

# Information Sheet

## Technical Guide for Submitting 3D Models

### Local Planning Policy 7.8

#### Introduction

Some development applications require the submission of a 3D model at the time of lodgement. [Local Planning Policy 7.8 3D Modelling Requirements for Development Applications](#) (LPP 7.8) outlines when a 3D model is required. This information sheet details the technical requirements for submitting a 3D model in relation to a development application.

#### When is a 3D model required?

If a development application is required to be referred to the City's Design Review Panel – in accordance with [Local Planning Policy 7.1 Design Review Panel](#) (LPP 7.1) – a 3D model is required to be submitted.

Generally, the following development applications will be considered by the City's Design Review Panel:

- Applications determined by a Development Assessment Panel, except for any amendments or extensions of the term of approval (unless the amendment involves design changes).
- The construction of (or substantial redevelopment of) a four storey building, or higher.
- Five (or more) residential units which require assessment against the [Residential Design Codes Volume 2 – Apartments](#), or where review of the Panel is considered appropriate.
- Development which may be considered to be of strategic significance, which may be determined by the scale of the development or whether it significantly differs from the predominant or expected pattern of development within the locality.
- Any development application which also proposes a:
  - Local Planning Scheme amendment
  - Structure Plan
  - Local Development Plan/Precinct Plan; or
  - Activity Centre Plan (including design guidelines)
- Any other matter as determined by the Manager Planning Services or Council.

#### Technical specifications

All 3D digital models must adhere to the following requirements:

**Be provided in IFC or 3DML format and:**

##### a) General

- Accurate and true representation of the proposed development.
- The entire development must be modelled up to the property boundary.
- Only the external elements (except floor slabs) are required.
- Model must include correct ground level fall across the site.
- Only the external building envelope is to be provided. Internal layouts must be deleted.
- Please ensure that there are no missing or displaced parts of the model after export (except those that are intentionally removed).

##### b) Position

- The base units must be in metres (0.00m).
- The height, as a Z value, must be used in accordance with the Australian Height Datum (AHD).
- If geo-referenced, use the GDA94 / MGA zone 50 coordinate system.

- If not geo-referenced, models need to be provided as object-centred, having both the origin and pivot point at 0,0,0. A plan must also be provided that indicates applicable offsets from the title boundary if the model does not occupy the entire site.
- Rotation must be in accordance with the cadastral alignment.

**c) Polygons**

- All redundant lines, splines, helpers, dummies, cameras, trees, shrubs, vehicles, casework, furniture and minor fixings must be removed.
- All unnecessary features must be removed from the model, especially internal features, spherical or tubular objects and overly complex features.
- Redundant and duplicate polygons, lines or textures must also be removed.
- Models should be exported as a shell, where walls and glass panels are made into a full 3D form.
- Models must have only single-sided faces that do not overlap and normals facing outward.
- A single face with no additional polygons should replace internal, external and side faces.
- Highly complex external features such as vegetation should be removed or simplified and replaced with billboard style vegetation models.

**d) Textures**

- Only standard material types will be accepted (No materials which are specialised for professional rendering software, e.g. Mental Ray, V-Ray).
- Textures sent along with the model must be in JPG, TIFF, or PNG format.
- Colours must be added if textures are not supplied.
- The model must be purged of all unused texture and object links.

**Revision**

Version	Date	Comment
1.0	23 February 2022	Information sheet created
2.0	13 October 2022	File types amended
3.0	19 June 2024	File types clarified and technical guidance moved to Appendix A
4.0	3 September 2024	Administrative review

## Appendix A: Specific software guidance

This provides additional software specific guidance when preparing 3D models.

### SketchUp *Preferred software*

- Remove/delete all furniture, fixtures, entourage and other unrequired objects
- Use standard colours or materials in JPEG or PNG formats
- Opacity maps can be used (preferably PNG)
- Provide clean model in IFC or 3DML format

### Autodesk Revit

- Remove/delete all furniture, fixtures, entourage and other unrequired objects within the model. This includes stairs and handrails
- Ensure 3D view detail level is set 'Coarse'
- Export model in the IFC or 3MDL format

### Archicad

- Turn off or delete non-required objects within a 3D view and set scale to 1:1
- Include any textures with the delivered model folder
- Export model in the IFC or 3DML format
- Ensure correct colours have been assigned to objects when saving to IFC