



Bondi Junction Planning Proposal 194 to 214 Oxford Street and 2 Nelson Street



Photomontage Certification Report

Prepared for City Plan Strategy and Development

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1.0 Purpose of Report

Richard Lamb and Associates (RLA) have been engaged by City Plan Strategy and Development (City Plan) to provide certification of the adequacy and accuracy of block model photomontages prepared by the project architects for the proponents, Westgate BJ Pty Ltd, of a Planning Proposal for two sites at 194-214 Oxford Street and 2 Nelson Street, Bondi Junction. The photomontages were prepared in response to graphic representations purporting to demonstrate the likely visual impacts of the Planning Proposal on views from Centennial Park, which were posted on FaceBook and published in the the local press by community opponents of the planning proposal.

RLA were consulted by City Plan on behalf of the proponents to comment on whether the graphic material published by opponents of the proposal were likely to be reasonable representations of the appearance of the proposal.

RLA has extensive experience in visual impacts assessment in which we specialise. The principal and author of this report, Dr Richard Lamb, has over 30 years' experience in the field of visual analysis and assessment of visual impacts, view loss and view sharing.

RLA have been involved in the preparation of visual analysis and heritage view studies in relation to many Major Project Applications, Urban Design studies and Planning Proposals and are familiar with this area. Dr Lamb's CV can be found on our website www.richardlamb.com.au. RLA have been involved in a number of planning proposals in Brookvale, Dee Why, Menangle, Harbord, Somersby, Gosford, Putney Hill, North Ryde, Homebush, Terrigal, Wentworth Point, Shepherds Bay, Gladesville, Yarrowarra and other locations. We have also been involved in a number of projects and planning proposals in which the Department of Planning and Environment or other government authorities have requested view analysis work and photomontage certification, the visualisation work for which we have supervised and certified for accuracy.

Three photomontages have been prepared by MHNDUnion architects on the direction of RLA to provide accurately prepared visualisations of the proposed development from the two locations that were chosen by opponents of the proposal, referred to above, and a further representative viewing place in the northern part of Centennial Park.

MHDNUnion have prepared photomontages to assist in analysis of the urban design and visual impacts of the proposed building envelopes, being;

- a) View north-east from close to the south-east corner of the Paddington Reservoir adjacent to York Road on the margins of Centennial Park, in a location similar to that represented in one of the photomontages prepared by opponents of the proposal.
- b) View east from the western edge of the Centennial Park Reservoir off Oxford Street at the north-east end of the park, which is between approximately 300 and 450m from the subject sites.
- c) View north-north-east from a point south-west of the Federation Pavilion in Centennial Park, which is inside the park by about approximately 160m on the axis of the terminus of Birrell Street with York Road and about 600m from the closest of the subject sites. The location provides a view composition that is similar to that represented in one of the photomontages prepared by opponents of the proposal.



This report concerns the process and methodology of preparation of the photomontages and certification that they are a reasonable representation of the likely bulk and scale of future development, if the proposal, having passed through a gateway determination, proceeds to the design of buildings in accordance with the envelopes.

This report does not assess the merits of the visual impacts of the proposal, as this is for the consent authority to determine.

2.0 Proposed Development

City Plan on behalf of their client Westgate BJ Pty Ltd submitted a Planning Proposal to Waverley Council in the first instance and the Department of Planning & Environment (DP&E) as the consent authority, to vary the controls on the sites to permit construction of a mixed-use development up to 36 metres in height on each of two sites in Bondi Junction. The Proposal is to go back to the DP&E for finalisation when Council completes assessment of public submissions.

3.0 Surrounding Visual Context and External Visibility

The sites are included in the 'Western Precinct' of Bondi Junction and are located on the northern side of Oxford Street. Site 1 is the western site and has road frontages to Oxford Street and Syd Einfeld Drive with Site 2 to its east which has road frontages to Osmand Lane, Nelson Street and Oxford Street. The sites are generally north-east of the three viewing locations nominated for assessment.

The existing built form on the site is characterised by retail, commercial shop top housing and residential terraces that is predominantly two to three residential storeys in height. Sydney Buses occupy a large commercial site south of the development site and Centennial Park is located to the south-west.

It is obvious that any proposal for buildings in the range of 12-storeys in height, such as would be constructed in an envelope of up to 36m in height, would be visible from the closer parts of Centennial Park, toward the north-east end of the park. The park's topography in relation to Bondi Junction is such that the northern section of the park, which is at its highest elevation and of a similar ground level to part of western Bondi Junction, is exposed to views including taller buildings in Bondi Junction, to varying extents.

The degree of exposure depending on viewer location, intervening topography and vegetation. The higher, northern section of the park which is a local high point was the logical location for the two partly subterranean reservoirs, the Centennial Park and Paddington Reservoirs. From the general vicinity of these, there are varying degrees of visual exposure of urban development in Bondi Junction. The adjacent Reservoir Fields to the west of the Centennial Park Reservoir provide expansive views in all directions, including those that include tall built form in Bondi Junction to the east, much of its significantly taller than the envelopes proposed in the planning proposal.

The topography of the park then falls away toward the south and south-west into the Botany Basin land system where Queens Park, Centennial and Moore Park Parklands are contiguous with the park. Taller buildings in east Bondi Junction are visible from extensive areas of the parklands and the proposed building envelopes would be likely to be visible from some locations.



4.0 Selection of View Locations

The approximate locations of the view places used for the preparation of the three photomontages are shown on Map 1. As described above, two viewing locations (View A and View C) have been used for the preparation of photomontages because they are from similar locations and photographs taken from those locations have similar view compositions to the images used in preparing the photomontages by the opponents of the proposal. Of the two, we consider View C to be representative of views in the central, eastern part of the park, whereas View A, while from a publicly accessible location, is an isolated place adjacent to the edge of the park with relatively low amenity as a result of proximity to roads on two sides and absence of public domain facilities such as roads, paths, lawns, etc. The third location (View B) was chosen as a typical location in the northern part of the park that has a more representative access to views and is more likely to be used by the public for recreation and viewing the park and the locality generally, than the location of View A. The view is partly screened by vegetation, which is typical of views in the northern part of the park. More extensive views of the built form on Bondi Junction are available from further west in the Reservoir Fields.

5.0 Verification of Photomontages

RLA were requested by MHDNUnion to provide guidance as to the preparation of verifiable block-model photomontages which could guide assessment of the merits of the proposed building envelopes. The following advice was provided.

5.1 Principles of verification of photomontages

For the certification of photomontages, the fundamental requirement is that there is a 3D computer model of the proposed development that can be accurately located and merged with representative photographs taken from key viewing places, to produce a photomontage.

RLA have been provided with a 3D model of the proposed buildings in Sketchup. The location and height of the 3D model of the building must be verified with respect to surveyed features of the existing development site and the location of features of the surrounding environment, interpolated from aerial imagery.

A further aid required to assist in verifying the location and height of the proposed building is a 3D wire frame model of visible features of some of the existing buildings on the site based on the site survey. The 3D models of the survey information and of the proposed building envelopes are then merged with digital photographic images of the existing environment.

The key to being able to certify the accuracy of the photomontage resulting from merging the 3D model and photographs is being able to demonstrate that the 3D model of the proposed building envelope has a good fit to known surveyed features of the existing development on the site and of other fixed features either shown on the survey plan or interpretable from aerial imagery, which are visible in the photographs.

A single image photograph is the best base onto which to fit the computer model of the building envelopes. This is because the conventions of perspective which are used by the computer software to generate a 3D image of the proposed development area are relatively consistent with the geometry of a single photographic image because both have a flat ground plane and one centre of view.



5.2 Focal length of lens for photographs

The camera images for the photomontages need to be of sufficient resolution taken with a lens of low distortion. The focal length of the lens used needs to be appropriate for the purpose and the focal length of the lens used to take the single frame photographs has to be known and standardised as far as is possible. The focal length of the lens has no effect on the accuracy of alignment of the 3D model of the buildings with the photographic images.

The reasons for using a specific focal length is determined by the vertical and horizontal scale of the subject of the view. The subject commonly contains elements of vastly different horizontal and vertical scale. In photographing streetscapes and individual buildings, the focal length must be capable of encompassing the buildings and the context so the composition of the view can be perceived and understood.

In the current context, one of the views prepared in objection to the proposal is from close range inside Centennial Park, necessitating use of a lens with a wide field of view to take in the setting and the visible proposed building. The composition of that view in regard to field of view when analysed was found to be similar to the field of view of a 24mm lens, which is a focal length commonly used in architectural photography. The other two views were therefore taken with the same lens, to standardise that aspect of the photomontages.

RLA took the photographs used under standardised conditions, with a professional quality DSLR, the camera levelled horizontally and vertically, set on a tripod mount with the lens 1.6m above ground level, or standard standing eye height. A 24mm fixed focal length lens was used for all photographs used in preparation of the photomontages. The location and RL of the camera lens was surveyed by registered surveyors, who accompanied RLA when the photographs were taken.

5.3 View location documentation

Photographic images were taken from all locations using a Canon EOS 5D Mark 3 camera in JPG and RAW image format.

The location of the camera and level of the lens were surveyed by registered surveyors who accompanied RLA when the base photographs were taken and the XYZ coordinates were added to the 3D model that includes the proposed building envelopes. Additional 3D reference points were also surveyed and added to the existing survey model to increase the accuracy of location of the 3D model of the buildings in relation to the photograph locations. Additional survey points included items such as the Waverley Bus Depot and other buildings and structures in Bondi Junction that are visible in the photographs or can be interpreted from aerial imagery.

5.4 Checking the montage accuracy

The accuracy of the fit of the computer model to the photographs for the block model montages is checked in more than one way. The model is checked for alignment and height with respect to the surveyed fixed features which are visible in the images and with the wireframe model of the existing buildings. MHNDUnion provided a preliminary set of montages for our review that included the 3D model shown over the original RLA photographic image. The alignment of the model was checked with fixed features in the view, including many other buildings in Bondi Junction seen in 3D, to ensure



an accurate 'fit'. RLA found the preliminary set of block model 'wire frame' images to be sufficiently accurate and recommended that a final set of rendered photomontages be prepared. The final set of photomontages can be viewed in Appendix B.

It is not possible for a perfect fit to occur, because of minor distortions that occur with the camera lens and because of significant differences that occur in the visibility of reference objects caused by the distance between the view place and the item used as a reference point.

However, as the photomontages have been prepared to conform with the Land and Environment Court of New South Wales practice note for the preparation of photomontages to be used in evidence in the Court, they can be certified as being as accurate as is reasonably possible in the circumstances.

It is clear when the accurately prepared photomontages are compared to the representations prepared by opponents of the planning proposal (see Section 6.0, below), that the latter have over-stated the likely visibility and bulk of the proposed buildings, which are also incorrectly scaled, detailed and located.

6.0 Comparison of visual impacts of the photomontages

We are not aware of the method used in the preparation of the photomontages prepared by the opponents of the proposal, however in our opinion, based on a comparison of these with the MHNDUnion photomontages, which were prepared to comply with the Land and Environment Court of New South Wales practice direction for preparation of photomontages for use in evidence in the Court, they do not appear to reflect the likely appearance, scale or accurate location of the proposed buildings.

For example, in View A the height and width of the proposed development envelope of the nearest proposed building is over-stated so that it appears in the image to be a similar height to the closest tree shown to its right. There is no doubt that from such a close viewing place to the edge of the park that the building envelopes would be visible. However, analysis of the photomontages prepared by MHNDUnion show that the proposed development envelope would appear to be substantially lower and narrower in width in this view than as depicted by the opponents of the proposal.

In support of this observation, the MHNDUnion photomontage shows the second building envelope behind and to the east of the closer building envelope, whereas on the photomontage prepared by the opponents of the proposal, the closest building is clearly over-scaled in width and is therefore shown to be closer to the viewer than in reality. It appears to fill the space beginning at the western-most of two palm trees in the left of the image and a branch on the left side the large fig tree in the foreground on the right. Part of the branch also appears to have been truncated somehow, possibly as a result of the image of the building being superimposed on the image of that part of the tree, rather than appearing to be behind it. In the MHNDUnion photomontage, the building is lower and significantly narrower, revealing both palm trees on the left and finishing before the branch of the fig tree, which has not been truncated and which has none of the closest building visible behind it. Further, in the accurate photomontages, the façade of buildings to be retained in front of the proposed buildings is visible, whereas in the photomontage prepared for the opponents of the proposal, these appear to be absent.



Finally, it is clear that the envelope of the building shown in View A by the opponents of the proposal is not correctly orientated relative to the view. The building appears to be seen in elevation (perpendicular to the viewer) with the top parapet horizontal, whereas the building in the MHNDUnion photomontage is clearly angled away from the viewer correctly, relative to the angle of Oxrford Street and as a consequence and with the effect of perspective, the top parapet appears, correctly, to increase in distance from the viewer, from left to right.

In View B, which we consider more representative of the view from an extensively used part of Centennial Park than View A, the building proposed can be seen partly screened by vegetation and not significant taller than the predominant canopy height, while a significant skyline comprising built form in Bondi Junction is also part of the scene, as is the case for many other viewing places in the vicinity. In views from further west in the Reservoir Fields the buildings would be expected to be slightly more visible, however the same principle would apply to the built form or taller buildings elsewhere in the view, which would become more visible.

In View C, the height of the building depicted in the photomontages prepared for the opponents of the proposal is similar to that of an isolated, tall Cook pine that is to the right of the building. In the accurately prepared photomontage by MHNDUnion, the height of the building would appear approximately equivalent in height to the canopy of a tree on the horizon that is two to the left of the Cook pine and significantly lower. However, this is not the only discrepancy. In the view prepared by the opponents in the article quoting Matthew Taylor, the building would largely not be visible at all, as it has been shown in the wrong location, as well as being much higher than would be the case in reality. In the photomontage prepared by MHNDUnion, it can be seen that only the eastern edge of the building would be visible in the photomontages prepared for the opponents of the proposal. The MHNDUnion photomontage presents a more accurate and realistic composition to the view, in which the building would appear widely separated from the Federation Pavilion and to be no taller than the adjacent tree canopies that dominate the horizon of the view.

RLA have verified and certified the process of the preparation of photomontages so that these visual aids can be used as accurate objective aids for the analysis of visual effects and impacts of the proposed development.



7.0 Conclusion

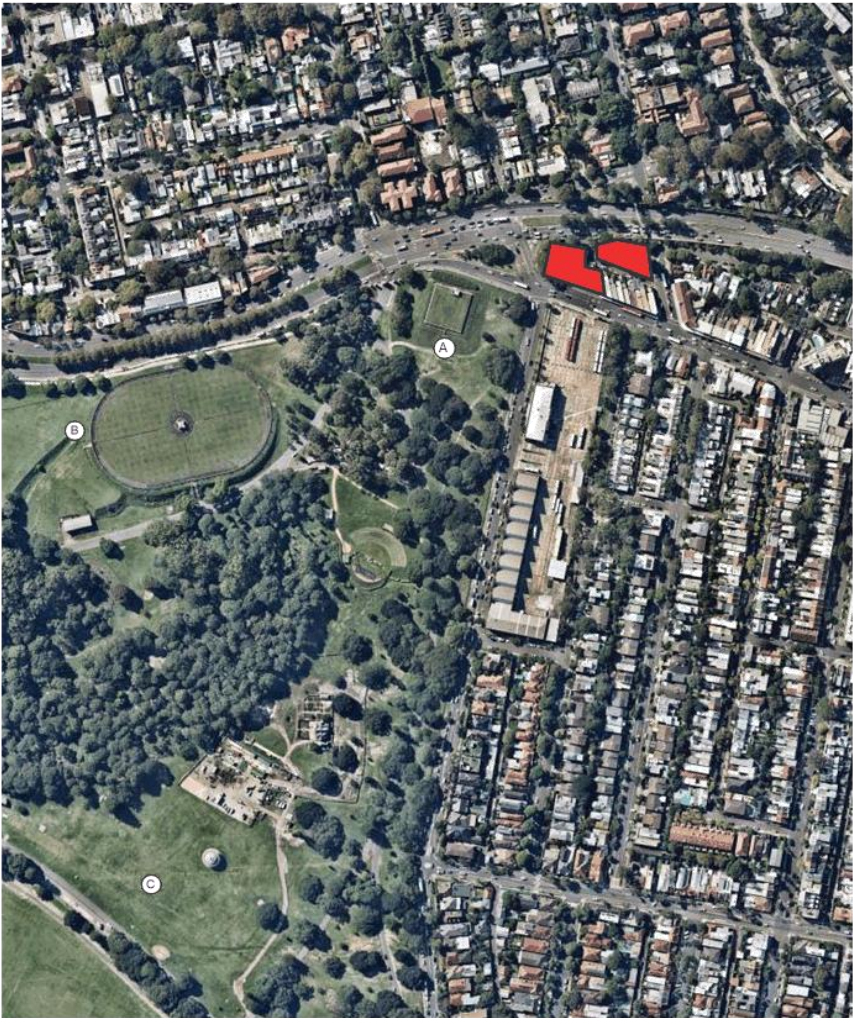
Based on the information provided to us by City Plan Services and MHNDUunion, a review of their methodology, photography by RLA, supervision of surveyors and the process undertaken for the preparation of rendered photomontages, RLA can certify that the proposed development envelopes as shown are as accurate as is reasonable in the circumstances. The photomontages therefore can be relied upon as objective visual aids for the purposes of the assessment of potential visual effects and impacts of the Planning Proposal.

By comparison, the photomontages prepared by opponents of the proposal are not accurate and they do not appear to show the likely form, orientation, scale, height, width or location of the buildings correctly.





Yours sincerely

Dr Richard Lamb



Map 1: Photomontage view locations

-  Approximate location of subject sites
-  Viewing Location (refer to Photographic Figures)



Not to Scale



Appendix A: Photographic Plates



Location A: View north-east from near the Paddington Reservoir in Centennial Park



Location B: View north-east across the Centennial Park Reservoir



Location C: View north from close to the Federation Pavillion



Appendix B: Photomontages prepared by MHDNUnion

VIEW ANALYSIS VIEW A



EXISTING

WEST SHAWD STREET

VIEW ANALYSIS



VIEW ANALYSIS VIEW A



PROPOSED

VIEW ANALYSIS

WEST OAKWOOD STREET



VIEW ANALYSIS VIEW B



EXISTING

VIEW ANALYSIS

WEST OXFORD STREET



VIEW ANALYSIS VIEW B



PROPOSED

VIEW ANALYSIS

WEST OXFORD STREET



VIEW ANALYSIS VIEW C



VIEW ANALYSIS

WEST OAKWOOD STREET



VIEW ANALYSIS VIEW C



PROPOSED

VIEW ANALYSIS

WEST OXFORD STREET



Appendix C: Curriculum Vitae

Summary Curriculum Vitae: Dr Richard Lamb



Summary

- Professional consultant specialising in visual and heritage impacts assessment and the principal of Richard Lamb and Associates (RLA).
- Senior lecturer in Architecture, Landscape Architecture and Heritage Conservation in the Faculty of Architecture, Design and Planning at the University of Sydney 1980-2009.
- Director of Master of Heritage Conservation Program, University of Sydney, 1998-2006.
- 30 years' experience in teaching and research in environmental impact, heritage and visual impact assessment.
- Teaching and research expertise in assessment and interpretation of heritage items and places, cultural transformations of environments, conservation methods and practices, visual perception and cognition, landscape studies, aesthetic assessment and landscape assessment.
- Supervision of Master and PhD students postgraduate students in heritage conservation and environment/behaviour studies.
- Richard Lamb provides:
 - professional services, expert advice and landscape and visual assessments
 - Strategic planning studies to protect and enhance scenic quality and landscape heritage values
 - Scenic and aesthetic assessments in all development scenario contexts, from rural to urban
 - Advice and assessment of view loss, view sharing and landscape heritage impacts
 - Expert advice, evidence and testimony to the Land and Environment Court of NSW and Planning and Environment Court of Queensland in various classes of litigation
 - Specialisation in matters of visual impacts, view loss and landscape heritage in projects including:
 - Urban developments, rezoning and planning proposals, urban renewal and urban release areas
 - Project and proposal visualisation and certification of photomontage preparation
 - Extractive industry, infrastructure, signage and maritime developments
 - Development assessment, strategic planning, landscape conservation
 - Appearances in over 250 Land and Environment Court of New South Wales cases, submissions to several Commissions of Inquiry and the principal consultant for over 1000 consultancies.
- Qualifications
 - Bachelor of Science - First Class Honours double major, University of New England
 - Doctor of Philosophy, University of New England in 1975
- International Journals for which publications have been refereed
 - Journal of Architectural & Planning Research
 - Architectural Science Review
 - People and Physical Environment Research
 - Journal of the Australian and New Zealand Association for Person Environment Studies
 - Journal of Environmental Psychology
 - Australasian Journal of Environmental Management
 - Ecological Management & Restoration
 - Urban Design Review International
- Full CV available on Home page tab of RLA website at www.richardlamb.com.au