3D DIGITAL MODEL SUBMISSION REQUIREMENTS

Overview

The purpose of the guidelines is to provide technical guidance for submitting 3D digital models for planning applications to Bayside City Council. The 3D digital model will be inserted into the 3D virtual model of Bayside's local government area and will be used for detailed development assessment.
All applications for planning permits within the Bayside City Council's Major Activity Centres are to submit a 3D model that explicitly reflects the proposed development at each stage:

1. **Application** – Model of the initial proposal at the application lodgement stage.
2. **Advertised** – Model of the modified proposal before going to public advertisement (if modifications are made).
3. **Approved** – Model reflecting the final approved proposal prior to construction (if modifications are made)

File Formats Accepted

3D Models
- COLLADA (DAE)
- OBJ
- Direct X (X) and its compressed version (XPC)
- 3D studio (3DS)
- OpenFlight (FLT)
- XPL and XPL2
- GLB

Building Information Models (BIM)
- Autodesk Revit (FBX)
- Industry Foundation Classes (IFC)

Technical Specifications

- Working units in meters and at 1:1 scale
- The model must be drawn with the correct orientation relative to North
- The height, as a Z value (Z is up) must be used in accordance with the Australian Height Datum (AHD)
- The model is to be delivered in two layers:
  - 1. CADASTRE_BASE, 2. BUILDING and
  - The coordinates of the model's pivot point or anchor point, in WGS84 (lat, long and height)
- If georeferenced, use GDA2020, Zone55 (EPSG:7855). Include a georeferenced cadastral base (site boundary, aerial image). Entire development must be modelled up to the property boundary. The cadastral base of the model must follow the terrain slope across the site. Please put this layer on LAYER: CADASTRE_BASE
- If georeferencing is not possible, 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. The pivot point of the model must be provided also in georeferenced space (GDA2020, Zone55 (EPSG:7855))

Intellectual Property

At Bayside City Council, we understand the importance of protecting your intellectual property and respecting your privacy. This statement outlines our commitment to safeguarding your rights and addressing any concerns you may have regarding the submission of 3D models of developments with planning applications to the Council.

Intellectual Property Rights:

- You will retain ownership of all intellectual property rights associated with the Models.
- By submitting 3D models (the Models) of your development to the Council, you grant Bayside City Council a non-exclusive limited licence to use and demonstrate the Models for the purpose of your development assessment and community consultation only.
- We will not otherwise use, alter, reproduce, or distribute the Models without your explicit consent, except as noted below or as required by law. In particular, we will ensure any copyright notice you include in the Models is clearly displayed.

Model Optimization

The two main factors in the optimization of a model for real-time visualization are: polygon count, as described in Model Geometry section, and texture size, as detailed in the Model Texture section.

Model Geometry

3D geometry must be modelled using polygons (NURBs and Subdivisional Surfaces are not acceptable).
Building envelope should show external walls, floor slabs, roof and roof pitches, roof services, windows, doors, skylights, openings, balconies – including glass balustrades, terraces, glazing. Models should be exported as a shell, where walls and class panels are made into a full 3D form. Models must have only single-sided faces that do not overlap. Ensure all the normal are facing outward.
A model that is over 3 million triangles on export must also be packaged with a lower detail version (less than 100,000 triangles). Please put this on LAYER: BUILDING

Model Texture

All textures must be in JPG, TIFF, and PNG formats. Use Basic Standard Materials on all surfaces.
3D model surfaces should be made of either all textured surfaces of all coloured surfaces, not both
If no textures are supplied, then colours must be used. It is recommended to group several small textures into one texture. Texture pixel dimensions should be multiples of two. Maximum total combined texture size for a single building – 2048 x 2048 pixels. Only alphanumerical (A-Z and 0-9) characters are used in texture names. Spaces, symbols, and other characters are not supported. The model should be purged of all unused texture links and object links.

Exclusions

- Vegetation, people, cars, and other entourage elements
- Internal and unseen features including internal walls, furniture, stairs, joinery, and fixtures
- Overly complex and highly polygonised features
- Model geometries should have no unnecessary vertices, faces or polygons. Redundant and duplicate polygons, co-planar faces, lines, and textures must be removed.
- Gaps or missing elements

File Naming

Models must be named according to:
- Planning application number (for live applications)
- Site address (Street name_Street number_Suburb)
- File export date (YYYYMMDD)
- Application status ('Proposed', 'Advertised', 'Approved')

For example: 5_2022_586_RoyalAve_76_Sandringham_20221011_Proposed.zip

Please ensure that the site address is clearly provided. In the email communication, please use the naming conventions above and include it in your subject line.

Delivery

Models are to be provided to the Planning Team, as indicated in the email communication.

CHECKLIST FOR DIGITAL 3D MODEL SUBMISSION

Please ensure that you have read the requirements and that the 3D Digital Model complies with the following:

☑	Bayside City Council File Submission webform was used. *If other method for sharing the file was used, please request feedback from the applicant on why it chose a different method.*	
☑	Accepted file format	
☑	Correct file name	
☑	Provide the pivot point of the model in georeferenced space (EPSG:7855)	
☑	1:1 scale	
☑	Correct North orientation	
☑	No gaps or missing elements	
☑	CADASTRE_BASE Layer, in EPSG:7855	
☑	BUILDING Layer	
☑	Entire development is modelled up to property boundary	
☑	Model must include correct ground level fall across the site.	