VISUAL IMPACT ASSESSMENT

No.163, Pacific Road, Palm Beach, NSW

June 2021

urbaine architectural

urbaine architectural Suite 6, 15 The Corso, Manly NSW 2095
ABN: 313 182 542 24 T: 61 2 8355 6770

Development Application, no.163, Pacific Road, Palm Beach.
Visual Impact Assessment Report, June, 2021.

CONTENTS

1. INTRODUCTION

1.1 Scope and Purpose of Report.

This Visual Impact Assessment Report has been prepared by Urbaine Architectural as supporting documentation for an addition to an existing house at No.163, Pacific Road, Palm Beach.
This report has been prepared for Mr Geoff Fisher, resident and owner of no.163, Pacific Road and provides an analysis of the proposed development's visual impact in relation to its visual and statutory contexts and is to be read in conjunction with the drawings and other material originally submitted with the development application.

Figure 1 – site location shown in red.

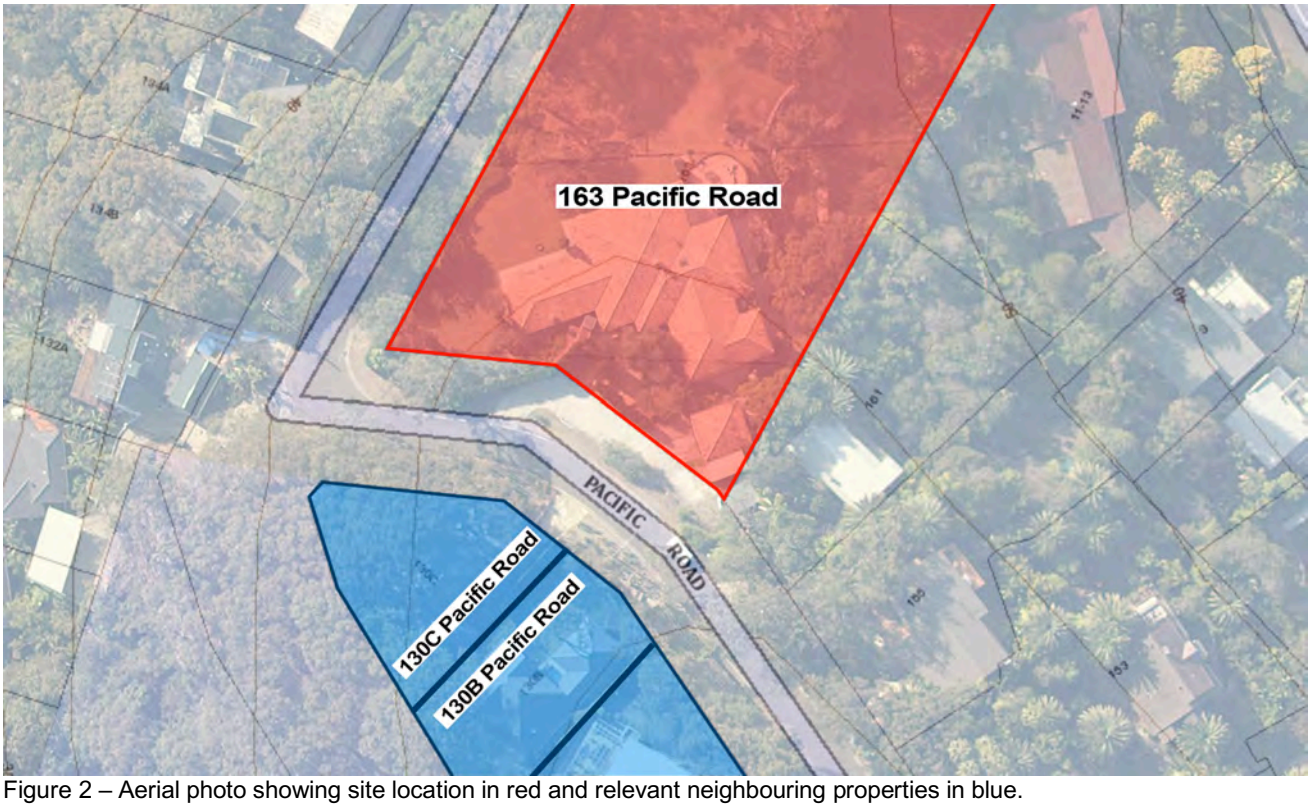


Figure 2 – Aerial photo showing site location in red and relevant neighbouring properties in blue.

1.2 The Proposed Development

1.2.1 Project Overview:

A new development at No.163 Pacific Road, which encloses an existing open car space, has been constructed. The pitched roof matches the existing building, both in form and materials and is in keeping with the general architectural style and scale of the neighbourhood.

1.2.2 The Site:

The site is identified as Lot 2A DP8595 and Lot 1 DP953004 known as 163 Pacific Road Palm Beach having an area of 2232m2. The site is located on the eastern lower side of Pacific Road (see Figures 1 and 2). The site is currently zoned E4 Environmental Living. The property is bounded on the southern border by a residential property and to the northern boundary vacant land of 2327m2. The property is connected to all services, not subject to flooding, is in a landslip area and is in a bushfire zone

1.2.3 Proposed Land Use and Built Form

The development relates to:
• Construction of a new enclosed double car garage to cover the existing double parking space.
The subject property is zoned R2 Low Density Residential pursuant to the provisions of the Pittwater Local Environmental Plan 2014 (PLEP). Dwelling houses are permissible in the zone with consent. The site is not heritage listed or located within a heritage conservation area.
The stated zone objectives are as follows:
• To provide for the housing needs of the community within a low-density residential environment.
• To enable other land uses that provide facilities or services to meet the day to day needs of residents.
• To ensure that low density residential environments are characterised by landscaped settings that are in harmony with the natural environment of Pittwater

Pursuant to the provisions of the Pittwater DCP, walls are not to exceed 7.2 metres from ground level (existing) to the underside of the ceiling on the uppermost floor of any building or addition to a building. The stated objectives of this control are as follows:
• *To minimise the visual impact of development when viewed from adjoining properties, streets, waterways and land zoned for public recreation purposes.*
• *To ensure development is generally beneath the existing tree* canopy level.
• *To provide a reasonable sharing of views to and from public and private properties.*
• *To minimise the impact of development on adjoining or nearby properties.*
• *To ensure that development responds to site topography and to discourage excavation of the natural landform.*
• *To provide sufficient scope for innovative roof pitch and variation in roof design.*

As can be seen from the site photography, the garage building form and roof align with the existing house behind and sit only slightly higher than the detached elevator, adjoining the garage, which was approved in 2013 under an earlier Development Application - DA N0066/11/S96/1.

The additional area within the new addition remains complaint in terms of GFA and FSR relative to the whole site area of Lots 2A DP8595 and Lot 1 DP953004.
When assessing view loss, consideration should be given to specific case law and, in particular, Tenacity Consulting v Pittwater Council [2004] NSWLEC 140, which, under certain conditions, asks whether a ‘more skilful’ design would mitigate any view loss. In this case, as will be shown in the accompanying photo’s, the view loss, from properties on the western side of Pacific Road, is very minor when compared to the view prior to construction of the new building, where mature tree screening obstructed an almost identical amount of view to the ocean and beyond. The building is compliant within the terms of the Pittwater DCP and, as such the Tenacity ruling would not be practically applicable.

The extent of the trees prior to construction of the new garage can be observed in Figures 3 and 4, below.

Figure 3 – Aerial photo showing existing house prior to the new garage addition.

Figure 4 – Aerial photo showing existing house after the new garage addition.

1.3 Visual Impact Assessment Methodology

The methods used by Urbaine, for the generation of photomontaged images, showing the proposed development in photomontaged context are summarised in an article prepared for New Planner magazine in December 2018 and contained in Appendix A. A combination of the methods described were utilised in the preparation of the photomontaged views used in this visual impact assessment report. This same methodology is currently under review by the Land and Environment Court as a basis for future VIA guidelines to supersede the current instructions.

1.3.1 Process

Initially, a wide selection of site photography was used to select the viewpoints most likely to be potentially affected by the new development. The description of these and their locations are described within section 3 of this report.

1.3.2 Assessment Methodology

There are no set guidelines within Australia regarding the methodology for visual impact assessment.
Where a proposal is likely to adversely affect views from either private or public land, Council will give consideration to the Land and Environment Court's Planning Principle for view sharing established in Tenacity Consulting v Pittwater Council [2004] NSWLEC 140. This Planning Principle establishes a four-step assessment to assist in deciding whether or not view sharing is reasonable:

Step 1: assessment of views to be affected.
Step 2: consider from what part of the property the views are obtained.
Step 3: assess the extent of the impact.
Step 4: assess the reasonableness of the proposal that is causing the impact.

However, there is no peer review system for determining the accuracy of the base material used for visual impact assessments. As a result, Urbaine Architectural provides a detailed description of its methodologies and the resultant accuracy verifiability – this is contained within Appendix A.
The methodology applied to the visual assessment of the current design proposal has been developed from consideration of the following key documents:

■ Environmental Impact Assessment Practice Note, Guideline for Landscape Character and Visual Impact Assessment (EIA-N04) NSW RMS (2013);
■ Visual Landscape Planning in Western Australia, A Manual for Evaluation, Assessment, Siting and Design, Western Australia Planning Commission (2007);
■ Guidelines for Landscape and Visual Impact Assessment, (Wilson, 2002);

In order to assess the visual impact of the Design Proposal, it is necessary to identify a suitable scope of locations that may be impacted by it, evaluate the visual sensitivity of the Design Proposal to each location and determine the overall visual impact of the Design Proposal. Locations that feature a prominent, direct and mostly unobstructed line of sight to the subject site are used to assess the visual impact of the Design Proposal. Views to be assessed should be from within main living spaces and from a standing height (sitting height as a secondary option), or equivalent if access to neighbouring properties is not possible, as in this case. The amount of view loss in each situation, together with potential opportunities for mitigation can then be assessed.
Views of high visual quality are those featuring a variety of natural environments/ landmark features, long range, distant views and with no, or minimal, disturbance as a result of human development or activity. Views of low visual quality are those featuring highly developed environments and short range, close distance views, with little or no natural features.
Visual sensitivity is evaluated through consideration of distance of the view location to the site boundary and also to proposed buildings on the site within the Design Proposal. Then, as an assessment of how the Design Proposal will impact on the particular viewpoint. Visual sensitivity provides the reference point to the potential visual impact of the Design Proposal to both the public and residents, located within, and near to the viewpoint locations.

Site Inspections:

A site inspection was undertaken to photograph the site and surrounding area to investigate:
- The topography and existing urban structure of the local area
- The streetscapes and sites most likely to be affected by the Proposal
- Important vistas and viewsheds
- Other major influences on local character and amenity

The aerial photo, see figure 5, indicates chosen locations for site photography from relevant properties on Pacific Road towards the subject site. These are intended to align with the main living spaces of Nos.130B and 130C, Pacific Road, which are set back from the boundary.

Figure 5 – Selected viewing locations for visual impact assessment.

Contextual Analysis:
An analysis was undertaken of the visual and statutory planning contexts relevant to the assessment of visual impacts in a Development Application.

Visual Impact Analysis:
The visual impacts of the proposed development were analysed in relation to the visual context and assessed for their likely impact upon the local area.

Statutory Planning Assessment:
The results of the local view impact assessment are included in Section 3 of this report.

1.4 References

The following documentation and references informed the preparation of this report:
Design Documentation
■ The original Design Documentation
■ Creating Places for People - An Urban Design Protocol for Australian Cities: www.urbandesign.gov.au/downloads/index.as
■ State Environmental Planning Policy No.55 - Remediation of Land;

■ State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004;
■ State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017;
■ Australia and New Zealand Urban Design Protocol:
www.mfe.govt.nz/publications/urban/design-protocol-mar05/urban-design-protocol-colour.pdf
■ The Value of Urban Design:
www.designcouncil.org.uk/Documents/Documents/Publications/CABE/the-value-of-urban-design.pdf
■ Fifteen Qualities of Good Urban Places:
www.goldcoast.qld.gov.au/planning-and-building/fifteen-qualities-of- good-urban-places-3774.html
■ The Image of the City (1960), Kevin Lynch
■ The Environmental Planning and Assessment Act 1979 as amended (“the Act”);
■ Pittwater Local Environmental Plan 2014 (“PLEP 2014”);
■ Pittwater 21 Development Control Plan (“P21 DCP”);

2. THE SITE AND THE VISUAL CONTEXT

Visual impacts occur within an existing visual context where they can affect its character and amenity. This section of the report describes the existing visual context and identifies its defining visual characteristics.
Defining the local area relevant to the visual assessment of a proposed development is subject to possible cognitive mapping considerations and statutory planning requirements. Notwithstanding these issues, the surrounding local area that may be affected by the visual impact of the proposed development is considered to be the area identified on in the general topographical area map, Figure 6. This shows the steep fall of land from the houses on Pacific Road to the north, west and east.

Although some individuals may experience the visual context from private properties with associated views, the general public primarily experiences the visual context from within the public realm where they form impressions in relation to its character and amenity. This is particularly relevant in this instance, where the scale and form of the proposed development is viewed in context. Within the scope of this report the public realm is considered to include the public roads, reserves, open spaces and public buildings.
The visual context is subject to ‘frames of reference’ that structure the cognitive association of visual elements. The ‘local area’ (as discussed above) provides one such frame of reference. Other “frames of reference” include the different contextual scales at which visual associations are established and influence the legibility, character and amenity of the urban environment. Within the scope of this report three contextual scales are considered relevant to the analysis of the visual context and the visual impact of the proposed development.

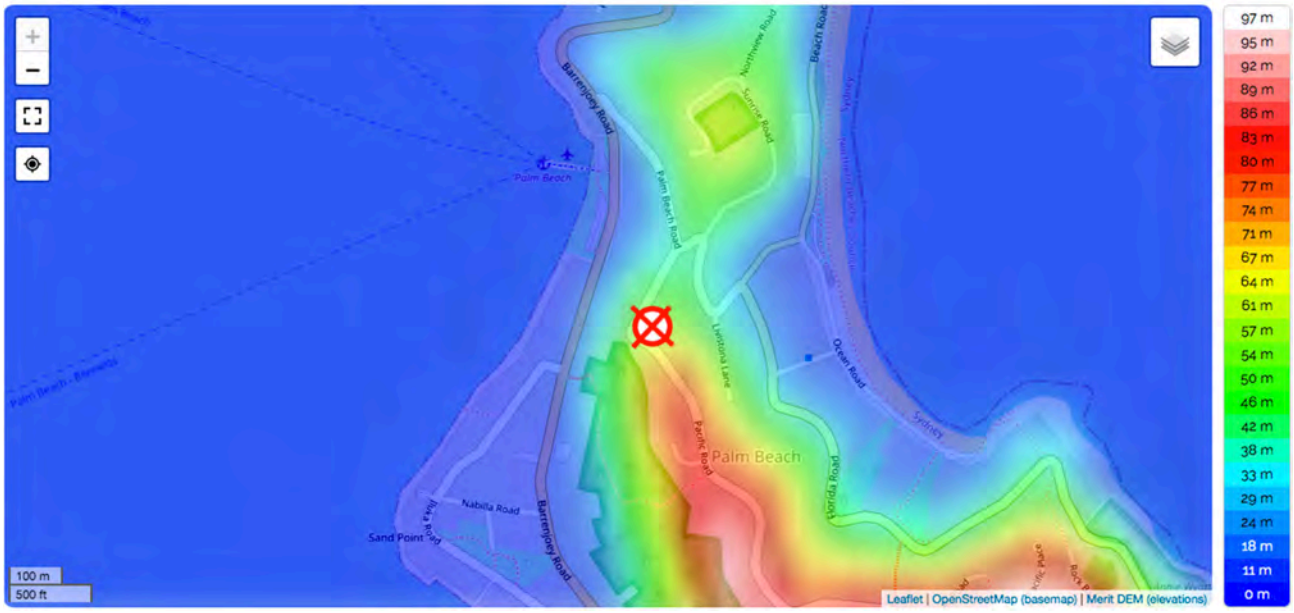


Figure 6: Subject Site topographical map

The ‘Street Context’ provides a frame of reference for reviewing the visual relationship of the new development (and in particular its facades) in relation to the adjoining pedestrian spaces and roads. Elements of the development within this frame of reference are experienced in relatively close proximity where, if compatible with the human scale they are more likely to facilitate positive visual engagement and contribute to the “activation” of adjoining pedestrian spaces.

The ’Neighbourhood Context’ provides a broader frame of reference that relates the appearance of the development as a whole to the appearance of other developments within the local area. As a frame of reference, it evolves from the understanding gained after experiencing the site context and the low density of development. Within this context the relative appearance, size and scale of different buildings are compared for their visual compatibility and contribution to a shared character from which a unique “sense of place” may emerge. This frame of reference involves the consideration of developments not necessarily available to view at the same time. It therefore has greater recourse to memory and the need to consider developments separated in time and space. The neighbourhood context is relevant to the visual “legibility” of a development and its relationship to other developments, which informs the cognitive mapping of the local area to provide an understanding of its arrangement and functionality.

2.1 The Visual Context:

Within the street context, the surrounding development consists of single and two storey dwelling houses with no dominant architectural style. The proposed addition is not out of character within the continually developing streetscape.
The proposed development would not be readily visible from the street frontage.
The iconic views from Pacific Road are from the north-west around to the east and the ocean. Views to the water from properties on the western side of Pacific Road are partially across the subject site. The highest value views are to the ocean, to the north and east, across the subject site, in the case of No.130C Pacific Road. Bearing this in mind, a sensitive, compliant design that reflects community view sharing is essential/

2.2 Streetscapes

Within the local and surrounding areas, the streetscapes are typical of a well-established suburban area, that being focused on public amenity. The residential lots are medium to large and, as a result of the topography, have the option of enabling view sharing throughout the neighbourhood.

2.3 The selected view locations for the local view analysis:

As a result of the site’s topography, the visual impact is primarily relevant from the residential properties to the south and west of the subject site and also from the gaps between houses, observed from the street. The houses on the western side of Pacific Road, to the south of the subject site, have the greatest potential for negative visual impact
A large number of site photos were taken and a smaller number of local views selected from these, relevant for the private viewing locations, as described above. These are a mixture of static viewpoints, namely, fixed locations, as opposed to locations where viewing from a vehicle may be more likely – dynamic.
The selected photos are intended to allow consideration of the visual and urban impact of the new development at both an individual and local level. They incorporate private viewing locations (equivalent on site) from Nos 130B and 130C, Pacific Road where the subject site falls within direct line of sight and has the potential to impact on the neighbouring views.

2.4 Period of View:

The view is either
(a) Intermittent, or Dynamic if it will be viewed from a car travelling along a road; or
(b) Stationary, or Static if the proposal can be viewed from a fixed location or for an extended period of time. In this instance, most views will be considered as stationary, since the impact is most

significant on views from adjoining gardens.

Context of View:
The context of the view relates to where the proposed development is being viewed from. The context will be different if viewed from a neighbouring building, or garden, where views can be considered for an extended period of time, as opposed to a glimpse obtained from a moving vehicle.

Extent of View:
The extent to which various components of a development would be visible is critical. For example, if the visibility assessment is of a multi-storey development proposal in a low-density context of 2 to 3 storey buildings, it would be considered to have a significant local scale visual impact, whereas if a development proposal is located in an area of a CBD containing buildings of a similar scale and height, it may be considered to have a lower scale visual impact.
The capacity of the landscape to absorb the development is to be ranked as high, medium or low, with a low ranking representing the highest visual impact upon the scenic environmental quality of the specific locality, since there is little capacity to absorb the visual impact within the landscape.

3. VISUAL IMPACT OF THE PROPOSED DEVELOPMENT

3.1 Visual Impact Assessments, with reference to the requirements of the Land and Environment Court.

When undertaking the assessment of visual impacts, the guidelines stipulated by the Land and Environment Court, NSW, are used as a starting point for compliance.

3.2 Visual Impact Assessments from 4 local viewpoint locations – static, private locations:

3.2.1 Method of Assessment:

In order to allow a quantitative assessment of the visual impact, photos were selected that represented relevant private viewing locations from Nos. 130B and 130C, Pacific Road
A Canon EOS Full Frame Digital Camera with fixed focal length 35mm lens was used to take all viewpoint photos, at an eye level of 1600mm
The photos include location descriptions, to be read in conjunction with the site map, contained in Appendix A. Additionally, information is supplied as to the distance from the site boundary for each location and the distance to the closest built form is provided in Section 3.2.2 below.
To assess the visual impact, there are 2 relevant aspects - view loss of actual substance (landscape, middle and distance view elements etc.) and also direct sky view loss.

To a large extent, the value associated with a view is subjective, although a range of relative values can be assigned to assist with comparing views. Figure 7 is a scale of values from 0 to 15, used to allow a numeric value to be given to a particular view, for the purposes of comparison.
On the same table are a series of values, from zero to 15, that reflect the amount of visual impact.
The second means of assessment relates to assigning a qualitative value to the existing view, based on criteria of visual quality defined in the table.

The % visual content is then assessed, together with a visual assessment of the new development's ability to blend into the existing surroundings.

Scale	Value	Visual quality	Visual impact
0	**Negligible**	N/A	No negative impact on the pre-existing visual quality of the view.
1 2 3 4 5	**Low**	Predominant presence of low quality manmade features. Minimal views of natural formations (e.g. cliffs, mountains, coastlines, waterways, ridges etc). Uniformity of land form.	A minor negative impact on the pre-existing visual quality of the view. Examples: – Minor impacts on natural landscapes. – No impact on iconic views – Impacts on a small number of receivers. – Significant distance between the development and receiver.
6 7 8 9 10	**Medium**	Presence of some natural features mixed with manmade features. Some views of distinct natural formations (e.g. cliffs, mountains, coastlines, waterways, ridges etc).	A medium negative impact on the pre-existing visual quality of the view: Examples: – Moderate impacts on iconic views or natural landscapes. – Impacts on a moderate number of receivers. – Located nearby the receiver.
11 12 13 14 15	**High**	Predominantly natural features. Minimal manmade features, however if present of a high architectural standard. Significant views of distinct natural formations (e.g. cliffs, mountains, coastlines, waterways, ridges etc). Presence of iconic regional views or landmark features.	A high negative impact on the pre-existing visual quality of a view: Examples: – Loss of iconic views. – Impacts on a significant number of receivers. – Overshadowing effect. – Directly adjacent the receiver.

Figure 7 – Urbaine Architectural Visual Assessment Scale

3.2.2 Assessment at selected viewpoints

Viewpoint no.1: Existing site photo. Static viewpoint.
From the northern boundary of No.130C, Pacific Road, aligning with the view from the main living spaces, looking north-east towards the subject site. Equivalent to a standing position.
Distance to site boundary: 4150mm. Distance to proposed building: 4973mm

Viewpoint no.1: View with previous landscape reinstated – prior to the new addition.

Viewpoint no.1: View with water horizon indicated in cyan overlay.

Viewpoint no.1: View with extent of previous landscaping shown in red overlay.

Viewpoint no.1: View with extent of landform behind the existing house shown in blue overlay.

Viewpoint no.1: View with extent of additional view loss indicated in green overlay.

Visual impact – portion of garage building visible in view – 92%
Visual impact ratio of view loss to sky view loss in visible portion. 100%: 0%
Visual Quality Assessment: Scale no.11 Visual Impact Assessment: Scale no.3

The extent of view and water view loss, relative to the amount of loss previously incurred as a result of the tree screening is very minor in this view. The architecture and materials of the new building reflect those of the existing house and its integration into the surrounding context.

Viewpoint no.2: Existing site photo. Static viewpoint.
From the northern boundary of No.130C, Pacific Road, aligning with the view from the main living spaces, looking north-east towards the subject site. Equivalent to a sitting position.
Distance to site boundary: 4150mm. Distance to proposed building: 4973mm

Viewpoint no.2: View with previous landscape reinstated – prior to the new addition.

Viewpoint no.2: View with water horizon indicated in cyan overlay.

Viewpoint no.2: View with extent of previous landscaping shown in red overlay.

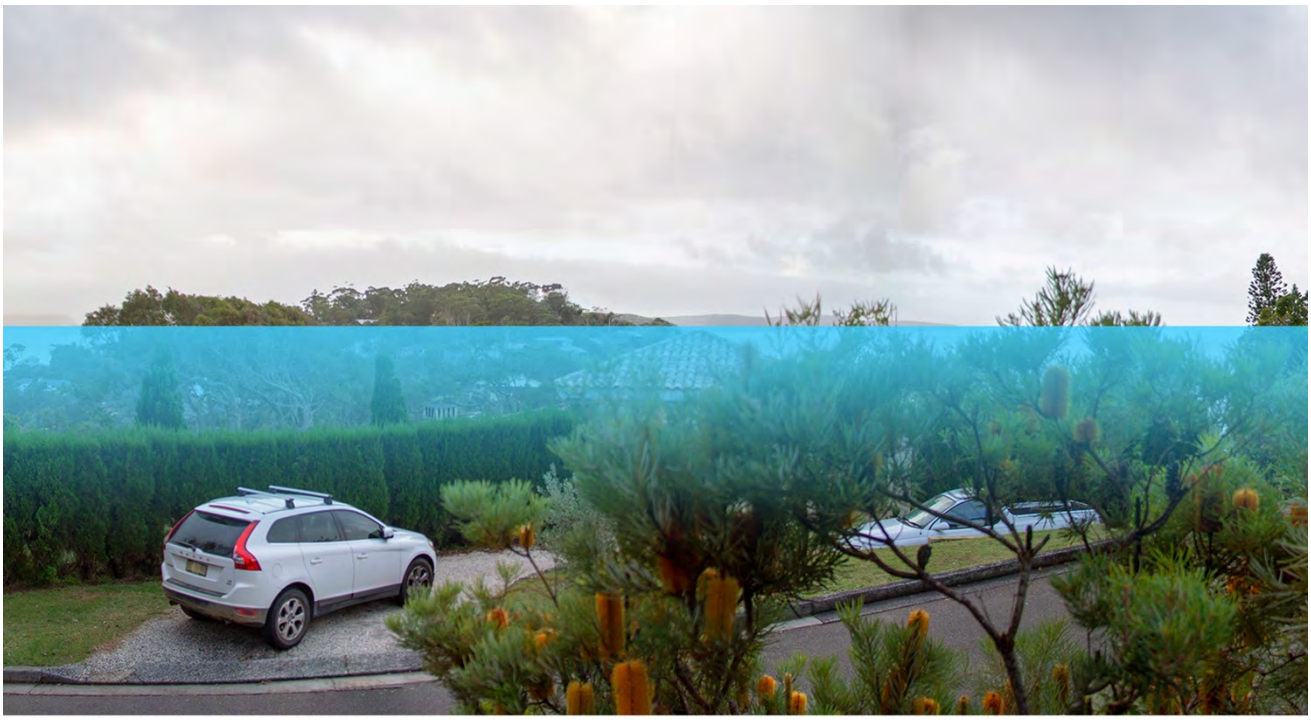
Viewpoint no.2: View with extent of landform behind the existing house shown in blue overlay.

Viewpoint no.2: View with extent of additional view loss indicated in green overlay.
Visual impact – portion of garage building visible in view – 88%
Visual impact ratio of view loss to sky view loss in visible portion. 100%: 0%
Visual Quality Assessment: Scale no.11 Visual Impact Assessment: Scale no.3

The extent of view and water view loss, relative to the amount of loss previously incurred as a result of the tree screening is very minor in this view. The architecture and materials of the new building reflect those of the existing house and its integration into the surrounding context.

Viewpoint no.3: Existing site photo. Static viewpoint.
From the northern site boundary of No.130C, Pacific Road, aligning with the view from the main living spaces, looking north-east towards the subject site. Equivalent to a standing position.
Distance to site boundary: 4150mm. Distance to proposed building: 4973mm

Viewpoint no.3: View with previous landscape reinstated – prior to the new addition.



Viewpoint no.3: View with water horizon indicated in cyan overlay.

Viewpoint no.3: View with extent of previous landscaping shown in red overlay.

Viewpoint no.3: View with extent of landform behind the existing house shown in blue overlay.

Viewpoint no.3: View with extent of additional view loss indicated in green overlay.
Visual impact – portion of garage building visible in view – 18%
Visual impact ratio of view loss to sky view loss in visible portion. 100%: 0%
Visual Quality Assessment: Scale no.10 Visual Impact Assessment: Scale no.2

The extent of water view loss, relative to the amount of loss previously incurred as a result of the tree screening is very minor in this view. The architecture and materials of the new building reflect those of the existing house and its integration into the surrounding context.

Viewpoint no.4: Existing site photo. Static viewpoint.
From boundary of No.130B, Pacific Road, from the main entry gate, looking north to the subject site at the equivalent of standing height.
Distance to site boundary: 4150mm. Distance to proposed building: 4973mm

Viewpoint no.4: View with water horizon indicated in cyan overlay.
Visual impact – portion of garage building visible in view – 32%
Visual impact ratio of view loss to sky view loss in visible portion. 100%: 0%
Visual Quality Assessment: Scale no.9 Visual Impact Assessment: Scale no.2

Here, any view loss is of mid-ground trees and landscape only. There is no impact on water views to the north-west.

4. CONCLUSIONS + PLANNING SCHEME PROVISIONS RELATING TO VISUAL IMPACTS

The development seeks to add to an existing house to create a new 2 car enclosed garage with access from the main driveway. The new proposal is compliant, relative to the Pittwater DCP and the assessment of any view loss is shown in Section 3 of this report.

It is important to note that access to neighbouring properties, on the western side of Pacific Road, was not possible and the photos were taken from the boundary fence, see figure 8, below. As can be observed from this photo, the main living and dining spaces on the ground floor of No.130C, Pacific Road and set back from the boundary and the boundary hedge by between 8 and 12 metres approximately. The site boundary also rises in elevation from west to east by approximately 1.5 metres.
The main living spaces are set down from the boundary, resulting in less actual potential for view loss than shown in the photos of Section 3.
It could be argued that, with the boundary hedge rising and the set back to the living spaces, which are at a lower level than the boundary line, in most instances, the view loss is negligible and that the Tenacity ruling does not become relevant in terms of the assessment.

Figure 8 – Location for view photography at site boundary of No.130B, Pacific Road.

In order to assess the view loss relative to the pre-built scenario, a number of overlays of photography were applied – see below, Figures 9, 10 and 11. These are from March, 2019 and indicate the growth of the trees surrounding the open parking spaces. There are several elements within the photographs that allow accurate alignment with the 2021 images.
It should be noted that these trees would have been higher prior to the time immediately before construction commenced in March,2020, but the images should give an adequate representation of their extent for the purpose of visual impact and view loss.

Figure 9 – View from south-west of subject site, March 2019.

Figure 10 – View from south of subject site, March 2019.

Figure 11 – View from south-east of subject site, March 2019.

In addition to the minimal view loss and visual impact, it should also be noted that the development complies with the following requirements:

• The proposed development is consistent with the objectives of the *clause 4.3 height of buildings development standard and the objectives of the R2 Low Density Residential zone, as part of the Pittwater Local Environmental Plan 2011;*

• *The proposed development is consistent with the established residential character of the immediate precinct, which includes mostly 2 and 3 storey dwelling houses. The proposed dwelling will read as one storey from Pacific Road;*

• *Skilful architectural design measures have been incorporated into the design of the proposed alterations and additions to ensure that the significant views to the north and east from houses to the west of Pacific Road are retained as part of this development;*

• *The proposed development does not generate adverse overshadowing impacts on the areas of private open space on site and on adjoining land.*

In summary, the new development's visual impact is low and the view loss from neighbouring properties can be considered as minor to negligible, relative to the pre-development situation.

Any minor view impact is observed from a distance and behind existing dense hedges, particularly along the site boundary of No.130B, Pacific Road. View assessments are considered from main living areas and, in this case, the views from these are aligning with the top of the existing hedgeline, obscuring most of the new building at No.163. There are very small portions of the new roof that add to view loss, but these are so minor as to not have relevance in the case law described in this assessment.

5. APPENDICES

- 5.1 APPENDIX A: Aspinall CV and Expert Witness experience.
  Methodology article – Planning Australia, by Urbaine Architectural

APPENDIX A:

Aspinall CV and Expert Witness experience.
Land and Environment Court Guildlines for Photompntages.
Methodology article – Planning Australia, by Urbaine Architecture.

CURRICULUM VITAE:

JOHN ASPINALL. Expert Witness – Land and Environment Court.

dob 8.2.63

Registered Architect RIBA BA(Hons) BArch(Hons) Liverpool University, UK.
Qualified 1987, London UK

24 years' architectural experience in London and Sydney.
Halpin Stow Partnership, London, SW1
John Andrews International, Sydney
Cox and Partners, Sydney
Seidler and associates
NBRS Architects, Milsons Point
Urbaine Architectural (current)

Design Competitions:
UK 1990 – Final 6. RIBA 'housing in a hostile environment'. Exhibited at the Royal Academy, London
UK Design Council – innovation development scheme finalist – various products, 1990.
Winner: International Design Competition: Sydney Town Hall, 2000
Finalist: Boy Charlton Swimming pool Competition, Sydney, 2001
Finalist: Coney Island Redevelopment Competition, NY 2003

Design Tutor: UTS, Sydney, 1997 – 2002
This role involved tutoring students within years 1 to 3 of the BA Architecture course. Specifically, I developed programmes and tasks to break down the conventional problem-solving thinking, instilled through the secondary education system. Weekly briefs would seek to challenge their preconceived ideas and encourage a return to design thinking, based on First Principles.

Design Tutor: UNSW, Sydney 2002 – 2005
This role involved tutoring students within years 4 to 6 of the BArch course. Major design projects would be undertaken during this time, lasting between 6 and 8 weeks. I was focused on encouraging rationality of design decision-making, rather than post-rationalisation, which is an ongoing difficulty in design justification.

Current Position: Urbaine Architectural. 2005 to present.
Currently, Principal Architect of Urbaine Architectural - architectural design development and visualisation consultancy: 24 staff, with offices in: Sydney, Shanghai, Doha and Sarajevo.
Specialist in design development via interactive 3d modelling.

Co-Founder Quicksmart Homes Pty Ltd. ,2007 - 2009
Responsible for the design and construction of 360 student accommodation building at ANU Canberra, utilising standard shipping containers as the base modules.

Design Principal and co-owner of Excalibur Modular Systems Pty Ltd: 2009 to present.
High specification prefabricated building solutions, designed in Sydney and being produced in China.
Excalibur has developed a number of modular designs for instant delivery and deployment around the world. Currently working with the Cameroon Government providing social infrastructure for this rapidly developing country.
The modular accommodation represents a very low carbon footprint solution,

Expert Legal Witness, 1998 to present.
In Australia and the UK, for the Land and Environment Court. Expert witness for visual impact studies and view loss assessments of new developments.
Currently consulting with many NSW Councils and large developers and planners, including City of Sydney, Lend Lease, Mirvac, Foster + Partners, Linklaters.
Author of many articles relating to the accuracy of Visual Impact Assessments. An article contained in Australian Planner Magazine, 2018, is attached as Appendix A.

The experience, in architectural design and 3D visualisation, over 30 years, as outlined above, gives John Aspinall a foundation of skills and experience to deliver highly competent visual information as the basis for very accurate visual impact assessment reports, both in Australia and internationally.

LAND AND ENVIRONMENT COURT
Use of photomontages

The following requirements for photomontages proposed to be relied on as or as part of expert evidence in Class 1 appeals will apply for proceedings commenced on or after 1 October 2013. The following directions will apply to photomontages from that date:

Requirements for photomontages

1. Any photomontage proposed to be relied on in an expert report or as demonstrating an expert opinion as an accurate depiction of some intended future change to the present physical position concerning an identified location is to be accompanied by:

   Existing Photograph.
   a) A photograph showing the current, unchanged view of the location depicted in the photomontage from the same viewing point as that of the photomontage (the existing photograph);
   b) A copy of the existing photograph with the wire frame lines depicted so as to demonstrate the data from which the photomontage has been constructed. The wire frame overlay represents the existing surveyed elements which correspond with the same elements in the existing photograph; and
   c) A 2D plan showing the location of the camera and target point that corresponds to the same location the existing photograph was taken.

   Survey data.
   d) Confirmation that accurate 2D/3D survey data has been used to prepare the Photomontages. This is to include confirmation that survey data was used:
      i. for depiction of existing buildings or existing elements as shown in the wire frame; and
      ii. to establish an accurate camera location and RL of the camera.

2. Any expert statement or other document demonstrating an expert opinion that proposes to rely on a photomontage is to include details of:
   a) The name and qualifications of the surveyor who prepared the survey information from which the underlying data for the wire frame from which the photomontage was derived was obtained; and
   b) The camera type and field of view of the lens used for the purpose of the photograph in (1)(a) from which the photomontage has been derived.

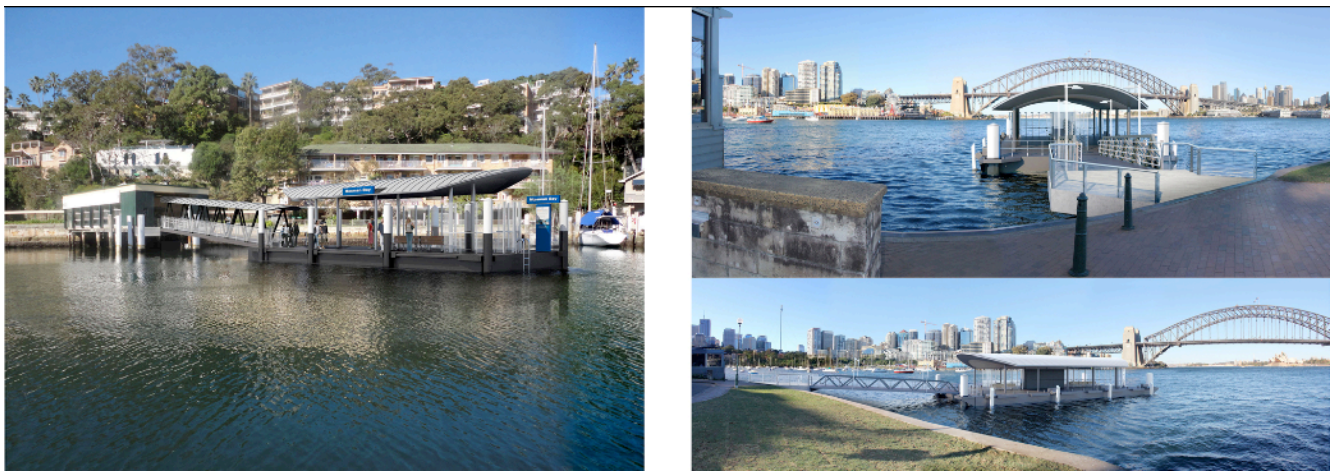
VISUAL IMPACT ASSESSMENTS: A REALITY CHECK. BY JOHN ASPINALL.

Photomontaged views of new apartment building at Pyrmont: Urbaine

Australia's rapid construction growth over the past 10 years has coincided with significant advances in the technology behind the delivery of built projects. In particular, BIM (Building Information Modelling). Virtual Reality and ever-faster methods of preparing CAD construction documentation.

Alongside these advances, sits a number of potential problems that need to be considered by all of those involved in the process of building procurement. Specifically, the ease with which CAD software creates the appearance of very credible drawn information, often without the thoroughness and deliberation afforded by architects, and others, in years past.

Nowhere is this more apparent than in the area of visual impact assessments, where a very accurate representation of a building project in context is the starting point for discussion on a project's suitability for a site. The consequences of any inaccuracies in this imagery are significant and far-reaching, with little opportunity to redress any errors once a development is approved.



Photomontaged views of new Sydney Harbour wharves: Urbaine

Urbaine Architecture has been involved in the preparation of visual impact studies over a 20 year period, in Australia and Internationally. Urbaine's Director, John Aspinall, has been at the forefront of developing methods of verifying the accuracy of visualisations, particularly in his role as an expert witness in Land and Environment Court cases.

In Urbaine's experience, a significant majority of visualisation material presented to court is inaccurate to the point of being invalid for any legal planning decisions. Equally concerning is the amount of time spent, by other consultants, analysing and responding to this base material, which again can be redundant in light of the frequent inaccuracies. The cost of planning consultant reports and legal advice far exceeds that of generating the imagery around which all the decisions are being made.

Over the last 10 years, advances in 3d modelling and digital photography have allowed many practitioners to claim levels of expertise that are based more on the performance of software than on a rigorous understanding of geometry, architecture and visual perspective. From a traditional architect's

training, prior to the introduction of CAD and 3d modelling, a good understanding of the principles of perspective, light, shadow and building articulation, were taught throughout the training of architects.

Statutory Authorities, and in particular the Land and Environment Court, have attempted to introduce a degree of compliance, but, as yet, this is more quantitative, than qualitative and is resulting in an outward appearance of accuracy verification, without any actual explanation being requested behind the creation of the work.

Currently, the Land and Environment Court specifies that any photomontages, relied on as part of expert evidence in Class 1 appeals, must show the existing surveyed elements, corresponding with the same elements in the photograph. Often, any surveyed elements can form such a small portion of a photograph that, even by overlaying the surveyed elements as a 3d model, any degree of accuracy is almost impossible to verify. For sites where there are no existing structures, which is frequent, this presents a far more challenging exercise. Below is one such example, highlighted in the Sydney Morning Herald, as an example of extreme inaccuracy of a visual impact assessment. Urbaine was engaged to assess the degree to which the images were incorrect – determined to be by a factor of almost 75%.

Domain

The Sydney Morning Herald

Inaccurate images anger residents

February 21

Kelsey Munro

Picture imperfect ... the original interpretation of how the Lewisham Estates development will look.

CAN residents affected by big development proposals rely on developers' photo montages?

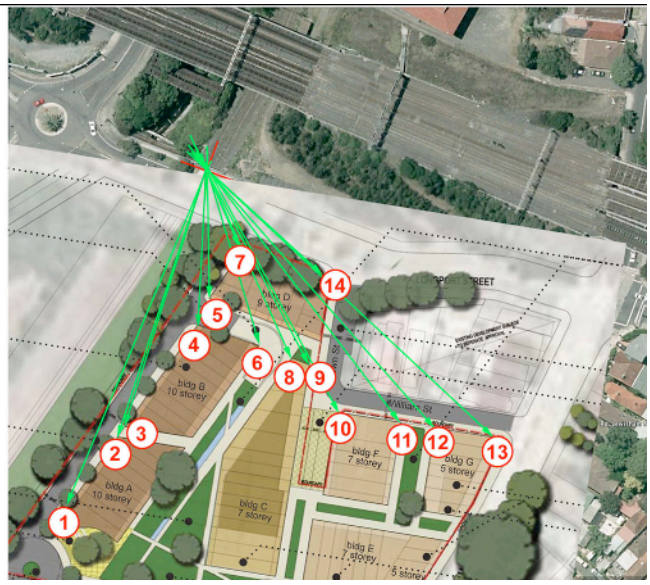
One inner west group thinks not, after inaccuracies were found in a series of digital photo montages which made the proposed Lewisham Estates development appear much smaller than it would if built.

The developer was sent back to the drawing board by the Department of Planning to redo the images that were publicly exhibited for the project after questions were raised over their accuracy.

The corrected interpretation of how the Lewisham Estates development will look.

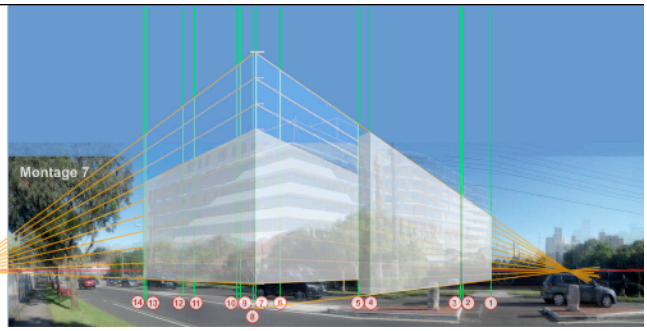
The No Lewisham Towers residents' action group claims the original images were so misleading that the corrected ones should go on public exhibition before the Planning Assessment Commission makes its determination next week.

SMH article re inaccurate visualisations



Key visual location points on site: Urbaine

Photomontage submitted by developer



Assessment of inaccuracy by Urbaine

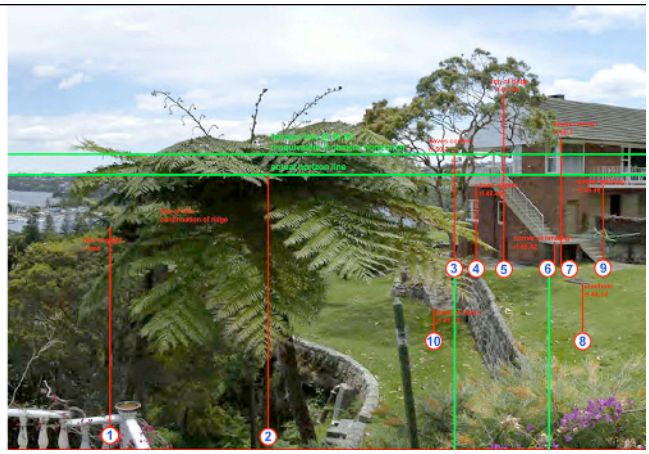
Urbaine has developed a number of methods for adding verification data to the 3d model of new proposals and hence to the final photomontages. These include the use of physical site poles, located at known positions and heights around a site, together with drones for accurate height and location verification and the use of landscaped elements within the 3d model to further add known points of references. Elements observed in a photograph can be used to align with the corresponding elements of the new building in plan. If 4 or more known positions can be aligned, as a minimum, there is a good opportunity to create a verifiable alignment.

Every site presents different opportunities for verification and, often, Urbaine is required to assess montages from photographs taken by a third party. In these cases, a combination of assessing aerial photography, alongside a survey will allow reference points to be placed into the relevant 3d model prior to overlaying onto the photos for checking.

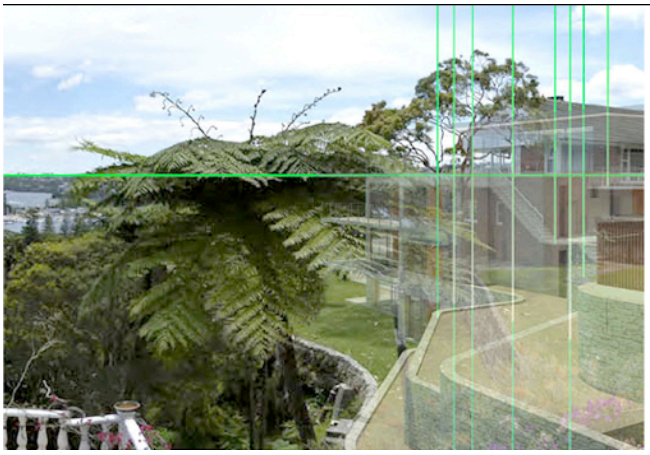
The following example clearly demonstrates this – a house montaged into a view, by others, using very few points of reference for verification. By analysing the existing photo alongside the survey, the existing site was able to be recreated with a series of reference elements built into the model. A fully

rendered version of all the elements was then placed over the photo and the final model applied to this. As can be seen, the original montage and the final verified version are dramatically different and, in this case, to the disadvantage of the complainant.

Photomontage submitted by developer



Key visual location points on site: Urbaine



Key points and 3d model overlaid onto existing photo

Final accurate photomontage: Urbaine

Often, Urbaine's work is on very open sites, where contentious proposals for development will be relying on minimising the visual impact through mounding and landscaping. In these cases, accuracy is critical, particularly in relation to the heights above existing ground levels. In the following example, a business park was proposed on very large open site, adjoining several residential properties, with views through to the Blue Mountains, to the West of Sydney. Urbaine spent a day preparing the site, by placing a number of site poles, all of 3m in height. These were located on junctions of the various land lots, as observed in the survey information. These 3d poles were then replicated in the 3d CAD model in the same height and position as on the actual site. This permitted the buildings and the landscaping to be very accurately positioned into the photographs and, subsequently, for accurate sections to be taken through the 3d model to assess the actual percentage view loss of close and distant views.

Physical 3000mm site poles placed at lot corners

3d poles located in the 3d model and positioned on photo

Proposed buildings and landscape mounding applied

Proposed landscape applied – shown as semi-mature

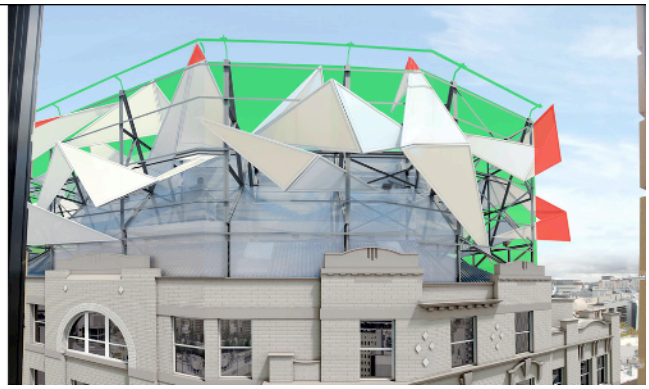
Final verified photomontage by Urbaine

Further examples, below, show similar methods being used to give an actual percentage figure to view loss, shown in red, in these images. This was for a digital advertising hoarding, adjoining a hotel. As can be seen, the view loss is far outweighed by the view gain, in addition to being based around a far more visually engaging sculpture. In terms of being used as a factual tool for legal representation and negotiation, these images are proving to be very useful and are accompanied by a series of diagrams explaining the methodology of their compilation and, hence verifying their accuracy.

Photomontage of new proposal for digital billboard

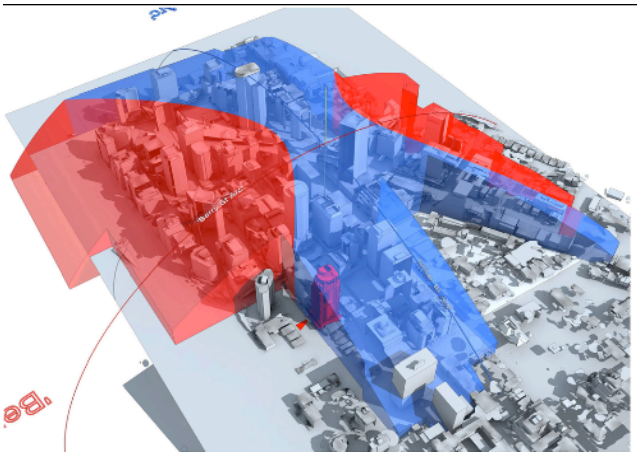
Existing situation – view from adjoining hotel

Photomontage of view from hotel

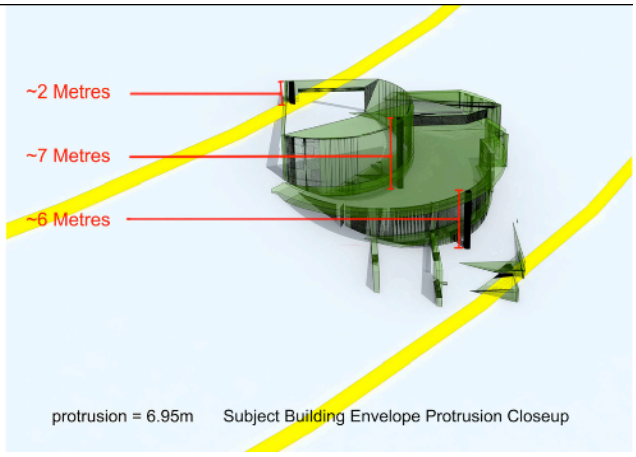


View loss – green = view gain / red = view loss

There are also several areas of assessment that can be used to resolve potential planning approval issues in the early stages of design. In the case below, the permissible building envelope in North Sydney CBD was modelled in 3d to determine if a building proposal would exceed the permitted height limit. Information relating to the amount of encroachment beyond the envelope allowed the architect to re-design the plant room profiles accordingly to avoid any breach.



3d model of planning height zones



Extent of protrusion of proposed design prior to re-design

Urbaine's experience in this field has place the company in a strong position to advise on the verification of imagery and also to assist in developing more robust methods of analysis of such imagery. As a minimum, Urbaine would suggest that anyone engaging the services of visualisation companies should request the following information, as a minimum requirement:

1. Height and plan location of camera to be verified and clearly shown on an aerial photo, along with the sun position at time of photography.
2. A minimum of 4 surveyed points identified in plan, at ground level relating to elements on the photograph and hence to the location of the superimposed building.
3. A minimum of 4 surveyed height points to locate the imposed building in the vertical plane.
4. A series of images to be prepared to explain each photomontaged view, in line with the above stages.

This is an absolute minimum from which a client can determine the verifiability of a photomontaged image. From this point the images can be assessed by other consultants and used to prepare a legal case for planning approval.

Verified photomontage for proposed apartments in Milsons Point by Urbaine.