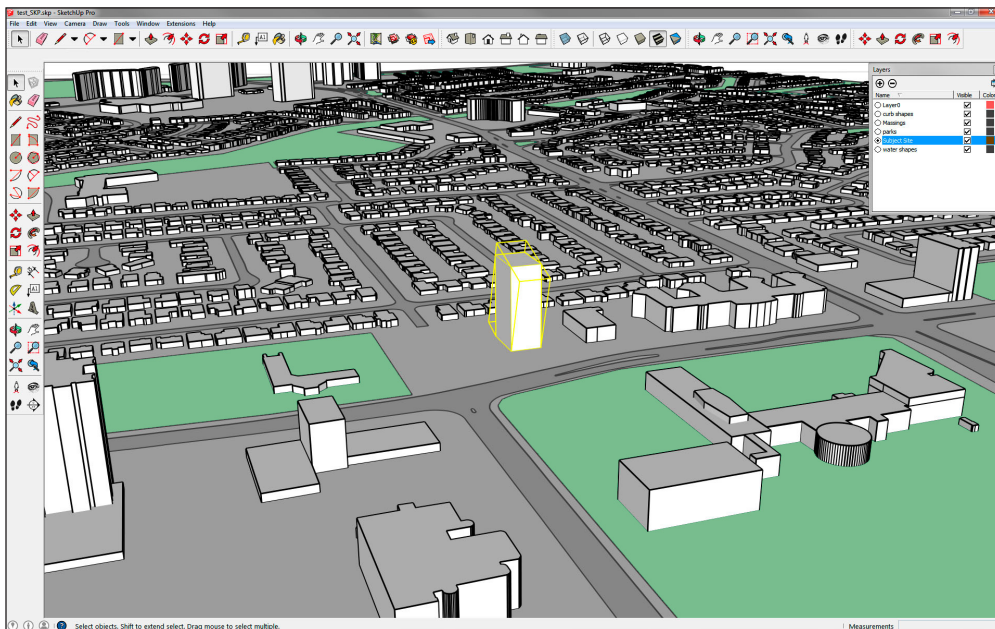




### ③ Choose Perspective View For Your Camera

To achieve the appearance of a real world scenario set your camera to **Perspective**.

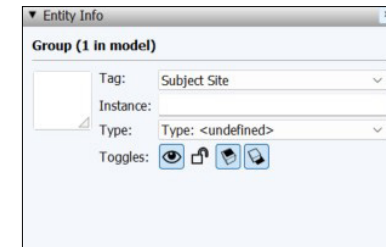
Choose: **Camera > Perspective**

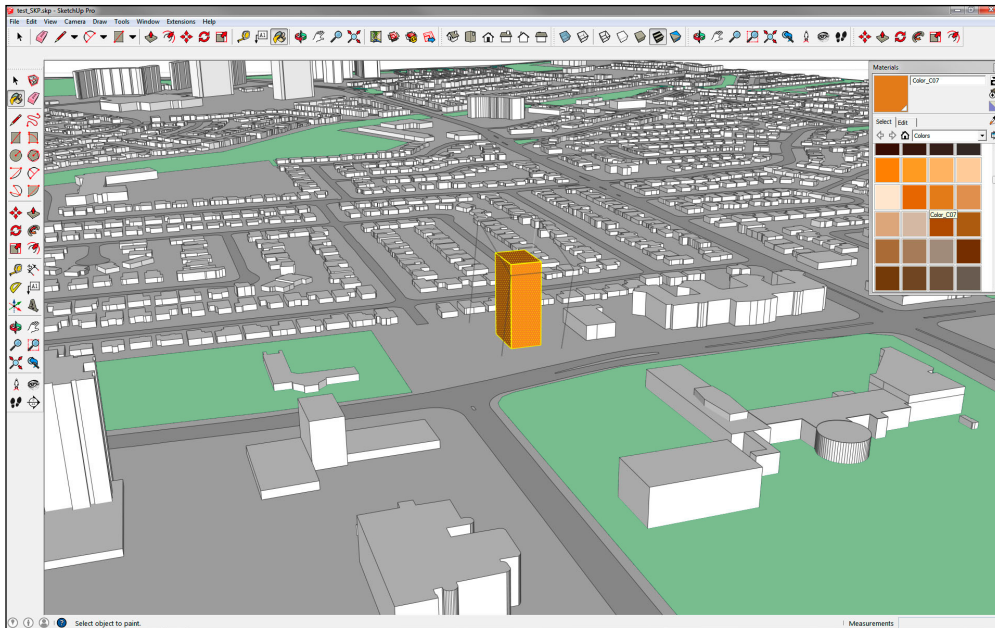


### ④ Import Your Proposed Building Into It's Context

Import/paste your building into the **Massing Model** and locate it on your site. The proposed building(s) must be **to scale** and **accurately located** on the site.

Create a **new layer** and import your building into that layer. Also you can move it to that layer after it is in place by selecting it and moving it to a new layer using the **Entity Info Palette**.





## 5 Highlight Your Application Model

Select the **Materials** dialogue box, and click the **middle box icon** to create material.

Create a new colour into a pop-up window.

Applicant proposal is coloured in **orange** (R:204 G:112 B:40)

The approved standard colour can be referred on page 4.

Alternatively, you could download the material file on our website and save it under the location below.

**C:\Users\*\Username\*\AppData\Roaming\SketchUp\SketchUp 2023\SketchUp\Materials**

\*If you don't see the **Users** folder:

Open **File Explorer >View > Show > check Hidden Items**

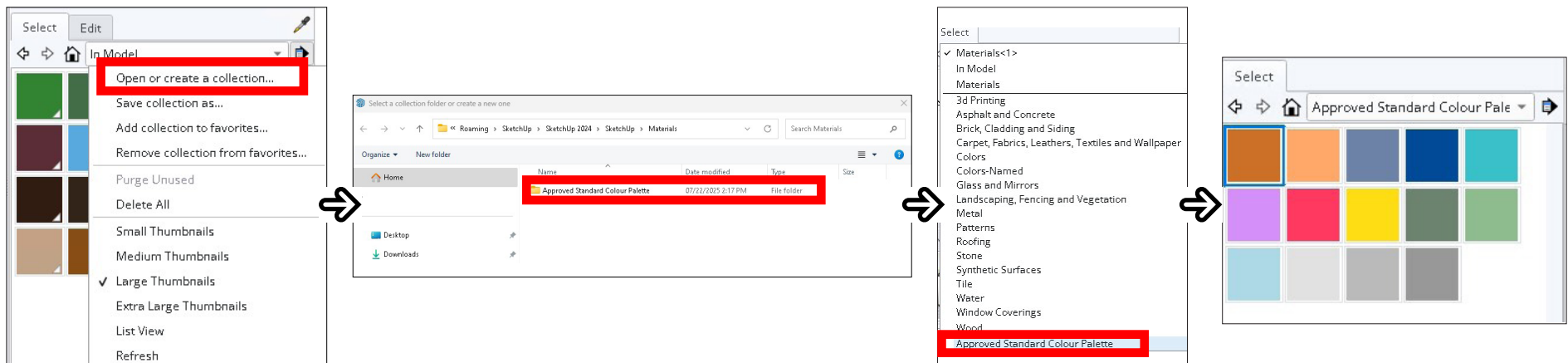
\*\***Username**: change this to your own Windows username.

(If you're not using Windows, please refer to your operating system's SketchUp materials folder location.)

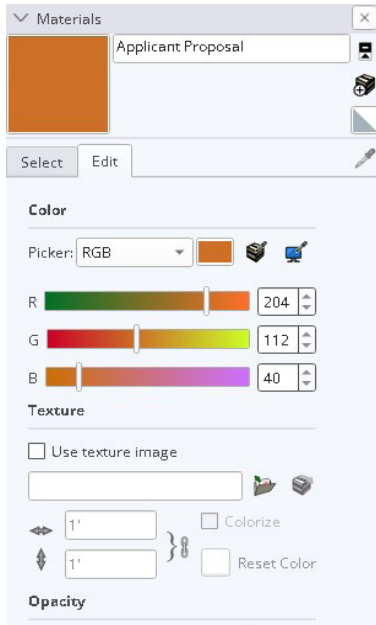
# How-To Import the Approved Standard Colour Palette to the SketchUp Library

## Import the materials into SketchUp

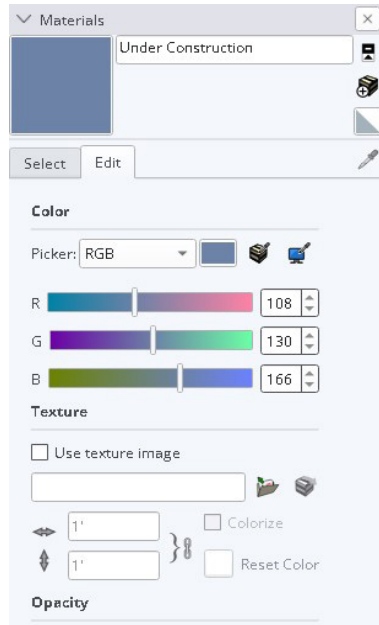
After saving the material file into your file location, open SketchUp. Under the **Materials** tray, > click the **arrow icon** > select **"Open or create a collection..."** from the drop down menu, choose the colour palette file > find **"Approved Standard Colour Palette"** from the drop down menu. You will now see all the colours.



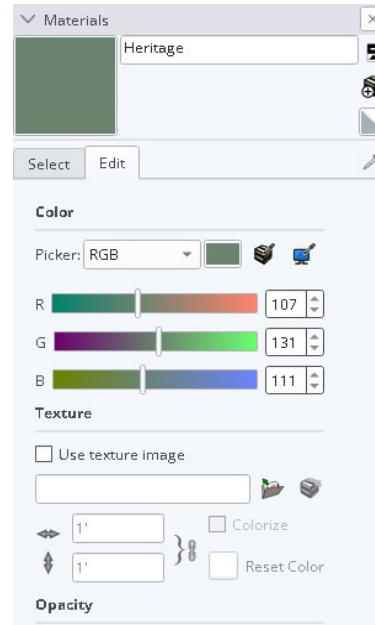
# SketchUp Colour Palette for 3D Massing Model in Context



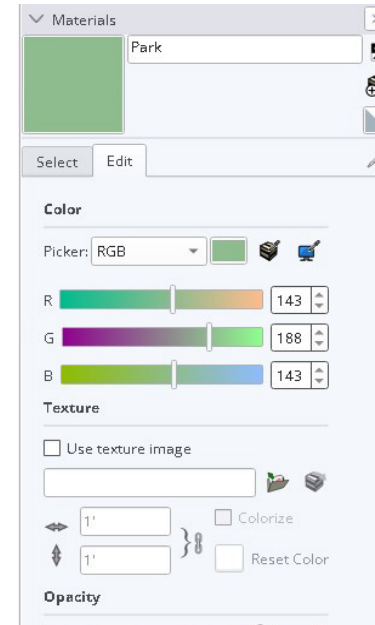
**Applicant Proposal**



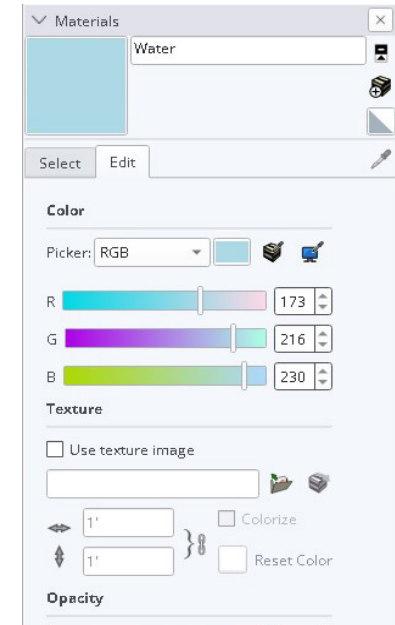
**Under Construction**



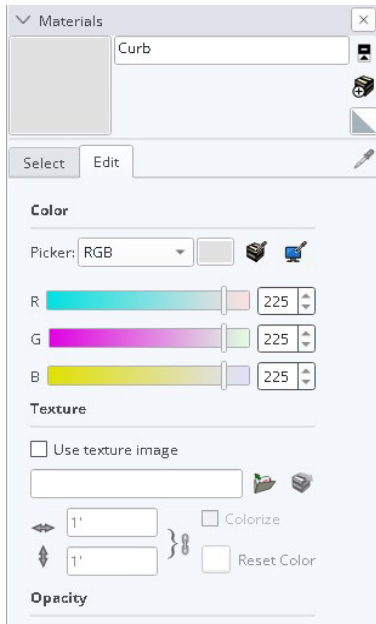
**Heritage**



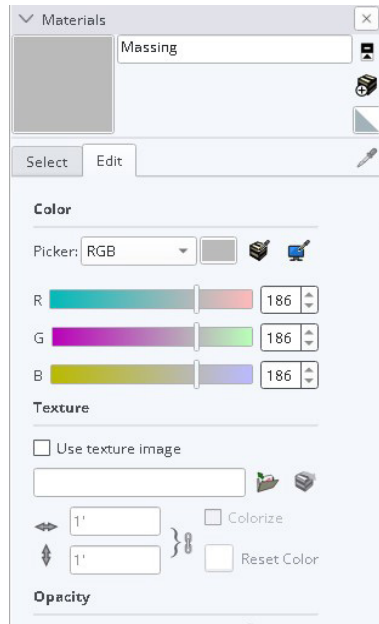
**Parks**



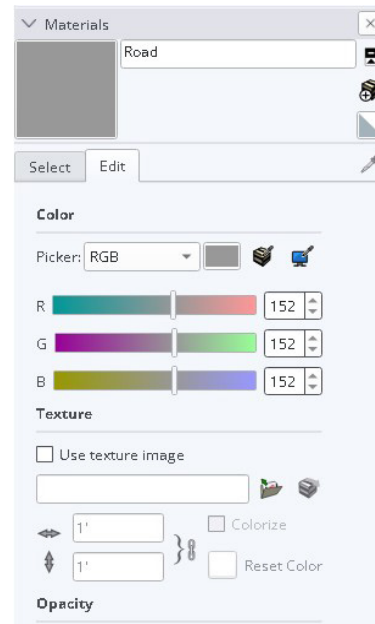
**Water**



**Curb**



**Massing**

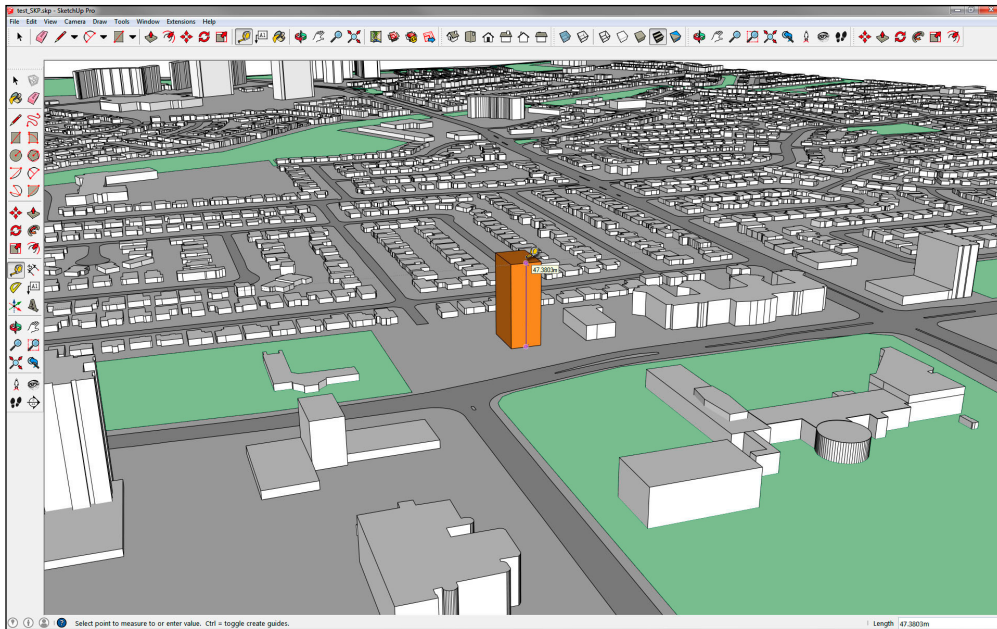


**Roads**

## Colour Swatches and RGB Values

All of the SketchUp files available for download from Open Data have been assigned the correct colours for each model and have the same naming convention for their layers. If you are using models generated using other software, you can use this guide to colour your models manually.

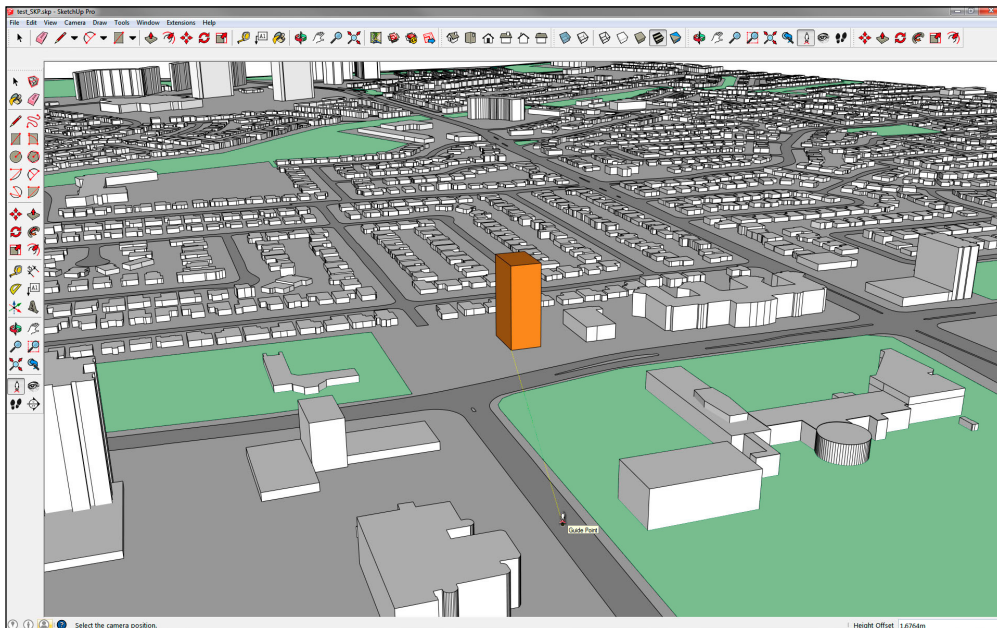
Please refer to the [Approved Standard Colour Palette](#) for more information.



## ⑥ Confirm your Building Height

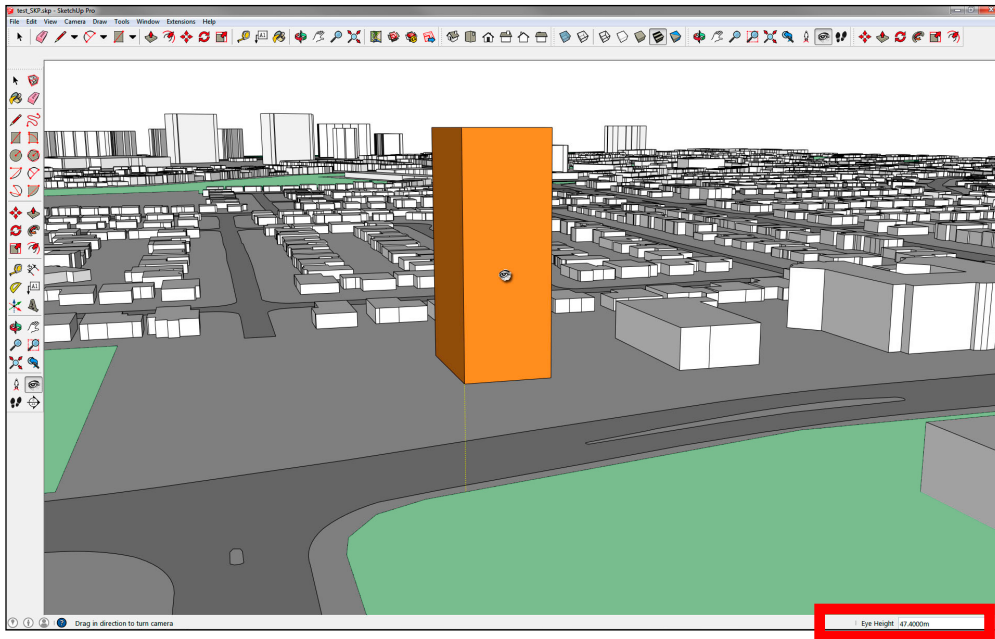
Select the **Tape Measure tool** and click at a point where your building meets the ground, then slide the Tape Measure tool up to the top of your building. As you hover at the top of the building the measurement will be shown for the distance to that point from the starting point. Confirm that your building is to scale and make note of the height -Refer to your Elevation Drawings to confirm your building heights.

You will need it to calculate the distance and height of the camera when establishing a viewpoint.  
Refer to page 7-9 , Establishing a Viewpoint guideline.



## ⑦ Positioning the Camera

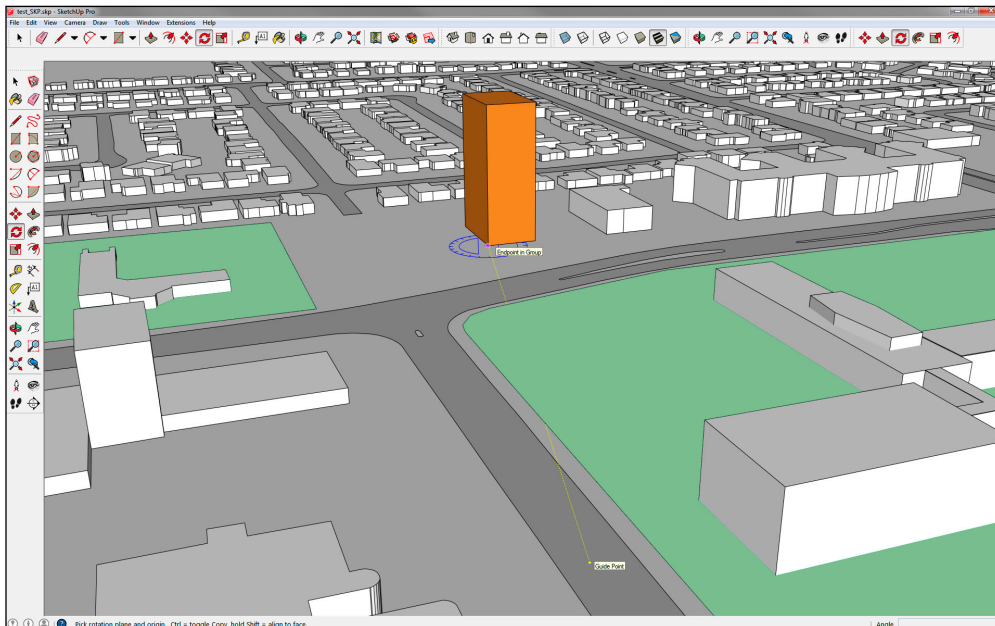
Select the **Position Camera tool** and click on the guide point that you just created in the previous step.



## ⑧ Establishing the Height of your Camera

Notice that when you clicked on the Guide Point with the **Position Camera** tool, the tool changed to the **Look Around** tool. All you need to do now is simply type the desired height and hit **Enter** and the camera's Eye Height will be moved vertically to the exact height you typed.

You can now click and pivot the camera around a stationary point in the air to find the best view of your subject site.



## ⑨ Moving the Guide Point to Reposition the Camera

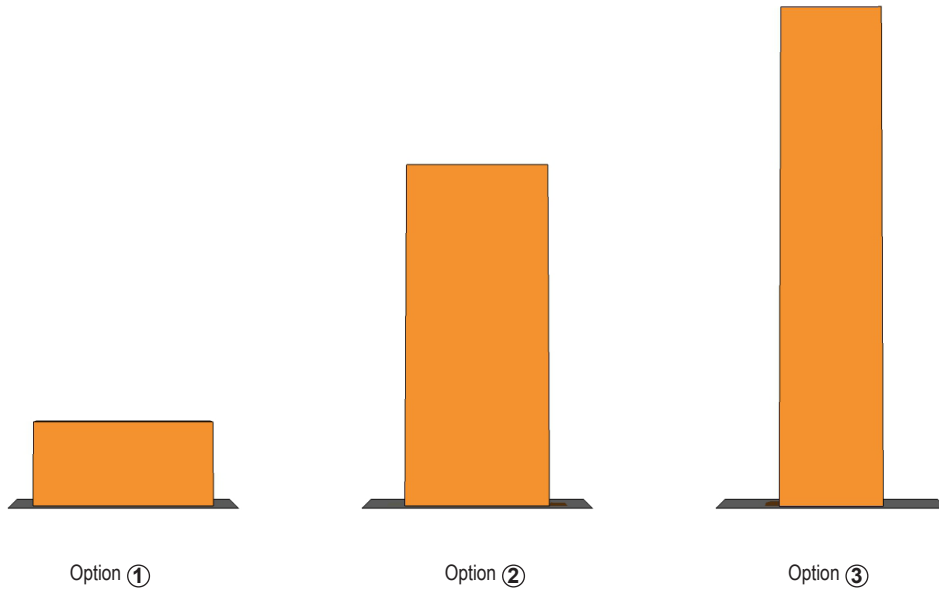
If, for some reason you are not satisfied with the view you established in the previous step and want to move the camera to create a more suitable view, you can do this by rotating the guide. Using the **Select** tool, select the guide (it will highlight once selected) and then choose the **Rotate** tool.

With the Rotate tool click on the origin point of the guide where it meets the ground at the base of the building. Before you click you will notice that the **Rotate** tool is either green, red, black or blue - you will want it to be **blue** which allows you to rotate horizontally along the surface of the ground.

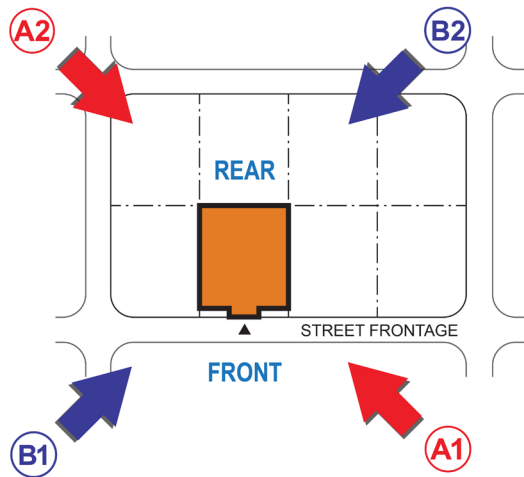
After your first click at the origin of the guide make a second click at the end Guide Point and move your mouse until you rotate the end **Guide Point** to a new location. By rotating the guide in this fashion you maintain the correct distance from the building.

Once you have established a new location for the Guide Point, position your camera following **Steps 10 and 11**.

# Establishing a Viewpoint



## + Locating Your Camera To Capture Views



Option A or B are both acceptable as long as you have both Front and Rear Views

## ⑩ Introduction on Establishing Viewpoints

Two perspective views of the development application are required in the Staff Report.

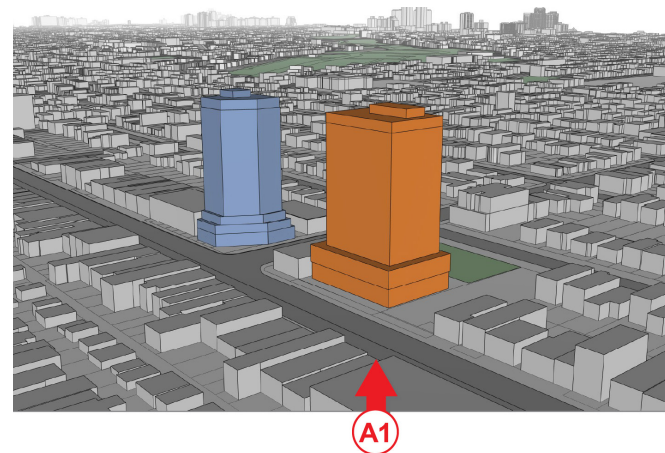
One of the views of the proposal should highlight the main facade of the building that is to say the facade that is based on the municipal address or fronts onto a main street; the other viewpoint should highlight the exact opposite side of the development.

In areas that have been intensified (such as the downtown core) it may be difficult to find a suitable viewpoint because the proposal may be obscured by neighbouring buildings. You may need to rotate your viewing location to achieve the best possible view.

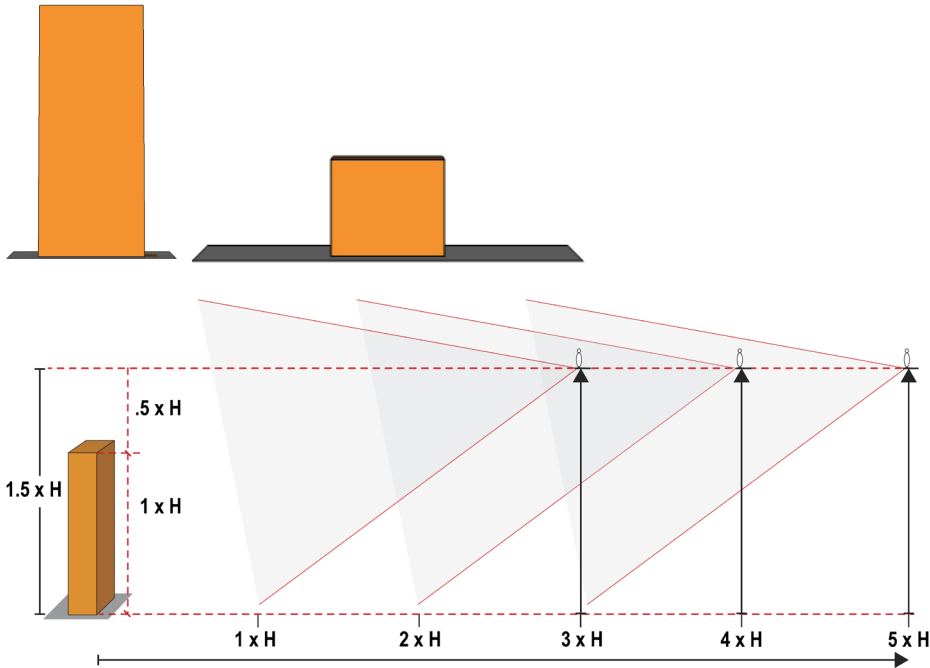
Refer to pages 8-9 for the Rule of Thumb for Establish the Correct View of Your Proposal in Context.

## ⑪ Positioning the Viewpoints

Select two main viewpoints that are opposite to each other. A1 or B1 can be used as a 3D proposal image for the development application notice sign.



## Rule of Thumb for Establish the Correct View of Your Proposal in Context



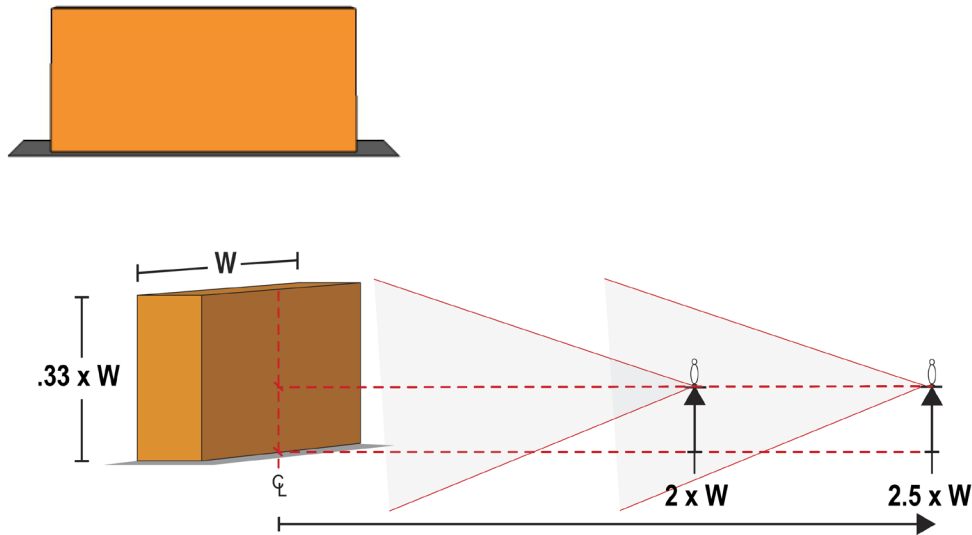
### Option1. Typical Low-Rise Building, Tall Building, or High-Rise

This is the most commonly used formula for establishing the location of the camera when creating your views.

Height of Camera from the Established Grade = **1.5 times Building Height**  
 Distance from the Facade = **4 times Building Length\***

\*Use the longest side of any building dimension

Every property that falls with the notification radius must be illustrated



### Option2. Typical Mid-Rise Building

In a situation where a building or group of buildings is significantly wider than it is tall, the view is determined by using the width rather than height for the distance from the building and height for camera placement.

Height of Camera from the Established Grade = **1/3 times Building Width**  
 Distance from the Facade = **2 or 2.5 times Building Width\***

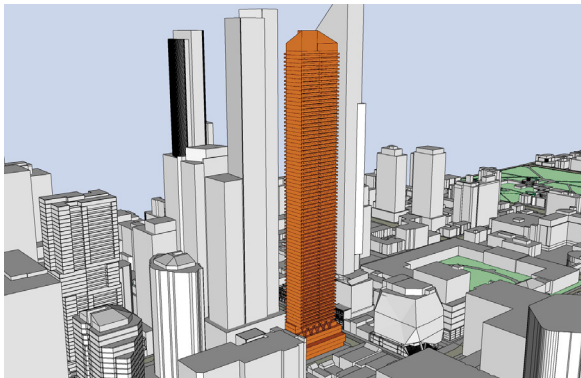
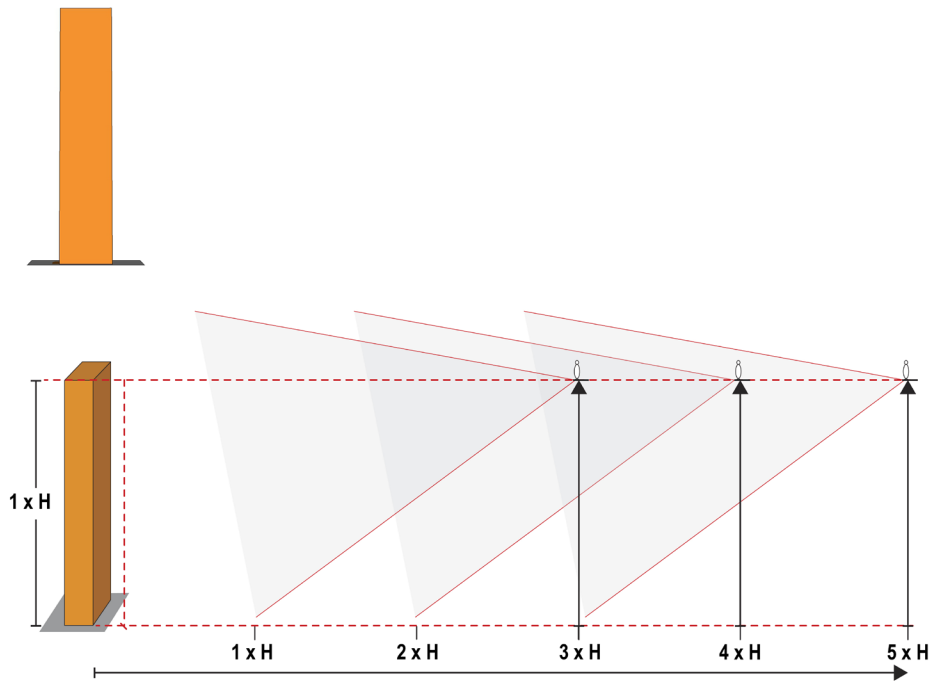
\*Longest side of any building dimension

### Option3. Supertall Building

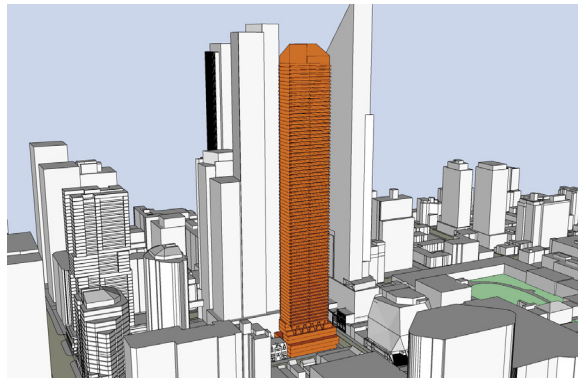
Because of their height and density of placement, a slightly different formula is used for this type of building. A value of **1x** is used when establishing the height of the camera from the established grade.

Height of Camera from the Established Grade = **1 times Building Height**  
Distance from the Facade = **4 times Building Height**

In a situation where the density of surrounding buildings greatly obstructs the view of a proposed development some leeway can be granted for the placement of your camera. Use your best judgment to create a view and consult with City Planner as needed.



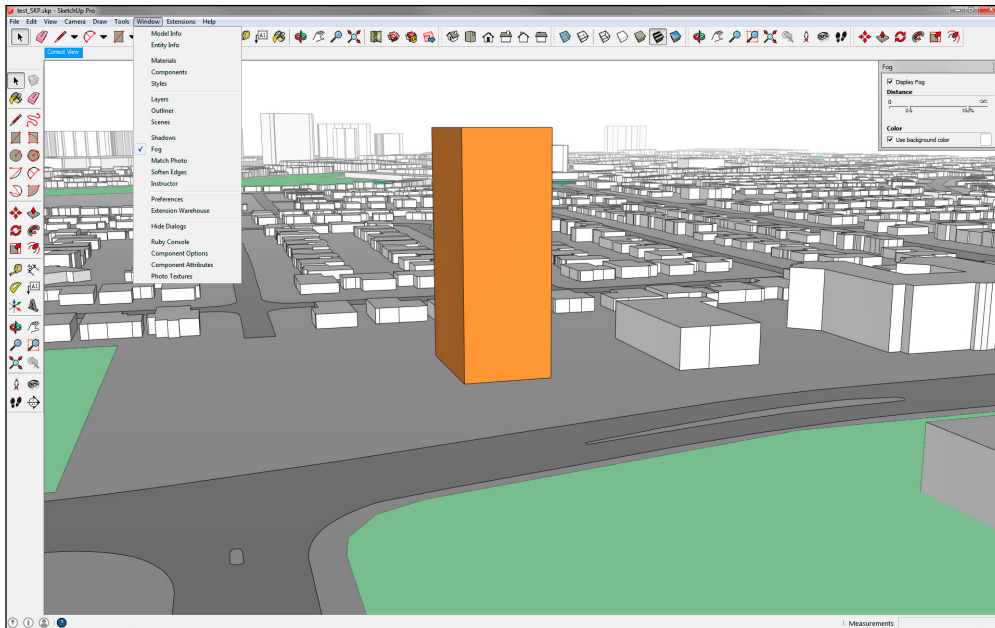
3 x H



4 x H



5 x H

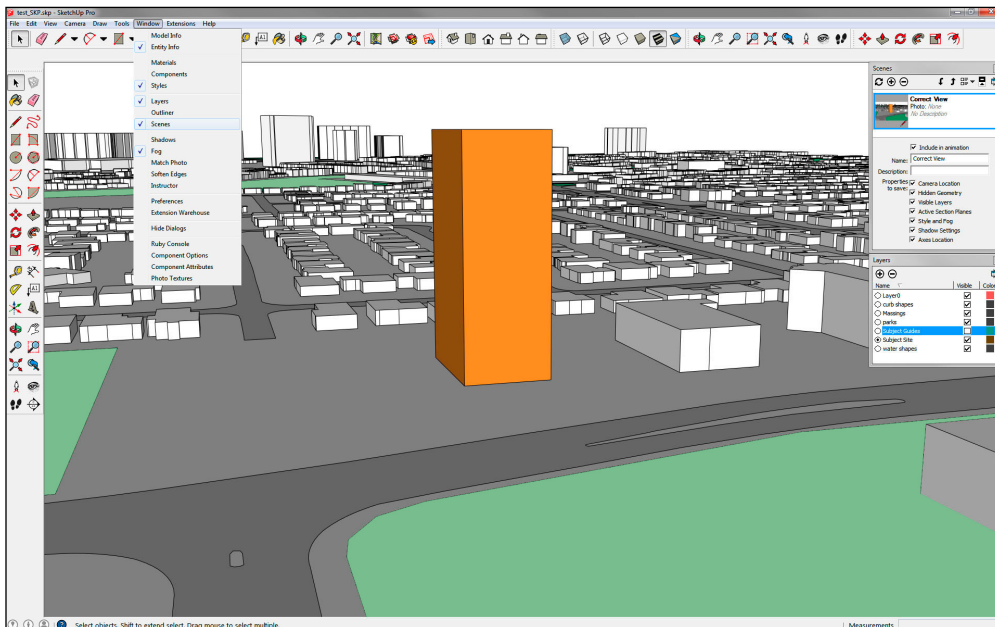
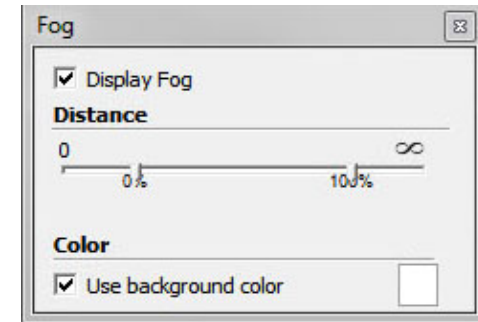


## 12 Adding Fog

Adding fog will give the impression of reality and make the background slowly fade into the distance.

Choose: **Window > Default Tray > Fog**

- In the Fog Palette use similar setting as shown here.
- Update your scene in the Scenes palette to save the fog settings.

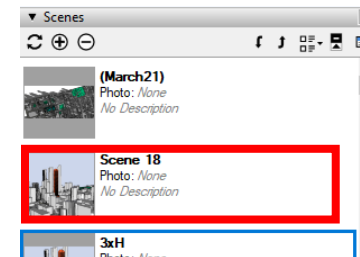


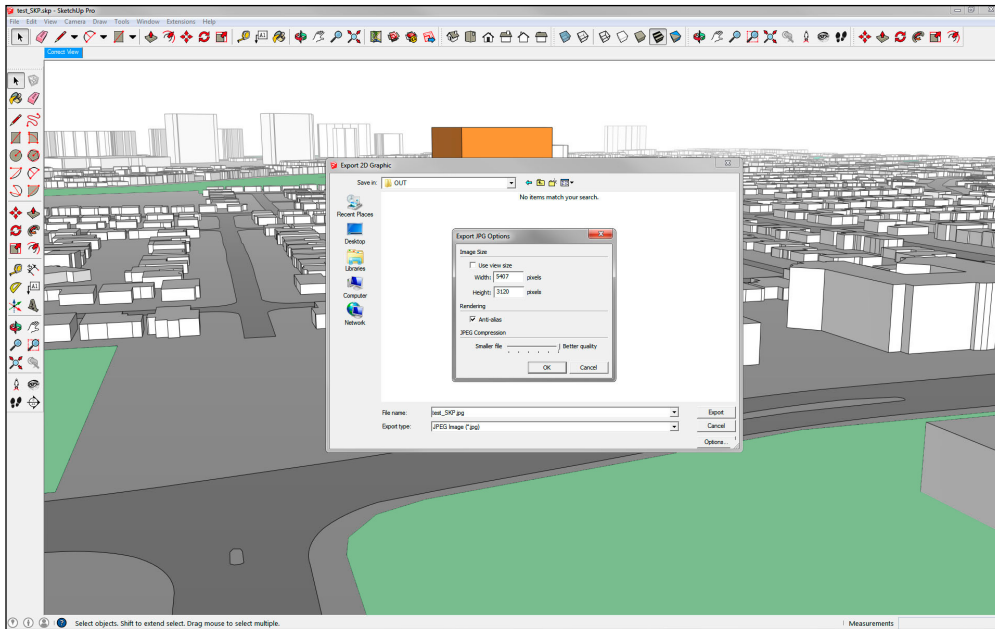
## 13 Creating a Scene

Having gone through all of this work to generate a view you don't want to lose if you change the file in any way. The best way to save this view is by creating a **Scene**. A Scene will save all the details including views and layer effects. To save a Scene, you will use the **Scene Palette**.

Choose: **Window > select Scenes**

- In the Scene Palette click the Plus(+) button to create a scene.
- You can rename the scene once it's been created it.

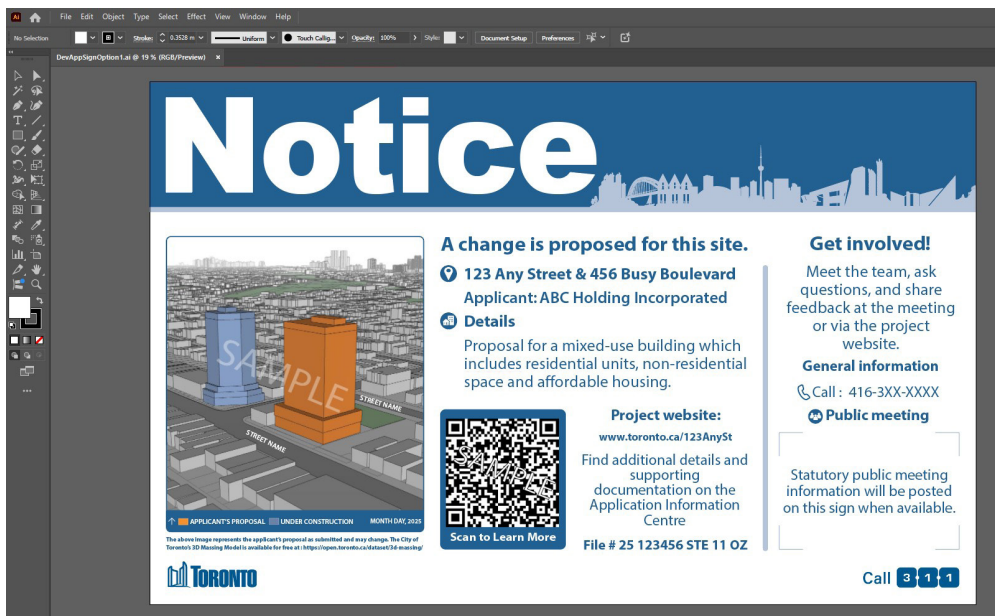
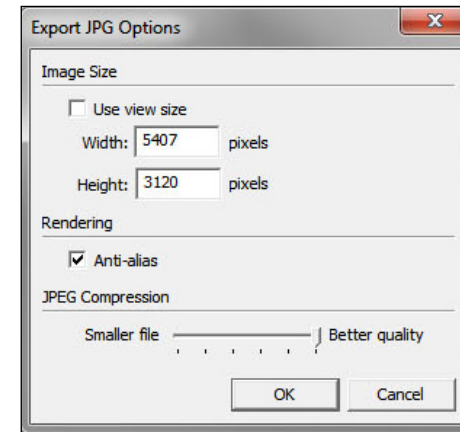




14 Save the Image as a JPEG File

Choose: **File > Export > 2D Graphics**

In the Export Dialogue box select **JPEG Image (\*.jpg)** and use the settings shown here.



15 Import Final Rendering into Sign Master Template and Label

Open the Development Application Sign Master template in Adobe Illustrator and place your final rendering in the Illustration Area as shown. **Label the streets** and **rotate the north arrow** to indicate where north is in the image. **Adjust the legend** so that only your proposal building and/or under-construction buildings are displayed. Specify the direction and **add the date** that the image was generated or the date the application was filed. If you are updating an existing sign, use the date the rendering was updated.

As a shortcut, you can link your new rendering in Illustrator by selecting the existing image in the template and relinking it to the file you just created. The old image will disappear, and your new rendering will be positioned in its place.

Please refer to the [Illustrator Layout Guide](#) for further details.