Wilkinson House, Darlinghurst NSW

Visual impact renderings and methodology report

VIRTUAL IDEAS

1. INTRODUCTION

This document was prepared by Virtual Ideas to demonstrate the visual impact of the proposed development at Wilkinson House, Darlinghurst NSW with respect to the existing built form and site conditions.

2. VIRTUAL IDEAS EXPERTISE

Virtual Ideas is an architectural visualisation company that has over 15 years experience in preparing visual impact assessment content and reports on projects of major significance that meet the requirements for relevant local and state planning authorities.

Our reports have been submitted as evidence in proceedings in both the Land and Environment Court and the Supreme Court of NSW. Our director, Grant Kolln, has been an expert witness in the field of visual impact assessment in the Supreme Court of NSW.

Virtual Ideas' methodologies and outcomes have been inspected by various court appointed experts in relation to previous visual impact assessment submissions, and have always been found to be accurate and acceptable.

3. RENDERINGS METHODOLOGY

The following describes the process that we undertake to create the renderings that form the basis of this report.

3.1 DIGITAL 3D SCENE CREATION

The first step in our process is the creation of an accurate, real world scale digital 3D scene that is positioned at a common reference points using the MGA 56 GDA94 coordinates system.

We have used data including existing, approved and proposed building 3D models as well as a site survey to create the 3D scene. A detailed description of the data sources used in this report can be found in Appendix A, B and C.

When we receive data sources that are not positioned to MGA-56 GDA94 coordinates, we use common points in the data sources that can be aligned to points in other data sources that are positioned at MGA-56 GDA94. This can be data such as site boundaries and building outlines.

Descriptions of how we have aligned each data source can also be found in Section 3.2.

3.2 ALIGNMENT OF 3D SCENE

To align the 3D scene to the correct geographical location, we used the following data:

We used the site survey (Rygate) and Aerometrex data to position the buildings in our 3D software. (refer to Appendix B for details)

Cameras were aligned to positions in surrounding buildings using both 3D models and the Aerometrex data to accurately reflect the views provided.

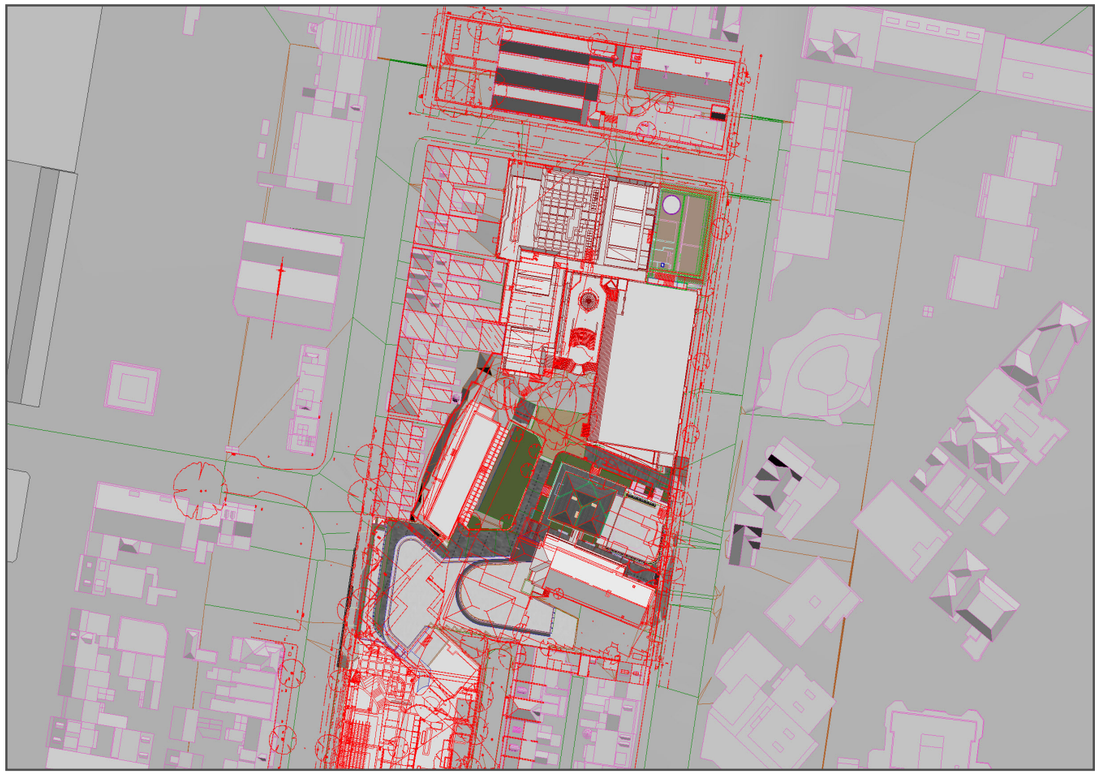


Image showing 3D building models aligned to survey drawing from Rygate(Red) at MGA 56 GDA94, by aligning site boundary of SCEGGS Darlinghurst.

3.3 RENDERING CREATION

After the completing the camera alignment, we add lighting to the 3D scene.

A digital sunlight system was added in the 3D scene to match the lighting direction of the sun in Sydney, Australia. This was done using the software sunlight system that matches the angle of the sun using location data and time and date information.

For the renderings, we were requested to apply a basic white material to the proposed development, a basic blue material to the existing building on our site and peach for surrounding DA approved future developments.

Images were then rendered from the software and additional line work in red was added to show the extent of the DA Approved building model.

4. MAP OF 3D CAMERA LOCATIONS

PLAN ILLUSTRATING CAMERA LOCATIONS FOR VISUAL IMPACT RENDERS OF WILKINSON HOUSE, DARLINGHURST NSW

Camera Positions

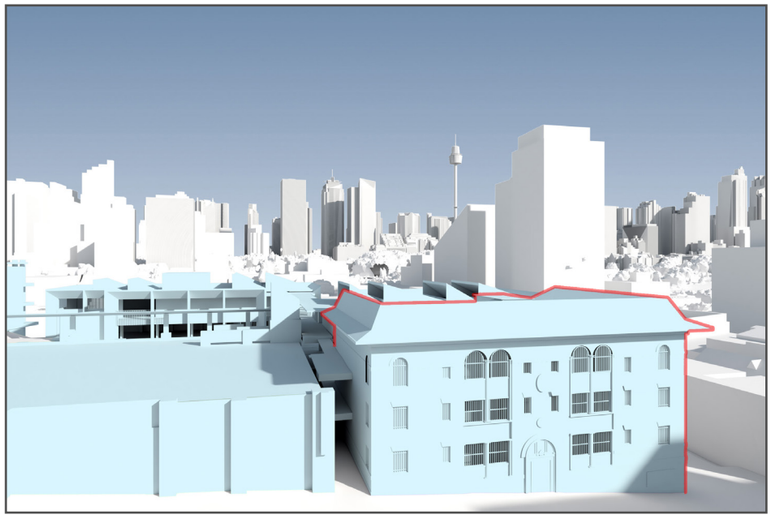
1. Position 1 - The Horizon Apartments
2. Position 2 - The Horizon Apartments Level 2 apartment 1
3. Position 3 - 186 Forbes Street North
4. Position 4 - 200 Forbes Street

Proposed Wilkinson House

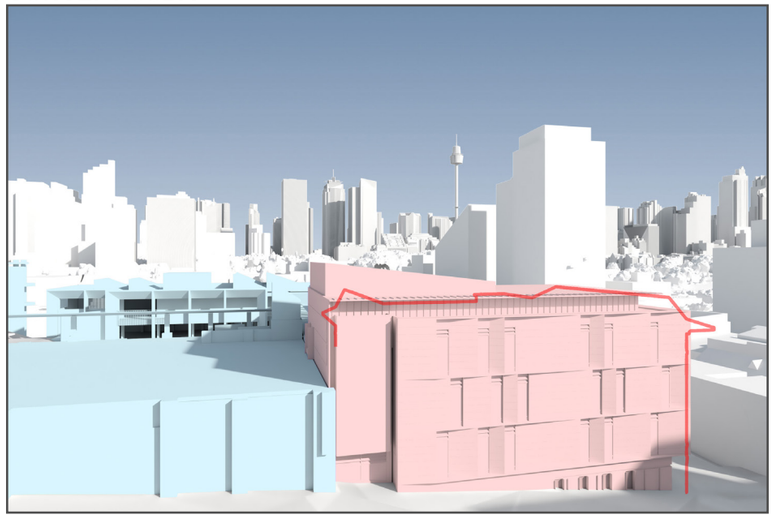
Approved SCEGGs buildings as part of concept SSDA SSD-8993

5.1 CAMERA POSITION 1 - THE HORIZON APARTMENTS

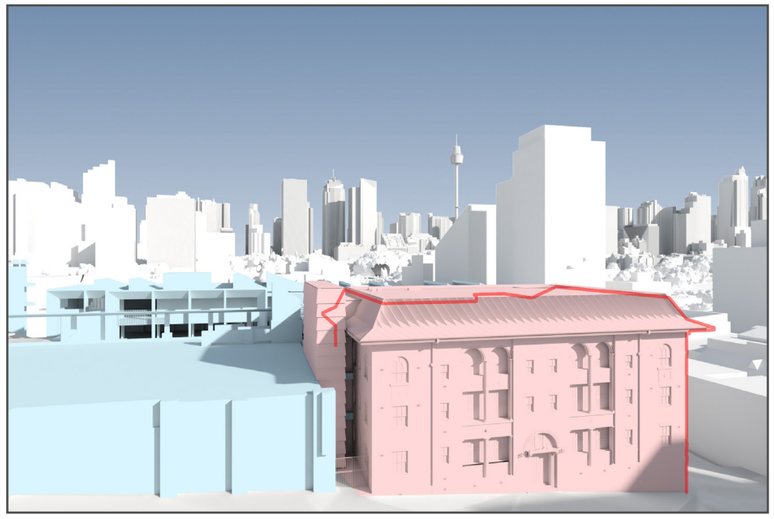
RENDER FROM 3D MODELS SHOWING CURRENT CONDITION



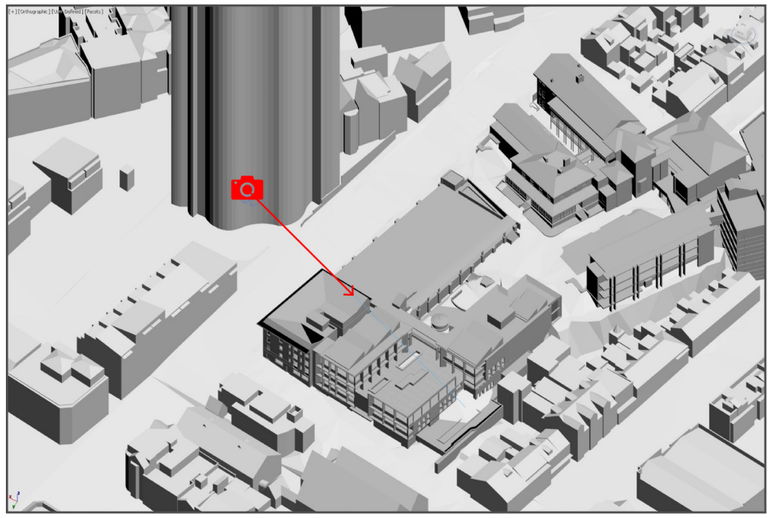
RENDER FROM 3D MODELS SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT - PROPOSED AS PART OF CONCEPT SSDA



RENDER FROM 3D MODELS SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT - CURRENT PROPOSAL UNDER SSD-19989744



CAMERA POSITION IN 3D VIEW



CAMERA POSITION IN 3D CLOSE-UP VIEW

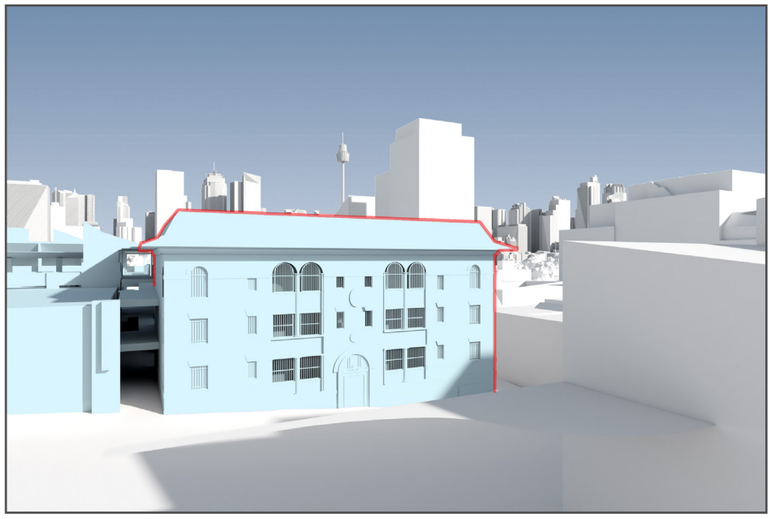
3D VIEW LINE INFORMATION

View Location:	3rd floor level balcony to presumed living area
Camera RL:	48.5m
Focal length in 35mm Film:	24mm

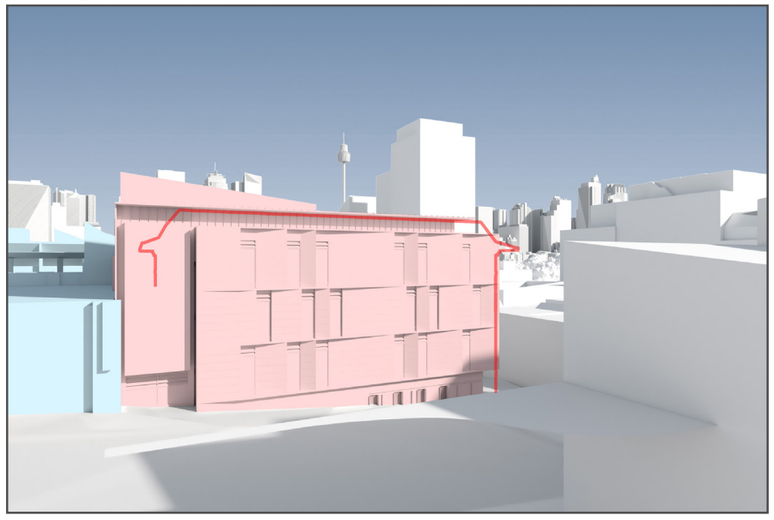
- Models of context buildings
- Outlines of Existing SCEGGS Buildings
- Existing SCEGGS Buildings
- Proposed SCEGGS Buildings including Wilkinson House

5.2 CAMERA POSITION 2 - THE HORIZON APARTMENTS LEVEL 2 APARTMENT 1

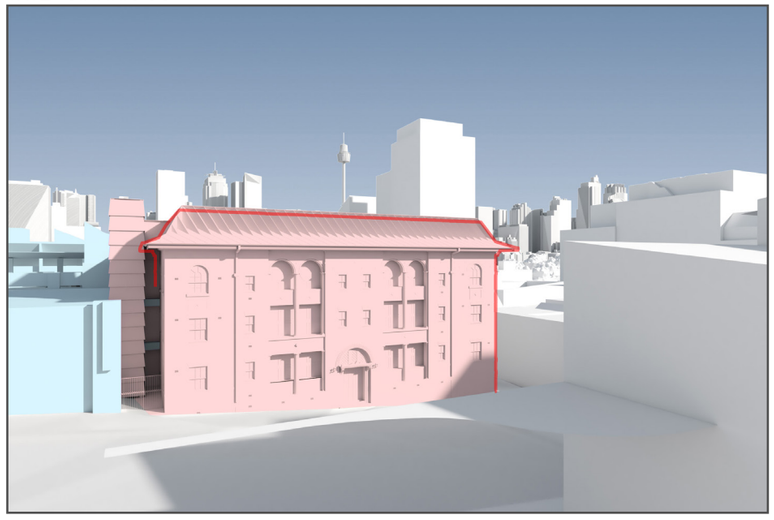
RENDER FROM 3D MODELS SHOWING CURRENT CONDITION



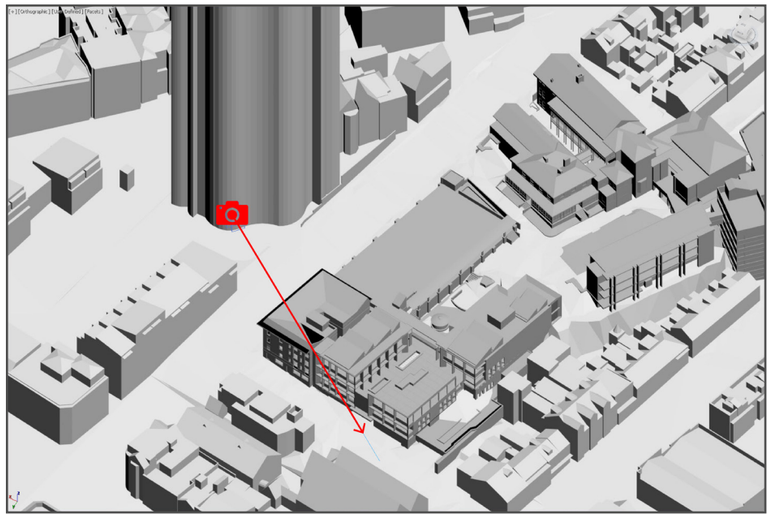
RENDER FROM 3D MODELS SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT - PROPOSED AS PART OF CONCEPT SSDA



RENDER FROM 3D MODELS SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT - CURRENT PROPOSAL UNDER SSD-19989744



CAMERA POSITION IN 3D VIEW



CAMERA POSITION IN 3D CLOSE-UP VIEW

3D VIEW LINE INFORMATION

View Location:	2nd floor level balcony to presumed living area
Camera RL:	42.5m
Focal length in 35mm Film:	24mm

Models of context buildings

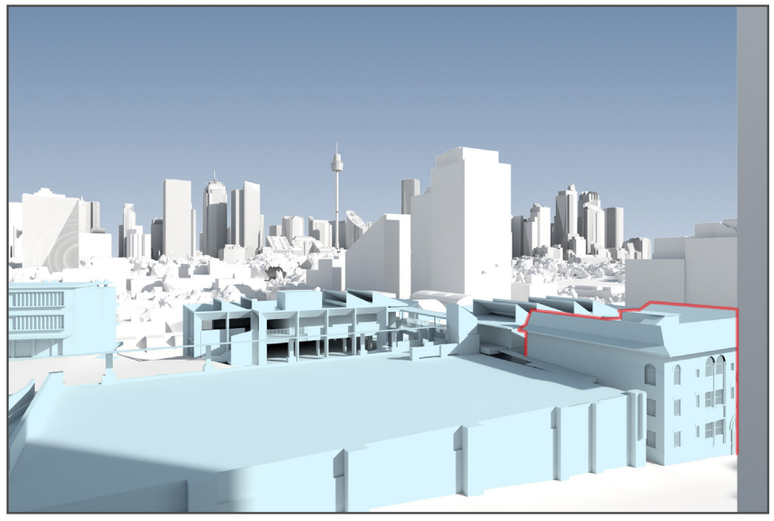
Outlines of Existing SCEGGS Buildings

Existing SCEGGS Buildings

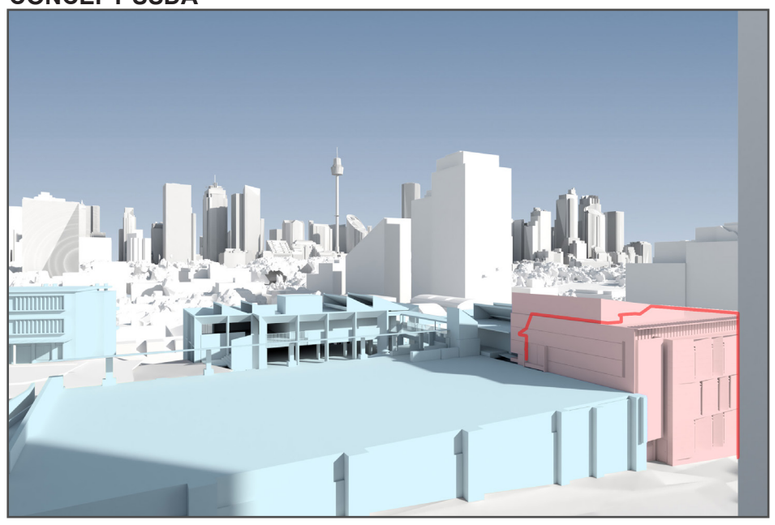
Proposed SCEGGS Buildings including Wilkinson House

5.3 CAMERA POSITION 3 - 186 FORBES STREET NORTH

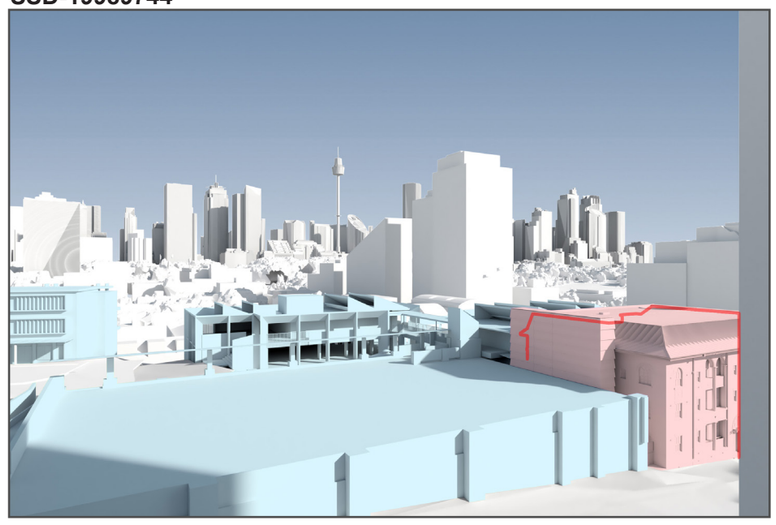
RENDER FROM 3D MODELS SHOWING CURRENT CONDITION



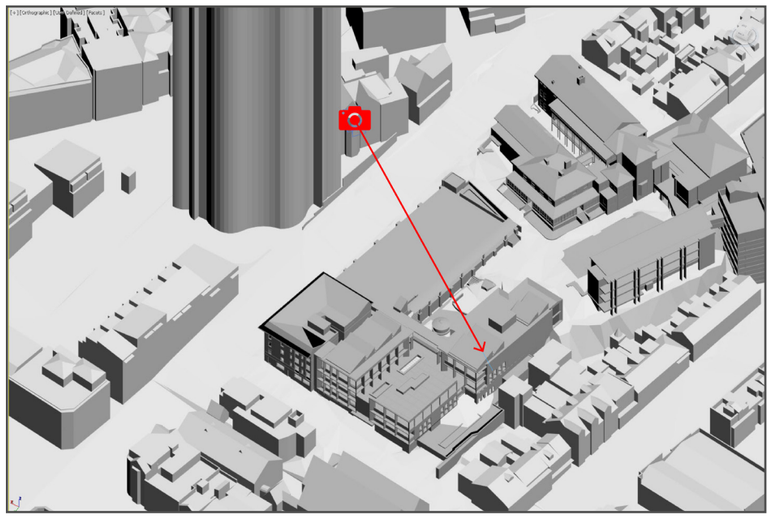
RENDER FROM 3D MODELS SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT - PROPOSED AS PART OF CONCEPT SSDA



RENDER FROM 3D MODELS SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT - CURRENT PROPOSAL UNDER SSD-19989744



CAMERA POSITION IN 3D VIEW



CAMERA POSITION IN 3D CLOSE-UP VIEW

3D VIEW LINE INFORMATION

View Location:	2nd floor level bay window to presumed bedroom
Camera RL:	51.6m
Focal length in 35mm Film:	24mm

Models of context buildings

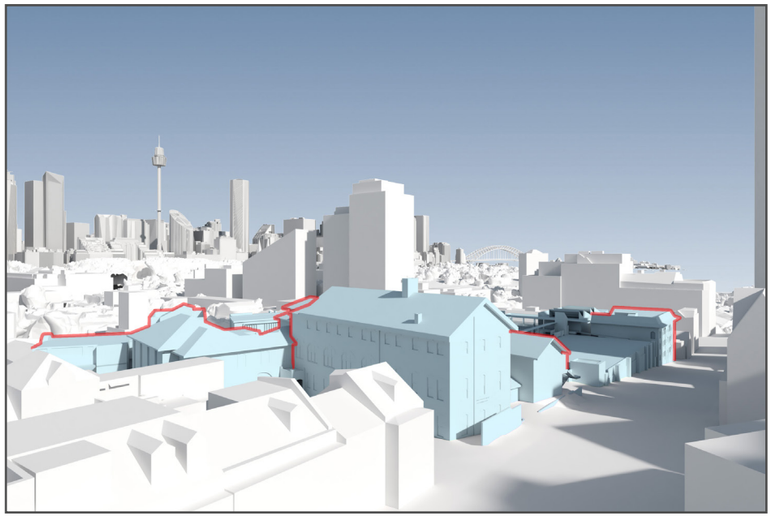
Outlines of Existing SCEGGS Buildings

Existing SCEGGS Buildings

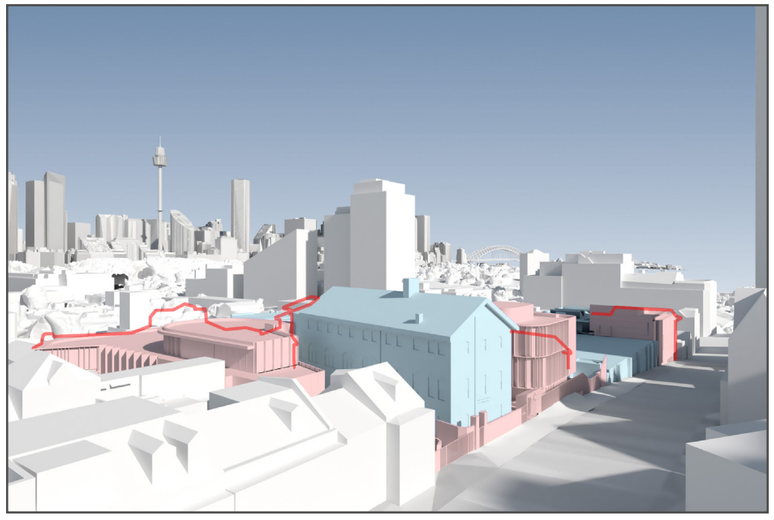
Proposed SCEGGS Buildings including Wilkinson House

5.4 CAMERA POSITION 4 - 200 FORBES STREET

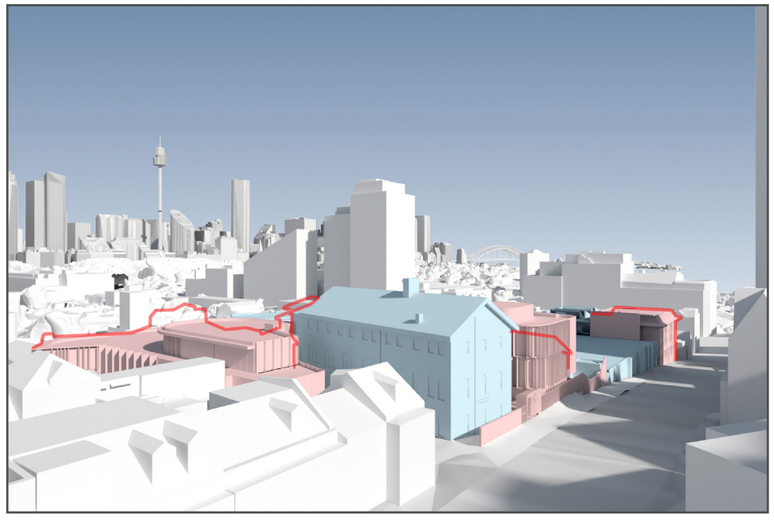
RENDER FROM 3D MODELS SHOWING CURRENT CONDITION



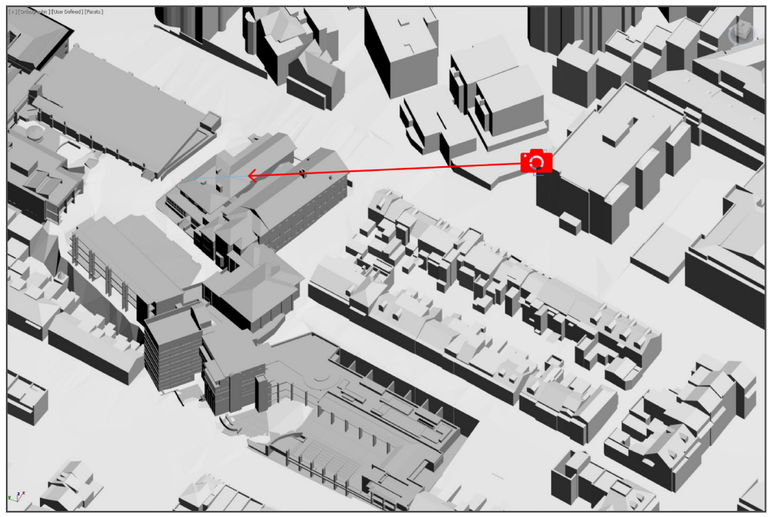
RENDER FROM 3D MODELS SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT - PROPOSED AS PART OF CONCEPT SSDA



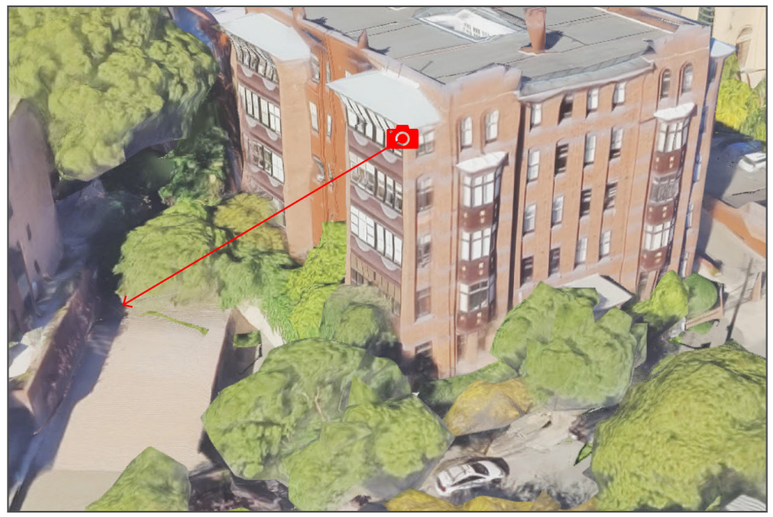
RENDER FROM 3D MODELS SHOWING CURRENT CONDITION AND PROPOSED DEVELOPMENT - CURRENT PROPOSAL UNDER SSD-19989744



CAMERA POSITION IN 3D VIEW



CAMERA POSITION IN 3D CLOSE-UP VIEW



3D VIEW LINE INFORMATION

View Location:	Top floor bay window to presumed sun room to living area
Camera RL:	65m
Focal length in 35mm Film:	24mm

Models of context buildings

Outlines of Existing SCEGGS Buildings

Existing SCEGGS Buildings

Proposed SCEGGS Buildings including Wilkinson House

6.1 APPENDIX A: 3D SCENE DATA SOURCES

A.1 - 3D model of proposed Wilkinson House - 2021 October Submission

File Name: 210927_2022_WILKINSONHOUSE_MODEL
Author: Smart Design Studio
Format: Revit
Alignment: MGA 56 GDA94

A.2 - 3D model of proposed Wilkinson House - 2019 September Submission

File Name: 160441_TKD_AR_RVT_Master_19_190729
Author: TKD Architects
Format: Revit
Alignment: MGA 56 GDA94

A.3 - 3D detailed models of proposed SCEGGS buildings except Wilkinson House

File Names: 160441_TKD_AR_RVT_Barham_19_190723
160441_TKD_AR_RVT_Multi_Purpose_19_190723
Author: TKD Architects
Format: Revit
Alignment: MGA 56 GDA94

A.4 - 3D detailed models of existing development and context

File Names: 160441_TKD_AR_RVT_Barham_18_Existing
160441_TKD_AR_RVT_Master_18_Existing
160441_TKD_AR_RVT_Multi_Purpose_18_Existing
160441_TKD_AR_RVT_Site_18_Existing
Author: TKD Architects
Format: Revit
Alignment: MGA 56 GDA94

A.5 - Surveyed 2015 3D North Sydney context model - refer to Appendix B for details

Author: AAM
Format: 3DS Studio Max file
Alignment: Supplied referenced to MGA 56 GDA94

A.6 - Aerometrex 3D Data - refer to Appendix B for details

Author: Aerometrex
Format: FBX
Alignment: MGA 56 GDA94

A.7 - Site Survey - refer to Appendix C for details

File Name: TKD_Survey_190514
Author: Rygate
Format: Autocad DWG
Alignment: MGA 56 GDA94

6.2 APPENDIX B: DETAILS OF AAM AND AEROMETREX 3D MODELS USED FOR ALIGNMENT AND CONTEXT PURPOSES

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info@aamgroup.com
www.aamgroup.com
ABN: 63 106 160 678

Geocirrus 3D Model

Accuracy, Reference Frames and Origin of Model Data

City of Sydney Ultimo Area

Untextured Wireframe model (2018),

Level of Detail – LOD3

AAM Project Number: PRJ35737

Accuracy details: *please refer to table A: 2018 untextured wireframe model*

Crows Nest Area 3D Data

Textured Wireframe model (2017),

Level of Detail - LOD3

AAM Project Number: PRJ33958

Accuracy details: *please refer to table B: 2017 textured wireframe model*

City of Sydney Update 3 square km

AAM Project Number: PRJ33453

Accuracy details: *please refer to table A (2018 untextured wireframe model) for Sydney CBD and Central Sydney area, and please refer to table B (2017 textured wireframe model) for North Sydney and Harbour Bridge area.*

Table A: 2018 untextured wireframe model	Table B: 2017 textured wireframe model
Level of Detail: LOD3	Level of Detail: LOD3
Capture Date: March 2018	Capture Date: 20/12/2016 and 13/01/2017
Capture resolution: 0.095m	Capture resolution: 0.125m
Accuracy: +/- 0.2m RMS vertically and horizontally	Accuracy: +/- 0.5 m

REFERENCE SYSTEMS:

Horizonal:	Vertical:
Datum: GDA94	Datum: Australian Height Datum (AHD)
Projection: MGA zone 56	Projection: N/A
Geoid Model: N/A	Geoid Model: Ausgeoid98
Reference Point: 336305.14 E 6252061.22N	Reference Point: 2.36 RL

Wireframe Models (untextured):
The wireframe model was digitized using photogrammetric methods from aerial imagery captured on 25-28 February 2009, updated from aerial imagery captured on 7th March 2013, again in August 2015, with the latest update in March 2018.

Visible features within the aerial imagery were captured as coplanar shapes with no overlap, gaps or slivers between abutting features. Demolished buildings were removed, and new buildings were added. These features were draped to a 0m ground surface around the building footprint and to other features within this footprint. Building within the CBD area are aligned to the land property base to form a single hollow shell. Models outside the CBD area have not been segregated into individual buildings. Ground control used was 72 topographic features surveyed with rapid static GPS

Wireframe Models (textured):
Digitised from nadir and oblique imagery captured Dec 2017-Jan 2018
Textured from the same imagery
Geometry at LOD3 level includes awnings and roof furniture

6.2 APPENDIX B: DETAILS OF AAM AND AEROMETREX 3D MODELS USED FOR ALIGNMENT AND CONTEXT PURPOSES

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Sydney 75mm - 3D MODEL

Aerometrex Project Number:	A5673
Aerial Survey Acquisition Dates:	4th, 10th, 11th and 12th February 2019
Number of frames captured:	127,250
Capture Pixel Size:	7.5 cm GSD
Horizontal Datum:	Geocentric Datum of Australia 1994 (GDA94)
Vertical Datum:	Australian Height Datum (AHD)
Map Projection:	MGA Zone 56 (MGA56)
	FBX Offsets: X= 313,000 Y= 5,236,000
Spatial Accuracy – XYZ:	Derived controls from 10cm Photogrammetric surveying – 25cm absolute accuracy

Data Summary:

- **FBX Tiles** – 3D mesh tiles in FBX format split into their Level of Details. Please refer to the associated *metadata.xml* and Tile_Index.kml folder for global offsets and tile extents respectively.

  Please note there are different directories for different Level of details meaning L19 is typically the highest level of resolution and geometry and every Level down the geometry gets simplified as well as the texture resolution.

aerometrex. Digital Mapping Specialists

Figure 1: Sydney 2019 3D Model example

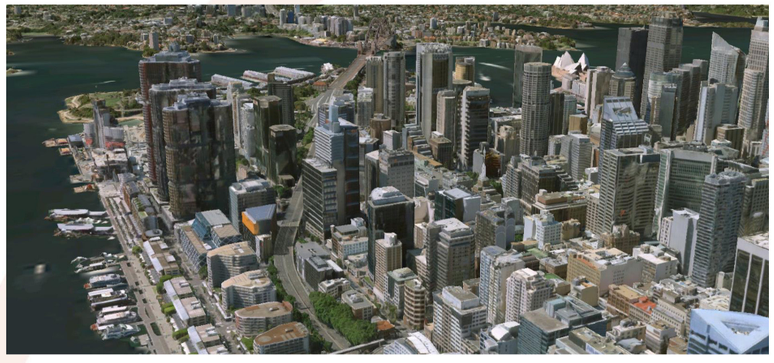

Figure 2: Sydney 2019 3D Model example

Any queries/feedback please contact Aerometrex - Adelaide
ph +61 8 8362 9911

aerometrex. www.aerometrex.com.au

6.3 APPENDIX C: SITE SURVEY SUPPLIED BY RYGATE