

# Advisory note

## 3D digital modelling

### Introduction

The purpose of this advisory note is to provide technical guidance for submitting 3D digital models for planning applications to the City of Melbourne. Please note in the event of a Ministerial application, the 3D digital modelling technical requirements for the Department of Environment, Land, Water and Planning (DELWP) are the same as those of the City of Melbourne.

### Technical specifications

The 3D digital models need to be provided to the City of Melbourne in FBX or SKP format. The following guidelines and settings apply to all models:

- The base units must be in meters
- The height, as a Z value, must be used in accordance with the Australian Height Datum (AHD)
- If georeferenced, use the MGA 94-55 coordinate system
- If not georeferenced, models need to be provided as object-centered, 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
- 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)

### Polygons

- 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

- A model that is over 3 million triangles on export must also be packaged with a lower detail version (less than 100,000 triangles)

## Textures

- All textures must be in JPG, TIFF, PNG or TGA format
- Texture pixel dimensions should be multiples of two. A maximum texture size for a single building is 2048 x 2048 pixels
- Wherever possible, texture dimensions should be kept to a minimum with an ideal texture size being no larger than 512 x 512 pixels
- Texture names should only contain A-Z and 0-9 characters. Spaces, symbols and other characters are not supported
- The model must be purged of all unused texture links and object links

## File naming conventions

Models must be named according to the model type ('Proposed' or 'Approved'), planning application number (for live applications), the site address and the file export date. For example

- 3D\_Model\_Proposed\_TP-2015-999\_218-242\_LittleCollinsSt\_22072015.fbx
- 3D\_Model\_Approved\_TP-2015-999\_218-242\_LittleCollinsSt\_22072015.fbx

Ensure that the site address is clearly provided. Please note that street addresses can be misleading.

## Delivery

Models are to be provided to the Planning Team. Digital files may be delivered by email if files are smaller than 20MB. If files are larger than 20MB, it is recommended to use an internet-based file sharing service such as Dropbox or Hightail, and send the link to the email address below.

[planning@melbourne.vic.gov.au](mailto:planning@melbourne.vic.gov.au)

Alternatively, files may be provided on CD or USB format to one of the following addresses:

By mail	In person
Planning Team City of Melbourne GPO Box 1603 Melbourne, VIC 3001	Melbourne Town Hall Administration Building 120 Swanston Street Melbourne, VIC 3000

For any technical questions, please contact:

City of Melbourne GIS Team, Smart City Office, (03) 9658 9658.