Attachment 9
3D Digital Model Requirements

When do I need to submit a digital 3D Digital Model?

You will need to submit a digital 3D Digital Model with all development applications, amended plans or Section 4.55 applications that propose:

▶ A new building or the amendment of a building's form within the B2 Local Centre or B4 Mixed Use Zones, or

▶ A new building or the amendment of a building's form where the building height is 12 metres or more

An 'as built' 3D Digital Model must be submitted before an Occupation Certificate is issued (this will form a condition of consent).

What is the 3D Digital Model used for?

The 3D Digital Model will be inserted into the Woollahra Council 3D Digital Modelling Portal and will be used for detailed development assessment.

The assessment will include:

▶ Compliance with building envelope controls
▶ Shadowing impacts at any date and time
▶ The relationship of the building's form to adjacent built form
▶ The relationship of the building to the adjacent public realm
▶ View impact assessment from both the private and public domain
▶ The character of the spaces created by the cumulative effect of development

If the development is granted an Occupation Certificate, the 'as built' 3D Digital Model will be permanently uploaded into the Woollahra Council 3D Digital Modelling Portal. See Figure 1 below.

Figure 1: Screenshot of the Woollahra Council Digital 3D Digital Model

Specifications

The purpose of the specifications are to ensure that the 3D Digital Models which are submitted to Council are:

▶ visually and geometrically accurate to allow precise assessment by development assessment officers

▶ inserted into the correct location in the Woollahra Council 3D Digital Modelling Portal

Format

All 3D Digital Models should be supplied in 3DS format (not to be confused with 3D Max format). This file format can be exported from various 3D Digital Modelling programs including SketchUp and Vectorworks.

Working units

Working units of measurement must be in metres and at 1:1 scale. The 3D Digital Model must be positioned relative to a site survey.

Two reference points must be included expressed in Reduced Levels (RLs) based on Australian Height Datum (AHD). These points should be annotated in the 3D Digital Model at:

▶ the street frontage; and

▶ the highest point of the building

Level of detail

The building model must include the following elements on two separate layers which can be turned on and off independently:

▶ layer 1 - a textured or coloured (but not both) building form which includes: -
  - all elements affecting shadow analysis
  - accurate placement of glazing, balconies (including glass balustrades), roof pitches, terraces, roof services and any other prominent external design features such as signage and awnings
  - the ground level terrain showing accurate RLs (in AHD) extending to site boundaries

▶ layer 2 - the permissible building envelope formed by the controls in the Woollahra Local Environmental Plan 2014 and Woollahra Development Control Plan 2015.

For sites outside the Edgecliff Commercial Corridor, Double Bay Commercial Centre and Rose Bay Commercial Centre the building 3D Digital Model must include neighbouring dwellings affected by overshadowing and view loss.

The building 3D Digital Model should not include the following:

▶ internal features including stairs, walls or furniture

▶ people, vehicles or vegetation

▶ overly complex highly polygonised features

▶ redundant or duplicate polygons, lines or textures

▶ gaps or missing elements

3D Digital Model Orientation

The 3D Digital Model should be orientated to true north, with the origin (0, 0, 0) located in the lowest corner of the building at ground level.

Surfaces

All faces of the 3D Digital Model need to be directed outwards, i.e. Outward facing normals. (Check this on SketchUp by turning on the monochrome face style.) Please refer to Figures 2 and 3 for more information.
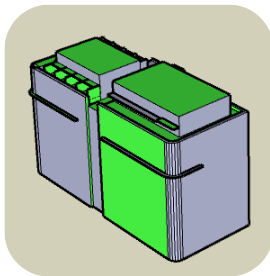

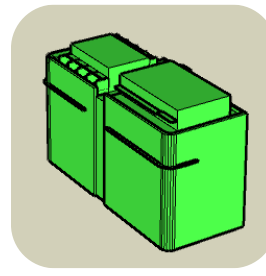Figure 2: Not acceptable – 3D Digital Model with both inward and outward facing normals

Figure 3: Acceptable – 3D Digital Model with outward facing normals only

Textured surfaces

3D Digital Model surfaces should be made up of either all textured surfaces or all coloured surfaces, not both.

All faces of a textured 3D Digital Model must have an appropriate image applied, named with a maximum length of 8 characters. Textures should not include any shadows.

All textures must be in JPEG, TIFF or TGA format with texture dimension to the power of 2. Wherever possible, texture dimensions should be kept to a minimum with an ideal texture size being no larger than 512 x 512 pixels.

File naming

Files are to be named according to their site address and stage of approval.

For example, a 3D Digital Model submission of 520 New South Head Road, Double Bay the initial development application would be named:

▶ NewSouthHeadRd520DoubleBayDA.3ds

The 3D Digital Model submission of 520 New South Head Road for the first s4.55 application would be named:

▶ NewSouthHeadRd520DoubleBays4.55_1.3ds

The 3D Digital Model submission of 520 New South Head Road for an Occupation Certificate would be named:

▶ NewSouthHeadRd520DoubleBayOC.3ds

Questions or queries

If you have any further questions regarding submission of a 3D Digital Model please contact Council on 9391 7033.

Checklist for digital 3D Digital Model submission

Please ensure you have read the "Specifications" and that the 3D Digital Model adheres/includes the following:

- ❑ 3DS Format
- ❑ Two separate layers which can be turned on and off independently (see 'Level of detail' above)
- ❑ Units in metres
- ❑ Enough detail for accurate shadow casting
- ❑ 3D Digital Models of neighbouring dwellings if required (see 'Level of detail' above)
- ❑ All surfaces facing outwards
- ❑ Adjoining buildings if required
- ❑ Textured or coloured 3D Digital Model
- ❑ Correct file name
- ❑ Correct orientation and origin (0, 0, 0)