YARRA CITY COUNCIL

Internal Development Approvals Committee

Agenda

to be held virtually on
Wednesday 1 July 2020 at 6.30pm

Rostered Councillor membership

Councillor Jackie Fristacky
Councillor Stephen Jolly
Councillor James Searle

I. ATTENDANCE
Mary Osman (Manager Statutory Planning)
John Theodosakis (Principal Planner)
Cindi Johnston (Governance Officer)

II. DECLARATIONS OF PECUNIARY INTEREST AND CONFLICT OF INTEREST

III. CONFIRMATION OF MINUTES

IV. COMMITTEE BUSINESS REPORTS

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"Welcome to the City of Yarra. Yarra City Council acknowledges the Wurundjeri Woi-wurrung as the Traditional Owners of this country, pays tribute to all Aboriginal and Torres Strait Islander people in Yarra and gives respect to the Elders past and present."

Internal Development Approvals Committee Submissions

"Prior to the consideration of any Committee Business Report at a meeting of the Internal Development Approvals Committee, members of the public shall be invited by the Chairperson to make a verbal submission. In determining the order of submissions, the Chairperson shall first invite the applicant or their representatives to submit, followed by formal objectors and finally any other interested persons.

All submitters accepting the invitation to address the meeting shall make submissions in accordance with these guidelines (or a variation of these guidelines as determined by the Chairperson at their sole discretion).

- Speak for a maximum of five minutes;
- Direct their submission to the Chairperson;
- Confine their submission to the planning permit under consideration;
- If possible, explain their preferred decision in relation to a permit application (refusing, granting or granting with conditions) and set out any requested permit conditions.
- Avoid repetition and restating previous submitters;
- Refrain from asking questions or seeking comments from the Councillors, applicants or other submitters;
- If speaking on behalf of a group, explain the nature of the group and how the submitter is able to speak on their behalf.

Following public submissions, the applicant or their representatives will be given a further opportunity of two minutes to exercise a right of reply in relation to matters raised by previous submitters. Applicants may not raise new matters during this right of reply.

Councillors will then have an opportunity to ask questions of submitters. Submitters may determine whether or not they wish to take these questions.

Once all submissions have been received, the formal debate may commence. Once the debate has commenced, no further submissions, questions or comments from submitters can be received."

Extract from the Council Meeting Operations Policy, September 2019

1. Committee business reports

Item		Page	Rec. Page
1.1	Planning application No. PLN19/0780 - 17 - 23 Wangaratta Street and 68 Tanner Street, Richmond - Demolition of the existing building and construction of an eight-storey building for use as office(s) and shop(s) and reduction in the associated car parking requirement of the Yarra Planning Scheme.	5	54
1.2	PLN20/0006 - 462 - 482 Swan Street, Richmond - Construction of a thirteen storey building (including one level of plant, plus two basement levels), reduction in the car parking requirement associated with the retail/food and drinks premises and office uses (no permit required for uses) and alteration of access to a Road Zone, Category 1	403	468

1.1 Planning application No. PLN19/0780 - 17 - 23 Wangaratta Street and 68 Tanner Street, Richmond - Demolition of the existing building and construction of an eight-storey building for use as office(s) and shop(s) and reduction in the associated car parking requirement of the Yarra Planning Scheme.

Executive Summary

Purpose

1. This report provides an assessment of the proposal at property No. 17 – 23 Wangaratta Street and 68 Tanner Street in Richmond for the demolition of the existing buildings and construction of an eight-storey building (plus basement levels) for use as office(s) and shop(s) and a reduction in the car parking requirement of the Yarra Planning Scheme.

Key Planning Considerations

2. Key planning considerations include:

   (a) Clause 15.01 – Urban Environment;
   (b) Clause 21.05 – Built Form;
   (c) Clause 22.02 – Development Guidelines for Sites Subject to the Heritage Overlay;
   (d) Clause 22.05 – Interface Uses Policy;
   (e) Clause 32.04 – Mixed Use Zone; and
   (f) Clause 52.06 – Car Parking.

Key Issues

3. The key issues for Council in considering the proposal relate to:

   (a) Strategic justification;
   (b) Use;
   (c) Built form, Heritage and Urban Design;
   (d) On-site amenity including Environmentally Sustainable Design;
   (e) Off-site amenity;
   (f) Car parking, traffic and access; and
   (g) Objector concerns.

Submissions Received

4. One hundred and fifteen (115) objections were received to the application, these can be summarised as:

   (a) Heritage and Design

      (i) Design, size, height and mass of the development is inconsistent with the existing neighbourhood character and is an overdevelopment;
      (ii) Development not in keeping with historic low-scale precinct; and
      (iii) The design fails to achieve “design excellence” as encouraged by Clause 21.03 of the Yarra Planning Scheme.

   (b) Use and Off-Site Amenity Impacts

      (i) Amenity impacts to neighbouring residential properties (overlooking, noise, overshadowing, blocking of views, waste collection, impact to solar panels);
      (ii) The volume of the office space and associated workers is too large;

(iii) Unrestricted hours of operation result in significant noise, light and traffic disturbance to residential properties;
(iv) The development will block views of Richmond Hill and will dominate the skyline;
(v) The development fails to include public open space, failing to comply the *"City of Yarra Strategic Framework Plan"*; and
(vi) Wind impacts along the street.

(c) Traffic and Car Parking

(i) Too many car parks provided on-site, additional traffic cannot be supported within local road network; and
(ii) Not enough car parks provided on-site, the on-street car parking is already at capacity and cannot cater to overflow from development.

(d) Other

(i) Behavioural impacts from office workers (i.e. littering and smoking in the street);
(ii) The development is poorly sited and has not been considered in combination with the development at property No. 45 Wangaratta Street;
(iii) The traffic report fails to consider the development at property No. 45 Wangaratta Street;
(iv) The development at property No. 45 Wangaratta Street should not become a precedent for the proposed development;
(v) Construction will cause significant disruption as the development will require significant excavation. The latter is also disconcerting in the absence of a toxicology study;
(vi) The surrounding streets cannot accommodate movement of large vehicles during the construction phase;
(vii) Health and wellbeing impact of multiple properties on Wangaratta Street being developed at the same time;
(viii) The site is not located within the Swan Street Activity Centre or Burnley, Cremorne and South Richmond;
(ix) The development is sited in an area that is targeted by graffiti regularly;
(x) Inadequate access for ambulances, fire brigade and police vehicles; and
(xi) The proposed development may overload existing infrastructure services.

VCAT Proceedings

5. On 10th March 2020, Council was informed that the applicant had lodged a Section 79 'failure to determine within the prescribed time' appeal with the Victorian Civil and Administrative Tribunal (VCAT).

6. A compulsory conference is scheduled on 11 September 2020.

7. If consent cannot be reached between the parties, the matter will proceed to a full hearing over five days, commencing 01 February 2021.

Conclusion

8. Based on the following report, the proposal is considered to comply with the relevant planning policy and should therefore be supported subject to the following key recommendation:

(a) Reduction of the overall building to a maximum of seven storeys by deleting Level 06 and the following setbacks incorporated:

i. Levels 03, 04 and 05 setback 3.5m and Level 06 setback 7m from Wangaratta Street with a portion at Levels 03 and 04 returning to Tanner Street for a maximum length of 10m and setback 3.5m;
ii. Levels 03, 04 and 05 (with the exception of the return at Levels 03 and 04) setback 9m and Level 06 setback 12m from Tanner Street;
iii. Levels 03, 04 and 05 setback 9m and Level 06 setback 12m from Botherambo Street;

1.1 Planning application No. PLN19/0780 - 17 - 23 Wangaratta Street and 68 Tanner Street, Richmond - Demolition of the existing building and construction of an eight-storey building for use as office(s) and shop(s) and reduction in the associated car parking requirement of the Yarra Planning Scheme.

Reference: D20/85609
Authoriser: Senior Coordinator Statutory Planning

Ward:	Melba
Proposal:	Demolition of the existing buildings for the development of the land to construct an eight-storey building for use as office(s) and shop(s) and reduction in the associated car parking requirement of the Yarra Planning Scheme.
Existing use:	Four, double-storey buildings and one, triple storey (dwellings and commercial)
Applicant:	17 Wangaratta South Pty Ltd C/O Contour Consultants Aust Pty Ltd
Zoning / Overlays:	Mixed Use Zone Environmental Audit Overlay, Heritage Overlay (Schedule 332)
Date of Application:	06th November 2019
Application Number:	PLN19/0780

Planning History

Background

VCAT Proceedings

9. On 10th March 2020, Council was informed that the applicant had lodged a Section 79 'failure to determine within the prescribed time' appeal with the Victorian Civil and Administrative Tribunal (VCAT).

10. The closing date for objectors and referral authorities to lodge a statement of grounds with VCAT was 14 April 2020. Thirty five (35) Statement of Grounds have been received, and of those, twelve (12) have indicated participation in the VCAT proceedings.

11. A compulsory conference is scheduled on 11 September 2020.

12. If consent cannot be reached between the parties, the matter will proceed to a full hearing over five days, commencing 01 February 2021.

The Proposal

13. The application proposes the demolition of the existing buildings to make way for the construction of an eight-storey building for use as office(s) and shop(s) and a reduction in the car parking requirement. The key elements of the development can be summarised as follows:

Uses

(a) 4755sq.m. of office (permit required use) spread across from the first through to the seventh levels with unrestricted hours; and

(b) 700sq.m. of shop at ground floor (permit required use) with operating hours of 7am to 7pm, 7 days a week.

Building Layout

(c) A glazed ground floor would be provided to Tanner and Botherambo Streets associated with the shop tenancy 0.1 and to Wangaratta Street associated with the shop tenancy 0.2.
(d) A primary recessed pedestrian entrance is located between both shop tenancies facing Wangaratta Street with a secondary entrance to Botherambo Street that also provides access to 6 visitor bicycle spaces;
(e) Service amenities, a substation and a fire booster are located on the ground floor;
(f) The offices would commence from the first through to the seventh floors with a typical open office configuration, service amenities and lifts;
(g) Vehicular access is provided from the south-east corner, facing Botherambo Street to a two level basement with 46 car spaces (including two disabled car spaces) and 71 bicycle spaces;
(h) Decking is provided within the setbacks at the third level equating to a total trafficable space of 176sq.m; and
(i) A roofed deck with a canopy of 119sq.m. with landscaping around its perimeter to the north, west and east is provided to the north of the office area at the seventh level with services for A/C units provided within the southern setback.

Building Massing

(j) A building height of up to 28.08m to the highest edge of the east-facing wall at the seven level above the natural ground level (NGL) and maximum building height of 29.3m to the highest point of the lift overrun above NGL;

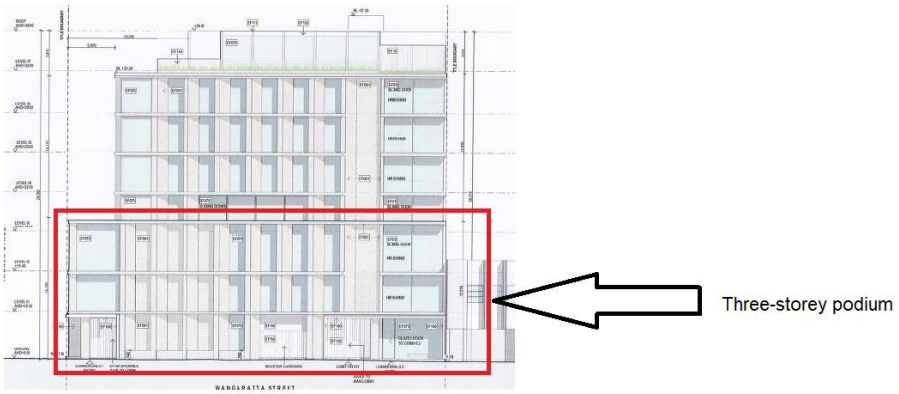


Figure 1: West Elevation (Wangaratta Street)

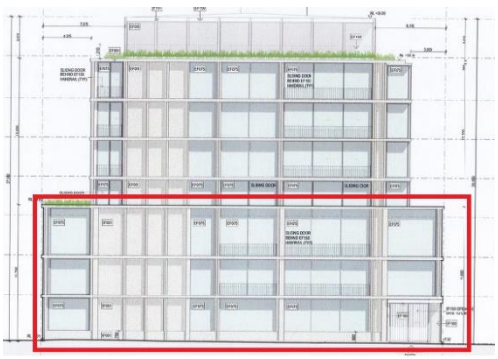


Figure 2: North Elevation (Tanner Street)



Figure 3: East Elevation (Botherambo Street)

(k) A three storey podium (comprised of the ground floor plan, L01 and L02 plans) with an overall height of 12.1m is proposed to all three street frontages, with setbacks that range between:

(i) 168mm and 1.43m from Tanner Street to the north;
(ii) 163mm and 1.36m from Wangaratta Street to the west; and
(iii) 100mm and 570mm from Botherambo Street to the east.

(l) Above the podium (Levels 03 to 07), the development adopts setbacks that range between:

(i) 4m and 13.2m from Tanner Street to the north;
(ii) 3.39m and 6.1m from Wangaratta Street to the west; and
(iii) 4.2m and 7.47m from Botherambo Street to the east,

with the exception of either the decks / balconies / green roofs and / or services extending into these setbacks.

(m) The building extends to the southern (shared) boundary for a length that ranges between 34.8m - 35m at the ground, first and second levels, a length of 26.8m at Levels 03 to 06 and a length of 4.5m at Level 07.

Materials and Finishes

(n) External walls would have a concrete finish with fenestration comprised of double-glazing in a galvanised steel frame; and
(o) The northern, western and eastern elevations would be punctuated with square and rectangular-shaped windows and in some instances with balconies / decks at the upper levels (i.e. above the ground floor).

ESD Features

(p) The development would incorporate the following ESD commitments:

(i) Energy efficient heating and cooling at least 20% better than NCC requirements;
(ii) A STORM report with a score of 101% demonstrating best practice relying on 799.7sq.m. of roof area connected to two water tanks (1 x 8,500 litre and 1x3,500 litre) connected to toilet flushing within the development;
(iii) Good daylight access to office areas;
(iv) A 20kWp solar PV array to contribute to onsite electricity consumption;
(v) A total of 81 (combination of 71 bicycle spaces in the basement, 4 visitor spaces to Botherambo Street and 6 provided on the Wangaratta Street footpath) with 5 different styles provided (dual height, horizontal, wall hung, bike hoops and visitor parks) and end of trip.;
(vi) Motorbike parking, electric vehicle infrastructure and a car share scheme in place;
(vii) Segregated recycling and provision of garden and food waste storage and collection; and
(viii) Vegetation across 15% of the site area facilitated with the installation of a green roof.

Existing Conditions

Subject Site

14. The subject site has three street interfaces, with Wangaratta Street located to the west, Botherambo Street located to the east and Tanner Street located to the north. The site is comprised of four parcels of land with three addressed to Wangaratta Street and one to Tanner Street. These portions form the "Subject Site" with their title particulars identified in the table below:

No	Address	Volume and Folio No.	Easement(s) or Restriction(s)
1.	17 – 19 Wangaratta Street, Richmond	Vol. 9637 Fol. 288	None
2.	21 Wangaratta Street, Richmond	Vol. 8047 Fol. 985	None
3.	23 Wangaratta Street, Richmond	Vol. 7604 Fol. 196	None
4.	68 Tanner Street, Richmond	Vol. 9726 Fol. 565	None

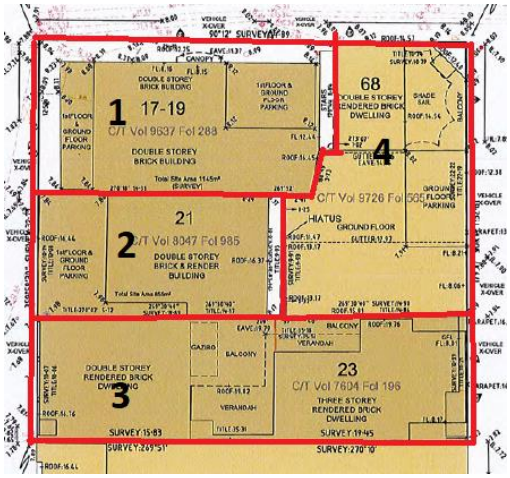


Figure 4: Parcels of land forming the Subject Site as identified in the table as No.s 1-4.

15. For ease of reference, the map above identifies each corresponding title and location of each parcel of land as numbered in the following headings and titles referenced in the table provided earlier.

16. Collectively, the identified parcels form a square shaped lot with a northern boundary length of 34.8m (i.e. to Tanner Street), western boundary length of approximately 32.7m (i.e. to Wangaratta Street), southern boundary length of 35.2m (i.e. the shared boundary) and an eastern boundary length of 32.6m (i.e. to Botherambo Street). The site has a total area of approximately 1,145sq.m. The buildings are individually described below.



Figure 5: 17 – 19 Wangaratta Street, Richmond

(1) 17-19 Wangaratta Street, Richmond

17. This site is located at the south-east corner of the Wangaratta and Tanner Street intersection. The site has a frontage to Wangaratta Street of 12.5m, a secondary frontage to Tanner Street of 24.10m with an overall site area of approximately 301sq.m. The site is occupied by a double-storey commercial building with an angular design and of masonry construction. Under-croft car parking is provided at the ground floor, to both street frontages.



Figure 6: 21 Wangaratta Street, Richmond

(2) 21 Wangaratta Street, Richmond

18. This site is located to the immediate south of no.s 17-19 Wangaratta Street. The site has a frontage to Wangaratta Street of 10m, a depth of 14.1m and an overall site area of approximately 141sq.m. The site is occupied by a double-storey, hard-edged, commercial building with an angular design and of masonry construction. Under-croft car parking is provided at the ground floor.



Figure 7: 23 Wangaratta Street, Richmond (West)



Figure 8: 23 Wangaratta Street, Richmond (East)

(3) 23 Wangaratta Street, Richmond

19. This site is located south of No. 21 Wangaratta Street, and extends through to Botherambo Street to the east. The site has a frontage to Wangaratta Street of 10m, a frontage to Botherambo Street of 10.3m, a depth of 35.3m and an overall site area of approximately 363sq.m. The site is occupied by a part two and part three-storey, hard-edged, rendered building of a contemporary and angular design with garages to each street. The survey plan has identified this building as being used for residential purposes.



Figure 9: 68 Tanner Street, Richmond (East side (Botherambo Street interface) and North-east corner / splay)

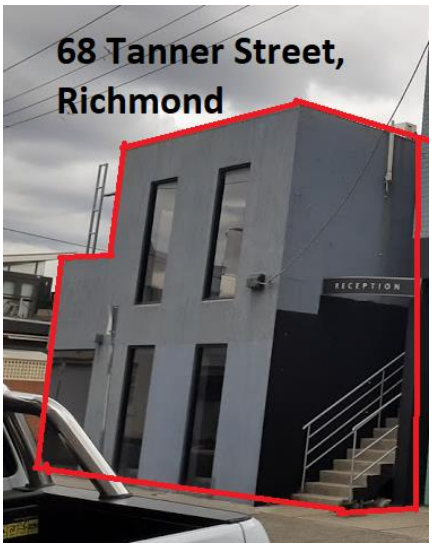


Figure 10: 68 Tanner Street, Richmond (North side – Tanner Street interface)

(4) 68 Tanner Street, Richmond

20. This site is located at the south-west corner of the Tanner and Botherambo Street intersection. The site has a frontage to Tanner Street of 14.5m, a secondary frontage to Botherambo Street of 22.1m with an overall site area in the order of 320sq.m.. The site is occupied by a part single and part double-storey, hard-edged building that is angular in design with a rendered finish and splay at the north-east corner. A roof top terrace extends above the single-storey portion towards the intersection. Under-croft car parking is provided at the ground floor fronting Botherambo Street, with a garage south of this. The survey plan has identified this building as being used for residential purposes.

Surrounding Land

21. The following description is in part extracted from a previous Officer's report as it related to a recent planning application at No's. 25-43 Wangaratta Street, Richmond (i.e. planning application No. PLN19/0483 considered by Council and refused on 11th March 2020) for the *Demolition of the existing buildings for the development of the land to construct two connected mixed-use buildings, use of the land for office and reduction in the car parking requirements*. Where not in *Italics* the description has been updated to make appropriate reference as relevant to the subject application / site.

22. *The site sits north of Swan Street, a Major Activity Centre containing a wide range of retail, entertainment, dining and service offerings. To the south of Swan Street is the Cremorne area containing an emerging employment centre focused primarily on office but also containing a number of light industrial and warehouse uses. The MCG, AAMI Park and Rod Laver Arena, sports and entertainment precinct is located on the west side of Hoddle Street. The Melbourne CBD is located 2 kilometres north-west.*

23. *The Bridge Road and Church Street Activity Centres/retail precincts are also located to the north* (approximately 630m) *and east* (approximately 420m) *respectively*. *Both these and Swan Street contain tram lines, with other public transport options including Richmond Train Station and buses on Hoddle Street.*

24. *The area east, north-east* and north-west *are characterised by 1-2 storey detached and semi-detached dwellings being in the Heritage Overlay and subject to the Neighbourhood Residential Zone (two storey height limit). The Mixed Use zoned area to the* west and south-west *has seen warehouse conversions with additional built form constructed above original buildings, and contains a number of large sites that can accommodate more intensive development.* The mix of zoning is demonstrated in Figure 11 and surrounding built form shown in Figure 12.

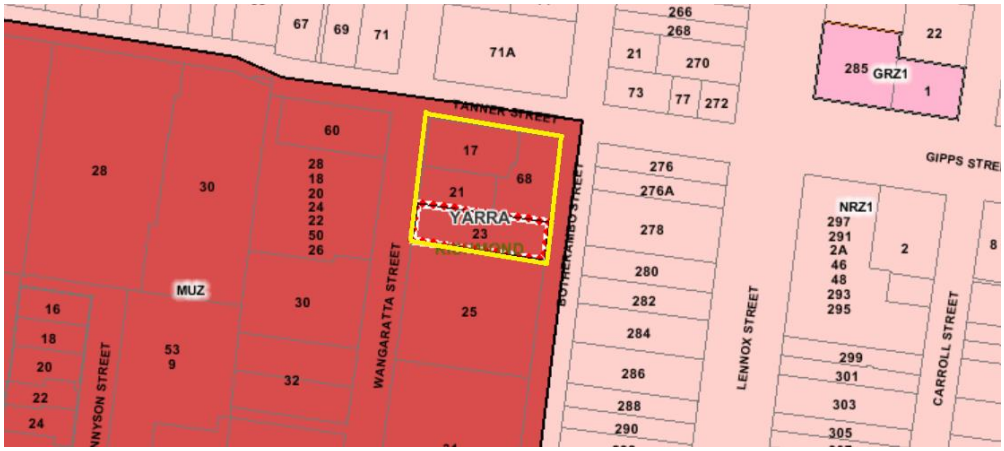


Figure 11: The subject site and surrounding land is shown as MUZ, whilst that to the north and east of Tanner and Botherambo Streets, respectively is zoned NRZ.

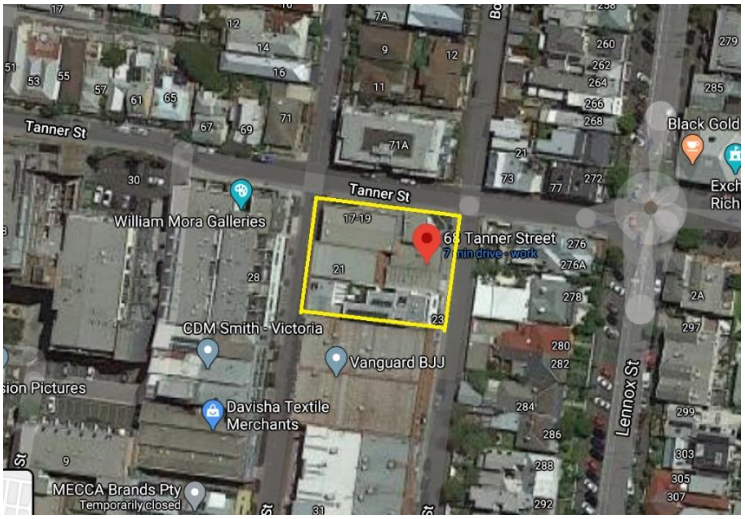


Figure 12: Aerial imagery of the subject site and surrounding built form
(Source: Google Earth: 2020)

25. The site's immediate interfaces are as follows:

North



Figure 13: 71A Tanner Street, Richmond (North side – Tanner Street interface)

26. To the north of the subject site, directly on the opposite side of Tanner Street, is a three-storey apartment building with a roof-top terrace of a contemporary and angular design and rendered finish to the walls. The building is hard-edged to Tanner Street where it also provides its primary entrance. The building is recessive to both Wangaratta and Botherambo Streets where it provides entry to several ground level apartments, and private open space. The building also contains several upper level balconies that are open and visible from the public domain.

North-west



Figure 14: 71 Tanner Street, Richmond (North-west corner – Tanner and Wangaratta Street intersection)

27. To the north-west of the subject site, at the Tanner and Wangaratta Street intersection, is a single-storey dwelling of masonry construction. The dwelling is setback from both respective streets and provides car parking within the front setback to Tanner Street. A hard-edged garage is located at the north-east corner of the site, and a secluded area of private open space (SPOS) is provided in the north-west corner.

North-east



Figure 15: 73 Tanner Street, Richmond (North-east corner – Tanner and Bortheambo Street intersection

28. To the north-east of the subject site, at the Tanner and Botherambo Street intersection, is a double-storey dwelling of what may have been, blue-stone construction, with some part masonry and painted / rendered finish. The dwelling is setback from Botherambo Street with the exception of a ground level verandah that extends into this setback, and is hard-edged to Tanner Street where an angular double-storey masonry addition and vehicle access into the site is provided.

West



Figure 16: 60 Tanner Street, Richmond (South-west corner – Tanner and Wangaratta Street intersection)

29. To the west is Wangaratta Street, a two-way local road which is proliferated by crossovers. Wangaratta Street is approximately 10m wide. To the south-west of the Wangaratta and Tanner Street intersection, is a four-storey apartment building (Figure 16) that has a contemporary and angular appearance and is hard-edged at a four-storey height. The building is of primarily concrete panel construction with rendered surfaces and some elements constructed of iron. The building contains under-croft car parking with vehicle access from both Wangaratta and Tanner Streets.

30. South of the building described above and directly opposite the subject site, is No. 26 - 28 Wangaratta Street which has been converted into townhouses and developed with an additional two storeys (Figure 17 below). The dwellings are oriented to face both Wangaratta Street to the east and Tennyson Street to the west. Many of the townhouses have upper level balconies and habitable room windows that face Wangaratta Street, and hence the subject site opposite.



Figure 17: 26 – 28 Wangaratta Street, Richmond

31. Further to the south, between Stewart Street and Tanner Street and along Wangaratta Street, the sites contain a number of converted hard-edged two and three-storey factory buildings for uses for either commercial or residential purposes. The built form is generally comprised of face brick, some with rendered surfaces and industrial detailing.

South



Figure 18: 25 – 29 Wangaratta Street, Richmond (Immediate south of subject site – Wangaratta Street interface)



Figure 19: 25 – 29 Wangaratta Street, Richmond (Immediate south of subject site – Botherambo Street interface)

32. To the immediate south of the subject site, is a double-storey brick building. *Where facing Wangaratta Street* (Figure 18) *the building is setback at the ground floor to allow for car parking, there is no formal footpath as this entire frontage is utilised as a crossover. The first floor is built to the street, cantilevering over the ground floor car parking area, creating an undercroft. As it presents to Botherambo Street* (Figure 19)*, the entire building is built to the boundary, with two single width crossovers providing access into the building from this street. Whilst windows face Botherambo Street, these are all obscured.*

33. Further south at no. 43 Wangaratta Street, is a double-storey brick building and where facing Wangaratta Street, the building also provides open air car parking within its setback with the majority of its frontage utilised as a crossover. The building is hard-edged to Botherambo Street, with two single width crossovers providing access into the building.

34. It is the above-mentioned two sites, collectively known as 25-43 Wangaratta Street, that planning application No. PLN19/0483 (considered by Council and refused on 11th March 2020). The permit applicant has lodged an appeal with VCAT and a hearing is scheduled for the 20th September with a Compulsory Conference scheduled for the 27th July.

35. The site south of that described above at No. 45 Wangaratta Street, is currently under construction in accordance with Planning Permit PLN15/1260 (see Figure 20 below). This planning permit is for the *use of the land for office, demolition and construction of a seven storey building containing offices and food and drink premises (café) above one basement level in the Mixed Use Zone and Heritage Overlay, reduction in the car parking requirements in clause 52.06.*

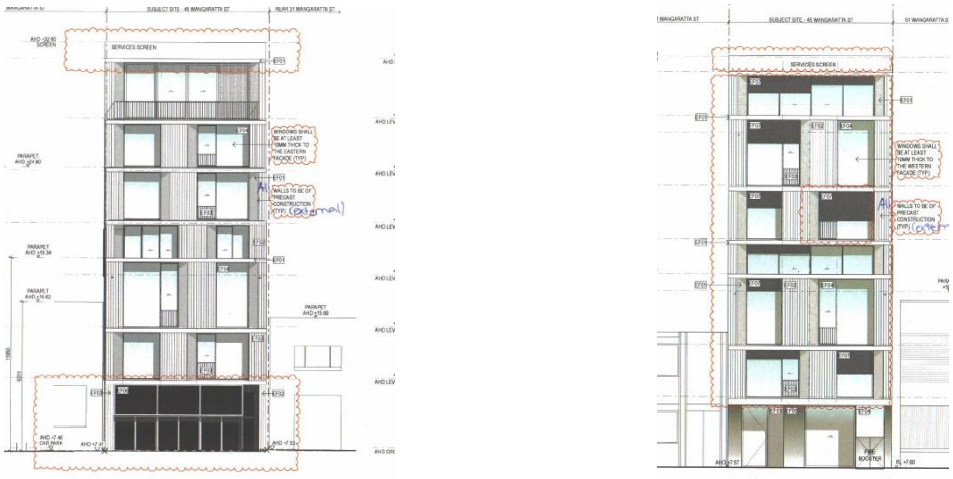


Figure 20: Wangaratta St and Botherambo St elevation of development under construction pursuant to Planning Permit No. PLN15/1260.

36. *Further south of this site is a two storey commercial building built to all boundaries. Further south is a car park associated with the Corner Hotel which itself is located at the corner of Swan, Botherambo and Stewart Streets.*

East



Figure 21: 276 and 278 Lennox Street, Richmond (East and immediate opposite side of Botherambo Street)

37. To the east is Botherambo Street, a one-way (northbound) local road. Parallel parking is located further south of the site, however there is none provided adjacent to the subject site. On the east side of the street, directly opposite the subject site, are the SPOS and garages of dwellings fronting Lennox Street further east. *The eastern side of Botherambo Street is proliferated by crossovers and high fencing / roller doors associated with rear vehicle access* and in some instance double-storey outbuildings further south, including some dwellings that are orientated to face Botherambo Street.

38. The site is well serviced by public transport, including the Richmond Train Station, tram services along Swan Street and bus services along Hoddle Street, all within 240m to 800m of the subject site.

Planning Scheme Provisions

Zoning

Mixed Use Zone (MUZ)

39. The purposes of this zone are:

    (a) *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
    (b) *To provide for a range of residential, commercial, industrial and other uses which complement the mixed-use function of the locality.*
    (c) *To provide for housing at higher densities.*
    (d) *To encourage development that responds to the existing or preferred neighbourhood character of the area.*
    (e) *To facilitate the use, development and redevelopment of land in accordance with the objectives specified in a schedule to this zone.*

40. The use of the site for an office requires a planning permit under clause 32.04-2 because the total leasable floor area exceeds 250sqm.

41. The use of the site for a shop also requires a planning permit because the total leasable floor area exceeds 150sqm.

42. Pursuant to clause 32.04-8 a permit is required to construct a building or construct or carry out works for a use in section 2 of clause 32.04-2.

Overlays

Heritage Overlay (HO332 – Richmond Hill Precinct, Richmond)

43. Under clause 43.01-1 of the Scheme, a planning permit is required to demolish or remove a building, construct a building or construct or carry out works.

City of Yarra Review of Heritage Areas 2007 Appendix 8 (as updated from time to time)

44. The buildings on the subject site are located within Schedule 332 and identified as 'not-contributory' to this precinct as outlined in the incorporated document.

Environmental Audit Overlay

45. Pursuant to Clause 45.03-1 of the Scheme, the following requirements apply:

Before a sensitive use (residential use, child care centre, pre-school centre or primary school) commences or before the construction or carrying out of buildings and works in association with a sensitive use commences, either:

(a) *A certificate of environmental audit must be issued for the land in accordance with Part IXD of the Environment Protection Act 1970, or*
(b) *An environmental auditor appointed under the Environment Protection Act 1970 must make a statement in accordance with Part IXD of that Act that the environmental conditions of the land are suitable for the sensitive use.*

46. The use of the site for offices and shops are not sensitive uses and so the requirements of this overlay are not relevant to the application.

47. Particular Provisions

Clause 52.06 – Car parking

48. Clause 52.06-1 requires that a new use must not commence or the floor area of an existing use must not be increased until the required car spaces have been provided on the land.

49. Pursuant to Clause 52.06-3 a permit is required to reduce the number of car parking spaces required under this clause.

50. Pursuant to Clause 52.06-5, Column B of Table 1 applies if any part of the land is identifies as being within the Principal Public Transport Network Area as shown on the *Principal Public Transport Network Area Maps* (State Government of Victoria, August 2018). The subject site is shown as being within the Principal Public Transport Network Area and therefore Column B applies.

51. Before a requirement for car parking is reduced, the applicant must satisfy the Responsible Authority that the provision of car parking is justified having regard the decision guidelines at clause 52.06-6 of the Scheme.

Proposed Use	Size	Statutory Parking Rate	No. of Spaces Required	No. of Spaces Allocated
Office	4,755sqm	3 spaces to each 100m^2 of net floor area	142	44
Shop(s)	700 sqm	3.5 spaces per 100 m^2 of leasable floor area	24	2
Total			166	46

52. A total of 46 car spaces are proposed on site, therefore the application seeks a reduction of 120 car spaces.

Clause 52.34 – Bicycle Facilities

53. Pursuant to clause 52.34, a new use must not commence until the required bicycle facilities and associated signage has been provided on the land. The purpose of the policy is to encourage cycling as a mode of transport and to provide secure, accessible and convenient bicycle parking spaces

54. Under the provisions of Clause 52.34-3 of the Scheme, the development's bicycle parking requirements are as follows

Proposed Use	Quantity/ Size	Statutory Parking Rate	No. of Spaces Required	No. of Spaces Allocated
Office (other than specified in the table)	4,755 sqm	1 employee space to each 300 sqm of net floor area if the net floor area exceeds 1000 sqm	15 employee spaces	71 employee spaces
		1 visitor space to each 1000 sqm of net floor area if the net floor area exceeds 1000 sqm	4 visitor spaces	6 visitor spaces
Shop premises (other than specified in this table)	700 sqm	1 to each 600 sq m of leasable floor area if the leasable floor area exceeds 1000 sq metres	0 employee spaces	
		1 to each 500 sq m of leasable floor area if the leasable floor area exceeds 1000 sq metres	0 visitor spaces	
Bicycle Parking Spaces Total			**15 employee spaces**	**71 employee spaces**
			4 visitor spaces	**6 visitor spaces**
Showers / Change rooms	1 to the first 5 employee spaces and 1 to each additional 10 employee spaces		2 showers / change rooms	6 showers / change rooms plus 1 DDA compliant bathroom

55. The development proposes a total of 56 employee spaces and 2 additional visitor spaces above the statutory requirements of the planning scheme. A total of 88 lockers are also proposed.

56. Clause 52.34-4 provides the design standard for bicycle spaces and signage.

General Provisions

Clause 65 – Decision Guidelines

57. The decision guidelines outlined at Clause 65 of the Scheme are relevant to all applications. Because a permit can be granted does not imply that a permit should or will be granted. Before deciding on an application, the Responsible Authority must consider a number of matters. Amongst other things, the Responsible Authority must consider the relevant Municipal Planning Strategy and the Planning Policy Framework., as well as the purpose of the zone, overlay or any other provision. An assessment of the application against the relevant sections of the Scheme is offered in further in this report.

Planning Policy Framework (PPF)

58. Relevant clauses are as follows:

Clause 11.02 - Managing Growth

Clause 11.02-1S - Supply of Urban Land

59. The objective this clause is *"to ensure a sufficient supply of land is available for residential, commercial, retail, industrial, recreational, institutional and other community uses".*

Clause 11.03 - Planning for Places

Clause 11.03-1S - Activity Centres

60. The relevant objective of this clause is *"to encourage the concentration of major retail, residential, commercial, administrative, entertainment and cultural developments into activity centres that are highly accessible to the community".*

Clause 13.05 - Noise

Clause 13.05-1S - Noise abatement

61. The relevant objective of this clause is "*to assist the control of noise effects on sensitive land uses".*

62. Noise abatement issues are measured against relevant State Environmental Protection Policy (SEPP) and other Environmental Protection Authority (EPA) regulations.

Clause 13.07 - Amenity and Safety

Clause 13.07-1S - Land use compatibility

63. The objective of this clause is *"to safeguard community amenity while facilitating appropriate commercial, industrial or other uses with potential off-site effects".*

Clause 15.01 - Built Environment and Heritage

Clause 15.01-1S - Urban design

64. The relevant objective of this clause is *"to create urban environments that are safe, healthy, functional and enjoyable and that contribute to a sense of place and cultural identity".*

Clause 15.01-1R - Urban design - Metropolitan Melbourne

65. The objective of this clause is *"to create distinctive and liveable city with quality design and amenity".*

Clause 15.01-2S - Building design

66. The relevant objective of this clause is *"to achieve building design outcomes that contribute positively to the local context and enhance the public realm".*

67. Relevant strategies of this clause are:

(a) *Require a comprehensive site analysis as the starting point of the design process.*

(b) *Ensure the site analysis provides the basis for the consideration of height, scale and massing of new development.*
(c) *Ensure development responds and contributes to the strategic and cultural context of its location.*
(d) *Minimise the detrimental impact of development on neighbouring properties, the public realm and the natural environment.*
(e) *Ensure the form, scale, and appearance of development enhances the function and amenity of the public realm.*
(f) *Ensure buildings and their interface with the public realm support personal safety, perceptions of safety and property security.*
(g) *Ensure development is designed to protect and enhance valued landmarks, views and vistas.*
(h) *Ensure development provides safe access and egress for pedestrians, cyclists and vehicles.*
(i) *Ensure development provides landscaping that responds to its site context, enhances the built form and creates safe and attractive spaces.*

68. This clause also states that planning must consider (as relevant), the *Urban Design Guidelines for Victoria (Department of Environment, Land, Water and Planning, 2017).*

Clause 15.01-4S - Healthy neighbourhoods

69. The objective of this clause is *"to create urban environments that are safe, functional and provide good quality environments with a sense of place and cultural identity".*

Clause 15.01-4R - Healthy neighbourhoods - Metropolitan Melbourne

70. The strategy is to *"Create a city of 20 minute neighbourhoods that give people the ability to meet most of their everyday needs within a 20 minute walk, cycle or local public transport trip from their home".*

Clause 15.01-5S - Neighbourhood character

71. The relevant objective of this clause is *"to recognise, support and protect neighbourhood character, cultural identity, and sense of place".*

Clause 15.02 - Sustainable Development

Clause 15.02-1S - Energy Efficiency

72. The objective of this clause is *"to encourage land use and development that is energy and resource efficient, supports a cooler environment and minimises greenhouse gas emissions".*

Clause 15.03 Heritage

Clause 15.03-1S – Heritage conservation

73. The objective of this clause is *"to ensure the conservation of places of heritage significance".*

74. Strategies include:

(a) *Identify, assess and document places of natural and cultural heritage significance as a basis for their inclusion in the planning scheme.*
(b) *Provide for the protection of natural heritage sites and man-made resources.*
(c) *Provide for the conservation and enhancement of those places that are of aesthetic, archaeological, architectural, cultural, scientific or social significance.*
(d) *Encourage appropriate development that respects places with identified heritage values.*

(e) *Retain those elements that contribute to the importance of the heritage place.*
(f) *Encourage the conservation and restoration of contributory elements of a heritage place.*
(g) *Ensure an appropriate setting and context for heritage places is maintained or enhanced.*
(h) *Support adaptive reuse of heritage buildings where their use has become redundant.*

Clause 17.01 – Employment

Clause 17.01-1S – Diversified economy

75. The objective of this clause is *"to strengthen and diversify the economy".*

76. The relevant strategies of this clause are:

(a) *Protect and strengthen existing and planned employment areas and plan for new employment areas.*
(b) *Facilitate growth in a range of employment sectors, including health, education, retail, tourism, knowledge industries and professional and technical services based on the emerging and existing strengths of each region.*
(c) *Improve access to jobs closer to where people live.*

Clause 17.02 – Commercial

Clause 17.02-1S – Business

77. The relevant objective of this clause is *"to encourage development that meets the communities' needs for retail, entertainment, office and other commercial services".*

78. The relevant strategies of this clause is:

(a) *Plan for an adequate supply of commercial land in appropriate locations.*
(b) *Ensure commercial facilities are aggregated and provide net community benefit in relation to their viability, accessibility and efficient use of infrastructure.*
(c) *Locate commercial facilities in existing or planned activity centres.*

Clause 18.01 - Integrated Transport

Clause 18.01-1S – Land use and transport planning

79. The objective of this clause is *"to create a safe and sustainable transport system by integrating land use and transport".*

80. Relevant strategies to achieve this objective include:

(a) *Develop transport networks to support employment corridors that allow circumferential and radial movements.*

(b) *Plan urban development to make jobs and community services more accessible by (as relevant):*

(i) *Ensuring access is provided to developments in accordance with forecast demand, taking advantage of all available modes of transport and to minimise adverse impacts on existing transport networks and the amenity of surrounding areas.*
(ii) *Coordinating improvements to public transport, walking and cycling networks with the ongoing development and redevelopment of urban areas.*
(iii) *Requiring integrated transport plans to be prepared for all new major residential, commercial and industrial developments.*

(c) *Integrate public transport services and infrastructure into new development.*

Clause 18.02 - Movement Networks

Clause 18.02-1S – Sustainable personal transport

81. The relevant objectives of this clause is *"to promote the use of sustainable personal transport".*

82. Relevant strategies of this policy are:

(a) *Encourage the use of walking and cycling by creating environments that are safe and attractive.*
(b) *Develop high quality pedestrian environments that are accessible to footpath-bound vehicles such as wheelchairs, prams and scooters.*
(c) *Ensure cycling routes and infrastructure are constructed early in new developments.*
(d) *Provide direct and connected pedestrian and bicycle infrastructure to and between key destinations including activity centres, public transport interchanges, employment areas, urban renewal precincts and major attractions.*
(e) *Ensure cycling infrastructure (on-road bicycle lanes and off-road bicycle paths) is planned to provide the most direct route practical and to separate cyclists from other road users, particularly motor vehicles.*
(f) *Require the provision of adequate bicycle parking and related facilities to meet demand at education, recreation, transport, shopping and community facilities and other major attractions when issuing planning approvals.*
(g) *Provide improved facilities, particularly storage, for cyclists at public transport interchanges, rail stations and major attractions.*
(h) *Ensure provision of bicycle end-of-trip facilities in commercial buildings*

Clause 18.02-1R – Sustainable personal transport- Metropolitan Melbourne

83. Strategies of this policy are:

(a) *Improve local travel options for walking and cycling to support 20 minute neighbourhoods.*
(b) *Develop local cycling networks and new cycling facilities that support the development of 20-minute neighbourhoods and that link to and complement the metropolitan-wide network of bicycle routes - the Principal Bicycle Network*

Clause 18.02-2S - Public Transport

84. The objective of this clause is *"to facilitate greater use of public transport and promote increased development close to high-quality public transport routes".*

Clause 18.02-2R - Principal Public Transport Network

85. A relevant strategy of this clause is to *"maximise the use of existing infrastructure and increase the diversity and density of development along the Principal Public Transport Network, particularly at interchanges, activity centres and where principal public transport routes intersect".*

Clause 18.02-4S – Car Parking

86. The objective of this clause is *"to ensure an adequate supply of car parking that is appropriately designed and located".*

87. A relevant strategy is *"protect the amenity of residential precincts from the effects of road congestion created by on-street parking".*

Local Planning Policy Framework (LPPF)

88. The relevant policies in the Municipal Strategic Statement can be described as follows:

Municipal Strategic Statement (MSS)

89. Relevant clauses are as follows:

Clause 21.04-2 - Activity Centres

90. A relevant objective of this clause is "*to maintain the long term viability of activity centres".*

91. Relevant strategies to achieve this objective include:

(a) *Strategy 5.2 - Support land use change and development that contributes to the adaptation, redevelopment and economic growth of existing activity centres.*
(b) *Strategy 5.3 - Discourage uses at street level in activity centres which create dead frontages during the day.*

Clause 21.04-3- Industry, office and commercial

92. The objective of this clause is *"to increase the number and diversity of local employment opportunities".*

Clause 21.05-1 Heritage

93. This clause acknowledges that new development can still proceed whilst paralleling the objective to retain the nineteenth century character of the City. Conservation areas seek to conserve the City's heritage places whilst managing an appropriate level of change.

94. Relevant objectives include:

(a) *Objective 14 To protect and enhance Yarra's heritage places:*

(i) Strategy 14.1 Conserve, protect and enhance identified sites and areas of heritage significance including pre-settlement ecological heritage.
(ii) Strategy 14.2 Support the restoration of heritage places.
(iii) Strategy 14.3 Protect the heritage skyline of heritage precincts.
(iv) Strategy 14.4 Protect the subdivision pattern within heritage places.
(v) Strategy 14.6 Protect buildings, streetscapes and precincts of heritage significance from the visual intrusion of built form both within places and from adjoining areas.
(vi) Strategy 14.8 Apply the Development Guidelines for Heritage Places policy at clause 22.02
(vii) Strategy 14.9 Apply the landmarks and Tall Structures Policy at clause 22.03

Clause 21.05-2 – Urban design

95. The relevant objectives of this clause are:

(a) *Objective 16 - To reinforce the existing urban framework of Yarra;*

(b) *Objective 17 - To retain Yarra's identity as a low-rise urban form with pockets of higher development:*

(i) *Strategy 17.2 Development on strategic redevelopment sites or within activity centres should generally be no more than 5-6 storeys unless it can be demonstrated that the proposal can achieve specific benefits such as:*
   1. *Significant upper level setbacks*
   2. *Architectural design excellence*
   3. *Best practice environmental sustainability objectives in design and construction*
   4. *High quality restoration and adaptive re-use of heritage buildings*
   5. *Positive contribution to the enhancement of the public domain*
   6. *Provision of affordable housing.*

(c) *Objective 18 - To retain, enhance and extend Yarra's fine grain street pattern;*
(d) *Objective 19 To create an inner city environment with landscaped beauty;*
(e) *Objective 20 - To ensure that new development contributes positively to Yarra's urban fabric;*
(f) *Objective 21 - To enhance the built form character of Yarra's activity centres;*

(i) *Strategy 21.1 Require development within Yarra's activity centres to respect and not dominate existing built form; and*

(ii) *Strategy 21.3 Support new development that contributes to the consolidation and viability of existing activity centres.*

Clause 21.05-4 - Public environment

96. The relevant objective and strategies of this clause are:

(a) *Objective 28 - To a provide a public environment that encourages community interaction and activity:*

(i) *Strategy 28.1 - Encourage universal access to all new public spaces and buildings*
(ii) *Strategy 28.2 - Ensure that buildings have a human scale at street level.*
(iii) *Strategy 28.3 - Require buildings and public spaces to provide a safe and attractive public environment.*
(iv) *Strategy 28.5 - Require new development to make a clear distinction between public and private spaces.*
(v) *Strategy 28.8 - Encourage public art in new development.*

Clause 21.06 – Transport

97. This policy recognises that Yarra needs to reduce car dependence by promoting walking, cycling and public transport use as viable and preferable alternatives.

98. Parking availability is important for many people, however in Yarra unrestricted car use and parking is neither practical nor achievable. Car parking will be managed to optimise its use and to encourage sustainable transport options.

99. Relevant objectives and strategies of this clause are as follows:

(a) *Objective 30 – To provide safe and convenient pedestrian and bicycle environments.*
   (i) *Strategy 30.2 – Minimise vehicle crossovers on street frontages.*
   (ii) *Strategy 30.3 – Use rear laneway access to reduce vehicle crossovers.*

(b) *Objective 31 – To facilitate public transport usage.*

(c) *Objective 32 – To reduce the reliance on the private motor car.*

(d) *Objective 33 To reduce the impact of traffic.*
   (i) *Strategy 33.1 Ensure access arrangements maintain the safety and efficiency of the arterial and local road network.*

Clause 21.07-1 – Ecologically sustainable development

100. The relevant objective is *"to promote ecologically sustainable development".*

101. A relevant strategy of this clause is Strategy 34.1 which is to *"encourage new development to incorporate environmentally sustainable design measures in the areas of energy and water efficiency, greenhouse gas emissions, passive solar design, natural ventilation, stormwater reduction and management, solar access, orientation and layout of development, building materials and waste minimisation".*

Clause 21.08-2 Neighbourhoods - Central Richmond

102. A relevant land use strategy is to *"improve the built form of:*

   (i) *land adjacent to Punt Road.*
   (ii) *land around Richmond Station.*

103. 'Figure 23 Neighbourhood Map' of this clause shows the site to be located between two the Bridge Road and Swan Street Major Activity Centre, with the latter being the closest.

Relevant Local Policies

Clause 22.02 Development Guidelines for Sites Subject to the Heritage Overlay

104. This policy applies to all new development included in a heritage overlay. The relevant objectives of this clause includes to conserve Yarra's natural and cultural heritage, to conserve the historic fabric and maintain the integrity of places of cultural heritage significance, to retain significant view lines to, and vistas of, heritage places and to preserve the scale and pattern of streetscapes in heritage places.

Clause 22.03 – Landmarks and Tall Structures

105. This policy applies to all development. Whilst the site is not within proximity to an identified sign or landmark within the policy, it is important to *"ensure the profile and silhouette of new tall structures adds to the interest of Yarra's urban form and skyline.*

Clause 22.05 – Interfaces Uses Policy

106. This policy applies to all development and land use applications and aims to reduce conflict between commercial, industrial and residential activities. The policy acknowledges that the mix of land uses and development that typifies inner city areas can result in conflict at the interface between uses.

107. It is policy that *"new non-residential use and development within Business and Mixed Use and Industrial Zones are designed to minimise noise and visual amenity impacts upon nearby, existing residential properties".*

108. Decision guidelines at clause 22.05-6 include that *"before deciding on an application for non-residential development, Council will consider as appropriate:*

(a) *The extent to which the proposed buildings or uses may cause overlooking, overshadowing, noise, fumes and air emissions, light spillage, waste management and other operational disturbances that may cause unreasonable detriment to the residential amenity of nearby residential properties.*
(b) *Whether the buildings or uses are designed or incorporate appropriate measures to minimise the impact of unreasonable overlooking, overshadowing, noise, fumes and air emissions, light spillage, waste management and other operational disturbances on nearby residential properties".*

Clause 22.16 Stormwater Management - Water Sensitive Urban Design

109. Clause 22.16-3 requires the use of measures to *"improve the quality and reduce the flow of water discharge to waterways"*, manage the flow of litter from the site in stormwater and encourage green roofs, walls and facades in buildings where practicable.

Clause 22.17 – Environmentally Sustainable Design

110. The overarching objective is that development should achieve best practice in environmentally sustainable development from the design stage through to construction and operation. The considerations are energy performance, water resources, indoor environment quality, storm water management, transport, waste management and urban ecology.

Other Documents

Swan Street Structure Plan (SSSP)

111. The Swan Street Structure Plan was adopted by Council at its meeting on 17 December 2013 and is relevant to the site. The Swan Street Structure Plan aims to manage this growth within the Swan Street activity centre and the surrounding area.

112. The subject site is within the Richmond Station Precinct, with the document recommending a height of 5 – 6 storeys and acknowledging that a transition in scale to the low-rise residential dwellings to the east is required. Whilst adopted, the structure plan has not progressed to the formal amendment stage and has limited statutory weight.

Plan Melbourne

113. The plan outlines the vision for Melbourne's growth to the year 2050. It seeks to define what kind of city Melbourne will be and identifies the infrastructure, services and major projects which need to be put in place to underpin the city's growth. It is a blueprint for Melbourne's future prosperity, liveability and sustainability.

114. The Richmond - Swan Street area is identified as a Major Activity Centre. The Flinders Station to Richmond Station Corridor is also identified as a Major urban renewal precinct the report stipulating *Major urban renewal precincts will play an important role in accommodating future housing and employment growth and making better use of existing infrastructure.*

Amendment C191 – Swan Street Major Activity Centre

115. Yarra City Council is proposing to apply new planning controls to the Swan Street Major Activity Centre, via Amendment C191 and the implementation of a Design and Development Overlay, to help manage future development, protect heritage and support employment in the area.

116. The amendment was on public exhibition for six weeks during February and March 2019. Since then, the amendment has proceeded to a Panel Hearing. The Panel Hearing commenced on 2 December 2019. On 5 December 2019 the Panel Hearing was adjourned and will continue on Monday 27 July 2020. The hearing is expected to run for three weeks.

117. The subject site is not included within the proposed Design and Development Overlay, falling outside of Precinct 2 that relates to the Swan Street Retail Centre.

Advertising

118. The application was advertised under the provisions of Section 52 of the *Planning and Environment Act (1987)* by 1,216 letters sent to surrounding owners and occupiers and by signs displayed on the Wangaratta, Tanner and Botherambo site frontages. Council received one hundred and fifteen (115) objections to the application that can be summarised as follows:

(a) Heritage and Design

(i) Design, size, height and mass of the development is inconsistent with the existing neighbourhood character and is an overdevelopment;
(ii) Development not in keeping with historic low-scale precinct; and
(iii) The design fails to achieve "design excellence" as encouraged by Clause 21.03 of the Yarra Planning Scheme.

(b) Use and Off-Site Amenity Impacts

(i) Amenity impacts to neighbouring residential properties (overlooking, noise, overshadowing, blocking of views, waste collection, impact to solar panels);
(ii) The volume of the office space and associated workers is too large;
(iii) Unrestricted hours of operation result in significant noise, light and traffic disturbance to residential properties;
(iv) The development will block views of Richmond Hill and will dominate the skyline;
(v) The development fails to include public open space, failing to comply the *"City of Yarra Strategic Framework Plan"*; and
(vi) Wind impacts along the street.

(c) Traffic and Car Parking

(i) Too many car parks provided on-site, additional traffic cannot be supported within local road network; and
(ii) Not enough car parks provided on-site, the on-street car parking is already at capacity and cannot cater to overflow from development.

(d) Other

(i) Behavioural impacts from office workers (i.e. littering and smoking in the street);
(ii) The development is poorly sited and has not been considered in combination with the development at property No. 45 Wangaratta Street;
(iii) The traffic report fails to consider the development at property No. 45 Wangaratta Street;
(iv) The development at property No. 45 Wangaratta Street should not become a precedent for the proposed development;
(v) Construction will cause significant disruption as the development will require significant excavation. The latter is also disconcerting in the absence of a toxicology study;
(vi) The surrounding streets cannot accommodate movement of large vehicles during the construction phase;
(vii) Health and wellbeing impact of multiple properties on Wangaratta Street being developed at the same time;
(viii) The site is not located within the Swan Street Activity Centre or Burnley, Cremorne and South Richmond;
(ix) The development is sited in an area that is targeted by graffiti regularly;

(x) Inadequate Access for ambulances, fire brigade and police vehicles; and
(xi) The proposed development may overload existing infrastructure services.

119. A Planning Information Session was held during the advertising period on 20 February 2020, where residents had access to planning officers and the permit applicant. Due to the COVID-19 pandemic a public consultation meeting was not held.

Referrals

Internal Referrals

120. The application was referred to the following units within Council:

(a) Urban Design Unit (public realm only);
(b) Engineering Unit;
(c) Strategic Transport Unit;
(d) City Works Unit;
(e) Heritage Advisor; and
(f) ESD Advisor.

External Consultants

121. The application was referred to the following external consultants:

(a) Urban Design (Hansen Architects);
(b) Acoustics (SLR Consulting); and
(c) Wind (MEL Consultants).

Referral comments have been included as attachments to this report.

OFFICER ASSESSMENT

122. The primary considerations for this application are as follows:

(a) Strategic justification;
(b) Use;
(c) Built form - Heritage and Urban Design;
(d) On-site amenity;
(e) Off-site amenity;
(f) Car parking, traffic and access; and
(g) Objector concerns.

Strategic Justification

123. There is strong strategic direction to support the redevelopment of the site to provide a commercial development on this site. Policy at clauses 11, 17, 18 and 21.04 of the Scheme, together with Plan Melbourne, encourage the accumulation of activities and the intensification of development in and around activity centres. The site is located within the MUZ and is located between two activity centres with that closest, being the Swan Street Major Activity Centre to the south, well within walking distance. The site is well serviced by public transport and community services. This ensures efficient use of infrastructure.

124. At a State level, the metropolitan planning strategy *Plan Melbourne* seeks to create 20-minute neighbourhoods, where people can access most of their everyday needs (including employment) within a 20-minute walk, cycle or via public transport. These neighbourhoods must be safe, accessible and well connected for pedestrians and cyclists.

125. The subject site is well connected to public transport infrastructure, given the tram routes along Swan Street, Church Street and Bridge Road, bus routes along Hoddle Street and the Richmond Train Station that is located within a short walking distance to the west.

126. The proposal includes provision of bicycle parking in excess of the requirements of the Scheme thereby encouraging the use of alternative modes of transport to and from the site rather than solely encouraging the reliance on motor vehicles. The development, in this regard, complies with clauses 18.02 – Movement Networks; 21.06-3 – The Road System and Parking; and 21.03 – Vision of the Scheme.

127. *Plan Melbourne* also identifies the Richmond-Swan Street area as a Major Activity Centre. The Flinders Station to Richmond Station Corridor is identified as a Major Urban Renewal Precinct with the report stipulating these precincts will play an important role in making better use of existing infrastructure and accommodating future employment growth.

128. It must also be acknowledged that the size of the subject site allows for a more robust development to occur, with the site currently underutilized with regard to this aspect. However more intensive growth, whilst strongly supported by policy, must respond to existing conditions and be tempered to respect the existing neighbourhood and heritage character and the site's relationship with adjoining built form in terms of producing a consistent or transitioning scale and ameliorate or reduce off-site amenity impacts. These factors will be discussed in turn.

Use

129. The office and shop uses within the development require planning permission pursuant to the requirements of the Mixed Use Zone. Clause 22.05 (*Interface Uses Policy*) requires new non-residential use and development within Mixed Use Zones to be designed to minimise noise and visual amenity impacts upon nearby, existing residential properties.

130. The use of the site predominantly as an office with shop tenancies at the ground floor is supported by the PPF and the objectives of the zone, as outlined previously, and promotes urban consolidation within proximity to an activity centre that is well serviced by existing infrastructure and services.

131. The submitted plans note the office floor area at the upper levels as being 'commercial'. To ensure that the use operates as 'office' in accordance with what has been proposed, a condition will be included to ensure this notation is changed to 'office'.

132. The proposed office and shop uses are largely considered to generate minimal off-site amenity impacts, given the surrounding context and is unlikely to cause unreasonable noise, odour, visual or other impacts to adjacent land. However this will be discussed later in the report.

133. The applicant has not included staff numbers for the office as part of the application material and has relied on the floor area to dictate numbers. Therefore with this uncertainty, it is difficult to ascertain numbers. However, it is not the number of staff that causes amenity impacts; rather it is the hours of operation, noise and car parking, all of which will be considered within this report.

134. Similarly to that application south of this site and already considered by Council, the applicant did not want to limit the hours of operation of the building relating to the office use, justifying this on the basis of the ongoing operation into the evening hours would provide a form of passive surveillance. While it is not unusual that some staff may need to stay late from time to time, if supported this would allow future occupants the option to operate the building at full capacity 24 hours per day and at weekends. The shop use would operate within hours that are compatible and sensitive to the surrounding residences. i.e. 7am to 7pm, 7 days a week.

135. With regard to the hours of operation associated with the office use, the same argument is presented in this case. The potential 24 hour/weekend operation is particularly a concern given that the site is located within a MUZ, where it is anticipated future residential growth can be accommodated at higher densities. More importantly, the existing context is one with a large proportion of residences, both on the opposite side of Botherambo Street in a low density neighbourhood residential zone, as well as the opposite side of Wangaratta Street in the medium density MUZ.

136. With existing residential properties in such proximity, it is considered they would be unreasonably disturbed by large numbers of staff attending the office at night and weekends when residents spend most time at home with higher expectations for amenity. Of particular concern was light spill from the building overnight and its impact on these nearby residential properties.

137. There is limited guidance in the Scheme as to what appropriate opening hours are in the MUZ. The Acoustic report submitted with the application identifies that the development is not expected to operate during the night time. For this reason, it is recommended that the use be permitted to operate only between the hours of 7.00am to 10.00pm on weekdays, this will align with the Acoustic report that has considered these hours in its assessment. The closing time at 10pm during the week would also be in line with sleep disturbance criteria used to assess potential land use impacts.

138. Furthermore, clause 22.01 (*Discretionary Uses in a Residential 1 Zone*) stipulates that permit required uses in a Residential 1 zone (e.g. Neighbourhood and General Residential Zones) should have hours of operation limited to 8am to 8pm. In light of these hours being supported by the Scheme in a purely residential area and that the proposed uses are located in a MUZ where commercial uses are explicitly encouraged, it is reasonable to permit the uses to operate for a maximum of one hour more in the morning from 7am and two hours later in the evening until 10pm during the weekdays.

139. In relation to the weekend operation of both the office and shop uses, Council officers considered it would be appropriate to support a more limited operation to prevent activity at the site very early in the morning and late in the evening when residents are likely to be home. Given the proximity of the site to the Swan Street MAC, it is considered that the subject site is not located in an area where there would be low daytime activity on the weekend.

140. As such, guidance is drawn from the above mentioned clause 22.01 (*Discretionary Uses in a Residential 1 Zone*). As identified, the policy stipulates that permit required uses in a residential zone should have hours of operation limited to 8am to 8pm. Whilst this policy does not apply to the subject site given it is located within the MUZ, these hours are the maximum hours acceptable in a purely residential area for all days of the week. Therefore, these hours are considered applicable to weekend hours for the subject site where it is acknowledged weekends are to be afforded a greater level of sensitivity due to community expectations.

141. Individual office tenants have the ability to apply to Council for evening hours (if necessary) giving officers the ability to carry out a full assessment of the impacts of these extended hours in light of the particular operational needs and likely off-site amenity impacts of that particular office use. Subject to the conditions described above, overall the proposed staff numbers and hours of operation are considered to appropriately balance the need to protect the amenity of residents with the operational needs of the office use.

142. A condition will also limit delivery hours to Council's standard delivery times to ensure deliveries are undertaken at appropriate times (7am to 10pm). This will also ensure that adequate hours are provided for cleaning of the office buildings, as the delivery times during the week will align with those during the weekday when regular cleaning after typical office hours is undertaken.

Built form - Heritage and Urban Design

143. In considering the design and built form of the proposed development, the most relevant aspects of the Scheme are provided at Clause 15 (*Built Environment and Heritage*), Clause 21.05 (*Built Form*) and Clause 22.02 (*Development Guidelines for Sites subject to the Heritage Overlay)*.

144. All of the provisions and guidelines support development that responds to the existing or preferred neighbourhood character. Particular regard must be given to the acceptability of the design in terms of height and massing, street setbacks and relationship to nearby buildings.

145. Prior to ascertaining if the proposed building is acceptable, one must consider if the demolition and works to the existing building satisfy Council's policy. The existing buildings on site are graded as being 'not-contributory' within the Richmond Hill Heritage Precinct (HO332). Council's heritage advisor has confirmed that the full demolition of the buildings is acceptable on this basis. The removal of 'not-contributory' buildings would not detrimentally impact the significance of the wider area and is acceptable.

146. In regards to the proposed new building, the relevant objectives of clause 22.02-4 of the Scheme are *"to preserve the scale and pattern of streetscapes in heritage places"* and *"to ensure that additions and new works to a heritage place respect the significance of the place".* Furthermore, Council's local policy contains guidance for sites that benefit from multiple frontages, to ensure that recognition of all adjoining forms and character is afforded.

147. Clause 15.03-1 includes strategies to encourage appropriate development that respects places with identified heritage values, creates a worthy legacy for future generations, and ensures an appropriate setting and context for heritage places is maintained and enhanced. Clause 43.01 includes the purpose to ensure that development does not adversely affect the significance of heritage places.

148. In terms of the immediately surrounding heritage context, surrounding built form to the south of the subject site and west side of Wangaratta Street, immediate north, and immediate north-west side of Tanner Street is graded "Not Contributory". Dwellings located to the east side of Botherambo Street are graded "Contributory" however it is noted that the backyards of these dwellings interface the subject site. In fact, the only dwelling that is graded "Individually Significant" opposite the subject site is that at the north-east corner of the Botherambo and Tanner Street intersection, namely No. 73 Tanner Street.

149. In regards to the proposed built form, Council's Heritage Advisor explicitly states that there are no heritage concerns with the *"height, scale and bulk of the proposed building",* but did raise concerns with the southern elevation because of its appearance from Richmond Hill describing this as *"intrusive"*. Council's Heritage Advisor state that either montages or perspectives be provided to justify this element from Richmond Hill or consideration should be given to the deletion of at least one level, ultimately reducing the wall height or redesigning the wall. These comments must also be tempered with the comments provided by Council's Urban Designer in relation to the building height and setbacks discussed later.

150. From a heritage perspective, it is considered that the overall height and setbacks will have little direct impact on the heritage significance of the surrounding area the due to the 'not-contributory' grading of the buildings. The separation distances from heritage buildings and places of significance as a result of the separation distance from surrounding streets, including rear secluded areas of private open space associated with dwelling to the east side of Botherambo Street, provide a non-sensitive immediate heritage context.

151. The three-storey podium height of the building is supported as it reflects the prevailing two-three storey existing street-wall heights that are associated with the more robust industrial and commercial style buildings within the MUZ. Furthermore, the lower density dwellings to the east opposite Botherambo Street, face Lennox Street and hence their original significant fabric is also well removed from the subject site. The "Individually Significant" dwelling at the north-east corner of the Tanner and Botherambo Street intersection is removed and has an appearance that is unique in its own right that will not be compromised as a result of the proposed building, safeguarded as a result of its location diagonally located to the site.

152. The design of the building from a heritage perspective is considered to be acceptable in so far as not immediately impacting the heritage significance of the area. Council's Heritage Advisor's concerns relating to the southern elevation is considered to be valid, because when this is considered in isolation of any future development potential to the south, it is in fact, "intrusive" and its bulk should be addressed.

153. Council's External Urban Design consultant is unsupportive of an eight-storey building and has indicated that this should be reduced by one level tempering this against the requirements of the Swan Street Structure Plan, where the site is identified as being located within Precinct 1 – Richmond Station and as having a preferred 5 to 6 storey overall height.

154. Whilst the SSSP is an adopted document, it can only be given very limited weight as it has not progressed to a planning scheme amendment. This has been repeatedly stated by the Tribunal in numerous decisions, one of which being Shaw and Wangaratta Street Pty Ltd v Yarra CC [2017] VCAT 758:

    [20] *Parties also made reference to the Swan Street Structure Plan adopted by Council in 2013 but not yet incorporated into the Planning Scheme, either as a specific Design and Development Overlay or as an incorporated document. The Structure Plan has suggested heights of 5-6 storeys (19 metres) on the eastern side of Wangaratta Street and 7-10 Storeys (30 metres) on the western side.*

    [21] *I agree with Council and Mr McGurn that I should give little weight to the Structure Plan given it has not been incorporated into the Planning Scheme in some form. I therefore agree with the Tribunal's comments in 429 Swan Street Pty Ltd v Yarra CC [2016] VCAT 370 that:*

    [22] *I should give limited weight to the adopted Structure Plan, particularly its site-specific provisions. Ultimately my assessment needs to be based on the particular circumstances of the existing, and likely future, physical context.*

    [23] *On balance, I consider there is strong policy support for more intensive built form on the review site. Although local policy is suggesting heights of 5 to 6 storeys in activity centres and strategic redevelopment sites, that cannot be used as a defacto height control and needs to be considered along with site context and all other relevant State and local policies.*

155. With the above decision in mind, the requirements of the SSSP for a further reduction in the number of levels will not be adopted. It is considered that a seven storey building is a good compromise in light of policy support currently in the Scheme pertaining to the site, but also with regard to the SSSP and with regard to the adoption of the three-storey podium at street level that is supported by both Council's Heritage Advisor and external Urban Design consultant.

156. The reduction in the height of the building as required by Council's external Urban Design consultant, also addresses Council's Heritage Advisor's concerns with the southern elevation. The height of the proposed development at seven storeys, when combined with the varied setbacks discussed in forthcoming paragraphs, will facilitate a better transition with surrounding building heights, noting that, and as already indicated, the surrounding streets provide a buffer to surrounding buildings.

157. It is also accepted that a three-storey podium across all three street interfaces is an appropriate design response to the surrounding built forms. The three-storey podium would provide a single-storey transition with its neighbouring building to the south and will be commensurate with the height of surrounding three-four storey buildings. As such, it is more of a question of whether the upper levels above the podium provide an appropriate transition within the broader context, given that this site bookends this row of former industrial buildings within the MUZ, before merging into the lower density pockets zoned Neighbourhood Residential to the north-west, north and east.

Setbacks to west - Wangaratta Street

158. The setbacks above the podium (Levels 03 to 07), range between 3.0m and 6.1m from Wangaratta Street. Council's external Urban Design consultant has indicated support for a more robust built form outcome across this interface largely due to the four-storey context opposite but not at the expense of pedestrian amenity in terms of shadow impacts (which will be further discussed in a later section of this report). As such, it has been recommended that the setbacks be increased to 3.5m behind the street wall at Levels 03-04 and 8m behind the street wall at Level 05-06. However, this setback will not be adopted because the context of Wangaratta is different in zoning and built form, where hard-edged buildings are more prevalent and a setback variation of 500mm would be a negligible variation visually.

Setbacks to north – Tanner Street

159. The setbacks above the podium (Levels 03 to 07), range between 4.6m and 13m from Tanner Street. Council's external Urban Design consultant has indicated that the northern aspect is more sensitive because private open spaces within the building opposite and zoned Neighbourhood Residential will have an outlook to the subject site. As such, it has been recommended that the building may be wrapped-around at Levels 03-04, at the north-west corner, adopting the same setbacks as those to Wangaratta Street (i.e. 3.0m) and followed by setbacks of 9m behind the street wall beyond the wrap-around at the corner at Levels 03-05; and 12m at Level 06 behind the street wall to assist in the visual concealment of the upper levels from the opposite site of Tanner Street. To put this into visual context the massing strategies at Figure 22 immediately below were provided by Council's external Urban Design consultant.

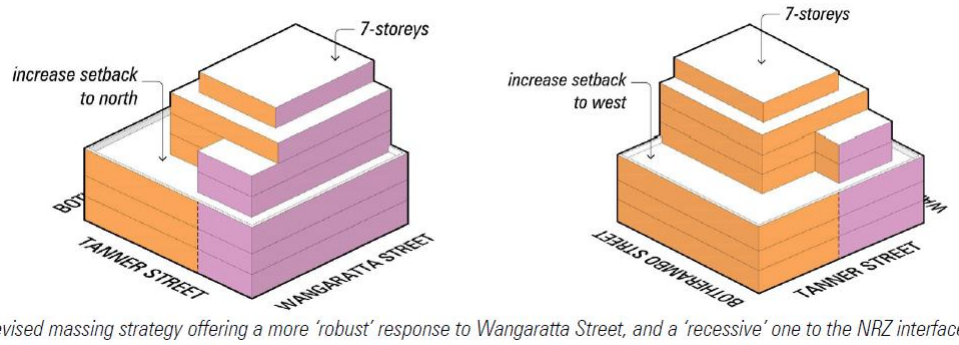


Figure 22: Massing strategy provided by Council's external Urban Design consultant with regard to SSSP

160. These setbacks were provided with particular regard to the identified section of the site where a transition is require to the residential interface provided within the SSSP, and whilst a nominated length associated with the wrap-around at the north-west corner has not been provided, this has not been specified in the SSSP either. A condition will adopt these setbacks noting that the wrap-around may extend for a length no greater than 10m from the western boundary, ensuring that the length remains within the area designated for the return as illustrated in purple within the massing strategy at Figure 22 and within the Precinct 1 plan below at Figure 23 as extracted from the SSSP.

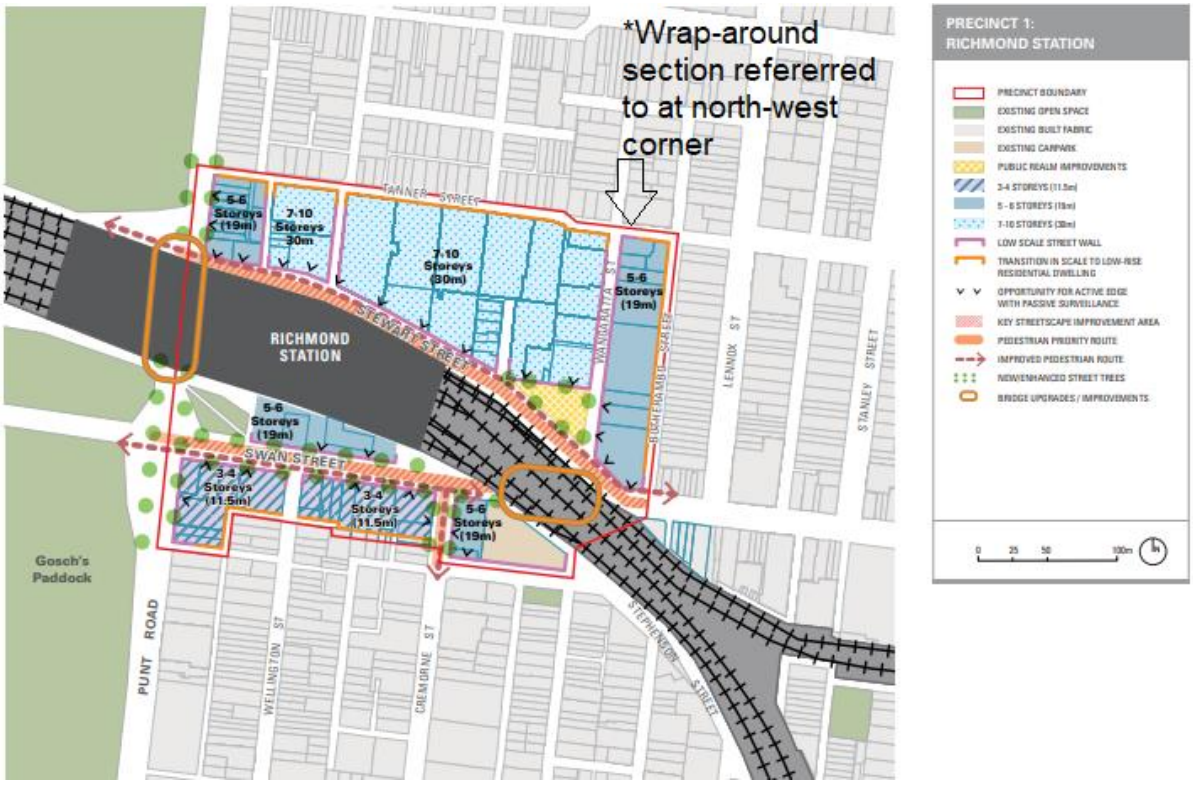


Figure 23: Subject site identified with a yellow star within Precinct 1 extracted from p.26 of the SSSP

Setbacks to east – Botherambo Street

161. The setbacks above the podium (Levels 03 to 07), range between 4.2m and 7.47m from Botherambo Street to the east. In the same vein *as that to the north,* Council's external Urban Design consultant has indicated that the eastern aspect is more sensitive because of the private open spaces of dwellings opposite, within the Neighbourhood Residential Zone.

As such, it has been recommended that the building adopt the same setbacks as those to Tanner Street (i.e. 9m behind the street wall at Levels 3-5, and 12m at Level 06 behind the street wall).

162. With the adopted setbacks, the building will present as a predominantly six storey building with a cap (i.e. being Level 06). The upper-most level will appear as a subservient element to the remainder of the building. Council's external Urban Design consultant has indicated that they would be supportive of a potential pergola element above the building, however this will not be adopted because it would increase the amount of external trafficable areas to the building and exacerbate noise volumes. Further, this may also accentuate the building height from southern views, and given the uncertainty associated with the development of the southern property (which is currently two-storeys), in terms of built form and outcome associated with that planning application, it may resolve in a negative visual impact.

163. It is acknowledged that even with a seven storey building, the building will be visible in more distant views. The fact that, if approved, this will be a taller building developed alongside buildings at a lesser height, is not in itself a reason to refuse the application. The Tribunal (Rowcliffe *Pty Ltd v Stonnington CC* [2004] VCAT 46 (29 January 2004)) has previously stated:

> [54] If mere visibility becomes the test across metropolitan Melbourne, then it will be virtually impossible to construct buildings above the prevailing scale. This, in turn, would render it impossible to achieve the clearly stated urban consolidation objectives expressed in the Planning Scheme, objectives which Clause 11 requires us "to give effect to". The Tribunal rejects the notion that, because some of the buildings would be visible above the existing built form, they are therefore unacceptable. Rather, the test is whether the proposal is complementary to the surrounding area, and of a scale that can be assimilated without unreasonably disturbing the surrounding built environment.

164. With regard to policy direction under the Scheme, clause 21.05 – *Urban Design* contains Objective 17: *to retain* Yarra's *identity as a low-rise urban form with pockets of higher development.*

(a) Strategy 17.2 reads as follows:

Development on strategic redevelopment sites or within activity centres should generally be no more than 5-6 storeys unless it can be demonstrated that the proposal can achieve specific benefits such as:

(i) *Significant upper level setbacks*
(ii) *Architectural design excellence*
(iii) *Best practice environmental sustainability objectives in design and construction*
(iv) *High quality restoration and adaptive re-use of heritage buildings*
(v) *Positive contribution to the enhancement of the public domain*
(vi) *Provision of affordable housing*

165. Given the size of the subject site and strategic location in proximity to public transport and other amenities, it is considered that this site is akin to a strategic redevelopment site and should be supported subject to a reduced height and the setbacks detailed earlier.

Architectural Quality

166. The development is considered to be of a good quality and in that regard responds to the design objectives of clause 15.01-2S of the Scheme. The contemporary design is appropriate and responds well to this part of Richmond with the design offering a modern built form that revitalises the street frontage through generously sized openings, and the provision of several building entrances along both street frontages.

167. The architectural response represents a language that is rather typical to a contemporary office building, using material palette of concrete, stone, timber, glazing and galvanised steel framing elements for articulation.

168. Council's external Urban Design consultant was supportive of the overall architectural quality of the development, and stated that the architectural response is successful in the following aspects:

    (a) *Noting the varied setback requirement to address amenity and visual matters as discussed above, the 'uniform' architectural language allows for a more restrained and elegant response to mitigate any unintended impact of a wedding cake profile. The strong architectural framing element allows for greater flexibility in establishing creative solid and void outcome and visual interest for the overall building.*

    (b) *Projecting angled concrete fins / pilasters that frame full height curtain wall provide depth to elevations and solid 'breaks' in wide extents of glass.*

    (c) *Inclusion of planter box to frame upper level balustrades assist in 'softening' up the podium level, providing visual amenity to future occupants. Specifying cascading landscape will also lend to a borrowed landscaping element that complements the overall restrained architectural response without resulting in visual clutter.*

169. The proposed design is considered overall to be of a high architectural standard, offering a modern built form that will revitalise all three street interfaces. The design response is such that it provides articulation and a primary frontage and entrance to Wangaratta Street with a secondary entrance to Botherambo Street for the offices. The north-west corner of the ground floor will provide entry to shop tenancy 01. Shop tenancy 02 would have also have its own entrance and shop-front.

170. Council's Urban Design unit has indicated concern with the entrances to the building stating that the deep setbacks, may become "litter traps, as well as creating quite passive and unwelcoming building entrances that can be difficult to identify from the street". Of greatest concern, the lobby at the entrance of shop tenancy 01, is identified as "wasted space at the street corner".

171. Councils Urban Design unit recommended that the entrance to the shop tenancy 01 be made more visible and active. This can easily be addressed with a condition directing the permit holder to provide more visually prominent entrances without deep setbacks to the shops. An option may be to either fill out the lobby, by bringing the entrance to the footpath or relocating this further south to face Wangaratta Street. In any instance, there is a degree of flexibility afforded to the permit applicant in determining an appropriate response. Similar concerns were raised with the depth of the primary entrance to the offices. Again, a condition will require a redesign to ensure that this space does not become a litter trap.

172. Council's Urban Design unit has also requested that details be provided in relation to the gates to the east of the visitor bicycle spaces and this can also be addressed with a condition. The openable screen gate to the street at the north-east corner is considered to be a poor design response and will be deleted and replaced with shop-front glazing. A further condition will also address Council's Urban Design unit's concerns associated with the height of the shop-front plinths by reducing these to approximately 400mm-450mm above the footpath to make way for the provision of either landscaping or utilised as informal seating and therefore further activating the street frontage.

173. Council's external Urban Design consultant has indicated that there is further scope to increase the degree of glazing at the street level and that the permit holder should explore whether the substation can be rotated by 90 degrees to increase activation to Botherambo Street. As such, a condition will require the segmented solid street walls, where possible, to be replaced with glazing. It is uncertain whether the substation can be rotated, but a condition will at the very least allow the permit holder to explore this as an opportunity to allow for the provision of further glazing to Botherambo Street. It was also suggested that the seat at the front of shop tenancy 02 also be redesigned and integrated into the façade. A condition will also address this.

174. Subject to the conditions outlined above, it is considered that the ground floor interfaces will provide an adequate level of activation and therefore passive surveillance, which is encouraged by policy. The development will also remove the number of crossovers to each street, limiting this to a single crossover that would be located at the south-east corner, and assisting in enhancing a pedestrian friendly environment.

175. It is considered that for a development of this scale, a façade strategy and materials and finishes schedule should be submitted with the following information to demonstrate a high quality build outcome:

    (a) elevations at a scale of 1:20 illustrating typical podium details, entries and doors;
    (b) section drawings to demonstrate façade systems, including fixing details and joints between materials or changes in form;
    (c) information about how the façade will be maintained, including any vegetation, and informal seating; and
    (d) a sample board and coloured drawings outlining colours, materials and finishes.

176. This will ensure that the materials to be utilised for the development are reviewed prior to construction to ensure they are of a high architectural quality. The condition will also require details in relation to graffiti proofing the ground level walls to the street, an issue raised by Council's external Urban Design consultant.

177. Overall, subject to a reduction in the overall height of the building to seven storeys through the deletion of one level and provision of increased setbacks that accord with that recommended by Council's external Urban Design consultant, including measures to address and enhance street activation, the proposal can adequately respond to the context and character and achieve a built form outcome that better responds to the surrounding area.

Landmarks, Views and Vistas

178. It is policy at clause 15.01-2S of the Scheme that important landmarks, views and vistas be protected or enhanced. The impact on long range views and vistas are only relevant where they form part of an identified character of an area (within planning policy) and typically apply to landscapes or natural features. This is not the case here and city views are considered opportunistic, not a key feature of the area.

179. The proposed development does not compete with any identified landmarks given its location and is considered to be an acceptable response to the local policy direction under clause 22.03-4 of the Scheme.

Light, Shade and Public Realm

180. Planning policy encourages the design of interfaces between buildings and public spaces to enhance the visual and social experience of the user. In this respect, the proposal represents an improvement in streetscape, public space quality and perceived safety. The site presently contributes little to the street, having few windows, large areas of blank walls, minimal street level activation and proliferation of car parking and crossovers.

181. Council's Urban Design unit is supportive of the proposed ground floor interface, requesting a number of conditions in regard to activating the building at street level. Concern was raised with the position of the building entrances with the facades where they are setback creating spaces that may result in "litter traps". This matter has been discussed at length and conditions will address the entrances, with further conditions relating to the height of plinths, landscaping opportunities and informal seating.

182. The overshadowing of the opposite side of Wangaratta Street is considered acceptable as this clears by 11am, with the proposal only shadowing this footpath for a short period of time within the morning. The footpath on the opposite side of Botherambo Street is overshadowed from 2pm onwards and again is limited to a short period of time in the afternoon. The deletion of one level and increased setbacks detailed earlier will further reduce that shadow impacts cast to both Wangaratta and Botherambo Street, lessening the impacts on the public realm.

183. The permit applicant supplied a wind impact statement prepared and authored by Vipac Engineers and Scientists, dated 01 November 2019 which was peer reviewed externally by MEL Consultants. MEL Consultants raised no concerns with the proposed methodology or findings of the statement prepared but recommended that a wind tunnel study be undertaken to assess the wind effect of the proposed development.

    Given the scope of conditions and changes to the building, it is considered appropriate to include a separate condition that requires the submission of a full wind impact assessment / report.

    Site Coverage

184. The existing conditions of 100% site coverage will be replicated. This will continue to be commensurate with the site coverage in the surrounding (and immediate) area. Commercial buildings in this precinct traditionally have high levels of site coverage with this characteristic being evident throughout Richmond

    Landscape architecture

185. Landscaping is not a typical feature of commercial buildings in Richmond, the proposal includes a degree of visible landscaping in the form of green roofs to the north and east edges of decks at Level 03 (i.e. primarily facing Botherambo Street) and to the north, west and east of Level 07. However, due to the subsequent built form changes as a result of the conditions detailed earlier, it is considered appropriate to include a condition that requires an updated landscape plan that not only reflects that revised building, but also addresses Council's external Urban Design consultant's recommendation for the provision of additional landscaping at the entrances to the building and at Level 04, along the northern interface.

186. In regards to street trees, Council's Urban Design Unit, indicated that Botherambo Street has been identified as part of Council's street tree planting program and has identified that up to three street trees could be accommodated. As such, a condition will require the permit holder to make a one off monetary contribution for the provision of new street trees along Botherambo Street.

    Summary

187. In summary and subject to conditions, the proposed development will adequately respond to its physical and policy context, striking a balance between surrounding heritage fabric, scale of surrounding building form (both existing and future having regard to policies to intensify development), whilst resulting in a transition down from taller built form to the west to lower 1-2 storey dwellings to the east and north-east. The architectural expression including use and composition of materials is an acceptable response to the heritage and non-heritage fabric in the area and will result in a visually interesting contribution to the area.

On-site amenity

Daylight and Ventilation

188. The proposed development is considered to provide a good level of amenity and indoor environmental quality. Specifically, this is achieved through good access to daylight for the office and shop space with three-street frontages with one that has a northern orientation and hence excellent solar access. The development provides large expanses of glazing at all levels (that will be further enhanced at the ground level with the conditions detailed in earlier paragraphs) and the provision of terraces / decks at Levels 03 and 07.

189. The submitted plans provide operable windows with rails to allow for natural ventilation to the proposed building.

190. In regard to equitable development, the two street frontages of Wangaratta Street and Botherambo Street are also enjoyed by the site to the south.

191. As indicated in earlier sections of this report, the southern adjoining allotment has a planning application for the development of a multi-level office building that was refused by Council and is proceeding to VCAT. Whilst the adjoining development anticipates the hard-edged wall as proposed on the southern (shared) boundary of the current scheme, the conditions as outlined in the earlier sections of this development will effectively reduce its height by one level and length to no more than 23m. Whilst the remainder would continue to be constructed on the boundary, the reduced built form and mass of this wall will provide further opportunity for the southern site to take advantage of its northern orientation and in any new development and / or redesign. A condition will also require the southern wall to be treated with an appropriate patterned colour scheme in lieu of its current stark concrete grey finish to assist in creating a wall of aesthetic appeal.

Circulation Spaces

192. The entrances from both Wangaratta and Botherambo Street, provide access to the lifts, stairs and service amenities associated with the building. The shop tenancies will also be further improved with the conditions outlined earlier to assist in providing well defined street frontages. The main entrances are provided with adequate sightlines from Wangaratta Street so people can see both in and out when entering or leaving. The circulation spaces afford a good level of amenity to future building occupants.

Facilities

193. Communal facilities are provided at each level for the office tenants. Whilst kitchen facilities are not currently shown on the floor plan, it is considered that this will be designed in the detail design stage once the building becomes tenanted. Bicycle parking and end-of-trip facilities are also incorporated into the scheme. Outdoor areas labelled as decks on the plans have also been provided and will further enhance the on-site amenity and staff enjoyment of the building.

Environmentally Sustainable Design (ESD)

194. Policy at clauses 15.01-2S, 21.07, 22.16 and 22.17 of the Scheme encourage ecologically sustainable development, with regard to water and energy efficiency, building construction and ongoing management. Council's ESD Advisor confirmed that the proposal was close to meeting Council's Best Practice ESD standards.

195. Further, the redevelopment of the site located in an existing built-up area makes efficient use of existing infrastructure and services, and the proximity of the subject site to numerous public transport modes reduces reliance on private vehicles.

196. Council's ESD Advisor identified areas of deficiencies and outstanding information that needed to be provided. This was outlined within their referral comments as follows:

Application ESD Deficiencies:

(a) *Additional shading treatments for northern and western façade to mitigate summer heat gain.*
(b) *At least 5% of car parks are recommended to be EV ready or wired for future.*

Outstanding Information:

(c) *Update BESS report to remove TVOC as an innovation point*
(d) *Show external shading locations on plans, with northern and western facades a priority to mitigate summer heat gain.*
(e) *Update SMP to address the reused and recycled materials*
(f) *Provide an evaluation how the design choices have reduced embodied energy (particularly of steel and concrete)*
(g) *A Green Travel Plan prepared by Ratio is referred to in the SMP, however unavailable as advertised document.*
(h) *A statement is required demonstrating how material and landscape choices reduce the urban heat island effect*
(i) *More information is required on how the DHW systems manage the risk of microbial contamination*
(j) *A target should be set through the CWMP of at least 80%.*

197. It is considered that all items can be addressed with a condition requiring an amended Sustainable Management Plan to be submitted concurrent with any amended plans requested as a consequence of other conditions detailed in earlier sections of this report.

198. The standard condition which requires an implementation report to confirm all measures specified in the Sustainability Management Plan have been implemented in accordance with the approved plan will also be included.

Off-site amenity

199. The relevant policy framework for amenity considerations is contained within clause 22.05 (Interface uses policy). As the site surrounds description identifies, there are dwellings located on the opposite sides Wangaratta Street (medium density), Tanner Street (both medium and low density) and Botherambo Street (low density).

200. The decision guidelines at Clause 22.05-6 specify that Council should consider (as appropriate);

(a) *The extent to which the proposed buildings or uses may cause overlooking, overshadowing, noise, fumes and air emissions, light spillage, waste management and other operational disturbances that may cause unreasonable detriment to the residential amenity of nearby residential properties.*

Noise

201. Policy at Clause 22.05 of the Scheme seeks to ensure new commercial development is adequately managed having regard to its proximity to residential uses.

202. The proposal is unlikely to result in unacceptable noise emissions to the nearby residential properties given that the building would be used mainly for offices (subject to consideration of hours and sleep disturbance criteria) with two shop tenancies at the ground floor. Due to the nature of the office and shop uses there will be minimal noise generated by pedestrian activity, with these activities located within the MUZ and conditions that will control and limit their operating hours. Whilst the development does not include a designated loading bay (as it is not a technical requirement under the Scheme), Councils Engineer has indicated support of the use of existing loading bays within proximity to the subject site (i.e. west side of Wangaratta Street, north of Stewart Street and west of Botherambo Street, north of Swan Street.

203. The majority of the office space is enclosed and the use conducted indoors (with the exception of the outdoor decks).

204. The applicant submitted an acoustic report prepared and authored by AECOM, dated 23 October, 2019. The report was peer reviewed by Council's external Acoustic consultant, SLR Consulting, who confirmed that the report generally addresses the acoustic issues related to the proposal. SLR Consulting recommended that the following matters be addressed to further mitigate and reduce noise impact associated with the development:

    (a) *All acoustically significant mechanical plant and equipment, including the sub-station, should be reviewed by a suitably qualified acoustical consultant during the detailed design phase of the project, to ensure that SEPP N-1 noise limits are met.*
    (b) *Noise from the car park entrance gate is to comply with SEPP-N1 and sleep disturbance targets of no greater than 65dBA L_{max} outside bedroom windows.*
    (c) *The Level 7 balcony is not to be use:*

        (i) After 10pm on any night of the week, and
        (ii) More than one (1) evening per month by gatherings of more than 25 people.

205. Conditions requiring full compliance with the above should be included on any permit to issue, as well as requesting for an amended acoustic report to make reference to sleep disturbance targets for the car park door and provide an acoustic specification for achieving the targets such that sleep disturbance levels will be met at the closest dwelling. A further condition will require compliance of all mechanical equipment post development and prior of occupation of the building to ensure that all criteria of SEPP N-1 are met.

206. As previously identified, 24/7 use of the site for office is considered to have an unreasonable impact on the surrounding area and therefore conditions will require the use to occur between 7am and 10pm, Monday to Friday, and 8am to 8pm Saturday to Sunday. A condition can require the report to be updated to reflect this. A further condition will ensure that the Level 07 balcony, that will alternatively be known as the Level 06 balcony as a result of the deletion of one level, be used only within the hours associated the operation of the office specified, with further restriction around the number of people and gatherings as prescribed by Council's external Acoustic consultant.

207. In summary, the issues raised by SLR are generally with the proposed operation of the use 24/7. The restriction of the use so that it will not operate into the night time period will ensure many of the issues raised are addressed. Furthermore, as identified above, a number of additional requirements will form conditions to ensure that all exceedences are addressed.

Fumes and air emissions, light spillage

208. The majority of the office space is enclosed and the use conducted indoors (with the exception of the outdoor balconies / decks). The proposal is not considered to result in unreasonable air emissions, with light spill from the upper level offices limited due to the nature of the use that is anticipated to be regulated to 7am to 10pm weekdays and 8am to 8pm on weekends. There would be no fumes associated with the office use.

Visual bulk and overlooking

209. The visual impacts to the dwellings addressed to Tanner and Lennox Street, are considered to be mitigated through the conditional upper level setbacks discussed earlier when viewed from either the front setbacks, upper level balconies or rear of these properties as identified in the images below at Figure 23.

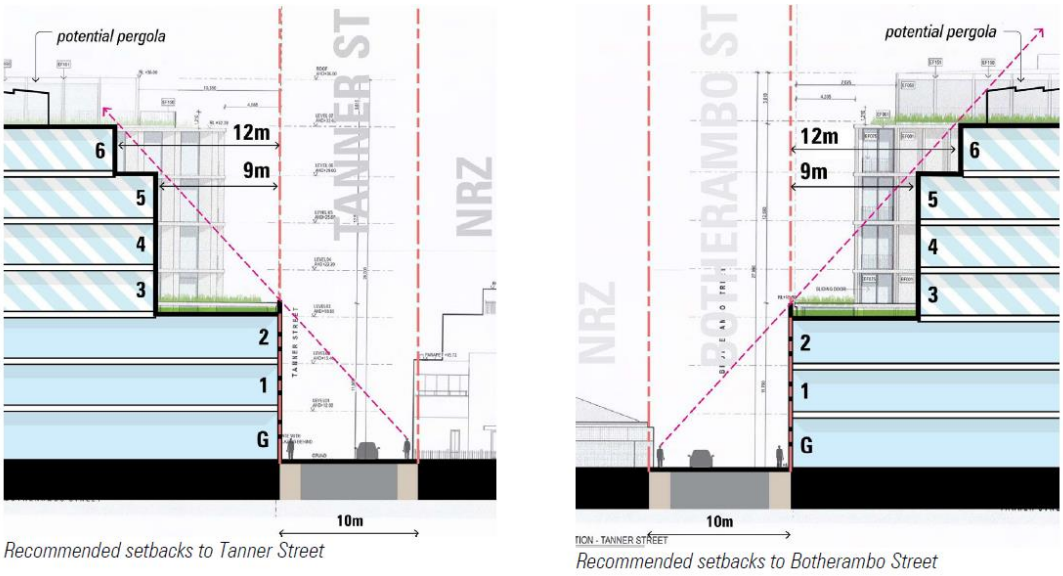


Figure 24: Recommended upper level setbacks where facing Botherambo and Tanner Streets.

In regard to visual bulk impacts to the dwellings on the opposite side of Wangaratta Street, it is considered that within this built form context views from windows or balconies and terraces to buildings is not an unreasonable expectation. Traditionally buildings with commercial and industrial uses tend not to include side and rear setbacks and this is evident in both the remnant converted industrial buildings in the area. Minimal side and rear setbacks would be an expected feature of the redeveloped commercial buildings where interfacing with other similarly developed allotments. Nonetheless, Council's external Urban Design consultant has made a recommendation for an increased setback across this interface to facilitate the built form transition to the NRZ offering the following design solution that is an improvement across this interface.

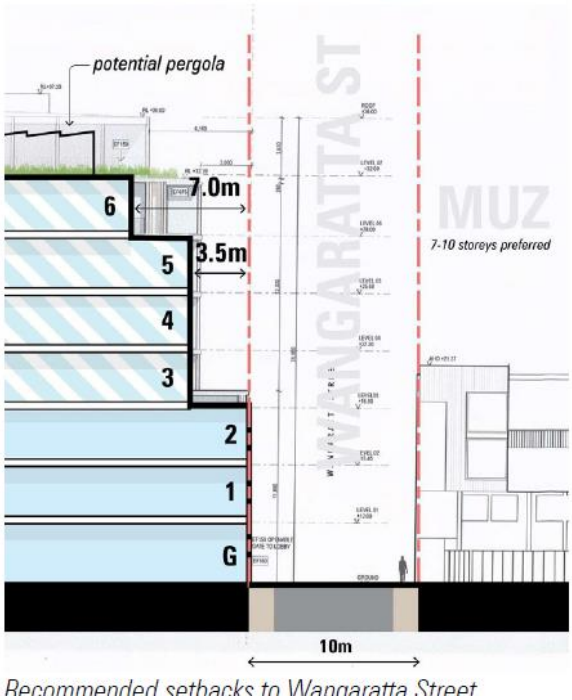


Figure 25: Recommended upper level setbacks where facing Wangaratta Street.

210. With the exception of the setback requested at Level 06, the development adequately addresses the Wangaratta Street context and the additional setback requested at Levels 03 – 05 will not be adopted.

211. The decision guidelines at Clause 22.05 require that *"before deciding on an application for non-residential development, Council will consider as appropriate:*

    (a) *The extent to which the proposed buildings or uses may cause overlooking, overshadowing, noise, fumes and air emissions, light spillage, waste management and other operational disturbances that may cause unreasonable detriment to the residential amenity of nearby residential properties.*

212. The proposed development is for an office and therefore is not subject to the same requirements as would be afforded to other built form typologies, such as an apartment building. However, the dwellings on the opposite sides of Wangaratta, Tanner and Botherambo Streets are sited in excess of 9 metres from the proposed development. The upper levels incorporate substantial setbacks from the street, increased via condition, that would provide a greater separation to the neighbourhood residential land and assist in mitigating views.

213. Overall, it is considered that the interface between the proposal and the secluded areas of private open spaces of dwellings to the east, including any balconies of the dwellings opposite Tanner Street to the north, and those to the west of Wangaratta Street would not be unreasonably impacted with the physical buffer already provided by surrounding streets and further conditions outlined within this assessment.

Overshadowing

214. Standard B21 of Clause 55 seeks to ensure buildings do not significantly overshadow existing secluded private open space between 9am and 3pm on 22 September. Within this six hour time period, the Standard requires a minimum of five hours of sunlight. It is important to note that Clause 55 is not strictly applicable in this instance due to the proposed uses and zoning of the land however, it is used as a reference.

215. This assessment is based on shadow diagrams provided by the applicant and advertised as part of the overall package of planning application material, as attached to this report. According to their illustration and despite the details in the shadow analysis table which appears to not accurately reflect what is shown, the secluded areas of private open space associated with the dwellings to the west of Wangaratta Street (located within the former warehouse conversion), will be impacted in the early hours of the morning with the shadows of the development completely removed by 10am and cast within the public domain. Between the hours of 11am and 2pm the shadows are cast over the roof of the adjoining building to the south and Botherambo Street to the east. By 3pm, the shadows extend into the secluded areas of private open space associated with four dwellings (with one of the four only marginally impacted). No overshadowing will be cast to solar panels.

216. The additional impacts are limited to between a half to one hour to either in the morning or the afternoon at the September equinox. This is considered reasonable when having regard to the site's inner city context and policy support for a taller built form on the subject site. These shadows will be further improved with Council's external Urban Design consultant confirming that the reduced building height, together with the increased setbacks, will minimise the Wangaratta Street footpath shadows at 10am, (and arguably the shadows within the secluded private open space of dwellings within the former warehouse conversion), and shadows cast into the secluded areas of private open spaces of dwellings to the east of Botherambo Street.

Equitable Development

217. To ensure the 'fair, orderly, economic and sustainable development of land' in accordance with the objective of the Act, matters of equitable development should be considered.

218. In this instance, the directly adjoining property to the south, whilst refused by Council, has a development that will be required to be considered by VCAT, demonstrating that the future development of the adjoining properties would not be prejudiced as a result of this proposal. Each site within this block has a frontage to at least two streets, providing ample opportunities for daylight. As indicated in an earlier section, the setbacks would further result in a reduced boundary wall length to the south, consequently providing further equitable development opportunities to the southern adjoining property.

Waste management

219. An initial Waste Management Plan (WMP) was submitted by the Applicant and reviewed by Council's City Works Branch, who indicated that it was satisfactory. According to the WMP provided, waste will be collected by a private waste contractor, using mini rear loaders of 6.4m in length and 2.1m in height. A swept path assessment has also confirmed that waste collection can occur from within the basement car park with access from Botherambo Street.

220. However, given the scope of changes to the building as a result of conditions resulting in a reduced office floor area, a condition will require the submission of an amended WMP that reflects the modified building.

Car parking, traffic and access

221. The applicant is seeking a statutory parking reduction of 120 car parking spaces, with 46 on-site car parking spaces proposed. To support the reduction in the statutory rate, a car parking demand assessment was undertaken by Ratio Consultants, with parking availability in the neighbourhood also reviewed.

Parking Availability

222. On-street parking occupancy surveys of the surrounding area were undertaken and suggest a lack of long-term parking available on the streets surrounding the site, due to extensive parking restrictions. It is deemed that limited availability of long-term on-street parking would discourage employees of the office and shop tenancies from driving to work, and encourage them to travel by alternative forms of transport.

223. Council's Traffic Engineers confirmed that the availability of short to medium-stay parking would provide regular turnover throughout the day, thereby allowing visitors to park near the site. Surrounding residential car parking is typically protected through the use of on-street permit parking.

224. The limited availability of long-term on-street parking would discourage employees from driving to work, and encourage them to travel by alternative forms of transport. The surrounding area has ample transport contextually supporting a development of this scale in the inner city. The availability of alternative transport methods will be discussed in turn.

Parking Demand

225. Similar arguments have been presented within the Officer's report to IDAC with consideration and regard of the development associated with the southern adjoining property. It is maintained that the statutory car parking rates outlined in the Scheme are conservative when applied in this instance, given the inner-city location of the subject site and proximity to alternative transport means. It is well documented through decisions made by the VCAT that modal shifts to reduce the reliance on the use of private motor vehicles is not only welcomed, but required, to ensure that a holistic planning approach to precincts that are designated for greater change is applied.

226. In support of the reduced car parking on-site, examples of existing offices within the City of Yarra with reduced on-site car parking were provided by Council Engineers. Details of these offices are provided as follows:

Development Site	Approved Office Parking Rate
60-88 Cremorne Street PLN17/0626 issued 21 June 2018	0.85 spaces per 100 m^2 (233 on-site spaces; 27,306 m^2)
2-16 Northumberland Street, Collingwood PLN16/1150 issued 14 June 2017	0.89 spaces per 100 m^2 (135 on-site spaces; 15,300 m^2)
51 Langridge Street, Collingwood PLN17/0332 (Amended) issued 18 May 2018	0.54 spaces per 100 m^2 (18 on-site space; 3,335 m^2)

227. Council's Engineering Services unit confirmed that the proposed on-site office parking rate of 0.93 spaces is considered appropriate, having regarding to the site's good accessibility to public transport services and proximity to Melbourne CBD.

228. Specifically in relation to the particular benefits of the site location, the reduction being sought by the proposal is further supported by the following:

    (a) The site is well serviced by public transport, including the Richmond Train Station, tram services along Swan Street and bus services along Hoddle Street, within 240m to 800m of the subject site with the array of transport identified in the following table:

Service	Route Number	Route	Nearest Stop	Approximate Walking Distance
Train		Alamein Line	Richmond Railway Station	350 metres ~ 4 minutes
		Belgrave Line		
		Cranbourne Line		
		Frankston Line		
		Glen Waverly Line		
		Lilydale Line		
		Packenham Line		
		Sandringham Line		
Tram	70	Waterfront City Docklands - Wattle Park	Lennox St / Swan St	240 metres ~ 3 minutes
	78	North Richmond - Balaclava via Prahran	Gipps St / Church St	500 metres ~ 7 minutes
	48	North Balwyn - Victoria Harbour Docklands	Epworth Hospital / Bridge Rd	800 metres ~ 10 minutes
	75	Etihad Stadium Docklands - Vermont South		
Bus	246	Elsternwick - Clifton Hill via St Kilda	Richmond Railway Station / Punt Rd	500 metres ~ 7 minutes

(b) The surrounding area has a good bicycle network and the development includes employee bicycle parking spaces and end of trip facilities in excess of rates specified within the Scheme to encourage staff to ride to work.

(c) The limited on-street parking in the area, is a disincentive for employees to travel to work by car. Occupant or visitor parking permits will not be issued for the development.

(d) Visitors would likely be aware of the car parking constraints in the area or otherwise be made aware by the occupants of the building, thus also encouraging use of alternative modes such as public transport, cycling or taxis;

(e) Council's Engineering Unit are supportive of the application and have identified that it is in line with the objectives of Council's *Strategic Transport Statement* noting that the site is ideally located with regard to sustainable transport alternatives and the reduced provision of on-site parking would discourage private motor vehicle use.

Traffic

229. Council's Traffic Engineers have confirmed that the traffic generation is reasonable, and that any increase in the volume of traffic generated by the development could be accommodated on the local road network without adversely impacting on the traffic operation of nearby streets.

Access and layout

230. Clause 52.06-9 (Design standards for car parking) of the Scheme relates to the design of car parking areas and contains 7 standards and requirements relating to access way, car parking spaces, gradients, mechanical parking, urban design, safety and landscaping.

231. These details, along with the proposed ramp designs have been reviewed by Council's Engineering Unit who is satisfied with the layout of the car parking area. Council's Engineering Unit has requested that the plans be revised to include the following details / dimensions that will be addressed by way of conditions:

    (b) Details (with cross-sections provided) of the vehicle crossing to Botherambo Street confirming that the finished level at the building line and the entrance ramp will not result in B99 design vehicles bottoming or scraping out.
    (c) A plan notation confirming that the service cabinet and substation doors will swing 180 degrees and latched to the wall when opened.
    (d) The sight triangle on the north side of the vehicle entrance shown.
    (e) The headroom clearance shown perpendicular to the vehicle ramp and no less than 2.1m.
    (f) The ramp and transition grades of the vehicle access ramp dimensioned on the drawings.

232. Several engineering conditions in relation to civil works, road asset protection, and construction management, impacts of assets on the proposed development, reinstatement of redundant vehicle crossings and modification to car parking signage have been recommended. These conditions are considered standard and should also be included on any permit issued. It will also form a condition of permit that the plans be updated to show the reinstatement of curbs where existing vehicle crossovers are being made redundant.

233. Overall, the proposed design and configuration of access and car parking areas are considered to achieve a satisfactory outcome and will be further improved with the above details requested by Council's Engineering Unit.

Electric vehicles

234. The application plans indicate that one bay will provide an EV charging station equalling to less than 5% of the 46 car parking bays. Whilst Council's Strategic Transport Officer reviewed the proposal commenting that the provision of one electric vehicle charging bay is acceptable, Council's ESD advisor has indicated that this should be increased to at least 5% of the total provision of car spaces. Therefore a condition will require 5% of the car parking bays to be shown EV ready or wired. This requirement will be imbedded in the amended SMP and will need to be shown on any amended plans in compliance with Condition 1 requirements.

Bicycle parking

235. The application exceeds the Clause 52.34 statutory bicycle parking requirements, being:

    (a) 71 staff spaces and 6 visitor bicycle parking spaces (77 onsite bicycle spaces are provided in total); and
    (b) 6 showers / change rooms and 1 DDA compliant bathroom.

236. The application was referred to Council's Strategic Transport Unit, who recommended that the footpath visitor bicycle parking spaces on the ground floor plan be relocated (as these do not meet pedestrian clearance requirements) to be shown within the title boundaries, made accessible to visitors and when combined with those currently provided, to equate to a total of 10. This will be addressed with a condition.

237. It is considered appropriate for the above to form conditions, to ensure the adequate design of the bicycle spaces and to allow for the functional layout of the laneway.

Green Travel Plan (GTP)

238. A separate condition will require the submission of an amended GTP that provides the following information requested by Council's Strategic Transport Unit:

(a) Description of the location in the context of alternative modes of transport;

(b) Employee welcome packs (e.g. provision of Myki/transport ticketing);

(c) Sustainable transport goals linked to measurable targets, performance indicators and monitoring timeframes;
(d) A designated 'manager' or 'champion' responsible for co-ordination and implementation;
(e) Details of bicycle parking and bicycle routes;
(f) Details of GTP funding and management responsibilities;
(g) The types of bicycle storage devices proposed to be used for employee and visitor spaces (i.e. hanging or floor mounted spaces);
(h) Security arrangements to access the employee bicycle storage spaces;
(i) Signage and wayfinding information for bicycle facilities and pedestrians pursuant to Australian Standard AS2890.3; and
(j) Provisions for the GTP to be updated not less than every five years.

Objector concerns.

Heritage and Design

(i) *Design, size, height and mass of the development is inconsistent with the existing neighbourhood character and is an overdevelopment;*
(ii) *Development not in keeping with historic low-scale precinct; and*
(iii) *The design fails to achieve "design excellence" as encouraged by Clause 21.03 of the Yarra Planning Scheme.*

239. Built form and massing (including height and design) is discussed within paragraphs 143 to 177 with visual bulk further discussed at paragraph 209 and 210. Conditions that will assist in facilitating an appropriate transitional scale with the low-scale buildings within the NRZ have been discussed at paragraphs 153 to 162. The design subject to conditions detailed within the body of the assessment will achieve, on balance, an acceptable planning outcome.

Use and Off-Site Amenity Impacts

(i) *Amenity impacts to neighbouring residential properties (overlooking, noise, overshadowing, blocking of views, waste collection, impact to solar panels);*
(ii) *The volume of the office space and associated workers is too large;*
(iii) *Unrestricted hours of operation result in significant noise, light and traffic disturbance to residential properties;*
(iv) *The development will block views of Richmond Hill and will dominate the skyline;*
(v) *The development fails to include public open space, failing to comply the "City of Yarra Strategic Framework Plan"; and*
(vi) *Wind impacts along the street.*

240. Off-site amenity impacts to neighbouring residential properties in terms of noise have been addressed at paragraphs 201 – 207, overlooking at paragraphs 211 - 212, and overshadowing at paragraphs 214 – 216. Landmarks, views and vistas are discussed within paragraphs 178 – 179. The hours of the office will be restricted as detailed at paragraphs 134 to 142. The development can be made to contribute to the public through a monetary contribution for street trees and a discussion relating to wind impacts has been provided at paragraphs 183 and 186, respectively. The development cannot be made to include public open space on private land as requested by one Objector. Waste collection will be handled by a private contractor as discussed at paragraph 219 and 220.

(a) *Traffic and Car Parking*

(i) *Too many car parks provided on-site, additional traffic cannot be supported within local road network; and*
(ii) *Not enough car parks provided on-site, the on-street car parking is already at capacity and cannot cater to overflow from development.*

241. Traffic and car parking has been addressed at paragraphs 221 to 237.

(a) *Other*

(i) *Behavioural impacts from office workers (i.e. littering and smoking in the street);*
(ii) *The development is poorly sited and has not been considered in combination with the development at property No. 45 Wangaratta Street;*
(iii) *The traffic report fails to consider the development at property No. 45 Wangaratta Street;*
(iv) *The development at property No. 45 Wangaratta Street should not become a precedent for the proposed development;*
(v) *Construction will cause significant disruption as the development will require significant excavation. The latter is also disconcerting in the absence of a toxicology study;*
(vi) *The surrounding streets cannot accommodate movement of large vehicles during the construction phase;*
(vii) *Health and wellbeing impact of multiple properties on Wangaratta Street being developed at the same time;*
(viii) *The site is not located within the Swan Street Activity Centre or Burnley, Cremorne and South Richmond;*
(ix) *The development is sited in an area that is targeted by graffiti regularly;*
(x) *Access for ambulances, fire brigade and police vehicles inadequate; and*
(xi) *The proposed development may overload existing infrastructure services.*

242. The development is considered to be well sited in terms of its location with readily available resources and services and within proximity to the Melbourne CBD. Behavioural related matters of staff is not a planning consideration and is a matter for the police. However, it is in the interest of staff to abide by proper rules and conduct themselves in a manner that is respectful of their neighbours. The proposed development has been considered in isolation of the adjoining property pending for review by the VCAT but has acknowledged this.

243. Conditions will require a Construction Management Plan addressing matters of construction and excavation. It is acknowledged that the site is not located in the *Swan Street Activity Centre* but is located close by. Graffiti is also a policing matter but a condition will require a Façade Strategy and Materials and Finishes Plan that includes graffiti proofing of ground level walls to the street. The site can adequately be serviced by emergency vehicles no differently from other surrounding sites that rely on the same road network, and Councils Engineering Unit has not indicated that the development would overload existing infrastructure services.

Conclusion

244. The proposed development is considered to demonstrate a high level of compliance with policy objectives contained within the Planning Policy Framework and Municipal Strategic Statement. Notably, the proposal achieves the State Government's urban consolidation objectives.

245. The proposal, subject to the conditions recommended, is an acceptable planning outcome that demonstrates clear compliance with the relevant Council policies.

RECOMMENDATION

That having considered all objections and relevant planning policies, the Committee resolves to advise VCAT, the permit applicant and parties to the proceedings, that if it were in a position to, it would have issued a Notice of Decision to Grant a Planning Permit for the demolition of the existing buildings and development of the land to construct a multi-level building for use as office(s) and shop(s) and a reduction in the car parking requirement at 17 – 19, 21 and 23 Wangaratta Street and 68 Tanner Street, Richmond generally in accordance with the plans noted previously as the "decision plans" and subject to the following conditions:

1. Before the development commences, amended plans to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of this permit. The plans must be drawn to scale with dimensions, and three copies must be provided. The plans must be generally in accordance with the plans being Drawings TP050, TP051, TP000, TP100, TP100, TP101, TP102, TP103, TP104, TP105, TP106, TP107, TP108, TP109, TP110, TP200, TP201, TP202, TP203, TP300, TP301 and TP090 – all Revision B prepared by MA Architects Pty Ltd, and issued 12/12/2019 but modified to show:

    (a) All notations referring to 'commercial premises' deleted and replaced with 'office'.
    (b) Reduction of the overall building to a maximum of seven storeys by deleting Level 06 and the following setbacks incorporated:

        (i) Level 06 setback 7m from Wangaratta Street with a portion at Levels 03 and 04 returning to Tanner Street for a maximum length of 10m and setback 3.5m;
        (ii) Levels 03, 04 and 05 (with the exception of the return at Levels 03 and 04) setback 9m and Level 06 setback 12m from Tanner Street;
        (iii) Levels 03, 04 and 05 setback 9m and Level 06 setback 12m from Botherambo Street;

    (c) The lobby at the north-west corner deleted and the entrance to Shop 01 made more prominent.
    (d) The main building entrance revised to ensure that this cannot become a litter trap.
    (e) The deletion of the sliding door at the north-east corner of the ground floor plan and this replaced with shop-front glazing.
    (f) The height of the concrete plinths at the base of the building along Wangaratta and Tanner Streets reduced to approximately 400mm – 450mm above the footpath level.
    (g) The segmented section of street wall at Ground level replaced with glazing and the substation rotated 90 degrees (if possible) to allow for the further street activation of Botherambo Street.
    (h) The seat within the front setback of shop tenancy 02 redesigned and integrated into the façade (i.e. not stand-alone).
    (i) The footpath visitor bicycle parking spaces on the ground floor plan relocated to be shown within the title boundaries, accessible to visitors and when combined with those currently provided, equate to a total of 10 visitor bicycle space on the ground floor.
    (j) Details (with cross-sections provided) of the vehicle crossing to Botherambo Street confirming that the finished level at the building line and the entrance ramp will not result in B99 design vehicles bottoming or scraping out.
    (k) A plan notation confirming that the service cabinet and substation doors will swing 180 degrees and latched to the wall when opened.
    (l) The sight triangle on the north side of the vehicle entrance shown.
    (m) The headroom clearance shown perpendicular to the vehicle ramp and be no less than 2.1m.
    (n) A schedule of all materials and finishes including colours that includes graffiti proofing of walls and a patterned colour finish across the on-boundary upper levels walls exposed to the south.

(o) The ramp and transition grades of the vehicle access ramp dimensioned on the drawings.
(p) Any requirement of the endorsed Detailed Design Plan (condition 2) (where relevant to show on plans).
(q) Any requirement of the endorsed Landscape Plan (condition 5) (where relevant to show on plans).
(r) Any requirement of the endorsed Sustainable Management Plan (condition 9) (where relevant to show on plans).
(s) Any requirement of the endorsed Green Travel Plan (condition 12) (where relevant to show on plans).
(t) Any requirement of the endorsed Waste Management Plan (condition 14) (where relevant to show on plans).
(u) Any requirement of the endorsed Acoustic Report (condition 17) (where relevant to show on plans including notations of key commitments).
(v) Any requirement of the endorsed Wind Assessment Report (condition 20) (where relevant to show on plans).

2. In conjunction with the submission of development plans under Condition 1, a Façade Strategy and Materials and Finishes Plan to the satisfaction of the Responsible Authority must be submitted to and be approved by the Responsible Authority. When approved, the Façade Strategy and Materials and Finishes Plan will be endorsed and will then form part of this permit. This must detail:

(a) elevations at a scale of 1:20 illustrating typical podium details, entries and doors;
(b) section drawings to demonstrate façade systems, including fixing details and joints between materials or changes in form;
(c) information about how the façade will be maintained, including any vegetation and informal seating; and
(d) a sample board and coloured drawings outlining colours, materials and finishes.

3. The use and development as shown on the endorsed plans must not be altered (unless the Yarra Planning Scheme specifies that a permit is not required) without the prior written consent of the Responsible Authority.

4. As part of the ongoing progress and development of the site, MA Architects Pty. Ltd. or an architectural firm to the satisfaction of the Responsible Authority must be engaged to:

(a) oversee design and construction of the development; and
(b) ensure the design quality and appearance of the development is realised as shown in the endorsed plans or otherwise to the satisfaction of the Responsible Authority.

Use

5. Except with the prior written consent of the Responsible Authority, the office use authorised by this permit may only operate between the following hours:

(a) Monday to Friday7.00am – 10.00pm.
(b) Saturday and Sunday 8.00am – 8.00pm.

6. Except with the prior written consent of the Responsible Authority, the use of the office terraces are restricted to the hours referenced within Condition 22 with no more than one (1) evening per month by gatherings of more than 25 people.

7. No speakers external to the building within the terraces are to be erected or used.

8. Except with the prior written consent of the Responsible Authority, the shop use authorised by this permit may only operate between the following hours:

(a) Monday to Sunday 7.00am – 7.00pm.

9. The amenity of the area must not be detrimentally affected by the use or development, including through:

(a) the transport of materials, goods or commodities to or from land;
(b) the appearance of any buildings, works or materials;
(c) the emission of noise, artificial light, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil, or
(d) the presence of vermin.

to the satisfaction of the Responsible Authority.

10. Except with the prior written consent of the Responsible Authority, delivery and collection of goods to and from the land may only occur between 7am and 10pm on any day.

Landscape Plan

11. Concurrent with the plans requested at Condition 1, a Landscape Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Landscape Plan will be endorsed and will form part of this permit. The Landscape Plan must show:

(a) make reference to design changes as required by Condition 1 and include additional landscaping at the entrances to the building and at Level 04, along the northern interface.
(b) The landscaping on any of the upper levels and how this is going to be maintained, including information on waterproofing, growing media, irrigation and mulch. Details of how any mulch specified on the higher levels will not be at risk of blowing away during high wind events must be provided.
(c) Indicate depths of the masonry planters where they have not been specified on the current plans.
(d) Details of custom furniture proposed, ensuring safety and compliance standards are met.

12. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, the landscaping works shown on the endorsed Landscape Plan must be carried out and completed to the satisfaction of the Responsible Authority. The landscaping shown on the endorsed Landscape Plan must be maintained by:

(a) implementing and complying with the provisions, recommendations and requirements of the endorsed Landscape Plan;
(b) not using the areas set aside on the endorsed Landscape Plan for landscaping for any other purpose; and
(c) replacing any dead, diseased, dying or damaged plants,

to the satisfaction of the Responsible Authority.

13. Before the development commences, the permit holder must make a one off contribution of $2,820.15 to the Responsible Authority to be used for new street tree plantings that are required as a result of the development.

14 Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, three street trees must be installed within Botherambo Street:

(a) at the permit holder's cost; and
(b) in a location and manner,

to the satisfaction of the Responsible Authority.

Sustainable Management Plan

15. Concurrent with the plans requested at Condition 1, an amended Sustainable Management Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Sustainable Management Plan will be endorsed and will form part of this permit. The amended Sustainable Management Plan must be generally in accordance with the Sustainable Management Plan prepared ADP Consulting dated 01 November 2019 but modified to make reference to design changes as required by Condition 1 and include the following details

    (a) Additional shading treatments to the north and west façade of the building.
    (b) At least 5% of car parks to be EV ready or wired.
    (c) The BESS report to remove any reference to TVOC as an innovation point.
    (d) Reference to the reuse and recycling of materials in the scheme.
    (e) An evaluation how the design choices have reduced embodied energy (particularly of steel and concrete).
    (f) Demonstration of how material and landscape choices reduce the urban heat island effect.
    (g) Information on how the DHW systems manage the risk of microbial contamination.
    (h) A target through the CWMP of at least 80%.

16. The provisions, recommendations and requirements of the endorsed Sustainable Management Plan must be implemented and complied with to the satisfaction of the Responsible Authority.

17. Before the development is occupied, a report from the author of the Sustainability Management Plan, approved under this permit, or similarly qualified person or company, must be submitted to the Responsible Authority. The report must be to the satisfaction of the Responsible Authority and must confirm all measures specified in the Sustainability Management Plan have been implemented in accordance with the approved plan.

Green Travel Plan

18. Concurrent with the plans requested at Condition 1, an amended Green Travel Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Green Travel Plan will be endorsed and will form part of this permit. The amended Green Travel Plan must be generally in accordance with the Green Travel Plan prepared by Ratio Consultants Pty. Ltd. dated October 2019, but modified to make reference to:

    (a) Description of the location in the context of alternative modes of transport;
    (b) Employee welcome packs (e.g. provision of Myki/transport ticketing);
    (c) Sustainable transport goals linked to measurable targets, performance indicators and monitoring timeframes;
    (d) A designated ‘manager’ or ‘champion’ responsible for co-ordination and implementation;
    (e) Details of bicycle parking and bicycle routes;
    (f) Details of GTP funding and management responsibilities;
    (g) The types of bicycle storage devices proposed to be used for employee and visitor spaces (i.e. hanging or floor mounted spaces);
    (h) Security arrangements to access the employee bicycle storage spaces;
    (i) Signage and wayfinding information for bicycle facilities and pedestrians pursuant to Australian Standard AS2890.3; and
    (j) Provisions for the GTP to be updated not less than every five years.

19. The provisions, recommendations and requirements of the endorsed Green Travel Plan must be implemented and complied with to the satisfaction of the Responsible Authority.

Waste Management Plan

20. Concurrent with the plans requested at Condition 1, an amended Waste Management Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Waste Management Plan will be endorsed and will form part of this permit. The Waste Management Plan must be amended to include any changes to the building as required at Condition 1 of this permit.

21. The provisions, recommendations and requirements of the endorsed Waste Management Plan must be implemented and complied with to the satisfaction of the Responsible Authority.

22. The collection of waste from the site must be by private collection, unless with the prior written consent of the Responsible Authority.

Acoustic Report

23. Concurrent with plans requested at Condition 1, an amended Acoustic Report to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Acoustic Report will be endorsed and will form part of this permit. The amended Acoustic Report must be generally in accordance with the Acoustic Report prepared by AECOM and dated 23 October 2019, but modified to include / make reference to:

    (a) Sleep disturbance targets for the car park door, providing an acoustic specification for achieving the targets such that sleep disturbance levels will be met at the closest dwelling.
    (b) Make reference to the hours of operation of each use as permitted under this planning permit.

24. The provisions, recommendations and requirements of the endorsed Acoustic Report must be implemented and complied with to the satisfaction of the Responsible Authority.

25. Following completion of the development, and prior to its occupation, an updated Acoustic Report to the satisfaction of the responsible authority must be submitted to, and be approved by, the responsible authority. The Acoustic Report must be prepared by a suitably qualified acoustic engineer and must demonstrate compliance of the mechanical plant and car park entrance door with both State Environment Protection Policy (Noise from Commerce, Industry and Trade) No. N-1 and sleep disturbance targets at existing dwellings and any further revisions submitted to the responsible authority. When approved, the Acoustic Report will be endorsed and will then form part of this permit.

Wind Report

26. Concurrent with the plans requested at Condition 1, an amended Wind Assessment Report to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Wind Assessment Report will be endorsed and will form part of this permit. The amended Wind Assessment Report must be generally in accordance with the findings of the Wind Impact Statement prepared by Vipac Engineers and Scientists, dated 01 November 2019, but modified to include (or show):

    (a) A wind tunnel study of the development as amended pursuant to Condition 1.

27. The provisions, recommendations and requirements of the endorsed Wind Assessment Report must be implemented and complied with to the satisfaction of the Responsible Authority.

Road Infrastructure

28. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, any new vehicle crossing must be constructed:

    (a) in accordance with any requirements or conditions imposed by Council;
    (b) Demonstrating satisfactory access into and out of the site with a vehicle ground clearance check using the B99 design vehicle, and be fully dimensioned with actual reduced levels (to three decimal places) as per Council's Vehicle Crossing Information Sheet;
    (c) at the permit holder's cost; and
    (d) to the satisfaction of the Responsible Authority.

29. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, all building works and connections for underground utility services outside the building's frontage must be reconstructed:

    (a) at the permit holder's cost; and
    (b) to the satisfaction of the Responsible Authority.

30. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, any damage to Council infrastructure resulting from the development must be reinstated, including re-sheeting of the footpaths for the entire width of the property (i.e. to Wangaratta, Tanner and Botherambo Streets):

    (a) in accordance with Council's Road Materials Policy - Heritage Overlay Areas
    (b) at the permit holder's cost; and
    (c) to the satisfaction of the Responsible Authority.

31. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority the relocation of any service poles, structures or pits necessary to facilitate the development must be undertaken:

    (a) at the permit holder's cost; and
    (b) to the satisfaction of the Responsible Authority.

Car parking

32. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, the area set aside on the endorsed plans for the car parking spaces, access lanes, driveways and associated works must be:

    (a) constructed and available for use in accordance with the endorsed plans;
    (b) formed to such levels and drained so that they can be used in accordance with the endorsed plans;
    (c) treated with an all-weather seal or some other durable surface; and
    (d) line-marked or provided with some adequate means of showing the car parking spaces;

    to the satisfaction of the Responsible Authority.

Lighting

33. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, external lighting capable of illuminating access to the pedestrian and vehicular entrances and internal laneway must be provided on the subject site. Lighting must be:

    (a) located;
    (b) directed;
    (c) shielded; and
    (d) of limited intensity

to the satisfaction of the Responsible Authority.

General

34. Finished floor levels shown on the endorsed plans must not be altered or modified without the prior written consent of the Responsible Authority.

35. Before the building is occupied, any wall located on a boundary facing public property must be treated with a graffiti proof finish to the satisfaction of the Responsible Authority.

36. The development must comply at all times with the State Environment Protection Policy – Control of Noise from Commerce, Industry and Trade (SEPP N-1).

37. The uses must comply at all times with the State Environment Protection Policy – Control of Music Noise from Public Premises (SEPP N-2).

38. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, all new on-boundary walls must be cleaned and finished to the satisfaction of the Responsible Authority.

39. All buildings and works must be maintained in good order and appearance to the satisfaction of the Responsible Authority.

40. All pipes, fixtures, fittings and vents servicing any building on the land must be concealed in service ducts or otherwise hidden from view to the satisfaction of the Responsible Authority.

41. Except with the prior written consent of the Responsible Authority, demolition or construction works must not be carried out:

    (a) Monday-Friday (excluding public holidays) before 7 am or after 6 pm;
    (b) Saturdays and public holidays (other than ANZAC Day, Christmas Day and Good Friday) before 9 am or after 3 pm; or
    (c) Sundays, ANZAC Day, Christmas Day and Good Friday at any time.

Construction Management Plan

42. Before the development commences, a Construction Management Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plan will be endorsed and will form part of this permit. The plan must provide for:

    (a) a pre-conditions survey (dilapidation report) of the land and all adjacent Council roads frontages and nearby road infrastructure;
    (b) works necessary to protect road and other infrastructure;
    (c) remediation of any damage to road and other infrastructure;
    (d) containment of dust, dirt and mud within the land and method and frequency of clean up procedures to prevent the accumulation of dust, dirt and mud outside the land,
    (e) facilities for vehicle washing, which must be located on the land;
    (f) the location of loading zones, site sheds, materials, cranes and crane/hoisting zones, gantries and any other construction related items or equipment to be located in any street;
    (g) site security;
    (h) management of any environmental hazards including, but not limited to,:
        (i) contaminated soil;
        (ii) materials and waste;
        (iii) dust;
        (iv) stormwater contamination from run-off and wash-waters;
        (v) sediment from the land on roads;

(vi) washing of concrete trucks and other vehicles and machinery; and
(vii) spillage from refuelling cranes and other vehicles and machinery.

(i) the construction program;
(j) preferred arrangements for trucks delivering to the land, including delivery and unloading points and expected duration and frequency;
(k) parking facilities for construction workers;
(l) measures to ensure that all work on the land will be carried out in accordance with the Construction Management Plan;
(m) an outline of requests to occupy public footpaths or roads, or anticipated disruptions to local services;
(n) an emergency contact that is available for 24 hours per day for residents and the Responsible Authority in the event of relevant queries or problems experienced;
(o) the provision of a traffic management plan to comply with provisions of AS 1742.3-2002 Manual of uniform traffic control devices - Part 3: Traffic control devices for works on roads;
(p) a Noise and Vibration Management Plan showing methods to minimise noise and vibration impacts on nearby properties and to demonstrate compliance with Noise Control Guideline 12 for Construction (Publication 1254) as issued by the Environment Protection Authority in October 2008. The Noise and Vibration Management Plan must be prepared to the satisfaction of the Responsible Authority.
(q) In preparing the Noise and Vibration Management Plan, consideration must be given to:

(i) using lower noise work practice and equipment;
(ii) the suitability of the land for the use of an electric crane;
(iii) silencing all mechanical plant by the best practical means using current technology;
(iv) fitting pneumatic tools with an effective silencer;
(v) other relevant considerations; and
(vi) any site-specific requirements.

(r) During the construction:

(i) any stormwater discharged into the stormwater drainage system must be in compliance with Environment Protection Authority guidelines;
(ii) stormwater drainage system protection measures must be installed as required to ensure that no solid waste, sediment, sand, soil, clay or stones from the land enters the stormwater drainage system;
(iii) vehicle borne material must not accumulate on the roads abutting the land;
(iv) the cleaning of machinery and equipment must take place on the land and not on adjacent footpaths or roads; and
(v) all litter (including items such as cement bags, food packaging and plastic strapping) must be disposed of responsibly.

Time expiry

43. This permit will expire if:

(a) the development is not commenced within two years of the date of this permit;
(b) the development is not completed within four years of the date of this permit;
(c) the office and shop uses are not commenced within five years of the date of this permit.

The Responsible Authority may extend the periods referred to if a request is made in writing before the permit expires or within six months afterwards for commencement or within twelve months afterwards for completion.

Notes:

This site is subject to a Heritage Overlay. A planning permit may be required for any further external works.

A building permit may be required before development is commenced. Please contact Council's Building Services on 9205 5555 to confirm.

A vehicle crossing permit is required for the construction of the vehicle crossing(s). Please contact Council's Construction Management Branch on 9205 5585 for further information.

Provision must be made for drainage of the site to a legal point of discharge. Please contact Council's Building Services on 9205 5555 for further information.

Areas must be provided inside the property line and adjacent to the footpath to accommodate pits and meters. No private pits, valves or meters on Council property will be accepted.

All future employees within the development approved under this permit will not be permitted to obtain employee or visitor parking permits.

A local law permit (e.g. Asset Protection Permit, Road Occupation Permit) may be required before development is commenced. Please contact Council's Construction Management Branch on Ph. 9205 5555 to confirm.

The applicant must apply for a Legal Point of Discharge under Regulation 133 – Stormwater Drainage of the Building Regulations 2018 from Yarra Building Services unit. Any storm water drainage within the property must be provided and be connected to the nearest Council pit of adequate depth and capacity (legal point of discharge), or to Council's satisfaction under Section 200 of the Local Government Act 1989 and Regulation 133.

Except with the prior written consent of the Responsible Authority, Council assets must not be altered in any way.

No parking restriction signs or line-marked on-street parking bays are to be removed, adjusted, changed or relocated without approval or authorisation from Council's Parking Management unit and Construction Management branch. Any on-street parking reinstated (signs and line markings) as a result of development works must be approved by Council's Parking Management unit.

Only roof runoff, surface water and clean groundwater seepage from above the water table can be discharged into Council drains.

Council will not permit clean groundwater from below the groundwater table to be discharged into Council's drainage system. Basements that extend into the groundwater table must be waterproofed/tanked.

CONTACT OFFICER: **John Theodosakis**
TITLE: **Principal Planner**
TEL: **9205 5307**

Attachments
1 Site location - Aerial
2 Plans - Part 1
3 Plans - Part 2
4 Plans - Part 3
5 Advertising S52 - Waste Management Plan
6 Sustainable Management Plan

7 Traffic Report Part 1
8 Traffic Report Part 2
9 Wind Impact Assessment
10 Acoustic Report
11 Referral advice provided from both internal and external referrals.

Attachment 1 - Site location - Aerial

SUBJECT LAND: 17 – 23 Wangaratta Street and 68 Tanner Street, Richmond



⇧ North

★

Subject Site

Attachment 2 - Plans - Part 1

CITY OF YARRA
13 DEC 2019
RECEIVED



AERIAL PHOTOGRAPH
NTS

17-23 WANGARATTA STREET
RICHMOND

DRAWING LIST

TP000	COVER SHEET
TP002	SURVEY
TP050	DEMO PLAN
TP051	DEMO ELEVATIONS
TP080	EXTERNAL FINISHES
TP100	B02 PLAN
TP101	B01 PLAN
TP102	L00 PLAN
TP103	L01 PLAN
TP104	L02 PLAN
TP105	L03 PLAN
TP106	L04 PLAN
TP107	L05 PLAN
TP108	L06 PLAN
TP109	L07 PLAN
TP110	ROOF PLAN
TP200	ELEVATIONS
TP201	ELEVATIONS
TP202	ELEVATIONS
TP203	ELEVATIONS
TP210	EXISTING STREETSCAPE ELEVATION
TP211	EXISTING STREETSCAPE ELEVATION
TP212	PROPOSED STREETSCAPE ELEVATION
TP213	PROPOSED STREETSCAPE ELEVATION
TP300	SECTIONS
TP301	SECTIONS
TP900	SHADOW DIAGRAMS
TP901	SHADOW DIAGRAMS
TP902	SHADOW DIAGRAMS
TP903	SHADOW DIAGRAMS

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PROJECT SUMMARY

TOTAL SITE AREA 1146m²

LEVEL	GFA	NLA	TERRACE	CARS	BIKES	M'BIKES
BASEMENT 02	1,122	0	0	27	71	4
BASEMENT 01	1,122	0	0	35		1
GROUND	1,830	303	0		10	
LEVEL 01	1,130	992	0			
LEVEL 02	1,131	992	0			
LEVEL 03	940	644	176			
LEVEL 04	796	644	0			
LEVEL 05	796	644	0			
LEVEL 06	796	644	0			
LEVEL 07	641	256	113			
	9,918 m²	5,405 m²	289 m²	46	81	5

NOTES

GFA INCLUDES:
- BASEMENT 02 SWIMMING TANKS
- ROOF TERRACES
- SLAB OVERHANGS
- CORE / AMENITIES

GFA EXCLUDES:
- OUTDOOR ENTRY LOBBIES (GROUND FLOOR)

Number	Revision	Date
1	TP REVIEW	31/05/2019
2	TP REVISED	12/12/2019

Number	Revision	Date

Number	Revision	Date

Number	Revision	Date

General Notes

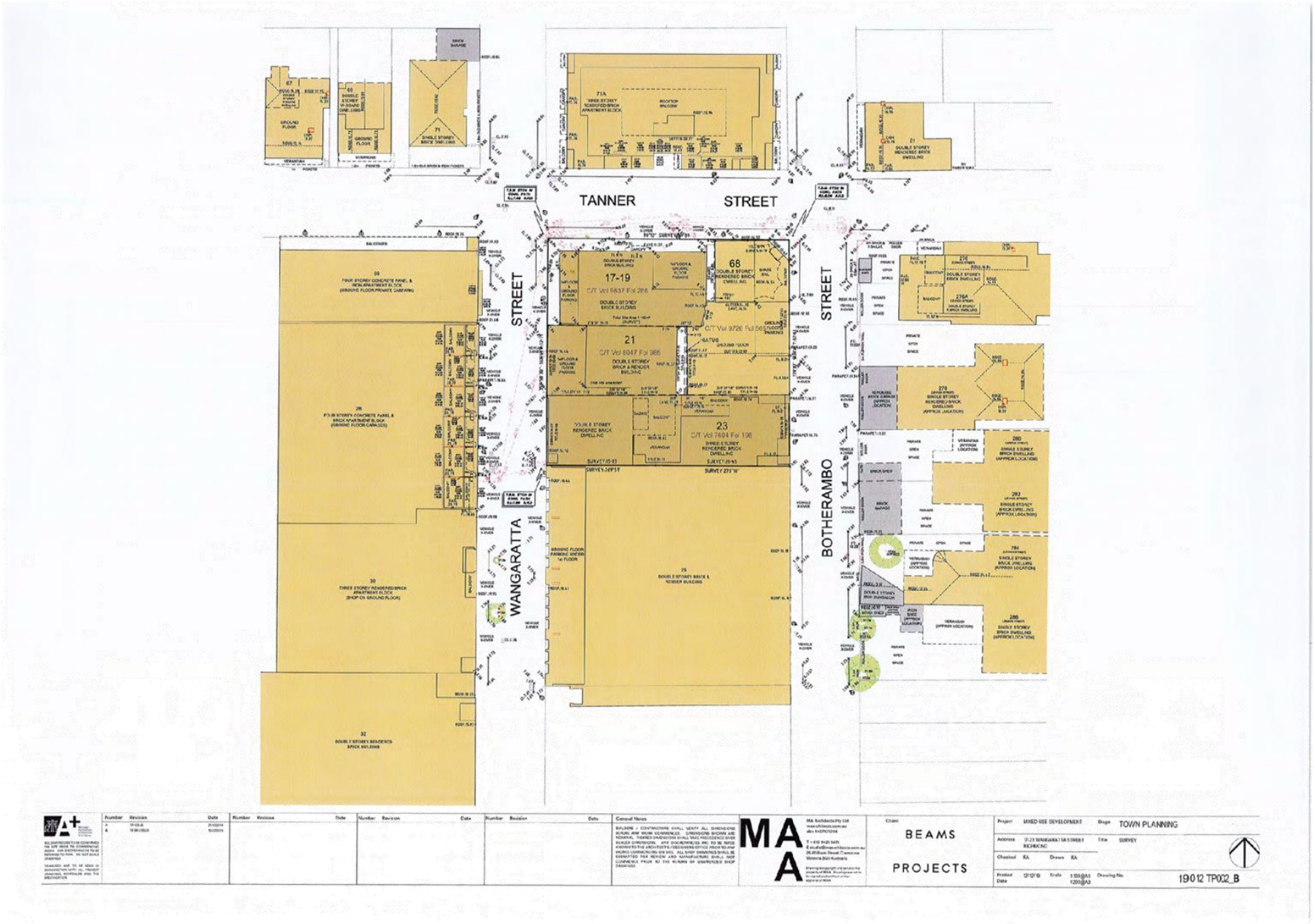
BUILDERS / CONTRACTORS SHALL VERIFY ALL DIMENSIONS BEFORE ANY WORK COMMENCES. DIMENSIONS SHOWN ARE TO BE PREFERRED TO SCALED DRAWINGS. ANY DISCREPANCIES WORLD DIMENSIONS. ANY DISCREPANCIES ARE TO BE MADE KNOWN TO THE ARCHITECTS / DESIGNERS OFFICE PRIOR TO ANY WORKS COMMENCING ON SITE. ALL SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND MANUFACTURE SHALL NOT COMMENCE PRIOR TO THE RETURN OF ENDORSED SHOP DRAWINGS.

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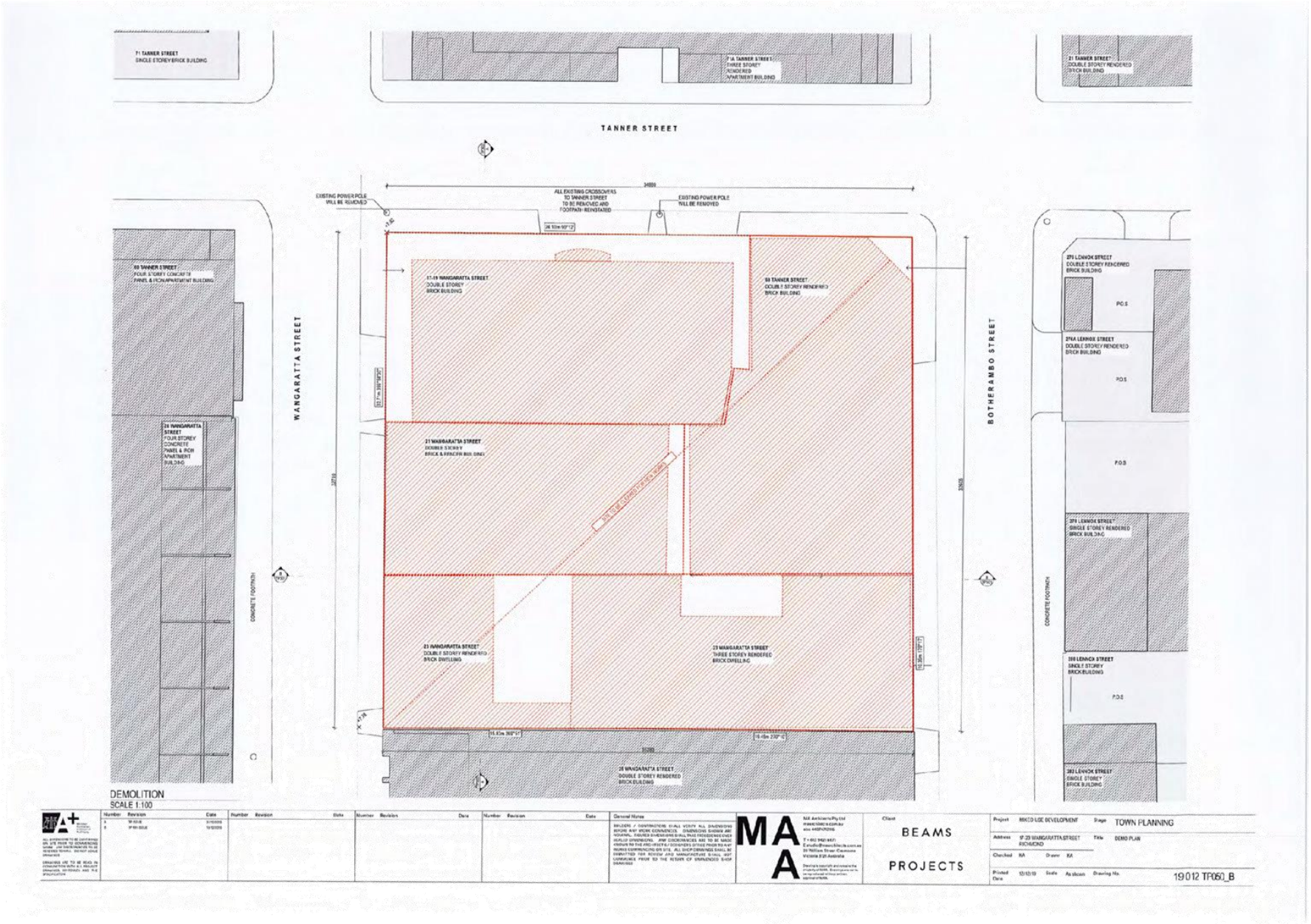
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Drawn: MA
Printed Date: 12/12/19
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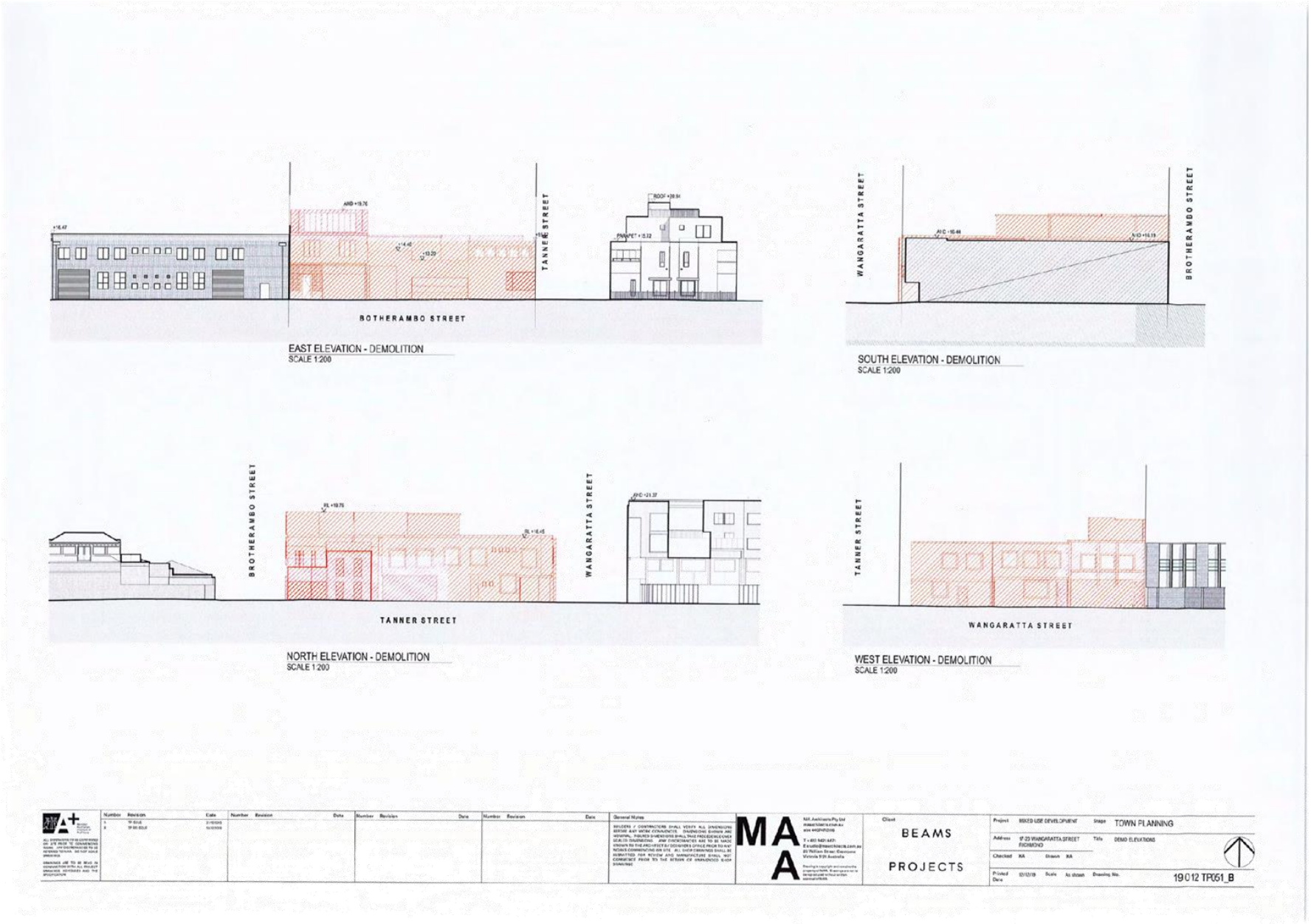
Attachment 2 - Plans - Part 1



Attachment 2 - Plans - Part 1



Attachment 2 - Plans - Part 1

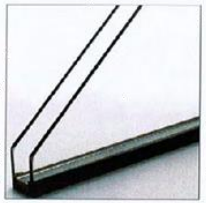


Attachment 2 - Plans - Part 1

EF001 CONCRETE FINISH
EF050 STONE FLOOR TILE
EF075 CLEAR DOUBLE GLAZED GLASS
EF150 GALVANISED STEEL
EF151 PAINTED STEEL
EF160 STONE FINISH
EF170 TIMBER ENTRY DOOR FRAMES


EF001


EF050


EF075


EF150


EF151


EF160


EF170


INDICATIVE MATERIAL PALETTE


INDICATIVE BALUSTRADE & WINDOW DETAILING


INDICATIVE FOYER MATERIAL PALETTE & DETAILING

Number	Revision	Date
A		
B		

General Notes

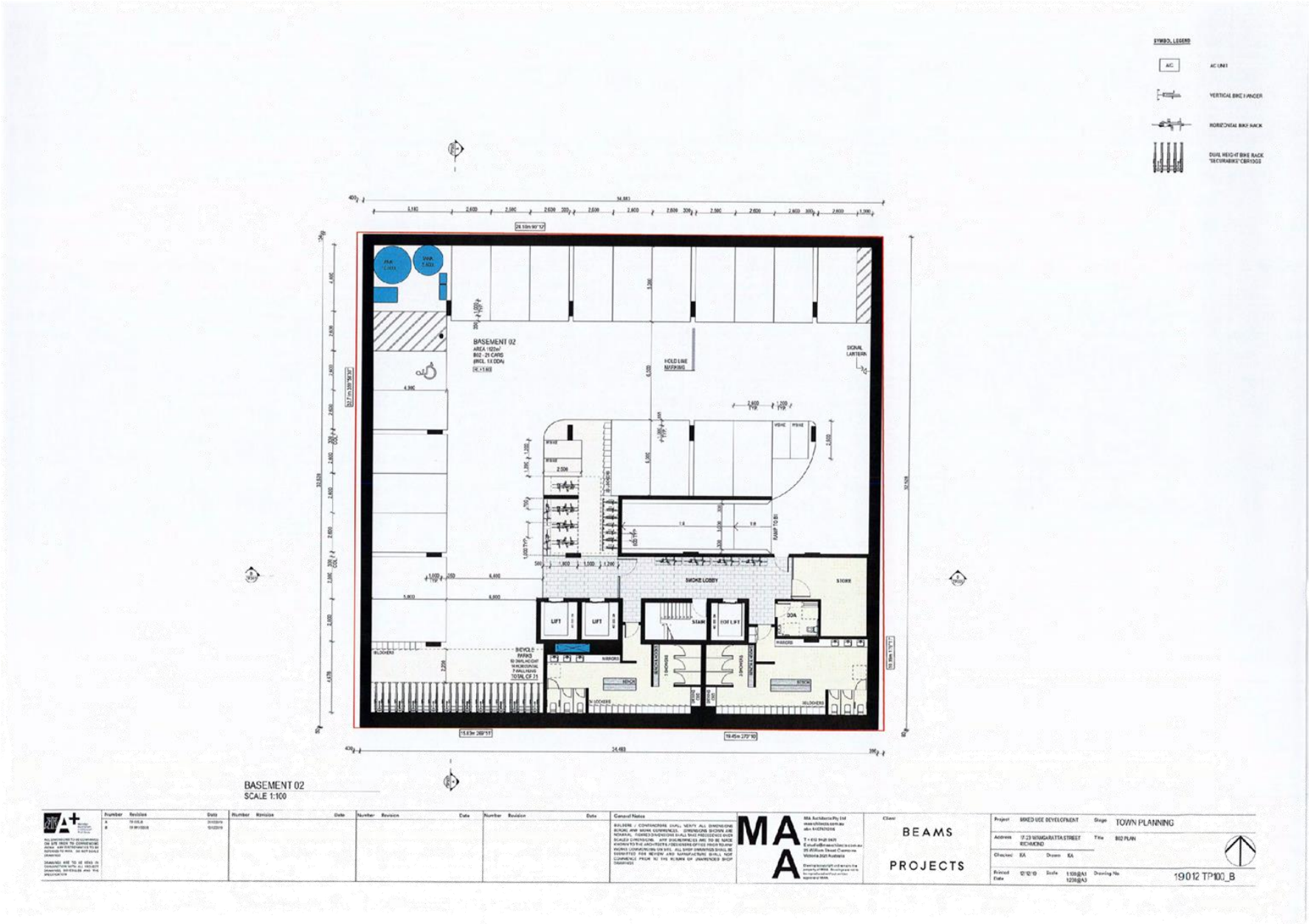
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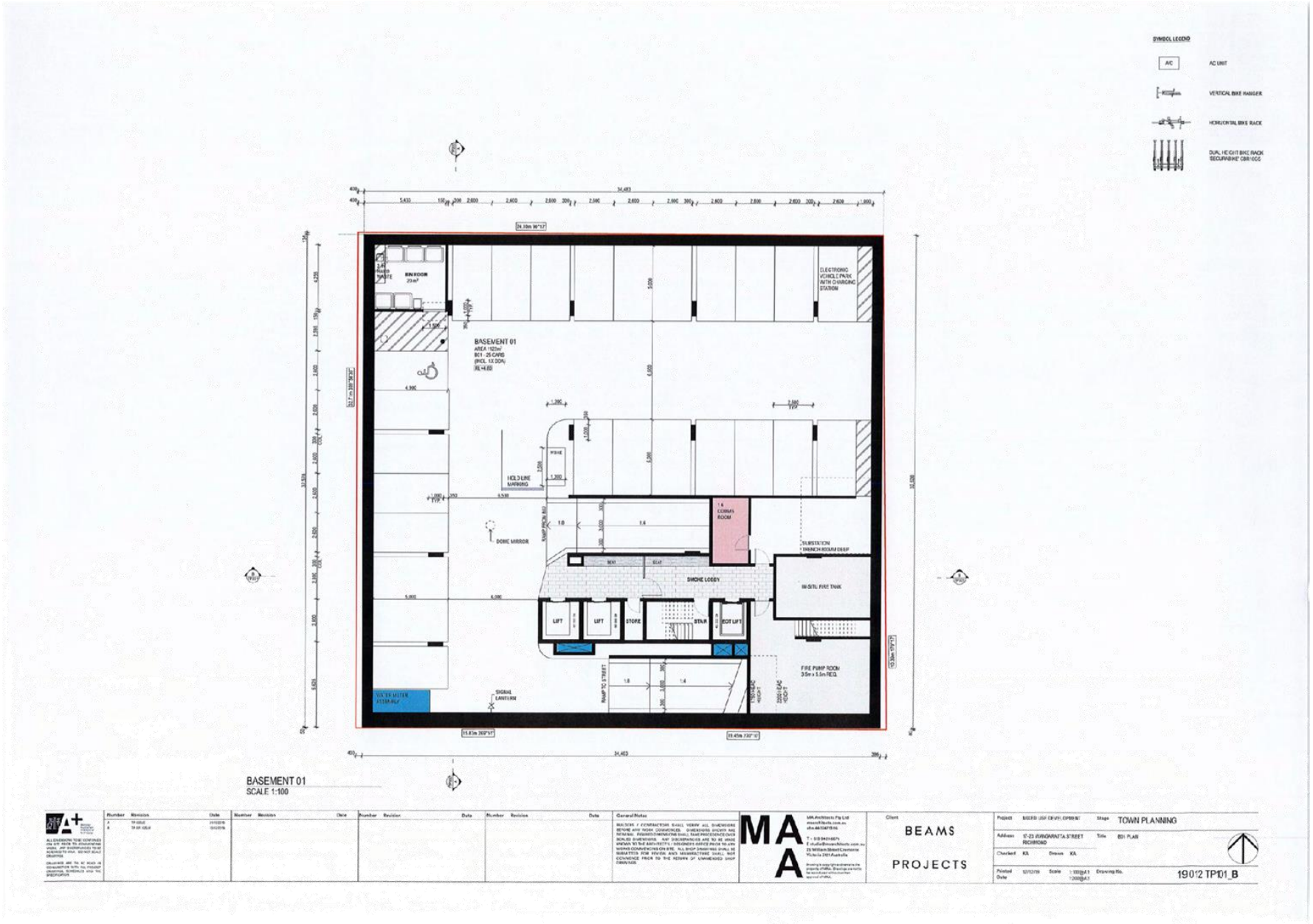
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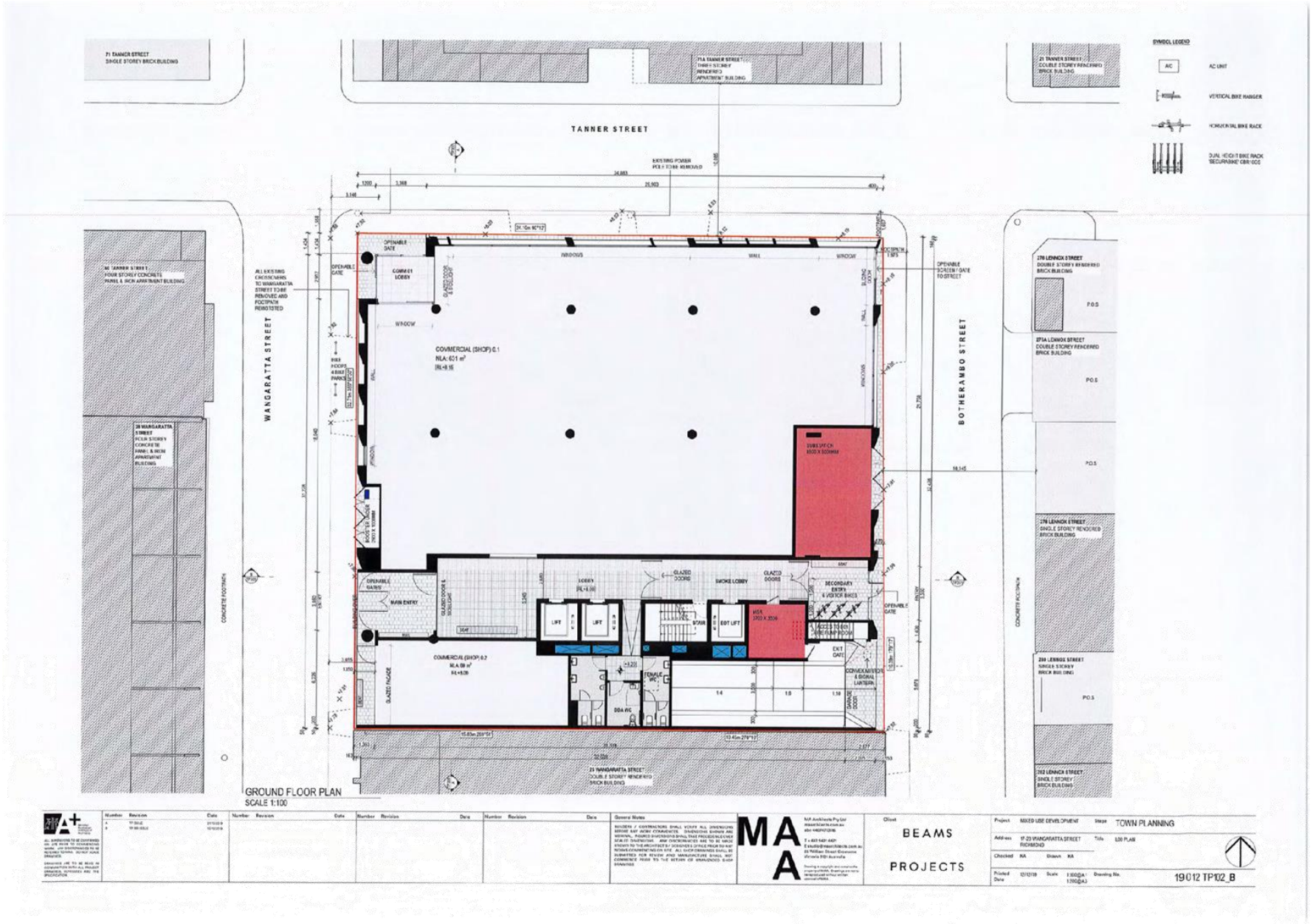
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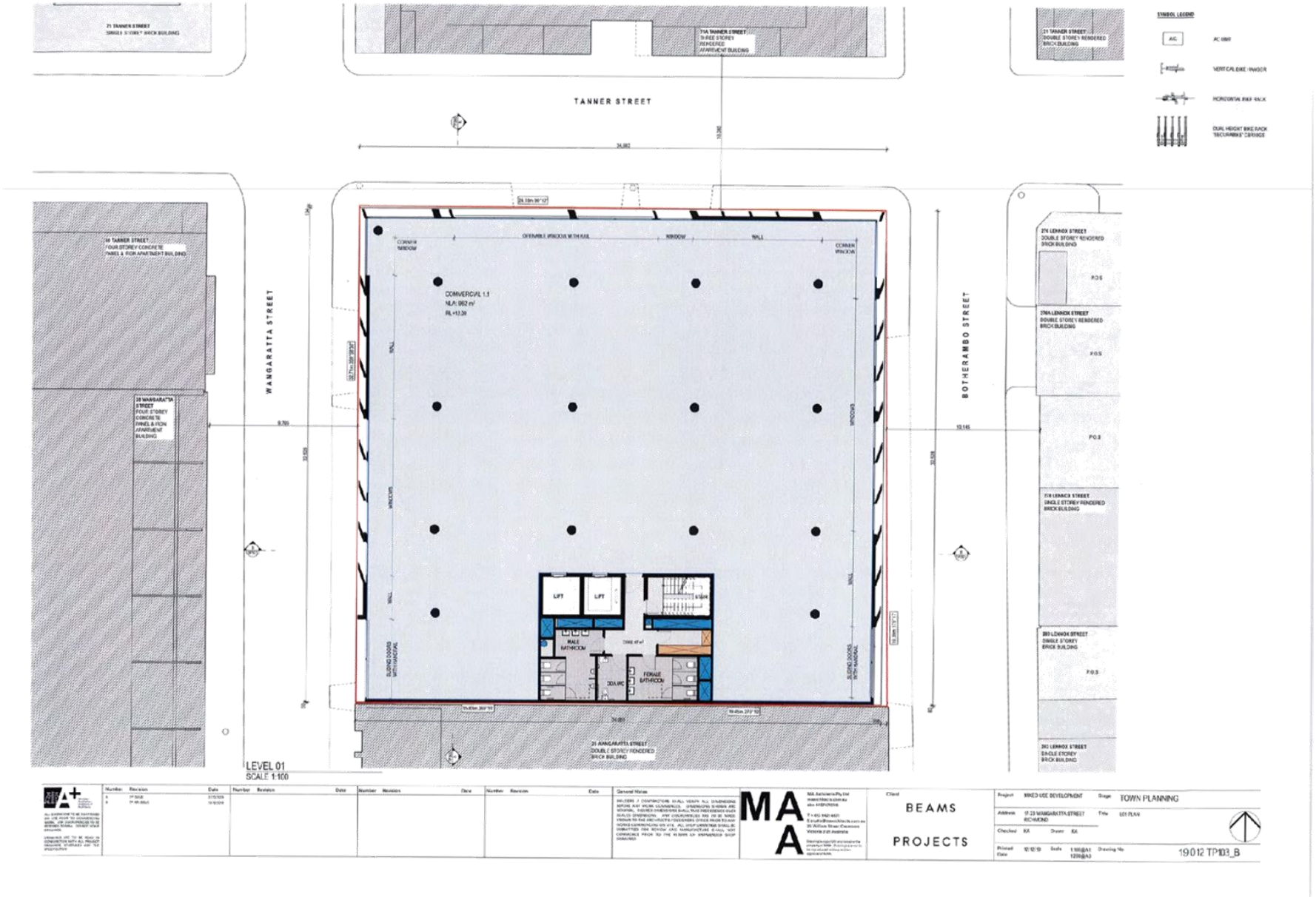
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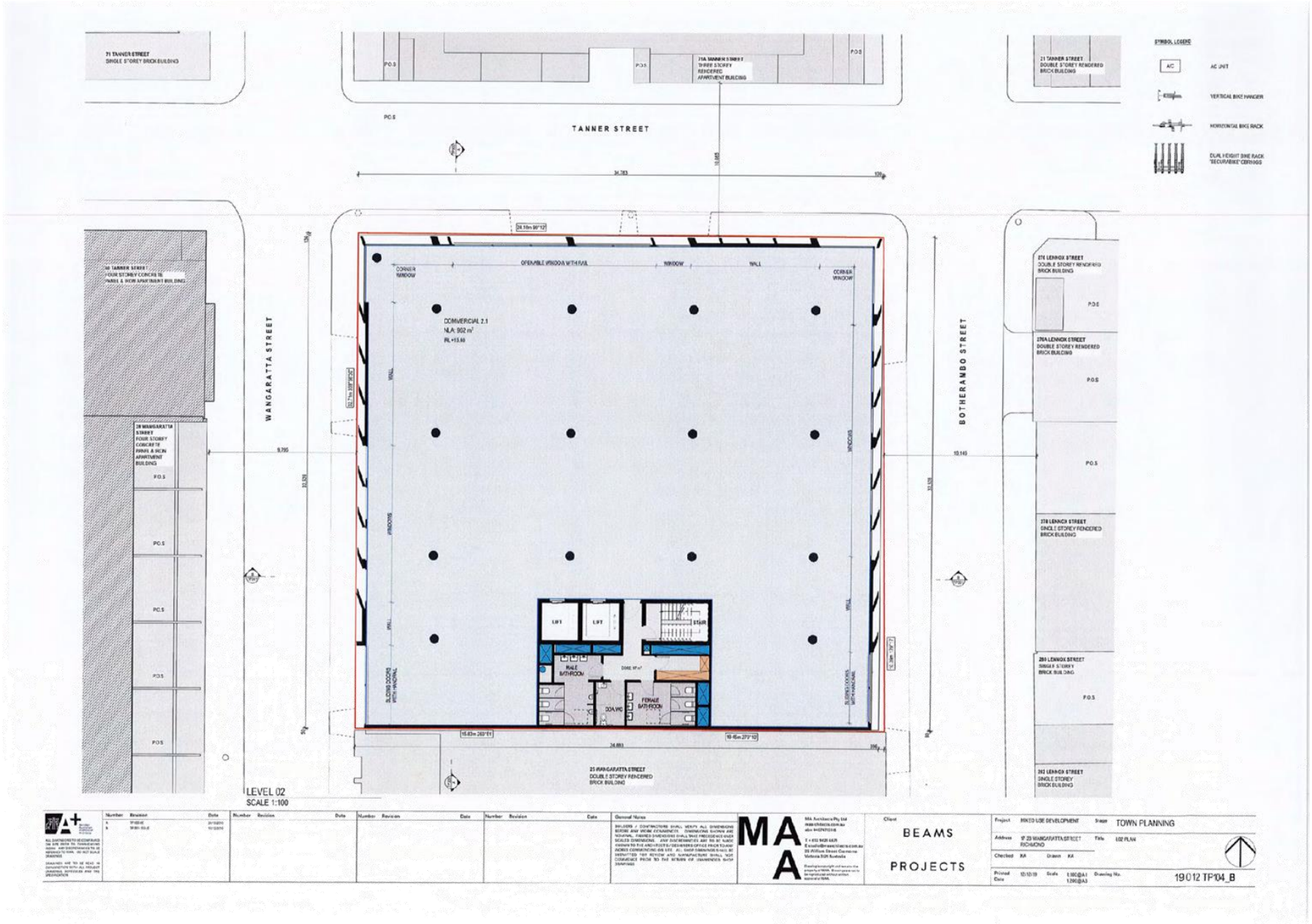
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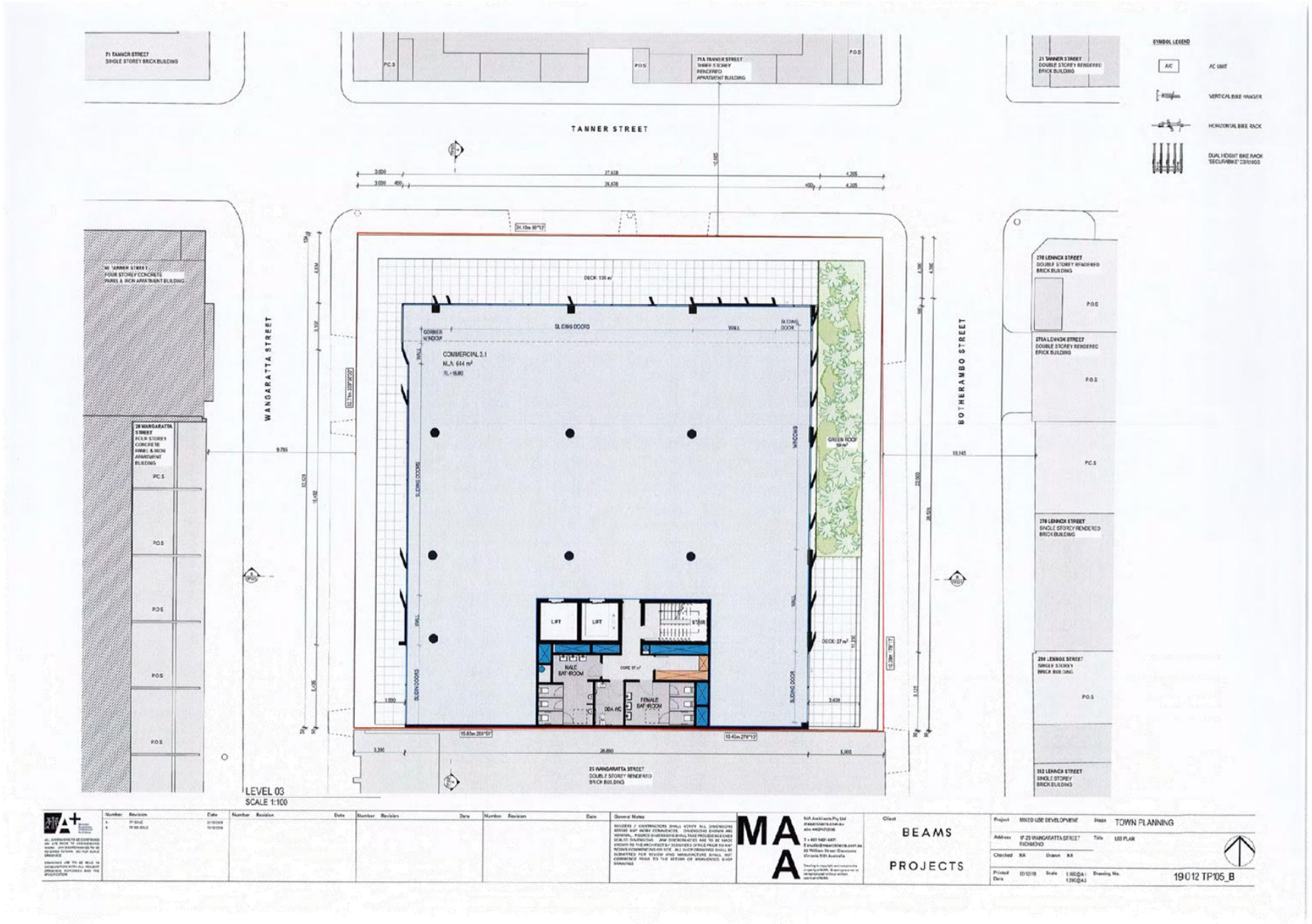
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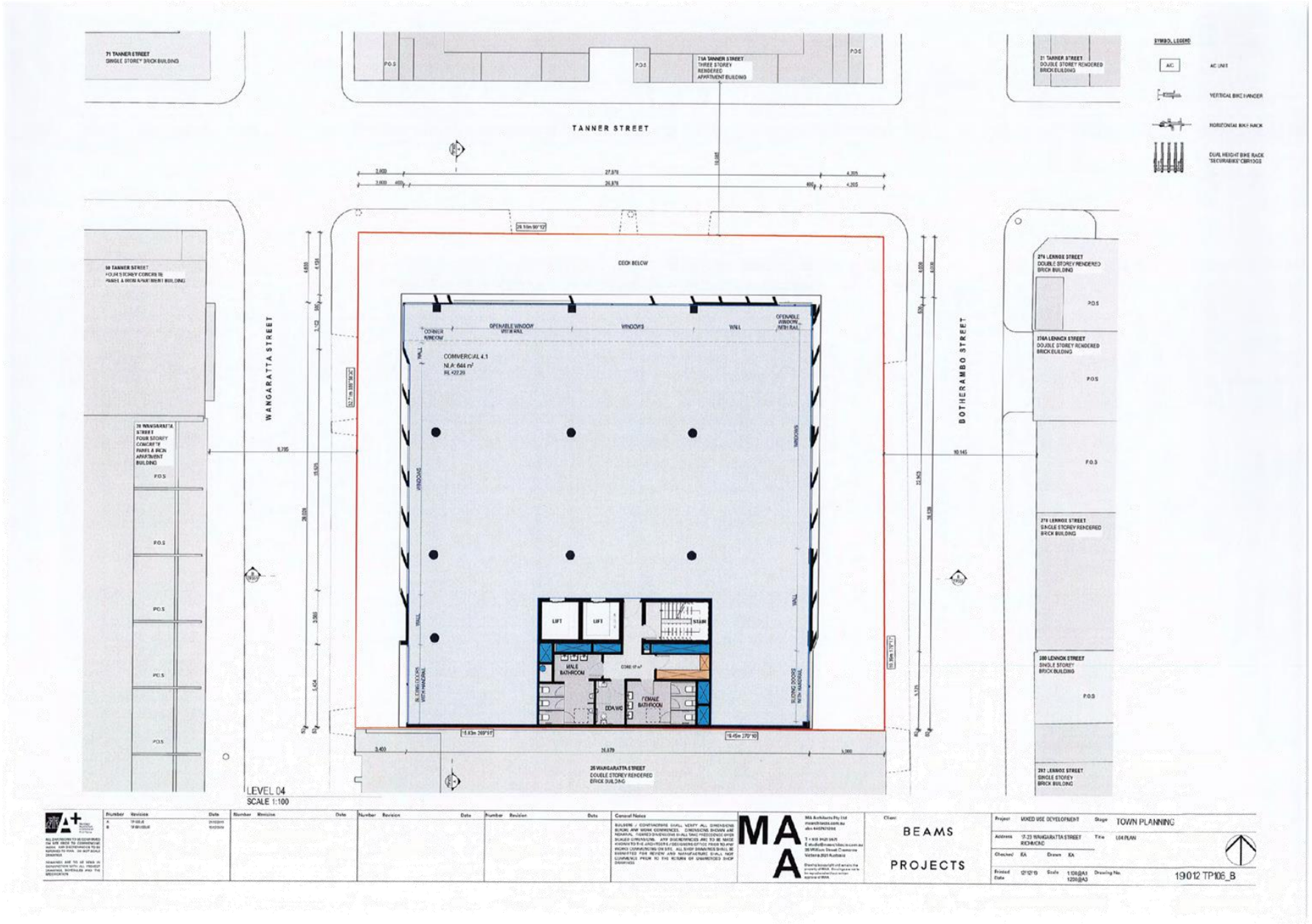
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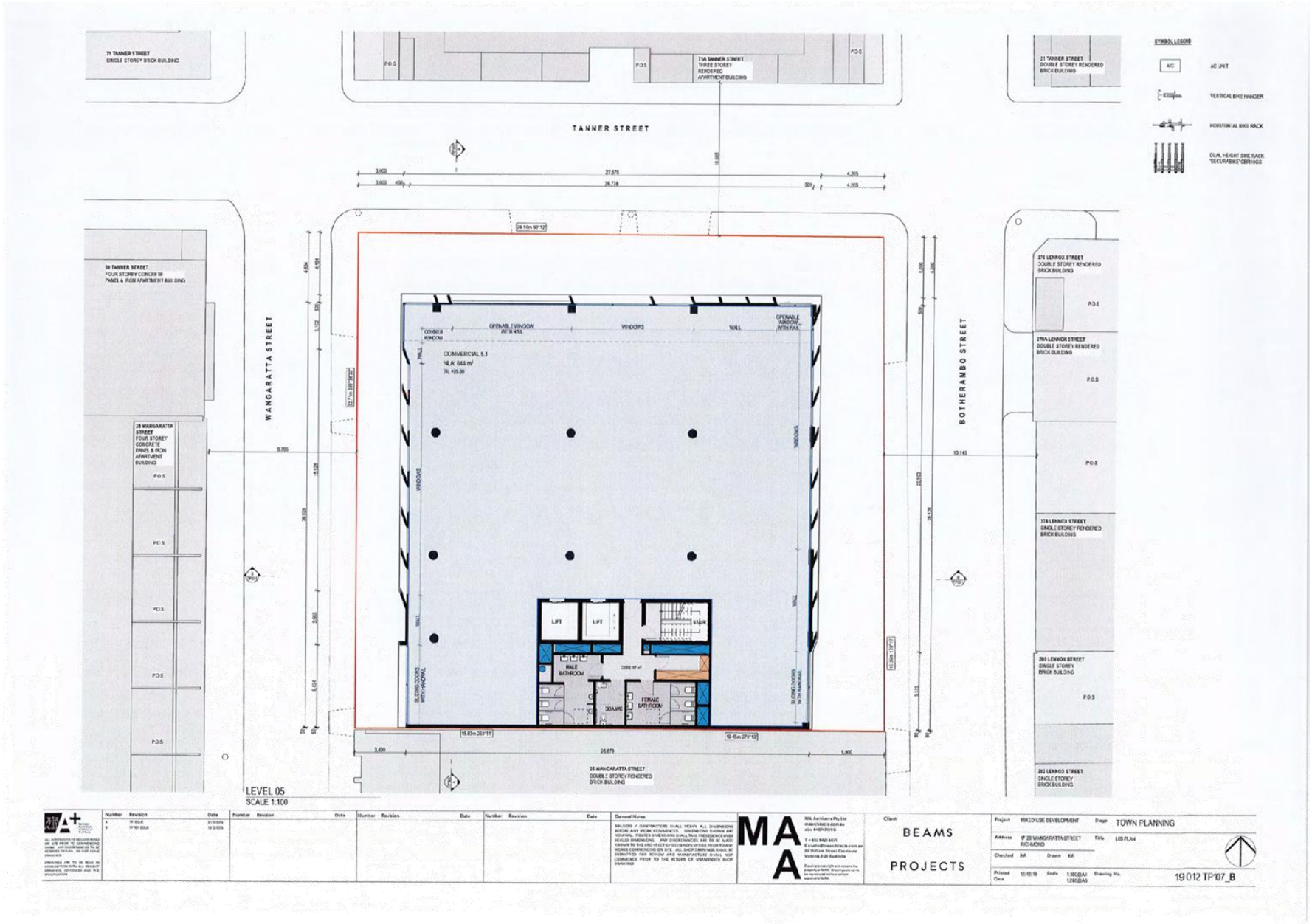
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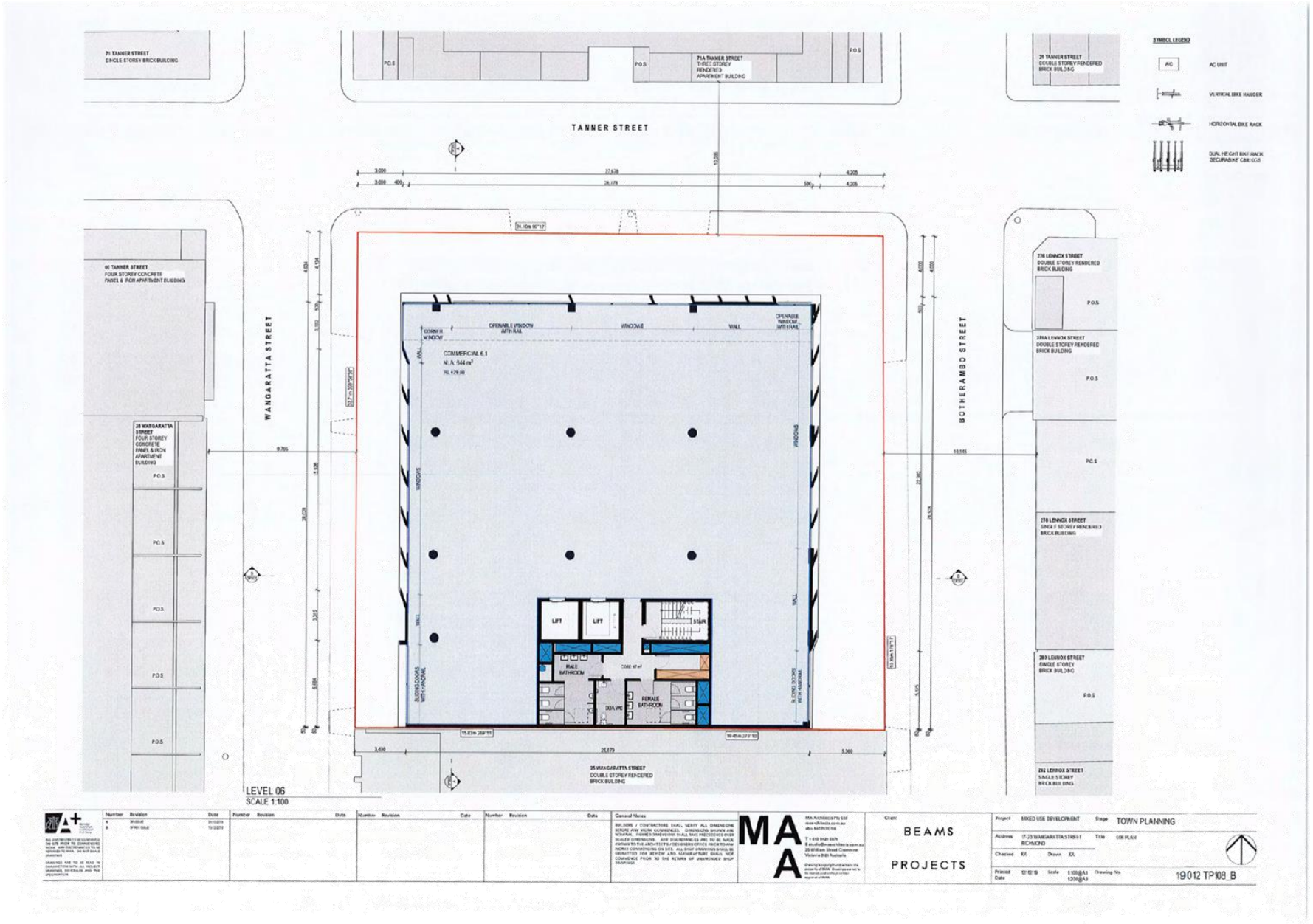
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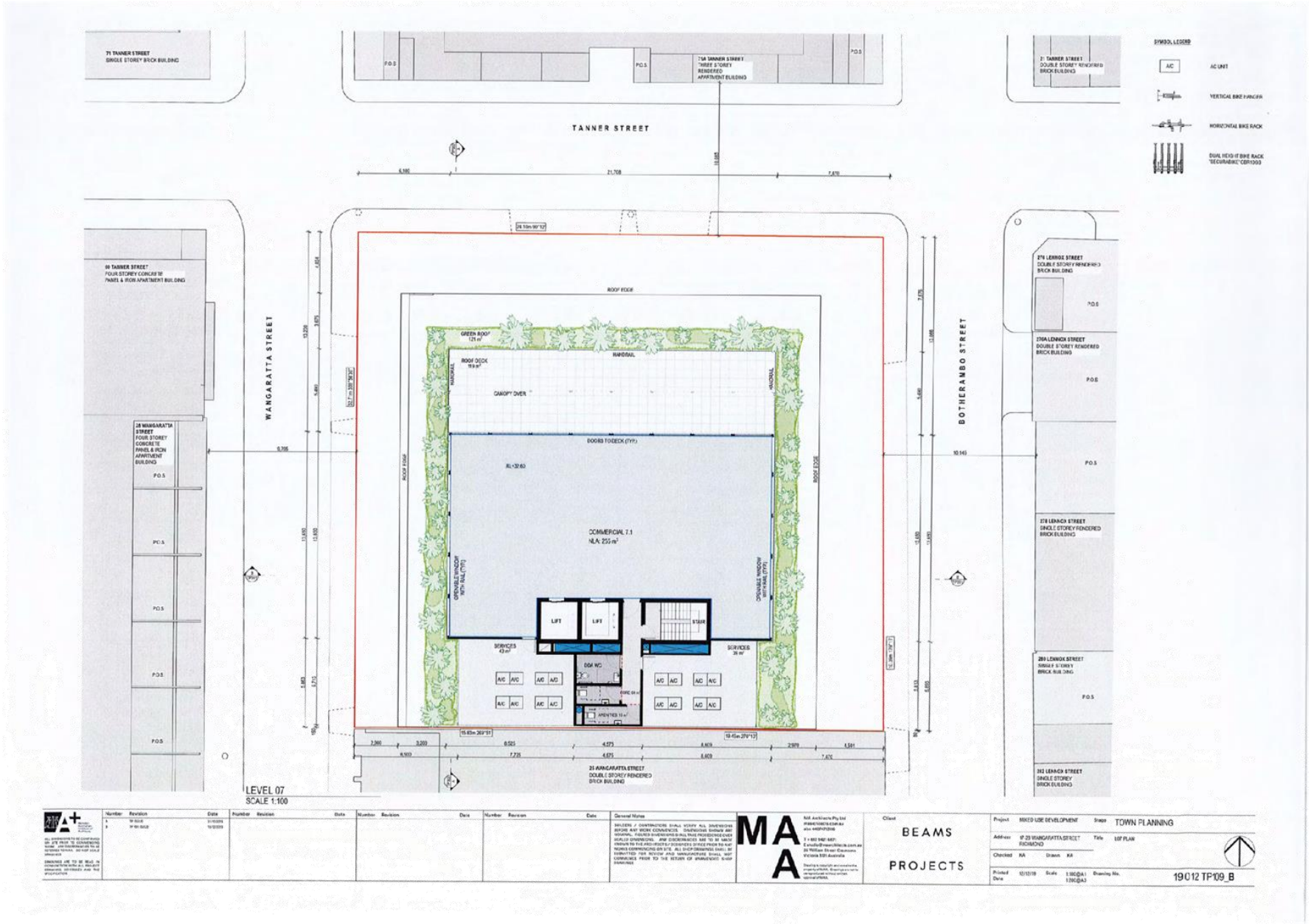
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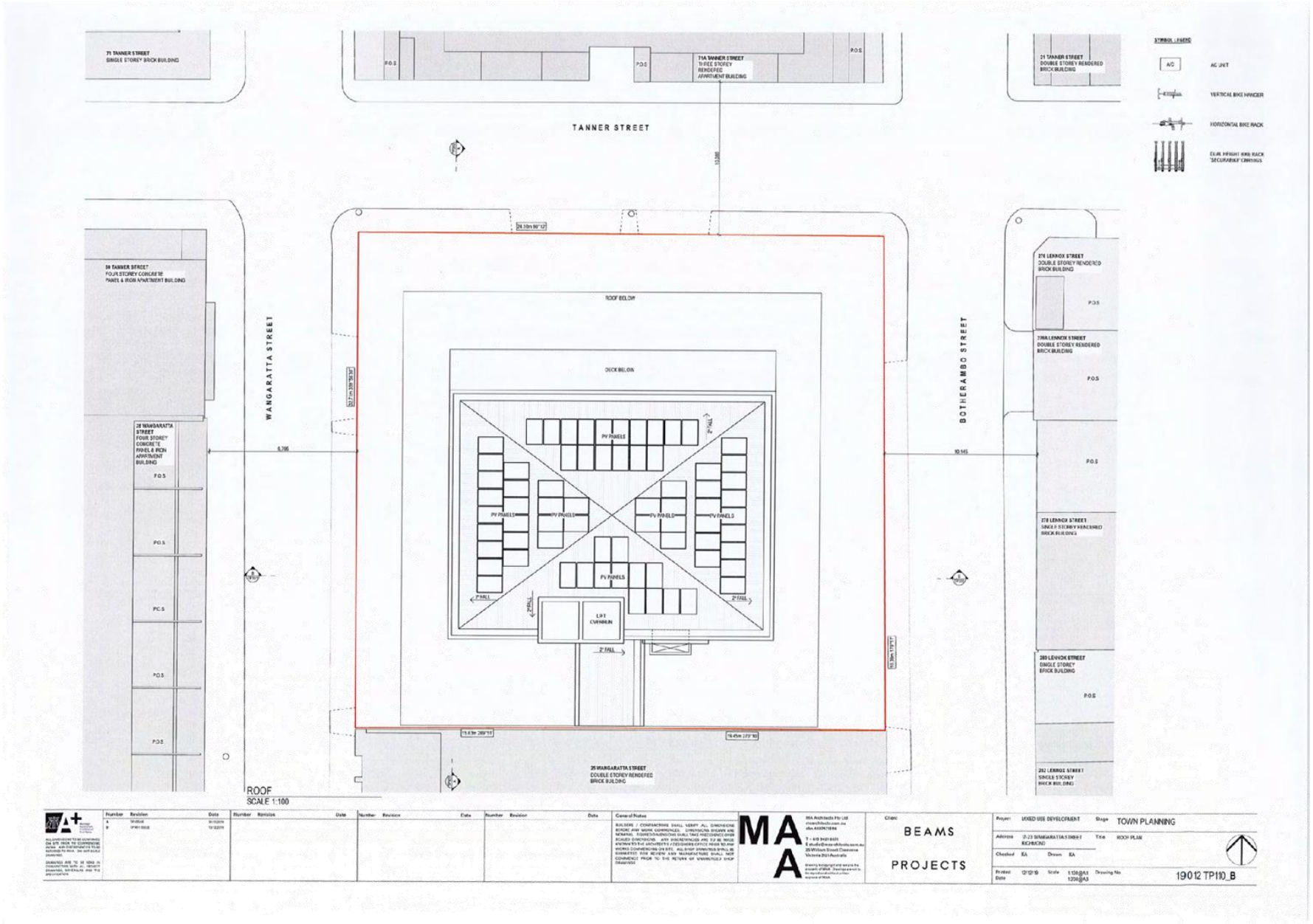
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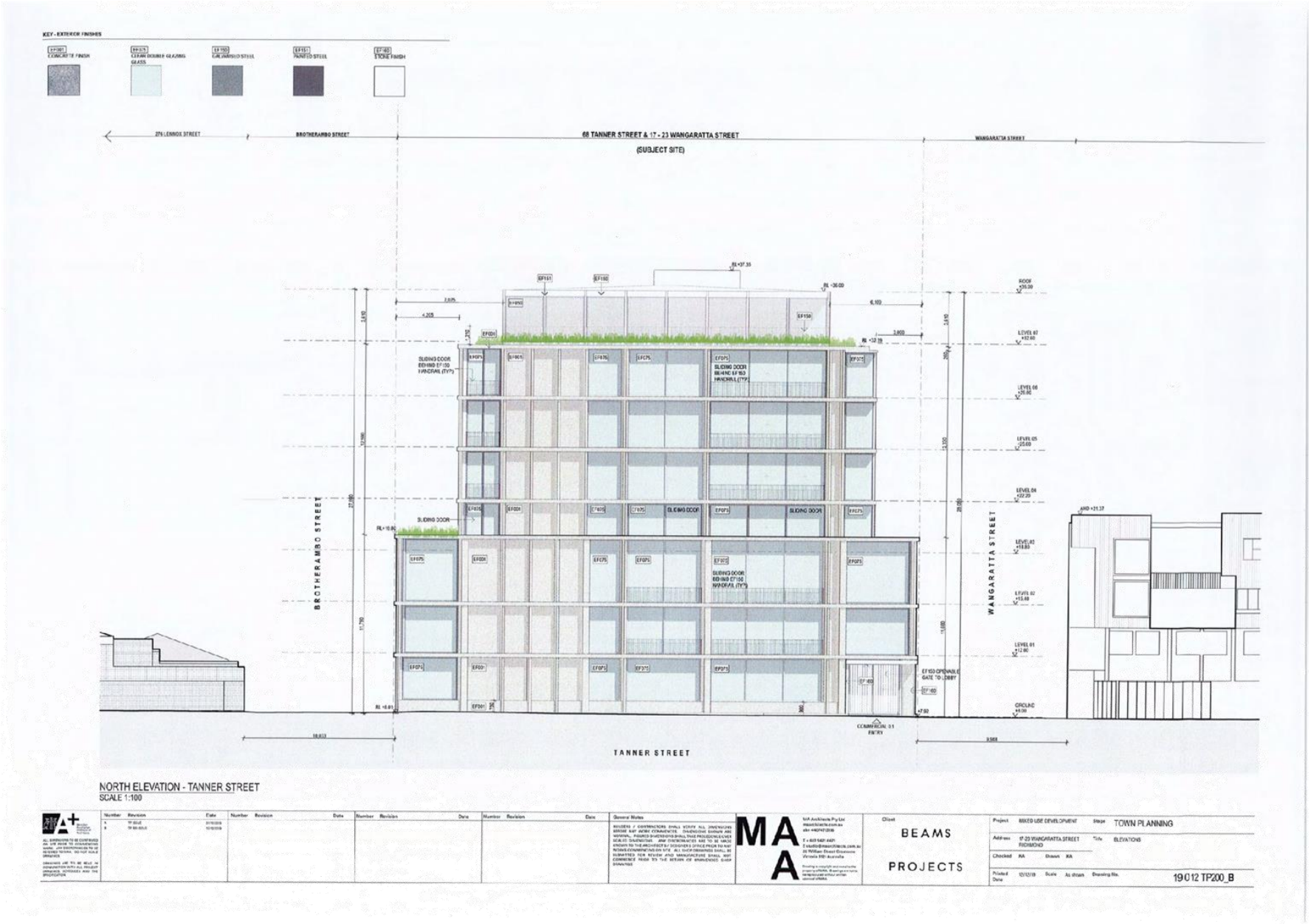
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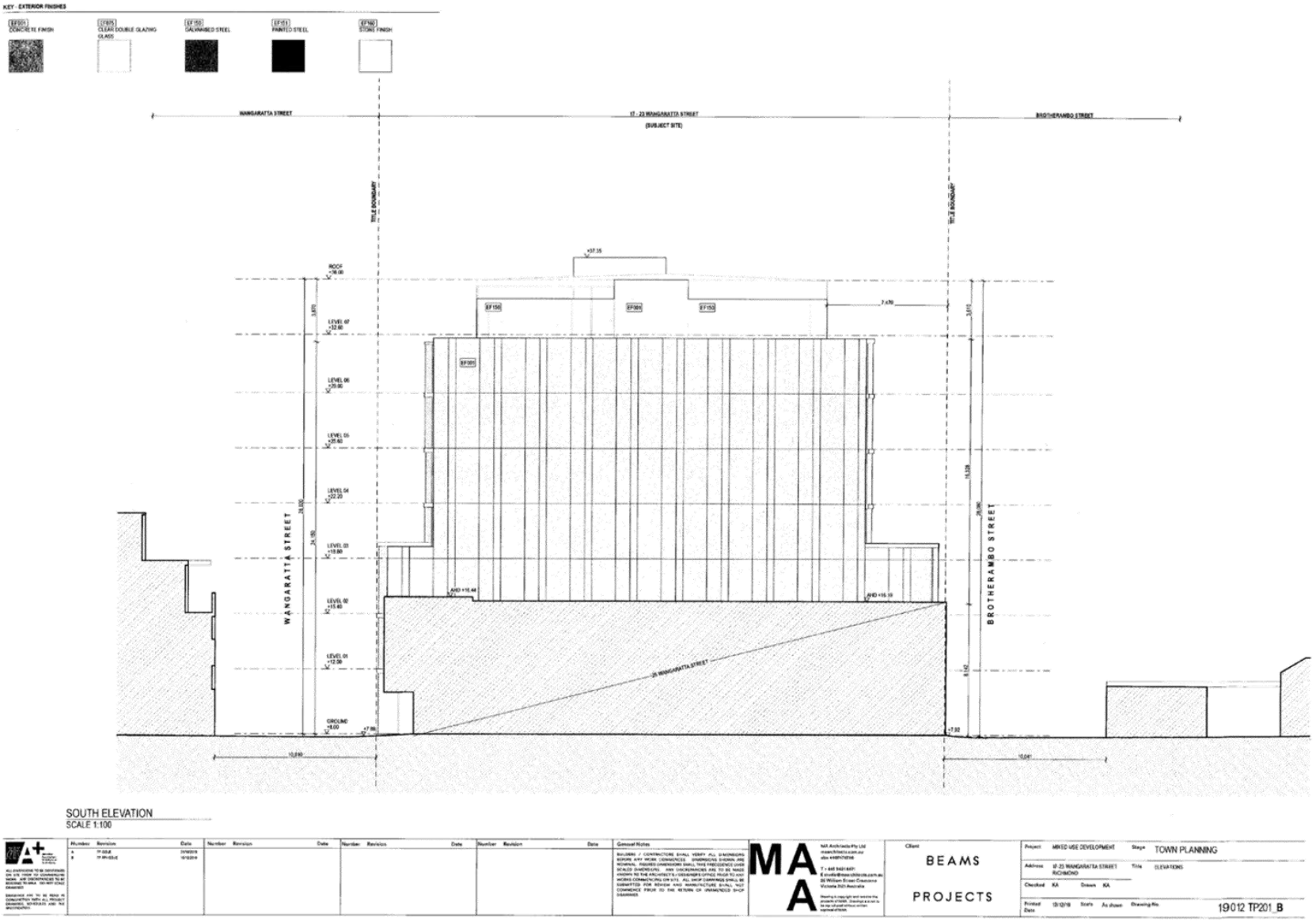
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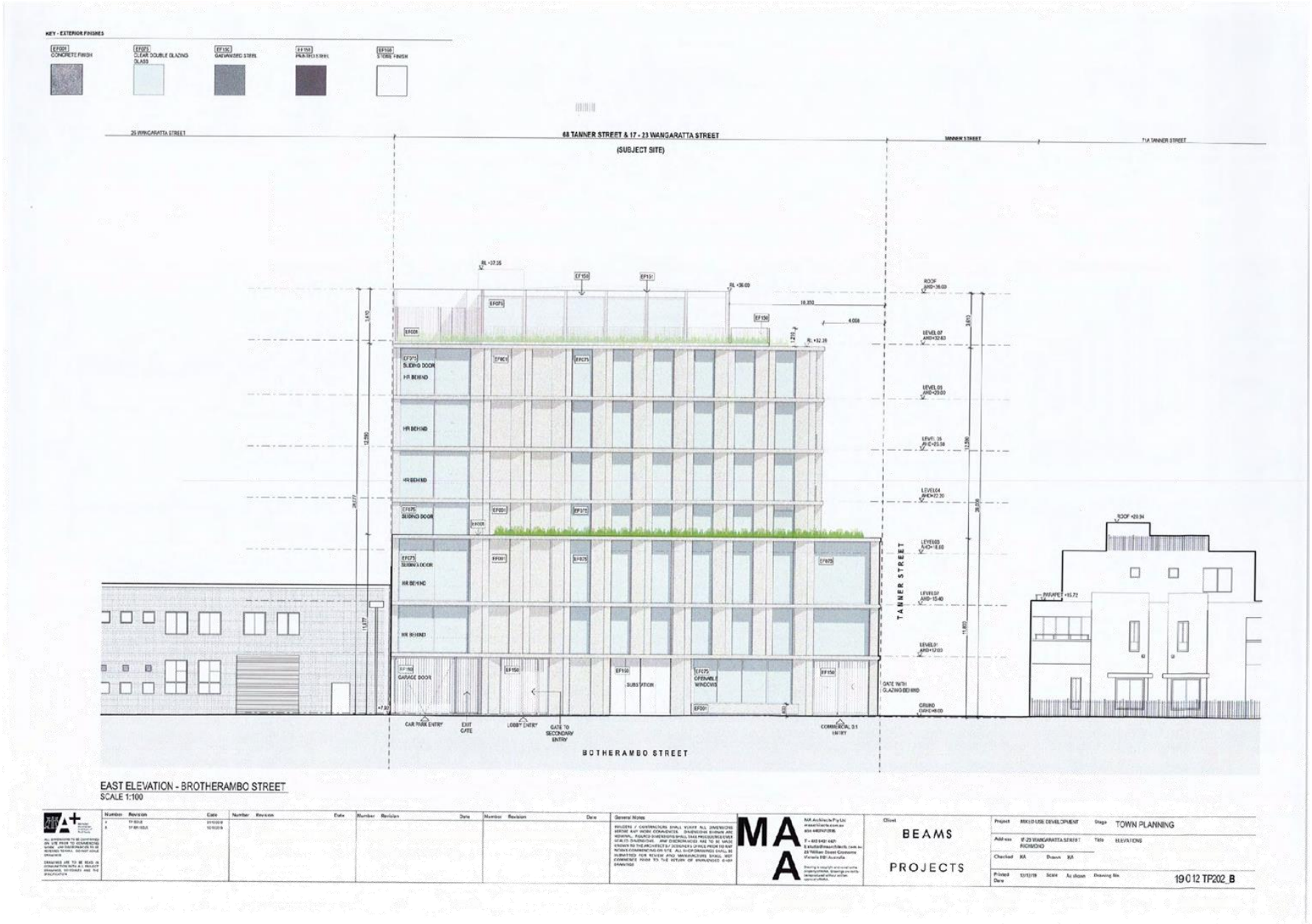
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Attachment 3 - Plans - Part 2



Attachment 3 - Plans - Part 2



EAST ELEVATION - BROTHERAMBO STREET
SCALE 1:100

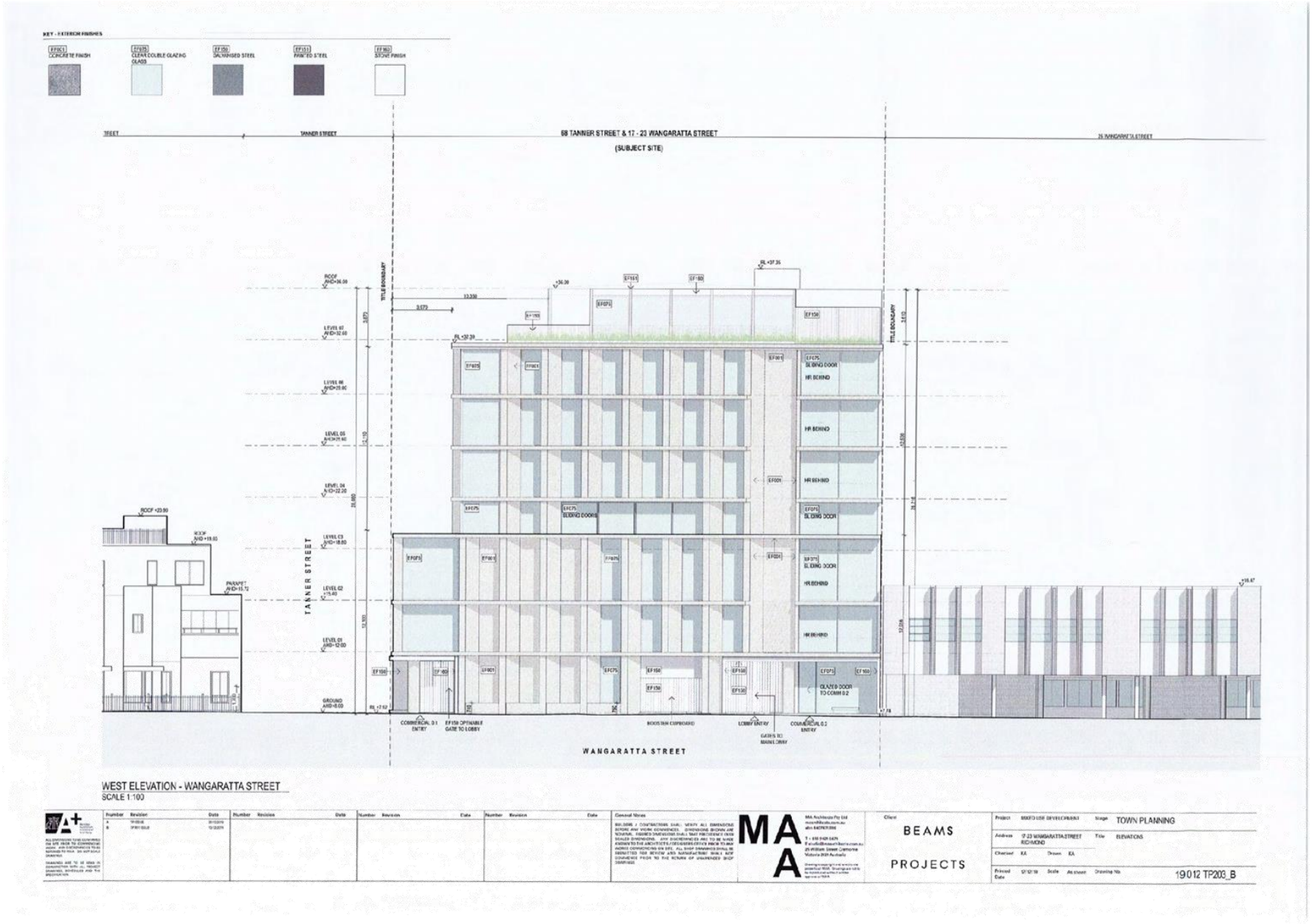
Number	Revision	Date	Number	Revision	Date	Number	Revision	Date	Number	Revision	Date	General Notes	

MA Architects Pty Ltd

Client: BEAMS PROJECTS

Project: MIXED USE DEVELOPMENT — Stage: TOWN PLANNING
Address: 9F 23 WANGARATTA STREET RICHMOND — Title: ELEVATIONS
Checked: KA — Drawn: KA
Printed Date: 12/12/19 — Scale: As shown — Drawing No.: 19012 TP202_B

Attachment 3 - Plans - Part 2



WEST ELEVATION - WANGARATTA STREET
SCALE 1:100

Number	Revision	Date
A		
B		

MA

BEAMS PROJECTS

Project	MIXED USE DEVELOPMENT	Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND	Title	ELEVATIONS
Checked	KA	Drawn	KA
Printed Date	12/12/19	Scale	As shown
		Drawing No.	19012 TP203_B

Attachment 4 - Plans - Part 3



EXISTING NORTH STREETSCAPE ELEVATION - TANNER ST
SCALE 1:200

Number	Revision	Date	Number	Revision	Date	Number	Revision	Date	Number	Revision	Date
A	PLANNING ISSUE	31/10/2019									
B	PLANNING ISSUE	19/12/2019									

General Notes

BUILDER / CONTRACTORS SHALL VERIFY ALL DIMENSIONS BEFORE ANY WORK COMMENCES. DIMENSIONS SHOWN ARE NOMINAL. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. ANY DISCREPANCIES ARE TO BE MADE KNOWN TO SITE ARCHITECT/ DESIGNERS OFFICE PRIOR TO ANY WORKS COMMENCING ON SITE. ALL SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND MANUFACTURE SHALL NOT COMMENCE PRIOR TO THE RETURN OF UNMARKED SHOP DRAWINGS.

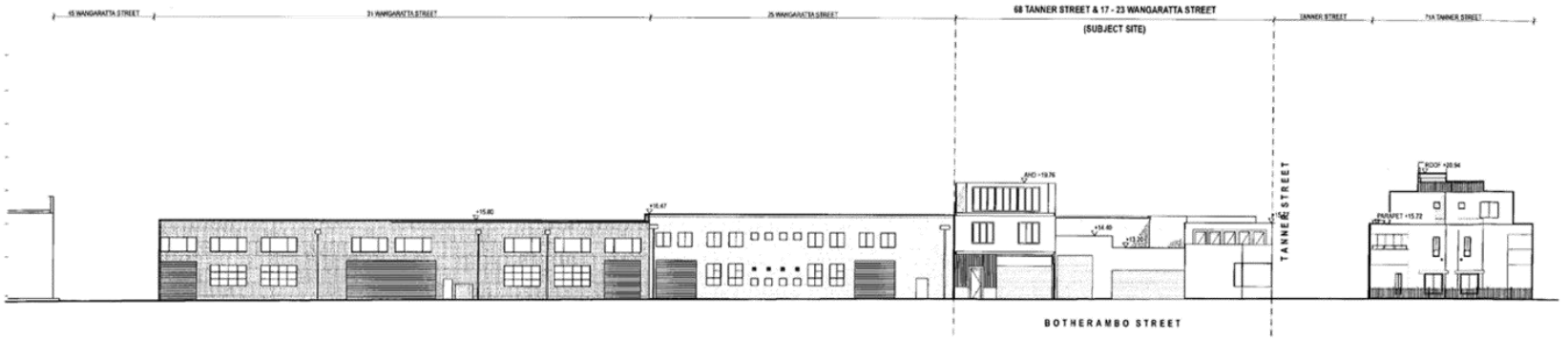
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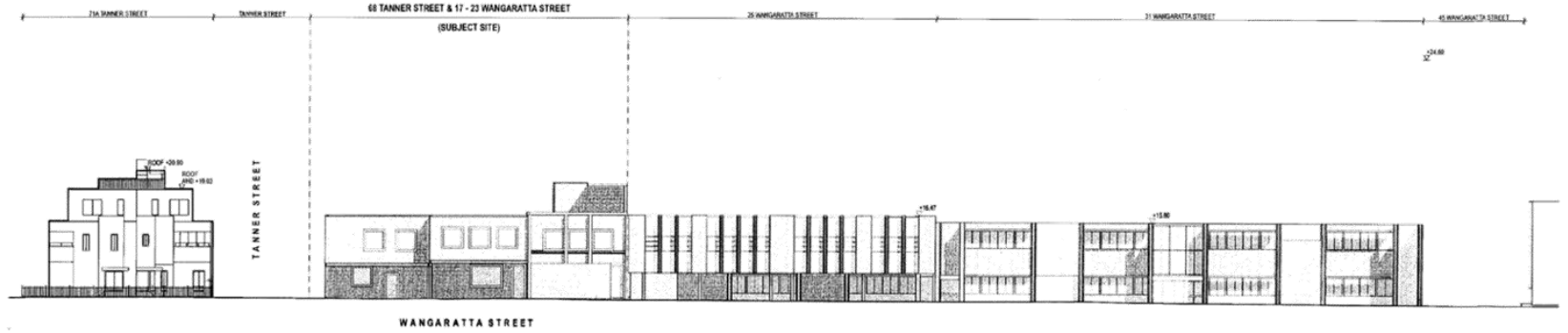
Client: BEAMS PROJECTS

Project	MIXED USE DEVELOPMENT	Stage	TOWN PLANNING
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Drawing No.	19012 TP210_B		

Attachment 4 - Plans - Part 3



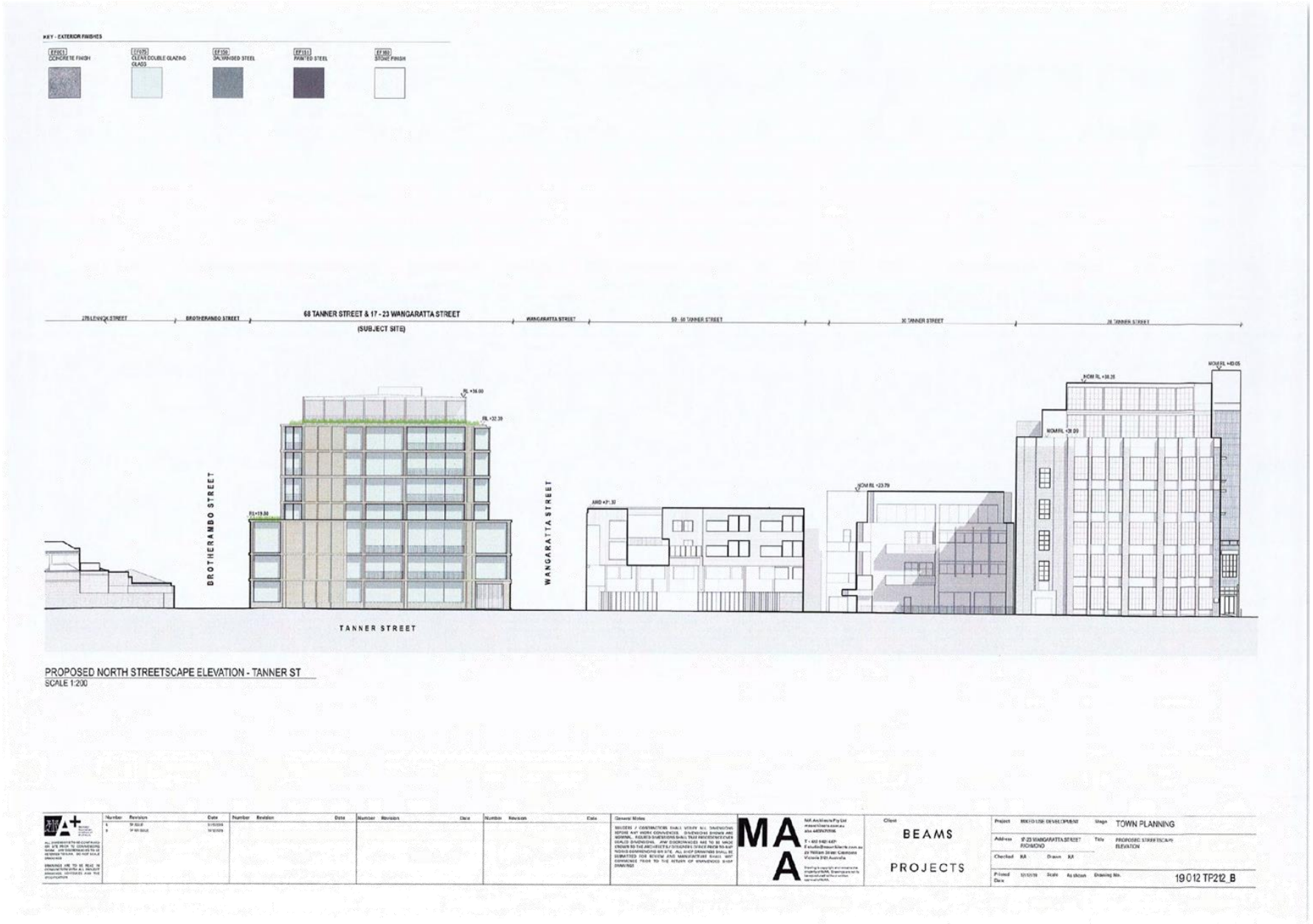
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SCALE 1:200



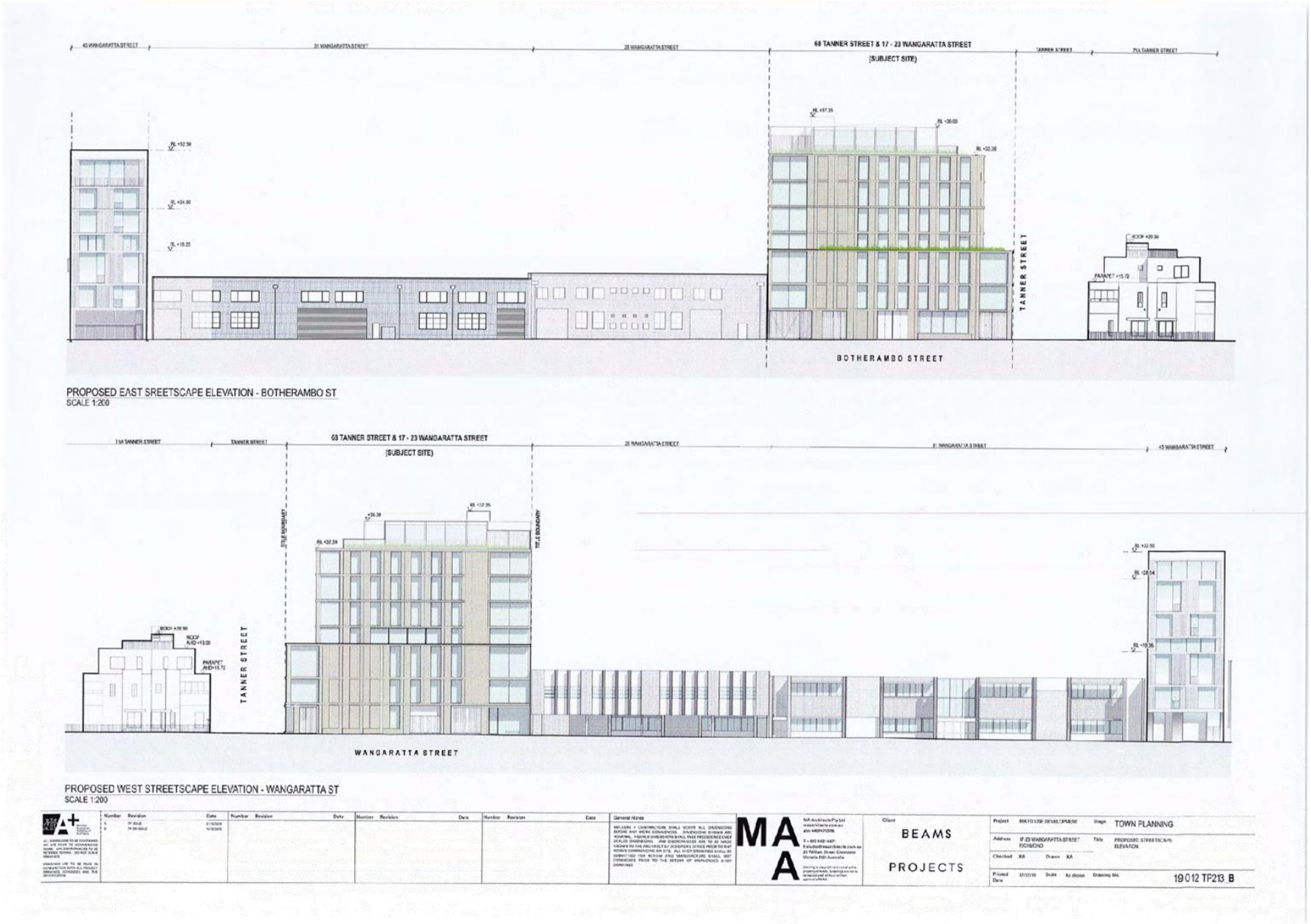
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SCALE 1:200

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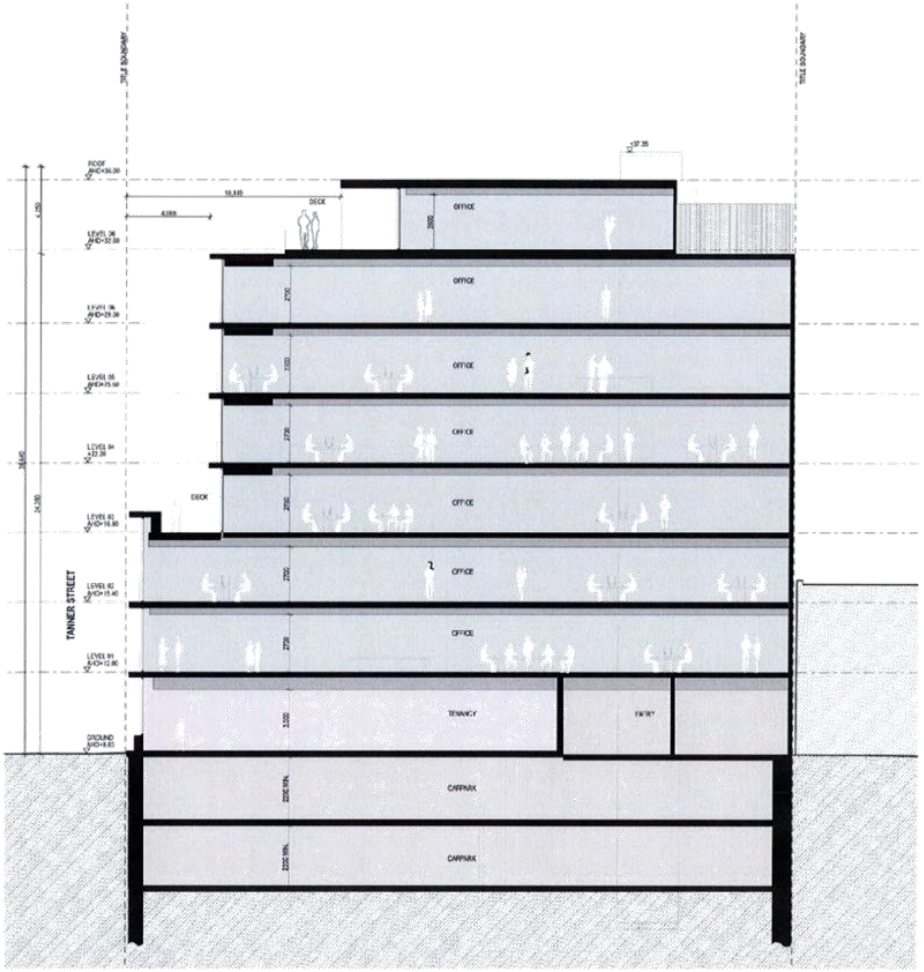
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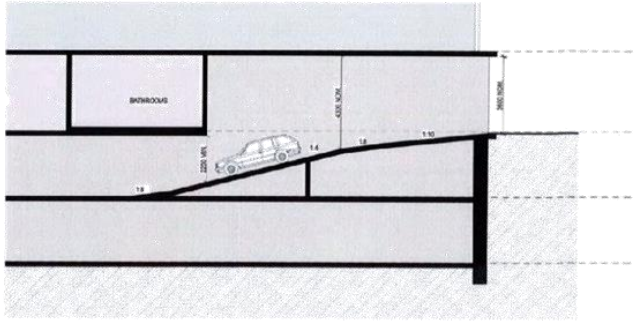
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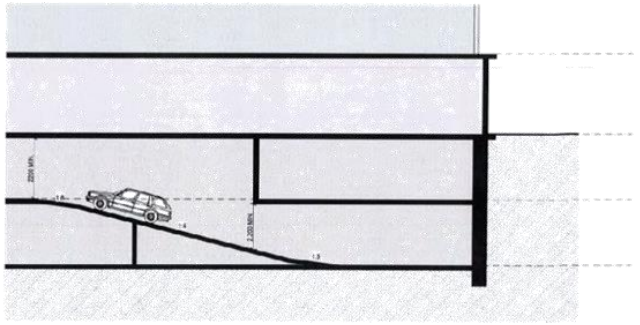
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SECTION A
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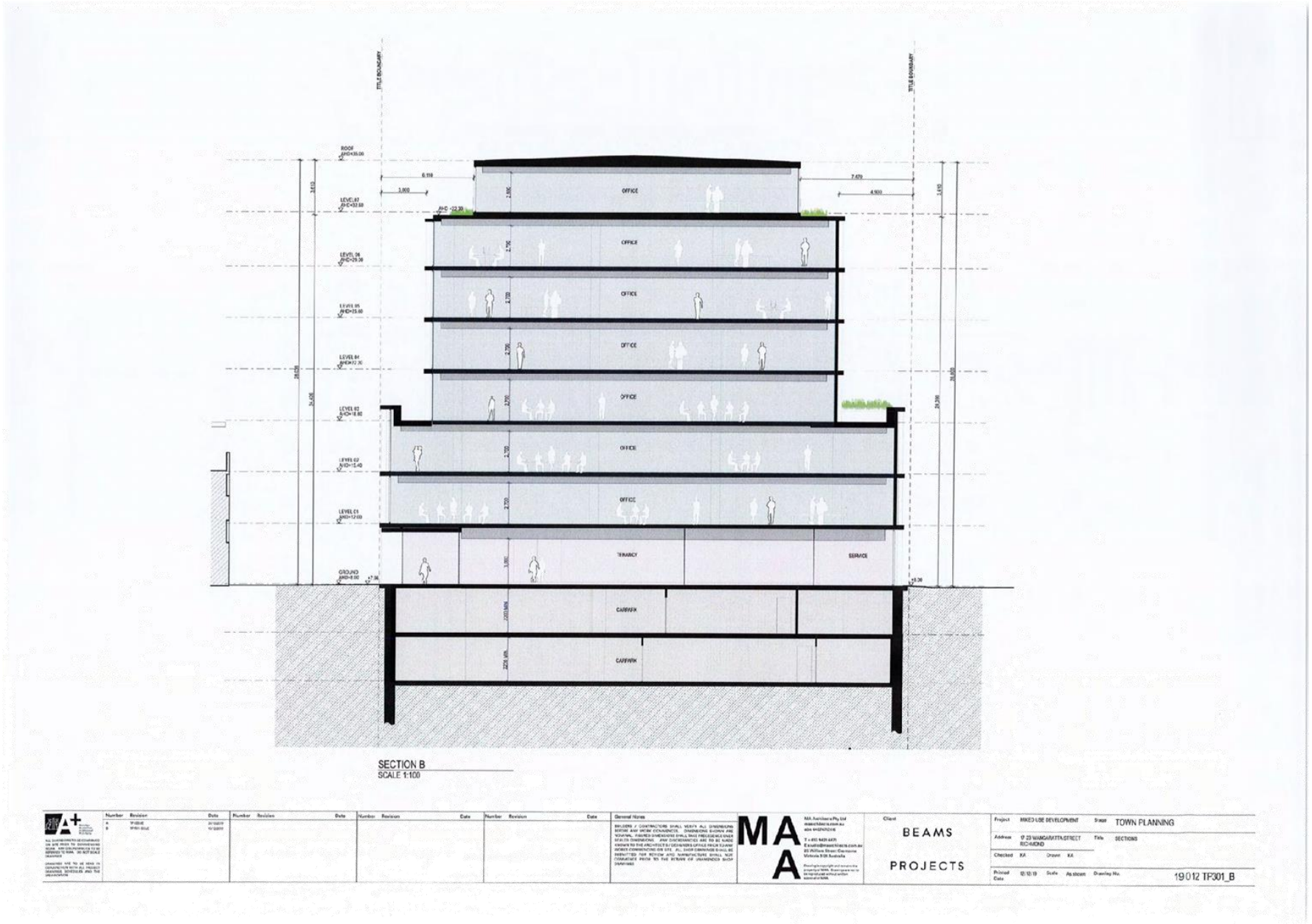
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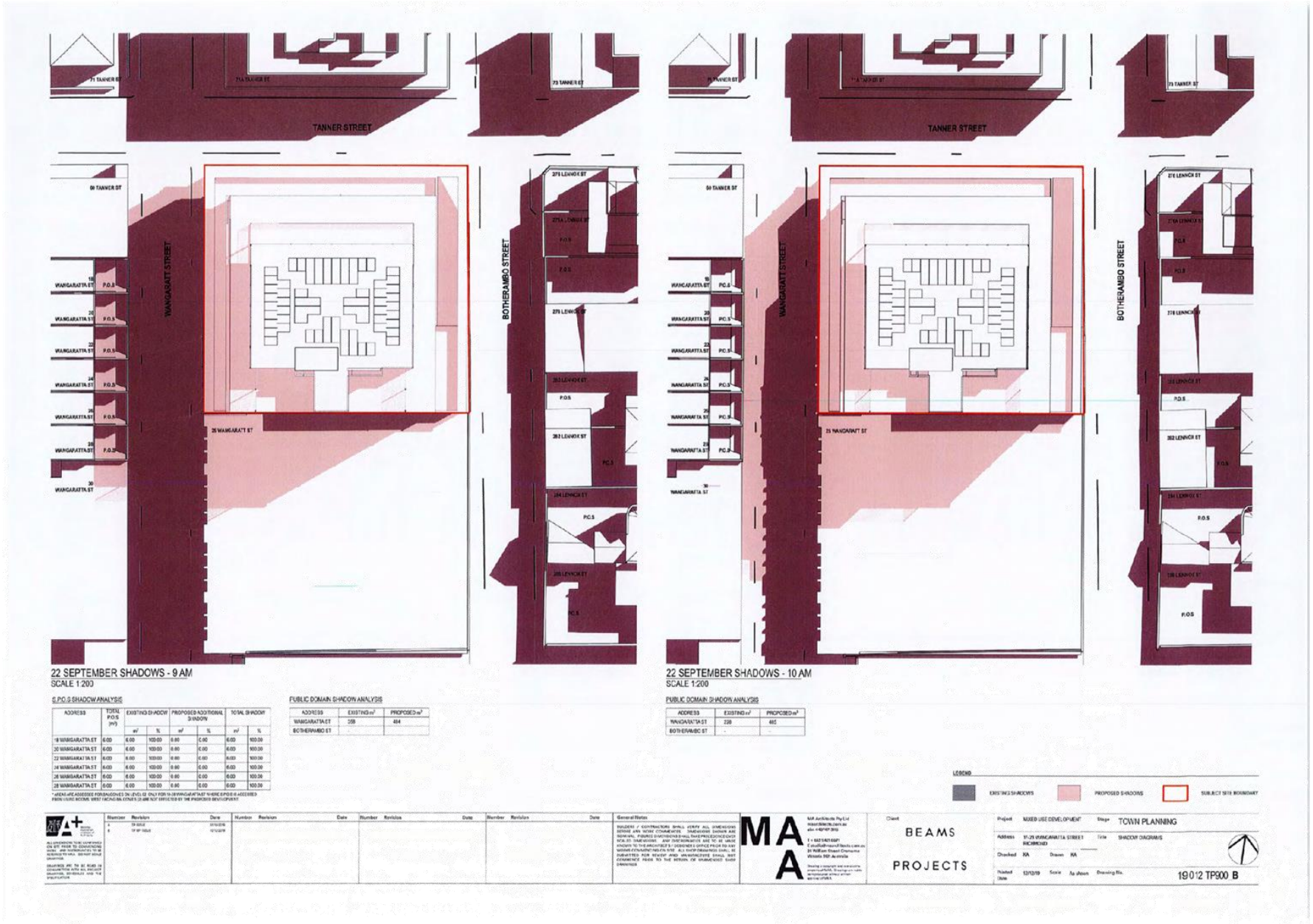
BASEMENT 01 TO BASEMENT 02 RAMP
SCALE 1:100

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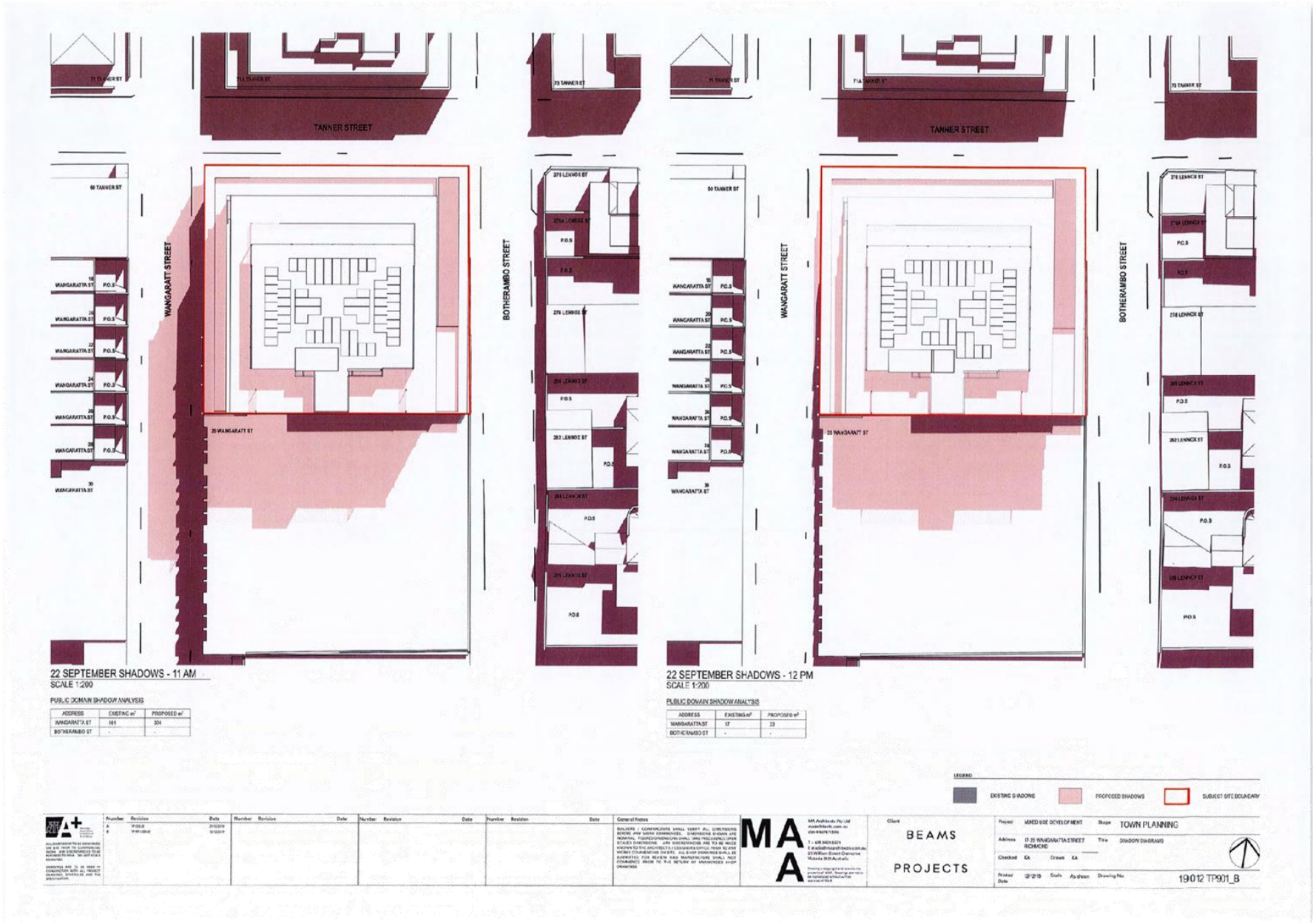
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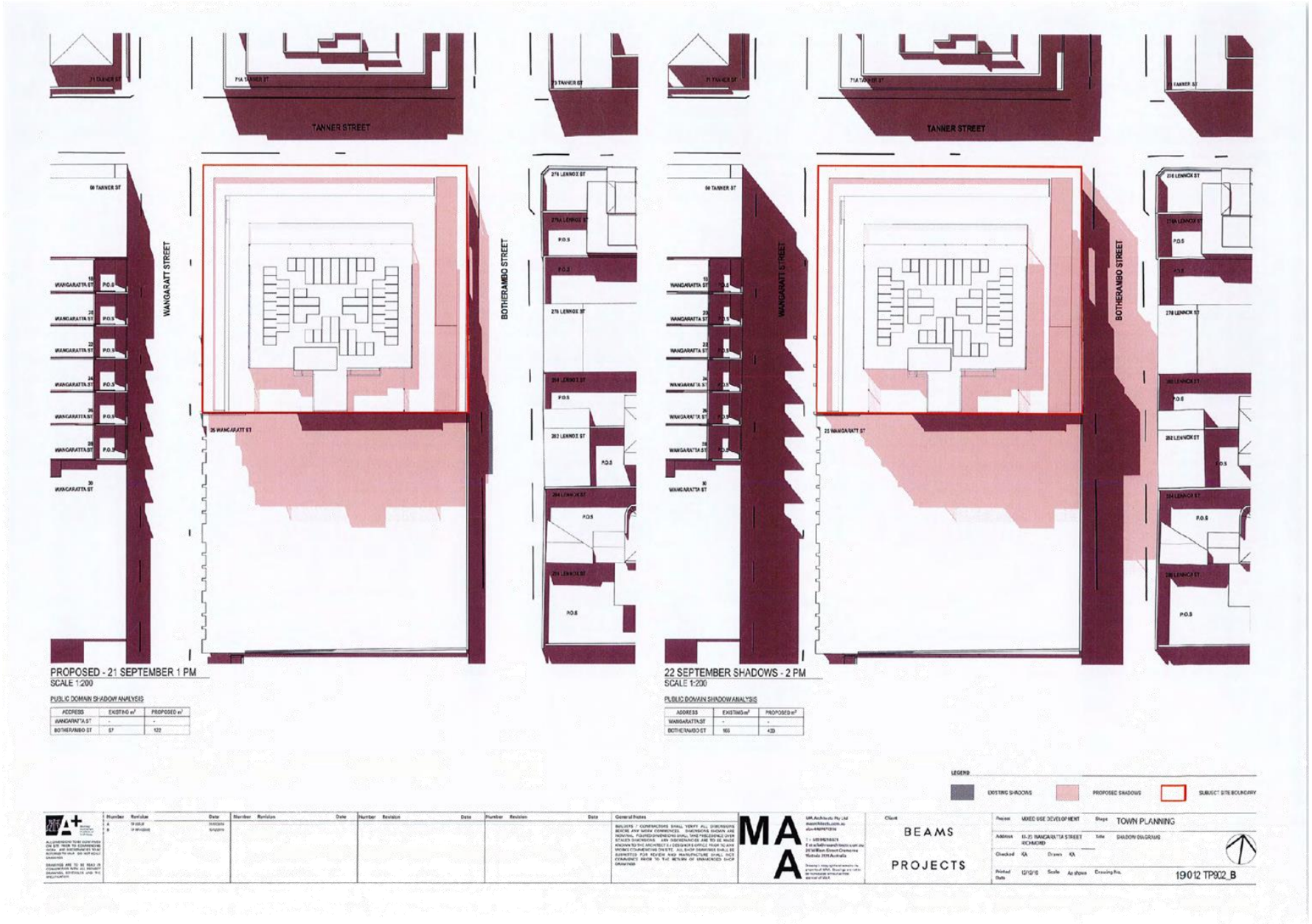
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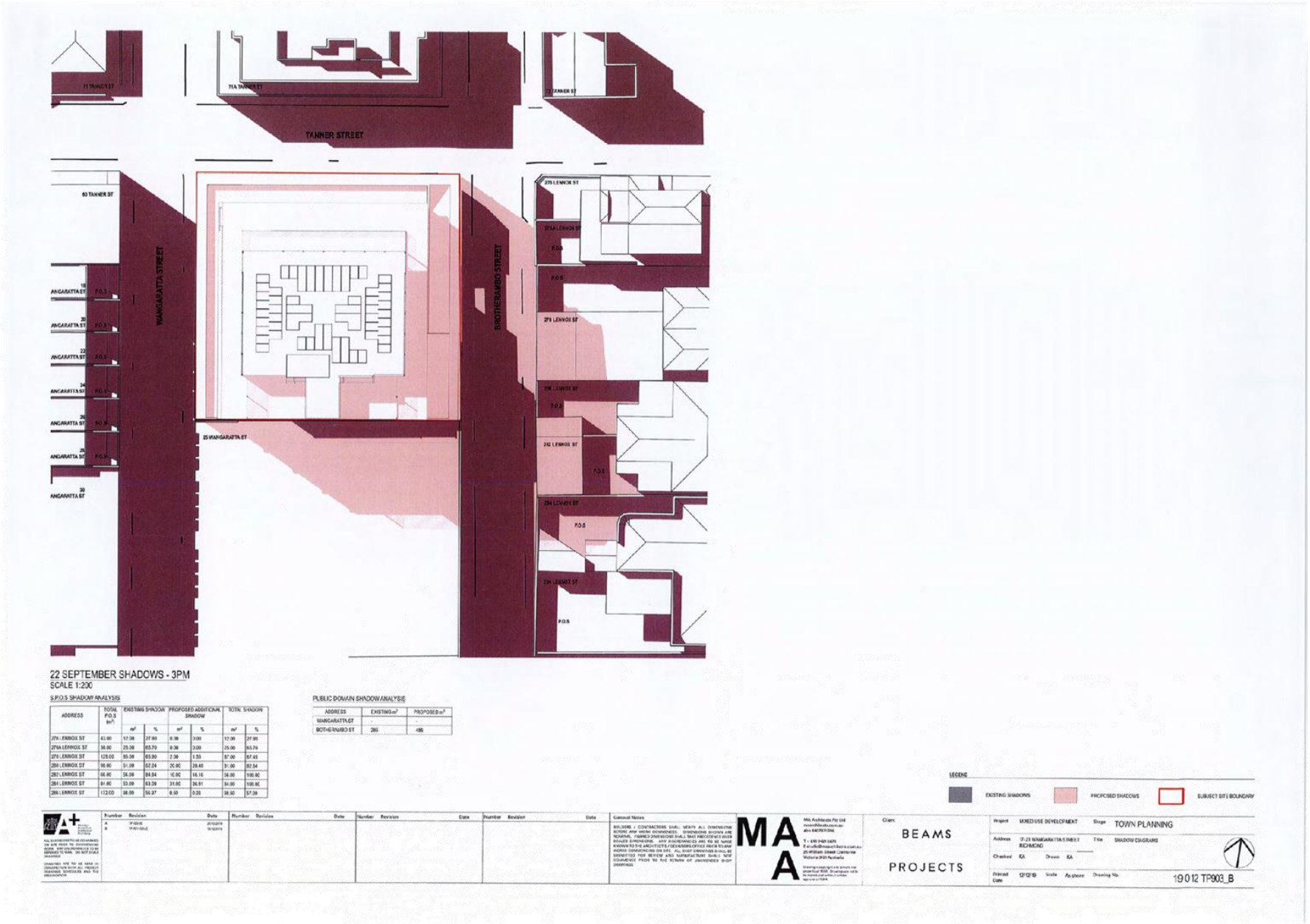
Attachment 4 - Plans - Part 3



Attachment 4 - Plans - Part 3



Attachment 4 - Plans - Part 3



Attachment 5 - Advertising S52 - Waste Management Plan

Report prepared for
17 Wangaratta Street Pty Ltd

ratio:

waste:management

Proposed Commercial Development

17-23 Wangaratta Street, Richmond

1 November 2019

r:

Attachment 5 - Advertising S52 - Waste Management Plan

ratio:consultants

8 Gwynne Street
Cremorne VIC 3121
ABN 93 983 380 225

Prepared for:
17 Wangaratta Street Pty Ltd

Our reference:
16005W REP01F04

Version	Date	Reason for Issue	Prepared By	Checked By
REP01D01	04/10/2019	Draft	M Fairlie	T Chen
REP01D02	14/10/2019	Revised Draft	M Fairlie	T Chen
REP01F01	18/10/2019	Final	M Fairlie	T Chen
REP01F02	29/10/2019	Revised Final	M Fairlie	T Chen
REP01F03	30/10/2019	Updated floor areas	M Fairlie	T Chen
REP01F04	01/11/2019	Updated floor areas	M Fairlie	T Chen

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Appendices:

Appendix A : Plans Assessed

Appendix B : NSW EPA Industry Fact Sheets

Appendix C : Swept Path Assessment

Executive Summary:

Project Address
17-23 Wangaratta Street, Richmond

Local Council
Yarra City Council – Phone: (03) 9205 5555

Proposal
Land use type: Commercial Development (Shops + Offices)

Number of levels: Eight storeys + two basement levels

Size of ground floor shop tenancy 1: 631 square metres

Size of ground floor shop tenancy 2: 69 square metres

Size of office tenancies across Level 1 to Level 7: 4,755 square metres (combined)

Planning Application Number

To be assigned

Weekly Waste Generation

Food Waste	Commingled Recycling	General Waste
669 L/week	8,505 L/week	481 L/week

Proposed Bin Schedule

Waste Stream	Bin Quantity	Bin Size	Collection Frequency	Required Bin Storage Area (m^2)
Food Waste	1	1,100 L	Weekly	1.3
Commingled Recycling	3	1,100 L	Three times per week	3.9
General Waste	1	1100 L	Weekly	1.3
Green Waste	1	240 L	As required	0.4
Hard Waste / E-Waste	2.0m^2 storage area (including 120L e-waste bin)		As required	2.0
Net Required Bin Storage Area (excluding circulation)				**8.9**

Collection Summary
It is proposed that waste collection is undertaken within the basement level 1 car park by a private waste contractor, using 6.4-metre-long mini rear loaders.

1 Introduction:

1.1 The Proposed Development

The site of the proposed commercial development is located at 17-23 Wangarrata Street, Richmond.

The proposal involves the construction of an eight-storey building plus two levels of basement car parking. Relevant to this Waste Management Plan, the development comprises:

- Two ground floor shop tenancies, with net leasable areas as follows:
  - Shop Tenancy 1: 631 square metres; and
  - Shop Tenancy 2: 69 square metres.
- Office tenancies across Level 1 to Level 7, with net leasable areas as follows:
  - Level 1: 962 square metres;
  - Level 2: 962 square metres;
  - Level 3: 644 square metres;
  - Level 4: 644 square metres;
  - Level 5: 644 square metres;
  - Level 6: 644 square metres; and
  - Level 7: 255 square metres.
- Two levels of basement car parking, accessed via a vehicle ramp to/from Botherambo Street.
- A 20m^2 bin room located at the north-western corner of Basement Level 1, accommodating the development's bulk bins and hard waste / e-waste storage area.

Refer to Appendix A for a copy of the Architectural Plans used in the preparation of this Waste Management Plan.

1.2 Limitations

This Waste Management Plan has been prepared to accompany the Town Planning Application.

Waste management arrangements during the construction and fit-out stages of the development, and on-going monitoring of the waste management arrangements for the development following the occupation of the development are outside the scope of this Waste Management Plan.

1.3 Applicable Standards and References

Relevant guidelines and publications considered as part of the preparation of this Waste Management Plan include:

- Sustainability Victoria – Better Practice Guide for Waste Management and Recycling in Multi-Unit Developments (2018).
- NSW EPA – Reducing Business Waste Industry Fact Sheets (2012).
- Yarra City Council's General Local Law (2016).

2 Waste Generation:

2.1 Waste streams

The development shall separate waste into the following streams:

- Food waste
- Commingled recycling
- General waste
- Green waste
- Hard waste
- E-waste

2.2 Garbage & Recycling Generation

Yarra City Council refers to Sustainability Victoria's 'Better Practice Guide for Waste Management and Recycling in Multi-Unit Developments' for commercial garbage and recycling generation rates. These generation rates have been adopted and are outlined below:

- Garbage generation rates:
  - Shop (non-food): 50L/100m² floor area/day (adopted for the ground floor shop tenancies)
  - Office: 10L/100m² floor area/day (adopted for the office tenancies)
- Recycling generation rates:
  - Shop (non-food): 50L/100m² floor area/day (adopted for the ground floor shop tenancies)
  - Office: 10L/100m² floor area/day (adopted for the office tenancies)

It is assumed that the shop tenancies will operate for seven days per week, whilst the office tenancies will operate for five days per week.

Applying the above garbage and recycling generation rates, the garbage generation estimate for the development is outlined in Table 2.1 below.

Table 2.1: Garbage & Recycling Generation Estimates

Use	Floor Area	Garbage Generation Rate	Garbage Generation	Recycling Generation Rate	Recycling Generation
GF Shop Tenancy 1	631 m²	50L/100m²/day	2,209 L/week	50L/100m²/day	2,209 L/week
GF Shop Tenancy 2	69 m²	50L/100m²/day	242 L/week	50L/100m²/day	242 L/week
Offices Level 1 to Level 7 (combined)	4,755 m²	10L/100m²/day	2,378 L/week	10L/100m²/day	2,378 L/week
Total Generation			**4,828 L/week**		**4,828 L/week**

2.3 Waste Stream Separation

The various waste streams and diversion targets for the development are listed in Table 2.2 and Table 2.3. The source diversion targets have been formulated based on figures derived from NSW EPA's 'Reducing Business Waste Industry Fact Sheets' (refer to Appendix B).

Table 2.2: Shop Waste Streams and Composition

Waste Stream	Composition
Food waste	2%
Commingled Recycling	94%
General waste	4%

Table 2.3: Office Waste Streams and Composition

Waste Stream	Composition
Food waste	12%
Commingled Recycling	82%
General waste	6%

Based on the waste composition set out above, the break-down of each use's weekly waste generation volumes for each waste stream are listed in Table 2.4 below.

Table 2.4: Weekly Waste Generation Estimate – Waste Stream Diversion

Use	Food Waste (L)	Commingled Recycling (L)	General Waste (L)
GF Shop Tenancy 1	88	4,152	177
GF Shop Tenancy 2	10	454	19
Office Level 1	115	789	58
Office Level 2	115	789	58
Office Level 3	77	528	39
Office Level 4	77	528	39
Office Level 5	77	528	39
Office Level 6	77	528	39
Office Level 7	31	209	15
Total for Development	**669**	**8,505**	**481**

3 Waste System & Storage:

3.1 System for Managing Waste

The collection arrangements for the various waste streams are summarised as follows:

- Food Waste: for collection purposes, food waste shall be stored within a bulk food waste collection bin;
- Commingled Recycling: for collection purposes, recyclables shall be commingled into bulk commingled recycling collection bins (for plastic coded 1-7, paper including magazines and newspaper, cardboard in small amounts and folded down, PET, glass, aluminium, tin cans, milk and juice cartons, steel and HDPE containers);
- General Waste: for collection purposes, general waste shall be stored within a bulk general waste collection bin;
- Green Waste: green waste shall be stored within the dedicated green waste collection bin, which shall be collected by a private contractor on an as-required basis;
- Hard Waste: hard waste shall be stored within a dedicated hard waste storage area located within the bin storage area on Basement Level 1. Hard waste shall be collected by a private contractor on an as-required basis; and
- E-Waste: it is understood that e-waste has been banned from landfill. As such, a portion of the area dedicated to hard waste in the bin room shall be allocated for the storage of e-waste. An additional 120L shall be provided for smaller e-waste items (phones, keyboards etc.). E-waste shall be collected by a private contractor on an as-required basis.

3.2 Waste Storage Facilities

The proposed waste management system consists of the following components:

- Waste receptacles for food waste, commingled recycling and general waste located within each showroom and office tenancy; and
- A 20m^2 bin room located at the north-western corner of Basement Level 1, accommodating the development's bulk bins and hard waste / e-waste storage area.

Based on the current site layout, bin lifting equipment is not expected to be required, subject to the appointed waste collection contractor conducting a Safe Work Method Statement Assessment. Should additional equipment be deemed necessary, the appointed waste collection contractor can liaise with the Building Manager to arrange for the necessary equipment and storage arrangements.

Bin Room Requirements

General

- Comply with Building Code of Australia (BCA) and all relevant Australian Standards;
- Allow storage of all bins on site at all times;
- Allow easy access for users of the bins;
- Allow easy, direct and convenient transfer of bins to the collection point;
- Artificial light shall be provided where necessary outside the bin room to enable occupiers of the site to dispose of waste safely and appropriately at all times;

— The path for transferring the bins from the bin room to the collection vehicle shall be of adequate width, free of lips, and other obstacles and direct, smooth and without steps.

Space & Facilities

— The bin room shall be sized to accommodate all waste arising on the premises together with any associated equipment for handling the waste. The size of the bin room is based on the number of bins and the physical dimensions of the bins. The number of bins and bin sizes required for the development is outlined in Section 4.1.
— The bin room must be maintained to ensure that the aesthetics of the development are not compromised;
— Each bin must be accessible and manoeuvrable in and out of the bin room with minimum handling of other bins;
— The floor of the bin room shall be constructed of concrete (or similar) and shall be finished to a smooth even surface covered at the intersection of walls and plinths.

Ventilation & Bin Washing

— The bin room shall be ventilated by in accordance with the requirements of the Building Code of Australia and AS1668.2;
— Ventilation openings should be protected against flies and vermin;
— Doors shall be tight fitting; and
— The floor of the bin room shall be graded to a suitable floor-waste and a tap shall be provided for washing bins, in accordance with the relevant authority requirements. Alternatively, a private contractor can be engaged to clean / wash bins on a regular basis, transporting all waste-water off-site.

3.3 Bin Colour and Signage Requirements

Bin Colour and Supplier

— All bins shall be provided by a private supplier. The below bin colours are specified by Australian Standard AS4123.7 2006, however due to the private nature of the collection, these are only recommendations and are not mandatory:
  - Food waste bins with a dark green or black body and burgundy lid;
  - Commingled recycling bins with a dark green or black body and yellow lid;
  - General waste bins with a dark green or black body and red lid; and
  - Green waste collection bins with a dark green or black body and lime green lid.

NOTE: Private collection contractors often supply their own bins for collection.

Signage

The bin room will be provided with signs showing correct disposal of each waste stream.

Sustainability Victoria signage as provided within the Away from Home Waste Signage Guidelines is shown in Figure 3.1.

Figure 3.1: Sustainability Victoria Signage



Source: Away from Home Waste Signage Guidelines – Sustainability Victoria

4 Bin Details:

4.1 Bin Requirements & Collection Frequency

Based on the waste generation estimates calculated in Section 2.3, it is considered that a mix of 240L and 1100L bins will be appropriate for the development.

The dimensions of the bins that shall be utilised are detailed in Table 4.1.

Table 4.1: Bin Dimensions

Bin Size (L)	Height(mm)	Width (mm)	Depth (mm)	Area (m^2)
240	1060	585	730	0.4
1100	1330	1240	1070	1.3

Based on Sulo bin dimensions.

Table 4.2 summarises the number and size of bins required, as well as the collection frequency and bin storage area required.

Table 4.2: Proposed Bin Schedule

Waste Stream	Bin Quantity	Bin Size	Collection Frequency	Required Bin Storage Area (m^2)
Food Waste	1	1,100 L	Weekly	1.3
Commingled Recycling	3	1,100 L	Three times per week	3.9
General Waste	1	1100 L	Weekly	1.3
Green Waste	1	240 L	As required	0.4
Hard Waste / E-Waste	2.0m^2 storage area (including 120L e-waste bin)		As required	2.0
Net Required Bin Storage Area (excluding circulation)				**8.9**

The above schedule will provide a capacity of:

- Food Waste: 1,100 L/week.
- Commingled Recycling: 9,900 L/week.
- General Waste: 1,100 L/week.
- Green Waste: 240 L collected as required.

The above schedule provides sufficient allowance for the estimated waste generation for the development calculated in Section 2.3.

The 20m^2 bin room shown on the Architectural Plans is sufficient to store the required number of bins outlined above.

5 Collection Details:

5.1 Collection Arrangements – Private Collection

It is proposed that waste collection is undertaken within the basement car park by a private waste contractor, using mini rear loaders.

The mini rear loaders are 6.4-metres-long, 2.1 metres high, and require a height clearance of 2.5 metres at the collection point when collecting 1100L bins.

A swept path assessment has been prepared using Autodesk Vehicle Tracking Software demonstrating that the nominated waste collection vehicle can access the basement car park from Botherambo Street, conduct waste collection within the car park aisle on Basement Level 1, and exit the site onto Botherambo Street in a forward direction (refer to Appendix C).

The collection contractor will be responsible for the transfer of bins from the bin room to the collection vehicle, returning the bins immediately after collection. The collection contractor will also be responsible for the development of a Safe Work Method Statement (SWMS) to ensure safety is considered for every aspect of the collection process.

Hard waste, e-waste and additional green waste shall be collected on an as-required basis by a private contractor.

NOTE: Bins shall not be left in a manner that blocks access to any doorways, service cupboard openings or public roadways at any time.

5.2 Waste Collection Times

Waste collection from the subject site shall only occur during below hours, as required by Yarra City Council's General Local Law (2016):

- Between 7:00am and 8:00pm, Monday to Saturday; and
- Between 9:00am and 8:00pm, Sundays and Public Holidays.

Further to the above, it is recommended for waste collection to occur outside of peak AM and PM periods in order to minimise disruption to traffic entering and exiting the site (i.e. between 10:00am and 3:00pm).

6 Management Responsibilities:

6.1 Waste Disposal and Sorting Responsibilities

Food waste shall be placed within the food waste collection bin.

Cardboard shall be flattened and recycling containers uncapped, drained and rinsed prior to disposal into the bulk commingled recycling collection bins. Bagged recycling is not permitted.

General waste shall be placed within tied plastic bags prior to disposal into the general waste collection bin.

Green waste shall be placed within the green waste collection bin. Bagged green waste is not permitted.

Hard waste and e-waste shall be manually transferred to the dedicated storage area within the Basement Level 1 bin room.

Appointed personnel shall be responsible for transferring garbage and recyclables from the shop tenancies to the bulk collection bins.

A caretaker, appointed by the Building Manager, shall be responsible for transferring garbage and recyclables from the office tenancies to the bulk collection bins using a dedicated waste trolley.

6.2 Building Manager Responsibilities

The Building Manager shall be responsible for the following:

- Ongoing management of the waste system including the maintenance of the bin room to the satisfaction of users and the relevant authority, and in accordance with relevant manufacturer specifications. When required, the Building Manager shall engage an appropriate contractor to conduct services, replacements or upgrades;
- Engage and manage the waste collection contractor, including the collection frequencies and the transfer of bins between the bin room and the collection vehicle;
- Developing and implementing adequate safe operating procedures (including the preparation of Job Safety Analysis);
- Securing the bin room and labelling/numbering the bins according to the property address to protect the equipment from theft and vandalism;
- Service all public areas through sweeping and removal of litter on a regular basis;
- Publish and distribute information or 'house rules' to ensure that users are familiar about the waste management system, the locations of waste disposal and the storage location on-site for hard waste /e-waste;
- Preventing overfilled bins by keeping lids closed and ensuring bungs are leak free;
- Inform users that bagged recycling is not permitted;
- Ensure that bins provided for use at the designated site are not removed; and
- Ensure that the bin room in which the bins will be stored is provided as per the requirements set out in Section 3.2.

6.3 Shop Tenant Responsibilities

The shop tenants shall be responsible for the following:

- Ensure that any container used for the storage of waste is:
  - Constructed of approved impervious materials to prevent the leakage of contents;
  - Thoroughly cleaned after each emptying of the contents;
  - Kept at all times in good order and in a clean and sanitary condition; and
  - Constructed to be water tight, fly and vermin proof.
- Regularly transfer waste from local receptacles to the designated collection bins to prevent any overflowing of bins and littering.
- Monitor user behaviour and if littering is observed, arrange for additional bins/infrastructure to be provided.
- Developing and implementing adequate safe operating procedures (including the preparation of Safe Work Method Statements).
- Preventing overfilled bins by keeping lids closed and ensuring bungs are leak free.
- Inform staff that bagged recycling is not permitted.

6.4 Waste Systems User Education

The Building Manager shall publish / distribute rules / information / educational material to:

- Inform users about the waste management system;
- Improve facility management results, to reduce equipment damage, reduce littering, and to achieve better cleanliness; and
- Advise users to sort and recycle waste with care to reduce contamination of recyclables.

6.5 Waste Management Plan Revisions

From time to time, due to changes in legislative requirements, changes in the development's needs and/or waste patterns (such as waste composition, volume, or distribution), or to address unforeseen operational issues, the Building Manager shall be responsible for coordinating the necessary Waste Management Plan revisions, including (on an as required basis):

- A waste audit and new waste management strategy;
- Revision of the waste system (bin size / quantity / waste streams / collection frequency / update of equipment);
- Re-education of users; and
- Any necessary statutory / regulatory requirements / approvals.

7 Related Waste Management Arrangements:

7.1 Victoria's Getting Full Value Strategy

The Victorian Government's Getting Full Value: The Victorian Waste and Recovery Policy" was released in 2013, which sets out a strategy to reduce the amount of waste generated in Victoria, and increase the amount of materials for recycling and reprocessing to reduce damage to the environment caused by waste.

Ongoing education, and dedicated ongoing management services are critical factors in encouraging users to continue to use the services and systems as intended. The future Owners/Occupiers of the development shall promote the above strategy where practicable and encourage users to participate in minimising the impact of waste on the environment. In particular, consideration shall be made to the following:

Consideration of the Towards Zero Waste's Hierarchy:

- Waste avoidance
- Reuse – Recycle
- Recover / Treat / Contain
- Disposal

Establishment of waste reduction and recycling targets, including conducting periodic waste audits, keeping records of waste streams, and monitoring of the quantity of recyclables found in landfill-bound bins. The results of such audits shall be shared with users to encourage further reductions in waste where possible.

8 Supplementary Information:

8.1 Contact Information

Table 8.1 below includes a complimentary listing of contractors and equipment suppliers. The Project Principal shall not be obligated to procure goods / services from these companies. Ratio Consultants does not warrant or make representations for the goods / services provided by these contractors and suppliers.

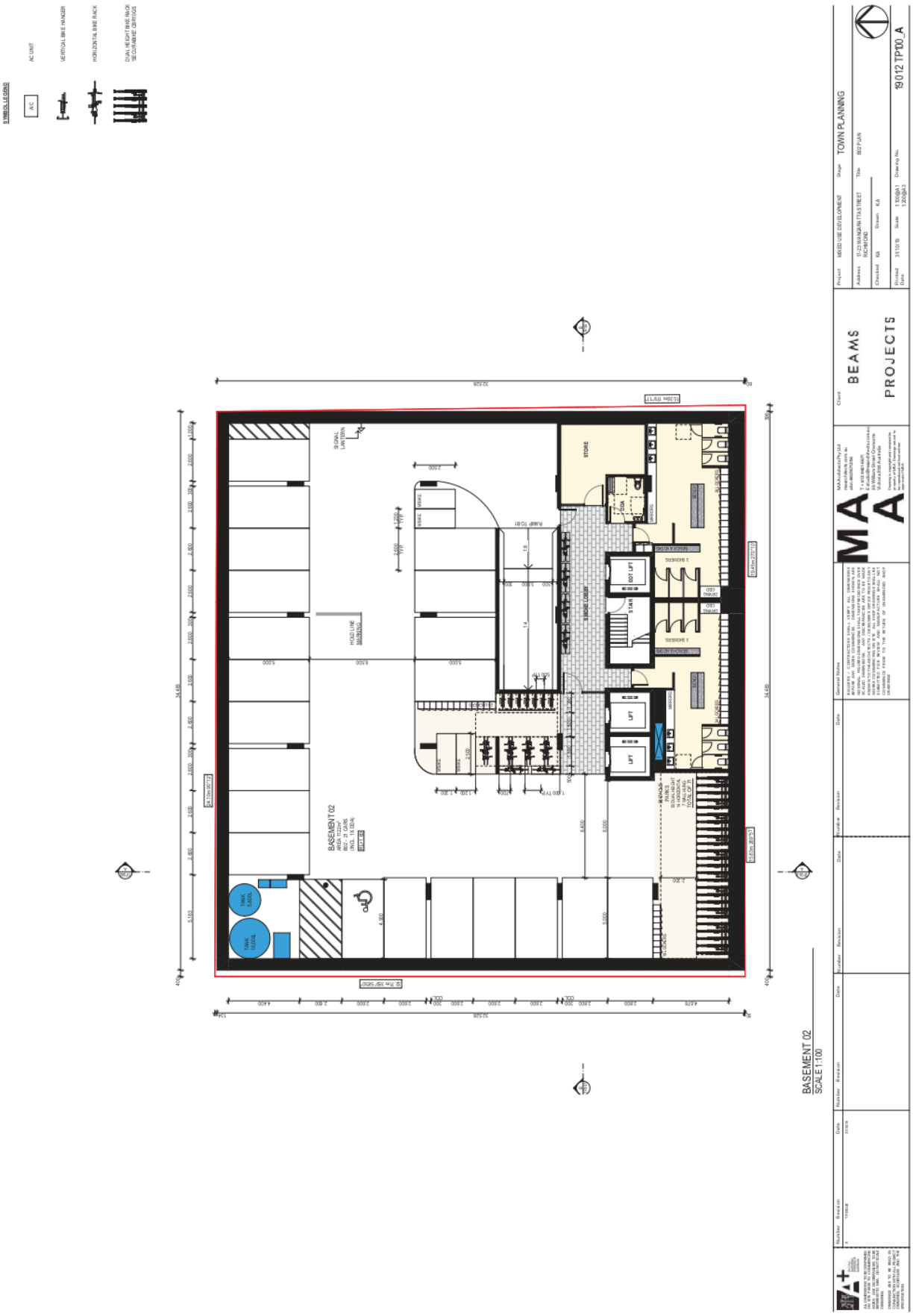
Table 8.1: Contractors and Supplier Details

Service	Contractor / Supplier	Phone	Website
Private Waste Collection	Cleanaway	13 13 39	www.cleanaway.com.au
	JJ Richards	03 9794 5722	www.jjrichards.com.au
	Premier Waste	1300 219 001	www.premierwaste.com.au
	SUEZ	13 13 35	www.suez.com.au/en-AU
	Veolia Environmental Services	132 955	www.veolia.com/anz
	Wastewise Environmental	1300 550 408	www.wastewise.com.au
Bin Supplier	Kartaway	1300 362 362	www.kartaway.com.au
	Premier Waste	1300 219 001	www.premierwaste.com.au
	Sulo Australia	1300 364 388	www.sulo.com.au
Bin Washing	The Bin Butlers	1300 788 123	www.thebinbutlers.com.au
	Calcorp Services	1800 225 267	www.calcorpservices.com.au
	Kerbside Clean-A-Bin	03 9830 7381	www.kerbsidecleanabin-srp.com.au
	WBCM Environmental Australia	1300 800 621	www.wbcm-aust.com.au
Odour Control	Eco-Safe Technologies	1300 135 039	www.eco-safe.com.au
	WBCM Environmental Australia	1300 800 621	www.wbcm-aust.com.au
E-Waste Collection	Tech Collect	1300 229 837	www.techcollect.com.au

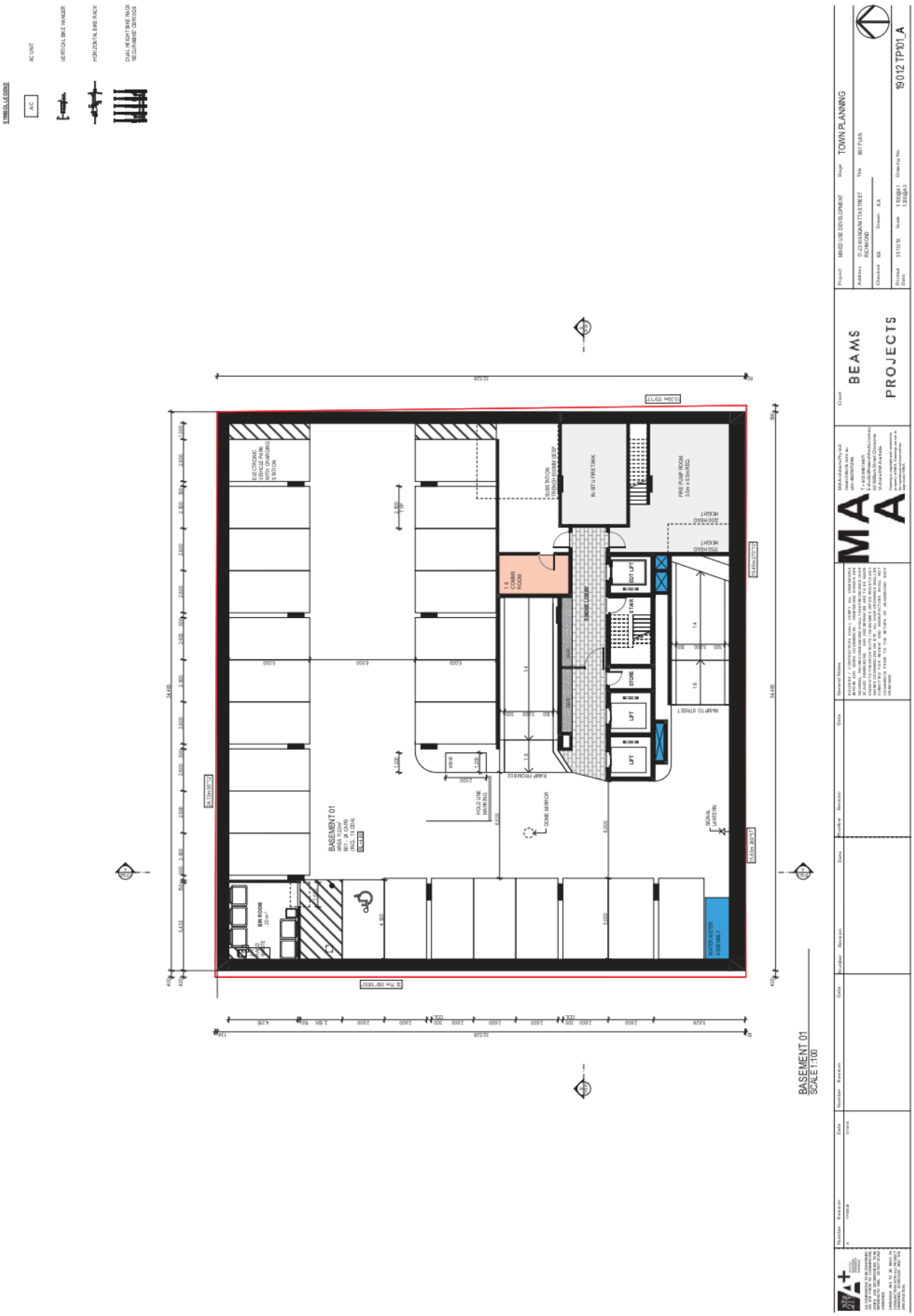
Attachment 5 - Advertising S52 - Waste Management Plan

Appendix A: Plans Assessed

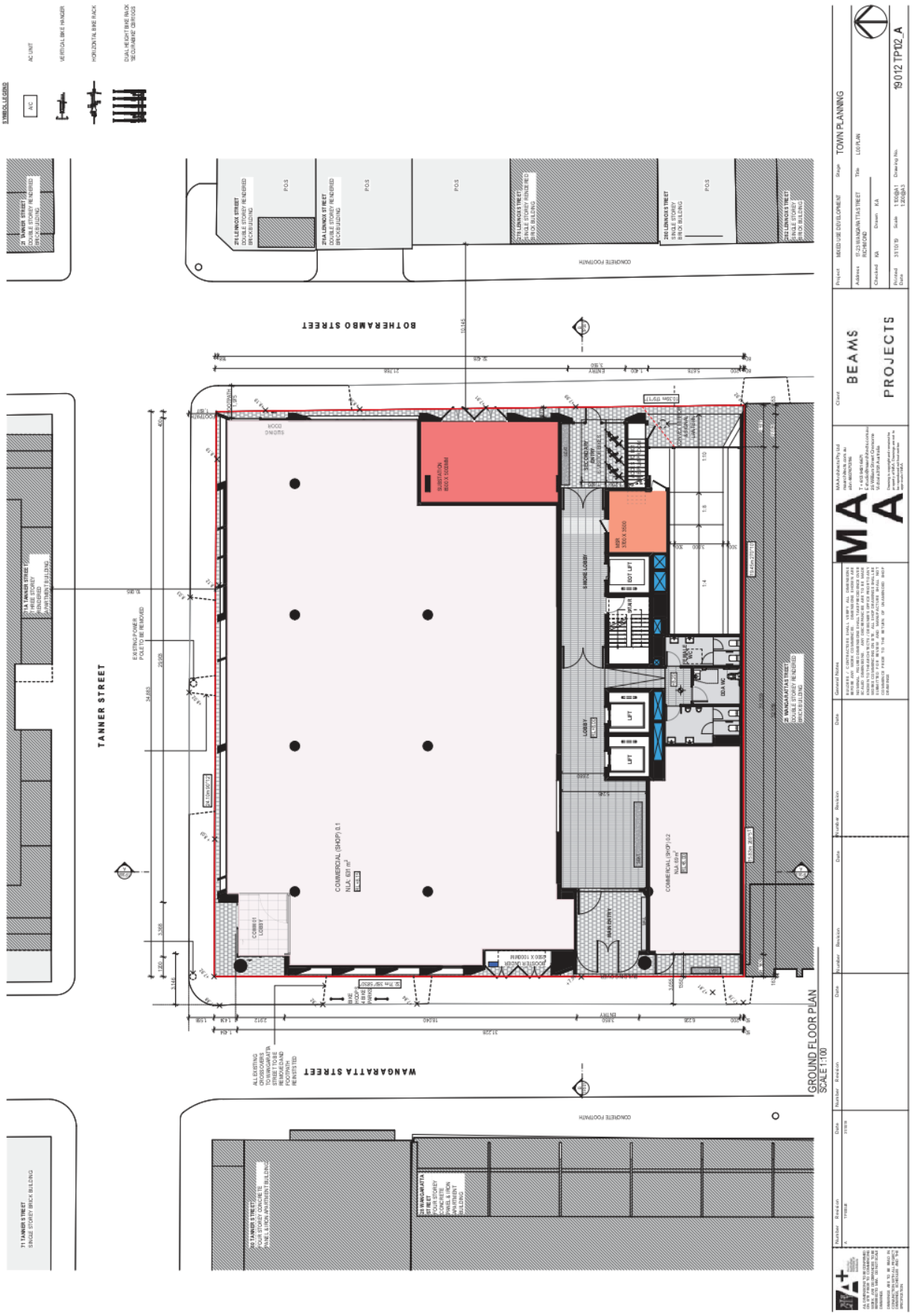
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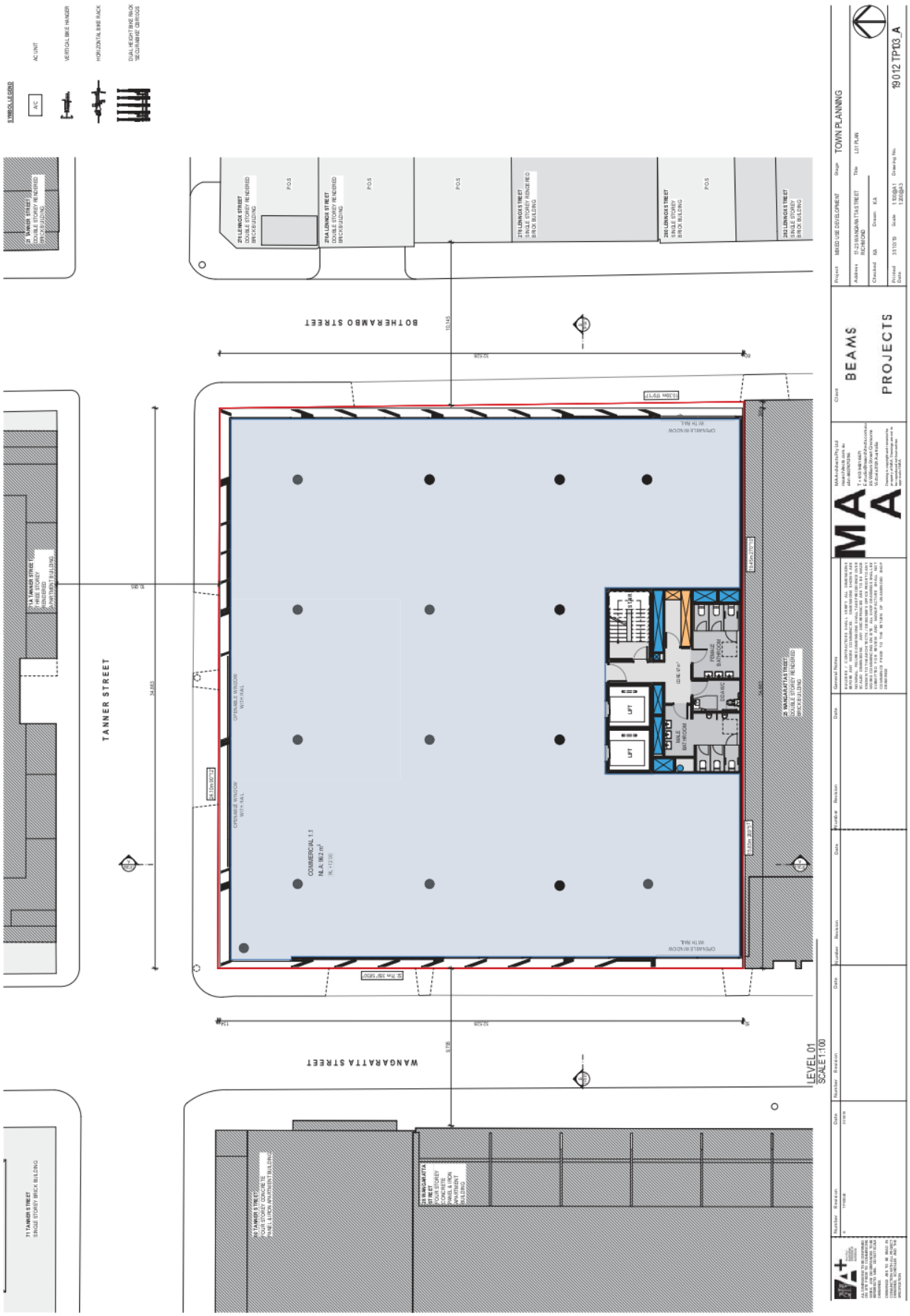
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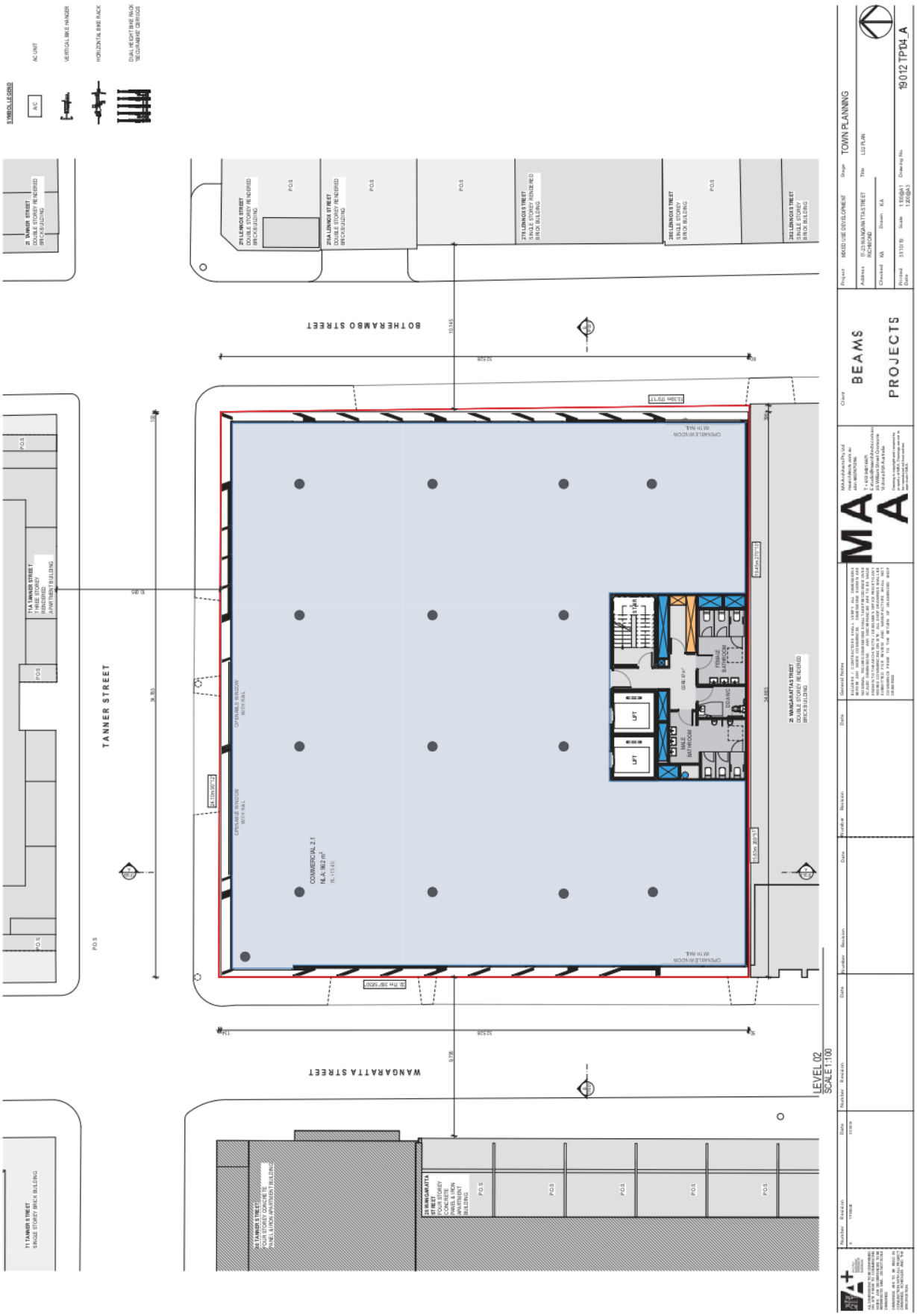
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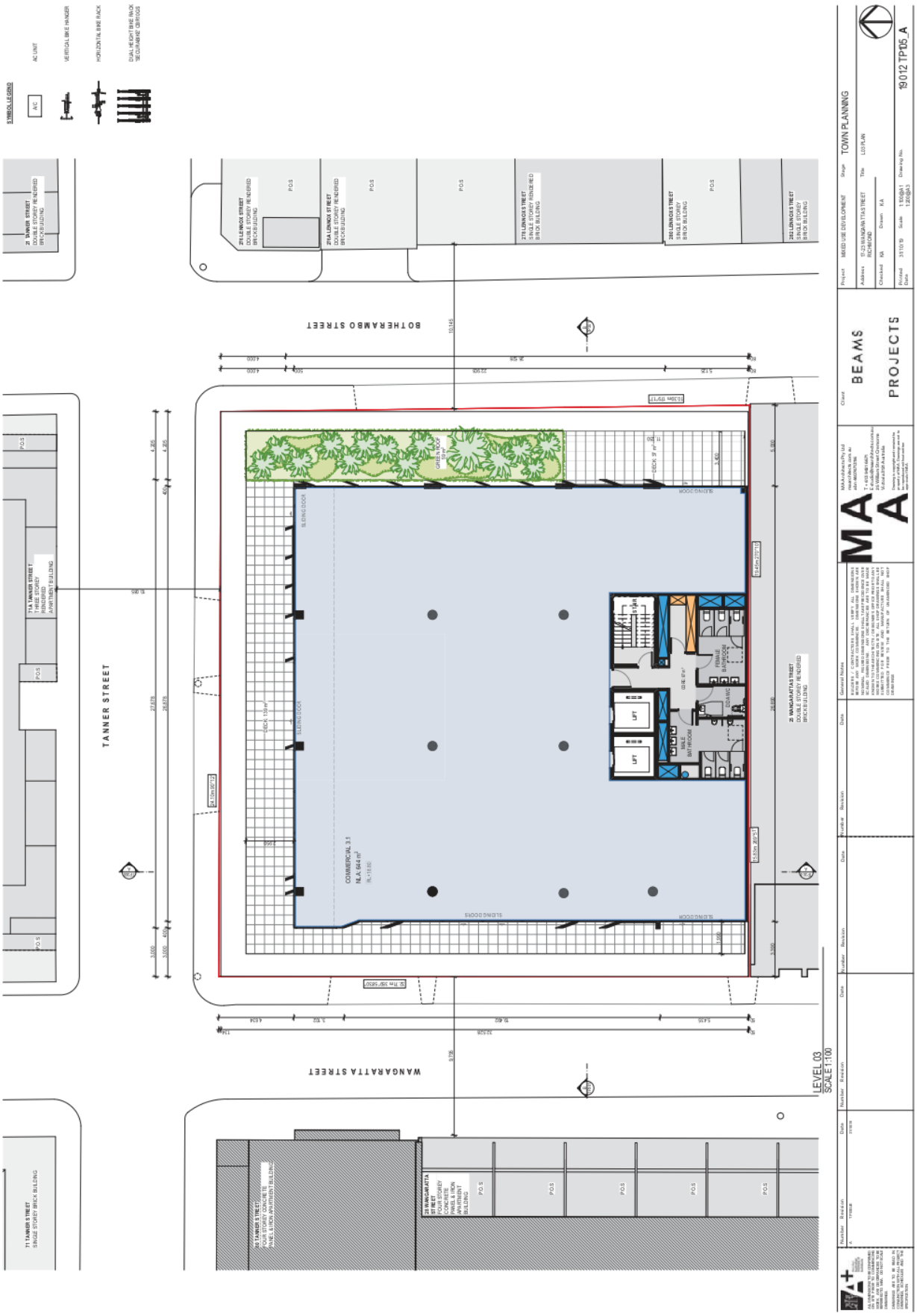
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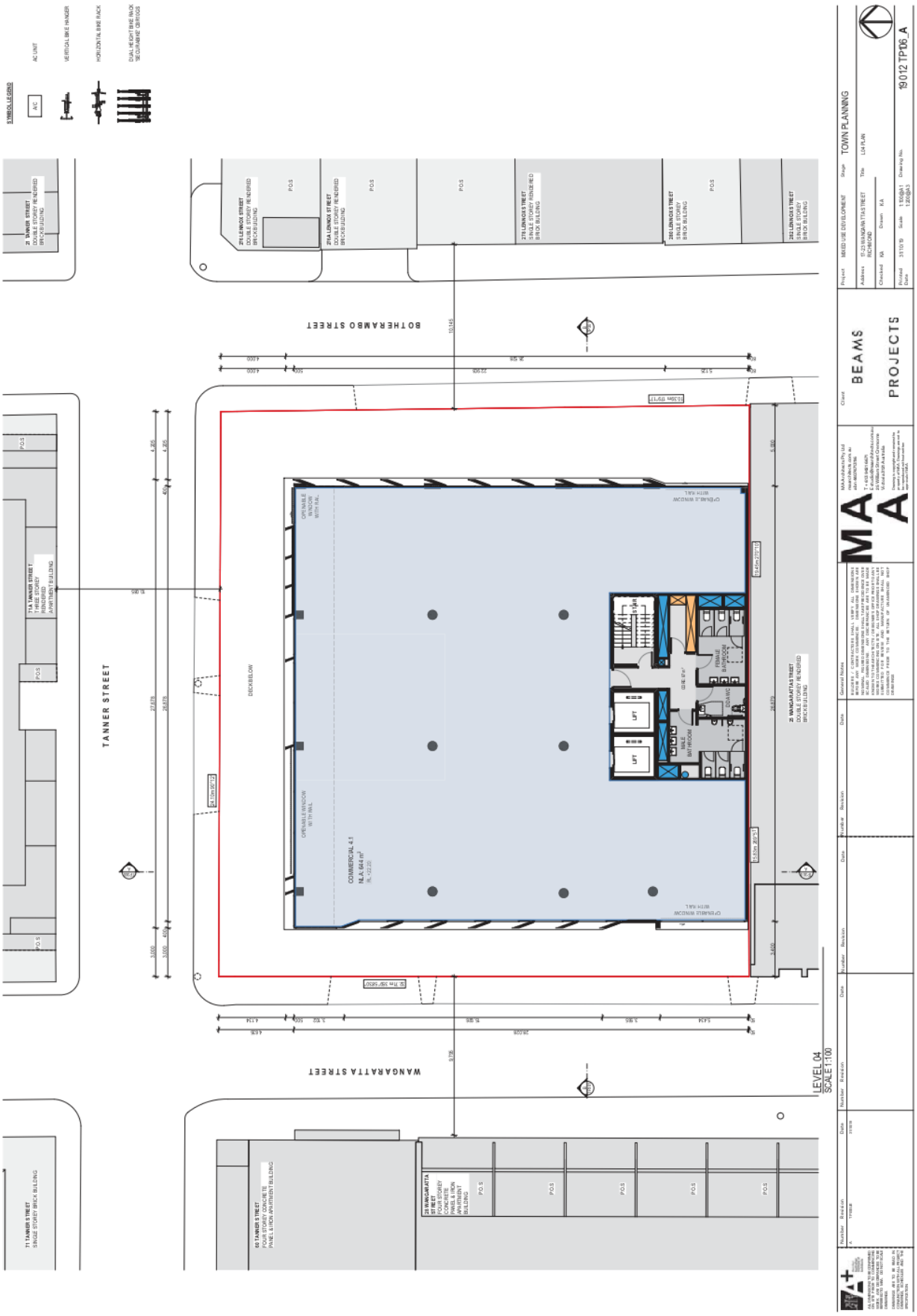
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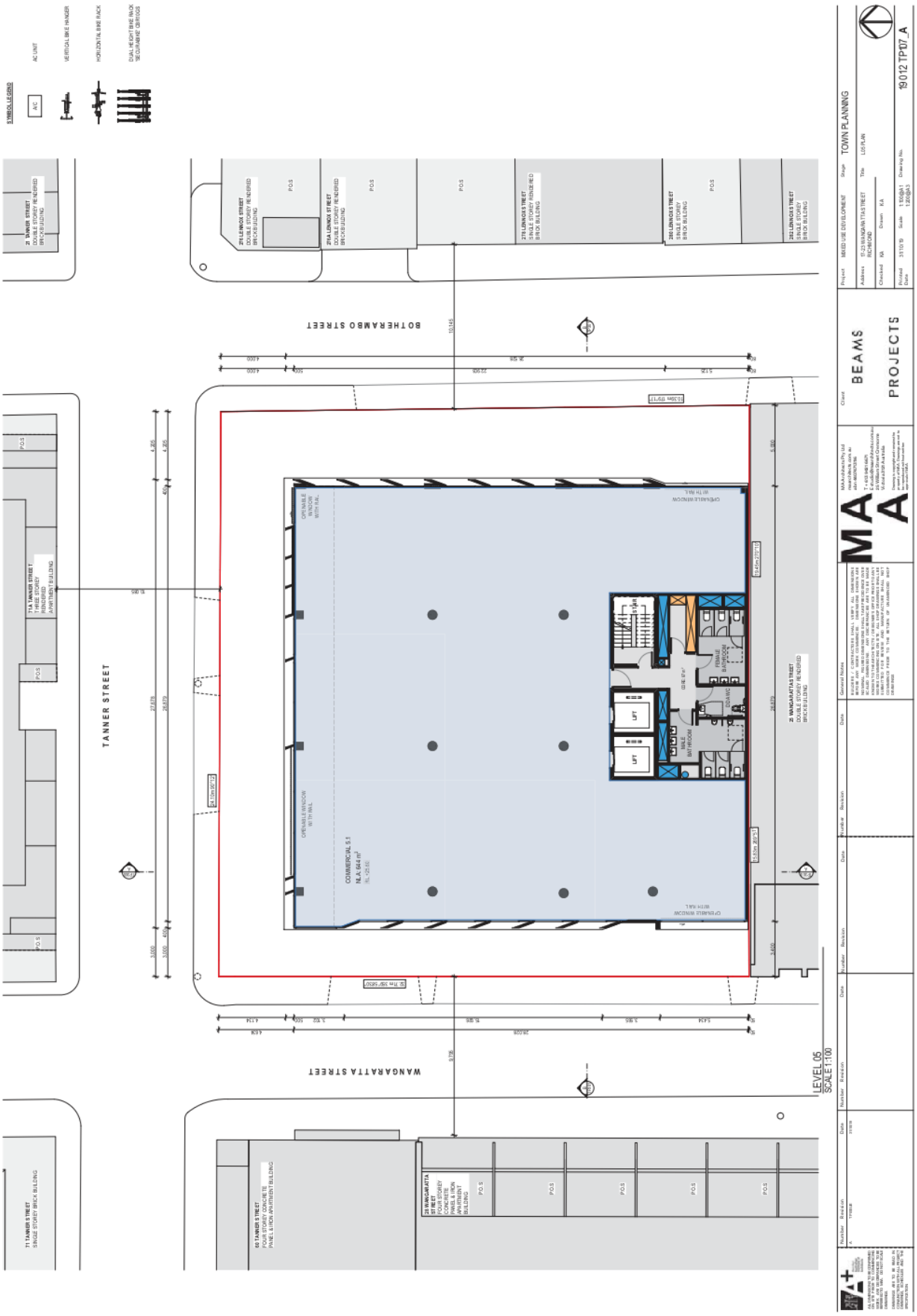
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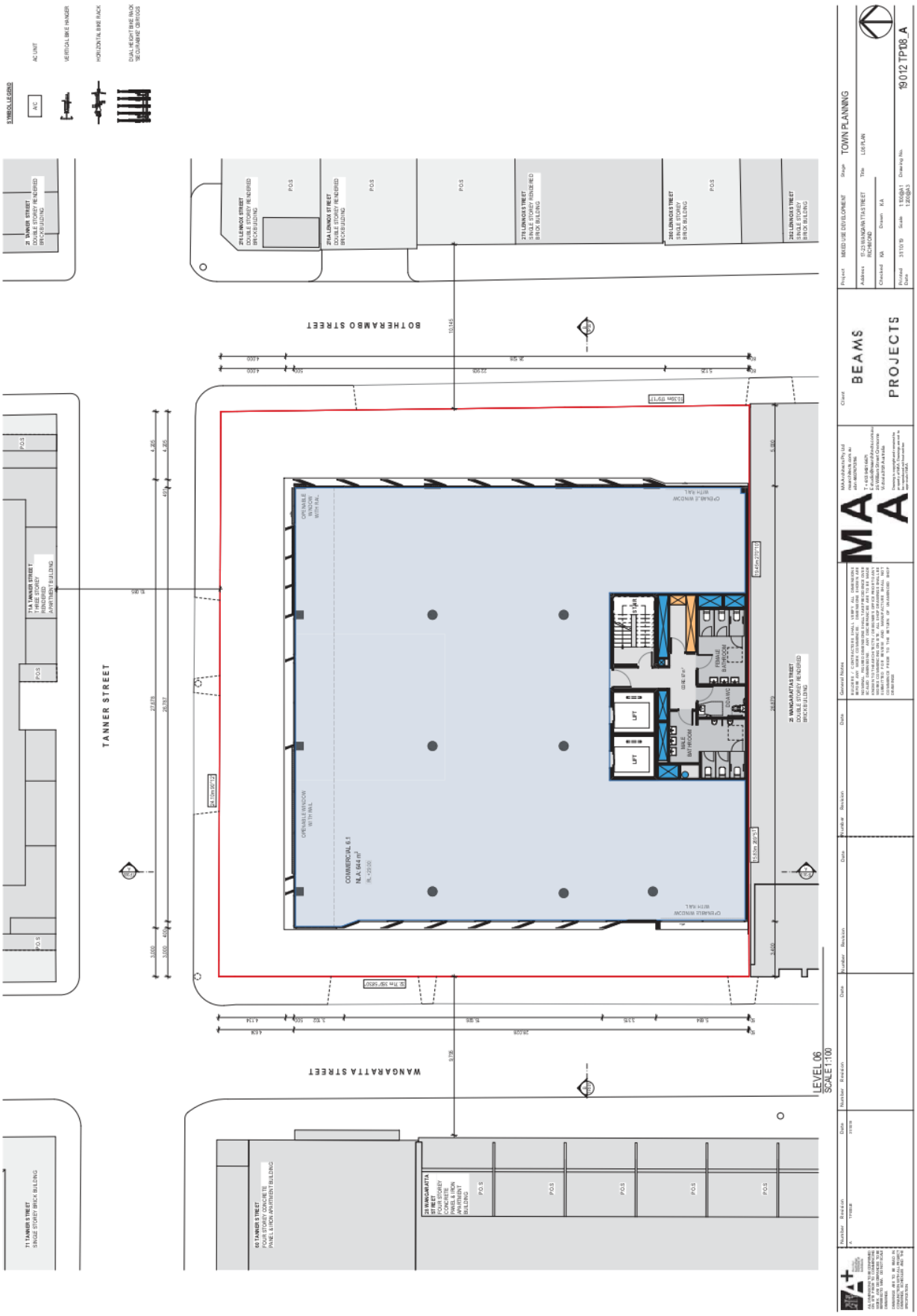
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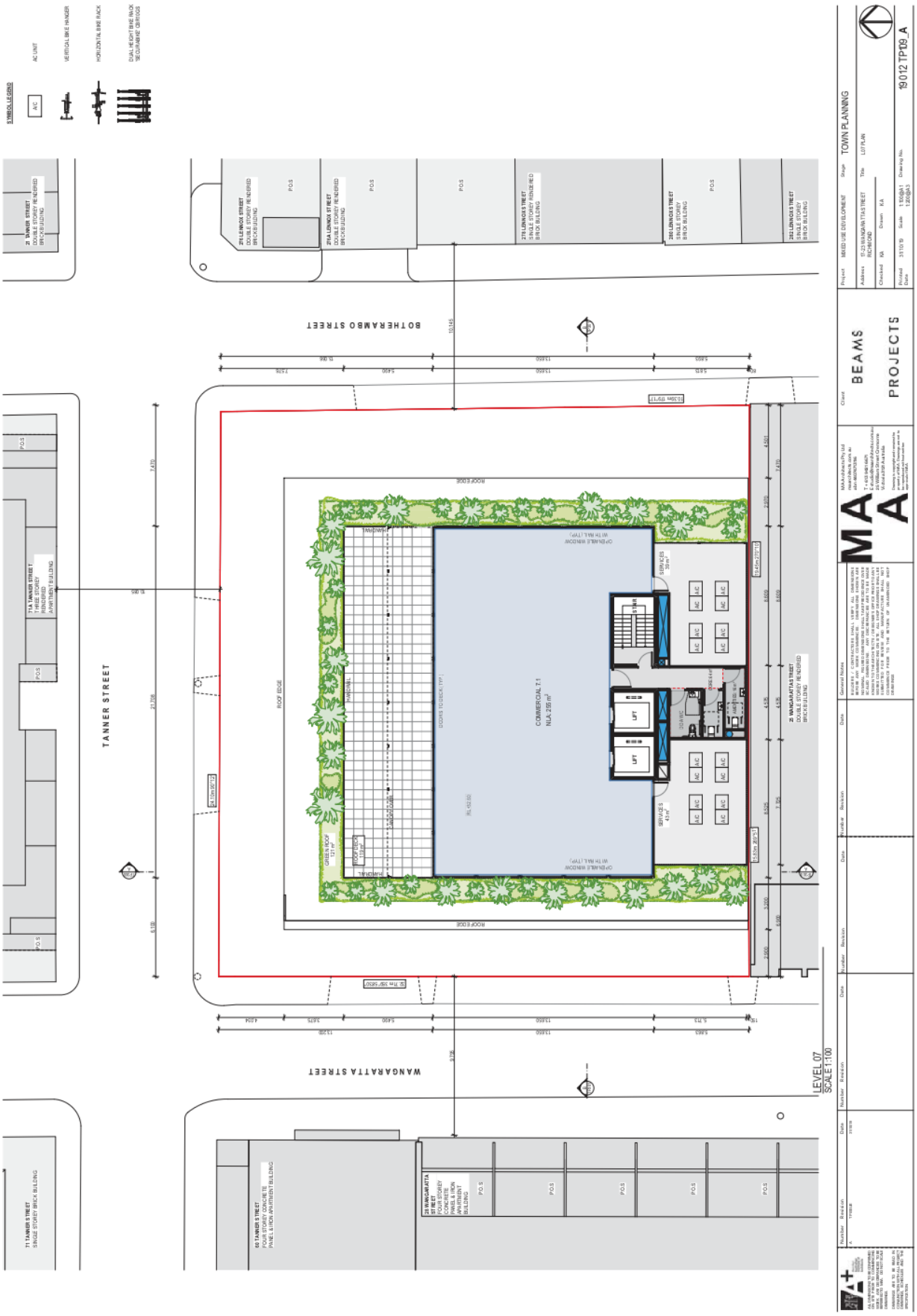
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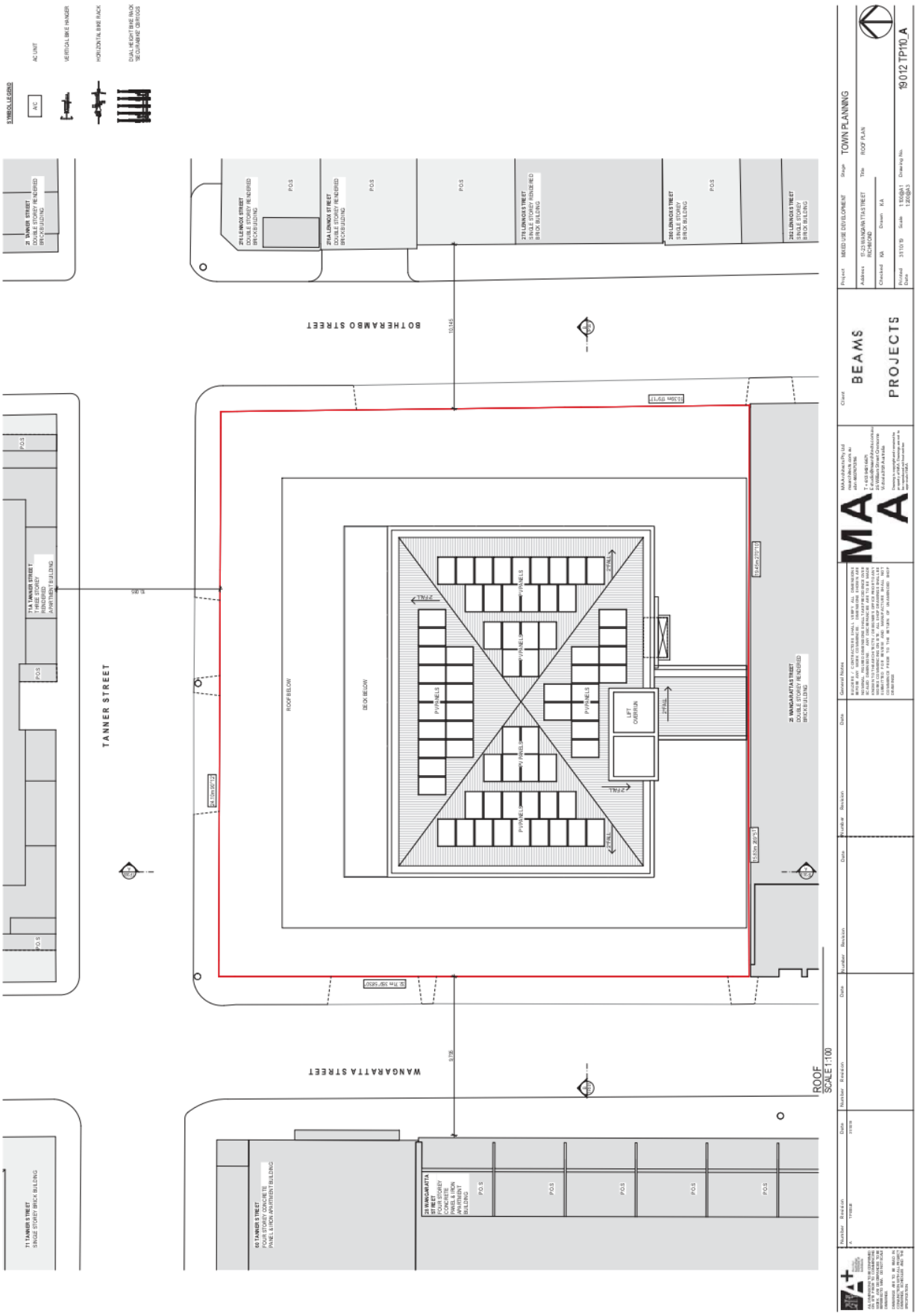
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Attachment 5 - Advertising S52 - Waste Management Plan



Attachment 5 - Advertising S52 - Waste Management Plan



Appendix B : NSW EPA Industry Fact Sheets

Attachment 5 - Advertising S52 - Waste Management Plan

NSW EPA

Reducing business waste

Industry fact sheet — Cafés and restaurants

Serve great food with green benefits

Restaurants and cafés typically produce between 1.7 to 7.3kg of waste for each full-time employee a day.

Yet more than half of what is tossed out as rubbish could be recycled. Around one third of a typical restaurant or café waste bin is filled with paper and cardboard, while another 28 per cent is food[1].

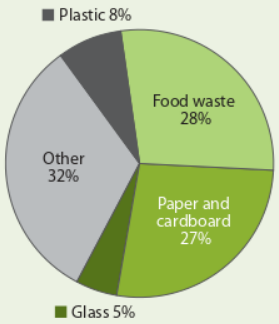
In NSW, food waste formed the second largest identifiable portion of commercial and industrial waste. Sydney businesses alone disposed of over 300,000 tonnes of food waste in 2008[2].

Between June and August 2008, a Department study found that 74 per cent of total food wasted in Sydney was thrown away before it even got to the consumer[3]. This means that your staff could literally be throwing money in the bin.

You can recycle everything from coffee grounds, which can be composted, to cooking oils, which can be converted into products like biofuels.

Paper, cardboard and plastic can all be recycled instead of going to landfill.

By putting these materials in the correct bins your business could save money through a reduced waste collection charge, plus you will be helping our environment.



Typical composition of café and restaurants waste bins

Simple ways your business can reduce waste and save

Think in terms of the waste hierarchy. How can you avoid, reduce, reuse or recycle?

Avoid → Do we need it?
Reduce → Do we need so much?
Reuse → Can we use it again?
Recycle → Can someone else use it or turn it into new products?

AVOID

To avoid food waste, make sure products from suppliers are in good condition. You should store perishable items immediately to maintain food safety and quality. Order food from local suppliers that can deliver fresh produce when needed.

Other ways cafés and restaurants can avoid waste:

- Order and prepare appropriate amounts of food. Give customers the choice of serving sizes.
- Move to paperless systems such as electronic order taking.
- Avoid over-packaged goods. Order fresh fruit and vegetables without excess leaves or foliage.
- Use paper cups and containers for takeaways rather than supplying plastic items. See our Takeaways fact sheet for more tips on how to reduce costs.

For more information on avoiding food waste visit **lovefoodhatewaste.nsw.gov.au/business**

1 DECCW, unpublished data
2 DECCW (2009). Commercial and industrial waste in Sydney – overview. http://www.environment.nsw.gov.au/warr/CommercialIndustrialWaste.htm
3 DECCW (2010). Audit of commercial and industrial waste in Sydney – full report (unpublished). http://www.environment.nsw.gov.au/warr/CommercialIndustrialWaste.htm

REDUCE

Buy perishables and non-perishables in bulk, so you pay for less packaging and cut down the amount of material you have to get rid of or recycle. For example, buy spirits in bulk bottles that you can attach to a dispensing system.

Here are some other ways to reduce waste:

- Buy items in returnable containers, such as milk crates. Arrange to return these containers to your suppliers.
- Save money by matching your bin collection timetable to your business needs. If your bins are not normally full after a week, then consider moving to a fortnightly collection cycle.
- Keep your work areas clean. If things are well organised and labelled clearly, you and your staff will know where everything is and use products more efficiently. This encourages staff to use only the resources they really need.
- Use refillable sugar dispensers, condiment dispensers, reusable cutlery, reusable tableware and food storage containers. Items that only get used once and then thrown away mean you have to get rid of more rubbish.

REUSE

Buy products with reusable packaging. Great examples are beer kegs and plastic drums for post-mixes. When suppliers suggest moving away from reusable packaging, remind them that you are landed with extra disposal costs. Speak to your meat and fish supplier about using reusable plastic tubs instead of disposable polystyrene and cardboard packaging.

You could also:

- Filter and reuse cooking oil before you get rid of it. The useful life of oil can be prolonged by ensuring oil (for example, in deep fryers) is only heated when necessary for cooking.

RECYCLE

First consider donating unused food to a suitable charity that supplies to people in need in the community. Then sort out what can be recycled.

Visit **lovefoodhatewaste.nsw.gov.au/business** to use our food donation toolkit. It provides everything you need to know about safely donating food to charity.

Go to **BusinessRecycling.com.au** to find details of recycling service providers. This website allows you to search for service providers in your area that collect specific materials for recycling or allow you to drop them off.

It could be cheaper organising the pickup of recycling bins, rather than paying for the collection of general waste bins where the content goes to landfill. Other recycling options are:

- If you are in a shopping complex, ask the centre's management about setting up a recycling system.
- Look for extra places where recycled material can be collected inside and outside the building. Share recycling bins or containers with another business.
- Ask your recycling contractors for help with providing recycling information, signs and the latest systems.
- Make sure your staff, contractors and cleaners follow your recycling program and sort and put material in the correct bin.
- Collect all used cooking oils and fats in an oil bin for re-processing. It is illegal to dispose of these down any drains and you may be able to get money for good quality oil.
- Buy products with recycled content, such as toilet paper, napkins, office printer paper and packaging. If your brochures, catalogues, sales letters and other promotional material are printed on recycled paper, mention that in the content. This helps to build demand for more products made from recycled materials.
- Promote your firm's recycling actions and encourage others to do the same. For example, publish your environmental policy and objectives on the menu and state that it is printed on recycled paper.

Your sustainable waste policies could save you money, help attract or retain customers and preserve the environment.

For further information

Waste and Resource Recovery
Resource Recovery Unit
Email: info@environment.nsw.gov.au

EPA 2012/0339 November 2012
ISBN 978-1-74293-874-5

Published by:

Environment Protection Authority
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TTY: (02) 9211 4723
Email: info@environment.nsw.gov.au Web: www.epa.nsw.gov.au
Report pollution and environmental incidents: Environment Line: 131 555 (NSW only)

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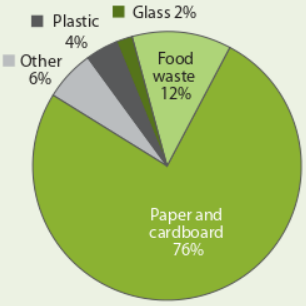
Reducing business waste

Industry fact sheet — Commercial offices

Want to cut waste by more than 70 per cent?

Sort through a typical waste bin in a commercial office and you will find it contains 76 per cent paper and cardboard, 12 per cent food waste and 6 per cent glass and plastic[1].

This means almost all the contents can be recycled instead of going to waste in landfill. By putting materials like cardboard, paper and glass in the correct recycling bins your business could save money via a reduced waste collection charge plus you will be helping our environment.



Typical composition of commercial office waste bins

Simple ways your office can reduce waste

Think in terms of the waste hierarchy. How can you avoid, reduce, reuse or recycle?

Avoid → Do we need it?
Reduce → Do we need so much?
Reuse → Can we use it again?
Recycle → Can someone else use it or turn it into new products?

AVOID

Communicate and store information electronically, instead of using paper. This will save you money, time and space.

Buy in bulk to avoid excessive packaging. Share printers and other machinery.

REDUCE

With paper likely to fill most office waste bins, it makes sense to print out only essential documents. Use double-sided printing and recycled paper. Reduce ink costs by printing in draft mode.

Place a tray near the printer for discarded documents, printed on one side, and use the back of this paper as note paper.

Here are some other ways to reduce waste:

- Keep desks, stationary cupboards and work areas tidy. If things are well-organised and clearly labelled, you and you staff will know where everything is and can use resources more efficiently.
- Encourage your staff to use only the minimum resources needed to complete jobs.
- Speak to your suppliers about their packaging. Find out if they can take back packaging or supply products in returnable packs such as crates.

You can save money by matching your bin collection timetable to your business needs. If your bins are not normally full after a week, then consider moving to a fortnightly collection cycle.

REUSE

Plan to reuse as many items as possible. These are some examples.

- Buy printers and photocopiers that take refillable toner cartridges and can print double-sided.
- Provide a place in the office to store used folders, files, clips and covers, then encourage staff to reuse these items.
- Provide reusable cups, crockery and cutlery for staff. This reduces waste caused by takeaway items.

RECYCLE

Go to **BusinessRecycling.com.au** to find a local recycling service provider. This website allows you to search for service providers in your area that collect specific materials or allow customers to drop them off.

Make sure your staff and cleaners follow your recycling program and that they put materials in the correct bins. Your recycling service provider may be able to supply staff training, signs and innovative systems.

Find out from your waste service contractor how you can work together to get a reduced fee for pick up.

Look for extra places where recycled material can be collected inside and outside the building. If necessary, share recycling bins with another business.

Here are some other ways to improve recycling:

- Recycle all paper and cardboard. Place recycling bins or empty cardboard boxes at desks to make this more convenient.
- Recycle glass, steel cans, aluminium cans and plastic bottles.
- When you plan refurbishments, include recycling storage areas and consider how they fit in to the new work space.
- Donate spare boxes, paper and old but usable computers to charities or schools.
- Donate old desks, office furniture and fittings to charity or sell them.
- Promote your business' waste reduction and recycling actions. By telling others of your achievements, you may encourage them to do the same.
- Support the recycling efforts of others by purchasing products with recycled content such as toilet paper, printer paper and packaging.
- If your brochures, catalogues, sales letters and other promotional material are printed on recycled paper, mention that in the content. This helps to build demand for more products made from recycled materials.

Revising your waste policies can save you money, help retain customers and preserve the environment.

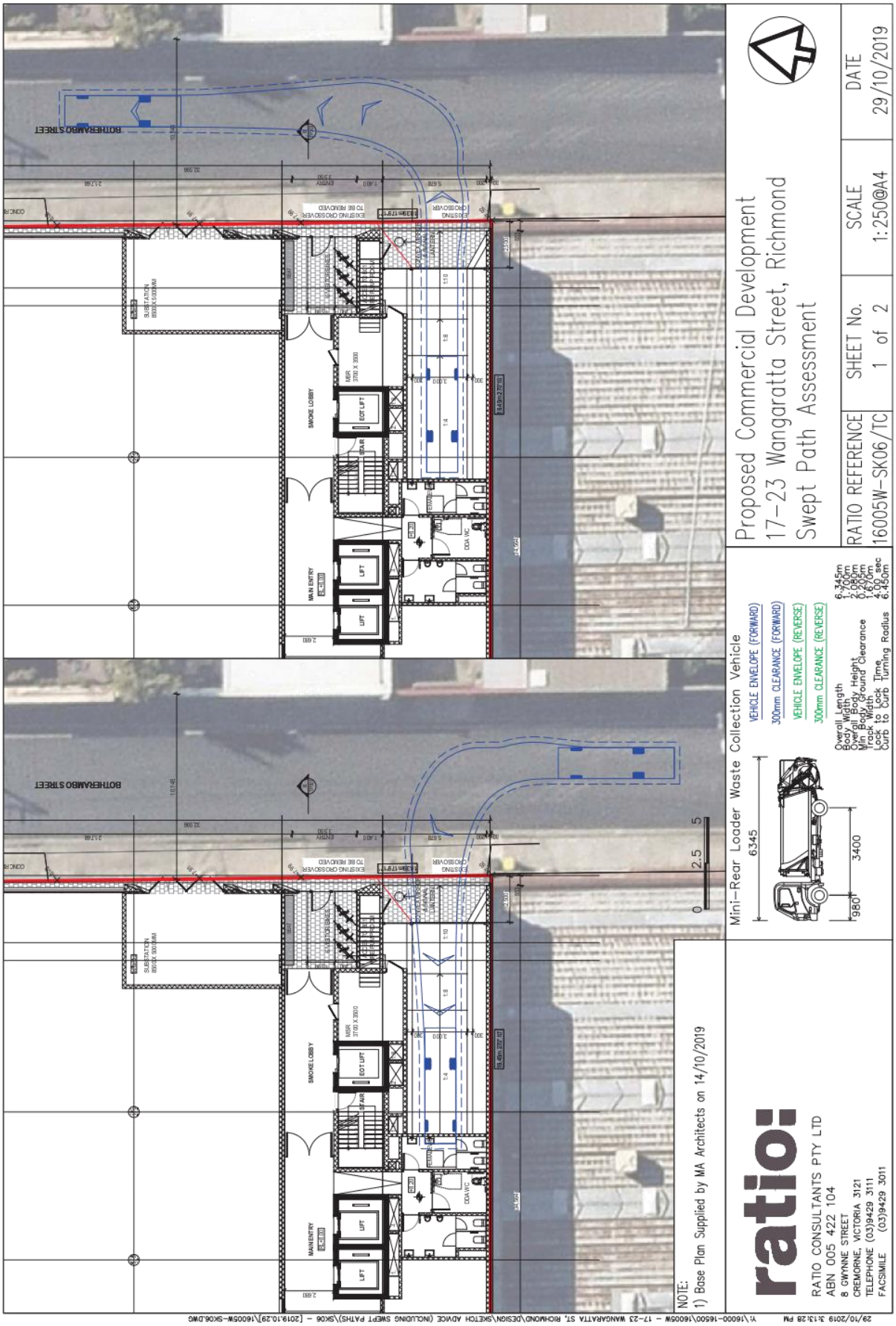
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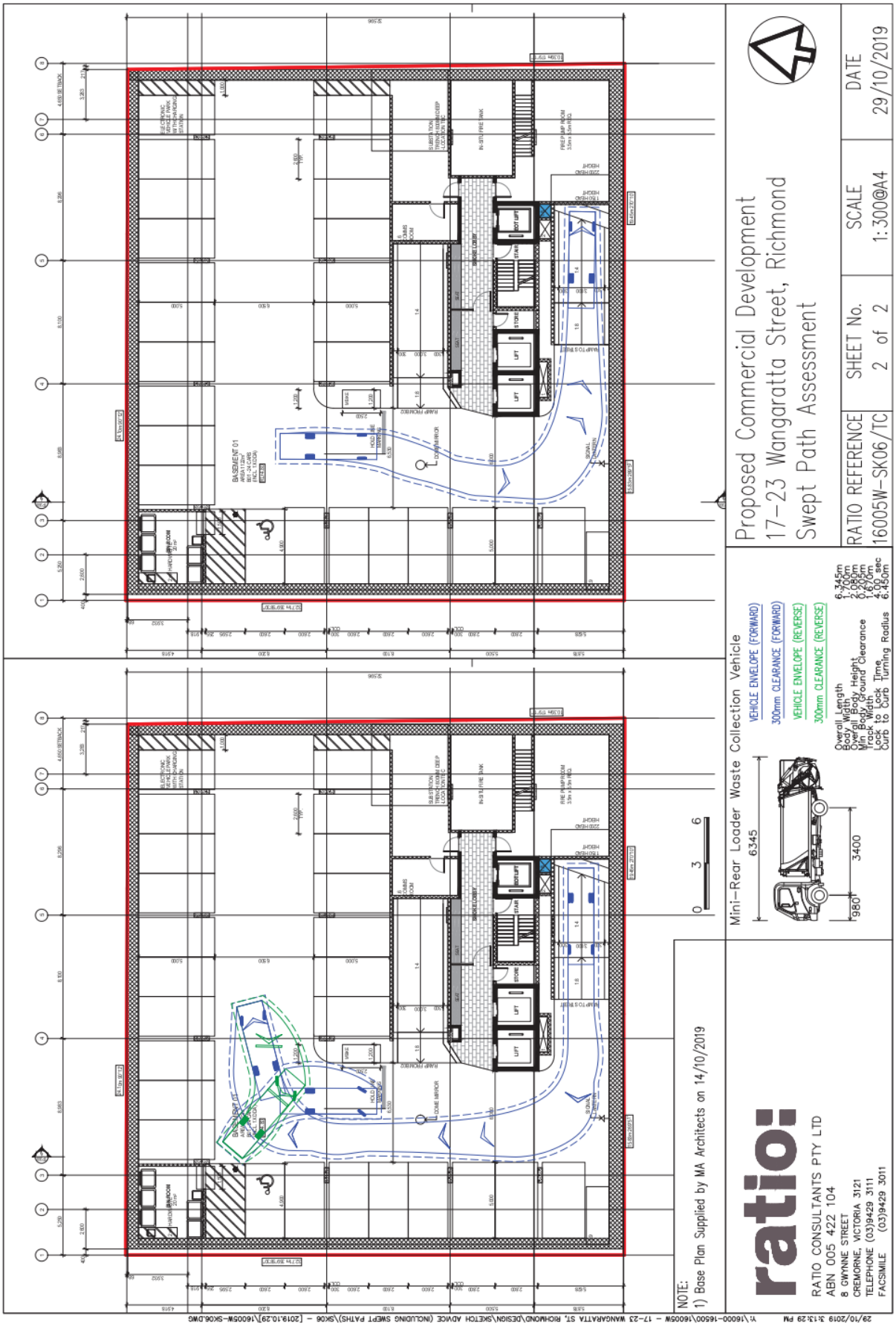
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Appendix C: Swept Path Assessment

Attachment 5 - Advertising S52 - Waste Management Plan



Attachment 5 - Advertising S52 - Waste Management Plan



Attachment 6

1.1.DOC

Sustainability Management Plan

ADP
Consulting : Engineering

Office Development

Sustainability Management Plan

17-23 Wangaratta Street
Richmond VIC 3121

Revision: 04
Job No: MEL1584
Date: 1 November 2019

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Project:	17-23 Wangaratta Street
Location:	17-23 Wangaratta Street, Richmond VIC
Prepared by:	ADP Consulting
	Level 11, 60 Albert Road
	South Melbourne VIC 3205
Project No:	MEL1584
Revision:	Rev04
Date:	01/11/2019

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Comment				
Author	DK	RY	RY	RY
Signature				
Technical Review	TM	SH		
Signature				
QA and Authorisation	SH	SH		
Signature				

1. Introduction

This report provides an overview of the environmentally sustainable development (ESD) strategy for the proposed development at 17-23 Wangaratta Street, Richmond.

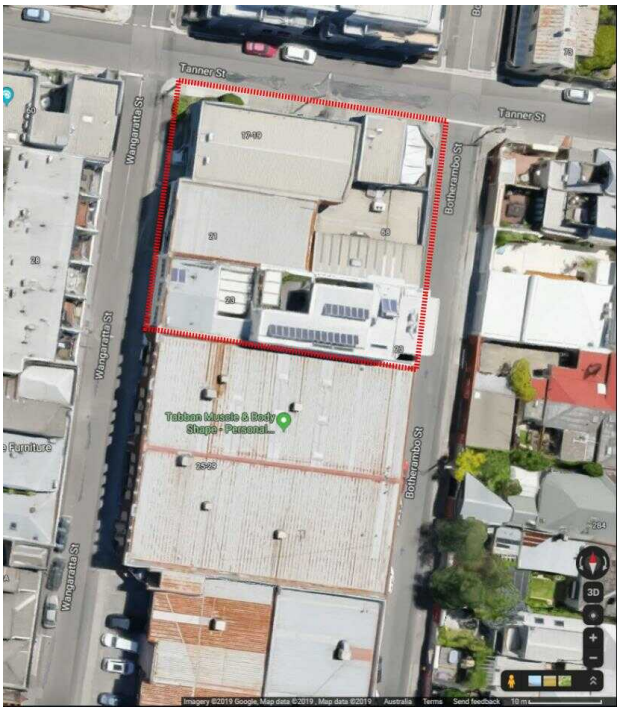
The project is an office development located within the municipal boundaries of the City of Yarra. It consists of two basement levels parking, retail at ground level, office up to level 6 and communal space at level 7.

The objective of this report is to describe how best practice ESD will be incorporated in the development, including targets and proposed design approaches, and to demonstrate that the development meets or exceeds the standards required by the City of Yarra Planning Scheme, specifically the requirement to achieve the design potential to a minimum +50% BESS score.

1.1 SITE OVERVIEW

The site is located at 17-23 Wangaratta Street, Richmond. Refer to Figure 1 for the location.

FIGURE 1: PROJECT SITE LOCATION



1.2 STATUTORY CONTEXT

The site is situated within the municipal boundaries of the City of Yarra. The City of Yarra has objectives and strategies relating to ESD which are contained in the planning scheme. These policies and objectives have been taken into consideration throughout this assessment and in our advice given to the applicant. Overall, the proposed ESD initiatives of this development will meet Council's overarching goal of promoting sustainable design and buildings.

The City of Yarra adopts the Sustainable Design Assessment in the Planning Process (SDAPP) framework which ensures the consistent inclusion of environmental performance considerations into planning permit approvals. The framework identifies 9 key sustainable design criteria that need to be addressed, as follows:

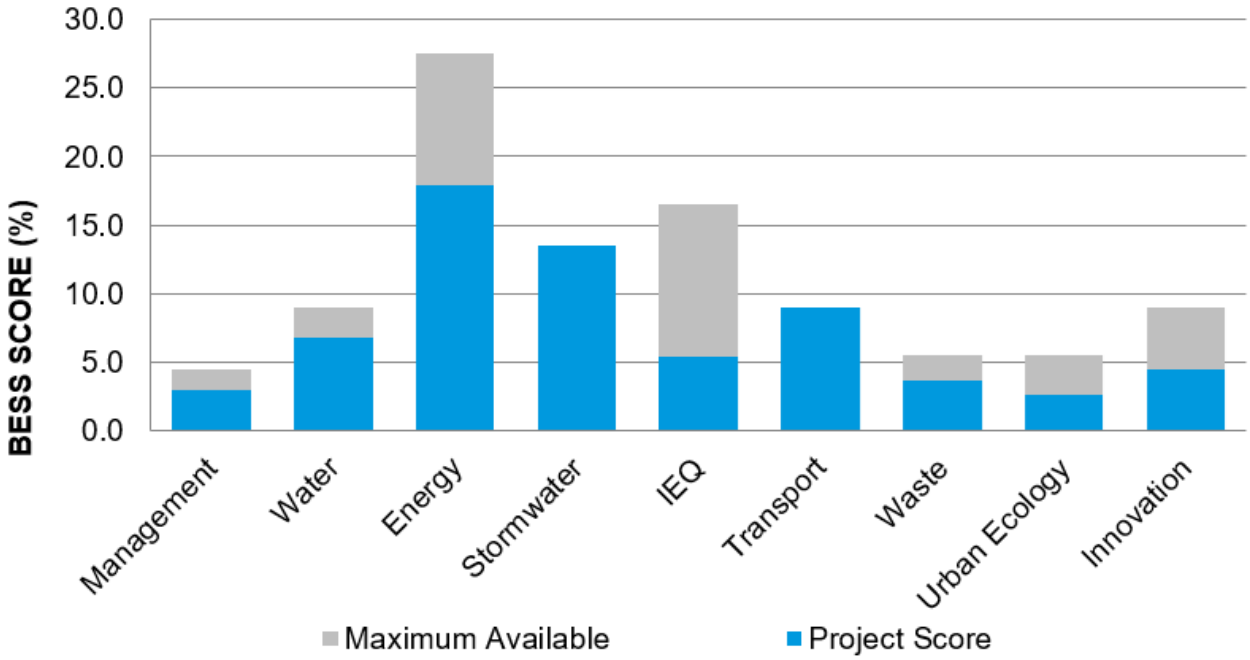
- Ongoing building and site management
- Water resources
- Energy efficiency
- Stormwater management
- Indoor environment quality (IEQ)
- Transport

- Waste Management
- Urban Ecology
- Innovation

The Built Environment Sustainability Scorecard (BESS) has been utilised to benchmark the environmental performance of the project. The proposal has the preliminary design potential to achieve the following BESS Score:

- 66% - Best Practice

FIGURE 2: BESS SCORE SUMMARY



1.3 SUMMARY OF ESD INITIATIVES

Table 1 provides a summary of ESD initiatives in the different SDAPP categories including Management, Water, Energy, Stormwater, IEQ, Transport, Waste Management, Urban Ecology and Innovation.

TABLE 1: SUMMARY OF ESD INITIATIVES

	ESD Initiatives	
Management	• Thermal modelling of all non-residential areas • Metering for common area	• Building users guide • Metering for all individual commercial tenants
Water	• Water efficient fittings, fixtures and appliances: - Showers: 3 Stars >4.5 but <=6.0) - Toilets: 3 Stars - Taps: 6 Stars - Urinals: 6 Stars - Dishwashers: 6 Stars	• In total 12,000L Rainwater Tank connected to toilets • Water meters for major water uses • Individual water meter for each tenancy
Energy	• High Performance Fabric and Glazing • 20% improvement in overall energy efficiency over minimum NCC/BCA requirements for non-residential areas • High efficient electrical hot water systems	• Common area lighting controlled by motion detector • External lighting controlled by daylight sensor • High performance LED lighting • 20 kWp PV system • Carbon Monoxide monitoring for car park
Stormwater	• 100% STORM Score	
IEQ	• Adequate daylight provision, compliant with Council's IEQ daylight requirements. • Natural ventilation supported via openable windows • 50% increase on minimum outdoor air supply requirement to balanced reduced IEQ score. • Individual control	• Views for indoor areas • High performance double glazing • External shading to exposed glazing where applicable
Transport	• Good access to public transport • Bicycle parking: 81 in total - 50 dual height at B02 - 14 horizontal at B02 - 7 wall hung at B02 - 2 Bike hoops at GF (in total 4 spaces) - 6 Visitors Bikes at GF	• End of trip facilities: - Showers: 6 - Lockers: 114 • Site Walkscore of 98 • Electrical vehicle infrastructure • Care share scheme • Motorbike/mopeds parking space
Waste	• Recycling facilities as accessible as general waste facilities	• Food & garden Waste
Urban Ecology	• Use of existing site, not greenfield land • No harm to endangered species • Light pollution reduction	• Soil management during construction • Common space • Vegetation (15% of the site area) • Green roof
Innovation	• Contractor Education • Paint VOC reduction • DHW system microbial mitigation	• Eco-friendly floor covering • Post occupancy survey

2. ESD Initiatives

The following section provides details of the ESD initiatives which have been deemed potentially suitable for the project. These form the overall benchmarking assessment of the building. These initiatives are currently adopted or under consideration; best endeavours will be made to include these in the fully developed design.

2.1 MANAGEMENT



The SDAPP 'Management' category encourages and rewards the adoption of practices and processes that enable and support best practice sustainability outcomes throughout the different phases of a project's design, construction and its ongoing operation.

Throughout the 'Management' category, SDAPP intends to improve the sustainability performance of a project by influencing areas where decision-making is critical. This category rewards the implementation of processes and strategies that support positive sustainability outcomes during construction. The category also promotes practices that ensure a project will be used to its optimum operational potential.

The 'Management' category rewards projects that achieve the following outcomes:

- Coordinated approaches
- Commitment to implementation
- Sustainable cultures and behaviours

TABLE 2: ACTIONS FOR BUILDING MANAGEMENT

Action	Criteria Targeted	Design Response / Strategy
Thermal Performance Modelling – Non-residential	✓	• JV3 modelling will be undertaken for the non-residential areas in accordance with Section J of the NCC.
Building Users Guide	✓	• A building user's guide will be developed for use by the occupants and building maintenance. The building design and ESD commitments will be reviewed to identify the systems and processes that the guests and employees interact with. The building user's guide will be a simple booklet or pamphlet with simple language to encourage the most sustainable use of the building possible.
Metering Strategy	✓	• Utility meters will be provided to all individual commercial areas • All major common area services to be separately sub-metered.
Construction Environmental / Waste Management	✓	• Construction Waste Management Plan will be implemented during construction.
Total Score	**3.0%**	
Maximum Score Available	**4.5%**	

2.2 WATER



The SDAPP 'Water' category aims to encourage and reward initiatives that reduce the consumption of potable water through measures such as the incorporation of water efficient fixtures and building systems and water re-use.

Reductions in operational water consumption may be achieved through maximisation of water-efficiency within a project, as well as through the utilisation of reclaimed water sources.

The 'Water' category rewards projects that achieve the following outcomes:

- The selection of equipment that is more water efficient than comparable standard practice equivalents;
- The use of water-efficient supplementary equipment;
- The selection of water-efficient toilets, taps and showers.

TABLE 3: ACTIONS TO MAXIMISE WATER EFFICIENCY

Action	Criteria Targeted	Design Response / Strategy
Potable Water Use Reduction (Interior Uses)	✓	• 41% reduction in potable water consumption • Water efficient fittings, fixtures and appliances: - Showers: 3 Stars (>4.5 but <=6.0) - Toilets: 3 Stars - Taps: 6 Stars - Urinals: 6 Stars - Dishwasher: 6 Stars
Water Efficient Landscaping		• Water efficient landscaping will be installed
Rainwater Collection & Reuse	✓	• In total 12,000L rainwater tank. • 799.7m^2 total roof and terrace collection area. • Rainwater tank connected to toilets to achieve 100% STORM score.
Total Score	**6.8%**	**COMPULSORY COMPLIANCE – MIN 4.5% REQUIRED**
Maximum Score Available	**9%**	

2.3 ENERGY



The SDAPP 'Energy' category aims to reward projects that are designed and constructed to reduce their overall operational energy consumption below that of a comparable standard practice building. Such reductions are directly related to reduced greenhouse gas emissions, lower overall energy demand as well as reductions in operating costs for building owners and occupants.

Through the 'Energy' category, SDAPP aims to ensure reductions in greenhouse gas emissions by facilitating efficient energy usage and encouraging the utilisation of energy generated by low-emission sources.

The 'Energy' category rewards projects that achieve the following outcomes:

- The implementation of well-designed systems, aimed at lower operating emissions;
- The selection of high efficiency equipment over less energy efficient alternatives;
- The implementation of well-designed and zoned lighting that is energy efficient and appropriate for a space's use;
- The use of efficient supplementary equipment; and
- The procurement of zero carbon and low carbon energy sources.

TABLE 4: ACTIONS TO MAXIMISE ENERGY EFFICIENCY

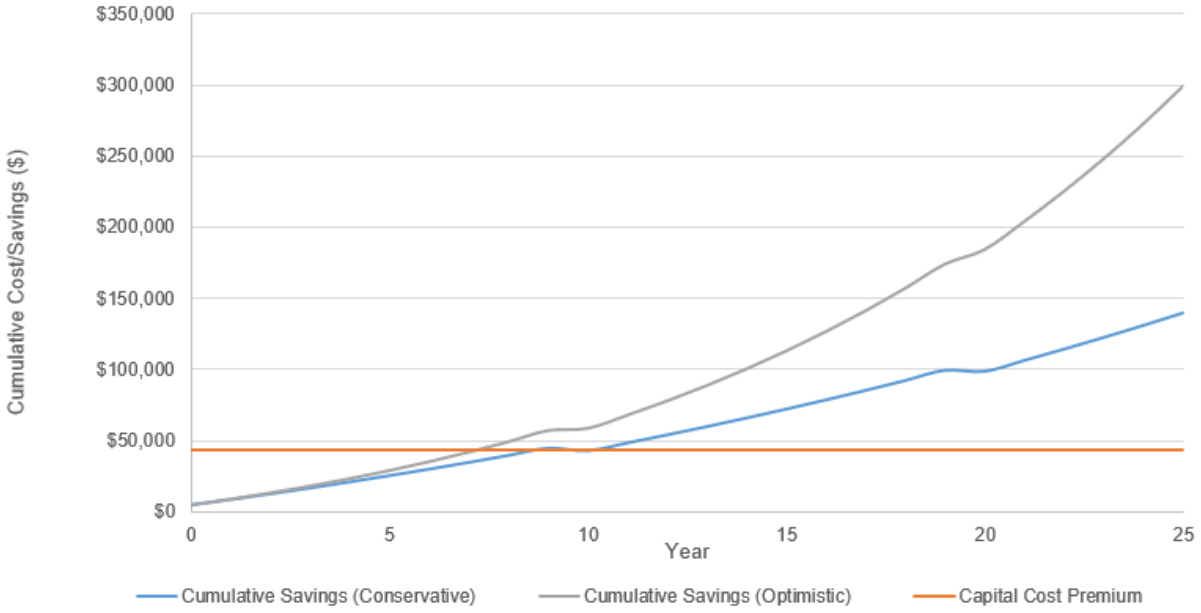
Action	Criteria Targeted	Design Response / Strategy
Thermal Performance Rating Non-residential	✓	• Non-residential areas will demonstrate overall energy efficiency at least 20% above minimum NCC/BCA requirements.
Internal Lighting	✓	• High performance LED lighting with power density at least 20% lower than required by Table J6.2a of the NCC BCA (2016) Volume 1 Section J.
Lighting Control	✓	• Car park lighting controlled via occupancy sensors • Lobbies, corridors and common areas lighting controlled via motion sensor controls and/or time clocks • External lighting controlled by daylight sensors, and/or time clocks. • 24-hour lighting to be provided by exit signs where possible, eliminating the need for additional 24-hour lights
Appliances	✓	• All appliances, if installed within the base building package, will have energy rating within one star of best rating available for that appliance type and capacity. Potential appliances include: - Dishwashers - Fridge/Freezer
Carpark Ventilation	✓	• Monitor Carbon Monoxide levels in the mechanically ventilated areas of the carpark to control the operation and speed of the ventilation fans to reduce energy consumption.
Hot Water	✓	• High efficiency Rheem hot water units are proposed for the development: -Core amenities each level: 1*50L Rheem three phase - EOT: 1-315L three phase - Hot water for each commercial tenancy to be provided by each tenant.
Renewable Energy Systems	✓	• Installation of a 20 kWp Solar PV system (refer to Appendix A for details), resulting in carbon emissions abatement of 29,040 kgCO_2e/annum.
Total Score	**17.9%**	**COMPULSORY COMPLIANCE – MIN 13.75% REQUIRED**
Maximum Score Available	**27.5%**	

TABLE 5: CARBON ABATEMENT OPTIONS

System Type	Energy	Carbon Factor	Carbon Emissions
Photovoltaic system 20 kWp	22,000 kWh/annum	1.32 kgCO_2-e/kWh	29,040 kgCO_2-e/annum

A 20 kWp PV installation is approximately 67 x 300W panels, each panel measuring roughly 1.1m x 1.7m. Final PV capacity will be confirmed after design has progressed further and spatial coordination between services has been completed.

FIGURE 3: 20 KW PV SYSTEM PAYBACK



2.4 STORMWATER

The SDAPP 'Stormwater' category aims to ensure projects are responsibly treating stormwater to reduce the amount of polluted stormwater run-off entering local waterways such as; rivers, streams, wetlands and bays. This can be achieved by the following water sensitive urban design strategies (WSUD); rainwater tanks, raingardens, porous paving and landscaping.

To demonstrate compliance, a score of 100% must be achieved using the Stormwater Treatment Objective – Relative Measure (STORM) tool, demonstrating that the following has been achieved:

- Suspended solids – 80% retention of typical urban load
- Total Nitrogen – 45% retention of typical urban load
- Total Phosphorous – 45% retention of typical urban load
- Litter – 70% reduction of typical urban load

TABLE 6: ACTIONS TO ACHIEVE WSUD

Action	Criteria Targeted	Design Response / Strategy
Stormwater Treatment	✓	• Achievement of 101% STORM score. • Stormwater collection from 565.4m² of non-trafficable roof area and storage in a 8,500L rainwater tank • Stormwater collection from 234.3m² of trafficable terrace on level 3 and roof deck and storage in a 3,500L rainwater tank • Enhanced filtration required due to collection from trafficable terraces. • Rainwater tanks are connected to toilets serving an equivalent of 100 occupants (worst case). • No rainwater will be collected and re-used from planter boxes under any circumstance.
Total Score	**13.5%**	**COMPULSORY COMPLIANCE – MIN 13.5% REQUIRED**
Maximum Score Available	**13.5%**	

FIGURE 4: STORM ASSESSMENT

Melbourne Water **STORM Rating Report**

TransactionID: 859794
Municipality: YARRA
Rainfall Station: YARRA
Address: 17-23 Wangaratta Street
Richmond
VIC 3121
Assessor: ADP
Development Type: Commercial/Retail
Allotment Site (m2): 1,143.00
STORM Rating %: 101

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Non-trafficable Roof	565.40	Rainwater Tank	8,500.00	50	144.00	70.00
Trafficable Terraces/ roof-deck	234.30	Rainwater Tank	3,500.00	50	143.70	70.00
Untreated Hard Surface	343.30	None	0.00	0	0.00	0.00

2.5 INDOOR ENVIRONMENT QUALITY



The SDAPP 'Indoor Environment Quality' category aims to encourage and reward initiatives that enhance the comfort and well-being of occupants. The credits within this category address issues such as natural daylight, air quality and thermal comfort.

Through the 'Indoor Environment Quality' category, SDAPP aims to achieve sustainability performance improvements in a manner that also improves occupants' experience of the space. While it is possible to reduce a project's energy intensity by simply providing occupants with poor lighting quality for example, the 'Indoor Environment Quality' category recognises that buildings are designed for people and that reductions in energy use should never be made at the expense of the occupants' health and wellbeing.

By rewarding both energy efficiency and encouraging occupant well-being, the BESS rating system promotes and rewards a holistic approach to sustainability that results in multiple benefits.

The 'Indoor Environment Quality' category rewards projects that achieve the following outcomes:

- Increased comfort and wellbeing
- Reduced exposure to pollutants

TABLE 7:ACTIONS TO MAXIMISE INDOOR ENVIRONMENT QUALITY

Action	Criteria Targeted	Design Response / Strategy
Daylight Access	✓	• At least 2.0% daylight factor for at least 30% of the floor area of regularly occupied primary spaces. • Daylight modelling will be undertaken to demonstrate daylight performance.
Natural Ventilation	✓	• Natural ventilation is supported by doors to terraces, as well as openable windows. • Natural ventilation opening areas (windows / doors) will comply with AS1668.4: natural ventilation of buildings.
Mechanical Ventilation	✓	• The mechanical ventilation system will be designed in accordance with AS 1668.2-2012. - 50% increase on minimum outdoor air supply requirement to balanced reduced IEQ score. • Ventilation will be supplemented by exhaust fans to toilets. The exhaust fans will: - provide an additional air path for fresh air - help avoid mould growth - remove indoor air pollutants and excess moisture
Double Glazing	✓	• Double glazed window systems will be used, providing enhanced solar gain control and acoustic insulation.
External Views	✓	• All office space will have external views.
Outdoor Space	✓	• Outdoor terrace on level 3 and level 7.
Shading	✓	• Where deemed suitable, exposed glazing have exterior adjustable shading devices.
Individual Control	✓	• Individual control of heating, cooling and lighting within each tenancy.
Total Score	**5.8%**	**COMPULSORY COMPLIANCE – MIN 8.25% REQUIRED**
Maximum Score Available	**16.5%**	

Note that the BESS tool requires that 60% of the nominated floor area achieve at least 2% daylight factor to pass the IEQ category. This has been noted as not achievable due to the nature of a commercial development.

The limitation of the IEQ category within BESS for non-residential developments should be noted, in that daylight provision is the only criteria contributing to BESS IEQ score. BESS points are not awarded to any other IEQ initiatives.

In the IMAP IEQ PDF downloaded from Yarra City Council's website, Best Practice Standards for Daylight only require the following:

For non-residential developments, achieve a daylight factor of at least 2.0% for at least 30% of the floor area of regularly occupied primary spaces.

This development achieves a daylight factor of at least 2.0% for at least 35% of the floor area of regularly occupied primary spaces, thus meeting Council's IEQ daylight requirements.

To compensate for a low IEQ score, 50% increase on minimum outdoor air supply requirement to balanced reduced IEQ score has been targeted.

2.6 TRANSPORT



The SDAPP 'Transport' category aims to reward projects that facilitate a reduction of the dependency of occupants on private car use as an important means of reducing overall greenhouse gas emissions. The use of motor vehicles directly contributes to climate change in two ways - through the high amounts of energy required to produce cars and build and maintain supporting road transport infrastructure and services; and the direct emissions that result from car operations.

If reliance on individual motor vehicle transportation is to be reduced, it is necessary to maximise alternative transportation options. Rather than limiting access to private fossil fuel vehicles, the 'Transport' category aims to encourage and reward initiatives that reduce the need for their use. This may include initiatives that encourage the use of public transport options, cycling or walking, and the selection of sites that are close to local amenities.

The 'Transport' category rewards projects that achieve the following outcomes:

- The selection of sites that have readily accessible public transport options;
- The selection of sites within close proximity of a diversity of amenities;
- The facilitation and encouragement of the use of alternative transport options, such as bicycles or electric vehicles.

TABLE 8: ACTIONS TO MAXIMISE SUSTAINABLE TRANSPORT

Action	Criteria Targeted	Design Response / Strategy
Car Parking	✓	• Car parking numbers are as per requirements of the Planning Scheme.
Bicycle Parking	✓	• Bicycle parking provision exceeds Green Star / BESS requirements. Stipulate requirements for BESS: - Office: 24 bike spaces for employee & 8 bike spaces for visitors - Retail: 3 bike spaces for regular occupants & 2 bike space for visitors • Provided Bicycle parking: - 50 dual height at B02 - 14 horizontal at B02 - 7 wall hung at B02 - 2 Bike hoops at GF - 6 Visitors' Bike space at GF • Total for development: 81 bikes
End of Trip Facilities Non-residential	✓	• End of trip facilities exceed Green Star / BESS requirements. • End of trip facilities: - Showers: 6 - Lockers: 114
Care Share Schemes	✓	• Refer to Green Travel Plan (prepared by Ratio- version F01- Date:2019/10/29 (Final issue))
Electric Vehicle Infrastructure	✓	• One parking space will be nominated for EV charging, with appropriate signage and charging infrastructure installed.
Motorbikes/Mopeds	✓	• At least 5 motorbike spaces will be designed and labelled for motorbikes.
Walk score	✓	• The development achieves a Walkscore of 98, or 'Walker's Paradise, indicating that most errands can be completed on foot, as shown in Figure 5.
Total Score	**9%**	
Maximum Score Available	**9%**	

FIGURE 5: WALKSCORE OF PROEJCT

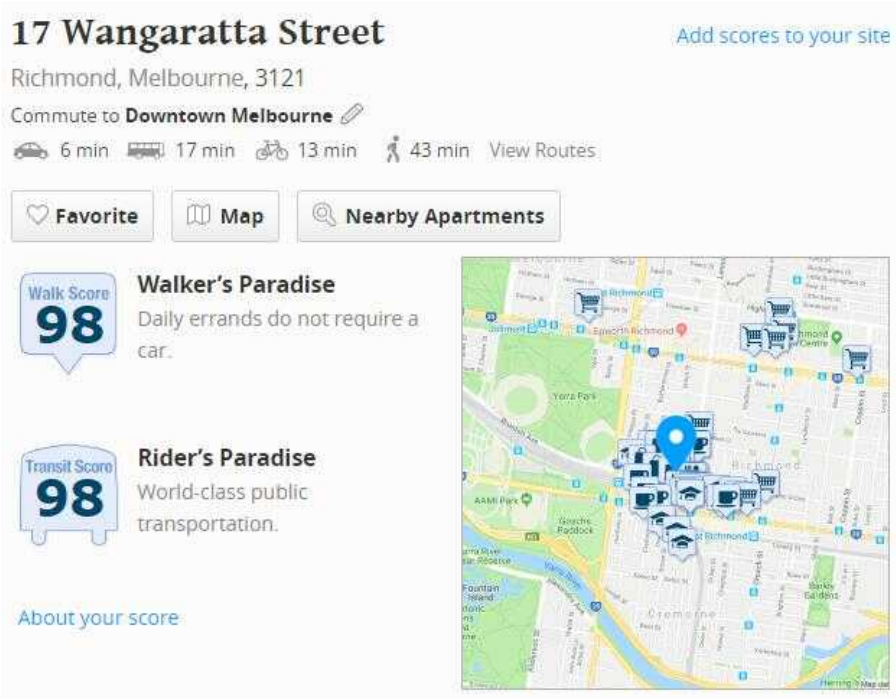


FIGURE 6: BICYCLE RACKS ON B02 AND END OF TRIP FACILITIES

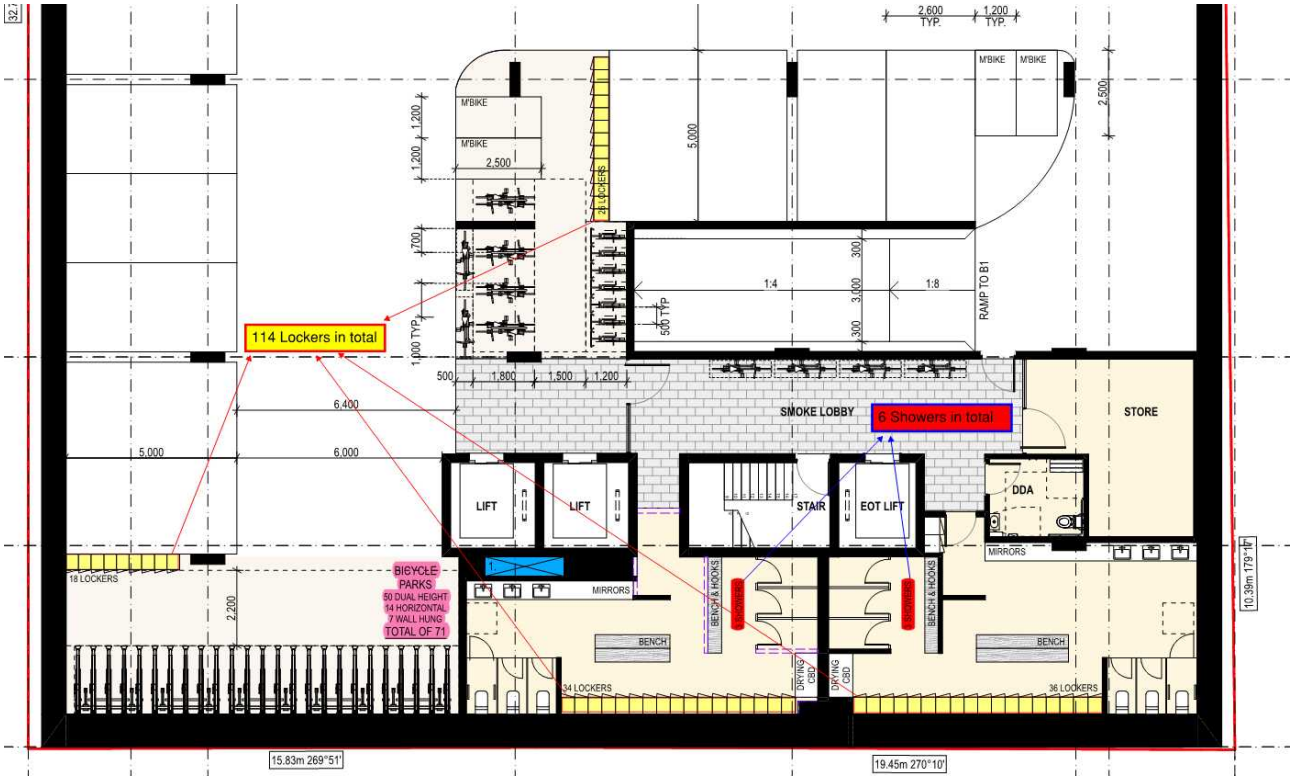


FIGURE 7: VISITORS BICYCLE SPACE AT GROUND FLOOR

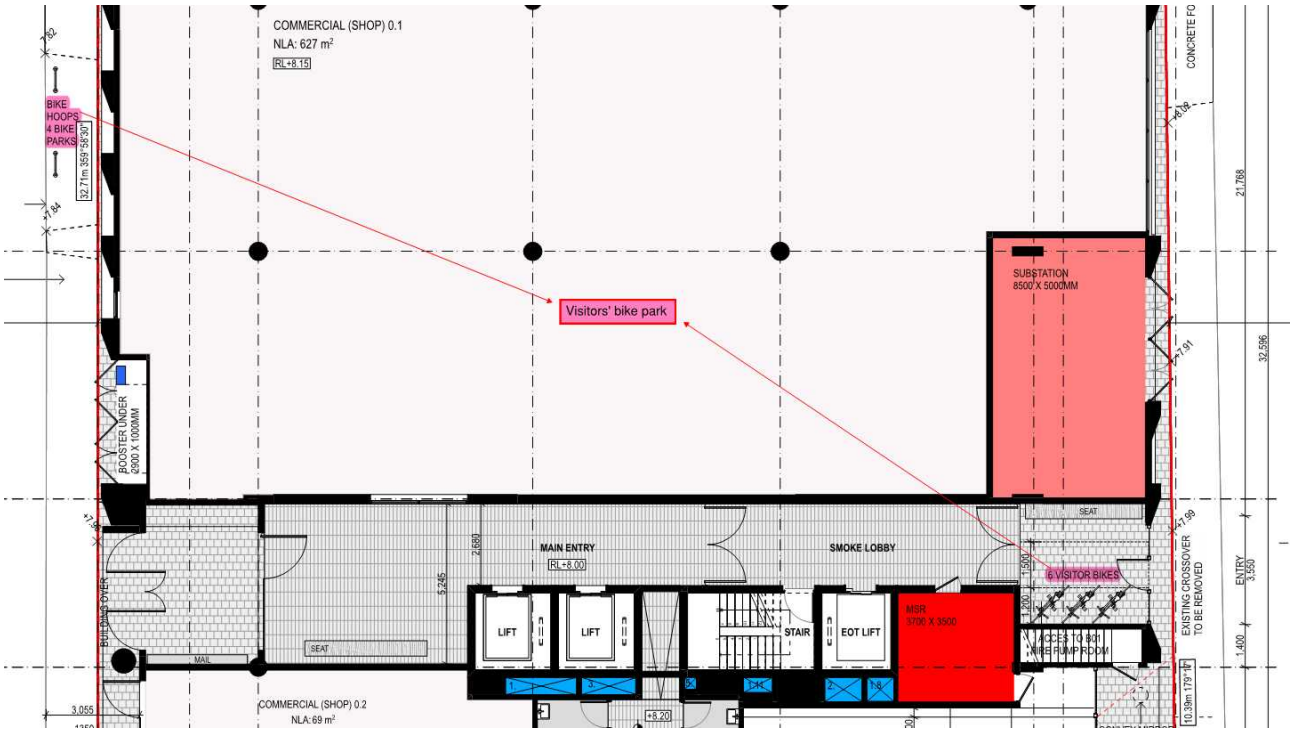


FIGURE 8: ELECTRICAL VEHICLE FACILITY AT B01

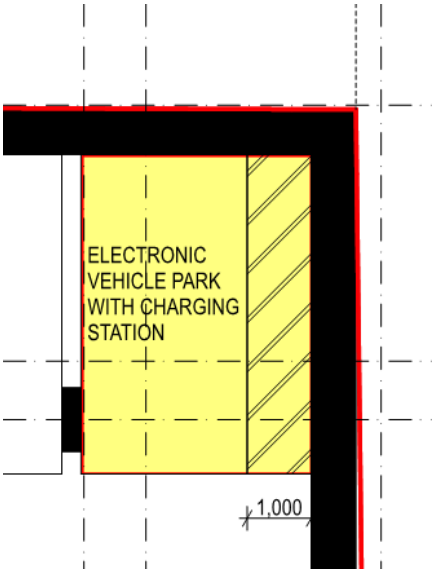


FIGURE 9: MOTORBIKE/MOPEDS PARKING SPACES AT B01 AND B02



2.7 WASTE



The SDAPP 'Waste' category aims to address the consumption of resources within a building construction context, by encouraging the selection of lower-impact materials. The category also encourages absolute reductions in the amount of waste generated or the recycling of as much of the waste generated as possible.

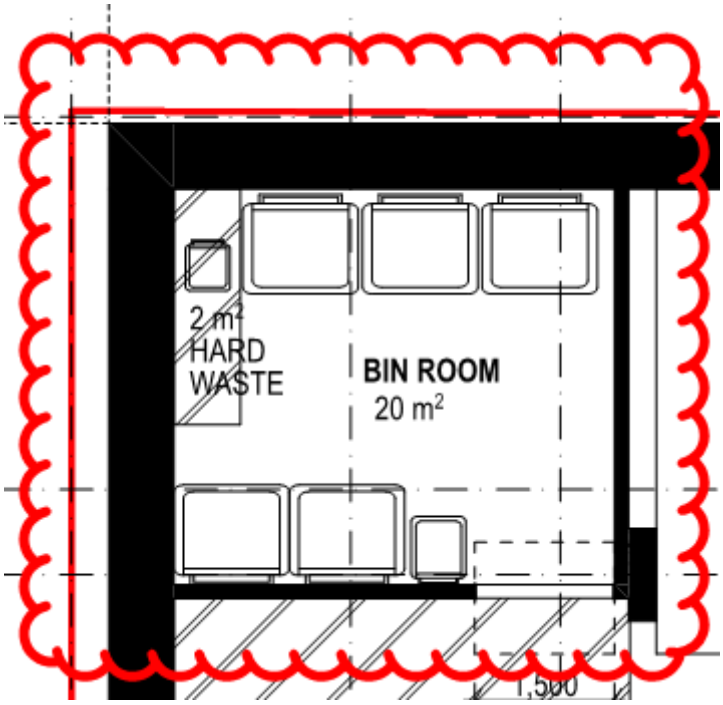
The 'Waste' category rewards projects that achieve the following outcomes:

- Use of products and materials with lower impact
- Reduction in waste to landfill

TABLE 9: ACTIONS FOR WASTE

Action	Criteria Targeted	Design Response / Strategy
Operational Waste Convenience of Recycling	✓	• Recycling facilities will be as accessible as the general waste bins to minimise the recyclable materials entering the general waste stream.
Food & garden waste	✓	• Refer to the Waste Management Plan report (provided by 'ratio' - Date:29 Oct 2019) • Food Waste: for collection purposes, food waste shall be stored within a bulk food waste collection bin • Green Waste: it is proposed that all common area landscaping will be managed by the Building manager via a landscaping contractor, who will be responsible for the removal and transportation of green waste.
Sewerage Reduction	✓	• Sewerage emissions will be significantly reduced through the use of efficient fixtures and fittings, which will reduce the total volume of water draining to sewer.
Total Score	**3.7%**	
Maximum Score Available	**5.5%**	

FIGURE 10: WASTE FACILITIES ON B01



2.8 URBAN ECOLOGY



The SDAPP 'Land Use & Ecology' category aims to reduce the negative impacts on sites' ecological value as a result of urban development and reward projects that minimise harm and enhance the quality of local ecology.

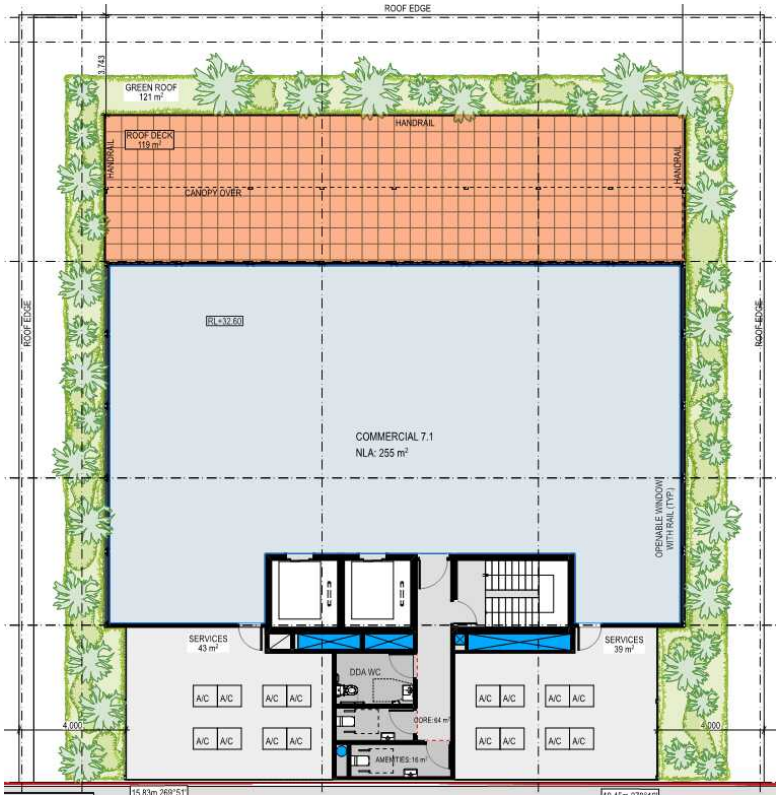
The 'Land Use & Ecology' category rewards projects that achieve the following outcomes:

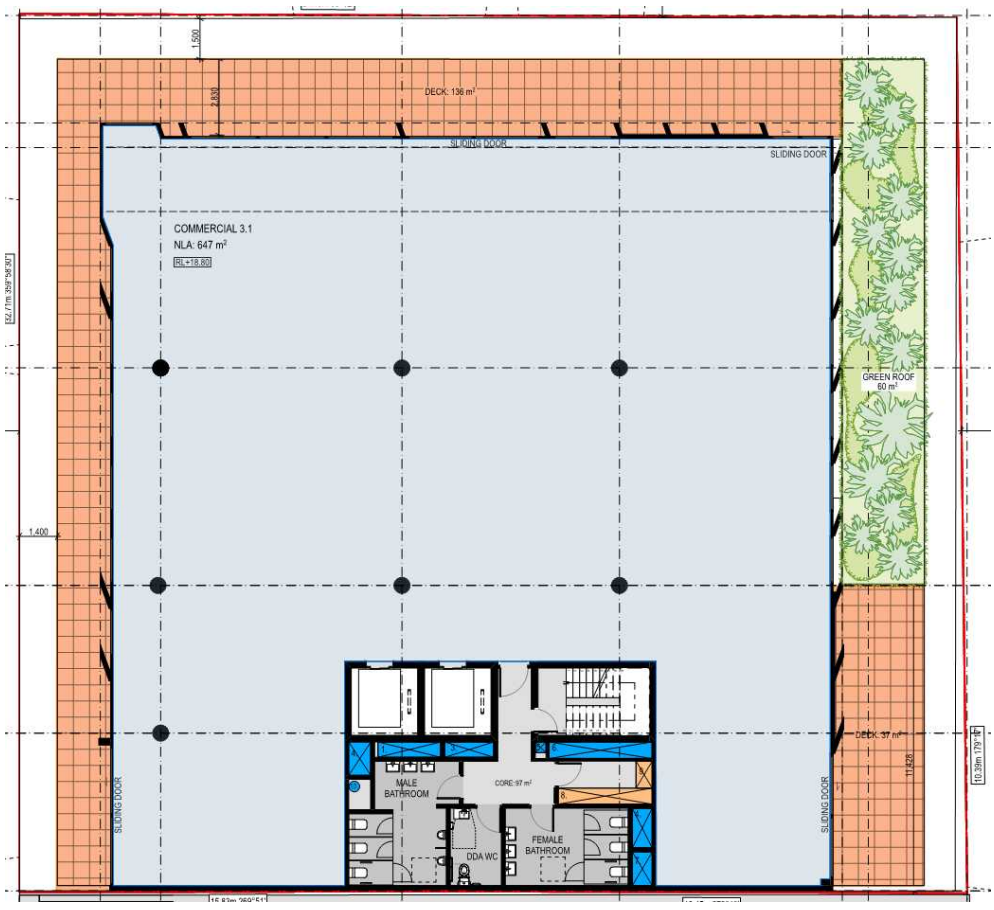
- Site sustainability.
- Reducing ecological impacts from occupied sites.

TABLE 10: ACTIONS FOR LAND USE AND ECOLOGY

Action	Criteria Targeted	Design Response / Strategy
Communal Spaces	✓	• Communal space is provided for the office use on level 3 and Roof deck
Vegetation		• 15% of the site is covered with vegetation on level 03 and level 07.
Avoid Green Field Development	✓	• Project is not located on a greenfield site or prime agricultural land, and is not close to natural wetland.
Existing Site	✓	• Project uses existing developed land with limited ecological value. As a result: - No topsoil will be impacted by the development. - There will be no net loss of vegetation
Endangered, Threatened or Vulnerable Species	✓	• As the site is already developed, there is no critically endangered, endangered, or vulnerable species, or ecological communities present on the site at time of purchase.
Soil Management	✓	• Construction Environmental Management Plan will be implemented during construction to minimize topsoil destruction and soil erosion.
Light Pollution	✓	• The project will comply with AS 4282 “Control of the Obtrusive Effects of Outdoor Lighting”. Where possible, external lighting will avoid upward lighting in order to reduce light pollution to the sky.
Total Score	**2.6%**	
Maximum Score Available	**5.5%**	

FIGURE11: VEGETATED AREA & COMMUNAL SPACE ON LEVEL 3 AND LEVEL 7





2.9 INNOVATION



The SDAPP 'Innovation' category aims to recognise the implementation of innovative practices, processes and strategies that promote sustainability in the built environment. The 'Innovation' category also rewards projects that can demonstrate that sustainability principles have been incorporated not at a project level, but also in a broader sense. This may include, for instance, collaboration between building owners and tenants, disclosure of the financial impacts of sustainability or delivering sustainable education content to site workers.

The Innovation category rewards projects that achieve the following outcomes:

- Meeting the aims of an existing credit using a technology or process that is considered innovative;
- Implementing a sustainability initiative that substantially contributes to the broader market transformation towards sustainable development;
- Delivering a substantial improvement on the benchmark required to achieve full points;
- Addressing an Innovation Challenge; and
- Addressing a 'global sustainability' issue as covered by other international sustainability rating systems.

TABLE 11: ACTIONS FOR INNOVATION

Action	Criteria Targeted	Design Response / Strategy
Contractor Education	✓	The aim of the Contractor Education Innovation is to educate contractors and subcontractors in sustainable practises so that they are equipped to deliver sustainable developments in the future. This can be achieved via: • Education sessions on climate change and health impacts of bare minimum building practises. • Site specific training highlighting the sustainable solutions and outcomes of the project. • Training must inform of any certification that the project is aiming to achieve and why this is important. • 80% of all contractors that were on site for at least three days will receive training. • Members of head personnel hold or have achieved at some stage during the project a qualification in sustainable practises.
Post Occupancy Survey	✓	Perform a post occupancy survey
Eco-Friendly floor covering	✓	The aim of using eco-friendly floor covering to meet sustainability goals associated with Mission Zero.
DHW System Microbial Mitigation	✓	DHW systems will be designed to manage the risk of microbial contamination
Paint VOC reduction	✓	Over 50% of paint (by cost) to have a TVOC content of <5g/L
Total Score	**4.5%**	
Maximum Score Available	**9%**	

3. Implementation Schedule

The following implementation schedule is provided to provide guidance on the responsibilities for implementation of the ESD initiatives outlined in this report:

TABLE 12: IMPLEMENTATION SCHEDULE

Item	Responsible Party	Implementation Stage
Natural Ventilation Natural Lighting	Architect	Design
Individual Control of Indoor Environment	Architect Services Engineer	Design
Mechanical Ventilation	Services Engineer	Design
Thermal Insulation Shading	Architect	Design
Heating / Cooling / AC systems Domestic Hot Water Artificial Lighting Control Systems Energy Management and Metering	Services Engineer	Design
Water Efficient Fixtures	Architect	Design
Public Area Water Consumption	Services Engineer Owner's Corporation	Design
Rainwater Harvesting	Services Engineer Architect	Design
Materials Selection	Architect Builder	Design / Construction
Reduction of VOC's	Architect Builder	Design
Bicycle Use	Architect	Design
Waste Management	Waste Management Consultant	Design / Construction
Construction Waste Management	Builder	Construction
Building Operation and Maintenance	Services Engineer Builder Equipment Suppliers	Handover / Defects Liability
Building Users Guide	Services Engineer Waste Management Engineer Architect	Handover
Commissioning of Building Systems	Builder	Construction

4. BESS Assessment Summary

BESS provides a framework for benchmarking the ESD achievement of a building design. The tool includes credits under a range of categories which may be used to guide ESD and tally a score which corresponds to the following benchmarks:

- +50% – Best Practice
- +70% – Excellence

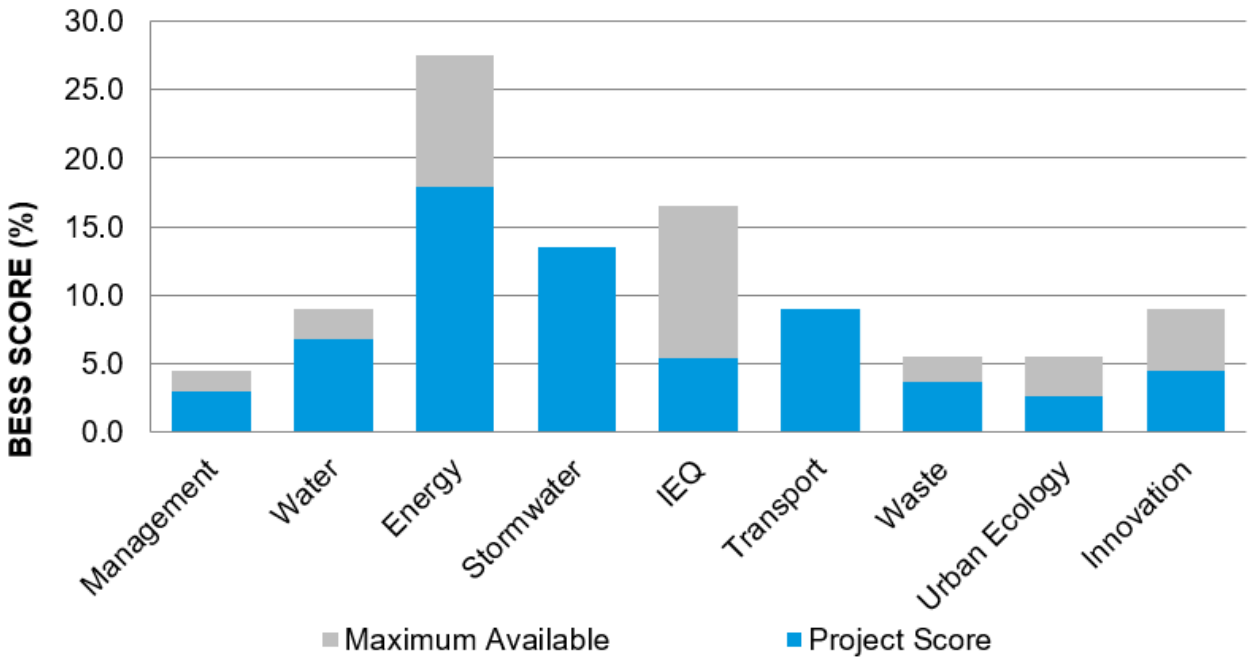
A BESS assessment has been completed for the development to provide a guide to the sustainability initiatives that will be implemented in the design.

In summary, the development achieves a total BESS score of 66 out of 100 (Table 13). This highlights the high commitment to sustainable development in the design of the building.

TABLE 13: BESS SUMMARY

SDAPP Criteria	Score Achieved
Management	67%
Water	75%
Energy	65%
Stormwater	100%
IEQ	33%
Transport	100%
Waste	67%
Urban Ecology	48%
Innovation	50%
BESS SCORE	**66%**

FIGURE12: PERFORMANCE OF EACH CATEGORY IN BESS



Appendix A – PV Calculation

The solar photovoltaic system will be situated on the roof, ensuring uninterrupted solar access. The electricity generated will offset the base building power usage.

TABLE 14: CARBON ABATEMENT OPTIONS

System Type	Energy	Carbon Factor	Carbon Emissions
Photovoltaic system 20 kWp	22,000 kWh/annum	1.32 $kgCO_2$-e/kWh	29,040 $kgCO_2$-e/annum

A 20 kWp PV installation is approximately 67 x 300W panels, each panel measuring roughly 1.1m x 1.7m. Final PV capacity will be confirmed after design has progressed further and spatial coordination between services has been completed.

The analysis has allowed for two scenarios for increasing electricity costs as follows:
- Optimistic 8% annual increase
- Conservative 4% annual increase

TABLE 15: PV PACKBACK ANALYSIS AND AVAERAGE ANNUAL ELECTRICITY SAVINGS.

PV Payback Analysis		
Capital Costs	**(AU$)**	**Comment**
20 kW PV System	30,000	Based on 300w high efficiency Monocrystalline panels
Data Logging and Educational Display	3,500	Approximate cost - this will vary depending on display format and depth of information recorded.
Total Capital Cost	33,500	

Annual Costs	**(AU$/annum)**	**Comment**
Average Annual Maintenance	1,600	Allows $30/kW for checking of system electrics plus $15/panel for cleaning.
Other Costs		
Inverter Replacement	6,000	Allows $300/kW for replacing Inverter every ten years.
Annual Savings		
Conservative Analysis	**(Au$/yr)**	**Comment**
Average Annual Electricity Savings	11,418	*Assumes an increase of 4% pa average over 25 years. *Based on a starting cost of 35c/kWh.
Optimistic analysis	**(AU$/yr)**	**Comment**
Average Annual Electricity Savings	20,339	*Assumes an increase of 8% pa average over 25 years. *Based on a starting cost of 35c/kWh.

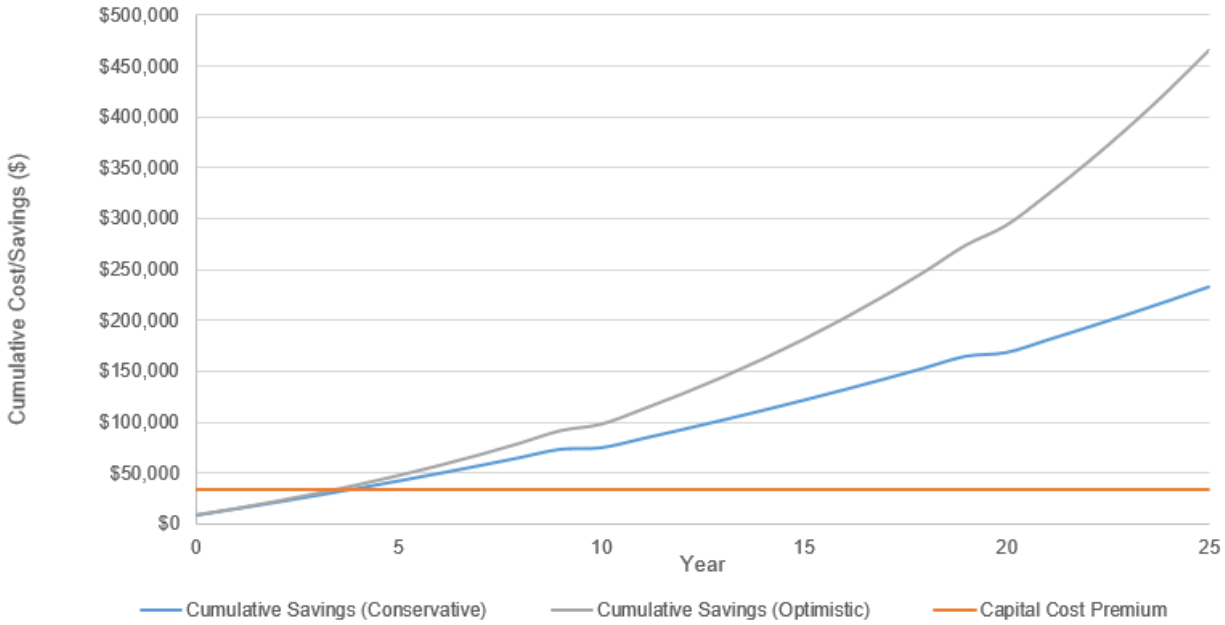


FIGURE 13: 20 KW PV SYSTEM PAYBACK

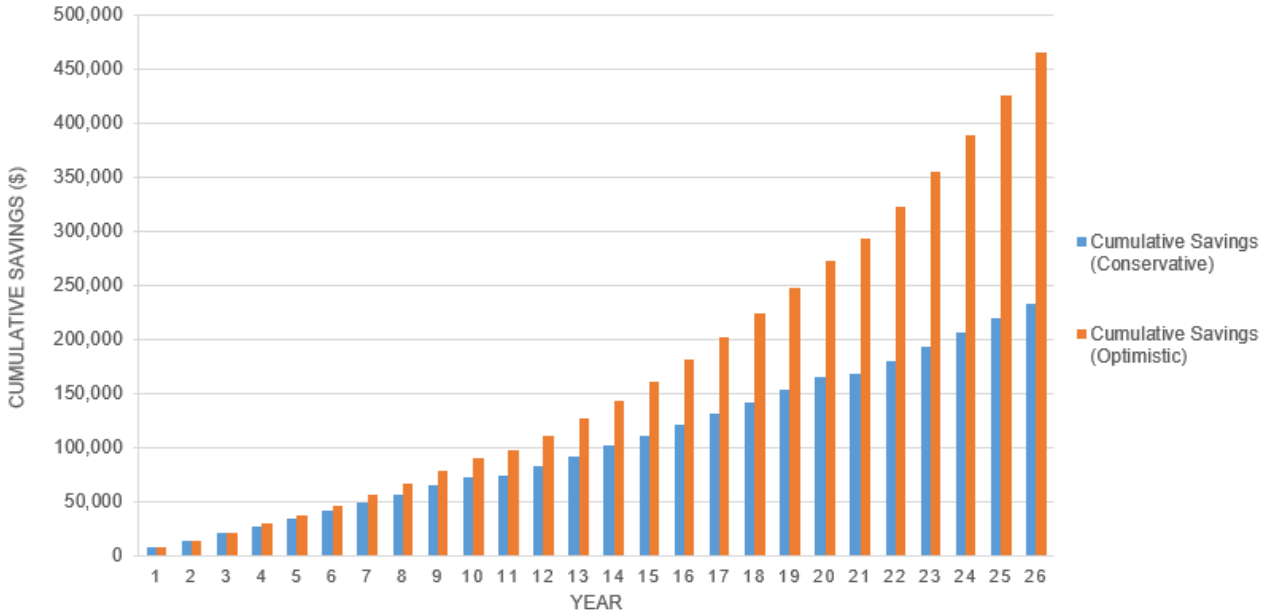
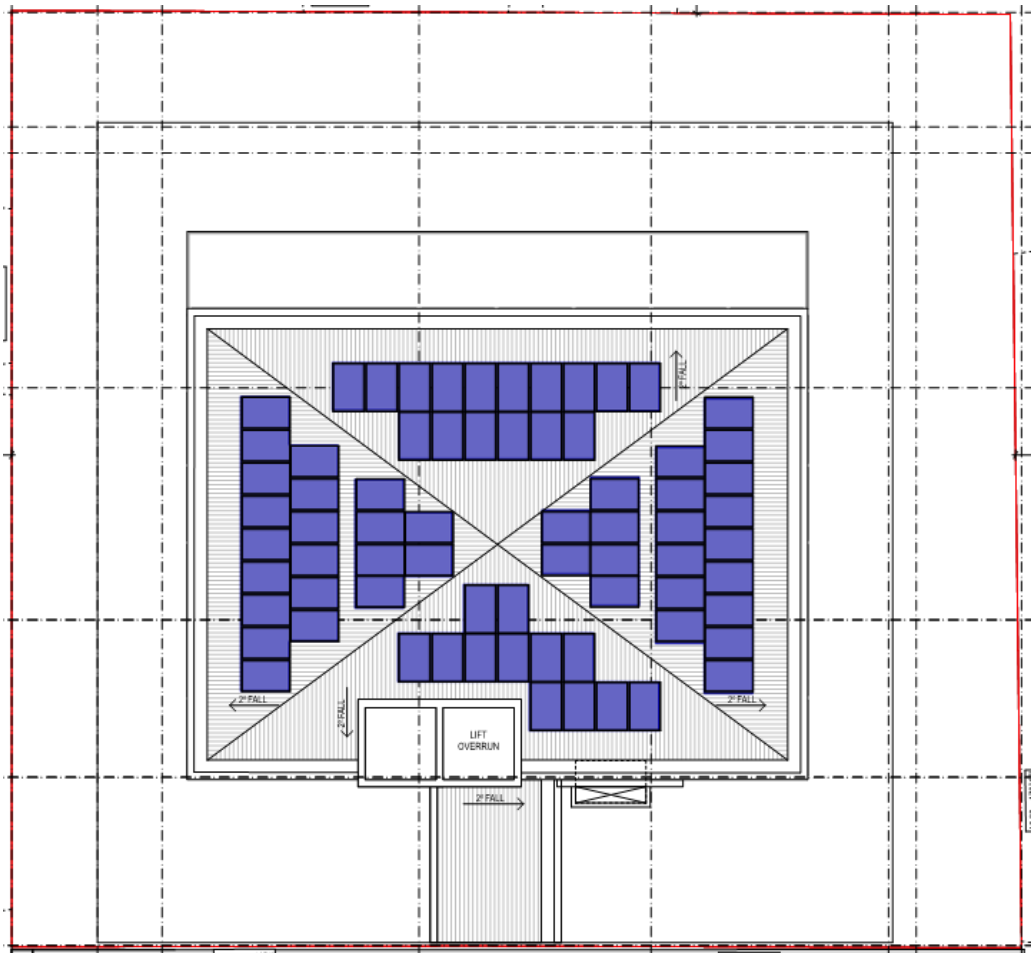


FIGURE 14: 20 KW ARRAY CUMULATIVE SAVINGS

A 20 kW photovoltaic array will result in an annual electrical generation of ~22,000 kWh/annum and a predicted annual saving off $11,418 (4% annual increase in electricity costs) or $20,339 (8% annual increase in electricity costs).



Appendix B – Stormwater Calculation

Melbourne Water's Stormwater Treatment Objective – Relative Measure (STORM) Calculator is a simple analysis method for stormwater treatment and water sensitive urban design (WSUD). It rates the performance of treatment measures such as rainwater tanks, wetlands, and infiltration systems relative to best practice targets, and calculates a weighted average score. A STORM score of 100 or greater indicates that treatment measures are of sufficiently high standard.

In order to demonstrate compliance, a score of 100% must be achieved using the Stormwater Treatment Objective – Relative Measure (STORM) tool, demonstrating that the following has been achieved:

- Suspended solids – 80% retention of typical urban load
- Total Nitrogen – 45% retention of typical urban load
- Total Phosphorous – 45% retention of typical urban load
- Litter – 70% reduction of typical urban load

As design progresses, the site stormwater management strategy will consider flows from the development as well as the streets, driveways and other impervious surfaces. The overall stormwater strategy will be detailed in the civil engineer's WSUD report, and will be designed to ensure that council's best practice targets are met.

A provisional STORM rating has been carried out, based on the following WSUD measures:

- Stormwater collection from 565.4m^2 of non-trafficable roof area, and storage in 8,500L rainwater tank.
- Stormwater collection from 234.3m^2 of trafficable terrace on level 3 and level 7, and storage in a 3,500L rainwater tank.
- The rainwater collected will be reused for toilet flushing serving an equivalent of 100 occupants.
- Enhanced filtration required due to collection from trafficable terraces.
- No rainwater will be collected and re-used from planter boxes under any circumstance.

The development achieves a STORM rating of 101% as shown in Figure 15.

FIGURE 15: STORM ASSESSMENT

Melbourne Water **STORM Rating Report**

TransactionID:	859794
Municipality:	YARRA
Rainfall Station:	YARRA
Address:	17-23 Wangaratta Street
	Richmond
	VIC 3121
Assessor:	ADP
Development Type:	Commercial/Retail
Allotment Site (m2):	1,143.00
STORM Rating %:	101

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Non-trafficable Roof	565.40	Rainwater Tank	8,500.00	50	144.00	70.00
Trafficable Terraces/ roof-deck	234.30	Rainwater Tank	3,500.00	50	143.70	70.00
Untreated Hard Surface	343.30	None	0.00	0	0.00	0.00

Stormwater Collection Areas

This section provides the rainwater collection area mark-ups used for STORM calculations.

- Non-trafficable roof areas have minimal or no foot traffic and rainwater collected from these surfaces do not require enhanced treatment before re-use.

- Trafficable terrace/balcony. These areas have medium to high foot traffic and rainwater collected from these surfaces require more sophisticated / enhanced treatment before re-use. Water from such areas tend to be discharged via raingarden or buffer strip.

FIGURE 16: RAINWATER COLLECTION AREAS

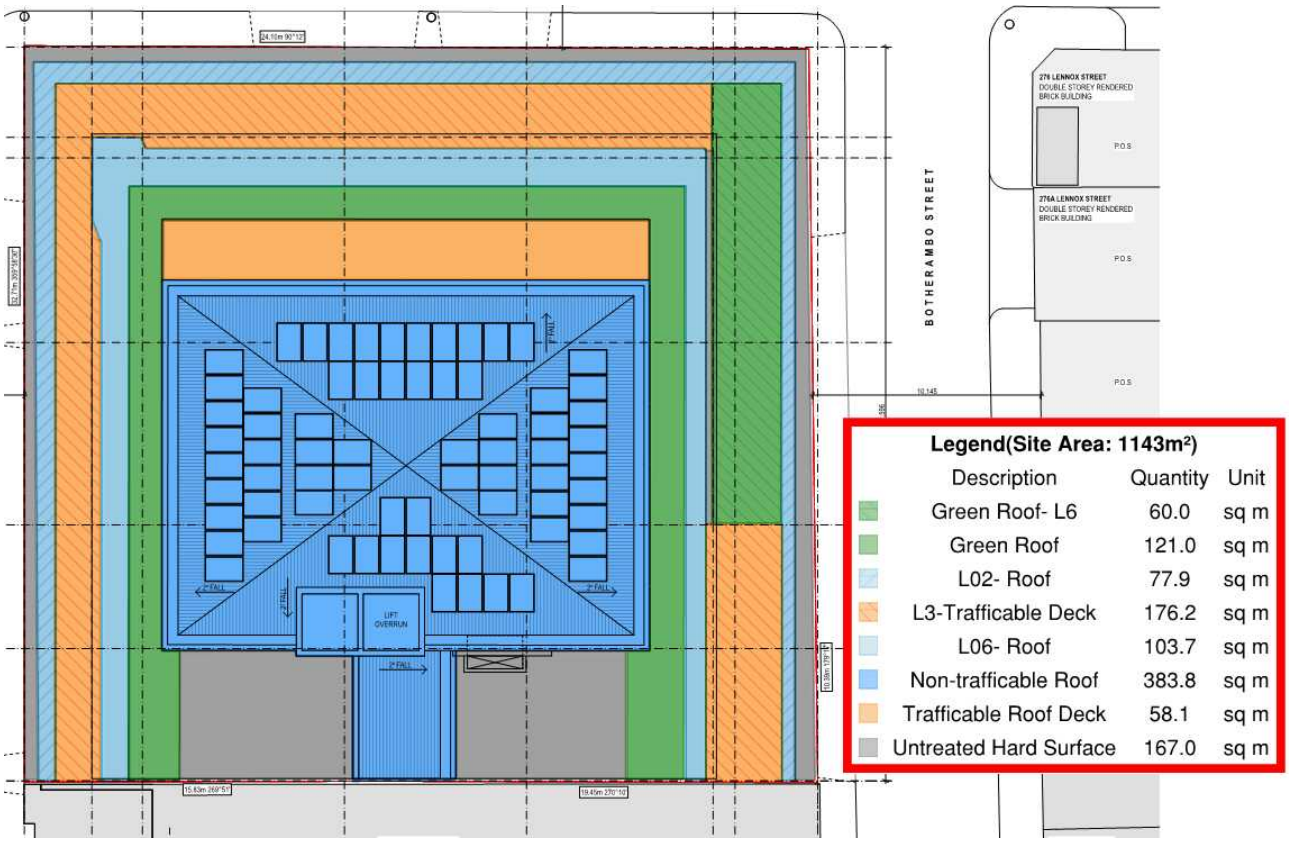
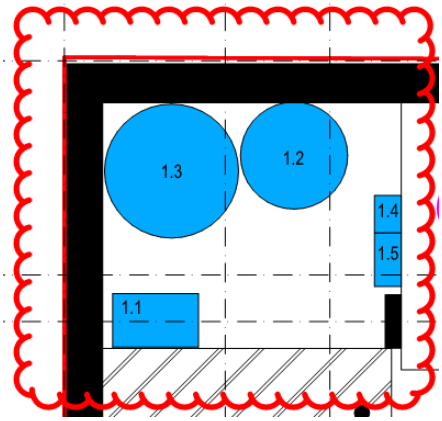


FIGURE 17: RAINWATER TANK LOCATION ON B02



Filtration System Specification

Rainwater is collected from terraces/balconies and re-used for flushing toilets.

In order to maintain sanitary conditions within dwellings, the following filtration system will need to be installed in addition to first flush diverters:

- **Screen**: Automatic backwash screen filter
  - fully automated timer controlled self-cleaning operating
  - 100 micron filtration.

- **Filtration**: 3 Stage Filtration
  - 20 micron
  - 5 micron
  - 1 micron

- **UV**: Ultraviolet disinfection unit:
  - 304 stainless steel reactor chamber

Maintenance Program

The proposed system will be routinely maintained as part of the maintenance programme, and will be included in the service requirements of the project.

The following will be followed:

- First flush devices will be cleaned every 6 months
- Roof and other collection areas will be inspected regularly, at a minimum every 3 months to ensure they are maintained free of pollutants
- The type of tanks and pump will be maintained in accordance with manufacturers' requirements – typically annually but quarterly in the first year as part of building tuning phase

A sample maintenance manual for rainwater tanks is found in Appendix D.

Construction Stormwater Management plan

A stormwater pollution reduction strategy will be contractually required to be adopted by the Main Contractor as part of its overall Environmental Management Plan (EMP). The strategy should prevent construction debris and littering entering the stormwater systems. The EMP will be required to specifically address the following in respect to stormwater:

1. Objectives
   a. No impact on offsite surface or ground water due to construction activities
   b. Site stormwater to be managed such that no contaminated water is discharged from site
2. General
   a. Materials and waste to be stored at least 2m away from drainage lines
   b. All inadvertent chemical spills to be cleaned up immediately
   c. Application and inclusion of a range of mitigation measures for soil depositing on roads, stormwater, dust and noise
3. Stormwater
   a. Installation of hay bales around stormwater drains to minimise sediment entering stormwater
   b. Installation of crushed rock to frequently used tracks / haul roads that may produce sediment

Tips for undertaking maintenance

Things to look for and how to fix them.

Leaf litter / debris in gutters	**Pump not working**
Regularly clear your gutters. Make sure you cover the tank inlet if you're rinsing down the gutters to avoid debris entering the tank.	Check operating instructions for your pump. Check that pumps are kept clear of surface water (flooding), vegetation, and have adequate ventilation. Pumps should be serviced every few years to prolong the pump life.
Blocked downpipe	**Mains backup or pump not working**
If you see water spilling from the edge of the gutters check that the downpipe is not blocked, removing any debris.	Have you heard the pump operating? If the mains backup switching device fails many people do not notice for a long time. Consider a manual system if the switching device is problematic and you don't mind operating it manually.
First flush diverter clogging	**Overflow**
To clean out, unscrew the cap at the base of the diverter and remove the filter. Wash the filter with clean water and the flow restrictor inside the cap.	Check that the overflow is not blocked and that there is a clear path for water to safely spill from the tank through the overflow pipe when full. Check that a clean mesh screen is safely in place to prevent mosquitoes entering the tank.
Debris on the mesh cover over inlets / outlets	**Sediment / debris build-up in tank (more than 20mm thick)**
The fine stainless steel mesh is similar to fly screen mesh. It should be cleaned regularly to ensure it does not become blocked with leaves and other material.	Over time a small amount of fine sediment will collect in the bottom of your tank and this is harmless and natural. It should not be disturbed until it is approx 20 mm thick which may take many years. To clean your tank out simply empty your tank and wash out with a high-pressure washer or hose.
Dirt and debris around the tank base or side.	**Base area**
Keep leaf build-up, sticks, pot plants and other items off the lid of your tank. Use a hose to remove dust and dirt from the outside of the rainwater tank and ensure there is no debris on the base, bottom lip and walls of your tank.	Tanks must be fully supported by a flat and level base. Check for any movement, cracks or damage to the slab or pavers. If damage is observed, empty the tank to remove the weight and have the fault corrected to prevent damage to the tank. There is no warranty from suppliers for damage to a rainwater tank if the base has failed.
Smelly water or mosquitos	**Monitoring the water level**
Rainwater tanks can smell if there is debris in the gutters. Check the gutters and leaf strainers are clean. Mosquitos or wrigglers can make their way into your tank if they are small enough to pass through the inlet strainer. A very small amount of chlorine (approx 4 parts per million) can be put in the tank to kill off mosquitos or the bacteria causing odours. The chlorine will disinfect the water and then evaporate. Chlorine tablets from a pool supplier can be used (but check the recommended dose based on your tank capacity).	A range of devices are available to monitor water level. Some simple float systems can be used effectively.

Acknowledgement: Information from PJT Green Plumbing's 'Maintenance Guide for Your Rainwater Tank' was used to develop this fact sheet.

For more information please visit **www.portphillip.vic.gov.au**
or contact the Sustainability team via:

Phone: 03 9209 6777
email: sustainabledesign@portphillip.vic.gov.au

Maintenance manual

Rainwater tanks



Site address: 17-23 Wangaratta Street, Richmond VIC 3121

Planning permit number: _____

Rainwater tank maintenance

This manual lists the key tasks required to maintain a domestic rainwater tank and the recommended frequency of each task. This manual can be submitted with planning permit applications for developments that include the installation of a domestic rainwater tank. Once endorsed, the property owner is responsible for continuous implementation of rainwater tank maintenance, in accordance with the guidance in this manual.

Rainwater tanks are an exceptional tool for environmental protection. They collect and store roofwater for use inside and outside the home. This simultaneously reduces the demand on our precious potable mains water and limits the amount of stormwater pollutants that enter our sensitive Bay.

Maintenance of rainwater tanks is relatively easy however it is important to do the following key tasks to ensure the quality of water is high:

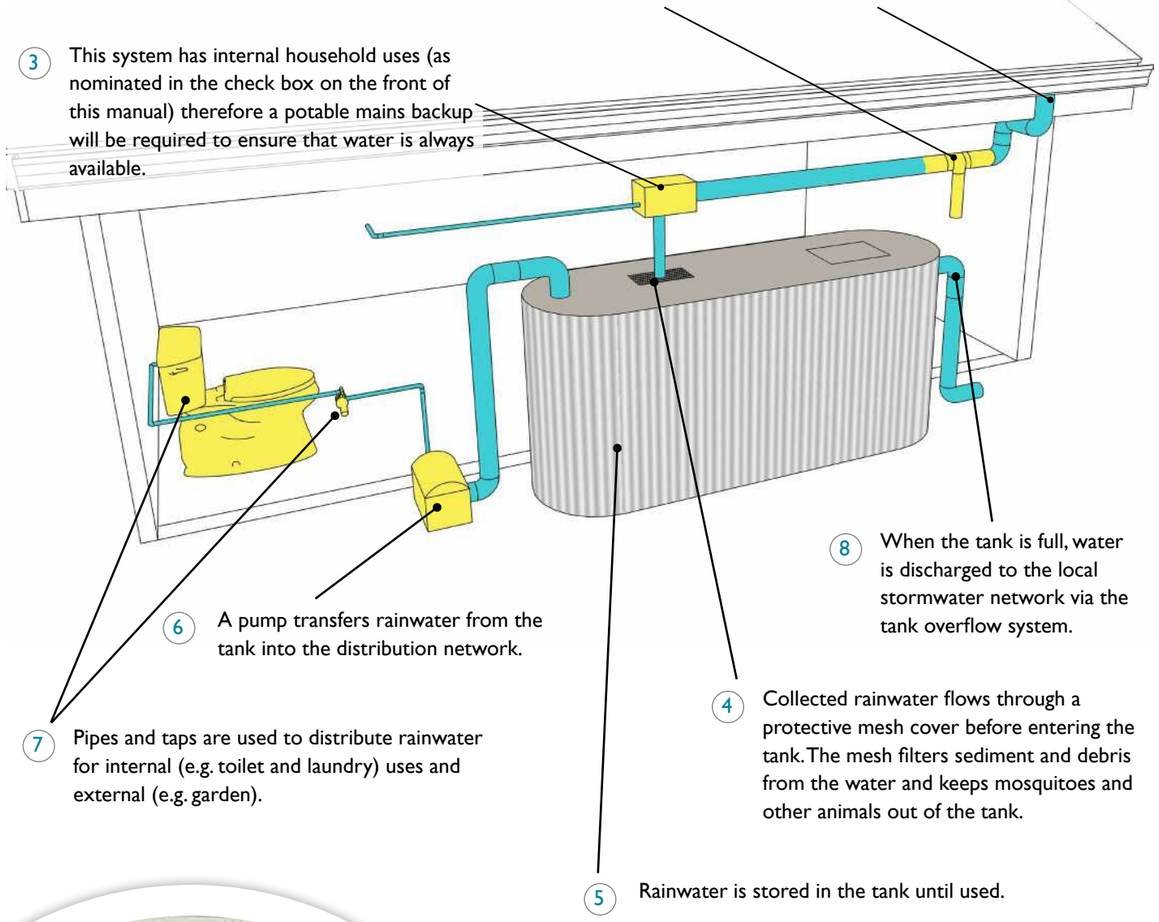
- stop leaf litter and debris entering the tank.
- prevent bird droppings and dust building up in the gutters.
- prevent mosquitos and other animals entering the tank.

Tank connected to	toilet only ☒ toilet & irrigation ☐ toilet & laundry & irrigation ☐ toilet & laundry & hot water & irrigation ☐
Rainwater tank location	Basement 02
Planning drawing number showing rainwater tank location	19012 TP100_A-WIP , Title: B02 Plan
Rainwater tank construction date	
Date of final building inspection	
Tank volume (litres)	Refer to Storm Report
Area or percentage of the roof that is connected to the tank via gutters and downpipes	Refer to Storm Report

Maintenance Overview

Rainwater Tank Maintenance

The following diagram identifies the key items which are important for rainwater tanks and their maintenance.





Maintenance Checklist

The property owner is responsible for checking the maintenance items in this checklist at the recommended frequency at the bottom of the table. The maintenance log at the bottom of the page should be filled in once each maintenance check is complete. Upkeep of this maintenance log should continue throughout the life of the rainwater tank.

Item	Rainwater tank element	Inspection item	Y/N	Likely maintenance task
1	Roof gutters and downpipes	Is there leaf litter or debris in the gutters?		Remove by hand and dispose responsibly.
2	First flush diverter	Is there anything blocking the first flush diverter (leaves etc)?		Remove by hand and dispose responsibly.
3	Potable mains back up device	Is the potable mains back up switch operating correctly?		Repair or replace device. Consider a manual switching device.
4	Mesh cover	Has the mesh cover deteroriated or have any holes in it?		Replace mesh cover.
5	Tank volume	Is there large amounts of sediment or debris sitting in the bottom of the tank, reducing the volume available in the tank to store water?		Remove sediment and dispose responsibly.
6	Pump	Is the pump working effectively? Have you heard it on a regular basis?		Check the potable mains back up is not permanently on. Repair or replace pump.
7	Pipes and taps	Are pipes and taps leaking?		Repair as needed.
8	Overflow	Is the overflow clear and connected to the stormwater network?		Remove blockages and/or restore connections to stormwater network.
9	Supporting base	Are there any cracks or movement of pavers?		Empty the tank to reduce weight then repair any damage to the base.

Maintenance frequency												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
All tasks	x			x			x			x		

Regular maintenance will improve the water quality and extend the life of your system. A well maintained tank isn't likely to need to be cleaned out for up to ten years (when there is more than 20mm of accumulated sediment).

Maintenance Log

Maintenance date	Maintenance undertaken

Appendix C – JV3 Assessment

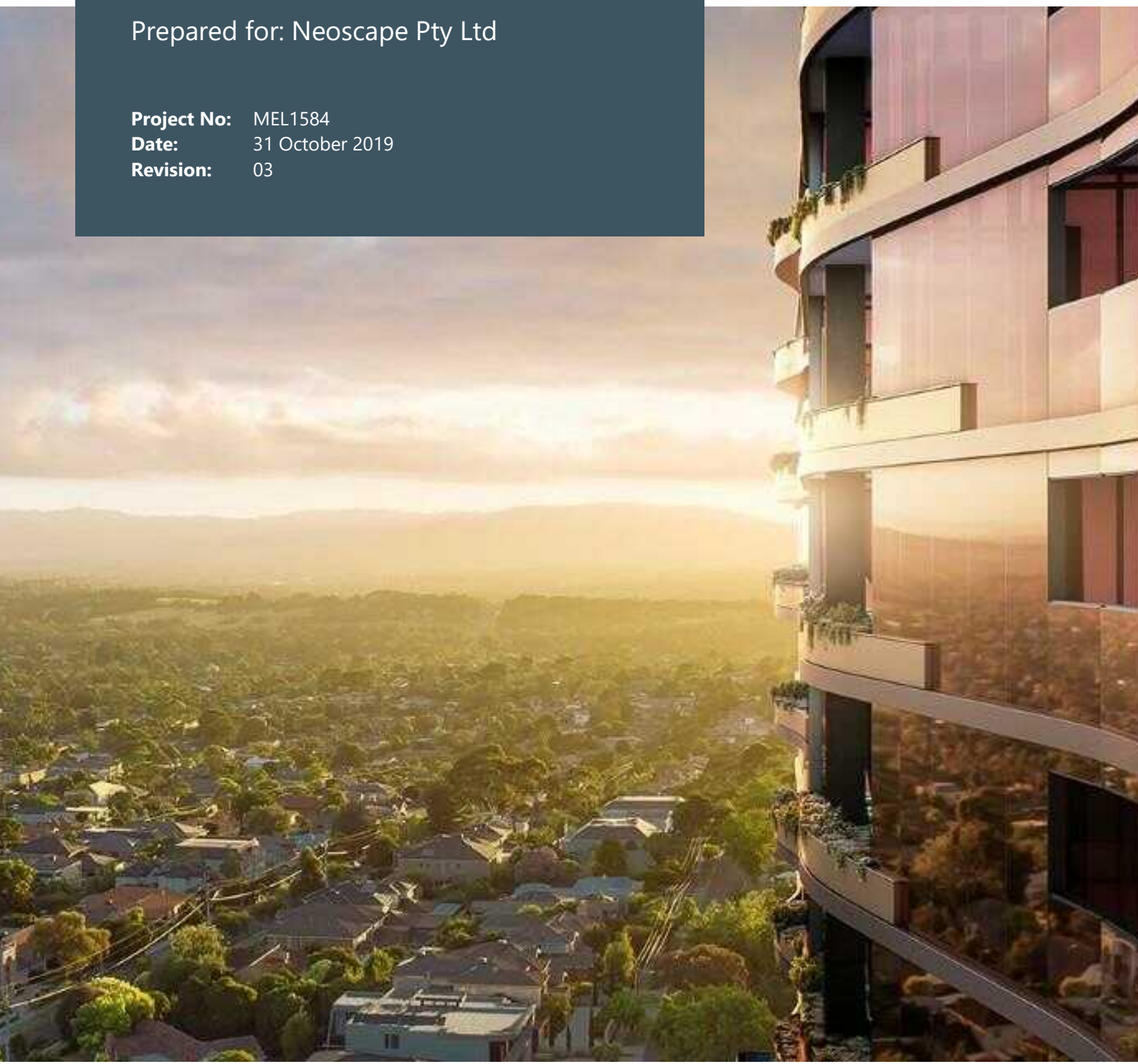
17-23 Wangaratta Street Development

NCC Section J Report
JV3 Verification Method

Prepared for: Neoscape Pty Ltd

Project No: MEL1584
Date: 31 October 2019
Revision: 03

ADP Consulting : Engineering



Project:	17-23 Wangaratta Street Development
Location:	17-19, 21 & 23 Wangaratta Street Richmond VIC 3121
Prepared by:	ADP Consulting Pty Ltd Level 11, 60 Albert Road South Melbourne VIC 3205
Project No:	MEL1584
Revision:	03
Date:	31 October 2019

Rev	Date	Comment	Author	Signature	Technical Review	Signature	Authorisation & QA	Signature
01	3 October 2019	Issue for information	EL		AE		AE	
02	17 October 2019	Issue for information	EL		AE		RY	
03	31 October 2019	Issue for information	EL		AE		RY	

Project Team

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1. Executive Summary

The purpose of the following report is to set out the proposed design parameters by which the proposed development will demonstrate design compliance with the 2016 National Construction Code (NCC) Section J – Energy Efficiency provisions. The project is located in the City of Yarra and consists of office and retail tenancies. The Council's best practice standards include achieving overall energy efficiency of at least 20% above minimum NCC requirements.

In summary, the development:

- **Achieves minimum JV3 compliance**
- **Demonstrates overall energy efficiency of at least 20% above minimum NCC requirements**

As the proposed building when modelled with the DTS services consumes less energy annually than the reference building, **compliance to JV3 has been confirmed based on the current drawings and parameters.**

The proposed building, when modelled with proposed services, achieves 21.3% energy saving over the reference building. Thus, **the development demonstrates overall energy efficiency at least 20% above minimum NCC/BCA requirements.**

To achieve compliance as stated above, the following thermal performance of fabric/glazing of the new works in the development is required without modification to the current architectural design (Table 1).

Table 1: Fabric & glazing Required for JV3 Compliance.

Construction	Proposed Building
Roofs	
Roofs/Ceilings (where exposed)	Total R3.2
Walls	
External Envelope Walls	Total R2.8
Internal Envelope Walls (where adjacent to unconditioned space)	Total R1.8
Floor	
Slab on Ground	No Insulation
Suspended slab floor (above unconditioned space)	Total R2.0
Suspended Slab (where exposed)	Total R2.0

Construction	Proposed Building	
Window Type	**Whole Window System Performance**	
	U-Value (W/m².K)	***SHGC***
External Glazing Level 1-7	≤4.0	≤0.4
External Glazing – Ground Floor	≤4.5	≤0.55

Compliance is subject to confirmation from the contractor that all as-installed details pertaining to the thermal performance and energy efficiency of the building are within the performance requirements as detailed in this report. It is the responsibility of the contractor, architect and building surveyor to ensure the final construction incorporates a compliant solution.

2. Introduction

This report has been prepared for the proposed Wangaratta Street development, located at 17-23 Wangaratta Street, Richmond, Victoria and sets out the proposed design parameters by which the building will demonstrate design compliance with the NCC Section J – Energy Efficiency provisions.

We understand that the project aims to meet the following goals:

- Confirm compliance with the Section J of the NCC 2016 via the alternative verification method: JV3 – Verification using a reference building.
- Meet Council's best practice standard of achieving overall energy efficiency at least 20% above minimum NCC requirements.

This report should be read in conjunction with all relevant plans and specifications and any supplementary regulatory information as nominated further within the body of this report. For example, where specific architectural drawings or specifications are nominated, these documents are to be consulted in accordance with this design compliance report.

2.1 Section J of the NCC

Section J of the NCC was introduced to set minimum energy efficiency measures for the various classifications of building types while still maintaining acceptable internal environmental conditions for occupants. The measures were designed to reduce the use of artificial heating and cooling, improve the energy performance of lighting, conditioning and ventilation, and reduce energy loss through air leakage.

These reductions are achieved by setting specific descriptive design criteria by which the building must be designed and built. When these criteria cannot be met the building must prove that the predicted annual energy demand is equal to, or better than, the set design criteria, in accordance with a specific alternative verification method known as JV3 – verification using a reference building.

2.2 JV3 Modelling Process

Alternative Verification Method JV3 (Verification using a reference building) is an alternative method of design compliance when proposed building designs prevent compliance with the descriptive deemed-to-satisfy provisions.

In accordance with alternative verification method JV3 – a design is deemed to be compliant with the provisions of Section J when it is determined that the estimated annual energy consumption of a proposed building with its services is not more than that of the estimated annual energy consumption of a reference building when the proposed building is modelled with the same services as the reference building.

In accordance with the alternative verification methodology, the following energy modelling simulations are required to be created in order to demonstrate code compliance.

2.2.1 Case 1: Reference Building with Reference Services

The 'Reference Building' represents the proposed building layout, with NCC (minimum) compliant building fabric. The Reference building model includes deemed-to-satisfy HVAC and building services design in accordance with NCC 2016 Specification JV requirements.

The extent and location of glazing for the reference building model is the same as that of the proposed building with specific building geometry including roof, shading elements and glazing thermal properties all being compliant to Deemed-to-Satisfy requirements.

2.2.2 Case 2: Proposed Building with Reference Services

The next energy model is a thermally accurate representation of the proposed building. However, this energy model has the Reference building's services applied to it.

The intent of this model is to determine if the proposed thermal fabric of the building achieves the same thermal energy performance results as that of a Reference building, i.e. by applying the same services the only area that differs from the Section J Deemed-to-Satisfy requirements is the thermal envelope.

2.2.3 Case 3: Proposed Building with Proposed Services

The third energy model is a thermally accurate representation of the proposed building and has the proposed building's services applied to it.

The intent of this model is to determine if the proposed building can meet Council's best practice standard of achieving overall energy efficiency at least 20% above minimum NCC/BCA requirements.

2.2.4 Test Reference Year

All the above scenarios are modelled against the same set of climatic data, known as a test reference year (TRY).

A TRY is a set of measured hourly values for dry temperature, global, diffuse and direct normal solar radiation, and wind velocity. The figures nominated are selected from multiple year data sets of observations for a given location and are in sequence, such that the resulting TRY is "typical" for that specific location.

2.3 General Project Information

Table 2: General project details.

Project details	Comments
Property Title	17-19, 21& 23 Wangaratta Street
Address	17-19, 21& 23 Wangaratta Street, Richmond VIC 3121
Building Class/Use	Class 5 Office & Class 6 Retail (Shops)
Verification Method	JV3 – Verification using a Reference Building

Project details	Comments
NCC Climate Zone	6
Name/Version of the Software Used in the Analysis	IES VE-2016
Source of Information	20191028 Architectural Preliminary drawings and 20191030 Preliminary Level 7 drawings by MA Architects
Building Orientation	Mapshare Victoria, DELWP Victoria

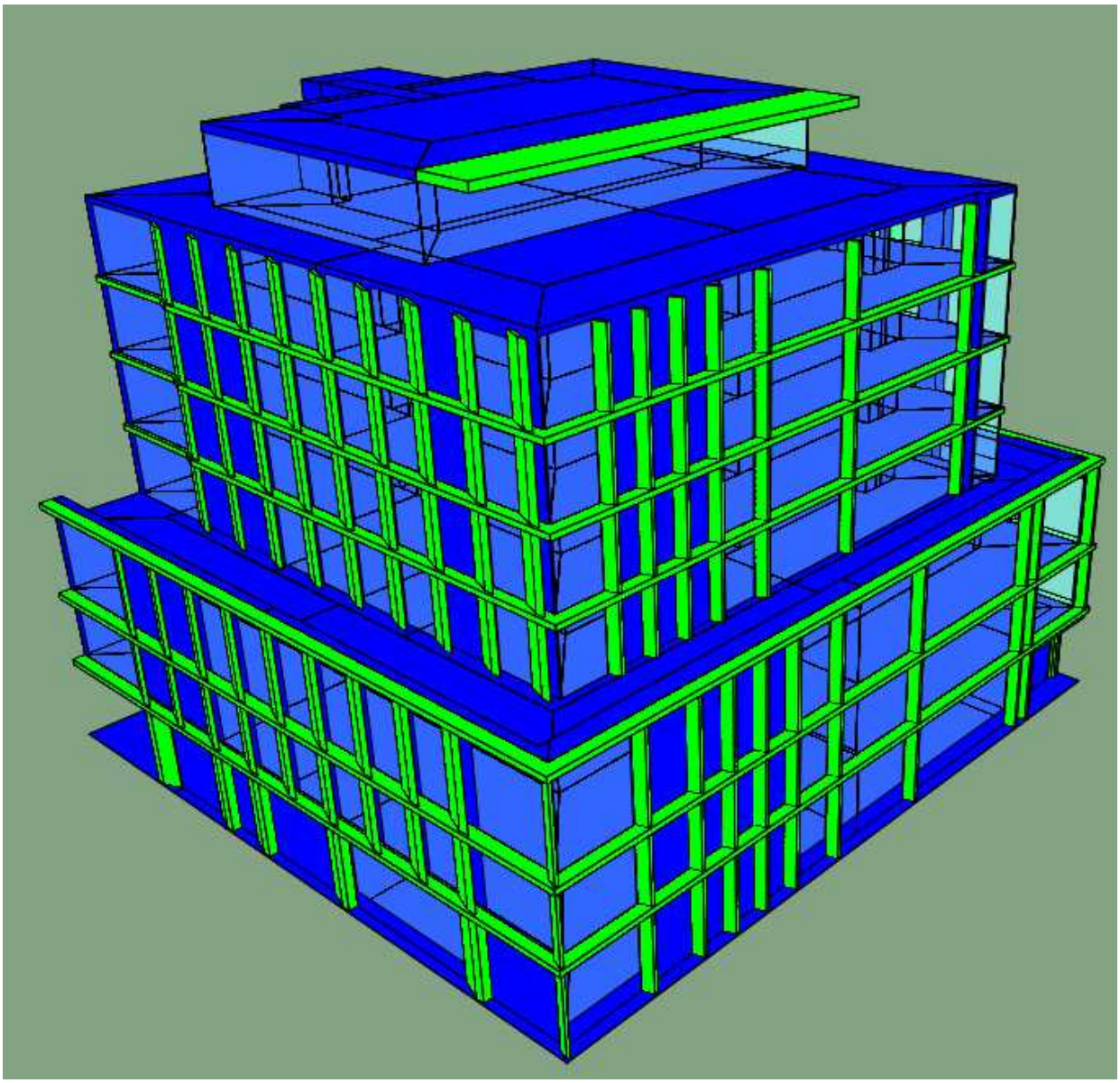


Figure 1: Model representation for proposed development.

3. Section J Compliance Requirements

Detailed below are the inputs for the JV3 modelling for the proposed building. The reference building model was constructed using minimum DTS compliant building fabric specifications. The glazing calculations are included in Appendix B for reference.

The proposed building information below has been taken from current architectural drawings received from MA Architect. Performance parameters noted for the proposed building below must be included within construction documentation in order to achieve JV3 compliance.

3.1 J1-Building Fabric

Thermal insulation must be installed to create a thermal envelope surrounding the conditioned spaces to separate them from adjacent external or unconditioned areas. All the insulation must be installed in accordance with NCC-BCA 2016 Section J clause J1.2 as follows.

3.1.1 Thermal Construction-General

Where required, insulation must comply with AS/NZS 4859.1 and be installed so that it:

- Abuts or overlaps adjoining insulation other than at supporting members such as studs, noggins, joists, furring channels and the like where the insulation must be against the member; and
- Forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and
- Does not affect the safe or effective operation of a service or fitting.

Where required, reflective insulation must be installed with:

- The necessary airspace to achieve the required R-Value between a reflective side of the reflective insulation and a building lining or cladding; and
- The reflective insulation closely fitted against any penetration, door or window opening; and
- The reflective insulation adequately supported by framing members; and
- Each adjoining sheet of roll membrane being –
  - Overlapped not less than 50 mm; or
  - Taped together.

Where required, bulk insulation must be installed so that:

- It maintains its position and thickness, other than where it is compressed between cladding and supporting members, water pipes, electrical cabling or the like; and
- In a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50 mm.

3.1.2 Constructions

The total construction R-values of the new works in the building must meet (as a minimum) those nominated in the architectural schedules and specifications and as summarised below:

Table 3: Construction R-values of the new works in the development.

Construction	Proposed Building
Roofs	
Roofs/Ceilings (where exposed)	Total R3.2
Walls	
External Envelope Walls	Total R2.8
Internal Envelope Walls (where adjacent to unconditioned space)	Total R1.8
Floor	
Slab on Ground	No Insulation
Suspended slab floor (above unconditioned space)	Total R2.0
Suspended Slab (where exposed)	Total R2.0

3.2 J2-Glazed Windows

The window and glazing types proposed and modelled in the JV3 assessment are as per the facade specification with AFRC whole window system thermal performance specifications as follows:

Table 4: Glazing types in the development.

Window Type	Whole Window System Performance	
	U-Value ($W/m^2.K$)	***SHGC***
External Glazing Level 1-7	≤4.0	≤0.4
External Glazing – Ground Floor	≤4.5	≤0.55

Glazing Disclaimer:

The currently assessed window and glazing specifications detailed above are performance-based nominations only. It is the architect and contractor's responsibility to ensure that the final product selections comply with these performance criteria.

The contractor must engage a façade specialist or the window supplier to provide AFRC testing data to confirm that the window performance criteria noted above are satisfied for all external glazed elements.

If glazing U-values or SHGC values increase above the values noted above, selections should be reassessed by this office.

Our advice relating to glazing selection is performance based. The performance criteria considered are those which affect NCC-BCA Section J compliance, i.e. U-value and SHGC only. The ESD performance requirements provided should be presented to a manufacturer along with installation details and details of other performance requirements (e.g. structural, acoustic) to determine a suitable glazing specification.

3.3 J3-Building Sealing

Building sealing requirements do not affect the JV3 modelling inputs. Part J3 requirements relevant to the currently proposed design are outlined below and must be demonstrated by the contractor.

3.3.1 Windows and Doors

All edges of external windows should be fitted with a seal to restrict air infiltration.

External swing doors (except fire and smoke doors) must be fitted with a draft protection device on the bottom edge and seals to restrict air infiltration on the other three edges. For all other edges of openable doors this can be a foam or rubber compression strip, fibrous seal or the like.

Entrance doors that do not lead into an airlock must be self-closing.

3.3.2 Exhaust fans

All miscellaneous exhaust fans must be fitted with a self-closing damper or the like. For this development compliance should be covered by the mechanical engineer's design and signoff.

3.3.3 Construction of roofs, walls and floors

Roofs, ceilings, walls, floors and any opening such as a window frame, door frame roof light frame or the like located on the external fabric must be constructed to minimise air leakage. Therefore, they must be either:

- Enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or
- Sealed by caulking, skirting, architraves, cornices or the like.

4. JV3 Modelling

4.1 Modelling Profiles

4.1.1 Operation

The building has been modelled using occupancy, operation and internal load profiles throughout as appropriate as Class 5 Office and Class 6 Retail.

4.1.2 Occupancy

The following room occupancies were applied to the model, based on the architectural room data sheets, Australian Standards or the default JV3 parameters where deemed appropriate. Spaces not included in the table have zero occupancy in the modelling.

Table 5: List of peak occupancy in different type of spaces.

Space Type	Peak Occupancy
Office	10 m^2/person
Retail	3 m^2/person

Each occupant was modelled with a heat gain of 75W per person (sensible) and 55W per person (latent) as required within Specification JV (a) (iii) (A).

4.1.3 Appliance and Equipment

The maximum appliances and equipment load modelled are as follows:

Table 6: List of internal sensible heat gain rate in different type of spaces.

Space Type	Internal sensible heat gain rate (W/m^2)
Office	15 W/m^2
Retail	5 W/m^2

4.1.4 Artificial Lighting

The maximum lighting loads were taken as the maximum illumination power density without any increase for a control device illumination power density adjustment factor as per JV3 (d) (i) (C) for both the Reference building and the Proposed building.

Table 7: List of maximum illumination power density in different type of spaces.

Space Type	Maximum illumination power density (W/m^2)
Office	9 W/m^2
Retail	22 W/m^2
Amenities	6 W/m^2

When the proposed building is modelled with proposed services, the maximum illumination power density (W/m^2) will be at least 30% lower than required by Table J6.2a of NCC/BCA (2016) Volume 1 Section J.

The lighting power densities assumed for the proposed building represent a conservative scenario for the services design.

4.2 Air-conditioning and ventilation systems

Efficiencies of the Deemed-To-Satisfy services are modelled as per Minimum Energy Performance Standards (MEPS) requirements for the types of systems as used in this project.

When the proposed building is modelled with proposed services, air conditioning systems will achieve COP of at least 3.4.

The COPs assumed for the proposed building represent a conservative scenario for the services design.

4.3 Lifts

It has been assumed that the lift will meet minimum efficiency requirements. As the annual energy consumption of the lifts will be the same in both the reference building and the proposed building, lift energy can be excluded from the calculations.

4.4 Hot water supply

It has been assumed that the hot water system meets minimum efficiency requirements therefore it has been excluded from calculations.

5. Results

Results from the dynamic thermal and energy modelling are as follows:

Table 8: Reference model vs proposed model – energy consumption result.

	Heating	Cooling	Auxiliary Fan/Pump	Lighting	Equipment	PV	Total	Results
	Annual Energy Use – MWh							
Reference building with DTS services	52	98	62	409	259	-	**879**	
Proposed building with DTS services	54	94	62	409	259	-	**878**	**PASS**
Proposed building with proposed services	48	65	56	286	259	22	**692**	**PASS**

The proposed building, when modelled with proposed services, achieves 21.3% energy saving over the reference building. Thus, **the development demonstrates overall energy efficiency at least 20% above minimum NCC/BCA requirements.**

As the proposed building when modelled with the DTS services consumed less energy annually than the reference building, **compliance to JV3 has been confirmed based on the current drawings and parameters.**

Compliance is subject to confirmation from the contractor that all as-installed details pertaining to the thermal performance and energy efficiency of the building are within the performance requirements as detailed in this report. It is the responsibility of the contractor, architect and building surveyor to ensure the final construction incorporates a compliant solution.

Appendix A - JV3 Methodology Compliance Checklist

JV3 Verification using a reference building					Compliance	Comments
(a)				For a class 5, 6, and 9 building, compliance with JP1 is verified when it is determined that the annual energy consumption of the proposed building with its services is not more than the annual energy consumption of a reference building when -		
	(i)			the proposed building is modelled with the proposed services; and	YES	
	(ii)			the proposed building is modelled with the same services as the reference building.	YES	
(b)				The annual energy consumption of the proposed building in (a) may be reduced by the amount of energy obtained from -		
	(i)			an on-site renewable energy source; or	N/A	None specified
	(ii)			another process as reclaimed energy	N/A	None specified
(c)				The annual energy consumption calculation method must comply with the ABCB Protocol for Building Energy Analysis Software.	YES	IES VE 2016
(d)				The annual energy consumption in (a) must be calculated -		
	(i)			for the reference building, using -		
		(A)		the Deemed-to-Satisfy Provisions for Parts J1 to J7 but including only the minimum amount of mechanical ventilation required by Part F4; and	YES	As described within this report
		(B)		a solar absorptance of 0.6 for external walls and 0.7 for roofs; and	YES	
		(C)		the maximum illumination power density without any increase for a control device illumination power density adjustment factor; and	YES	NCC-BCA 2016 maximum currently assumed
		(D)		air-conditioning with the conditioned space temperature within the range of 18°C DB to 26°C DB for 98% of the plant operation time; and	YES	
		(E)		the profiles for occupancy, air-conditioning, lighting and internal heat gains from people, hot meals, appliances, equipment and hot water supply systems -		
			(aa)	of the actual building -		
				(AA) if the operating hours per year are not less than 2500; or	YES	
				(BB) If the daily operating profiles are not listed in Specification JV; or	YES	
			(bb)	of Specification JV; and	YES	
		(F)		infiltration values -		
			(aa)	for a perimeter zone of depth equal to the floor-to-ceiling height, when pressurising plant is operating, 1.0 air change per hour; and	YES	
			(bb)	for the whole building, when pressurising plant is not operating, 1.5 air change per hour; and	YES	
	(ii)			for both the proposed building and the reference building using the same -		
		(A)		annual energy consumption calculation method; and	YES	
		(B)		location, being either the location where the building is to be constructed if appropriate climatic data is available, or the nearest location with similar climatic conditions, for which climatic data is available; and	YES	
		(C)		adjacent structures and features; and	YES	
		(D)		environmental conditions such as ground reflectivity, sky and ground form factors, temperature of external bounding surfaces, air velocities across external surfaces and the like; and	YES	
		(E)		orientation; and	YES	
		(F)		building form, including -	YES	
			(aa)	the roof geometry; and	YES	
			(bb)	the floor plan; and	YES	
			(cc)	the number of storeys; and	YES	
			(dd)	the ground to lowest floor arrangements; and	YES	
			(ee)	the size and location of glazing	YES	
		(G)		external doors; and	YES	
		(H)		testing standards including for insulation, glazing, water heater and package air-conditioning equipment; and	YES	
		(I)		thermal resistance of air films including any adjustment factors, moisture content of materials and the like; and	YES	

	(J)	dimensions of external, internal and separating walls; and	YES	
	(K)	surface density of envelope walls over 220 kg/m^2; and	YES	
	(L)	quality of insulation installation; and	YES	
	(M)	assumptions and means of calculating the temperature difference across air-conditioning zone boundaries; and	YES	
	(N)	floor coverings and furniture and fittings density; and	YES	
	(O)	internal shading devices, their colour and their criteria for operation; and	YES	
	(P)	number, sizes and floors served by lifts and escalators; and	YES	
	(Q)	range and type of services and energy sources other than energy generated on-site from sources that do not emit greenhouse gases such as solar and wind power; and	YES	
	(R)	internal artificial lighting levels; and	YES	
	(S)	internal heat gains including people, lighting, appliances, meals and other electric power loads; and	YES	
	(T)	air-conditioning system configuration and zones; and	YES	
	(U)	daily and annual profiles of the -		
	(aa)	building occupancy; and	YES	
	(bb)	operation of services; and	YES	
	(V)	range of internal temperatures and plant operation times; and	YES	
	(W)	supply hot water temperature and rate of use; and	YES	
	(X)	infiltration values unless there are specific additional sealing provisions or pressure testing to be undertaken; and	YES	
	(Y)	unit capacity and sequencing for water heaters, refrigeration chillers and heat rejection equipment such as cooling towers; and	YES	
	(Z)	metabolic rate for people; and	YES	
(iii)		for the proposed building using a solar absorptance for the roof and walls 0.05 higher than that proposed; and	YES	
(e)		Where the annual energy consumption of the hot water supply or the lifts and escalators are the same in the proposed building and the reference building, they may be omitted from the calculation of both the proposed building and the reference building.	YES	
(f)		A lift in a building with more than one classification may be proportioned according to the number of storeys of the part for which the annual energy consumption is being calculated.	N/A	
(g)		The design must include -		
(i)		the ability to achieve all the criteria used in the annual energy consumption calculation method such as having an automatic operation controlling device capable of turning lighting, and air-conditioning plant on and off in accordance with the occupancy and operating profiles used; and	YES	
(ii)		compliance with -		
	(A)	J1.2 for general thermal construction	YES	
	(B)	J1.3 (c) for compensating for a loss of ceiling insulation; and	YES	
	(C)	J1.6 (a) (ii), J1.6 (c), and J1.6 (d) for floor edge insulation; and	YES	
	(D)	BS 7190 for testing a water heater; and	YES	
	(E)	AS/NZS 3823.1.2 at test condition T1 for testing package air-conditioning equipment; and	YES	
	(F)	ARI 550/590 or AHRI 550/590 for testing a refrigeration chiller.	YES	

Annual energy consumption of services			**Compliance**	**Comments**
		The annual energy consumption -		
(a)		for air-conditioning, must be calculated on the basis of -		
(i)		The daily occupancy and operation profiles in Tables 2a to 2g; and	YES	
(ii)		plant serving public areas of a Class 3 or Class 9c aged care building being available on thermostatic control 24 hours per day; and	N/A	
(iii)		the internal heat gains in a building -		
	(A)	from the occupants, at an average rate of 75W per person sensible heat gain and 55W per person latent heat gain, with the number of people calculated in accordance with D1.13; and	YES	
	(B)	from hot meals in a dining room, restaurant or café, at a rate of 5W per person sensible heat gain and 25W per person latent heat gain with the number of people calculated in accordance with D1.13; and	YES	
	(C)	from appliances and equipment, in accordance with Table 2h; and	YES	
	(D)	From artificial lighting, that is calculated in (b); and	YES	
(b)		For artificial lighting, must be calculated on the basis of the proposed level of artificial lighting in the building with the daily profiles in Tables 2a to 2g.	YES	NCC-BCA 2016 max currently assumed throughout at this stage.

Appendix B – Glazing Calculators

Figure 2 shows the glazing calculator results with the DTS compliant glazing properties. These values form the Reference Building glazing inputs for the JV3 modelling.

Report from G_Retail.xlsx *printed 31/10/2019*

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

Building name/description: **17-23 Wangaratta Street** | Application: **shop display** | Climate zone: **6**

Storey: **G (Retail)**

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	136m²		82.2m²				109m²		
Option B									n/a
Glazing area (A)	*52.4m²*		*19.5m²*				*20.4m²*		

Number of rows preferred in table below: **5** *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS									SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance		P&H or device		Shading	Multipliers			Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
		N				52.40	8.0	0.55				0.00	1.00	1.00	52.40	100% of 99%
		E				19.50	8.0	0.80				0.00	1.00	1.00	19.50	100% of 95%
		W				20.40	8.0	0.80				0.00	1.00	1.00	20.40	100% of 70%

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if inputs are valid ✓

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Report from L1.xlsx *printed 31/10/2019*

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

Building name/description: **17-23 Wangaratta Street** | Application: **other** | Climate zone: **6**

Storey: **L1**

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	115m²		109m²				109m²		
Option B									n/a
Glazing area (A)	*72.4m²*		*59.9m²*				*50.8m²*		

Number of rows preferred in table below: **5** *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS									SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance		P&H or device		Shading	Multipliers			Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
		N				72.40	8.0	0.22				0.00	1.00	1.00	72.40	100% of 96%
		E				59.90	4.3	0.10				0.00	1.00	1.00	59.90	100% of 100%
		W				50.80	1.0	0.76				0.00	1.00	1.00	50.80	100% of 100%

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Report from L2.xlsx *printed 31/10/2019*

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

Building name/description: **17-23 Wangaratta Street** | Application: **other** | Climate zone: **6**

Storey: **L2**

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	149m²		172m²				172m²		
Option B									n/a
Glazing area (A)	95.5m²		79m²				67m²		

Number of rows preferred in table below: **5** *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS										SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance			P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)		P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
		N				95.50	8.0	0.22					0.00	1.00	1.00	95.50	100% of 98%
		E				79.00	5.7	0.10					0.00	1.00	1.00	79.00	100% of 100%
		W				67.00	1.5	0.80					0.00	1.00	1.00	67.00	100% of 100%

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Report from L3-L6.xlsx *printed 31/10/2019*

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

Building name/description: **17-23 Wangaratta Street** | Application: **other** | Climate zone: **6**

Storey: **L3-L6**

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	92m²		97.3m²				97.5m²		
Option B									n/a
Glazing area (A)	60.1m²		42.3m²				60.1m²		

Number of rows preferred in table below: **5** *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS										SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance			P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)		P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
		N				60.10	8.0	0.22					0.00	1.00	1.00	60.10	100% of 99%
		E				42.30	6.2	0.10					0.00	1.00	1.00	42.30	100% of 100%
		W				60.10	1.0	0.49					0.00	1.00	1.00	60.10	100% of 100%

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Report from L7.xlsx *printed 31/10/2019*

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

Building name/description: **17-23 Wangaratta Street** | Application: **other** | Climate zone: **6**

Storey: **L7**

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	73.9m²		66.1m²				66.1m²		
Option B									n/a
Glazing area (A)	*65.2m²*	.....	*40.9m²*	.....			*40.9m²*		

Number of rows preferred in table below: **5** *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS										SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance			P&H or device		Shading	Multipliers			Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)		P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
		N		3.00	21.73		8.0	0.18					0.00	1.00	1.00	65.20	100% of 98%
		E				40.90	1.1	0.19					0.00	1.00	1.00	40.90	100% of 99%
		W				40.90	1.0	0.48					0.00	1.00	1.00	40.90	100% of 100%

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if inputs are valid



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Figure 2: Glazing Calculator Results for Reference Building.

Appendix C – Indicative Insulation Mark-ups

This section provides indicative mark-ups showing the insulation extents.

These insulation mark-ups are indicative only, aimed to provide general guidance to the required insulation coverage.

Further changes can be made depending on the location of conditioned areas and full height wall/partitions. At times, there may also be opportunities to further rationalise insulation locations to reduce cost.

External Wall - Total R2.8

Semi-Exposed Wall - TotalR1.8

Exposed Floor below (looking down) - Total R2.0

Roof - Total R3.2

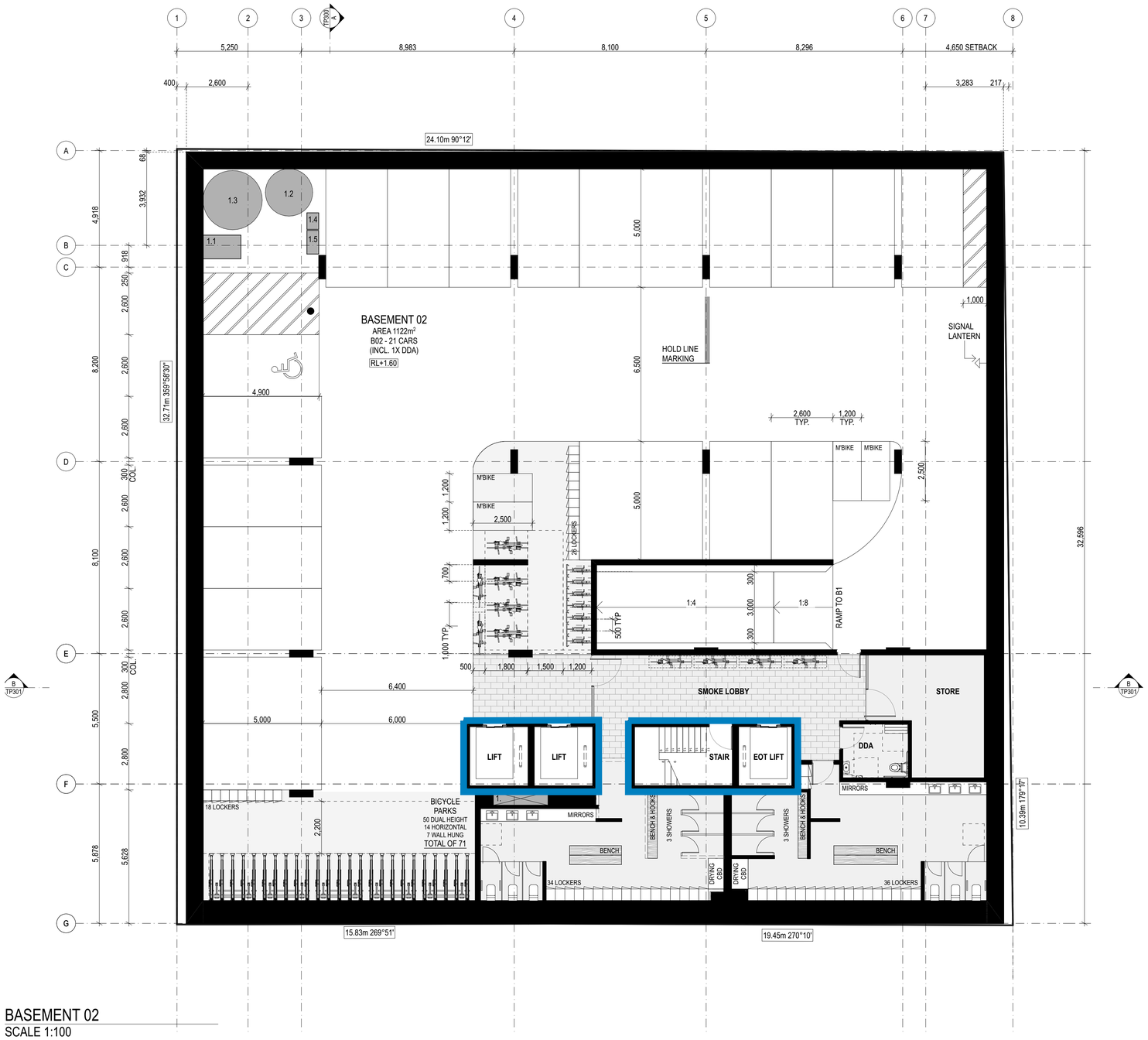
*All insulation values stated are total construction insulation values.

SYMBOL LEGEND

A/C — AC UNIT

VERTICAL BIKE HANGER

HORIZONTAL BIKE RACK



BASEMENT 02
SCALE 1:100

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Number	Revision	Date
A - WIP	TP ISSUE	Work in Progress

Number	Revision	Date

Number	Revision	Date

Number	Revision	Date

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Client

BEAMS

PROJECTS

Project	MIXED USE DEVELOPMENT			Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND			Title	B02 PLAN
Checked	KA	Drawn	KA		
Printed Date	28/10/19	Scale	1:100@A1 1:200@A3	Drawing No.	19012 TP100_A - WIP

External Wall - Total R2.8

Semi-Exposed Wall - TotalR1.8

Exposed Floor below (looking down) - Total R2.0

Roof - Total R3.2

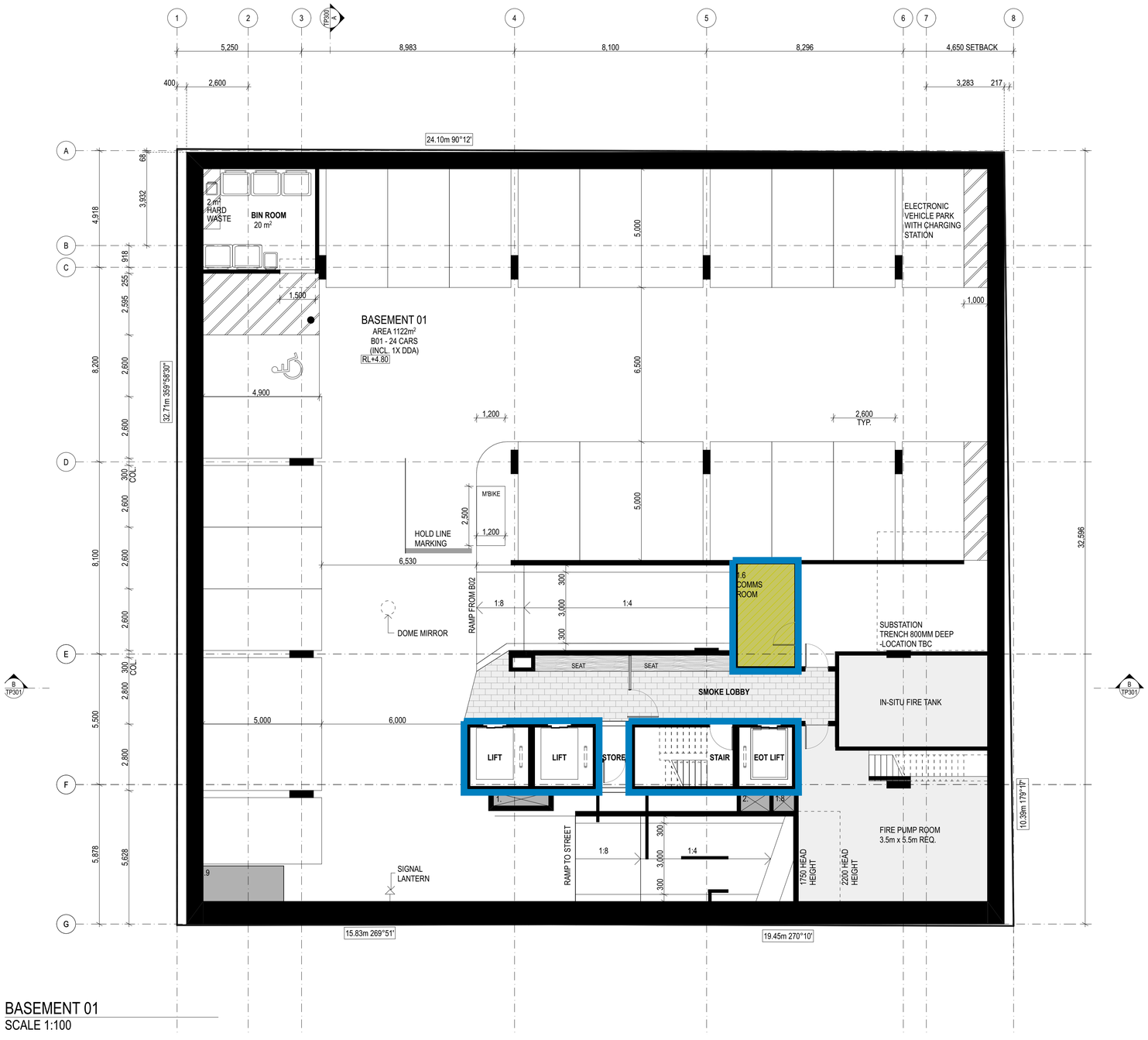
*All insulation values stated are total construction insulation values.

SYMBOL LEGEND

A/C — AC UNIT

VERTICAL BIKE HANGER

HORIZONTAL BIKE RACK



BASEMENT 01
SCALE 1:100

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Number	Revision	Date
A - WIP	TP ISSUE	Work in Progress

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Project	MIXED USE DEVELOPMENT			Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND			Title	B01 PLAN
Checked	KA	Drawn	KA		
Printed Date	28/10/19	Scale	1:100@A1 1:200@A3	Drawing No.	19012 TP101_A-WIP

External Wall - Total R2.8

Semi-Exposed Wall - TotalR1.8

Exposed Floor below (looking down) - Total R2.0

Roof - Total R3.2

*All insulation values stated are total construction insulation values.

SYMBOL LEGEND

A/C — AC UNIT

VERTICAL BIKE HANGER

HORIZONTAL BIKE RACK

71A TANNER STREET
THREE STOREY RENDERED APARTMENT BUILDING

21 TANNER STREET
DOUBLE STOREY RENDERED BRICK BUILDING

TANNER STREET

60 TANNER STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

28 WANGARATTA STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

ALL EXISTING CROSSOVERS TO WANGARATTA STREET BE REMOVED AND FOOTPATH REINSTSTED

WANGARATTA STREET

BOTHERAMBO STREET

COMMERCIAL (SHOP) 0.1
NLA: 627 m²
RL+8.15

COMMERCIAL (SHOP) 0.2
NLA: 69 m²
RL+8.00

MAIN ENTRY
RL+8.00

SMOKE LOBBY

LIFT

LIFT

STAIR

EOT LIFT

MSR
3700 X 3500

ACCES TO 801 FIRE PUMP ROOM

SUBSTATION
8500 X 5000MM

6 VISITOR BIKES

SEAT

MAIL

FEMALE WC

DDA WC

BIKE HOOPS
4 BIKE PARKS

BOOSTER UNDER
2900 X 1000MM

BUILDING OVER

CONCRETE FOOTPATH

CONCRETE FOOTPATH

FOOTPATH

CONCRETE FOOTPATH

CONVEX MIRROR & SIGNAL LANTERN

EXISTING CROSSOVER

EXISTING CROSSOVER TO BE REMOVED

ENTRY

24.10m 90°12'

15.83m 269°51'

19.45m 270°10'

10.39m 179°17'

276 LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

276A LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

278 LENNOX STREET
SINGLE STOREY RENDERED BRICK BUILDING

280 LENNOX STREET
SINGLE STOREY BRICK BUILDING

282 LENNOX STREET
SINGLE STOREY BRICK BUILDING

P.O.S

25 WANGARATTA STREET
DOUBLE STOREY RENDERED BRICK BUILDING

GROUND FLOOR PLAN
SCALE 1:100

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Number	Revision	Date
A - WIP	TP ISSUE	Work in Progress

General Notes

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Client: BEAMS PROJECTS

Project	MIXED USE DEVELOPMENT	Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND	Title	L00 PLAN
Checked	KA	Drawn	KA
Printed Date	28/10/19	Scale	1:100@A1 1:200@A3
Drawing No.	19012 TP102_A - WIP		

External Wall - Total R2.8

Semi-Exposed Wall - TotalR1.8

Exposed Floor below (looking down) - Total R2.0

Roof - Total R3.2

*All insulation values stated are total construction insulation values.

SYMBOL LEGEND

A/C — AC UNIT

VERTICAL BIKE HANGER

HORIZONTAL BIKE RACK

71A TANNER STREET
THREE STOREY
RENDERED
APARTMENT BUILDING

21 TANNER STREET
DOUBLE STOREY RENDERED
BRICK BUILDING

TANNER STREET

1 2 3 (TP300 A) 4 5 6 7 8

5,250 | 8,983 | 8,100 | 8,296 | 4,650 SETBACK

34,883

10,085

24.10m 90°12'

A B C D E F G

234 | 4,918 | 8,200 | 5,500 | 5,878

1450

OPENABLE WINDOW WITH RAIL

COMMERCIAL 1.1
NLA: 962 m²
RL +12.00

32.71m 359°56'30"

WANGARATTA STREET

BOTHERAMBO STREET

9,795 | 8,100 | 32,478

10,145 | 32,596

B TP301

MALE BATHROOM

CORE: 97 m²

DDA WC

FEMALE BATHROOM

OPENABLE WINDOW WITH RAIL

10.39m 179°17'

15.83m 269°51'

19.45m 270°10'

35,279

60 TANNER STREET
FOUR STOREY CONCRETE
PANEL & IRON APARTMENT BUILDING

28 WANGARATTA STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

25 WANGARATTA STREET
DOUBLE STOREY RENDERED
BRICK BUILDING

276 LENNOX STREET
DOUBLE STOREY RENDERED
BRICK BUILDING

P.O.S

276A LENNOX STREET
DOUBLE STOREY RENDERED
BRICK BUILDING

P.O.S

P.O.S

278 LENNOX STREET
SINGLE STOREY RENDERED
BRICK BUILDING

280 LENNOX STREET
SINGLE STOREY
BRICK BUILDING

P.O.S

282 LENNOX STREET
SINGLE STOREY
BRICK BUILDING

LEVEL 01
SCALE 1:100

Member Australian Institute of Architects

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DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL PROJECT DRAWINGS, SCHEDULES AND THE SPECIFICATION.

Number	Revision	Date
A - WIP	TP ISSUE	Work in Progress

Number	Revision	Date

Number	Revision	Date

Number	Revision	Date

General Notes

BUILDERS / CONTRACTORS SHALL VERIFY ALL DIMENSIONS BEFORE ANY WORK COMMENCES. DIMENSIONS SHOWN ARE NOMINAL. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. ANY DISCREPANCIES ARE TO BE MADE KNOWN TO THE ARCHITECT'S / DESIGNER'S OFFICE PRIOR TO ANY WORKS COMMENCING ON SITE. ALL SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND MANUFACTURE SHALL NOT COMMENCE PRIOR TO THE RETURN OF UNAMENDED SHOP DRAWINGS

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Victoria 3121 Australia

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Client: BEAMS PROJECTS

Project	MIXED USE DEVELOPMENT			Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND			Title	L01 PLAN
Checked	KA	Drawn	KA		
Printed Date	28/10/19	Scale	1:100@A1 1:200@A3	Drawing No.	19012 TP103_A - WIP

External Wall - Total R2.8

Semi-Exposed Wall - TotalR1.8

Exposed Floor below (looking down) - Total R2.0

Roof - Total R3.2

*All insulation values stated are total construction insulation values.

ADP Consulting : Engineering

SYMBOL LEGEND

A/C — AC UNIT

VERTICAL BIKE HANGER

HORIZONTAL BIKE RACK

71A TANNER STREET
THREE STOREY RENDERED APARTMENT BUILDING

21 TANNER STREET
DOUBLE STOREY RENDERED BRICK BUILDING

P.O.S

TANNER STREET

1 2 3 (TP301 A) 4 5 6 7 8

5,250 | 8,983 | 8,100 | 8,296 | 4,650 SETBACK

34,883

10,085

24.10m 90°12'

60 TANNER STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

28 WANGARATTA STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

WANGARATTA STREET

A B C D E F G

4,918 | 8,200 | 5,500 | 5,878

32.71m 359°56'30"

OPENABLE WINDOW WITH RAIL

COMMERCIAL 2.1
NLA: 962 m²
RL +15.40

MALE BATHROOM
CORE: 97 m²
FEMALE BATHROOM
DDA WC

OPENABLE WINDOW WITH RAIL

9,795 | 8,100 | 32,713

10,145 | 32,608 | 32,596

10.39m 179°10"

15.83m 269°51'

19.45m 270°10'

35,279

25 WANGARATTA STREET
DOUBLE STOREY RENDERED BRICK BUILDING

BOTHERAMBO STREET

276 LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

276A LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

278 LENNOX STREET
SINGLE STOREY RENDERED BRICK BUILDING

280 LENNOX STREET
SINGLE STOREY BRICK BUILDING

282 LENNOX STREET
SINGLE STOREY BRICK BUILDING

LEVEL 02
SCALE 1:100

Member Australian Institute of Architects

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Number	Revision	Date
A - WIP	TP ISSUE	Work in Progress

Number	Revision	Date

Number	Revision	Date

Number	Revision	Date

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Client: BEAMS PROJECTS

Project	MIXED USE DEVELOPMENT			Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND			Title	L02 PLAN
Checked	KA	Drawn	KA		
Printed Date	28/10/19	Scale	1:100@A1 1:200@A3	Drawing No.	19012 TP104_A-WIP

External Wall - Total R2.8

Semi-Exposed Wall - TotalR1.8

Exposed Floor below (looking down) - Total R2.0

Roof - Total R3.2

*All insulation values stated are total construction insulation values.

ADP Consulting : Engineering

SYMBOL LEGEND

A/C — AC UNIT

VERTICAL BIKE HANGER

HORIZONTAL BIKE RACK

71A TANNER STREET
THREE STOREY RENDERED APARTMENT BUILDING

P.O.S

21 TANNER STREET
DOUBLE STOREY RENDERED BRICK BUILDING

TANNER STREET

1 2 3 (TP500 A) 4 5 6 7 8

5,250 | 8,983 | 8,100 | 8,296 | 4,650 SETBACK

34,883

10,085

24.10m 90°12'

60 TANNER STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

28 WANGARATTA STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

WANGARATTA STREET

A B C D E F G

4,918 | 8,200 | 5,500 | 5,878

32.71m 359°56'30"

1,500 | 2,830

DECK: 136 m²

SLIDING DOOR | SLIDING DOOR

COMMERCIAL 3.1
NLA: 647 m²
RL+18.80

GREEN ROOF 60 m²

9,795 | 8,100 | 1,400

32,646

MALE BATHROOM | CORE: 97 m² | FEMALE BATHROOM | DDA WC

SLIDING DOOR | SLIDING DOOR

DECK: 37 m²

11,428

10.39m 179°10"

15.83m 269°51" | 19.45m 270°10"

30,279 | 5,000

10,145

32,596

80

BOTHERAMBO STREET

276 LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

276A LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

278 LENNOX STREET
SINGLE STOREY RENDERED BRICK BUILDING

280 LENNOX STREET
SINGLE STOREY BRICK BUILDING

282 LENNOX STREET
SINGLE STOREY BRICK BUILDING

25 WANGARATTA STREET
DOUBLE STOREY RENDERED BRICK BUILDING

P.O.S

B TP301

LEVEL 03
SCALE 1:100

Member Australian Institute of Architects

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A - WIP	TP ISSUE	Work in Progress

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Client: BEAMS PROJECTS

Project	MIXED USE DEVELOPMENT			Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND			Title	L03 PLAN
Checked	KA	Drawn	KA		
Printed Date	28/10/19	Scale	1:100@A1 1:200@A3	Drawing No.	1901 2 TP105_A - WIP

External Wall - Total R2.8

Semi-Exposed Wall - TotalR1.8

Exposed Floor below (looking down) - Total R2.0

Roof - Total R3.2

*All insulation values stated are total construction insulation values.

ADP Consulting : Engineering

SYMBOL LEGEND

A/C — AC UNIT

VERTICAL BIKE HANGER

HORIZONTAL BIKE RACK

P.O.S

71A TANNER STREET
THREE STOREY RENDERED APARTMENT BUILDING

P.O.S

P.O.S

21 TANNER STREET
DOUBLE STOREY RENDERED BRICK BUILDING

TANNER STREET

1 2 3 (TP301 A) 4 5 6 7 8

5,250 | 8,983 | 8,100 | 8,296 | 4,650 SETBACK

3,000 | 2,193 | 29,690

10,085

24.10m 90°12'

DECK BELOW

60 TANNER STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

WANGARATTA STREET

A B C D E F G

4,918 | 8,200 | 5,500 | 5,878

32.71m 359°56'30"

OPENABLE WINDOW WITH RAIL

OPENABLE WINDOW WITH RAIL

COMMERCIAL 4.1
NLA: 647 m²
RL +22.20

28 WANGARATTA STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

P.O.S

P.O.S

P.O.S

P.O.S

P.O.S

9,795

8,100 | 32,646

9 TP301

9 TP301

OPENABLE WINDOW WITH RAIL

OPENABLE WINDOW WITH RAIL

MALE BATHROOM

CORE: 97 m²

DDA WC

FEMALE BATHROOM

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

10,145

32,608 | 32,596

10.39m 179°10'

BOTHERAMBO STREET

276 LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

P.O.S

276A LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

P.O.S

P.O.S

278 LENNOX STREET
SINGLE STOREY RENDERED BRICK BUILDING

280 LENNOX STREET
SINGLE STOREY BRICK BUILDING

P.O.S

282 LENNOX STREET
SINGLE STOREY BRICK BUILDING

15.83m 269°51'

19.45m 270°10'

35,279

25 WANGARATTA STREET
DOUBLE STOREY RENDERED BRICK BUILDING

LEVEL 04
SCALE 1:100

Member Australian Institute of Architects

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Number	Revision	Date
A - WIP	TP ISSUE	Work in Progress

Number	Revision	Date

Number	Revision	Date

Number	Revision	Date

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Client
BEAMS PROJECTS

Project	MIXED USE DEVELOPMENT			Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND			Title	L04 PLAN
Checked	KA	Drawn	KA		
Printed Date	28/10/19	Scale	1:100@A1 1:200@A3	Drawing No.	19012 TP106_A - WIP

External Wall - Total R2.8

Semi-Exposed Wall - TotalR1.8

Exposed Floor below (looking down) - Total R2.0

Roof - Total R3.2

*All insulation values stated are total construction insulation values.

ADP Consulting : Engineering

SYMBOL LEGEND

A/C — AC UNIT

VERTICAL BIKE HANGER

HORIZONTAL BIKE RACK

71A TANNER STREET
THREE STOREY RENDERED APARTMENT BUILDING

P.O.S

21 TANNER STREET
DOUBLE STOREY RENDERED BRICK BUILDING

TANNER STREET

1 2 3 5 4 6 7 8

5,250 | 8,983 | 8,100 | 8,296 | 4,650 SETBACK

10,085

TP301 A

24.10m 90°12'

A B C D E F G

4,918 | 8,200 | 5,500 | 5,878

8,100 | 32,713

9,795

32.71m 359°58'30"

WANGARATTA STREET

60 TANNER STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

28 WANGARATTA STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

P.O.S

OPENABLE WINDOW WITH RAIL

OPENABLE WINDOW WITH RAIL

COMMERCIAL 5.1
NLA: 647 m²
RL +25.60

CORE: 97 m²

MALE BATHROOM

DDA WC

FEMALE BATHROOM

OPENABLE WINDOW WITH RAIL

10,145

32,608 | 32,596

10.39m 179°10'

BOTHERAMBO STREET

15.83m 269°51'

19.45m 270°10'

35,279

25 WANGARATTA STREET
DOUBLE STOREY RENDERED BRICK BUILDING

276 LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

276A LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

278 LENNOX STREET
SINGLE STOREY RENDERED BRICK BUILDING

280 LENNOX STREET
SINGLE STOREY BRICK BUILDING

282 LENNOX STREET
SINGLE STOREY BRICK BUILDING

LEVEL 05
SCALE 1:100

Member Australian Institute of Architects

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Number	Revision	Date
A - WIP	TP ISSUE	Work in Progress

Number	Revision	Date

Number	Revision	Date

Number	Revision	Date

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Client: BEAMS PROJECTS

Project	MIXED USE DEVELOPMENT			Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND			Title	L05 PLAN
Checked	KA	Drawn	KA		
Printed Date	28/10/19	Scale	1:100@A1 1:200@A3	Drawing No.	19012 TP107_A-WIP

External Wall - Total R2.8

Semi-Exposed Wall - TotalR1.8

Exposed Floor below (looking down) - Total R2.0

Roof - Total R3.2

*All insulation values stated are total construction insulation values.

ADP Consulting : Engineering

SYMBOL LEGEND

A/C — AC UNIT

VERTICAL BIKE HANGER

HORIZONTAL BIKE RACK

71A TANNER STREET
THREE STOREY RENDERED APARTMENT BUILDING

P.O.S

21 TANNER STREET
DOUBLE STOREY RENDERED BRICK BUILDING

TANNER STREET

1 2 3 4 5 6 7 8

5,250 | 8,983 | 8,100 | 8,296 | 4,650 SETBACK

10,085

TP301 A

24.10m 90°12'

A B C D E F G

4,918 | 8,200 | 8,100 | 5,500 | 5,878

32.71m 359°58'30"

60 TANNER STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

28 WANGARATTA STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

P.O.S

WANGARATTA STREET

OPENABLE WINDOW WITH RAIL

OPENABLE WINDOW WITH RAIL

COMMERCIAL 6.1
NLA: 647 m²
RL +29.00

9,795

10,145

32,596

BOTHERAMBO STREET

MALE BATHROOM

CORE: 97 m²

DDA WC

FEMALE BATHROOM

OPENABLE WINDOW WITH RAIL

10.39m 179°10'

15.83m 269°51'

19.45m 270°10'

35,279

25 WANGARATTA STREET
DOUBLE STOREY RENDERED BRICK BUILDING

276 LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

276A LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

278 LENNOX STREET
SINGLE STOREY RENDERED BRICK BUILDING

280 LENNOX STREET
SINGLE STOREY BRICK BUILDING

282 LENNOX STREET
SINGLE STOREY BRICK BUILDING

LEVEL 06
SCALE 1:100

Member Australian Institute of Architects

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A - WIP	TP ISSUE	Work in Progress

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Client: BEAMS PROJECTS

Project	MIXED USE DEVELOPMENT			Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND			Title	L06 PLAN
Checked	KA	Drawn	KA		
Printed Date	28/10/19	Scale	1:100@A1 1:200@A3	Drawing No.	19012 TP108_A - WIP

External Wall - Total R2.8

Semi-Exposed Wall - TotalR1.8

Exposed Floor below (looking down) - Total R2.0

Roof - Total R3.2

*All insulation values stated are total construction insulation values.

ADP Consulting : Engineering

TANNER STREET

71A TANNER STREET
THREE STOREY RENDERED APARTMENT BUILDING

P.O.S

21 TANNER STREET
DOUBLE STOREY RENDERED BRICK BUILDING

60 TANNER STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

28 WANGARATTA STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

WANGARATTA STREET

BOTHERAMBO STREET

276 LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

276A LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

278 LENNOX STREET
SINGLE STOREY RENDERED BRICK BUILDING

280 LENNOX STREET
SINGLE STOREY BRICK BUILDING

282 LENNOX STREET
SINGLE STOREY BRICK BUILDING

25 WANGARATTA STREET
DOUBLE STOREY RENDERED BRICK BUILDING

1 2 3 4 5 6 7 8

A B C D E F G

5,250 | 8,983 | 8,100 | 8,296 | 4,650 SETBACK

31,600 | 3,679

10,085

24.10m 90°12'

4,918 | 3,966 | 7,709

8,200

32.71m 359°58'30"

9,795 | 10,145

8,100 | 32,596

5,500

5,878

2,900 | 4,000 | 4,000 | 4,500

10.39m 179°10'

15.83m 269°51'

19.45m 270°10'

6,900 | 7,868 | 12,966 | 7,545

ROOF EDGE

GREEN ROOF
121 m²

ROOF DECK
119 m²

HANDRAIL

CANOPY OVER

RL+32.60

COMMERCIAL 7.1
NLA: 255 m²

OPENABLE WINDOW WITH RAIL (TYP.)

SERVICES
43 m²

SERVICES
39 m²

DDA WC

CORE: 64 m²

AMENITIES: 16 m²

A/C

B TP301

TP300 A

LEVEL 07
SCALE 1:100

ALL DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO COMMENCING WORK. ANY DISCREPANCIES TO BE REFERRED TO MAA. DO NOT SCALE DRAWINGS.

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Member Australian Institute of Architects

Number	Revision	Date
A - WIP	TP ISSUE	Work in Progress

Number	Revision	Date

Number	Revision	Date

Number	Revision	Date

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Client
BEAMS
PROJECTS

Project	MIXED USE DEVELOPMENT			Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND			Title	L07 PLAN
Checked	KA	Drawn	KA		
Printed Date	30/10/19	Scale	1:100@A1 1:200@A3	Drawing No.	1901 2 TP109_A - WIP

External Wall - Total R2.8

Semi-Exposed Wall - TotalR1.8

Exposed Floor below (looking down) - Total R2.0

Roof - Total R3.2

*All insulation values stated are total construction insulation values.

ADP Consulting : Engineering

SYMBOL LEGEND

- A/C — AC UNIT
- VERTICAL BIKE HANGER
- HORIZONTAL BIKE RACK
- DUAL HEIGHT BIKE RACK 'SECURABIKE' CBR10GS

71A TANNER STREET
THREE STOREY RENDERED APARTMENT BUILDING

P.O.S

21 TANNER STREET
DOUBLE STOREY RENDERED BRICK BUILDING

TANNER STREET

1 2 3 (TP300 A) 4 5 6 7 8

5,250 | 8,983 | 8,100 | 10,085 | 8,296 | 4,650 SETBACK

24.10m 90°12'

A B C D E F G

4,918 | 8,200 | 5,500 | 5,878

32.71m 359°58'30"

WANGARATTA STREET

BOTHERAMBO STREET

2° FALL

LIFT OVERRUN

B (TP301)

9,795 | 8,100 | 5,500 | 5,878

10,145 | 32,596 | 10.39m 179°10'

15.83m 269°51'

19.45m 270°10'

60 TANNER STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

28 WANGARATTA STREET
FOUR STOREY CONCRETE PANEL & IRON APARTMENT BUILDING

P.O.S

25 WANGARATTA STREET
DOUBLE STOREY RENDERED BRICK BUILDING

276 LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

276A LENNOX STREET
DOUBLE STOREY RENDERED BRICK BUILDING

278 LENNOX STREET
SINGLE STOREY RENDERED BRICK BUILDING

280 LENNOX STREET
SINGLE STOREY BRICK BUILDING

282 LENNOX STREET
SINGLE STOREY BRICK BUILDING

ROOF
SCALE 1:100

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Appendix D – Daylight Assessment

1. Summary

This report documents the methodology, assumptions and results of daylight analysis for office and retail development at 17-23 Wangaratta Street, Richmond VIC 3121.

BESS Standard requires 30% of the area achieved Daylight Factor of 2 in all primary spaces.
Key results / findings are as follows:

- Some of the modelled spaces meet BESS Standards for daylight while some fall below the compliance criteria. This is a typical outcome as few projects achieve 100% compliance with BESS Daylight Standards.
- Only 20% of retail area complies with BESS Standards
- 6 levels of office (out of 7) comply with BESS Standards
- Overall area is compliant with BESS Daylight Standards of 35 % of area achieving Daylight Factor of 2, and therefore it should be considered compliant.

Assumption Note: 30% of the floor area is assumed as a secondary space. Within the Green Star- Design & As built guideline, the secondary space definition is:

All areas used to support the principal activity of the primary space. These spaces will be regularly occupied; however, a single person is unlikely to remain within for more than two hours. Examples of secondary space include:

- Meeting rooms, boardrooms;
- kitchens and bathrooms;
- Auditoriums, gyms, seminar rooms (if not intended for regular classes);
- Waiting rooms, and any diagnostic area where no specific lighting requirements exist;
- Seating areas, office breakout areas, food courts

For maximizing the daylight it is advised the secondary spaces to be located near to the core and far from windows.

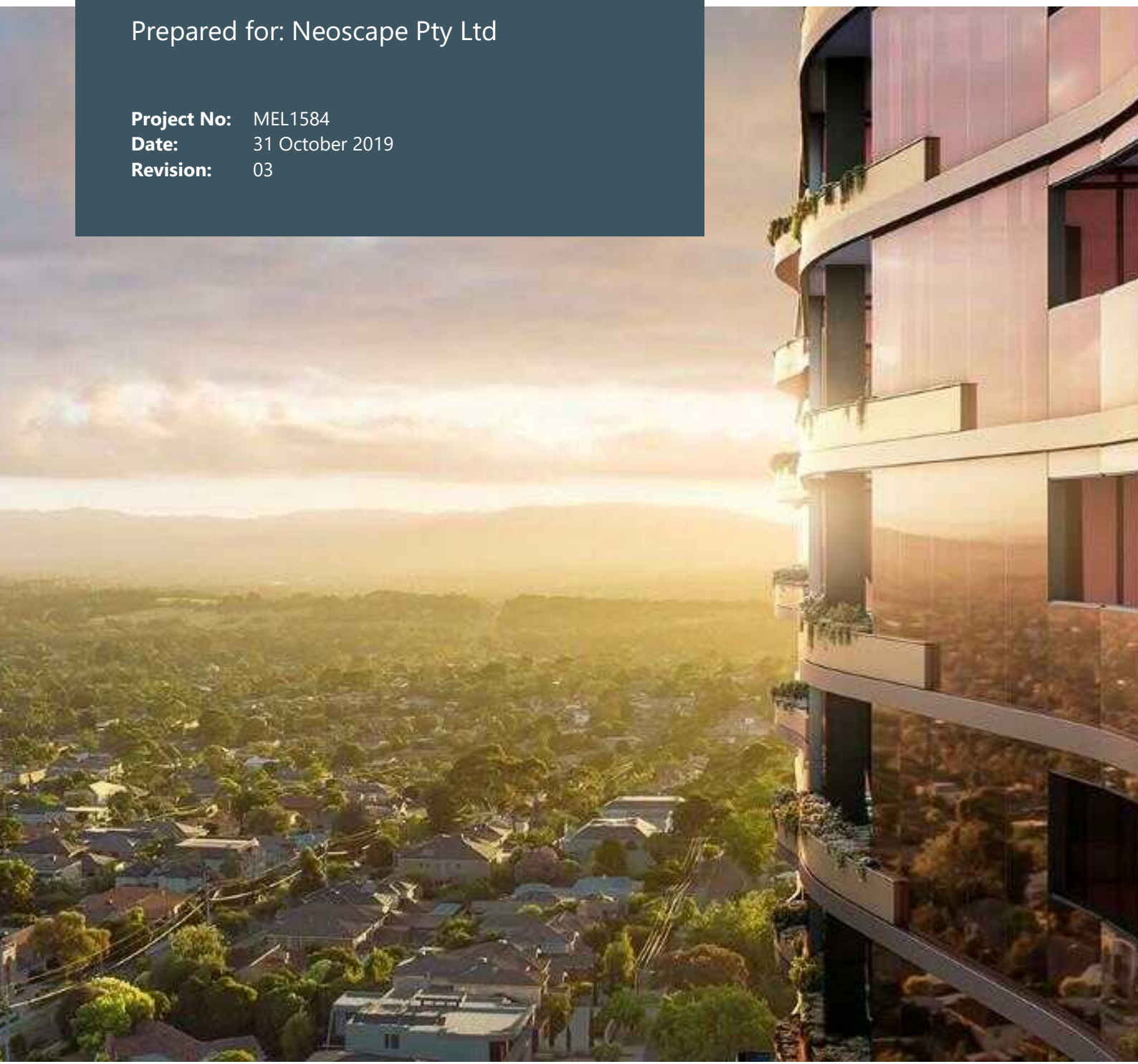
17-23 Wangaratta Street Development

Daylight Assessment Report

Prepared for: Neoscape Pty Ltd

Project No: MEL1584
Date: 31 October 2019
Revision: 03

ADP Consulting : Engineering



ADP Consulting : Engineering

Creating great environments with great people

Project:	17-23 Wangaratta Street Development
Location:	17-19, 21 & 23 Wangaratta Street Richmond VIC 3121
Prepared by:	ADP Consulting Pty Ltd Level 11, 60 Albert Road South Melbourne VIC 3205
Project No:	MEL1584
Revision:	03
Date:	31 October 2019

Rev	Date	Comment	Author	Signature	Technical Review	Signature	Authorisa-tion & QA	Signature
01	3 October 2019	Issue for information	EL		AE		AE	
02	17 October 2019	Issue for information	EL		AE		RY	
03	31 October 2019	Issue for information	EL		AE		RY	

Project Team

Client / Principal	Neoscape Pty Ltd ABN 69 158 201 159
Architect	MA ARCHITECTS

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Tables

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2. Introduction

2.1 Background

Daylight analysis has been undertaken for the project based on preliminary architectural drawings from MA Architect (29/10/2019 and 30/10/2019).

Daylight analysis has been undertaken for all nominated areas with external glazing in terms of natural daylight.

2.2 Layout of Assessed Spaces

Figure 1 - Figure 8 show the layouts of the assessed spaces.

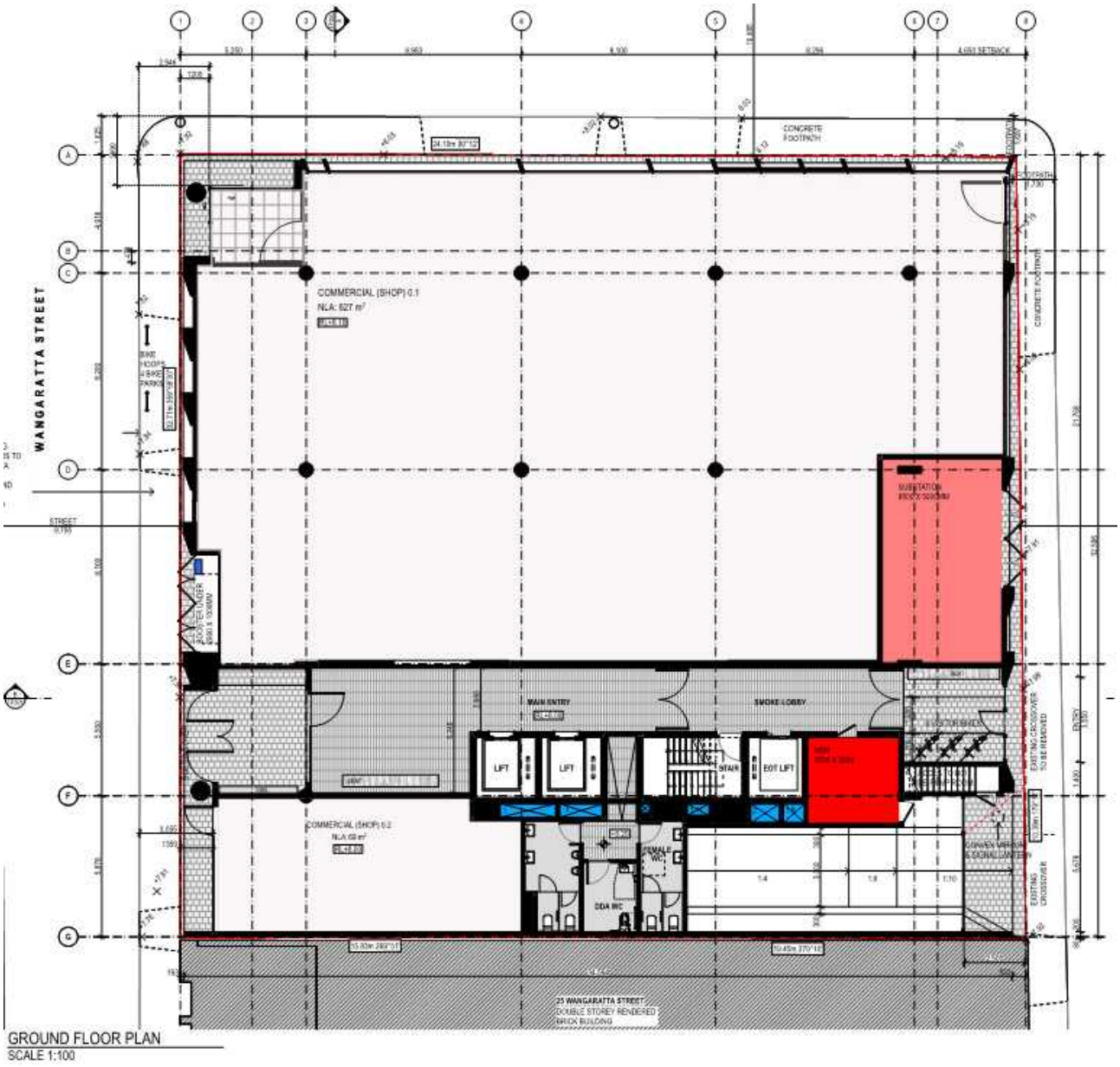


Figure 1: Ground level.

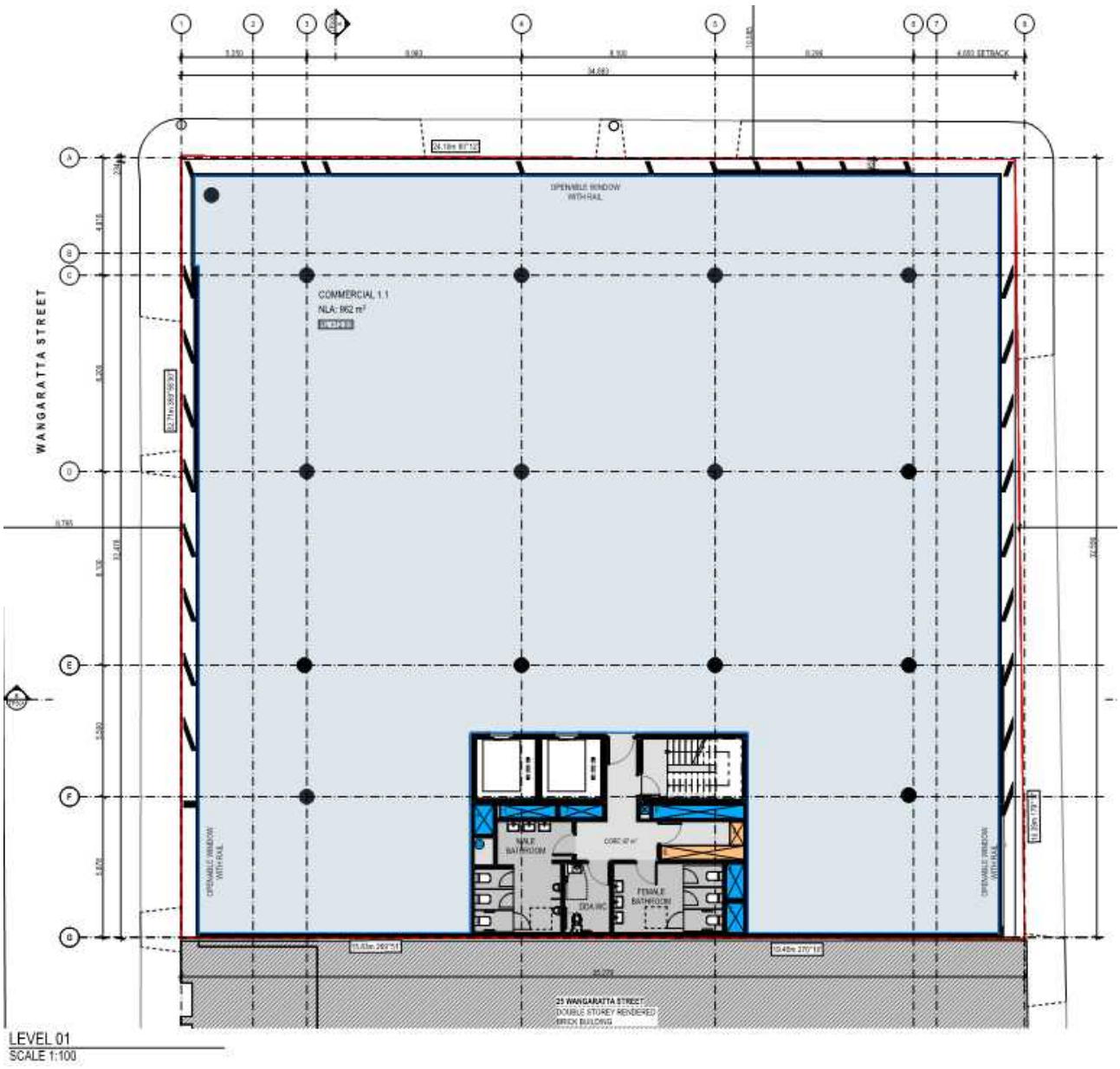


Figure 2: Level 1.

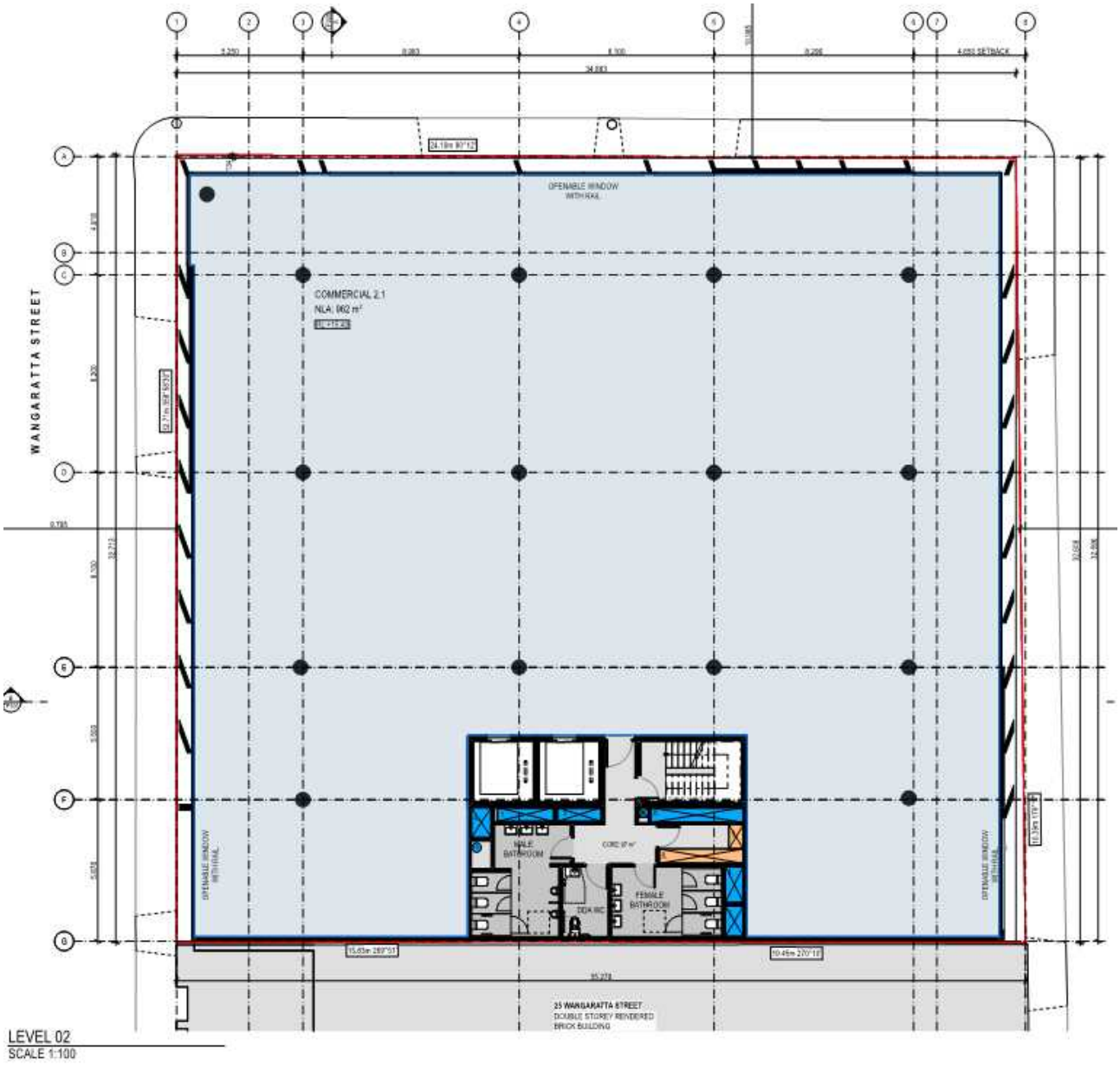


Figure 3: Level 2.

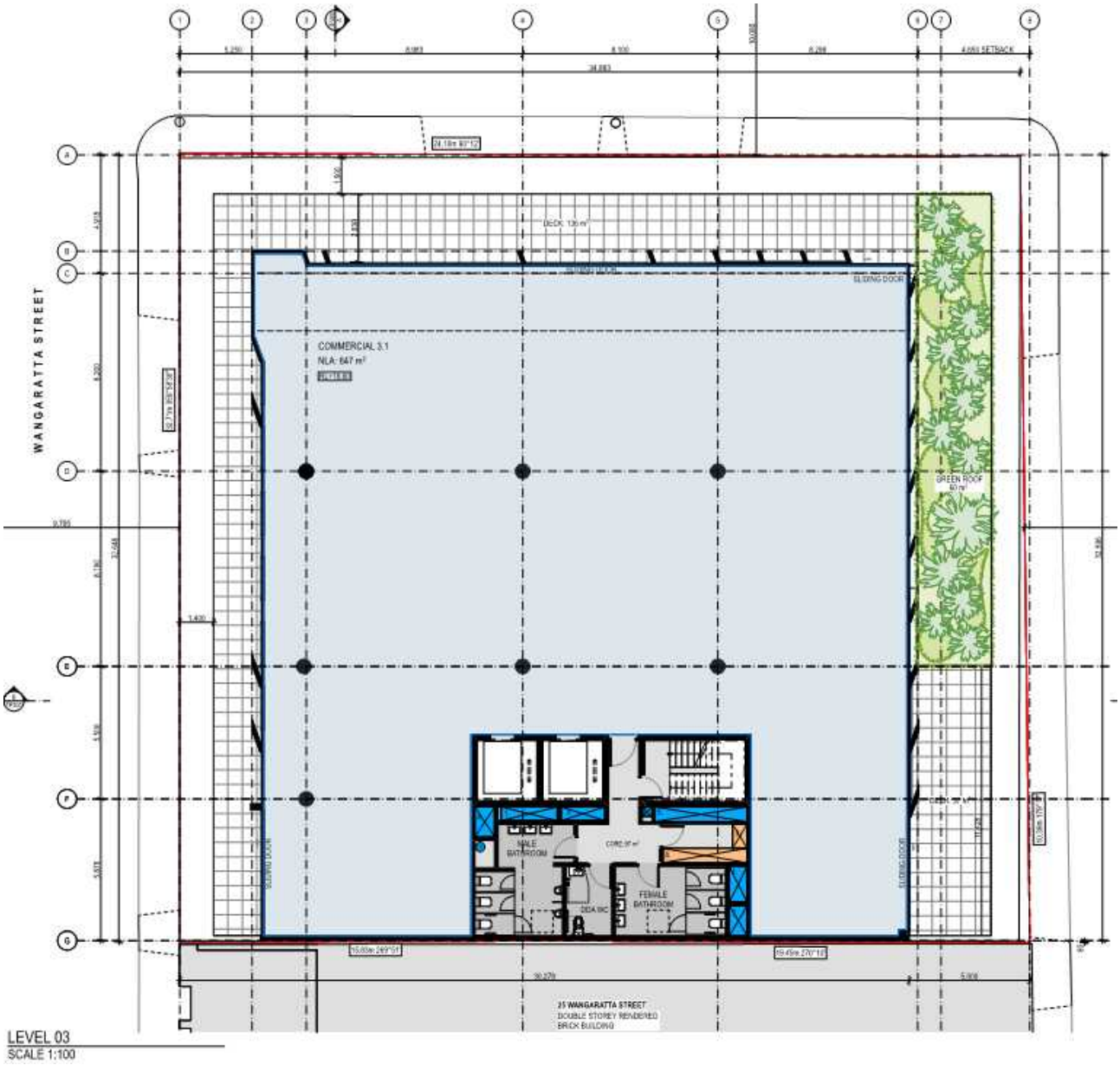


Figure 4: Level 3.

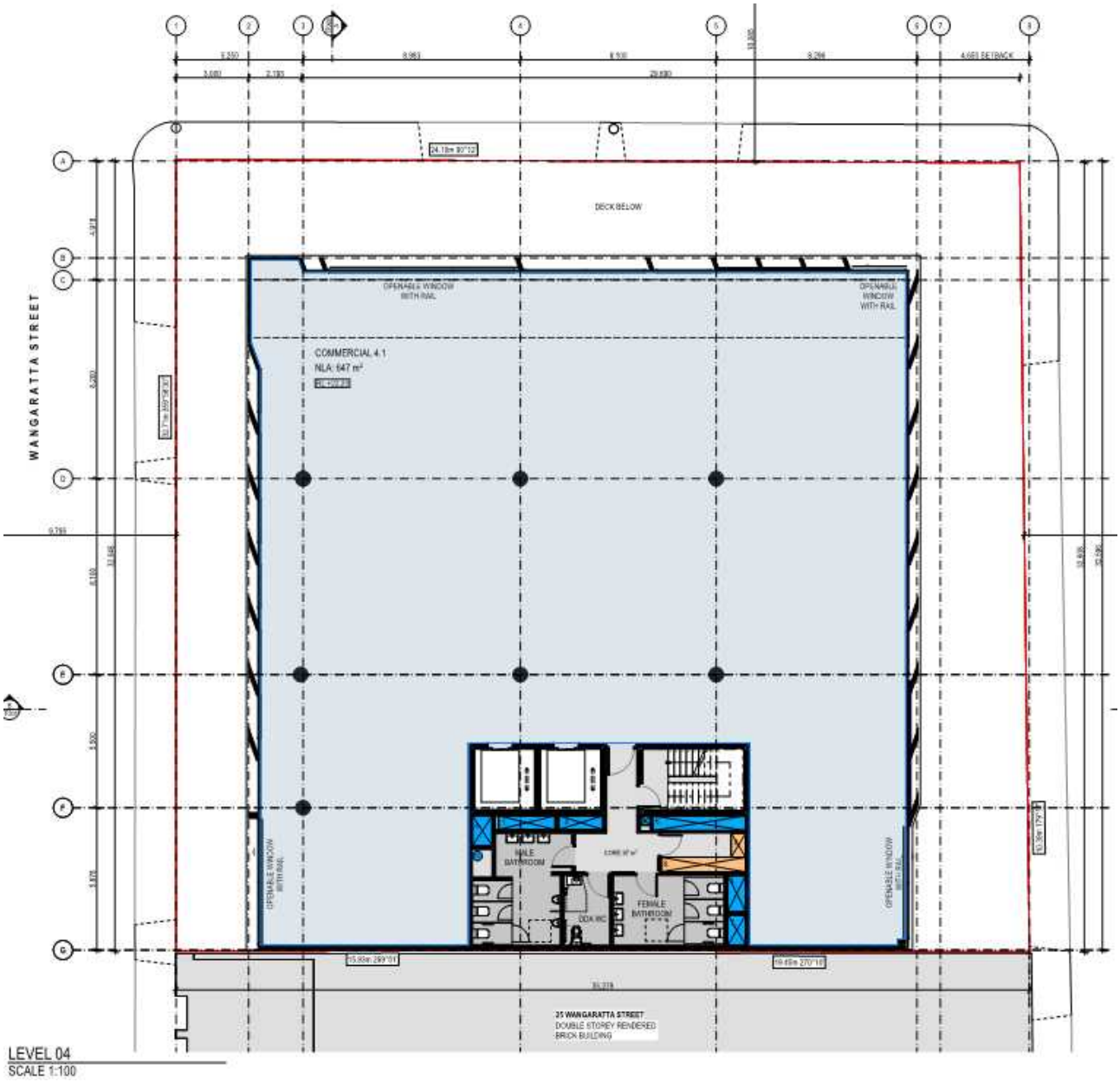


Figure 5: Level 4.

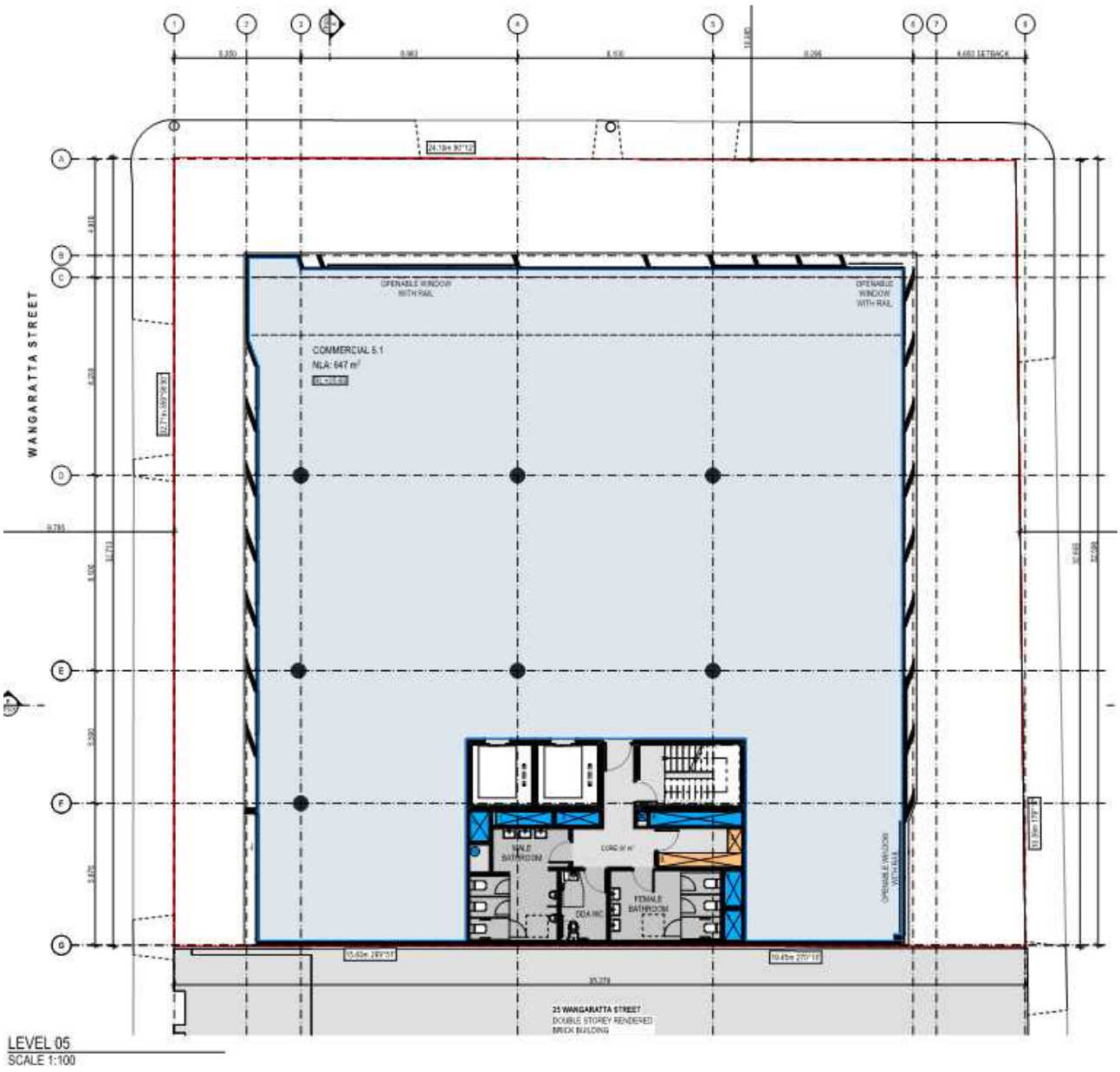


Figure 6: Level 5.

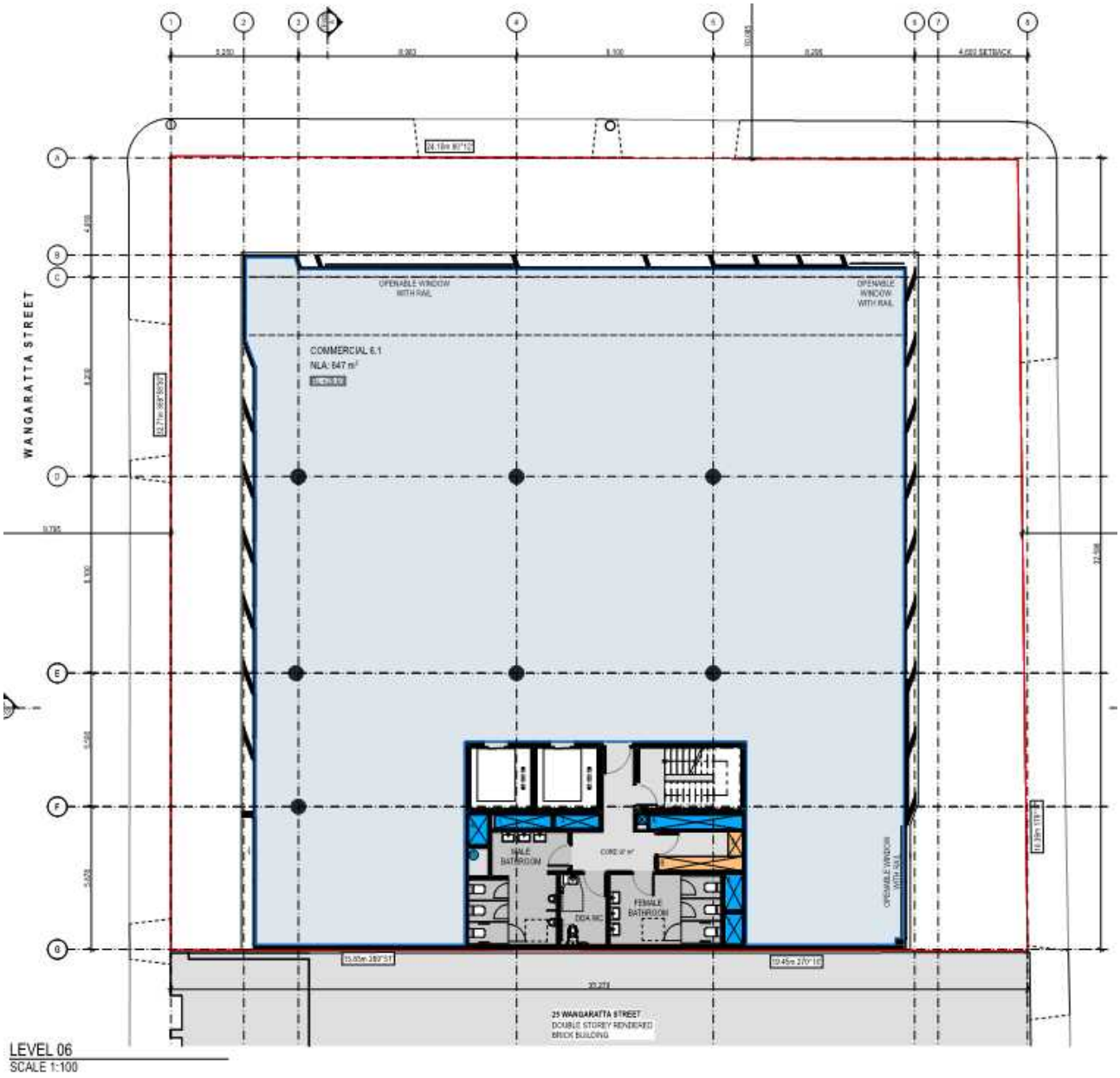
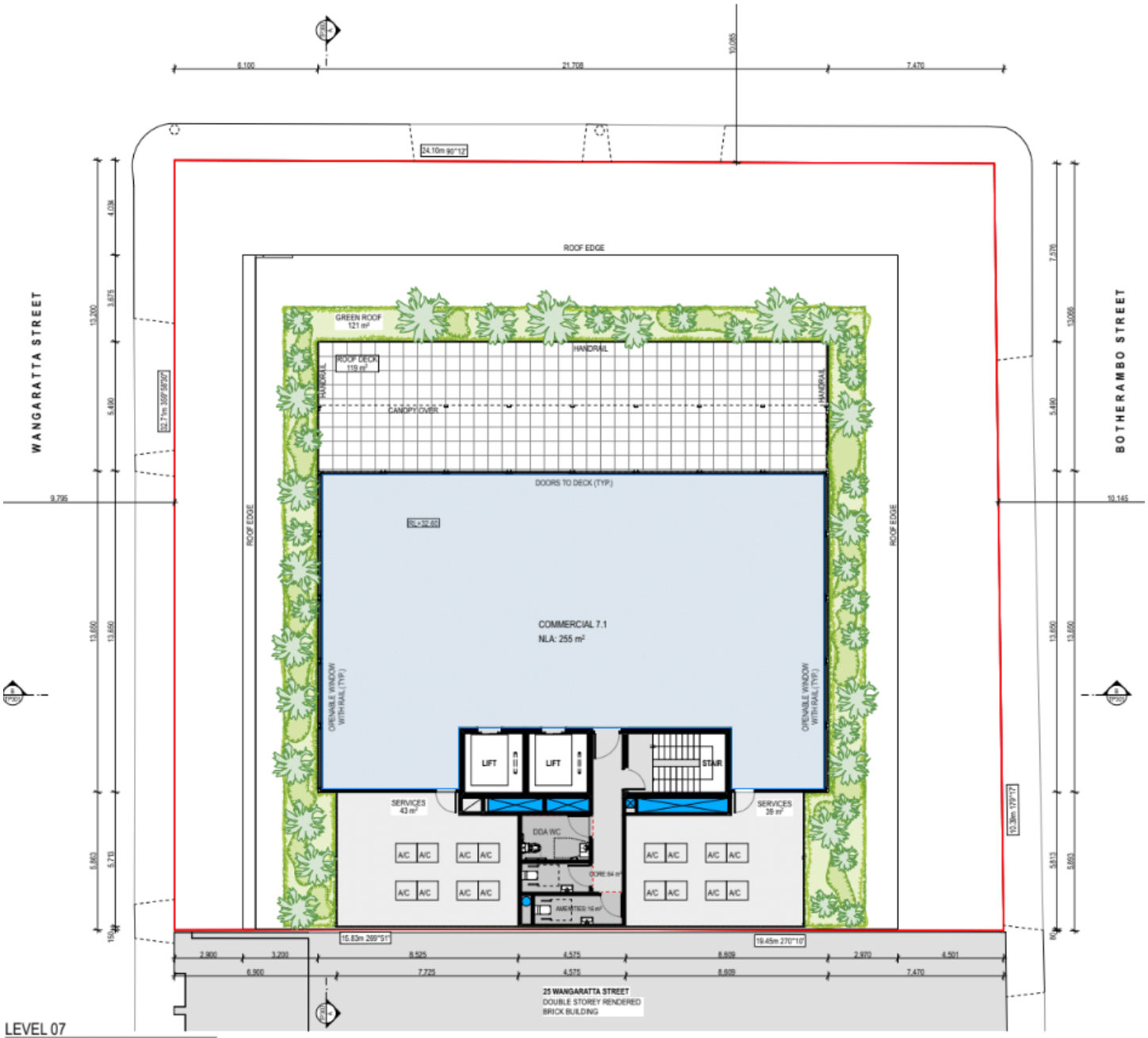


Figure 7: Level 6.



LEVEL 07
SCALE 1:100

3. Methodology and Assumptions

Daylight models were built using IES VE and simulated using Radiance. Radiance is capable of calculating daylight factors and generating detailed contour plots.

Robes, cupboards, toilets, bathrooms, joinery and circulation space have been excluded from the analysis.

The key model assumptions are as follows:

- External glazing visual light transmittance:
  - Blue/Dark 0.4 for Level 1 to Level 7
  - Clear 0.6 for Ground Floor
- Surface reflectance's:
  - Ceilings 0.80
  - Walls 0.70
  - Floors 0.30
- Analysis surface:
  - At working plane, defined in this case as the desk surface level.
- Overshadowing:
  - Adjacent property buildings.
- Sky:
  - 10,000 lux CIE Overcast Sky, where the ground ambient light level ≈ 10,000 Lux.

Daylight factor is the ratio of the light level inside a building to the light level outside the building. The higher the daylight factor, the better the daylight provision to the indoor space.

4. Assessment Criteria

Daylight performance is assessed against the following:

4.1 BESS Standards for Daylight

Various Councils around Victoria adopt the Sustainable Design Assessment in the Planning Process (SDAPP) Tools as the preferred means of assessing ESD. Council's Best Practice / BESS Standards state that:

- Non-Residential area to achieve a Daylight Factor of 2.0% for a minimum of 30% of the floor area.

These standards are reflected in the BESS Tool, which has been developed to support SDAPP requirements. The BESS tool replaces the Sustainable Tools for Environmental Performance Strategy (STEPS) assessment tool.

5. Results

Table 1 below summarises the daylight performance in comparison to BESS Standards, refer to Appendix A for daylight result relative to floorplan.

Table 1: Daylight Results – BESS Standards

	Council Best Practice Standards		VLT=40% (Blue/Dark)	
Tenancy Area	**Daylight Factor (DF) Target**	**% Area Required to Achieve DF Target**	**% Area Achieving DF Target**	**Meet BESS Standards?**
Ground floor - Retail	2%	30%	20%	No
Level 1 - Office	2%	30%	18%	No
Level 2 - Office	2%	30%	35%	Yes
Level 3 - Office	2%	30%	37%	Yes
Level 4 - Office	2%	30%	37%	Yes
Level 5 - Office	2%	30%	36%	Yes
Level 6 - Office	2%	30%	48%	Yes
Level 7 - Office	2%	30%	100%	Yes
Overall	2%	30%	**35%**	**Yes**

Comments on the results:

- Some of the modelled spaces meet BESS Standards for daylight while some fall below the compliance criteria. This is a typical outcome as few projects achieve 100% compliance with BESS Daylight Standards.
- Overall area is compliant with BESS Daylight Standards of 30 % of area achieving Daylight Factor of 2, and therefore it should be considered compliant.

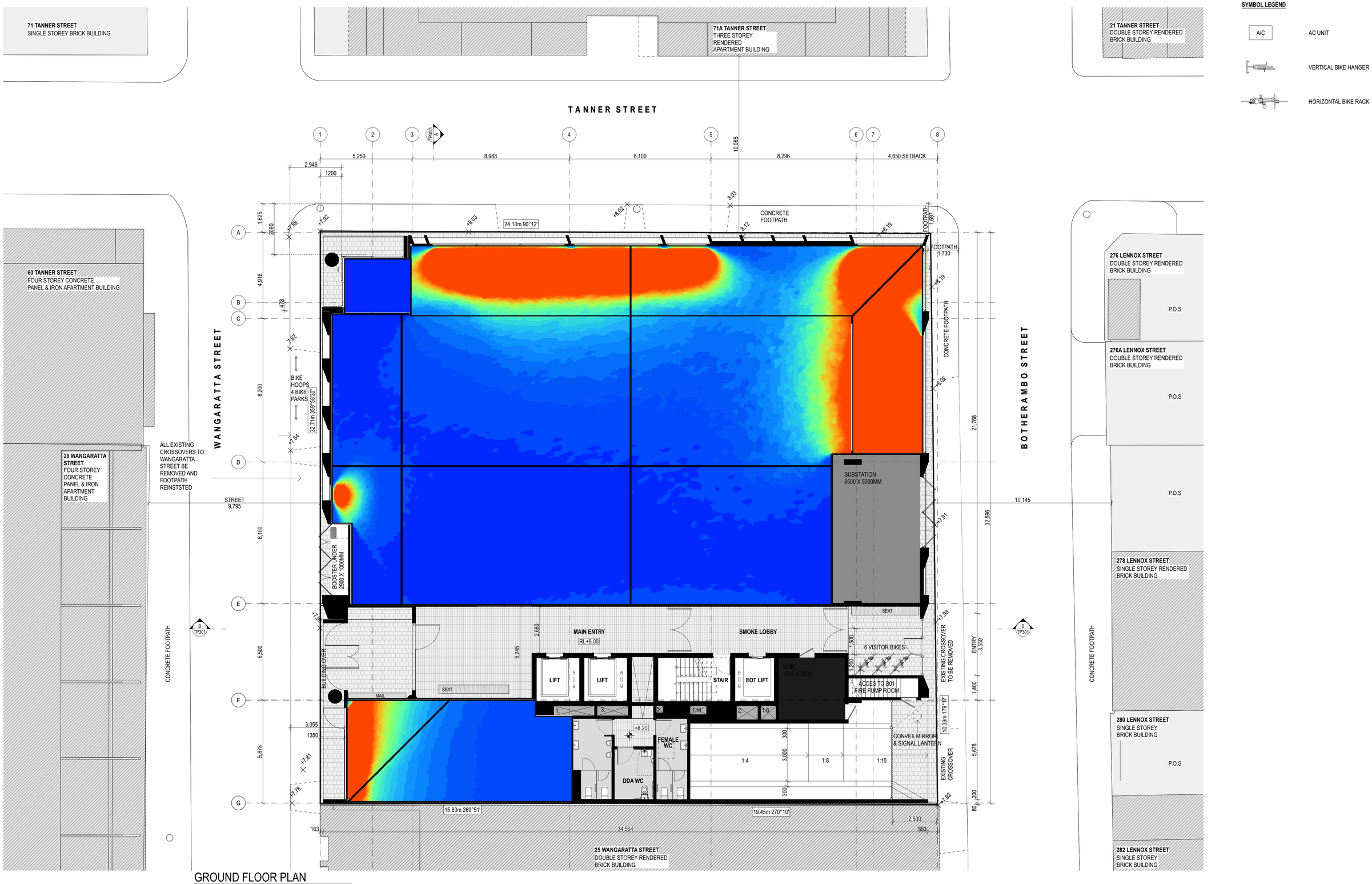
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- Waiting rooms, and any diagnostic area where no specific lighting requirements exist;
- Seating areas, office breakout areas, food courts

For maximizing the daylight it is advised the secondary spaces to be located near to the core and far from windows.

Appendix A – Daylight result overlayed with floorplan



SYMBOL LEGEND

- A/C — AC UNIT
- VERTICAL BIKE HANGER
- HORIZONTAL BIKE RACK

GROUND FLOOR PLAN
SCALE 1:100

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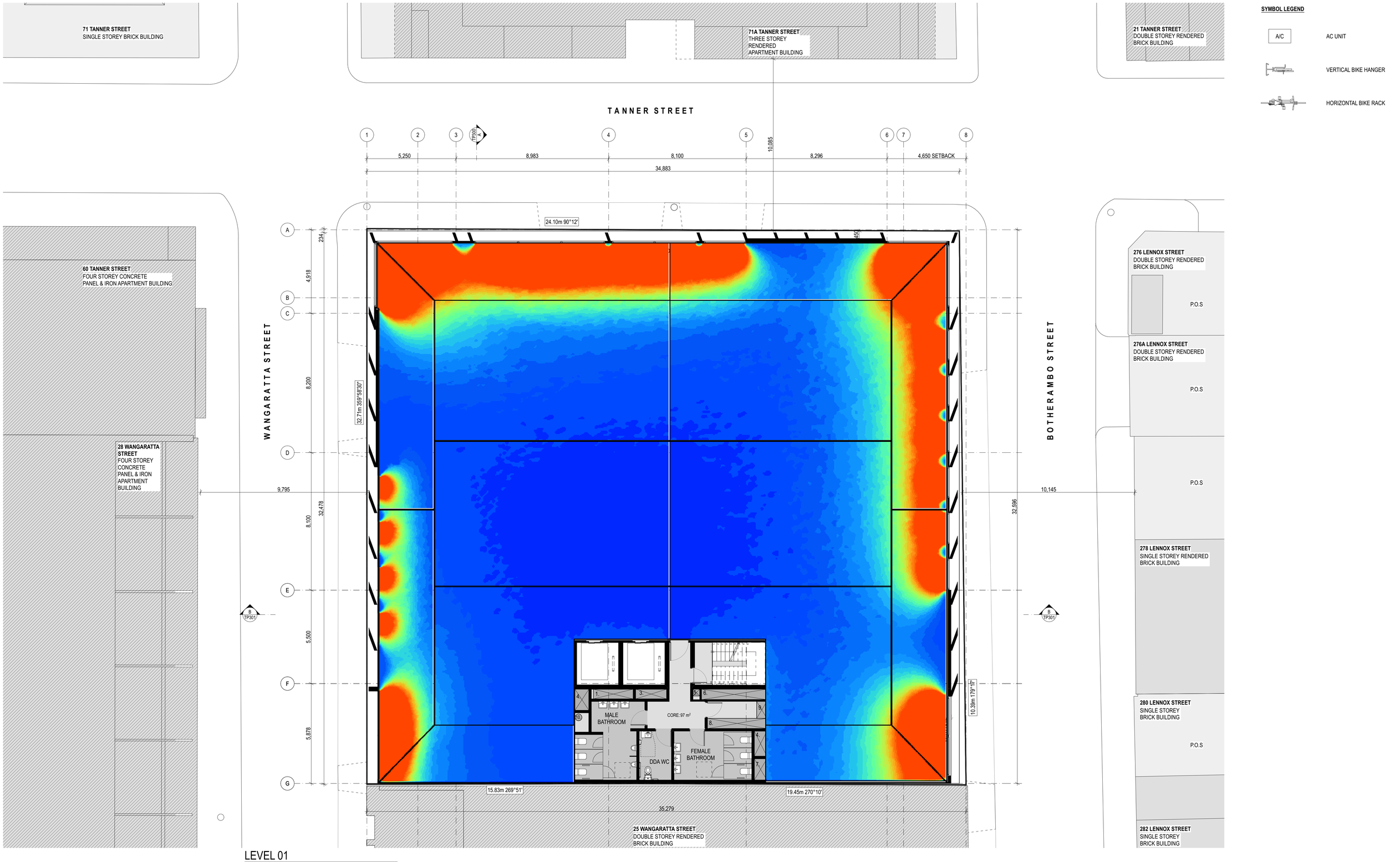
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SYMBOL LEGEND

- A/C — AC UNIT
- VERTICAL BIKE HANGER
- HORIZONTAL BIKE RACK

LEVEL 01
SCALE 1:100

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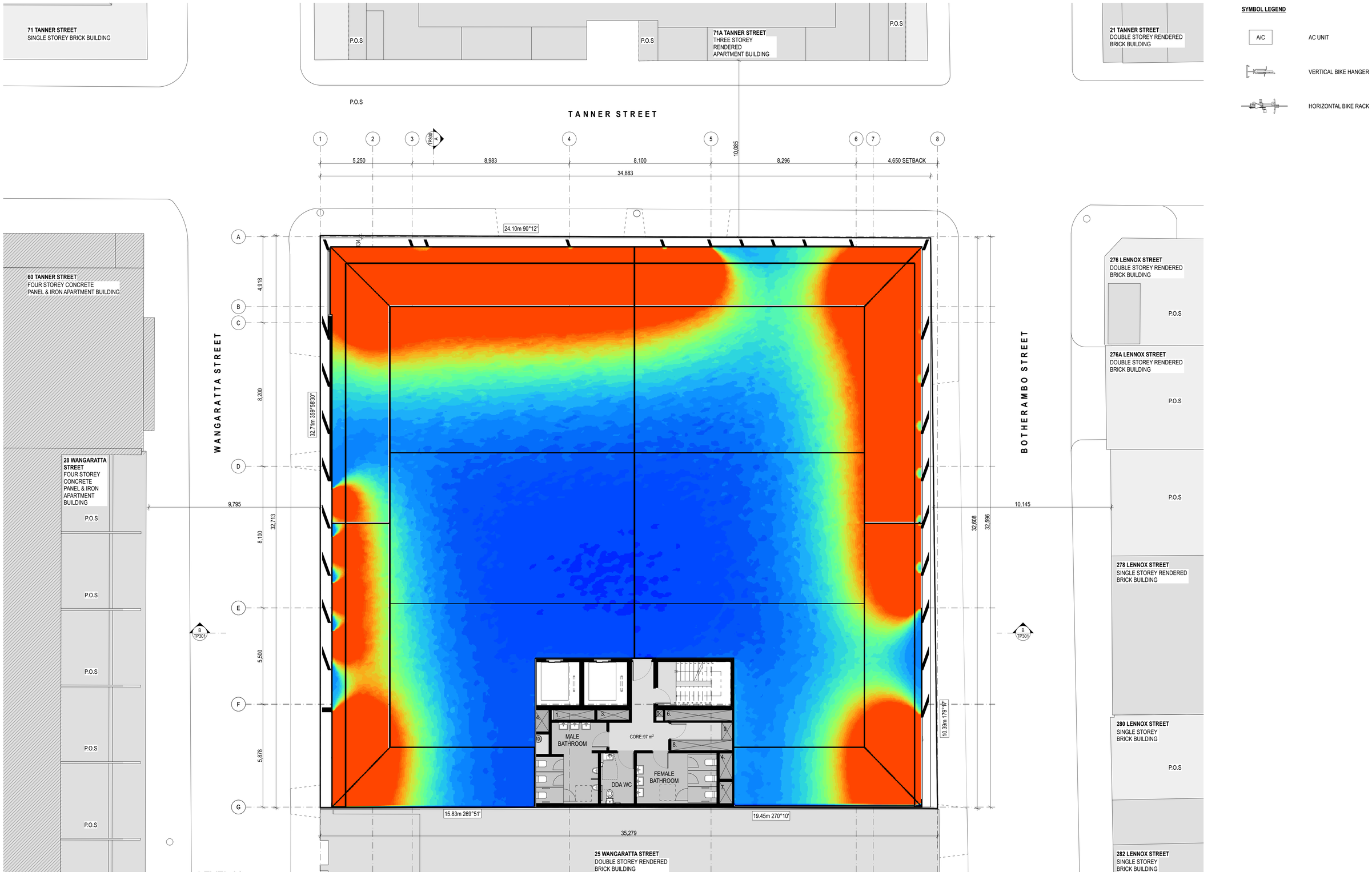
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LEVEL 02
SCALE 1:100

SYMBOL LEGEND

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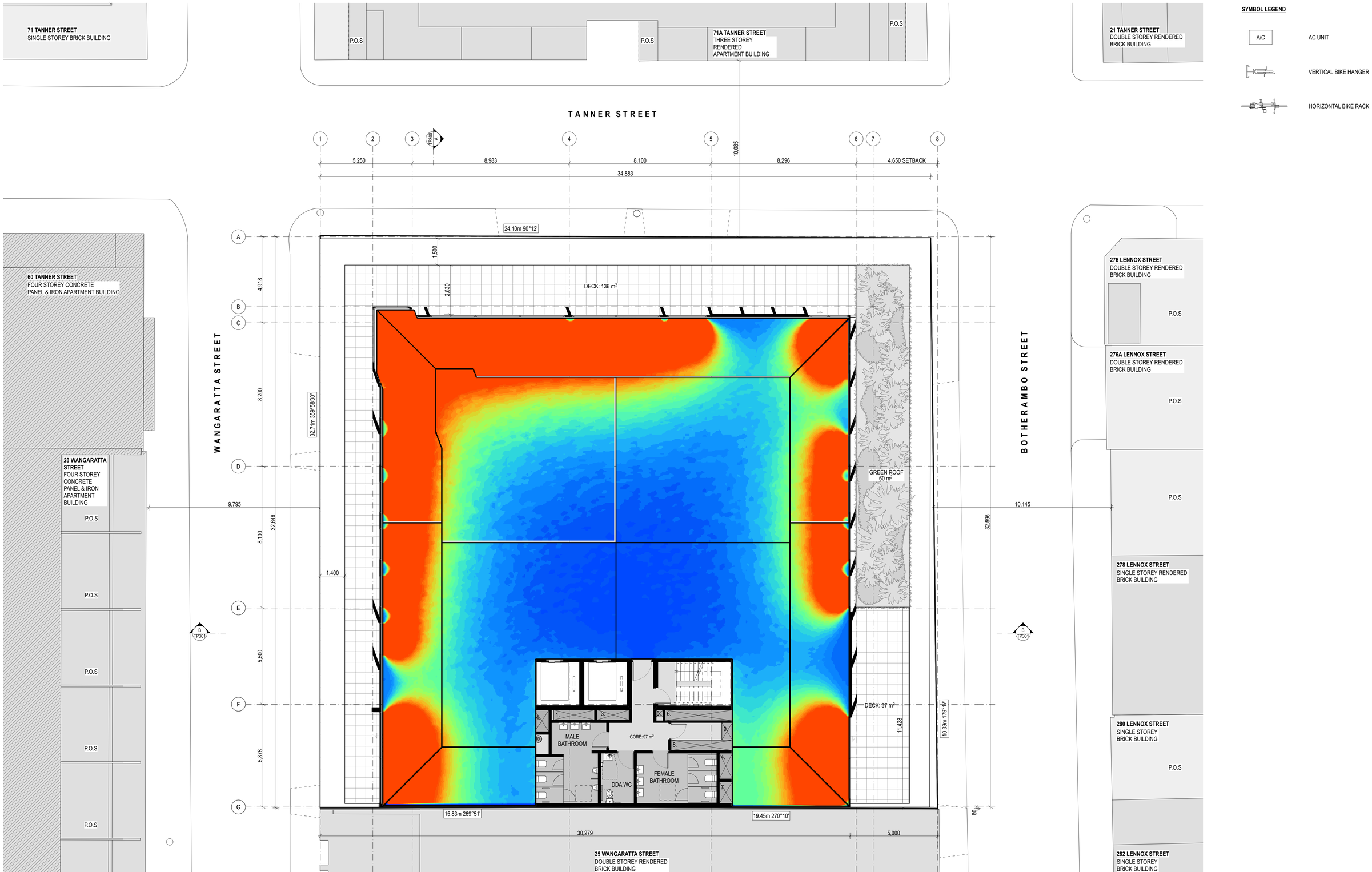
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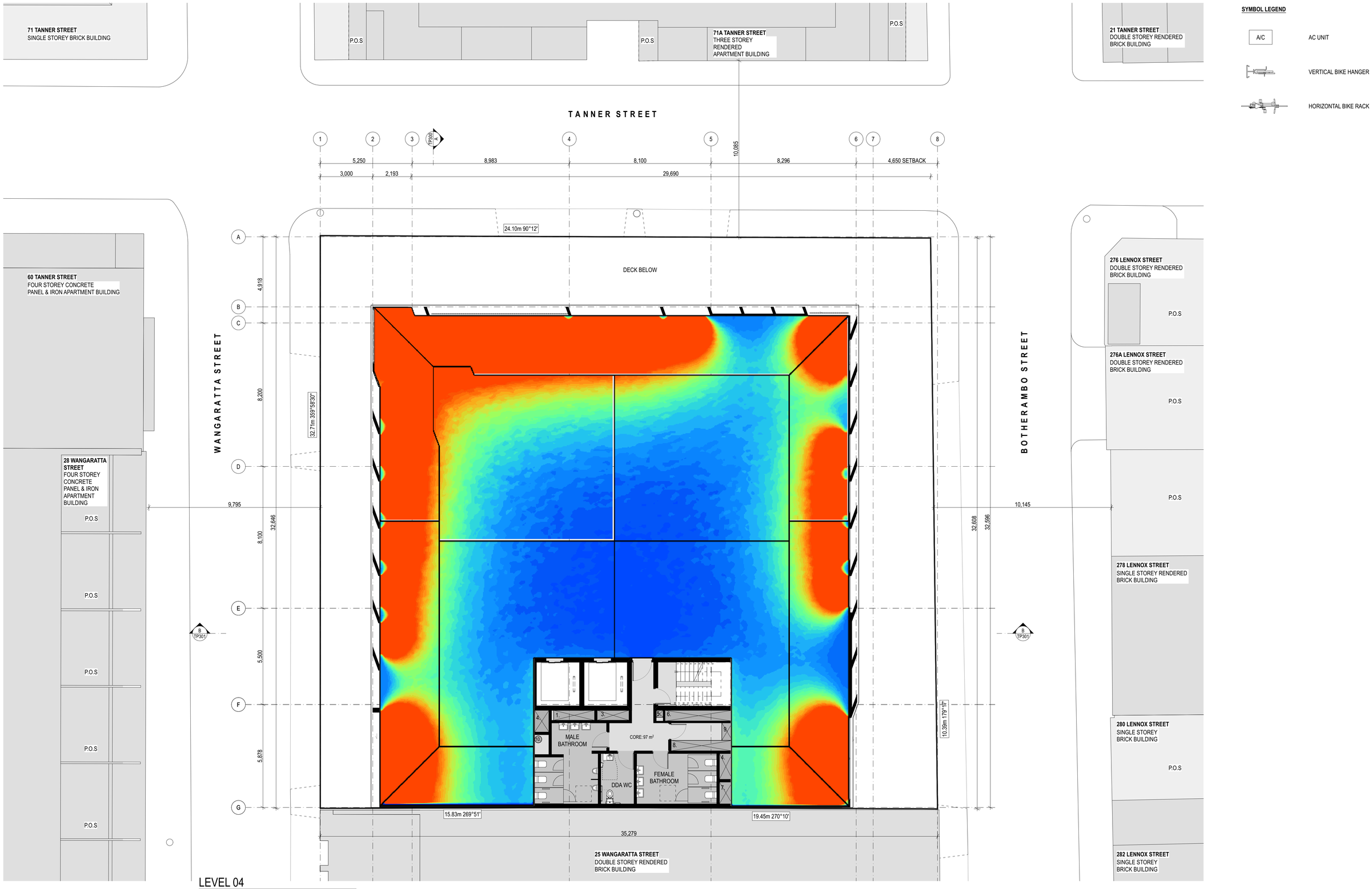
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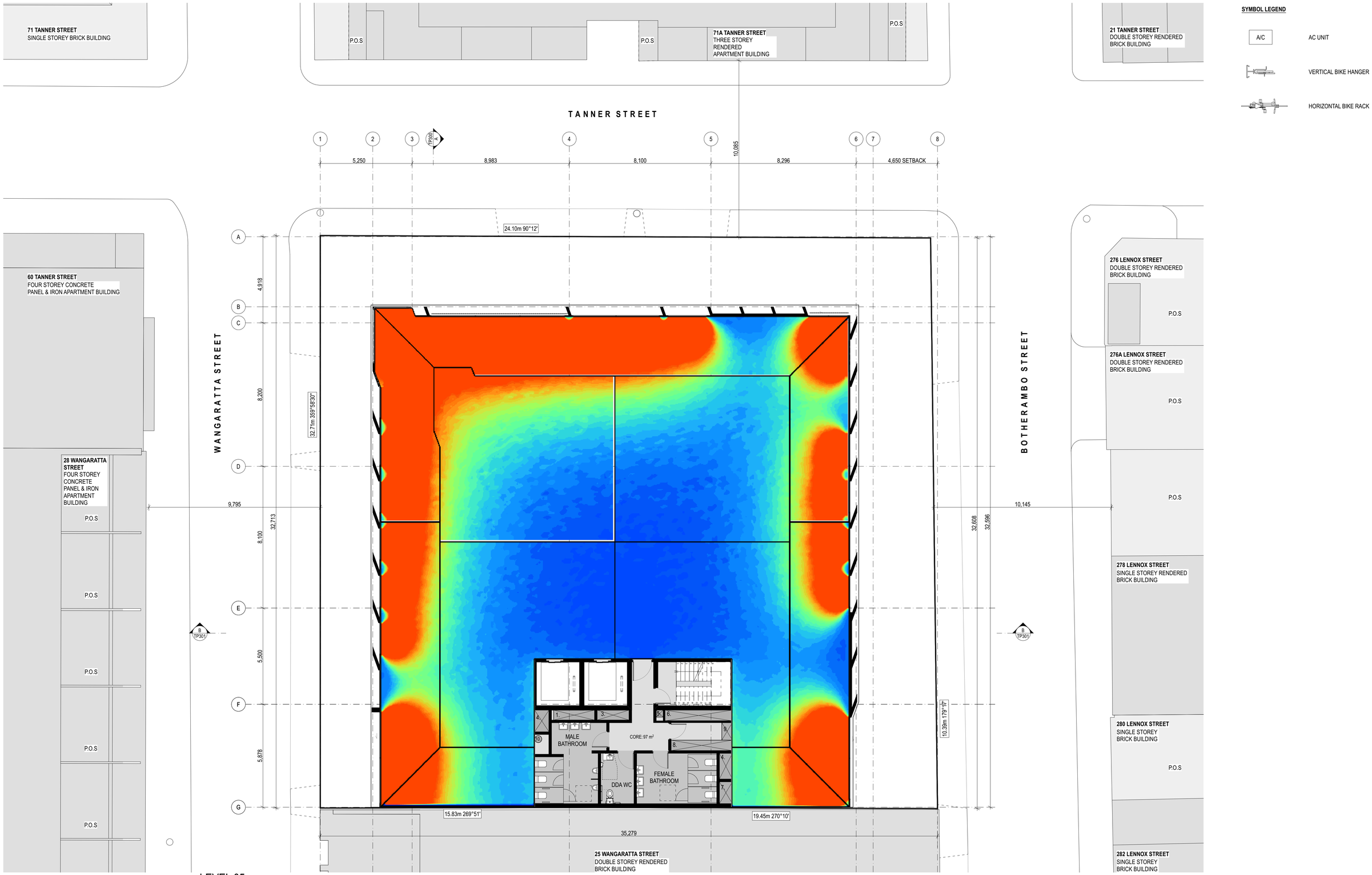
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SYMBOL LEGEND

- A/C — AC UNIT
- VERTICAL BIKE HANGER
- HORIZONTAL BIKE RACK

LEVEL 05
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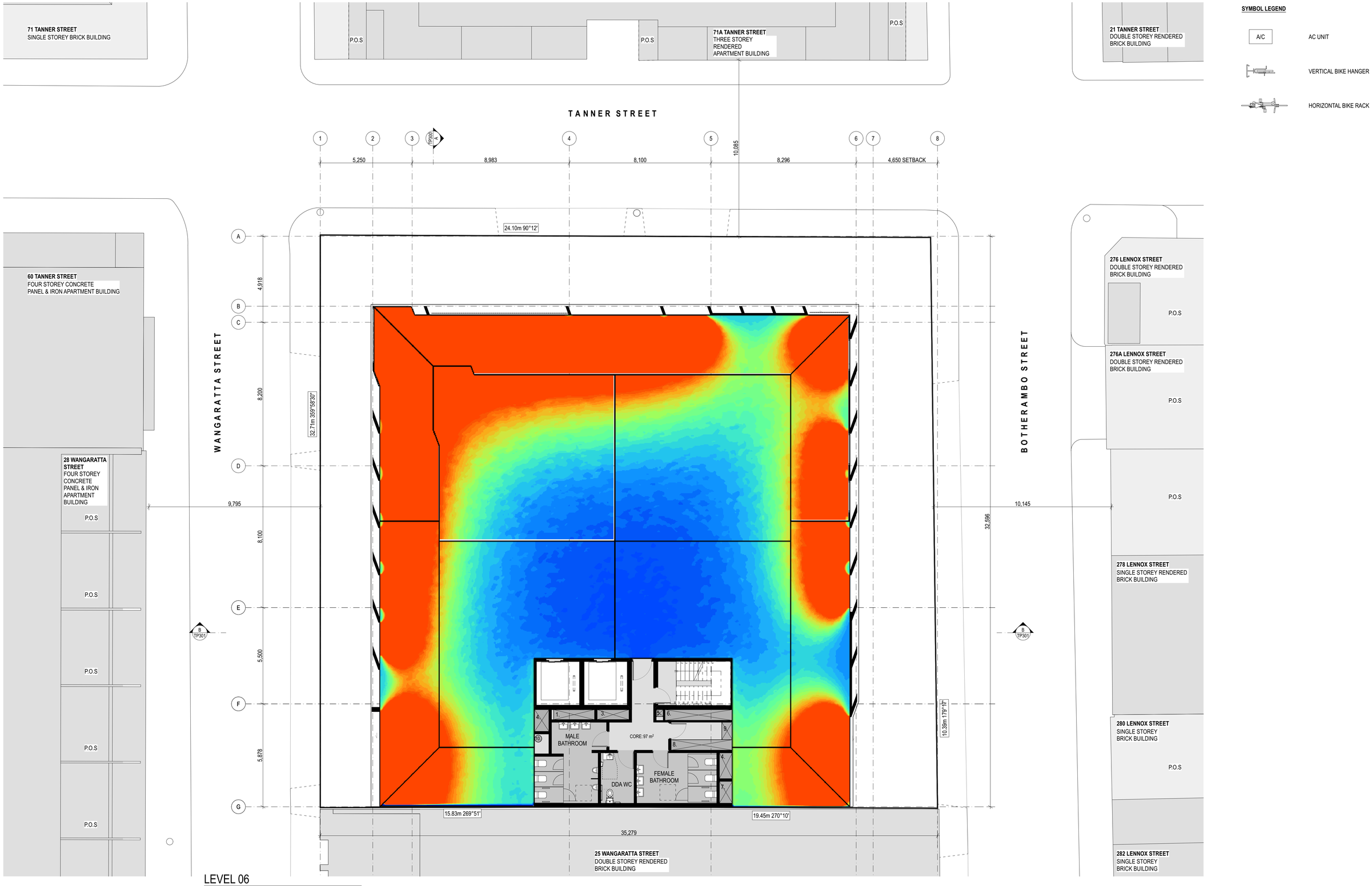
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SYMBOL LEGEND

A/C	AC UNIT
	VERTICAL BIKE HANGER
	HORIZONTAL BIKE RACK

LEVEL 06
SCALE 1:100

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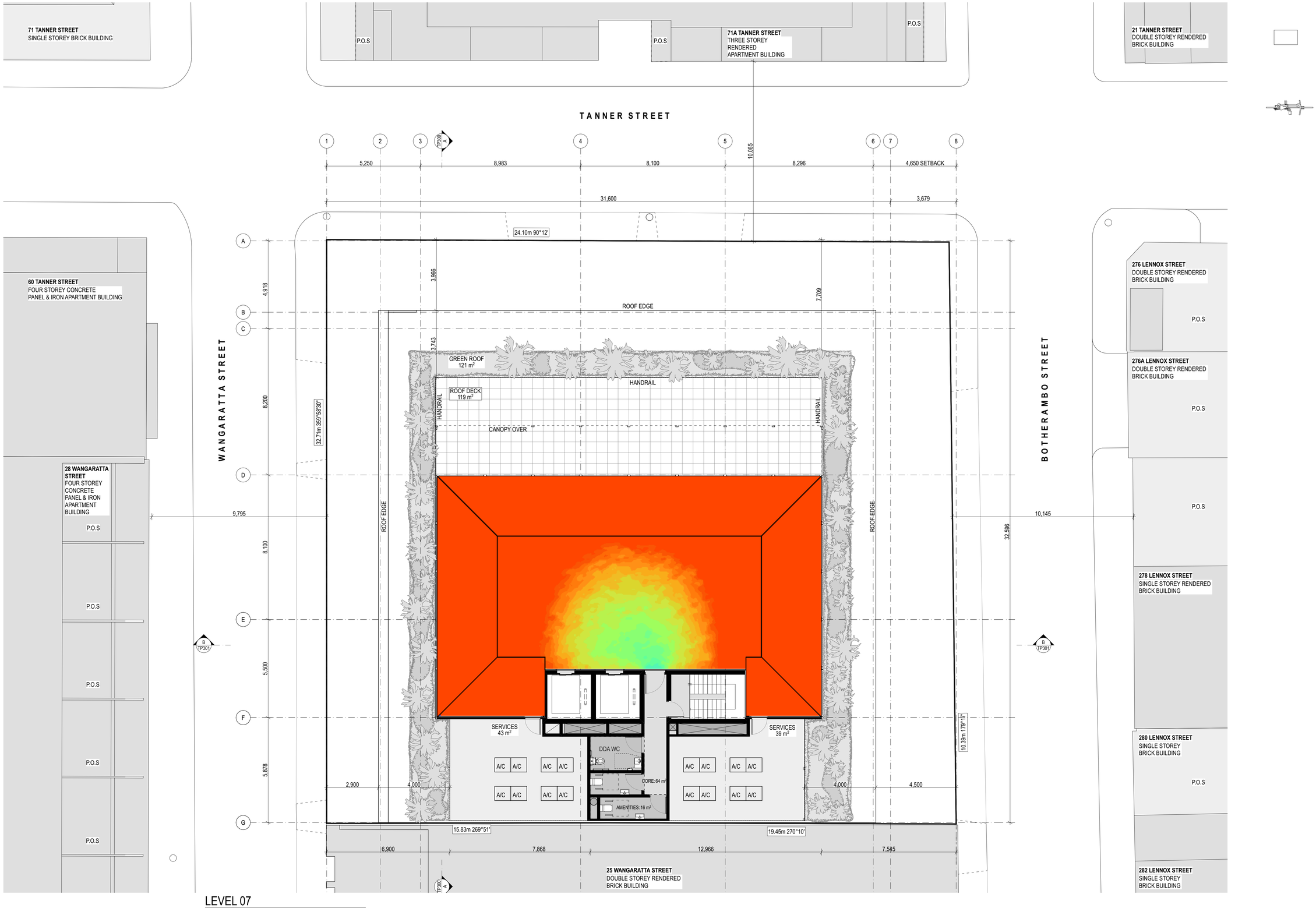
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Client
BEAMS
PROJECTS

Project	MIXED USE DEVELOPMENT			Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND			Title	L06 PLAN
Checked	KA	Drawn	KA		
Printed Date	28/10/19	Scale	1:100@A1 1:200@A3	Drawing No.	19012 TP108_A - WIP



LEVEL 07

SCALE 1:100

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DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL PROJECT DRAWINGS, SCHEDULES AND THE SPECIFICATION.

Number	Revision	Date
A - WIP	TP ISSUE	Work in Progress

Number	Revision	Date

Number	Revision	Date

Number	Revision	Date

General Notes

BUILDERS / CONTRACTORS SHALL VERIFY ALL DIMENSIONS BEFORE ANY WORK COMMENCES. DIMENSIONS SHOWN ARE NOMINAL. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. ANY DISCREPANCIES ARE TO BE MADE KNOWN TO THE ARCHITECT'S / DESIGNER'S OFFICE PRIOR TO ANY WORKS COMMENCING ON SITE. ALL SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND MANUFACTURE SHALL NOT COMMENCE PRIOR TO THE RETURN OF UNAMENDED SHOP DRAWINGS

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Client

BEAMS

PROJECTS

Project	MIXED USE DEVELOPMENT			Stage	TOWN PLANNING
Address	17-23 WANGARATTA STREET RICHMOND			Title	L07 PLAN
Checked	KA	Drawn	KA		
Printed Date	30/10/19	Scale	1:100@A1 1:200@A3	Drawing No.	1901 2 TP109_A - WIP

Appendix E – BESS Report

Print Report (/projects/D4F91D60-V2/report-print)

This BESS report outlines the sustainable design commitments of the proposed development at 17-23 Wangaratta St, Richmond Richmond VIC 3121. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Yarra City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

17-23 Wangaratta St, Richmond, Richmond 3121
Richmond

Site area: 1143 m^2 · Building Floor Area: 5463 m^2 ·
Date of Assessment: 01 Nov 2019 ·
Version: V3, 1.6.0-B.252 ·
Applicant: d.kim@adpconsulting.com.au

Project Identifier

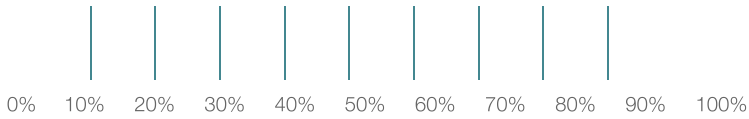
D4F91D60

(Previously #28793)

Published
http://bess.net.au/projects/D4F91D60-V2

Your BESS score is

+ 66%

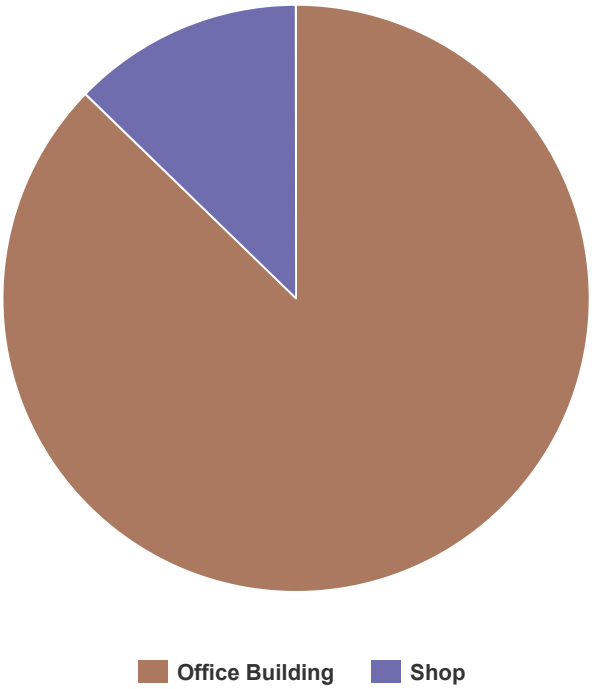


50% +
Best Practice

70% +
Excellence

% of Total	Category	Score	Pass
3 %	Management	67 %	
7 %	Water	75 %	✓
18 %	Energy	65 %	✓
14 %	Stormwater	100 %	✓
5 %	IEQ	33 %	✗
9 %	Transport	100 %	
4 %	Waste	67 %	
3 %	Urban Ecology	48 %	
4 %	Innovation	50 %	

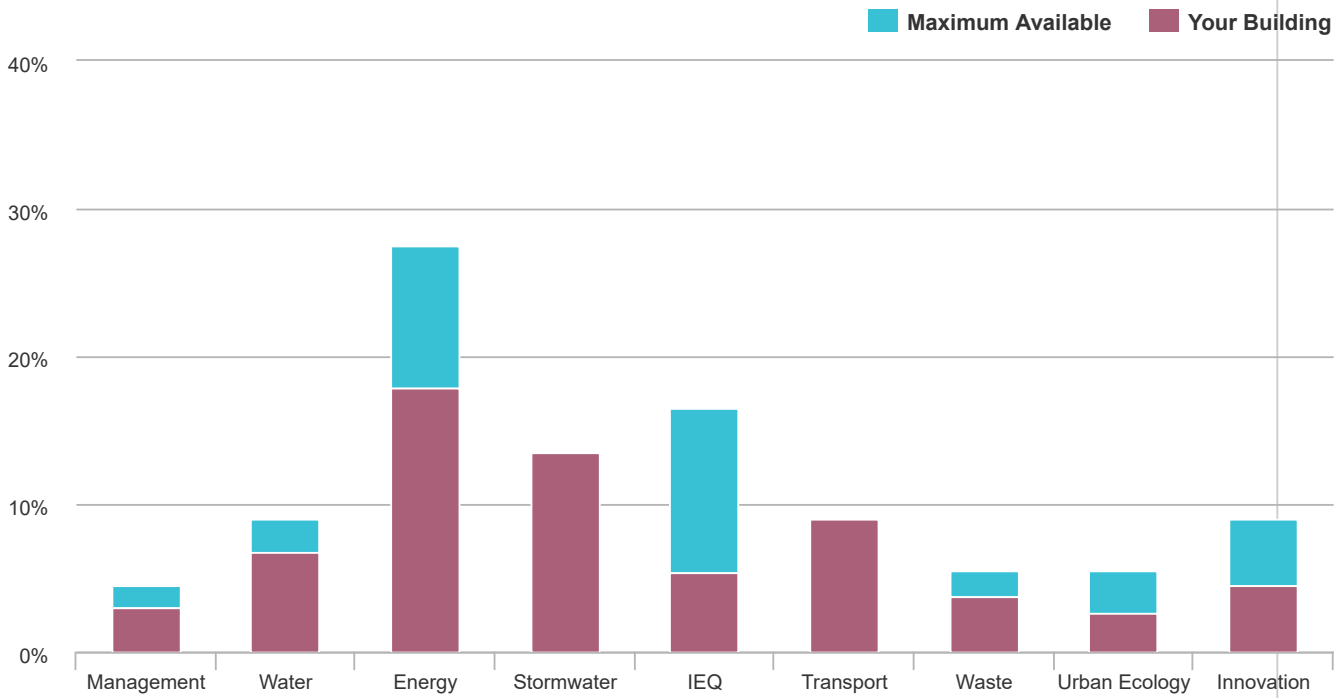
Building Composition



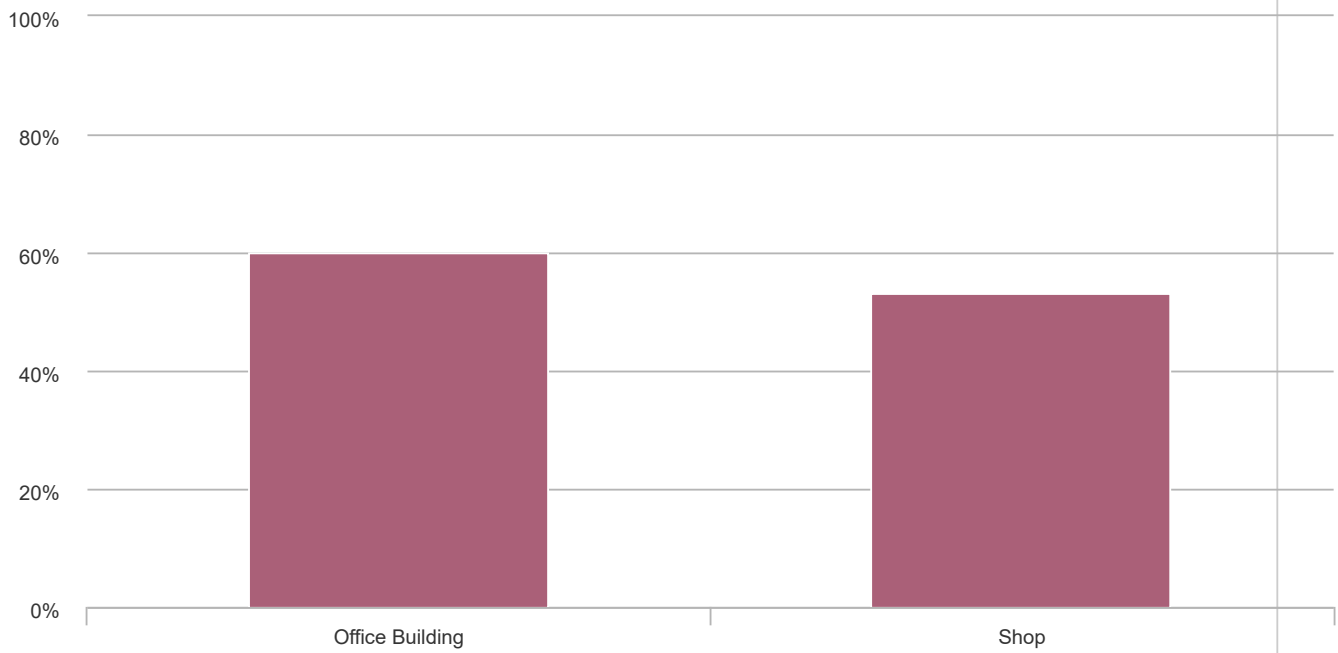
Non-Residential Spaces

Office Building	4,767 m^2
Shop	696 m^2

How did this Development Perform in each Environmental Category?



How does each Dwelling or Non-Residential Space type perform?



Sustainable design commitments by category

The sustainable design commitments for this project are listed below. These are to be incorporated into the design documentation and subsequently implemented.

Management

67% - contributing 3% to overall score

Credit	Disabled	Scoped out	Score
Management 2.3 Thermal Performance Modelling - Non-Residential			100 %
Management 2.4 Thermal Performance Modelling - Non-Residential			100 %
Management 3.2 Metering			100 %
Management 3.3 Metering			100 %
Management 4.1 Building Users Guide			100 %

Management 2.3 Thermal Performance Modelling - Non-Residential 100%

Score Contribution	This credit contributes 22.2% towards this section's score.

Aim	To encourage and recognise developments that have used modelling to inform passive design at the early design stage

Questions

Has preliminary modelling been undertaken in accordance with either BCA Section J (Energy Efficiency), NABERS or Green Star?

Office Building	Shop
Yes	Yes

Management 2.4 Thermal Performance Modelling - Non-Residential 100%

Score Contribution	This credit contributes 11.1% towards this section's score.
Aim	To encourage and recognise developments that have used modelling to inform passive design at the early design stage

Questions

Has a preliminary Section J glazing assessment been undertaken?

Office Building	Shop
Yes	Yes

Management 3.2 Metering 100%

Score Contribution	This credit contributes 11.1% towards this section's score.
Aim	To provide building users with information that allows monitoring of energy and water consumption

Questions

Have utility meters been provided for all individual commercial tenants?

Office Building	Shop
Yes	Yes

Management 3.3 Metering 100%

Score Contribution	This credit contributes 11.1% towards this section's score.
Aim	To provide building users with information that allows monitoring of energy and water consumption

Questions

Have all major common area services been separately submetered?

Office Building	Shop
Yes	Yes

Management 4.1 Building Users Guide 100%

Score Contribution	This credit contributes 11.1% towards this section's score.
Aim	To encourage and recognise initiatives that will help building users to use the building efficiently

Questions

Will a building users guide be produced and issued to occupants?

Project wide
Yes

Water 75% - contributing 7% to overall score

Credit	Disabled	Scoped out	Score
Water 1.1 Potable Water Use Reduction (Interior Uses)			50 %
Water 2.1 Rainwater Collection & Reuse (Additional Uses)			100 %
Water 3.1 Water Efficient Landscaping			100 %
Water 4.1 Building Systems Water Use Reduction			100 %

Water Approachs

What approach do you want to use Water?	Use the built in calculation tools
Are you installing a rainwater tank?	Yes

Water fixtures, fittings and connections

	Commercial	Retail
Showerhead	3 Star WELS (>= 4.5 but <= 6.0)	3 Star WELS (> 4.5 but <= 6.0)
Bath	Scope out	Scope out
Kitchen Taps	>= 6 Star WELS rating	> 6 Star WELS rating

	Commercial	Retail
Bathroom Taps	>= 6 Star WELS rating	> 6 Star WELS rating
Dishwashers	>= 6 Star WELS rating	> 6 Star WELS rating
WC	>= 3 Star WELS rating	> 3 Star WELS rating
Urinals	>= 6 Star WELS rating	> 6 Star WELS rating
Washing Machine Water Efficiency	Scope out	Scope out
Rainwater connected to: Toilets	Yes	Yes

Rainwater Tanks

		Rainwater Tank
What is the total roof area connected to the rainwater tank?	Square Metres	882.5
Tank Size	Litres	9500.0

Water 1.1 Potable Water Use Reduction (Interior Uses) 50%

Score Contribution	This credit contributes 50.0% towards this section's score.
Aim	Water 1.1 Potable water use reduction (interior uses) What is the reduction in total water use due to efficient fixtures, appliances, and rainwater use? To achieve points in this credit there must be >25% potable water reduction. You are using the built in calculation tools. This credit is calculated from information you have entered above.
Criteria	Percentage reduction in potable water use

Questions

Percentage Achieved ? Percentage %

Project wide

%

Calculations

Annual Water Consumption (kL) (Reference)

Project wide

9258

Annual Water Consumption (kL) (Proposed)

Project wide

5320

% Reduction in Potable Water Consumption Percentage %

Project wide
42 %

Water 2.1 Rainwater Collection & Reuse (Additional Uses) 100%

Score Contribution	This credit contributes 25.0% towards this section's score.
Aim	What is the additional reduction in potable (mains) water use due to rainwater harvesting? Additional water uses for rainwater include non-potable demands such as irrigation, pools, commercial process uses and taps for washdown. Note: tank water will only be available for additional uses if it not required for internal uses. If the property uses an alternative water source, the alternative water source is deemed to meet 90% of additional non-potable water use requirements. You are using the built in calculation tools. This credit is calculated from information you have entered above in the rainwater tanks section.
Criteria	What is the additional reduction in potable (mains) water use due to using rainwater or an alternative water source?

Questions

Percentage Achieved ? Percentage %

Project wide
%

Calculations

Rainwater collection & reuse (additional uses) Percentage %

Project wide
100 %

Water 3.1 Water Efficient Landscaping 100%

Score Contribution	This credit contributes 12.5% towards this section's score.
Aim	Are water efficiency principles used for landscaped areas? This includes low water use plant selection (e.g. xeriscaping) and specifying water efficient irrigation (e.g. drip irrigation with timers and rain sensors). Note: food producing landscape areas and irrigation areas connected to rainwater or an alternative water source are excluded from this section.

Questions

Will water efficient landscaping be installed?

Project wide
Yes

Water 4.1 Building Systems Water Use Reduction 100%

Score Contribution	This credit contributes 12.5% towards this section's score.
Aim	Will the project minimise water use for building systems such as evaporative cooling and fire testing systems?

Questions

Where applicable, have measures been taken to reduce potable water consumption by >80% in the buildings air-conditioning chillers and when testing fire safety systems?

Project wide
Yes

Energy 65% - contributing 18% to overall score

Credit	Disabled	Scoped out	Score
Energy 1.1 Thermal Performance Rating - Non-Residential			38 %
Energy 2.1 Greenhouse Gas Emissions			100 %
Energy 2.2 Peak Demand			100 %
Energy 2.3 Electricity Consumption			100 %
Energy 2.4 Gas Consumption			N/A
Energy 3.1 Carpark Ventilation			100 %
Energy 3.2 Hot Water			100 %
Energy 3.7 Internal Lighting - Non-Residential			100 %
Energy 4.1 Combined Heat and Power (cogeneration / trigeneration)			N/A

Energy 1.1 Thermal Performance Rating - Non-Residential 38%

Score Contribution	This credit contributes 40.0% towards this section's score.
Aim	Reduce reliance on mechanical systems to achieve thermal comfort in summer and winter - improving comfort, reducing greenhouse gas emissions, energy consumption, and maintenance costs.

Criteria	What is the % reduction in heating and cooling energy consumption against the reference case (NCC 2016 BCA Volume 1 Section J)

Questions

Criteria Achieved ?

Calculations

Total Improvement Percentage %

Office Building	Shop
21 %	21 %

Energy 2.1 Greenhouse Gas Emissions 100%

Score Contribution	This credit contributes 10.0% towards this section's score.
Aim	Reduce the building's greenhouse gas emissions
Criteria	Are greenhouse gas emissions >10% below the benchmark

Questions

Criteria Achieved ?

Calculations

Reference Building with Reference Services (BCA only) kg CO_2

Office Building	Shop
1140150.9	1140150.9

Proposed Building with Proposed Services (Actual Building) kg CO_2

Office Building	Shop
907265.5	907265.5

% Reduction in GHG Emissions Percentage %

Office Building	Shop
20 %	20 %

Energy 2.2 Peak Demand 100%

Score Contribution	This credit contributes 5.0% towards this section's score.

Aim	Reduce demand on electrical infrastructure during peak cooling periods
Criteria	Has the instantaneous (peak-hour) demand been reduced by >25%

Questions

Criteria Achieved ?

Calculations

Peak Thermal Cooling Load - Baseline kW

Office Building	Shop
220.4	220.4

Peak Thermal Cooling Load - Proposed kW

Office Building	Shop
156.2	156.2

Peak Thermal Cooling Load - % Reduction Percentage %

Office Building	Shop
29 %	29 %

Energy 2.3 Electricity Consumption 100%

Score Contribution	This credit contributes 10.0% towards this section's score.
Aim	Reduce consumption of electricity
Criteria	Is the annual electricity consumption >10% below the benchmark

Questions

Criteria Achieved ?

Calculations

Reference kWh

Office Building	Shop
958110.0	958110.0

Proposed kWh

Office Building	Shop
762408.0	762408.0

Improvement Percentage %

Office Building	Shop
20 %	20 %

Energy 2.4 Gas Consumption

N/A

This credit was scoped out: No gas supply in use.

This credit was disabled: No gas supply in use.

Aim	Reduce consumption of electricity
Criteria	Is the annual gas consumption >10% below the benchmark?

Energy 3.1 Carpark Ventilation

100%

Score Contribution	This credit contributes 10.0% towards this section's score.
Notes	The building has a sheltered car park (46 car-parks) so it needs Carbon Monoxide monitoring to control the operation and speed of the ventilation fans

Questions

If you have a basement carpark, is it either: (a) fully naturally ventilated (no mechanical ventilation system), or (b) use Carbon Monoxide monitoring to control the operation and speed of the ventilation fans

Project wide
Yes

Energy 3.2 Hot Water

100%

Score Contribution	This credit contributes 5.0% towards this section's score.
Criteria	Does the hot water system use >10% less energy (gas and electricity) than the reference case?

Questions

Criteria Achieved ?

Calculations

Reference kWh

Office Building	Shop

79110.0	79110.0

Proposed kWh

Office Building	Shop
70408.0	70408.0

Improvement Percentage %

Office Building	Shop
10 %	10 %

Energy 3.7 Internal Lighting - Non-Residential 100%

Score Contribution	This credit contributes 10.0% towards this section's score.
Aim	Reduce energy consumption associated with internal lighting

Questions

Is the maximum illumination power density (W/m2) in at least 90% of the relevant building class at least 20% lower than required by Table J6.2a of the NCC 2016 BCA Volume 1 Section J (Class 2 to 9)

Office Building	Shop
Yes	Yes

Energy 4.1 Combined Heat and Power (cogeneration / trigeneration) N/A

This credit was scoped out: No cogeneration or trigeneration system in use.

This credit was disabled: No cogeneration or trigeneration system in use.

Aim	Reduce energy consumption
Criteria	Does the CHP system reduce the class of buildings GHG emissions by more than 25%?

Stormwater 100% - contributing 14% to overall score

Credit	Disabled	Scoped out	Score
Stormwater 1.1 Stormwater Treatment			100 %

Which stormwater modelling are you using?	Melbourne Water STORM tool

Stormwater 1.1 Stormwater Treatment 100%

Score Contribution	This credit contributes 100.0% towards this section's score.
Aim	To achieve best practice stormwater quality objectives through reduction of pollutant load (suspended solids, nitrogen and phosphorus)
Criteria	Has best practice stormwater management been demonstrated?

Questions

STORM score achieved

Project wide

100

Flow (ML/year) % Reduction

Project wide

-

Total Suspended Solids (kg/year) % Reduction

Project wide

-

Total Phosphorus (kg/year) % Reduction

Project wide

-

Total Nitrogen (kg/year) % Reduction

Project wide

-

Calculations

Min STORM Score

Project wide

100

IEQ 33% - contributing 5% to overall score

Credit	Disabled	Scoped out	Score
IEQ 1.4 Daylight Access - Non-Residential			33 %

Notes	Note the shortfall within the BESS tool for achieving compliance within the IEQ section. The development will be achieving best practice daylight levels of 2% daylight factor to 35% of the floor area. To compensate for a low IEQ score, 50% increase on minimum outdoor air supply requirement to balanced reduced IEQ score has been targeted

IEQ 1.4 Daylight Access - Non-Residential 33%

Score Contribution	This credit contributes 100.0% towards this section's score.
Aim	To provide a high level of amenity and energy efficiency through design for natural light.
Criteria	What % of the nominated floor area has at least 2% daylight factor?
Notes	In total at least 30% of the nominated floor area has at least 2% daylight factor.

Questions

% Achieved ?

Office Building	Shop
35 %	35 %

Transport 100% - contributing 9% to overall score

Credit	Disabled	Scoped out	Score
Transport 1.4 Bicycle Parking - Non-Residential			100 %
Transport 1.5 Bicycle Parking - Non-Residential Visitor			100 %
Transport 1.6 End of Trip Facilities - Non-Residential			100 %
Transport 2.1 Electric Vehicle Infrastructure			100 %
Transport 2.2 Car Share Scheme			100 %
Transport 2.3 Motorbikes / Mopeds			100 %

Transport 1.4 Bicycle Parking - Non-Residential 100%

Score Contribution	This credit contributes 25.0% towards this section's score.
Aim	To encourage and recognise initiatives that facilitate cycling

Notes	As per Clause 52.34-3 of the Victorian Planning Scheme: For the office use: 1 bicycle space for employee/regular occupants to each 300m² of net floor area, and 1 bicycle space for visitor to each 1000m² if the net floor area exceeds 1000m². For the retail use: 1 bicycle space for employee/regular occupants to each 300m² of leasable floor area, and 1 bicycle space for visitor to each 500m². Stipulate requirements for BESS: Office: 24 bike spaces for employee & 8 bike spaces for visitors Retail: 3 bike spaces for regular occupants & 2 bike space for visitors

Questions

Have the planning scheme requirements for employee bicycle parking been exceeded by at least 50%?

Office Building	Shop
Yes	Yes

Transport 1.5 Bicycle Parking - Non-Residential Visitor 100%

Score Contribution	This credit contributes 12.5% towards this section's score.
Aim	To encourage and recognise initiatives that facilitate cycling

Questions

Have the planning scheme requirements for visitor bicycle parking been exceeded by at least 50%?

Office Building	Shop
Yes	Yes

Transport 1.6 End of Trip Facilities - Non-Residential 100%

Score Contribution	This credit contributes 12.5% towards this section's score.
Aim	To encourage and recognise initiatives that facilitate cycling
Criteria	Adequate bicycle parking has been provided. Is there also: * 1 shower for the first 5 bicycle spaces plus 1 to each 10 bicycles spaces thereafter, * changing facilities adjacent to showers, and * one secure locker per bicycle space in the vicinity of the changing / shower facilities?

Questions

Number of showers provided ?

Office Building	Shop
4	2

Number of lockers provided ?

Office Building	Shop
110	4

Calculations

Min Showers Required

Office Building	Shop
2	2

Min Lockers Required

Office Building	Shop
1	1

Transport 2.1 Electric Vehicle Infrastructure 100%

Score Contribution	This credit contributes 25.0% towards this section's score.
Aim	To facilitate the expansion of infrastructure to support electric vehicle charging

Questions

Are facilities are provided for the charging of electric vehicles?

Project wide
Yes

Transport 2.2 Car Share Scheme 100%

Score Contribution	This credit contributes 12.5% towards this section's score.
Aim	To encourage and recognise initiatives that help to minimise the use of private passenger vehicles
Notes	The subject site has convenient access to numerous share car pods operated by Flexicar and GoGet (within maximum walking distance of 600 metres of the site). Refer to Green Travel Plan Version F01- Date:2019/10/29 (Final issue)

Questions

Has a formal car sharing scheme been integrated into the development?

Project wide

Yes

Transport 2.3 Motorbikes / Mopeds 100%

Score Contribution	This credit contributes 12.5% towards this section's score.
Aim	To encourage and recognise initiatives that help to minimise the use of private passenger cars
Notes	5 park spaces are designed and labelled for motorbikes at B02

Questions

Are a minimum of 5% of vehicle parking spaces designed and labelled for motorbikes (must be at least 5 motorbike spaces)?

Project wide

Yes

Waste 67% - contributing 4% to overall score

Credit	Disabled	Scoped out	Score
Waste 2.1 - Operational Waste - Food & Garden Waste			100 %
Waste 2.2 - Operational Waste - Convenience of Recycling			100 %

Waste 2.1 - Operational Waste - Food & Garden Waste 100%

Score Contribution	This credit contributes 33.3% towards this section's score.
Aim	To minimise organic waste going to landfill
Notes	Refer to the Waste Management Plan report (provided by 'ratio' - version: REP01F02- Revised Final- Date:29 Oct 2019) Food Waste: for collection purposes, food waste shall be stored within a bulk food waste collection bin Green Waste: it is proposed that all common area landscaping will be managed by the Building manager via a landscaping contractor, who will be responsible for the removal and transportation of green waste.

Questions

Are facilities provided for on-site management of food and garden waste?

Project wide

Yes

Waste 2.2 - Operational Waste - Convenience of Recycling 100%

Score Contribution	This credit contributes 33.3% towards this section's score.
Aim	To minimise recyclable material going to landfill

Questions

Are the recycling facilities at least as convenient for occupants as facilities for general waste?

Project wide

Yes

Urban Ecology 48% - contributing 3% to overall score

Credit	Disabled	Scoped out	Score
Urban Ecology 1.1 Communal Spaces			87 %
Urban Ecology 2.1 Vegetation			50 %
Urban Ecology 2.2 Green Roofs			100 %

Urban Ecology 1.1 Communal Spaces 87%

Score Contribution	This credit contributes 12.5% towards this section's score.
Aim	To encourage and recognise initiatives that facilitate interaction between building occupants
Criteria	Is there at least the following amount of common space measured in square meters : * 1m² for each of the first 50 occupants * Additional 0.5m² for each occupant between 51 and 250 * Additional 0.25m² for each occupant above 251
Notes	There are 292m² terrace and roof deck areas where people gather for social exchange.

Questions

Common space provided Square Metres

Office Building

292.0

Calculations

Minimum Common Space Required Square Metres

Office Building	Shop
232	59

Urban Ecology 2.1 Vegetation 50%

Score Contribution	This credit contributes 50.0% towards this section's score.
Aim	To encourage and recognise the use of vegetation and landscaping within and around developments
Criteria	How much of the site is covered with vegetation, expressed as a percentage of the total site area.

Questions

Percentage Achieved ? Percentage %

Project wide
15 %

Urban Ecology 2.2 Green Roofs 100%

Score Contribution	This credit contributes 12.5% towards this section's score.
Aim	To encourage the appropriate use of green roofs, walls and facades to mitigate the impact of the urban heat island effect.

Questions

Does the development incorporate a green roof?

Project wide
Yes

Innovation 50% - contributing 4% to overall score

Credit	Disabled	Scoped out	Score
Innovation 1.1 Innovation			50 %

Innovations

	Contractor Education	Eco-Friendly floor covering	Paint VOC reduction
Description	The aim of the Contractor Education Innovation is to educate contractors and subcontractors in sustainable practises so that they are equipped to deliver sustainable developments in the future. This can be achieved via: • Education sessions on climate change and health impacts of bare minimum building practises. • Site specific training highlighting the sustainable solutions and outcomes of the project. • Training must inform of any certification that the project is aiming to achieve and why this is important. • 80% of all contractors that were on site for at least three days will receive training. • Members of head personnel hold or have achieved at some stage during the project a qualification in sustainable practises.	The aim of using eco-friendly floor covering to meet sustainability goals associated with Mission Zero.	Over 50% of paint (by cost) to have a TVOC content of <5g/L
Points Targeted	1	1	1

	Post Occupancy Survey	DHW System Microbial Mitigation
Description	Perform a post occupancy survey	DHW systems designed to manage the risk of microbial contamination
Points Targeted	1	1

Innovation 1.1 Innovation 50%

Score Contribution	This credit contributes 100.0% towards this section's score.
Criteria	What percentage of the Innovation points have been claimed (10 points maximum)?

Questions

Criteria Achieved ?

Project wide
-

Items to be marked on floorplans

Do not upload your floorplans and elevations into the BESS tool. Instead, please ensure the items below are marked on the plans and provide a document / page reference number in the comments field.

Management 3.2: Individual utility meters annotated — To be printed

Floorplans & elevations - Documentation & evidence required: A commitment to individual metering of energy and water based on an analysis of individual tenancies is required.

Management 3.3: Common area submeters annotated — To be printed

Floorplans & elevations - Documentation & evidence required: A commitment to metering energy and water based on an analysis of the anticipated major common area uses is required.

Energy 3.1: Carpark with natural ventilation or CO monitoring system — To be printed

Floorplans & elevations - Documentation & evidence required: Provide a written explanation of the carbon monoxide monitoring, describing how these systems will work what specifications are required for them to be fully integrated and who is responsible for their implementation throughout the design, procurement and operational phases of the buildings life.

Water 2.1: Location of rainwater tanks as described — To be printed

Floorplans & elevations - Documentation & evidence required: Drawings indicating rainwater tank(s), drawn at the correct size and labeled as connected to (X) number of toilets, irrigation or other re-use opportunities. Roof catchment area identified on plans.

Water 3.1: Water efficient garden annotated — To be printed

Floorplans & elevations - Documentation & evidence required: Fully detailed landscape plan is required.

Stormwater 1.1: Location of any stormwater management systems used in STORM or MUSIC modelling (e.g. Rainwater tanks, raingarden, buffer strips) — To be printed

Floorplans & elevations - Documentation & evidence required: Copy of STORM or MUSIC report Drawings indicating catchment areas, slope of paved surfaces to treatment systems, construction details of proposed treatment systems Landscape drawings indicating appropriate planting within and adjacent to treatment systems

Transport 1.4: All nominated non-residential bicycle parking spaces — To be printed

Floorplans & elevations - Documentation & evidence required: Bicycle parking spaces are indicated on the floor plans, including which rack system will be adopted and what areas need to be allowed for clearance and access to the racks. The overall number of spaces should also be notated.

Transport 1.5: All nominated non-residential visitor bicycle parking spaces — To be printed

Floorplans & elevations - Documentation & evidence required: Bicycle parking spaces are indicated on the floor plans, including which rack system will be adopted and what areas need to be allowed for clearance and access to the racks. The overall number of spaces should also be notated.

Transport 1.6: Showers, change rooms and lockers as nominated — To be printed

Floorplans & elevations - Documentation & evidence required: Include on the floor plans: Accessible showers that are within 100 metres of the building entry at a rate of 1 per 10 bicycle spaces which are located within the change facilities and are notated to dispense hot and cold water and have efficient fixtures as compliant with the water efficiency section of this tool. Change facilities adjacent to showers which include a wash basin with efficient fixtures as compliant with the water efficiency section of this tool, a bench, and are notated to include a hook, mirror and general power outlet. 1 secure locker per bicycle space in the changing facilities with a minimum dimensions of 300mm(w) x 450mm(d) x 900mm(h)

Transport 2.1: Location of electric vehicle charging infrastructure — To be printed

Floorplans & elevations - Documentation & evidence required: Site or floor plans indicating location of designated electric vehicle parking bay(s) and location of charging infrastructure.

Transport 2.2: Location of car share parking space — To be printed

Floorplans & elevations - There is no car sharing into the development, however the proposed site has convenient access to numerous share car pods. Refer to Green Travel Plan

Transport 2.3: All nominated motorbicycle parking spaces — To be printed

Floorplans & elevations - It's marked/specified on the drawings

Waste 2.1: Location of food and garden waste facilities — To be printed

Floorplans & elevations - To be marked/specified on the drawings.

Waste 2.2: Location of recycling facilities — To be printed

Floorplans & elevations - It's marked on the drawings.

Urban Ecology 1.1: Size and location of communal spaces — To be printed

Floorplans & elevations - It's marked on the drawings.

Urban Ecology 2.1: Vegetated areas — To be printed

Floorplans & elevations - It's marked on the drawings.

Urban Ecology 2.2: Green roof — To be printed

Floorplans & elevations - Documentation & evidence required: Site plans showing the green roof area. Preliminary investigation into plant selection, substrate materials and structural support required.

Documents and evidence

Based on the information you have entered, the following supporting evidence is required. You can choose to upload supporting documents directly to BESS, or submit a printed version as an appendix to your BESS report. Use the comments field to provide a reference (e.g. page number) if relevant.

5 / 7 supporting evidence documentation complete.

Management 2.3: Preliminary modelling report JV3 Assessment - Appendix C — To be printed

Management 2.4: Section J glazing assessment — To be printed

JV3 Assessment - Appendix C

Energy 1.1: Energy Report showing calculations of reference case and proposed buildings JV3 Assessment - Appendix C	To be printed
Energy 3.1: Provide a written explanation of either the fully natural carpark ventilation or carbon monxide monitoring, describing how these systems will work, what systems are required for them to be fully integrated and who will be responsible for their implementation throughout the design, procurement and operational phases of the building life.	Incomplete
Energy 3.7: Provide a written description of the average lighting power density to be installed in the development and specify the lighting type(s) to be used.	Incomplete
Stormwater 1.1: STORM report or MUSIC model STORM-water Calculation - Appendix B	To be printed
IEQ 1.4: A short report detailing assumptions used and results achieved. Daylight Assessment - Appendix D	To be printed

Other Supporting Documents

Please upload any other documents here that may help to support your application.

Management Section

Add Supporting Document

Water Section

Add Supporting Document

Energy Section

Add Supporting Document

Stormwater Section

Add Supporting Document

IEQ Section

Add Supporting Document

Transport Section

Add Supporting Document

Waste Section

Add Supporting Document

Urban Ecology Section

Add Supporting Document

Innovation Section

Add Supporting Document

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Attachment 7 - Traffic Report Part 1

ratio:

Report
Prepared for
Traffic Impact Assessment/
16005REP01/ November 2019

6 November 2019

Proposed Commercial Development

17-23 Wangaratta Street, Richmond

Traffic:impact

r:

Attachment 7 - Traffic Report Part 1

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Traffic Impact Assessment/
16005REP01/ November 2019
Our reference 16005T-REP01-F01

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Appendix A Car Parking Surveys

Appendix B Swept Path Assessment

Appendix C Bicycle Parking Specifications

Attachment 7 - Traffic Report Part 1

1 Introduction:

Ratio Consultants has been engaged by Beams Projects Pty Ltd to assess the traffic and parking implications of the proposed commercial development at 17-23 Wangaratta Street in Richmond.

This report has been prepared to address the traffic and parking needs of the prosed development. It is based on surveys and observations in the vicinity of the site and on previous studies of similar developments elsewhere in Melbourne.

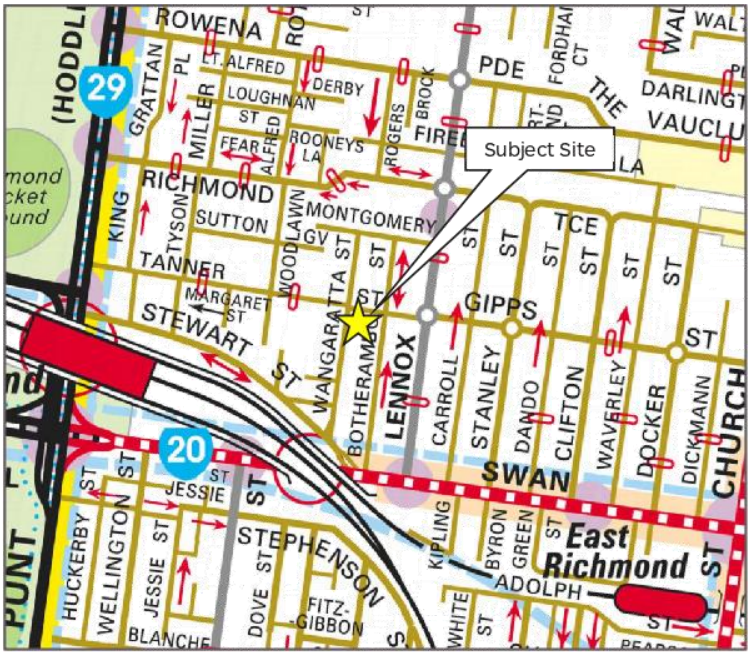
2 Existing Conditions:

2.1 Location and Environment

The site of the proposed development is located on the southern side of Tanner Street, between Wangaratta Street and Botherambo Street, in Richmond.

The site's location relative to the surrounding road network is shown in Figure 2.1 below.

Figure 2.1: Site Location



Source: online.melway.com.au

The overall site is rectangular in shape with a frontage to Wangaratta Street of 32.7 metres, a frontage to Tanner Street of 34.9 metres, a frontage to Botherambo Street of approximately 32.6 metres, and an overall site area of approximately 1,146 square metres.

The subject site comprises four separate lots which are currently occupied as follows:

- 17-19 Wangaratta Street is currently occupied by a two-storey commercial tenancy, occupied by Entry Education and Unify Presents. Vehicular access is provided via a crossover to/from Wangaratta Street and a crossover to/from Tanner Street.
- 21 Wangaratta Street is currently occupied by a two-storey commercial tenancy, occupied by Bacchus Constructions and Communication & Electronic Developments Pty Ltd. Vehicular access is provided via a crossover to/from Wangaratta.
- 23 Wangaratta Street is currently occupied by a part two, part three-storey residential building. Vehicular access is provided via a crossover to/from Wangaratta Street and Tanner Street.
- 68 Tanner Street is currently occupied by a two-storey commercial tenancy, occupied by Unify Marketing. Vehicular access is provided via a crossover to/from Botherambo Street.

The site is located a within a Mixed Use Zone (MUZ) and is subject to the following overlays:

- Environmental Audit Overlay (EAO); and
- Heritage Overlay Schedule (HO332).

Surrounding land use within vicinity of the site is a mixture of commercial, residential, retail, and entertainment/dining use. The Swan Street Activity Centre is located approximately 150 metres south of the subject site.

Some other key services within proximity of the subject site include:

- Stewart Street Reserve, located approximately 100 metres south of the subject site.
- Punt Road Oval, located approximately 400 metres west of the subject site.
- Gosch's Paddock, located approximately 600 metres south-west of the subject site.
- Epworth Hospital, located approximately 650 metres north of the subject site.
- St. Kevin's College (Waterford Campus), located approximately 650 metres north-east of the subject site.
- Melbourne Cricket Ground, located approximately 800 metres west of the subject site.
- Melbourne and Olympic Parks, located approximately 1.0 kilometre west of the subject site.

An aerial view of the site in context with its immediate surrounding is shown in Figure 2.2.

Figure 2.2: Aerial Photograph of Site and Surrounds



Source: www.nearmap.com

2.2 Road Network

Wangaratta Street is a Council managed Local Road that runs in a north-south alignment, between Stewart Street and Montgomery Street, in Richmond.

Within the vicinity of the site, Wangaratta Street has a carriageway width of approximately 6.4 metres, which provides for two-way traffic, and intermittent sections of kerbside parallel parking on both sides of the road.

Wangaratta Street has a default speed limit applicable to a build-up area of 50km/h and constructed footpaths are provided on both sides.

Botherambo Street is a Council managed Local Road that runs in a north-south alignment, between Swan Street and Montgomery Street, in Richmond.

Within the vicinity of the site, Botherambo Street has a carriageway width of approximately 6.4 metres, which provides for one-way traffic in a northbound direction (from Swan Street to Tanner Street).

Kerbside parallel parking is provided on the western side of the road and prohibited on the eastern side of the road through 'No Stopping' restrictions.

Botherambo Street has a posted speed limit of 40km/h and constructed footpaths are provided on both sides of the road.

A view of Botherambo Street facing north is displayed in Figure 2.3.

Figure 2.3: View of Botherambo Street from the subject site facing north



Tanner Street

Tanner Street is a Council managed Local road that runs in an east-west alignment, between Punt Road and Lennox Street, in Richmond.

Within the vicinity of the site, Tanner Street has a carriageway width of approximately 7.0 metres, which provides for two-way traffic.

Kerbside parallel parking is provided on the northern side of the road and prohibited on the southern side of the road through 'No Stopping' restrictions.

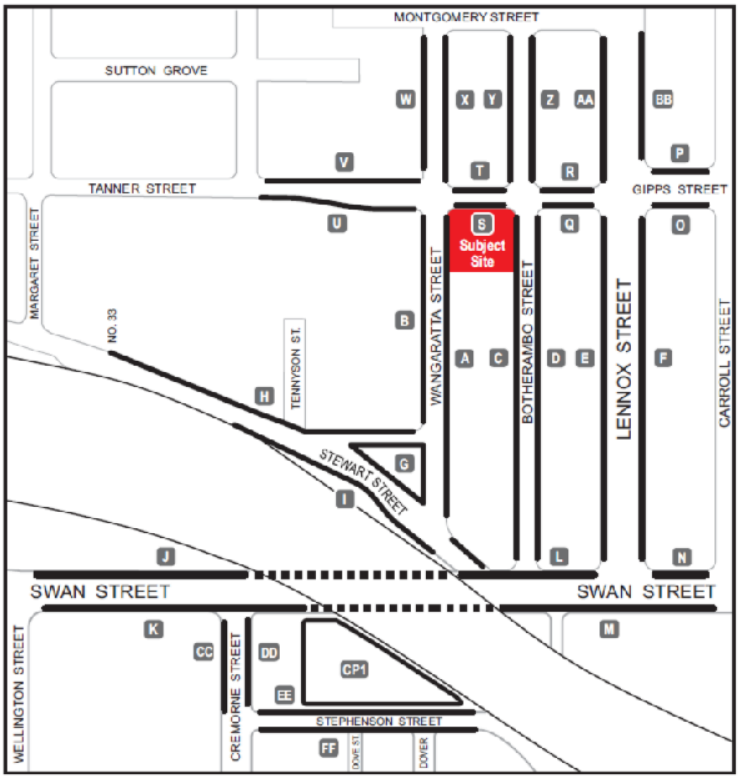
Tanner Street has a posted speed limit of 40km/h and constructed footpaths are provided on both sides of the road.

2.3 Parking Conditions

Ratio Consultants commissioned surveys of parking supply and demand on Thursday 4 October 2018 between 7:30am and 7:30pm.

The extent of the survey area is shown in Figure 2.4 below and detailed survey results are presented in Appendix A.

Figure 2.4: Parking Survey Area



The parking inventory reveals the supply of parking in the precinct is predominantly subject to short-term restrictions.

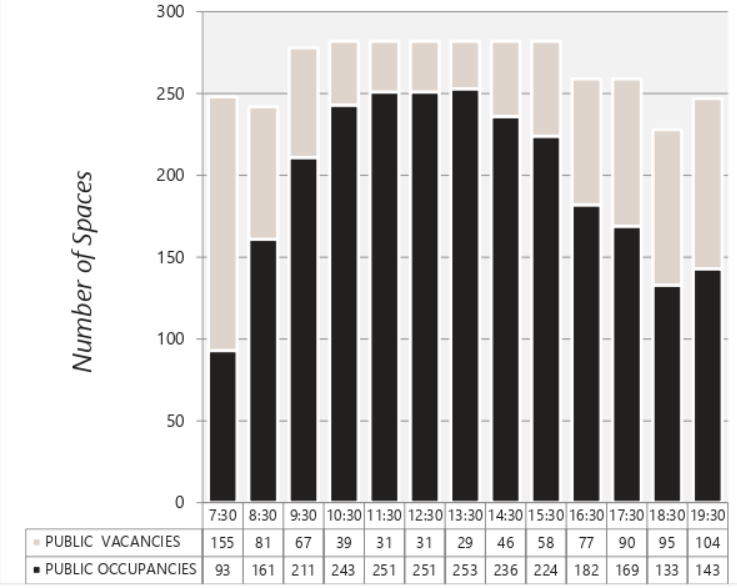
The full inventory of parking restrictions can be seen in Appendix A. In summary, the results showed:

Thursday 4 October 2018

- There was observed to be a minimum of 228 and a maximum of 282 parking spaces within the area (depending on the time of day).
- The demand for parking was moderate to very high during the survey period with parking occupancies ranging between 38% and 90%.
- The peak hour occurred at 11:30am, when a total of 253 publicly available parking spaces were recorded occupied out of an available supply of 282 spaces, representing a parking occupancy of 90%. There was a minimum of 29 publicly available spaces at this time. The parking demand declined after business hours.

Graph 2.1 provides a graphical representation on the Thursday parking demands.

Graph 2.1: Parking demand survey results – Thursday 4 October 2018



	7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30	19:30
PUBLIC VACANCIES	155	81	67	39	31	31	29	46	58	77	90	95	104
PUBLIC OCCUPANCIES	93	161	211	243	251	251	253	236	224	182	169	133	143

Ratio Consultants previously commissioned parking occupancy surveys of the on and off-street car parking in the vicinity of the subject site in October 2015 and November 2017.

A comparison of the survey results is shown in Table 2.1.

Table 2.1: Parking Survey Results Comparison

Day	Date	Maximum Parking Occupancy
Thursday	29 October 2015	82%
Thursday	16 November 2017	85%
Thursday	4 October 2018	88%

The results in Table 2.1 demonstrate there has been a slight increase in the parking demand within the vicinity of the site over the past three years.

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2.4 Sustainable Transport

Public Transport

The site has exemplary access to the public transport network with the following services provided within close proximity to the site.

Table 2.2 Public Transport Services

Service	Route Number	Route	Nearest Stop	Approximate Walking Distance
Train		Alamein Line	Richmond Railway Station	350 metres ~ 4 minutes
		Belgrave Line		
		Cranbourne Line		
		Frankston Line		
		Glen Waverly Line		
		Lilydale Line		
		Packenham Line		
		Sandringham Line		
Tram	70	Waterfront City Docklands - Wattle Park	Lennox St / Swan St	240 metres ~ 3 minutes
	78	North Richmond - Balaclava via Prahran	Gipps St / Church St	500 metres ~ 7 minutes
	48	North Balwyn - Victoria Harbour Docklands	Epworth Hospital / Bridge Rd	800 metres ~ 10 minutes
	75	Etihad Stadium Docklands - Vermont South		
Bus	246	Elsternwick - Clifton Hill via St Kilda	Richmond Railway Station / Punt Rd	500 metres ~ 7 minutes

Source: www.ptv.vic.gov.au

Figure 2.5: Richmond Station – 350m walking distance



Figure 2.6: Swan Street Tram – 250m walking distance



Figure 2.7: Punt Road Bus– 500m walking distance



Attachment 7 - Traffic Report Part 1

The site is located within the land identified as the Principal Public Transport Network (PPTN) area, as shown in Figure 2.8.

Figure 2.8: Location of site in relation to PPTN area



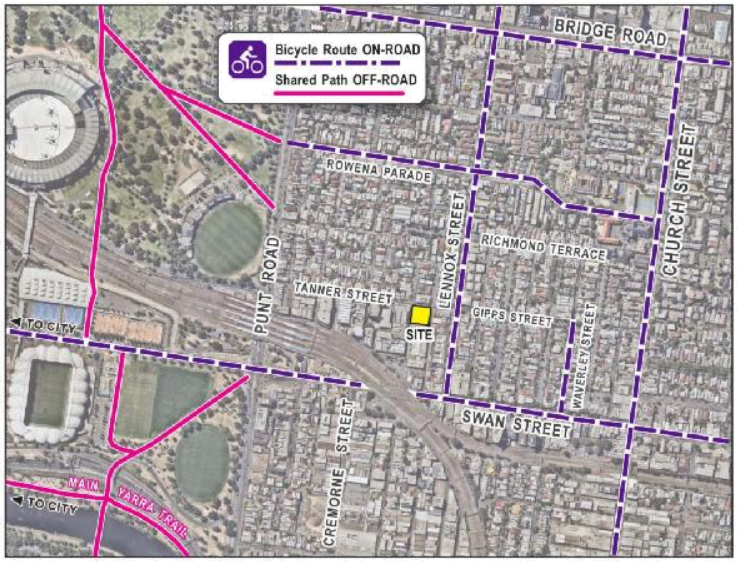
Bicycle Network

The site also has very good access to bicycle facilities, including:

- Off road bicycle paths within Yarra Park and adjacent to the Yarra River (Main Yarra Trail).
- On road bicycle lanes are provided along key strategic roads through Richmond including Swan Street, Church Street, Bridge Road, Lennox Street and Coppin Street.

Figure 2.9 shows the on-road and off-road bicycle routes within proximity of the subject site.

Figure 2.9: Cycle Routes



Source: www.yarracity.vic.gov.au

Car Share

The subject site has convenient access to numerous share car pods operated by Flexicar and GoGet.

A summary of the share car pods within approximately 600 metres of the site are provided in Table 2.3 overleaf.

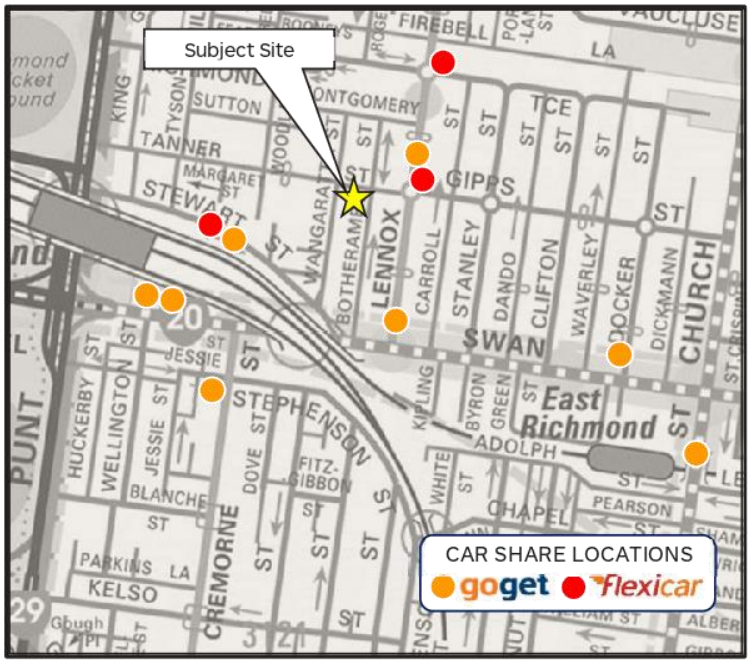
Table 2.3: Car Share Pod Locations

Operator	Location	No. of Cars	Walking Distance
Flexicar	Stewart Street (near Margaret Street)	1 car	300 metres
	Lennox Street (near Gipps Street)	1 car	140 metres
	Lennox Street (near Richmond Terrace)	1 car	280 metres
GoGet	Stewart Street (between Tennyson and Margaret Street)	1 car	280 metres
	Lennox Street (near Gipps Street)	1 car	140 metres

	Lennox Street (near Swan Street)	1 car	280 metres
	Swan Street (Cremorne Street & Punt Road)	2 cars	400 metres
	Cremorne Street (near Jessie Street)	1 car	400 metres
	Docker Street (near Swan Street)	1 car	600 metres
TOTAL		10 cars	

Figure 2.10 illustrates the location of car share pods in relation to the subject site.

Figure 2.10: Car Share Pod Locations



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2.5 Crash Analysis

A review has been conducted of VicRoads 'Crashstats' database for the five year period of data from 1 January 2013 to 31 December 2018 for any reported casualty within the following search area:

- Wangaratta Street, between Stewart Street and Tanner Street;
- Botherambo Street, between Swan Street and Tanner Street;
- Tanner Street, between Wangaratta Street and Lennox Street; and,
- The respective intersections.

The crash search revealed there have been two casualty crashes within the search area. The crashes are summarised below:

- One 'parked car run away' type crash occurred on Botherambo Street, between Swan Street and Tanner Street, resulting in in one 'other' type injury.
- One 'pedestrian walking with traffic' type crash occurred at the intersection of Tanner Street and Lennox Street, resulting in one 'other' type injury.

Given the road classifications and the associated traffic volumes, it is considered that the road network is operating in a relatively safe manner.

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3 The Proposal:

3 The Proposal

It is proposed to demolish the existing buildings on-site and construct an eight-storey commercial development at 17-23 Wangaratta Street, Richmond.

More specifically, the development comprises the following:

- Two ground floor shop tenancies, with a combined floor area of 700sqm;
- Seven levels of office use, with a combined floor area of 4,755sqm;
- A total of 46 car parking spaces located within two levels of basement car parking;
- A total of 81 bicycle parking spaces. The bicycle parking spaces located within the basement will be accessed via the passenger lift;
- Primary pedestrian access to the office use is proposed via separate entrances along Wangaratta Street and Botherambo Street. Pedestrian access to the shop tenancies on ground floor have separate direct access via Tanner Street and Wangaratta Street respectively;
- Refuse and recycling areas are provided within the basement, with waste proposed to be collected by a private waste contactor;
- Loading activities associated with the development are proposed to occur on-street; and
- The redundant vehicle crossovers connecting to/from Wangaratta Street, Tanner Street and Botherambo Street will be removed with kerb and channel reinstated to the satisfaction of Council.

4 Car Parking Assessment:

4.1 Clause 52.06 Car Parking Requirements

Car parking requirements for a range of developments are set out under Clause 52.06 of the Yarra Planning Scheme. The purpose of Clause 52.06, amongst other things is:

- To ensure that car parking is provided in accordance with the State Planning Policy Framework and he Local Planning Policy Framework.
- To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.
- To support sustainable transport alternatives to the motor car.
- To promote the efficient use of car spaces through the consolidation of car parking facilities.
- To ensure that car parking does not affect the amenity of the locality.
- To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.

The number of car parking spaces required for the specified uses is listed under Table 1 of Clause 52.06-5. Table 1 includes two sets of parking rates listed as Column A and Column B. Column A rates are to apply unless the Column B rates are applicable. Column B rates are used under the following circumstances:

- Any part of the land is identified as being in the Principal Public Transport Network Area as shown on the *Principal Public Transport Area Maps* (State Government of Victoria. 2018); or,
- A schedule to the Parking Overlay or another provision of the planning scheme specifies that Column B applies.

As the subject site is located within the Principal Public Transport Network Area, the development shall be assessed against Column B of Table 1 of Clause 52.06-5, as set out in Table 4.1.

Table 4.1: Clause 56.06 Planning Scheme Assessment

Use	Size	Statutory Parking Rate	Statutory Requirement
Office	4,755sqm	3.0 spaces per 100sqm of net floor area	142
Shop	700sqm	3.5 spaces per 100sqm of leasable floor area	24
Total Statutory Car Parking Requirement			**166**

On the basis of the above, the proposal has a statutory requirement to provide 166 car parking spaces in total. A total of 46 car parking spaces are proposed within the on-site car park, with 44 spaces allocated to the office use and two spaces allocated to the shop use.

Accordingly, the development incurs a shortfall of 120 spaces against the statutory parking requirements of the Yarra Planning Scheme (98 spaces associated with the office use and 22 spaces associated with the shop use).

An application to reduce the number of car parking spaces required under Clause 52.06-5 must be accompanied by a Car Parking Demand Assessment.

A Car Parking Demand Assessment and the appropriateness of allowing a reduction of on-site parking for the proposed development are discussed below:

4.2 Car Parking Demand Assessment

Clause 52.06-7 sets out the factors to be considered when preparing a Car Parking Demand Assessment. These factors are listed below:

- The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.
- The availability of public transport in the locality of the land.
- The convenience of pedestrian and cyclist access to the land.
- The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.
- An empirical assessment or case study.

Those factors relevant to this assessment are discussed in more detail below:

The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use

The shop component of the development is likely to draw most of its trade from walk-up customers associated with visitors to the activity centre, nearby residents and staff of the surrounding businesses. Therefore, the demand for customer parking associated with the shop tenancy is expected to be minimal.

The availability of public transport in the locality of the land

The site has excellent access to the public transport network, principally via the Richmond Railway Station, located approximately 250 metres south-west of the subject site. In addition, tram and bus services operate within close proximity to the site. These facilities are outlined in more detail within Section 2.4.

Given the excellent access to sustainable transport options, staff and visitors of the site are able to travel to and from the site without relying on the use of a private motor vehicle.

The Provision of Pedestrian and Cyclist Access to the Site

Pedestrian footpaths are provided on both sides of roads in the vicinity of the site which are generally in excellent condition.

The proposed main pedestrian access to the site will provide a clear, safe and direct link to and from the surrounding pedestrian network and nearby public transport services.

In addition, the site has excellent access to nearby bicycle facilities, including on-street bicycle lanes along Lennox Street, Olympic Boulevard, Rowena Parade, The Vaucluse and Church Street.

These facilities provide an attractive means of alternative sustainable transport that will reduce future reliance on private motor vehicles.

The Provision of Bicycle Parking and End of Trip Facilities for Cyclists

The proposal includes a very generous provision of 81 bicycle spaces, provided within horizontal and vertically hung bicycle rails. End of trip facilities such as showers, lockers and change rooms are also proposed. These facilities will help to encourage bicycle travel to/from the site.

Access to Car Share Pods

As discussed in Section 2.4, there are 10 car share pods within 600 metres of the subject site, which can be utilised by staff of the development for work related errands (e.g. attend meetings, site visits etc.).

Office Car Parking Demand

The parking surveys suggest a lack of long-term parking available on the streets surrounding the site, due to extensive parking restrictions that have been installed by Council.

Accordingly, it is unlikely that staff that are not provided with an on-site car parking space will choose to drive to the site unless they choose to pay to park in the limited paid parking that is available in Richmond, such as the Stephenson Street car park to the south of Swan Street.

The parking controls will act to discourage staff from driving to the site and will encourage staff to instead use alternative transport means such as walking, cycling and public transport.

Accordingly, the office car parking demand is anticipated to be limited to the on-site car parking supply (which is provided at a rate of 0.9 car spaces per 100sqm of floor area).

Shop Car Parking Demand

Car parking demand generated by shop tenancies is typically a combination of long-term staff and short-term customer demand.

As discussed above, it is estimated that the shop tenancy will likely draw most of its trade from walk-up customers associated with visitors to the activity centre and therefore the customer car parking demand of the small shop tenancy is anticipated to be minimal.

Empirical data of shop tenancies suggests that staff car parking demands are typically around 1.0 car parking spaces per 100sqm. As discussed above, the parking surveys suggest that parking in the area is very constrained due to extensive parking restrictions that have been installed by Council. The parking controls will act to discourage staff of the shop tenancy who are not provided with an on-site car parking space from driving to the site and will encourage staff to instead use alternative transport means such as walking, cycling and public transport.

Accordingly, the shop staff car parking demand is anticipated to be limited to the on-site car parking supply (one staff space provided for each tenancy, which could be utilised by the store manager).

4.3 Allowing Fewer Spaces to be Provided

Clause 52.06-7 sets out the factors to be considered when determining the appropriateness of allowing fewer car parking spaces to be provided. The relevant factors for this case are listed below:

— The Car Parking Demand Assessment.

- Any relevant local planning policy or incorporated plan
- The availability of alternate car parking in the locality of the land.
- Any other relevant considerations.

Those factors relevant to this assessment are discussed in more detail below:

Relevant Local Policy

Clause 21.06 City of the Yarra Planning seeks to reduce car dependence by promoting walking, cycling and public transport. It includes a number of strategies, including:

- *Improve pedestrian and cycling links in association with new development where possible.*
- *Require new development that generates high numbers of trips to be easily accessible by public transport.*
- *Provide efficient shared parking facilities in activity centres.*
- *Require all new large developments to prepare and implement integrated transport plans to reduce the use of private cars and to encourage walking, cycling and public transport.*
- *Ensure access arrangements maintain the safety and efficiency of the arterial and local road networks.*

The proposal is in-line with the strategic intent of Clause 21.06 and the broader aims of the City of Yarra's Strategic Transport Statement (2006) based on the following:

- The proposal is located close to numerous transport alternatives;
- There is a generous provision of on-site bicycle parking; and
- The reduced provision of on-site parking will discourage private motor vehicle ownership and use.

Availability of Car Parking

As outlined in Section 2.3, the availability and nature of the on-street parking in the vicinity of the site that could potentially be utilised by employees of the development is highly constrained given that the majority of on-street parking is either time restricted or subject to very high occupancy during weekday business hours.

This results in a strong disincentive for future employees without an on-site car space to travel to work via a private motor vehicle and will encourage alternative modes of transport.

Conversely, the short-term parking restrictions will ensure any short-term visitors / customers to the area are able to find a parking space within close proximity to the subject site even during periods of peak activity.

The parking surveys demonstrate that there was a minimum of 29 short-term parking spaces available for use by visitors / customers of the proposed development.

Accordingly, it is considered that any short-term users of the development can be accommodated in suitable off-site parking locations within convenient proximity of the site without adversely impacting on current parking conditions in the precinct (noting that the car parking demand generated by short-term users is likely to be minimal).

4.4 Parking Provision Summary

On the basis of the above, it is considered that the proposed provision of car parking is acceptable for the following reasons.

- The site is well located to take advantage of access to transport alternatives, such as numerous high frequency public transport services, on and off-road bicycle lanes, and the pedestrian footpath network.
- The proposal includes a generous provision of bicycle parking which will encourage staff towards alternative methods of transport to/from the site.
- On-street parking spaces in the vicinity of the site are sufficiently protected by parking restrictions and very high occupancy levels during weekday business hours to discourage staff of the proposed development who are not provided with an on-site car parking space from choosing private motor vehicles for travel to and from the site. Suitable short-term car parking is available within close proximity of the subject site for visitors of the office.
- The proposed shop tenancies are not expected to generate a significant demand for car parking, with the majority of customers expected to be walk-up customers from the surrounding area. Notwithstanding this, the parking surveys demonstrate that there is spare capacity within the on-street parking within the vicinity of the site to accommodate an increase in short term parking. Staff of the shop tenancies that are not provided with an on-site car parking space can make use of alternative transport modes such as public transport, walking or cycling.
- The development helps to achieve the objectives sought by Local Policy by reducing the dependence on private motor vehicles.
- Car share vehicles are provided within the vicinity of the site which can be utilised by staff who do not drive to work, for day-to-day errands such as attending meetings.

For the reasons above, it is considered that the proposed provision of car parking is acceptable.

5 Access and Car Parking Layout:

5.1 Clause 52.06 Design Standard Assessment

The proposed access arrangements and car parking layouts have been designated in accordance with the objectives and design requirements of 56.06-9 of the Yarra Planning Scheme, AS/NZS 2890.6:2009 and the relevant sections of AS/NZS 2890.1:2004.

Design Standard 1 – Accessways

Design Standard 1 of Clause 52.06-9 relates to the design of accessways. The requirements of Design Standard 1 are assessed in Table 5.1.

Table 5.1: Design Standard 1 Assessment - Accessways

Requirement	Comments
Must be at least 3m wide	**Satisfied** – All accessways have been designed with a minimum width of 3.6 metres which complies with this requirement and the requirement of AS2890.1. Parking aisles have a minimum width of 6.0 metres which enables opposing vehicles to pass.
Have an internal radius of at least 4m at changes of direction or intersection or be at least 4.2m wide	**Satisfied** – All accessways are at least 4.2 metres wide at changes of directions. The swept path assessment, attached at Appendix B, demonstrates the ability for the B99 vehicle to circulate the subject site in a suitable manner.
Allow vehicles parked in the last space of a dead-end accessway in public car parks to exit in a forward direction with one manoeuvre.	**N/A** – The car park is not open to the public. Notwithstanding, all vehicles parked in the last space of a dead-end accessway can exit the car park in a forward direction with one manoeuvre.
Provide at least 2.1m headroom beneath overhead obstructions, calculated for a vehicle with a wheel base of 2.8m.	**Satisfied** – A minimum height clearance of at least 2.1 metres has been provided throughout the car parking area.
If the accessway serves four or more car spaces or connects to a road in a Road Zone, the accessway must be designed so that cars can exit the site in a forward direction.	**Satisfied** – All vehicles can depart the site in a forward direction.
Provide a passing area at the entrance at least 6.1m wide and 7m long if the accessway serves ten or more car parking spaces and is either more than 50m long or connects to a road in a Road Zone.	**N/A** – Although the car park serves more than 10 car parking spaces, it does not connect to a road in a Road Zone, nor is it more than 50 metres long before passing can occur.
Have a corner splay or area at least 50% clear of visual obstructions extending at least 2m along the frontage road from the edge of an exit lane and 2.5m along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road. The area clear of visual obstructions may include an adjacent entry or exit lane where more than one lane is provided, or adjacent landscaped areas, provided the landscaping in those areas is less than 900 mm in height.	**Considered Satisfactory** – A pedestrian sight line triangle measuring 2.0 metres along the frontage and extending 2.5 metres along the accessway has been provided on the northern side of the access. A reduced pedestrian sight triangle, measuring 1.25 metres along the frontage, has been provided on the southern side (as a full pedestrian sight triangle cannot be provided due to the location of the neighbouring building). As such, a convex mirror has been provided to improve visibility between vehicles departing the site and

	pedestrians walking along the footpath to the south of the site. This is considered to be a suitable outcome.
If an accessway to four or more car parking spaces is from land in a Road Zone, the access to the car spaces must be at least 6m from the road carriageway.	**N/A** – Access to the car spaces is not from a Road Zone.
If entry to the car space is from a road, the width of the accessway may include the road.	**N/A** - Entry to the car spaces is not accessed directly from a road.

Design Standard 2 – Car Parking Spaces

Design Standard 2 of Clause 52.06-9 relates to the design of car parking spaces. The requirements of Design Standard 2 are assessed against the proposal in Table 5.2.

Table 5.2: Design Standard 2 Assessment – Car Parking Spaces

Requirement	Comments
Car parking spaces and accessways must have the minimum dimensions as outlined in Table 2 of Design Standard 2.	**Satisfied** – All of the car parking spaces have been provided with the minimum dimensions as outlined in Table 2 of Design Standard 2.
A wall, fence, column, tree, tree guard or any other structure that abuts a car space must not encroach into the area marked 'clearance required' on Diagram 1 of Design Standard 2, other than: — A column, tree or tree guard, which may project into a space if it is within the area marked 'tree or column permitted' on Diagram 1. — A structure, which may project into the space if it is at least 2.1m above the space.	**Satisfied** – All obstructions and columns are located outside of the door opening and clearance zones, as prescribed by Diagram 1.
Car spaces in garages or carports must be at least 6m long and 3.5m wide for a single space and 5.5m wide for a double space measured inside the garage or carport.	**N/A** – No garage spaces are proposed.
Where parking spaces are provided in tandem (one space behind the other) an additional 500mm in length must be provided between each space.	**N/A** – No car parking spaces are proposed in tandem.
Where two or more car parking spaces are provided for a dwelling, at least one space must be undercover.	**N/A** – No dwellings are proposed as part of the development.
Disabled car parking spaces must be designed in accordance of AS 2890.6:2009 (disabled) and the Building Code of Australia. Disabled car parking spaces may encroach into an accessway width specified in Table 2 of Design Standard 2 by 500mm.	**Satisfied** – An accessible space and adjacent shared zone have been provided on Basement 1 and Basement 2. As per Design Standard 2, the accessible parking space may encroach into the accessway width specified in Table 2 of Design Standard 2 by 500mm. A minimum headroom clearance of 2.5 metres will be provided above the accessible car space and shared zone.

Design Standard 3 – Gradients

Design Standard 3 of Clause 52.06-9 relates to the design of gradients. The requirements of Design Standard 3 are assessed against the proposal in Table 5.3.

Table 5.3: Design Standard 3 Assessment - Gradients

Requirement	Comments
Accessway grades must not be steeper than 1:10 (10%) within 5m of the frontage to ensure safety for pedestrians and vehicles. The design must have regard to the wheelbase of the vehicle being designed for; pedestrian and vehicular traffic volumes; the nature of the car park; and the slope and configuration of the vehicle crossover at the site frontage. This does not apply to accessways serving three dwellings or less.	**Satisfied** – The accessway does not exceed 1:10 for the first 5.0 metres, thereby satisfying this requirement.
Ramps (except within 5 metres of the frontage) must have the maximum grades as outlined in Table 3 of Design Standard 3 and be designed for vehicles travelling in a forward direction.	**Satisfied** - The proposed grades are in accordance with Table 3 of Design Standard 3, with grades no steeper than 1:4.
Where the difference in grade between two sections of ramp or floor is greater than 1:8 (12.5%) for a summit grade change, or greater than 1:6.7 (15%) for a sag grade change, the ramp must include a transition section of at least 2 metres to prevent vehicles scraping or bottoming. Plans must include an assessment of grade changes of greater than 1:5.6 (18%) or less than 3 metres apart for clearances, to the satisfaction of the responsible authority.	**Satisfied** – All proposed grade changes comply with this requirement.

Signal System

Vehicle movements along the basement ramps and within the basement car park are proposed to be controlled by a signal system. The signal system will operate in the following manner:

- Signal lanterns will be installed within both levels of the basement car park and at ground floor.
- Employees will activate the signal lanterns by using remote control units.
- During the morning peak period and during the day, vehicles entering the car park will be given priority, i.e. the signals at the bottom of the basement ramps will show a red lantern, whereas the signal for vehicles entering the car park will show a green lantern (unless the lantern has been activated by a departing vehicle). During the afternoon peak period, vehicles departing the car park will be given priority, i.e. the signal lantern on ground floor for entering vehicles will show a red lantern, whereas the signal for vehicles departing the car park will show a green lantern (unless the lantern has been activated by an entering vehicle). This arrangement will reduce the waiting time for vehicles entering and exiting the car park (given the tidal flow of office traffic).

— In the infrequent scenario that an inbound vehicle seeking to enter the basement car park from Botherambo Street encounters a red signal lantern (which would only occur when an inbound vehicle was seeking to enter the site during the PM peak hour period or when an inbound vehicle encounters a red signal on ground floor due to the presence of an outbound vehicle departing the site), the inbound vehicle would temporarily need to wait on Botherambo Street until a green lantern is observed.

  This is considered to be an acceptable arrangement based on the following:

  - This scenario would present itself very infrequently due to the tidal nature of office traffic and the proposed operation of the signal system (which will facilitate this tidal nature of traffic);
  - Sufficient space is provided on Botherambo Street to ensure that any vehicle waiting to enter the site does not block local traffic on Botherambo Street (as shown on Sheet 2 of the swept path assessment); and
  - The vehicle would have to wait on Botherambo Street for a relatively short period of time.

5.2 Swept Path Assessment

An assessment (refer to Appendix B) of the accessibility to/from the site using the 'Autodesk Vehicle Tracking' software has been conducted.

The B99 (99.8th percentile car) was used in the assessment and it was found that vehicles can access the site in a suitable manner. Further, all vehicles will be able to enter / exit the site in a forward's direction.

An assessment of the accessibility to/from the critical parking bays was also undertaken using the B85 (85th percentile car) and it was found that each parking space could be accessed (ingress and egress) in a satisfactory manner.

Some corrective manoeuvres may be required, which is in accordance with AS/NZS2890.1:2004 (Table 1.1), which specifies that the three-point turn movements to enter and exit 90-degree parking spaces are permitted for regular users (such as employees).

The assessment indicates that the access arrangements and car parking layout have been designed appropriately and in accordance with the requirements of the Yarra Planning Scheme and/or AS/NZS 2890.1:2004.

6 Bicycle Parking:

6.1 Clause 52.34 Bicycle Parking Assessment

Bicycle Parking

Clause 52.34 of the Yarra Planning Scheme sets out the provisions for bicycle parking. Application of the relevant rates is provided within the following table.

Table 6.1: Statutory Bicycle Parking Requirement

Use	Type	Size	Statutory Parking Rate	Statutory Requirement
Office other than specified in this table	Employee	4,755 sqm	1 space to each 300sqm of net floor area if the net floor area exceeds 1,000sqm	16 spaces
	Visitor		1 space to each 1,000sqm of net floor area if the net floor area exceeds 1,000sqm	5 spaces
Shop	Employee	700 sqm	1 space to each 600sqm of leasable floor area if the leasable floor area exceeds 1,000sqm	0 spaces
	Visitor		1 space to each 500sqm of leasable floor area if the leasable floor area exceeds 1,000sqm	0 spaces
Total				**21 spaces**

On the basis of the above, the development has a requirement to provide 21 bicycle parking spaces for the office use.

The application plans show a generous provision of 81 bicycle spaces arranged as follows:

- 4 x double sided bicycle 'hoops' proposed along the site's Wangaratta Street frontage (subject to the approval of Council).
- 6 x double sided bicycle 'hoops' on ground floor of the development.
- 7 x wall hung vertical bicycle parking spaces located within the basement.
- 50 x bicycle parking spaces within two-tier bicycle parking systems, located within the basement.
- 14 x bicycle parking spaces within 'hoops' located within the basement.

The bicycle parking spaces within the basement will be accessed via the 'end of trip' passenger lift.

Accordingly, the proposed bicycle parking greatly exceeds the requirements of the Yarra Planning Scheme and is therefore considered acceptable.

AS 2890.3:2015 requires that 20% of bicycle parking be provided via horizontally accessed rails. The proposed bicycle parking provides in excess of 20% of the bicycle parking provision within horizontally accessed rails, thereby complying with the requirement outlined in the Australian Standard.

The bicycle parking specifications are provided within Appendix C.

End of Trip Facilities

Clause 52.34 of the Yarra Planning Scheme also outlines the requirements for end of trip facilities such as showers and change rooms.

Showers
Table 2 to Clause 52.34-5 states the following requirement for the provision of showers:

If 5 or more employee bicycle spaces are required, 1 shower for the first 5 employee spaces, plus 1 to each 10 employee bicycle spaces thereafter.

Given that 16 bicycle parking spaces are required for employees, the development triggers a requirement to provide two shower facilities.

A total of 7 showers are proposed to be provided, which is in excess of the requirement and as such will comfortably meet the needs of cyclists and other staff who require the use of a shower.

Change Rooms
Table 3 to Clause 52.34-5 states the following requirement for the provision of change rooms:

1 change room or direct access to a communal change room to each shower. The change room may be a combined shower and change room.

Each of the proposed showers is combined with a changeroom, complying with the requirement.

Accordingly, the proposal complies with the end of trip facilities specified under Clause 52.34 of the Yarra Planning Scheme.

6.2 Yarra Best Practice Standards

The City of Yarra Best Practice Standards provide an additional set of objectives, standards and decision guidelines for assessing proposed developments.

Of particular relevance to this assessment, the standards list bicycle parking requirements for non-residential developments. For both aspects of the proposal, at least one secure bicycle parking space should be provided for 10% of building occupants and sufficient end of trip facilities.

In our experience, employee density within office developments is in the order of one employee per 15 square metres of floor space. Applying this rate to the proposed 4,755 sqm office generates a total of approximately 320 employees.

For the shop tenancies, it has been estimated that employee density would be less than an office and in the order of one employee per 50 square metres of floor space. Applying this rate to the proposed 700 square metres of shop generates a total of approximately 15 employees.

The bicycle parking requirements of the proposal under the Best Practice Standards are subsequently detailed within Table 6.2.

Attachment 7 - Traffic Report Part 1

Table 6.2: Bicycle Parking Requirements – Yarra Best Practice Standards

Use	Rate	Number/Size	Requirement
Shop	1 space per 10 employees	15 employees	2 spaces
Office	1 space per 10 employees	320 employees	32 spaces
Total			**34 spaces**

Based on the foregoing, the building has a bicycle parking requirement of 34 spaces under the Best Practice Standards.

The proposed bicycle parking provision of 81 spaces is also well in excess of the bicycle parking requirements of the City of Yarra Best Practice Standards.

Attachment 7 - Traffic Report Part 1

7 Waste Collection:

7.1 Waste Collection

A dedicated waste collection area has been provided in the north-west corner of Basement Level 1.

A Waste Management Plan has been prepared for the development by Ratio Consultants. Waste is proposed to be collected on-site by a private contractor using the mini rear loader truck, which is 2.08 metres high, 6.35 metres long and 1.7 metres wide.

This is considered to be an acceptable arrangement from a traffic engineering perspective.

Attachment 7 - Traffic Report Part 1

8 Loading Arrangement:

8.1 Loading Arrangement

Clause 65.01 'Decision Guidelines' of the Yarra Planning Scheme outlines the provision of loading requirements, and states the following:

"Before deciding on an application or approval of a plan, the responsible authority must consider, as appropriate:

— *The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts."*

Loading and unloading activities associated with the proposed development will primarily be related to the delivery of goods for the shop tenancies and occasionally the delivery of goods for the office use.

It is considered that all loading and unloading associated with the proposed development can appropriately be accommodated on-street, based on the following:

— The presence of Loading Bays located kerbside along Wangaratta Street and Botherambo Street, and the presence of short-term 1P parking along Tanner Street (which will encourage a relatively high turnover of parking).
— Given the relatively modest floor area of the shop tenancy and the nature of loading associated with office use, it is anticipated that loading will be relatively infrequent and undertaken by smaller trucks / vans that can suitably park within the Loading Bays and short-term parking.
— The existing commercial tenancies on-site currently operate without an on-site Loading Bay.

It is noted that several redundant crossovers will be removed along Wangaratta Street, Tanner Street and Botherambo Street fronting the subject site due to the proposed development. Consideration could be given to the installation of a new on-street Loading Zone fronting the subject site, if Council deemed this was necessary.

9.1 Traffic Generation and Distribution

Office

Based on surveys of other office developments in Melbourne, it is estimated that the development will generate 0.5 vehicular trips per car space during the morning peak hour and 0.5 vehicular trips per car space during the afternoon peak hour.

Employee trips will be mainly arriving in the morning peak and departing in the afternoon peak with approximately 90% of employees assumed to arrive in the morning and depart in the evening peak.

The office traffic generation for the AM and PM peak hours is shown below:

Table 9.1: Office Trip Generation

	Morning Peak Hour	Evening Peak Hour
Arriving trips:	22	2
Departing trips:	2	21
Total trips:	**22**	**22**

Shop

Shop traffic generation to/from the site will be limited to the turnover of those spaces allocated to staff.

On the basis that each car space allocated to shop staff will generate a vehicle movement during peak periods, the development would generate up to 2 (two) staff movements in the AM and PM peak hours.

Overall

A summary of the peak hour traffic generation for the proposed development is presented in Table 9.2:

Table 9.2: Overall Trip Generation

Land Use	AM Peak			PM Peak		
	Inbound	Outbound	Total	Inbound	Outbound	Total
Office	20	2	22	2	20	22
Shop	2	0	2	0	2	2
Total	**22**	**2**	**24**	**2**	**22**	**24**

On the basis of the above, it is anticipated that the development will generate traffic at a rate of 24 trips during the AM and PM peak hour periods, equating to approximately one vehicle movement every two to three minutes on average.

Attachment 7 - Traffic Report Part 1

9.2 Traffic Distribution and Impact

The additional traffic generated by the proposed development will flow directly onto Botherambo Street, following the one-way traffic controls in place from south to north.

The projected peak hour movements of 24 vehicle trips per hour during the critical peak hour periods is equivalent to one vehicle movement every two to three minutes on average.

Botherambo Street and the surrounding road network have the ability to accommodate the expected modest traffic volumes, in the order of one vehicle movement every two to three minutes during each of the AM and PM peak hours, associated with the proposed development.

The site access is to be limited to left-in/ left-out movements only, which will ensure vehicles exiting the site will be able to do so in a safe manner even during peak times. Therefore, it is considered that the proposed development will not create any traffic safety or operational concerns.

Attachment 7 - Traffic Report Part 1

10 Conclusion

It is proposed to demolish the existing buildings on-site and construct a seven-storey commercial development at 17-23 Wangaratta Street, Richmond.

Based on the above assessment, it is considered that:

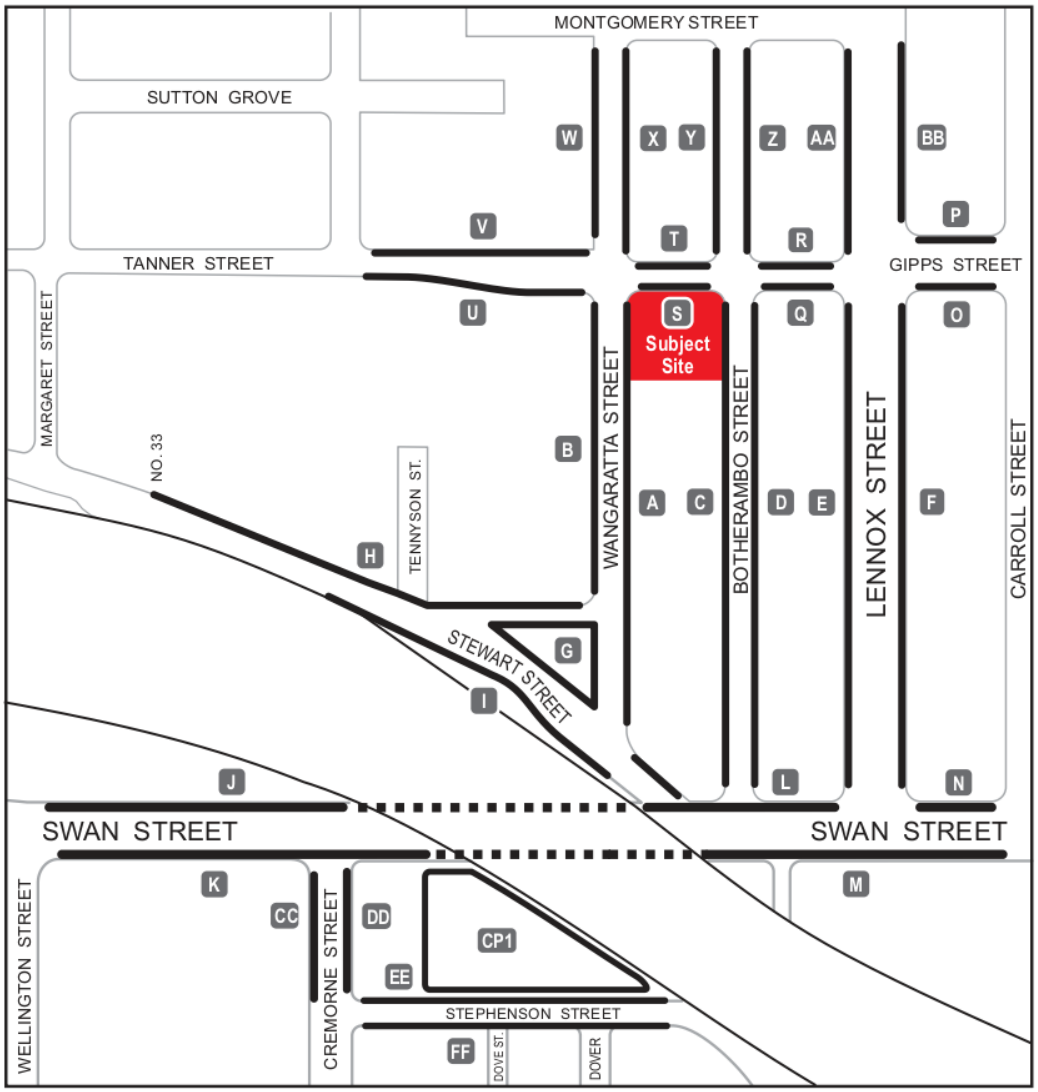
- The application has a statutory car parking requirement to provide 166 car spaces under Clause 52.06-5 of the Yarra Planning Scheme.
- The proposed development has provision for 46 car spaces and therefore seeks a statutory car parking reduction of 120 spaces. The statutory car parking reduction is supported on the following grounds:
  - The site is well located to take advantage of access to transport alternatives, such as numerous high frequency public transport services, on and off-road bicycle lanes, and the pedestrian footpath network.
  - The proposal includes a generous provision of bicycle parking which will encourage staff towards alternative methods of transport to/from the site.
  - On-street parking spaces in the vicinity of the site are sufficiently protected by parking restrictions and very high occupancy levels during weekday business hours to discourage staff of the proposed development who are not provided with an on-site car parking space from choosing private motor vehicles for travel to and from the site. Suitable short-term car parking is available within close proximity of the subject site for visitors of the office.
  - The proposed shop tenancies are not expected to generate a significant demand for car parking, with the majority of customers expected to be walk-up customers from the surrounding area. Notwithstanding this, the parking surveys demonstrate that there is spare capacity within the on-street parking within the vicinity of the site to accommodate an increase in short term parking. Staff of the shop tenancies that are not provided with an on-site car parking space can make use of alternative transport modes such as public transport, walking or cycling.
  - The development helps to achieve the objectives sought by Local Policy by reducing the dependence on private motor vehicles.
  - Car share vehicles are provided within the vicinity of the site which can be utilised by staff who do not drive to work, for day-to-day errands such as attending meetings.
- The proposed car park and access arrangements have been suitably designed and in accordance with the requirements of Clause 52.06-9 of the Yarra Planning Scheme.
- The provision of 81 bicycle spaces on-site far exceeds the minimum Planning Scheme requirement.
- The site has suitable means to undertake loading/delivery activities that are likely to be generated by the proposal, without material impact to the local road network and operation of the car park.
- Approximately 24 vehicular trips will be generated by the development during the AM and PM peak hours. The surrounding road network has sufficient capacity to cater for this relatively minor level of traffic.

Overall, the proposed development is not expected to create adverse traffic or parking impacts in the local area.

Attachment 7 - Traffic Report Part 1

Appendix A Car Parking Surveys

Attachment 7 - Traffic Report Part 1



Project : 16005T October 2019

FIGURE 2.3
PARKING SURVEY AREAS

Attachment 7 - Traffic Report Part 1

Table A1

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

QUALITY ASSURED COMPANY BY AS/NZS ISO 9001:2008
AS/NZS SYSTEM CERTIFIED TO AS/NZS ISO 45001:2018
ENVIRONMENT MANAGEMENT SYSTEM CERTIFIED TO AS/NZS ISO14001:2004
AS-NZ BID REGN. Number 3531, cm3 REGN. Number 6854

Parking Occupancy Survey

Date:	Thursday, 16 November 2017
Location:	45 Wangaratta Street, Richmond
Weather:	Fine
Customer:	Ratio

Public Parking (1/0)	Map Ref	Street	Section	Side	Restriction	Clear Way	Capacity	Parking Occupancy											
								7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30	15:30	16:30	17:30	18:30
1	A	Wangaratta St	Tanner St to Swan St	E	Private		4	4	4	4	4	4	4	4	4	4	4	4	4
1					Private		11	6	8	9	9	9	9	9	9	9	9	7	7
1					Private		7	4	6	6	6	6	6	6	6	7	6	5	5
1					Private Disable		1	0	0	0	0	0	0	0	0	0	0	0	0
1					Private		5	2	2	3	3	3	3	3	3	2	2	2	1
1					Loading Zone 7am-6pm Mon-Fri		2	0	0	2	2	0	0	0	0	0	1	0	0
1					2P 8am-5pm Mon-Fri & Public Holidays		3	2	3	3	3	3	3	3	3	2	2	2	2
1					2P 8am-5pm Loading Zone 5pm-1am		1	0	1	1	1	1	1	0	1	1	1	1	1
1	B	Wangaratta St	Stewart St to Tanner St	W	Permit Zone All Other Times & Public Holidays Loading Zone 8am-6pm Mon-Fri		2	0	1	0	2	0	0	1	0	0	0	1	0
1					2P 8am-5pm Mon-Fri Permit Zone All Other Times & Public Holidays		3	1	2	3	3	3	3	2	2	2	1	1	1
1	C	Botherambo St	Swan St to Tanner St	W	Loading Zone 7am-7pm Mon-Fri		5	3	2	0	1	2	1	1	2	2	1	0	0
1					Loading Zone		2	0	0	0	0	0	0	0	0	0	0	0	0
1					Works Zone 7am-6pm Mon-Fri 9am-3pm Sat		2	1	1	1	1	1	1	1	1	1	1	0	0
1					4P 7am-7pm Mon-Fri & Public Holidays		10	8	9	10	10	10	10	10	10	10	9	8	6
0	D	Botherambo St	Tanner St to Swan St	E	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
1	E	Lennox St	Swan St to Gipps St	W	1/4P 7.30am-5pm 2P 5pm-11pm Mon-Sat & Public Holidays		3	0	0	1	1	1	1	0	1	0	1	1	1
1					Permit Zone		8	5	5	6	6	6	7	8	8	8	8	7	6
1					Permit Zone Angle		26	11	13	13	13	14	14	13	13	13	11	10	10
1	F	Lennox St	Gipps St to Swan St	E	2P 7.30am-9.30pm		14	10	11	12	13	13	13	14	14	14	13	11	10
1					2P Ticket 8am-5pm Mon-Fri 8.30am-5.30pm Sat		9	7	9	9	9	9	9	9	9	9	9	8	7
1					Permit Zone Authorised Car Share Vehicles Only		1	0	0	0	0	0	1	1	1	1	1	1	1
1					1P Disable		1	0	0	0	0	0	0	1	1	1	1	0	0
1					1/4P 7.30am-5pm 2P 5pm-11pm Mon-Sat & Public Holidays		3	0	0	1	2	1	0	1	0	1	1	0	0
1	G	Wangaratta St	Stewart St to Wangaratta	W	2P 8am-5pm Mon-Fri & Public Holidays		2	2	2	2	2	2	2	2	2	2	2	2	2
1	H	Stewart St	No33 to Wangaratta St	N	2P 7am-11pm		3	3	3	3	3	3	3	3	3	3	3	3	1
1					No Stopping Authorised Car Share Vehicles Excepted		1	0	0	0	0	0	0	0	0	0	0	0	0
1					No Stopping Authorised Car Share Vehicles Excepted		2	1	2	2	2	2	2	2	2	2	2	2	2
1					Loading Zone 15 minute 8am-5pm Mon-Fri		3	0	0	0	1	0	0	1	0	0	0	1	0
1					2P 7am-11pm		2	2	2	2	2	2	2	2	1	2	2	2	1
1					2P 7am-11pm		4	3	4	4	4	3	4	4	4	4	4	4	3
1	H	Stewart St	Wangaratta St to Stewart St	N	2P 8am-5pm Mon-Fri & Public Holidays		4	2	3	4	4	4	4	4	4	4	3	3	3
1	H	Stewart St	Wangaratta St to Stewart St	S	2P 8am-5pm Mon-Fri & Public Holidays		4	3	4	4	4	4	4	3	4	4	4	3	2
1	I	Stewart St	Swan St to Tennyson St	S	2P 7am-11pm		10	9	10	10	10	10	10	10	10	10	10	8	6
1	J	Swan St	Wellington St to Stewart St	N	No Stopping Authorised Car Share Vehicles Excepted		1	0	0	0	0	0	0	1	1	1	1	1	1
1					2P Ticket 60o Angle 8am-5pm Mon-Fri 8am-1pm Sat		8	2	2	2	1	3	3	2	3	3	3	2	2
1					Bus Zone 7pm-2am 2P Ticket 60o Angle 8am-5pm Mon-Fri 8am-1pm Sat		6	0	0	0	0	1	2	2	2	2	1	1	0
0					P Bicycle		0	0	0	0	0	0	0	0	0	0	0	0	0
1					2P 8.30am-4.30pm Mon-Fri 8.30am-7pm Sat-Sun & Public Holidays	Clearway 4:30pm-6:30pm Mon-Fri	15	7	10	11	13	13	13	13	14	5	0	0	0
1	K	Swan St	Stewart St to Wellington St	S	2P 9.15am-7pm Including Public Holidays	Clearway 7am-9.15am Mon-Fri	23	0	0	8	17	17	18	20	20	18	15	16	14
1					2P Ticket 9.15am-5.30pm Mon-Fri 8.30am-12.30pm Sat	Clearway 7am-9.15am Mon-Fri	7	0	0	0	0	0	0	0	1	0	0	0	0
1	L	Swan St	Stewart St to Lennox St	N	1/4P 8.30am-4.30pm Mon-Sat Taxi Zone All Other Times	Clearway 4:30pm-6:30pm Mon-Fri	1	0	0	1	1	1	1	1	0	1	0	0	0
1					Loading Zone 15 minute 8.30am-4.30pm Mon-Sat Taxi Zone All Other Times	Clearway 4:30pm-6:30pm Mon-Fri	2	1	2	2	1	1	1	1	2	1	0	0	0
1	M	Swan St	Carroll St to Stewart St	S	2P Ticket 9.15am-5.30pm Mon-Fri 8.30am-5.30pm Sat 11am-5pm Sun	Clearway 7am-9.15am Mon-Fri	5	0	0	2	4	4	3	2	4	4	3	3	3
1					1/4P All Other Times	Clearway 7am-9.15am Mon-Fri	2	0	0	1	2	0	1	1	2	0	1	1	2
1	N	Swan St	Lennox St to Carroll St	N	Loading Zone 15 minute 8.30am-4.30pm Mon-Sat 2P Ticket 11am-5pm Sun	Clearway 4:30pm-6:30pm Mon-Fri	2	1	1	2	2	1	2	2	2	1	0	0	0
1					2P Ticket 8.30am-4.30pm Mon-Fri 8.30am-5pm Sat 11am-5pm Sun	Clearway 4:30pm-6:30pm Mon-Fri	2	2	2	2	1	2	2	1	2	1	0	0	0
1	O	Gipps St	Carroll St to Lennox St	S	2P 60o Angle 7.30am-6pm Mon-Fri Permit Zone All Other Times & Public Holidays		8	7	8	8	8	8	8	8	8	8	7	7	7
1	P	Gipps St	Lennox St to Carroll St	N	2P 7.30am-11pm		3	2	3	3	3	2	2	3	3	3	3	2	2
0	Q	Tanner St	Lennox St to Botheramboo St	S	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
1	R	Tanner St	Botheramboo St to Lennox St	N	Permit Zone All Other Times & Public Holidays 1P 7.30am-6pm Mon-Fri		1	1	1	1	1	1	1	1	1	1	1	1	0
0	S	Tanner St	Botheramboo St to Wangaratta St	S	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
1	T	Tanner St	Wangaratta St to Botheramboo St	N	Permit Zone All Other Times & Public Holidays 1P 7.30am-6pm Mon-Fri		4	3	4	4	4	4	4	4	4	3	3	2	2
0	U	Tanner St	Wangaratta St to Woodland St	S	No Stopping		0	0	0	0	0	0	0	0	0	0	0	0	0
1	V	Tanner St	Woodland St to Wangaratta St	N	Permit Zone All Other Times & Public Holidays 1P 7.30am-6pm Mon-Fri		12	9	10	10	11	11	11	10	10	10	8	7	6
1	W	Wangaratta St	Tanner St to Montgomery St	W	1P 7.30am-11pm		9	5	6	7	8	9	7	6	5	7	6	4	4
1	X	Wangaratta St	Montgomery St to Tanner St	E	1P 7.30am-6pm Permit Zone All Other Times & Public Holidays		11	8	8	7	7	7	7	7	7	6	6	5	6

Attachment 7 - Traffic Report Part 1

Table A1

1	Y	Botherambo St	Tanner St to Montgomery St	W	1P 7.30am-6pm		6	3	4	5	5	5	5	4	5	5	4	4	3
1	Z	Botherambo St	Montgomery St to Tanner St	E	Permit Zone All Other Times & Public Holidays 1P 7.30am-6pm Mon-Fri		5	0	2	3	4	5	3	0	2	3	3	2	1
1	AA	Lennox St	Gipps St to Montgomery St	W	2P Angle 7.30am-11pm		5	4	5	5	5	5	5	5	5	5	5	4	4
1					Permit Zone Angle		13	10	9	9	9	8	8	6	6	6	6	7	8
1	BB	Lennox St	Montgomery St to Gipps St	E	2P 7.30am-11pm		2	2	2	1	2	2	2	2	2	1	2	2	2
1					2P 7.30am-11pm		5	4	4	5	5	5	4	3	3	4	4	3	3
1					No Stopping Authorised Car Share Vehicles Excepted		2	1	1	1	1	1	1	0	0	0	0	0	0
1	CC	Cremorne St	Stephenson St to Swan St	W	2P All Other Times	No Stopping 7.30am-9.30am 4.30pm-6.30pm Mon-Fri	4	0	0	0	4	4	4	4	4	4	0	0	0
1	DD	Cremorne St	Swan St to Stephenson St	E	Loading Zone 15 minute 8am-5pm Mon-Fri		1	0	0	0	1	0	0	1	0	0	0	1	1
1					2P 7am-7pm Mon-Sat & Public Hdidays		2	1	2	2	2	2	2	2	2	2	2	2	2
1	EE	Stephenson St	Cremorne St to End	N	Permit Zone Area 10		10	6	7	9	10	9	9	8	8	8	7	7	6
1	FF	Stephenson St	End to Cremorne St	S	4P 7am-7pm		4	2	3	4	4	4	4	4	4	3	2	2	2
1					Loading Zone 7am-6pm Mon-Fri		2	0	0	0	1	2	2	1	1	2	2	1	0
1					Works Zone 7am-6pm Mon-Fri 9am-3pm Sat		3	0	0	0	0	0	0	0	0	0	0	0	0
1	CP1	Stephenson St		N	Pay & Display		68	29	47	65	67	66	67	68	68	60	57	45	38
1					Reserved		2	0	0	0	0	0	0	0	0	0	0	0	0
	PUBLIC CAPACITY							**258**	**253**	**290**	**294**	**294**	**294**	**294**	**294**	**294**	**288**	**272**	**240**
	PUBLIC OCCUPANCIES							**144**	**186**	**226**	**250**	**250**	**248**	**241**	**250**	**228**	**202**	**172**	**126**
	PUBLIC VACANCIES							**114**	**67**	**64**	**44**	**44**	**46**	**53**	**44**	**66**	**86**	**100**	**114**
	PUBLIC % OCCUPANCIES							**56%**	**74%**	**78%**	**85%**	**85%**	**84%**	**82%**	**85%**	**78%**	**70%**	**63%**	**53%**

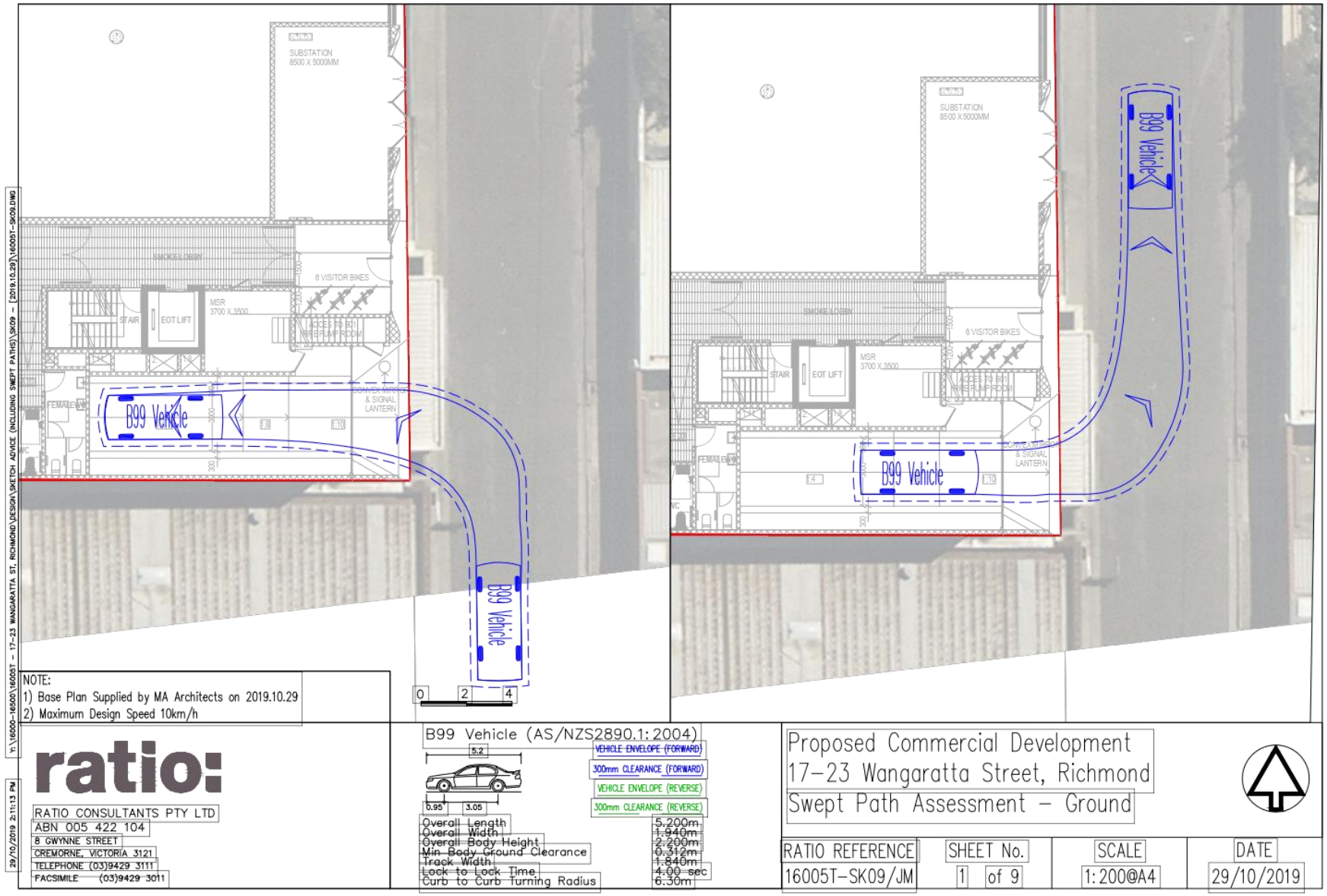
not available for public parking

Ratio Consultants

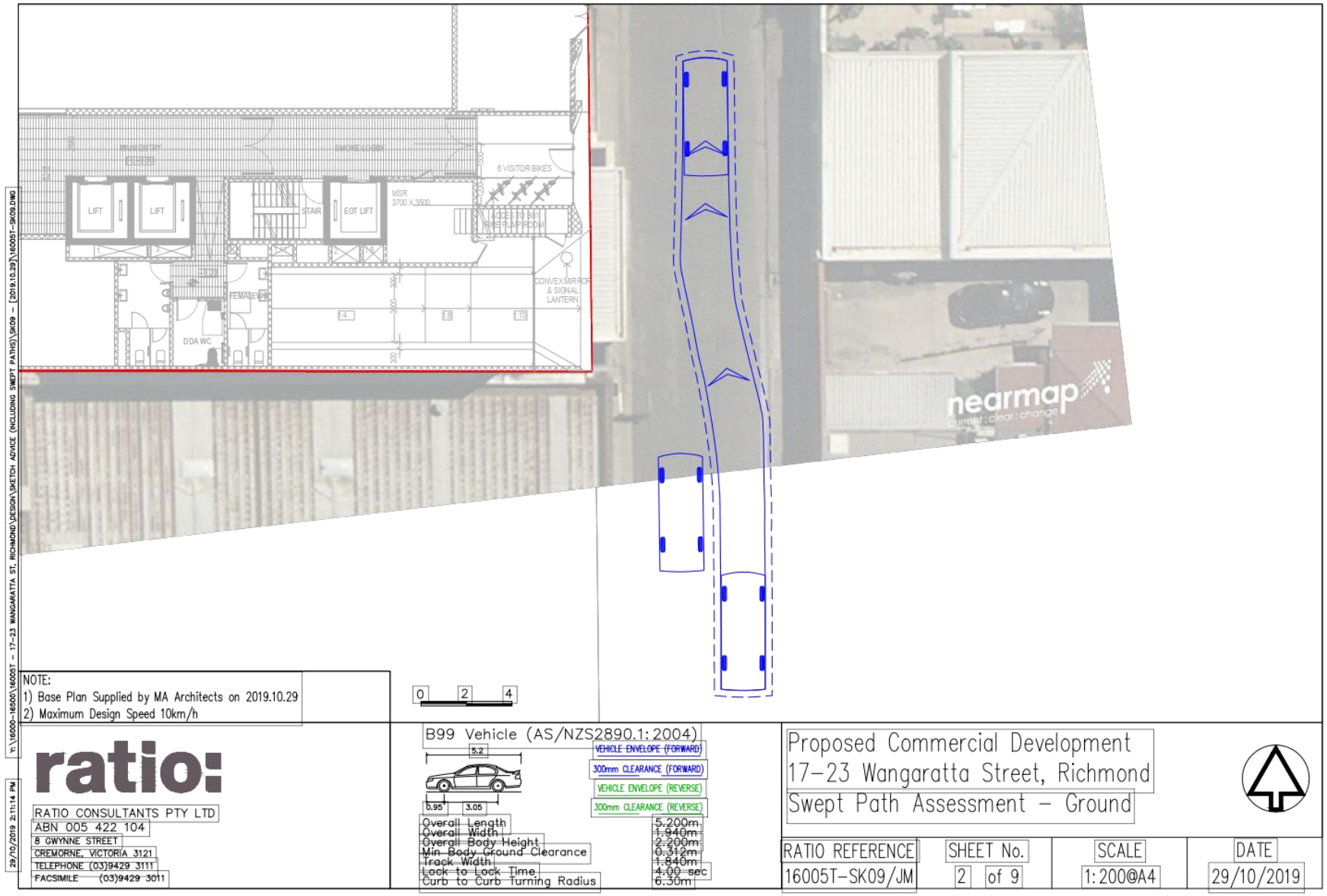
Attachment 7 - Traffic Report Part 1

Appendix B Swept Path Assessment

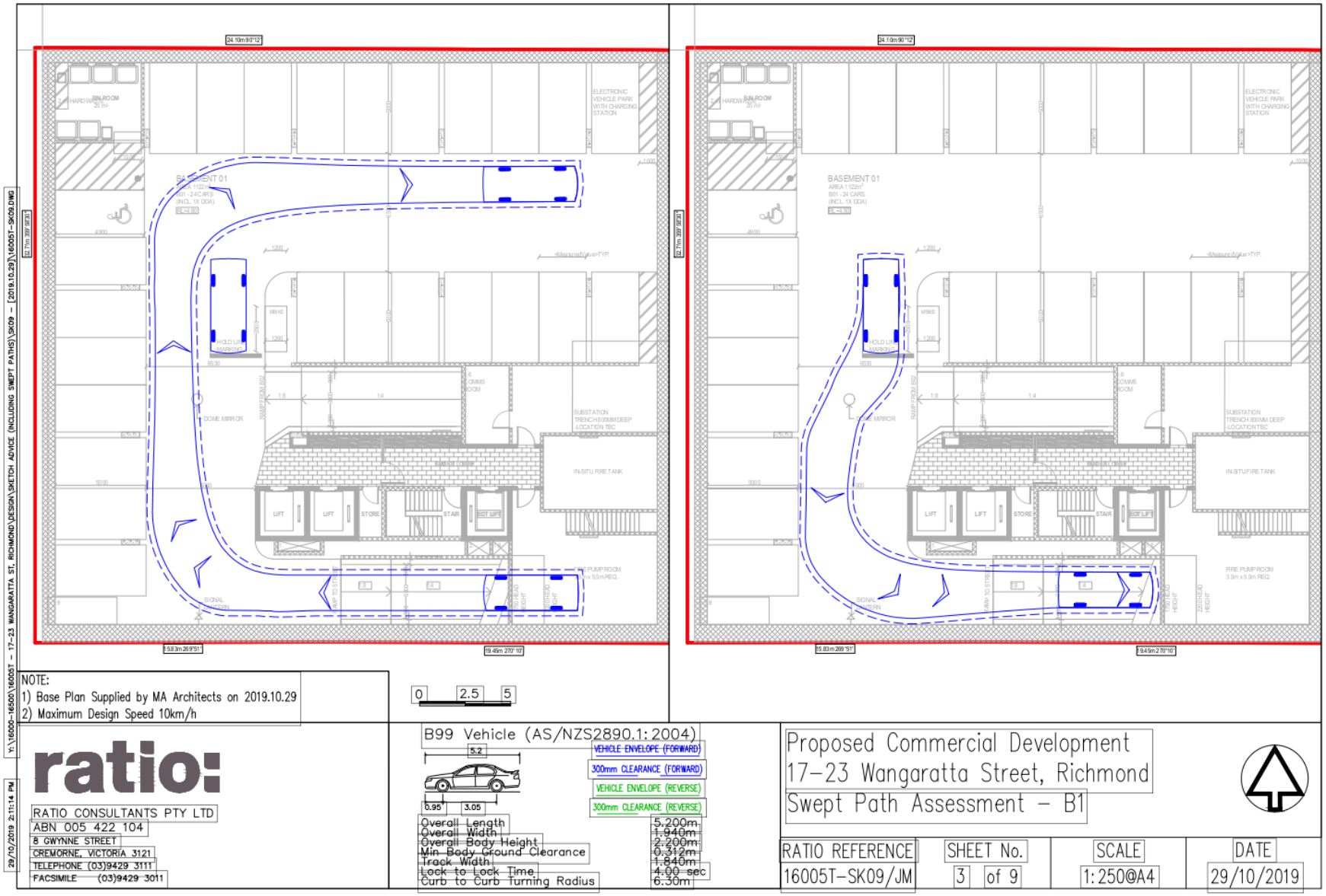
Attachment 7 - Traffic Report Part 1



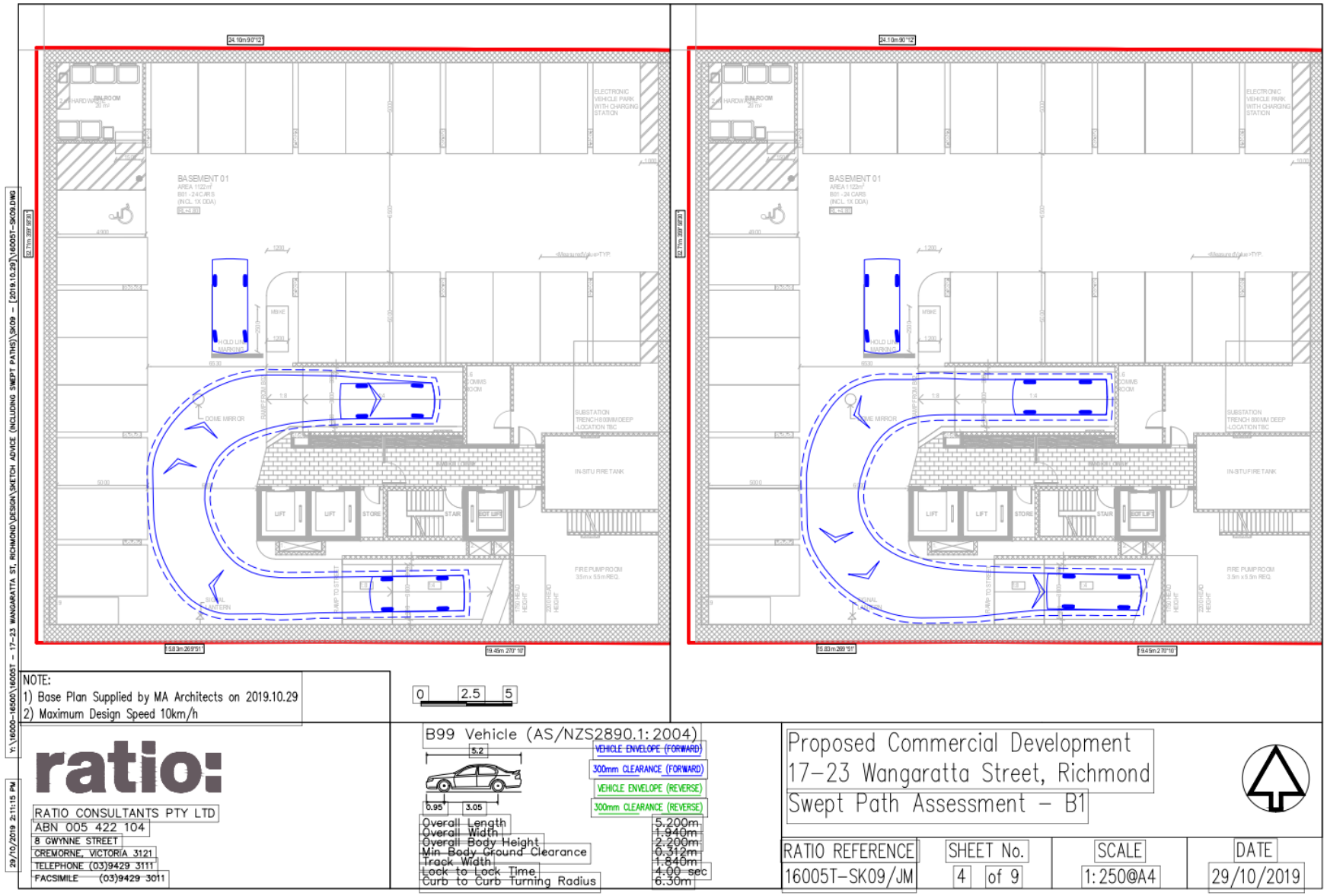
Attachment 7 - Traffic Report Part 1



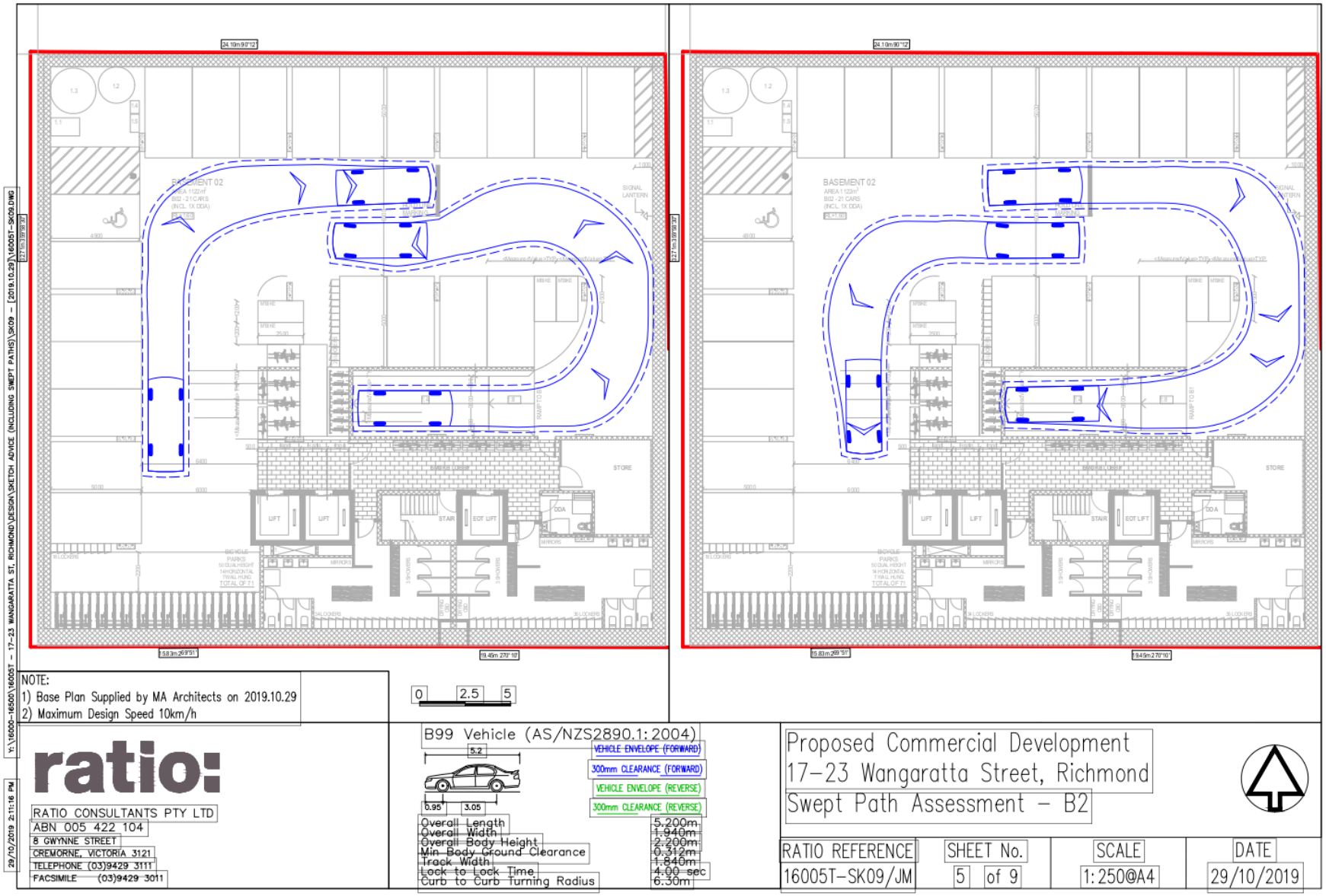
Attachment 7 - Traffic Report Part 1



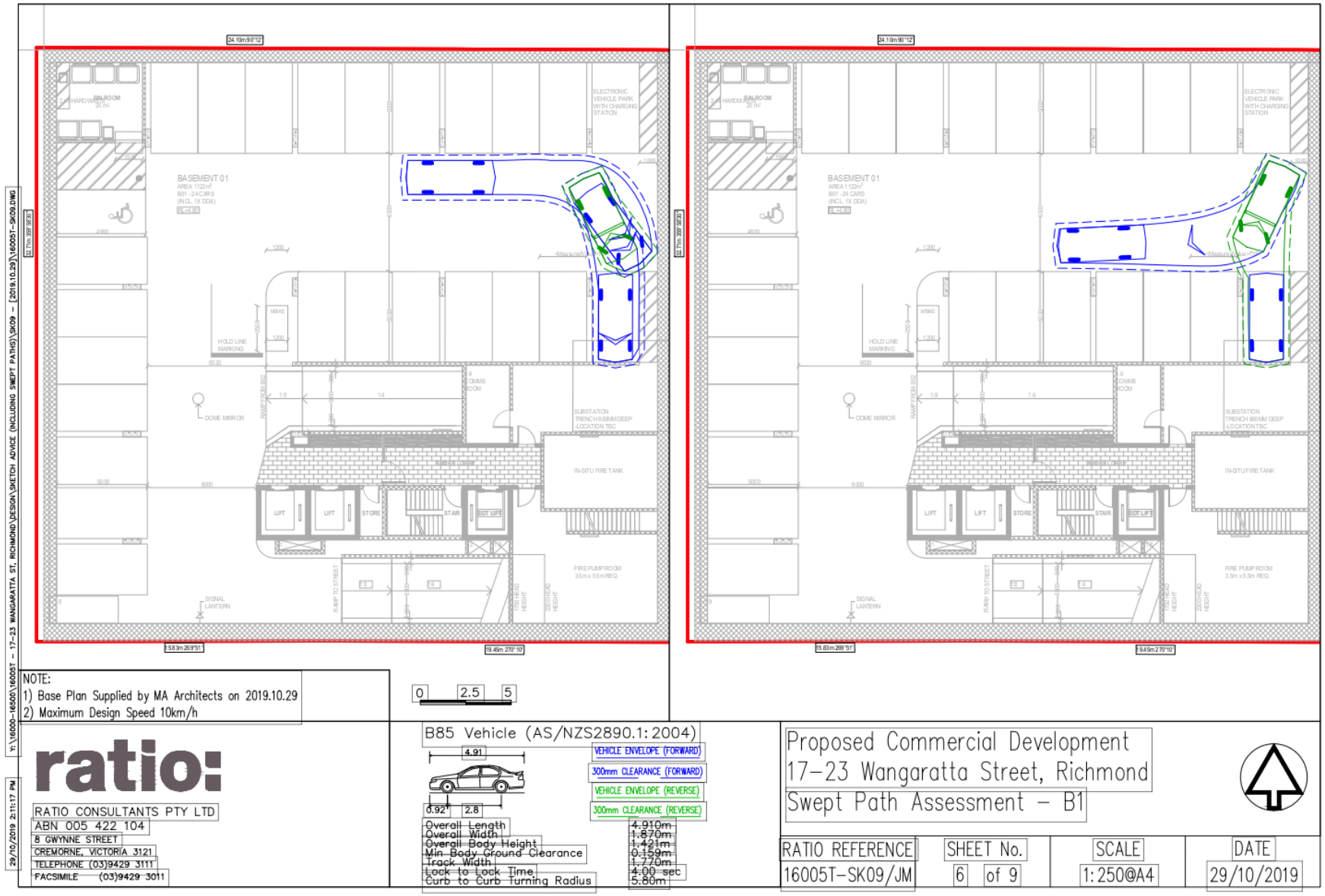
Attachment 7 - Traffic Report Part 1



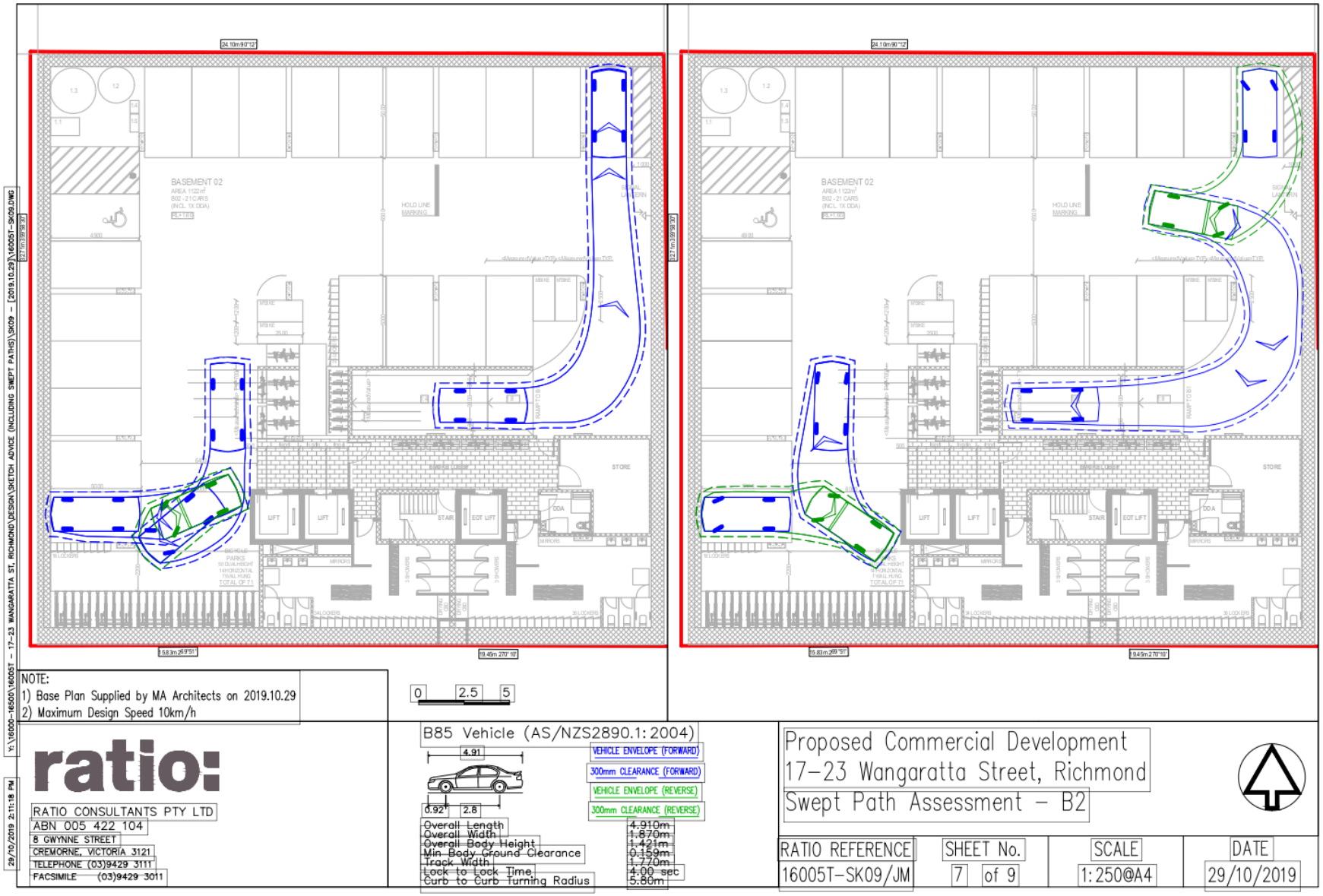
Attachment 7 - Traffic Report Part 1



Attachment 7 - Traffic Report Part 1



Attachment 7 - Traffic Report Part 1



Attachment 7 - Traffic Report Part 1

Appendix C Bicycle Parking Specifications

Attachment 7 - Traffic Report Part 1

Arc de Triomphe™



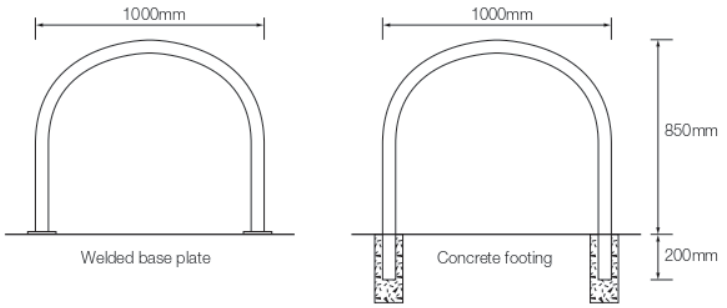
Galvanised finish / Stainless Steel finish

Features



- Each rail supports two adult bikes in an upright position
- Can be either bolted to a concrete slab or concreted in situ
- Available in stainless steel or galvanised steel
- Provides the ability to lock both wheels and frame
- Suitable for foyers and entry areas

Dimensions



Specifications

Material options

- Galvanised (Duragal)
- 316 Marine grade stainless steel

Fixing options

- Welded flange - Bolt on
- In situ

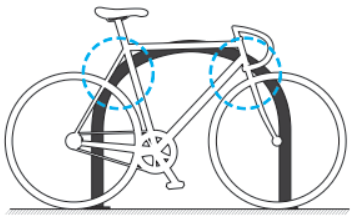
Recommended fasteners

- Galvanised Dynabolts (M10 x 65mm)
- Stainless Dynabolts (M10 x 65mm)
- Shear Nut security fasteners

Dimensions

1000mm [w] x 850mm [h]

Locking Points



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BICYCLE NETWORK BIKE PARKING

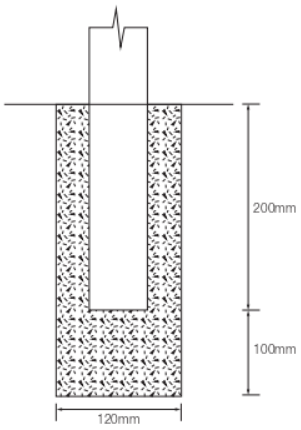
DESIGN. SUPPLY. INSTALL.

Bicycle Network ABN 41 026 835 903
p. 1300 727 563 e. parking@bicyclenetwork.com.au bikeparking.com.au
VIC Level 4, 246 Bourke Street, Melbourne VIC 3000 NSW 234 Crown Street, Darlinghurst NSW 2010
TAS 210 Collins Street, Hobart TAS 7000 NT Suite 5, 18-20 Cavenagh Street, Darwin 0800

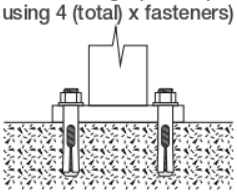
Attachment 7 - Traffic Report Part 1

Fixing options

In situ (Concrete footing)

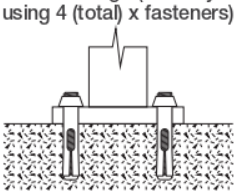


Welded flange (Bolt on)
using 4 (total) x fasteners)



Shown with M10 x 65mm fastener

Welded flange (Security heads)
using 4 (total) x fasteners)

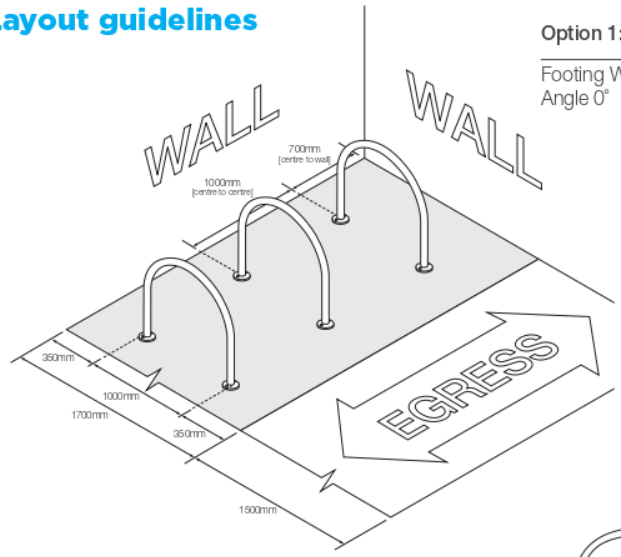


Shown with M10 x 65mm Shear Nuts

Layout guidelines

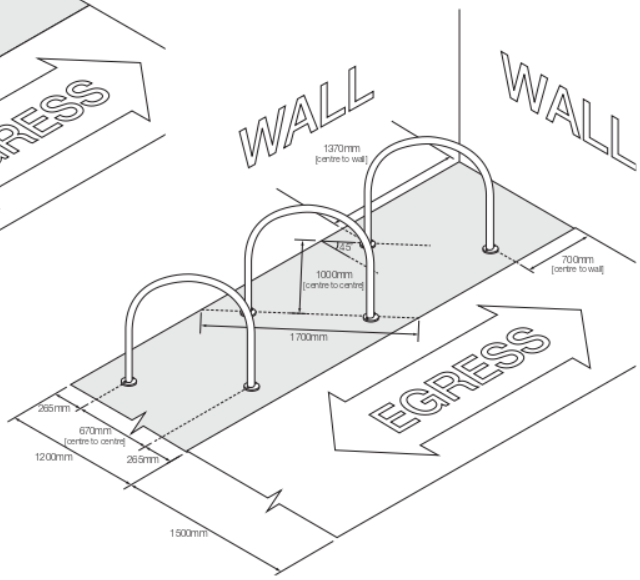
Option 1:

Footing Width 1700mm
Angle 0°

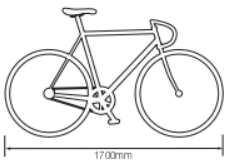


Option 2:

Footing Width 1200mm
Angle 45°



Typical Bicycle Length



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BICYCLE NETWORK BIKE PARKING

DESIGN. SUPPLY. INSTALL.

Bicycle Network ABN 41 026 835 903
p. 1300 727 563 e. parking@bicyclenetwork.com.au bikeparking.com.au
VIC Level 4, 246 Bourke Street, Melbourne VIC 3000 NSW 234 Crown Street, Darlinghurst NSW 2010
TAS 210 Collins Street, Hobart TAS 7000 NT Suite 5, 18-20 Cavenagh Street, Darwin 0800

Attachment 7 - Traffic Report Part 1

Ned Kelly™



Zinc finish



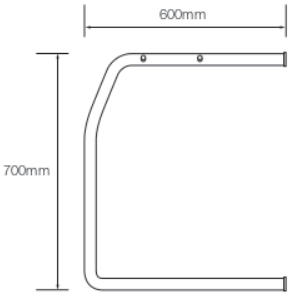
Black powder coat finish

Features



- Each rail provides storage for a single bike
- Suits bikes with full length mud guards
- Available in Zinc finish or Black powder coat over mild steel
- Provides the ability to lock the main frame and one wheel
- Support prongs with protective coating prevent damage to rim
- Can be used with custom framing – no wall needed

Dimensions



SIDE



FRONT

Specifications

Material options

- Zinc finish
- Black powder coat over mild steel
- Stainless steel - *Pre-order only*

Fixing options

- Bolt on to wall
- Fixed to support framing

Recommended fasteners – wall

- Dynabolts (M8 x 40mm)
- Shear Nut security fasteners

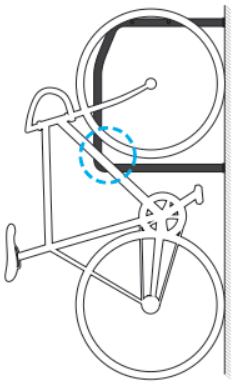
Recommended fasteners – framing

- Bolt and nut (M10 x 60mm)
- Tek screws

Dimensions

125mm [w] x 700mm [h] x 600mm [d]

Locking Points



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BICYCLE NETWORK BIKE PARKING

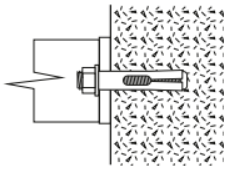
DESIGN. SUPPLY. INSTALL.

Bicycle Network ABN 41 026 835 903
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VIC Level 4, 246 Bourke Street, Melbourne VIC 3000 NSW 234 Crown Street, Darlinghurst NSW 2010
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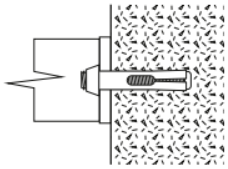
Attachment 7 - Traffic Report Part 1

Fixing options

Fix to a wall using 4x fasteners or Shear Nuts

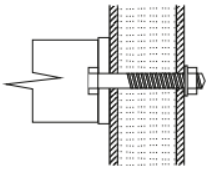


Shown with M8 x 40mm fastener

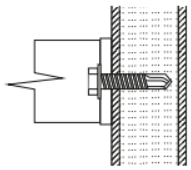


Shown with M8 x 40mm Shear Nuts

Fix to a frame using 4x bolts or Tek Screws

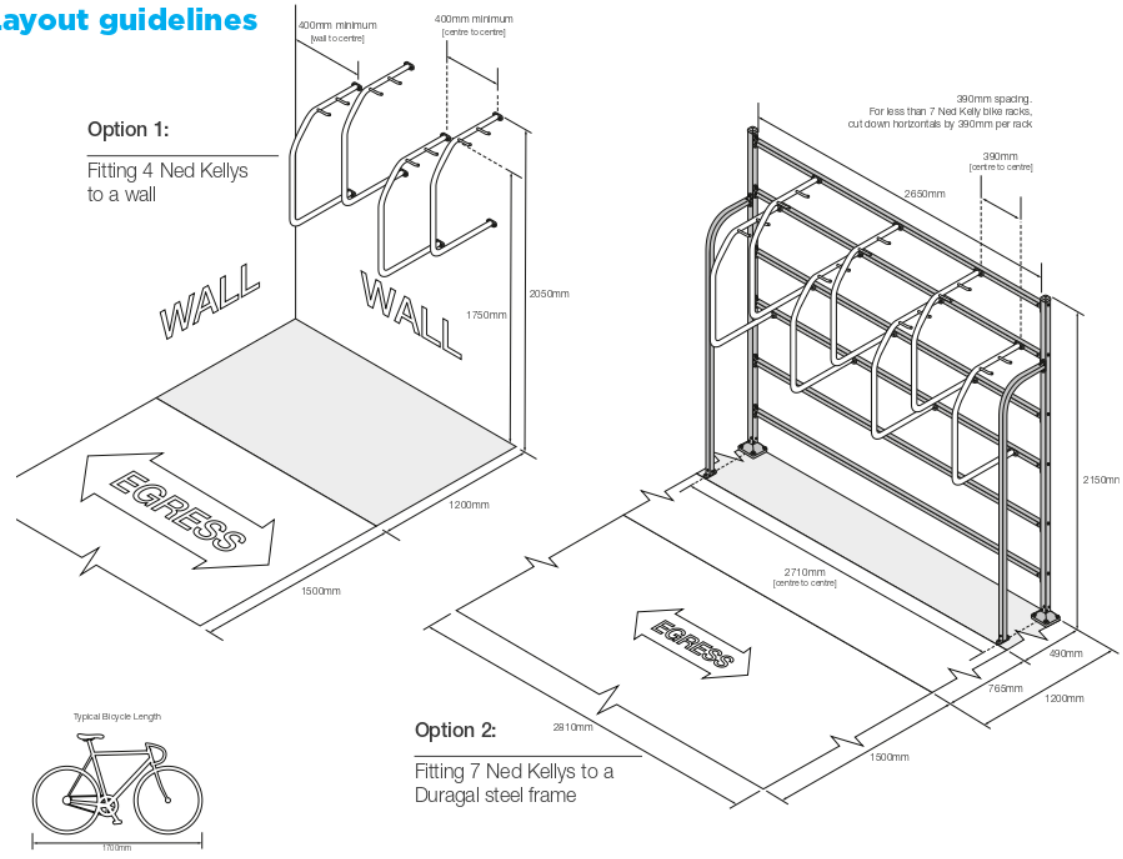


Shown with M10 x 60mm Bolt, Washer & Nut



Shown with Tek Screw

Layout guidelines



V4.1 - 1/05/2017 | Specification may be subject to change without notice. ©Bicycle Network

BICYCLE NETWORK BIKE PARKING

DESIGN. SUPPLY. INSTALL.
Bicycle Network ABN 41 026 835 903
p. 1300 727 563 e. parking@bicyclenetwork.com.au bikeparking.com.au
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TAS 210 Collins Street, Hobart TAS 7000 NT Suite 5, 18-20 Cavenagh Street, Darwin 0800

Attachment 8 - Traffic Report Part 2

Product Range

✆ 1300 780 450

Bicycle Racks > Horizontal

CBR10GS
Dual Height

Double Height Storage

The CBR10GS is a cost effective dual height bike rack that accommodates parking for 10 bicycles. Staggered heights allow bicycles to be packed closer together without clashing of handlebars.

Gas Strut Lift

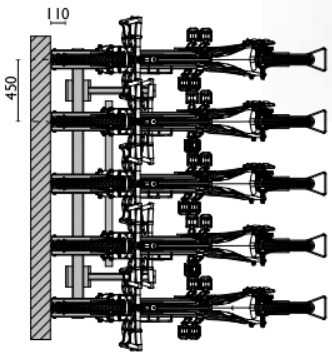


Supplied in knock down kit form for easy bolt-together assembly on site.

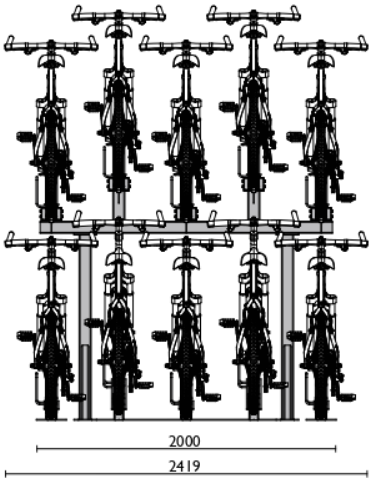
Each CBR10GS rack parks 10 bicycles

10 BIKE PARKING

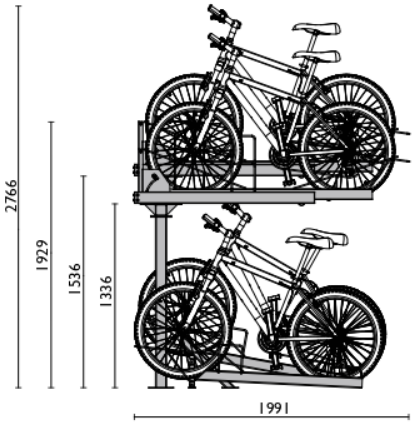
Top View



End View



Side View



Material Specifications (General)

Frame	80 x 80 x 3mm SHS
Extensions	2mm / 3mm mild steel plate / 8mm mild steel bar
Finish	Hot dipped galvanised

Attachment 8 - Traffic Report Part 2

Product Range

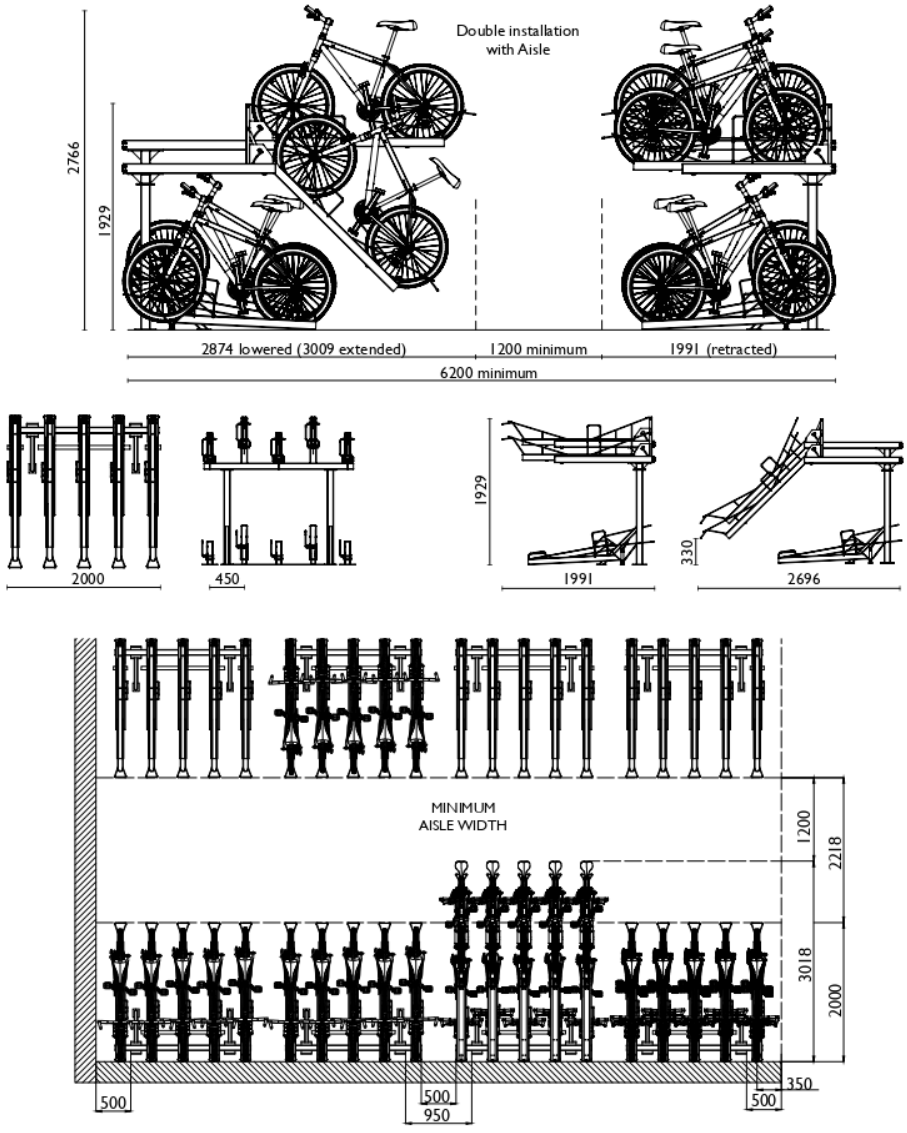
1300 780 450

Bicycle Racks > Horizontal

CBR10GS
Dual Height

Installation layouts

Securabike offers a free design and layout service to assist architects and builders.
You can also use the information below to make the best use of the space available.



Material Specifications (General)

Frame	80 x 80 x 3mm SHS
Extensions	2mm / 3mm mild steel plate / 8mm mild steel bar
Finish	Hot dipped galvanised

Attachment 9 - Wind Impact Assessment

Vipac Engineers and Scientists Limited
279 Normanby Rd, Port Melbourne, VIC 3207, Australia
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t. +61 3 9647 9700 | **f.** +61 3 9646 4370 | **e.** melbourne@vipac.com.au
w. www.vipac.com.au | A.B.N. 33 005 453 627 | A.C.N. 005 453 627

Vipac Engineers & Scientists

17 Wangaratta Street Pty Ltd, c/o Neoscape

17-23 Wangaratta Street, Richmond

Wind Impact Assessment



30N-19-0225-TRP-6767005-4

1 November 2019

Melbourne • Sydney • Adelaide • Brisbane

Attachment 9 - Wind Impact Assessment

Report Title: Wind Impact Assessment **Job Title: 17-23 Wangaratta Street, Richmond**	
DOCUMENT NO: 30N-19-0225-TRP-6767005-4 **PREPARED FOR:** 17 Wangaratta Street Pty Ltd, c/o Neoscape Suite 4, Level 1 300 Gillies Street N, Wendouree, Victoria, 3355 **CONTACT:** Alastair Wilson / Paul Myers **Tel:** 04 3808 5458 **Fax:**	**REPORT CODE:** TRP **PREPARED BY:** Vipac Engineers and Scientists Limited 279 Normanby Rd, Port Melbourne, VIC 3207, Australia **Tel:** +61 3 9647 9700 **Fax**: +61 3 9646 4370

PREPARED BY:		
Author:	Matthew Beames Project Engineer	Date: 1 Nov 2019
REVIEWED BY:		
Reviewer:	Eric Yuen Wind Engineer	Date: 1 Nov 2019
AUTHORISED BY:	Sophie Lamande Wind Group Leader	Date:1 Nov 2019

REVISION HISTORY		
Revision No.	Date Issued	Reason/Comments
0	01/10/2019	Initial Issue
1	29/10/2019	Updated Drawings
2	30/10/2019	Updated Drawings
3	01/11/2019	Updated Drawings
4	01/11/2019	Minor Adjustments

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Attachment 9 - Wind Impact Assessment

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EXECUTIVE SUMMARY

17 Wangaratta Street Pty Ltd, c/o Neoscape commissioned Vipac Engineers and Scientists Pty Ltd to prepare a statement of wind effects for the proposed development at **17-23 Wangaratta Street, Richmond.** This appraisal is based on Vipac's experience as a wind-engineering consultancy.

Drawings of the proposed development were supplied by **MA Architects Pty Ltd** in **November 2019**, as described in Appendix C of this report.

The findings of this study can be summarised as follows:

With proposed design:

- Wind conditions in the ground level footpath areas would be expected to be within the **walking** comfort criterion;
- Wind conditions in the building entrance areas would be expected to be within the **standing** comfort criterion;
- Wind conditions for terrace areas on level 3 and the roof level are expected to be within the **walking** comfort criterion.

As such, Vipac makes no recommendation for the alteration of the design as proposed for the wind environment.

As a general statement, educating occupants about wind conditions at open terrace/balcony areas during high-wind events and fixing loose, lightweight furniture on the terrace are highly recommended.

The assessments provided in this report have been made based on experience of similar situations in Melbourne and around the world. As with any opinion, it is possible that an assessment of wind effects based on experience and without experimental validation may not account for all complex flow scenarios in the vicinity.

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Attachment 9 - Wind Impact Assessment

1 INTRODUCTION

Vipac Engineers and Scientists has been commissioned by **17 Wangaratta Street** Pty Ltd, c/o Neoscape to carry out an assessment of the pedestrian wind effects at the ground level and open spaces of the proposed development at **17-23 Wangaratta Street, Richmond.**

Strong winds in pedestrian areas are frequently encountered in central business districts of cities around the world; including Sydney, Melbourne and Brisbane. Wind characteristics such as the mean speed, turbulence and ambient temperature determine the extent of disturbance to users of pedestrian areas. These disturbances can cause both comfort and safety problems and require careful consideration to mitigate successfully.

The proposed development is an 8-storey building, with a maximum height of 28 m from street level. The site is bounded by Wangaratta Street to the west, Tanner Street to the north, Botherambo Street to the east, and an existing building to the south. A satellite image of the proposed development site and the east elevation are shown in Figure 1 and Figure 2 respectively.

This report details the opinion of Vipac as an experienced wind engineering consultancy regarding the wind effects in ground level footpath areas adjacent to the development as proposed. No wind tunnel testing has been carried out for this development at this stage. Vipac has carried out wind tunnel studies on a large number of developments of similar shape and having similar exposure to that of the proposed development. These serve as a valid reference for the prediction of wind effects. Empirical data for typical buildings in boundary layer flows has also been used to estimate the likely wind conditions on the ground level areas of the proposed development [2] & [3].

Drawings of the proposed development were supplied to Vipac by **MA Architects Pty Ltd** in **November 2019**. A list of drawings supplied is provided in Appendix C of this report.



Figure 1: Aerial view of the proposed development site.

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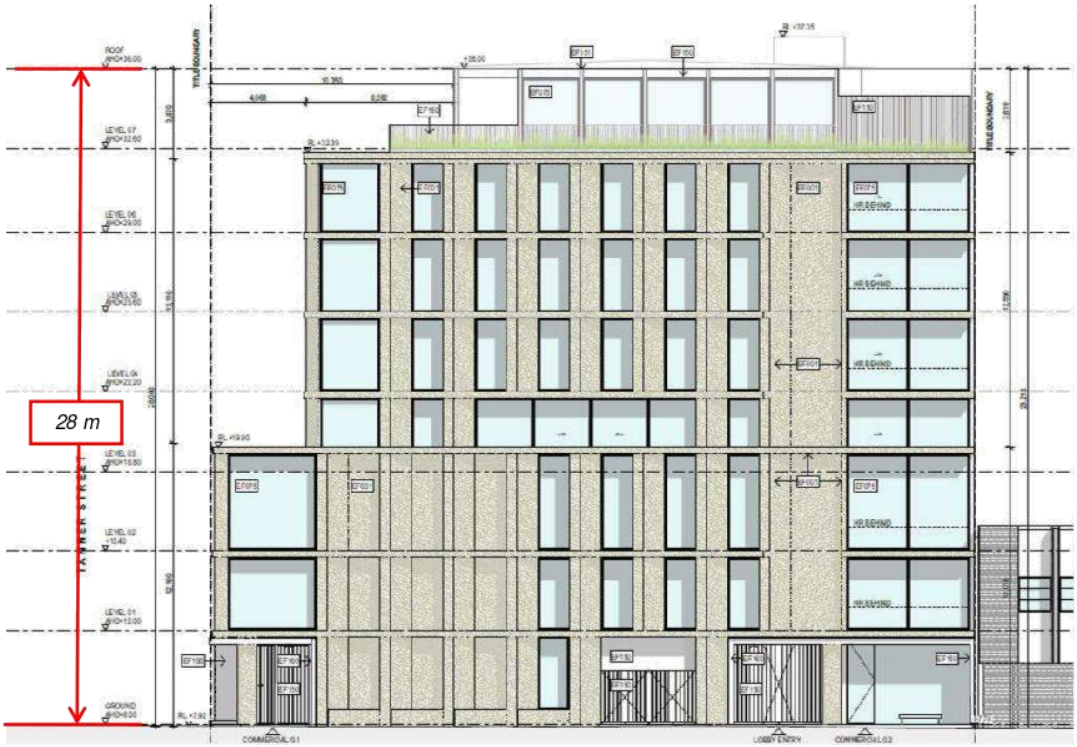


Figure 2: West Elevation of the proposed development.

2 ANALYSIS APPROACH

In assessing whether a proposed development is likely to generate adverse wind conditions in ground level footpath areas, Vipac has considered five main points:

- The exposure of the proposed development to wind
- The regional wind climate
- The geometry and orientation of the proposed development
- The interaction of flows with adjacent developments
- The assessment criteria, determined by the intended use of the areas affected by wind flows generated or augmented by the proposed development.

The pedestrian wind comfort at specific locations of ground level footpath areas may be assessed by predicting the worst annual 3-second wind gust expected at that location. The location may be deemed generally acceptable for its intended use if the annual 3-second gust is within the threshold values noted in Section 2.5. Where Vipac predicts that a location would not meet its appropriate comfort criterion, the use of wind control devices and/or local building geometry modifications to achieve the desired comfort rating may be recommended. For complex flow scenarios or where predicted flow conditions are well in excess of the recommended criteria, Vipac recommends scale model wind tunnel testing to determine the type and scope of the wind control measures required to achieve acceptable wind conditions.

2.1 SITE EXPOSURE

The proposed development is predominantly surrounded within a 2 km radius by residential dwellings, with parklands to the west and the Melbourne CBD further away to the NW. A satellite image of these site surroundings is shown in Figure 3.

Considering the immediate surroundings and terrain, the site of the proposed development is assumed to be within Terrain Category 2.5 for directions SW to NW and Terrain Category 3 for all other directions (Figure 3).

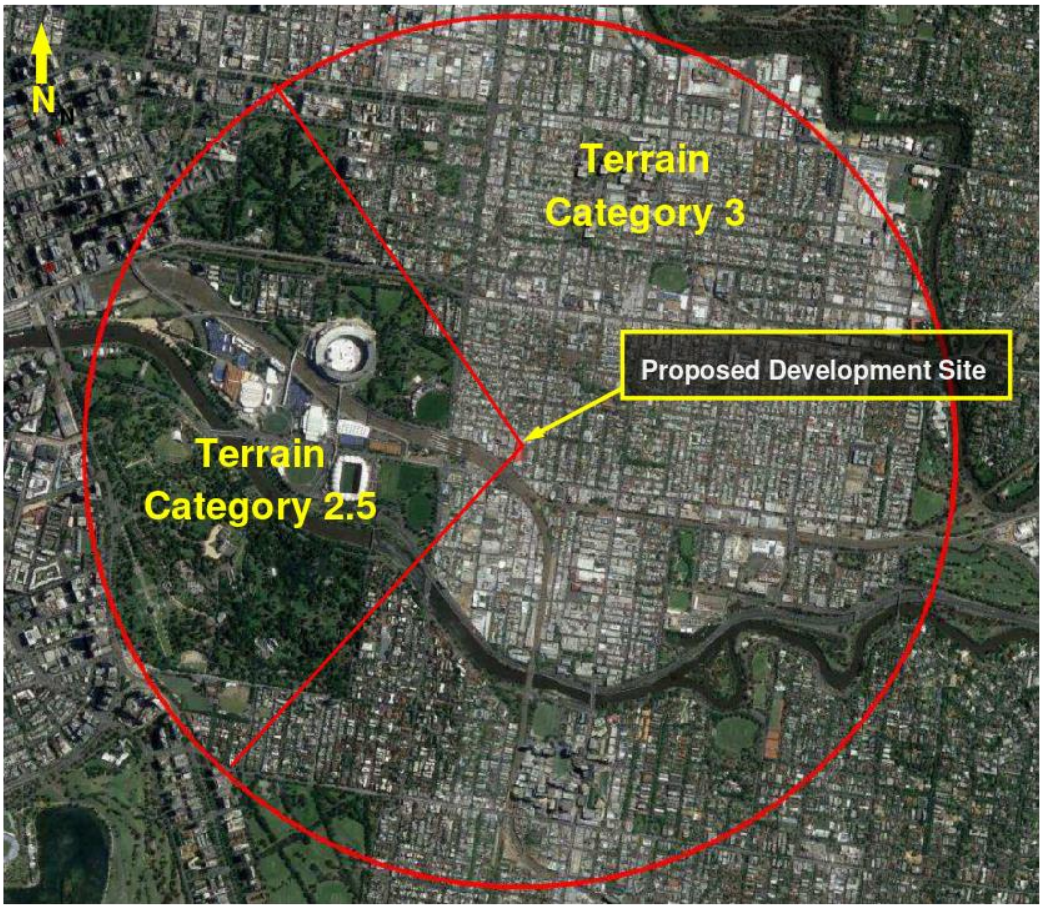


Figure 3: Assumed terrain roughness for wind speed estimation.

2.2 REGIONAL WIND CLIMATE

The mean and gust wind speeds have been recorded in the Melbourne area for 30 years. These data have been analysed and the directional probability distribution of wind speeds have been determined. The directional distribution of hourly mean wind speed at the gradient height (≈500m), with a probability of occurring once per year (i.e. 1 year return period) is shown in Figure 4. The wind data at this free stream height are common to all Melbourne city sites and may be used as a reference to assess ground level wind conditions at the site. Figure 4 indicates that the stronger winds can be expected from the northerly, southerly, and westerly directions.

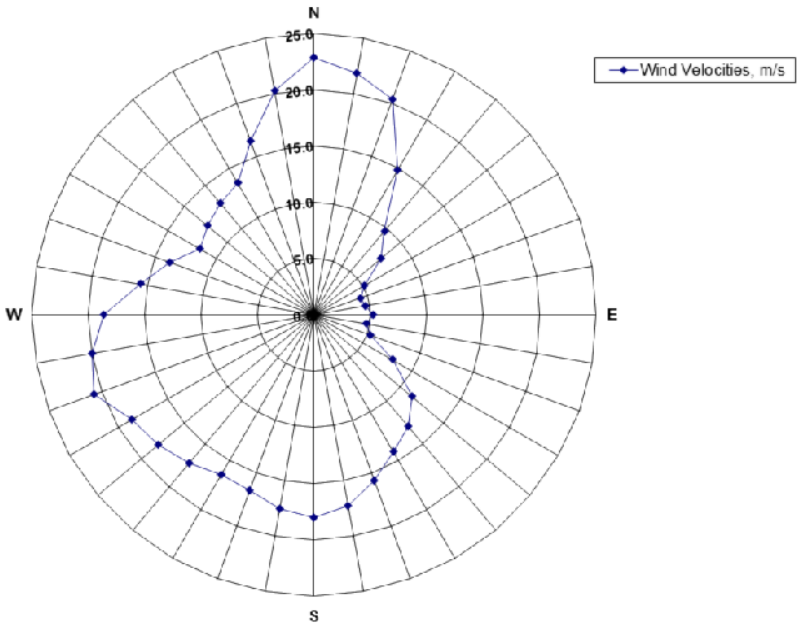


Figure 4: Directional Distribution of Annual Return Period Maximum Mean Hourly Wind Velocities (m/s) at gradient height of 500m in Melbourne.

2.3 BUILDING GEOMETRY AND ORIENTATION

The proposed development has a rectangular plan, with the dimensions of approximately 35 m x 33 m shown in Figure 5. The building has a maximum height of approximately 28 m from street level (Figure 2).

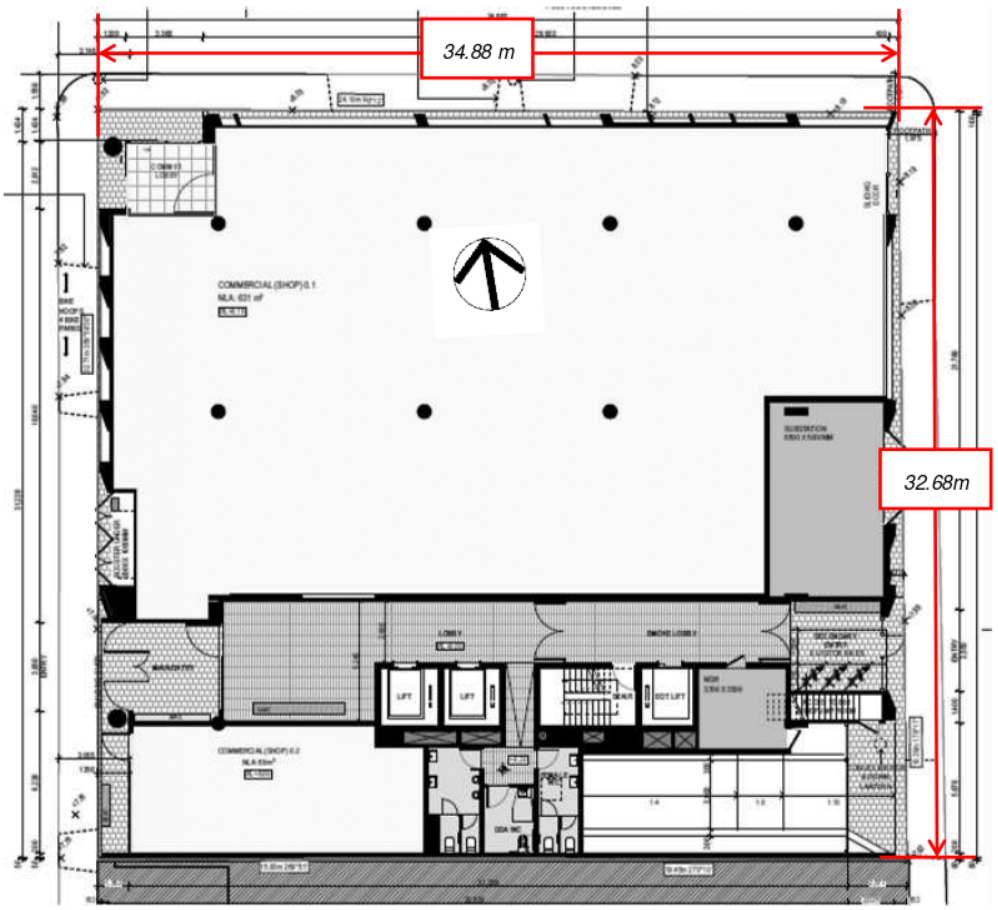


Figure 5: Ground level plan of the proposed development.

2.4 FLOW INTERACTIONS WITH ADJACENT DEVELOPMENTS

The immediately adjacent developments are shown in Figure 6. There are buildings varying from 1-4 storeys surrounding the development. Building to the south from 25-43 Wangaratta Street is currently 2 storeys however, there is a proposed future 8 storey building for this site. The development is significantly taller than the surrounding buildings with exception to future building to the south, meaning raised deck areas will be exposed to high regional north and west-southwest winds.

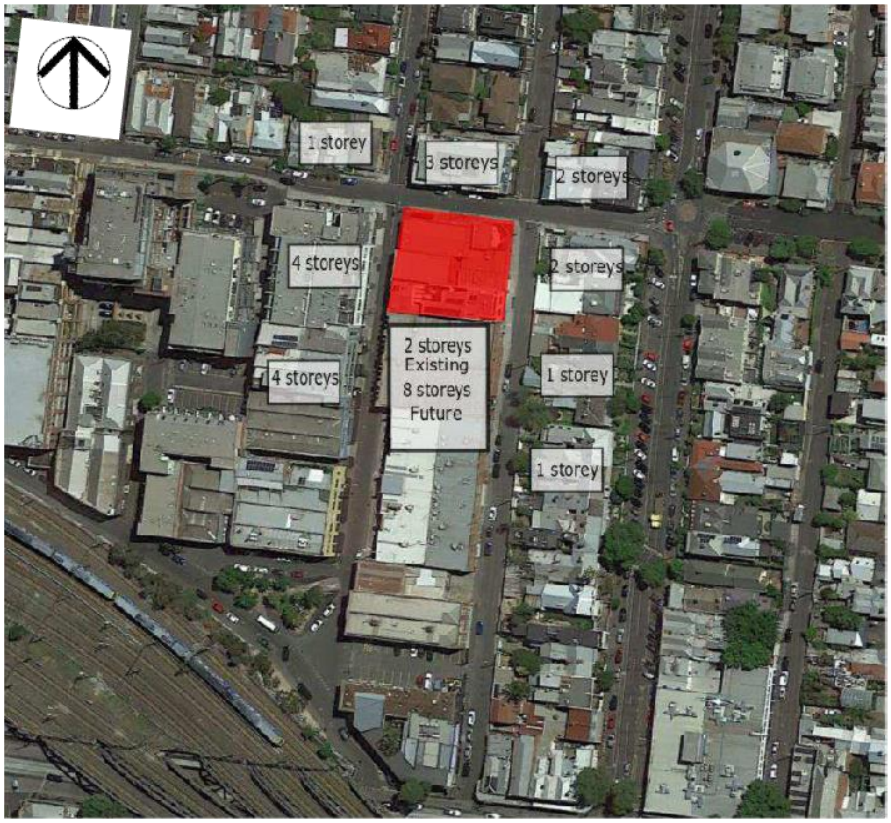


Figure 6: Immediately adjacent surroundings and their heights storeys.

2.5 ASSESSMENT CRITERIA

With some consensus of international opinion, pedestrian wind comfort is rated according to the suitability of certain activities at a site in relation to the expected annual peak 3-second gust velocity at that location for each wind direction. Each of the major areas around the site are characterised by the annual maximum gust wind speeds. Most patrons may consider a site generally unacceptable for its intended use if it were probable that during one annual wind event, a peak 3-second gust occurs which exceeds the established comfort threshold velocity. If that threshold is exceeded once per year then it is also likely that during moderate winds, noticeably unpleasant wind conditions may result, and the windiness of the location may be voted as unacceptable.

The threshold gust velocity criteria are:

Table 1: Gust Velocity Criteria - Recommended Wind Speeds for Comfort and Safety

Annual Maximum Gust Speed	Result on Perceived Pedestrian Comfort
>23m/s	Unsafe (frail pedestrians knocked over)
<20m/s	Acceptable for **fast walking** (waterfront or particular walking areas)
<16m/s	Acceptable for **walking** (steady steps for most pedestrians)
<13m/s	Acceptable for **standing** (window shopping, vehicle drop off, queuing)
<11m/s	Acceptable for **sitting** (outdoor cafés, gardens, park benches)

In a similar manner, a set of hourly mean velocity criteria with a 0.1% probability of occurrence are also applicable to ground level areas in and adjacent to the proposed Development. An area should be within both the relevant mean and gust limits in order to satisfy the particular human comfort and safety criteria in question.

The threshold mean velocity criteria are:

Table 2: Mean Velocity Criteria - Recommended Wind Speeds for Comfort and Safety

Mean wind speed exceeded 0.1% of the time	Result on Perceived Pedestrian Comfort
>15m/s	Unsafe (frail pedestrians knocked over)
<13m/s	Acceptable for **fast walking** (waterfront or particular walking areas)
<10m/s	Acceptable for **walking** (steady steps for most pedestrians)
<7m/s	Acceptable for **standing** (window shopping, vehicle drop off, queuing)
<5m/s	Acceptable for **sitting** (outdoor cafés, gardens, park benches)

The Beaufort Scale is an empirical measure that related the wind speed to observed conditions on the land and sea. Table 3 describes the categories of the Beaufort Scale. The comparison between these observed conditions and the comfort criteria described above can be found in Table 4.

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Table 3: Beaufort Scale - empirical measure relating wind speed to observed conditions on land

Beaufort Number	Descriptive Term	Wind Speed at 1.75 m height (m/s)	Specification for Estimating Speed
0	Calm	0-0.1	
1	Light Air	0.1-1.0	No noticeable wind
2	Light Breeze	1.1-2.3	Wind felt on face
3	Gentle Breeze	2.4-3.8	Hair disturbed, clothing flaps, newspapers difficult to read
4	Moderate Breeze	3.9-5.5	Raises dust and loose paper; hair disarranged
5	Fresh Breeze	5.6-7.5	Force of wind felt on body, danger of stumbling when entering a windy zone
6	Strong Breeze	7.6-9.7	Umbrellas used with difficulty, hair blown straight, difficult to walk steadily, sideways wind force about equal to forwards wind force, wind noise on ears unpleasant
7	Near Gale	9.8-12.0	Inconvenience felt when walking
8	Gale	12.1-14.5	Generally impedes progress, great difficulty with balance in gusts
9	Strong Gale	14.6-17.1	People blown over

Table 4: Comparison between Mean comfort criteria and the observed conditions

Comfort Criteria	Beaufort Scale Equivalent
Safety	9 – Strong Gale
Walking	5 – Fresh Breeze
Standing	4-5 – Moderate to Fresh Breeze
Sitting	<4 – Moderate Breeze

2.5.1 USE OF ADJACENT PEDESTRIAN OCCUPIED AREAS & RECOMMENDED COMFORT CRITERIA

The following table lists the specific areas adjacent to the proposed development and the corresponding recommended criteria.

Table 5: Recommended application of criteria

Area	Specific location	Recommended Criteria
Public Footpaths, Access ways and Courtyards	Around the proposed development along Wangaratta Street, Tanner Street and Botherambo Street (Figure 7)	Walking
Building entrances	Several locations (Figure 7)	Standing
Terrace areas	Level 3 and level 7 (Figure 8 & Figure 9)	Walking (Refer to discussion below)

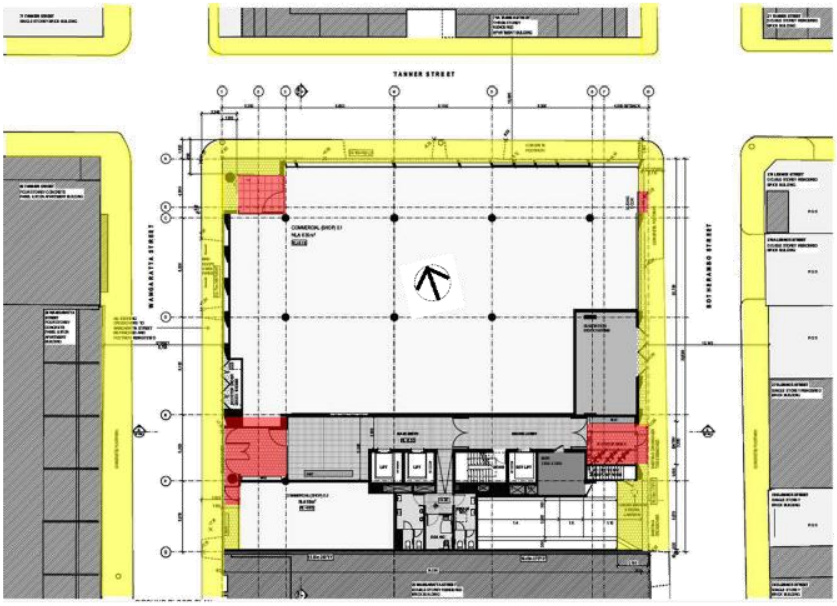
2.5.2 TERRACE AND ROOFTOP AREAS RECOMMENDED CRITERION DISCUSSION

Terrace areas are located on level 3 and the roof level of the proposed development. Vipac recommends as a minimum that balcony/rooftop terrace areas meet the criterion for walking since:

- these areas are not public spaces;
- the use of these areas is optional;
- many similar developments in Melbourne and other Australian capital cities experience wind conditions on balconies and elevated deck areas in the vicinity of the criterion for walking.

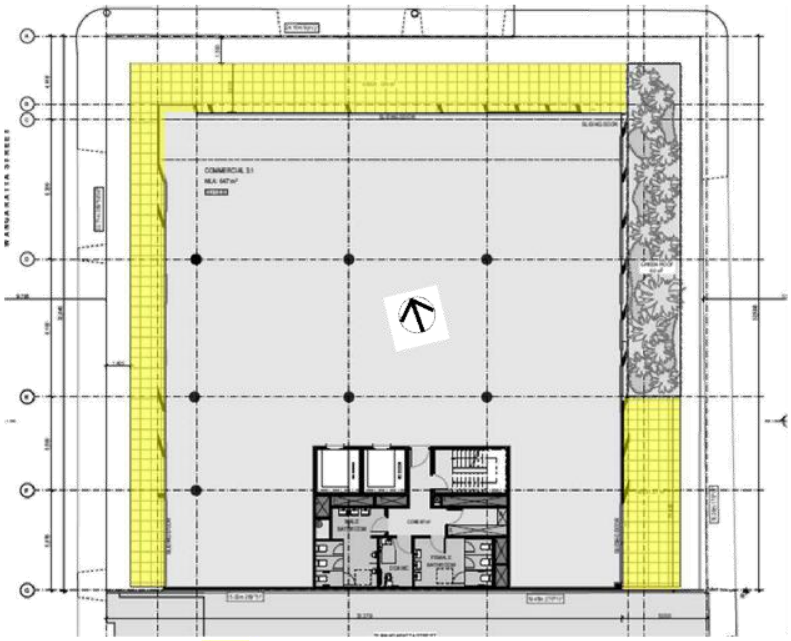
However, it should be noted that meeting the walking criterion on elevated recreation areas will be no guarantee that occupants will find wind conditions in these areas acceptable at all times.

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Recommended to fulfil Walking Recommended to fulfil Standing

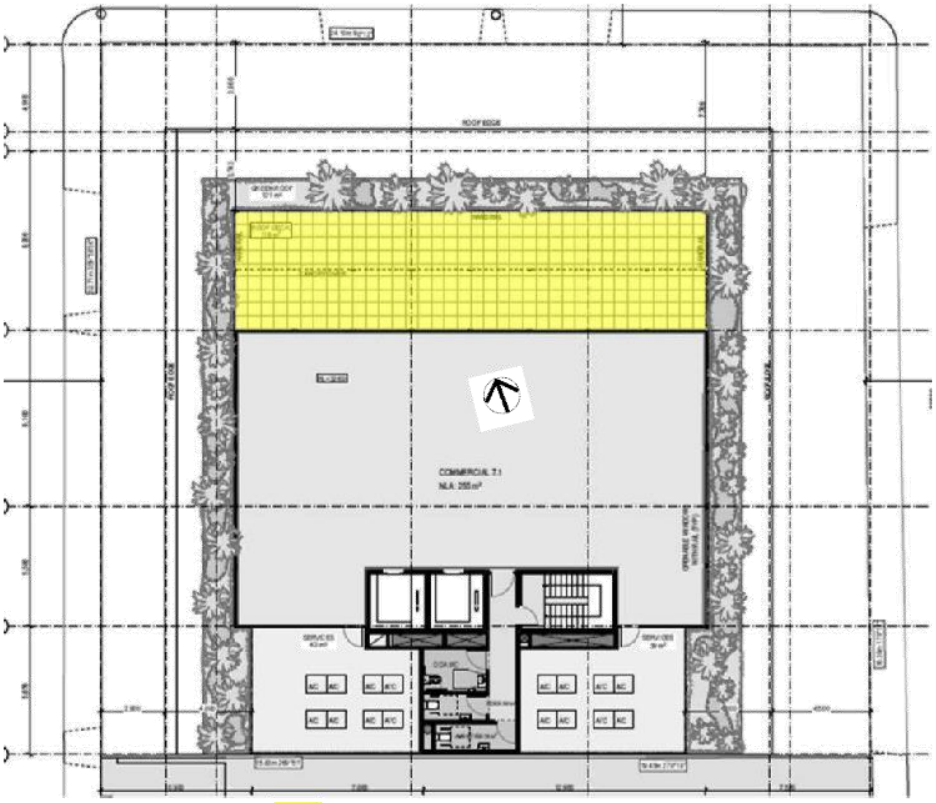
Figure 7: Schematic plan view of the ground floor with recommended wind criteria overlaid



Recommended to fulfil Walking

Figure 8: Schematic plan view of level 3 with recommended wind criteria overlaid

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Recommended to fulfil Walking

Figure 9: Schematic plan view of roof level with recommended wind criteria overlaid

Attachment 9 - Wind Impact Assessment

3 PEDESTRIAN LEVEL WIND EFFECTS

3.1 DISCUSSION

Ground Level

Pathways

Pathway along Tanner Street is exposed to direct northerly winds and the pathways adjacent to the development on Wangaratta St and Botherambo St are exposed to northerly and southerly winds channelling along the streets. Considering the wind climate at the site, it is not expected that downwash will be a major concern at the ground level. The corner at Tanner St and Wangaratta St has been set back entrance behind a full height porous gate with vertical bars, this feature will ameliorate the effects of corner acceleration at this location.

As such, Vipac expects the wind levels will be within the walking comfort criterion along the footpath areas.

Entrances

The southwestern entries along Wangaratta Street at the main entry and commercial shop 2 have been set back under the building above. These areas also have columns flanking either side of the entrances and are therefore expected to be within the standing comfort criterion.

Similarly, the main entrance along Botherambo Street also has columns flanking the entrance and is expected to be within the standing comfort criterion.

The entrances at the corner of Tanner and Wangaratta Streets have been setback, and feature an external column as well as full height porous gates. As such, this entrance is expected to be within the standing comfort criterion.

The entrance toward the corner of Tanner and Botherambo Streets has been positioned 2.5 m south of the corner and is flanked by a façade element. This area is expected to be within the standing comfort criterion.

Communal Terrace/deck areas

The terrace/deck areas on Level 3 and the roof level are exposed to regional northerly and west-southwest winds.

Level 3 is surrounded by with a 1 m high balustrade. Columns running up the façades of the tower will also provide additional texture to break up winds. This area is expected to be within walking comfort criterion.

The proposed roof level design incorporates features such as landscaping along the edges, 1 m high balustrade and overhead canopy which will ameliorate adverse wind conditions. This area is expected to be within recommended walking comfort criterion.

3.2 RECOMMENDATIONS

After careful consideration of the areas at the base of the proposed development, Vipac predicts that the proposed development will present some changes to existing wind conditions in adjacent ground level areas. However, Vipac does not predict any exceedance of the various recommended criteria for the pedestrian level winds at the ground level and thus makes no wind control recommendations.

As a general statement, educating occupants about wind conditions at high-level balconies/terraces during high-wind events is also recommended. Additionally, tying down loose lightweight furniture is highly recommended.

It should be noted that this study is based on experience only and has not utilised any experimental data for the analysis.

4. CONCLUSIONS

An appraisal of the likely wind conditions at the pedestrian ground level and terraces of the proposed development at **17-23 Wangaratta Street, Richmond** has been made.

Vipac has carefully considered the form and exposure of the proposed development, nominated criteria for various public areas according to their function and referred to past experience to produce our opinion of likely wind conditions.

The findings of this study can be summarised as follows:

With proposed design:

- Wind conditions in the ground level footpath areas would be expected to be within the **walking** comfort criterion;
- Wind conditions in the building entrance areas would be expected to be within the **standing** comfort criterion;
- Wind conditions for terrace areas on level 3 and the roof level are expected to be within the **walking** comfort criterion.

As such, Vipac makes no recommendation for the alteration of the design as proposed for the wind environment.

As a general statement, educating occupants about wind conditions at open terrace/balcony areas during high-wind events and fixing loose, lightweight furniture on the terrace are highly recommended.

The assessments provided in this report have been made based on experience of similar situations in Melbourne and around the world. As with any opinion, it is possible that an assessment of wind effects based on experience and without experimental validation may not account for all complex flow scenarios in the vicinity.

This Report has been Prepared
For
17 Wangaratta Street Pty Ltd, c/o Neoscape
By

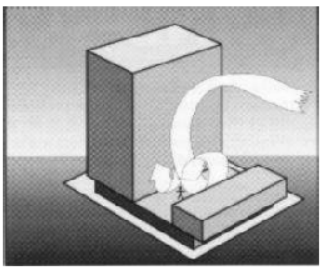
VIPAC ENGINEERS & SCIENTISTS LTD.

Appendix A: ENVIRONMENTAL WIND EFFECTS

Atmospheric Boundary Layer

As wind flows over the earth it encounters various roughness elements and terrain such as water, forests, houses and buildings. To varying degrees, these elements reduce the mean wind speed at low elevations and increase air turbulence. The wind above these obstructions travels with unattenuated velocity, driven by atmospheric pressure gradients. The resultant increase in wind speed with height above ground is known as a wind velocity profile. When this wind profile encounters a tall building, some of the fast moving wind at upper elevations is diverted down to ground level resulting in local adverse wind effects.

The terminology used to describe the wind flow patterns around the proposed Development is based on the aerodynamic mechanism, direction and nature of the wind flow.



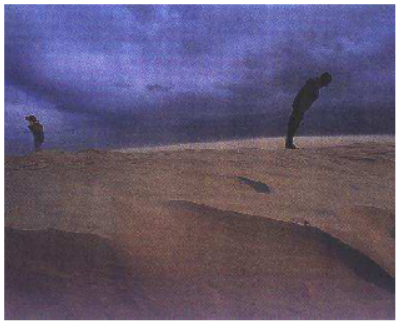
Downwash – refers to a flow of air down the exposed face of a tower. A tall tower can deflect a fast moving wind at higher elevations downwards.

Corner Accelerations – when wind flows around the corner of a building it tends to accelerate in a similar manner to airflow over the top of an aeroplane wing.

Flow separation – when wind flowing along a surface suddenly detaches from that surface and the resultant energy dissipation produces increased turbulence in the flow. Flow separation at a building corner or at a solid screen can result in gusty conditions.

Flow channelling – the well-known "street canyon" effect occurs when a large volume of air is funnelled through a constricted pathway. To maintain flow continuity the wind must speed up as it passes through the constriction. Examples of this might occur between two towers, in a narrowing street or under a bridge.

Direct Exposure – a location with little upstream shielding for a wind direction of interest. The location will be exposed to the unabated mean wind and gust velocity. Piers and open water frontage may have such exposure.



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Appendix B: REFERENCES

[1] *Structural Design Actions, Part 2: Wind Actions*, Australian/New Zealand Standard 1170.2:2011

[2] *Wind Effects on Structures* E. Simiu, R Scanlan, Publisher: Wiley-Interscience

[3] *Architectural Aerodynamics* R. Aynsley, W. Melbourne, B. Vickery, Publisher: Applied Science Publishers

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Appendix C: DRAWING LIST

Received November 2019

Title	Number	Revision	Date
L00 Plan	*19012 TP102_**A-WIP***	*TP Issue*	*31/10/19*
L01 Plan	*19012 TP103_**A-WIP***	*TP Issue*	*31/10/19*
L02 Plan	*19012 TP104_**A-WIP***	*TP Issue*	*31/10/19*
L03 Plan	*19012 TP105_**A-WIP***	*TP Issue*	*31/10/19*
L04 Plan	*19012 TP106_**A-WIP***	*TP Issue*	*31/10/19*
L05 Plan	*19012 TP107_**A-WIP***	*TP Issue*	*31/10/19*
L06 Plan	*19012 TP108_**A-WIP***	*TP Issue*	*31/10/19*
L07 Plan	*19012 TP109_**A-WIP***	*TP Issue*	*31/10/19*
Roof Plan	*19012 TP110_**A-WIP***	*TP Issue*	*31/10/19*
Elevations	*19012 TP200_**A-WIP***	*TP Issue*	*31/10/19*
Elevations	*19012 TP201_**A-WIP***	*TP Issue*	*31/10/19*
Elevations	*19012 TP202_**A-WIP***	*TP Issue*	*31/10/19*
Elevations	*19012 TP203_**A-WIP***	*TP Issue*	*31/10/19*
Sections	*19012 TP300_**A-WIP***	*TP Issue*	*01/11/19*
Sections	*19012 TP301_**A-WIP***	*TP Issue*	*01/11/19*

Attachment 10 - Acoustic Report

AECOM Imagine it. Delivered.

17-23 Wangaratta Street, Richmond
Neoscape
23-Oct-2019

Acoustics Planning Report

17-23 Wangaratta Street, Richmond



Attachment 10 - Acoustic Report

Acoustics Planning Report

17-23 Wangaratta Street, Richmond

Client: Neoscape

ABN: 69 158 201 159

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23-Oct-2019

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Revision 2 – 23-Oct-2019
Prepared for – Neoscape – ABN: 69 158 201 159

Attachment 10 - Acoustic Report

Quality Information

Document	Acoustics Planning Report
Ref	\\aumel1fp003\groups\bld\data\melbourne acoustics\maxxxx\ma2xxx\ma26xx\ma2600\reports\acoustic planning report_r2.0.docx
Date	23-Oct-2019
Prepared by	Benjamin French
Reviewed by	Johnny Zhang

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
0	07-Oct-2019	For review	Johnny Zhang Senior Acoustic Engineer	
1	14-Oct-2019	Town Planning	Johnny Zhang Senior Acoustic Engineer	
2	23-Oct-2019	Town Planning	Johnny Zhang Senior Acoustic Engineer	

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Background Noise Monitoring A

Revision 2 – 23-Oct-2019
Prepared for – Neoscape – ABN: 69 158 201 159

Attachment 10 - Acoustic Report

1.0 Introduction

AECOM has been commissioned by Neoscape to provide acoustic consulting services for the proposed commercial development located at 17-23 Wangaratta Street, Richmond.

The purpose of this report is to establish the acoustic performance criteria for the proposed development, assess the existing acoustic environment, establish noise emission criteria and provide in-principle advice to address external noise intrusion as well as noise emission to adjacent residential receivers.

This report has been prepared in conjunction with the town planning application. The report establishes the acoustic performance criteria for the proposed development and describes the existing acoustic environment and how it will impact the future design of the building.

The following items are presented in this acoustics report:

- Existing noise levels that have been measured near the site; capturing ambient conditions and sources for noise intrusion.
- Internal noise level criteria applicable to external noise intrusion to the building.
- Environmental noise criteria for noise emissions from the proposed development to the surrounding external environment.
- Recommendations for the acoustic performance specifications of the external building materials to meet the nominated criteria.

Acoustic nomenclature and references to the acoustic design standards and policies used in the report are presented at the conclusion of this report.

Revision 2 – 23-Oct-2019
Prepared for – Neoscape – ABN: 69 158 201 159

2.0 Site Description

The proposed development site located at 17-23 Wangaratta Street, Richmond, is shown in Figure 1. The site currently accommodates multiple commercial tenancies which will be demolished for the new commercial office development.

The proposed development is an 8-storey commercial building with 2 levels of underground car parks. There are retail tenancies on ground level, commercial offices from Level 1 to Level 7.

The proposed site is bounded to the west by Wangaratta Street, to the east by Botherambo Street and to the north by Tanner Street. These streets are minor roads carrying local traffic. The site is located approximately 150 metres north of the South Eastern metropolitan train lines.

The surrounding properties are residential north of Tanner Street and mixed use residential and commercial to the south. The adjacent lot on 25-29 Wangaratta Street is currently under a planning application for two office buildings which will be seven and eight storeys.



Figure 1 Proposed site and surroundings (Image source: Google Earth Pro, accessed October 2019)

3.0 External Noise Levels

Noise measurements have been conducted at 71 Tanner Street (location M1 in Figure 1) to assess existing external acoustic environment. The measured noise levels will be used to develop environmental noise emission criteria, as well as informing the future design of the building façade to reduce noise impact from external noise.

3.1 External Noise Sources

The dominant sources of noise intrusion have been identified to be local traffic on Wangaratta and Tanner Streets. Minor mechanical plant noise from 28 Wangaratta Street was observed. Train noise was not noticed from this location.

3.2 Noise Measurements

The noise measurement locations are shown in Figure 1 and described in this section. Noise measurements were conducted as both short-term attended measurements (shown in red in Figure 1) and long-term unattended measurements (green).

Legend	Measurement Type	Measurement Location
M1	Long term[1]	Front yard of 71 Tanner Street.
M2	Short term[2]	17-23 Wangaratta Street. Intersection of Wangaratta and Tanner Streets
M3	Train noise[3]	41-43 Stewart Street (train noise measurements).

Note 1: measured using noise logger overall several days

Note 2: measured using hand-held sound level analyser for a short duration (15min)

Note 3: measured using hand-held sound level analyser for a short duration (15 seconds)

3.3 Measured Noise Levels

3.3.1 Short Term Measurements

Short term measurements were conducted on Thursday, 26 September 2019, between 14:00 and 15:00. The noise measurements were predominately of road traffic along surrounding local streets.

Measurement was undertaken for 15 minutes to monitor the continuous noise levels. Traffic was light on Wangaratta and Tanner Streets.

3.3.2 Train Noise Measurements

Train noise measurements were taken on Stewart Street approximately 100 metres east of Richmond Station. Construction noise was observed at the southern end of Wangaratta Street. This measurement location was considered far enough away from the construction site to minimise noise contamination.

3.3.3 Long Term Measurements

To supplement the short-term noise measurements, an unattended noise monitor was installed on the front yard of 71 Tanner Street from 26 September to 3 October 2019 (see Figure 2). This is location is within the vicinity of the site and is representative for the acoustic environment of the area.



Figure 2 Noise Monitor location, 71 Tanner Street, (left), (right) looking south at the proposed development site

Table 1 presents a summary of the measured noise levels.

Table 1 Noise Measurement Results

Location	Measured Noise Level	Events Measured
M1	54 dB(A) $L_{Aeq, 1hr}$ – Day (7am – 10pm) 46 dB(A) $L_{Aeq, 1hr}$ – Night (10pm – 7 am)	Measurement time: 26/09/2019 15:00 to 03/10/2019 08:00 Local traffic and pedestrians on Wangaratta Street and Tanner Streets. Train horn noise from Richmond Station
M2	61 dB(A) $L_{Aeq, 15min}$	Measurement time: 26/09/2019 14:19 to 16:34 Local traffic and pedestrians on Wangaratta Street and Tanner Streets.
M3[1]	58 dB(A) $L_{eq, 15 seconds}$ 69 dB(A) $L_{Amax,}$	Measurement start times,27/09/2019: 13:54:11, 13:56:12, 13:56:34, 13:58:03 Traffic on Stewart Street. Trains arriving and departing from Richmond Station Train horns

Note 1: Measured noise levels shown are the average of four measurements, L_{Amax} is the maximum of the four measurements

3.4 Instrumentation

The specifications for the sound level meter and noise monitor used for the noise measurements described in this report are presented in Table 2 below.

Table 2 Instrument Specifications

Instrument	Serial No.	Model	Calibration Status
Environmental Noise Monitor and Sound Level Meter	01043455	Rion NL-52	Calibration due 25/07/2020
Sound Level Calibrator	35084189	Rion NC-74	Current

4.0 Design Criteria

The acoustic design of the development will be based on achieving acoustic performance criteria that have been established to protect the acoustic amenity of the surrounding external environment, and the internal acoustic amenity within the residential spaces of the development.

The preliminary acoustic design criteria for the building that have been developed in this report include the following parameters:

- **Internal noise levels** due to noise ingress from the external environment, and
- **Environmental noise emission limits** for the operation of the building, including emissions from building services plant and commercial operations.

4.1 Internal Noise Criteria

Table 3 below presents the internal noise criteria that have been nominated for the building based on the Australian Standard 2107:2016 and the Association of Australian Acoustical Consultants (AAAC) Guideline for Commercial Building Acoustics 2010. The criteria for noise sensitive rooms have been expressed in terms of an A-weighted Equivalent Continuous Sound Pressure Level (L_{Aeq}), which generally describes the average decibel level in A-weighted form.

The internal noise levels in Table 3 are inclusive of road traffic noise intrusion and building services noise from plant serving the building.

Table 3 Internal Noise Level Criteria

Room	Internal Noise Level Criteria dB(A)
Office Areas	40 – 45 $L_{Aeq,1hr}$
Meeting Rooms	40 – 45 $L_{Aeq,1hr}$
Board Rooms	30 – 40 $L_{Aeq,1hr}$
Café	40 – 50 $L_{Aeq,1hr}$
Toilets	45 – 55 $L_{Aeq,1hr}$
Lift Lobby / Common Areas	45 – 50 $L_{Aeq,1hr}$
Carpark	< 65 $L_{Aeq,1hr}$

4.2 Environmental Noise Emissions

To protect the acoustic amenity of the surrounding environment due to the operation of the development, noise emissions from the development should comply with the relevant environmental noise criteria.

Noise emissions associated with the development must comply with the statutory requirements of the Victorian Environment Protection Authority (EPA). The EPA policy that governs noise emissions from commercial operations is the State Environmental Protection Policy No. N-1 (Control of Noise from Commerce Industry and Trade) (SEPP N-1).

The following section outlines the SEPP N-1 criteria that will apply to noise generated by building plant serving the development.

4.2.1 SEPP N-1

SEPP N-1 describes procedures for determining the statutory environmental noise limits which apply at noise sensitive locations, such as residential locations, with respect to noise due to commercial, industrial and trade operations.

For this development, the nearest, and potentially worst-affected noise sensitive receivers are residences located directly across the street on Tanner Street.

The SEPP N-1 noise limits that apply at noise sensitive locations are based on the following factors:

- The *background noise level* in the vicinity of the noise sensitive location. The background noise is measured in the absence of noise from commercial, industrial or trade premises near the residential location.
- The *zoning* of the land in the vicinity of the residential location. The zoning is based on the Department of Planning and Community Development Planning Schemes.
- The *time period* of the day; different noise limits apply during different period of the day to account for the variation in ambient noise levels between peak traffic times and night periods where traffic is generally very light.

4.2.2 Noise Monitoring

As required by SEPP N-1, background noise levels were measured in terms of L_{A90} hourly Sound Pressure Levels. The L_{A90} level is the A-weighted Sound Pressure Level that is exceeded for 90% of the measurement duration. The L_{A90} metric is commonly used to represent 'background noise'.

A graph of the measured hourly noise levels is presented in Appendix A of this report. The location of the noise monitor used to measure the background levels is shown in Section 3.2 and 3.3.3 of this report.

4.2.3 Measured Background Noise Levels

SEPP N-1 describes different noise limits for different periods of the day to account for the varying ambient acoustic conditions over the duration of the day. The time period classifications are presented in Table 4 below.

Table 4 SEPP N-1 Time Periods

Period	Time
Day	7am to 6pm Monday – Friday 7am to 1pm Saturdays
Evening	6pm to 10pm Monday – Friday 1pm to 10pm Saturdays 7am to 10pm Sundays and Public Holidays
Night	10pm to 7am

Table 5 below presents the results of the background noise measurements for each period of the day. The background level was taken to be the average of the hourly measured levels for each period, as required by SEPP N-1.

Table 5 Measured Background Noise Levels

SEPP N-1 Time Period	Time	Background Noise Level, L_{A90} dB(A)
Day	7am to 6pm Monday – Friday	45
	7am to 1pm Saturdays	
Evening	6pm to 10pm Monday – Friday	43
	1pm to 10pm Saturdays*	
	7am to 10pm Sundays and Public Holidays	
Night	10pm to 7am	40

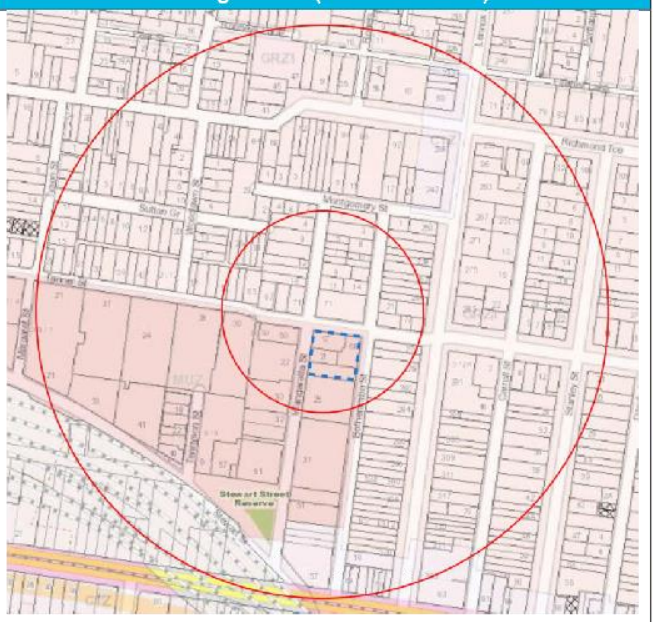
* Saturday evening was Grand Final Day, measured noise levels were elevated around Richmond (measured levels 52 dB(A)). These data have been excluded from the assessment

Attachment 10 - Acoustic Report

4.2.4 Zoning Levels

Using the Department of Planning and Community Development Planning Scheme for Yarra, the SEPP N-1 Zoning Level for each period was calculated in accordance with Schedule B2 of SEPP N-1. The calculated Zoning Levels are presented in Table 6 below.

Table 6 SEPP N-1 Zoning Levels

SEPP N-1 Time Period	Zoning Level, dB(A)
Day	52
Evening	46
Night	41
Zoning Level Calculations	**Zoning Circles (140m and 400m)**
140m circle: Type 1: 76% Type 2: 24% Type 3: 0% **400m circle** Type 1: 78% Type 2: 19% Type 3: 3% **Influencing Factor (IF):** 0.12	

Zoning Map

4.2.5 SEPP N-1 Noise Limits

The SEPP N-1 noise limits that apply to noise from the proposed development have been determined using the background noise levels in Table 5 above and the calculated Zoning Levels in Table 6 for the *Day*, *Evening* and *Night* periods.

Table 7 below presents the SEPP N-1 Noise Limits calculated in accordance with Schedule B1 and B3 of SEPP N-1.

Table 7 SEPP N-1 Noise Limits

SEPP N-1 Time Period	Time	SEPP N-1 Noise Limit, L_{Aeq} dB(A)
Day	7am to 6pm Monday – Friday	52
	7am to 1pm Saturdays	
Evening	6pm to 10pm Monday – Friday	46
	1pm to 10pm Saturdays	
	7am to 10pm Sundays and Public Holidays	
Night	10pm to 7am	43

The SEPP N-1 noise limits have been calculated using the method outlined in SEPP N-1.

5.0 Exterior Building Design

The design of building envelope will need to produce an appropriate level of sound insulation from the external environment to ensure that suitable noise levels are achieved in the internal spaces of the building. The following section provides recommendations for the façade and roof the building.

The exterior building design has been based on the noise levels measured on site, the estimated building services noise, and façade design (i.e. amount of glazing). The exterior building treatment should be re-evaluated to ensure the nominated glazing, roof design, and exterior walls treatment are still valid and cost effective.

5.1 Façade Glazing

Based on the noise levels that have been measured at the proposed site presented in Section 4.0 above, the following glazing configuration would produce acceptable internal noise levels with respect to noise intrusion from the external environment:

- 6mm float glass
- 12mm air space
- 6mm float glass

5.2 Roof Design

The Level 6 roof is proposed to be a 250mm thick concrete slab. An insulated lightweight roof structure with metal deck is proposed for the Level 7 roof. To minimise the potential for noise from mechanical plant on the roof to adversely affect the Level 7 commercial space, a suspended flush (non-perforated) ceiling acoustic insulation batts should be considered, such as mineral fibre ceiling tiles or plasterboard.

An example roof construction:

- Metal deck roofing
- Thermal insulation blanket
- Suspended steel ceiling system
- 75mm, 14kg/m^3 acoustic insulation batts laid over ceiling
- Mineral fibre tiles ceiling with minimum CAC 36 and NRC 0.6

There must not be any openings in the ceiling. All penetrations must be acoustically treated.

Furthermore, it is currently proposed to incorporate mechanical plant capable of producing high noise levels installed on the roof. An assessment regarding the noise and vibration transmission from the rooftop plant to the top floor office will be undertaken in design stages of the project.

5.3 Exterior Walls

The exterior walls of the building should have a construction that achieves a minimum sound insulation rating of R_w 45. The façade glazing recommendations have been based on the external walls achieving this minimum requirement. Current design consists of minimum 150mm concrete for external walls which will be sufficient to achieve the nominated rating.

Attachment 10 - Acoustic Report

5.4 Car Park Entry Door

The following treatment is recommended for car park entry doors to reduce the impact of their operation within the internal office area and on neighbouring properties:

- Doors and the associated guide rails and fixings shall be vibration isolated from the building structure.
- Doors shall be quiet in operation. For isolation of the door and door guides, Embelton NRD mounts, Supershearflex Pads or equivalent shall be used where the motors are fixed to the structure.
- Teflon guides shall be installed to ensure the operation of any door guides, rollers, etc is smooth.
- Door motors shall be fitted with a soft start/stop controller to minimise noise.
- The door shall be stopped approximately 5mm from the slab/ground to ensure the base of the door does not contact the floor surface.

Attachment 10 - Acoustic Report

6.0 Operational Nosie

6.1 Waste Services Collection

Based on the predicted waste generation rates, waste collection for food, comingled recycling and general waste is proposed each occur twice weekly. The collection will be undertaken by a private waste contractor operating a 6.4 m mini rear loader accessing the bin storage area in the Basement 1 via Botherambo Street.

- Waste collection shall occur during day time outside of peak am and pm periods to minimise disruption to traffic entering and exiting the site, i.e. between 10:00 am and 3:00 pm.
- The bin room is located internally on B1. The waste collection will occur within the internal carpark and it is not expected that noise at the nearby residential properties will exceed SEPP N-1 noise limits.

6.2 Staff Noise from Balconies and Roof Terrace

There is no mandatory noise policy in Victoria governing people gathering in the outdoor space. In past projects, SEPP N-1 has been used as a guideline for patron noise associated with licenced venues. It is expected that the roof terrace on this project will be used by staff. SEPP N-1 can be used a reasonable guideline to limit noise generated from the roof terrace to nearby residential receivers.

It is expected that up to 120 people can be on the roof terrace at the same time and the SEPP N-1 evening period noise limit will be achieved without any additional acoustic treatment to the roof terrace. This is based on the assumptions that the people on the terrace will talk in a raised voice and one in two people will talk at the same time.

Note the above does not limit the number of people can access the terrace at the same time but rather provide an example of assessment of noise impact to nearby residential receivers. Additional treatment such as a parapet around the terrace can be constructed to provide further noise reduction to surrounding residential receivers.

7.0 Building Services Noise and Vibration

The proposed plant equipment is likely to be in operation during daytime and evening periods with some limited use occurring during the night-time period as is typical of a normal office. All SEPP N-1 defined noise limits for day, evening and night, have been considered in the acoustic design.

The following measures shall be considered for the general installation of plant and services:

- All hydraulic services shall be isolated at support points to minimise vibration being transmitted to the building structure.
- All pipework that passes through the ceiling spaces or dividing walls of noise-sensitive spaces, shall be acoustically treated with acoustic lagging and insulation as necessary.
- All services penetrations shall have a clearance of 10mm around the pipe/duct/cable that shall be acoustically sealed with a flexible caulking (polyurethane or silicone).
- All plant shall be installed on vibration isolation mounts in accordance with the manufacturer's requirements.
- All louvres and ventilation openings between plant areas and the external or internal building environment shall be acoustically treated using appropriate measures, such as acoustic louvres, acoustically lined ductwork, and attenuators.
- All ductwork shall be acoustically treated using appropriate measures, such as acoustically lined ductwork, acoustically wrapped ductwork, flexible acoustic ductwork, and in-duct attenuators.
- All plant rooms shall be acoustically treated to ensure that noise transmission via walls, floors, ceiling, doors, and louvres does not exceed the specified noise criteria of adjacent spaces.
- Mechanical plant operation shall be acoustically treated using appropriate measures such as attenuators to fans, acoustic barriers and enclosures to minimise emission of noise to the surroundings and this achieve the relevant noise criteria at the nearest commercial buildings.

7.1 Roof Top AC Condensers

There are 21 condensers located on the roof top of the development. At this stage the condensers with the following noise levels are proposed:

Table 8 Equipment Sound Pressure Levels

Type	Model	Octave Band Centre Frequency (Hz) Sound Pressure Level (dB) at 1m								Total SPL (dBA @ 1m)
		63	125	250	500	1000	2000	4000	8000	
AC Condensers	Daikin REYQ20TY1	65	64	66	64	59	56	52	45	65

Based on the above data the following treatment should be adopted:

- A minimum 1.8m high non-perforated screen around the perimeter of the condenser deck
- The nominated minimum roof and exterior wall construction in Section 5.2 and Section 5.3 be adopted for level 7 commercial space.

The above treatment will ensure compliance with SEPP N-1 is achieved at the surrounding residential receivers and noise impact to internal office area and external roof terrace is minimised.

Note the above treatment are based on supplied noise data for the condensers, if alternative condensers are selected during later stages of the project, an assessment should be undertaken to ensure the nominated treatment are adequate.

8.0 Summary

AECOM has been commissioned to provide acoustic consulting services for the proposed development at 17-23 Wangaratta Street, Richmond. This report presents the acoustic design criteria that has been defined for the building and outlines the methodology used to develop the criteria, and includes the following items:

- Internal noise level criteria for tenancies within the building with respect to noise ingress from the external environment. These criteria have been defined by considering the relevant Australian Standards and best practices design guidelines regarding internal noise within commercial buildings.
- Environmental noise criteria for the new building to assess noise emission from the development to nearby residential locations. The environmental noise criteria have been developed in accordance with the Victorian EPA State Environment Protection Policy No.N-1, which defines noise limits for the development for its building plant and commercial operations. As the development is proposed to operate at all hours, noise levels at nearby residences were assessed against the Night period criterion.

9.0 Nomenclature

The following acoustic nomenclature has been used throughout the report.

Term	Definition
dB(A)	A-weighted Decibels. The 'A' weighting adjusts the frequency spectrum to reflect the subjective loudness perceived by the human ear.
L_{Aeq}	The A-weighted Equivalent Continuous Sound Pressure Level. It is the A-weighted value of Sound Pressure Level of a continuous steady sound that has the same acoustic energy as a given time-varying Sound Pressure Level when determined over the same measurement time interval. Often referred to as Average Sound Pressure Level.
L_{Amax}	The maximum A-weighted Sound Pressure Level that occurs during the measurement period.
L_{A90}	The A-weighted Sound Pressure Level that is exceeded for 90% of the time during the measurement period.

10.0 References

1. Australian Standard 2107:2016, Acoustics - Recommended Design Sound Levels and Reverberation Times for Building Interiors
2. Association of Australian Acoustical Consultants (AAAC) Guideline for Commercial Building Acoustics 2010
3. Environment Protection Authority, Noise Control Guidelines (Publication 1254)
4. Environment Protection Authority, State Environment Protection Policy No.N-1

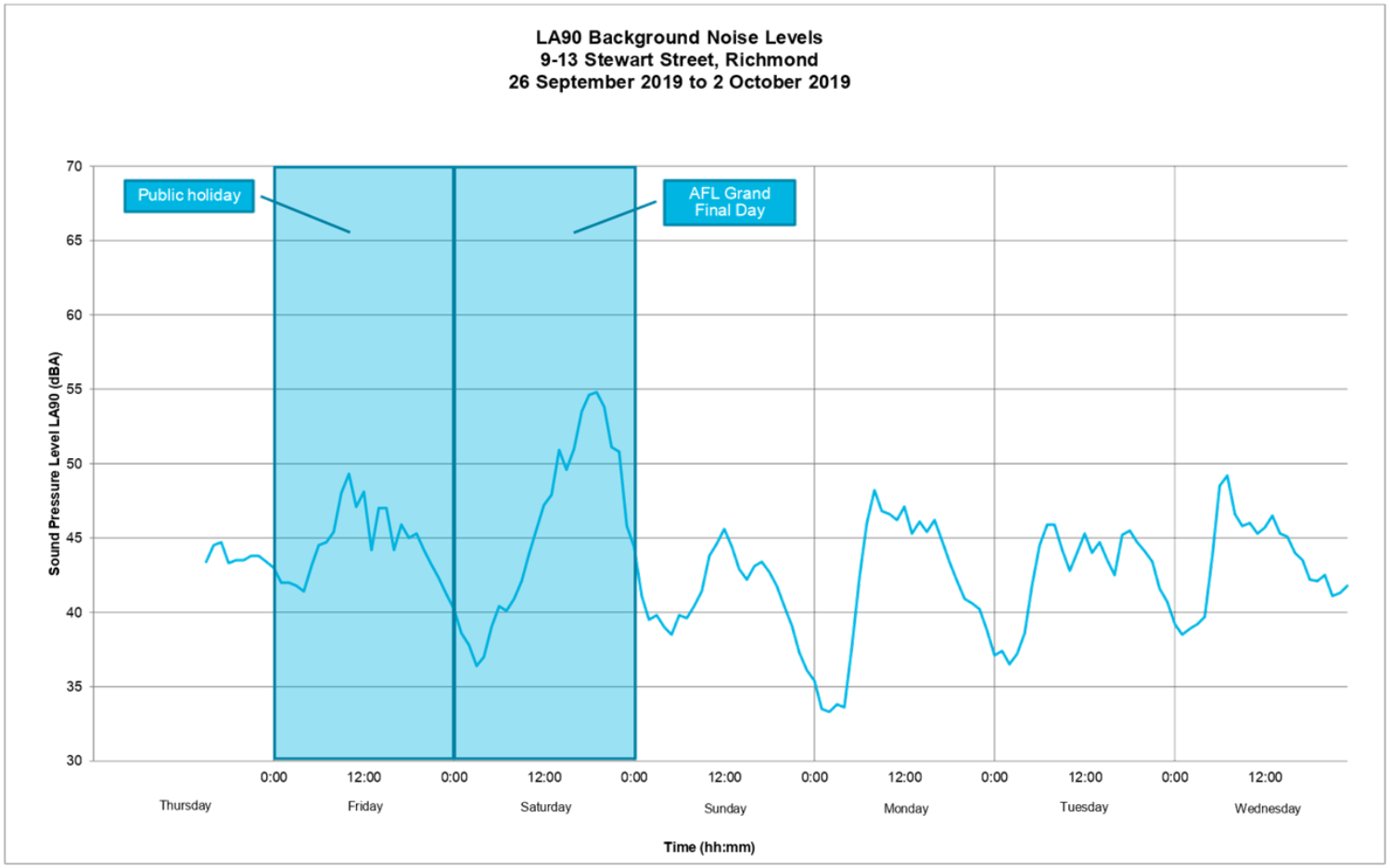
Attachment 10 - Acoustic Report

Appendix A

Background Noise Monitoring

Attachment 10 - Acoustic Report

Appendix A Background Noise Monitoring



Attachment 11 - Referral advice provided from both internal and external referrals.

MEMO

To:	John Theodosakis (Statutory Planning)
From:	Daniel Perrone (Urban Design)
Date:	13 February 2020
Site address:	17 - 23 Wangaratta Street, Richmond
Application No:	PLN19/0780
Description:	DEMOLITION OF THE EXISTING BUILDING TO ALLOW FOR THE DEVELOPMENT OF THE LAND FOR THE CONSTRUCTION OF AN EIGHT-STOREY BUILDING FOR USE AS OFFICE(S) AND SHOP(S) AND REDUCTION IN THE ASSOCIATED CAR PARKING REQUIREMENT OF THE YARRA PLANNING SCHEME.

Urban Design comments have been sought on the following matters:

- Streetscapes and public realm
- Whether there are any capital works approved or proposed within the area of the subject site.

The comments provided below are based on the architectural drawings by MA Architects with issue date 12 December 2019.

The extent of this review is limited to the proposed development's integration with the streetscape and public realm and excludes landscaping within the building and rooftop landscapes.

Details required on drawings

The following details are required on the drawings:

- All existing vehicle crossovers, including those to be removed/reconfigured as a result of the development.
- Any proposed street trees and landscaping.
- Design and material details of operable gates shown on the ground floor.

Additional details required on the drawings are set out in the relevant sections below.

Pavements

- All pavements surrounding the site (Wangaratta, Tanner, and Botherambo streets) are to be reinstated as asphalt footpaths with charcoal coloured concrete kerbs and channels for the full length of the site. All redundant vehicle crossovers are to be demolished.
- All proposed streetscape materials should be as per *Technical Notes: City of Yarra Public Domain Manual* and *Yarra Standard Drawings*.
- Proposed vehicle crossovers to be shown on drawings as per *Yarra Standard Drawings*.

Attachment 11 - Referral advice provided from both internal and external referrals.

MEMO

Ground floor interface

The overall materiality and composition of the façade is supported, as it provides a good balance between solid and transparent elements, as well as providing articulated detailing through the angled concrete fins. However, the ground floor interface requires some improvement to create a more active and engaging streetscape. Refer to the attached mark-up and notes below for further detail.

- Setbacks to building entrances

  There are a series of deep setbacks to the ground floor building entrances as shown below. These spaces are also shown to be gated. Such deep and gated setbacks are generally not supported due to their potential to become litter traps, as well as creating quite passive and unwelcoming building entrances that can be difficult to identify from the street.

  Of particular concern is the entry to the "commercial (shop) 0.1", located at the north-western corner of the site, with a lobby separating it from the Wangaratta / Tanner street frontages. The lobby is shown to be gated on the north and western sides. This arrangement places wasted space at the street corner, creating a passive interface with Wangaratta and Tanner streets, which is an undesirable urban design outcome. It is recommended that the entrance/lobby is re-configured and/or re-located to provide a more visible and active entrance.

  Additionally, there is insufficient detail about the gates/screens shown across all the ground floor entries to the building, and it is unclear how these gates/screens are intended to be used. Further material and design details for the gates/screens should be provided, including their level of transparency and details of their intended use and operation. This is particularly important in relation to the secondary entrance located off Botherambo St, as the visitor bicycle parking is proposed to be located behind this gate, and needs to be publically accessible.

- Concrete Plinth:

  The elevation drawings shows a concrete plinth at the base of the building along Wangarrata, Tanner, and Botherambo Streets that vary in height from 750 - 900mm. Council advocates for building facades that able to provide additional amenity to the streetscape, thought the incorporation of landscaping, seating etc.

  As such, it is recommended that the height of the concrete plinth be lowered to approximately 400 - 450mm (at least in some sections), to allow the plinth to be utilised as informal seating.

Attachment 11 - Referral advice provided from both internal and external referrals.

MEMO

Bicycle Hoops

The ground floor plan shows two (2) bicycle hoops to be installed parallel to the kerb on the Wangaratta Street footpath. Bicycle hoops in this configuration require the following minimum clearances shown in the section detail below (not to scale). As such, the Wangaratta Street footpath is too narrow to accommodate bicycle hoops.

NOTE: Council's Strategic Transport unit is to advise on the required number of visitor bicycle parks for the proposed development. Due to the footpath constraints surrounding the site, all visitor bicycle parking must be accommodated for within the subject site, with clear access and visibility from the public realm.

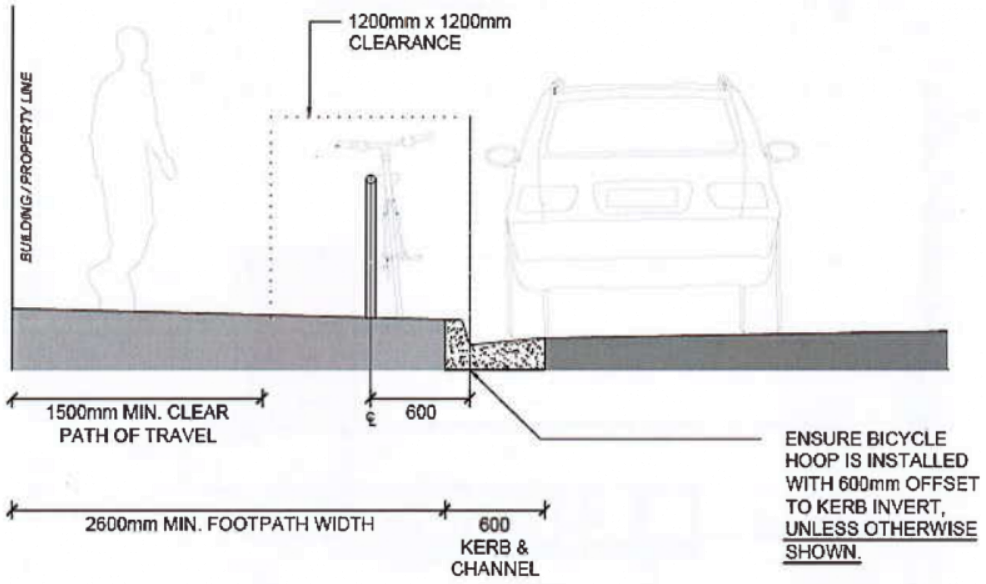


Figure 1: *Typical bicycle hoop set-out – section detail (NTS).*

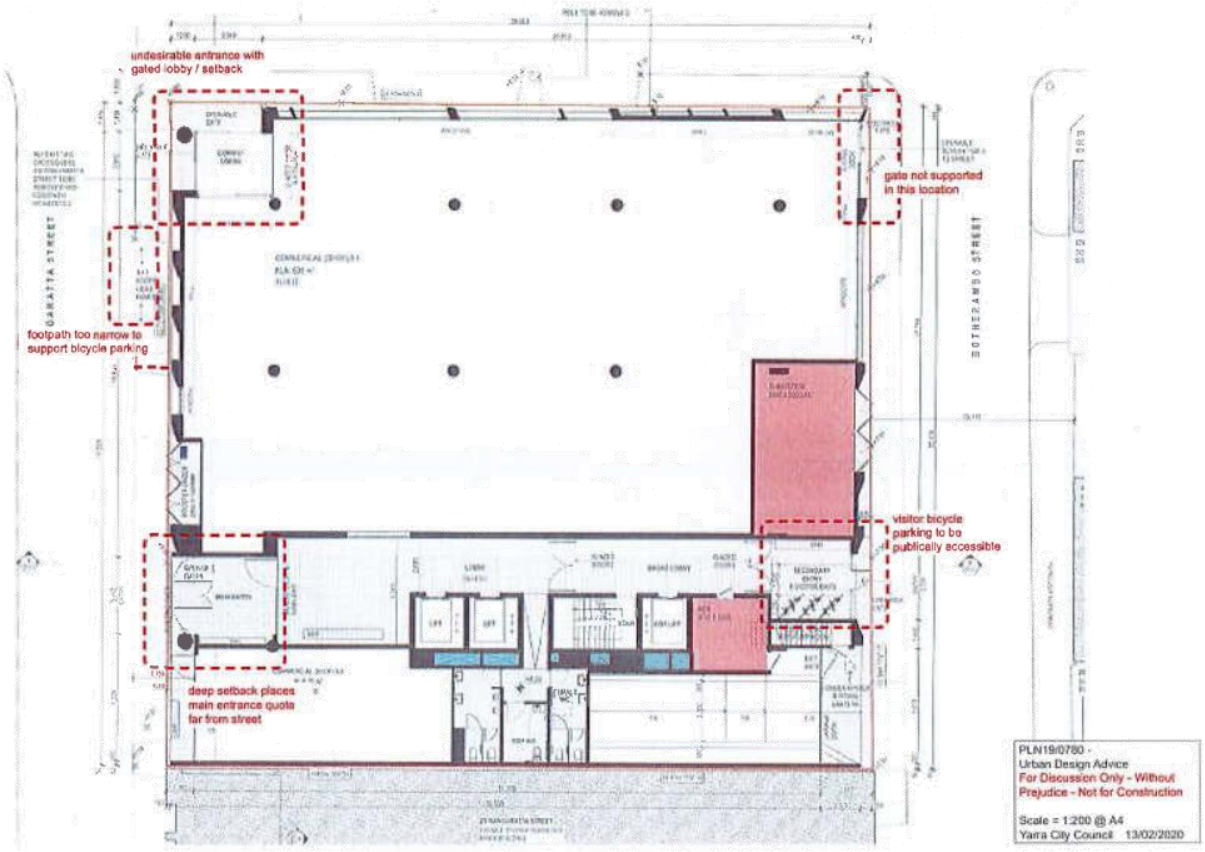
Street tree planting

Botherambo Street has been identified to be planted as part of council's street tree planting program. The street tree layout is still being developed, although it is estimated that the carriageway adjacent the subject site could accommodate up to 3 new street tress. The applicant would be requested to contribute the cost of planting 3 new street trees, which would cover tree sourcing, planting, and two years of maintenance. A cost for this can be provided upon request.

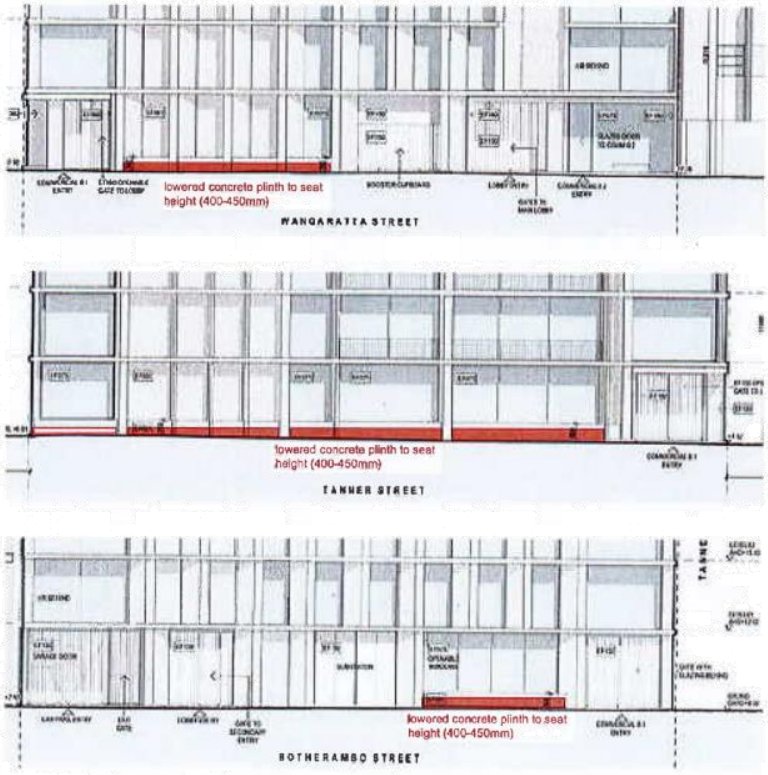
Capital works

Urban Design will be undertaking minor street furniture upgrades along Swan Street in 2020, although these are not likely to affect the subject site. As mentioned, Botherambo Street is likely to undergo street tree planting in 2021, although this is yet to be confirmed.

Attachment 11 - Referral advice provided from both internal and external referrals.



Attachment 11 - Referral advice provided from both internal and external referrals.



PLN19/0780 -
Urban Design Advice
For Discussion Only - Without Prejudice - Not for Construction

Scale = 1:200 @ A4
Yarra City Council 13/02/2020

Attachment 11 - Referral advice provided from both internal and external referrals.

CITY OF YARRA

MEMO

To:	**John Theodosakis**	
From:	**Mark Pisani**	
Date:	**28 February 2020**	
Subject:	**Application No:**	**PLN19/0780**
	Description:	**Eight-Storey Commercial Building**
	Site Address:	**17-23 Wangaratta Street, Richmond**

I refer to the above Planning Application received on 23 January 2020 in relation to the proposed development at 17-23 Wangaratta Street, Richmond. Council's Civil Engineering unit provides the following information:

CAR PARKING PROVISION

Ratio Consultants *Traffic Impact* report Dated 6 November 2019

Proposed Development

Under the provisions of Clause 52.06-5 of the Yarra Planning Scheme, the development's parking requirements are as follows:

Proposed Use	Quantity/ Size	Statutory Parking Rate*	No. of Spaces Required	No. of Spaces Allocated
Office	4,755 m²	3 spaces per 100 m² of net floor area	142	44
Retail (2 tenancies)	700 m²	3.5 spaces per 100 m² of leasable floor area	24	2
		Total	166 Spaces	46 Spaces

* Since the site is located within the Principal Public Transport Network Area, the parking rates in Column B of Clause 52.06-5 now apply.

To reduce the number of car parking spaces required under Clause 52.06-5 (including to reduce to zero spaces), the application for the car parking reduction must be accompanied by a Car Parking Demand Assessment.

Car Parking Demand Assessment

In reducing the number of parking spaces required for the proposed development, the Car Parking Demand Assessment would assess the following:

- *Parking Demand for Office Use*. The proposed office would be provided with a total of 42 on-site parking spaces, which equates to a parking rate of 0.93 spaces per 100 square metres of floor area. Throughout the municipality, a number of developments have been approved with reduced office rates, as shown in the following table:

Attachment 11 - Referral advice provided from both internal and external referrals.

Development Site	Approved Office Parking Rate
60-88 Cremorne Street, Cremorne PLN17/0626 issued 21 June 2018	0.72 spaces per 100 m² (200 on-site spaces; 27,653 m²)
2-16 Northumberland Street, Collingwood PLN16/0435 issued 14 June 2017	0.89 spaces per 100 m² (135 on-site spaces; 15,300 m²)
51 Langridge Street PLN17/0332 (Amended) issued 18 May 2018	0.54 spaces per 100 m² (18 on-site space; 3,335 m²)

The proposed on-site office parking rate of 0.93 spaces is considered appropriate, having regarding to the site's good accessibility to public transport services and proximity to Melbourne.

- *Parking Demand for Retail Use.* Typically, retail uses would generate a staff parking demand of 1.0 space per 100 square metres of floor area. For this site, the retail staff parking demand would be seven spaces, with five spaces being accommodated off-site. Customer parking would be generated off-site.
- *Availability of Public Transport in the Locality of the Land.* The following public transport services can be accessed to and from the site by foot:
  - Richmond railway station – 290 metre walk
  - Swan Street trams – 250 metre walk
  - Punt Road buses – 500 metre walk
- *Multi-Purpose Trips within the Area.* Clients and customer to the office might combine their visit by engaging in other activities or business whilst in the area.
- *Convenience of Pedestrian and Cyclist Access.* The site is easily accessible by pedestrians and bicycles.

Appropriateness of Providing Fewer Spaces than the Likely Parking Demand
Clause 52.06 lists a number of considerations for deciding whether the required number of spaces should be reduced. For the subject site, the following considerations are as follows:

- *Availability of Car Parking.* Ratio Consultants had undertaken on-street parking surveys of the surrounding area on Thursday 4 October 2019 between 7:30am and 7:30pm. The survey results recorded a peak on-street parking occupancy of 88% (252 on-street spaces occupied out of an inventory of 282 surveyed spaces). Clients and customers should be able to find a short-stay parking space near the development.
- *Relevant Local Policy or Incorporated Document.* The proposed development is considered to be in line with the objectives contained in Council's *Strategic Transport Statement*. The site is ideally located with regard to sustainable transport alternatives and the reduced provision of on-site car parking would potentially discourage private motor vehicle ownership and use.
- *Other Relevant Considerations.* The scarcity of long-stay unrestricted parking in the area would be disincentive for employees to drive to the site. Employees would be inclined to make other travel arrangements to commute to the site by taking public transport or riding a bicycle.

Adequacy of Car Parking
From a traffic engineering perspective, the waiver of parking associated with the office and retail uses is considered appropriate in the context of the development and the surrounding area. The operation of the development should not adversely impact on the existing parking conditions in the area. The site is well positioned in terms of public transport services.

The Civil Engineering unit has no objection to the reduction in the car parking requirement for this site.

Attachment 11 - Referral advice provided from both internal and external referrals.

TRAFFIC GENERATION

Trip Generation

The traffic generation for the site adopted by Ratio Consultants is as follows:

Proposed Use	Adopted Traffic Generation Rate	Daily Traffic	Peak Hour	
			AM	PM
Office (44 on-site spaces)	0.5 trips per space in each peak hour	Not Provided	22	22
Shop (2 on-site spaces)	1.0 trip per space in each peak hour	Not Provided	2	2
	Total		24 trips	24 trips

Directional Splits

Directional split assumptions in each peak hour for the office traffic –

- AM Peak – 10% outbound (2 trips), 90% inbound (20 trips); and
- PM Peak – 90% outbound (20 trips), 10% inbound (2 trips).

Retail traffic directional split:

- AM Peak – 0% outbound (0 trips), 100% inbound (2 trips); and
- PM Peak – 100% outbound (2 trips), 0% inbound (0 trips).

The traffic generated by the new office is not unduly high and should not adversely impact the traffic operation of the surrounding road network.

Attachment 11 - Referral advice provided from both internal and external referrals.

DEVELOPMENT LAYOUT DESIGN

MA Architects	Drawing Nos.	TP002_B	Revision B dated 10 December 2019
		TP100_B	Revision B dated 10 December 2019
		TP101_B	Revision B dated 10 December 2019
		TP101_B	Revision B dated 10 December 2019
		TP102_B	Revision B dated 10 December 2019
		TP300_B	Revision B dated 10 December 2019

Layout Design Assessment

Item	Assessment
Access Arrangements	
Development Entrance	The development entrance has a total width of 5.678 metres along the building line and satisfies the width requirement under *Design standard 1 – Accessways* of Clause 52.06-9. There is no objection to the proposed left-in/left-out arrangement.
Visibility	Pedestrian sight triangle have not been provided. A convex mirror in lieu of the sight triangle for the south edge of the entrance is considered acceptable. For the north side, the sight lines (not dimensioned) satisfy *Design standard 1*.
Headroom Clearance	Headroom clearance shown is not to be perpendicular to the ramp.
Internal Ramped Accessways	The internal ramp has a width of 3.0 metres with additional 300 mm wide kerbs and satisfies the Australian/New Zealand Standard AS/NZS 2890.1:2004.
Car Parking Modules	
At-grade Parking Spaces	The dimensions of the parking spaces (2.6 to 2.8 metres by 5.0 metres) satisfy *Design standard 2: Car parking spaces.*
Accessible Parking Space	With the exception of the 4.9 metre lengths (which satisfy *Design standard 2*), the accessible parking spaces satisfy the Australian/New Zealand Standard AS/NZS 2890.6:2009.
Aisles	The widths of the aisles range from 6.0 to 6.5 metres and satisfy *Table 2: Minimum dimensions of car parking spaces and accessways* of Clause 52.06-9.
Column Depths and Setbacks	The positions of the columns adjacent to car parking spaces satisfy *Diagram 1 Clearances to car parking spaces* of Clause 52.06-9.
Clearances to Walls	Clearances of no less than 300 mm have been provided to spaces adjacent to walls as per *Design standard 2*.
Gradients	
Ramp Grade for First 5.0 metres inside Property	Not dimensioned on the drawings.
Ramp Grades and Changes of Grade	The ramp grades and the changes of grade for the ramped accessway and the internal ramps satisfy *Design standard 3*. However, the ramp grade lengths and transition grades have not been dimensioned on the drawings.
Transition Grades at the Bases of the 1 in 4 Ramp Sections	The 1 in 8 transition grades at the bases of the 1 in 4 ramp sections must have minimum lengths of 2.5 metres.

Attachment 11 - Referral advice provided from both internal and external referrals.

Attachment 11 - Referral advice provided from both internal and external referrals.

Item	Assessment
Other Items	
Vehicle Turning Movements – Development Entrance	The swept path diagrams for a B99 design vehicle entering and exiting the development entrance are considered satisfactory.
Vehicle Passing Movements – Botherambo Street	The swept path movement of a B99 design vehicle passing a stationary B99 design vehicle waiting to enter the site, is considered satisfactory.
Vehicle Circulation – Basement 1	The swept path diagrams for a B99 design vehicle circulating to and from Basement 1 car park and passing a stationary B99 design vehicle waiting at the holding line for the traffic signal system activate, are considered satisfactory.
Vehicle Circulation – Basement 2	The swept path diagrams for a B99 design vehicle circulating to and from Basement 2 car park and passing a stationary B99 design vehicle waiting at the holding line for the traffic signal system activate, are considered satisfactory.
Vehicle Turning Movements – Exit Movements of End Spaces in Basements 1 and 2	The swept path diagrams for the B85 design vehicle exiting the end spaces adjacent to the blind aisle ends are considered satisfactory.
Loading Arrangements	The development could utilise existing on-street Loading Zones located near the site. A Loading Zone operates on the west side of Wangaratta Street, north of Stewart Street and another nearby Loading Zone is located on the west side of Botherambo Street, north of Swan Street. There is no objection to the use of these public Loading Zones or regular on-street parking spaces (for small vans) to service the development.
Traffic Signal System	The proposed traffic signal system would provide a lanterns on each level. At the development entrance, the lantern would have a priority green phase in the AM peak period to entering vehicles. During the PM peak period, the priority phase would be reversed to facilitate exiting vehicles. Each basement level would have holding lines for stationary waiting vehicles. This traffic signal system is considered appropriate.
Vehicle Crossing – Botherambo Street	Before the drawings are endorsed and the finish floor levels are approved, the applicant must check and demonstrate that a B99 design vehicle can enter an exit the site via Botherambo Street without scraping or bottoming out. Many existing vehicle crossings in Botherambo Street have evidence of scaping – a result of floor levels being set too high. The finished level at the building line and the entrance ramp may need to be altered if vehicle scaping or bottoming occurs.
Service Cabinet and Substation Doors	Service cabinet and substation doors that open outwards should be able to swing 180 degrees and be latched to the wall when opened.

Attachment 11 - Referral advice provided from both internal and external referrals.

Design Items to be Addressed

Item	Details
Visibility	The sight triangle on the north side of the entrance should be superimposed on the drawings prior to endorsement.
Headroom Clearance	The minimum headroom clearance must be dimensioned on the drawings and be shown perpendicular to the ramp. The headroom clearance must be no less than 2.1 metres.
Ramp Grades	Each ramp grade and transition grade length must be dimensioned on the drawings.
Vehicle Crossing – Botherambo Street	The applicant is to prepare a cross sectional drawing of the new vehicle crossing and road pavement of Botherambo Street, demonstrating the ground clearance of the B99 design vehicle. Spot levels (to three decimal places) of the building line, invert, edge of channel, and along the width of road pavement must be obtained out on site and provided on the cross section. Guidance on this cross sectional drawing is appended to this memo. This ground clearance check must be done before the drawings are endorsed.

ENGINEERING CONDITIONS
Civil Works

Upon the completion of all building works and connections for underground utility services,

- The kerb and channel along the property's Wangaratta Street, Tanner Street and Botherambo Street road frontages must be reconstructed in bluestone to Council's satisfaction and at the Permit Holder's cost.
- The footpaths along the property's Wangaratta Street, Tanner Street and Botherambo Street road frontages must be reconstructed in asphalt to Council's satisfaction and at the Permit Holder's cost. The footpath must have a cross-fall of 1 in 40 or unless otherwise specified by Council.
- The half-width road pavement of Wangaratta Street, from Tanner Street to the development's southern boundary must be profiled (grinded) and re-sheeted to Council's satisfaction and at the Permit Holder's cost.
- All redundant vehicle crossings must be demolished and reinstated with paving, kerb and channel to the Council's satisfaction and at the Permit Holder's cost.
- All redundant property drain outlets must be removed and reinstated to Council's satisfaction and at the Permit Holder's cost.

Vehicle Crossing

Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, the new vehicle crossing must be designed and constructed:

- In accordance with any requirements or conditions imposed by Council.
- Demonstrating satisfactory access into and out of the site with a vehicle ground clearance check using the B85 design vehicle or B99 design vehicle (where applicable), and be fully dimensioned with actual reduced levels (to three decimal places) as per Council's Vehicle Crossing Information Sheet;
- At the Permit Holder's cost; and
- To the satisfaction of Council.

Attachment 11 - Referral advice provided from both internal and external referrals.

Road Asset Protection

- Any damaged roads, footpaths and other road related infrastructure adjacent to the development site as a result of the construction works, including trenching and excavation for utility service connections, must be reconstructed to Council's satisfaction and at the developer's expense.

Construction Management Plan

- A Construction Management Plan must be prepared and submitted to Council. The Plan must be approved by Council prior to the commencement of works. A detailed dilapidation report should detail and document the existing and post construction conditions of surrounding road infrastructure and adjoining private properties.

Impact of Assets on Proposed Development

- Any services poles, structures or pits that interfere with the proposal must be adjusted, removed or relocated at the owner's expense after seeking approval from the relevant authority.
- Areas must be provided inside the property line and adjacent to the footpath to accommodate pits and meters. No private pits, valves or meters on Council property will be accepted.

Discharge of Water from Development

- Only roof runoff, surface water and clean groundwater seepage from above the water table can be discharged into Council drains.
- Council will not permit clean groundwater from below the groundwater table to be discharged into Council's drainage system. Basements that extend into the groundwater table must be waterproofed/tanked.

Removal, Adjustment, Changing or Relocation of Parking Restriction Signs

- No parking restriction signs or line-marked on-street parking bays are to be removed, adjusted, changed or relocated without approval or authorisation from Council's Parking Management unit and Construction Management branch.
- Any on-street parking reinstated as a result of development works must be approved by Council's Parking Management unit.
- The removal of any kerbside parking sensors and any reinstatement of parking sensors will require the Permit Holder to pay Council the cost of each parking sensor taken out from the kerb/footpath/roadway. Any costs associated with the reinstatement of road infrastructure due to the removal of the parking sensors must also be borne by the Permit Holder.

Attachment 11 - Referral advice provided from both internal and external referrals.

ADDITIONAL ENGINEERING ADVICE FOR THE APPLICANT

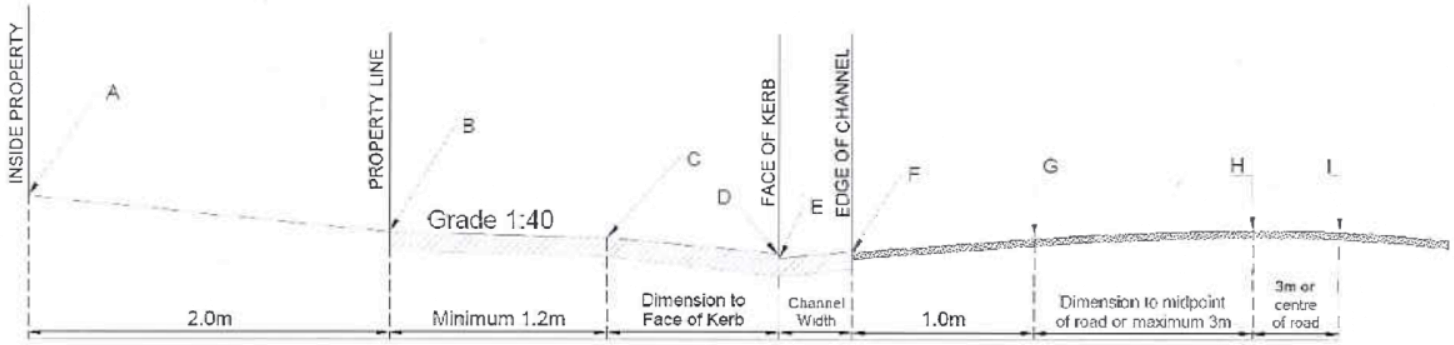
Item	Details
Legal Point of Discharge	The applicant must apply for a Legal Point of Discharge under Regulation 133 – Stormwater Drainage of the *Building Regulations* 2018 from Yarra Building Services unit. Any storm water drainage within the property must be provided and be connected to the nearest Council pit of adequate depth and capacity (legal point of discharge), or to Council's satisfaction under Section 200 of the *Local Government Act* 1989 and Regulation 133.

Vehicle Crossing – Cross Section

The designer is to submit a 1:20 scale cross section for each proposed vehicle crossing showing the following items:

A. Finished floor level 2.0 metres inside property
B. Property line surface level
C. Surface level at change in grade (if applicable)
D. Bullnose (max height 60mm) – must be clearly labelled
E. Surface level at the bottom of the kerb
F. Surface level at the edge of channel
G. Road level 1.0 meter from the edge of channel
H., I. Road levels

- Please note the cross section must be fully dimensioned. As shown in the sketch below.
- Please show both the existing and proposed surface.
- The maximum allowable cross-fall between points B and C is 1:40 (2.5%).
- A bullnose (max 60mm) is permitted at point D, however not compulsory.
- The levels shown must be exact reduced levels, to three decimal points. Interpolation of levels is not acceptable.
- The designer must demonstrate that an 85th or 99th percentile vehicle profile can traverse the design cross section as per the Australian/New Zealand Standard ground clearance template (AS/NZS 2890.1:2004).
- Significant level changes to the existing footpath level B to C will require additional level design either side of the proposed crossing.
- Please include any additional levels or changes in grade that are not shown in the diagram.



Attachment 11 - Referral advice provided from both internal and external referrals.

Planning Referral

To:	John Theodosakis
From:	Chloe Wright
Date:	30/03/2020
Subject:	Strategic Transport Comments
Application No:	PLN19/0780
Description:	Demolition of the existing building to allow for the development of the land for the construction of an eight-storey building for use as office(s) and shop(s) and reduction in the associated car parking requirement of the Yarra Planning Scheme.
Site Address	17 – 23 Wangaratta Street, Richmond

I refer to the above Planning Application and the accompanying Traffic report prepared by Ratio Consultants in relation to the proposed commercial development at 17 – 23 Wangaratta Street, Richmond. Council's Strategic Transport unit provides the following information:

Access and Safety

No access or safety issues have been identified.

Bicycle Parking Provision

Statutory Requirement

Under the provisions of Clause 52.34-3 of the Yarra Planning Scheme, the development's bicycle parking requirements are as follows:

Proposed Use	Quantity/ Size	Statutory Parking Rate	No. of Spaces Required	No. of Spaces Allocated
Office (other than specified in the table)	4,755 sqm	1 employee space to each 300 sqm of net floor area if the net floor area exceeds 1000 sqm	16 employee spaces	71 employee spaces
		1 visitor space to each 1000 sqm of net floor area if the net floor area exceeds 1000 sqm	5 visitor spaces	10 visitor spaces
Shop	700 sqm	1 employee space to each 600 sqm of leasable floor area if the leasable floor area exceeds 1,000sqm	0 employee spaces	
		1 visitor space to each 500 sqm of leasable floor area if the leasable floor area exceeds 1,000sqm	0 visitor spaces	
Bicycle Parking Spaces Total			**16 employee spaces**	**71 employee spaces**
			5 visitor spaces	**10 visitor spaces**
Showers / Change rooms		1 to the first 5 employee spaces and 1 to each additional 10 employee spaces	**2 showers / change rooms**	**6 showers / change rooms**

Attachment 11 - Referral advice provided from both internal and external referrals.

Adequacy of visitor spaces

Ten visitor bicycle spaces are proposed at Wangaratta Street and Botherambo Street. The following comments are provided in relation to provision of visitor spaces:

- Ten visitor bike spaces meets Council's best practice rate[1] of ten spaces.
- The proposed bike spaces at Wangaratta Street do not appear to comply with clearance and access-way requirements of AS2890.3 or Council's Urban Design detail for bicycle hoops (see attached), which requires a minimum of 1500mm clearance for pedestrian access and 1200mm clearance from the kerb for the bicycle parking.
- The four visitor spaces at Wangaratta Street should be relocated to an alternative location that is visible from the public realm and accessible to visitors at the site, and meets clearance and access-way requirements of AS2890.3.
- The six visitor spaces at the Botherambo Street entrance is acceptable, however these spaces may not be visible from the street. As such, it is recommended that appropriate way finding signage is provided to direct visitors to the visitor bicycle parking.
- All visitor spaces are provided as horizontal at-grade spaces as per requirements of AS2890.3

Adequacy of employee spaces

Number of spaces

71 employee spaces are proposed, which exceeds Council's best-practice rate[2] of 48 spaces.

Design and location of employee spaces and facilities

The following comments are provided in relation to the location and design of employee bike parking:

- All employee spaces are provided within Basement level 2 and it is expected that cyclists would access the bike parking and end of trip facilities via the lift shaft.
- Employee bicycle parking does not appear to be provided within a secure facility. Pursuant to Clause 52.34-3 & Australian Standard AS2890.3 bicycle spaces for employees must be provided in a bicycle locker, or in a lockable compound. It is recommended that employee bicycle parking is consolidated into one secure facility. It is also recommended that the secure bicycle parking area is located within close proximity to the lifts and end of trip facilities (as provided in the current proposal).
- Employee bicycle racks are provided as three different types of bike racks, including 7 wall racks, 50 two-tier spaces and 14 horizontal at-grade spaces. The proposed bicycle racks are acceptable, and exceeds the AS2890.3 requirement for at least 20% of bicycle storage spaces to be provided as horizontal at ground-level spaces.
- Employee bicycle spaces and access ways appear to be in accordance with the clearance requirements of AS2890.3.
- Six shower / change rooms are provided, which meets Council's best practice standards recommends one shower per 10 bicycle spaces.

Electric Vehicles

Council's BESS guidelines encourage the use of fuel efficient and electric vehicles (EV). The provision of one EV charging bay is supported. To allow for easy future provision for electric vehicle charging, it is recommended that all car parking areas should be electrically wired to be 'EV ready' to enable future installation of EV charging.

---

[1] *Category 6 of the BESS offers this advice.*

[2] *Category 6 of the BESS offers the following for best-practice guidance for employee office rates: 'Non-residential buildings should provide spaces for at least 10% of building occupants.' Assuming a floor-space occupancy of 1 staff member to 10sqm (which is the maximum rate allowed under the National Construction Code for fire safety), providing bicycle spaces for 10% of occupants results in a rate of 1 space per 100sqm of floor area.*

Attachment 11 - Referral advice provided from both internal and external referrals.

Green Travel Plan

Given the development has a total non-residential floor area of more than 1,000sqm, pursuant to Clause 22.17-4 a Green Travel Plan (GTP) must be provided. The following information should be included:

(a) Description of the location in the context of alternative modes of transport;
(b) Employee welcome packs (e.g. provision of Myki/transport ticketing);
(c) Sustainable transport goals linked to measurable targets, performance indicators and monitoring timeframes;
(d) A designated 'manager' or 'champion' responsible for co-ordination and implementation;
(e) Details of bicycle parking and bicycle routes;
(f) Details of GTP funding and management responsibilities;
(g) The types of bicycle storage devices proposed to be used for employee and visitor spaces (i.e. hanging or floor mounted spaces);
(h) Security arrangements to access the employee bicycle storage spaces;
(i) Signage and wayfinding information for bicycle facilities and pedestrians pursuant to Australian Standard AS2890.3; and
(j) Provisions for the GTP to be updated not less than every five years.

Recommendations

The following should be shown on the plans before endorsement:

1. A minimum of 10 visitor bicycle spaces must be provided in a location easily accessible to visitors of the site and must meet clearance and access-way requirements of AS2890.3 or be otherwise to the satisfaction of the Responsible Authority.
2. All employee bicycle spaces must be provided within a secure storage facility and located within close proximity to the lift shaft and end of trip facilities.

A Green Travel Plan should be provided with the information outlined previously.

Regards

Chloe Wright
Sustainable Transport Officer
Strategic Transport Unit

Attachment 11 - Referral advice provided from both internal and external referrals.

Theodosakis, John

From: Athanasi, Atha
Sent: Wednesday, 20 May 2020 8:36 AM
To: Theodosakis, John
Cc: Huynh, Ally
Subject: RE: 17-23 Wangaratta St Richmond - PLN19/0780

Hi John,

The waste management plan for 17-23 Wangaratta St, Richmond authored by Ratio and dated 1/11/2019 is satisfactory from a City Works Branch's perspective.

Regards,

Atha Athanasi
Contract Management Officer

City Works Services
Parks, Resource Recovery, Cleansing

City of Yarra – City Works Depot
168 Roseneath St CLIFTON HILL VIC 3068
T (03) 9205 5547 F (03) 8417 6666
Atha.Athanasi@yarracity.vic.gov.au
www.yarracity.vic.gov.au

From: Theodosakis, John
Sent: Tuesday, 19 May 2020 2:44 PM
To: Athanasi, Atha <Atha.Athanasi@yarracity.vic.gov.au>
Subject: FW: 17-23 Wangaratta St Richmond - PLN19/0780

Hi Atha,

I can't recall whether we received your referral comments.

Can you please review this and get back to me.

Thanks heaps,

John

From: McNicol, Hayley
Sent: Thursday, 23 January 2020 4:15 PM
To: Huynh, Ally <Ally.Huynh@yarracity.vic.gov.au>
Cc: Griffiths, Sarah <Sarah.Griffiths@yarracity.vic.gov.au>; Theodosakis, John <John.Theodosakis@yarracity.vic.gov.au>; Ferguson, Lucy <Lucy.Ferguson@yarracity.vic.gov.au>
Subject: RE: 17-23 Wangaratta St Richmond - PLN19/0780

Hi Ally

Attachment 11 - Referral advice provided from both internal and external referrals.

Sounds good, thanks for clarifying.

Hayley

From: Huynh, Ally
Sent: Thursday, 23 January 2020 3:37 PM
To: McNicol, Hayley <Hayley.McNicol@yarracity.vic.gov.au>
Cc: Griffiths, Sarah <Sarah.Griffiths@yarracity.vic.gov.au>; Theodosakis, John <John.Theodosakis@yarracity.vic.gov.au>
Subject: FW: 17-23 Wangaratta St Richmond - PLN19/0780

Hi Hayley,

I've just sent this application through for UD comments, however please be advised that I'm only seeking advice from a public realm improvement perspective as we've also engaged an external consultant for UD comments. It's the same firm that has provided UD advice for the other ones in the street.

Kind regards,

Ally Huynh
Senior Coordinator - Statutory Planning
PO BOX 168 Richmond VIC
T (03) 9205 5123
E Ally.huynh@yarracity.vic.gov.au
W yarracity.vic.gov.au

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Yarra City Council acknowledges the Wurundjeri as the Traditional Owners of this country, pays tribute to all Aboriginal and Torres Strait Islander people in Yarra, and gives respect to the Elders past and present.

From: Huynh, Ally
Sent: Thursday, 23 January 2020 2:54 PM
To: Engineering Referral Unit <EngineeringReferalUnit@yarracity.vic.gov.au>; Urban Design Unit <UrbanDesignUnit@yarracity.vic.gov.au>; Strategic Transport Referrals <StrategicTransportReferrals@yarracity.vic.gov.au>; Williamson, Euan <Euan.Williamson@yarracity.vic.gov.au>; Athanasi, Atha <Atha.Athanasi@yarracity.vic.gov.au>
Cc: Theodosakis, John <John.Theodosakis@yarracity.vic.gov.au>
Subject: 17-23 Wangaratta St Richmond - PLN19/0780

Dear all,

I have an applicaton for " Demolition of the existing building to allow for the development of the land for the construction of an eight-storey building for use as office(s) and shop(s) and reduction in the associated car parking requirement of the Yarra Planning Scheme" and would like to seek your commetns from your respective area of expertise.

The relevant attachements can be found in CM as per:

Attachment 11 - Referral advice provided from both internal and external referrals.

D20/10618	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Wind Impact Assessment
D20/10617	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Acoustic Report
D20/10616	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Plans Part 3
D20/10615	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Plans Part 2
D20/10614	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Plans Part 1
D20/10613	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Waste Management Plan
D20/10612	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Sustainable Management
D20/10611	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Sustainable Management
D20/10610	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Sustainable Management
D20/10609	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Sustainable Management
D20/10608	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Traffic Report Part 2
D20/10607	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Traffic Report Part 1
D20/10606	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Town Planning Report
D20/10605	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Certificate of Title
D20/10604	PLN19/0780 - 17 - 23 Wangaratta Street Richmond - Advertising S52 - Application Form

Please ensure John Theodosakis is kept in all correspndences for this application.

Many thanks in advance.

Kind regards,

Ally Huynh
Senior Coordinator - Statutory Planning
PO BOX 168 Richmond VIC
T (03) 9205 5123
E Ally.huynh@yarracity.vic.gov.au
W yarracity.vic.gov.au

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Yarra City Council acknowledges the Wurundjeri as the Traditional Owners of this country, pays tribute to all Aboriginal and Torres Strait Islander people in Yarra, and gives respect to the Elders past and present.

Attachment 11 - Referral advice provided from both internal and external referrals.

City of Yarra
Heritage Advice

Application No.: PLN19/0780

Address of Property: 17 - 19 Wangaratta Street, Richmond

Planner: John Theodosakis

Yarra Planning Scheme References: Clauses 43.01, 21.05 and 22.02.

Heritage Overlay No. HO 332 **Precinct**: Richmond Hill sub precinct D.

Level of significance

No. 17 - 19 Wangaratta Street Not contributory in Appendix 8, *City of Yarra Review of Heritage Overlay Areas 2007, Rev. May. 2018.*

The listings for, and a site inspection of, Wangaratta Street indicate that nearly every building in proximity to the subject site is not contributory and are of a 20th century industrial nature and with buildings up to six, or maybe more, storeys. There are a few buildings further west and near the railway line, such as Australian Knitting Mills, which have residential storeys above the original industrial buildings. These buildings are not visually connected with the subject site.

The site is in the south-west corner of sub-precinct D.

The sub-precinct Statement of Significance (Updated March 2013) states that *viz.*

> D. The Richmond Hill Heritage Overlay Area (south residential sub-area)
> The Richmond Hill Heritage Overlay Area (south) is significant:
>
> - As one of the earliest private development areas in the City for worker housing, dating initially from the 1840s but extending in the gold-era of the 1850s, as early small cottages set on small allotments;
> - For the historical links of the street layout and subsequent housing development with the Docker family and the estate's designer, the noted architect and surveyor, Charles Laing;
> - As an illustration of a rare type of model private subdivision and development in the Melbourne area in the form of a planned `village', as shown by the regular street patterns, similar allotment sizes, and the originally residential land use.

None of this is applicable to the development site insofar as Wangaratta Street is concerned. In Botherambo Street, the site faces the backs of properties addressing that street. Of those listed in Appendix 8 are No. 1 Botherambo Street which is Contributory and No. 19 Botherambo Street which is Individually significant. It is at the south end of Botherambo Street and is at some distance from the development site and anything constructed on that site will have no effect on No. 19 Botherambo Street.

Attachment 11 - Referral advice provided from both internal and external referrals.

Proposal

Demolition of the existing building(s) and construction of a new 7 storey building above basements and with a rooftop element.

Drawing Numbers

Architectural drawings prepared by MAA, with Council date stamp 13 Dec 2019.

Assessment of Proposed Works

Demolition

There are no heritage concerns regarding demolition.

Proposed works

Built form (height/setbacks)

There are no heritage concerns with the height, scale and bulk of the proposed building. The upper levels are set back, the lower levels are constructed to the boundaries, as is typical in this area.

Given views down to this area from Richmond Hill I am concerned about the appearance of the south elevation. A plain solid wall is likely to be intrusive. Some perspectives or montages should be provided to inform an assessment of the impact and appearance of this elevation.

Otherwise the design appears somewhat top heavy. Consideration should be given to deleting one level or otherwise re-designing the external walls to make the four levels above the podium less intrusive.

Recommendation / Comments:

Approved subject to re-consideration of the external appearance as indicated above and the provision of perspectives or montages from Richmond Hill.

Signed:



Robyn Riddett

Director – Anthemion Consultancies

Date: 15 February, 2020.

Attachment 11 - Referral advice provided from both internal and external referrals.

Sustainable Management Plan (SMP)

Referral Response by Yarra City Council



ESD in the Planning Permit Application Process

Yarra City Council's planning permit application process includes Environmentally Sustainable Development (ESD) considerations. This is now supported by the ESD Local Policy Clause 22.17 of the Yarra Planning Scheme, entitled *Environmentally Sustainable Development.*

The Clause 22.17 requires all eligible applications to demonstrate best practice in ESD, supported by the Built Environment Sustainability Scorecard (BESS) web-based application tool, which is based on the Sustainable Design Assessment in the Planning Process (SDAPP) program.

As detailed in Clause 22.17, this application is a 'large' planning application as it meets the category Non-*residential 1. 1,000m² or greater.*

What is a Sustainable Management Plan (SMP)?
An SMP is a detailed sustainability assessment of a proposed design at the planning stage. An SMP demonstrates best practice in the 10 Key Sustainable Building Categories and;

- Provides a detailed assessment of the development. It may use relevant tools such as BESS and STORM or an alternative assessment approach to the satisfaction of the responsible authority; and
- Identifies achievable environmental performance outcomes having regard to the objectives of Clause 22.17 (as appropriate); and
- Demonstrates that the building has the design potential to achieve the relevant environmental performance outcomes, having regard to the site's opportunities and constraints; and
- Documents the means by which the performance outcomes can be achieved.

An SMP identifies beneficial, easy to implement, best practice initiatives. The nature of larger developments provides the opportunity for increased environmental benefits and the opportunity for major resource savings. Hence, greater rigour in investigation is justified. It may be necessary to engage a sustainability consultant to prepare an SMP.

Assessment Process:

The applicant's town planning drawings provide the basis for Council's ESD assessment. Through the provided drawings and the SMP, Council requires the applicant to demonstrate best practice.

Attachment 11 - Referral advice provided from both internal and external referrals.

Sustainable Management Plan (SMP)

Referral Response by Yarra City Council



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Attachment 11 - Referral advice provided from both internal and external referrals.

Sustainable Management Plan (SMP)

Referral Response by Yarra City Council



Assessment Summary:

Responsible Planner:	Ally Huynh
ESD Advisor:	Gavin Ashley
Date:	12.02.2020
Subject Site:	17-23 Wangaratta Street, Richmond, VIC
Project Description:	8 storey mixed-use development comprising 2 levels of basement parking, ground floor commercial, 6 levels of offices and a communal space on the top level.
Pre-application meeting(s):	Unknown.
Documents Reviewed:	- Sustainability Management Plan [Rev 3 & 4], ADP Consulting - Waste Management Plan [01.11.19], Ratio - Architectural Plans [12.12.19], MA Architects

The standard of the ESD does not meet Council's Environmental Sustainable Design (ESD) standards. Should a permit be issued, the following ESD commitments (1) and deficiencies (2) should be conditioned as part of a planning permit to ensure Council's ESD standards are fully met.

Furthermore, it is recommended that all ESD commitments (1), deficiencies (2) and the outstanding information (3) are addressed in an updated SMP report and are clearly shown on Condition 1 drawings. ESD improvement opportunities (4) have been summarised as a recommendation to the applicant.

(1) Applicant ESD Commitments:

- Thermal modelling of all non-residential areas.
- Metering and monitoring strategy applied.
- Building User Guide will be provided to building occupants with the intent to reduce energy and water consumption.
- Water efficient fixtures and taps.
- A STORM report with a 101% STORM score has been submitted that demonstrates best practice and relies on ~799.7m² of roof connected to two rainwater tanks (1x 8,500 litre, 1x 3,500 litre) connected to toilet flushing within the development.
- 20% improvement above the NCC energy efficiency requirements for heating and cooling through enhanced envelope insulation
- Common area lighting controlled by motion detector, with external lighting controlled by daylight sensors.
- 20kWp rooftop solar photovoltaic system.
- Operable windows to facilitate natural ventilation.
- External shading for exposed glazing where applicable.
- 81 bicycle parking spaces in total, with 5 different styles provided (dual height, horizontal, wall hung, bike hoops and visitor parks) and end of trip facilities.
- Motorbike parking, electric vehicle infrastructure and a car share scheme in place.
- Segregated recycling and provision of garden and food waste storage and collection.
- Vegetation across 15% of the site area facilitated with the installation of a green roof.
- Post occupancy survey.

(2) Application ESD Deficiencies:

- Additional shading treatments for northern and western façade to mitigate summer heat gain.
- At least 5% of car parks are recommended to be EV ready or wired for future.

(3) Outstanding Information:

- Update BESS report to remove TVOC as an innovation point

Attachment 11 - Referral advice provided from both internal and external referrals.



- Show external shading locations on plans, with northern and western facades a priority to mitigate summer heat gain.
- Update SMP to address the reused and recycled materials
- Provide an evaluation how the design choices have reduced embodied energy (particularly of steel and concrete)
- A Green Travel Plan prepared by Ratio is referred to in the SMP, however unavailable as advertised document.
- A statement is required demonstrating how material and landscape choices reduce the urban heat island effect
- More information is required on how the DHW systems manage the risk of microbial contamination
- A target should be set through the CWMP of at least 80%.

(4) ESD Improvement Opportunities

- Consider 3 pipe variable refrigerant flow
- Consider FSC or PEFC certified timber
- Consider a small pallet of materials and construction techniques that can assist in disassembly
- Satisfactory. Consider the provision of additional bike hoops at GF for visitors / customers.
- Consider Head contractor to be accredited to ISO 14001

Further Recommendations:

The applicant is encouraged to consider the inclusion of ESD recommendations, detailed in this referral report. Further guidance on how to meet individual planning conditions has been provided in reference to the individual categories. The applicant is also encouraged to seek further advice or clarification from Council on the individual project recommendations.

Attachment 11 - Referral advice provided from both internal and external referrals.

1. Indoor Environment Quality (IEQ)

Objectives:

- to achieve a healthy indoor environment quality for the wellbeing of building occupants.
- to provide a naturally comfortable indoor environment will lower the need for building services, such as artificial lighting, mechanical ventilation and cooling and heating devices.

Issues	Applicant's Design Responses	Council Comments	CAR*
Natural Ventilation and Night Purging	Mixed mode with operable sliding doors with handrails throughout to facilitate 2-way cross-ventilation, and a mechanical ventilation system to regulate non-occupied areas such as toilets.	Satisfactory.	1
Daylight & Solar Access	35% of primary spaces achieving DF>2.0, with VLT 0.6 for ground floor, and 0.4 for Level 1-7.	Satisfactory	1
External Views	All office spaces have external views.	Satisfactory.	1
Hazardous Materials and VOC	Over 50% of paint (by weight) to have a TVOC content <5g/L.	Update BESS report to remove TVOC as an innovation point	3
Thermal Comfort	Achieved with a mixed mode of natural (and mechanical) ventilation, insulation, double glazing and shading where appropriate.	Additional shading treatments for northern and western façade to mitigate summer heat gain.	2

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 1. Indoor Environment Quality
Good Environmental Choice Australia Standards www.geca.org.au
Australian Green Procurement www.greenprocurement.org
Residential Flat Design Code www.planning.nsw.gov.au
Your Home www.yourhome.gov.au

Attachment 11 - Referral advice provided from both internal and external referrals.

2. Energy Efficiency

Objectives:

- to ensure the efficient use of energy
- to reduce total operating greenhouse emissions
- to reduce energy peak demand
- to minimize associated energy costs.

Issues	Applicant's Design Responses	Council Comments	CAR*
NCC Energy Efficiency Requirements Exceeded	Overall energy efficiency at least 20% above minimum NCC/BCA requirements.	Satisfactory	1
Thermal Performance	25% reduction in heating and cooling compared to reference building with DTS services.	Satisfactory	1
Greenhouse Gas Emissions	Estimated the provision of rooftop solar PV results in carbon emission abatement of 29,040 $kgCO_2e$/annum, reducing GHG emissions by 20%.	Satisfactory	1
Hot Water System	High efficiency Rheem hot water units proposed.	Satisfactory	1
Peak Energy Demand	No information provided.		
Effective Shading	Where deemed suitable, exposed glazing to have exterior adjustable shading devices. (SMP, part 1, p. 12)	Show external shading locations on plans, with northern and western facades a priority to mitigate summer heat gain.	3
Efficient HVAC system	Modelling with the proposed services and air conditioning systems achieves a COP >3.4.	Consider 3 pipe variable refrigerant flow	4
Car Park Ventilation	CO monitoring.	Satisfactory.	1
Efficient Lighting	High-performance LEDs used throughout, with power density at least 20% more efficient than BCA requirements.	Satisfactory.	1
Electricity Generation	67x 300W panels to produce 22,000 kWh/annum.	Satisfactory	1
Other	-	-	

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 2. Energy Efficiency
House Energy Rating www.makeyourhomegreen.vic.gov.au
Building Code Australia www.abcb.gov.au
Window Efficiency Rating Scheme (WERS) www.wers.net
Minimum Energy Performance Standards (MEPS) www.energyrating.gov.au
Energy Efficiency www.resourcesmart.vic.gov.au

Attachment 11 - Referral advice provided from both internal and external referrals.

3. Water Efficiency

Objectives:

- to ensure the efficient use of water
- to reduce total operating potable water use
- to encourage the collection and reuse of rainwater and stormwater
- to encourage the appropriate use of alternative water sources (e.g. grey water)
- to minimise associated water costs.

Issues	Applicant's Design Responses	Council Comments	CAR*
Minimising Amenity Water Demand	41% reduction in potable water consumption. Assisted by water efficient fixtures with following WELS score. • Taps: 6 star • Toilets: 3 star • Showers: 3 star • Dishwashers 6 star • Urinals: 6 star	Satisfactory.	1
Water for Toilet Flushing	A total of 12,000L of water storage on-site connected to toilets with capacity to service 100 occupants. (SMP, part 1, P. 26)	Satisfactory.	1
Water Meter	Individual water meter for each tenancy.	Satisfactory.	1
Landscape Irrigation	Rooftop landscape design to reduce potable water used for irrigation.	Satisfactory.	1
Other	-	-	

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 3. Water Efficiency
Water Efficient Labelling Scheme (WELS) www.waterrating.gov.au
Water Services Association of Australia www.wsaa.asn.au
Water Tank Requirement www.makeyourhomegreen.vic.gov.au
Melbourne Water STORM calculator www.storm.melbournewater.com.au
Sustainable Landscaping www.ourwater.vic.gov.au

Attachment 11 - Referral advice provided from both internal and external referrals.

4. Stormwater Management

Objectives:

- to reduce the impact of stormwater runoff
- to improve the water quality of stormwater runoff
- to achieve best practice stormwater quality outcomes
- to incorporate Water Sensitive Urban Design principles.

Issues	Applicant's Design Responses	Council Comments	CAR*
STORM Rating	A STORM report with a 101% STORM score has been submitted that demonstrates best practice and relies on ~799.7m² of roof connected to two rainwater tanks (1x 8,500 litre, 1x 3,500 litre) connected to toilet flushing within the development.	Satisfactory	1
Discharge to Sewer	343.3 m² of untreated hard surfaces without collection and storage, with additional discharge to be filtered to remove contaminants.	Satisfactory	1
Stormwater Diversion	Approx. 180 m² of green roof, and 12,000L of storage capacity.	Satisfactory	1
Stormwater Treatment	First flush diverters, automatic backwash 100-micron filter screens, 3-stage filtration (50, 5 & 1 micron), and a UV disinfection unit.	Satisfactory	1
Others	Environmental Management Plan to include provisions around preventing construction debris and pollutants from entering wastewater.	Satisfactory	1

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 4. Stormwater Management
Melbourne Water STORM calculator www.storm.melbournewater.com.au
Water Sensitive Urban Design Principles www.melbournewater.com.au
Environmental Protection Authority Victoria www.epa.vic.gov.au
Water Services Association of Australia www.wsaa.asn.au
Sustainable Landscaping www.ourwater.vic.gov.au

Attachment 11 - Referral advice provided from both internal and external referrals.

5. Building Materials

Objectives:

- to minimise the environmental impact of materials used by encouraging the use of materials with a favourable lifecycle assessment.

Issues	Applicant's Design Responses	Council Comments	CAR*
Reuse of Recycled Materials	No specific information provided.	Update SMP to address the reused and recycled materials	3
Embodied Energy of Concrete and Steel	No specific information provided.	Provide an evaluation how the design choices have reduced embodied energy (particularly of steel and concrete)	3
Sustainable Timber	No specific information provided.	Consider FSC or PEFC certified timber	4
Design for Disassembly	No information has been provided.	Consider a small pallet of materials and construction techniques that can assist in disassembly	4
PVC	No information has been provided.	Consider pipes, cabling, flooring to do not contain PVC or meeting best practice guidelines for PVC	4

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 5. Building Materials
Building Materials, Technical Manuals www.yourhome.gov.au
Embodied Energy Technical Manual www.yourhome.gov.au
Good Environmental Choice Australia Standards www.geca.org.au
Forest Stewardship Council Certification Scheme www.fsc.org
Australian Green Procurement www.greenprocurement.org

Attachment 11 - Referral advice provided from both internal and external referrals.

6. Transport

Objectives:

- to minimise car dependency
- to ensure that the built environment is designed to promote the use of public transport, walking and cycling.

Issues	Applicant's Design Responses	Council Comments	CAR*
Minimising the Provision of Car Parks	Car parking matches requirements of planning scheme.	Satisfactory	1
Bike Parking Spaces	Bicycle parking exceeds GreenStar & BESS requirements, with 81 bicycle parking spaces provided.	Satisfactory. Consider the provision of additional bike hoops at GF for visitors / customers.	4
End of Trip Facilities	End of trip facilities have been provided.	Satisfactory.	1
Car Share Facilities	2 car-share pods are within 150m of the development, with an additional 8 within 600m.	Satisfactory.	1
Electric vehicle charging	One parking space will be nominated for EV charging, with appropriate signage and charging infrastructure installed.	At least 5% of car parks are recommended to be EV ready or wired for future.	2
Green Travel Plan	A Green Travel plan has not been provided.	A Green Travel Plan prepared by Ratio is referred to in the SMP, however unavailable as advertised document.	3

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 6. Transport
Off-setting Car Emissions Options www.greenfleet.com.au
Sustainable Transport www.transport.vic.gov.au/doi/internet/icy.nsf
Car share options www.yarracity.vic.gov.au/Parking-roads-and-transport/Transport-Services/Carsharing/
Bicycle Victoria www.bv.com.au

Attachment 11 - Referral advice provided from both internal and external referrals.

7. Waste Management

Objectives:

- to ensure waste avoidance, reuse and recycling during the design, construction and operation stages of development
- to ensure long term reusability of building materials.
- to meet Councils' requirement that all multi-unit developments must provide a Waste Management Plan in accordance with the *Guide to Best Practice for Waste Management in Multi-unit Developments 2010*, published by Sustainability Victoria.

Issues	Applicant's Design Responses	Council Comments	CAR*
Construction Waste Management	A Construction Waste Management Plan to be implemented during construction.		1
Operational Waste Management	A Waste Management Plan has been provided that outlines storage, management and collection of operational waste.	Satisfactory.	1
Storage Spaces for Recycling and Green Waste	Waste management facilities located in Basement with provision for multiple waste streams including: general, recycling, green, food, hard and E-waste.	Satisfactory.	1
Others	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 7. Waste Management
Construction and Waste Management www.sustainability.vic.gov.au
Preparing a WMP www.epa.vic.gov.au
Waste and Recycling www.resourcesmart.vic.gov.au
Better Practice Guide for Waste Management in Multi-Unit Dwellings (2002) www.environment.nsw.gov.au
Waste reduction in office buildings (2002) www.environment.nsw.gov.au

Attachment 11 - Referral advice provided from both internal and external referrals.

8. Urban Ecology

Objectives:

- to protect and enhance biodiversity
- to provide sustainable landscaping
- to protect and manage all remnant indigenous plant communities
- to encourage the planting of indigenous vegetation.

Issues	Applicant's Design Responses	Council Comments	CAR*
On Site Topsoil Retention	Construction Environmental Management Plan will be implemented during construction to minimize topsoil destruction and soil erosion.	Satisfactory.	N/A
Maintaining / Enhancing Ecological Value	15% of the site is covered with vegetation on level 03 and level 07.	Satisfactory.	1
Heat Island Effect	No information has been provided.	A statement is required demonstrating how material and landscape choices reduce the urban heat island effect	3
Other	There is 292 m^2 of terrace and roof deck areas for communal access.	Good.	1
Green wall, roofs, facades	Green Roofs on level 03 and level 07 totalling Approx. 120 m^2.	Satisfactory.	1

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 8. Urban Ecology
Department of Sustainability and Environment www.dse.vic.gov.au
Australian Research Centre for Urban Ecology www.arcue.botany.unimelb.edu.au
Greening Australia www.greeningaustralia.org.au
Green Roof Technical Manual www.yourhome.gov.au

Attachment 11 - Referral advice provided from both internal and external referrals.

9. Innovation

Objective:

- to encourage innovative technology, design and processes in all development, which positively influence the sustainability of buildings.

Issues	Applicant's Design Responses	Council Comments	CAR*
Innovative Social Improvements	Post occupancy survey.	Provide outcome of post occupancy study through the planning condition	1
New Technology	DHW systems designed to manage the risk of microbial contamination. (SMP, part 4, p. 1)	More information is required on how the DHW systems manage the risk of microbial contamination	3
New Design Approach	Eco-friendly floor covering. (SMP, part 4, p. 1). Paint VOC reduction. 50% of paint by cost with TVOC <5g/L	This is not considered an innovation	1
Others	Contractor education sessions around sustainable building solutions, with head personnel and 80% of staff on site for 3+ days to attend. (SMP, part 4, p. 1).	Excellent	1

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 9. Innovation
Green Building Council Australia www.gbca.org.au
Victorian Eco Innovation lab www.ecoinnovationlab.com
Business Victoria www.business.vic.gov.au
Environment Design Guide www.environmentdesignguide.com.au

Attachment 11 - Referral advice provided from both internal and external referrals.

10. Construction and Building Management

Objective:

- to encourage a holistic and integrated design and construction process and ongoing high performance

Issues	Applicant's Design Responses	Council Comments	CAR*
Building Tuning	Water system (tanks & pump) maintained quarterly in first year as part of building tuning phase. Post occupancy phase (see above).	Satisfactory	1
Building Users Guide	A Building Users Guide explaining optimal usage of building services to minimise energy and water consumption.	Satisfactory	1
Contractor has Valid ISO14001 Accreditation	No information has been provided.	Consider Head contractor to be accredited to ISO 14001	4
Construction Management Plan	A Construction Waste Management Plan to be implemented during construction.	A target should be set through the CWMP of at least 80%.	3
Others	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 10. Construction and Building Management
ASHRAE and CIBSE Commissioning handbooks
International Organization for standardization – ISO14001 – Environmental Management Systems
Keeping Our Stormwater Clean – A Builder's Guide www.melbournewater.com.au

Attachment 11 - Referral advice provided from both internal and external referrals.

Sustainable Management Plan (SMP)
for planning applications being considered by Yarra Council



Applicant Response Guidelines

Project Information:

Applicants should state the property address and the proposed development's use and extent. They should describe neighbouring buildings that impact on or may be impacted by the development. It is required to outline relevant areas, such as site permeability, water capture areas and gross floor area of different building uses. Applicants should describe the development's sustainable design approach and summarise the project's key ESD objectives.

Environmental Categories:

Each criterion is one of the 10 Key Sustainable Building Categories. The applicant is required to address each criterion and demonstrate how the design meets its objectives.

Objectives:

Within this section the general intent, the aims and the purposes of the category are explained.

Issues:

This section comprises a list of topics that might be relevant within the environmental category. As each application responds to different opportunities and constraints, it is not required to address all issues. The list is non-exhaustive and topics can be added to tailor to specific application needs.

Assessment Method Description:

Where applicable, the Applicant needs to explain what standards have been used to assess the applicable issues.

Benchmarks Description:

The applicant is required to briefly explain the benchmark applied as outlined within the chosen standard. A benchmark description is required for each environmental issue that has been identified as relevant.

How does the proposal comply with the benchmarks?

The applicant should show how the proposed design meets the benchmarks of the chosen standard through making references to the design brief, drawings, specifications, consultant reports or other evidence that proves compliance with the chosen benchmark.

ESD Matters on Architectural Drawings:

Architectural drawings should reflect all relevant ESD matters where feasible. As an example, window attributes, sun shading and materials should be noted on elevations and finishes schedules, water tanks and renewable energy devices should be shown on plans. The site's permeability should be clearly noted. It is also recommended to indicate water catchment areas on roof- or site plans to confirm water re-use calculations.

Attachment 11 - Referral advice provided from both internal and external referrals.

hansen

Urban Design Memo

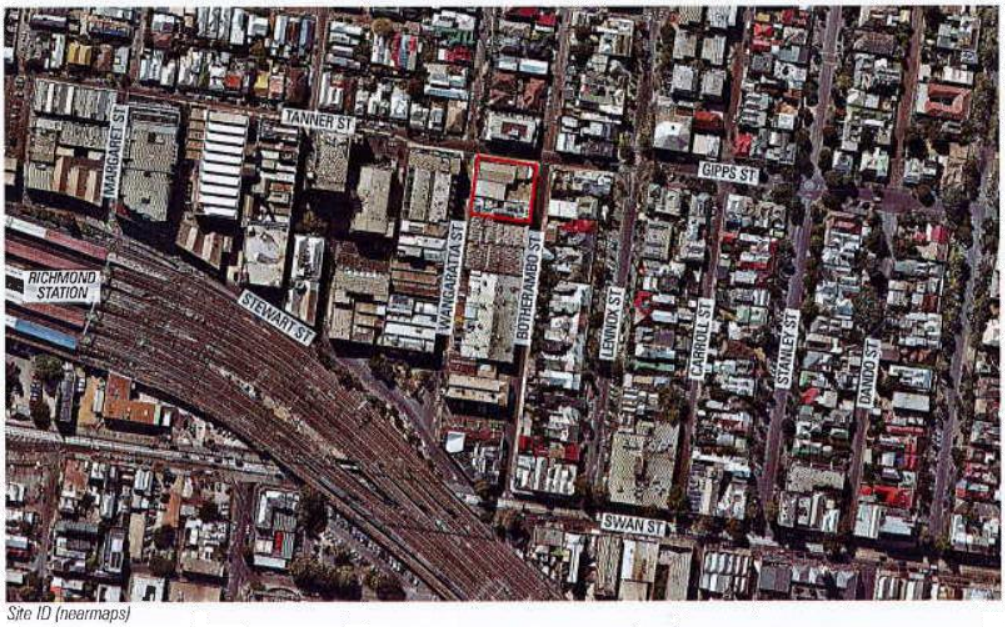
To:	Ally Huynh	Date:	25th February 2020
Company:	Yarra City Council	From:	Hansen Urban Design Team
Cc:			
Re:	17-23 Wangaratta Street and 68 Tanner Street, Richmond		

INTRODUCTION

This Urban Design memo has been prepared by Hansen Partnership for the City of Yarra (Council), as part of a planning permit application for a proposed commercial building at 17-23 Wangaratta Street and 68 Tanner Street, Richmond. Details of the proposed development are outlined on the architectural plans prepared by MAA Architecture dated 12/12/2019. This memo is based on an independent urban design assessment of the proposal.

The proposed development represents an excellent opportunity to realise State and Local Planning Policy ambitions for the development of land within the Swan Street Activity Centre on a site of 1,146m^2. The site defines the Precinct 1 (Richmond Station Precinct) eastern boundary with interface to low rise residential in NRZ. The Swan Street Structure Plan designates this urban block as transitional, with designated development scale of 5-6 storey. Taller development between 7-10 storeys are directed towards Richmond Station, well- buffered from sensitive residential edges.

This memo presents an analysis of the relevant built form and urban design matters and assesses how the proposed development responds to its existing and anticipated urban contexts. The purpose of this report is to identify if the proposal contributes to an acceptable urban design outcome for the site in the context of the planning scheme and the surrounding precinct to assist Council in reaching a decision.



Site ID (nearmaps)

Attachment 11 - Referral advice provided from both internal and external referrals.

SITE CONTEXT & INTERFACES

The subject site is located within the Swan Street Activity Centre, within 200m of the Swan Street spine to the south and within 300m of Richmond Station to the southwest. The site is surrounded by large commercial and industrial allotments to its south and west, but demarcates a stark edge to adjoining residential areas that generally comprise fine grain 1-2 storey dwellings. The key site interface conditions are as follows:

- To the **east**, is Botherambo Street, a 10m wide road reserve accommodating back-of-house for both residential lots to the east and commercial properties to the west. Immediately across the street at 276 to 282 Botherambo Street are traditional fine grain residential lots of predominately 1 and 2 storeys with a primary frontage to Lennox Street. Private open space for each dwelling is set between garages and dwellings at ground level in courtyards and Level 1 balconies.
- To the **west**, is Wangaratta Street, a 10m wide road reserve that accommodates 2-way traffic and parallel parking on one side of the road. The street comprises 2 and 3 storey commercial forms, most of which comprise vehicle access to garages from the street frontage.
- To the **north** is Tanner Street, a 10m wide reserve that accommodates 2-way traffic and parallel parking along the northern side. Pedestrian footpaths are available on both sides of the reserve. Opposite the street is a 3-storey residential apartment complex within the Neighbourhood Residential Zone. Beyond this complex are lower scaled residential dwellings typical of the broader residential environs.
- To the immediate **south** is a 2-storey brick post-war commercial/warehouse building abutting a series of similar buildings extending further south along Wangaratta Street. A series of approved and a development application apply to these allotments. This most notably includes an 7-8 storey commercial proposal at the neighbouring 25-43 Wangaratta Street. Further south, a planning permit for a 7-storey commercial building was granted in 2018 at 45 Wangaratta Street which is yet to be constructed.

Recent development approvals and constructed projects in the surrounding area include:

- 1 Little Lesney Street (10 storeys);
- 25-43 Wangaratta Street (8 storeys);
- 9-13 Stewart Street, Richmond (8 storeys);
- 9-11 Cremorne Street, Cremorne (8 storeys);
- 45 Wangaratta Street (7 storeys);
- 60-88 Cremorne Street, Cremorne (7 storeys);
- 10 Dover Street, Cremorne (6 storeys);
- 375-377 Punt Road, Cremorne (6 storeys); and
- 12 Wangaratta Street (6 storeys).



7-8 proposal at 25-43 Wangaratta Street, immediately south of the Subject Site

Attachment 11 - Referral advice provided from both internal and external referrals.

PLANNING POLICY

The subject site falls within the Yarra Planning Scheme. It is located within the **Mixed Use Zone (MUZ).** The purpose of the Mixed Use Zone is as follows:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To provide for a range of residential, commercial, industrial and other uses which complement the mixed-use function of the locality.
- To provide for housing at higher densities.
- To encourage development that responds to the existing or preferred neighbourhood character of the area.
- To facilitate the use, development and redevelopment of land in accordance with the objectives specified in a schedule to this zone.

The site is also subject to the **Heritage Overlay (HO332).** The subject site is within HO332-Richmond Hill Precinct. The existing buildings on the land however have been identified as non-contributory. South of the subject site, adjoining allotments through to 45 Wangaratta Street all host non-contributory buildings with no identified heritage value.

The **Environmental Audit Overlay (EAO)** also applies to the subject land. The purpose of the overlay is *"to ensure that potentially contaminated land is suitable for a use which could be significantly adversely affected by any contamination."*

The subject site is located in Precinct 1: Richmond Hill Station in the **Swan Street Structure Plan** (City of Yarra, 2014). Relevant considerations for the subject site include:

- Preferred height of 5-6 storeys;
- Low scale street wall to Wangaratta Street, turning the corner into Tanner Street;
- Transition in scale to low-rise residential dwellings along Tanner Street and Botherambo Street;
- Upper levels that are 'stepped back' at a 1:1 ratio at residential interfaces to avoid visual bulk, overlooking and amenity impacts.

State and Local Planning Policy also considered in this urban design assessment of the proposal include:

- Clause 21.02 – Municipal Profile;
- Clause 21.03 – Vision;
- Clause 21.05 – Built Form;
- Clause 21.08-2 – Burnley, Cremorne, South Richmond;
- Clause 22.02 – Development Guidelines for Sites Subject to the Heritage Overlay
- Clause 22.05 – Interface Uses Policy;
- Clause 22.10 – Built Form and Design Policy; and
- Clause 22.17 – Environmentally Sustainable Development.

Other relevant documents include:

- Swan Street Activity Centre Built Form Framework, City of Yarra (2017);
- Plan Melbourne, DEWLP (2017);
- Urban Design Guidelines for Victoria, DELWP (2017); and
- Victorian Government, Urban Design Charter (2010).



Planning Zones



Planning Overlay

Attachment 11 - Referral advice provided from both internal and external referrals.

THE PROPOSAL

The proposal comprises the demolition of the existing building and the construction of an 8-storey commercial building with a maximum height of 28.21 metres (measured from the southern end of the Wangaratta Street frontage). The proposal has primary frontage to Wangaratta and Tanner Streets and a secondary frontage to Botherambo Street. Specifically, the proposal comprises the following attributes:

- An overall 8-storey massing arrangement comprising a 3-storey 'podium base' (with a height of 12.10 metres measured along Wangaratta Street) and 5 upper levels setback from street boundaries;
- An architectural language that is uniform across the podium base and upper level top. it has clearly expressed floor plate and fenestration through its materiality comprising concrete, stone, galvanised steel, timber and glass with projecting concrete fins;
- Two commercial shops on ground level of 631m^2 and 69m^2 in floor area respectively, with pedestrian access from Wangaratta Street;
- The ground level includes a gated walkway and lobby area that provides access between Wangaratta Street and Botherambo Street. 6 visitor bicycle spaces are also provided within the walkway accessible from Botherambo Street;
- The removal of existing crossovers along Wangaratta, Tanner and Botherambo Streets;
- A double basement comprising 46 car parking spaces, 81 bicycle spaces, end-of-trip facilities and building services accessed via a 5.68m wide crossover along Botherambo Street;
- A building core sited to the southern boundary comprising stairs, 2 elevators, bathrooms and associated staff facilities;
- 962m2 of office space at both Level 1 and Level 2 – generally built to all property boundaries;
- Level 3 includes 644m^2 of office floor space, and 176m^2 of terrace. It is set back 3 metres from Wangaratta Street, 4.63 metres from Tanner Street; and 4.61 metres from Botherambo Street;
- Levels 4, 5 & 6 include 644m2 of office floor space. They are set back a minimum of 3 metres from Wangaratta Street, 4.13 metres from Tanner Street and 4.61 metres from Botherambo Street; and
- Level 7 includes 255m2 of office floor space, 119m2 of terrace area and a green roof with a total area of 121m2. It is set back 6.1 metres from Wangaratta Street, 13.12 metres from Tanner Street; and 7.47 metres from Botherambo Street.



The Proposal viewed (northern elevation).

Attachment 11 - Referral advice provided from both internal and external referrals.

URBAN DESIGN ASSESSMENT

The subject site represents in principle, an opportunity for a commercial development outcome with increased employment density that is consistent with Policy ambitions for the Swan Street Activity Centre (Swan Street Structure Plan, 2014). However, this overarching ambition will need to be appropriately balanced with other ambitions of the Structure Plan relating to built form and public realm including:

- Visually recessive upper levels that are sufficiently set back to be visually 'subservient' to the lower form;
- Creating a complementary and proportionate relationship to the residential streetscapes of Tanner Street and Botherambo Street;
- Providing a built form transition to adjoining residential areas;
- Ensuring new development minimises off site amenity impacts such as visual bulk, overlooking and overshadowing; and
- A considered response to both the emerging and historic characters of the Precinct and surrounds.

In a context of urban regeneration such as the Richmond Station Precinct, each development proposal is obliged to fit within this evolving context through responding to the characteristics of its specific site, adjoining developments and surrounding established environs to ensure an orderly planning outcome is achieved. While we are generally supportive of the proposed commercial development in principle, we are not convinced that the proposal satisfies in full the need for transition to the established residential areas, particularly to the east across Botherambo Street and north across Tanner Street. As such, our in-principle urban design support will be subject to further refinement to address urban design matters as discussed in this report.

STRATEGIC CONTEXT

Based on a review of the Swan Street Structure Plan, we acknowledge that strategic policy provides support for a mixed-use development of up to 5-6 storeys (19m) on the site with a 'low-scale street wall' to Wangaratta Street and 'transition in scale to low-rise residential' land to the north and east. Further west across Wangaratta Street are provisions for a higher urban scale upwards of 7-10 storeys on urban blocks with limited direct interface with the NRZ. Importantly, built form controls applied to the urban block east of Wangaratta Street differ from the west, due to the low-order residential interface that occurs opposite Botherambo Street (and across Tanner Street to the north).

Regarding recent development in the MUZ area, there are examples of new buildings of up to 5 storeys as well as smaller scale townhouse developments of 2 and 3 storeys. We acknowledge several recent higher density development approvals, including a 7 storey (24m) commercial development abutting the site to the south at No. 45 Wangaratta Street. Further, it is not uncommon to find development approvals of a greater scale behind the Swan Street spine, including a 10-storey approval at 1 Little Lesney Street.



Proposal at 45 Wangaratta Street

Attachment 11 - Referral advice provided from both internal and external referrals.



Location of the subject site within the adopted Structure Plan – Precinct 1

Having regard to the Urban Design Principles which form the basis of built form controls within the Structure Plan, we note that the back-block location of the subject site is quite distinct from the finer-grained lots found along the retail corridors of Swan and Church Streets (subject to the C1Z and C2Z). The principles (and subsequent parameters) pertaining to street walls, upper level setbacks and solar access relate specifically to these streets, particularly in those locations where heritage buildings exist. We consider however, the provision of solar access to the public realm and protection of residential interfaces to remain necessary considerations in this off-corridor location, ensuring attractive pedestrian in pockets of greater density to create a more vibrant urban experience. We also consider the management of upper level setbacks, ensuring future street wall remains the prominent feature in the adjoining streetscape settings. Noting distinctive variation in subdivision pattern and development typology within the MUZ precinct, the applicable built form parameters may vary from those along the commercial corridors (Church and Swan Streets).

Based on the above, we accept that a variation of the preferred building height from what's specified in the Structure Plan can be contemplated on this site, noting approval and proposed 7-8 storey forms to the south. However, the Structure Plan is clear in its urban morphology ambition for this urban block is one that transition down from south to north and from west to east and to minimise off-site amenity impacts. As such, we do not consider an 8-storey proposal is a supportable proposition where transition to north and east is expected in response to the residential interfaces.

Our urban design assessment (as detailed below) demonstrates a 7-storey commercial form with varied setback parameters from its western, northern and eastern boundaries represents a supportable urban design outcome. The rationale for recommendations relating to building height, transition and setbacks is further set out in the discussion below.

Attachment 11 - Referral advice provided from both internal and external referrals.

SITE PLANNING

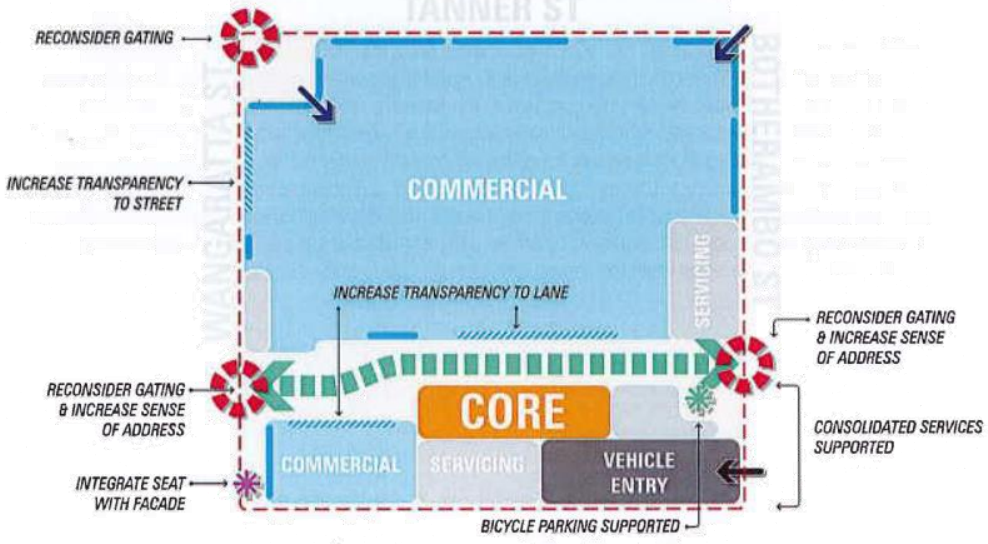
The proposed site planning strategy is generally logical and one that befits this corner location. Consistent with the recent development pattern further south, the proposal has appropriately orientated its primary frontages to Wangaratta and Tanner Streets as the preferred pedestrian routes. Services located along Botherambo Street, a secondary frontage with some passive surveillance provided at ground and upper levels, is also logical. In terms of its arrangement of 'fronts' and 'backs', the proposed site planning is generally successful.

We are generally supportive of the following strategies as demonstrated on the ground level plan:

- The gesture of ground level setbacks around pedestrian entries to commercial premise and lobby assists in establishing a threshold space between private and public suited for urban condition with narrow footpath.
- Vehicle access and substation located along Botherambo Street, supporting uninterrupted pedestrian movement along Wangaratta Street.
- Bike storage at ground level, easily accessible and visible along Botherambo Street.
- The creation of a pedestrian through-link between Wangaratta Street and Botherambo Street.
- Maximising opportunity for passive surveillance and activation of Tanner Street and part of Wangaratta and Botherambo Streets.

While some aspects of the site planning strategy provide good foundation for a successful outcome, adjustments should be made to gain a fully supportable outcome and one that meets the Structure Plan objectives, as follows:

- Wangaratta Street has clearly been designated as the primary ground level frontage – hosting both primary entrances (at its corner with Tanner Street and at the pedestrian laneway), minimal back-of-house function and address to both commercial shop tenancies. The glazing/active-frontage rationale along Wangaratta Street is therefore unclear – as there is minimal glazing between the booster cabinet and the corner lobby entrance. Hoop bicycle parking spaces are sited along this blank façade, resulting in poor visual connectivity through to the ground level store. We recommend that a greater extent of glazing is provided to the Wangaratta Street ground level façade to invite greater visual connection to the primary development address.



Attachment 11 - Referral advice provided from both internal and external referrals.

- We query the extent and need for gating at ground level to all entrances which we consider diminishes the sense of address to the corner lobby and laneway entries. The nature of laneways in the surrounding have a sense of openness, while the proposed glazed doors within the laneway will provide security and privacy after hours – assuming swipe-card access or equivalent. In elevation, it is difficult to decipher the laneway entry points which are lost in the context of the garage door, MSR exit gate and other servicing components. We recommend that the laneway entry points are strengthened to provide a clear sense of address, punctuating from the elevation as a key feature of the architectural language.
- The proposed bench seat along the in front of the inset Commercial Shop 2 is supported in principle, however its siting between the footpath and commercial frontage could be perceived as a barrier. We recommend the seat is integrated into the façade as to avoid negating the positive notion of the widened footpath at the shopfront. An alternative location for seating could be along Botherambo Street adjacent to bicycle parking.
- The laneway is a positive notion that provides pedestrian permeability through the site and as discussed, conceals 'back-of-house' function from streetscapes. However, there is limited interaction between the laneway and its abutting commercial tenants. It is almost completely framed by blank walls which could result in a poorly lit environment that relies on internal lighting, as well as limited passive surveillance. Siting the laneway north of the party wall and not directly abutting it is logical and provides opportunity for the lane to interact with the abutting commercial tenancies. It also provides separation between the active functions of the ground level and the building services and vehicle entry along the southern boundary. Therefore, we recommend that the extent of glazing is to the laneway is significantly increased. While this may have functional implications to the shop spaces, it will also be an opportunity for internal layouts to be designed to provide inviting interfaces to the lane and improve its vibrancy as a functional space.



Greater transparency to laneway is recommended

- The response to Botherambo Street acknowledges its 'back-of-house' functions servicing the rears of NRZ residences comprising garages and rear access roller-doors lining the interface. Where the responses to Wangaratta and Tanner Street comprise predominantly active edges with minimal servicing, the Botherambo Street frontage consolidates the substation, access to the fire pump room, the 'MSR' and garage door access to basement parking. The interface maintains some activity, with a secondary pedestrian entry via the laneway provided, 6 visitor bicycle parking spaces and a glazed window of Commercial Shop 1 as it wraps the Tanner Street corner. The visitor bicycle parking sited with the secondary pedestrian entrance here is logical, as it provides opportunity for additional interaction to occur in this more 'servicing' oriented segment of streetscape. To increase the level of activity to Botherambo Street, we query whether it is possible to rotate the large substation by 90 degrees to shorten the presentation of blank façade to the streetscape.

Attachment 11 - Referral advice provided from both internal and external referrals.

MASSING & VISUAL BULK

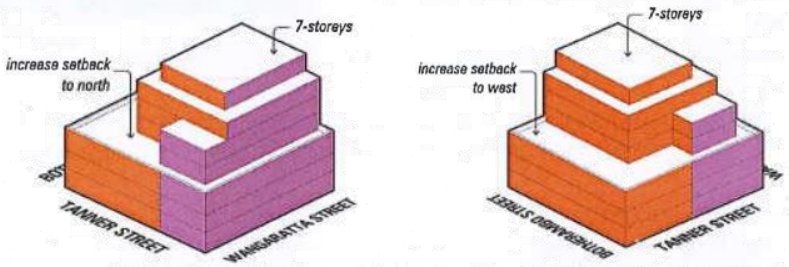
The 3-storey street wall is supported. It adheres to Structure Plan guidance and provides a proportionate response to all 3 adjacent streetscapes (10m wide profiles). It is also consistent with the emerging character of this part of the Precinct and responds to the NRZ scale, including the 3-storey residential building across Tanner Street.

We are also generally supportive of contracting upper level footprint away from its northern, eastern and western boundaries. A party wall arrangement along the southern common boundary across its full height is positive and represents a reciprocal outcome to the 7-storey proposal at 25-43 Wangaratta St. However, when assessed against the Structure Plan objectives regarding transition in scale to low-rise residential dwellings, we are not convinced that the proposed setbacks yield a successful outcome and requires refinement.

We would be supportive of a visually recessive, open 'pergola' rooftop structure that provides additional communal space for building users. Our recommendations for a revised massing strategy at each street interface as per Structure Plan guidance are set out below:



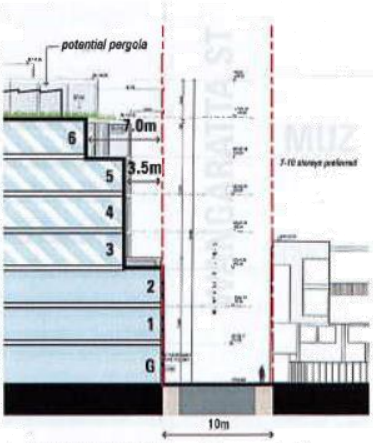
Structure Plan massing guidance



Revised massing strategy offering a more 'robust' response to Wangaratta Street, and a 'recessive' one to the NRZ interfaces.

MUZ interface – Wangaratta Street

- We consider that a more 'robust' response to Wangaratta Street is warranted, given the orientation to the MUZ and Richmond Hill Precinct encouraging of 7-10 storeys, consistent with the Structure Plan.
- However as proposed, the 8 storeys casts shadow on the western footpath of Wangaratta Street at 10am. As the Structure Plan seeks to improve pedestrian connectivity to Richmond Station, our view is that exceeding the height limit at this site should not come at the expense of pedestrian amenity along Wangaratta Street. Therefore, we recommend the deletion of 1 level and a revised setback strategy to Wangaratta Street. This comprises:
  - Levels 3-4 set back 3.5m from the 3-storey street wall,
  - Levels 5-6 set back 8m from the 3-storey street wall.
- This will also assist in minimising overshadowing of western Wangaratta Street footpath from 10am at the equinox.

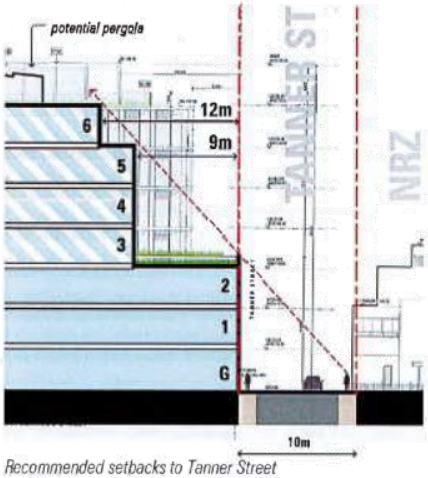


Recommended setbacks to Wangaratta Street

Attachment 11 - Referral advice provided from both internal and external referrals.

NRZ interface – Tanner Street

- Given the northern aspect of Tanner Street, overshadowing is not a consideration to this interface. However, the proposed 8 storeys set back 4.5m is a visually dominant outcome when viewed from across Tanner Street where private open spaces at 7A Tanner Street have primary outlook toward the south.
- Where the Structure Plan illustrates "transition in scale to low-rise residential dwellings," upper levels should then be concealed within the 45-degree angle of the 1:1 rule (above the street wall).
- To avoid a 'stepped' form, our assessment and recommendation determines that the same objective of the 1:1 ratio can be achieved through pairing setbacks for Levels 3-5 with a further recessed Level 6 'cap.'
- In summary, where the Structure Plan illustrates "transition in scale to residential dwellings" along Tanner Street, we recommend:
  - Levels 3-5 set back 9m from the 3-storey street wall,
  - Level 6 set back 12m from the 3-storey street wall.

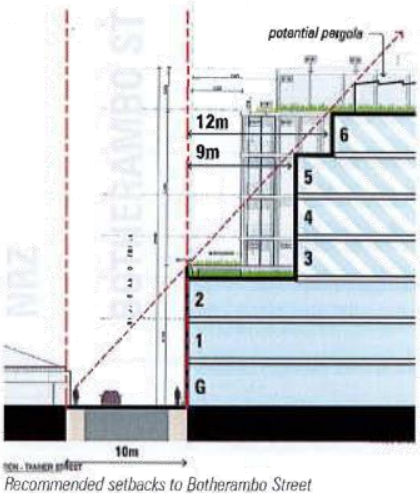


Recommended setbacks to Tanner Street

- The Structure Plan illustrates the Wangaratta Street street-wall condition 'wrapping' the corner into Tanner Street. We support this notion and recommend that the Wangaratta Street turns the corner into Tanner Street.

NRZ interface – Botherambo Street

- As recommended along Tanner Street for transition toward the NRZ, we recommend the same response for Botherambo Street. Specifically, this entails:
  - Levels 3-5 set back 9m from the 3-storey street wall,
  - Level 6 set back 12m from the 3-storey street wall.
- Shadow diagrams prepared by the Architect indicate that the proposed development has been arranged as to avoid unreasonable overshadowing of residential lots within the NRZ opposite Botherambo Street.
- With reference to Standard B21 of ResCode, the proposed development does not cast shadow to private open space at the equinox until after 2pm, ensuring private open space receives a minimum of five hours of sunlight between 9am and 3pm. With the deletion of 1 level and revised setback strategy, the impact at 3pm is likely to be even more minimal.
- We consider that visual concealment is more important to important to Botherambo and Tanner Streets, providing transition to residential areas toward the north and east. This revised strategy ensures the uppermost levels will be largely concealed within residential streetscape views.



Recommended setbacks to Botherambo Street

Attachment 11 - Referral advice provided from both internal and external referrals.

ARCHITECTURAL RESPONSE

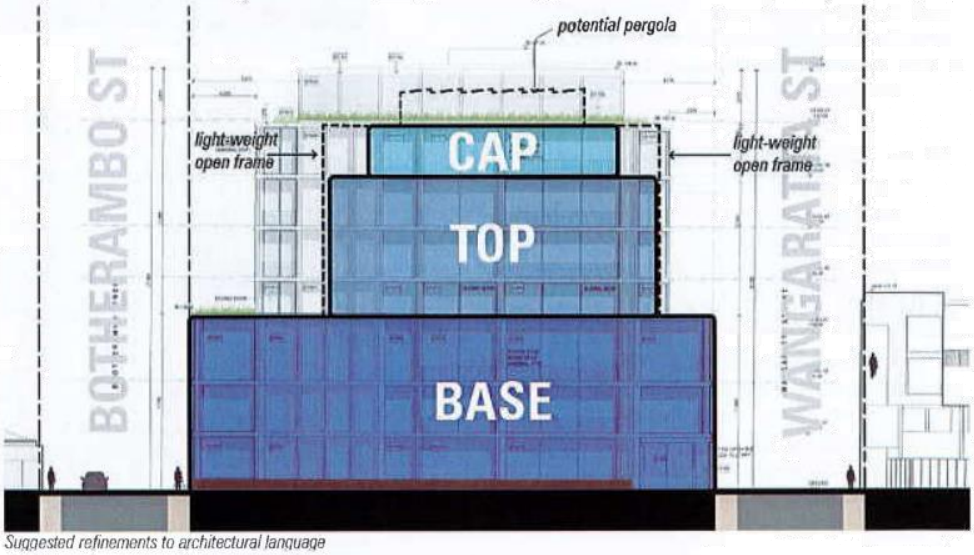
The architectural response is consistent across both podium and upper levels and represents a language appropriate for a contemporary office building. The uniform architectural language utilises quality material palette represented through concrete, stone, timber, full glaze and galvanised steel framing elements for modulation and articulation.

When assessed against its 'fit' within its evolving industrial context, as well as the anticipated contemporary development approval further south, the proposed architectural response is successful in the following aspects:

- Noting the varied setback requirement to address amenity and visual bulk matters as discussed above, the 'uniform' architectural language allows for a more restrained and elegant response to mitigate any unintended impact of a wedding cake profile. The strong architectural framing element allows for greater flexibility in establishing creative solid and void outcome and visual interest for the overall building.
- Projecting angled concrete fins/ pilasters that frame full height curtain wall provide depth to elevations and solid 'breaks' in wide extents of glass.
- Inclusion of planter box to frame upper level balustrades assist in 'softening' up the podium level, providing visual amenity to future occupants. Specifying cascading landscape will also lend to a borrowed landscaping element that complements the overall restrained architectural response without resulting in visual clutter.

While the overall language is suitable for a contemporary commercial building, it is our view that there is room in for refinement to further embed the proposed development within its industrial context of Richmond Hill Precinct. We recommend the following:

- Through our recommendation of converting the topmost level into a communal open space, there is opportunity to realise a pergola structure that is inspired by historical industrial warehouse buildings and its sawtooth roof profile. This would provide an additional light-weight element in the massing composition. As to not replicate an additional level, this would need to clearly be an open structure.



Suggested refinements to architectural language

Attachment 11 - Referral advice provided from both internal and external referrals.

- Consideration to opt for bricks, or tiling at the lower level, such as along the 900mm plinth that connects the building to the ground/ street level will assist in creating a cohesive streetscape along the Wangaratta and Tanner Street without diminishing the overall architectural direction.
- We will support an architectural response that retains 'exoskeletal' framing at the upper levels, where increase building setbacks are required. The 'exoskeletal' frame can potentially emphasize a robust 'base' and lighter 'top' and creating an effect of varying transparency as the building rises. The framing element should not result in visual bulk, or additional overshadowing impact.



Example of exoskeletal framing to mitigate the appearance of an overtly stepped building profile (by Antonini Darmon Architectes)

LANDSCAPE RESPONSE

The proposal adopts rooftop decking and gardens at Levels 4 and 7 in setback areas that is generally supported and will assist with softening the overall form and contribute to reducing urban heat island effect. This provides opportunity for two office levels to have outlook to landscaped spaces while also providing green softening to the building profile in elevation. However, the rationale behind the location of green roofing is unclear, particularly at Level 4 where it is only sited along the Botherambo Street interface. Should the intention be for landscaping to cascade down this interface, this would provide some softening to the elevation when viewed from residences – however further information is required. We recommend that planting areas are extended along the Tanner Street interface on Level 4 given its northern aspect (as proposed on Level 7).

Additional provision for landscaping should be considered as part of increasing the sense of address to laneway entrances. As discussed above, the legibility of pedestrian laneway entrances in elevation is diluted. Landscaping in the form of groundcover planting, raised planter boxes, integrated seating or climbing vegetation (on wire or mesh) could be integrated into revised laneway entrances to help distinguish them from the façade.

Further information is required regarding how the glazed parapets extending atop Level 3 interact with the proposed planter boxes. We assume that reflective glazing (illustrated in front of planter boxes) will conceal them from view behind, however we recommend that this is detailed in illustration in reiterated plans.



Example of landscape integrated seating



Example of wired climbing vegetation

Attachment 11 - Referral advice provided from both internal and external referrals.

CONCLUSION

As discussed, we believe that a variation in the preferred building height of 5-6 storeys is feasible at this site subject to further adjustments to the setback and massing strategy as well as modifications to the site planning response – particularly at ground level. As per the above Urban Design Review, our recommendations are as follows:

- Reduce the overall building height to a maximum 7 storeys;
- Revised setbacks for Wangaratta Street, turning the corner into Tanner Street as follows:
  - Levels 3-5 set back 3.5m from the 3-storey street wall,
  - Level 6 set back 7m from the 3-storey street wall.
- Revised setbacks for Tanner Street and Botherambo Street where the Structure Plan illustrates "transition in scale to low-rise residential dwellings" as follows:
  - Levels 3-5 set back 9m from the 3-storey street wall,
  - Level 6 set back 12m from the 3-storey street wall.
- Above Level 6, consider an open pergola for the purpose of sheltered communal rooftop space, concealed from street view referencing the surrounding industrial architecture;
- Consider rotating the substation by 90 degrees to increase activation to Botherambo Street;
- Entrances to the pedestrian laneway are strengthened to be easily distinguishable in the building façade;
- Reconsider the need for gated entries at both the pedestrian laneway and Commercial Shop 1 entrance at the corner of Wangaratta Street and Tanner Street.
- Increase glazing from both commercial tenancies to the pedestrian laneway;
- Increase the level of glazing along Wangaratta Street in segments where 'solid walls' are proposed, to increase activation to the MUZ interface and provide visibility to bicycle parking;
- Integrate the proposed seating at the western boundary into the Shop 2 façade;
- Provide additional landscaping at Level 4, particularly along the north-facing Tanner Street interface;
- Consider additional landscaping at pedestrian laneway entrances to increase the sense of arrival at key entrances;
- Provide further design detail as to managing floor to ceiling glazing with planter boxes above the podium levels;
- Consider strengthening the reference to the industrial architecture in the surrounding area through greater contrast in solid and light compositions.

Should you have any further enquiries regarding this advice, please don't hesitate to contact Gerhana Waty, Director Urban Designer on 9664 9841.

Yours faithfully,

Urban Design Team

Hansen Partnership Pty Ltd

Attachment 11 - Referral advice provided from both internal and external referrals.

SLR

10 March 2020

640.10090.06260 17-23 Wangaratta St Richmond 20200227.docx

Yarra City Council
PO Box 168
RICHMOND 3121

Attention: John Theodosakis

Dear John

17-23 Wangaratta Street, Richmond
Development Application Acoustic Review

SLR Consulting Australia Pty Ltd (SLR) has been retained by the City of Yarra to provide a review of the acoustic assessment report prepared to support the application for a commercial development at 17-23 Wangaratta Street, Richmond.

Details of the report are as follows.

- Title: Acoustics Planning Report, 17-23 Wangaratta Street, Richmond
- Date: 23 October 2019
- Reference: R2
- Prepared for: Neoscape
- Prepared by: AECOM

A permit for the application has not been issued.

1 Background Information

(Sections 1, and 5 of the acoustic report)

The acoustically significant aspects of the proposal are described below.

- The proposal is for:
  - Eight storey commercial development
  - Two levels of basement parking
  - Ground floor retail (2 shops)
- Existing noise sensitive receivers are to the north, east and west of the subject site, and are separated from the subject site by local roads
- The site is approximately 150 m north of the South Eastern metropolitan train line.

SLR Comments: *The proposed use and the location of the nearest noise sensitive receivers are clearly identified.*

SLR Consulting Australia Pty Ltd Level 11, 176 Wellington Parade East Melbourne VIC 3002 Australia
T: +61 3 9249 9400 E: melbourne@slrconsulting.com
www.slrconsulting.com ABN 29 001 584 612

Attachment 11 - Referral advice provided from both internal and external referrals.

We note that the loading area for the site is within the basement carpark. All levels of the development are described as 'commercial', and appear likely to be offices. The are no food and drink tenancies shown on the plans.

2 Ambient Noise Measurements

(Section 3.0 of the acoustic report)

Unattended noise monitoring was conducted at 71 Tanner Street (Location 'M1' in Figure 1) from 26 September to 3 October 2019. Graphical results of the monitoring are included in Appendix A.

Summary data is provided in Table 1 (L_{eq} levels) and Table 5 (L_{90} levels).

Attended measurements of noise were carried out on the local road (Location 'M2', intersection of Wangaratta and Tanner Streets), and in closer proximity to the rail corridor ('M3'), to quantify rail noise. The time, duration and results of these measurements are presented in Table 1 of the report. The rail noise measurements are noted to be the average of four train passby events measured.

SLR Comments: *The unattended monitoring location looks appropriate for quantifying background noise at dwellings potentially impacted by noise from the development.*

The rail noise measurements are not fully detailed, and it seems unlikely that the microphone had a line of sight to the rail lines (the rail corridor is elevated about 2.5 m in this area). Data used to calculate rail noise to the development site should be obtained with a line of sight to all rail lines in order to avoid ambiguity in the results.

The number of train passbys measured (4) is too small to obtain an accurate indication of noise levels, especially for this corridor, which is includes a number of lines,

However, there is no formal requirement to assess rail noise to commercial developments in the City of Yarra, and the development is over 100 m from the rail corridor. On these grounds, the limited consideration of rail noise provided is probably adequate.

3 SEPP N-1 Noise Limits

(Section 4.2 and Appendix A of the report)

The background noise data used to calculate SEPP N-1 limits are presented in Table 5. The levels are described as to be the 'average of the hourly measured levels for each period', excluding data obtained on Friday and Saturday, which were elevated due to the Australian Rules Football Grand Final.

Zoning levels and noise limits are presented in Tables 6 and 7 respectively. The noise limits are 52 dBA (day), 46 dBA (evening) and 43 dBA (night), based on 'neutral' background noise levels during the day and evening period and 'high' background noise levels at night.

SLR Comments: *It appears that the arithmetic average of monitoring data for all data excluding that affected by noise from the grand final has been used to determine background levels. Where a limited amount of data has been obtained (e.g. less than a week), we recommend using the lowest daily average, rather than the average of all eligible days. This may result in slightly lower background levels.*

Comment is not provided regarding the suitability of the weather during the monitoring period, however records show that it was reasonable.

Our calculation of the SEPP N-1 zoning levels agree with AECOM's, and the resultant noise limits are the same, using the AECOM logging results. The noise limits are equal to the zoning levels for the day and evening periods, and are based on 'high' background noise levels for the night period. Given this, the implication of averaging the data as SLR propose, is likely to only have a small impact on noise limits at night.

As the critical compliance period for this project is likely to be the day and evening periods, the potential difference in noise limits at night is not critical.

Overall, we agree that the determined SEPP N-1 noise limits are reasonable.

4 Noise from the Subject Development

4.1 Building services

(Section 7.0 of the report)

Generic advice for noise control from building services is provided in Section 7.0. Additionally, noise from the proposed roof mounted condensers is considered in further detail in Section 7.1, and a 1.8 m high non-perforated barrier is proposed to be installed around the plant. This advice is based on noise data for one of the condenser units currently under consideration.

SLR Comments:

Our indicative calculations suggest that the advice provided for controlling roof mounted mechanical plant is adequate.

Given the size of the development and its proximity to dwellings, we recommend that a detailed acoustic review of plant and equipment be undertaken during the detailed design phase of the project. The review should address noise from all significant plant and equipment, including the sub-station.

4.2 Carpark Entrance Gate

(Section 5.4 of the report)

Advice is provided in Section 5.4 for controlling noise from the carpark entrance door.

SLR Comments:

The advice provided is reasonable. We note that the door must also comply with SEPP N-1 noise limits, and with sleep disturbance targets no greater than 65 dBA L_{max} outside bedroom windows.

Attachment 11 - Referral advice provided from both internal and external referrals.

4.3 Voice Noise

(Section 6.2 of the report)

Level 7 includes a large balcony that will be used by staff and may be utilised for gatherings of up to 120 people during the evening. AECOM state that they have assessed voice noise to the residential area assuming that 50% of the people using the balcony will talk in 'raised voice' at any one time. The predicted noise level (not presented in the report), is stated to comply with the SEPP N-1 evening noise limit, which is 46 dBA.

SLR Comments: *Full details of the assessment of voice noise are not provided in the AECOM report and we have reservations about the prediction that the SEPP N-1 evening limits would be met with 120 people on the balcony. The balcony area is approximately 120 m², so with that number of people the space would be as densely populated as many popular beer gardens, and could easily have voice noise levels in the order of 85 dBA L_{eq} at 1 to 2 m above the crowd. Our calculations suggest this could result in levels in the order of 50 dBA at sensitive receiver locations. However, we recognise that the space is unlikely to be used regularly by this number of people, and that use during the night period is not currently proposed.*

If there is a perceived risk that these assumed conditions will not be met by the commercial development, it would be reasonable to provide the following as a permit condition.

- *The Level 7 balcony is not to be used:*
  - *after 10 pm on any night of the week, and*
  - *more than one (1) evening per month by gatherings of more than 25 people.*

5 Road and Rail Noise to the Offices

5.1 Noise Targets for Road and Rail

(Section 10 of the report)

Traffic and train noise are proposed to be controlled to achieve AS/NZS2107:2016 design levels for general offices. The identified levels are 40 to 45 dBA L_{eq}.

SLR Comments: *The design targets are reasonable. We note that these targets are not mandatory, and that Yarra Council do not always require an acoustic report addressing road and rail impacts to commercial developments.*

5.2 Road and Railway Noise

(Sections 4.1 of the report)

The internal design criteria nominated in Table 3 are proposed to be met by road, rail and internal mechanical plant noise (combined).

Façade upgrade treatments are proposed in Section 5.0 for addressing road and rail noise. The treatments typically include thermal double glazing comprising 6/12/6 glass, and walls with Rw ratings not less than 45 dB.

SLR Comments: *We agree that the façade upgrade treatments proposed are likely to address road and rail noise to this development, given its distance from the rail corridor.*

Attachment 11 - Referral advice provided from both internal and external referrals.

6 Summary

SLR has undertaken a review of the acoustic report prepared to address noise impacts to and from the commercial development proposed for 17-23 Wangaratta Street, Richmond.

The outstanding acoustic issues on the project could reasonably be addressed via permit conditions. Suggested conditions are provided below.

- All acoustically significant mechanical plant and equipment, including the sub-station, should be reviewed by a suitably qualified acoustical consultant during the detailed design phase of the project, to ensure that SEPP N-1 noise limits are met.
- Noise from the carpark entrance gate is to comply with SEPP N-1 and sleep disturbance targets of no greater than 65 dBA L_{max} outside bedroom windows.
- The Level 7 balcony is not to be used:
  - after 10 pm on any night of the week, and
  - more than one (1) evening per month by gatherings of more than 25 people.

The current drawings do not suggest that the ground floor commercial spaces will be food and drink tenancies. However, if this changes, and if the tenancies are proposed to be used outside standard office hours, it would be appropriate to require an acoustic report to address potential noise impacts.

Regards,

Dianne Williams
Associate – Acoustics

Reviewed / checked by: JA

Attachment 11 - Referral advice provided from both internal and external referrals.

M E L
CONSULTANTS

(ACN 004 230 013)

22 CLEELAND ROAD
SOUTH OAKLEIGH VIC 3167
AUSTRALIA

Ref: 41-20-DE-REV-00

27 February 2020

City of Yarra
PO Box 168
Richmond VIC 3121

Attn: Ally Huynh

Dear Ally,

17-23 Wangaratta Street, Richmond
Review of Vipac Wind Impact Statement
Vipac Document Numbers: 30N-19-0225-TRP-6767005-4 (1 November 2019)

The review of the Vipac Wind Impact Statement is based on MEL Consultants' experience of wind flow around buildings and structures. This experience has been developed from a company experience of more than 40 years of desktop, wind tunnel, and full scale studies of environmental wind conditions in urban and sub-urban areas. No wind tunnel studies have been undertaken to support the review. Our comments are as follows:

- The Vipac Wind Impact Statement has been prepared based on the experience of the consultancy and no wind tunnel testing by Vipac has been carried out to support the report. MEL Consultants have no issue with this approach for a desktop study as this is a common approach to provide architects, developers, and responsible authorities advice on the wind effects of the design.

- MEL Consultants have no issue with the Analysis Approach, Site Exposure, and Regional Wind Climate that have been used as the basis for the assessment. Vipac has clearly identified the process for the desktop assessment and this is consistent with the approach that MEL Consultants would take to prepare a desktop wind impact assessment. A clear description of the 17-23 Wangaratta

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Attachment 11 - Referral advice provided from both internal and external referrals.

Street development has been provided along with reference drawings in the Appendix of the report.

- MEL Consultants have no issue with the assessment criteria that Vipac have used for the desktop assessment. The recommended criteria for the immediate surroundings streetscapes would be walking comfort and the standing criteria for the entrances to the building. The assessment clearly discusses the rationale for recommending the walking criterion for the terraces and there is no issue with this recommendation.

- The desktop assessment has identified the heights of the surrounding existing buildings. The desktop assessment has not identified the several taller buildings to the west of the site that are approximately 4 and 7 storeys high, which would be expected to provide shielding for the west sector wind directions. It is agreed that there would be exposure to the strong and prevailing north sector wind directions over lower buildings. Furthermore, while the exposure would decrease in the future, the proposed development would have exposure to the south sector wind direction as well.

- The Vipac desktop assessment of the wind conditions in the surrounding streetscapes as being within the walking criterion. In reaching this conclusion they state they have considered the wind climate and that downwash would not be a major concern at the ground level. MEL Consultants would disagree with the statement that downwash is not a major concern as it is downwash from large exposed building that is the main cause of the increase of pedestrian level wind conditions. The exposure to the prevailing and strong north sector wind directions would be a concern, creating downwash into Tanner Street that would accelerate around the northeast and northwest corners. MEL Consultants would expect the wind conditions around the northeast and northwest corners would be on the walking criterion for the north sector wind directions. The setback of the building above level 3 would be expected to provide mitigation and deflect some downwash over the level 3 terrace.

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Attachment 11 - Referral advice provided from both internal and external referrals.

- MEL Consultants would agree that the entrances located on Wangaratta and Botherambo Streets, away from the building comers, would be expected to achieve the standing criterion. However, the main entrance on the northwest corner would be expected to have wind conditions up to the walking criterion outside the porous gate enclosure. The porous gate enclosure, depending on the level of porosity, would be expected to provide immediate wind mitigation to the entry and the wind conditions would be expected to achieve the standing criterion in the enclosed area. Outside the gates from the enclosed area to the street the wind conditions would be expected to be on the walking criterion.

- Vipac have assessed the wind conditions on the level 3 terrace as being within the walking criterion. While in the middle of the terrace these conditions would be expected, the wind conditions need the northeast and northwest corners would be expected to be above the walking criterion. The increased wind conditions would be expected to be caused by the wind flow being deflected over the terrace that accelerates around the building corners. The 1m high balustrade would not be sufficient to mitigate these conditions as the wind flow would get in behind the balustrade due to the built form.

- MEL Consultants would agree with the Vipac assessment of the roof terrace. MEL Consultants have no issues with the Vipac comments regarding the use of terraces and education of the users.

In conclusion, the Vipac Wind Impact Assessment has been prepared based on the consultant's experience of wind flow around buildings and structures. We have no issues with the Analysis Approach, Site Exposure, Regional Wind Climate, and description of the development used in the preparation of the assessment. This is consistent with the approach MEL Consultants would take to prepare a similar desktop environmental wind assessment. MEL Consultants would mostly agree with the Vipac assessment of the expected wind conditions in the surrounding streetscapes., but MEL Consultants would expect the wind conditions at the northeast and northwest building corners to be on the walking criterion due to the built form and exposure. The wind conditions on the level 3 terrace would be expected to be higher than predicted by Vipac at the corner of the terrace and MEL Consultants agree with the Vipac

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Attachment 11 - Referral advice provided from both internal and external referrals.

assessment of the roof terrace. Due to the difference in height of the proposed development with the surrounding buildings, particularly for the prevailing and strong north sector wind directions, it is recommended that a wind tunnel study be undertaken to assess the wind effects of the proposed development.

Yours sincerely,

M. Eaddy

M. Eaddy
MEL Consultants Pty Ltd

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1.2 PLN20/0006 - 462 - 482 Swan Street, Richmond - Construction of a thirteen storey building (including one level of plant, plus two basement levels), reduction in the car parking requirement associated with the retail/food and drinks premises and office uses (no permit required for uses) and alteration of access to a Road Zone, Category 1

Executive Summary

Purpose

1. This report provides an assessment of the proposal at 462 – 482 Swan Street, Richmond, for the construction of a thirteen storey building (including one level of plant, plus two basement levels), reduction in the car parking requirement associated with the retail/food and drinks premises and office uses (no permit required for uses) and alteration of access to a Road Zone, Category 1

Key Planning Considerations

2. Key planning considerations include:

   (a) clause 15.01 – Urban Environment;
   (b) clause 21.05 – Built Form;
   (c) clause 22.10 – Built Form and Design Policy;
   (d) clause 22.05 – Interface Uses Policy;
   (e) clause 34.01 – Commercial 1 Zone;
   (f) clause 43.02 – Design and Development Overlay (Schedule 14);
   (g) clause 52.06 – Car Parking; and
   (h) clause 52.29 – Alteration of Access to a Road Zone, Category 1.

Key Issues

3. The key issues for Council in considering the proposal relate to:

   (a) Policy and Strategic Support;
   (b) Built form and Urban Design including Affordability;
   (c) On-site amenity including Environmentally Sustainable Design;
   (d) Off-site amenity including City Link Exhaust Stacks and Waste Management;
   (e) Car parking, traffic and alteration of access;
   (f) Bicycle facilities and strategic transport; and
   (g) Objector concerns.

Submissions Received

4. Thirteen (13) objections were received to the application, these can be summarised as:

   (a) Built form and massing
      (i) Height and mass of the development is inconsistent with the existing neighbourhood character;
      (ii) Inadequate upper level setbacks;
      (iii) Building should provide greater footpaths around;
      (iv) Building separation is inadequate; and
      (v) Development not in keeping with historic low-scale precinct.

   (b) Use and Off-Site Amenity Impacts:
      (i) Loss of views;
      (ii) Overshadowing of the public realm; and

(iii) Wind impacts.

(c) Traffic and Car Parking:
   (i) Too many car parks provided on-site, additional traffic cannot be supported within local road network; and
   (ii) Not enough car parks provided on-site, the on-street car parking is already at capacity and cannot cater to overflow from development.

(d) Other:
   (i) Due to COVID-19 there is no longer a need for large-format office space;
   (ii) The office layout would not allow for social distancing or safe use of lifts due to the COVID-19 pandemic; and
   (iii) Amendment C185/Planning Permit PLN15/0057 provided significant community benefits (including a supermarket) to justify the preferred DDO14 height.

Conclusion

5. Based on the following report, the proposal is considered to comply with the relevant planning policy and should therefore be supported subject to the following key recommendations:

   (a) Modifications to the south-western corner and upper levels of the development, including at level 10, the west façade setback to a minimum 13.5 metres for the entire west elevation south of where the building currently indents to 10.97 metres. The level 11 setback is to accord with these requirements, with the south-western Level 11 terrace relocated to Level 10.

   (b) Inclusion of a setback at the level 11 the eastern façade, to a minimum 6.23 metres from the eastern boundary for the section from 1 metre south of Gridline 3 to the southern façade.

   (c) Inclusion of a condition requiring the southern setback of the upper levels of the development to be further setback, or lowered in height, to further reduce the extent of overshadowing experienced to the southern Burnley Station platform.

   (d) Requirement for the owner (or another person in anticipation of becoming the owner) to enter into a Section 173 Agreement with the Responsible Authority to facilitate the provision of affordable commercial space, or provide an equivalent community benefit.

   (e) Requirement for a shared zone to be delivered within the Burnley Street service road.

   (f) Requirement for the Sustainable Management Plan to be updated to ensure a zero net carbon performance standard, as defined by the Green Building Council of Australia, forming part of a minimum 5 Star Green Star certified rating.

CONTACT OFFICER: **Michelle King**
TITLE: **Principal Planner**
TEL: **9205 5333**

1.2 PLN20/0006 - 462 - 482 Swan Street, Richmond - Construction of a thirteen storey building (including one level of plant, plus two basement levels), reduction in the car parking requirement associated with the retail/food and drinks premises and office uses (no permit required for uses) and alteration of access to a Road Zone, Category 1

Reference: D20/92444
Authoriser: Manager Statutory Planning

Ward:	Melba
Proposal:	PLN20/0006 - 462 - 482 Swan Street, Richmond - Construction of a thirteen storey building (including one level of plant, plus two basement levels), reduction in the car parking requirement associated with the retail/food and drinks premises and office uses (no permit required for uses) and alteration of access to a Road Zone, Category 1
Existing use:	Timberyard/Dwellings
Applicant:	Human Habitats
Zoning / Overlays:	Commercial 1 Zone Environmental Audit Overlay (EAO) Design and Development Overlay (Schedule 2) Design and Development Overlay (Schedule 5) Design and Development Overlay (Schedule 14) Adjoining Road Zone, Category 1
Date of Application:	6 January 2020
Application Number:	PLN20/0006

Planning History

1. The subject site has a long planning history of relevance to this application.

Planning Application No. PLN12/0505 & Planning Scheme Amendment C153

2. A Section 96A amendment application (PLN12/0505) was submitted to Council on 14 June 2012. The application sought to undertake a combined planning permit and planning scheme amendment process (Amendment C153) to facilitate the development of a 17 storey mixed-use building (comprising retail, including a supermarket, offices and 295 apartments) and proposed to rezone the land from Business 4 Zone to Business 1 Zone.

3. At a Council meeting conducted on 5 June 2012, Council resolved to adopt the *Business and Industrial Land Strategy,* incorporating a number of changes to the draft strategy which in part identified a number of sites eligible for rezoning. Council resolved to retain the existing zone in a number of precincts, including precinct BS13 (in which the subject site was located). The proposed Amendment C153 was therefore not supported as the rezoning would be inconsistent with the adopted *Business and Industrial Land Strategy*.

Planning Permit No. PLN15/0057 & Planning Scheme Amendment C185

4. A subsequent 96A amendment application (PLN15/0057) was received on 30 January 2015. The application sought to undertaken a combined planning permit and planning scheme amendment process (Amendment C185), which resulted in the following:

(a) Amendment C185 was approved, with the notice of the approval published in the Victorian Government Gazette on 25 January 2018, allowing the land at 462 - 482 Swan Street Richmond to be rezoned from a Commercial 2 Zone to a Commercial 1 Zone and the application of a site specific Design and Development Overlay (DDO14) and Environment Audit Overlay to the land.

(b) Planning Permit PLN15/0057 was issued on 31 January 2018 by Council at the direction of the Minister for Planning pursuant to Section 96J of the *Planning and Environment Act* 1987 (the Act). The permit allows the use and development of the land for a mixed use development comprising two buildings (part 3-10 storey and part 3-12 storey) containing dwellings, a supermarket, retail, offices, gymnasium (with swimming pool) (permit required for dwellings and restricted recreation facility only), a reduction in the car parking requirement and buildings and works including an alteration to a Road Zone (Category 1) (Figure 1).

5. An extension of time was recently granted to this planning permit. The development must now commence no later than 31 January 2021, be completed no later than 31 January 2023 and the approved uses must be commenced by 31 January 2024. This permit has not been acted upon.



Figure 1: Development approved pursuant to Planning Permit PLN15/0057 from the north-western corner of Swan and Burnley Streets

6. Through the implementation of Amendment C185, Planning Permit PLN15/0057 demonstrated significant community benefit provided through rejuvenation of this part of Swan Street. The application proposed considerable improvements to the public realm (Swan and Burnley Street and Burnley Station) and the provision of 5% of total dwellings to be provided as affordable housing (or a comparative number off-site). In respect of the public realm works, the following was approved:

(a) Along Swan and Burnley Streets where the development is setback from its site boundaries to enable a wider footpath and create a 'pedestrian plaza';
(b) Construction of DDA-compliant access ramps to Burnley Station and to the pedestrian path along the southern boundary of the site;
(c) A second walkway up to the pedestrian plaza from Burnley Station;
(d) Improved landscaping along Swan and Burnley Streets and to the pedestrian link to the south.

The Proposal

7. The application is for the construction of a thirteen storey building (including one level of plant, plus two basement levels), reduction in the car parking requirement associated with the retail/food and drinks premises and office uses (no permit required for uses) and alteration of access to a Road Zone, Category 1.

8. Key features of the proposal include:

Use and layout

9. The main building entrances providing access to the ground floor and upper levels are provided from Swan Street and the pedestrian laneway to the rear (interface with Burnley Station/rail corridor). These entrances provide access to an internal north-south quasi-public pedestrian laneway that provides a pedestrian connection between Swan Street and Burnley Station.

10. The internal laneway will be open during standard business hours (facilitated by a permit condition) and will be 7 metres in width and three-storeys in height, dissecting the Level 01 and Level 02 offices spaces internally which are connected via an internal bridge.

11. A total of 32,052 sqm of open-plan office space is proposed. No permit is required for the proposed office use.

12. At ground floor, six retail premises are proposed providing 1,626sqm of floor area. Two larger spaces are provided to the north-western and south-western corners. Four smaller tenancies are provided with one fronting Swan Street toward the east, one fronting Swan Street and to the east of the internal laneway and two internal to the building, fronting the internal laneway.

13. Limited details of the retail uses have been provided, this will be discussed later in the report, under on-site amenity. No permit is required for any retail use.

14. At the ground floor, the following public realm benefits are proposed:

    (a) To the northern boundary the building proposes a setback of between 2 metres and 2.6 metres, providing a widened footpath to Swan Street. The design of the building façade along Swan Street is undulating, with public bench seating provided within the building indentations and 3 bicycle racks proposed. A canopy is proposed over the Swan Street footpath, with six new street trees proposed. This interface is activated by the retail spaces and main entrance, only 14.63 metres is not active, as a result of the building services and vehicle accessway located toward the eastern boundary.

    (b) To the western boundary the building proposes a setback of between 1.73 metres and 4 metres, with four additional street trees and public seating proposed along the Burnley Street curb. Within this space, 13 bicycle racks are proposed. This interface at ground floor is completely active, with the retail spaces interacting directly with the street.

    (c) To the southern boundary the building proposes a setback of between 3 metres and 4.5 metres, providing additional circulation space and matching the southern setback of the adjoining development to the east. Within this space, 11 bicycle racks are proposed as well as the entrance to the end-of-trip facilities to the east and retail spaces to the west. Where interfacing with the existing station ramp access points, a landscaped terrace is proposed (Figure 2) to provide better integration of the differing levels.

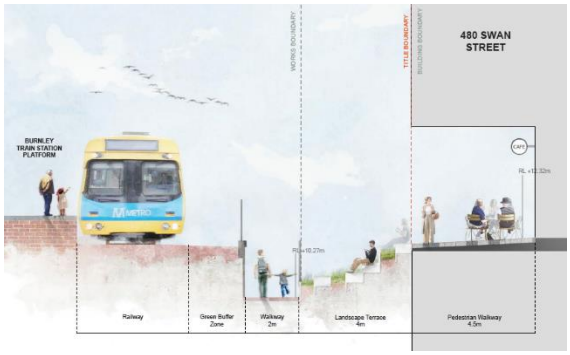


Figure 2: A sectional diagram of the proposed landscaped terrace to the south of the development.

15. All structures on site and existing crossovers are to be demolished (no permit required).

Construction

16. Two basement levels accessed via a double width crossover to Swan Street with 222 car parking spaces, including 4 DDA spaces. The basement areas house a range of service cupboards, storage cupboards and the rainwater tanks (total 90,000 litres). The basements are generally constructed to all title boundaries.

17. Podium heights of:

    (a) Part four and part three storey podium proposed to Swan Street with heights of 17.86 metres and 14.1 metres. Both podiums whilst clad in GRC or similar cladding panel system and with a textured finish and grey powder coated coloured aluminium are architecturally expressed in differing ways.
    (b) Part three and part two storey podium proposed to Burnley Street with heights of 14.1 metres and 10.35 metres. The street storey podium will be clad in grey powder coated coloured aluminium whilst the two storey podium will be clad in grey/brown brick with a natural finish. The two podiums will adopt differing architectural expression which varies again from that presented to Swan Street.
    (c) Part four and part two storey podium proposed to the south with heights of 17.85 metres and 10.35 metres. Both podiums are clad in grey/brown brick with a natural finish and adopt a similar architectural expression and match part of the Burnley Street podium.
    (d) Four storey on boundary wall proposed along the eastern boundary with a height of 17.84 metres.

18. The upper levels of the building have been designed to respond to the varying podium heights, with building indentations provided to break down the massing and provide the illusion of an interconnecting campus of forms.

19. The proposal provides several outdoor terraces above the ground floor, as follows:

    (a) At the first floor: 89sqm and 179sqm facing north on the western and eastern sides of the internal laneway respectively, and 73sqm centrally along the eastern boundary.
    (b) At the second floor: 43sqm facing north-west and 327sqm facing south and west;
    (c) At the third floor: 663qm facing north-west; and
    (d) At the eleventh floor: 320sqm facing south-west.

20. The building presents an overall height of 53.65 metres to the top of the plant, associated with the eastern portion where fronting Swan Street whilst the western portion presents as 48.85 metres in height. To the rail corridor the building presents as 44.7 metres in height, with the eleventh level setback by 8.29 metres to be read as a separate more recessive element.

21. Along Burnley Street the development presents as 48.85 metres in height for the northern portion, with the southern portion presenting as 44.7 metres in height due to the setback adopted at the eleventh level from the western boundary of 13.6 metres. To the east, the building will present as 48.85 metre form for the southern portion and 53.65 metres for the northern portion.

22. The materiality of the upper levels are a glazed curtain wall system in two types, Type 1 – integrated expressed mullion and Type 2 – Articulated façade system.



Figure 3: Image of the proposed development from the north-western corner of Swan and Burnley Streets



Figure 4: Image of the proposed development from the Burnley Street overpass

Lodgement of additional documents

23. During the course of the application, further documentation was submitted responding to issues raised, this includes:

Wind Memo – 21 May 2020

24. On 21 May 2020 a Wind Memo (prepared by Mel Consultants, dated 19 May 2020) was submitted in response to the following comment raised by Council's external wind consultants Vipac:

> *Vipac notes that there is an alfresco dining area proposed at the south side of the development close to southwest corner (see Figure 1 in the attachment). MEL Consultants test report has not assessed any outdoor seating areas. Test showed that the wind conditions at the close by location (Location 5) were within walking criterion for the updated design but well over the sitting comfort criterion. Vipac recommends that MEL Consultants should provide additional assessment for this area.*
>
> The full referral response is attached to this report.

25. The updated wind memo identified that the location of the outdoor seating area could be re-located further east, along the southern face of the building, where wind conditions would be expected to achieve the long term stationary criterion. As further wind issues were identified, this was not re-referred to Council's external wind consultants. Wind impacts will be discussed within this report.

26. The wind memo is attached to this report.

Updated Waste Management Plan (WMP) – 21 May 2020

27. On 21 May 2020 an updated WMP (prepared by WSP, dated May 2020) was submitted in response to the following comments raised by Council's City Works Department:

    (a) *The waste management plan for 462 – 482 Swan Street, Richmond authored by WSP and dated 17/4/20 is not satisfactory from a City Works Branch's perspective. Issues to be rectified include, but may not be limited to the following:*

        (i) Please provide an explanation of how risk will be managed.

28. The updated WMP was re-referred to Council's City Works Department who advised the updated WMP was satisfactory, with their comments attached to this report. The updated WMP is also attached to this report.

Without Prejudice Sketch Plans – 5 June 2020

29. On 5 June 2020 the applicant prepared a response to the Urban Design comments prepared by Council's external consultant, Rob McGauran.

30. In respect of Recommendation 1 (Podium and Street Wall) the applicants advised further documentation would be supplied to address this concern at a later date.

31. In respect of Recommendation 2, the following was provided:

    (a) The Urban Design comments recommended that at Level 11 the eastern façade should be setback 8 metres from the eastern boundary for the section from 1 metre south of Gridline 3 to the southern façade with the south roof zone reconfigured to a landscaped terrace.

    (b) The applicant submits that the 8 metre setback cannot be accommodated as it would compromise the functionality of the level, reduce the capacity of this level to provide passive surveillance and would conflict with structural requirements. Instead, a setback of 6.23 metres was recommended by the applicant. A terrace can be accommodated within the southern roof zone.

32. In respect of Recommendation 3, the following was provided:

    (a) The Urban Design comments recommended that to ensure the proposed development responds to Local Policy and the provisions of the DDO14, where outcomes that enable increased density and scale are considered appropriate where they are able to mitigate offsite impacts, the scale of the south-western corner and plant level should be addressed via condition, as follows:

        (i) At level 10, setback the west façade to 13.5 metres for the entire west elevation south of where the building currently indents to 10.97 metres.
        (ii) At level 10, setback the southern façade to 12 metres, west of Gridline E.
        (iii) Setback Level 11 in accordance with the setbacks above.

(iv) Relocate the south-western Level 11 terrace to Level 10, in the area created by the conditions above.
(v) Reconfigure the southern façade at Level 11 and reduce the scale/height of the plant level above to reduce the impact of overshadowing on the central Burnley Station platform between 10am and 2pm to ensure that there is no net increase in platform overshadowing.

(b) The applicant submits that the setback recommended cannot be accommodated as it would compromise the functionality of the level and would conflict with structural requirements. Instead, at Level 10 a setback of 10.589 metres for the entire west elevation south of where the building currently indents to 10.97 metres and a setback of the southern façade, west of Gridline E, to 11.322 metres is recommended by the applicant. Level 11 would adopt these setbacks also, with the terrace relocated from Level 11 to Level 10.

(c) In respect of the plant level, further information was provided later, on 15 June 2020 and is discussed below. Whilst massing diagrams and shadows were provided, shadow diagrams showing the true impact of the above changes were also provided on 15 June 2020.

33. In respect of Recommendation 4 the applicant advised that they would accept conditions to ensure wind conditions are acceptable for stationary activities on the ground floor and terrace areas.

34. These plans are provided without prejudice for discussion purposes and does not indicate the applicant consents to the recommended changes.

Response to Referrals – 11 June 2020

35. On 11 June 2020 the applicant prepared a response to the referral comments received from Urban Design (Internal - streetscapes), Streetscapes and Natural Values, Open Space, ESD and Acoustics (SLR Consulting).

36. No new consequential information was provided within the documentation, this response is included as an attachment to this report.

Response to Referrals – 12 June 2020

37. On 12 June 2020 the applicant's traffic engineers prepared a response to the referral comments received from the Strategic Transport Unit, Engineering Unit and the external Transport for Victoria Comments.

38. This information was re-referred to the Engineering Unit with their most recent comments included as an attachment to this report. The applicant's response is also included as an attachment to this report.

Without Prejudice Sketch Plans – 15 June 2020

39. On 15 June 2020 the applicant prepared further information in response to the Urban Design comment prepared by Council's external consultant, Rob McGauran. Provided was a façade package, roof/plant plan and shadow diagrams.

40. The package provides additional supporting information for the podium and façade design and provides an alternative design response for the eastern portion of the Swan Street podium, as shown in Figure 5 and Figure 6.



Figure 5: Current podium design of the eastern portion of the Swan Street podium



Figure 6: Proposed podium design solution regarding the eastern portion of the Swan Street podium.

41. An alternative roof/plant plan was provided that modified the setbacks to the east, west and south, as follows:

    (a) East: from 6.23 metres to 11 metres.
    (b) West: from 26.43 metres to 18.5 metres.
    (c) South: from 11.3 metres to 13 metres.

42. These setbacks are reflective of the massing plans provided on 5 June 2020 and informed the shadow plans submitted on this date and also on 15 June 2020, that show a reduction in shadowing over Burnley Station.

43. These plans are provided without prejudice for discussion purposes and does not indicate the applicant consents to the recommended changes and are included as attachments to this report.

Existing Conditions

Subject Site

44. The subject site is located on the southern side of Swan Street, on the eastern intersection with Burnley Street in Richmond. The site consists of six addresses and nine titles, as follows:

    (a) No. 462 Swan Street, Richmond (Lot 1 TP 121471V);
    (b) No. 464 Swan Street, Richmond (Lot 2 PS 052088);
    (c) No. 466 Swan Street, Richmond (Lot 3 PS 052088);
    (d) No. 468 Swan Street, Richmond (Lot 4 PS 052088);
    (e) No. 470 Swan Street, Richmond (Lot 5 PS 052088); and
    (f) No. 476 – 482 Swan Street, Richmond (Crown Allotment 28 City of Richmond Parish of Jika Jika, Lot 1 TP 686295P, Lots 1&2 TP 592681C and Portion 29 Parish of Jika Jika).

45. Collectively, the site is 80.44m in width along Swan Street and 57.91m in length with a total site area of 4,658sqm. The subject site has two crossovers onto Swan Street, the eastern-most (and larger one) being shared with the site to the east. A pedestrian path runs along the southern boundary of the site, separating it from the train line to the south and providing access to Stawell Street.

46. The subject site is occupied by five, brick single storey attached dwellings (No. 462 – 470 Swan Street) (Figure 7) and a large, single storey warehouse building being used as a timber yard (No. 476 – 482 Swan Street) (Figure 8).



Figure 7: Extract from Human Habitats Town Planning and Urban Context Report, dated 17 April 2020



Figure 8: Extract from Human Habitats Town Planning and Urban Context Report, dated 17 April 2020

Title Documents

47. The titles submitted with the application do not show any covenants, restrictions or easements with the exception of a Right-of-Carriageway (ROW) associated with Title Plan TP592681C which provides access to the rear of the site from Swan Street. This ROW is not a Council ROW.

Surrounding Land

48. The site is located within a predominantly mixed commercial and light industrial area with residences further to the north and south. The site derives much of its context from its location within the Swan Street Major Activity Centre (MAC), its abuttal to the Burnley railway station immediately to the south, and the Burnley Street overpass which travels over the railway line to the west of the site. The site is also adjacent to the Burnley Street Neighbourhood Centre (NC) which is to the north of its intersection with Swan Street.

49. The Swan Street MAC and Burnley Street NC provide a wide range of services including local convenience retailing, bulkier item stores, car showrooms and food and drinks premises. In terms of public open space, there is access to public parks and recreation areas in the locality including the Barkly Gardens, Allan Bain Reserve, Ryan Reserve, Golden Square Bicentennial Park, Yarra River, Burnley Oval and the Burnley Golf Course.

50. Swan Street and Burnley Street are both Secondary State Arterial Roads, controlled by VicRoads and designated with a Road Zone, Category 1 Zoning. Swan Street contains tram lines (Route 70 – Wattle Park to Waterfront City Docklands) with Burnley Train Station to the south (Lines: Alamein, Belgrave, Glen Waverly and Lilydale). Burnley Street provides a connection to the Monash Freeway, with the Burnley Street entrance located 400 metres to the south.

51. The character of built form and development along Swan Street reflects the uses within the area with a mixture of larger commercial/industrial buildings predominantly along the southern side of Swan Street with finer grain development along the northern side. There are only a handful of buildings in the area with heritage value with the closest two being directly to the north at Nos. 413-415 Swan Street.

52. In respect of residential uses, the closest residential uses are located 20 metres away to the north, on the opposing side of Swan Street, at No. 429-437 Swan Street and 65 metres away to the south, across the railway line along Madden Grove.

53. In terms of the emerging character, Burnley Street has had a number of developments approved within the last 10 years, with built form up to 8 storeys in height and is experiencing a reasonable degree of change. There are also a number of larger developments emerging along the Swan Street spine of up to 11 storeys in height, with Schedule 17 to the Design and Development Overlay anticipating significant change in the emerging built form character.

54. The mix of zoning is demonstrated in Figure 9 and surrounding built form shown in Figure 10.

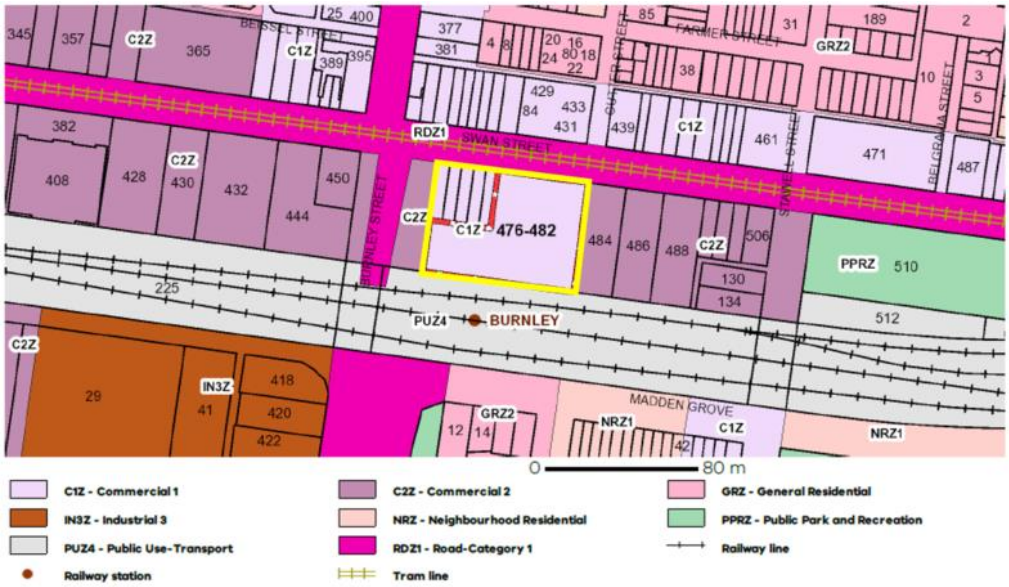


Figure 9: The subject site and surrounding land shown as C2Z and C1Z, with GRZ further north and south (Source: DELWP)



Figure 10: Aerial imagery of the subject site and surrounding built form (Source: City of Yarra GIS: Dec 2019)

55. The immediate interfaces are described as follows:

North

(a) The northern side of Swan Street is located within the Commercial 1 Zone, and the built form reflects a fine grain pattern of development, with a row of single and double storey Victorian-era shop buildings at Nos. 405 – 421 Swan Street (opposite the site).

(b) No. 429-437 Swan Street, also opposite the subject site, has been developed in accordance with Planning Permit PLN14/1205 (also applies to No. 16-26 Farmer Street) and allows *the development of the land for the construction of town houses and one multi-storey building with a food and drinks premises at ground floor, shops, offices (no-permit required uses) and dwellings including a reduction in the associated car parking and the waiver of the loading bay requirements of the Yarra Planning Scheme.* To Swan Street the development is seven storeys in height with a six-storey street wall (17.71 metres).

South

(c) The railway line is located directly to the south of the subject site. Further south, beyond the station and on the southern side of Madden Grove is the residential area of Burnley. These residences are located 65 metres from the subject site.

East

(d) Immediately to the east of the subject site is a double storey office building, partly constructed along the boundary with the subject site at No. 484 – 486 Swan Street. Car parking is located within the front setback and to the rear of this site.

(e) This site has a current planning permit, PLN17/0448, for *the use and development of the land for the construction of a thirteen storey mixed use building (permit required for food and drinks premises (café)), reduction in car parking requirements, and alteration of access and buildings and works to a Road Zone, Category 1.*



Figure 11: Render of the development approved pursuant to PLN17/0448.

(f) This planning permit was issued on 2 May 2018. An extension of time request to the commencement date was lodged on 30 May 2020 and is currently under consideration.

(g) A Section 72 amendment to the planning permit was lodged on 4 July 2019 for *changes to the permit preamble, deletion/amendment of conditions, reconfiguration of building uses (including increased hours and patron numbers for cafe and restaurant - permit required uses), internal reconfigurations, changes to the car parking provision/allocation, built form changes (including a reduction in setbacks, an increase in overall height, addition of a storey to a total of 14 storeys plus rooftop plant and changes to the design) and alteration of access to a road zone, category 1.* This amendment is currently under consideration.





Figure 12: Render of the amended development proposal currently before Council (PLN17/0448.01).

(h) Further east of this are two similar large commercial buildings, also with car parking areas within their front setbacks along Swan Street.

West

(i) To the west of the subject site (across the Burnley Street rail overpass) are a number of double storey offices, car showrooms, furniture stores and industrial buildings.

Planning Scheme Provisions

Zoning

Clause 34.01 – Commercial 1 Zone

56. The site is located within the Commercial 1 Zone (C1Z). The relevant purposes of the C1Z is as follows:

(a) *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
(b) *To create vibrant mixed use commercial centres for retail, office, business, entertainment and community uses.*

57. Pursuant to Clause 34.01-1 of the Yarra Planning Scheme (the Scheme) a planning permit is not required for the 'office' or 'retail premises' (inclusive of 'food and drinks premises') uses.

58. Pursuant to Clause 34.01-4, a planning permit is required to construct a building or construct or carry out works.

Overlays

Clause 43.02 – Design and Development Overlay (Schedule 2 – Main Roads and Boulevards) (DDO2)

59. The site is located within the DDO2. Pursuant to Clause 43.02-2 of the Scheme, a planning permit is required to construct a building or construct or carry out works within this overlay.

60. Schedule 2 to the DDO specifically relates to Main Roads and Boulevards. Specific design objectives are:

(a) *To recognise the importance of main roads to the image of the City.*
(b) *To retain existing streetscapes and places of cultural heritage significance and encourage retention of historic buildings and features which contribute to their identity.*
(c) *To reinforce and enhance the distinctive heritage qualities of main roads and boulevards.*
(d) *To recognise and reinforce the pattern of development and the character of the street, including traditional lot width, in building design.*
(e) *To encourage high quality contemporary architecture.*
(f) *To encourage urban design that provides for a high level of community safety and comfort.*
(g) *To limit visual clutter.*
(h) *To maintain and where needed, create, a high level of amenity to adjacent residential uses through the design, height and form of proposed development.*

Clause 43.02 – Design and Development Overlay (Schedule 5 – City Link Exhaust Stack Environs) (DDO5)

61. The site is located within the DDO5. Pursuant to Clause 43.02-2 of the Scheme, a planning permit is required to construct a building or construct or carry out works within this overlay. This does not apply:

    (a) *If a schedule to this overlay specifically states that a permit is not required.*

62. Section 2.0 of Schedule 5 specifically states that a permit is not required for buildings and works

63. Section 4.0 of Schedule 5 states that where a permit is required to use land or for the construction of a building or the construction or carrying out of works under another provision in this scheme, notice must be given under section 52(1)(c) of the *Planning and Environment Act* 1987 to the person or body specified as a person or body to be notified in Clause 66.06 or a schedule to that clause.

64. Clause 66.06 of the Scheme identifies that the Environment Protection Authority (EPA), Transurban City Link Limited and the Roads Corporation (Transport for Victoria).
Clause 43.02 – Design and Development Overlay (Schedule 14 – 462-482 Swan Street Richmond) (DDO14)

65. The site is located within the DDO14, a site specific schedule. Pursuant to Clause 43.02-2 of the Scheme, a planning permit is required to construct a building or construct or carry out works within this overlay.

66. Specific design objectives are:

    (a) *To provide for high density, taller development that delivers significant public realm outcomes.*
    (b) *To reinforce the corner of Swan Street and Burnley Street as a vibrant commercial, retail and residential location.*
    (c) *To strengthen connectivity to Burnley Station and establish a highly walkable and cycle friendly public realm.*
    (d) *To ensure new development provides well-located accessible and safe car parking areas that do not visually dominate the streetscape.*
    (e) *To ensure that new development does not result in unreasonable overshadowing of the public realm including the adjoining streets, the Burnley Railway Station or neighbouring residential areas.*

67. The following requirements apply:

    Buildings and works

    (a) *Buildings and works must be constructed in accordance with the following requirements:*

        Building heights
        (i) The building height must not exceed a maximum of 42 metres (12 storeys).
        (ii) The maximum height does not include building services which should be hidden from view from any adjoining public space or designed as architectural roof top features. Building services include but are not limited to plant rooms, air conditioning, lift overruns and roof mounted equipment.

        Building setbacks
        (iii) Reinforce the street wall height along Swan Street and Burnley Street to create a consistent 3 storey built form.
        (iv) Upper levels must be setback from the podium at all site boundaries, except for façade articulation of up to 0.5m, as follows:

- *A minimum of 6m from Swan Street to provide upper level setbacks from the primary street frontage.*
- *A 5m setback from the eastern boundary to provide upper level building separation between the subject site and any future redevelopment of the abutting property.*
- *A minimum of 3m setbacks from the south (rail corridor) and west (Burnley Street).*

(v) Provide building separation between built form elements at upper levels.

(vi) Ensure that built form elements above the street wall are visually recessive and do not contribute to visual bulk.

Building design

(vii) Development must be designed to:

- *Provide active frontages at ground level and overlooking of the public realm, including station environs from upper levels.*
- *Ensure development is of a high architectural standard in terms of its form, scale, massing, articulation and materials and that these design elements respond to the site context.*
- *Ensure development is designed to ameliorate adverse wind conditions at street level, communal open spaces, balconies and adjoining properties.*
- *Ensure building services are screened from the public realm and communal open spaces.*

Traffic and access

(viii) Ensure convenient and adequate bicycle parking is provided at street level to cater for the general public.

(ix) Integrate carparking into the building design and conceal from the public realm.

(x) Ensure vehicular access and egress and loading bay arrangements are designed to maximise pedestrian safety.

Public realm

(xi) Provide improved connectivity between Swan Street, Burnley Street and Burnley Station.

(xii) Improve the interface between the development and the east-west pedestrian link abutting the southern site boundary.

(xiii) Enhance the amenity and appearance of the public realm along the Swan Street and Burnley Street frontage and east-west pedestrian link, including elements such as improved footpath treatments, lighting, street trees and street furniture.

(xiv) Ensure new or improved pedestrian links promote a sense of safety for day and night-time conditions.

(xv) Minimise overshadowing of adjoining streets, the public realm and existing residential areas.

(xvi) Ensure no unreasonable overshadowing impact to Burnley Station.

Amenity

(xvii) Provide acoustic treatments to address the impact of existing and potential noise from the rail corridor, the Burnley Street overpass and Swan Street.

(xviii) Provide awnings over footpaths to Swan Street and Burnley Street to provide weather protection.

(xix) Ensure built form and internal building layout are designed to maximise solar access, access to daylight, ventilation and outlook.

68. Pursuant to the permit requirements contained within DDO14, a permit may be granted to construct a building or construct or carry out works which vary the specified height and/or setbacks specified above, where the applicant demonstrates to the satisfaction of the Responsible Authority that the following would be satisfied:

(a) *that the built form outcome as a result of the proposed variations satisfies the Design Objectives of this Schedule.*
(b) *that the proposal will achieve:*
    (i) An exemplary built form outcome;
    (ii) An exemplary public realm outcome;
    (iii) Innovative environmentally sustainable development;
    (iv) Minimal additional overshadowing (beyond that which would be generated by a proposal that complies with the specified setback requirements) of the public realm;
    (v) Minimal adverse amenity impacts to adjoining properties (beyond that which would be generated by a proposal that complies with the specified setback requirements).

69. The specific decision guidelines are as follows:

(a) *Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider:*
(b) *How the development responds to each of the Design Objectives and the requirements included in clause 2 of this schedule.*
(c) *The design, scale, height, mass and visual bulk of the development in relation to the surrounding built form.*
(d) *Any minor variations from the required setbacks resulting from façade articulation.*
(e) *How the proposal improves the pedestrian environment and other areas of the public realm.*
(f) *The location, layout and appearance of areas set aside for car parking, vehicular access and egress and loading bay arrangements.*
(g) *The effectiveness of new development in protecting the amenity of occupants from the off-site impacts of existing uses and activities.*
(h) *The views of relevant referral authorities.*

Clause 45.03-1 – Environmental Audit Overlay

70. Pursuant to Clause 45.03-1 of the Scheme, the following requirements apply:

Before a sensitive use (residential use, child care centre, pre-school centre or primary school) commences or before the construction or carrying out of buildings and works in association with a sensitive use commences, either:

(a) *A certificate of environmental audit must be issued for the land in accordance with Part IXD of the Environment Protection Act 1970, or*
(b) *An environmental auditor appointed under the Environment Protection Act 1970 must make a statement in accordance with Part IXD of that Act that the environmental conditions of the land are suitable for the sensitive use.*

71. The use of the site for offices and retail/food and drinks premises are not sensitive uses and the requirements of this overlay are not relevant to the application.

Particular Provisions

Clause 52.05 – Advertising signs

72. As identified within on Drawing No. DA2101, a 5.25 metre long by 0.64 metre wide sign is proposed above the northern pedestrian entrance. The signage will be 3.36sqm in area and does not appear to be illuminated. The sign is a business identification sign, specifying the address of the building '480 Swan Street.'

73. Pursuant to Clause 34.01-9 of the C1Z, advertising sign requirements are at Clause 52.05. This zone is in Category 1.

74. The application does not require a planning permit for signage as it is under 8sqm in total area and meets the Category 1 requirements contained within Clause 52.05 for business identification signage.

75. If the signage were to be illuminated, a planning permit would be required pursuant to Clause 52.05 as the sign exceeds 1.5sqm in area and is above the verandah. As no planning permit has been sought for signage, a condition can require the sign as shown on Drawing No. DA2101 to be shown as non-illuminated.

Clause 52.06 – Car parking

76. Clause 52.06-1 requires that a new use must not commence or the floor area of an existing use must not be increased until the required car spaces have been provided on the land.

77. Pursuant to Clause 52.06-3 a permit is required to reduce the number of car parking spaces required under this clause.

78. Pursuant to Clause 52.06-5, Column B of Table 1 applies if any part of the land is identifies as being within the Principal Public Transport Network Area as shown on the *Principal Public Transport Network Area Maps* (State Government of Victoria, August 2018). The subject site is shown as being within the Principal Public Transport Network Area and therefore Column B applies.

79. Before a requirement for car parking is reduced, the applicant must satisfy the Responsible Authority that the provision of car parking is justified having regard the decision guidelines at clause 52.06-6 of the Scheme.

Proposed Use	Size	Statutory Parking Rate	No. of Spaces Required	No. of Spaces Allocated
Office	32,052 sqm	3 spaces to each 100m^2 of net floor area	961	222
Retail/ Food and Drink	1,626 sqm	3.5 spaces per 100 m^2 of leasable floor area	56	0

80. A total of 222 car spaces are proposed on site, therefore the application seeks a total reduction of 795 car spaces. This represents a full reduction of car parking associated with the retail/food and drink premises component and a partial reduction in car parking for the office component.

Clause 52.34 – Bicycle Facilities

81. Pursuant to clause 52.34, a new use must not commence until the required bicycle facilities and associated signage has been provided on the land. The purpose of the policy is to encourage cycling as a mode of transport and to provide secure, accessible and convenient bicycle parking spaces

82. Under the provisions of Clause 52.34-3 of the Scheme, the development's bicycle parking requirements are as follows:

Proposed Use	Quantity/ Size	Statutory Parking Rate	No. of Spaces Required	No. of Spaces Allocated
Office (other than specified in the table)	32,052 sqm	1 employee space to each 300 sqm of net floor area if the net floor area exceeds 1000 sqm	107 employee spaces	282 employee spaces

		1visitor space to each 1000 sqm of net floor area if the net floor area exceeds 1000 sqm	32 visitor spaces.	56 visitor spaces
Retail premises (other than specified in this table)	1,626 sqm	1 employee space to each 300 sqm of leasable floor area	5 employee spaces	
		1visitor space to each 500 sqm of leasable floor area	3 visitor spaces	
Bicycle Parking Spaces Total			**112 employee spaces**	**282 employee spaces**
			35 visitor spaces	**56 visitor spaces**
Showers / Change rooms	1 to the first 5 employee spaces and 1 to each additional 10 employee spaces		4 showers / change rooms	28 showers / change rooms

83. The development proposes a total of 170 additional employee spaces and 21 additional visitor spaces above the statutory requirements of the planning scheme. A total 280 lockers are also proposed.

84. Clause 52.34-4 provides design standard for bicycle spaces and signage.

Clause 52.29 – Land Adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay for a Category 1 Road

85. Pursuant to clause 52.29-2, a permit is required to create or alter access to a road in a Road Zone, Category 1. The purpose of the clause is to ensure appropriate access to identified roads.

86. Pursuant to clause 52.29-4, an application to create or alter access to a road declared as a freeway or arterial road under the *Road Management Act 2004,* in accordance with clause 52.29 must be referred to the Roads Corporation (Transport for Victoria) under section 55 of the Act.

87. The decision guidelines require the following to be considered:

(a) *The Municipal Planning Strategy and the Planning Policy Framework.*
(b) *The views of the relevant road authority.*
(c) *The effect of the proposal on the operation of the road and on public safety.*
(d) *Any policy made by the relevant road authority pursuant to Schedule 2, Clause 3 of the Road Management Act 2004 regarding access between a controlled access road and adjacent land.*

General Provisions

Clause 65 – Decision Guidelines

88. The decision guidelines outlined at clause 65 of the Scheme are relevant to all applications. Because a permit can be granted does not imply that a permit should or will be granted. Before deciding on an application, the Responsible Authority must consider a number of matters. Amongst other things, the Responsible Authority must consider the relevant Municipal Planning Strategy and the Planning Policy Framework., as well as the purpose of the zone, overlay or any other provision. An assessment of the application against the relevant sections of the Scheme is offered in further in this report.

Clause 66.02 – Use and Development Referrals

89. In accordance with clause 66.02-11 of the Scheme, an application to construct a building or to construct or carry out works for an office development comprising 10,000sqm or more of leasable floor area must be referred to the Head, Transport for Victoria (Department of Transport). The Head, Transport for Victoria, is a determining referral authority for this application.

Clause 66.03 – Referral of Permit Applications Under Other State Standard Provisions

90. In accordance with clause 66.03-11 of the Scheme, an application to create or alter access to a road declared as a freeway or an arterial road under the *Road Management Act 2004,* in accordance with clause 52.29 must be referred to the Roads Corporation (Transport for Victoria). The Roads Corporation (Transport for Victoria) is a determining referral authority for this application.

Clause 66.06 – Notice of Permit Applications Under Local Provisions

91. In accordance with Section 1.0 of clause 66.06 of the Scheme, notice must be provided to the Environment Protection Authority (EPA), Transurban City Link Limited and the Roads Corporation (Transport for Victoria) where the application is within the DDO5 and triggered under another provision of the Scheme.

Planning Policy Framework (PPF)

92. Relevant clauses are as follows:

Clause 11.02 (Managing Growth)

Clause 11.02-1S (Supply of Urban Land)

93. The objective is:

(a) *To ensure a sufficient supply of land is available for residential, commercial, retail, industrial, recreational, institutional and other community uses.*

Clause 11.03 (Planning for Places)

Clause 11.03-1S (Activity Centres)

94. The relevant objectives of this clause include:

(a) *To encourage the concentration of major retail, residential, commercial, administrative, entertainment and cultural developments into activity centres that are highly accessible to the community.*

Clause 11.03-1R (Activity Centres – Metropolitan Melbourne)

95. The relevant objectives of this clause include:

(a) *Support the development and growth of Metropolitan Activity Centres by ensuring they:*
   (i) Are able to accommodate significant growth for a broad range of land uses;
   (ii) Are supported by appropriate infrastructure;
   (iii) Are hubs for public transport services;
   (iv) Offer good connectivity for a regional catchment
   (v) Provide high levels of amenity

(b) *Locate significant new education, justice, community, administrative and health facilities that attract users from large geographic areas in or on the edge of Metropolitan Activity Centres or Major Activity Centres with good public transport.*

Clause 13.04-1S (Contaminated and potentially contaminated land)

96. The relevant objective of this clause is:

(a) *To ensure that potentially contaminated land is suitable for its intended future use and development, and that contaminated land is used safely.*

Clause 13.05 (Noise)

Clause 13.05-1S (Noise abatement)

97. The relevant objective of this clause is:

(a) *To assist the control of noise effects on sensitive land uses.*

98. Noise abatement issues are measured against relevant State Environmental Protection Policy (SEPP) and other Environmental Protection Authority (EPA) regulations.

Clause 13.07 (Amenity and Safety)

Clause 13.07-1S (Land use compatibility)

99. The objective of this clause is:

(a) *To safeguard community amenity while facilitating appropriate commercial, industrial or other uses with potential off-site effects.*

Clause 15.01 (Built Environment and Heritage)

Clause 15.01-1S (Urban design)

100. The relevant objective of this clause is:

(a) *To create urban environments that are safe, healthy, functional and enjoyable and that contribute to a sense of place and cultural identity.*

Clause 15.01-1R (Urban design - Metropolitan Melbourne)

101. The objective is:

(a) *To create distinctive and liveable city with quality design and amenity.*

Clause 15.01-2S (Building design)

102. The relevant objective of this clause is:

(a) *To achieve building design outcomes that contribute positively to the local context and enhance the public realm.*

103. Relevant strategies of this clause are:

(a) *Ensure a comprehensive site analysis as the starting point of the design process and provides the basis for the consideration of height, scale and massing of new development.*

(b) *Ensure development responds and contributes to the strategic and cultural context of its location.*
(c) *Minimise the detrimental impact of development on neighbouring properties, the public realm and the natural environment.*
(d) *Ensure the form, scale, and appearance of development enhances the function and amenity of the public realm.*
(e) *Ensure buildings and their interface with the public realm support personal safety, perceptions of safety and property security.*
(f) *Ensure development is designed to protect and enhance valued landmarks, views and vistas.*
(g) *Ensure development provides safe access and egress for pedestrians, cyclists and vehicles.*
(h) *Ensure development provides landscaping that responds to its site context, enhances the built form and creates safe and attractive spaces.*

104. This clause also states that planning must consider as relevant:

(a) *Urban Design Guidelines for Victoria (Department of Environment, Land, Water and Planning, 2017).*

Clause 15.01-4S (Healthy neighbourhoods)

105. The objective is:

(a) *To create urban environments that are safe, functional and provide good quality environments with a sense of place and cultural identity.*

Clause 15.01-4R (Healthy neighbourhoods - Metropolitan Melbourne)

106. The strategy is:

(a) *Create a city of 20 minute neighbourhoods that give people the ability to meet most of their everyday needs within a 20 minute walk, cycle or local public transport trip from their home.*

Clause 15.01-5S (Neighbourhood character)

107. The relevant objective of this clause is:

(a) *To recognise, support and protect neighbourhood character, cultural identity, and sense of place.*

Clause 15.02 (Sustainable Development)

Clause 15.02-1S (Energy Efficiency)

108. The objective of this clause is:

(a) *To encourage land use and development that is energy and resource efficient, supports a cooler environment and minimises greenhouse gas emissions.*

Clause 17.01 – (Employment)

Clause 17.01-1S – (Diversified economy)

109. The objective of this clause is:

(a) *To strengthen and diversify the economy.*

110. The relevant strategies of this clause are:

    (a) *Protect and strengthen existing and planned employment areas and plan for new employment areas.*
    (b) *Facilitate growth in a range of employment sectors, including health, education, retail, tourism, knowledge industries and professional and technical services based on the emerging and existing strengths of each region.*
    (c) *Improve access to jobs closer to where people live.*

    Clause 17.02 – (Commercial)

    Clause 17.02-1S – (Business)

111. The relevant objective of this clause is:

    (a) *To encourage development that meets the communities' needs for retail, entertainment, office and other commercial services.*

112. The relevant strategies of this clause is:
    (a) *Plan for an adequate supply of commercial land in appropriate locations.*
    (b) *Ensure commercial facilities are aggregated and provide net community benefit in relation to their viability, accessibility and efficient use of infrastructure.*
    (c) *Locate commercial facilities in existing or planned activity centres.*

    Clause 18.02 (Movement Networks)

    Clause 18.02-1S – (Sustainable personal transport)

113. The relevant objectives of this clause is:

    (a) *To promote the use of sustainable personal transport.*

114. Relevant strategies of this policy are:

    (a) *Encourage the use of walking and cycling by creating environments that are safe and attractive.*
    (b) *Develop high quality pedestrian environments that are accessible to footpath-bound vehicles such as wheelchairs, prams and scooters.*
    (c) *Ensure cycling routes and infrastructure are constructed early in new developments.*
    (d) *Provide direct and connected pedestrian and bicycle infrastructure to and between key destinations including activity centres, public transport interchanges, employment areas, urban renewal precincts and major attractions.*
    (e) *Ensure cycling infrastructure (on-road bicycle lanes and off-road bicycle paths) is planned to provide the most direct route practical and to separate cyclists from other road users, particularly motor vehicles.*
    (f) *Require the provision of adequate bicycle parking and related facilities to meet demand at education, recreation, transport, shopping and community facilities and other major attractions when issuing planning approvals.*
    (g) *Provide improved facilities, particularly storage, for cyclists at public transport interchanges, rail stations and major attractions.*
    (h) *Ensure provision of bicycle end-of-trip facilities in commercial buildings*

    Clause 18.02-1R – (Sustainable personal transport- Metropolitan Melbourne)

115. Strategies of this policy are:

(a) *Improve local travel options for walking and cycling to support 20 minute neighbourhoods.*
(b) *Develop local cycling networks and new cycling facilities that support the development of 20-minute neighbourhoods and that link to and complement the metropolitan-wide network of bicycle routes - the Principal Bicycle Network*

Clause 18.02-2S (Public Transport)

116. The objective of this clause is:

(a) *To facilitate greater use of public transport and promote increased development close to high-quality public transport routes.*

Clause 18.02-2R (Principal Public Transport Network)

117. A relevant strategy of this clause is to:

(a) *Maximise the use of existing infrastructure and increase the diversity and density of development along the Principal Public Transport Network, particularly at interchanges, activity centres and where principal public transport routes intersect.*

Clause 18.02-4S – (Car Parking)

118. The objective of this clause is:

(a) *To ensure an adequate supply of car parking that is appropriately designed and located.*

119. A relevant strategy is:

(a) *Protect the amenity of residential precincts from the effects of road congestion created by on-street parking.*

Local Planning Policy Framework (LPPF)

120. The relevant policies in the Municipal Strategic Statement can be described as follows:

Municipal Strategic Statement (MSS)

121. Relevant clauses are as follows:

Clause 21.04-2 (Activity Centres)

122. The relevant objectives of this clause are:

(a) *To maintain the long term viability of activity centres.*

123. Relevant strategies to achieve this objective include:

(a) *Strategy 5.2 - Support land use change and development that contributes to the adaptation, redevelopment and economic growth of existing activity centres.*
(b) *Strategy 5.3 - Discourage uses at street level in activity centres which create dead frontages during the day.*

Clause 21.04-3 (Industry, office and commercial)

124. The objective of this clause is:

(a) To increase the number and diversity of local employment opportunities.

Clause 21.05-2 – (Urban design)

125. The relevant objectives of this clause are:

(a) *Objective 16 - To reinforce the existing urban framework of Yarra;*

(b) *Objective 17 - To retain Yarra's identity as a low-rise urban form with pockets of higher development:*

(i) Strategy 17.2 Development on strategic redevelopment sites or within activity centres should generally be no more than 5-6 storeys unless it can be demonstrated that the proposal can achieve specific benefits such as:
1. Significant upper level setbacks
2. Architectural design excellence
3. Best practice environmental sustainability objectives in design and construction
4. High quality restoration and adaptive re-use of heritage buildings
5. Positive contribution to the enhancement of the public domain
6. Provision of affordable housing.

(c) *Objective 18 - To retain, enhance and extend Yarra's fine grain street pattern;*
(d) *Objective 19 To create an inner city environment with landscaped beauty;*
(e) *Objective 20 - To ensure that new development contributes positively to Yarra's urban fabric;*
(f) *Objective 21 - To enhance the built form character of Yarra's activity centres;*

(i) Strategy 21.1 Require development within Yarra's activity centres to respect and not dominate existing built form; and

(ii) Strategy 21.3 Support new development that contributes to the consolidation and viability of existing activity centres.

Clause 21.05-4 – Public environment

126. The relevant objective and strategies of this clause are:

(a) *Objective 28 - To a provide a public environment that encourages community interaction and activity:*

(i) Strategy 28.1 - Encourage universal access to all new public spaces and buildings
(ii) Strategy 28.2 - Ensure that buildings have a human scale at street level.
(iii) Strategy 28.3 - Require buildings and public spaces to provide a safe and attractive public environment.
(iv) Strategy 28.5 - Require new development to make a clear distinction between public and private spaces.
(v) Strategy 28.8 - Encourage public art in new development.

Clause 21.06 – Transport

127. This policy recognises that Yarra needs to reduce car dependence by promoting walking, cycling and public transport use as viable and preferable alternatives.

128. Parking availability is important for many people, however in Yarra unrestricted car use and parking is neither practical nor achievable. Car parking will be managed to optimise its use and to encourage sustainable transport options.

129. Relevant objectives and strategies of this clause are as follows:

    (a) *Objective 30 – To provide safe and convenient pedestrian and bicycle environments.*

        (i) Strategy 30.2 – Minimise vehicle crossovers on street frontages.
        (ii) Strategy 30.3 – Use rear laneway access to reduce vehicle crossovers.

    (b) *Objective 31 – To facilitate public transport usage.*

    (c) *Objective 32 – To reduce the reliance on the private motor car.*

    (d) *Objective 33 – To reduce the impact of traffic.*

        (i) Strategy 33.1 Ensure access arrangements maintain the safety and efficiency of the arterial and local road network.

    Clause 21.07-1 – Ecologically sustainable development

130. The relevant objectives and strategies of this clause are:

    (a) *Objective 34 – To promote ecologically sustainable development.*

        (i) Strategy 34.1 – Encourage new development to incorporate environmentally sustainable design measures in the areas of energy and water efficiency, greenhouse gas emissions, passive solar design, natural ventilation, stormwater reduction and management, solar access, orientation and layout of development, building materials and waste minimisation.

    Clause 21.08-2 Neighbourhoods (Burnley, Cremorne, South Richmond)

131. Relevant land use strategies are as follows:

    (a) *Improve access and perceived safety around Burnley Station and East Richmond Station.*
    (b) *Maintain the hard edge of the strip.*

132. 'Figure 7 Neighbourhood Map' of this clause shows the site to be located within the Swan Street Major Activity Centre.

    Relevant Local Policies

    Clause 22.03 – Landmarks and Tall Structures

133. This policy applies to all development. Whilst the site is not within proximity to an identified sign or landmark within the policy, the following is relevant: *Ensure the profile and silhouette of new tall structures adds to the interest of Yarra's urban form and skyline.*

    Clause 22.05 – Interfaces Uses Policy

134. This policy applies to all development and use applications and aims to reduce conflict between commercial, industrial and residential activities. The policy acknowledges that the mix of land uses and development that typifies inner city areas can result in conflict at the interface between uses.

135. It is policy that:

(a) *New non-residential use and development within Business and Mixed Use and Industrial Zones are designed to minimise noise and visual amenity impacts upon nearby, existing residential properties.*

136. Decision guidelines at clause 22.05-6 include:

(a) *Before deciding on an application for non-residential development, Council will consider as appropriate:*

(i) The extent to which the proposed buildings or uses may cause overlooking, overshadowing, noise, fumes and air emissions, light spillage, waste management and other operational disturbances that may cause unreasonable detriment to the residential amenity of nearby residential properties.

(ii) Whether the buildings or uses are designed or incorporate appropriate measures to minimise the impact of unreasonable overlooking, overshadowing, noise, fumes and air emissions, light spillage, waste management and other operational disturbances on nearby residential properties.

Clause 22.10 – Built form and design policy

137. The policy applies to all new development not included in a heritage overlay and comprises ten design elements that address the following issues: urban form and character; setbacks and building heights; street and public space quality; environmental sustainability; site coverage; on-site amenity; off-site amenity; landscaping and fencing; parking, traffic and access; and service infrastructure.

Clause 22.16 – Stormwater Management (Water Sensitive Urban Design)

138. Clause 22.16-3 requires the use of measures to *"improve the quality and reduce the flow of water discharge to waterways"*, manage the flow of litter from the site in stormwater and encourage green roofs, walls and facades in buildings where practicable.

Clause 22.17 – Environmentally Sustainable Design

139. The overarching objective is that development should achieve best practice in environmentally sustainable development from the design stage through to construction and operation. The considerations are energy performance, water resources, indoor environment quality, storm water management, transport, waste management and urban ecology.

Other Documents

Plan Melbourne

140. The plan outlines the vision for Melbourne's growth to the year 2050. It seeks to define what kind of city Melbourne will be and identifies the infrastructure, services and major projects which need to be put in place to underpin the city's growth. It is a blueprint for Melbourne's future prosperity, liveability and sustainability.

141. The Richmond - Swan Street area is identified as a Major Activity Centre. Furthermore, the document identifies that increased diversity and density of development is encouraged within areas covered by the Principal Public Transport Network particularly at interchanges, activity centres and where principal public transport routes intersect.

Melbourne Industrial and Commercial Land Use Plan (MICLUP)

142. The Melbourne Industrial and Commercial Land Use Plan builds on the relevant policies and actions of Plan Melbourne 2017-2050. It provides an overview of current and future needs for industrial and commercial land across metropolitan Melbourne and puts in place a planning framework to support state and local government to more effectively plan for future employment and industry needs, and better inform future strategic directions.

143. Map 5 within the document shows the commercial land within the inner metro region and identifies the land as being a regionally significant existing commercial area (Figure 13).

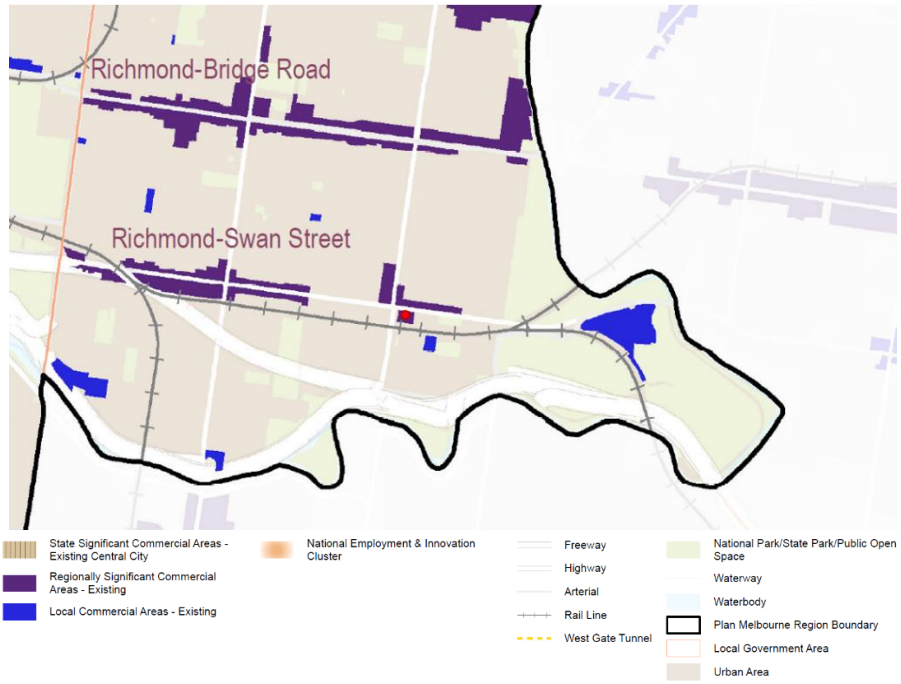


Figure 13: Excerpt from Map 5 of the MICLUP showing the subject site as a red circle.

144. The MICLUP identifies the role of regionally significant commercial areas as follows:

(a) *These include commercial areas and places identified in Plan Melbourne as major activity centres as well as growth area business with residential precincts identified in Growth Corridor Plans. They should provide for and support access to a wide range of goods and services, including office and retail development, and provide for a wide range of employment opportunities. They are expected to deliver more intensive forms of employment uses including office and commercial activity.*

145. Map 4 within the document shows the industrial land within the inner metro region, identifying the properties to the east and west (across Burnley Street) as existing industrial land (Figure 14).

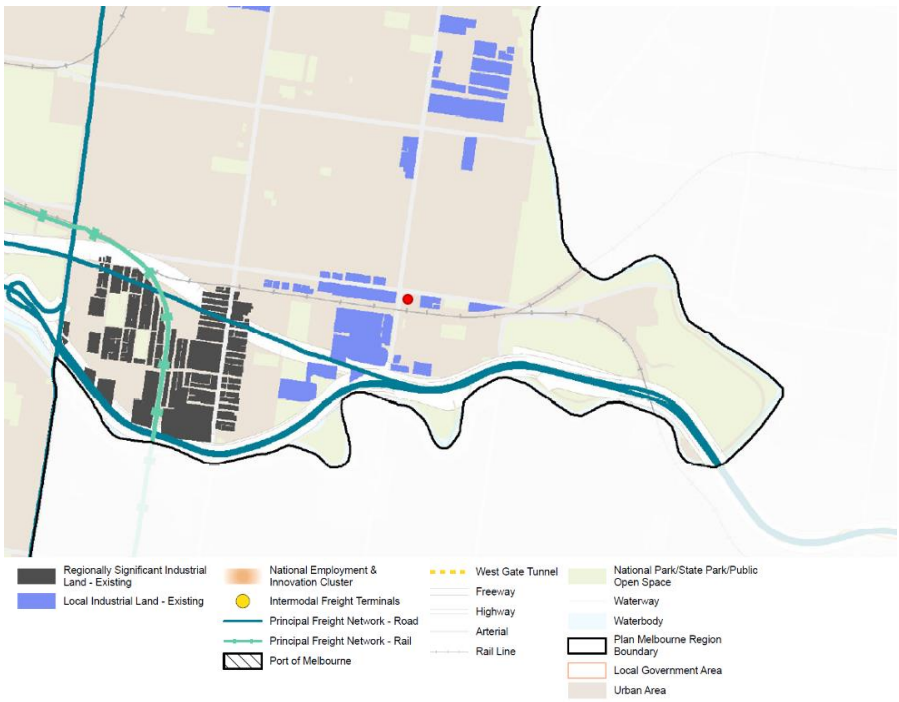


Figure 14: Excerpt from Map 4 of the MICLUP showing the subject site as a red circle.

146. The MICLUP anticipates an additional 4 million square metres of commercial floor space will be required across the Inner Metro Region by 2031. Of this, approximately 3.3 million square metres is anticipated to be required for office uses and the remaining floor space to be allocated for retail. Whilst the City of Melbourne is anticipated to accommodate the majority of the additional floor spaces required, the City of Yarra is expected to provide, in addition to the existing 933,400sqm of commercial floor space identified in 2018, an additional 548,000sqm of commercial floor space by 2031.

147. Action 7 of the MICLUP identifies the need for the state government to investigate options available to preserve and create affordable workspaces in inner Melbourne.

Yarra Climate Emergency Plan

148. The Climate Emergency Plan was adopted by Council in June 2020 and includes five strategic priorities. One of the priorities is to accelerate renewable energy, zero-carbon buildings and efficient operations.

149. An action of this policy is to transition towards zero-carbon buildings and precincts. Specifically, this action will result in a transition towards zero-carbon and precincts through the planning process, as follows:

(a) *Develop a zero carbon developments framework and work with developers to achieve leading practice.*
(b) *Introduce zero carbon standards for new commercial and residential developments, through pursuing a planning scheme amendment with local and state government partners.*
(c) *Encourage leadership in the local development industry by promoting leading practice buildings, such as developments that have met high sustainability standards (for example, case studies, tours and recognition).*
(d) *Seek to waive fees for solar installations and improve guidance to help facilitate installs in heritage areas.*
(e) *Consider precinct-level opportunities when undertaking planning for activity centres, precincts, such as renewable energy generation, storage and local distribution.*

[Emphasis added]

Yarra Spatial Economic and Employment Strategy

150. The Spatial Economic and Employment Strategy (SEES) was adopted by Council in September 2018 and includes 6 directions which will inform future policy for the Scheme.

151. The strategic direction contained within the SEES supersedes that contained within the Yarra Business and Industrial Land Strategy (BILS), adopted by Council in June 2012.

152. In regards to the strategic context of the site, the SEES provides the following:

    (a) *A number of major railway stations serve the north and south of the municipality. Stations at Richmond, East Richmond and Burnley are located in established retail strips and present opportunities for consolidation and densification of commercial, retail and residential land uses. Stations at Victoria Park, Collingwood and North Richmond all serve the Hoddle Street precinct. At a metropolitan scale Yarra is highly accessible from the north, east and south (as evidenced in the journey to work data) and a convenient location for a diverse workforce to access employment opportunities in the CBD. Locally, there is also a high level of accessibility to employment, retail and services via public transport, walking and cycling, and private vehicles.*

    (b) …*The Swan Street Structure Plan proposes zone changes and intensification of development around Burnley Station, potentially leading to further growth in capacity at the street's eastern end.*

Swan Street Structure Plan

153. The Swan Street Structure Plan (SSSP) was adopted by Council at its meeting on 17 December 2013 and is relevant to the site. The SSSP aims to manage this growth within the Swan Street activity centre and the surrounding area.

154. The subject site is within the Burnley Station Village Precinct, with the following specific statements relevant to the subject site:

    (a) *Buildings are predominantly of a low scale at 1-2 storeys and existing zoning in the precinct, on the south side of Swan Street (Commercial 2 Zone). This limits future opportunities for a broader range of land uses including residential uses.*

    (b) *Burnley Station currently has very poor public access and general amenity. The station is largely hidden behind Swan Street and has poor connectivity to the surrounding area. 2 underpasses provide access to the station. They feel unsafe and are difficult to identify in the street network.*

    (c) *The station has potential to provide the precinct with excellent access to public transport and offers a major opportunity for redevelopment and improvement to the station and surrounding environs.*

    (d) *The timber yard and adjoining sites located on the South east corner of Swan and Burnley Street are underutilised and offer potential for significant redevelopment and change in the precinct.*

155. The future vision for this precinct is described as follows:

    (a) *A vastly transformed village precinct accommodating a diversity of activity including residential, local convenience retail, entertainment, and commercial uses. The precinct includes a major transit orientated development that plays a central role in Yarra's sustainable transport network and will act as a catalyst for change within this precinct.*

156. The document identifies the subject site as a strategic redevelopment site with a recommended height of 10 – 12 storeys (36 metres). Some specific rationale statements relevant to the subject site are as follows:

    (a) *Redevelopment of the strategic redevelopment site on the southeast corner of Burnley Street and Swan Street will act as a major catalyst for change.*

    (b) *Redevelopment provides opportunities to integrate Burnley Station with Swan Street and surrounding environs.*

    (c) *Strengthening the variety of land uses will support intensification of residential uses.*

    (d) *Large lot sizes on south side of Swan Street have good separation from existing residential uses to the north and less potential for adverse amenity impacts.*

157. In order to deliver the vision for the Swan Street study area, the Structure Plan articulates objectives and strategies grouped into four themes: land use; built form; public spaces; and access and movement. Whilst adopted, the structure plan has not progressed to the formal amendment stage and has limited statutory weight.

Amendment C191 – Swan Street Major Activity Centre

158. Yarra City Council is proposing to apply new planning controls to the Swan Street Major Activity Centre, via Amendment C191 and the implementation of a Design and Development Overlay, to help manage future development, protect heritage and support employment in the area.

159. The amendment was on public exhibition for six weeks during February and March 2019. Since then, the amendment has proceeded to a Panel Hearing. The Panel Hearing commenced on 2 December 2019. On 5 December 2019 the Panel Hearing was adjourned and will recommence on Monday 27 July 2020. The hearing is expected to run for three weeks.

160. The subject site is not included within the proposed Design and Development Overlay, due to its location within a site specific Design and Development Overlay, DDO14.

161. The site falls to the east of Precinct 3 (Swan Street East), applying to the land on the western side of Burnley Street and just outside of Precinct 4 (Burnley Station), applying to the land directly adjoining to the east and to the properties on the northern side of Swan Street. This is shown in Figure 15.

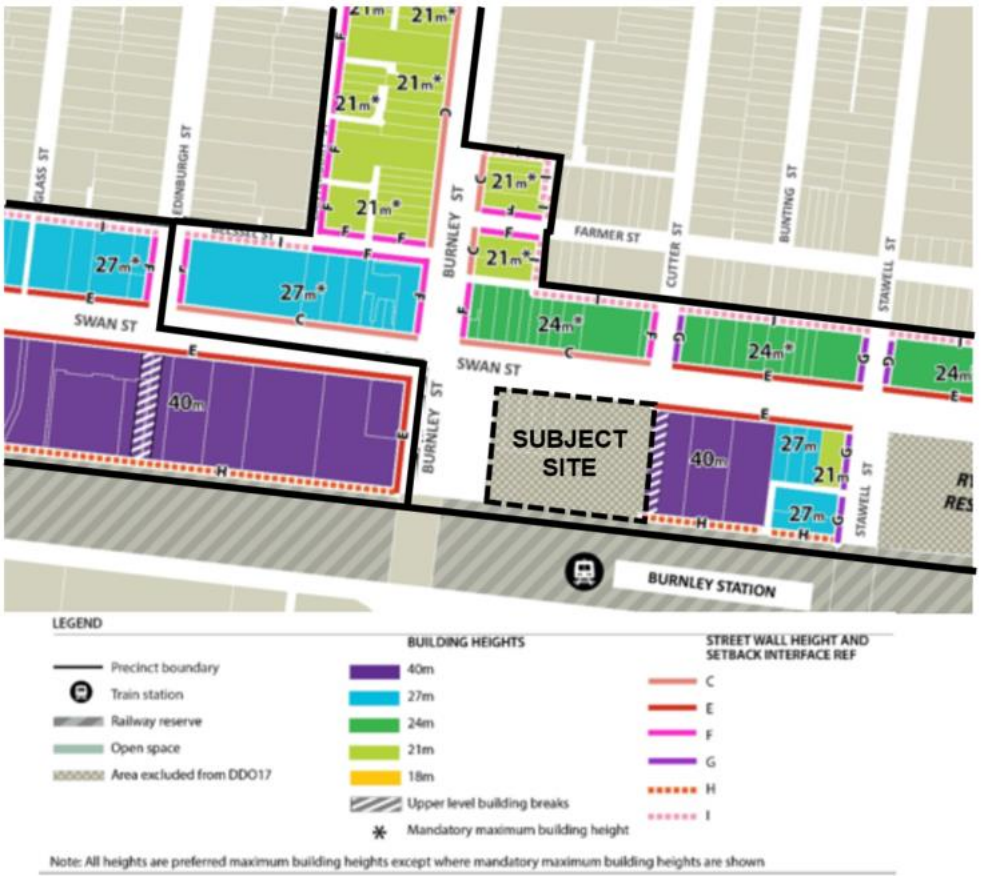


Figure 15: Extract from Plan 5 (Precinct 3) and Plan 7 (Precinct 4) of proposed DDO17 (precinct boundaries shown as thick black line), detailing the proposed controls and location of the subject site.

162. The overlay supports a discretionary 40 metre height limit for the sites to the east and west on the southern side of Swan Street. The overlay supports mandatory height limits on the northern side of Swan Street, of 27 metres for the site on the north-western corner of Swan and Burnley Streets and of 24 metres on the north-eastern corner of this intersection.

Advertising

163. The application was advertised under the provisions of Section 52 of the *Planning and Environment Act (1987)* by 1,828 letters sent to surrounding owners and occupiers and by four signs displayed on site. Council received thirteen (13) objections, the grounds of which are summarised as follows:

(a) Built form and massing
   (i) Height and mass of the development is inconsistent with the existing neighbourhood character;
   (ii) Inadequate upper level setbacks;
   (iii) Building should provide greater footpaths around;
   (iv) Building separation is inadequate; and
   (v) Development not in keeping with historic low-scale precinct.

(b) Use and Off-Site Amenity Impacts:
   (i) Loss of views;
   (ii) Overshadowing of the public realm; and
   (iii) Wind impacts.

(c) Traffic and Car Parking:
   (i) Too many car parks provided on-site, additional traffic cannot be supported within local road network; and

(ii) Not enough car parks provided on-site, the on-street car parking is already at capacity and cannot cater to overflow from development.

(d) Other:
(i) Due to COVID-19 there is no longer a need for large-format office space;
(ii) The office layout would not allow for social distancing or safe use of lifts due to the COVID-19 pandemic; and
(iii) Amendment C185/Planning Permit PLN15/0057 provided significant community benefits (including a supermarket) to justify the preferred DDO14 height.

164. No consultation meeting was held as a result of the state of emergency declared in Victoria and the current health advice related to the COVID-19 pandemic.

VicTrack

165. In accordance with Section 52 of the Act, VicTrack (owner of the rail reserve) was advertised to who provided no comments at the time of decision.

YarraTrams

166. In accordance with Section 52 of the Act, it was deemed that Yarra Trams (operator of the tram network on Swan Street) may have an interest in the application, and therefore the proposal was advertised to Yarra Trams, who on 8 May 2020 requested the applicant contact Yarra Trams directly to discuss potential requirements such as distances from Yarra Trams infrastructure. This request was provided to the applicant.

Clause 43.02 – Design and Development Overlay (Schedule 5)

167. In accordance with the requirements of Clause 66.06, this application was advertised to the EPA, Transurban City Link Limited and the Roads Corporation (Transport for Victoria).

168. The Roads Corporation (Transport for Victoria) responded in conjunction with the Department of Transport (Transport for Victoria) in response to the Section 55 Referral made pursuant to both clause 66.02-11 and clause 52.29-4. The comments are included as an attachment to this report.

169. At the time of decision, Transurban City Link Limited had not responded directly, however, the Roads Corporation (Transport for Victoria) confirmed on 11 June 2020 that Transurban City Link Limited had provided the following comments on the application to them:
(a) *We have no comments regarding the proposed development aside from noting that the proposed building's height exceeds the plume buffer envelope from the Burnley Tunnel Exhaust Stacks, meaning that the occupants of the building may be exposed to pollutant levels that exceed EPA limits. As such, the EPA may choose to provide comment on the effects of the plume on the development.*

170. The EPA had responded on 5 May 2020, advising the following:

(a) *The Environment Protection Authority (EPA) has reviewed the referral and documents accompanying the application. EPA advises that we do not have concerns with the proposal with respect to the City Link Exhaust Stack Environs. As such, EPA has no concerns with Council issuing this planning permit according to the information that has been provided.*

Referrals

External Referrals

171. The application was referred to the following authorities:

    (a) Head, Transport for Victoria (Roads Corporation and Department of Transport)

        On 12 June 2020, Transport for Victoria contacted Council by email, identifying that the applicant had requested a change to Condition 1 (a) of the referral comments to which they had no objection to. The updated wording is provided below:

        The installation of signs, line marking, splitter island and associated road works permitting only "left turn in" and left turn out" vehicular access from Swan Street ~~(informed by the Road Safety Audit)~~ unless otherwise recommend by the Road Safety Audit.

    Internal Referrals

172. The application was referred to the following units within Council:

    (a) Open Space Unit;
    (b) Streetscapes and Natural Values Unit;
    (c) Urban Design Unit (public realm only);
    (d) Engineering Unit;
    (e) Strategic Transport Unit;
    (f) City Works Unit; and
    (g) ESD Advisor.

    External Consultants

    (h) Urban Design (Rob McGauran, MGS Architects);
    (i) Acoustics (SLR Consulting); and
    (j) Wind (Vipac).

173. Referral comments have been included as attachments to this report.

OFFICER ASSESSMENT

174. The primary considerations for this application are as follows:

    (a) Policy and Strategic Support;
    (b) Built form and Urban Design including Affordability;
    (c) On-site amenity including Environmentally Sustainable Design;
    (d) Off-site amenity including City Link Exhaust Stacks and Waste Management;
    (e) Car parking, traffic and alteration of access;
    (f) Bicycle facilities and strategic transport; and
    (g) Objector concerns.

Policy and Strategic Support

175. The proposed development has strong strategic support at State and local level for the construction of a larger scale office building. The subject site is located within a C1Z, this zone has a key purpose *to create vibrant mixed use commercial centres for retail, office, business, entertainment and community uses.*

176. Consistent with the zone, the use of the land for office, retail and food and drinks premises does not require a planning permit and only the buildings and works are triggered by the zone. This indicates strong strategic support for office use within the precinct and for supporting uses such as the ground floor retail (inclusive of the food and drinks premises) which will provide activation along both Swan and Burnley Streets. Additionally, policies (such as clauses 11.03-1R and 18.01-1S) encourage the concentration of development near activity centres and more intense development on sites well connected to public transport.

177. The site is well documented within both State and local policies as being a regionally significant commercial site (MICLUP) and a strategic redevelopment site (SSSP) that is slated for more intensive development (DDO14), subject to the delivery of significant public realm outcomes, public benefit outcomes as well as a responsive and high quality built form.

178. The site and adjacent surrounding land is located within commercially zoned land with the rail corridor located to the south. As a strategic redevelopment site the site has a number of attributes that facilitate a higher development capacity such as the overall size of the site, the underutilised development capacity, no heritage restrictions, distance from residential/sensitive uses, proximity to public transport corridors and services within the surrounding area.

179. The proposal complies with the strategic direction outlined within the SEES by continuing the commercial use of the site in a more intensive form, in order to facilitate greater growth and densification. As previously identified, the SSSP identifies the timber yard site as a site slated for significant redevelopment and change.

180. At a State level, the metropolitan planning strategy *Plan Melbourne* seeks to create 20-minute neighbourhoods, where people can access most of their everyday needs (including employment) within a 20-minute walk, cycle or via public transport. These neighbourhoods must be safe, accessible and well connected for pedestrians and cyclists.

181. The site fulfils this criteria, with tram routes along Swan Street, the site abutting Burnley Station and funding currently being sought for a bus route through the area. The proposal includes a total of 338 on-site bicycle spaces, including 56 visitor bike spaces, bike repair workshop and end-of-trip facilities thereby encouraging the use of alternative modes of transport to and from the site the site rather than encouraging the reliance on motor vehicles. This is encouraged by clauses 18.02 – Movement Networks; 21.06-3 – The Road System and Parking; and 21.03 – Vision of the Scheme.

182. The site is located in an area suitable for redevelopment, with a proposed built form that generally includes some elements of diverse pattern of urban form in the neighbourhood, creates a new built form character and would result in no unreasonable off-site amenity impacts due to the surrounding commercial uses.

183. Having regard to the above, the proposed development of the site for a greater provision of floor area for office is considered to have strategic planning support, however regard must be had to the appropriate scale and massing of the proposal, based on the individual context and the Scheme requirements, most notably the DDO14. This aspect of the development will be discussed below.

<u>Built form and Urban Design including Affordability</u>

184. The primary considerations for the proposed development are the decision guidelines at clause 34.01-8 of the Scheme as well as the provisions of Schedule 2 and Schedule 14 of the DDO. The urban design assessment is further guided by planning policy at clauses 15.01-1S (Urban design), 15.01-2S (Building design) and 22.10 (Built form and design policy).

185. These provisions and guidelines seek a development that responds to the existing or preferred neighbourhood character and provides a contextual urban design response reflective of the aspirations of the area. Particular regard must be given to the height and massing, street setbacks and the proposal's relationship to adjoining buildings and the public realm. These considerations will be addressed separately below.

Urban form, character and context

186. As already outlined in the *Surrounding Land* description of this report, the surrounding neighbourhood character is mixed. The northern side of Swan Street is a mixture of finer grain commercial buildings with some larger apartment buildings emerging amongst existing office and warehouses whilst along the southern side there are much 'bulkier' and taller office buildings emerging with older warehouses.

187. The existing neighbourhood character along the southern side of Swan Street is not one which Council prefers. This part of Swan and Burnley Streets (Burnley Village) is earmarked to be "vastly transformed" within Councils adopted document, the SSSP. The SSSP also includes a built form objective "to establish a new built form character that is complementary to existing context".

188. The existing context along the northern and southern side of this part of Swan Street will significantly change in the future as envisioned by Council's own adopted documents. The relevant strategies of the SSSP are:

(a) *Provide active frontages to the street.*
(b) *Rebuild/reinforce the street wall height along Swan Street and Burnley Street to create a consistent 3 storey built form scale with visually recessive upper levels.*
(c) *Ensure that the prevailing fine-grain pattern is preserved on larger sites or where sites are consolidated.*
(d) *Encourage taller buildings on the south side of Swan Street between Burnley Street and Stawell Street.*

189. The proposal complies with all of these, being on the southern side of Swan Street between Burnley and Stawell Streets and vastly improves on the previous proposal (PLN15/0057) in respect of the level of active frontages (including to the rail corridor to the south).

Podium

190. In regards to the podium, this is expressed in two forms as it presents to Swan Street and the rail corridor that can be described as the eastern form and the western form.

191. Whilst the eastern form adopts a four storey podium of 17.85 metres, this is considered to integrate well with the emerging character of the area and in particular the current approval at No. 484-486 Swan Street that also adopted a four storey and 16 metre high street wall at the common boundary (both to Swan Street and the rail corridor).

192. It is considered that the step up in height from this development and the subject site is appropriately managed through the materiality utilised. Furthermore, the podium of the adjoining development is currently proposed within the current amendment to increase to 16.6 metres. If approved it would still be considered that the step between the two street walls would be appropriately managed.

193. In addition to the above, the six storey street wall of the development on the opposing side of Swan Street, at No. 429-433 Swan Street, with a height of 17.71 metres demonstrates that more robust forms interfacing with the street are common attributes of emerging design that go beyond the three storey built form scale envisioned by the SSSP.

194. The western form of the streetwall is expressed as a three storey form to Swan Street which wraps around to Burnley Street and steps down to a two storey form for the rear half that again wraps around to the rail corridor. This acknowledges the sensitivities of the south-western interface, with Burnley Station and the improved public realm that creates a future plaza area.

195. It is considered that the built form scale of the street wall, whilst varying between two and four storeys, is site responsive in reinforcing the street wall height along Swan Street and Burnley Street.

196. Council's Urban Design consultant shared this view, commenting that the street wall steps appropriately along the differing site interfaces. Whilst issues were identified with the architectural expression, this will be discussed further later.

197. Where the podium forms step up or down, the building provides an indented setback to assist in breaking down the massing of the long site frontage and the differing podium forms. This is particularly evident above the podium and is highlighted within the landscape concept plan (Figure 16).

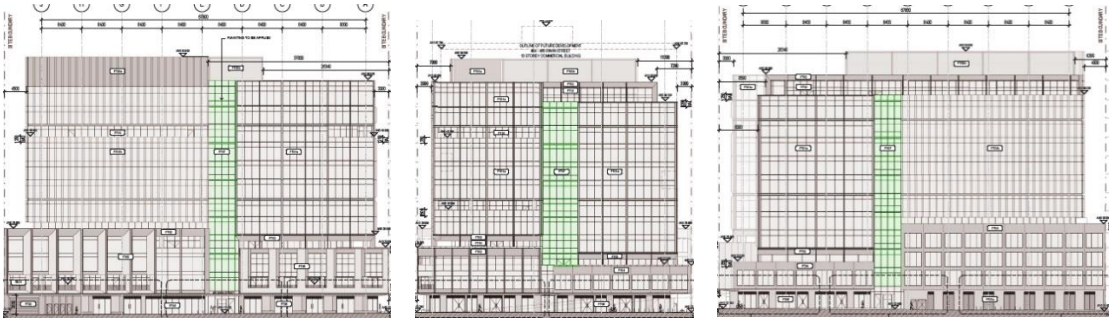


Figure 16: Extracts from the landscape concept plan, highlighting the indented setback between podium forms, where 'vertical gardens' are proposed on the northern, western and southern facades

198. The proposal has complied with the built form objectives and strategies of the SSSP and ensures the building is integrated with the surrounding urban context as per the design objectives of the DDO14.

199. This building will be contributing to a new built form character along this part of Swan Street, consistent with other approvals and the requirements of the DDO14 as discussed further below. This is a new built form character that is expected to develop as the sites further to the east within the C2Z build on and form a new emerging character that is more aligned with the strategic significance of this area.

Height, scale and massing of the development

200. There is a clearly established emerging character of higher built form in the area as identified above. All of these attributes favour the subject site's potential for a greater height with the proposal fitting in with the emerging height range of the area. As such, the height is compliant with policy at clauses 15.01-1, 15.01-2, 22.10-3.2 and 22.10-3.3.

201. Council's adopted SSSP shows the subject site as an area where a 10-12 storey building should be located. As already outlined in the *Policy and strategic support* section of this assessment, Council has envisioned significant change of this magnitude on this site.

202. Council's overlay, DDO14, which is a site specific overlay is particularly specific with regards to the appropriate height and massing which should occur on the site. These built form recommendations are outlined below:

    (a) *The building height should not exceed a maximum of 42 metres.*

(b) *The maximum height does not include building services which should be hidden from view from any adjoining public space or designed as architectural roof top features. Building services include but are not limited to plant rooms, air conditioning, lift overruns and roof mounted equipment.*

(c) *Reinforce the street wall height along Swan Street and Burnley Street to create a consistent 3 storey built form.*

(d) *Upper levels should be setback from the podium at all site boundaries, except for façade articulation of up to 0.5m, as follows:*

(i) A minimum of 6m from Swan Street to provide upper level setbacks from the primary street frontage.

(ii) A 5m setback from the eastern boundary to provide upper level building separation between the subject site and any future redevelopment of the abutting property.

(iii) A minimum of 3m setbacks from the south (rail corridor) and west (Burnley Street).

(e) *Provide building separation between built form elements at upper levels.*

(f) *Ensure that built form elements above the street wall are visually recessive and do not contribute to visual bulk.*

203. The building height exceeds the 42 metre height and does not provide all of the setback requirements referenced within the DDO14 and therefore it must be determined if the development achieves:
(a) an exemplary built form outcome,
(b) an exemplary public realm outcome,
(c) an innovative environmentally sustainable development,
(d) minimal overshadowing of the public realm and
(e) minimal adverse amenity impacts to adjoining properties in accordance with the requirements of Section 2.0.

204. Whether the development achieves an exemplary built form outcome and is appropriately massed to achieve minimal adverse amenity impacts that do not contribute to visual bulk will be discussed below. The other items will be discussed relevantly, within the balance of the report.

205. The building presents as 53.65 metres in height associated with the eastern portion where fronting Swan Street whilst the western portion presents as 48.85 metres in height. To the rail corridor the building presents as 44.7 metres in height, with the eleventh level setback by 8.29 metres to be read as a separate more recessive element.

206. Along Burnley Street the development presents as 48.85 metres in height for the northern portion, with the southern portion presenting as 44.7 metres in height due to the setback adopted at the eleventh level from the western boundary of 13.6 metres. To the east, the building will present as 48.85 metre form for the southern portion and 53.65 metres for the northern portion.

207. It is expected that the development, exceeding the height of 42 metres as referenced within the DDO14 provide significant and exceptional built form, public realm and ESD outcomes.

208. Whilst the height above the 42 metres is not considered a significant departure from the DDO14; in regards to height it must be determined whether the massing appropriately responds to the differing interfaces.

209. Excluding plant, the number of storeys proposed (12) is within the preferred future mid-rise character for Swan Street of generally 5 to 12 storeys. Council's external Urban Designer raised no issues with the proposed height. There are however, three aspects of the massing that were identified by Council's Urban Design consultant as requiring further design resolution and will be discussed in turn as follows:

South-eastern upper level setback

210. To ensure the architectural quality, upper level setbacks, visual breaks and design interest from the eastern approach respond to Local Policy and the provisions of DDO14 Council's Urban Design consultant recommended the following:

(a) At level 11 the eastern façade should be setback 8 metres from the eastern boundary for the section from 1 metre south of Gridline 3 to the southern façade; and

(b) At level 11, the south roof zone reconfigured to a landscaped terrace.

211. As previously identified, sketch plans were provided on 5 June 2020 providing an upper level setback to the eastern boundary of 6.23 metres in lieu of 8 metres, increasing from the 4.5 metre setback as shown on the proposed plans. The applicant identified that the 6.23 metre setback, in lieu of 8 metres, was required to maintain functionality, passive surveillance and for structural requirements.

212. This would result in a 1.73 metre setback from the level below when the setback requested would provide a 3.5 metre setback from the level below. Acknowledging that this is less than the requested setback by Councils Urban Designer, the increased separation coupled with an additional landscaped terrace provides a good response to receding this corner of the building. A condition can be included requesting this setback change.

213. In respect of the landscaped terrace within the southern setback zone, a condition can be included to require this. This will ensure passive surveillance is maintained, and improved, to the south. The applicant provided a digital model demonstrating the modifications to the building as referenced above (Figure 17).



Figure 2 – Submitted Proposal



Figure 3 – Proposed alternative response

Figure 17: Digital modelling of the proposal showing the current proposal (left) and the proposal including the Level 11 eastern setback of 6.23 metres (right).

South-western upper level setback

214. To ensure the proposed development responds to Local Policy and the provisions of the DDO14, where outcomes that enable increased density and scale are considered appropriate where they are able to mitigate offsite impacts, Council's Urban Design consultant recommended that the scale of the south-western corner and plant level should be eroded further, through the following:

    (a) At level 10, setback the west façade to 13.5 metres for the entire west elevation south of where the building currently indents to 10.97 metres;
    (b) At level 10, setback the southern façade to 12 metres, west of Gridline E; and
    (c) Setback Level 11 in accordance with the setbacks above.
    (d) Relocate the south-western Level 11 terrace to Level 10, in the area created by the conditions above.

215. As previously identified, sketch plans were provided on 5 June 2020 providing, at Level 10, a setback of 10.589 metres for the entire west elevation south of where the building currently indents to 10.97 metres and a setback of the southern façade, west of Gridline E, to 11.322 metres. Level 11 would adopt these setbacks also, with the terrace relocated from Level 11 to Level 10. The applicant identified that these setbacks, in lieu of those recommended by Council's Urban Design consultant, were required due to structural requirements.

216. With respect to the setback of the southern façade, west of Gridline E, it is considered that the proposed 11.322 metre setback is considered acceptable. It will fall short of the recommended 12 metres by 0.678 metres and the difference will be negligible. This setback will also closely align with the current Level 11 setback of 11.14 metres.

217. In respect of the setback from the western boundary it is unclear why the recommended 13.5 metre setback cannot be accommodated with particular regard to the current Level 11 setback of 13.6 metres generally in the same location. This recommendation should therefore remain and form a condition of permit. The recommended 13.5 metre setback would provide an appreciable setback of the two upper levels linking to the two storey podium at this corner.

218. The above conditions as discussed would provide a built form response that scales down to this more sensitive interface and will assist in ensuring that overshadowing of Burnley Station is reduced. Overshadowing will be discussed later in the report.

219. The applicant provided a digital model demonstrating the modifications to the building as identified at paragraph 215 (Figure 18). Whilst the lesser eastern setback proposed by the applicant will not be adopted, the modelling demonstrates the acceptability of the modified southern setback of Levels 10 and 11.



Figure 4 – Submitted Proposal Figure 5 – Proposed alternative response

Figure 18: Digital modelling of the proposal showing the current proposal (left) and the proposal including the erosion of the south-western corner in accordance with the setbacks described in Paragraph 215 (right).

Plant Level

220. Whilst the overall building height does not include plant, DDO14 requires building services to be hidden from view or designed as architectural roof top features. In this instance, the parapet of the building as identified in Figure 19 has been extended by 6 metres in height to conceal the plant, as shown in Figure 20.

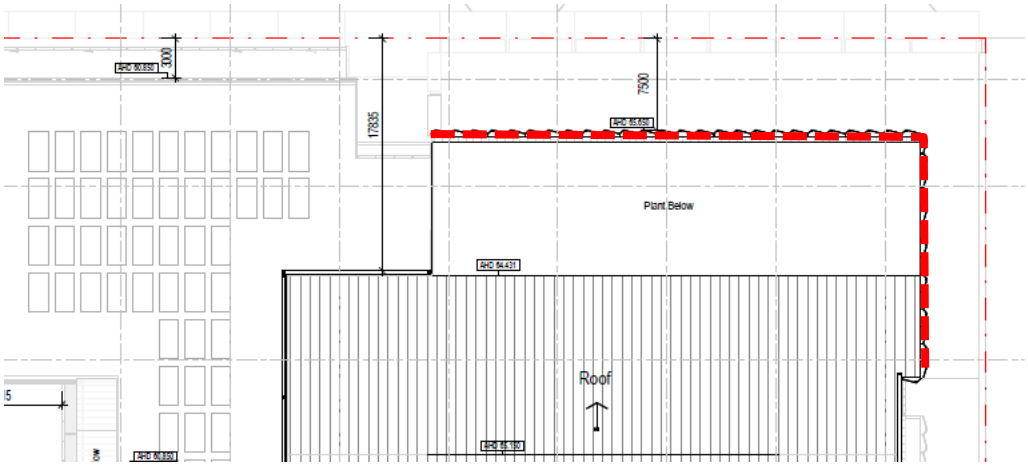


Figure 19: Extract from the roof plan with red line indicating parapet around plant

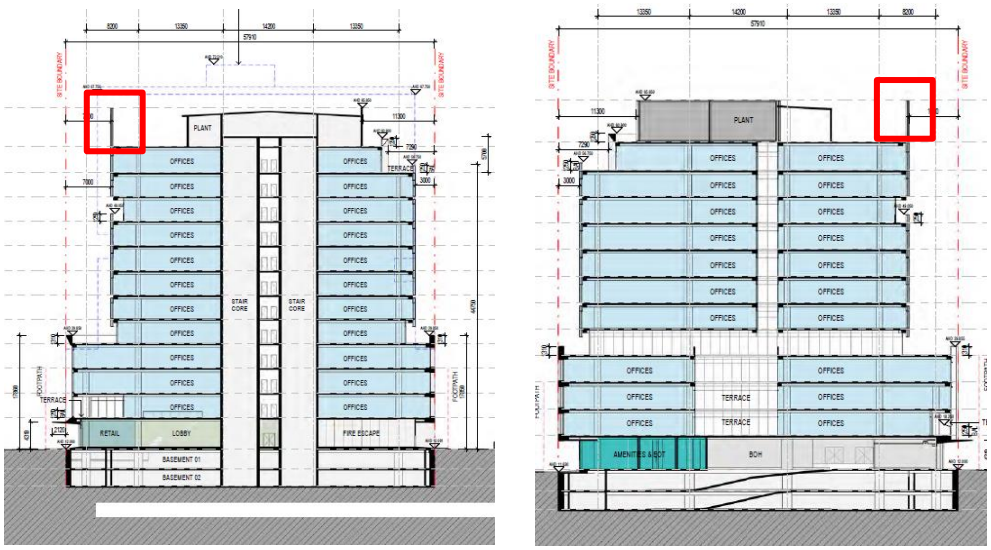


Figure 20: Section B-B and Section C-C showing the 6 metre high parapet proposed to conceal roof plant along the Swan Street interface

221. Council's Urban Design consultant identified that the southern façade at Level 11 was required to be reconfigured with the scale/height of the plant level above reduced to reduce the impact of overshadowing on the central Burnley Station platform between 10am and 2pm to ensure that there is no net increase in platform overshadowing.

222. In addition to this, it is considered that the proposed height of the roof top plant and parapet is unnecessary, resulting in excessive and avoidable visual bulk. The 6 metre high parapet as identified within Figure 19 is to be clad in 'FT03a', a grey powder coated coloured aluminium perforated façade system. This material placed above the lightweight 'FT01b', the glazed curtain wall system Type 2 – articulated façade system, will be visually prominent and there is concern it would accentuate the building height resulting in a 'top heavy' design.

223. The applicant has advised that the extent of plant required has not yet been determined. This is considered an inadequate response and the services must be resolved as they have a direct consequence on the built form outcome.

224. The applicant provided without prejudice sketch plans on 15 June 2020 that provided modified setbacks to the rooftop plant level (no change to the parapet) to address issues of overshadowing to Burnley Station. These plans did not modify the height and it is still considered that the 6 metre high parapet and plant room is excessive and unnecessary.

225. A condition can be included to require the lowering of the parapet around the roof services and for the plant room to be lowered in height, and integrated into the design of the building and minimised to reduce visual prominence.

226. Council's external Urban Design consultant provided the following in relation to the above discussion in summary:

    (a) *The concerns I have when measured against the outcomes sought of the site relate primarily to the scale of the SW corner tower and its consequent impacts and the southern and southeast corners at plant level and level 11 and their impacts and the uniformity of design language applied to the podium levels.*
    (b) *These substantial impacts used as measures against which any exceedance over the DDO must demonstrate alignment have clearly not been met in this instance at this stage but could in my view be resolved by negotiation.*

227. It is clear that further refinement of the aspects discussed above are required, and can be facilitated via condition, to warrant the proposed height exceeding 42 metres with regard to the provisions of the DDO14.

228. The acceptability of the proposed two to four storey street wall heights to Swan Street, Burnley Street and the rail corridor have been discussed and deemed acceptable, in regards to massing.

229. In respect of upper level setbacks, these are considered well setback from the street with the podium forming the main viewpoint for passers-by. In respect of the specific setbacks sought by the DDO14 where heights exceed 42 metres, the minimum 3 metre setback to the south and west have been met.

230. The upper level 6 metre setback sought for Swan Street and upper level 5 metre setback sought to the eastern boundary are proposed to be modified.

231. To Swan Street, above the podium the eastern portion of the development adopts a setback of 7 metres and complies. The western portion, however, provides a setback of 3 metres. This is considered appropriate given the strategic location of the site on the corner of Burnley Street and Swan Street, a major road intersection. The reduced setback will provide an adequate differentiation between the tower and podium elements whilst holding the corner. Council's external Urban Design consultant did not raise issues with the proposed setback at this corner.

232. To the eastern boundary the proposal provides a 4.5 metre setback. This is considered appropriate, whilst 0.5 metres shy of the recommended setback it is considered the 4.5 metre setback provides for an equitable development scenario, as discussed further in this report under *equitable development.*

233. The DDO14 requires built form elements at the upper levels to be separated. As the proposal does not contain multiple elements and is expressed as one building, no separation is required to be implemented.

234. It is considered that the building has been appropriately massed with differing architectural expression provided for the western and eastern portions to break down the massing of the development. The provision of the three landscaped 'vertical gardens' located centrally within the northern, western and southern elevations further assists in breaking down the massing of the development.

235. In accordance with the requirements of DDO14, provided with the application was a 3D model of the development and its surrounds in conformity with the Department of Environment, Water, Land and Planning Infrastructure Advisory Note – 3D Digital Modelling. The DDO14 requires a revised model to be provided where substantial modifications have been made. With regard to the amendments recommended to the built form through conditions as referenced above, an updated 3D model will be required to be submitted.

Architectural Quality

236. The development is considered to be of high architectural quality and in that regard responds to the design objectives of clause 15.01-2S of the Scheme. The contemporary design is appropriate and responds well to this part of Richmond with the design offering a modern built form that revitalises the street frontage through generously sized openings, upper level communal areas and the provision of several building entrances along all street frontages.

237. Council's Urban Design consultant was generally supportive of the proposed materials advising that the proposal was close to providing an exemplary built form outcome with regard to the requirements of the DDO14, however, raised issue with the proposed materiality of the podium forms, as follows:

    (a) *Of concern currently however, is the uniformity of the proposed treatment of these responses with the eastern end of the Swan Street frontage, a location in an infill setting, given the same design language and finish as the primary corner façade on Burnley Street at the principle interface of the two roads.*
    (b) *This continuity amplifies the notion of a single institution expression and conceptual solution rather than addressing the fine grain character, diversity and richness of detail and materiality characteristic of this part of Richmond.*
    (c) *The response is inconsistent with the richness of response to context sort in the Local Policy and DDO provisions in my view and as underlined in the report.*

238. In conclusion, the following comment was made:

    (a) *The podium treatments internal walk and retail configuration are well configured in a volumetric sense but the materiality and expression of the NE and SW elements require review to diversify the response to better reference the valued attributes of streetscape material diversity and history sought in policy*

239. Whilst an alternative design response to the eastern portion of the Swan Street podium was provided within the without prejudice sketch plans received on 15 June 2020, the documentation provided insufficient information to enable a thorough assessment of the proposal and also did not address the podium design interfacing with Burnley Street. These are therefore considered to be outstanding items.

240. To ensure the architectural expression of the development responds to Local Policy and the provisions of DDO14, the following conditions can be included:

    (a) The design expression east of the primary north-south entrance in Swan Street to be revised for each of the podium levels;
    (b) The design expression of the Burnley Street zone south of the projecting corner to be revised.

241. Aside from the materiality and fenestration of the podiums identified above, which can be modified by condition, it is considered that the proposed detailing and form of the podiums reference the fine grain subdivision pattern found within the surrounding area assisting in breaking down the massing.

242. With respect the balance of the materiality proposed, the applicant provided materials samples. Following a review of the materials samples and the elevations, it is determined that the following aspects require further resolution:

    (a) Further façade details of the 'FT01a' glazed curtain wall system Type 1 – integrated express mullion and 'FT01b' glazed curtain wall system Type 2 – articulated façade system utilised for the tower forms are required as adequate details of the design intricacies have not been provided. This can be requested by condition.

    (b) The sample provided of 'FT08' aluminium click on batten or similar utilised for the soffits and ground floor seating attached the building does not adequately reflect the warm tones represented within the renders or elevation plans. Furthermore, the soffits of the upper level recesses have not been adequately captured throughout the documentation and is required to be provided. Further development of this material and provision of documentation for the upper level soffits can be requested by condition.

    (c) The sample provided for 'FT03a' grey powder coated coloured aluminium perforated façade system does not show the perforations referenced within the description. In respect of 'FT03a' this is utilised along the southern ground floor interface of the end of trip facilities and a condition can require further details to be provided to ensure adequate transparency and visual connection is facilitated by the perforation. This can be requested by condition.

    (d) In respect of the parapet around the rooftop plant this is also proposed to be 'FT03a' with the plant room, to be clad in 'FT03b' grey powdercoated coloured aluminium horizontal louvre screen façade system. As referenced above, a condition will require the lowering of the parapet around the roof services and for the plant room to be lowered in height and integrated with the design of the building to reduce visual prominence. A further condition can require details of the materiality applied to the plant level to ensure it is integrated with the building.

243. It is considered that a façade strategy and materials and finishes schedule be submitted to resolve the above issues, requiring the following:

    (a) elevations at a scale of 1:20 illustrating typical podium details for all podium types, entries and doors, utilities and tower facade details (in particular the detailing of 'FT01a', 'FT01b' and other glazing types used within the development);
    (b) section drawings to demonstrate façade systems, including fixing details and joints between materials or changes in form;
    (c) information about how the façade will be maintained, including any vegetation;
    (d) a sample board and coloured renders outlining colours, materials and finishes including the following:
        (i) details of the proposed material 'FT08' outlining all areas it is to be applied and ensuring it provides warmth and depth to the overall façade.
        (ii) details of the proposed permeability of 'FT03a' allowing adequate transparency and visual connection to the end of trip facilities;
        (iii) Details of the plant level and any screening, ensuring it is integrated with the design of the building.
        (iv) Glazing materials used on all external walls must be of a type that does not reflect more than 20% of visible light, when measured at an angle of 90 degrees to the glass surface

(e) The strategy must illustrate the legibility of the proposal from short and distant views, including the extent of podium treatment, façade pattern, colours and ability to provide richness, saturation and depth. This can be provided through montages from various vantage points and/or built model.

244. This will ensure that the materials to be utilised for the development are reviewed prior to construction to ensure they are of a high architectural quality in accordance with the plans submitted to date. This will also ensure that the reflectivity of the glazing, extensively used, is appropriate.

Landmarks, Views and Vistas

245. It is policy at clause 15.01-2S of the Scheme that important landmarks, views and vistas be protected or enhanced. The impact on long range views and vistas are only relevant where they form part of an identified character of an area (within planning policy) and typically apply to landscapes or natural features.

246. The proposed development does not compete with any identified landmarks given its location and is considered to be an acceptable response to the local policy direction under clause 22.03-4 of the Scheme.

Wind impacts

247. The provisions of the DDO14 seeks to ensure that development is designed to ameliorate adverse wind conditions at street level, communal open spaces, balconies and adjoining properties. The wind report submitted with the initial application has been peer reviewed externally, the wind consultants raised no concerns with the proposed methodology or findings of the report prepared by the applicant.

248. The wind consultants for Council identified one area of concern that the outdoor dining area as shown on the plans along the southern ground floor interface would be well over sitting comfort criterion. Whilst an updated wind memo was provided by the applicant identifying that sitting comfort criterion could be achieved if the seating was relocated further east, Council's Urban Design consultant raised significant concern with adequate wind conditions at ground floor level and on the terraces.

249. To ensure that the proposal results in adequate wind conditions within the public realm, the Wind Impact Assessment (prepared by MEL Consultants, dated April 2020) is to be updated to ensure:
    (a) The northern, southern and western retail frontages achieve pedestrian comfort for stationary, long exposure activities.
    (b) The bicycle arrival achieves pedestrian comfort for stationary, short exposure activities.
    (c) The external terraces at Levels 1, 2 and 3 achieve pedestrian comfort for stationary, short exposure activities.

250. The current wind report identified that at Level 11 the terrace has been shown to be either on or within the walking criterion, with many wind directions achieving stationary activities criteria. With conditions requiring the relocation of the Level 11 terrace to Level 10, with a new Level 11 terrace proposed, the report should also be updated to ensure:
    (a) The external terraces at Levels 10 and 11 achieve pedestrian comfort for stationary, short exposure activities.

251. Subject to conditions it is considered that wind is adequately assessed and will ensure the development would not generate safety concerns for the pedestrian wind environment.

Light, Shade and Public Realm

252. This principle requires the design of interfaces between buildings and public spaces to enhance the visual and social experience of the user. In this respect, the proposal represents a significant improvement in streetscape, public space quality and perceived safety.

253. Council is supportive of the construction of the proposed building with large glazed ground floor lobbies, active tenancies and improved outdoor spaces. Through the activation of the ground floor, the building will provide interaction at street level where there currently is minimal. This satisfies public realm, pedestrian spaces and street and public space quality policies at Clauses 15.01-2S and 22.10-3.4.

254. The DDO14 provides specific guidance in respect of what is expected on the site. Key design objectives are:

    (a) *To provide for high density, taller development that delivers significant public realm outcomes.*
    (b) *To strengthen connectivity to Burnley Station and establish a highly walkable and cycle friendly public realm.*
    (c) *To ensure that new development does not result in unreasonable overshadowing of the public realm including the adjoining streets, the Burnley Railway Station or neighbouring residential areas.*

255. Furthermore, the DDO14 requires the following to be delivered in respect of the public realm:

    (a) *Provide improved connectivity between Swan Street, Burnley Street and Burnley Station.*
    (b) *Improve the interface between the development and the east-west pedestrian link abutting the southern site boundary.*
    (c) *Enhance the amenity and appearance of the public realm along the Swan Street and Burnley Street frontage and east-west pedestrian link, including elements such as improved footpath treatments, lighting, street trees and street furniture.*
    (d) *Ensure new or improved pedestrian links promote a sense of safety for day and night-time conditions.*
    (e) *Minimise overshadowing of adjoining streets, the public realm and existing residential areas.*
    (f) *Ensure no unreasonable overshadowing impact to Burnley Station.*

256. The above is required to be provided for any proposal on the site.

257. With regard to the height exceeding the 42 metres and setbacks not in accordance with the DDO14, the proposal is to demonstrate it provides an exemplary public realm outcome.

258. The previous planning approval (PLN15/0057) was deemed to provide significant public realm improvements as specified below:

    (a) Along Swan and Burnley Streets where the development is setback from its site boundaries to enable a wider footpath and create a ‘pedestrian plaza’;
    (b) Construction of DDA-compliant access ramps to Burnley Station and to the pedestrian path along the southern boundary of the site;
    (c) A second walkway up to the pedestrian plaza from Burnley Station;
    (d) Improved landscaping along Swan and Burnley Streets and to the pedestrian link to the south.

259. The previous upgrades to the Burnley Station pedestrian ramps are not proposed as part of this application. These were seen as significant public realm improvements and therefore it must be determined whether the current proposal also achieves these significant benefits to justify the increased height and reduced setbacks. The current proposal provides public realm benefits to the north (Swan Street), south (rail corridor) and west (Burnley Street).

260. The proposal has been setback from Swan Street at ground floor which results in an additional 2 metres to 2.6 metres in width for a footpath area which provides a public benefit for all pedestrians. The setback to the building entrance is also increased to 8.9 metres from the title boundary, providing a circulation space. The proposal also incorporates public seating integrated with the undulating design of the ground floor façade. A canopy over Swan Street is also proposed with the proposal including the planting of six street trees.

261. Both Council's Open Space Unit and Streetscapes and Natural Values Unit raised concern with the proximity of the canopy to the proposed street trees. Whilst the applicant argued that the street trees could be pruned and maintained to accommodate the awning. This is considered unsatisfactory and can be required to be addressed via condition. The Engineering Unit also required the canopy to be shown as being setback 0.75 metres from the boundary. This can also form a condition.

262. The proposal has been setback from Burnley Street at ground floor which results in an additional 1.73 metres to 4 metres in width for a footpath area which provides a public benefit for all pedestrians. The proposal also incorporates public seating integrated along the western edge of the footpath with four new proposed street trees. A canopy over Burnley Street is also proposed.

263. The proposal has been setback from the southern boundary at ground floor which results in an additional 4.5 metre wide area where opposite the ramp leading to the station and 3 metres where adjoining the existing VicTrack pedestrian path. This new space provides a public benefit for all pedestrians and enhances connectivity to the station. The proposal also incorporates a landscaped terrace to manage the levels between the finished footpath and existing VicTrack pedestrian lane.

264. With regards to the above public realm improvements which are within the title boundaries of the site, these will remain as private title with the construction and on-going management/maintenance of the public realm improvements being required as per the endorsed plans and to the satisfaction of Council. This can be dealt with by way of condition on a permit.

265. Overall Council's internal Urban Designers were supportive of the improvements to the public realm. However, they did make some additional recommendations in respect of surface materials and furniture and fixes. A condition of permit can require detailed design plans for the streetscape improvement works with these requirements included.

266. Council's Urban Design Unit raised the potential for the applicant to provide an upgrade to the pedestrian path to the south. This is being delivered in the adjoining development to the east and would constitute a significant improvement to the public realm and will also strongly contribute to the success of the emerging developments. This can be required by way of condition.

267. Advice from Transport for Victoria has indicated that if the existing ramps were to be upgraded to be DDA compliant, this would result in a requirement for the whole station to be upgraded. Burnley Station is not currently slated for redevelopment and redevelopment of the station at the cost of the applicant would be extremely onerous. This was a significant public realm outcome that contributed to the acceptability of the 42 metre height limit imposed within the DDO14.

268. In not upgrading the existing ramps to Burnley Station the proposal allows for an increased footpath width and ability to provide larger street trees and public seating. This will also allow for free movement between the site and Burnley Street, previously the modified ramp would have been a barrier to movement. Whilst this is a positive outcome it is considered that the development is not meeting the requirements of the DDO14 where an exemplary public realm outcome is required for developments that vary the specified height and setbacks.

269. Council's Urban Design Unit identified that there was an opportunity to develop the eastern side of the Burnley Street service road into a shared space. This would result in an exemplary public realm outcome through the inclusion of a safe drop off zone to the station, slowed traffic adjacent the proposed planter boxes/seating, as well improving the adjacent verge planting to soften the interface with the Burnley Street overpass.

270. Whilst asphalt was recommended as the surface material for all re-sheeted footpaths the shared zone would allow the proposed bluestone paving across the full width of the footpath and potentially the shared road space. It is considered that the delivery of the shared zone would represent an exemplary public realm outcome and should be included by condition.

271. In terms of light and shade to the public realm, the proposal does not shade Swan Street at any time of the day as the site is located on the southern side of the street. To Burnley Street, the development would shade the western side until 10am, which is considered acceptable given the limited hour of impact. In respect of the eastern side of Burnley Street the development would shade the footpath until 12PM. Given the orientation of the building it is considered increased shadowing on the eastern footpath is unavoidable, and as such the overshadowing during the morning period is acceptable.

272. With regard to overshadowing impacts to Burnley Station it is clear that when compared to the overshadowing impacts of the approved proposal (PLN15/0057), which was compliant with the DDO14, the overshadowing to the station platforms would be greatly increased. Significantly, the western portion of the central platform would be substantially overshadowed in the morning with increased shadows to this central platform experienced until 2PM when they would clear. At this time, increased and substantial overshadowing would occur to the northern platform.

273. Council's external Urban Design consultant raised significant issues with the proposal, providing the following:

    (a) *Disappointingly the application demonstrates substantive additional overshadowing of the public realm most notably the station platform areas which were the basis of substantial scrutiny at the Panel. The argument that the application is only modestly increasing the loss of amenity is not in my view substantiated by the material provided which demonstrate considerable impact on the area of platform available to access sunlight.*

274. Council's external Urban Design consultant recommended setbacks that have previously been discussed to the eastern edge of Level 11 and to the south-western corner of Levels 10 and Levels 11. These setbacks have been generally recommended to be included as conditions for built form and massing reasons with some modifications, however, they were also recommended to reduce overshadowing.

275. Furthermore, Council's external Urban Design consultant requested the roof plant be reconfigured along with the southern façade at Level 11 to reduce the impact of overshadowing on the central platform between 10am and 2pm at the September equinox. Council's external Urban Design consultant seeks to ensure there is no nett increase in platform overshadowing to the central platform. Again, conditions have been included to ensure the roof plant is reduced in height as it was considered to result in excessive visual bulk, however, no condition has been included regarding the southern façade at Level 11.

276. Turning to overshadowing, the applicant submitted further shadow diagrams on 15 June 2020 demonstrating the overshadowing outcome if the building setbacks at Levels 10 and 11 were adopted as shown in the sketch plans submitted on 5 June 2020 and the plant level was reconfigured as per the sketch plans submitted on 15 June 2020.

277. As these shadow diagrams demonstrate, the overshadowing impact is only improved slightly. To achieve the recommendation of Council's external Urban Design consultant, a condition of permit can require the southern setback of the upper levels of the development to be further setback, or lowered in height, to further reduce the extent of overshadowing experienced to the southern Burnley Station platform.

278. Burnley Station is a key public area and the design response has not addressed this constraint to date. The proposed condition will allow flexibility in the modifications to the development whilst also ensuring an acceptable response to Burnley Station is provided and an adequate degree of amenity is maintained, as intended by the DDO14.

279. Furthermore, the conditional reduction in height to the roof plant level and parapet around the roof plant will see a reduction to the shadowing of the northern platform. Subject to conditions, it is considered that the proposed overshadowing to Burnley Station will be acceptable.

280. The pedestrian path along the southern side of the subject site will also be in shadow at all times of the day. This is as per existing conditions as the existing southern boundary wall shadows the narrow pedestrian footpath.

Site Coverage

281. The level of site coverage proposed is well above the maximum of 80 percent as directed by clause 22.10-3.6 that applies to new development not within a Heritage Overlay. However as the existing level of site coverage in the surrounding (and immediate) area and within zoning that encourages higher density development (C1Z, C2Z) is similar, it is acceptable. Commercial buildings in this precinct traditionally have high levels of site coverage with this characteristic being evident throughout Richmond.

Landscape architecture

282. Whilst landscaping is not a typical feature of commercial buildings in Richmond, the proposal includes a degree of visible landscaping above the ground level in the form of planter boxes along the perimeters of outdoor terraces and three 'vertical gardens' on the northern, southern and western interfaces.

283. At the ground level, six new London Plane trees are proposed along the Swan Street frontage and four new trees, two Japanese Zelkova 'Green Vase' and two Chinese elms, are proposed along the Burnley Street frontage within raised planters. Where interfacing with the existing station ramp access points, a landscaped terrace is also proposed with low level plantings.

284. In respect of the street trees, Council's Streetscapes and Natural Values Unit were generally supportive of the proposal, with the following recommended (in summary):

    (a) The six London Plane trees to be replaced with *Lagerstroemia indica* 'Natchez' to be consistent with other plantings along Swan Street.
    (b) Further resolution of the proposed canopy which appears to conflict with the proposed tree plantings.
    (c) The four street trees proposed along Burnley Street to be modified to be all Japanese Zelkova 'Green Vase.'
    (d) A review of the garden beds to be provided with details of soil volumes to support the proposed plantings with consideration to passive irrigation or use of water captured by the subject site.
    (e) The removal of any existing trees and replacement are to be completed by Council tree maintenance contractors at the cost of the developer.

285. It is considered that the above is reasonable to ensure consistent tree plantings within the area and the long term viability of the trees and can form conditions of permit.

286. Council's Open Space Unit reviewed the proposal, commenting that the proposed scheme was good and provided increased amenity to this part of Swan Street. A number of items were requested to be included within the landscape concept plan, with further information on the raised garden beds, custom furniture and landscaped terrace also requested. Detailed landscape plans were also requested to be submitted if the application were supported.

287. A number of items that were raised have already been discussed, such as the inability for the ramp to Burnley Station to be upgraded and the conditional requirement for a shared zone to be provided within the Burnley Street side street. The only outstanding item that will not be covered by condition is the request for additional landscaping within the internal laneway. As this is internal to the site it is not considered relevant.

288. The proposed landscaping represents a significant improvement compared to existing conditions with the subject site where limited landscaping is provided.

Affordability

289. The history of the site with Amendment C185 and the implementation of a condition on Planning Permit PLN15/0057 that required the owner to facilitate the provision of affordable housing, (5% of the total number of dwellings either within the development or off-site) it is considered appropriate for a commensurate outcome to be provided with regard to the current commercial proposal.

290. The rezoning of the land from C2Z to C1Z would have resulted in land value uplift whilst removing important industrial/commercial land where residential uses are prohibited. It is acknowledged within the SEES and the MICLUP that businesses gravitate toward industrial areas where large and affordable sites are available. The inclusion of affordable commercial space would be consistent with the recently adopted MICLUP with particular regard to Principle 4.

291. Principle 4 of the MICLUP seeks planning to support industry and business to innovate and grow in areas identified for these purposes, with a strategy to support the development of buildings that provide affordable, flexible and innovative spaces for businesses.

292. Given the sites regionally significant designation, and the scale of the development delivering a proposed 32,052sqm of office space across twelve levels it is considered appropriate for a condition to be included requiring 5% of the office floor area to be provided as affordable office space which may include a co-working space/social enterprise space/office space for creative design tenant(s) available at a discount compared with market rent or making other arrangements for the provision of affordable commercial space in respect of the same floor area or an equivalent community benefit, such as the delivery or investment in an Aboriginal Employment Program, to the satisfactory of the responsible authority.

293. The proposal will provide an acceptable outcome with regard to commercial affordability, providing a wide range of employment opportunities within a regionally significant commercial area as well as on a strategic redevelopment site.

<u>On-site amenity including Environmentally Sustainable Design</u>

Daylight and Ventilation

294. The proposed development is considered to provide a good level of amenity and indoor environmental quality. Specifically, this is achieved through good access to daylight for the office space due to the allotment abutting Swan Street and Burnley Street to the north and west, and the rail corridor to the south. Along the western boundary, the lower floor plates have been provided with a 12.38 metre by 6.18 metre light court with the upper levels setback a minimum 4.5 metres.

295. Council's ESD Advisor identified that no specific information on expected daylight performance standards has been submitted. In line with their recommendation a condition of permit can require a daylight report to be prepared demonstrating that at least 30% of the net leasable area exceeds a 2% daylight factor standard. This is the minimum BESS standard and will ensure adequate daylight is afforded to the future office.

296. With regard to ventilation, the Sustainable Management Plan submitted with the application indicates that the outside air quality will be improved by 50% beyond the NCC requirements and demand controlled in response to CO2 sensors, this will adjust outside air rates to occupancy rates to maintain the indoor air quality. In addition to this, the provision of several terraces throughout the design provides operable elements to outside. Council's ESD Advisor raised no concern with the proposed ventilation to the proposed development.

Circulation Spaces

297. The main pedestrian entrances from Swan Street as well as the pedestrian laneway to the south are highlighted through design, with the building indented with a 'green wall' provided where the main entrance is. The main entrance provides access to the central lift cores and stairwells of the building, as well as to several of the retail/food and drinks premises uses.

298. The retail and food and drinks premises are oriented to active Swan Street, Burnley Street and the western half of the rear interface. Several entrances are provided along the interfaces back of house areas shown to be internal to the building. The plans submitted do not show the retail uses in detail, with the documentation identifying that 1,050sqm of the retail use will be provided as food and drinks premises.

299. Other documentation indicates that this space will be utilised as a market and it is understood from the applicant that the detailed design is in the early stages as a result of discussions with potential retail tenants. As Figure 21 demonstrates, the Urban Context Report envisions the larger retail tenancies to be broken up into smaller spaces.

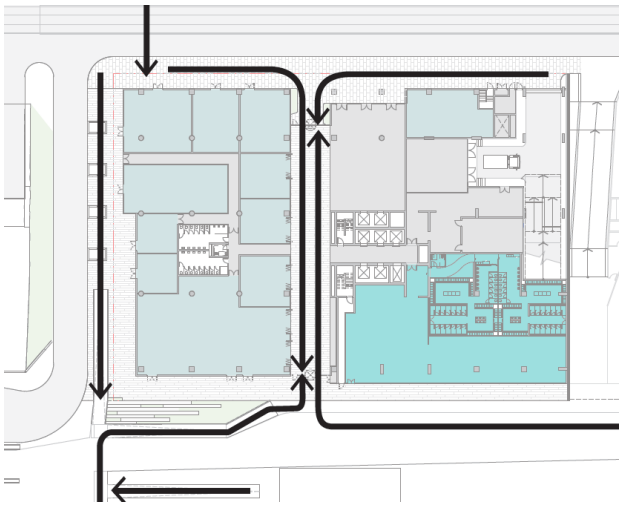


Figure 21: Extract from the urban context report, showing smaller retail tenancies

300. To ensure that the development adequately reflect the finalised ground floor plan in respect of the retail tenancies, and to ensure that the finalised retail scheme is consistent with the documentation submitted, a condition can require the detailed design of the retail spaces to be shown with their uses identified. A condition can also require the WMP be updated to reflect the proposed uses, if required.

301. A 40sqm 'soft slab' is proposed along the western interface of Levels 3 to 7. The inclusion of this 'soft slab' will enable future tenancies that occupy several floors to provide internal stairs to connect the office floor areas and is considered an appropriate future proofing measure to ensure efficient use of the building once it is tenanted.

Facilities

302. Communal facilities are provided at each level for the office tenants. Whilst kitchen facilities are not currently shown on the floor plan, it is considered that this will be designed in the detailed design stage once the building becomes tenanted. External terraces are provided at varying levels to support the office use. These features will further enhance the amenity of the development.

303. Bicycle parking and end-of-trip facilities are also incorporated into the design on the ground floor with a direct interface to the southern pedestrian pathway and expanded footpath accommodated within the title boundary of the site.

Environmentally Sustainable Design (ESD)

304. Policy at clauses 15.01-2S, 21.07, 22.16 and 22.17 of the Scheme encourage ecologically sustainable development, with regard to water and energy efficiency, building construction and ongoing management. Council's ESD Advisor confirmed that the proposal was close to meeting Council's Best Practice ESD standards.

305. Further, the redevelopment of the site located in an existing built-up area makes efficient use of existing infrastructure and services, and the proximity of the subject site to numerous public transport modes reduces reliance on private vehicles.

306. Council's ESD Advisor identified areas of deficiencies and outstanding information that needed to be provided. This was outlined within their referral comments as follows

Application ESD Deficiencies:

(a) *10% improvement in energy efficiency (minimum), is the only clear commitment to an energy performance standard specified within the SMP. This standard just meets Council's best practice standard for thermal energy. Recommend that a large development like this demonstrates leadership with at least a minimum 20% improvement above NCC 2019 standards. Recommend that prior to commencement a completed JV3 energy report be submitted demonstrating the proposed energy performance standard.*

(b) *282 bicycle parking spaces plus additional spaces for visitors. This falls short of our best practice standard for bicycle parking (10% of building users), which for 32,053m2 NLA should be 320 bicycle spaces. Recommend increasing bicycle parking 320 spaces.*

(c) *Electric vehicle charging infrastructure is an option being considered. Recommend electric vehicle charging infrastructure for at least 5% of vehicle spaces is provided.*

Outstanding Information:

(d) *No specific information on expected daylight performance standards has been submitted. Recommend that a daylight report be prepared using daylight modelling or GBCA Hand Calculation method demonstrating that at least 30% of NLA exceed a 2% daylight factor standard. Lower levels are split with a north-south internal atrium which will assist bring light into lower office levels, but the upper levels enclosing the atrium will reduce this potential. A glazing VLT of 45% could be improved to increase daylight levels, as could the increase of the atrium over a greater number of levels.*

(e) *There is little detail on the size and capacity of the proposed solar PV array. Please update the SMP with approximate size (kWp).*

(f) *The notation on plans shows a 70,000 rainwater tank, not 90,000 as required by the stormwater and WSUD reports. Please update the architectural plans to be consistent with the SMP.*

307. It is considered that all items can be addressed by conditions as these items request further detailed analysis of the ESD measures. With respect to the application deficiencies outlined above at (b) and (c), these will be discussed further within the bicycle facilities and strategic transport section of this report. With respect to items (e) and (f) it is acknowledged that these are required to be shown on the development plans. A condition can require these items to also be shown on the plans with any solar PV array to be shown and adequately screened from view.

308. In addressing the outstanding concerns the development would meet Council's ESD best practice standard and achieve Australian excellence with the proposed Green Star 5 Star Rating targeted. This is considered an appropriate response, as the development is exceeding the height specified within DDO14 the proposal is also required to deliver an innovative environmentally sustainable development.

309. To warrant the additional height above the 42 metres as specified within the DDO14, a condition will be included requiring the development to ensure a zero net carbon performance standard, as defined by the Green Building Council of Australia, forming part of a minimum 5 Star Green Star certified rating.

310. This would be considered an innovative environmentally sustainable development outcome. Furthermore, the applicant has chosen to commit to achieving a Green Star 5 Star Rating. In terms of Green Star ratings, certification by an accredited professional is required for claiming a particular star rating. The Green Star tool can facilitate and support a zero carbon emission pathway.

311. Council will be requiring its standard condition which requires an implementation report to confirm all measures specified in the SMP have been implemented in accordance with the approved plan. Subject to conditions, the proposal provides an innovative and exemplary ESD response as required by policy.

<u>Off-site amenity including City Link Exhaust Stacks and Waste Management</u>

312. The decision *guidelines* at Clause 22.05-6 specify that Council should consider (as appropriate);

(a) *The extent to which the proposed buildings or uses may cause overlooking, overshadowing, noise, fumes and air emissions, light spillage, waste management and other operational disturbances that may cause unreasonable detriment to the residential amenity of nearby residential properties.*

313. Furthermore, as the proposed height is to exceed the 42 metres as specified within DDO14, the development must demonstrate that the proposal results in minimal adverse amenity impacts to adjoining properties.

314. The appropriateness of amenity impacts need to be considered within their strategic context, with the site located on land zoned C1Z. As the site surrounds description identifies, the closest residential properties are located to the north across Swan Street (429-437 Swan Street) and to the south, across the railway line along Madden Grove. These properties are 20 metres and 65 metres from the subject site respectively. The properties to the east and west are both zoned Commercial 2 Zone, in which residential use is prohibited.

Equitable Development

315. To ensure the 'fair, orderly, economic and sustainable development of land' in accordance with the objective of the Act, matters of equitable development should be considered.

316. In this instance, only the eastern interface is considered relevant as there are no directly adjoining properties to the north, south and west.

317. As identified, the site to the east is proposed to be developed pursuant to Planning Permit PLN17/0448. The current permit allows for a mixed-use building (no residential uses) predominately containing offices and is built to the common boundary for four levels before adopting a minimum 5 metre setback for the upper levels.

318. The amended proposal again is built to the boundary for four levels (noting a 7.3 metre x 4.2 metre light court on Levels 2-4 behind a boundary wall is now proposed, setback from the street by 25.4 metres) before adopting a minimum 4.5 metre setback for the upper levels. The building maintains the predominant office use.

319. With a minimum upper level setback of 4.5 metres proposed to the east, the proposal considered against both the approved and proposed scenarios would result in generous separation distances at the upper levels of 9 metres (total minimum). This is in excess of the requirements of the current DDO17 and modified DDO17 sought pursuant to Amendment C191 that applies to the broader Swan Street MAC that seek a minimum 3.0 metre setback from common boundaries where a commercial or non-habitable room window is proposed.

Noise

320. Given that the office, retail and food and drinks premises uses do not require a planning permit the noise from these uses cannot be considered, however, clause 22.05 – *Interface uses policy* of the Scheme seeks to ensure new commercial development is adequately managed having regard to its proximity to residential uses.

321. Given the separation between the subject site and sensitive land uses are 20 metres at a minimum from the site, the proposal is unlikely to result in unacceptable noise emissions given that the building would be used for offices with a ground floor retail and food and drinks premises.

322. The applicant submitted an acoustic report to address noise impacts to and from the development. With regards to the proposal, noise impacts to the subject development were identified as rail and road traffic. Noise impacts from the proposal to the closest residential receivers (429-437 Swan Street) were identified as noise from roof mounted mechanical plant and equipment, the loading bay, car parking and rubbish collection noise as well as emissions from the retail premises.

323. The acoustic report provided by the application was peer reviewed by Council's Acoustic Consultant. With regards to the noise impacts to the development and from the development to residential receivers, the proposal was deemed to be satisfactory, however the following was noted:

(a) In respect of the measurements of the road traffic noise, Council's Acoustic Consultant identified that the means by which the long term averages have been derived were not provided in the report, nor had the logging data. They recommended this be included for transparency and therefore this will be required by condition.

(b) In respect of retail tenancy noise emissions, the applicant's acoustic report identifies that future occupants will provide a patron noise assessment if required. As no retail tenancy/food and drinks premises would require further approvals this would not be required and therefore will not form a condition of permit.

A stand-alone condition will be included requiring the uses to comply at all times with the State Environment Protection Policy – Control of Music Noise from Public Premises (SEPP N-2).

(c) The building services are proposed to be designed to meet SEPP N-1 noise limits during the detailed design phase of the project, with input from the acoustic engineers. A condition will require a review of all acoustically significant mechanical plant, including the car park entrance door and loading bay prior to the occupation of the development to ensure that SEPP N-1 has indeed been met.

A further condition will require noise and emissions from plant equipment to comply at all times with the *State Environment Protection Policy – Control of Noise from Commerce, Industry and Trade (SEPP N1)*. This is a standard condition to remind the permit holder of their obligations.

324. In respect of vibration, the applicants' acoustic report recommended remeasuring the vibration once excavation of the site had been completed as excavation may alter the ground conditions. This is support by Council's Acoustic Consultant, who recommended the following:

(a) *The proposed approach is appropriate. We recommend that vibration is re-measured* following *excavation of the site, and that the VDV is measured directly, or that full details of the measurement results and conversion calculation to obtain the VDV is provided at that time (SLR requested this information in relation to the original Acoustic Logic assessment, however it was not provided). The VDV should be measured and/or calculated in accordance with the 2008 British Standard referenced by Floth (the 2015 Acoustic Logic assessment used the 1992 Standard, which referenced different weighting curves).*

325. This matter can be addressed via permit condition on any permit to be issued. The condition will reflect the requirement for this to be undertaken following excavation of the basement. This complies with the decision guidelines of DDO14 which requires new development to protecting the amenity of occupants from the off-site impacts of existing uses and activities.

326. Due to the provision of a loading bay within the building, a condition can require deliveries and waste collections to be undertaken in accordance with the times prescribed by Council's Local Law. This would assist in minimising noise disruption to the surrounds from these noise sources.

Visual bulk and overlooking

327. In relation to overlooking, it is an accepted principle that overlooking only occurs between habitable rooms (i.e. bedrooms and living rooms) and private open spaces within a 9 metre radius. The proposed building will not be within 9 metres of any residences.

328. The proposed development is for an office and therefore is not subject to the same requirements as would be afforded to other built form typologies, such as an apartment building. Regardless, when assessed against the neighbouring development (current approval and current amendment) the combined separation distance of 9 metres is considered to address any overlooking concerns between these commercial developments.

329. In respect of visual bulk impacts, it is considered that the separation provided by Swan Street to the north and the train lines to the south would adequately mitigate visual bulk impacts to the more sensitive interfaces.

Overshadowing

330. As discussed earlier in the report, the proposed development would increase the shadowing impact into the public domain only. There is no secluded area of private open space associated with any existing dwelling that would be impacted by the additional shadows cast.

Fumes and air emissions, light spillage

331. The majority of the office, retail and food and drinks premises uses are enclosed with the uses conducted indoors (with the exception of the outdoor terraces for office and ground floor outdoor dining areas). All uses within the building do not require planning permission to operate.

332. The proposed uses are not considered to result in unreasonable air emissions, with light spill from the upper level offices limited due to the nature of the use that is anticipated to operate primarily during the day. There would be no fumes associated with the proposed uses.

City Link Exhaust Stacks

333. The Design and Development Overlay Schedule 5, City Link Exhaust Stack Environs (DDO5) requires that notice of a development be given to the EPA, Transurban City Link Limited and the Roads Corporation (Transport for Victoria). The design objectives of DDO5 are as follows:

    (a) *To ensure that the development of land around the City Link exhaust stack is not adversely affected by the operation of the stack.*
    (b) *To ensure that development of land around the City Link exhaust stack does not adversely affect the operation of the stack.*
    (c) *To ensure that the relevant authorities are informed of development within close proximity of the City Link exhaust stack and to facilitate comment by those authorities on any specific requirements relating to the design and built form of new development in the area which might be desirable having regard to the proximity of the stack.*

334. The EPA reviewed the proposal and advised that they had no issue with the proposed development. The advice of the EPA is considered adequate to consider that the City Link Exhaust Stacks will not adversely impact the proposed development, meeting the relevant purpose of the DDO5.

335. Transurban City Link and the Road Corporation (Transport for Victoria) were notified of the proposal, neither of which raised concern about impacts of the proposed development on the exhaust stacks with Transurban City Link deferring to the advice of the EPA. Accordingly, the objectives of the DDO5 are considered to be met.

Waste Management

336. An updated WMP was submitted on 21 May 2020 to address concerns that had initially been raised by Council's City Works Unit on 8 May 2020.

337. The updated WMP includes the following key features:

    (a) Provision of a 136sqm waste storage room within the ground floor for 19 x 1,100 litre bins (9 for garbage and 10 for recycle) and a 5sqm area for hard waste and e-storage.

    (b) Inclusion of a food digester that will decompose organic food matter into a product of CO2 and greywater, with no residual waste generated.

    (c) All waste removal will be undertaken by a private contractor. Waste collection will be undertaken internal to the building, three times per week. A standard SRV sized collection vehicle, or smaller, will prop within the loading bay provided at ground level with the operators collecting and returning the bins to the waste storage room. The vehicle will enter and exit the site in a forwards direction.

    (d) A wash down area will be provided within the loading bay where building management will manage the regular cleaning of the bins, alternatively, a third-party contractor could be engaged for bin cleaning services to be undertaken off-site.

338. Following a review of the updated WMP (authored by WSP and dated May 2020), Council's City Works Unit advised that the document was satisfactory.

339. The collection of waste from within the title boundaries will assist in ensuring all commercial activities are contained within the boundaries of the site to ensure that unreasonable impacts to the residential properties on the northern side of Swan Street is limited.

340. A condition is to be included to ensure that the WMP is amended to reflect the proposed changes to the floor area of the proposed office, due to the increased setbacks, and to also accord with the ground floor uses if modified as a result of the conditional requirement for the retail spaces to be shown. A further condition can be included to ensure that the provisions, recommendation and requirements of the endorsed WMP are implemented and complied with.

<u>Car parking, traffic and alteration of access</u>

341. Under clause 52.06 of the Scheme, the applicant is seeking a parking reduction of 795 car parking spaces, including a full waiver of the car parking spaces required for the retail/food and drinks premises and a partial waiver for the office, with 222 on-site car parking spaces proposed.

Parking Demand

342. With regards to the car parking demand generated by the proposed office and retail/food and drinks premises uses, it is acknowledged that the statutory car parking rates outlined in the Scheme are conservative when applied in this instance, given the inner-city location of the subject site and proximity to alternative transport means.

343. A Red Dot VCAT decision (*Ronge v Moreland CC [2017]* VCAT 550) made numerous statements with regards to car parking reductions. The Member clearly advocated for a reduction in the statutory car parking provision in inner-city sites such as this. Whilst this decision pertains to a site in Brunswick, the context is similar, being located within proximity to train stations and tram routes. In this instance, the subject site is closer to public transport opportunities and the Melbourne CBD than the review site.

344. Throughout the decision there are numerous relevant statements in support of the reduction and also regarding the limited importance that should be placed on car parking demand assessments. Relevant statements within the summary of this decision are applicable to this application, as follows;

(a) State and local planning policies are already acknowledging the change that is required in the way in which people travel with Plan Melbourne 2017-2050 and State policies referring to 20-minute neighbourhoods and greater reliance on walking and cycling.

(b) Our roads are already congested and will be unimaginably so if a 'business-as-usual' approach is accepted through until 2050. The stark reality is that the way people move around Melbourne will have to radically change, particularly in suburbs so well served by different modes of public transport and where cycling and walking are practical alternatives to car based travel.

(c) A car parking demand assessment is called for by Clause 52.06-6 when there is an intention to provide less car parking than that required by Clause 52.06-5.

(d) However, discussion around existing patterns of car parking is considered to be of marginal value given the strong policy imperatives about relying less on motor vehicles and more on public transport, walking and cycling. Census data from 2011 or 2016 is simply a snapshot in time, a base point, but such data should not be given much weight in determining what number of car spaces should be provided in future, for dwellings with different bedroom numbers.

(e) Policy tells us the future must be different.

(f) Oversupplying parking, whether or not to comply with Clause 52.06, has the real potential to undermine the encouragement being given to reduce car based travel in favour of public transport, walking and cycling.

(g) One of the significant benefits of providing less car parking is a lower volume of vehicle movements and hence a reduced increase in traffic movements on the road network.

345. The *Ronge v Moreland* decision also confirms that in inner city areas where there is access to alternative forms of transport, we need to drastically change how we are currently moving around Melbourne. Providing less car parking spaces encourages people to cycle, walk or use public transport.

346. Specifically in relation to the particular benefits of the site location, the reduction being sought by the proposal is further supported by the following:

(a) The site is well serviced by public transport, including the Burnley Train Station and tram services along Swan Street at the sites frontages.

(b) The surrounding area has a good bicycle network and the development includes employee bicycle parking spaces and end of trip facilities in excess of rates specified within the Scheme to encourage staff to ride to work.

(c) Office land uses are particularly conducive to alternative transport modes given that trips typically occur within peak hour when public transport services are most frequent. The regularity and familiarity of the journey is also a factor that encourages alternative travel modes. Employees are also more likely to cycle to avoid peak hour traffic delays.

(d) There is limited on-street parking in the area, with restrictive parking controls acting as a disincentive for employees to travel to work by car. Occupant or visitor parking permits will not be issued for the development and building tenants would be entering leases aware of the on-site parking availability. Therefore businesses with a high reliance on car parking are unlikely to take up a lease at the site.

(e) Visitors, clients and customers to both uses would likely be aware of the car parking constraints in the area or otherwise be made aware by the occupants of the building, thus also encouraging use of alternative modes such as public transport, cycling or taxis. Furthermore, in respect of the retail/food and drinks premises customers, any spare on-street short-term car parking capacity would be shared amongst sites within the activity centre resulting in multi-purpose trips.

(f) Council's Engineering Unit are supportive of the application on the basis that it is in line with the objectives of Council's *Strategic Transport Statement* noting that the site is ideally located with regard to sustainable transport alternatives and the reduced provision of on-site parking would discourage private motor vehicle use.

Parking Availability

347. The applicant's traffic engineers (Impact Traffic Engineers) did not conduct a parking survey however, it is understood that on-street parking demand is very high and close to saturation point. As acknowledged in the *Ronge v Moreland* decision, existing patterns of car parking usage is not useful given policy within Clause 52.06 encourages the use of other forms of transport.

348. Council's Engineering Unit were supportive of the proposed reduction, stating the following:

(a) *From a traffic engineering perspective, the waiver of parking associated with this development is considered appropriate in the context of the development and the surrounding area. Employees would commute to and from the site using more sustainable forms of transportation*

Traffic and Alteration of Access to a Road Zone, Category 1

349. The applicant's traffic report indicated that an intersection study of Burnley Street/Swan Street and the existing site access were undertaken over a three-day period. Data was provided for Tuesday 19 November 2019 and Wednesday 20 November 2019. Council's Engineering Unit requested further supporting details be provided, including details of the third survey. These details were provided on 12 June 2020 and deemed to be satisfactory.

350. The following traffic generation for the site was adopted by the Applicant's Traffic Engineers and reviewed by Council Engineers.

Proposed Use	Adopted Traffic Generation Rate	Peak Hour	
		AM	PM
Office (222 spaces)	0.5 trips per space in each peak hour	111	111

351. The proposal would have the following traffic directional split:

(a) AM Peak – 10% outbound (11 trips), 90% inbound (100 trips); and
(b) PM Peak – 90% outbound (100 trips), 10% inbound (11 trips).

352. Council's Engineering Unit commented that the peak hour traffic volumes generated by the site are high and account for approximately 10 percent of existing traffic volumes along Swan Street. They also commented that the gap analysis performed by Impact Traffic Engineering suggests that there is sufficient capacity to comfortably accommodate the development's traffic without impacting on the traffic operation along Swan Street. Further information was also requested by Council's Engineering Unit on this aspect, who commented that the findings were acceptable.

353. Whilst Council's Traffic Engineers queried whether the car park entrance should be signalised, such as adopted within the previous approval (PLN15/0057), the applicant provided further information on 12 June 2020 on this aspect. Following review, Council's Engineering Unit commented:

    (a) *The peak hour volumes of the current development proposal are less than the volumes contemplated for the previous development proposal on the land. Impact Traffic has confirmed that the volumes generated by this site would not meet the minimum warrants specified in the Austroads Guide to Traffic Management for signals. It is understood that the Department of Transport also agree that signalisation of the development entrance is not warranted at this time. This item has been addressed*.

354. This aspect was also considered by Transport for Victoria, who provided a joint response to the referrals undertaken due to the alteration of access from a Road Zone, Category 1 (Clause 52.29) and due to the office floor area exceeding 10,000sqm (Clause 66.02-11). Transport for Victoria made the following comments:

    (a) *As Council will be aware, the Department have considered a previous application for this site through a Planning Scheme Amendment and Planning Panel several years ago. At the time, there was considerable debate at the Panel about the provision of traffic signals to access the site, delays to trams along Swan Street and public realm works to integrate Burnley Station and surrounds.*

    (b) *The new use and development has less car parking spaces and places emphasis on the site's public and active transport access which is welcomed. The Department have reviewed the new application and have concluded that traffic signals can be waived in this instance provided access is restricted to a left in left out arrangement like the application at the adjoining property to the east.*

    (c) *The Department have also recommended a detailed road safety audit for the site and public realm works to assess and improve pedestrian / cycle movements and traffic safety to and from the site and surrounds.*

    (d) *The Burnley Street underpass was also discussed during the Planning Panel and is currently used for Metro Trains bus replacements. The underpass is also slated for a bus terminal when funding for a bus route becomes available. The space available in the underpass is already restrained and we would respectfully request Council use this opportunity to remove on street parking in this location for pedestrian improvements and protection of existing and future public transport requirements.*

355. Transport for Victoria advised they did not object to the proposal, subject to the implementation of several conditions. With key conditions outlined below:

    (a) Provision of left-in and left-out access only.
    (b) Provision of a formal road safety audit, including a function layout plan.
    (c) Provision of a post development road safety audit.
    (d) Provision of details of the public realm works where on VicTrack land.

356. All of these conditions are to be included on the permit, pursuant with the requirements of the Act. It is considered that the proposed information submitted to support the impact to the surrounding road network is satisfactory.

357. Council's Engineering Unit requested the following to be clarified by the applicant:

    (a) Impact is to also confirm if the removal of on-street car parking along the south side and north side of Swan Street is necessary to improve traffic movements along Swan Street.

This is considered to be captured by Condition 2 of the Transport for Victoria conditions and would be required to be reviewed by Council.

(b) Impact has recommended for a "Keep Clear" road marking treatment to be installed at the development's vehicle entrance. This would prevent any stationary traffic from blocking the car park entrance at the site. This recommendation is considered reasonable and would be captured by both Condition 1 and 2 of he Transport for Victoria conditions.

358. With regards to the cumulative impact of other developments, the area has repeatedly been acknowledged as being quite constrained. In the Red Dot Tribunal decision regarding Stage 1 of the Nylex development (*Caydon Cremorne No.1 Development Pty Ltd v Yarra CC* (Red Dot) [2016] VCAT 423), the Member acknowledged that the issue of congestion is one for Council and VicRoads rather than the applicant. This development has limited the number of car spaces it has provided which is all it can do. The issue of traffic congestion is bigger than this application and is a Metropolitan Melbourne wide issue.

Access and layout

359. Clause 52.06-9 (Design standards for car parking) of the Scheme relates to the design of car parking areas and contains 7 standards and requirements relating to access way, car parking spaces, gradients, mechanical parking, urban design, safety and landscaping.

360. These details, along with the proposed ramp designs have been reviewed by Council's Engineering Unit who is satisfied with the layout of the car parking area. Council's Engineering Unit has requested that the plans be revised to include the following details / dimensions that will be addressed by way of conditions, unless otherwise specified:

(a) The median traffic island inside the vehicle accessway was requested to be removed. The applicant identified within their referral response received on 12 June 2020 that the island was required to accommodate a boom gate. Council's Engineering Unit reviewed the additional information commenting that as the swept path diagrams demonstrated appropriate access/egress with the island in place, the removal was no longer required.

(b) Visibility sight line triangles are requested to be superimposed and dimensioned on the drawings as required by Design Standard 1.

(c) The floor to ceiling height clearance within the basement car park levels are to be dimensioned on the plans and must be no less than 2.1 metres in height as per Design Standard 1.

(d) Columns setbacks are to be designed in accordance with AS/NZS 2890.1:2004 with the column depths dimensioned on the plans or the parking spaces adjacent to columns be widened to allow car doors to be opened. Whilst the applicant provided further information on 12 June 2020 to justify the current design, Council's Engineers commented that this is still required and can easily be accommodated with the current car space widths provided.

(e) The applicant is to consider leaving the security gate open during the AM peak period to allow vehicles to enter the site without the operation of the security gate. The applicant advised that the boom gate at the development entrance would remain open during the AM peak period. To ensure this is adequately captured, a condition can require a Car Parking Management Plan to be provided with details of how this will be managed.

(f) A swept path diagram for B99 design vehicle and an oncoming B85 design vehicle entering and exiting the development via Swan Street are to be provided, as well as at the corner of the basement car park levels. A swept path diagram demonstrating adequate access/egress at the Swan Street interface was provided on 12 June 2020 and deemed acceptable by Council's Engineering Unit. The second swept path diagram requested remains outstanding.

(g) A vehicle crossing ground clearance check is required to be submitted.

(h) The canopy along the site's Swan Street and Burnley Street road frontages must be setback 750 mm from the front kerb to satisfy the *Building Regulations 2018*.

(i) Waste collection is to be documented in a Waste Collection Plan with collection performed using a private contractor using a Small Rigid Vehicle or similar. This information is already provided within the submitted WMP, however, it will also be required to be included within the Car Park Management Plan referenced above.

(j) Council's Engineering Unit also requested that the parking spaces in the architectural drawings be numbered for identification. This can form a condition of permit.

361. Several engineering conditions in regards to civil works, road asset protection, and construction management, impacts of assets on the proposed development, reinstatement of redundant vehicle crossings and modification to car parking signage have been recommended. These conditions are considered standard and should also be included on any permit issued.

362. Overall, the proposed design and configuration of access and car parking areas are considered to achieve a satisfactory outcome and will be further improved with the above details requested by Council's Engineering Unit.

Bicycle facilities and strategic transport

Bicycle parking and facilities

363. The proposal provides a total of 282 bicycle parking spaces on-site for employees, with end-of-trip facilities provided at the ground floor level. The number of bicycle spaces for employees exceeds the statutory rate outlined in Clause 52.34 (which requires 112 employee spaces) but does not meet rate outlined in Category 6 of the Built Environment Sustainability Scorecard (BESS), which recommends a total of 326 employee spaces (321 for the office based on the BESS and 5 being the statutory requirement for the retail).

364. Given the scale of the proposed building and the reduction of car parking sought, it is considered that additional bicycle parking is required and therefore a condition can require a minimum 326 employee bicycle spaces be provided. The Strategic Transport Unit has recommended that this be within a maximum of two secure compounds, this is considered appropriate to ensure that the additional 44 spaces are provided in a secure and conveniently accessible location and not spread around the development.

365. The employee bicycle parking is currently provided within a large end-of-trip facility at the south-east corner of the development. This facility has direct access to the southern interface and is provided at ground level. The bicycle parking is also conveniently located close to toilets, showers and change rooms. A bike repair station is also provided within the facility. Council's Strategic Transport Unit reviewed the proposed access and safety, advising that there were no issues with the layout of the bicycle parking. The layout satisfies the requirements of AS23890.3 as at least 20% of the employee spaces are horizontal at-grade.

366. In respect of visitor parking, the proposal provides 56 spaces (6 spaces proposed at Swan Street, 22 spaces proposed at the southern side of the building and 28 on the eastern side of the building along Burnley Street). The statutory rate outlined in Clause 52.34 requires 35 visitor spaces and the rate outlined in Category 6 of the BESS results in a recommendation for 66 spaces.

367. Council's Strategic Transport Unit has identified that the existing four bicycle hoops located on the footpath on Burnley Street can be included as part of the visitor space offer so long as they are relocated to a suitable location away from the streetscape improvement works. This can form a condition of permit. As the four hoops will cater to eight additional spaces, an additional two spaces (or one hoop) will also be required to be provided to meet the BESS requirement. This can also form a condition of permit.

368. In respect of the layout of the bicycle spaces, Council's Strategic Transport Unit recommended four spaces provided along the southern side of the building be relocated to Swan Street, to provide adequate visible bicycle parking and also recommended wayfinding signage be installed, to direct visitors to the visitor bicycle parking at the western and southern sides of the building. Conditions can be included to require the four bicycle spaces to be relocated, and for details of wayfinding signage to be provided within the GTP.

369. Subject to conditions it is considered that the bicycle parking and facilities is acceptable.

Electric vehicles

370. The SMP submitted by the applicant states that 15% small/hybrid vehicle parks (of which max 5% can be motorcycle) or 5% Electric Vehicle (EV) parking spaces will be provided within the development. The plans do not identify any spaces as being EV parking spaces.

371. Council's ESD Officer reviewed the submitted SMP and outlined this as a deficiency, recommending that charging infrastructure for at least 5% of parking spaces be provided. This is considered appropriate and a condition will require 5% of the car parking spaces (11 spaces) to be shown as being EV spaces.

372. Council's Strategic Transport Officer reviewed the proposal and encouraged the applicant to electrically wire the car parking areas to be 'EV ready', the applicant has agreed to this and it can therefore form a condition. It is therefore considered the proposed response to electric vehicles is acceptable.

Green Travel Plan

373. The applicant also supplied a Green Travel Plan (GTP). The GTP is generally adequate but as identified by Council's Strategic Transport Unit, the following will be required to be incorporated:

    (a) Security arrangements to access the employee bicycle storage spaces;

    (b) The types of lockers proposed within the change-room facilities, with at least 50% of lockers providing hanging storage space;

    (c) Signage and wayfinding information for bicycle facilities and pedestrians pursuant to Australian Standard AS2890.3; and

    (d) The floor plans showing details of the bicycle parking and end of trip facilities.

374. It is considered appropriate for the above to form conditions as these items are easily addressed through a revision of the GTP.

Objector concerns

375. Many of the objector issues have been discussed within the body of the report as shown below. Outstanding issues raised are addressed as follows.

Built form and massing

(a) *Height and mass of the development is inconsistent with the existing neighbourhood character;*

This is discussed within paragraphs 200 to 209.

(b) *Inadequate upper level setbacks;*

This is discussed within paragraphs 210 to 219.

(c) *Building should provide greater footpaths around;*

This is discussed within paragraphs 260 to 264.

(d) *Building separation is inadequate; and*

This is discussed within paragraphs 233 to 234.

(e) *Development not in keeping with historic low-scale precinct.*

This aspect was discussed within the Panel Report for Amendment C185 where it was determined that the removal of the five existing older dwellings on the Swan Street frontage represent an acceptable planning outcome, as they are not of such significance that their retention is warranted.

Furthermore, the southern side of Swan Street is not affected by a heritage overlay and is earmarked as to be “vastly transformed” within Councils adopted document, the SSSP.

Use and Off-Site Amenity Impacts

(f) *Loss of views;*

This is discussed within paragraphs 245 to 246.

(g) *Overshadowing of the public realm; and*

This is discussed within paragraphs 276 to 280.

(h) *Wind impacts.*

This is discussed within paragraphs 247 to 251.

Traffic and Car Parking

(i) *Too many car parks provided on-site, additional traffic cannot be supported within local road network;*

This is discussed within paragraphs 349 to 358.

(j) *Not enough car parks provided on-site, the on-street car parking is already at capacity and cannot cater to overflow from development;*

This is discussed within paragraphs 342 to 348.

Other

(k) *Due to COVID-19 there is no longer a need for large-format office space.*

The application proposed large-format office space and therefore must be assessed as such. The office building is typical of office development occurring in the area.

(l) *The office layout would not allow for social distancing or safe use of lifts due to the COVID-19 pandemic.*

The office building is typical of office development occurring in the area and the wider city. Details of management including safety and social distancing would be implemented during the occupation stage of the building.

(m) *Amendment C185/Planning Permit PLN15/0057 provided significant community benefits (including a supermarket) to justify the preferred DDO14 height.*

This is discussed within paragraphs 252 to 275 and paragraphs 289 to 293.

Furthermore, the proposed uses are as-of-right and do not require a planning permit and it has been determined that the proposed development has significant policy and strategic support, as discussed within paragraphs 175 to 183.

Conclusion

376. The proposed development is considered to demonstrate a high level of compliance with policy objectives contained within the Planning Policy Framework and Municipal Strategic Statement. Notably, the proposal achieves the State Government's urban consolidation objectives.

377. The proposal, subject to the conditions recommended, is an acceptable planning outcome that demonstrates clear compliance with the relevant Council policies.

RECOMMENDATION

That having considered all objections and relevant planning policies, the Committee resolves to issue a Notice of Decision to Grant a Planning Permit be issued for the construction of a mixed-use building, reduction in the car parking requirement associated with the retail/food and drinks premises and office uses (no permit required for uses) and alteration of access to a Road Zone, Category 1 at 462 – 482 Swan Street, Richmond generally in accordance with the plans noted previously as the "decision plans" and subject to the following conditions:

1. Before the development commences, amended plans to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of this permit. The plans must be drawn to scale with dimensions and three copies must be provided. The plans must be generally in accordance with DA1001 – DA1016 (Rev C), DA2001 – DA2013 (Rev C) and DA2101-DA2105 (Rev B) and Materials Schedule P142-143 prepared by Architectus, but modified to show:

   <u>Signage</u>

   (a) A notation included on Drawing No. DA2101 indicating the proposed signage is not illuminated.

   <u>Built Form</u>

(b) At level 11 the eastern façade setback a minimum 6.23 metres from the eastern boundary for the section from 1 metre south of Gridline 3 to the southern façade as generally depicted in sketch plans submitted by Human Habitats 5 June 2020;
(c) At level 11, the south roof zone reconfigured to a landscaped terrace as generally depicted in sketch plans submitted by Human Habitats 5 June 2020;
(d) At level 10, the west façade setback to a minimum 13.5 metres for the entire west elevation south of where the building currently indents to 10.97 metres;
(e) At level 10, the southern façade setback to 11.322 metres, west of Gridline E, as generally depicted in sketch plans submitted by Human Habitats 5 June 2020;
(f) Level 11 setback in accordance with the requirements of Condition 1(d) and 1(e).
(g) The south-western Level 11 terrace relocated to Level 10, in the area created by Condition 1(d) and 1(e).
(h) The building parapet around the roof top plant and the roof top plant level to be lowered in height and integrated into the design of the building to minimise visibility and reduce overshadowing to the Burnley Station.
(i) An updated 3D model of the development and its surrounds in conformity with the Department of Environment, Water, Land and Planning Infrastructure Advisory Note – 3D Digital Modelling.
(j) The design expression east of the primary north-south entrance in Swan Street to be revised for each of the podium levels to better reflect the character of the area and to provide improved fenestration and materiality;
(k) The design expression of the Burnley Street zone south of the projecting corner to be revised for each of the podium levels to better reflect the character of the area and to provide improved fenestration and materiality.
(l) The southern setback of the upper levels of the development to be further setback, or lowered in height, to further reduce the extent of overshadowing experienced to the southern Burnley Station platform.
(m) Further resolution of the proposed canopy to ensure there is no conflict with future street tree planting and incorporate a minimum 750mm setback from the Swan Street kerb.
(n) The canopy to Burnley Street to be setback a minimum 750mm setback from the Burnley Street kerb.
(o) The detailed design of the retail spaces, with individual tenancies shown, areas provided and uses identified.

<u>Car Parking and Services</u>

(p) Electric vehicle charging infrastructure for at least 5% of vehicle spaces clearly shown, with the car spaces marked.
(q) A notation indicating that the car parking area will be electrically wired to be 'EV ready.'
(r) Rainwater tank to have a capacity of 90,000 litres.
(s) Details of the size and location of the proposed solar PV array, demonstrated to be adequately screened from view.
(t) Visibility sight line triangles (corner splay) superimposed and dimensioned as required by clause 52.06-9: Design Standard 1.
(u) Floor to ceiling height clearances within the basement car park levels dimensioned as required by clause 52.06-9: Design Standard 1.
(v) Columns setbacks are to be designed in accordance with AS/NZS 2890.1:2004 with the column depths dimensioned on the plans or the parking spaces adjacent to columns be widened to allow car doors to be opened.
(w) A swept path diagram for B99 design vehicle and an oncoming B85 design vehicle at the corner of the basement car park levels.
(x) The canopies along the sites Burnley Street and Swan Street frontages to be setback a minimum 750mm from the kerb in accordance with the *Building Regulations 2018*.
(y) The car parking spaces numbered for identification.
(z) A minimum of 326 employee bicycle spaces within a secure and conveniently located compound and in accordance with the requirements of AS23890.3. The existing 282 employee spaces are to remain within the end of trip area with no more than two secure compounds provided.

(aa) Relocation of the four existing bicycle hoops where no streetscape improvements (street trees, seating) is proposed.
(bb) One additional visitor bicycle hoop provided on-site with a minimum eight visitor bicycle hoops provided on the northern side of the development.

Reports and Plans

(cc) Any requirement of the endorsed Landscape Plan (condition 5) (where relevant to show on plans).
(dd) Any requirement of the endorsed Sustainable Management Plan (condition 9) (where relevant to show on plans).
(ee) Any requirement of the endorsed Waste Management Plan (condition 14) (where relevant to show on plans).
(ff) Any requirement of the endorsed Wind Assessment Report (condition 21) (where relevant to show on plans).
(gg) Any requirement of the Transport for Victoria conditions (conditions 38 – 56) (where relevant to show on plans).

Façade Strategy

2. In conjunction with the submission of development plans under Condition 1, a Façade Strategy and Materials and Finishes Plan to the satisfaction of the Responsible Authority must be submitted to and be approved by the Responsible Authority. When approved, the Façade Strategy and Materials and Finishes Plan will be endorsed and will then form part of this permit. This must detail:

   (a) elevations at a scale of 1:20 illustrating typical podium details for all podium types, entries and doors, utilities (services to Swan Street) and tower facade details (in particular the detailing of 'FT01a', 'FT01b' and other glazing types used within the development);
   (b) section drawings to demonstrate façade systems, including fixing details and joints between materials or changes in form;
   (c) information about how the façade will be maintained, including any vegetation;
   (d) a sample board and coloured renders outlining colours, materials and finishes including the following:
      (i) details of the proposed material 'FT08' outlining all areas it is to be applied and ensuring it provides warmth and depth to the overall façade.
      (ii) details of the proposed permeability of 'FT03a' allowing adequate transparency and visual connection to the end of trip facilities;
      (iii) Details of the plant level and any screening, ensuring it is integrated with the design of the building.
      (iv) Glazing materials used on all external walls must be of a type that does not reflect more than 20% of visible light, when measured at an angle of 90 degrees to the glass surface
   (e) The strategy must illustrate the legibility of the proposal from short and distant views, including the extent of podium treatment, façade pattern, colours and ability to provide richness, saturation and depth. This can be provided through montages from various vantage points and/or built model.

3. The development as shown on the endorsed plans must not be altered (unless the Yarra Planning Scheme specifies that a permit is not required) without the prior written consent of the Responsible Authority.

4. As part of the ongoing progress and development of the site, Architectus or an architectural firm to the satisfaction of the Responsible Authority must be engaged to:

   (a) oversee design and construction of the development; and
   (b) ensure the design quality and appearance of the development is realised as shown in the endorsed plans or otherwise to the satisfaction of the Responsible Authority.

Landscape Plan

5. Before the development commences, an amended Landscape Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Landscape Plan will be endorsed and will form part of this permit. The amended Landscape Plan must be generally in accordance with the Landscape Plans prepared by TLC and dated April 2020, but modified to include (or show):

   (a) The six London Plane trees to be replaced with *Lagerstroemia indica.*'
   (b) Further resolution of the proposed canopy to ensure there is no conflict with future street tree planting, with advise provided by a suitably qualified arborist/landscape architect demonstrating any proposed canopy will not impact the long term viability of the proposed Swan Street street trees,
   (c) The four street trees proposed along Burnley Street to be modified to be all Japanese Zelkova 'Green Vase.'
   (d) Details of tree guards and treatments for the proposed street trees, in accordance with Yarra standard details.
   (e) Details of soil volumes for all garden beds provided.
   (f) Consideration to passive irrigation or use of water captured by the subject site.
   (g) A 600mm setback provided between the proposed raised planters with custom seating along Burnley Street and the kerb.
   (h) Consistently show details of the form, size and furniture proposed around the edges of the platers.
   (i) In respect of the Burnley Station landscaped terrace, the following details provided:
      (i) Proposed levels.
      (ii) Materials of seating slabs.
      (iii) Several sectional diagrams demonstrating the relationship between the terrace and Burnley Station pedestrian ramp.
   (j) A detailed planting plan including a planting schedule including the quantities, pot sizes, mature heights, botanical and common names.
   (k) A specification of works to be undertaken prior to planting.
   (l) Maintenance schedules and notes, including how any plant failure will be managed, including for the façade planting.
   (m) Details on the proposed methods for irrigation and drainage.
   (n) All plants proposed confirmed to not be listed within DELWP *Advisory List of Environmental Weeds in Victoria*.
   (o) Include any requirements where relevant in accordance with Condition 29.

6. Before the buildings is occupied, or by such later date as approved in writing by the Responsible Authority, the landscaping works shown on the endorsed Landscape Plan must be carried out and completed to the satisfaction of the Responsible Authority. The landscaping shown on the endorsed Landscape Plan must be maintained by:

   (a) implementing and complying with the provisions, recommendations and requirements of the endorsed Landscape Plan;
   (b) not using the areas set aside on the endorsed Landscape Plan for landscaping for any other purpose; and
   (c) replacing any dead, diseased, dying or damaged plants,

   to the satisfaction of the Responsible Authority.

7. Before the development commences, or by such later date as approved in writing by the Responsible Authority, the permit holder must make a one off contribution of $4,149 to the Responsible Authority for the amenity value and removal cost of the street trees located in front of the site.

8. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, the six street trees must be installed within Swan Street and four street trees must be installed within Burnley Street:

   (a) at the permit holder's cost; and
   (b) in a location and manner,

   to the satisfaction of the Responsible Authority.

Sustainable Management Plan

9. Before the development commences, an amended Sustainable Management Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Sustainable Management Plan will be endorsed and will form part of this permit. The amended Sustainable Management Plan must be generally in accordance with the Sustainable Management Plan prepared by Floth dated 16 April 2020, but modified to include or show:

   (a) The development to ensure a zero net carbon performance standard, as defined by the Green Building Council of Australia, forming part of a minimum 5 Star Green Star certified rating.
   (b) A minimum 20% improvement above NCC 2019 standards and a completed JV3 energy report demonstrating the proposed energy performance standard.
   (c) A commitment to electric vehicle charging infrastructure for at least 5% of vehicle spaces be provided.
   (d) The provision of 326 employee bicycle spaces.
   (e) A daylight report be prepared using daylight modelling or GBCA Hand Calculation method demonstrating that at least 30% of NLA exceed a 2% daylight factor standard.
   (f) Size and capacity of the proposed solar PV array.

10. The provisions, recommendations and requirements of the endorsed Sustainable Management Plan must be implemented and complied with to the satisfaction of the Responsible Authority.

11. Before the development is occupied, a report from the author of the Sustainability Management Plan, approved under this permit, or similarly qualified person or company, must be submitted to the Responsible Authority. The report must be to the satisfaction of the Responsible Authority and must confirm all measures specified in the Sustainability Management Plan have been implemented in accordance with the approved plan.

Green Travel Plan

12. Before the development is occupied, an amended Green Travel Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Green Travel Plan will be endorsed and will form part of this permit. The amended Green Travel Plan must be generally in accordance with the Green Travel Plan prepared by Impact dated 16 April 2020, but modified to include or show:

   (a) Security arrangements to access the employee bicycle storage spaces;
   (b) The types of lockers proposed within the change-room facilities, with at least 50% of lockers providing hanging storage space;
   (c) Signage and wayfinding information for bicycle facilities and pedestrians pursuant to Australian Standard AS2890.3; and
   (d) The floor plans showing details of the bicycle parking and end of trip facilities.

13. The provisions, recommendations and requirements of the endorsed Green Travel Plan must be implemented and complied with to the satisfaction of the Responsible Authority.

Waste Management Plan

14. Before the development commences, an amended Waste Management Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Waste Management Plan will be endorsed and will form part of this permit. The amended Waste Management Plan must be generally in accordance with the Waste Management Plan prepared by WSP and dated May 2020, but modified to include:

    (a) Assess the proposal as amended pursuant to Condition 1.

15. The provisions, recommendations and requirements of the endorsed Waste Management Plan must be implemented and complied with to the satisfaction of the Responsible Authority.

16. The collection of waste from the site must be by private collection, unless with the prior written consent of the Responsible Authority.

Acoustic Report

17. Before the development commences, an amended Acoustic Report to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Acoustic Report will be endorsed and will form part of this permit. The amended Acoustic Report must be generally in accordance with the Acoustic Report prepared by Floth and dated 17 April 2020, but modified to include:

    (a) The means by which the long term averages for road traffic noise have been derived.

18. The provisions, recommendations and requirements of the endorsed Acoustic Report must be implemented and complied with to the satisfaction of the Responsible Authority.

19. Following the excavation of the basement and before the development commences (excluding any works required to secure the basement), an Acoustic Report (vibration) to the satisfaction of the responsible authority must be submitted to, and be approved by, the responsible authority. The Acoustic Report must be prepared by a suitably qualified acoustic engineer and must demonstrate:

    (a) Remeasuring of the vibration once excavation of the site had been completed. The VDV is to be measured directly, or full details of the measurement results and conversion calculation to obtain the VDV is provided at that time. The VDV should be measured and/or calculated in accordance with the 2008 British Standard referenced by Floth.

    When approved, the Acoustic Report will be endorsed and will then form part of this permit.

20. Following completion of the development, and prior to its occupation, an Acoustic Report to the satisfaction of the responsible authority must be submitted to, and be approved by, the responsible authority. The Acoustic Report must be prepared by a suitably qualified acoustic engineer and must demonstrate:

    (a) Compliance of the mechanical plant, car park entrance door and loading bay with both State Environment Protection Policy (Noise from Commerce, Industry and Trade) No. N-1 and sleep disturbance targets at existing dwellings.
    (b) Compliance with any recommendations or requirements of the report referenced within Condition 19.

    When approved, the Acoustic Report will be endorsed and will then form part of this permit.

Wind Report

21. Before the development commences, an amended Wind Tunnel Report to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Wind Tunnel Report will be endorsed and will form part of this permit. The amended Wind Tunnel Report must be generally in accordance with the Wind Tunnel Report prepared by MEL Consultants, dated 17 April 2020, but modified to include (or show):

    (a) Assess the proposal as amended pursuant to Condition 1.
    (b) The northern, southern and western retail frontages achieving pedestrian comfort for stationary, long exposure activities.
    (c) The bicycle arrival achieving pedestrian comfort for stationary, short exposure activities.
    (d) The external terraces at Levels 1, 2 and 3 achieving pedestrian comfort for stationary, short exposure activities.
    (e) The external terraces at Levels 10 and 11 achieving pedestrian comfort for stationary, short exposure activities.

    Landscaping is not to be used as a wind mitigation measure.

22. The provisions, recommendations and requirements of the endorsed Wind Assessment Report must be implemented and complied with to the satisfaction of the Responsible Authority.

Car parking

23. Before the development commences, a Car Park Management Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the Car Park Management Plan will be endorsed and will form part of this permit. The Car Park Management Plan must address, but not be limited to, the following:

    (a) the number of car parking spaces allocated to each tenancy and that each space is allocated;
    (b) Numbering of car parking spaces;
    (c) details of way-finding, cleaning and security of end of trip bicycle facilities;
    (d) policing arrangements and formal agreements including the provision for the development entrance boom gate to remain open during the AM peak period;
    (e) a schedule of all proposed signage including directional arrows and signage, informative signs indicating location of disabled bays and bicycle parking, exits, restrictions, pay parking system etc;
    (f) the collection of waste and garbage in accordance with the Waste Management Plan required by Condition 14; and
    (g) details regarding the management of loading and unloading of goods and materials.

24. The provisions, recommendations and requirements of the endorsed Car Park Management Plan must be implemented and complied with to the satisfaction of the Responsible Authority.

25. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, the area set aside on the endorsed plans for the car parking spaces, access lanes, driveways and associated works must be:

    (a) constructed and available for use in accordance with the endorsed plans;
    (b) formed to such levels and drained so that they can be used in accordance with the endorsed plans;
    (c) treated with an all-weather seal or some other durable surface; and
    (d) line-marked or provided with some adequate means of showing the car parking spaces;

    to the satisfaction of the Responsible Authority.

26. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, a notice showing the location of car parking must be placed in a clearly visible position near the entry to the land. The notice must be maintained thereafter to the satisfaction of the Responsible Authority.

27. The loading and unloading of vehicles and the delivery of goods to and from the land must be conducted entirely within the land to the satisfaction of the Responsible Authority.

28. Except with the prior written consent of the Responsible Authority, the internal north-south connection between Swan Street and the land to the south must be open between 8am and 6pm on business days (excluding public holidays).

Design Detail Plan (widened footpaths and land to the south)

29. Within six months of the development commencing, the owner of the site must submit detailed engineering and landscaping documentation to the satisfaction of the Responsible Authority and approved by the Responsible Authority and at the full cost of the owner showing the following:

    (a) Provision of widened footpaths along Swan Street and Burnley Street, including land located on the subject site as identified within the Ground Floor plan prepared by architectus, Drawing No. DA1003, Revision C.

    (b) Provision of pedestrian path along the southern boundary entirely located on the subject site as identified within the Ground Floor plan prepared by architectus, Drawing No. DA1003, Revision C.

    (c) Provision of a ground floor landscape plan which includes the landscaping proposed in the public realm areas and those associated with the landscaped terrace to the south.

    (d) The design detail plan is to provide details of the following:

        (i) Integration with the Burnley Street Shared Zone, as proposed within the plan required pursuant to Condition 32.
        (ii) Clear delineation of the site's title boundaries along Burnley Street through the use of brass discs or a similar type method;
        (iii) The Swan Street footpath area outside of the subject site's title boundary are to be surfaced in asphalt as per Yarra standard drawings, unless otherwise agreed to by the responsible authority.
        (iv) DDA compliant pram ramps (including TGSIs) shown at the Burnley St/Swan St intersection as per Yarra standard drawings.
        (v) All existing street furniture on Swan Street to be upgraded and located in accordance with the City of Yarra Public Domain Manual and Yarra Standard Drawings.
        (vi) Details of custom benches and raised planters to be provided with a 600mm setback provided from the Burnley Street kerb.
        (vii) Provision of additional street litter bins on Burnley Street in accordance with City of Yarra Public Domain Manual / Yarra Standard Drawings.

VicTrack Landscaped Zone and Pedestrian Path

30. Within six months of the development commencing, the permit holder must submit detailed plans (inclusive of materials and landscaping) to the satisfaction of and approved by the Responsible Authority and VicTrack, showing:

    (a) interface improvements for the footpath to the south (directly abutting the subject site's boundaries) and

    (b) details of the proposed landscaped terrace; and

31. Before the building is occupied, all works associated with the VicTrack pedestrian path and landscaped terrace detailed design plan as shown on the endorsed plans must be completed by the permit holder at their full cost to the satisfaction of the Responsible Authority and VicTrack and be maintained thereafter.

Infrastructure and Streetscape Masterplan

32. Within six months of the development commencing, the applicant must prepare an infrastructure and streetscape masterplan in conjunction with Council, Department of Infrastructure, VicTrack, Transport for Victoria and all relevant service authorities for capital improvements in the roads surrounding the development. The Plan must include, but is not limited to:

    (a) the interface with the Burnley railway station.

    (b) the mitigation works at the Burnley Street/Swan Street intersection.

    (c) the improvement to the Burnley Street service road, including:

        (i) the provision of a shared zone within Burnley Street (service road) where the street interfaces with the western boundary where not obstructed by the existing rail ramp.

            The design of the Burnley Street shared zone must provide details including civil works drawings, pavement widths, surface treatment, road infrastructure items, landscaping (where applicable) and drainage including the installation of any additional drainage pits and associated connecting drainage to the satisfaction of the Responsible Authority.

    (d) the streetscape along Swan Street.

    The extent and scope of the works must be clearly defined before approval is granted by Council. All traffic mitigation works, road infrastructure works and streetscape works shall be funded by the applicant.

Timing of works

33. Before the building is occupied, all works to the public realm as required by conditions 29, 30 and 32 must be fully constructed and completed by the owner at their full cost and to the satisfaction of the Responsible Authority.

Section 173 Agreement (widening of Swan and Burnley Streets and the land to the south)

34. Within six months of the commencement of works, the owner (or another person in anticipation of becoming the owner) must enter into an agreement with the Responsible Authority under section 173 of the *Planning and Environment Act* 1987, providing for the following:

    (a) The Owner must provide unfettered 24 hour public access over that part of the land to be used for the widening of the Swan Street and Burnley Street footpaths and pedestrian footpath to the south (rail interface);

    (b) The owner is responsible for maintaining at all times the areas that are private land open to the public described in condition 34(a) at the cost of the owners of the site and to the satisfaction of the Yarra City Council;

    (c) The owner(s) must obtain and maintain insurance, approved by Yarra City Council, for the public liability and indemnify Yarra City Council against all claims resulting from any damage, loss, death or injury in connection with the public accessing the land described in condition 34(a).

35. The owner, or other person in anticipation of becoming the owner, must meet all of the expenses of the preparation and registration of the agreement, including the reasonable costs borne by the Responsible Authority.

Section 173 Agreement (Affordable Commercial Space)

36. Before the development is occupied, the owner (or another person in anticipation of becoming the owner) must enter into an agreement with the Responsible Authority under section 173 of the *Planning and Environment Act* 1987 which requires that the owner must facilitate the provision of affordable commercial space by:

    (a) Providing 5% of the office floor area on-site as affordable office floor space which may include a co-working space/social enterprise space/office space for creative design tenant(s) available at a discount compared with market rent; or

    (b) Making other arrangements for the provision of affordable commercial space as per condition 36 (a) in respect of the same floor area, or an equivalent community benefit, such as the delivery of or investment in an Aboriginal Employment Program, to the satisfactory of the responsible authority.

37. The owner, or other person in anticipation of becoming the owner, must meet all of the expenses of the preparation and registration of the agreement, including the reasonable costs borne by the Responsible Authority.

Head, Transport for Victoria (Condition 38 to 56)

38. Before the development commences (excluding demolition), or other time agreed to in writing with Head, Transport for Victoria, amended plans to the satisfaction of the Head, transport for Victoria (TfV) must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and three copies must be provided. These plans must be generally in accordance with the plans submitted to TfV with the application but are to be modified to show:

    (a) The installation of signs, line marking, splitter island and associated road works permitting only “left turn in” and left turn out” vehicular access from Swan Street-unless otherwise recommend by the Road Safety Audit
    (b) modification as required and/or removal of any existing car parking spaces, street tree/s and associated road works on the south side of Swan Street to accommodate the new vehicular access arrangement;
    (c) retention of Metro Train bus replacement space in the Burnley Street underpass;
    (d) tram shelter and associated works in an agree location on Swan Street;
    (e) a landscaping plan and schedule;
    (f) demonstrate compliance with air, light and fire requirements without reliance on railway land, and;
    (g) any recommendations of the road safety audit,

    to the satisfaction of the TfV.

39. Before the development commences (excluding demolition), unless otherwise agreed in writing with TfV, the permit holder must submit a formal road safety audit, (including a function layout plan) by a suitable qualified consultant, to the satisfaction of TfV and the Responsible Authority. The audit must include, but not limited to:

    (a) the function and layout of the left in left out Swan Street access,

(b) pedestrian, cycle and vehicle access/egress arrangements (including pedestrian crossings at/in vicinity of the intersection of Swan & Burnley Streets)
(c) loading arrangements,
(d) buildings and works within the public realm,
(e) internal circulation/layout,
(f) lighting and vegetation impact on adjoining roadway/s.

The findings of the audit must be incorporated into the development and at the developer's expense.

40. Unless otherwise agreed in writing with TfV within six (6) months of the occupation of the development the permit holder must submit a post development road safety audit, to the satisfaction of TfV, demonstrating that all works associated with the approved road safety audit have been tested and any reasonable alterations required are completed to the full cost of the permit holder and to the satisfaction of TfV.

41. Before the Development commences, unless otherwise agreed in writing with the Head Transport for Victoria, the permit holder must submit detailed plans (inclusive of materials and landscaping) to the satisfaction of the Head, Transport for Victoria (TfV), Vic Track and the Rail Operator (RO) showing the development interface improvements for the footpath to the south (directly abutting the subject site's boundaries and extending along the frontage to the railway land and connecting to the Burnley Station ramps as appropriate) being 'public realm works' on railway land. The plans must:

(a) show lighting, landscaping, footpaths, bicycle parking, street furniture and associated infrastructure.
(b) meet Rail Operator specifications and standards.
(c) demonstrate that the works are compliant with the Disability Standard for Accessible Public Transport 2002.
(d) a construction control agreement must be in place between the Permit Holder and RO prior to commencement of the Public Ream Works on Railway Land.
(e) the Public Realm Works outlined in the plans must be completed by the permit holder at their full cost and to the satisfaction of TfV, VicTrack & the RO.

42. Prior to the commencement of work on site (excluding demolition) detailed construction / engineering plans and computations for construction works abutting railway land, railway operations, and railway infrastructure assets must be submitted and approved by VicTrack, TfV and the Rail Operator (RO). The Plans must detail all excavation design and controls of the site adjacent to the railway corridor. The Design Plans must ensure compliance regarding:

(a) building clearances to aerial power lines as per the applicable Victorian Electrical Safety (Installations) Regulations;
(b) design loadings for the building include for:

(i) compliance with AS5100 Parts 1 and 2 for collision protection and impact loads from derailed trains,
(ii) compliance with AS1170 Part 4 - Earthquake Actions in Australia,

(d) working adjacent to overhead power to the satisfaction of the RO;
(e) demonstrate compliance with air, light and fire requirements without reliance on railway land; and
(f) demonstrates a design plan, and a maintenance and operations strategy for balconies and windows that will eliminate any risk of debris falling or being thrown onto railway land.

43. Unless otherwise agreed in writing with TfV, before the commencement of works (including demolition), a Construction Management Plan must be submitted to TfV and Vic Track for approval. The Construction Management Plan must designate operating hours and include details of (but not be limited to) management proposals and actions to protect Vic Track assets, rail infrastructure and the operation of the public transport network during construction and must set out objectives, performance and monitoring requirements to the satisfaction of Vic Track & TfV.

44. Unless otherwise agreed in writing with the TfV, before the commencement of works (including demolition), a Traffic Management Plan must be submitted to TfV which outlines how traffic will be managed throughout the construction of the development and mitigate impacts to public transport, including trains and trams. The Traffic Management Plan must be prepared and implemented to the satisfaction of TfV. All traffic management and mitigation costs will be at the full cost of the permit holder.

45. Unless otherwise agreed in writing with TfV, prior to construction commencing including demolition, a construction control and indemnity agreement as required by TfV must to be in place to the satisfaction of TfV at the full cost to the permit holder. Any costs required to review documents for the construction control and indemnity agreement must be met by the permit holder.

46. Unless otherwise agreed in writing with TfV, prior to the commencement of works (excluding demolition), the permit holder must prepare a report, to the satisfaction of TfV & the RO, by a suitable qualified consultant, which demonstrates that all building materials (including glass / window treatments) visible from the rail corridor are non-reflective such that it will not adversely impact on rail operations and driver safety. The development must avoid using red, green or yellow colour schemes that may interfere with driver operations.

47. Unless otherwise agreed in writing with TfV and VicTrack, windows, doors and balconies must not be placed on the title boundary with Railway Land and no windows or doors are permitted to open beyond the Railway Land title boundary to the satisfaction of TfV and VicTrack.

48. Prior to the occupation of the development, all works outlined on the endorsed plans for the left in left out only access must be completed with associated signs, to the satisfaction of TfV at the full cost to the permit holder.

49. The boundary wall must be treated with a graffiti proof finish and any graffiti that appears on the wall must be removed as soon as practicable to the satisfaction of VicTrack and the Rail Operator. Removal of graffiti must be undertaken at no cost to VicTrack or the Rail Operator.

50. Unless otherwise agreed in writing, permanent or temporary soil anchors must not be installed on railway land.

51. Prior to commencement of works, the Rail Operator must be contacted through the email address metrositeaccess@metrotrains.com.au to obtain the Rail Operator's conditions and safety requirements for works on, over or adjacent to railway land.

52. Any Rail Operator costs required to review documents or construction plan works within the rail environment must be met by the permit holder.

53. Any damage to public transport infrastructure as a consequence of the construction works must be rectified to the satisfaction of TfV, at the full cost of the permit holder.

54. The permit holder must take all reasonable steps to ensure that disruptions to train and tram operation are kept to a minimum during the construction of the development, and in compliance with the Rail and Tram Safety and Environmental requirements.

55. No lighting is to be erected that throws light onto the railway tracks or which interferes with the visibility of signals and the rail lines by train drivers, to the satisfaction of the Rail Operator.

56. No drainage, effluent, waste, soil or other materials must enter or be directed to railway land or stored or deposited on railway land.

Road Infrastructure

57. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, any new vehicle crossing must be constructed:

    (a) in accordance with any requirements or conditions imposed by Council;
    (b) Demonstrating satisfactory access into and out of the site with a vehicle ground clearance check using the B99 design vehicle, and be fully dimensioned with actual reduced levels (to three decimal places) as per Council's Vehicle Crossing Information Sheet;
    (c) at the permit holder's cost; and
    (d) to the satisfaction of the Responsible Authority.
    (e) The edge of the vehicle crossing must comply with the minimum setback from the two electrical poles as required by the relevant power authority and Yarra Trams. If there is a requirement to relocate the poles, The Permit Holder must obtain the consent of the relevant power authority and Yarra Trams. All costs associated with the relocation will be at the Permit Holder's cost
    (f) The vehicle crossing shall be constructed in accordance with Department of Infrastructure's and City of Yarra's requirements and specifications.

58. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, all building works and connections for underground utility services, the footpaths along the property's Swan Streets and Burnley Street (service road) frontages must be reconstructed (including kerb and channel):

    (a) at the permit holder's cost; and

    (b) to the satisfaction of the Responsible Authority.

59. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, the full width road pavement of the Burnley Street service road (from west kerb to east kerb line) from the southern limit of the development to Swan Street must be profiled and re-sheeted:

    (a) at the permit holder's cost; and

    (b) to the satisfaction of the Responsible Authority.

60. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, the half-width road pavement of Swan Street (from south kerb to tramway tracks) from the western limit of the development to the eastern limit of the development must be profiled and re-sheeted (including the reinstatement of all road markings):

    (a) at the permit holder's cost;

    (b) to the satisfaction of any other relevant authority; and

    (c) to the satisfaction of the Responsible Authority.

61. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, any isolated areas of road pavement failure as a consequence of construction traffic impacts must be reconstructed:

    (a) at the permit holder's cost;

(b) to the satisfaction of any other relevant authority; and

(c) to the satisfaction of the Responsible Authority.

62. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority the relocation of any service poles, structures or pits necessary to facilitate the development must be undertaken:

(a) at the permit holder's cost; and
(b) to the satisfaction of the Responsible Authority.

63. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, any redundant vehicular crossing must be demolished and re-instated as standard footpath and kerb and channel:

(a) at the permit holder's cost; and
(b) to the satisfaction of the Responsible Authority.

64. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, the removal of any kerbside parking sensors and any reinstatement of parking sensors will require the Permit Holder to pay Council the cost of each parking sensor taken out from the kerb/footpath/roadway. Any costs associated with the reinstatement of road infrastructure due to the removal of the parking sensors must also be borne by the Permit Holder.

65. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, the four bike hoops located on Burnley Street must be re-located within the sites frontages:

(a) at the permit holder's cost; and

(b) in a location and manner,

to the satisfaction of the Responsible Authority.

Lighting

66. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, a public lighting design scheme along the development's road frontages (including along the pedestrian link to Burnley Train Station) demonstrating adequate lighting levels for pedestrians as per Australian Standard requirements must be submitted to and approved by the Responsible Authority. Notations must confirm that the lighting scheme has been approved by CitiPower and all lighting infrastructure and hardware will be funded by the Permit Holder.

67. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, external lighting capable of illuminating access to the pedestrian and vehicular entrances must be provided on the subject site. Lighting must be:

(a) located;
(b) directed;
(c) shielded; and
(d) of limited intensity

to the satisfaction of the Responsible Authority.

General

68. The amenity of the area must not be detrimentally affected by the use or development, including through:

    (a) the transport of materials, goods or commodities to or from land;
    (b) the appearance of any buildings, works or materials;
    (c) the emission of noise, artificial light, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil, or
    (d) the presence of vermin.

    to the satisfaction of the Responsible Authority.

69. Except with the prior written consent of the Responsible Authority, delivery and collection of goods to and from the land may only occur between 7am and 10pm on any day.

70. Finished floor levels shown on the endorsed plans must not be altered or modified without the prior written consent of the Responsible Authority.

71. Before the building is occupied, any wall located on a boundary facing public property must be treated with a graffiti proof finish to the satisfaction of the Responsible Authority.

72. The development must comply at all times with the State Environment Protection Policy – Control of Noise from Commerce, Industry and Trade (SEPP N-1).

73. The uses must comply at all times with the State Environment Protection Policy – Control of Music Noise from Public Premises (SEPP N-2).

74. Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, all new on-boundary walls must be cleaned and finished to the satisfaction of the Responsible Authority.

75. All buildings and works must be maintained in good order and appearance to the satisfaction of the Responsible Authority.

76. All pipes, fixtures, fittings and vents servicing any building on the land must be concealed in service ducts or otherwise hidden from view to the satisfaction of the Responsible Authority.

77. Except with the prior written consent of the Responsible Authority, demolition or construction works must not be carried out:

    (a) Monday-Friday (excluding public holidays) before 7 am or after 6 pm;
    (b) Saturdays and public holidays (other than ANZAC Day, Christmas Day and Good Friday) before 9 am or after 3 pm; or
    (c) Sundays, ANZAC Day, Christmas Day and Good Friday at any time.

<u>Construction Management Plan</u>

78. Before the development commences, a Construction Management Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plan will be endorsed and will form part of this permit. The plan must provide for:

    (a) a pre-conditions survey (dilapidation report) of the land and all adjacent Council roads frontages and nearby road infrastructure;
    (b) works necessary to protect road and other infrastructure;
    (c) remediation of any damage to road and other infrastructure;
    (d) containment of dust, dirt and mud within the land and method and frequency of clean up procedures to prevent the accumulation of dust, dirt and mud outside the land;

(e) facilities for vehicle washing, which must be located on the land;
(f) the location of loading zones, site sheds, materials, cranes and crane/hoisting zones, gantries and any other construction related items or equipment to be located in any street;
(g) site security;
(h) management of any environmental hazards including, but not limited to,:
    (i) contaminated soil;
    (ii) materials and waste;
    (iii) dust;
    (iv) stormwater contamination from run-off and wash-waters;
    (v) sediment from the land on roads;
    (vi) washing of concrete trucks and other vehicles and machinery; and
    (vii) spillage from refuelling cranes and other vehicles and machinery;
(i) the construction program;
(j) preferred arrangements for trucks delivering to the land, including delivery and unloading points and expected duration and frequency;
(k) parking facilities for construction workers;
(l) measures to ensure that all work on the land will be carried out in accordance with the Construction Management Plan;
(m) an outline of requests to occupy public footpaths or roads, or anticipated disruptions to local services;
(n) an emergency contact that is available for 24 hours per day for residents and the Responsible Authority in the event of relevant queries or problems experienced;
(o) the provision of a traffic management plan to comply with provisions of AS 1742.3-2002 Manual of uniform traffic control devices - Part 3: Traffic control devices for works on roads;
(p) a Noise and Vibration Management Plan showing methods to minimise noise and vibration impacts on nearby properties and to demonstrate compliance with Noise Control Guideline 12 for Construction (Publication 1254) as issued by the Environment Protection Authority in October 2008. The Noise and Vibration Management Plan must be prepared to the satisfaction of the Responsible Authority.
    In preparing the Noise and Vibration Management Plan, consideration must be given to:
    (i) using lower noise work practice and equipment;
    (ii) the suitability of the land for the use of an electric crane;
    (iii) silencing all mechanical plant by the best practical means using current technology;
    (iv) fitting pneumatic tools with an effective silencer;
    (v) other relevant considerations; and
(q) any site-specific requirements.

During the construction:

(r) any stormwater discharged into the stormwater drainage system must be in compliance with Environment Protection Authority guidelines;
(s) stormwater drainage system protection measures must be installed as required to ensure that no solid waste, sediment, sand, soil, clay or stones from the land enters the stormwater drainage system;
(t) vehicle borne material must not accumulate on the roads abutting the land;
(u) the cleaning of machinery and equipment must take place on the land and not on adjacent footpaths or roads; and
(v) all litter (including items such as cement bags, food packaging and plastic strapping) must be disposed of responsibly.

Time expiry

79. This permit will expire if:

(a) the development is not commenced within two years of the date of this permit;
(b) the development is not completed within four years of the date of this permit;

The Responsible Authority may extend the periods referred to if a request is made in writing before the permit expires or within six months afterwards for commencement or within twelve months afterwards for completion.

Notes:

The site is located within an Environmental Audit Overlay. Pursuant to Clause 45.03 of the Yarra Planning Scheme, the requirements of the Environmental Audit Overlay must be met prior to the commencement of development permitted under the permit.

A building permit may be required before development is commenced. Please contact Council's Building Services on 9205 5555 to confirm.

A vehicle crossing permit is required for the construction of the vehicle crossing(s). Please contact Council's Construction Management Branch on 9205 5555 for further information.

Provision must be made for drainage of the site to a legal point of discharge. Please contact Council's Building Services on 9205 5555 for further information.

Areas must be provided inside the property line and adjacent to the footpath to accommodate pits and meters. No private pits, valves or meters on Council property will be accepted.

All future employees within the development approved under this permit will not be permitted to obtain business parking permits.

A local law permit (e.g. Asset Protection Permit, Road Occupation Permit) may be required before development is commenced. Please contact Council's Construction Management Branch on Ph. 9205 5555 to confirm.

The applicant must apply for a Legal Point of Discharge under Regulation 133 – Stormwater Drainage of the *Building Regulations* 2018 from Yarra Building Services unit. Any storm water drainage within the property must be provided and be connected to the nearest Council pit of adequate depth and capacity (legal point of discharge), or to Council's satisfaction under Section 200 of the *Local Government Act* 1989 and Regulation 133.

Any services poles, structures or pits that interfere with the proposal must be adjusted, removed or relocated at the owner's expense after seeking approval from the relevant authority.

Areas must be provided inside the property line and adjacent to the footpath to accommodate pits and meters. No private pits, valves or meters on Council property will be accepted.

Except with the prior written consent of the Responsible Authority, Council assets must not be altered in any way.

No parking restriction signs or line-marked on-street parking bays are to be removed, adjusted, changed or relocated without approval or authorisation from Council's Parking Management unit and Construction Management branch. Any on-street parking reinstated (signs and line markings) as a result of development works must be approved by Council's Parking Management unit.

Only roof runoff, surface water and clean groundwater seepage from above the water table can be discharged into Council drains.

Council will not permit clean groundwater from below the groundwater table to be discharged into Council's drainage system. Basements that extend into the groundwater table must be waterproofed/tanked.

The developer needs to ensure that the building has adequate clearances from overhead power cables, transformers, substations or any other electrical assets where applicable. Energy Safe Victoria has published an information brochure, Building design near powerlines, which can be obtained from their website: http://www.esv.vic.gov.au/About-ESV/Reports-and-publications/Brochures-stickers-and-DVDs

CONTACT OFFICER: **Michelle King**
TITLE: **Senior Statutory Planner**
TEL: **9205 5333**

Attachments

1. PLN20/0006 - 462 - 482 Swan Street Richmond - Site Plan
2. PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 1
3. PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 2
4. PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3
5. PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4
6. PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 5
7. PLN20/0006 - 462 - 482 Swan Street Richmond - Wind Memo (21/05/2020)
8. PLN20/0006 - 462 - 482 Swan Street Richmond - Updated Waste Management Plan (21/05/2020)
9. PLN20/0006 - 462 - 482 Swan Street Richmond - Without Prejudice Sketch Plans (05/06/2020)
10. PLN20/0006 - 462 - 482 Swan Street Richmond - Response to referrals (11/06/2020)
11. PLN20/0006 - 462 - 482 Swan Street Richmond - Response to engineering referrals (12/06/2020)
12. PLN20/0006 - 462 - 482 Swan Street Richmond - Without Prejudice Sketch Plans (15/06/2020)
13. PLN20/0006 - 462 - 482 Swan Street Richmond - Head, Transport for Victoria referral response
14. PLN20/0006 - 462 - 482 Swan Street Richmond - Open Space referral response
15. PLN20/0006 - 462 - 482 Swan Street Richmond - Streetscapes & Natural Values referral response
16. PLN20/0006 - 462 - 482 Swan Street Richmond - Internal Urban Design streetscapes referral response
17. PLN20/0006 - 462 - 482 Swan Street Richmond - Engineering referral response (1)
18. PLN20/0006 - 462 - 482 Swan Street Richmond - Engineering referral response (2)
19. PLN20/0006 - 462 - 482 Swan Street Richmond - Strategic Transport referral response
20. PLN20/0006 - 462 - 482 Swan Street Richmond - City Works referral response
21. PLN20/0006 - 462 - 482 Swan Street Richmond - ESD referral response
22. PLN20/0006 - 462 - 482 Swan Street Richmond - Urban Design referral response (MGS)
23. PLN20/0006 - 462 - 482 Swan Street Richmond - Acoustic referral response (SLR consulting)
24. PLN20/0006 - 462 - 482 Swan Street Richmond - Wind referral response (Vipac)

Attachment 1 - PLN20/0006 - 462 - 482 Swan Street Richmond - Site Plan

ATTACHMENT 1

SUBJECT LAND: 462 – 482 Swan Street, Richmond

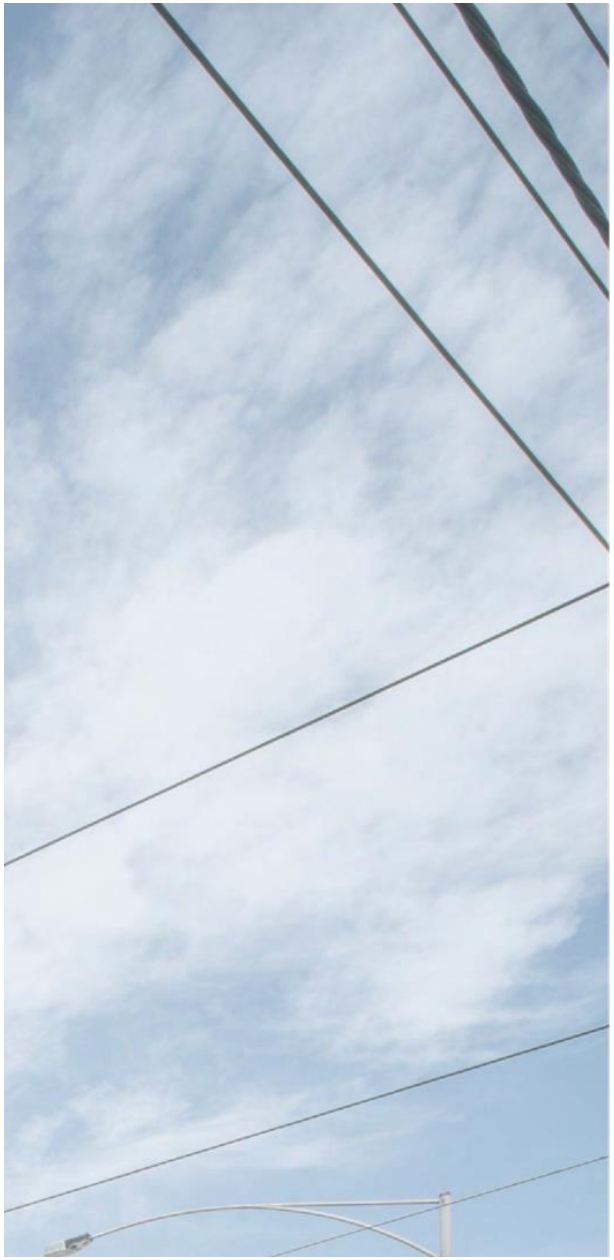




North

Subject Site

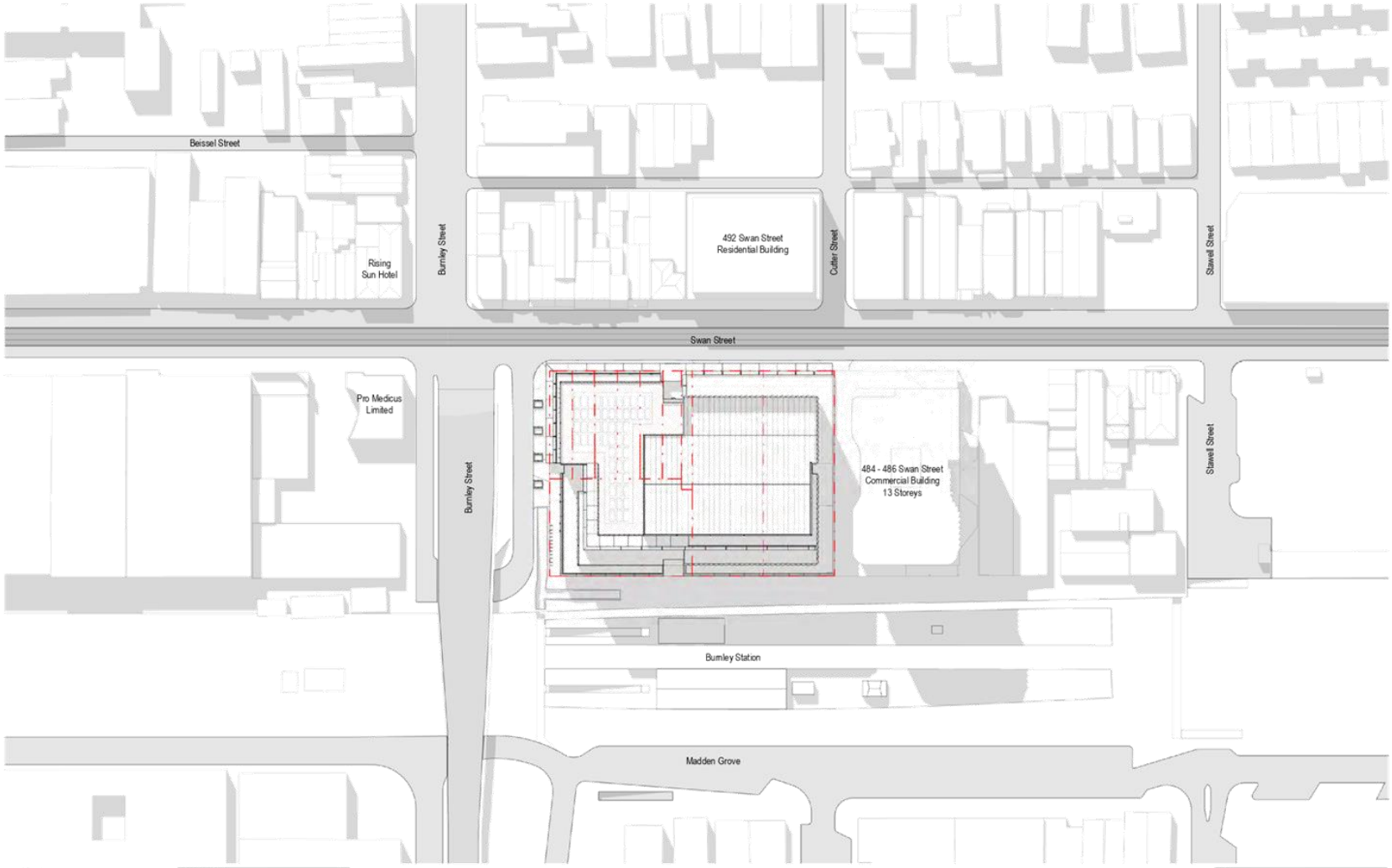
Attachment 2 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 1



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4 Design Proposal

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Nominated Architect
Ray Brown, NSW ARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	Issue for Town Planning Submission	18/12/2019
B	RFI Issue for Town Planning Submission	19/02/2020

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Perth
Auckland
Christchurch
Brisbane

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drawn	AK	project no.	190060

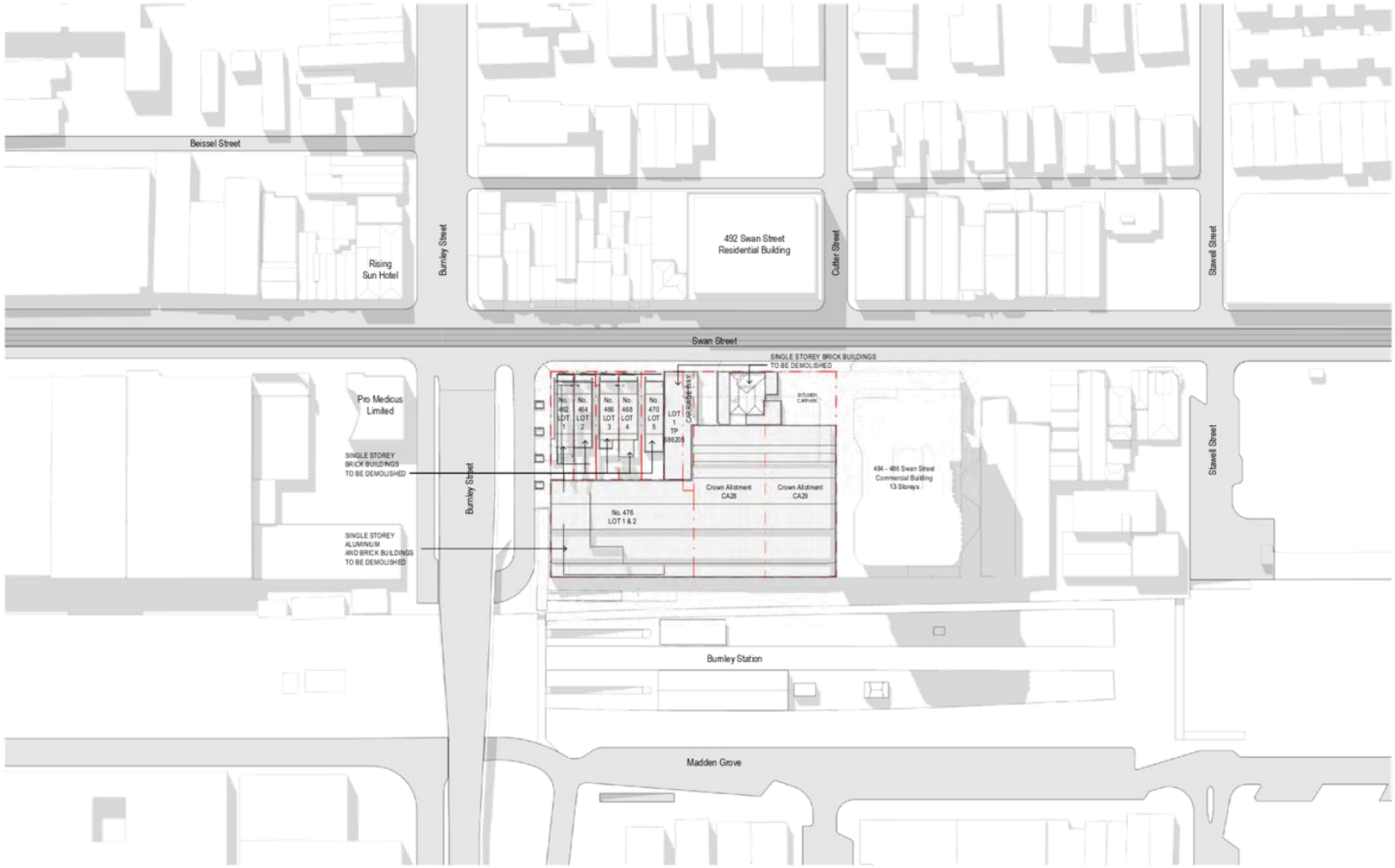
project: 480 Swan Street

drawing: Site - Locality Plan

drawing no.	issue
DA0010	B

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drawn	AK	project no.	190060

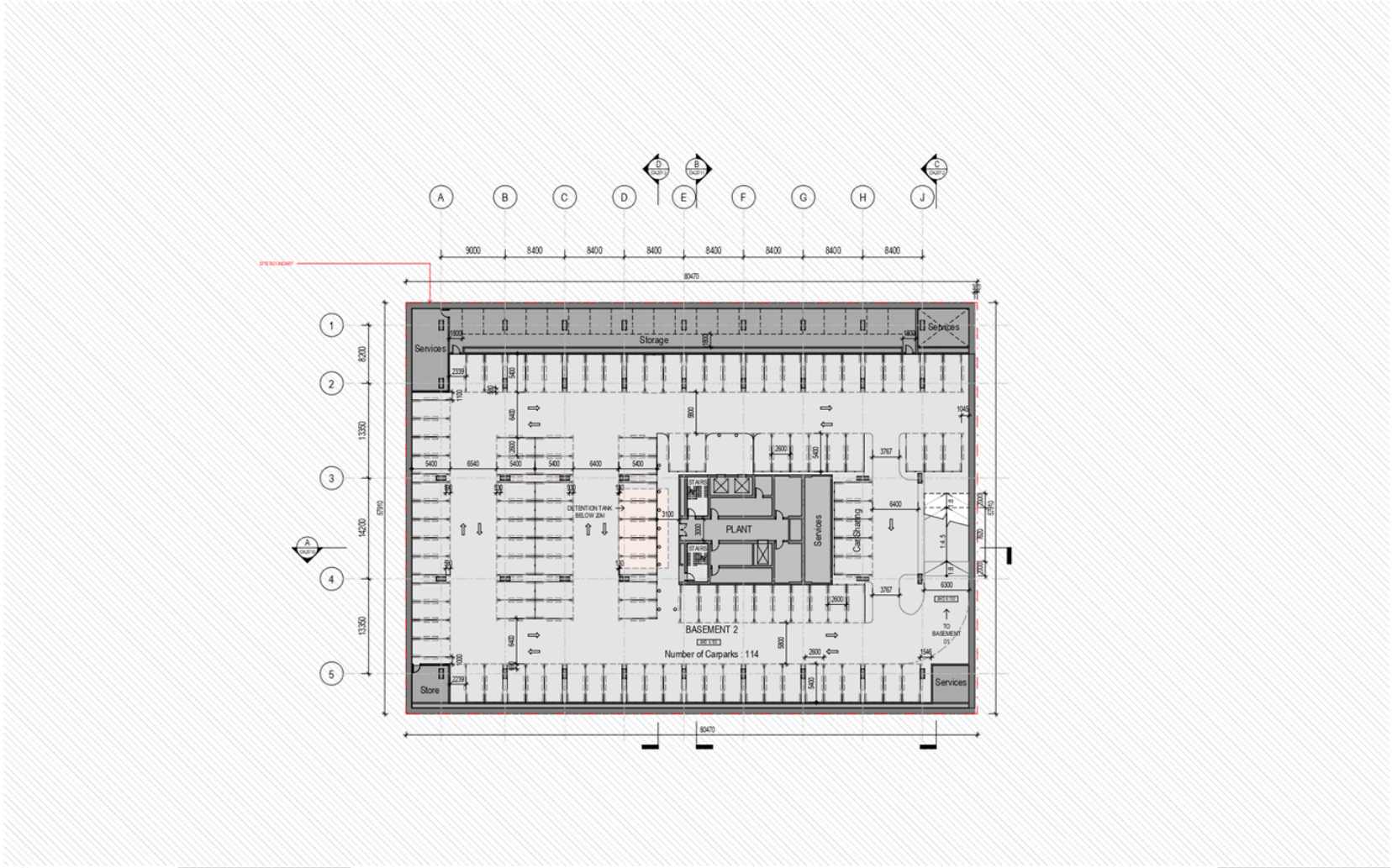
project: 480 Swan Street

drawing: Site - Existing Conditions & Demolition Plan

drawing no.	issue
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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	Issue for Town Planning Submission	18/12/2019
B	RFI Issue for Town Planning Submission	19/02/2020
C	RFI #2 Issue for Town Planning Submission	16/04/2020

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checked RA scale 1 : 250@A1
drawn EMAR project no. 190060

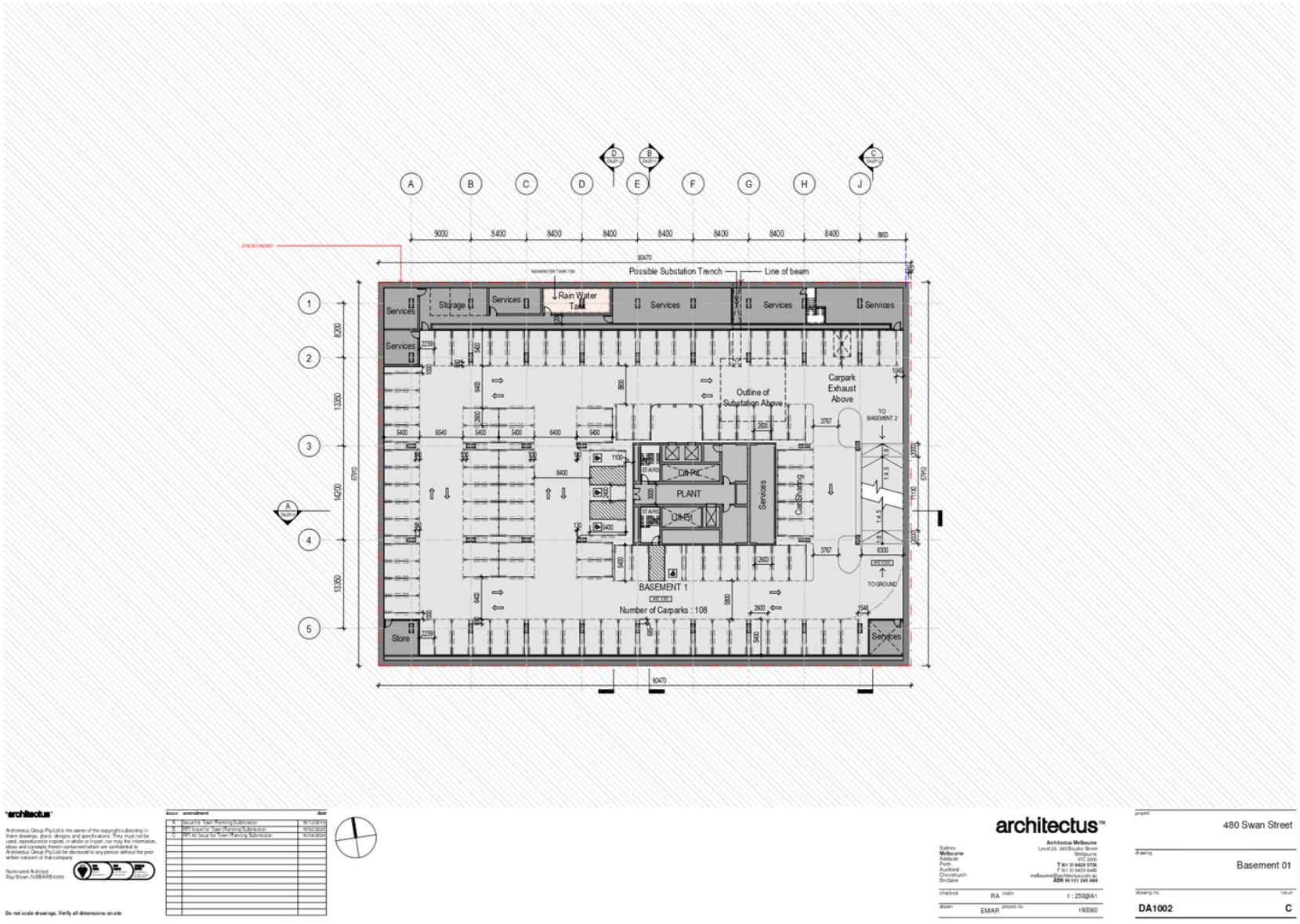
project: 480 Swan Street

drawing: Basement 02

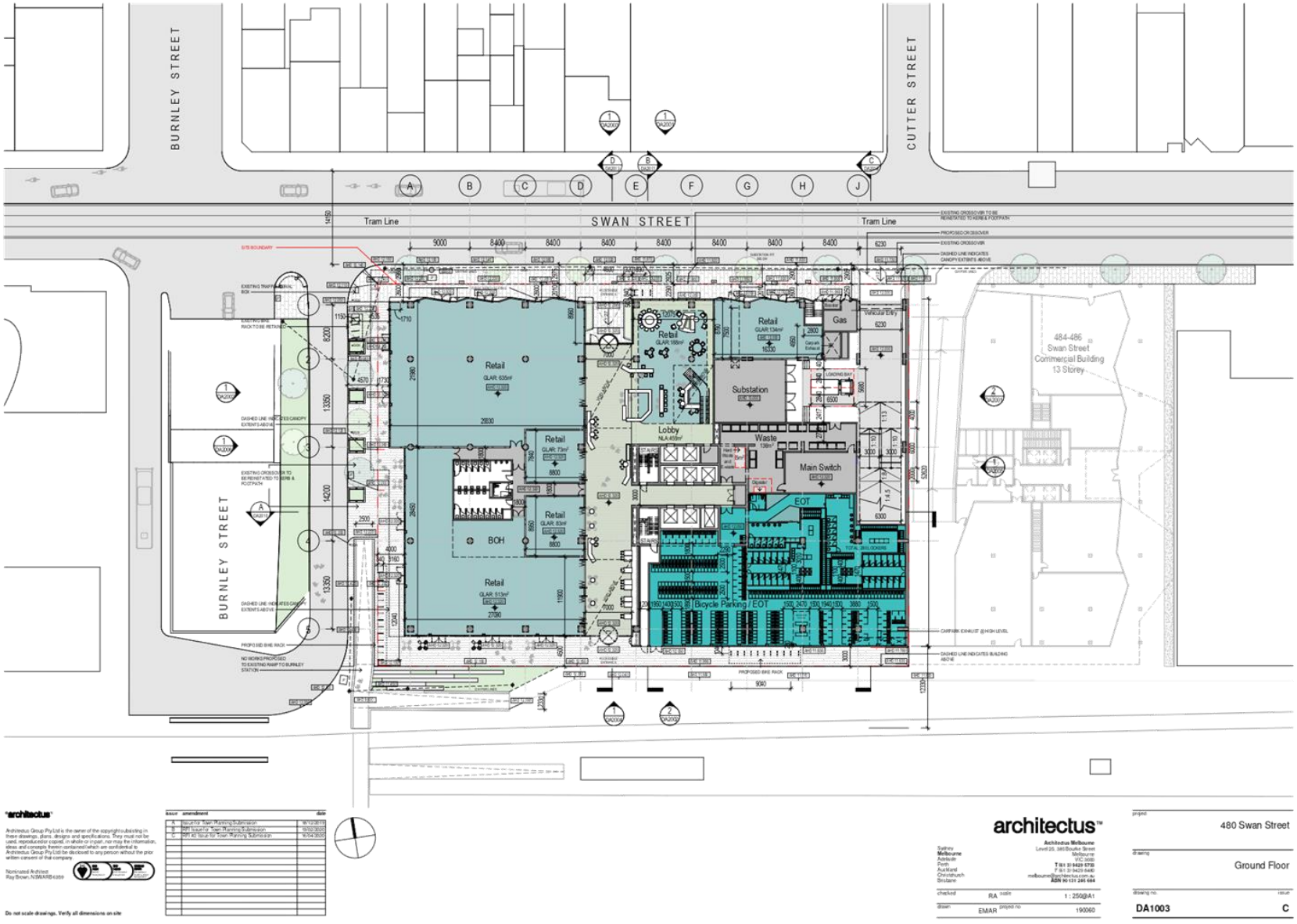
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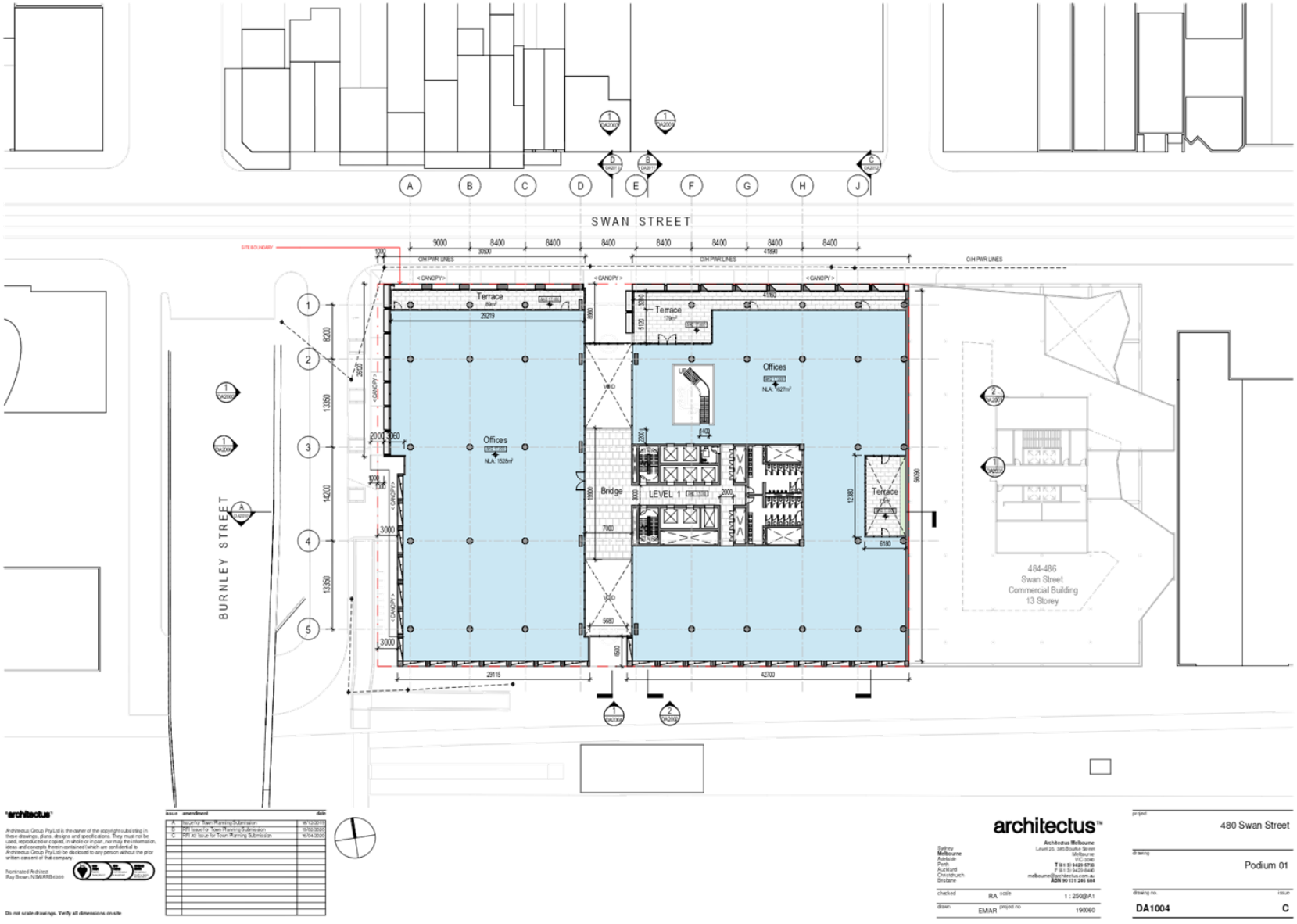
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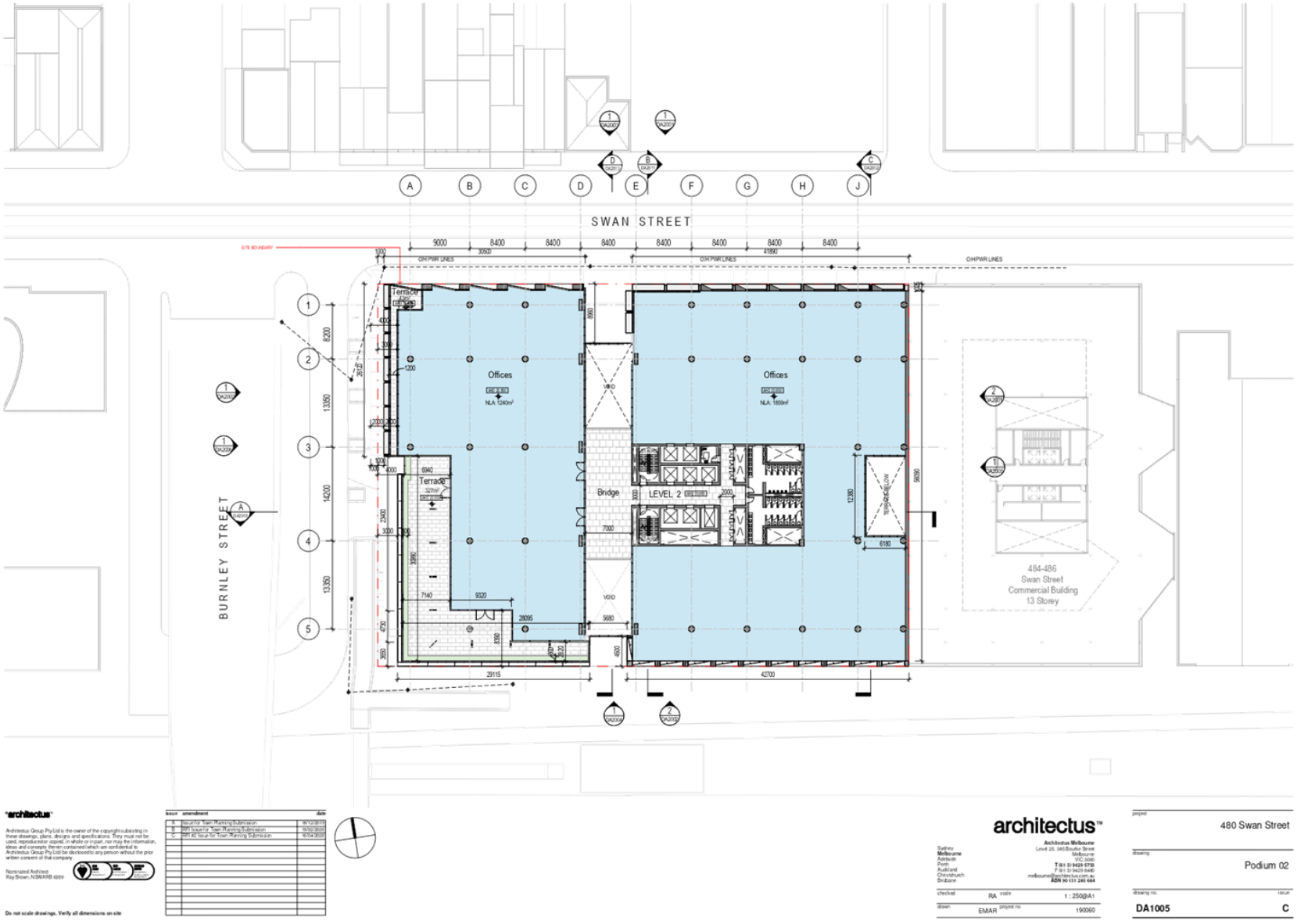
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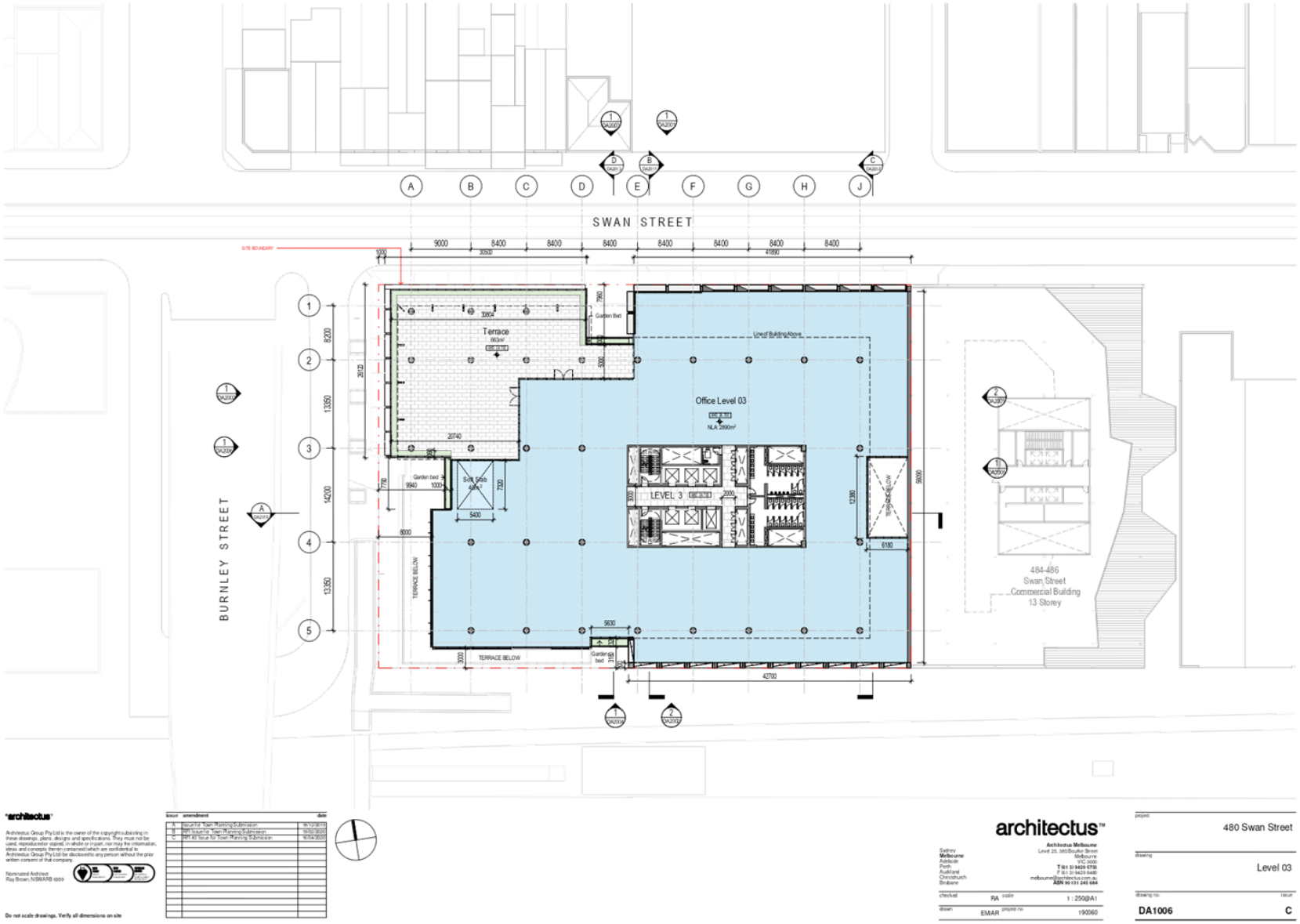
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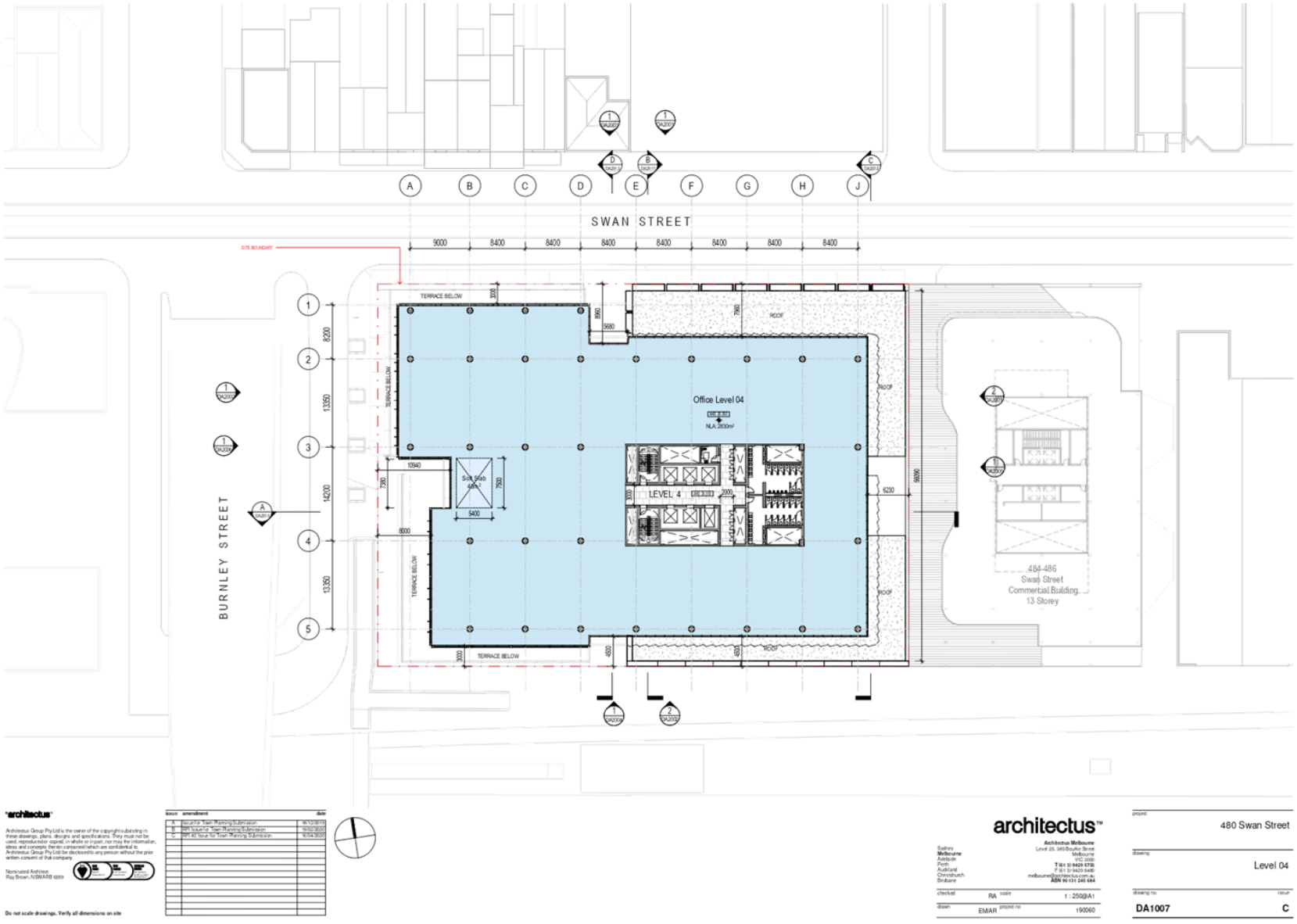
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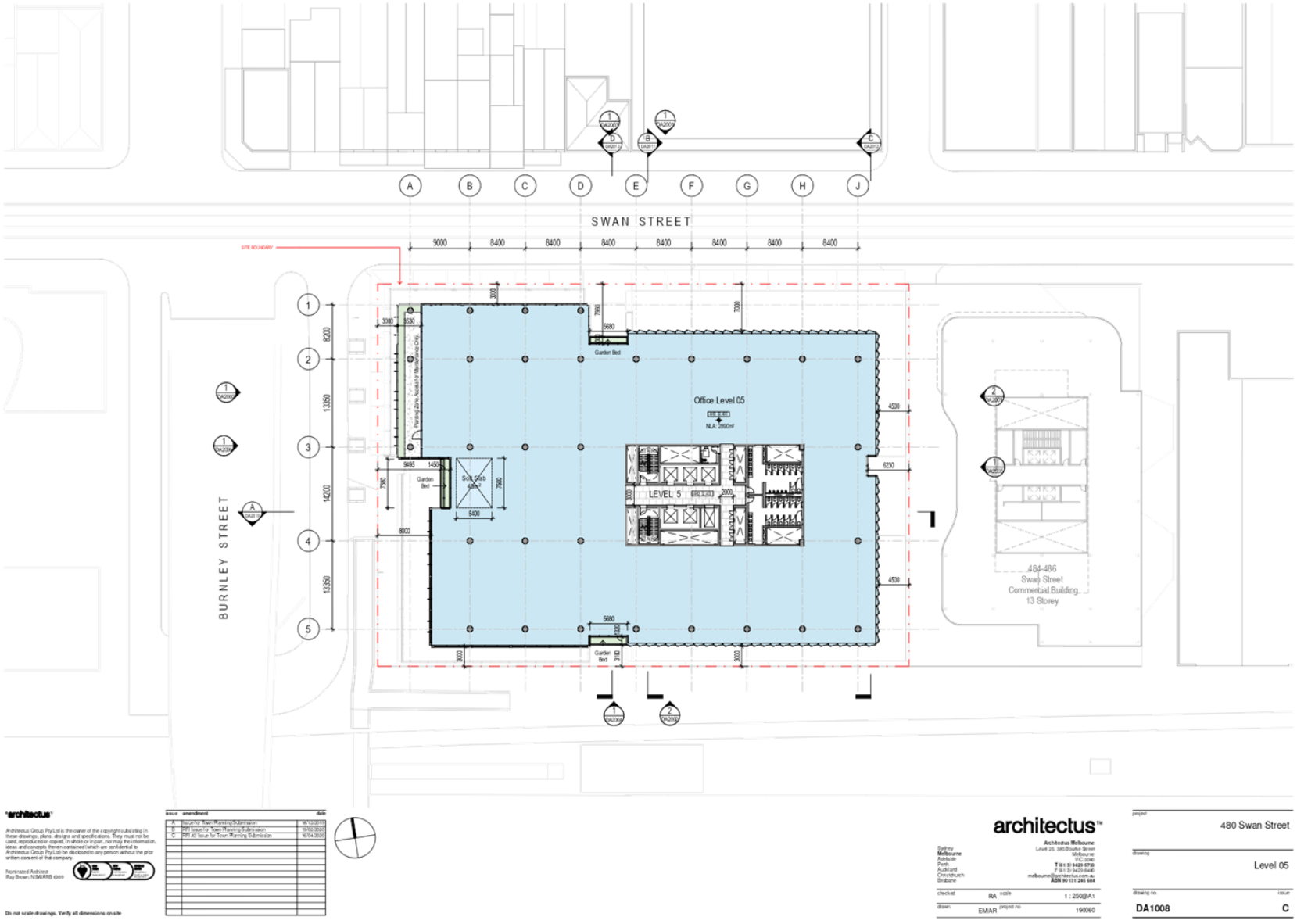
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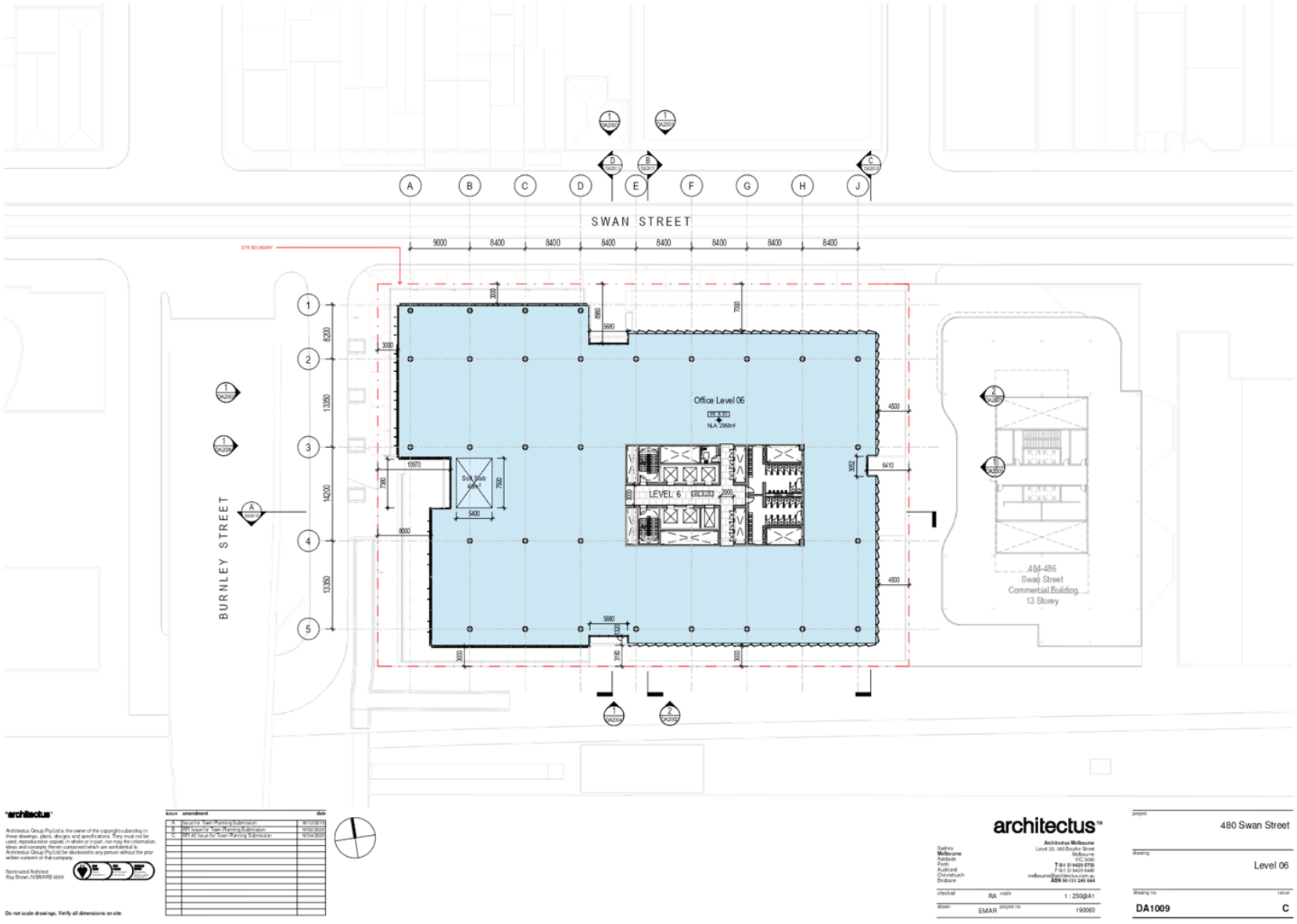
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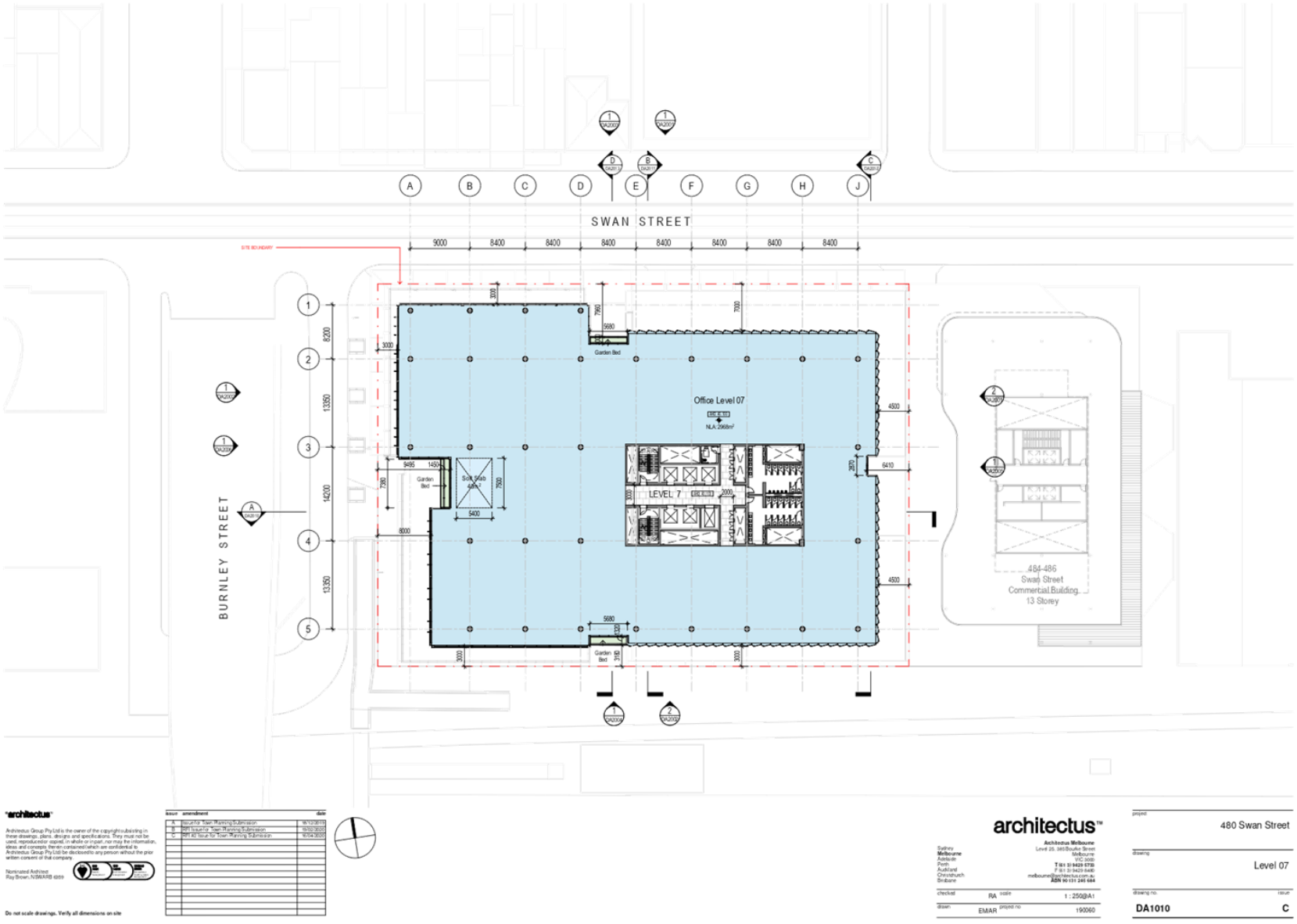
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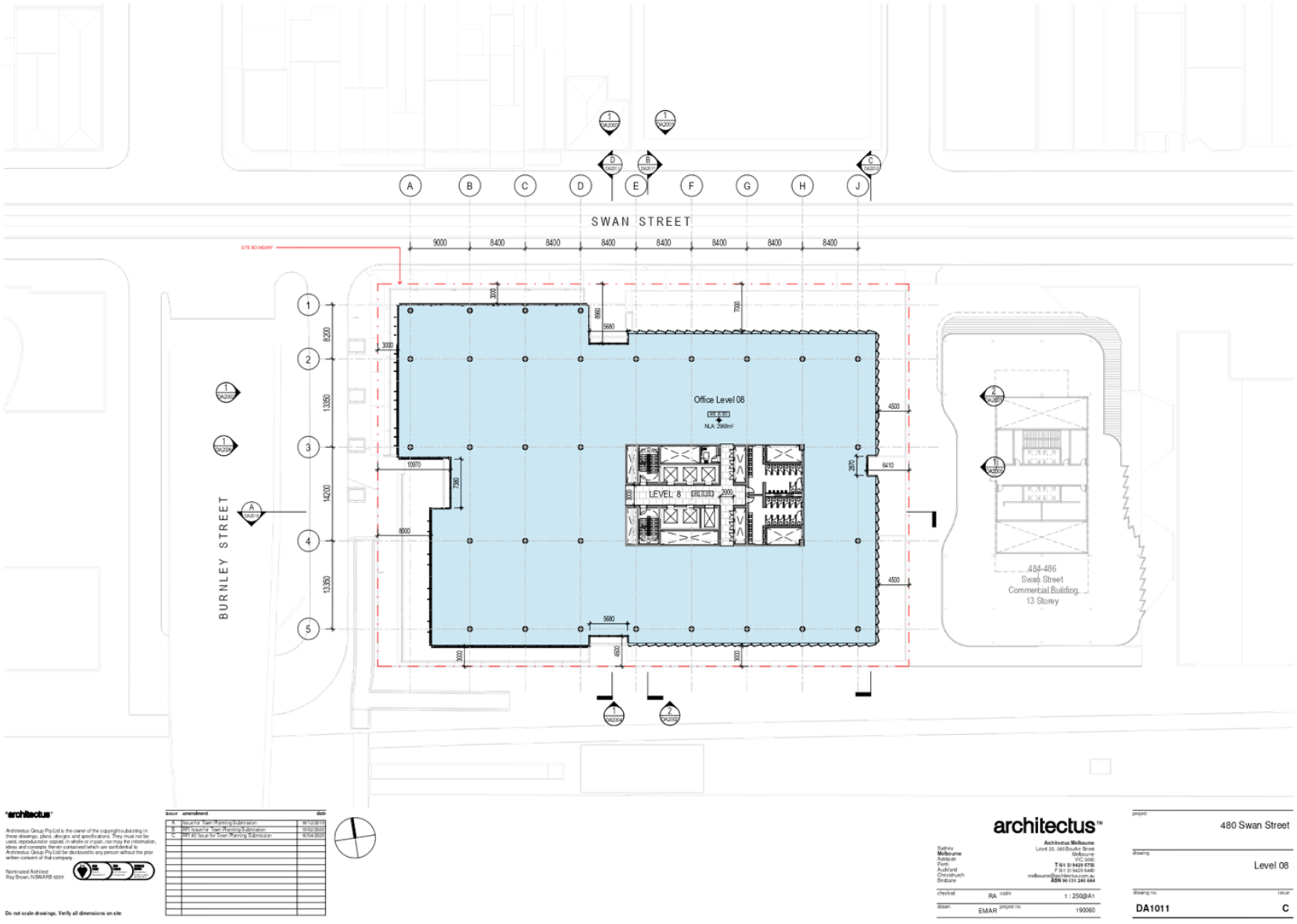
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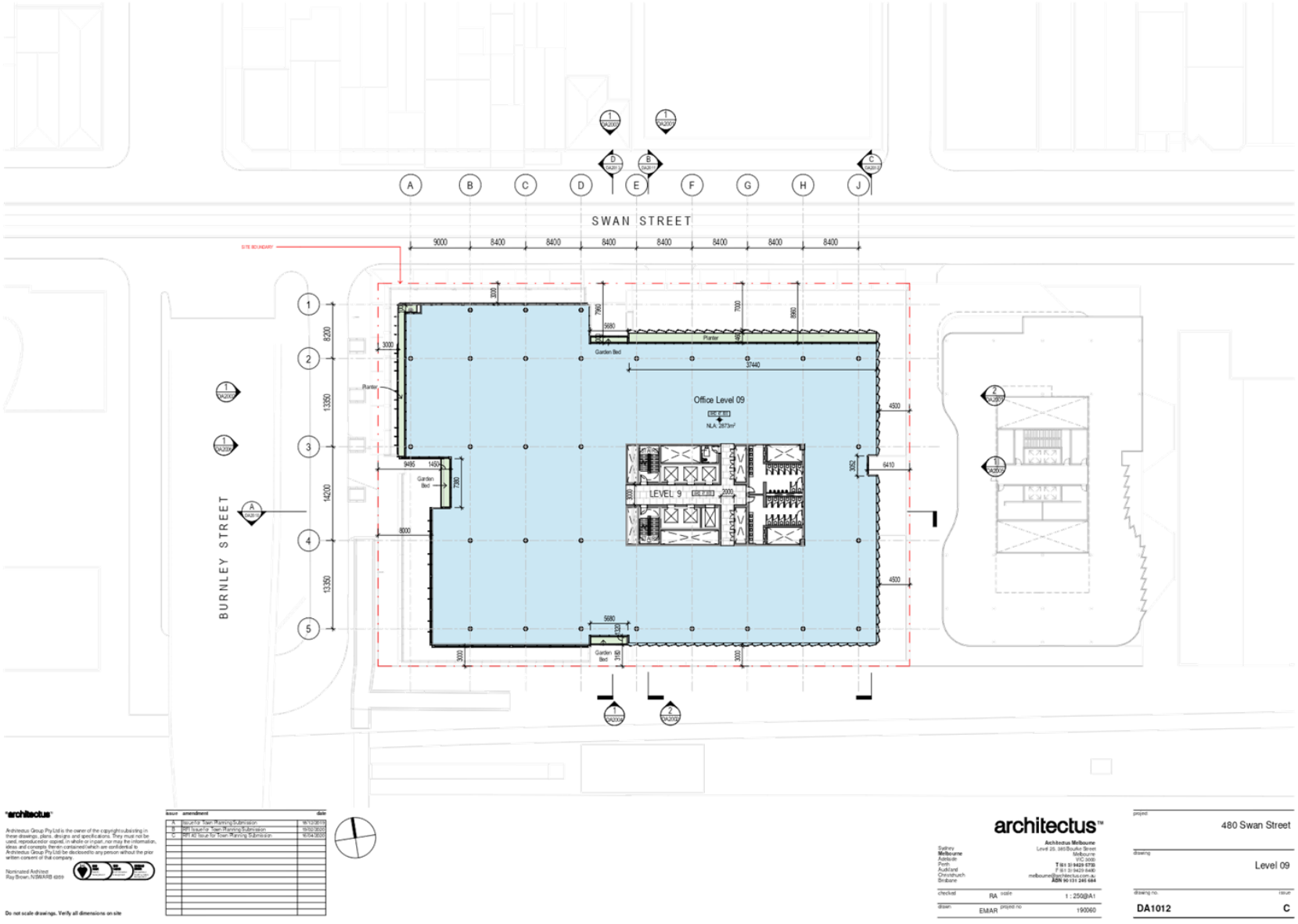
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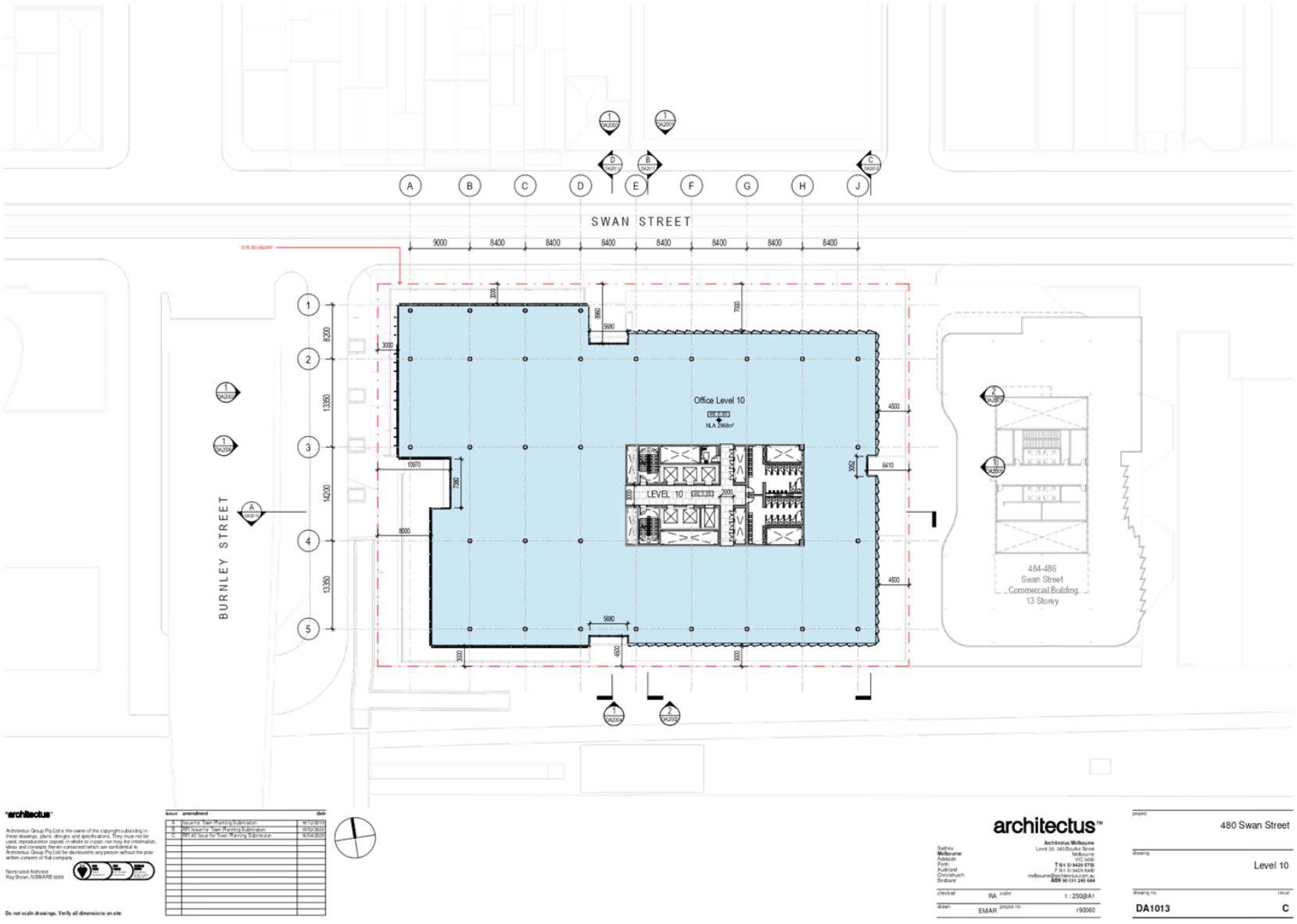
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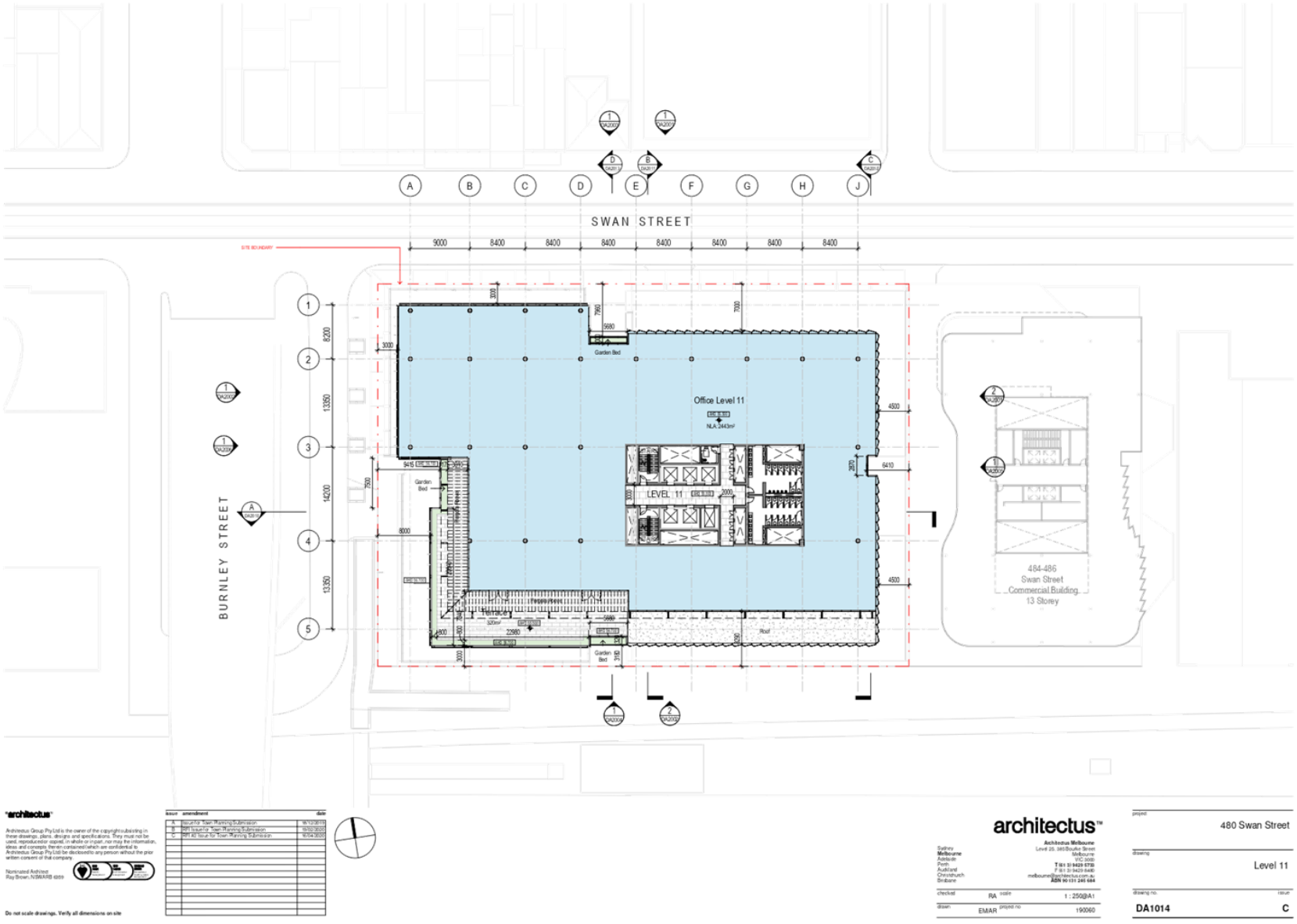
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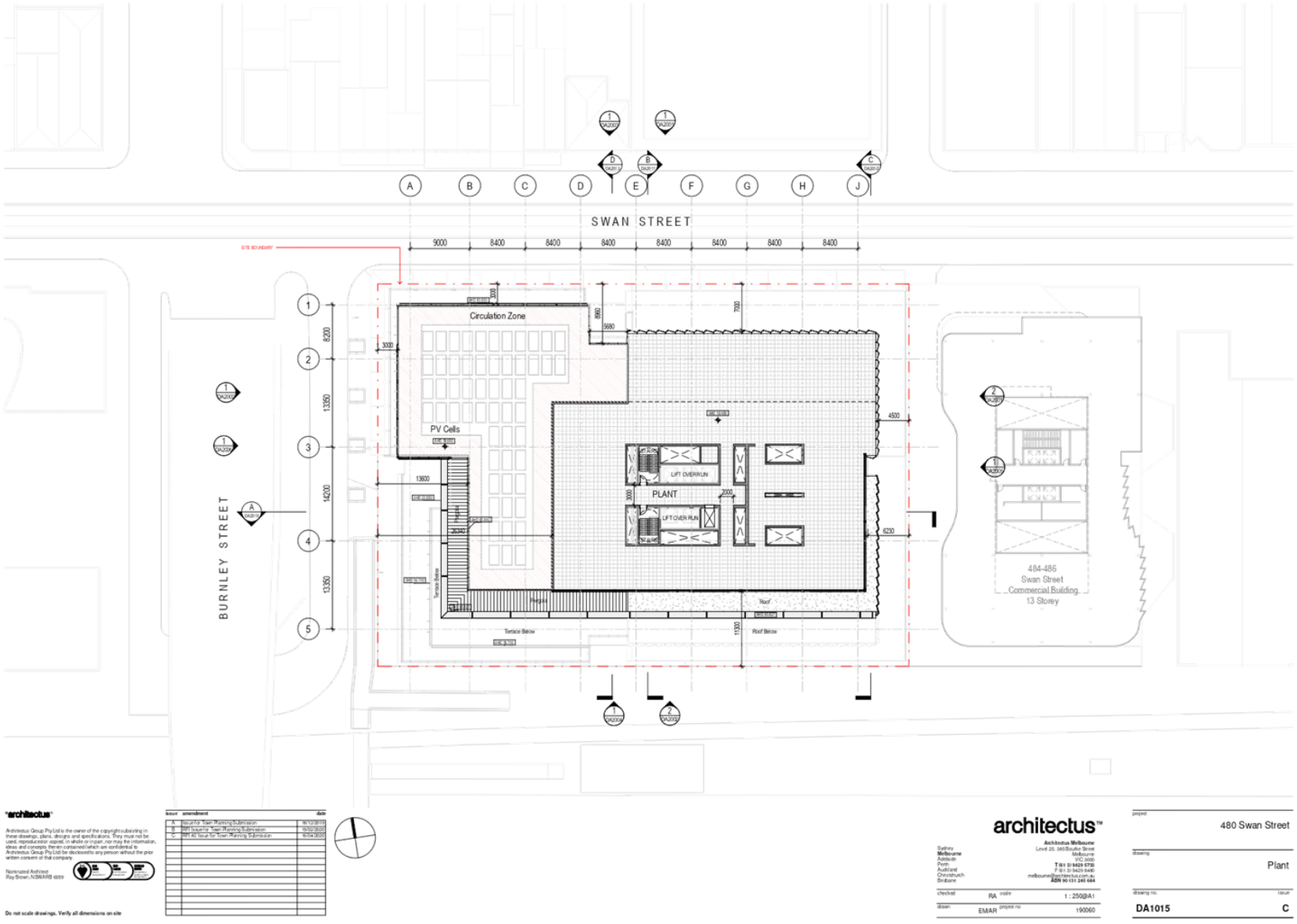
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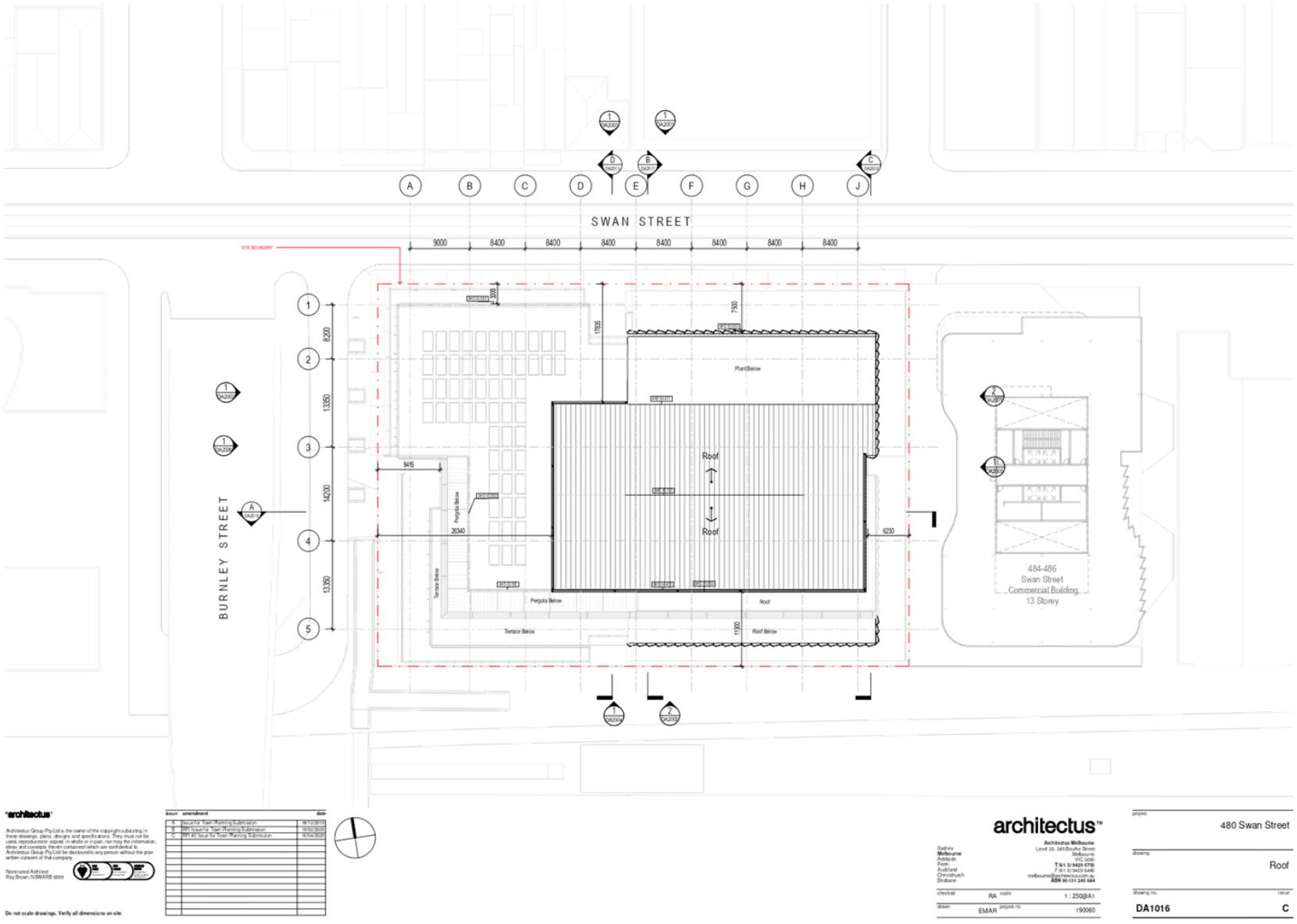
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Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	Issue for Town Planning Submission	18/12/2019
B	RFI Issue for Town Planning Submission	19/02/2020
C	RFI #2 Issue for Town Planning Submission	16/04/2020

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ABN 90 131 245 684

checked	RA	scale	1 : 250@A1
drawn	EMAR	project no.	190060

project: 480 Swan Street

drawing: Roof

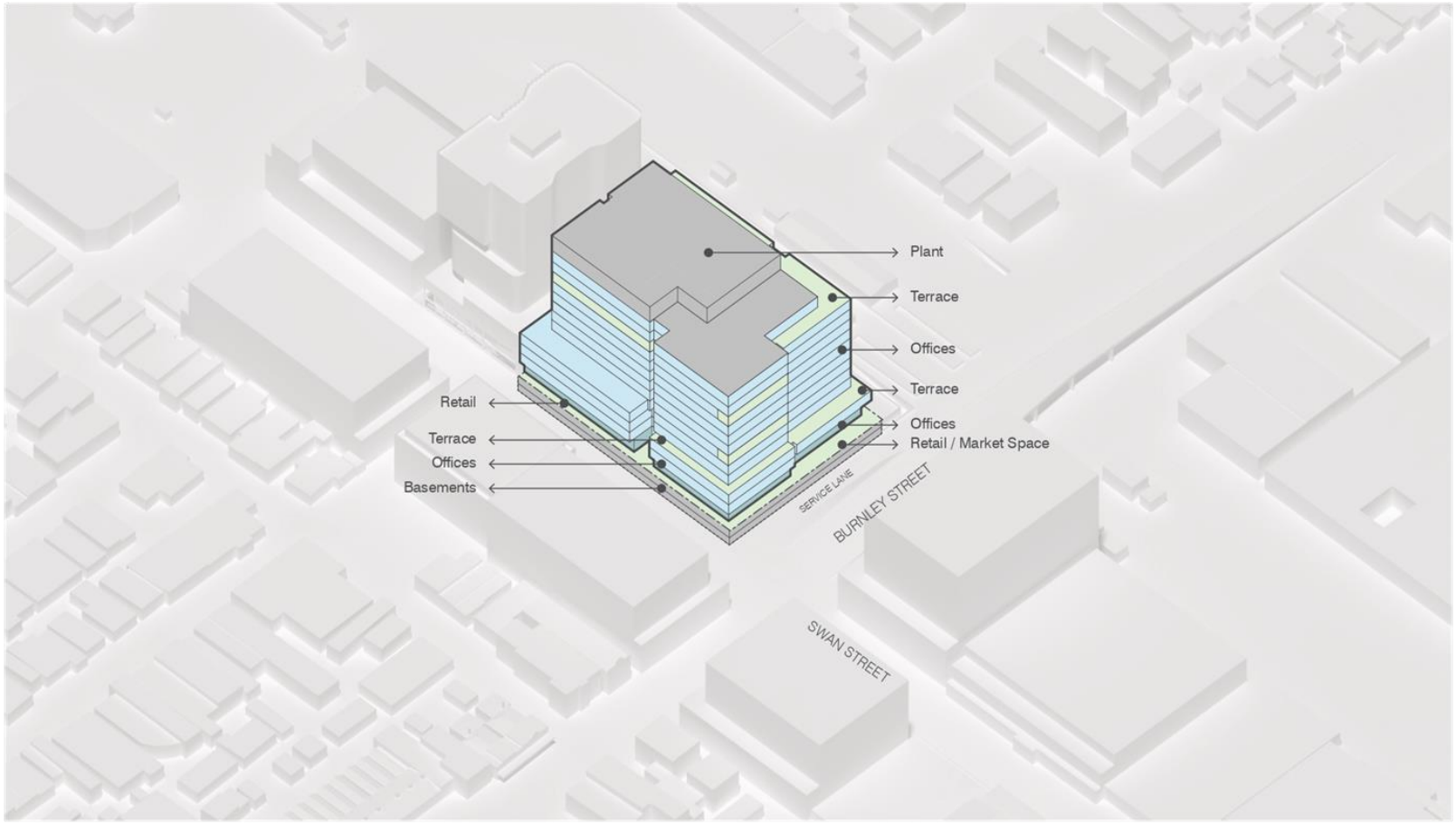
drawing no.: DA1016

issue: C

16/04/20 8:09:01 AM

Attachment 3 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 2

Design Proposal



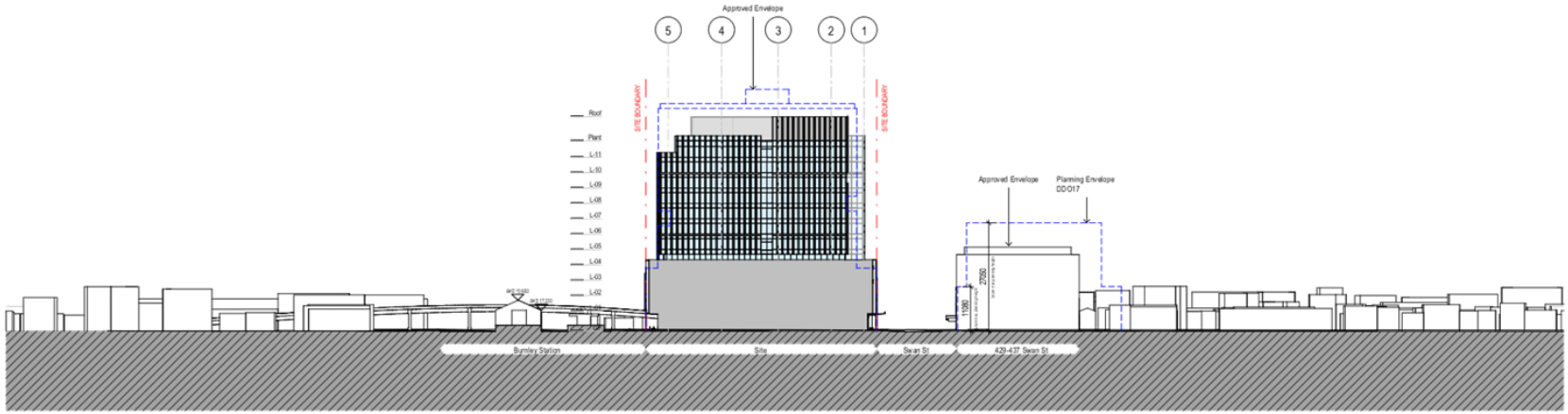
Design Proposal

	No. of Levels	Height (m)	GFA (m^2)	NLA (m^2) Office	Terrace (m^2)	Lobby (m^2)	GLAR (m^2) Retail & F&B	Efficiency	core/BOH/ circ (m^2)	Car Park No.
Basement - Carparking										
Basement 2	1	2.75	4418						986	***114***
Basement 1	1	3.10	4418						986	***108***
Total	2.0	5.85	8836.0						1972.0	222.0
Podium										
L00 - Lobby/Retail/Services	1	5.00	4440			455	1626		1841	
L-01	1	3.85	4089	3155	341			85%	545	
L-02	1	3.85	3823	3099	370			85%	545	
Total	3	12.70	12,352	6,254	711	455	1,626		2,931	
Tower - Commercial										
L-03	1	3.85	3886	2890	663			87.36%	418	
L-04	1	3.85	3389	2830				87.13%	418	
L-05	1	3.85	3308	2890				87.36%	418	
L-06	1	3.85	3386	2968				87.66%	418	
L-07	1	3.85	3386	2968				87.66%	418	
L-08	1	3.85	3386	2968				87.66%	418	
L-09	1	3.85	3404	2873				87.30%	418	
L-10	1	3.85	3386	2968				87.66%	418	
L-11	1	4.15	3096	2443	333			85.39%	418	
PLANT - ROOF		6.00	1363							
Total	9	40.95	31,990	25,798	996				3,762	
Grand Total	**12**	**53.65**	**53,178**	**32,052**	**1,707**	**455**	**1,626**		**6,693**	***222***

Note:
GFA = FECA + UCA
FECA & UCA calculated in accordance with The Australian Institute of Quantity Surveyors, Book of Areas for analysis and comparison of buildings, Canberra, August 20004

Attachment 3 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 2





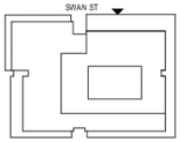
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Nominated Architect
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A	Issue for Town Planning Submission	18/12/2019
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C	RFI #2 Issue for Town Planning Submission	16/04/2020



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checked	RA	scale	1 : 500@A1
drawn	EMAR	project no.	190060

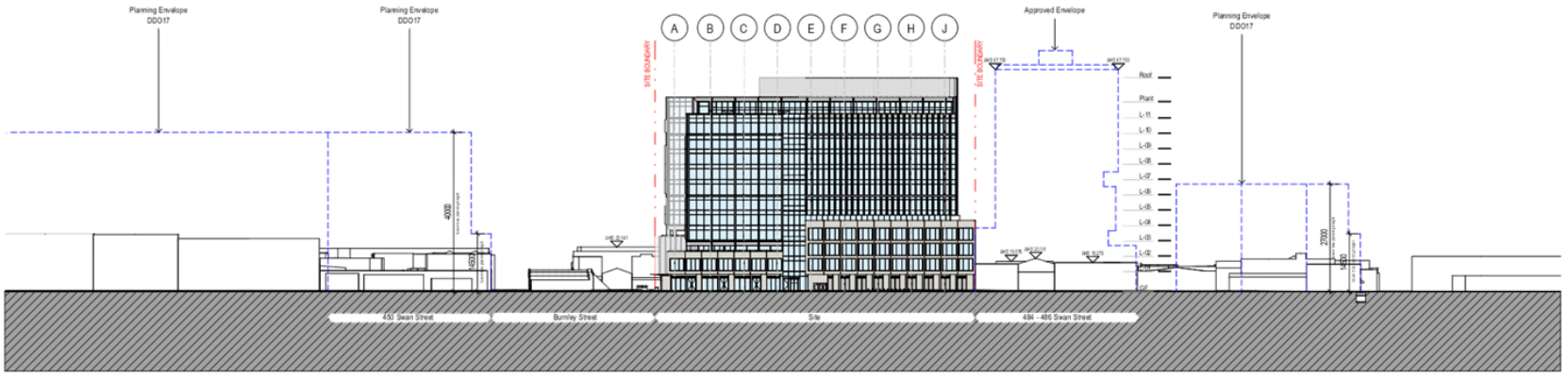
project: 480 Swan Street

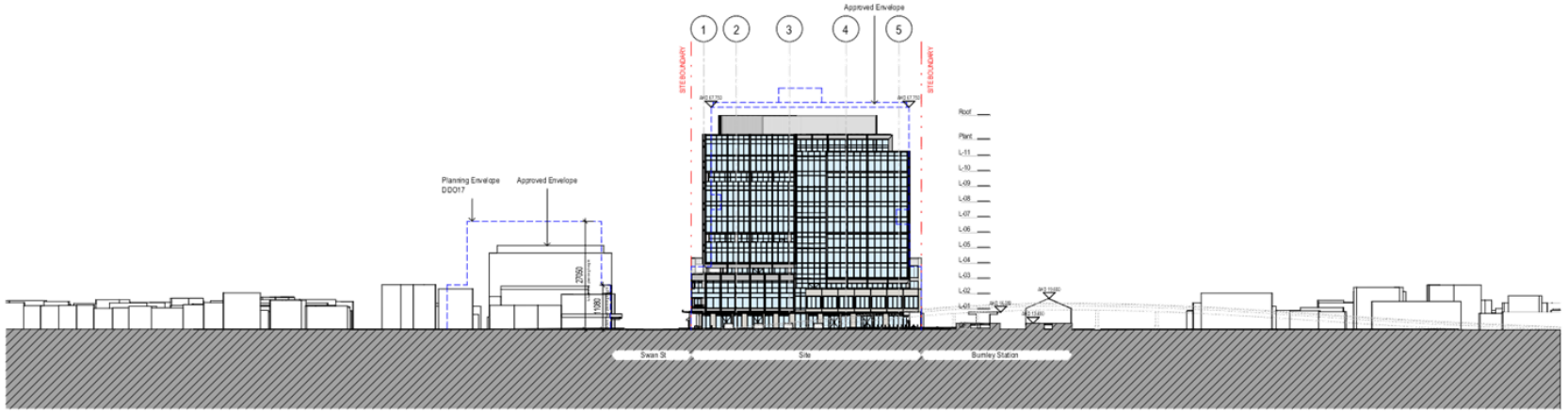
drawing: Context Elevation - North & East

drawing no.	issue
DA2001	C

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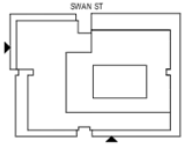
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issue	amendment	date
A	Issue for Town Planning Submission	18/12/2019
B	RFI Issue for Town Planning Submission	19/02/2020
C	RFI #2 Issue for Town Planning Submission	16/04/2020



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checked	RA	scale	1 : 500@A1
drawn	EMAR	project no.	190060

project: 480 Swan Street

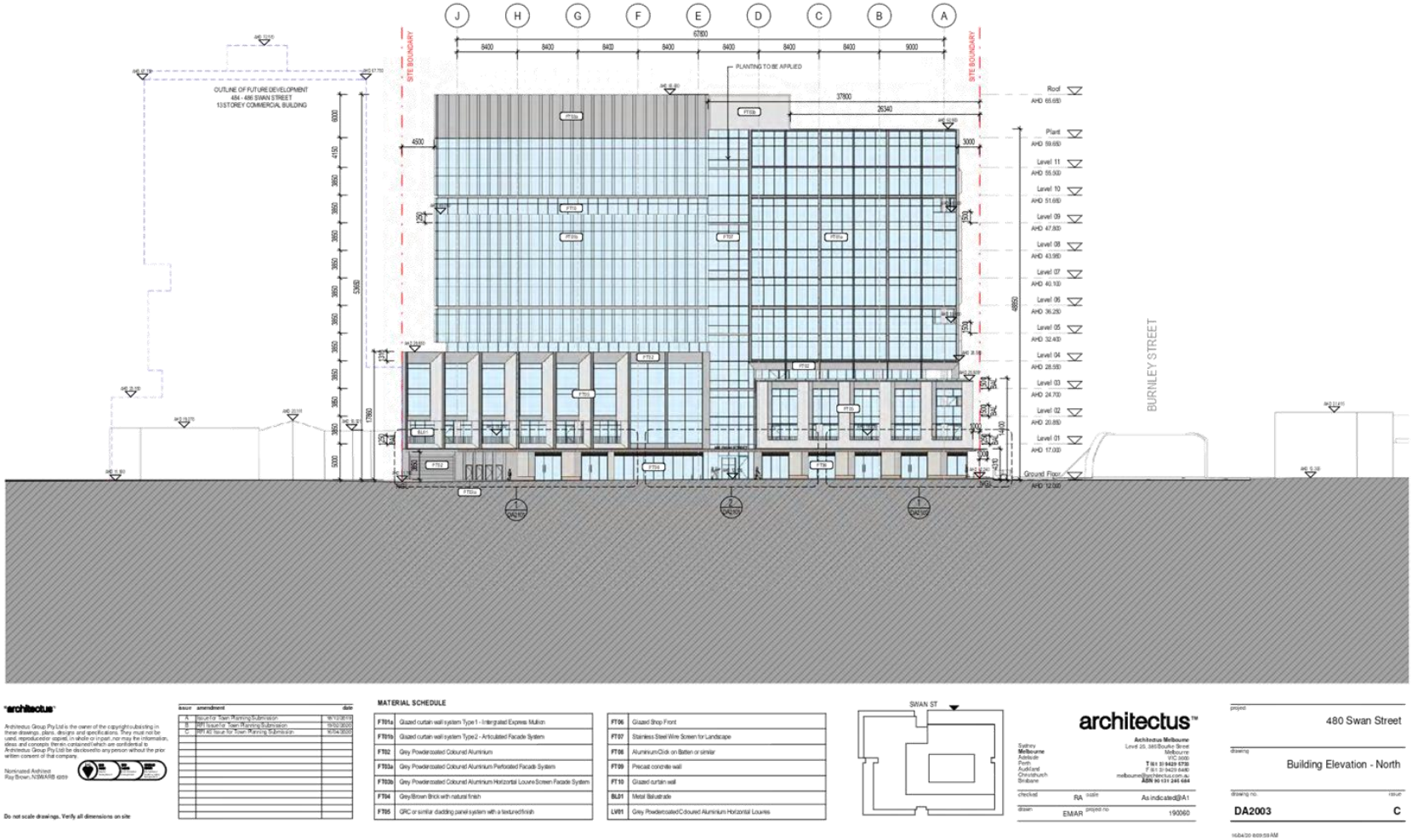
drawing: Context Elevation - South & West

drawing no.: DA2002

issue: C

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issue	amendment	date
A	Issue for Town Planning Submission	18/12/2019
B	RFI Issue for Town Planning Submission	19/02/2020
C	RFI #2 Issue for Town Planning Submission	16/04/2020

MATERIAL SCHEDULE

FT01a	Glazed curtain wall system Type 1 - Intergrated Express Mullion
FT01b	Glazed curtain wall system Type 2 - Articulated Facade System
FT02	Grey Powdercoated Coloured Aluminium
FT03a	Grey Powdercoated Coloured Aluminium Perforated Facade System
FT03b	Grey Powdercoated Coloured Aluminium Horizontal Louvre Screen Facade System
FT04	Grey/Brown Brick with natural finish
FT05	GRC or similar cladding panel system with a textured finish
FT06	Glazed Shop Front
FT07	Stainless Steel Wire Screen for Landscape
FT08	Aluminium Click on Batten or similar
FT09	Precast concrete wall
FT10	Glazed curtain wall
BL01	Metal Balustrade
LV01	Grey Powdercoated Coloured Aluminium Horizontal Louvres

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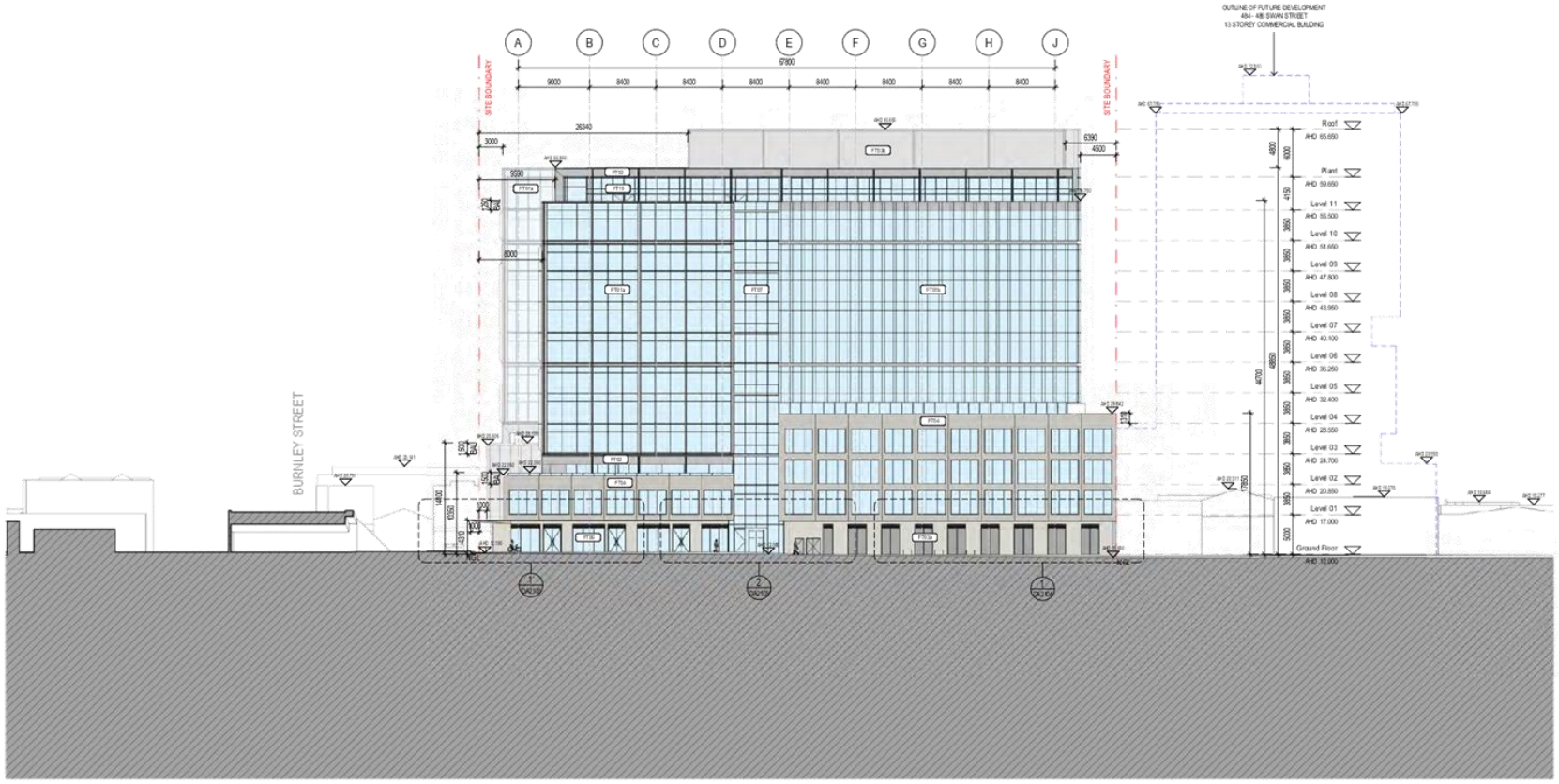
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checked RA scale As indicated@A1
drawn EMAR project no. 190060

project: 480 Swan Street
drawing: Building Elevation - North
drawing no. DA2003
issue C

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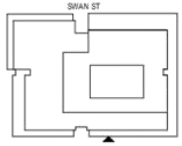
Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	Issue for Town Planning Submission	18/12/2019
B	RFI Issue for Town Planning Submission	19/02/2020
C	RFI 02 Issue for Town Planning Submission	16/04/2020

MATERIAL SCHEDULE

FT01a	Glazed curtain wall system Type 1 - Intergated Express Mullion
FT01b	Glazed curtain wall system Type 2 - Articulated Facade System
FT02	Grey Powdercoated Coloured Aluminium
FT03a	Grey Powdercoated Coloured Aluminium Perforated Facade System
FT03b	Grey Powdercoated Coloured Aluminium Horizontal Louvre Screen Facade System
FT04	Grey/Brown Brick with natural finish
FT05	GRC or similar cladding panel system with a textured finish
FT06	Glazed Shop Front
FT07	Stainless Steel Wire Screen for Landscape
FT08	Aluminium Click on Batten or similar
FT09	Precast concrete wall
FT10	Glazed curtain wall
BL01	Metal Balustrade
LV01	Grey Powdercoated Coloured Aluminium Horizontal Louvres



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checked RA scale As indicated@A1
drawn EMAR project no. 190060

project: 480 Swan Street

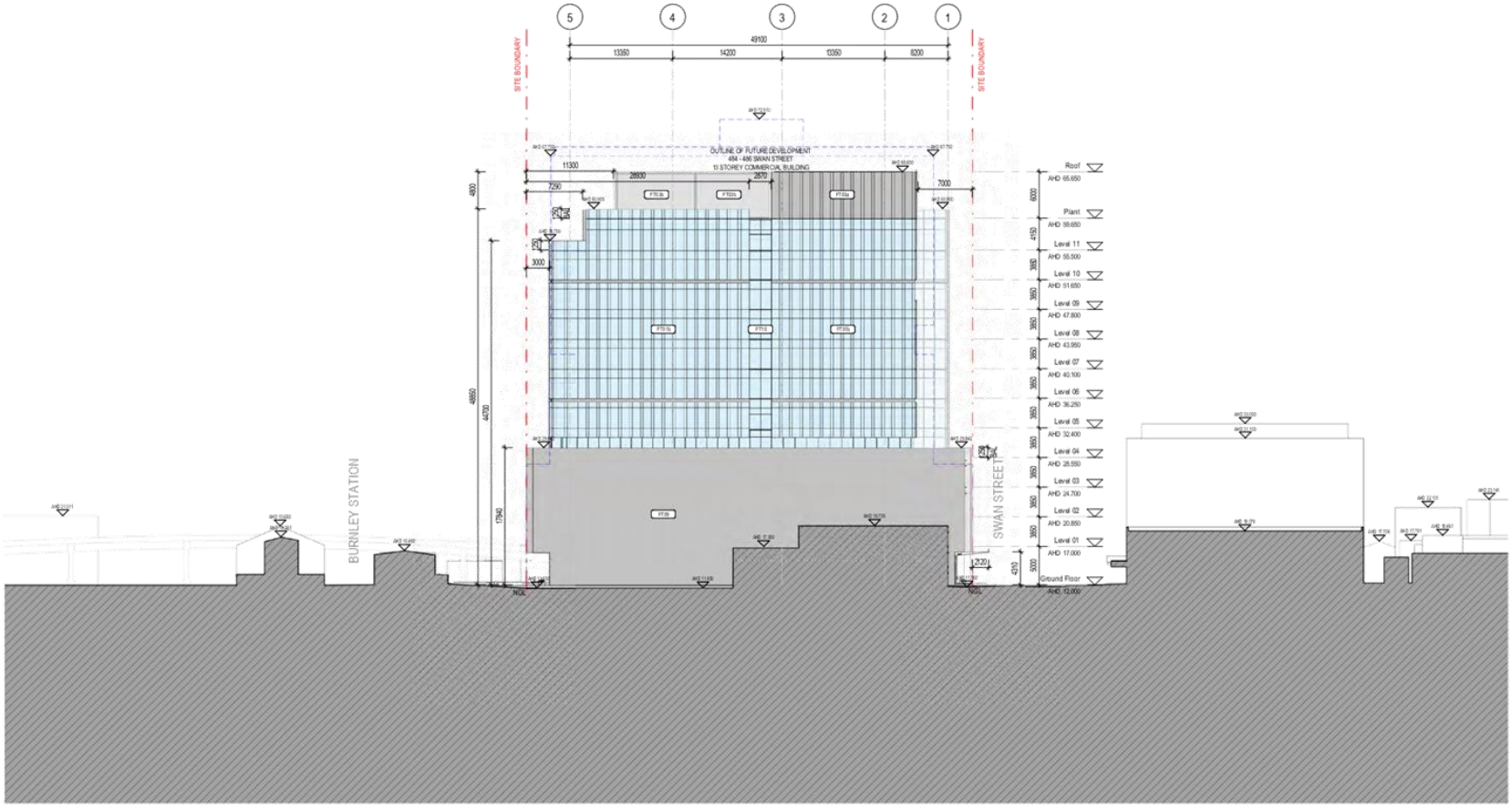
drawing: Building Elevation - South

drawing no. DA2004

issue C

16/04/20 8:10:16 AM

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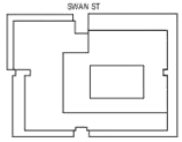
Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	Issue For Town Planning Submission	18/12/2019
B	RFI Issue for Town Planning Submission	19/02/2020
C	RFI #2 Issue for Town Planning Submission	16/04/2020

MATERIAL SCHEDULE

FT01a	Glazed curtain wall system Type 1 - Intergrated Express Mullion
FT01b	Glazed curtain wall system Type 2 - Articulated Facade System
FT02	Grey Powdercoated/Coloured Aluminium
FT03a	Grey Powdercoated/Coloured Aluminium Perforated Facade System
FT03b	Grey Powdercoated/Coloured Aluminium Horizontal Louvre Screen/Facade System
FT04	Grey/Brown Brick with natural finish
FT05	GRC or similar cladding panel system with a textured finish
FT06	Glazed Shop Front
FT07	Stainless Steel Wire Screen for Landscape
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BL01	Metal Balustrade
LV01	Grey Powdercoated/Coloured Aluminium Horizontal Louvres



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checked RA scales As indicated@A1
drawn EMAR project no 190060

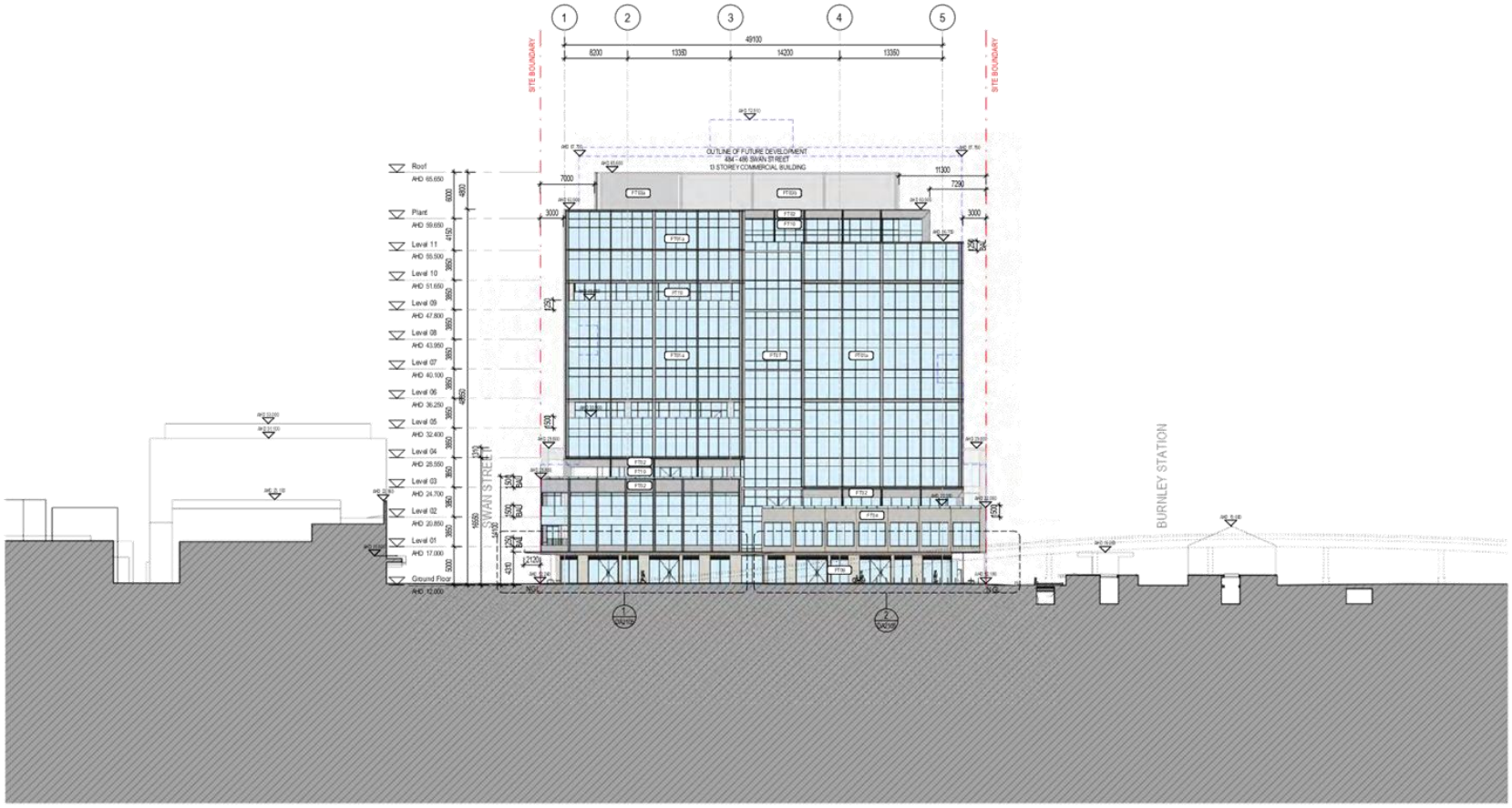
project: 480 Swan Street

drawing: Building Elevation - East

drawing no. DA2005 issue C

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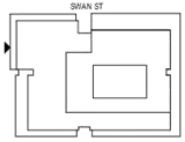
Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	Issue for Town Planning Submission	18/12/2019
B	RFI Issue for Town Planning Submission	19/02/2020
C	RFI #2 Issue for Town Planning Submission	16/04/2020

MATERIAL SCHEDULE

FT01a	Glazed curtain wall system Type 1 - Intergrated Express Mullion
FT01b	Glazed curtain wall system Type 2 - Articulated Facade System
FT02	Grey Powdercoated Coloured Aluminium
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checked RA scale As indicated@A1
drawn EMAR project no. 190060

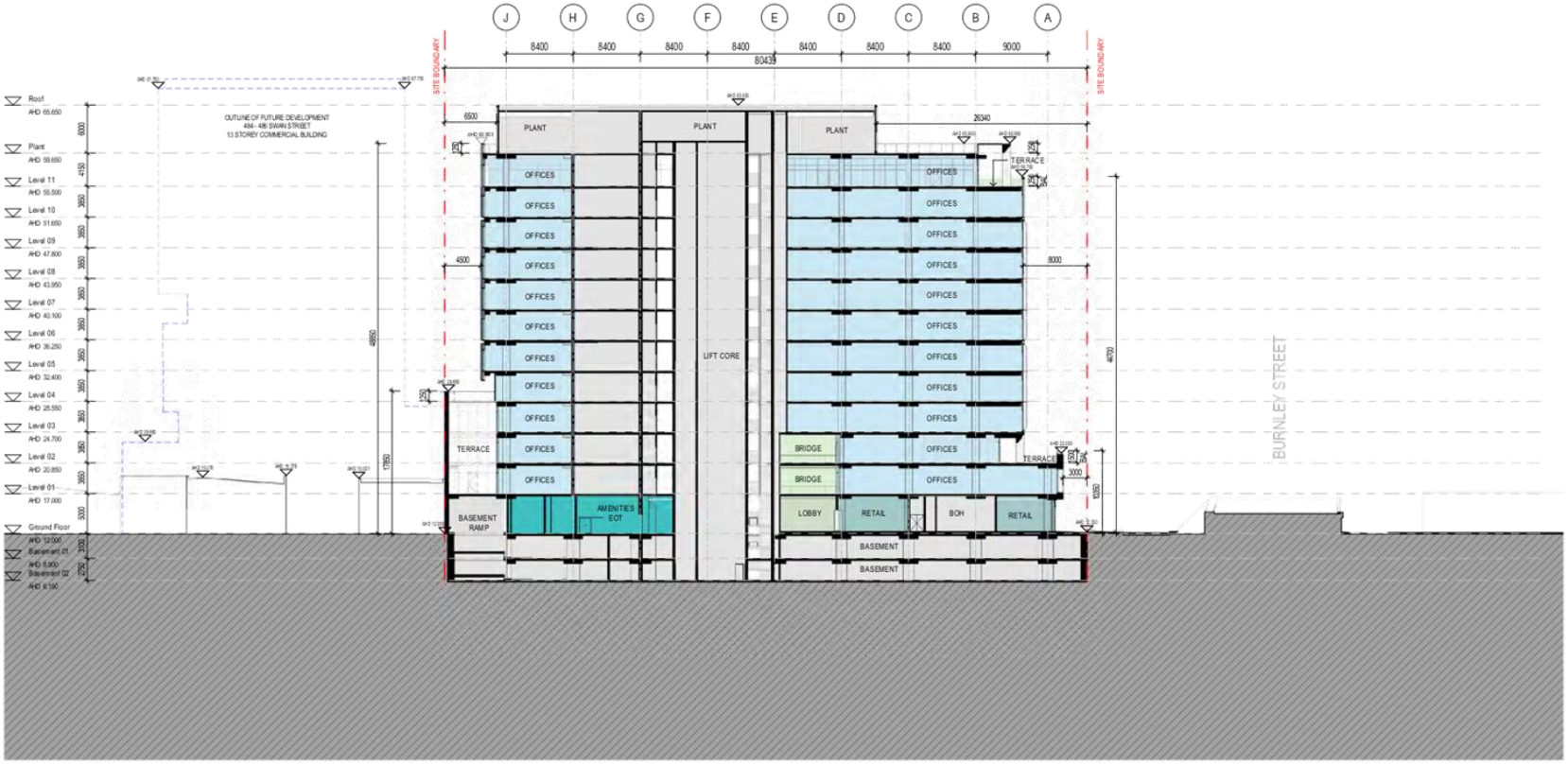
project: 480 Swan Street

drawing: Building Elevation - West

drawing no. DA2006 issue C

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Attachment 3 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 2



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Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	Issue for Town Planning Submission	16/12/2019
B	RFI Issue for Town Planning Submission	19/02/2020
C	RFI #2 Issue for Town Planning Submission	16/04/2020

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checked	RA	scale	1 : 250@A1
drawn	EM/AR	project no.	190060

project: 480 Swan Street

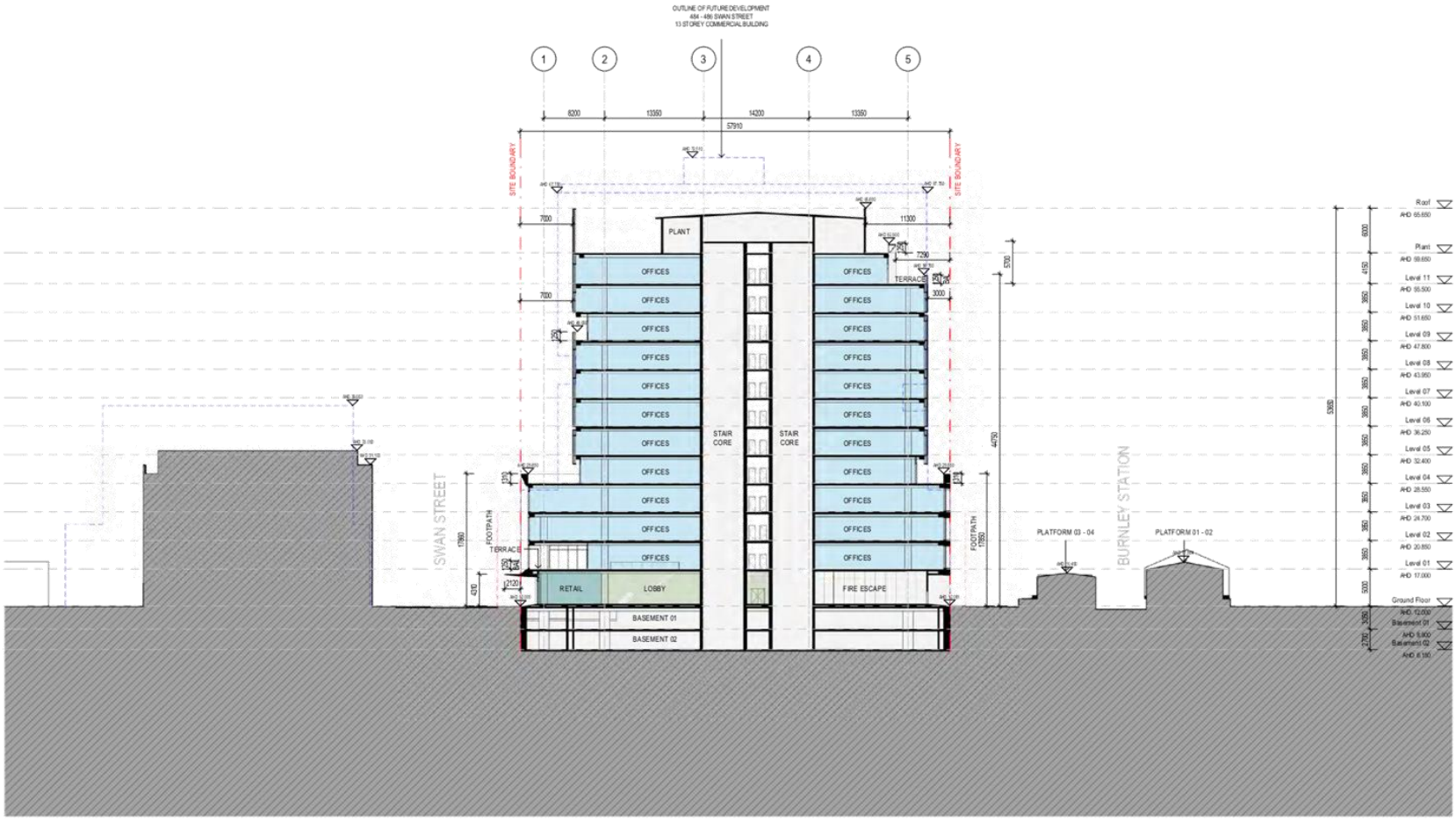
drawing: Section A-A

drawing no.: DA2010

issue: C

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issue	amendment	date
A	Issue for Town Planning Submission	18/12/2019
B	RFI Issue for Town Planning Submission	19/02/2020
C	RFI #2 Issue for Town Planning Submission	16/04/2020

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checked	RA	scale	1 : 250@A1
drawn	EMAR	project no.	190060

project: 480 Swan Street

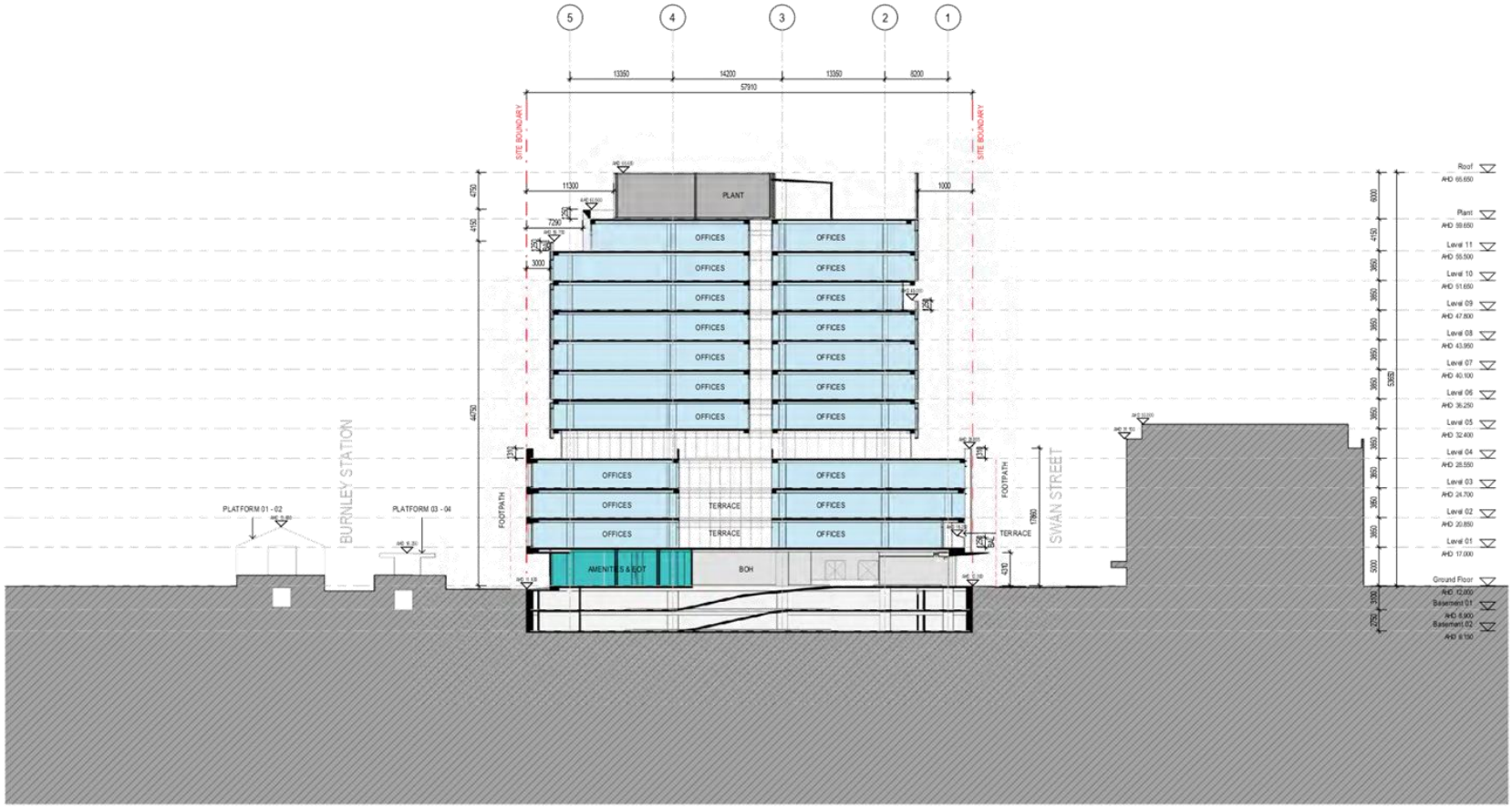
drawing: Section B-B

drawing no.: DA2011

issue: C

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issue	amendment	date
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B	RFI Issue for Town Planning Submission	19/02/2020
C	RFI #2 Issue for Town Planning Submission	16/04/2020

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drawn	EM/AR	project no.	190060

project: 480 Swan Street

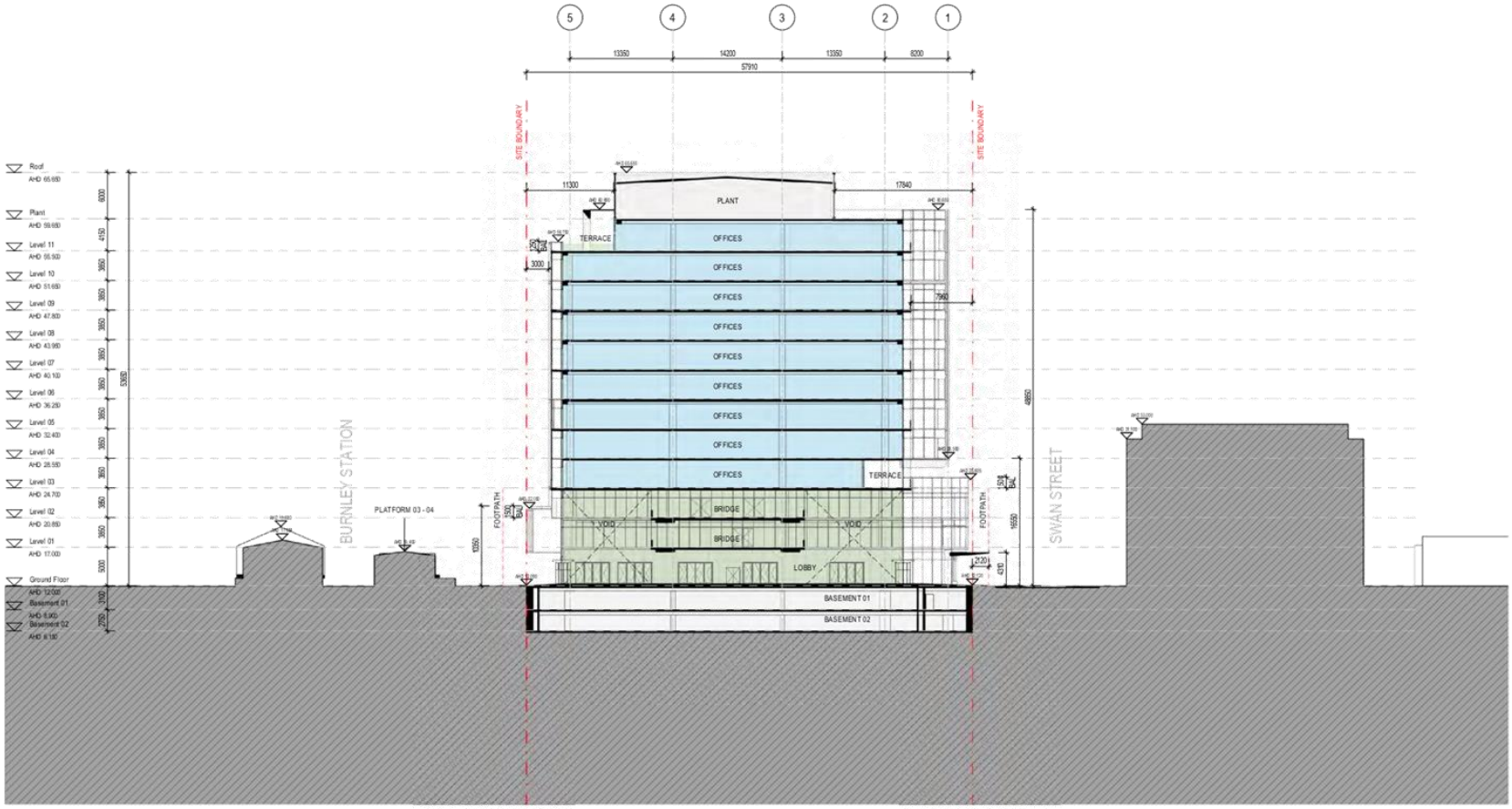
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drawing no.: DA2012

issue: C

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issue	amendment	date
A	Issue for Town Planning Submission	18/12/2019
B	RFI Issue for Town Planning Submission	19/02/2020
C	RFI #2 Issue for Town Planning Submission	16/04/2020

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checked	RA	scale	1 : 250@A1
drawn	EMAR	project no.	190060

project: 480 Swan Street

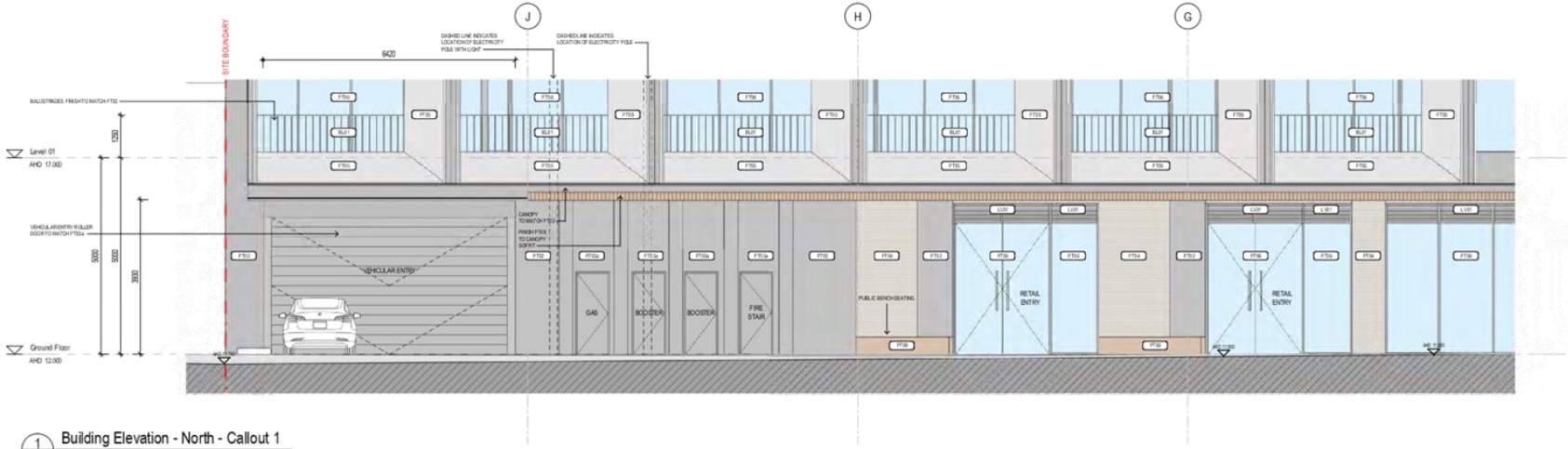
drawing: Section D-D

drawing no.: DA2013

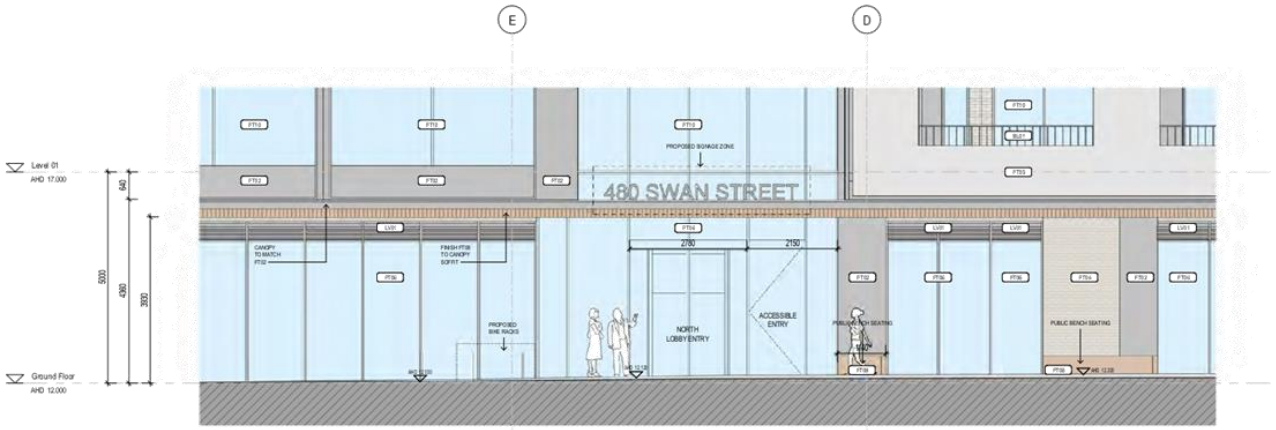
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Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2003 Building Elevation - North - Callout 1
SCALE: 1 : 50



2 DA2003 Building Elevation - North - Callout 2
SCALE: 1 : 50

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issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

MATERIAL SCHEDULE

FT01a	Glazed curtain wall system Type 1 - Intergrated Express Mullion
FT01b	Glazed curtain wall system Type 2 - Articulated Facade System
FT02	Grey Powdercoated Coloured Aluminium
FT03a	Grey Powdercoated Coloured Aluminium Perforated Facade System
FT03b	Grey Powdercoated Coloured Aluminium Horizontal Louvre Screen Facade System
FT04	Grey/Brown Brick with natural finish
FT05	GRC or similar cladding panel system with a textured finish
FT06	Glazed Shop Front
FT07	Stainless Steel Wire Screen for Landscape
FT08	Aluminium Click on Batten or similar
FT09	Precast concrete wall
FT10	Glazed curtain wall
BL01	Metal Balustrade
LV01	Grey Powdercoated Coloured Aluminium Horizontal Louvres

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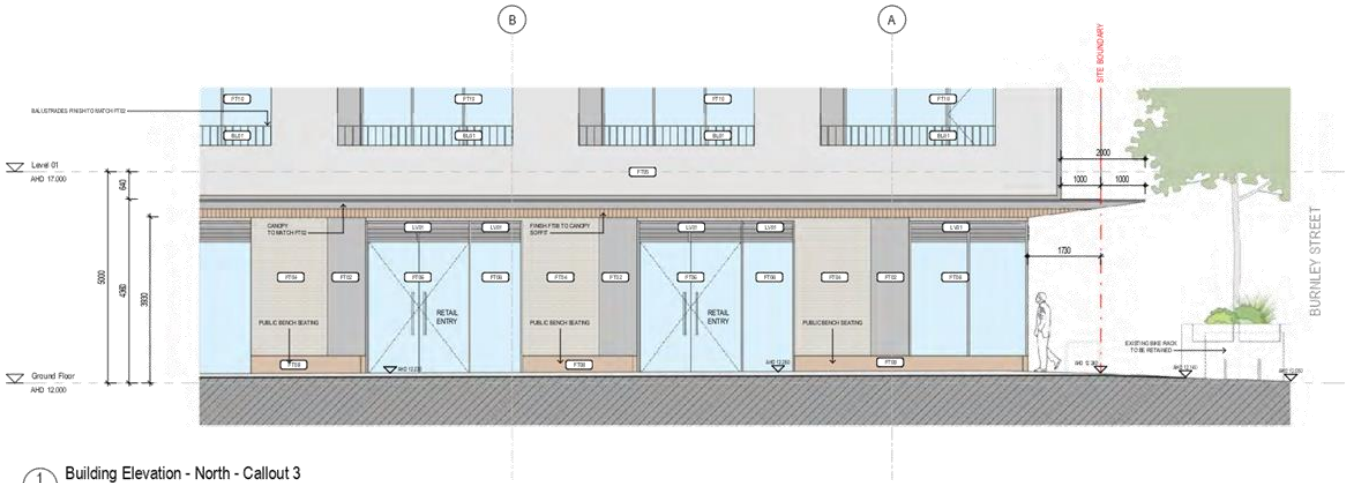
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drawn EMAR project no. 190060

project: 480 Swan Street
drawing: Ground Elevation - North - Sheet 1
drawing no. DA2101
issue B

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Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2003 Building Elevation - North - Callout 3
SCALE: 1 : 50

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issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

MATERIAL SCHEDULE

FT01a	Glazed curtain wall system Type 1 - Intergrated Express Mullion
FT01b	Glazed curtain wall system Type 2 - Articulated Facade System
FT02	Grey Powdercoated Coloured Aluminium
FT03a	Grey Powdercoated Coloured Aluminium Perforated Facade System
FT03b	Grey Powdercoated Coloured Aluminium Horizontal Louvre Screen Facade System
FT04	Grey/Brown Brick with natural finish
FT05	GRC or similar cladding panel system with a textured finish
FT06	Glazed Shop Front
FT07	Stainless Steel Wire Screen for Landscape
FT08	Aluminium Click on Batten or similar
FT09	Precast concrete wall
FT10	Glazed curtain wall
BL01	Metal Balustrade
LV01	Grey Powdercoated Coloured Aluminium Horizontal Louvres

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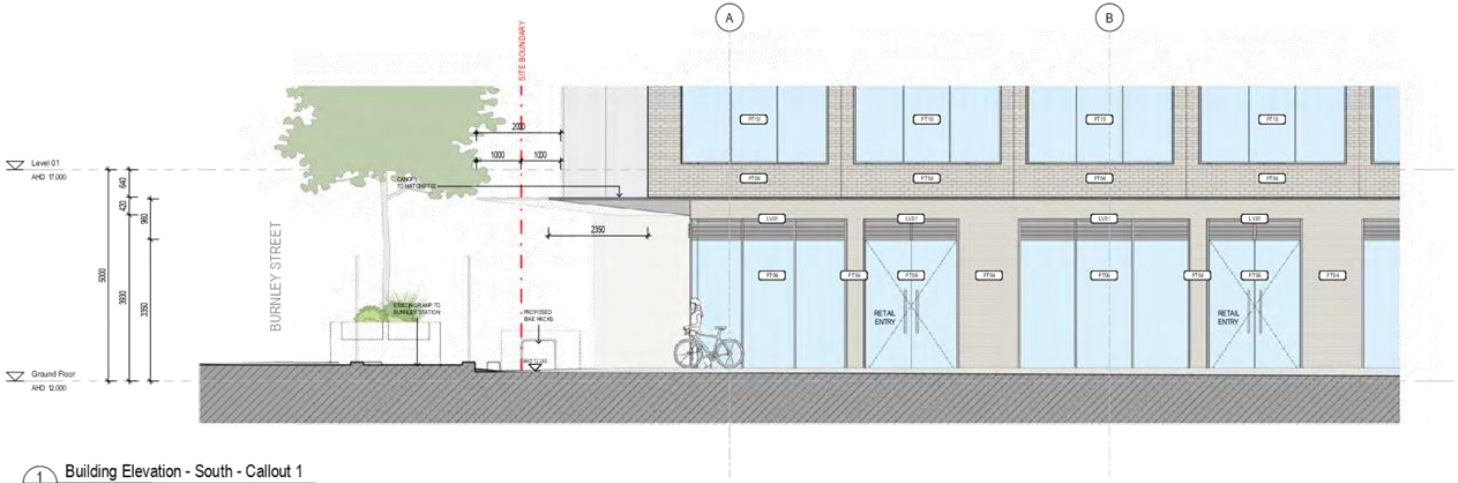
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drawn EMAR project no. 190060

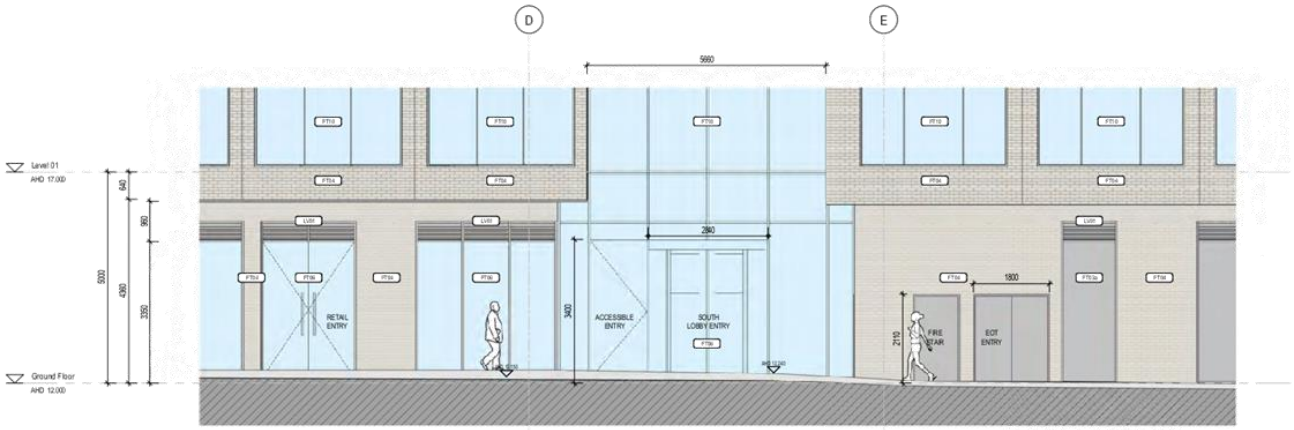
project: 480 Swan Street
drawing: Ground Elevation - North - Sheet 2
drawing no. DA2102
issue B

16/04/20 7:29:01 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2004 Building Elevation - South - Callout 1
SCALE: 1 : 50



2 DA2004 Building Elevation - South - Callout 2
SCALE: 1 : 50

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issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

MATERIAL SCHEDULE

FT01a	Glazed curtain wall system Type 1 - Intergated Express Mullion
FT01b	Glazed curtain wall system Type 2 - Articulated Facade System
FT02	Grey Powdercoated Coloured Aluminium
FT03a	Grey Powdercoated Coloured Aluminium Perforated Facade System
FT03b	Grey Powdercoated Coloured Aluminium Horizontal Louvre Screen Facade System
FT04	Grey/Brown Brick with natural finish
FT05	GRC or similar cladding panel system with a textured finish
FT06	Glazed Shop Front
FT07	Stainless Steel Wire Screen for Landscape
FT08	Aluminium Click on Batten or similar
FT09	Precast concrete wall
FT10	Glazed curtain wall
BL01	Metal Balustrade
LV01	Grey Powdercoated Coloured Aluminium Horizontal Louvres

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checked	Checker	scale	As indicated@A1
drawn	EMAR	project no.	190060

project: 480 Swan Street

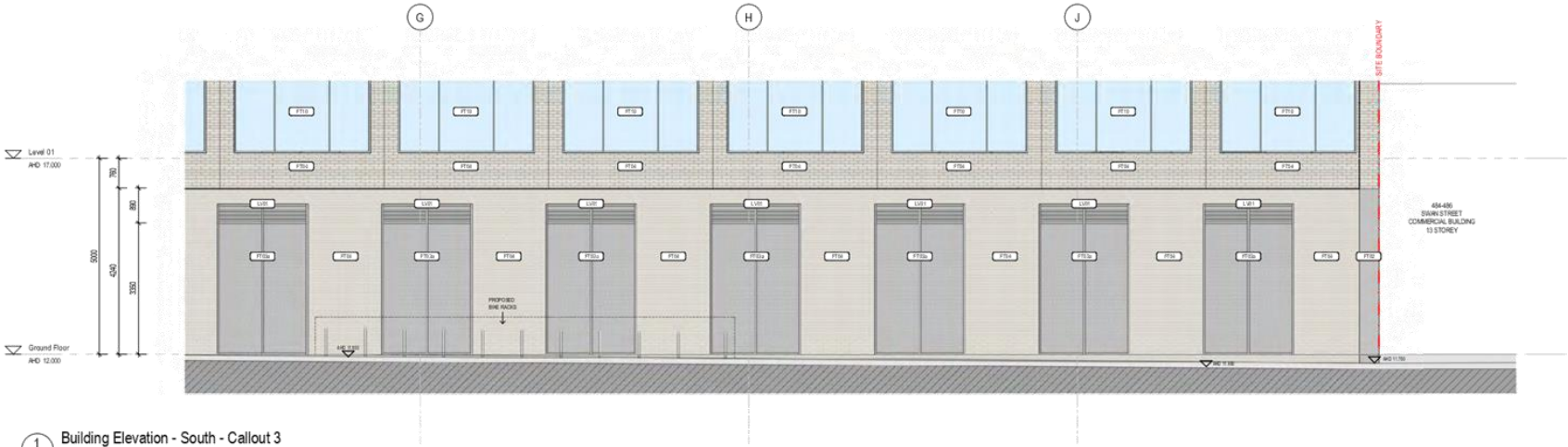
drawing: Ground Elevation - South - Sheet 1

drawing no.: DA2103

issue: B

16/04/20 7:29:29 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2004 Building Elevation - South - Callout 3
SCALE: 1:50

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issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

MATERIAL SCHEDULE

FT01a	Glazed curtain wall system Type 1 - Intergrated Express Mullion
FT01b	Glazed curtain wall system Type 2 - Articulated Facade System
FT02	Grey Powdercoated Coloured Aluminium
FT03a	Grey Powdercoated Coloured Aluminium Perforated Facade System
FT03b	Grey Powdercoated Coloured Aluminium Horizontal Louvre Screen Facade System
FT04	Grey/Brown Brick with natural finish
FT05	GRC or similar cladding panel system with a textured finish
FT06	Glazed Shop Front
FT07	Stainless Steel Wire Screen for Landscape
FT08	Aluminium Click on Batten or similar
FT09	Precast concrete wall
FT10	Glazed curtain wall
BL01	Metal Balustrade
LV01	Grey Powdercoated Coloured Aluminium Horizontal Louvres

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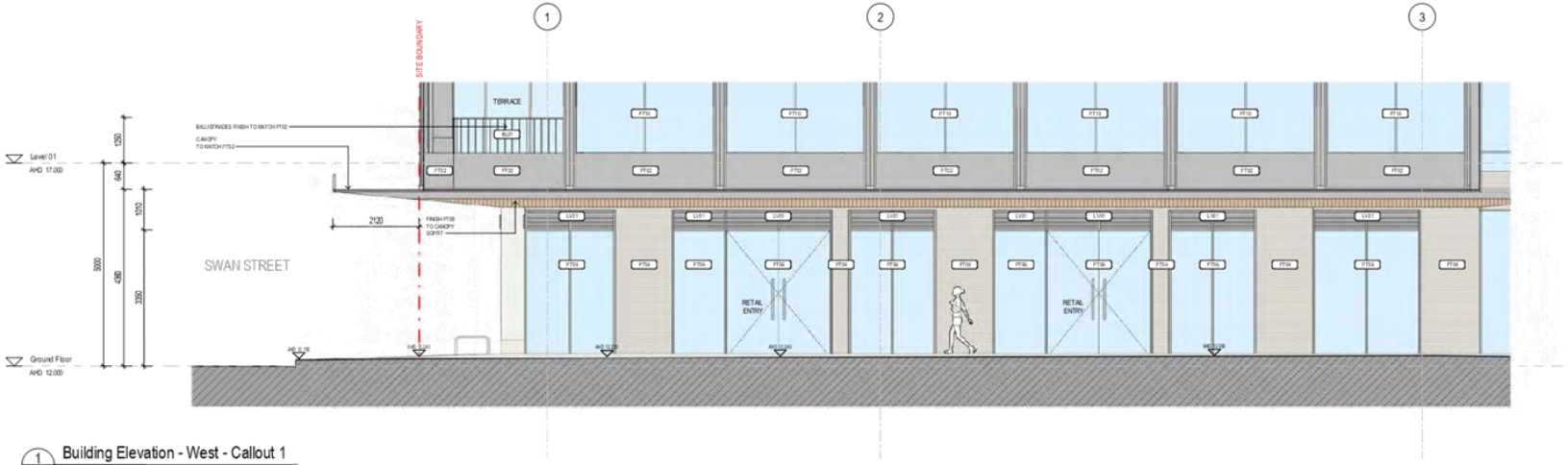
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drawn EMAR project no. 190060

project: 480 Swan Street
drawing: Ground Elevation - South - Sheet 2
drawing no. DA2104
issue B

16/04/20 7:29:34 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2006 Building Elevation - West - Callout 1
SCALE: 1 : 50



2 DA2006 Building Elevation - West - Callout 2
SCALE: 1 : 50

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issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

MATERIAL SCHEDULE

FT01a	Glazed curtain wall system Type 1 - Intergrated Express Mullion
FT01b	Glazed curtain wall system Type 2 - Articulated Facade System
FT02	Grey Powdercoated Coloured Aluminium
FT03a	Grey Powdercoated Coloured Aluminium Perforated Facade System
FT03b	Grey Powdercoated Coloured Aluminium Horizontal Louvre Screen Facade System
FT04	Grey/Brown Brick with natural finish
FT05	GRC or similar cladding panel system with a textured finish
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FT08	Aluminium Click on Batten or similar
FT09	Precast concrete wall
FT10	Glazed curtain wall
BL01	Metal Balustrade
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drawn	EMAR	project no.	190060

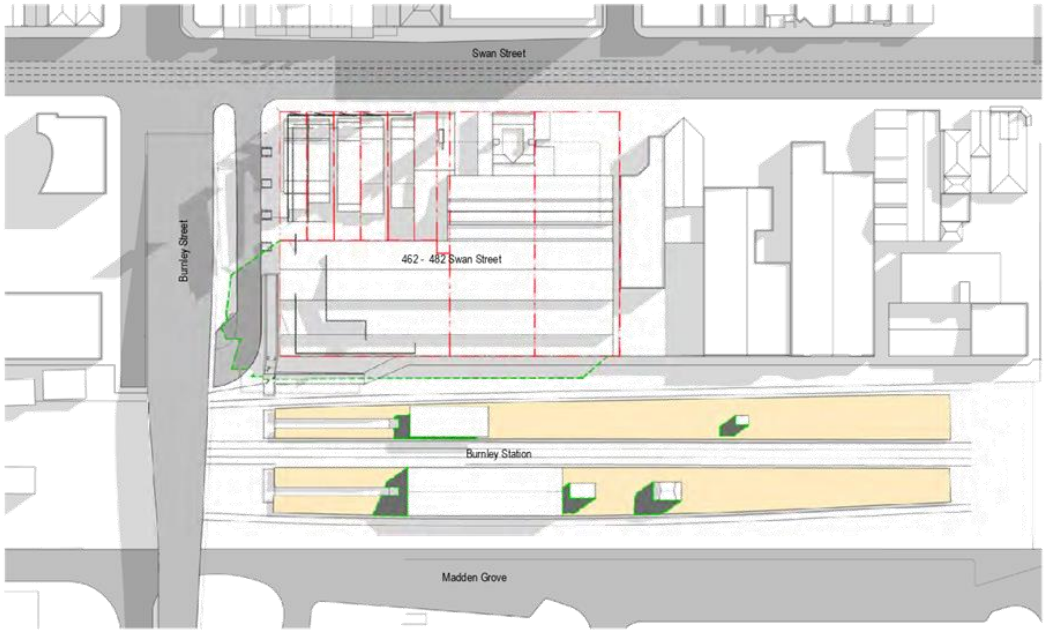
project: 480 Swan Street

drawing: Ground Elevation - West - Sheet 1

drawing no.	issue
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16/04/20 7:29:46 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Existing - 9am - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)
North	1,247	41	1,206
South	1,166	117	1,049
Both	2,413	158	2,255

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area

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issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn	Author	project no.	190060

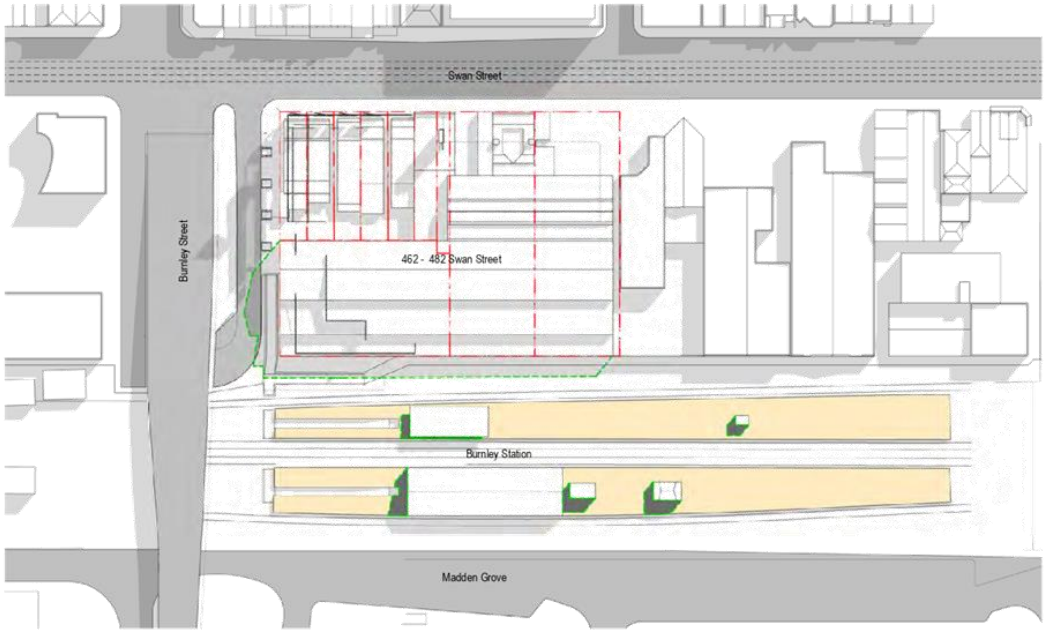
project: 480 Swan Street

drawing: Shadow Studies - Existing

drawing no.	issue
DA0101	A

16/04/20 7:09:37 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Existing - 10am - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)
North	1,247	31	1,216
South	1,166	88	1,078
Both	2,413	119	2,294

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area

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Nominated Architect
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Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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checked Checker scale 1:500@A1
drawn Author project no. 190060

project: 480 Swan Street

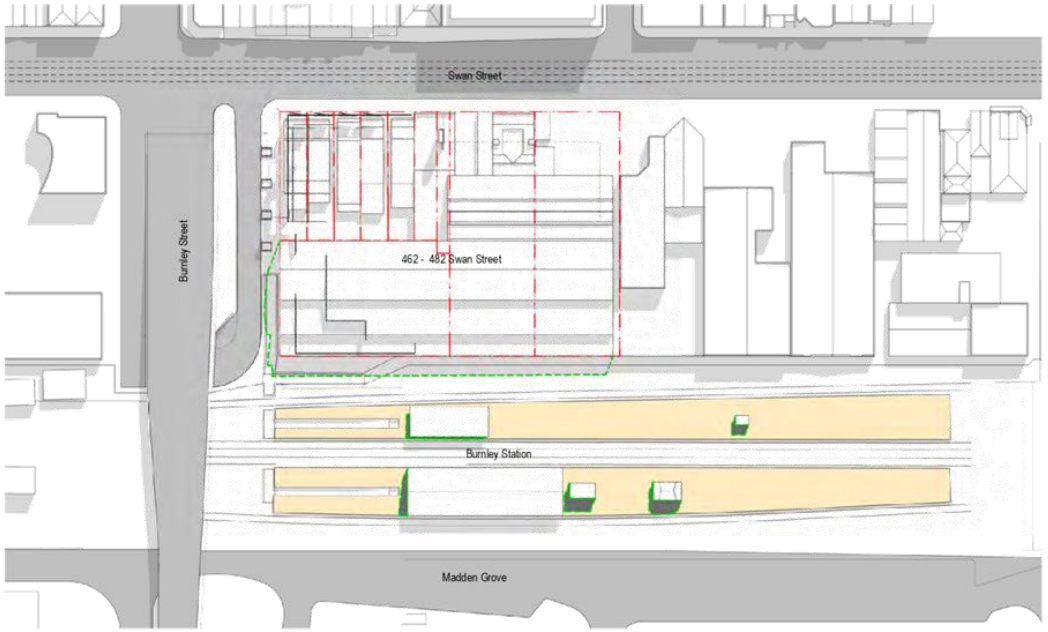
drawing: Shadow Studies - Existing

drawing no. DA0102

issue A

16/04/20 7:09:43 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Existing - 11am - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)
North	1,247	22	1,225
South	1,166	64	1,102
Both	2,413	86	2,327

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSW ARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn	Author	project no.	190060

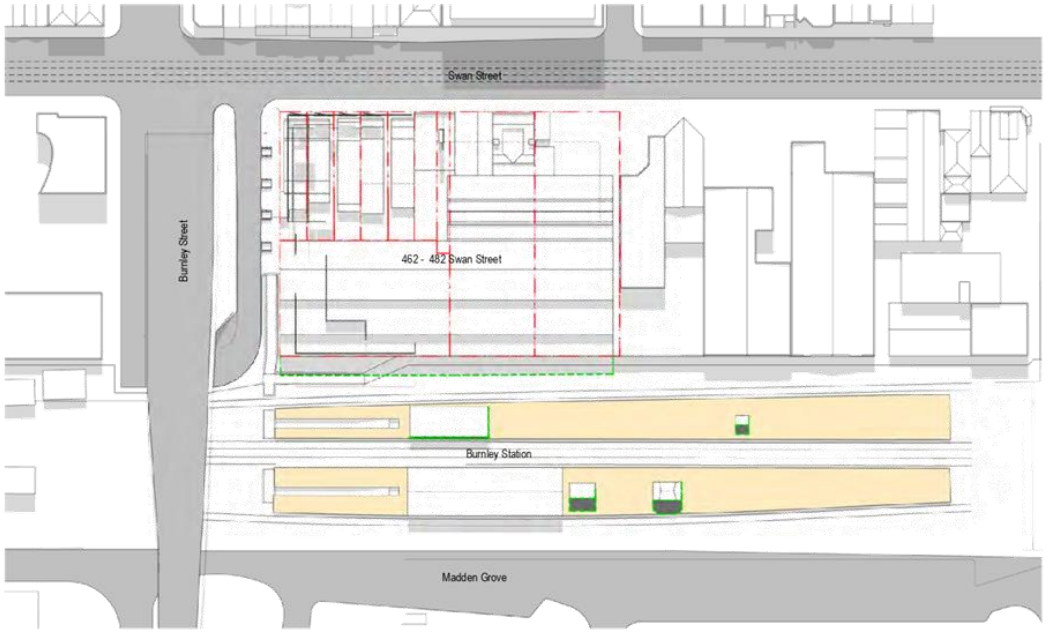
project: 480 Swan Street

drawing: Shadow Studies - Existing

drawing no.	issue
DA0103	A

16/04/20 7:09:52 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Existing - 12pm - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)
North	1,247	15	1,231
South	1,166	39	1,127
Both	2,413	54	2,358

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSW ARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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checked	Checker	scale	1 : 500@A1
drawn	Author	project no.	190060

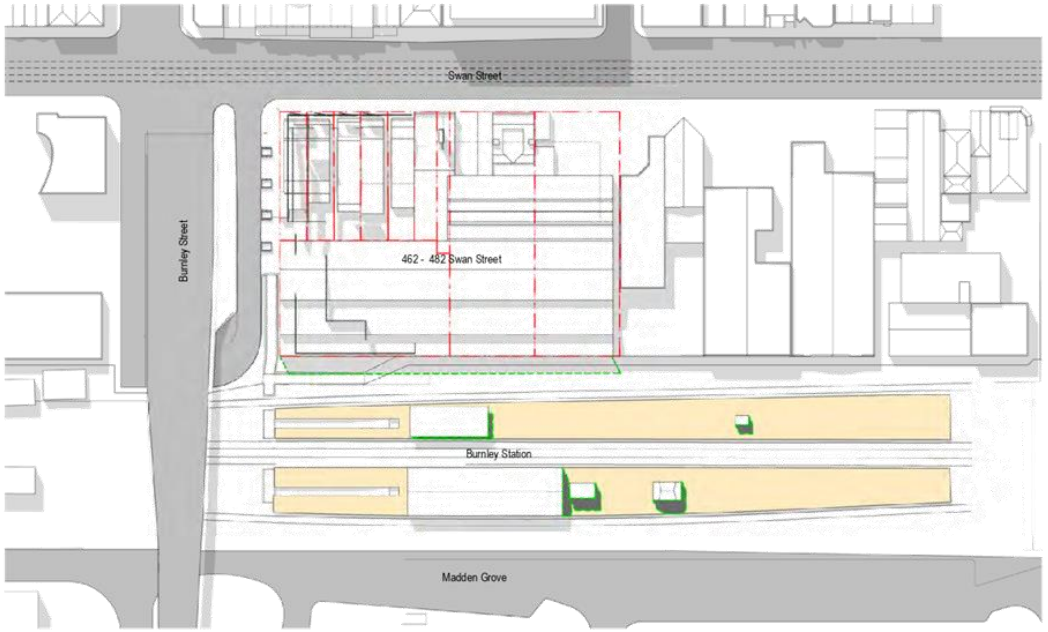
project: 480 Swan Street

drawing: Shadow Studies - Existing

drawing no.	issue
DA0104	A

16/04/20 7:10:00 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Existing - 1pm - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)
North	1,247	22	1,224
South	1,166	63	1,103
Both	2,413	86	2,327

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	RFI 40 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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checked Checker scale 1 : 500@A1

drawn Author project no. 190060

project: 480 Swan Street

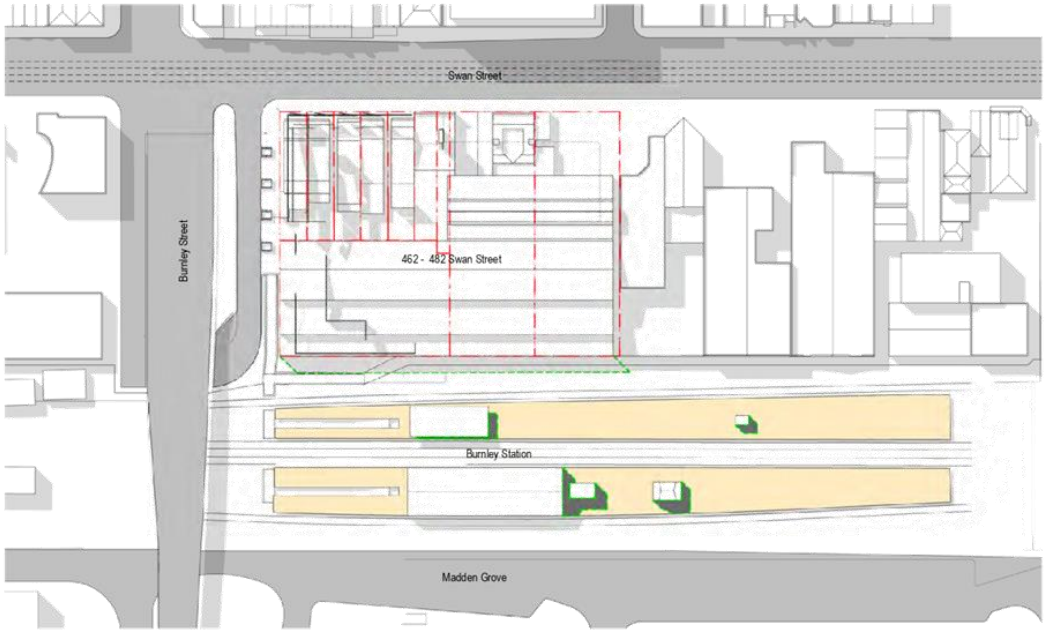
drawing: Shadow Studies - Existing

drawing no. DA0105

issue A

16/04/20 7:10:08 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Existing - 2pm - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)
North	1,247	30	1,216
South	1,166	81	1,085
Both	2,413	111	2,302

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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checked	Checker	scale	1 : 500@A1
drawn	Author	project no.	190060

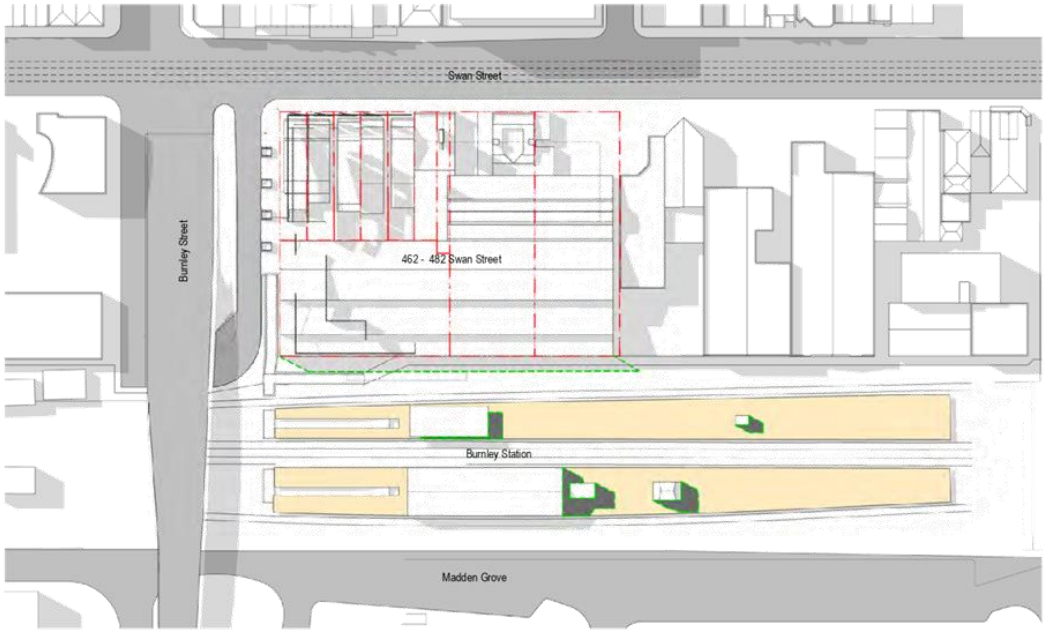
project: 480 Swan Street

drawing: Shadow Studies - Existing

drawing no.	issue
DA0106	A

16/04/20 7:10:16 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Existing - 3pm - 22 September

SCALE 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)
North	1,247	41	1,205
South	1,166	105	1,061
Both	2,413	146	2,267

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSW ARB 6359

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issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn Author project no. 190060

project: 480 Swan Street

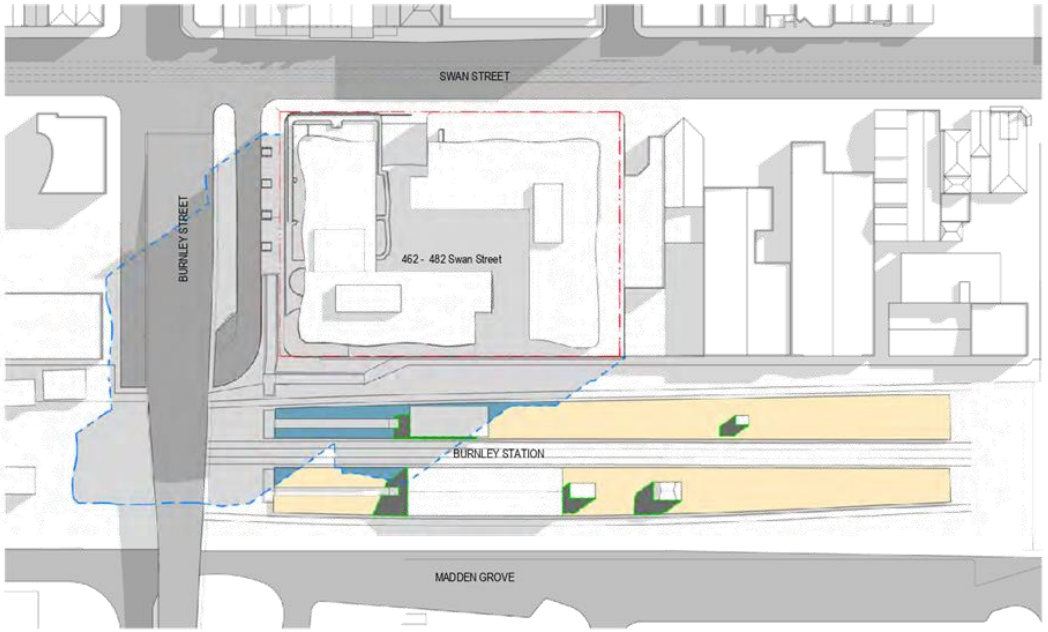
drawing: Shadow Studies - Existing

drawing no. DA0107

issue A

16/04/20 7:10:24 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Approved - 9am - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)
North	1,247	41	1,206	196	1,010
South	1,166	117	1,049	42	1,007
Both	2,413	158	2,255	238	2,017

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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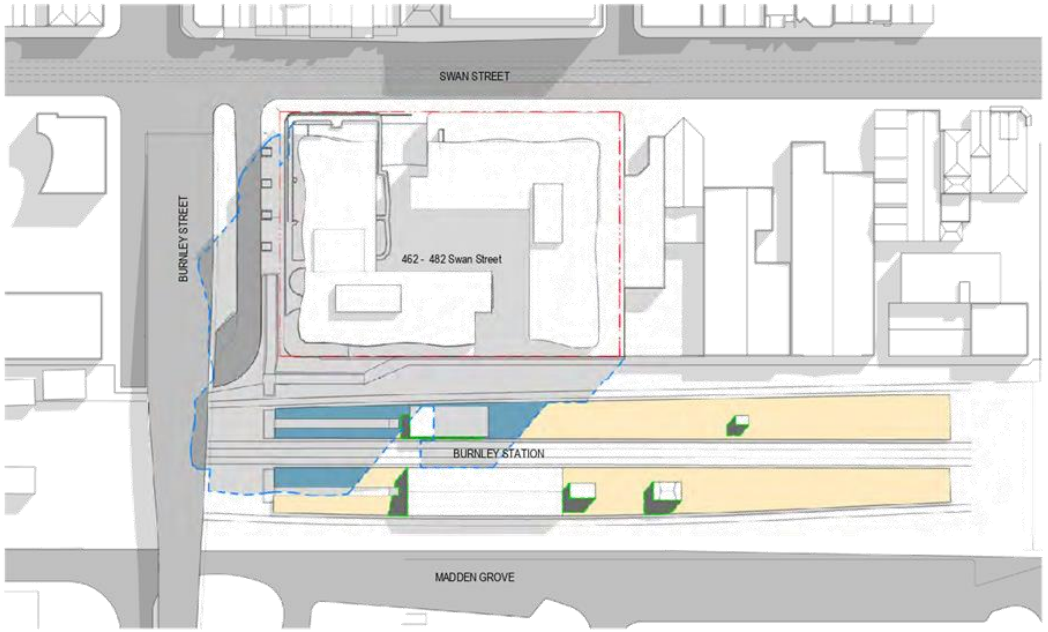
project: 480 Swan Street

drawing: Shadow Studies - Approved

drawing no. DA0108 issue B

16/04/20 7:10:33 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 SCALE: 1 : 500

Approved - 10am - 22 September

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)
North	1,247	31	1,216	270	946
South	1,166	88	1,078	97	981
Both	2,413	119	2,294	367	1,927

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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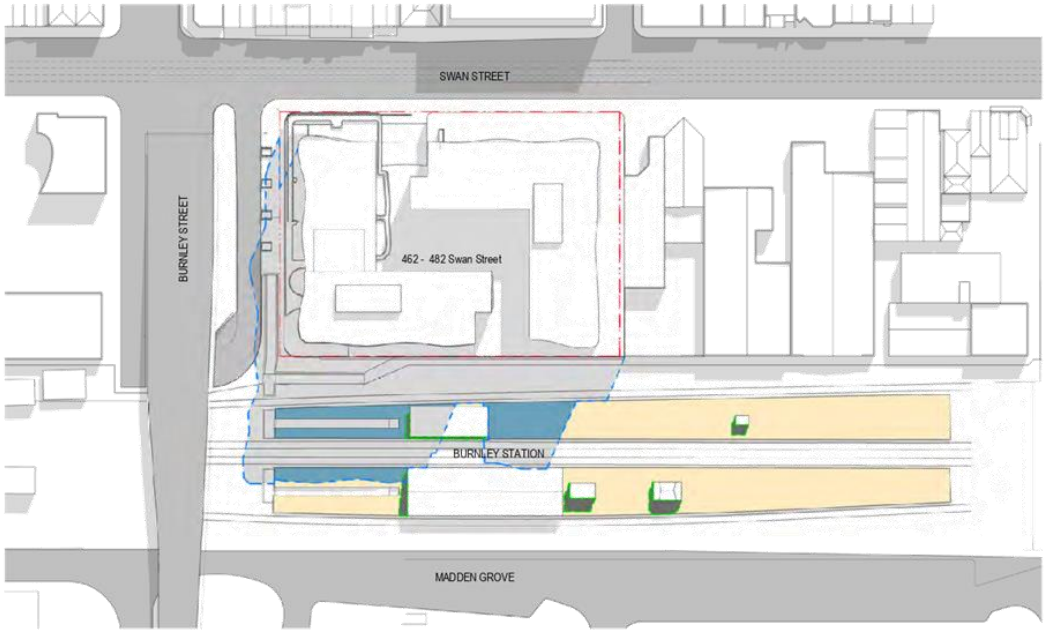
project: 480 Swan Street

drawing: Shadow Studies - Approved

drawing no. DA0109 issue B

16/04/20 7:10:42 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 SCALE: 1:500

Approved - 11am - 22 September

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)
North	1,247	22	1,225	343	881
South	1,166	64	1,102	101	1,001
Both	2,413	86	2,327	444	1,882

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSW ARB 6359

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issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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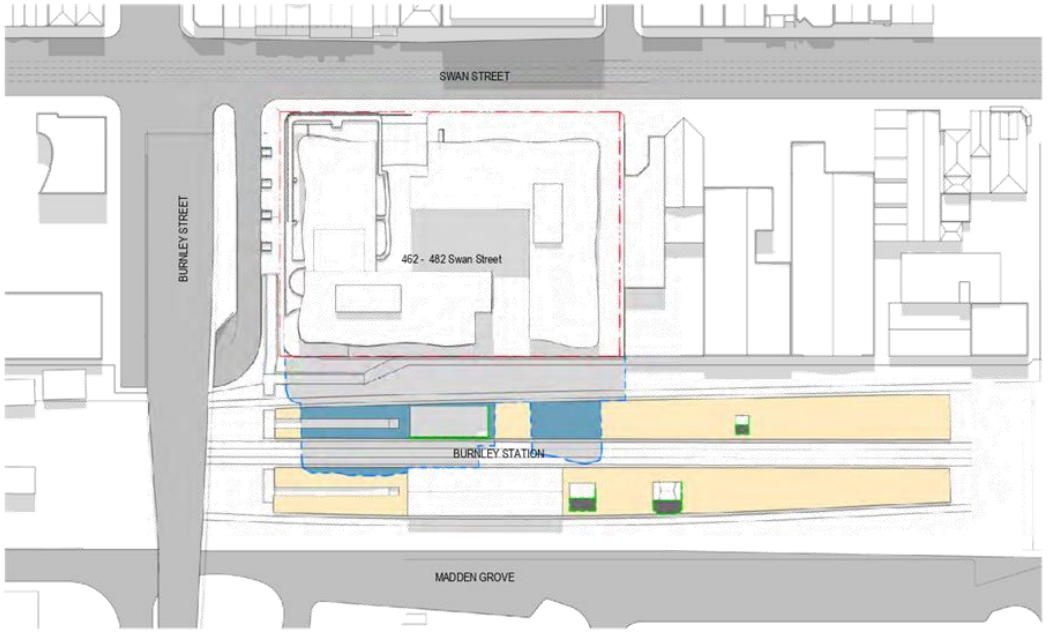
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checked RA scale 1 : 500@A1
drawn MB project no. 190060

project: 480 Swan Street
drawing: Shadow Studies - Approved
drawing no. DA0110
issue B

16/04/20 7:10:52 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 SCALE: 1:500

Approved - 12pm - 22 September

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)
North	1,247	15	1,231	319	912
South	1,166	39	1,127	38	1,089
Both	2,413	54	2,358	357	2,002

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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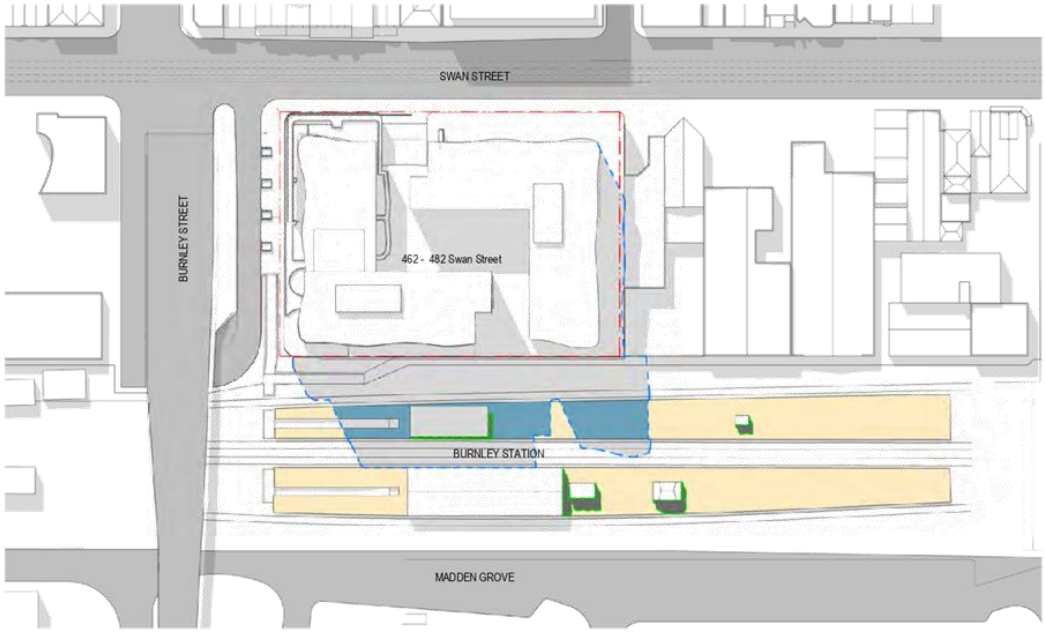
project: 480 Swan Street

drawing: Shadow Studies - Approved

drawing no. DA0111 issue B

16/04/20 7:11:01 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Approved - 1pm - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)
North	1,247	22	1,224	402	823
South	1,166	63	1,103	0	1,103
Both	2,413	86	2,327	402	1,925

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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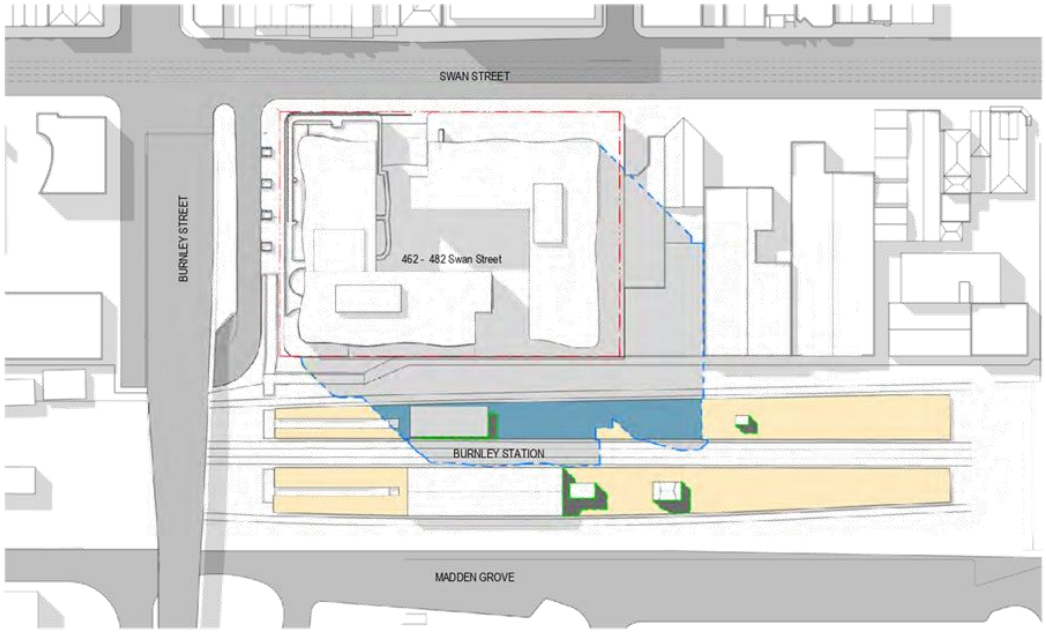
project: 480 Swan Street

drawing: Shadow Studies - Approved

drawing no. DA0112 issue B

16/04/20 7:11:11 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Approved - 2pm - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)
North	1,247	30	1,216	472	744
South	1,166	81	1,085	0	1,085
Both	2,413	111	2,302	472	1,830

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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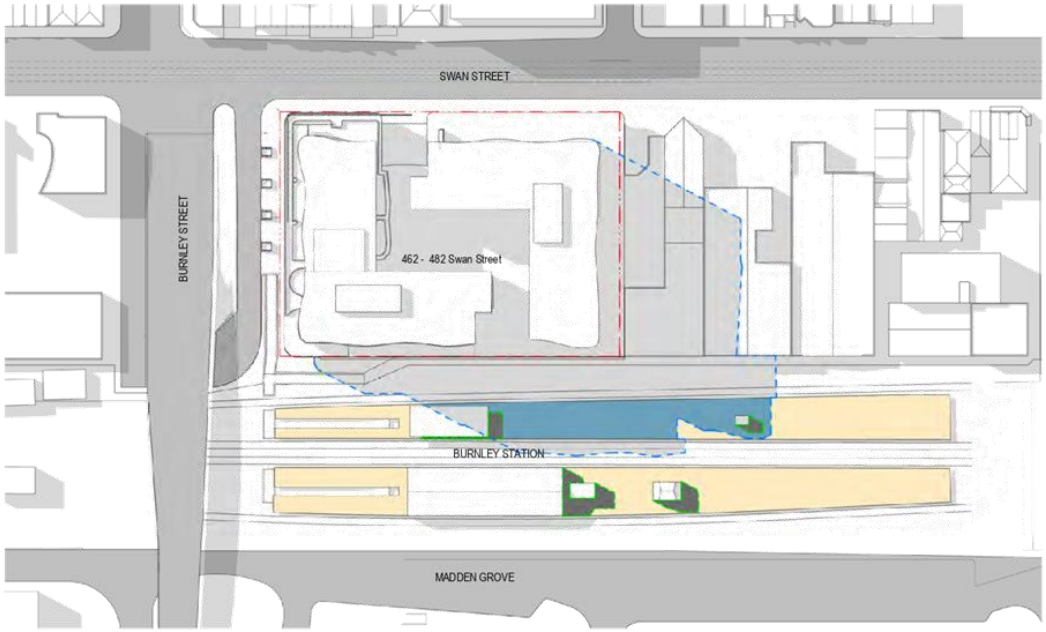
project: 480 Swan Street

drawing: Shadow Studies - Approved

drawing no. DA0113 issue B

16/04/20 7:11:20 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Approved - 3pm - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)
North	1,247	41	1,205	548	658
South	1,166	105	1,061	0	1,061
Both	2,413	146	2,267	548	1,719

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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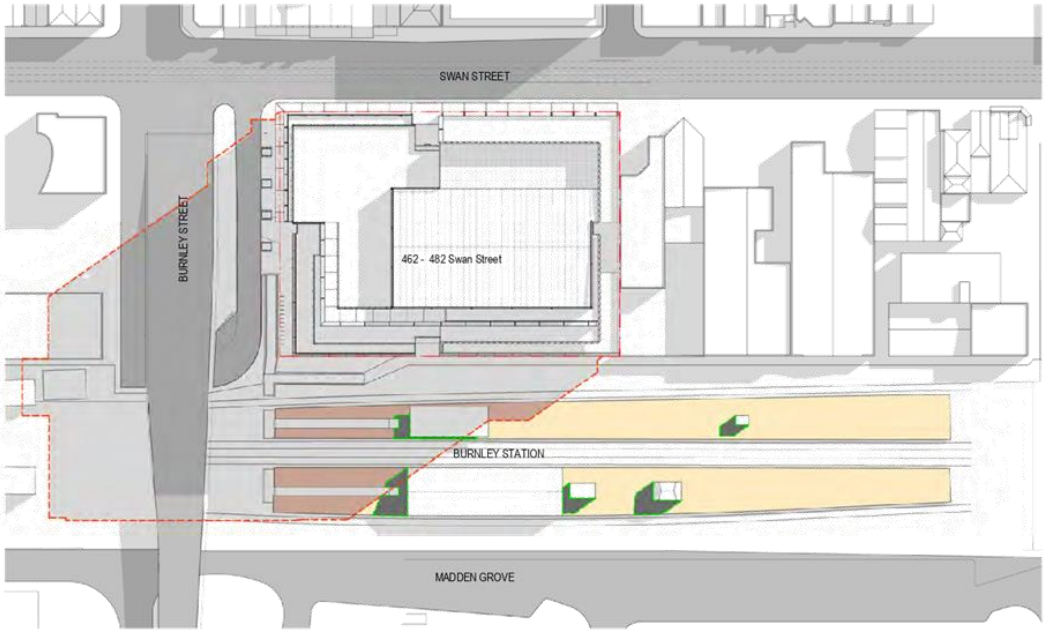
project: 480 Swan Street

drawing: Shadow Studies - Approved

drawing no. DA0114 issue B

16/04/20 7:11:30 AM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Existing and Proposed - 9am - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)
North	1,247	41	1,206	226	980
South	1,166	117	1,049	231	818
Both	2,413	158	2,255	457	1,798

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn MB project no. 190060

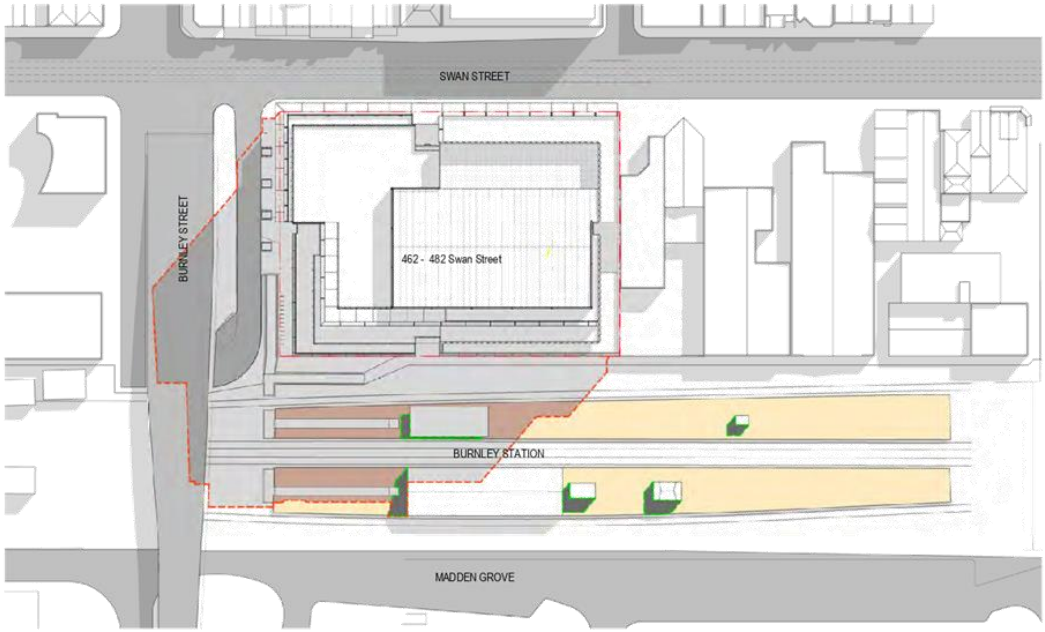
project: 480 Swan Street

drawing: Shadow Studies - Existing and Proposed

drawing no. DA0115 issue B

17/04/20 12:02:52 PM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Proposed and Approved - 10am - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)
North	1,247	31	1,216	298	918
South	1,166	88	1,078	180	898
Both	2,413	119	2,294	478	1,816

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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checked RA scale 1:500@A1
drawn MB project no. 190060

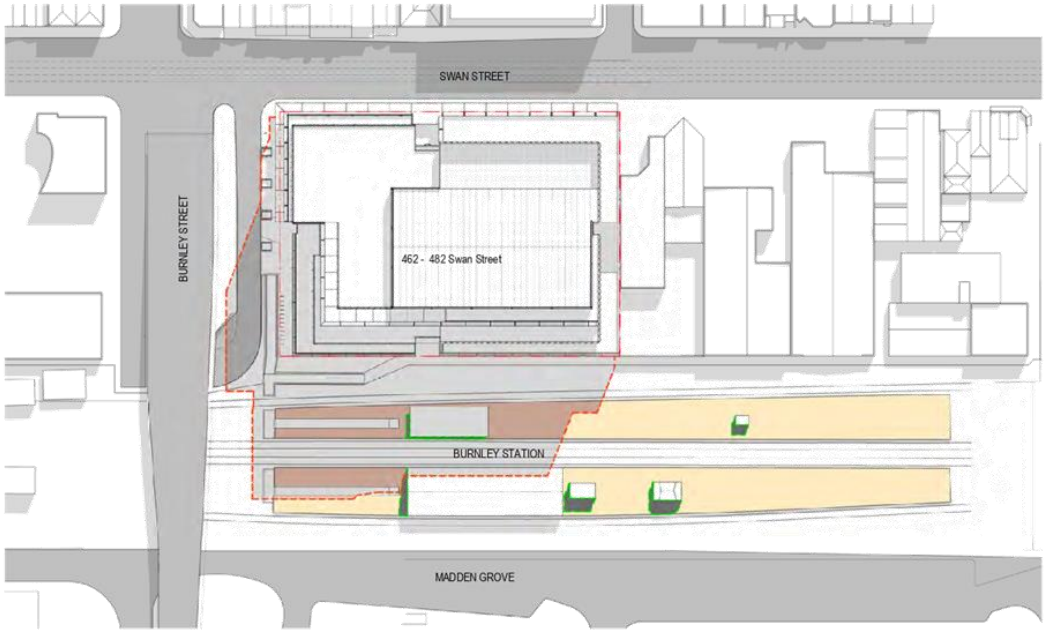
project: 480 Swan Street

drawing: Shadow Studies - Existing and Proposed

drawing no. DA0116 issue B

17/04/20 12:03:11 PM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Proposed and Approved - 11am - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)
North	1,247	22	1,225	369	855
South	1,166	64	1,102	160	942
Both	2,413	86	2,327	530	1,797

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend
- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn MB project no. 190060

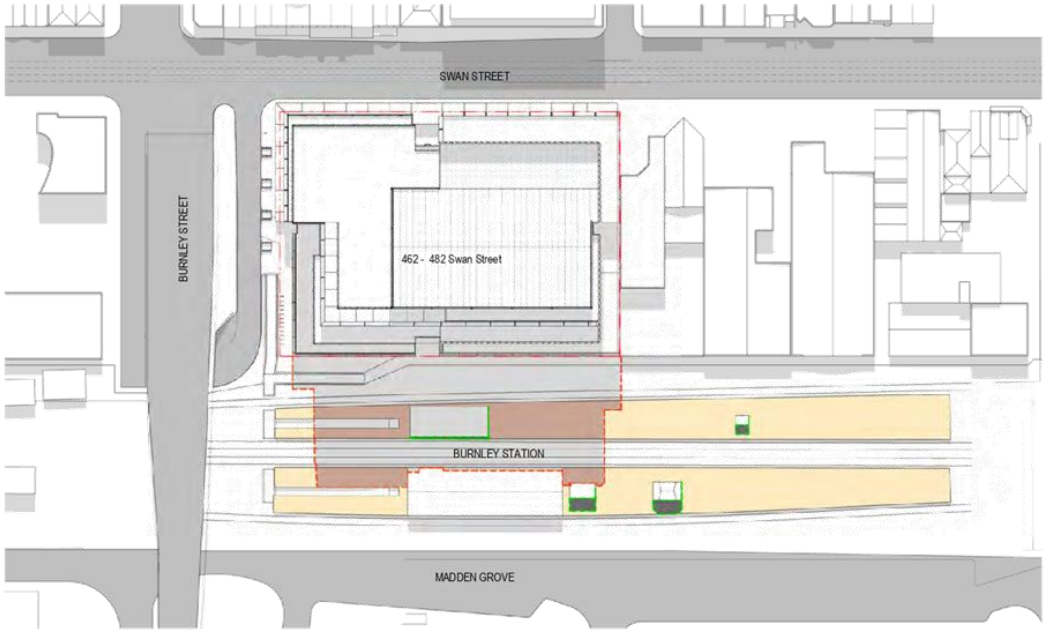
project: 480 Swan Street

drawing: Shadow Studies - Existing and Proposed

drawing no. DA0117 issue B

17/04/20 12:03:29 PM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Proposed and Approved - 12pm - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)
North	1,247	15	1,231	394	837
South	1,166	39	1,127	139	988
Both	2,413	54	2,358	534	1,825

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn MB project no. 190060

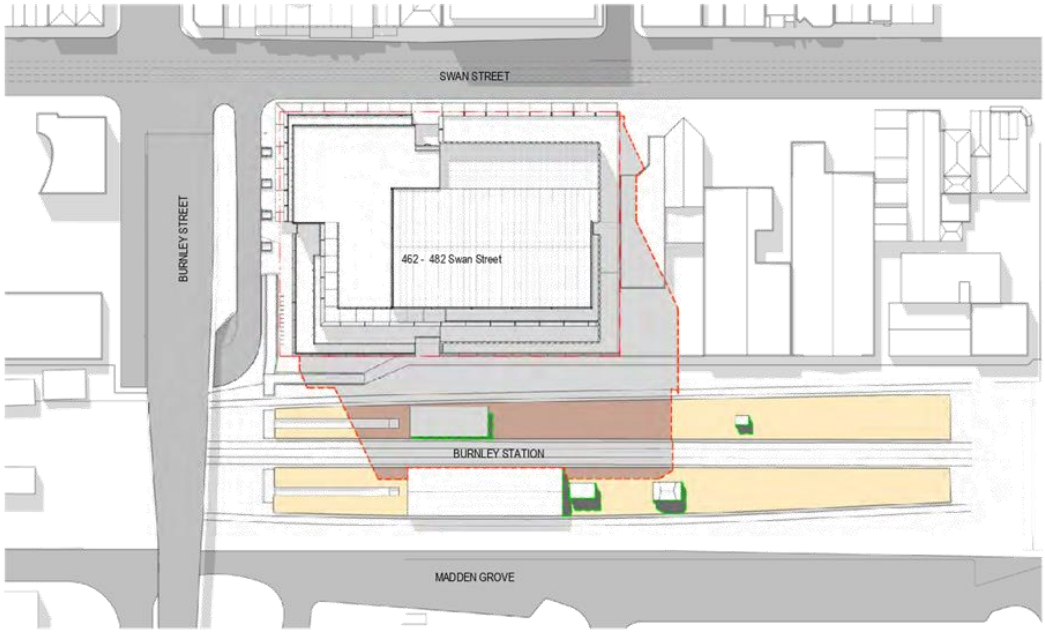
project: 480 Swan Street

drawing: Shadow Studies - Existing and Proposed

drawing no. DA0118 issue B

17/04/20 12:03:47 PM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Proposed and Approved - 1pm - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)
North	1,247	22	1,224	480	744
South	1,166	63	1,103	86	1,016
Both	2,413	86	2,327	567	1,760

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn MB project no. 190060

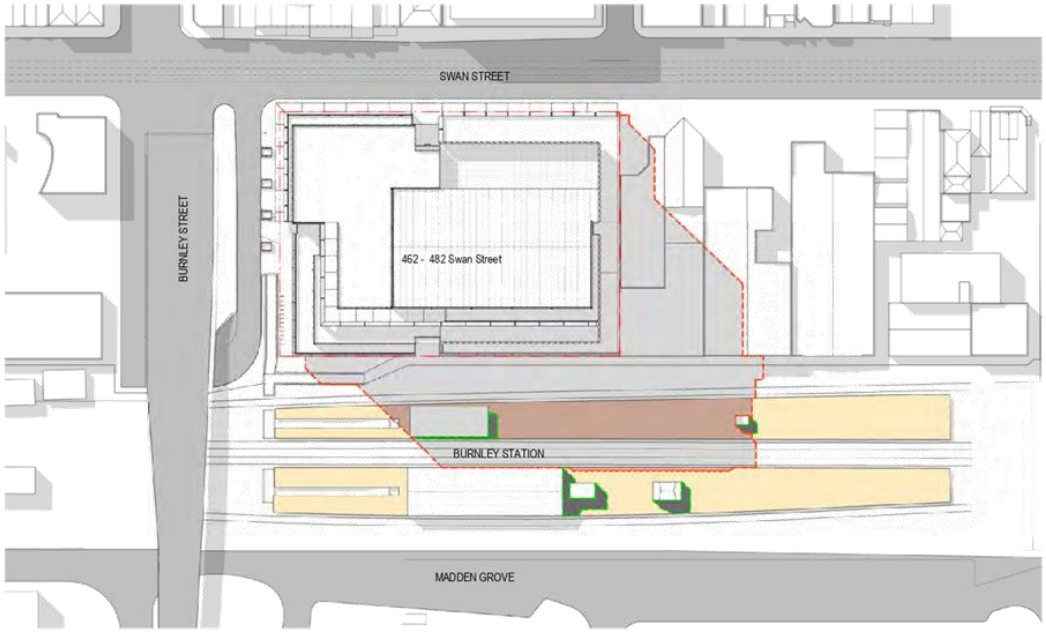
project: 480 Swan Street

drawing: Shadow Studies - Existing and Proposed

drawing no. DA0119 issue B

17/04/20 12:04:05 PM

Attachment 4 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 3



1 DA2001 Proposed and Approved - 2pm - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)
North	1,247	30	1,216	585	631
South	1,166	81	1,085	29	1,056
Both	2,413	111	2,302	615	1,687

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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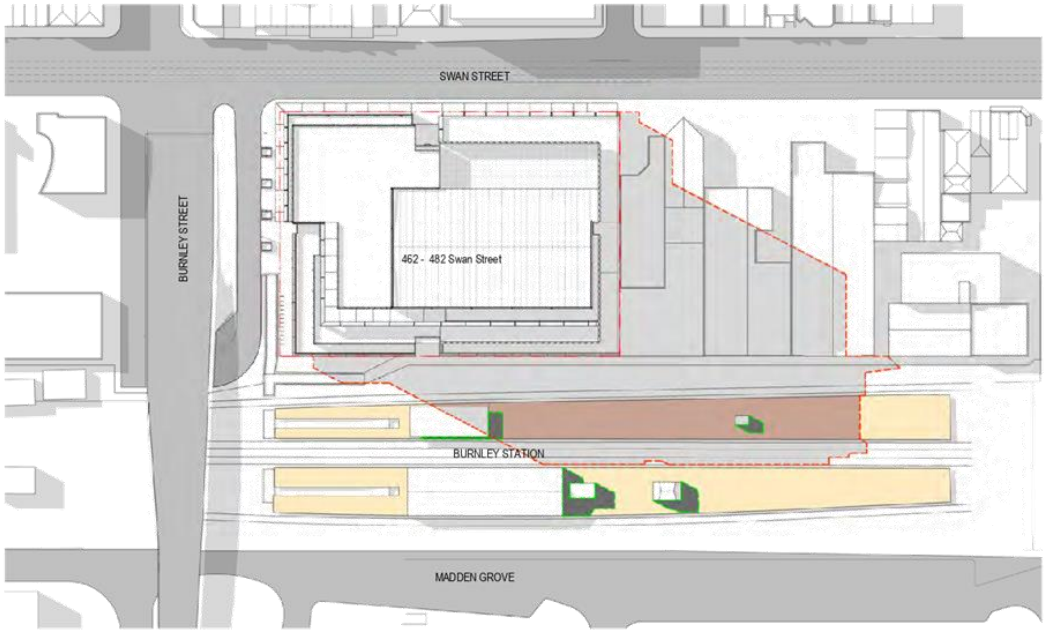
project: 480 Swan Street

drawing: Shadow Studies - Existing and Proposed

drawing no. DA0120 issue B

17/04/20 12:04:24 PM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Proposed and Approved - 3pm - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)
North	1,247	41	1,205	800	406
South	1,166	105	1,061	0	1,061
Both	2,413	146	2,267	800	1,467

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI Issue for Town Planning Submission	19/02/2020
B	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn MB project no. 190060

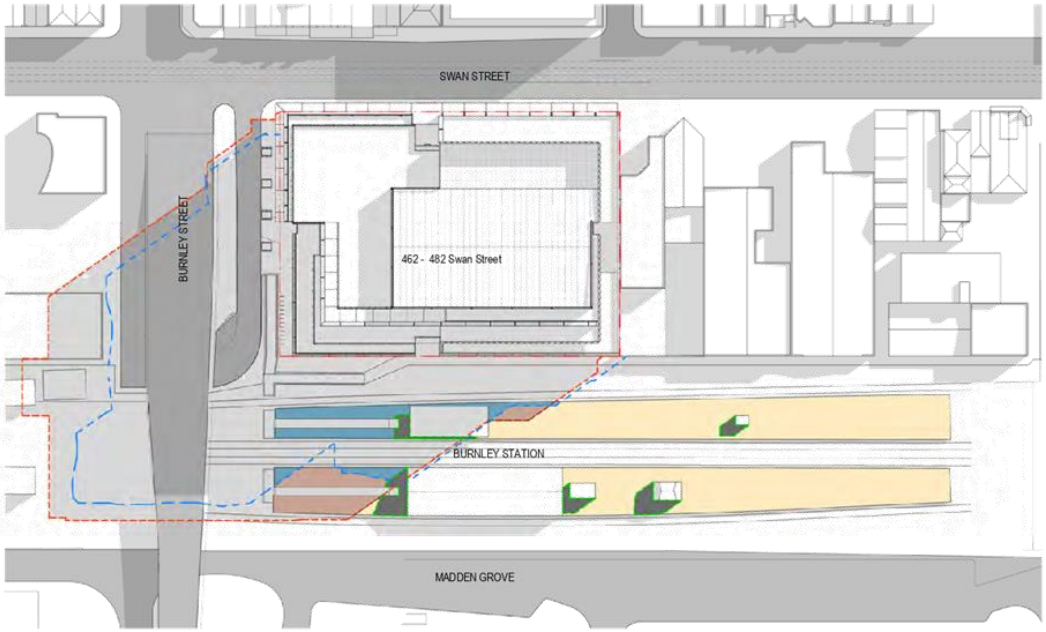
project: 480 Swan Street

drawing: Shadow Studies - Existing and Proposed

drawing no. DA0121 issue B

17/04/20 12:04:40 PM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Proposed vs Approved - 9am - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows (m2)
North	1,247	41	1,206	196	1,010	226	980	30
South	1,166	117	1,049	42	1,007	231	818	189
Both	2,413	158	2,255	238	2,017	457	1,798	219

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn Author project no. 190060

project: 480 Swan Street

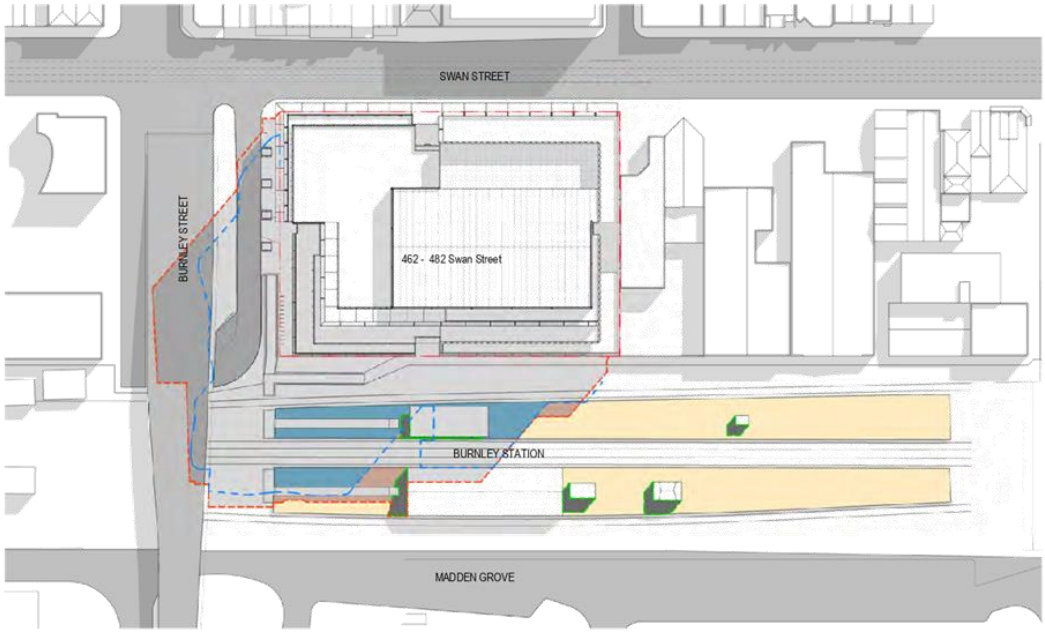
drawing: Shadow Studies - Proposed vs Approved

drawing no. DA0122

issue A

16/04/20 7:14:07 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Proposed vs Approved - 10am - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	31	1,216	270	946	298	918	28
South	1,166	88	1,078	97	981	180	898	83
Both	2,413	119	2,294	367	1,927	478	1,816	111

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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project: 480 Swan Street

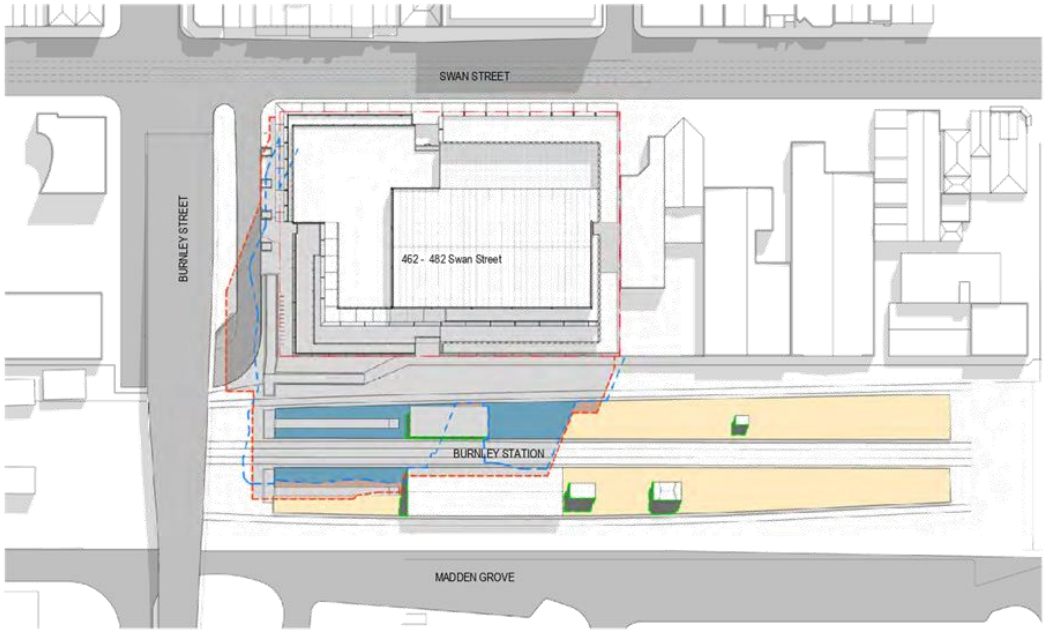
drawing: Shadow Studies - Proposed vs Approved

drawing no. DA0123

issue A

16/04/20 7:14:27 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Proposed vs Approved - 11am - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	22	1,225	343	881	369	855	26
South	1,166	64	1,102	101	1,001	160	942	59
Both	2,413	86	2,327	444	1,882	530	1,797	85

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn Author project no. 190060

project: 480 Swan Street

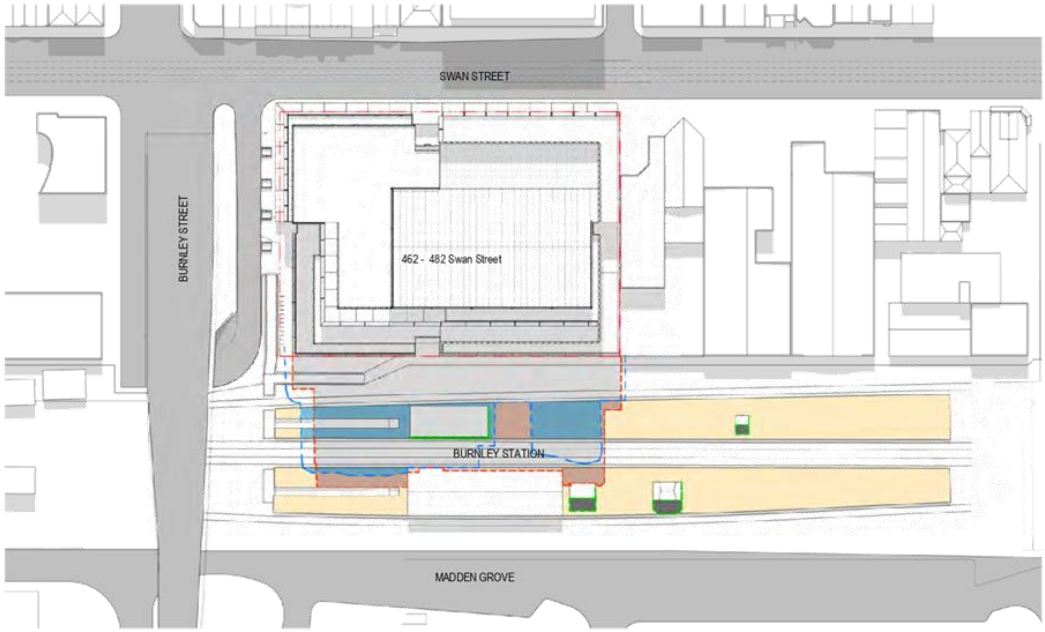
drawing: Shadow Studies - Proposed vs Approved

drawing no. DA0124

issue A

16/04/20 7:14:46 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Proposed vs Approved - 12pm - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	15	1,231	319	912	394	837	75
South	1,166	39	1,127	38	1,089	139	988	101
Both	2,413	54	2,358	357	2,002	534	1,825	177

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference

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Nominated Architect
Ray Brown, NSW ARB 6359

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issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn Author project no. 190060

project: 480 Swan Street

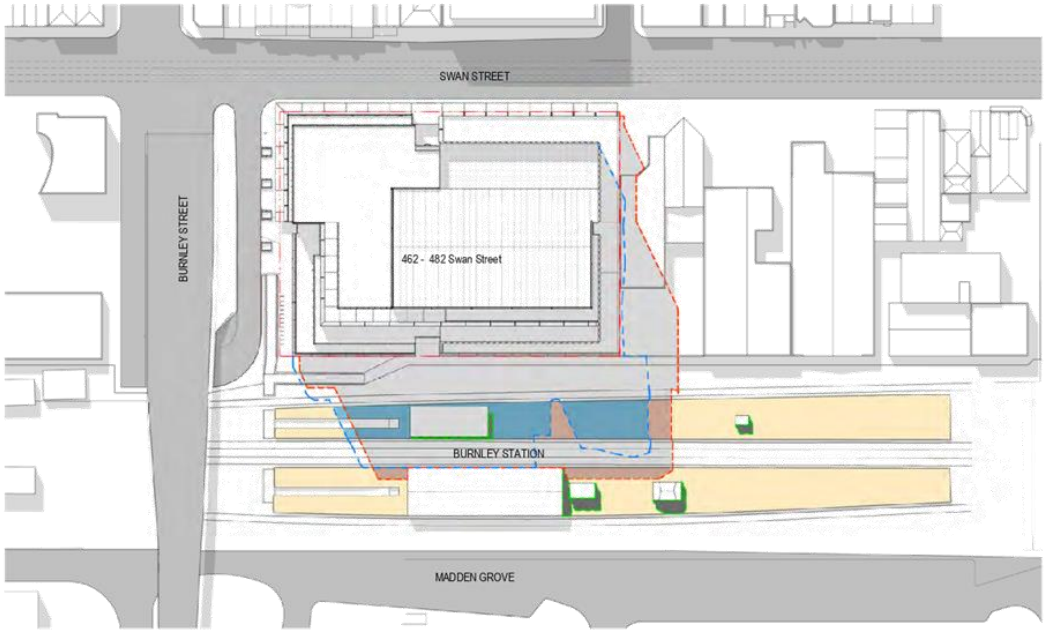
drawing: Shadow Studies - Proposed vs Approved

drawing no. DA0125

issue A

16/04/20 7:15:04 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Proposed vs Approved - 1pm - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	22	1,224	402	823	480	744	79
South	1,166	63	1,103	0	1,103	86	1,016	86
Both	2,413	86	2,327	402	1,925	567	1,760	165

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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checked Checker scale 1 : 500@A1
drawn Author project no. 190060

project: 480 Swan Street

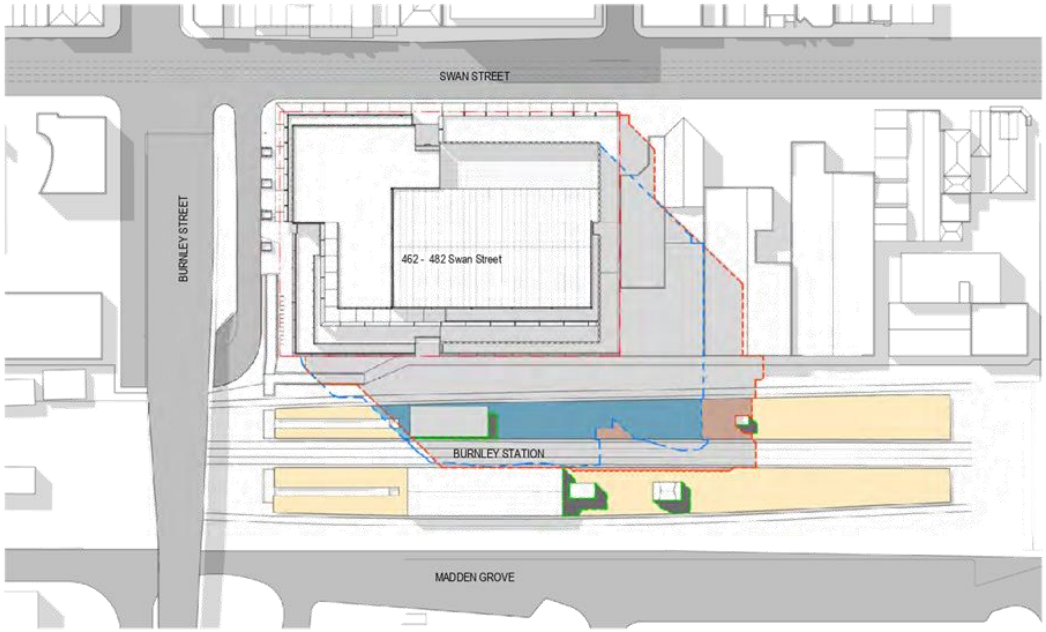
drawing: Shadow Studies - Proposed vs Approved

drawing no. DA0126

issue A

16/04/20 7:15:03 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Proposed vs Approved - 2pm - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	30	1,216	472	744	585	631	113
South	1,166	81	1,085	0	1,085	29	1,056	29
Both	2,413	111	2,302	472	1,830	615	1,687	143

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference

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Nominated Architect
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Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn Author project no. 190060

project: 480 Swan Street

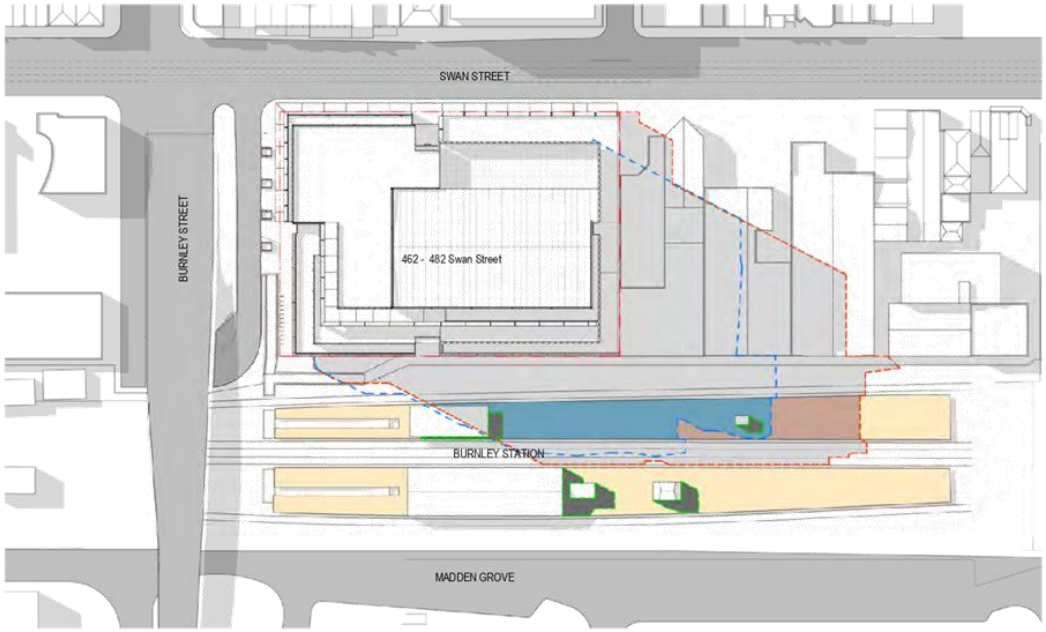
drawing: Shadow Studies - Proposed vs Approved

drawing no. DA0127

issue A

16/04/20 7:15:42 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Proposed vs Approved - 3pm - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	41	1,205	548	658	800	406	252
South	1,166	105	1,061	0	1,061	0	1,061	0
Both	2,413	146	2,267	548	1,719	800	1,467	252

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference

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Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	RFI 40 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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checked	Checker	scale	1 : 500@A1
drawn	Author	project no.	190060

project: 480 Swan Street

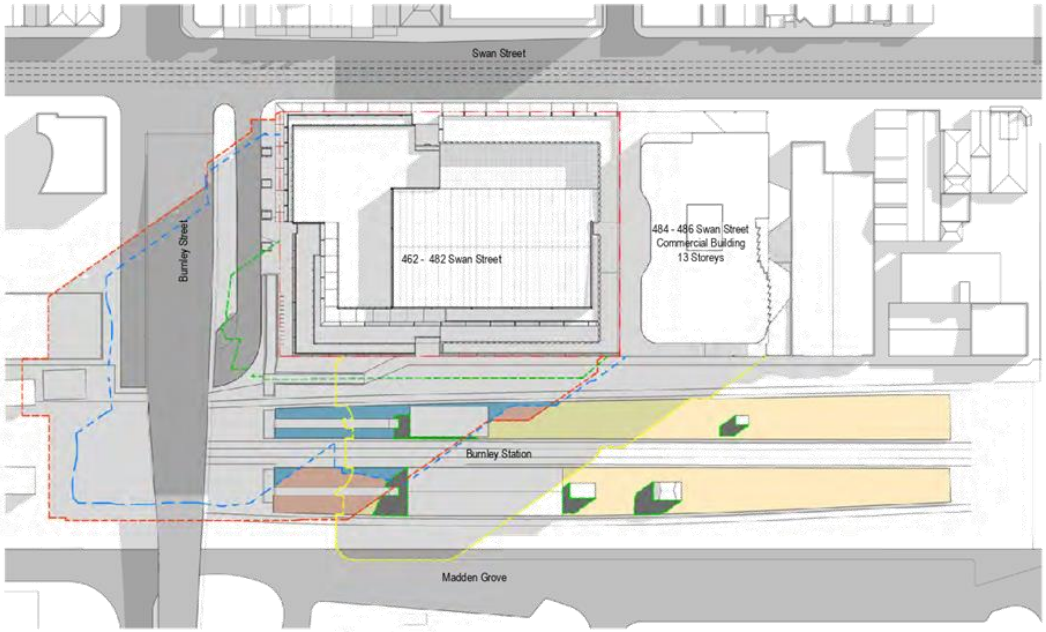
drawing: Shadow Studies - Proposed vs Approved

drawing no.: DA0128

issue: A

16/04/20 7:16:03 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Neighbouring Approved - 9am - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Neighbouring Additional Shadows (m2)	Neighbouring Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	41	1,206	196	1,010	226	980	448	758	0
South	1,166	117	1,049	42	1,007	231	818	93	955	138
Both	2,413	158	2,255	238	2,017	457	1,798	541	1,713	138

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn Author project no. 190060

project: 480 Swan Street

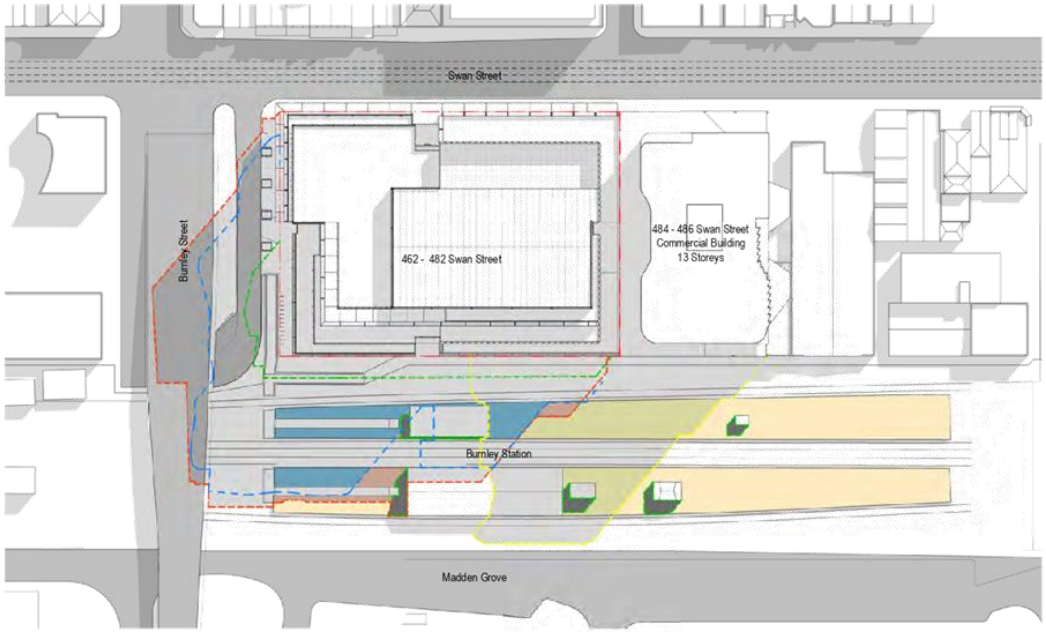
drawing: Shadow Studies - Neighbouring Approved

drawing no. DA0129

issue A

16/04/20 7:16:25 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Neighbouring Approved - 10am - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Neighbouring Additional Shadows (m2)	Neighbouring Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	31	1,216	270	946	298	918	463	753	1
South	1,166	88	1,078	97	981	180	898	145	933	83
Both	2,413	119	2,294	367	1,927	478	1,816	608	1,686	84

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSW ARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn Author project no. 190060

project: 480 Swan Street

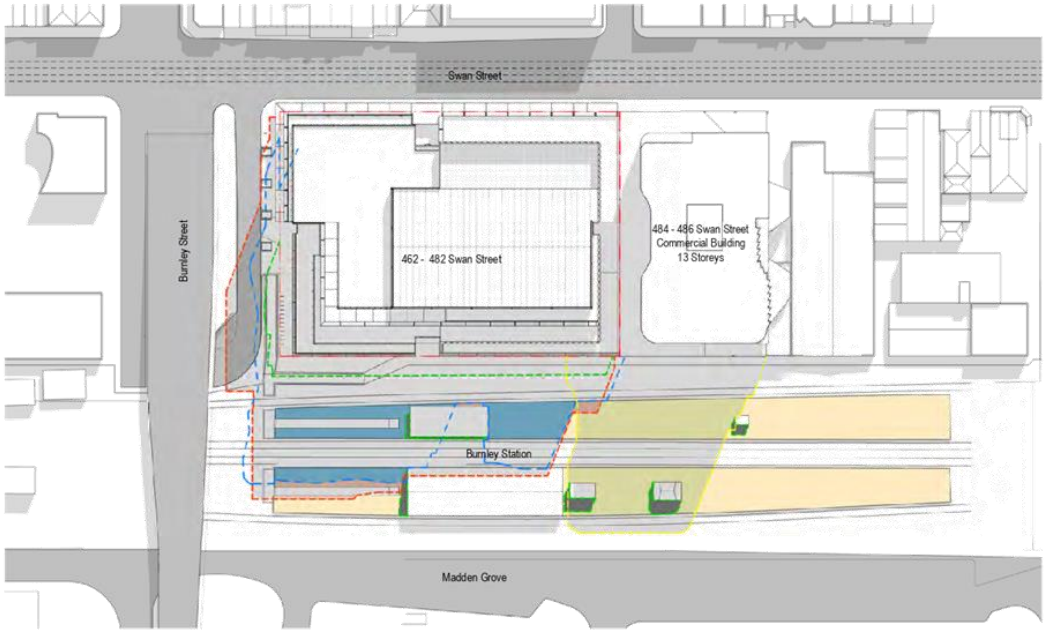
drawing: Shadow Studies - Neighbouring Approved

drawing no. DA0130

issue A

16/04/20 7:16:40 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Neighbouring Approved - 11am - 22 September

SCALE: 1:500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Neighbouring Additional Shadows (m2)	Neighbouring Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	22	1,225	343	881	369	855	351	873	11
South	1,166	64	1,102	101	1,001	160	942	264	838	59
Both	2,413	86	2,327	444	1,882	530	1,797	615	1,711	70

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSW ARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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project: 480 Swan Street

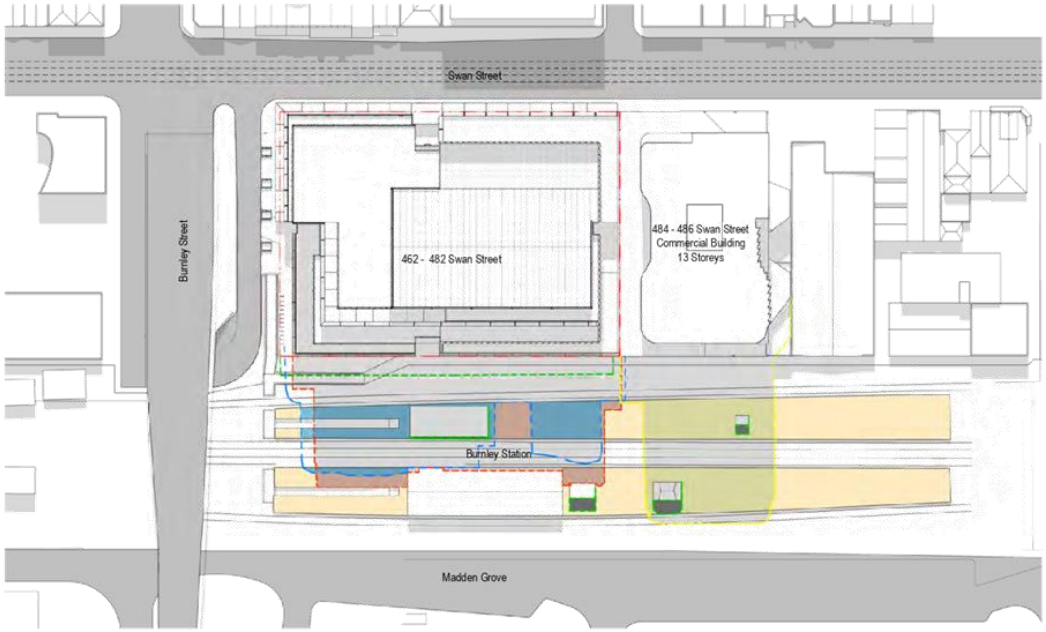
drawing: Shadow Studies - Neighbouring Approved

drawing no. DA0131

issue A

16/04/20 7:17:04 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Neighbouring Approved - 12pm - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Neighbouring Additional Shadows (m2)	Neighbouring Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	15	1,231	319	912	394	837	289	942	91
South	1,166	39	1,127	38	1,089	139	988	274	853	104
Both	2,413	54	2,358	357	2,002	534	1,825	563	1,795	195

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn Author project no. 190060

project: 480 Swan Street

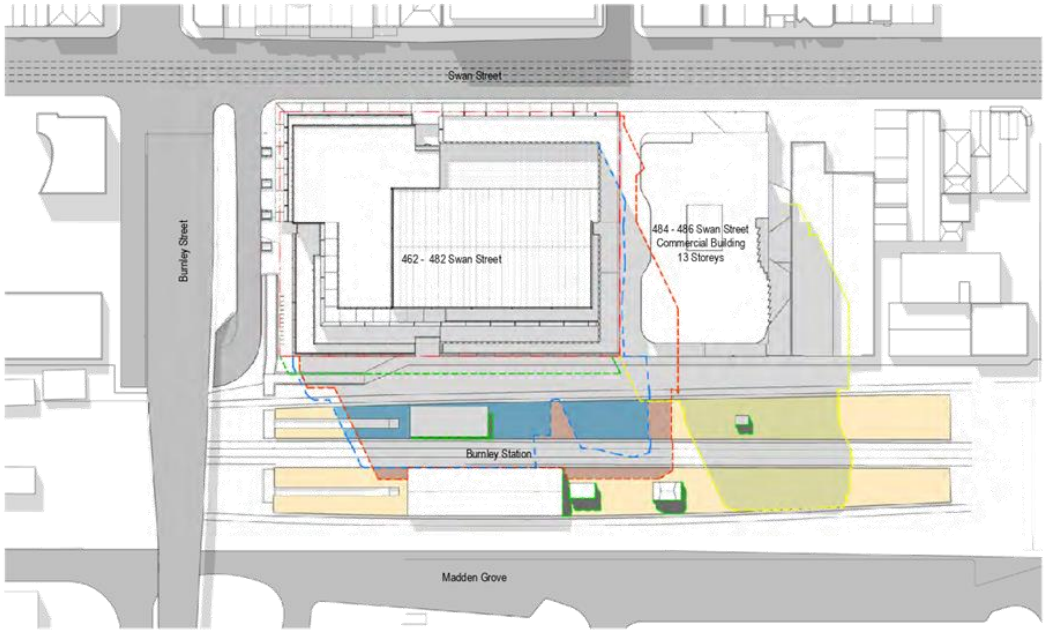
drawing: Shadow Studies - Neighbouring Approved

drawing no. DA0132

issue A

16/04/20 7:17:25 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Neighbouring Approved - 1pm - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Neighbouring Additional Shadows (m2)	Neighbouring Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	22	1,224	402	823	480	744	350	875	91
South	1,166	63	1,103	0	1,103	86	1,016	307	795	86
Both	2,413	86	2,327	402	1,925	567	1,760	657	1,670	178

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
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Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn Author project no. 190060

project: 480 Swan Street

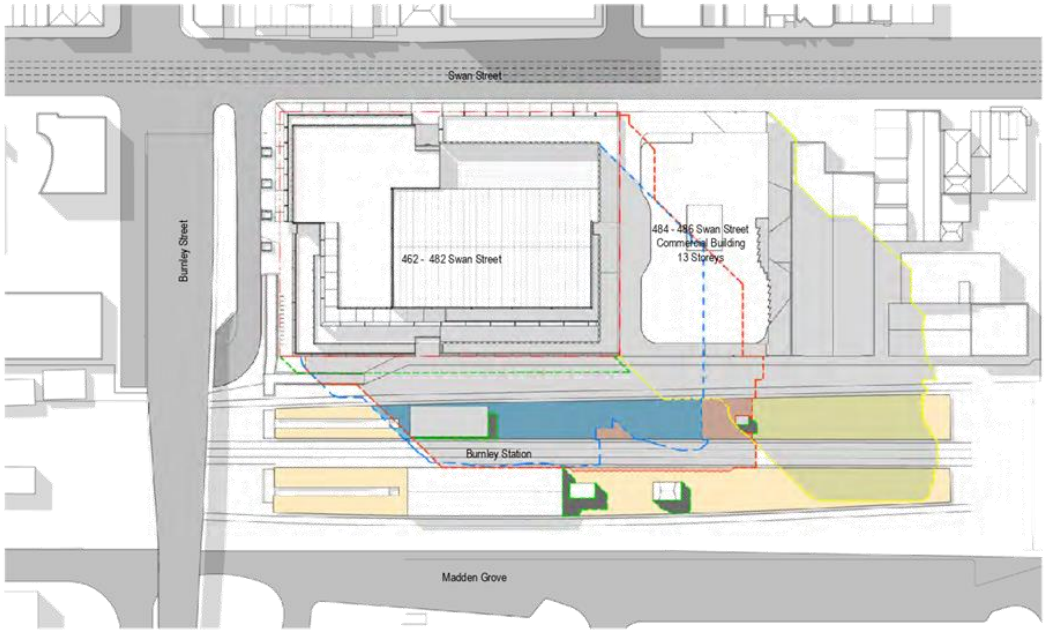
drawing: Shadow Studies - Neighbouring Approved

drawing no. DA0133

issue A

16/04/20 7:17:45 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Neighbouring Approved - 2pm - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Neighbouring Additional Shadows (m2)	Neighbouring Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	30	1,216	472	744	585	631	447	769	96
South	1,166	81	1,085	0	1,085	29	1,056	248	838	29
Both	2,413	111	2,302	472	1,830	615	1,687	695	1,607	126

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
Ray Brown, NSW ARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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drawn Author project no. 190060

project: 480 Swan Street

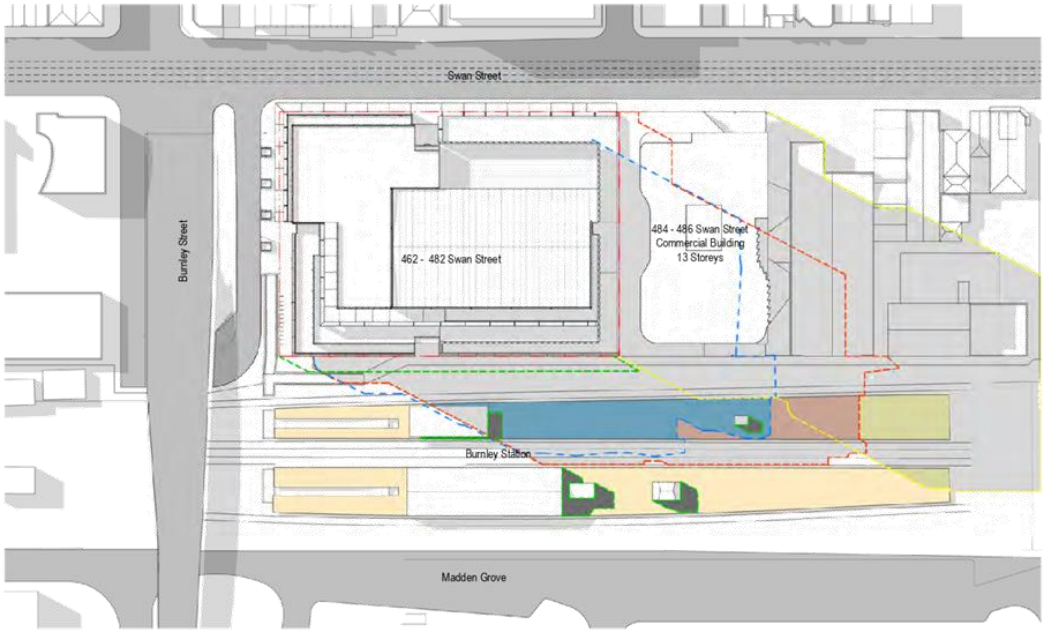
drawing: Shadow Studies - Neighbouring Approved

drawing no. DA0134

issue A

16/04/20 7:18:05 AM

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



1 DA2001 Neighbouring Approved - 3pm - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Neighbouring Additional Shadows (m2)	Neighbouring Unshadowed Area (m2)	Net Additional Proposed Shadows
North	1,247	41	1,205	548	658	800	406	365	841	113
South	1,166	105	1,061	0	1,061	0	1,061	47	1,014	0
Both	2,413	146	2,267	548	1,719	800	1,467	412	1,855	113

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area

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Nominated Architect
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issue	amendment	date
A	RFI #2 Issue for Town Planning Submission	16/04/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme

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checked Checker scale 1 : 500@A1
drawn Author project no 190060

project: 480 Swan Street

drawing: Shadow Studies - Neighbouring Approved

drawing no. DA0135

issue A

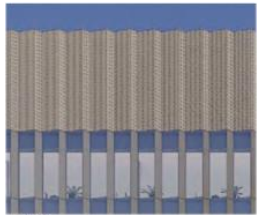
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Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4


FT01a


FT01b


FT02


FT03a


FT03b


FT04


FT05


FT06


FT07


FT08


FT09


FT10


BL01


LV01

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4

Design Proposal

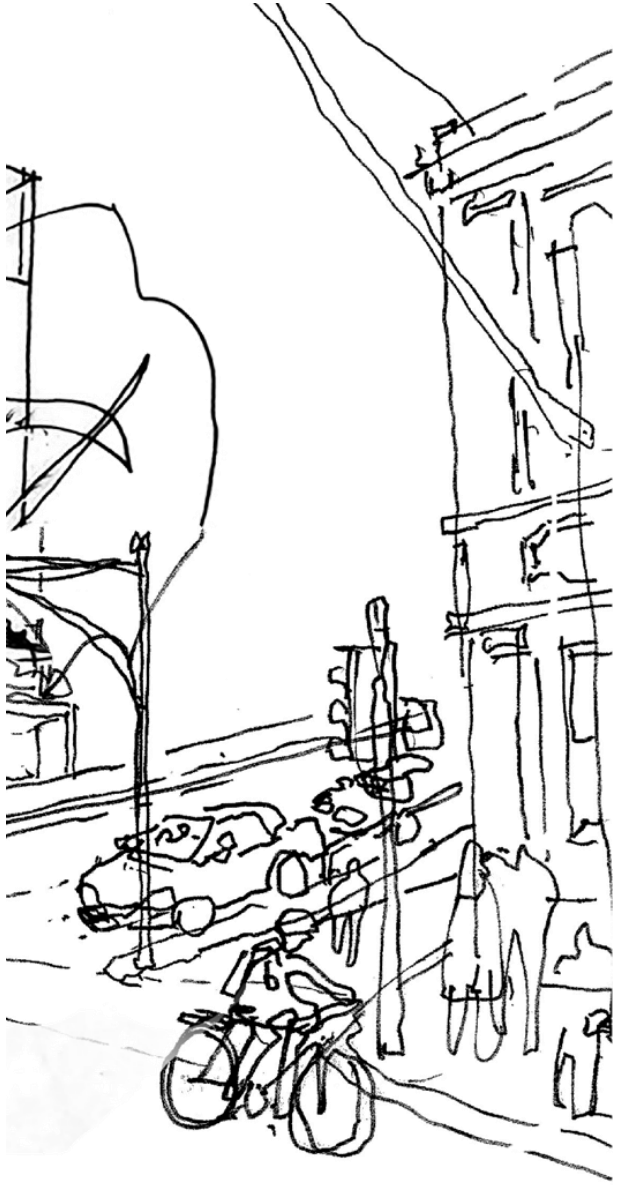
Material Schedule

FT01a	Glazed curtain wall system Type 1 - Intergrated Express Mullion
FT01b	Glazed curtain wall system Type 2 - Articulated Facade System
FT02	Grey Powdercoated Coloured Aluminium
FT03a	Grey Powdercoated Coloured Aluminium Perforated Facade System
FT03b	Grey Powdercoated Coloured Aluminium Horizontal Louvre Screen Facade System
FT04	Grey/Brown Brick with natural finish
FT05	GRC or similar cladding panel system with a textured finish
FT06	Glazed Shop Front
FT07	Stainless Steel Wire Screen for Landscapee
FT08	Aluminium Click on Batten or similar
FT09	Precast concrete wall
FT10	Glazed curtain wall
BL01	Metal Balustrade
LV01	Grey Powdercoated Coloured Aluminium Horizontal Louvres

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4



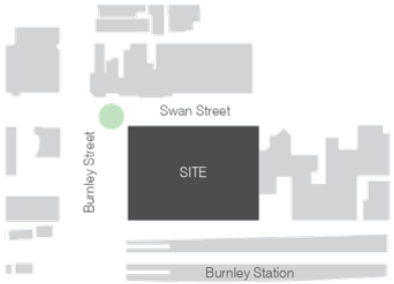
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5 Views

Attachment 5 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 4

Views

The corner of Swan and Burnley Street Looking South East



Attachment 6 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 5



Attachment 6 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 5

Views

The corner of Swan and Burnley Street facing South East



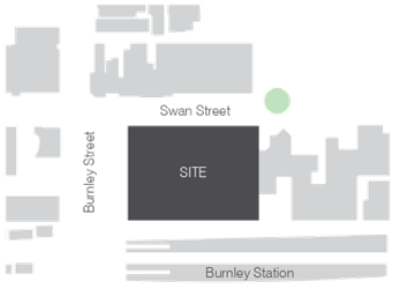
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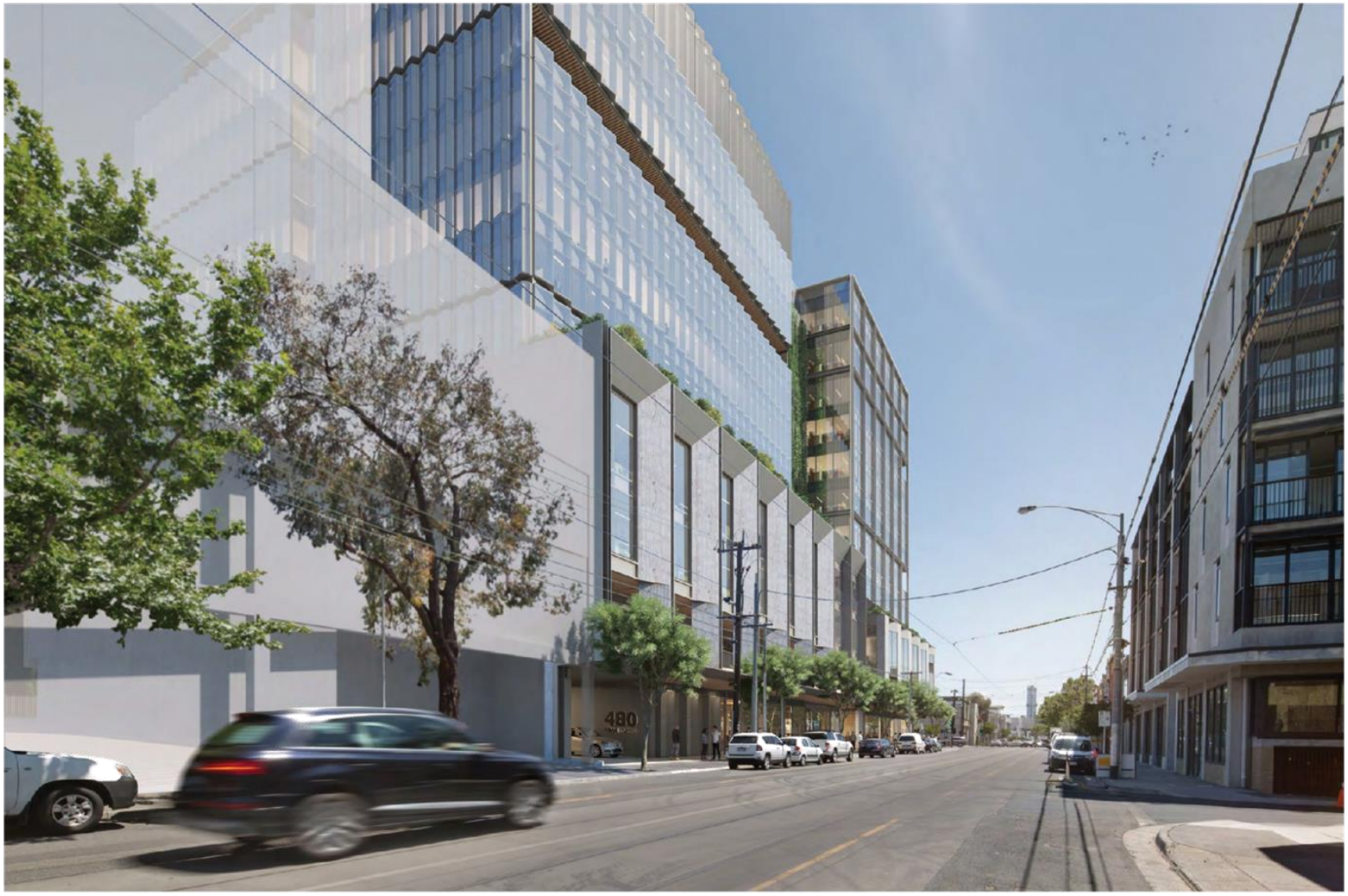
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Views

Swan Street facing South West



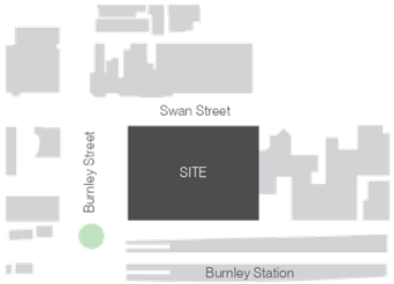
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Attachment 6 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 5

Views

Burnley Overpass Looking North



Attachment 6 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 5



Attachment 6 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 5

General Notes and Clarifications

Assumptions
Planning Gross Floor Area is defined as the total floor area of a building above ground, measured from the outside of external walls or the centre of party walls, and includes all roofed areas as stated in DDO10.
A parapet height of 1200mm has been assumed at the top of the building and included in the overall building height.

Total Building Height means the vertical distance between the footpath or natural surface level at the centre of the site frontage and the highest point of the building, except for non-habitable architectural features not more than 3000mm in height and building services setback at least 3000mm behind the facade.

Tower - Commercial (typical)
Gross Floor Area (GFA) is calculated in accordance with the Property Council of Australia (PCA) guidelines.

GFA = FECA + UCA based on single line drawing

Unenclosed Covered Area (UCA) - "The sum of all unenclosed covered areas at all building floor levels, including roofed balconies, open verandahs, porches and porticos, attached open covered ways alongside the building(s), usable space under the building(s), unenclosed access galleries (including ground floor) and any other trafficable covered areas of the building which are not totally enclosed by full weight walls. The UCA is computed by measuring from the inside face of any enclosing walls, balustrades or supports, but excludes connecting or isolated covered ways, and eaves, overhangs, sun shading, or awnings unless they relate to clearly defined trafficable covered areas.."

Fully Enclosed Covered Area (FECA) - 'The sum of all fully enclosed and covered building areas at all floor levels, including: basements (except unexcavated portions), garages, floored roof spaces and attics, penthouses, enclosed porches and attached enclosed covered ways, equipment rooms, lift shafts, vertical ducts, staircases and any other fully enclosed spaces and usable areas of the building. The FECA is computed by measuring from the normal inside face of exterior walls, ignoring any projections such as plinths, columns or piers. It excludes open courts, light wells, connecting or isolated covered ways, and net open areas of upper portions of rooms, lobbies, halls, and interstitial spaces etc which extend through the storey being computed.'

Net Lettable Area (NLA) is calculated in accordance with the Property Council of Australia (PCA) guidelines as defined in 'PCA Method of Measurement for Lettable Area - Commercial'. It is calculated by measuring from the internal finished surfaces of permanent internal walls and the internal finished surfaces of the dominant portions of the permanent outer building walls.

Gross Lettable Area - Retail (GLAR) - "The aggregate of floor space contained within a tenancy using the following rules: External Building Walls / Fire Passage Walls Service Passage Walls / Standard & Service Facility Walls - measure from internal finished surface of dominant portion of those walls.

Nominal Ground Level typical floor-to-floor (lobby or retail) = 5000mm.

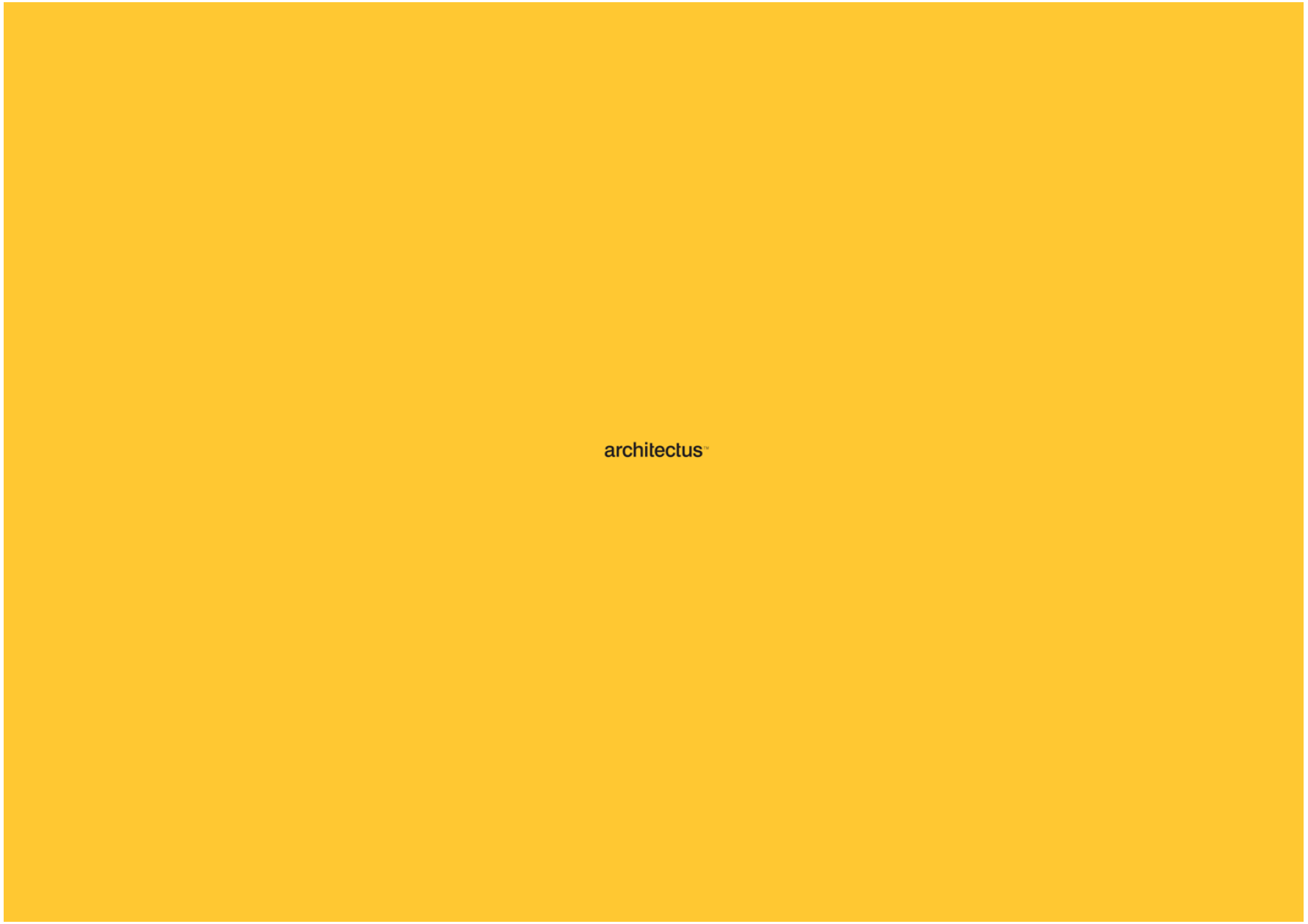
Nominal typical floor-to-floor (above ground) = 3850mm.



Attachment 6 - PLN20/0006 - 462 - 482 Swan Street Richmond - S52 Advertising Plans Part 5



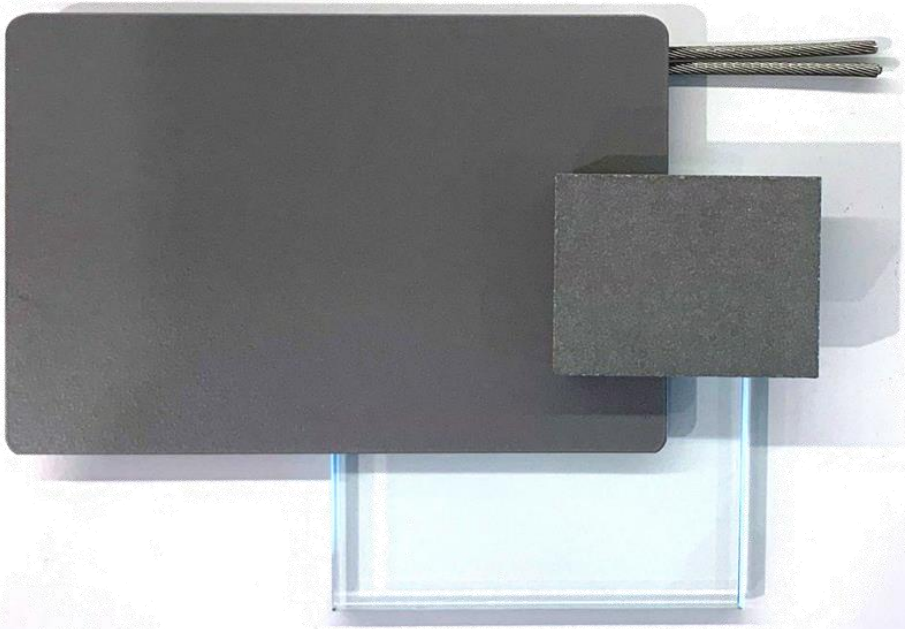
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480 Swan Street, Richmond
Finishes Board 02

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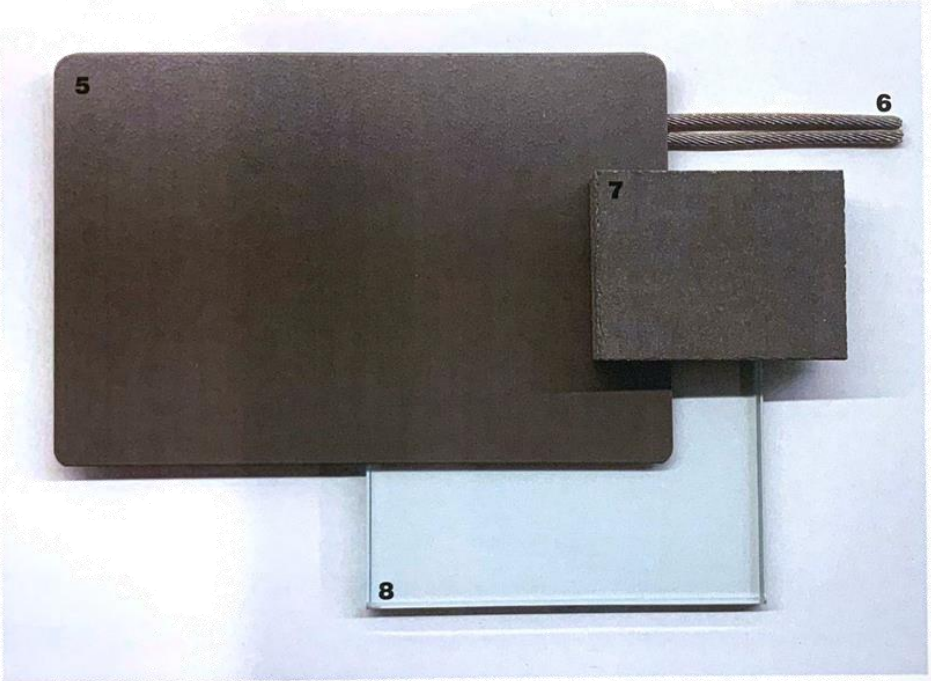


27/03/2020

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Finishes Legend

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FT01a	Glazed curtain wall system Type 1 - Intergrated Express Mullion	Glazing Sample as submitted on 21/02/2020
FT01b	Glazed curtain wall system Type 2 - Articulated Facade System	Glazing Sample as submitted on 21/02/2020
FT02	Grey Powdercoated Coloured Aluminium Metal	Sample 01 of Finishes Board submitted on 21/02/2020
FT03a	Grey Powdercoated Coloured Aluminium Perforated Facade System	Sample 01 of Finishes Board submitted on 21/02/2020
FT03b	Grey Powdercoated Coloured Aluminium Horizontal Louvre Screen Facade System	Sample 01 of Finishes Board submitted on 21/02/2020
FT04	Grey/Brown Brick with natural finish	Sample 03 of Finishes Board submitted on 21/02/2020
FT05	GRC or similar cladding panel system with a textured finish	Sample 04 of Finishes Board submitted on 21/02/2021
FT06	Glass Shop Front	Sample 08 of this Finishes Board
FT07	Stainless Steel Wire Screen for Landscape	Sample 06 of this Finishes Board
FT08	Aluminium Click on Batten or similar	Sample 02 of Finishes Board submitted on 21/02/2021
FT09	Precast concrete wall	Sample 07 of this Finishes Board
FT10	Glazed curtain wall	Glazing Sample as submitted on 21/02/2020
BL01	Metal Balustrade	Sample 05 of this Finishes Board
LV01	Grey Powdercoated Coloured Aluminium Horizontal Louvres	Sample 05 of this Finishes Board

27/03/2020

M E L
CONSULTANTS

(ACN 004 230 013)

22 CLEELAND ROAD
SOUTH OAKLEIGH VIC 3167
AUSTRALIA

Ref: 36-20-DE-LET-00
19 May 2020

Charter Hall
Attn: Thomas Carter Key

Dear Thomas,

480 Swan Street, Richmond
Response to VIPAC Review

VIPAC have reviewed MEL Consultants Report 36-20-WT-ENV-03 for the environmental wind impacts of the proposed 480 Swan Street development, Richmond. VIPAC have raised a query as to the wind conditions in the proposed outdoor seating area at the west end of the south pedestrian area as shown in Figure 1.

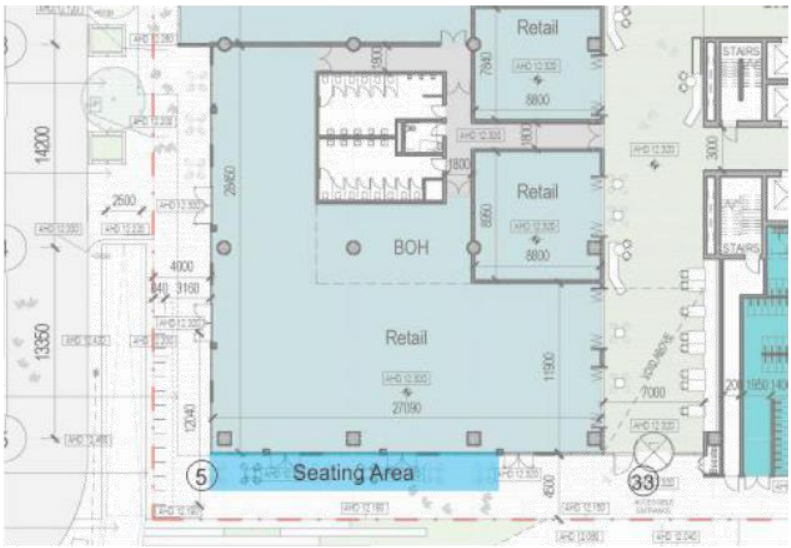


Figure 1: Proposed Outdoor Seating Area

VIPAC have queried the wind conditions in the outdoor area as at Test Location 5 the wind conditions were shown to be above the long term stationary criterion (sitting) for

TELEPHONE: (03) 8516 9680 : Intl +613 8516 9680 FAX : (03) 9562 7055: Intl +613 9562 7055

the south-southeast through west to north wind directions. These wind conditions were due to the local acceleration of wind flow around the southwest corner of the building. It is agreed that the wind conditions around the building corner would not be suitable for a designated outdoor seating area near the corner. Instead it would be suggested that this area be moved east towards the centre of the building as shown in Figure 2. This is closer to Test Location 33 that was shown satisfy the long term stationary criterion for all wind directions. The wind conditions in the revised location would be expected to achieve the long term stationary criterion and local screening around the area, such as 1.2m high screens (removeable – use as required), would assist with achieving the long term stationary criterion. The area up to the southwest corner could be used as outdoor seating on an elective basis when wind conditions permit this usage.

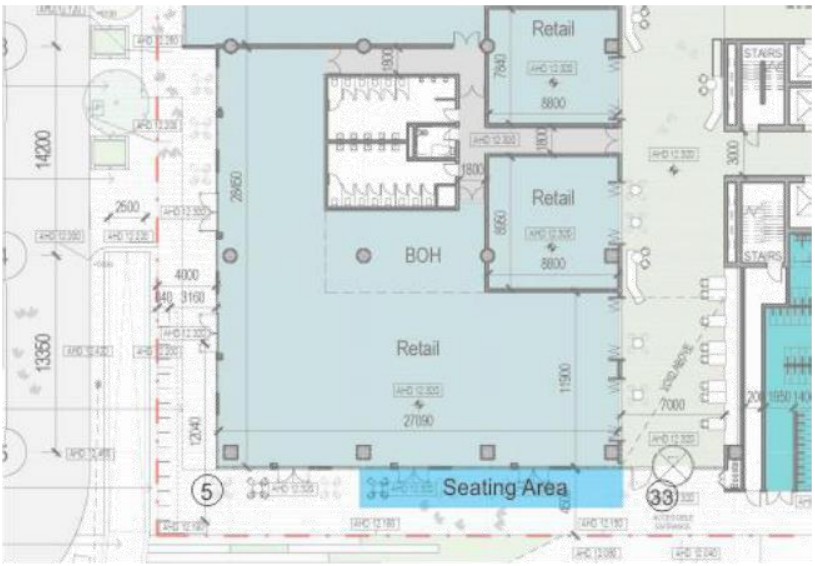


Figure 2: Revised location of the Proposed Outdoor Seating Area

Yours sincerely,

M. Eaddy

M. Eaddy
MEL Consultants Pty Ltd

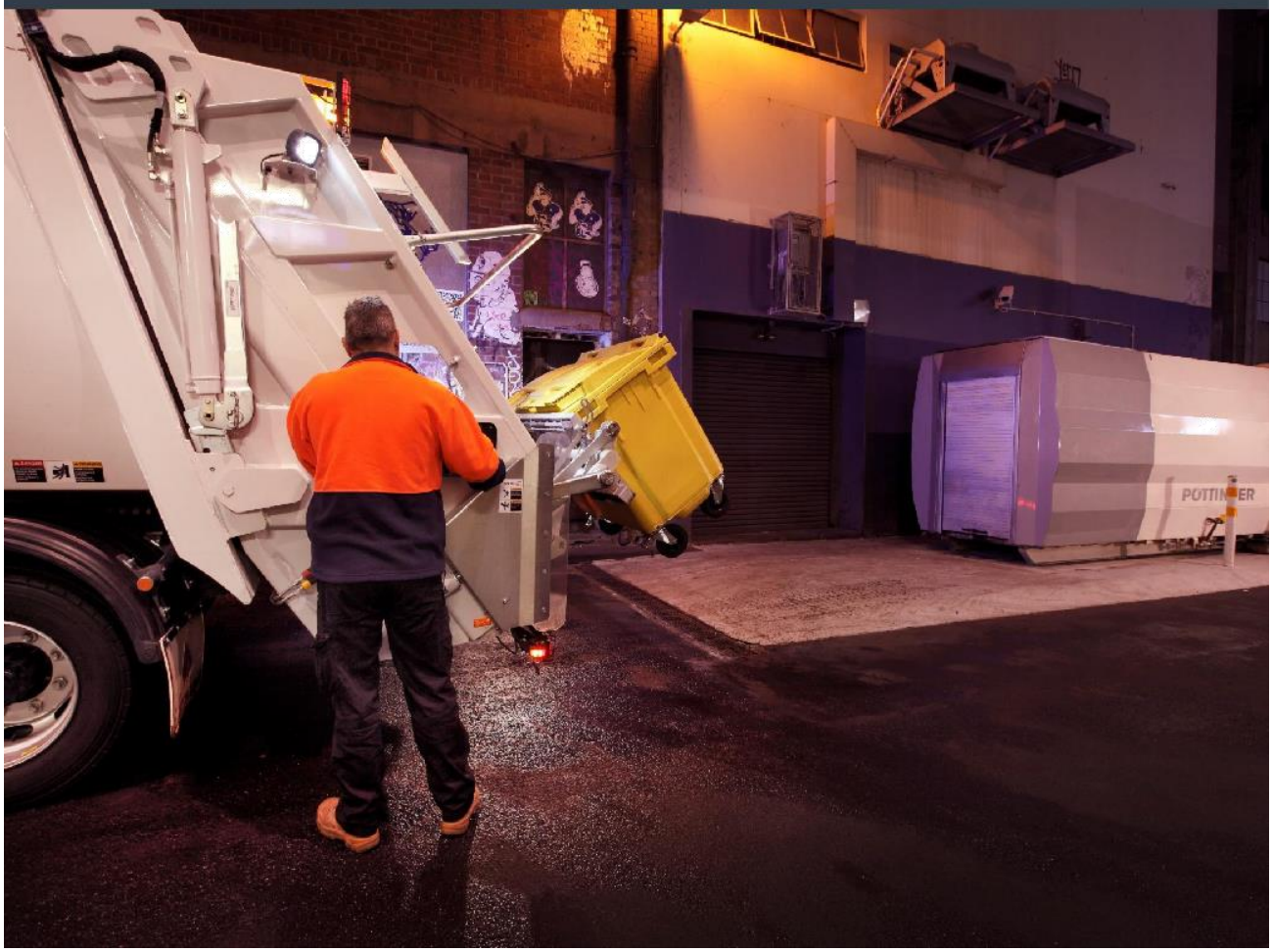
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MAY 2020

480 SWAN STREET, RICHMOND

WASTE MANAGEMENT PLAN

wsp



Attachment 8 - PLN20/0006 - 462 - 482 Swan Street Richmond - Updated Waste Management Plan (21/05/2020)



480 SWAN STREET, RICHMOND
Waste Management Plan

WSP
Level 15, 28 Freshwater Place
Southbank VIC 3006

Tel: +61 3 9861 1111
Fax: +61 3 9861 1144
wsp.com

REV	DATE	DETAILS
A	03/12/2019	Draft Waste Management Plan
B	19/12/2019	Waste Management Plan
C	21/02/2020	Waste Management Plan
D	17/04/2020	Waste Management Plan
E	20/05/2020	Waste Management Plan

	NAME	DATE	SIGNATURE
Prepared by:	Laurence Gamble	20/05/2020	
Reviewed by:	Brad Parker	20/05/2020	
Approved by:	Brad Parker	20/05/2020	

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WST041-20200520-Waste Management Plan-001 RevE

May 2020

Attachment 8 - PLN20/0006 - 462 - 482 Swan Street Richmond - Updated Waste Management Plan (21/05/2020)

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1 SUMMARY

The below is a summary of the waste management strategy proposed for the subject site. The complete report must be read in detail prior to implementing the operational waste management plan.

Located at 480 Swan Street, Richmond, the development will span 12 storeys, generally providing retail space across the ground floor and office spaces from level 01 upwards.

The following waste systems are proposed for the development:

Table 1 Waste Collection Summary

Waste Stream	Equipment	Collection Frequency	Collection Operator
Garbage	9 x 1100L Bins	Three times per week	Private Contractor
Recycling	10 x 1100L Bins	Three times per week	Private Contractor
Food Organics	Food Digester	*Not Required*	*Not Required*

Collections will be undertaken directly from the loading bay provided at ground level via a standard SRV sized collection vehicle or smaller. Collection vehicles will enter the site via the Swan Street access ramp, and will exit the site in a forwards direction via the same access ramp.

The collection vehicle will prop within the loading bay with operators collecting bins directly from the waste room and returning them immediately upon emptying. Bins will not be stored outside of the title boundary or presented to kerb for collection at any time.

Building management will ensure sufficient access is provided for collection vehicle operators during collection times. Typically, operators are provided with keypad/swipe card access to the service doors.

Food organic waste generated throughout the site will be disposed of via an aerobic digester provided at ground level. These units decompose organic matter into a product of just CO_2 and greywater, with no residual waste generated which requires collections.

Attachment 8 - PLN20/0006 - 462 - 482 Swan Street Richmond - Updated Waste Management Plan (21/05/2020)

2 INTRODUCTION

The following Waste Management Plan has been prepared for the proposed commercial development at 480 Swan Street, Richmond.

This Waste Management Plan (WMP) and the waste generation rates therein have been prepared based on the City of Yarra document *Waste Management Plan Policy for Multi-Unit Developments* (2018) and current best practice waste management methodology and technologies commonly available in Australia.

The waste services proposed throughout this Waste Management Plan will be reviewed with respect to any change in the operational requirements of the subject development over time. Revised waste management plans will be issued to Council for approval prior to adoption.

2.1 LAND USE

Client:	Charter Hall
Town Planning Application:	PLN20/0006
Land Use Type:	Commercial
Number of Levels:	12 levels (with 2 additional basement levels)

Table 2 Development Summary

Development Summary	
Use	**Net Leasable Area**
Retail	1,626m^2
Office	32,052m^2

3 WASTE MANAGEMENT PLAN

3.1 WASTE GENERATION

Waste generation rates per week are shown in Table 3. A waste generation assessment prepared in accordance with these rates is shown in Table 4. Calculations are based on a 5 day per week operation for the office spaces and a 7 day per week operation for the retail spaces.

As per direction from the project team, an allowance has been made for several of the retail spaces provided at ground level have been to operate as food and beverage. This will provide for a conservative waste generation assessment.

Any areas considered ancillary to the active uses of the site (circulation, bathrooms, terrace, etc.) are not considered to generate additional waste. Waste generated by these areas is created in service of the active uses of the site and is therefore incorporated into the rates shown below.

Table 3 Waste Generation Rates

Use	Garbage (L/100m²/week)	Recycling (L/100m²/week)	Food Organics (L/100m²/week)
Retail (food and beverage)	1,050	1,400	1,050
Retail (non food)	350	350	-
Office	45	50	5

Table 4 Waste Generation Assessment

Use	NLA	Garbage (L/week)	Recycling (L/week)	Food Organics (L/week)
Retail (food and beverage)	957m²	10,049	13,398	10,049
Retail (non food)	669m²	2,342	2,342	-
Office	32,052m²	14,423	16,026	1,603
	TOTAL	**26,814**	**31,766**	**11,652**

3.2 WASTE SYSTEMS

Waste shall be sorted on-site by staff / cleaners as appropriate into the following streams:

- Garbage (General Waste)
- Commingled Recycling
- Food Organics
- Hard Waste
- Electronic Waste

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Throughout the development it will be ensured that it is as easy to dispose of recyclable materials as it is garbage. This will be achieved by ensuring the development is appropriately furnished with bin stations throughout the various tenancies, ancillary spaces and communal areas. The bin stations are to be clearly signed such that waste stream separation is easily identifiable and correct use of the bins is upheld.

Bin stations encourage the separation of recyclable materials. This system incorporates the provision of multiple bins for different waste streams at central locations and common areas for ease of disposal. This system is beneficial, as users are required to make a conscious decision as to which bin they place their items. This typically results in a reduced volume of garbage (landfill). In addition, the use of bin stations minimises the number of locations cleaners are required to service throughout the development.

Figure 1 Example Bin Station Application



Brand: *Ecobins*



Brand: *Method Bins*

Staff/cleaners will utilise the goods lift and/or back of house (BoH) access corridor in accessing the waste room (and the appropriate equipment therein) as required. All waste transfer paths are to be exclusively within the site title boundary and do not require cleaners/tenants to exit title to perform operations. Transfer routes for waste collections do not include stairs or gradients greater than 1:14.

3.2.1 GARBAGE AND COMMINGLED RECYCLING

Each space of the development shall have provision for plastic lined garbage and commingled recycling bins for the temporary holding of waste, to have minimum cumulative holding capacities as shown in Table 5.

The "Transfer Rate" refers to the frequency at which waste should be transferred by cleaners/staff from the temporary holding bins to the waste room ground level for disposal per day.

Table 5 Garbage & Commingled Recycling – Temporary Waste Storage Requirements

Use	Garbage Capacity	Recycling Capacity	Transfer Rate
Retail (food and beverage)	50L/100m²	70L/100m²	Three times per day
Retail (non food)	50L/100m²	50L/100m²	Once per day
Office	10L/100m²	10L/100m²	Once per day

In disposing of waste generated throughout the office spaces, cleaning staff will generally utilise service trolleys to collect and transfer waste from these bins to the appropriate waste room at ground level, with waste from the service trolleys to be decanted into the larger 1100L bins provided therein (see Appendix A).

In disposing of waste generated throughout the retail spaces, staff/cleaners will transfer waste from these bins directly to the appropriate waste room at lower ground level and into the larger 1100L bins provided therein (see Appendix A).

Garbage is to be disposed of bagged. Commingled recyclables are to be disposed of loosely, with any plastic liners to be disposed of within the garbage bins.

3.2.2 FOOD ORGANICS

DIGESTER UNIT

An aerobic digester unit will be used for the processing of food waste generated throughout the development as appropriate, to be stored within the waste room at ground level (see Appendix A).

Digesters utilise natural microorganisms and the presence of oxygen to decompose organic substances. The microorganisms feed on the organic substances within the digester unit, decomposing them into a product of just CO_2 and greywater (with no residual food waste). As such, no residual waste bins for organic material will be required for collection. Any greywater discharge is stable and permitted to be discharged into the local sewerage network.

At the time of which this report is dated, digesters are required to be registered with the local water authority as part of the trade waste agreement for the development.

Figure 2 Example Food Organics Equipment – Digester (Left), Organics Trolley (Right)





DISPOSAL METHODOLOGY - RETAIL

Retail spaces (those operating with food and beverage) shall be furnished with plastic tubs (typically 20L in size) for the temporary holding of organic waste. These plastic tubs will be stored within the respective back of house areas of each tenant. Tubs can be stacked and transferred via trolleys if desired (see Figure 2).

Staff and/or cleaners will manually empty organic waste from these bins directly into the digester unit provided within the waste room at ground level (see Appendix A). Organic waste is to be disposed of loosely into the digester.

DISPOSAL METHODOLOGY – OFFICE

To assist in the transfer of organic waste, areas of the office spaces in which food is either prepared or eaten shall have provision for "kitchen caddys" (see Figure 2) for the temporary holding of food organics. Kitchen caddys may be lined with paper (i.e. newspaper) if desired.

Cleaning staff will manually empty organic waste from these kitchen caddys directly into the digester unit provided within the ground level waste room (see Appendix A) on a daily basis. Organic waste is to be disposed of loosely into the digester.

3.2.3 HARD WASTE, ELECTRONIC WASTE

A dedicated hard waste area of 5.00m^2 is to be provided within the waste room at ground level, to be accessed directly by commercial tenants (both office and retail) as appropriate (see Appendix A).

Of the area provided, approximately half will be dedicated to the disposal of e-waste. It is recommended a 240L E-waste bin be incorporated into this area for the disposal of smaller e-waste goods (such as phones and computer keyboards), with larger goods (such as televisions and computer monitors) being disposed of across the remaining floor space.

Hard waste and electronic waste will be collected as separate streams by a private collection contractor on an as required basis.

3.3 BIN QUANTITY, SIZE AND COLLECTION FREQUENCY

Table 6, Table 7 and Table 8 contain information regarding bin quantity, size and frequency of collection.

It is noted that due to the variance between capacities and actual volumes from time to time fewer bins than those specified may be required to be collected. Only full bins will be presented for collection.

Table 6 Garbage Bin Information and Capacity

Garbage			
No. Bins	**Collections Per Week**	**Weekly Capacity**	**Weekly Volume**
9 x 1100L	3	29,700L	26,814L

Table 7 Commingled Recycling Bin Information and Capacity

Commingled Recycling			
No. Bins	**Collections Per Week**	**Weekly Capacity**	**Weekly Volume**
10 x 1100L	3	33,000L	31,766L

Table 8 Typical Bin Dimensions

Typical Bin Dimensions (mm)			
Capacity	**Width**	**Depth**	**Height**
1100 litre	1240	1070	1330

3.4 DIGESTER SIZE AND CAPACITY

Table 9 and Table 10 contain information regarding the processing capacity and size of the food digester to be utilised by the development.

Due to their operational processes and low energy consumption, digester units generally remain operational across the entirety of the day. As such, the weekly digester capacity has been calculated under the assumption of a 24 hour per day, 7 day per week operation. There exists sufficient capacity within the digester to operate under fewer hours per day if required.

Note that the specifications listed within Table 9 and Table 10 are for reference only and must be confirmed with the nominated supplier prior to any works commencing.

Table 9 Digester Size and Capacity

Food Organics			
Equipment	**Processing Capacity**	**Weekly Capacity**	**Weekly Volume**
1 x Digester	500kg/day	13,200L	11,652L
**As the digester unit will decompose organic matter into a product of just CO_2 and greywater, no residual waste bins for organic material will be required for collection.*			

Table 10 Typical Digester Dimensions

Typical Digester Dimensions			
Capacity	**Width (mm)**	**Depth (mm)**	**Height (mm)**
500kg/day	1740	900	1250

3.5 WASTE STORAGE AREA & LOCATION

Table 11 demonstrates the cumulative area requirements (excluding circulation) and provision of waste areas.

Table 11 Waste Storage Area Requirement

Waste Store	Usage	Area Required	Area Provided
Waste Room (Ground Level)	9 x 1100L Garbage Bins	11.88m²	136.00m²
	10 x 1100L Recycling Bins	13.20m²	
	1 x Food Digester	1.57m²	
	Hard Waste / E-Waste	5.00m²	
	TOTAL	**31.65m²**	**136.00m²**

Please refer to scaled waste room drawing shown in Appendix A.

3.6 BIN COLOUR AND SUPPLIER

All bins will be provided by private supplier. The below bin colours are specified by Australian Standard AS4123.7 2006, however due the private nature of the collection, these are only recommendations and are not mandatory:

- Garbage (general waste) bins shall have red lids with dark green or black body.
- Recycle bins shall have yellow lids with dark green or black body.
- E-Waste bins shall have white lids with dark green or black body

Private collection contractors often supply their own bins for collection.

3.7 SIGNAGE

Waste storage areas and bins will be clearly marked and signed with the industry standard signage approved by Sustainability Victoria (such as that illustrated in Figure 3 below) or equivalent.

Users will be instructed by building management to adhere to these requirements.

Figure 3 Sustainability Victoria Waste Signage



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3.8 WASTE COLLECTION METHODOLOGY

Waste will be collected by a private contractor as outlined in Table 12.

Table 12 Waste Collection Summary

Waste Stream	Equipment	Collection Frequency	Collection Operator
Garbage	9 x 1100L Bins	Three times per week	Private Contractor
Recycling	10 x 1100L Bins	Three times per week	Private Contractor
Food Organics	Food Digester	*Not Required*	*Not Required*

Collections will be undertaken directly from the loading bay provided at ground level via a standard SRV sized collection vehicle or smaller. Collection vehicles will enter the site via the Swan Street access ramp, and will exit the site in a forwards direction via the same access ramp (see Appendix B for swept path diagrams).

The collection vehicle will prop within the loading bay with operators collecting bins directly from the waste room and returning them immediately upon emptying (see Appendix A). Bins will not be stored outside of the title boundary or presented to kerb for collection at any time.

Building management will ensure sufficient access is provided for collection vehicle operators during collection times. Typically, operators are provided with keypad/swipe card access to the service doors.

Food organic waste generated throughout the site will be disposed of via an aerobic digester provided at ground level. These units decompose organic matter into a product of just CO_2 and greywater, with no residual waste generated which requires collections.

4 ADDITIONAL INFORMATION

4.1 STANDARDS & COMPLIANCE

4.1.1 VENTILATION

Ventilation will be provided in accordance with Australian Standard AS1668.

4.1.2 WASHING AND VERMIN PROTECTION

An appropriately drained wash down area will be provided within the loading bay in which each bin is to be washed regularly by building management. Bin washing areas or bin wash bays must discharge to a grease trap.

Alternatively, a third party bin washing service can be engaged to perform this service. Bin washing suppliers must retain all waste water to within their washing apparatus and not impact on the drainage provisions of the site.

4.1.3 NOISE REDUCTION

All waste areas shall meet BCA and AS2107 acoustic requirements as appropriate with operational hours and collection times assigned to minimise acoustic impact on surrounding premises.

4.2 RISK ASSESSMENT

Table 13 outlines waste items for consideration for the formation of a site risk register by building management. Note that the below is not intended (or to be considered) as a complete list of risks for the site.

Table 13 Risk Assessment

Risk	Risk Category (Likelihood; Impact)	Mitigation Measure
Injury sustained through improper waste handling.	Possible; Moderate	Training should be provided to staff / cleaners addressing correct manual handling techniques in accordance with *Occupational Health and Safety Act* (2004) and associated regulations. Staff / cleaners should be further provided with personal protective equipment as appropriate. A suitable path of travel between the waste room, loading dock and commercial facilities is available throughout the site. Staff / cleaners will not be required to transverse steps or any grades greater than 1:14 in disposing of waste.
Injury sustained through waste collection operations.	Possible; Moderate	Garbage and recycling bin size limited to a maximum 1100L specified for both garbage and recycling, as per common industry practice. Loading dock provided at grade within waste room. Collection operators will **not** need to transfer bins across improper grades. Further separation of food organics will further minimise garbage bin weight.
Overflow of waste (i.e. bins filled to over-capacity) resulting in slipping / tripping hazard for users.	Possible; Moderate	Waste design provided such that adequate bin capacity is provided for all streams, as to avoid bin overflow.

		Waste transfer paths and storage facilities will be sealed and cleaned routinely. Building management (or equivalent) to ensure that an appropriate cleaning/maintenance regime is implemented to maintain the slip rating of floor surfaces as appropriate, and to remove any water or waste spillages when required.
Equipment damage resulting from untrained staff using equipment, resulting in equipment down time.	Possible; Low	Only trained personnel as nominated by building management (or equivalent) should permitted to utilise waste equipment. The organic digester should be operated in accordance with the equipment supplier guidelines / requirements.
Conflict between pedestrians (public and/or staff) and collection vehicle.	Unlikely; High	Collection vehicles will both enter and exit the site in a forwards direction, providing a direct line of site for pedestrian interference. Collections will be undertaken outside typical development operational hours, during which pedestrian activity throughout the surrounding areas will be minimal. Loading dock layout should cater for nominated vehicle sizes, clear zones and loading areas.
Improper ventilation measures provided.	Unlikely; Low	Refer Section 4.1.1
Improper measures vermin protection measures provided.	Unlikely; Low	Refer Section 4.1.2
Improper noise reduction measures provided.	Unlikely; Low	Refer Section 4.1.3

4.3 HIGH LEVEL PURCHASING SCHEDULE

Table 14 lists the waste equipment required for the development under the conditions proposed within this report. A complimentary list of suppliers is provided for convenience.

Table 14 Equipment Supply Schedule

Item	Supplier	Typical Services Requirement(s)**	Quantity / Notes
1100L Bin	Private Supplier* *(SULO or equivalent)*	nil	9 No. Garbage 10 No. Recycling
Food Digester	Private Supplier *(ORCA or equivalent)*	***Power***: 240V 10A per unit ***Water***: Cold ½'' water connection ***Drain:*** Min. 3'' sanitary drain connection (via grease trap to authority requirement	1 No. 500kg/day capacity Regular maintenance required
**Private waste collection contractors often supply their own bins for collection.* ***Services requirements are indicative only and must be confirmed with the manufacture prior to commencement of construction*			

4.4 SUPPLIER CONTACT INFORMATION

A complimentary listing of contractors and equipment suppliers is provided in Table 15 below for your reference. You are not obligated to procure goods/services from these companies. This is not, nor is it intended to be, a complete list of available suppliers. WSP does not warrant (or make representations for) the goods/services provided by these suppliers.

Table 15 Supplier Contact List

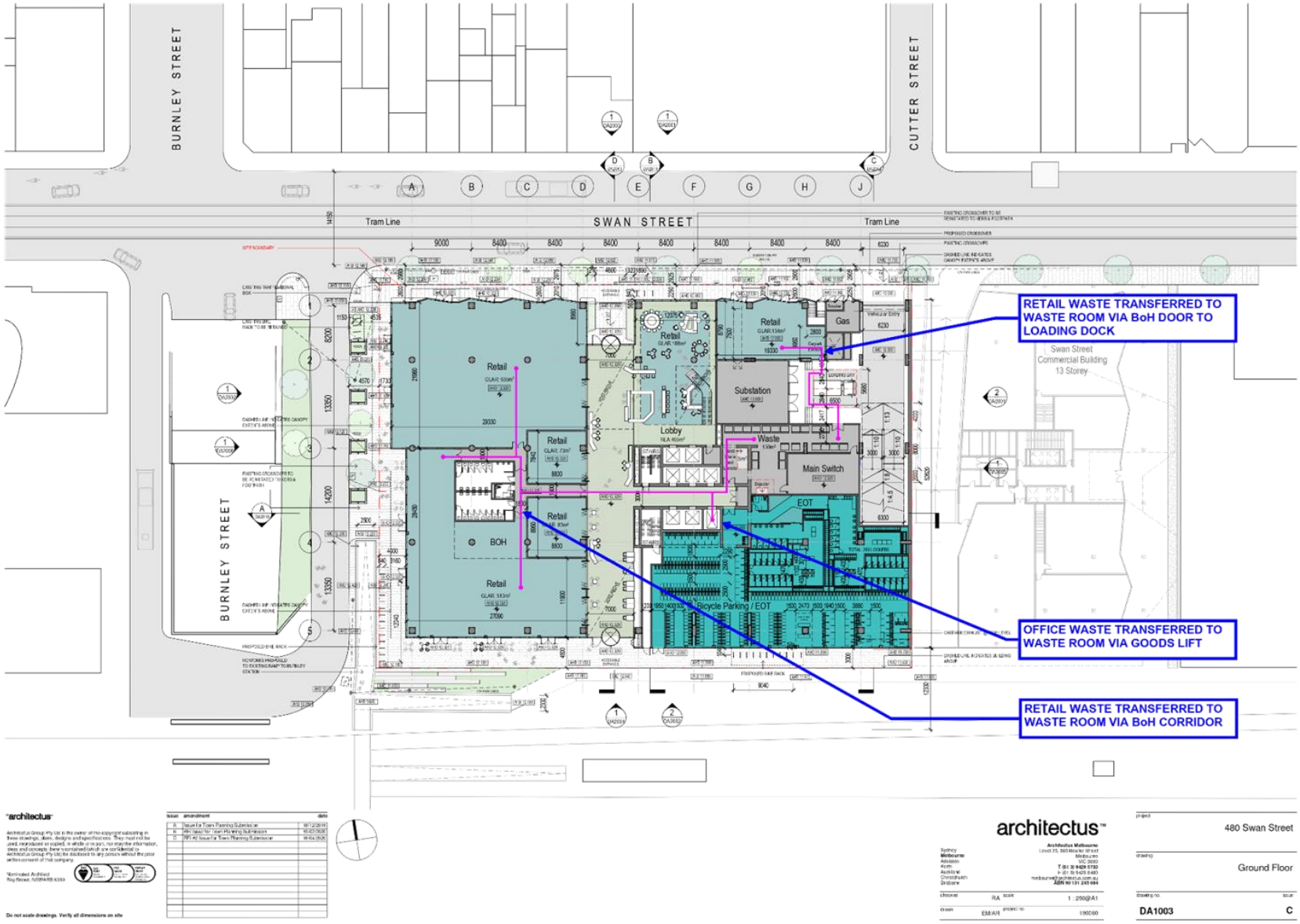
Service Type	Contractor / Supplier Name	Phone	Website
Private Waste Collectors	Citywide Service Solutions	(03) 9261 5000	www.citywide.com.au
	SUEZ Environment	13 13 35	www.sita.com.au
	Cleanaway	13 13 39	www.cleanaway.com.au
	Veolia	132 955	www.veolia.com
Equipment Suppliers	ORCA (*Food Digesters*)	1855 355 6722	www.feedtheorca.com
	PowerKnot (*Food Digesters*)	(02) 6627 6360	www.powerknot.com
	Waste to Water (WTW) (*Food Digesters*)	1300 552 460	www.wastetowater.com.au
	Sulo Australia *(Bins)*	1300 364 388	www.sulo.com.au
Bin Washing Services	The Bin Butlers	1300 788 123	www.thebinbutlers.com.au
	Kerbside Clean-A-Bin	(03) 9830 7381	www.kerbsidecleanabin-srp.com.au
	Calcorp Services	1800 225 267	www.calcorpservices.com.au
	WBCM Environmental Australia	1300 800 621	www.wbcm-aust.com.au
E-waste Collection Services	TechCollect	1300 229 837	www.techcollect.com.au
	Mobile Muster *(Mobile Phones)*	1800 249 113	www.mobilemuster.com.au
	ToxFree *(Secure E-waste Destruction)*	1300 869 373	www.toxfree.com.au

Attachment 8 - PLN20/0006 - 462 - 482 Swan Street Richmond - Updated Waste Management Plan (21/05/2020)

APPENDIX A

SCALED WASTE ROOM DRAWINGS

Attachment 8 - PLN20/0006 - 462 - 482 Swan Street Richmond - Updated Waste Management Plan (21/05/2020)



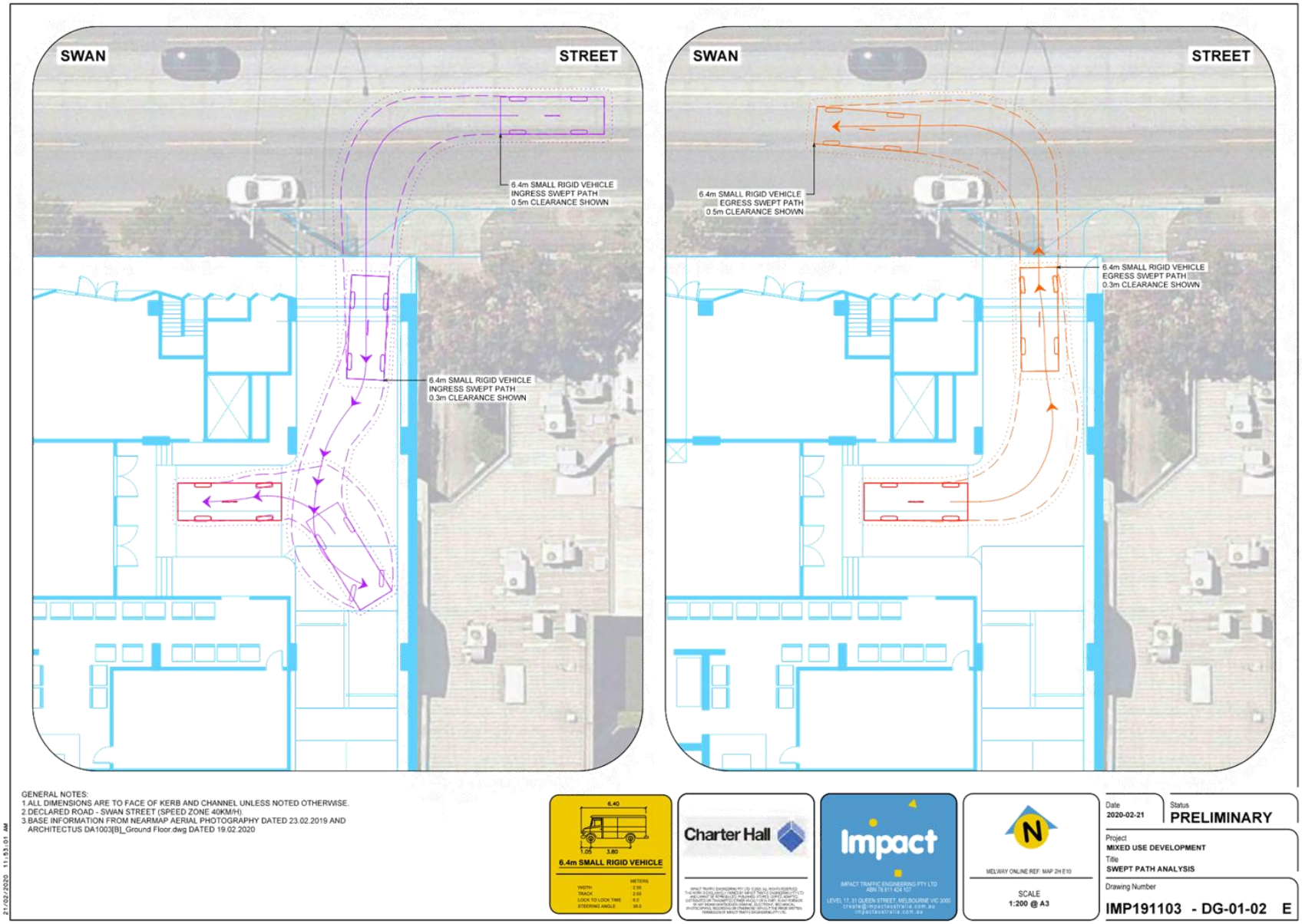
Attachment 8 - PLN20/0006 - 462 - 482 Swan Street Richmond - Updated Waste Management Plan (21/05/2020)

APPENDIX B

SWEPT PATH DIAGRAMS



Attachment 8 - PLN20/0006 - 462 - 482 Swan Street Richmond - Updated Waste Management Plan (21/05/2020)



Attachment 9 - PLN20/0006 - 462 - 482 Swan Street Richmond - Without Prejudice Sketch Plans (05/06/2020)

Human Habitats
424 / 838 Collins Street
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ABN 48 115 201 356
03 9909 2202

5 June 2020

Michelle King
Acting Principal Planner
Yarra City Council
333 Bridge Road
Richmond VIC 3121

Dear Michelle

WITHOUT PREJUDICE
RESPONSE TO MGS ARCHITECTS URBAN DESIGN REFERRAL
PLN20/0006 - 462-482 SWAN STREET, RICHMOND

Human Habitats continues to act on behalf of the applicant, Charter Hall, in relation to the planning permit application (PLN20/0006) for the land at 462 – 482 Swan Street, Richmond (the subject site) and provide letter and accompanying material on a without prejudice basis in response to Council's external urban design referral comments prepared by MGS Architects.

This letter is accompanied by a Without Prejudice Massing Study prepared by Architectus, which provides a comparison between the proposal and the without prejudice proposed setbacks.

We agree in principle to the four recommendations made in the MGS Architects urban design referral and provide the below response to each recommendation.

1 Recommendation 1 (Podium & Street Wall Interfaces)

Recommendation 1 seeks to provide greater diversity of expression of the podium and requires that the podium expression is further developed to capture the character and history of the area. We accept Recommendation 1 and will provide a podium concept next week that responds to this recommendation.

2 Recommendation 2 (Side & Rear Setback)

Recommendations 2 seeks to erode the south-east corner of the proposal to soften the building as viewed from the south-east. In order to achieve this MGS Architects have included in Recommendation 2 the provision of an 8m setback from the eastern boundary along the southern portion of Level 11 and the provision of a southern terrace at Level 11. While we agree in principle with the intent Recommendation 2, the 8 metre setback recommended cannot be reasonably accommodated by the proposal as it:

- Compromises the functionality of the south-eastern portion of the Level 11.
- Reduces the capacity of this Level 11 to provide passive surveillance to the south-east.
- Conflicts with the structural components of Level 11.

In order to address the intent of Recommendation 2 and the above issues, an alternative solution is proposed and illustrated in the Without Prejudice Massing Study. These plans adopt the terrace are along the southern edge as recommended by MGS Architects, whilst provide a minor variation to the recommended setback reducing it in

the order of 1.8 metres in order to ensure that the structural grid is not unreasonably impacted by the setback. In addition to this, the proposed setback ensures that the south-eastern portion of Level 11 can continue to provide office floor space, rather than a circulation space.

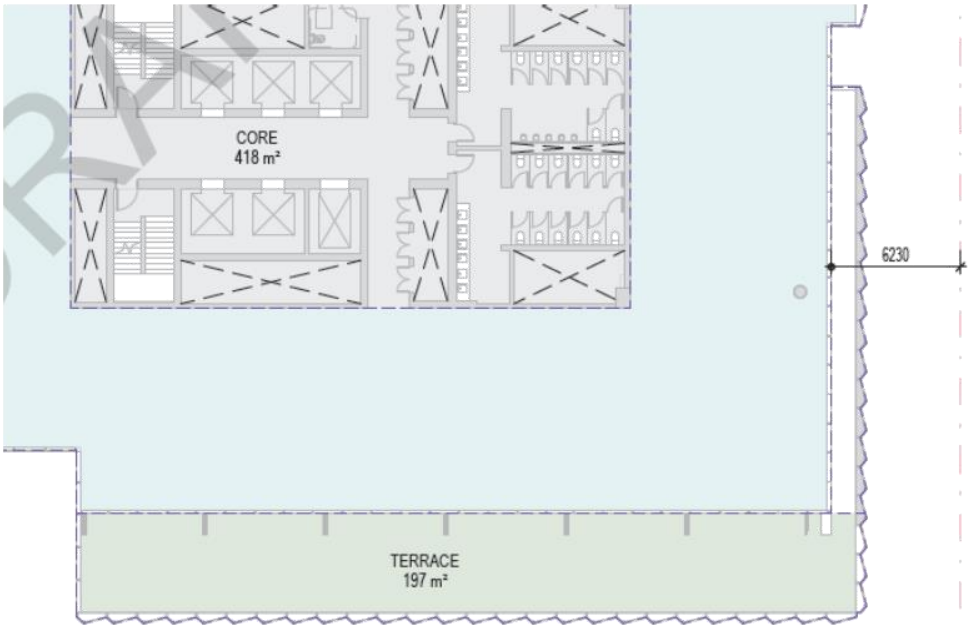


Figure 1 – Extract from the Without Prejudice Massing Study showing the proposed setback from the eastern boundary, noting it has consideration to the structural grid.

In addition to improving functional elements of the proposal, the proposed setback (in combination with the modifications to the roof plant) have significantly softened the south-east corner of the building, creating ensuring that Level is viewed as recessive from the south-east. The changes to the south-eastern portion of the proposal (as shown in the below figures) create a clearer hierarchy between the Swan Street and Burnley Station elements of the proposal.

In addition to this, this setback also reduces the length of shadows on Burnley Station, which is the key focus of Recommendation 3(A) below. (we note additional shadow analysis will follow shortly).



Figure 2 – Submitted Proposal



Figure 3 – Proposed alternative response

Attachment 9 - PLN20/0006 - 462 - 482 Swan Street Richmond - Without Prejudice Sketch Plans (05/06/2020)

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3 Recommendation 3(A – South-West Interface)

Recommendations 3(A) seeks to mitigate overshadowing impacts of the Burnley Station platform by eroding the south-western corner of the proposal. In order to achieve this MGS Architects have included in Recommendation 3(A) the provision of a 13.5 metre setback from the western façade along the southern portion of Level 10 and a 12 metre setback from the southern façade along the western portion of Level 10. While we agree in principle with the intent Recommendation 3(A), the extent of the setbacks recommended do not respond to the constraints of the proposal and their effects that cannot be reasonably accommodated, as they:

- Compromise the functionality of the south-western portion of the Level 10.
- Further reduction of the width between the core and southern wall, creating flow/movement conflicts.

In order to address both the intent of Recommendation 3(A) and the above issues, an alternative solution is proposed and illustrated in the Without Prejudice Massing Study. The proposed setbacks are marginally reduced from those recommended, with the proposal adopting the terrace within the south-west corner of Level 10. As recommend by MGS Architects, the proposed setbacks for the south west corner is also applied to Level 11. The setbacks as proposed ensure that the pinch point between the core and the southern wall is not further constrained thereby ensuring good circulation around the core is maintained. In addition to this the proposed setbacks respond to the intent of Recommendation 3(A) by reducing the prominence of the south-west corner of the proposal and the shadows it casts.

In order to demonstrate the reduction to the overshadowing impacts achieved by the proposed amendment, additional shadow studies will be provided next week. However, we note the erosion of both the south-east and south-west corners as shown in the Without Prejudice Massing Study result in a significant reduction in the extent of shadows cast. Thereby ensuring that the proposal does not result in any unreasonable loss of amenity to commuters at Burnley Station.

The below Figures highlight that the proposed changes will conceal the plant when viewed from the south-west.



Figure 4 – Submitted Proposal



Figure 5 – Proposed alternative response

4 Recommendation 3(B – Wind)

Recommendation 3(B) seeks to ensure that the wind conditions are acceptable for stationary activities in the ground alfresco and terrace areas. We accept Recommendation 3(B – Wind) and would accept a condition to this effect.

Attachment 9 - PLN20/0006 - 462 - 482 Swan Street Richmond - Without Prejudice Sketch Plans (05/06/2020)

5 Summary

The Without Prejudice Massing Study provides an alternative response that we believe addresses the intentions of the MGS Architects recommendations, whilst ensuring that the modified floor plates remain functional and consistent with the structural elements of the building. It is our view that the proposed setbacks as shown in the Massing Study provide an acceptable alternative to that proposed by Recommendation 2 & 3(A).

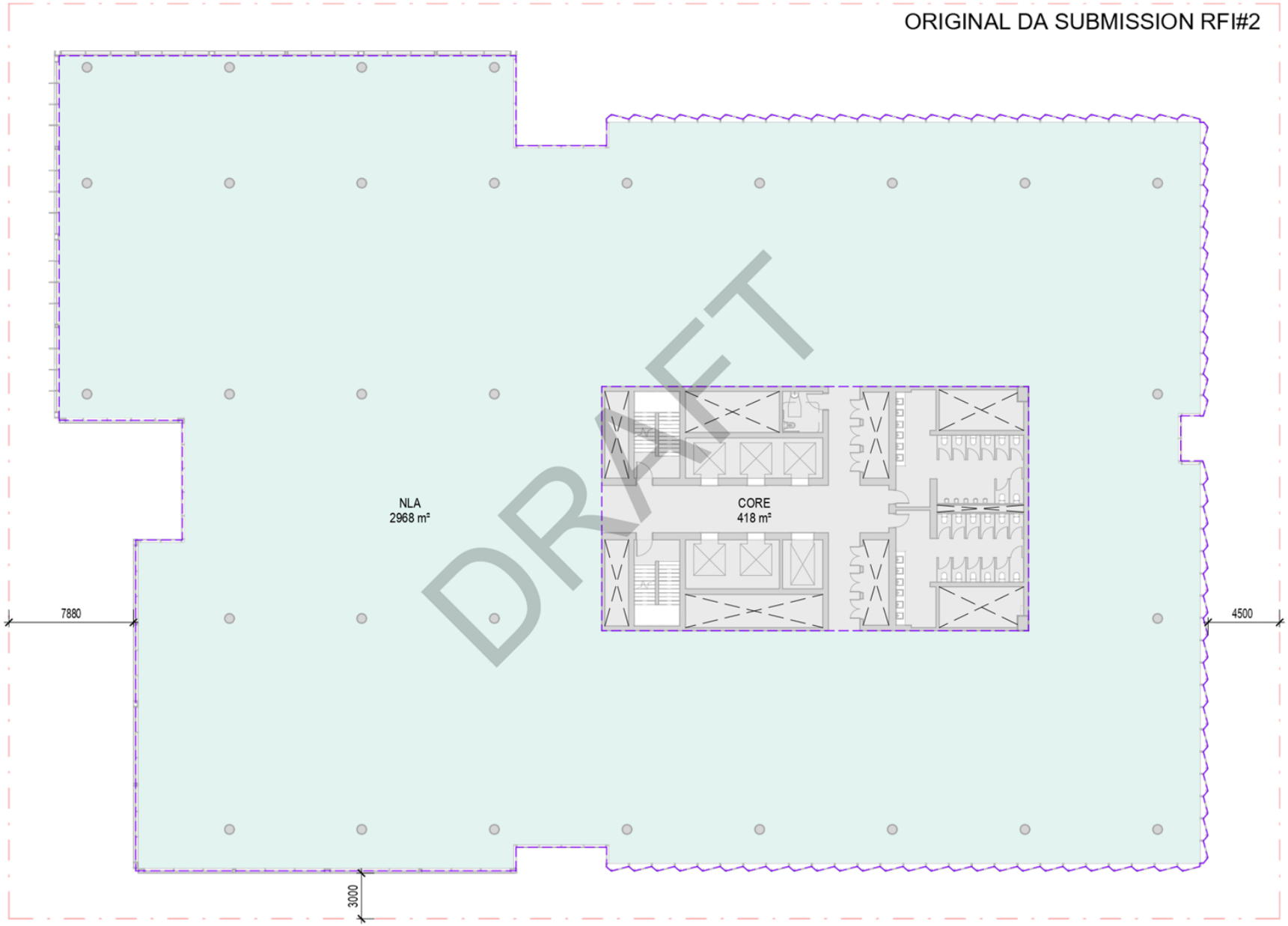
As outlined above, this material is provided on a without prejudice basis and we intend to expand upon this information with additional supporting material next week. In addition to this, we will also provide additional responses to the referral comments received to date.

If there are any further matters at this time, please do not hesitate to contact the undersigned on 03 9909 2202 or by email to jgrech@humanhabitats.com.au.

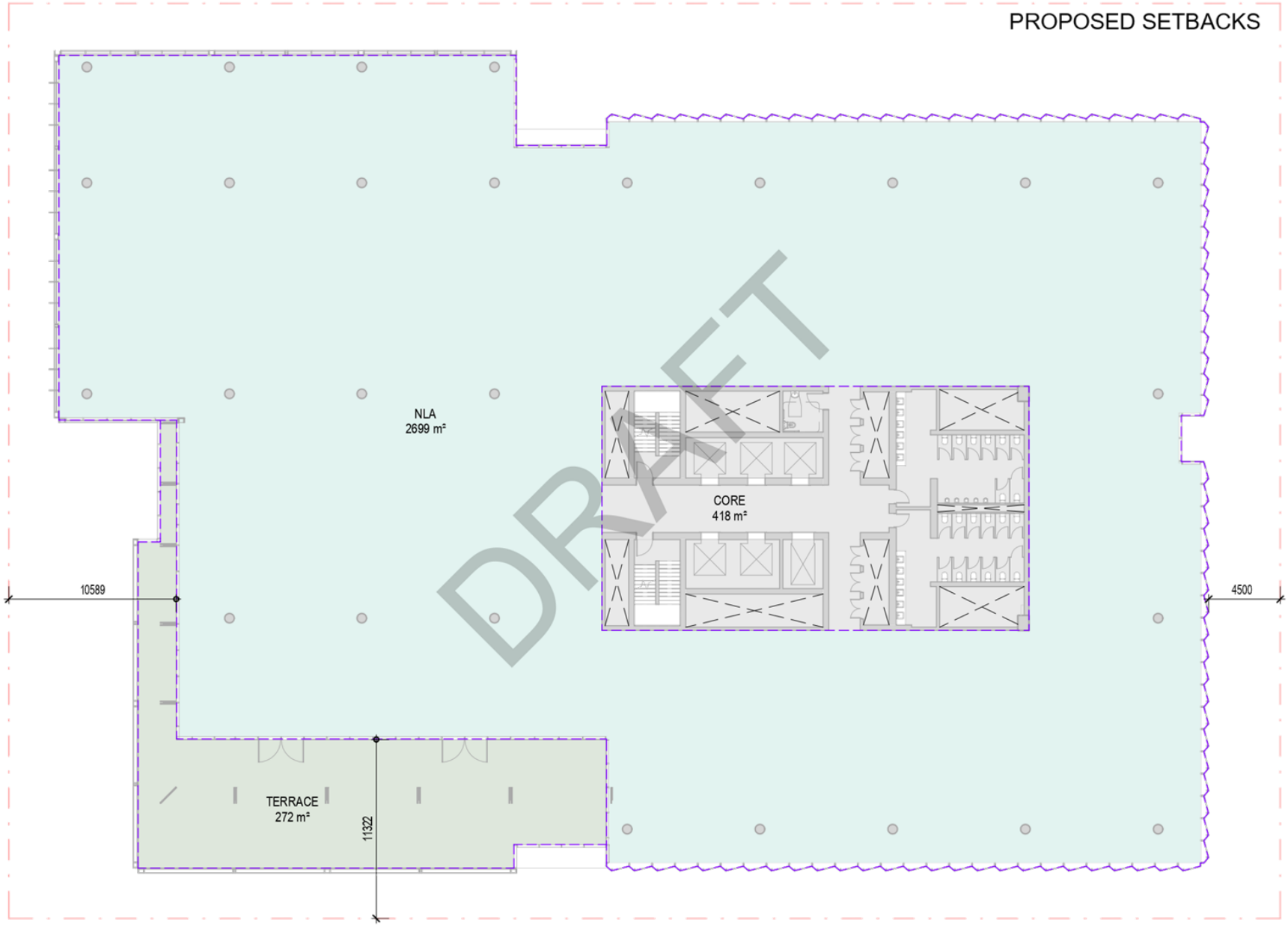
Yours sincerely

Joe Grech
Senior Planner

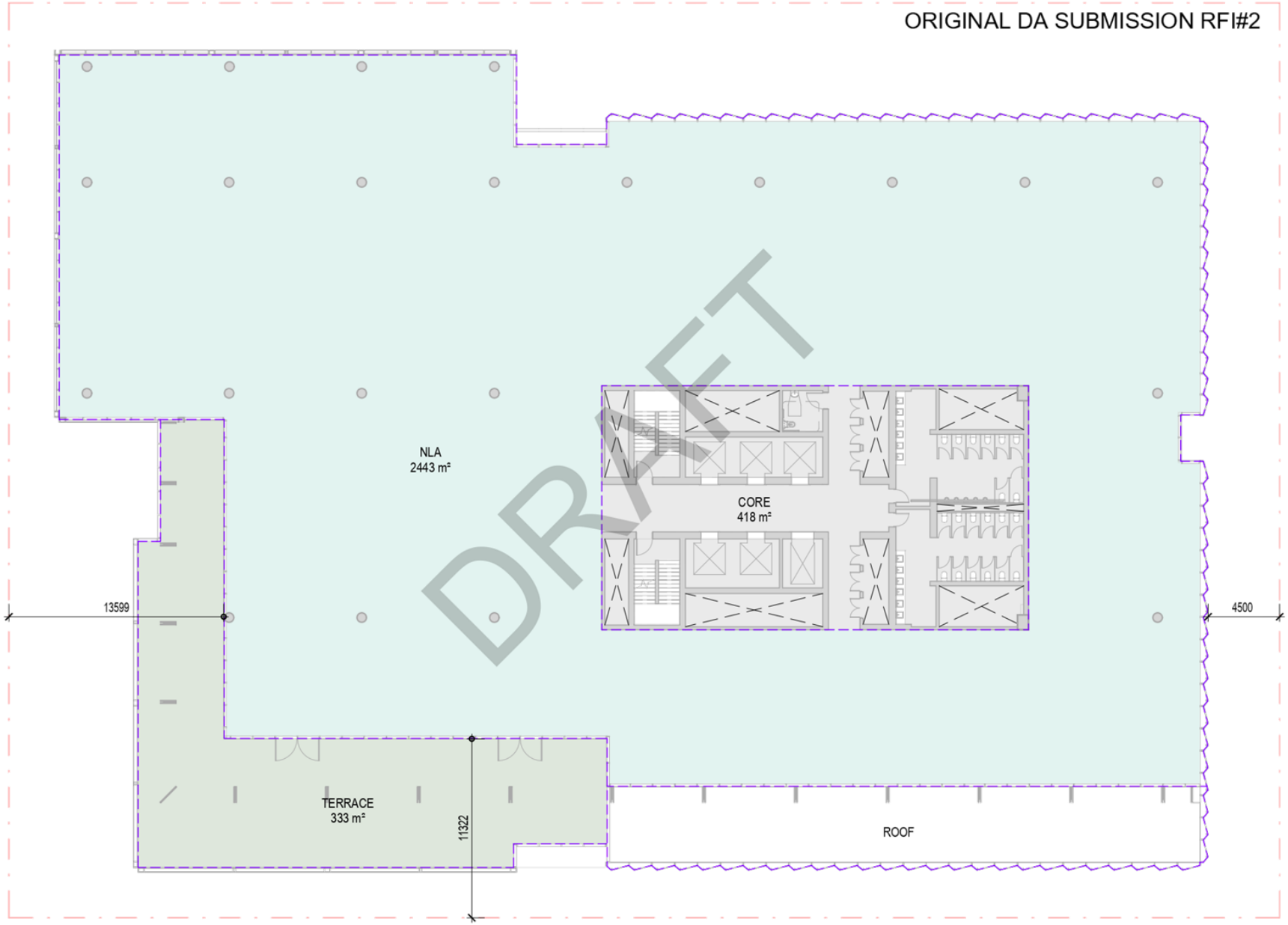
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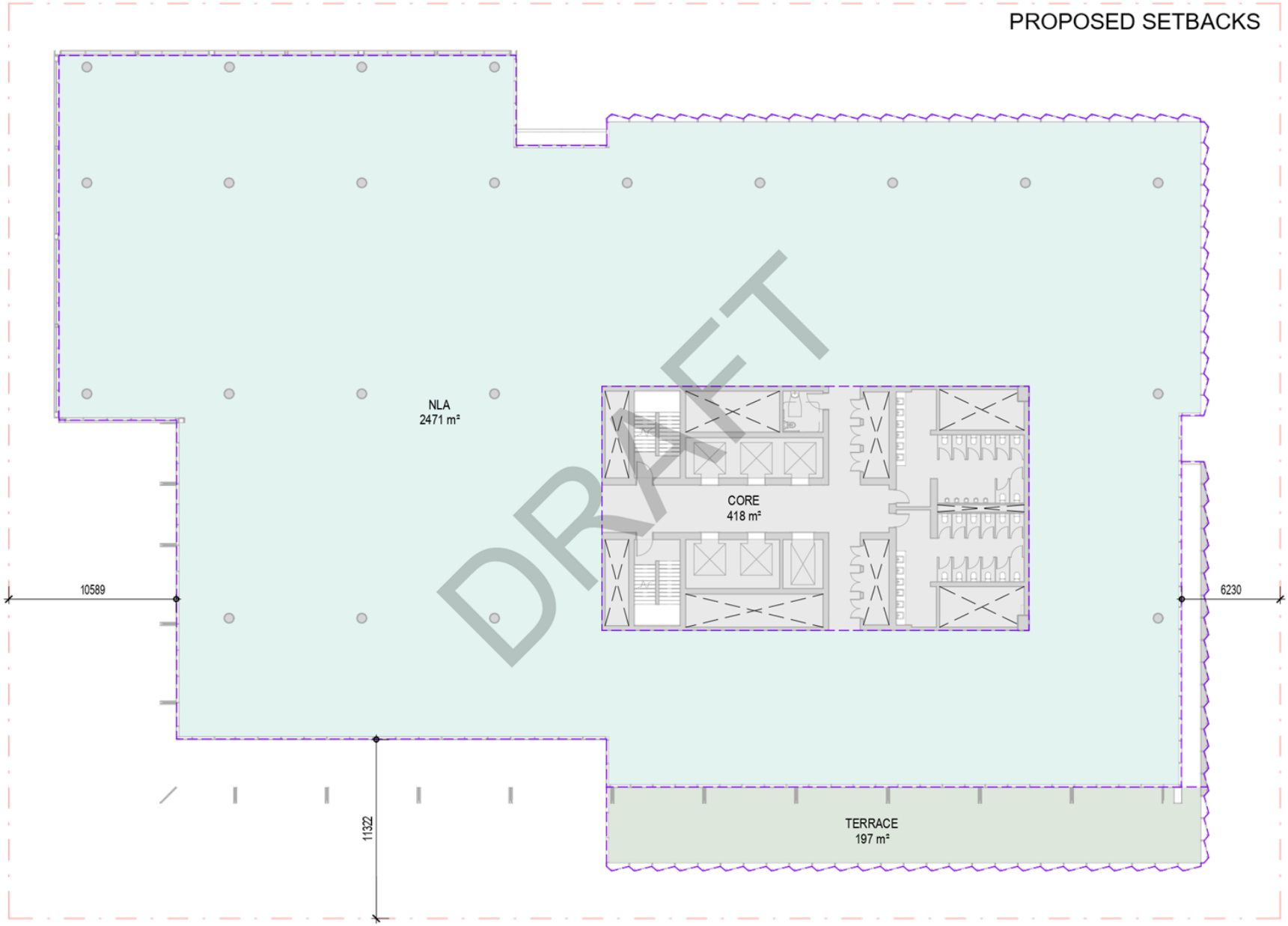
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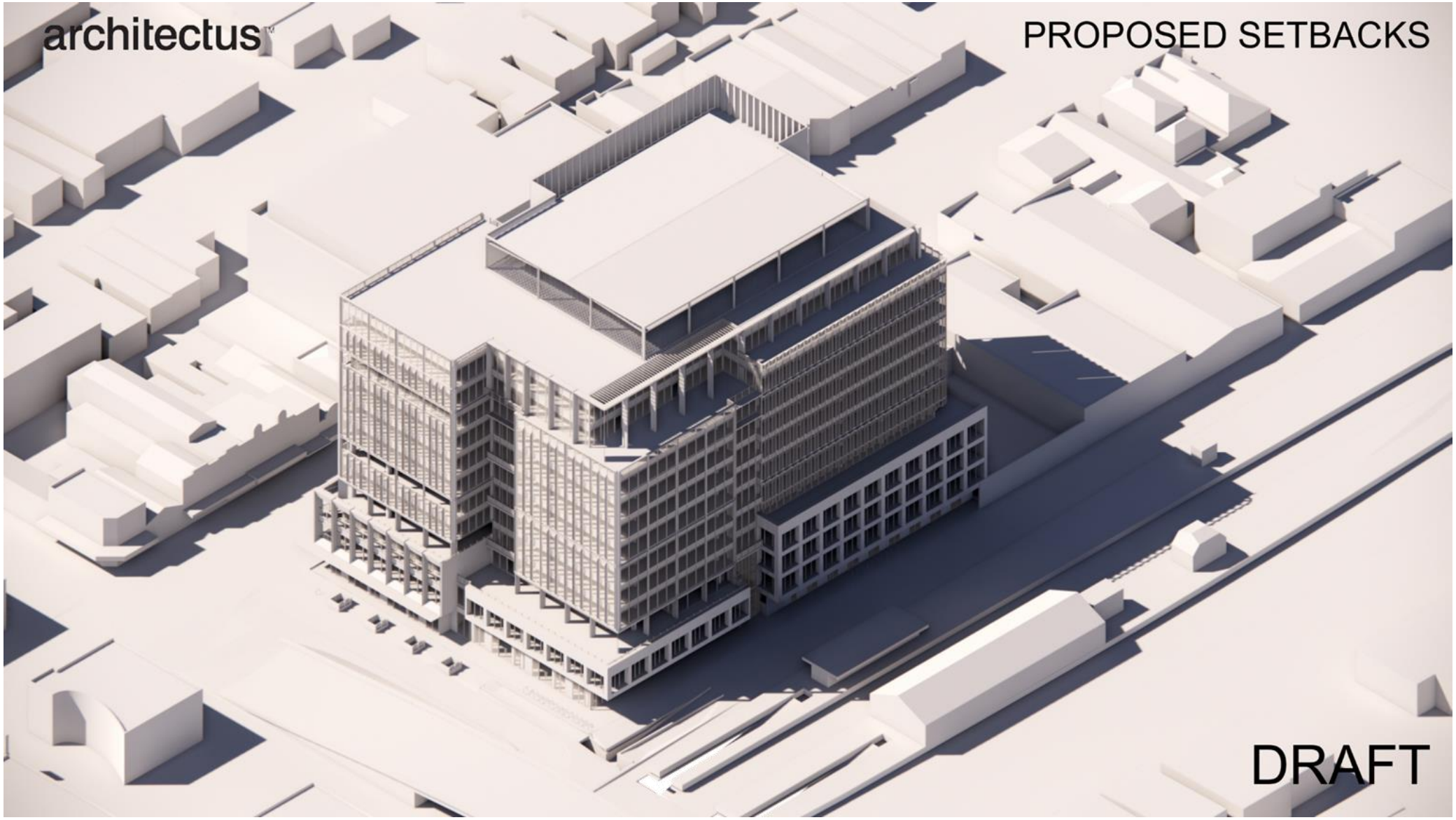
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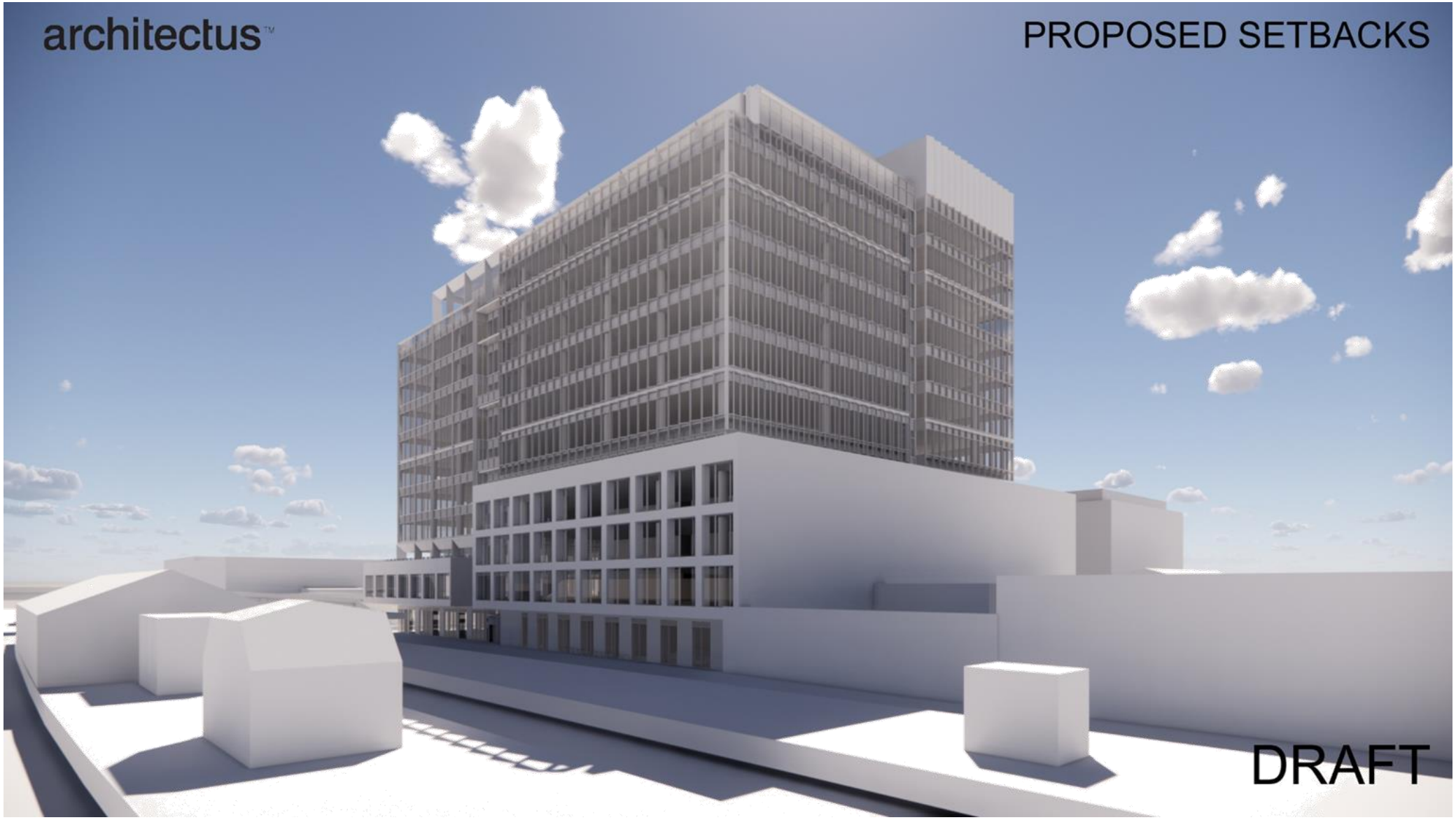
Attachment 9 - PLN20/0006 - 462 - 482 Swan Street Richmond - Without Prejudice Sketch Plans (05/06/2020)



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Attachment 9 - PLN20/0006 - 462 - 482 Swan Street Richmond - Without Prejudice Sketch Plans (05/06/2020)



Attachment 10 - PLN20/0006 - 462 - 482 Swan Street Richmond - Response to referrals (11/06/2020)

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11 June 2020

Michelle King
Acting Principal Planner
Yarra City Council
333 Bridge Road
Richmond VIC 3121

Dear Michelle

RESPONSE TO REFERRALS
PLN20/0006 - 462-482 SWAN STREET, RICHMOND

Human Habitats continues to act on behalf of the applicant, Charter Hall, in relation to the planning permit application (PLN20/0006) for the land at 462 – 482 Swan Street, Richmond (the subject site) and provide letter in response to the below list of referral comments:

1. Urban Design (Streetscapes Only)
2. Streetscapes & Natural Values
3. Open Space
4. Environmentally Sustainable Design
5. Acoustic (SLR Consulting)

The key points from each of the above referral comments are addressed in turn below.

1 Urban Design Unit (Streetscapes Only)

	Referral Comment	Response
1.	Asphalt pavement is recommended along the full length of the rail path to provide a consistent surface.	It is considered that the transition from asphalt to the proposed paving (sawn bluestone and exfoliated sesame white granite) provides for a positive demarcation between the rail path and the Burnley Station, which in turn improves the sense of arrival to the Burnley Station. For these reasons the pavement material as proposed are considered appropriate.
2.	The long-term success and amenity of the landscaped terrace is questionable due to the area being completely shaded for most of the day.	As shown in the shadow diagrams, the terrace receives sunlight from 12noon and throughout the afternoon period. It is considered that it will be well utilised during the afternoon periods.

Attachment 10 - PLN20/0006 - 462 - 482 Swan Street Richmond - Response to referrals (11/06/2020)

3.	The City of Yarra standard footpath treatment is asphalt. All footpath areas outside of the subject site's title boundary are to be surfaced in asphalt as per Yarra standard drawings. This is to provide clear delineation between public and private space, as well as for ease of maintenance of underground services.	As an alternative solution, we propose that the public / private land is delineated by an inset metal strip (or metal discs or similar) along the property boundary. This would ensure that public / private land is delineated whist retaining a cohesive pavement treatment. We note that the retention of the footpath as bluestone would also be consistent with a future public space in the Burnley Street service area.
4.	DDA compliant pram ramps (including TGSIs) need to be shown at the Burnley St/Swan St intersection as per Yarra standard drawings.	Noted.
5.	Rail path; asphalt pavement is recommend along the full length of the rail path, and will require VicTrack consent and a maintenance agreement between the applicant and VicTrack.	Refer to comments above.
6.	4no. existing bike hoops are located on Burnley Street near the corner of Swan St. The proposed drawings show the proposed northern-most planter box/seat to be almost hard against the existing bike hoops. The developer is to either remove the northern-most planter box/seat, or relocate the bike hoops to council's satisfaction (in accordance with Yarra standard drawings).	This can be addressed by a condition of permit.
7.	Ensure there is a 600mm set back between the proposed raised planters with custom seating along Burnley Street and the kerb.	This can be addressed by a condition of permit.
8.	There may be an opportunity to develop the eastern side of the Burnley Street service road into a shared space. This could provide many improved public realm benefits, including a safe drop off zone to the station, slowed traffic adjacent the proposed planter boxes/seating, as well improving the adjacent verge planting to soften the interface with the Burnley Street overpass. In this case, it would be beneficial to continue the proposed bluestone paving across the full width of the footpath and potentially the shared road space.	We are supportive (in principle) of the possibility for part of the Burnley Street service road becoming a public space (at no cost to our client). As per Council's commentary, we would want some parking to be retained in this area and believe that this area would benefit from the inclusion of pick up/drop off parking bays / taxi rank.

9.	The previous proposal included the construction of new DDA compliant north-south and east-west pedestrian ramps to connect to the railway underpass. This new ramp would provide significant access improvements to Burnley Station and the applicant is strongly encouraged to pursue this option with VicTrack. (It should be noted that this would require a significant re-design of the Burnley St and southern rail path interfaces.)	We note that the previous approval provided vehicle access (loading bay) in the location of the ramp, and as a result was required to reconstruct the existing pedestrian ramps. Unlike the existing approval on the subject site, this proposal does not propose any works that impact the existing ramps.

2 Streetscapes & Natural Values Unit

	Referral Comment	Response
1.	A review of the garden beds is recommended. Appropriate soil volumes to be calculated to support the proposed plantings, including consideration for passive irrigation or use of water captured by the subject site.	We have reviewed the garden beds and believe that the soil volumes are appropriate.
2.	The necessary soil volume for a *Zelkova* 'Green Vase' using the *Elke Haege* calculation form is 13.35m3 per tree.	Noted.
3.	The development proposes planting of 6 London Plane along the Swan Street frontage. These are unsuitable and should be substituted with *Lagerstroemia indica* 'Natchez', constant with other plantings along Swan Street	London Plane trees are also present along Swan Street and we are of the view that they are appropriate along the street. However, if necessary, they can be substituted for *Lagerstroemia indica* 'Natchez'.
4.	Lagerstroemia indica 'Natchez' are capable of reaching 6m height and 4m spread. This proposed canopy will directly impact any planting along Swan Street. This awning contradicts the proposed plantings and is recommended to be removed.	The street trees are to be pruned and maintained to accommodate the awning. We note this is commonly accepted in order for street tree canopies to avoid powerlines/tram lines.

Attachment 10 - PLN20/0006 - 462 - 482 Swan Street Richmond - Response to referrals (11/06/2020)

3 Open Space Unit

	Referral Comment	Response
1.	The awnings along Swan Street and Burnley Street will need to be adjusted to accommodate the canopy of the proposed tree planting.	The street trees are to be pruned and maintained to accommodate the awning. We note this is commonly accepted in order for street tree canopies to avoid powerlines/tram lines.
2.	The paving materials outside the title boundary will need to be consistent with the wider precinct. Please ensure the urban design comments on this item are incorporated in future iterations of the plan.	It is considered that the transition from asphalt to the proposed paving (sawn bluestone and exfoliated sesame white granite) provides for a positive demarcation between the broader area and the Burnley Station, which in turn improves the sense of arrival to the Burnley Station. For these reasons the pavement material as proposed are considered appropriate.
3.	The potential to modify the ramp to Burnely Station so it is complaint with DDA standards and meets a 1:14 grade should be considered.	The proposal does not seek to modify the ramp to Burnley Station. We note these ramps are outside of the works area.
4.	Given the traffic along the Burnley Street side is only to service this development and for cars to drop off at the station or turn out, can we investigate the development of a shared space where the public realm can stretch across to the verge of the overpass and potentially create some safe drop off zones for the development and to the station? This might also allow us meet the grade for access to the station while also accommodating the custom planters and awning along that side.	As outlined above, we are supportive (in principle) of part of the Burnley Street service road becoming a public space (at no cost to our client). Noting that we would want to see the retention of some on-street parking facilities.
5.	What materials are going to be used for the seating slabs?	To be addressed in the detailed landscape plan.
6.	What is the relationship between the terrace and ramp into Burnley Station?	The rear ground floor terrace area steps down toward the existing Burnley Station ramp and separated by the existing fencing. No works are proposed to the ramp or ramp infrastructure.
7.	Given this section is outside the title boundary, who will be responsible for the ongoing maintenance of this section?	Council will be responsible for all ongoing maintenance of works outside of the title boundary.

4 ESD Officer

Clause 22.17 of the Yarra Planning Scheme allows for a Sustainability Management Plan (SMP) to be prepared using the Green Star tool. In discussions with the ESD officer, Council acknowledged that Clause 22.17 of the Yarra Planning Scheme does not require any specific commitments to be made. While some ESD tools (i.e. BESS) require specific commitments to be made, the Green Star tool provides for flexible pathways to achieve a particular "star rating". As outlined on page 5 of the SMP, the proposal targets a 5 Star Green Star rating, which achieves Australian Excellence from an ESD perspective.

Attachment 10 - PLN20/0006 - 462 - 482 Swan Street Richmond - Response to referrals (11/06/2020)

The Green Star pathway as mapped out within the SMP includes a number of ESD commitments, whist retaining some flexibility in the pathway. However, this flexibility goes only as far and the ultimate ESD pathway will still require that the project achieves the 5 Star Green Star commitment.

5 Acoustic (SLR Consulting)

Upon review of the external Acoustic referral prepared by SLR consultant we find that SLR is generally satisfied with the material provided an no further changes are required.

6 Summary

We trust that the above response will provide Council with the additional information required to complete their assessment and potential conditions in relation to the above matters.

We note a further response to the external urban design comments prepared by MGS Architects is still to come. In addition to this, commentary regarding all traffic related referrals will be provided once Department of Transport comments have been received.

If there are any further matters at this time, please do not hesitate to contact the undersigned on 03 9909 2202 or by email to jgrech@humanhabitats.com.au.

Yours sincerely

Joe Grech
Senior Planner

Attachment 11 - PLN20/0006 - 462 - 482 Swan Street Richmond - Response to engineering referrals (12/06/2020)

IMPACT Traffic Engineering Pty Ltd
ABN: 78 611 424 107

Level 17, 31 Queen Street, Melbourne, Victoria 3000
impactaustralia.com.au

12 June 2020
Reference: IMP191103CAN02F01.docx

37°50'12"S 144°58'33"E

CONSULTANT ADVICE NOTICE

To:	Joe Grech	From:	John-Paul Maina
Company	**Human Habitats**	Company:	**IMPACT®**
Email	jgrech@humanhabitats.com.au	Email:	jp@impactaustralia.com.au
CC			
PROJECT:	480 Swan Street, Richmond	Reference:	IMP191103CAN02F01.docx
Subject	RESPONSE TO COUNCIL RFI & DoT CONDITIONS		

Preamble

The following provides our response to

- City Of Yarra RFI comments received via email on 25th May 2020 from
  - Council's Strategic Transport Unit and
  - Council's Civil Engineering Unit,
- Department of Transport (DoT) comments received via email on 10th June 2020.

For ease of reference we have provided the comments and response in a table format.

City of Yarra: Strategic Transport Unit

Council Comments	Response
Bicycle Parking	
Visitors:	
A minimum of 66 visitor bicycle spaces must be provided in a location easily accessible to visitors of the site. All visitor spaces should be provided as a horizontal bicycle rail and must meet clearance and access-way requirements of AS2890.3 or be otherwise to the satisfaction of the responsible authority	Noted and Agreed. Additional 2 bicycle spaces are to be provided to achieve the best practise rate of 66 spaces. All visitor spaces are planned as horizontal spaces.
It is recommended that at least 4 hoops are relocated from the southern side of the building to Swan Street.	Noted. Consideration will be given to redistributing visitor parking with the intent to increase parking along Swan Street as appropriate, including the relocation of four existing hoops at the corner of Burnley and Swan Street
It is also recommended that wayfinding signage is installed, to direct visitors to the visitor bicycle parking at the western and southern sides of the building	Noted. Wayfinding signage is to be incorporated as appropriate to guide visitors to parking areas to the western and southern sides of the building.

Attachment 11 - PLN20/0006 - 462 - 482 Swan Street Richmond - Response to engineering referrals (12/06/2020)

37°50'12"S 144°58'33"E

Employees:	
A minimum of 326 employee bicycle spaces must be provided within a maximum of two secure compounds.	Noted and Agreed. Additional 44 employee bicycle spaces are to be provided to achieve the best practise rate of 326 spaces.
Electric Vehicles	
Council's BESS guidelines encourage the use of fuel efficient and electric vehicles (EV). Whilst it is acceptable no EV charging points are installed during construction, to allow for easy future provision for electric vehicle charging, car parking areas should be electrically wired to be 'EV ready' to enable future installation of EV chargers	Noted and agreed.
Green Travel Plan	
The GTP is generally adequate, however should be modified to include: (a) Security arrangements to access the employee bicycle storage spaces; (b) The types of lockers proposed within the change-room facilities, with at least 50% of lockers providing hanging storage space; and (c) Signage and wayfinding information for bicycle facilities and pedestrians pursuant to Australian Standard AS2890.3. The GTP should also be updated to include the endorsed ground floor plan showing details of the bicycle parking and end of trip facilities.	Noted. Green Travel Plan is to be updated once the ground floor plan is endorsed to include the additional information as requested.

Attachment 11 - PLN20/0006 - 462 - 482 Swan Street Richmond - Response to engineering referrals (12/06/2020)

37°50'12"S 144°58'33"E

City of Yarra: Civil Engineering Unit

Council Comments	Response
Traffic Impact	
The gap analysis performed by Impact Traffic Engineering suggests that there is sufficient capacity to comfortably accommodate the development's traffic without impacting on the traffic operation along Swan Street. The applicant should confirm how it was concluded that traffic exiting the development can satisfactorily enter the traffic stream of Swan Street. Impact should also clarify the figures in Tables 3 to 6 of the traffic report. How were the figures in Columns 'AM Peak' and 'PM Peak' derived? There is very little detail on the impact of traffic that would be queued at the Burnley Street signalised intersection. Given the siteís car park access is located approximately 100 metres from Burnley Street, any stationary traffic queues extending back from Burnley Street could block access to the site.	As described within AustRoads Guide to Traffic Management Part 3: Transport Study and Analysis Methods, the critical acceptance headway and the follow-up headway are two basic terms which describe how a driver will decide whether to enter or depart a traffic stream The critical acceptance headway describes the minimum headway between conflicting vehicles that is acceptable to an entering minor-stream driver or exiting major stream driver. Critical acceptance headway and the follow-up headway values are nominated within AustRoads Guide to Road Design Part 4A. In summary, the studies commissioned on Tuesday 19th November 2019 and Wednesday 20th November 2019, recorded each vehicle that passed the study location with a time stamp on each movement, and when queues extended to the study location, the duration of the queue was recorded and discounted from the gap analysis calculations. This data allowed a calculation of the critical acceptance headway and the follow-up headway at the proposed site access. As an example, data relating to vehicle flows was recorded as follows: — Car 1: travelling west recorded at 7:01:29 / Car 2 travelling west recorded at 7:01:59 — Car 1 travelling east recorded at 7:01:39 / Car 2 travelling east recorded at 7:01:59

37°50'12"S 144°58'33"E

	In this example, there is a 30 second gap between Car 1 and Car 2 (Westbound traffic stream), and a 20 second gap between Car 1 and Car 2 (eastbound traffic stream). Based on the critical acceptance headway and the follow-up headway values nominated within AustRoads Guide to Road Design Part 4A, the 30 second gap in the westbound traffic steam can accommodate in theory, 9 left turn movements and 9 right in movements. For right turn out movements' consideration needs to be given to both eastbound and westbound traffic streams. In this example, there is a 10 second gap between Car 1: travelling west at 7:01:29 and Car 1 travelling east at 7:01:39. This 10 second gap is only sufficient for 1 right turn movement. Where queues extend to the study location, the data is recorded in a manner that recognises the presence of queues and thus no gaps available. These calculations are repeated for every vehicle recorded passing the site, the outcomes of these calculations are what are presented at Table 3 & 4. Table 5 & 6 take the findings from Table 3 & 4 and introduce a discount on the theoretical values to provide a practical intersection capacity. The practical intersection during the peak hour as demonstrated in the report shows that there are sufficient critical acceptance headway and the follow-up headways to accommodate the projected volumes to / from the proposed development.
Impact has recommended for a 'Keep Clear' road marking treatment to be installed at the developmentís vehicle entrance. This would prevent any stationary traffic from blocking the car park	Noted and agreed.

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entrance at the site. This recommendation is considered reasonable.	
Impact is to confirm if the implementation of traffic signals at the car park entrance is appropriate to reduce the traffic delays along Swan Street and possible traffic queuing within the site	The AustRoads Guide to Traffic Management Part 6 notes the following warrants for signals. Traffic volume: Where the volume of traffic is the principal reason for providing a control device, traffic signals may be considered, subject to detailed analysis when the major road carries at least 600 veh/hour (two-way) and the minor road concurrently carries at least 200 veh/hour (highest approach volume) on one approach over any four hours of an average day Continuous traffic: Where traffic on the major road is sufficient to cause undue delay or hazard for traffic on a minor road, traffic signals may be considered when the major road carries at least 900 veh/hour (two-way) and the minor road concurrently carries at least 100 veh/hour (highest approach volume) on one approach, over any four hours of an average day. The traffic volume warrants are not met in respect to number of vehicles arriving from the site access, and in respect to continuous traffic and delay, gap acceptance studies have confirmed that there are a suitable number of gaps in the traffic stream to enable vehicles to enter and exit the site without delay on Swan Street. Accordingly, traffic signals are not warranted nor required. A position that has been confirmed by the Department of Transport.
Design	
Can the median traffic island inside the vehicle accessway as shown on the Ground Floor plan be removed to provide a wider carriageway?	The median traffic island is introduced to accommodate a boom gate and controller. This cannot be removed.
Visibility sight triangles are to be superimposed and dimensioned on the drawings as required by Design standard 1.	These are shown on the accompanying plans
To be dimensioned on the plans. The headroom clearance is required to determine if there is	Noted. Architectural plans will be updated to include head room clearance.

Attachment 11 - PLN20/0006 - 462 - 482 Swan Street Richmond - Response to engineering referrals (12/06/2020)

37°50'12"S 144°58'33"E

sufficient headroom height for delivery and waste collection vehicles accessing the loading bay.	
The floor to ceiling height clearance within the basement car park levels are to be dimensioned on the plans.	Noted. Architectural plans will be updated to include head room clearance.
Columns setbacks are to be designed in accordance with AS/NZS 2890.1:2004. If the columns cannot be relocated, can the parking spaces adjacent to columns be widened to allow car doors to be opened or could the spaces adjacent to columns be allocated for small cars? The column depths are also to be dimensioned on the plans.	Columns cannot be located to achieve strict compliance with AS/NZS 2890.1:2004. This outcome is not uncommon in car parks below multi-storey buildings due to structural requirements. Importantly, spaces within the car park will be used by office related trips. These trips are typically single occupant trips. Thus, full compliance with door opening for all doors would not compromise usability.
The applicant is to consider leaving the security gate open during the AM peak period to allow vehicles to enter the site without the operation of the security gate.	Access control during business hours will be managed via a boom gate and card reader located within the site. The security gate at the building perimeter will remain opening during busines hours.
The swept path diagrams for a B99 design vehicle and an oncoming B85 design vehicle entering and exiting the development via Swan Street are to be provided.	Refer accompanying plan.
The ground clearance check requires the applicant to obtain a number of spot levels which include the reduced level 2.0 metres inside the property, the property boundary level, the bottom of kerb (invert) level, the edge of the channel level and a few levels on the road pavement - in this case, for Swan Street. These levels are to be shown on a cross sectional drawings, with dimensions, together with the B99 design vehicle ground clearance template demonstrating access.	Noted. Ground Clearance assessment to be undertaken at detail design stage.
The canopy along the site's Swan Street and Burnley Street road frontages must be setback 750 mm from the front of kerb to satisfy the Building Regulations 2018.	Noted.

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37°50'12"S 144°58'33"E

Department of Transport	
DoT Comment	
As Council will be aware, the Department have considered a previous application for this site through a Planning Scheme Amendment and Planning Panel several years ago. At the time, there was considerable debate at the Panel about the provision of traffic signals to access the site, delays to trams along Swan Street and public realm works to integrate Burnley Station and surrounds. The new use and development has less car parking spaces and places emphasis on the site's public and active transport access which is welcomed. The Department have reviewed the new application and have concluded that traffic signals can be waived in this instance provided access is restricted to a left in left out arrangement like the application at the adjoining property to the east	
Impact Observation	
We agree that the need for signals is no longer warranted, however we question the merit of restricting access to left in / left out only. Whilst it is acknowledged that left-in/left-out access arrangements have the least impact on the arterial road network from a performance and safety perspective, at this location, the right turn movement inbound cannot be conveniently and readily redistributed to suite the access limitations. Accordingly, there is a risk that a left in / left out limitation will induce undesirable and unintended behaviours, such as U-Turn movements along Swan Street. This outcome would be worse from a road performance, and safety perspective than permitting the right turn in movement at the site access. Accordingly, we consider that a suitable balance between performance and safety would be to only restrict right turn movements out, with all other movements permitted i.e. left in / right in/ left out. Note: The left in / left out arrangements at the adjoining property to the east would have been the only suitable access arrangement in the context of signals at the site access to the development.	
DoT Comment	
The Department have also recommended a detailed road safety audit for the site and public realm works to assess and improve pedestrian / cycle movements and traffic safety to and from the site and surrounds	
Impact Observation	
Noted and Agreed.	
DoT Conditions	Response
1. Before the development commences (excluding demolition), or other time agreed to in writing with Head, Transport for Victoria, amended plans to the satisfaction of the Head, transport for Victoria (TfV) must be submitted to and approved by the Responsible Authority. The plans must be drawn to scale with dimensions and three copies must be provided. These plans must be generally in accordance with the plans submitted to TfV with the application but are to be modified to show:	

37°50'12"S 144°58'33"E

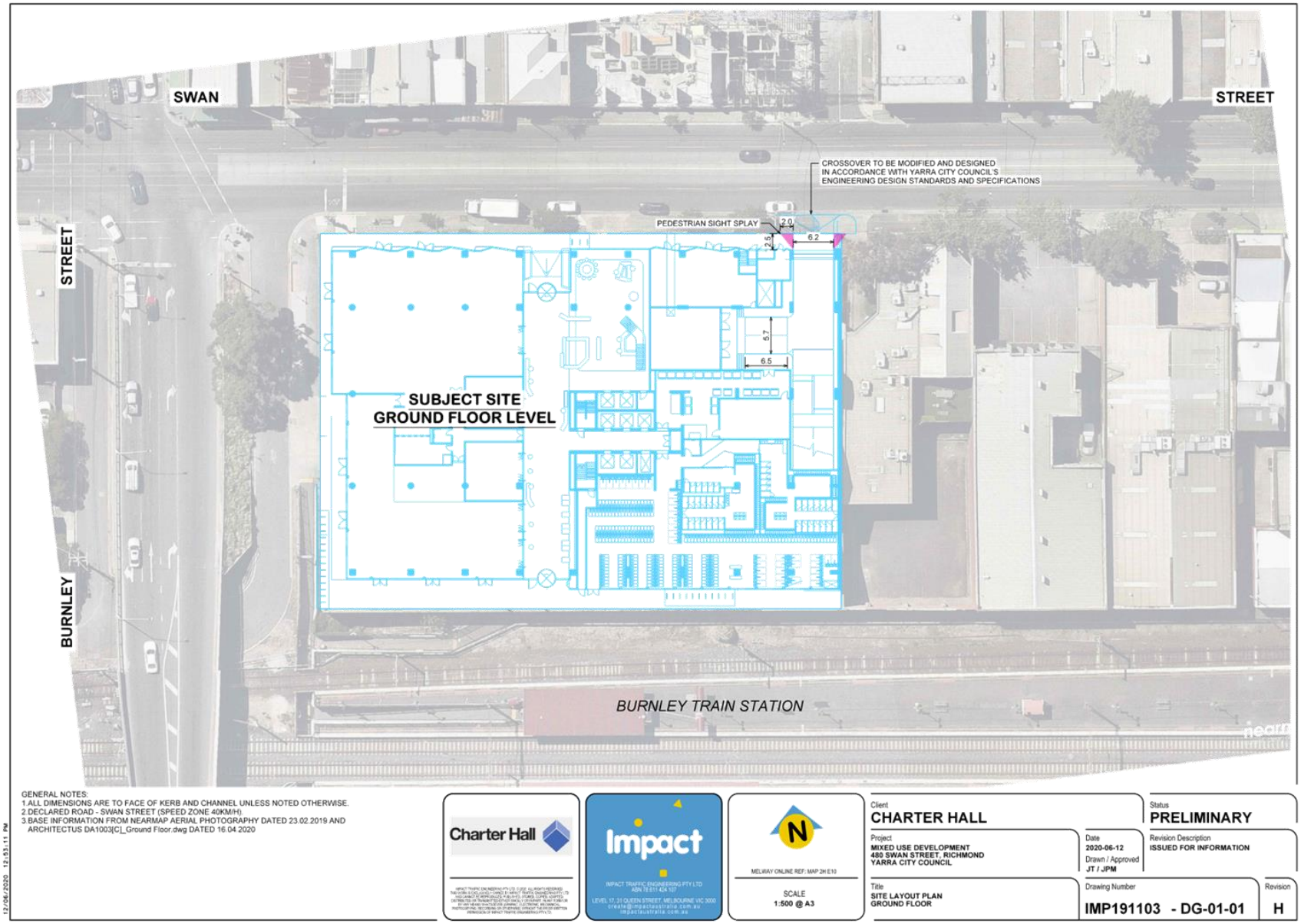
a) the installation of signs, line marking, splitter island and associated road works permitting only 'left turn in' and 'left turn out' vehicular access from Swan Street (informed by the Road Safety Audit);	As noted above, there is a risk that a left in / left out limitation will induce undesirable and unintended behaviours, such as U-Turn movements along Swan Street. This outcome would be worse from a road performance, and safety perspective than permitting the right turn in movement at the site access. Accordingly, we consider that a suitable balance between performance and safety would be to only restrict right turn movements out, with all other movements permitted i.e. left in / right in/ left out. This consideration will be further informed by the Road Safety Audit.
b) modification as required and/or removal of any existing car parking spaces, street tree/s and associated road works on the south side of Swan Street to accommodate the new vehicular access arrangement;	Noted.
c) retention of Metro Train bus replacement space in the Burnley Street underpass;	Noted.
d) tram shelter and associated works in an agree location on Swan Street;	Noted.
e) a landscaping plan and schedule;	Outside our area of expertise.
f) demonstrate compliance with air, light and fire requirements without reliance on railway land, and;	
g) any recommendations of the road safety audit	Noted. As discussed above and subject of course to the findings of an independent road safety audit, we consider that a suitable balance between performance and safety would be to only restrict right turn movements out, with all other movements permitted i.e. left in / right in/ left out. If such a recommendation were put forward in the Road Safety Audit, how would this be addressed noting the specificity of Condition 1a in relation to permitting only 'left turn in' and 'left turn out' vehicular access?

Attachment 11 - PLN20/0006 - 462 - 482 Swan Street Richmond - Response to engineering referrals (12/06/2020)

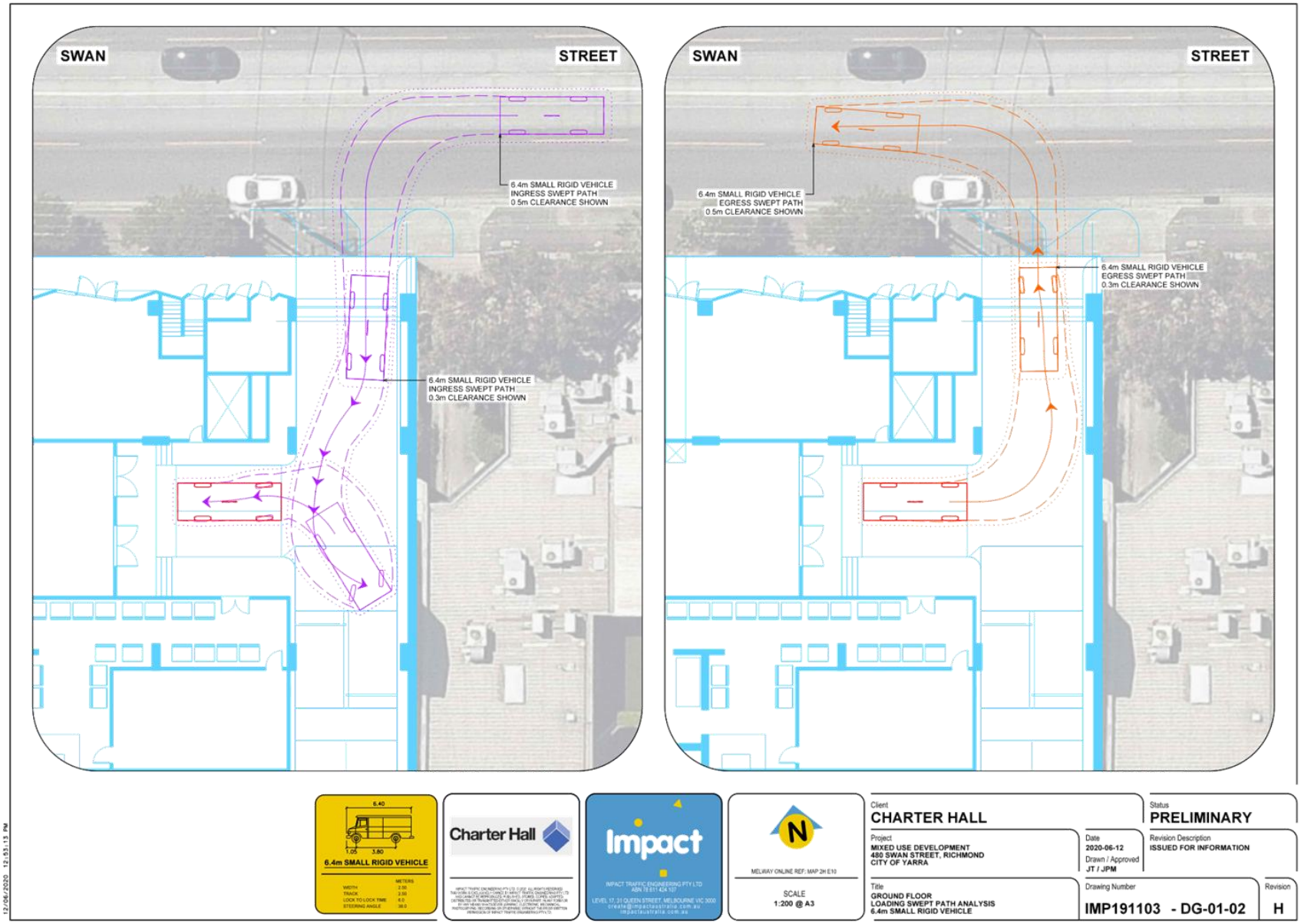
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DoT Conditions	Response
2. Before the development commences (excluding demolition), unless otherwise agreed in writing with TfV, the permit holder must submit a formal road safety audit, (including a function layout plan) by a suitable qualified consultant, to the satisfaction of TfV and the Responsible Authority. The audit must include, but not limited to:	
i) the function and layout of the left in left out Swan Street access,	As noted above, some flexibility is required in relation to the specificity of permitting only 'left turn in' and 'left turn out' vehicular access, noting that a suitable balance between performance and safety would be to only restrict right turn movements out, with all other movements permitted i.e. left in / right in/ left out.
ii) pedestrian, cycle and vehicle access/egress arrangements (including pedestrian crossings at/in vicinity of the intersection of Swan & Burnley Streets)	Noted.
iii) loading arrangements,	Noted.
iv) buildings and works within the public realm,	Noted.
v) internal circulation/layout,	Noted.
vi) lighting and vegetation impact on adjoining roadway/s.	Noted.
3. Unless otherwise agreed in writing with TfV within six (6) months of the occupation of the development the permit holder must submit a post development road safety audit, to the satisfaction of TfV, demonstrating that all works associated with the approved road safety audit have been tested and any reasonable alterations required are completed to the full cost of the permit holder and to the satisfaction of TfV.	Noted.
11. Prior to the occupation of the development, all works outlined on the endorsed plans for the left in left out only access must be completed with associated signs, to the satisfaction of TfV at the full cost to the permit holder.	As noted above, some flexibility is required in relation to the specificity of permitting only 'left turn in' and 'left turn out' vehicular access, noting that a suitable balance between performance and safety would be to only restrict right turn movements out, with all other movements permitted i.e. left in / right in/ left out.

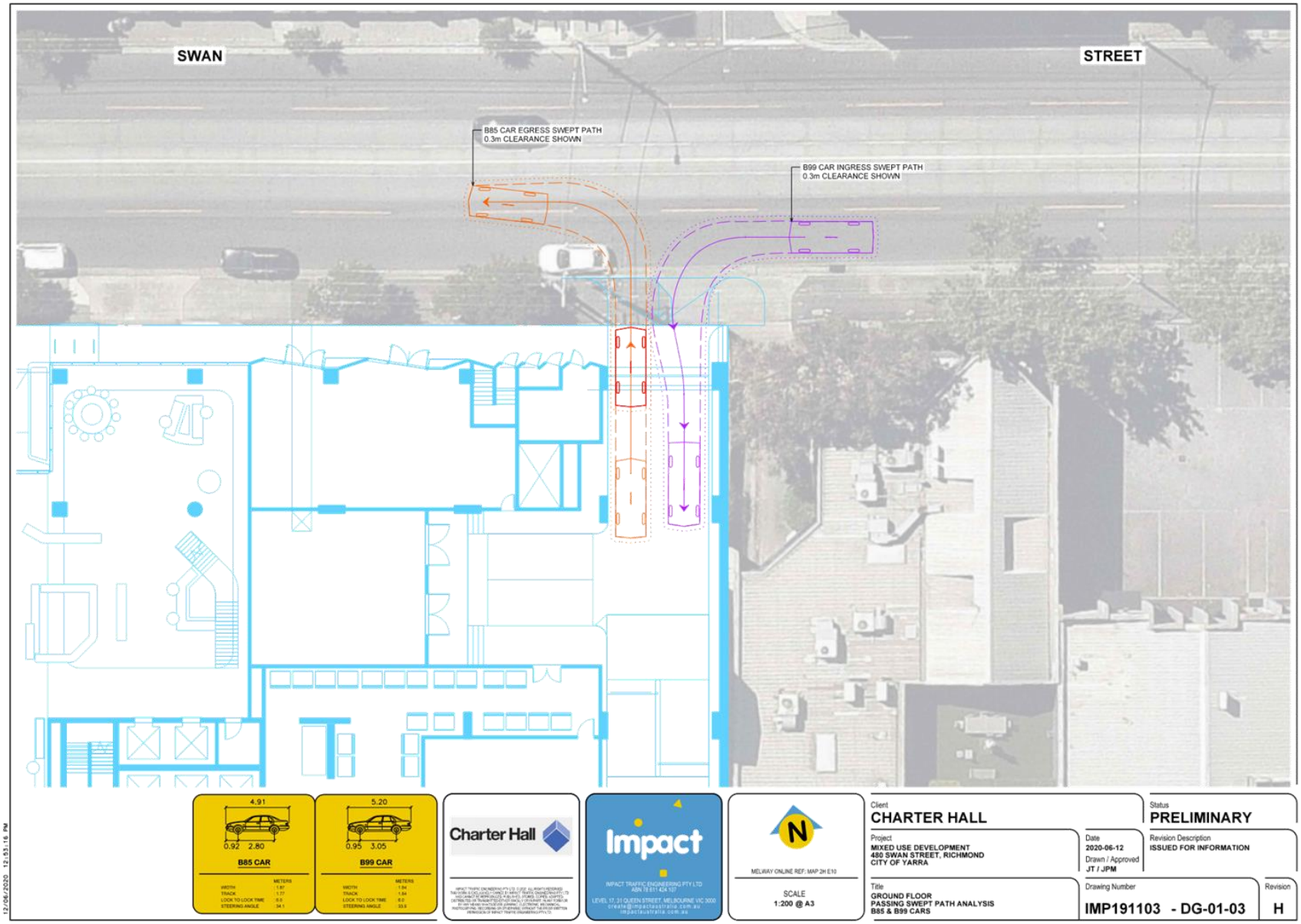
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Attachment 11 - PLN20/0006 - 462 - 482 Swan Street Richmond - Response to engineering referrals (12/06/2020)



Attachment 12

1.2.

PLN20/0006 - 462 - 482 Swan Street Richmond - Without Prejudice Sketch Plans (15/06/2020)

Human Habitats
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Docklands VIC 3008
www.humanhabitats.com.au
ABN 48 115 201 356
03 9909 2202

15 June 2020

Michelle King
Acting Principal Planner
Yarra City Council
333 Bridge Road
Richmond VIC 3121

Dear Michelle

WITHOUT PREJUDICE
RESPONSE TO MGS ARCHITECTS URBAN DESIGN REFERRAL
PLN20/0006 - 462-482 SWAN STREET, RICHMOND

Human Habitats continues to act on behalf of the applicant, Charter Hall, in relation to the planning permit application (PLN20/0006) for the land at 462 – 482 Swan Street, Richmond (the subject site) and provide letter that builds upon the without prejudice letter dated 05 June 2020. This letter is accompanied by the following supporting material:

1. Façade Package
2. Roof/Plant Plan
3. Shadow Diagrams

1 Urban Design (MGS Architects)

The following provides a supplementary responses to the responses provided in the without prejudice letter dated 05 June 2020.

1.1 Recommendation 1 (Podium & Street Wall Interfaces)

Recommendation 1 seeks to provide greater diversity of expression of the podium and requires that the podium expression is further developed to capture the character and history of the area. We have undertaken a detailed review of the podium composition following the receipt of the MGS Architects Recommendation 1.

In response to Recommendation 1, Architectus have prepared a revised façade package, which further details the design methodology behind the RFI podium response, which we believe generally captured the variance in the architectural expression of built form along Swan Street and within the local area.

The façade package details how the proposed façade responds to “frame”, “grain”, and “punctures”. This is highlighted in the below extracts from the façade package:

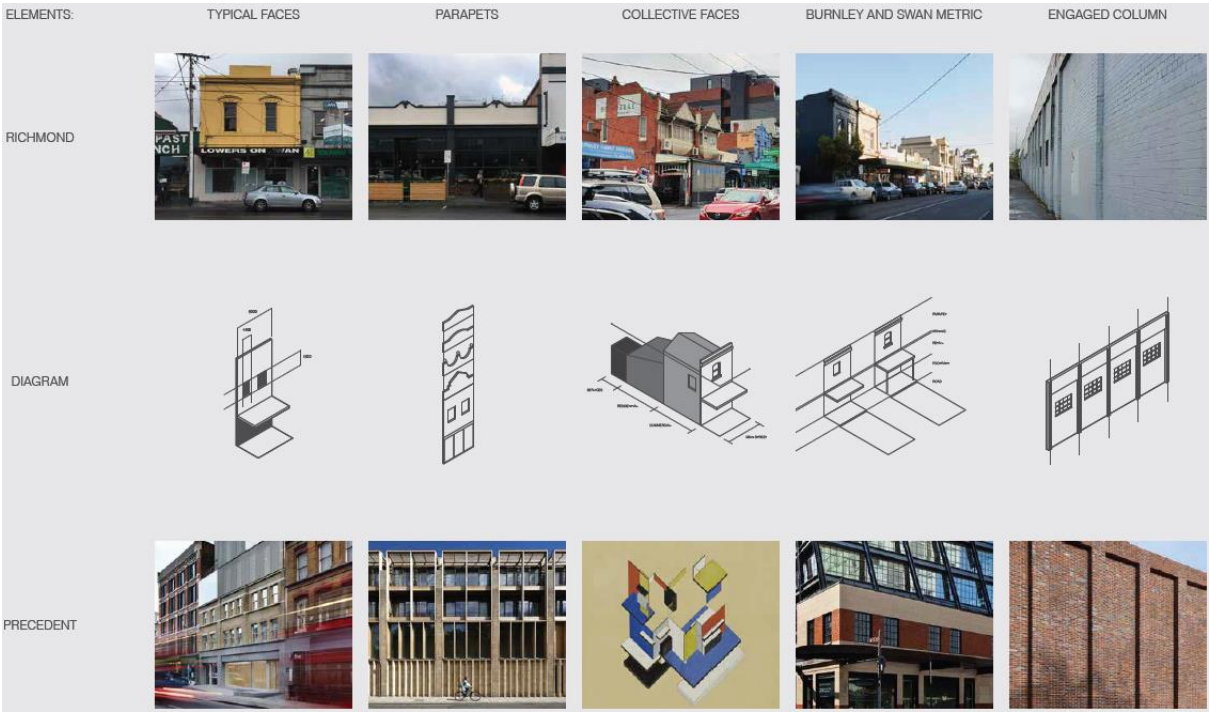


Figure 1 – Extract from the façade package, page 7

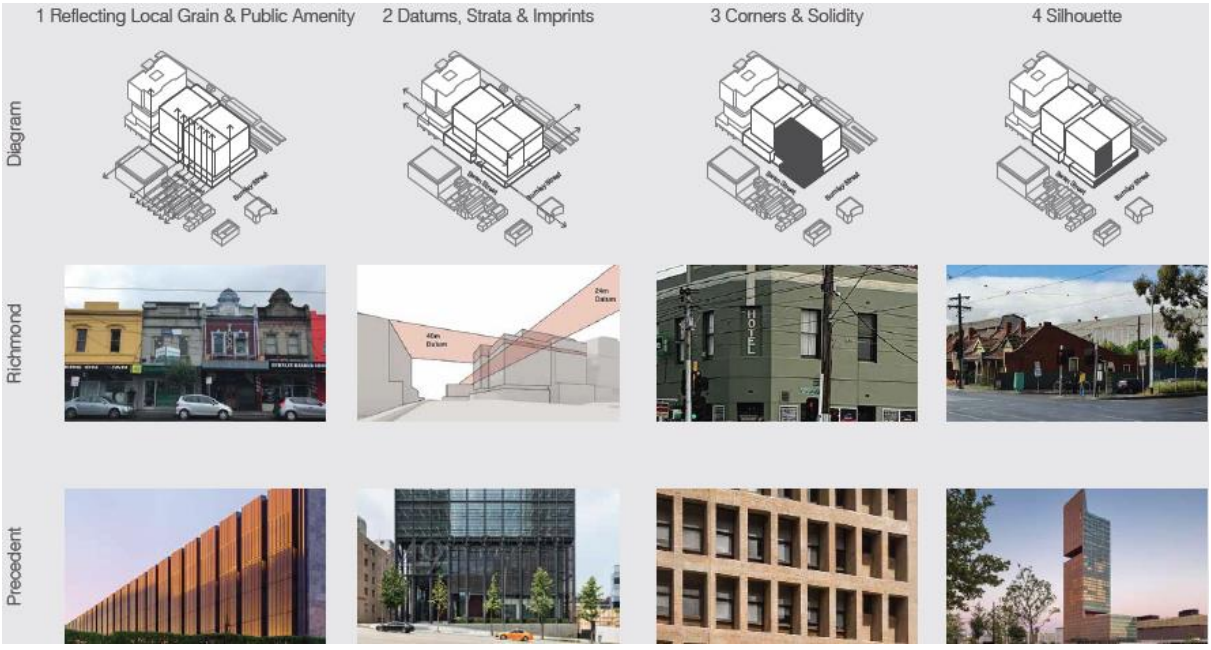


Figure 2 – Extract from the façade package, page 8

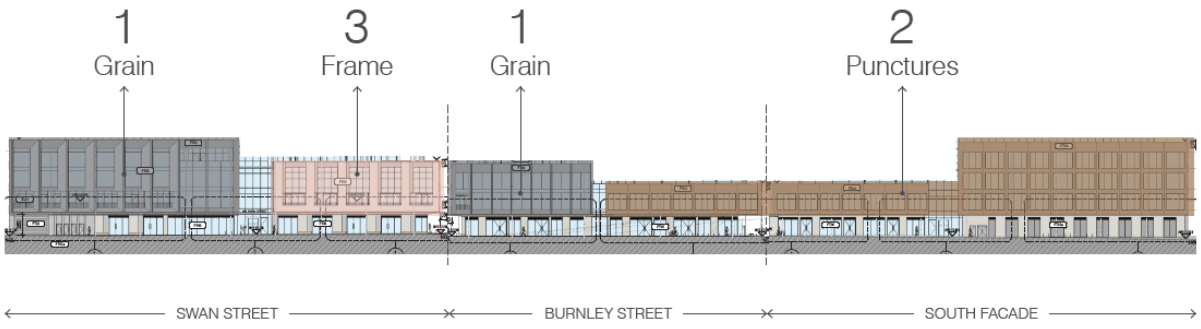


Figure 3 – Extract from the façade package, page 10

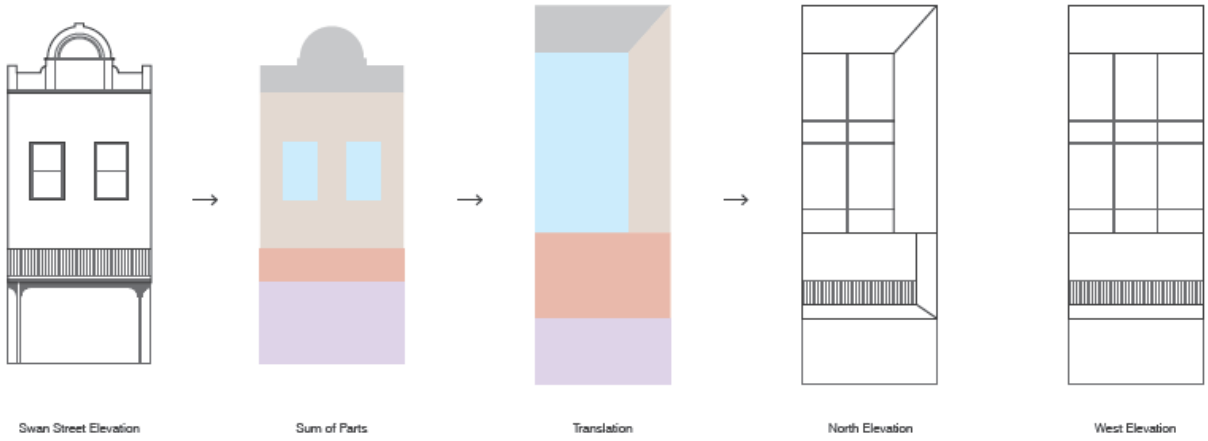


Figure 4 – Frame: Extract from the façade package, page 11

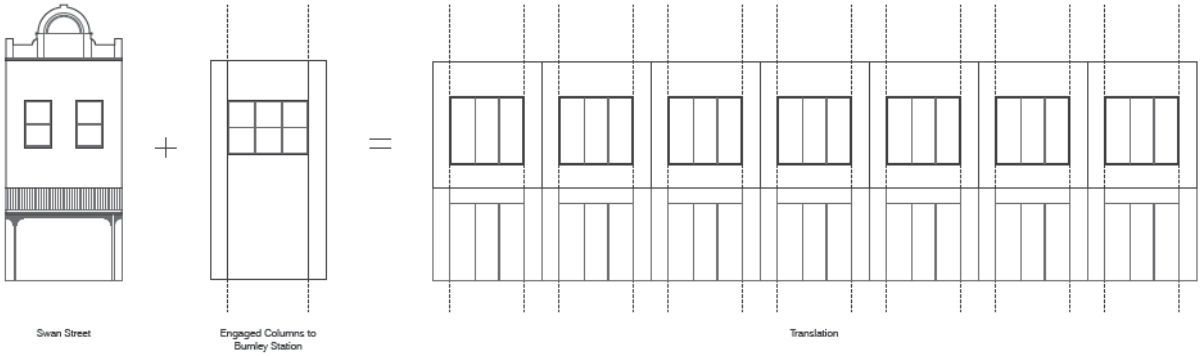


Figure 5 – Punctures: Extract from the façade package, page 12

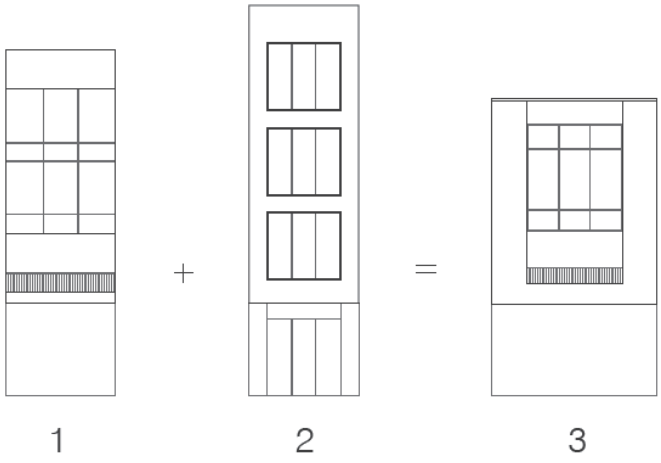


Figure 6 – Frame: Extract from the façade package, page 13

The above said, it is acknowledged that the eastern portion of the Swan Street façade and the northern portion of the Burnley Street façade relied upon a similar architectural expression to clearly link the Burnley and Swan Street podiums. However, acknowledging that MGS Architects cites this treatment as being overly uniform, we have sought to provide greater differentiation to the eastern portion of the Swan Street façade. This has been achieved through the introduction of a new element, "piers".

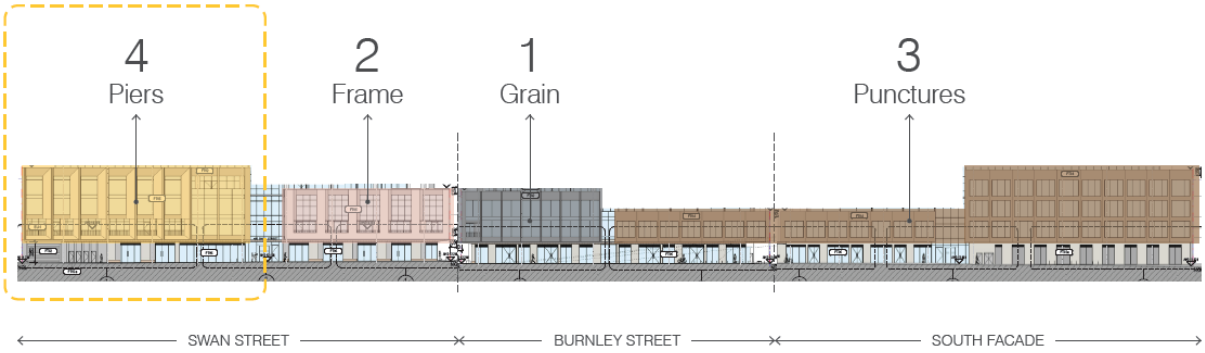


Figure 7 – Piers: Extract from the façade package, page 18

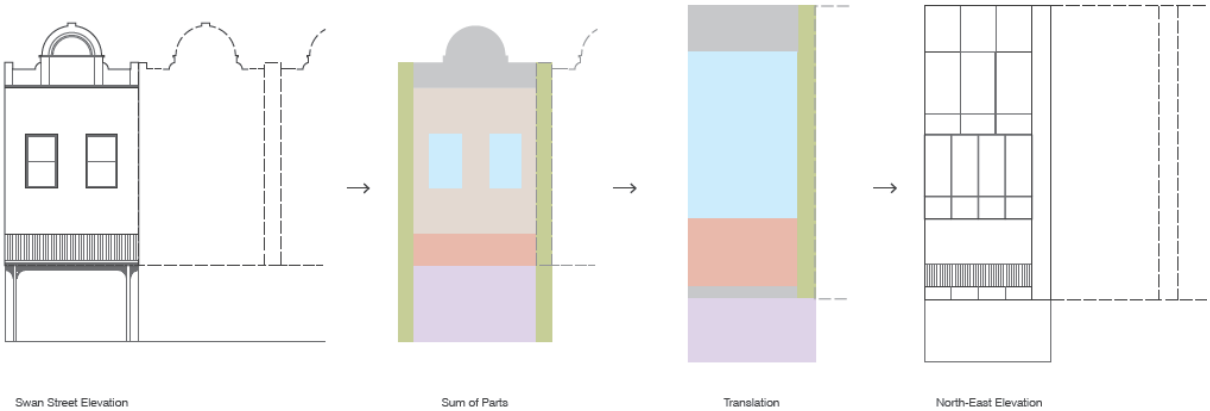


Figure 8 –Extract from the façade package, page 20

The introduction of the piers adds an additional element of rigidity to this part of the podium and emphasising the vertical elements of the podium expression. It is considered that this suitably differentiates the podium presentation in acknowledgement of the rich architectural character of Richmond.



Figure 9 – The proposed podium treatment, extract from façade package, page 22

1.2 Recommendations 2 & 3 (A – South-West Interface)

In addition to the previously provided without prejudice Level 10 and Level 11 floor plates, we now provide a roof plan, which includes minimum dimensions from the boundaries. We note that the project is still within the early stages of detailed design and the true spatial requirements of the plant yet to be confirmed.

Building on the previous responses to MGS Architects Recommendations 2 & 3 (A) we provide the enclosed shadow diagrams which illustrate the shadow impacts of the proposed setbacks between the hours of 9am and 3pm on the 22nd September. In order to clearly demonstrate the differences between the shadows cast by the RFI the reduced shaded areas have also been tabulated.

2 Summary

We trust that the above response will provide Council with the additional information required to complete their assessment and potential conditions in relation to the above matters.

If there are any further matters at this time, please do not hesitate to contact the undersigned on 03 9909 2202 or by email to jgrech@humanhabitats.com.au.

Yours sincerely

Joe Grech
Senior Planner

Charter Hall

architectus™

480 Swan Street

Facade Design Review

Prepared for: Charter Hall
Date: June 12, 2020

Contents

1 Summary of Feedback

2 Consolidation of Podium Design Strategy

3 Current Podium Design Views

4 Additional Alternative Facade Type

1 Summary of Feedback

Summary of Feedback

Recommendation 1

COMMENTARY AND RECOMMENDATIONS

Podiums and Street wall interfaces.

88. In the pre-application meeting with the applicant attention was brought to the emphasis council south in the response to key elements of Local Urban Design Policy and the site specific Design and Development overlay outlined in Schedule 14.
89. In particular I was keen to see responses to the following criteria through greater diversity of expression and scale.

Commentary and recommendations

90. The massing of street-wall lower tier elements is in my view appropriately stepped along the Swan Street corner to Burnley Street and down to the Station to the corner of Burnley Street and Swan Street and downwards to the east and South.
91. In my view the proposed scale of these elements is appropriate, and provide the framework for an appropriate response.
92. Of concern currently however, is the uniformity of the proposed treatment of these responses with the eastern end of the Swan Street frontage, a location in an infill setting, given the same design language and finish as the primary corner façade on Burnley Street at the principle interface of the two roads.
93. This continuity amplifies the notion of a single institution expression and conceptual solution rather than addressing the fine grain character, diversity and richness of detail and materiality characteristic of this part of Richmond.
94. The response is inconsistent with the richness of response to context sort in the Local Policy and DDO provisions in my view and as underlined in the report.



95. An opportunity for example may exist to draw on the earlier industrial history of the site as a Timber Yards and Mills in the hinterland Station interface expression noting the use in a more polished and corporate manner I n the soffit treatments of the projecting canopy corner.

Recommendation 1

I would invite the applicant to review the design expression east of the primary north south entrance in Swan Street for each of the podium levels and the Burnley Street zone south of the projecting corner form to explore opportunities to invest the narrative of the site with a deeper and more diversified response to the precinct, its subdivision character and its history consistent with the Objectives and Guidelines goals outlined in Cl *22.10-3.2 Urban form and character*.

22.10-3.2 Urban form and character

Design Objectives

To retain and extend the City's fine grain of street pattern and urban form.

To ensure that developments contribute positively to the urban fabric and public realm.

To improve the transparency and legibility of the city's urban form and structure.

To achieve continuity in the built form having regard to rhythm and spacing of buildings and any distinctive street pattern (as identified in the Site Analysis Plan and Design Response).

Design Guidelines

Within large redevelopment sites, design a vehicle and pedestrian network that ensures a high level of access within the development for all vehicular and non-vehicular traffic that connects and integrates with the broader network.

New development on large remnant sites should respect any existing prevailing subdivision pattern (as identified in the Site Analysis Plan and Design Response) by providing adequate separation between buildings and modular building bulk rather than unbroken mass.

Express the original fine-grained subdivision pattern in building design, massing, modulation and facade articulation.

Within sites removed from the small lot, fine-grain areas of the city, create a new urban character that adds to the layering of the city's historical evolution.

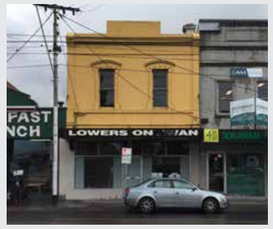
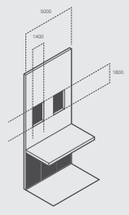
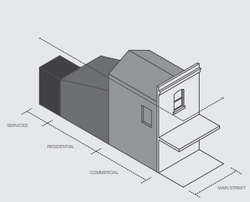
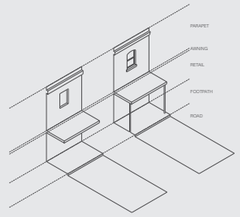
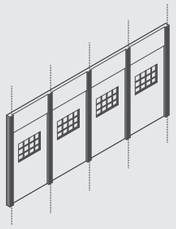
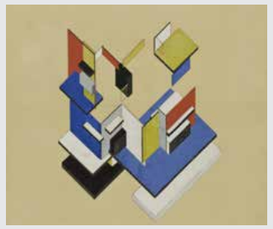
Summary of Feedback

Key Design Items

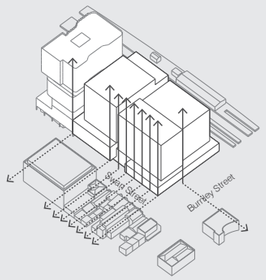
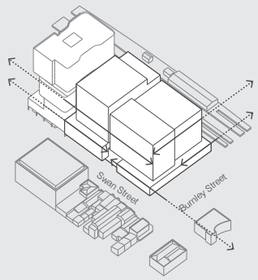
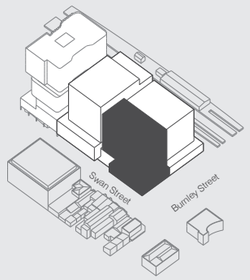
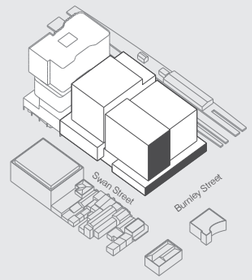
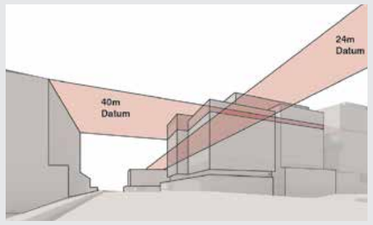
Commentary	Facade Design Item
92. Of concern currently however, is the uniformity of the proposed treatment of these responses with the eastern end of the Swan Street frontage, a location in an infill setting, given the same design language and finish as the primary corner façade on Burnley Street at the principle interface of the two roads.	1. Further distinguish North East facade from corner treatment
95. An opportunity for example may exist to draw on the earlier industrial history of the site as a Timber Yards and Mills in the hinterland Station interface expression noting the use in a more polished and corporate manner l n the soffit treatments of the projecting canopy corner.	2. Draw further on the historic industrial materiality and architectural language of the Mills
explore opportunities to invest the narrative of the site with a deeper and more diversified response to the precinct, its subdivision character and its history consistent with the Objectives and Guidelines goals outlined in Cl *22.10-3.2 Urban form and character*.	3. Express a clearer connection to site, with more legible distinct facade types
Express the original fine-grained subdivision pattern in building design, massing, modulation and facade articulation.	4. Express the original subdivision pattern in the facade articulation
Within sites removed from the small lot, fine-grain areas of the city, create a new urban character that adds to the layering of the city's historical evolution.	5. Where the site was not previously finely articulated, the new facade should draw on and build upon the historic architectural character

2 Consolidation of Podium Design Strategy

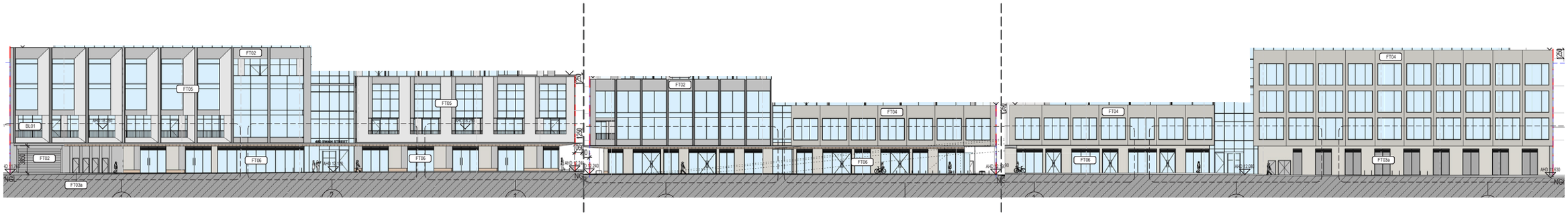
Urban Context

ELEMENTS:	TYPICAL FACES	PARAPETS	COLLECTIVE FACES	BURNLEY AND SWAN METRIC	ENGAGED COLUMN
RICHMOND					
DIAGRAM					
PRECEDENT					

Design Principles

	1 Reflecting Local Grain & Public Amenity	2 Datums, Strata & Imprints	3 Corners & Solidity	4 Silhouette
Diagram				
Richmond				
Precedent				

Review of Proposed Unfolded Podium Elevation 17.04.2020



Current Facade Types 17.04.2020

1
Grain

3
Frame

1
Grain

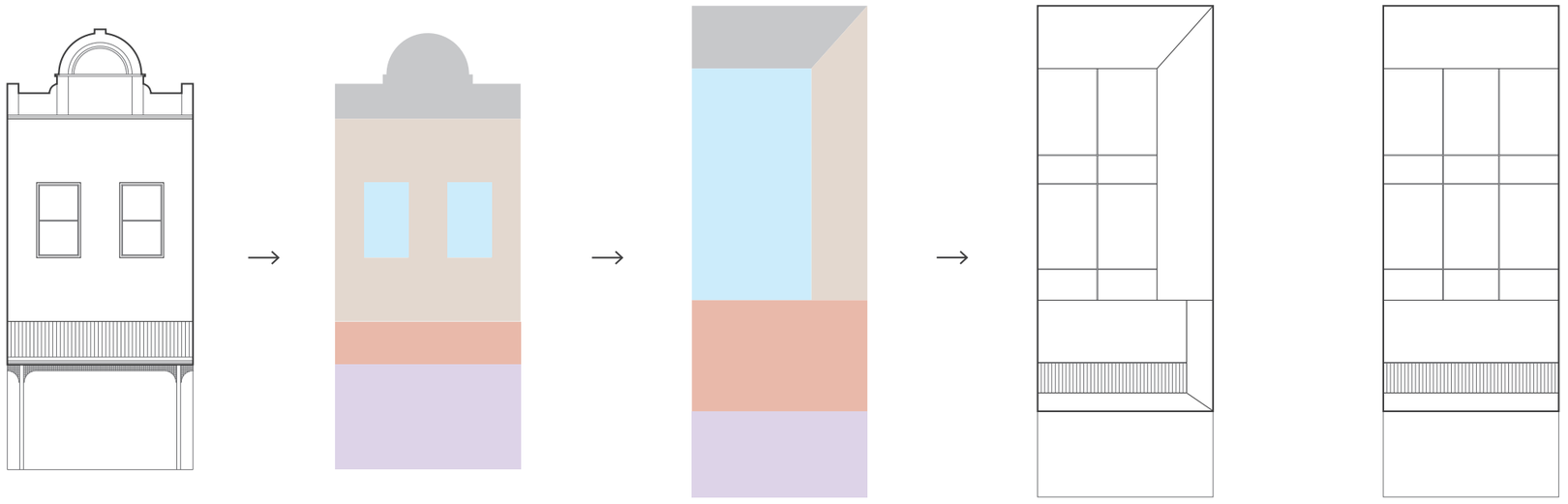
2
Punctures



SWAN STREET — BURNLEY STREET — SOUTH FACADE

Type 1 - Grain

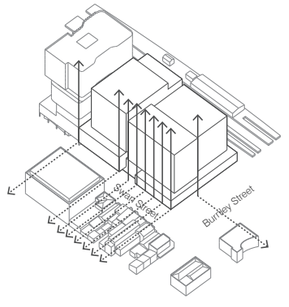




Swan Street Elevation | Sum of Parts | Translation | North Elevation | West Elevation

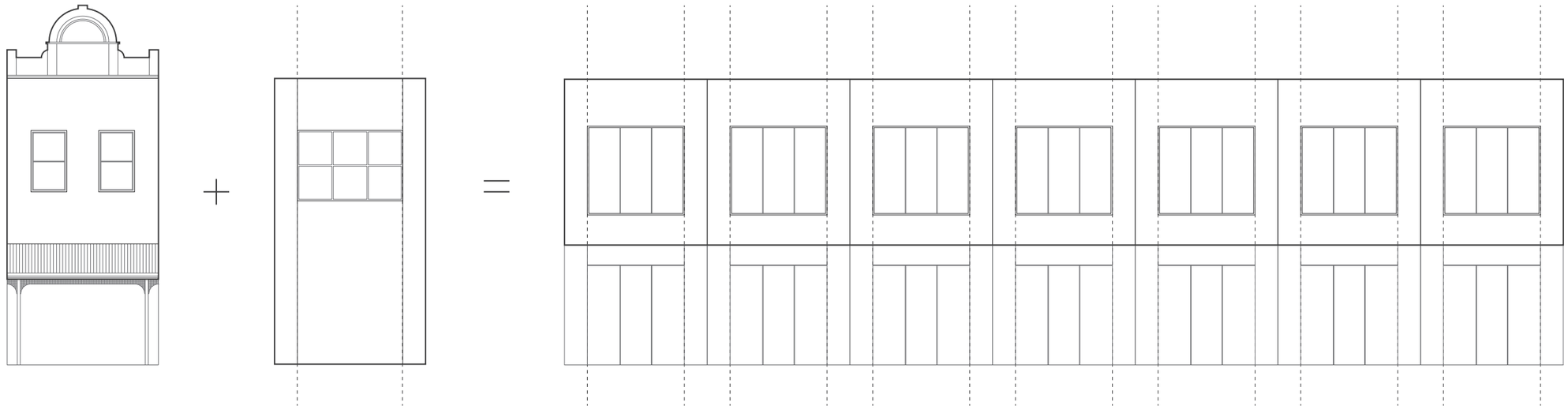
Facade Type 1 draws from the architectural elements along Swan Street by consolidating them into a ‘sum of parts’. A process of translation was conducted to produce a final assemblage. This was then applied to the North and West Facade in order to reflect the local grain through materiality and proportion.

1 Reflecting Local Grain & Public Amenity



Type 2 - Punctures





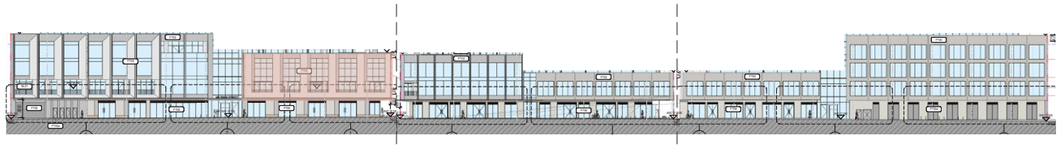
Swan Street

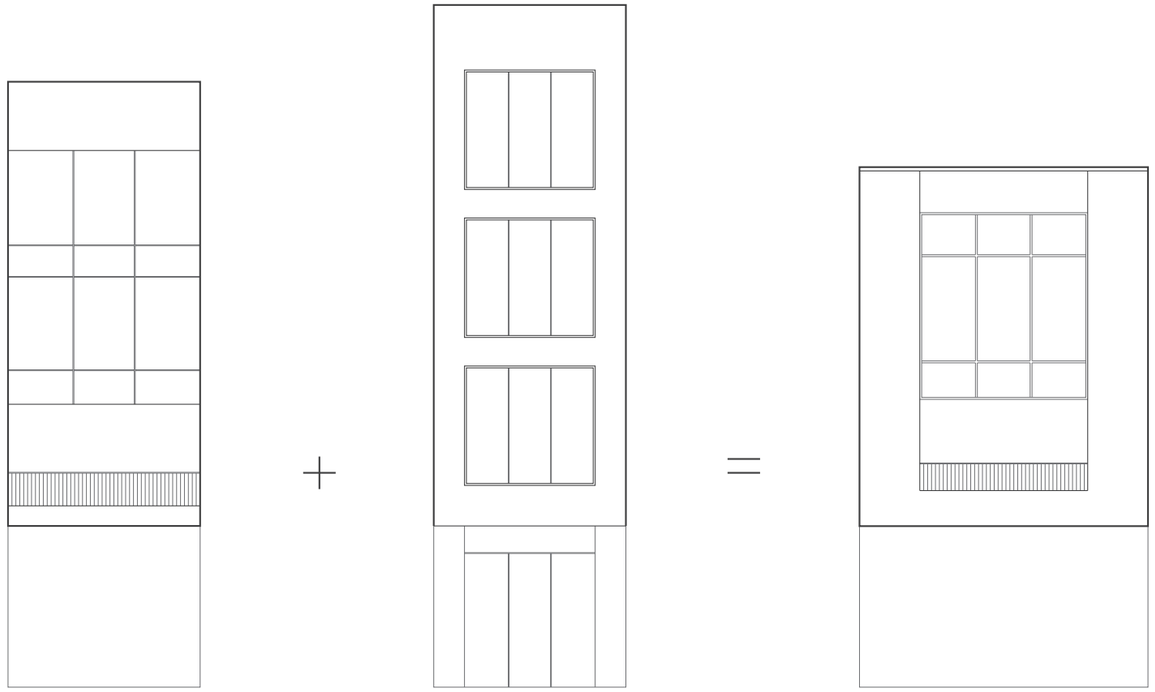
Engaged Columns to Burnley Station

Translation

Facade Type 2 is formed by a civic and industrial conversation between historical and infrastructural contexts. The architectural element, ‘engaged columns,’ also contributes to the articulation of this facade. The punctured windows pay homage to the utilitarian industrial steel windows typically found in Richmond’s built fabric.

Type 3 - Frame





Facade Type 3 is formed by combining Facade Types 1 and 2. Which further reinforces the design principles ‘Corners & Solidity’ and ‘Silhouette.’ It presents itself as a solid framed addition to the suite of corner buildings that intersect Swan and Burnley Street.

3 Current Podium Design Views

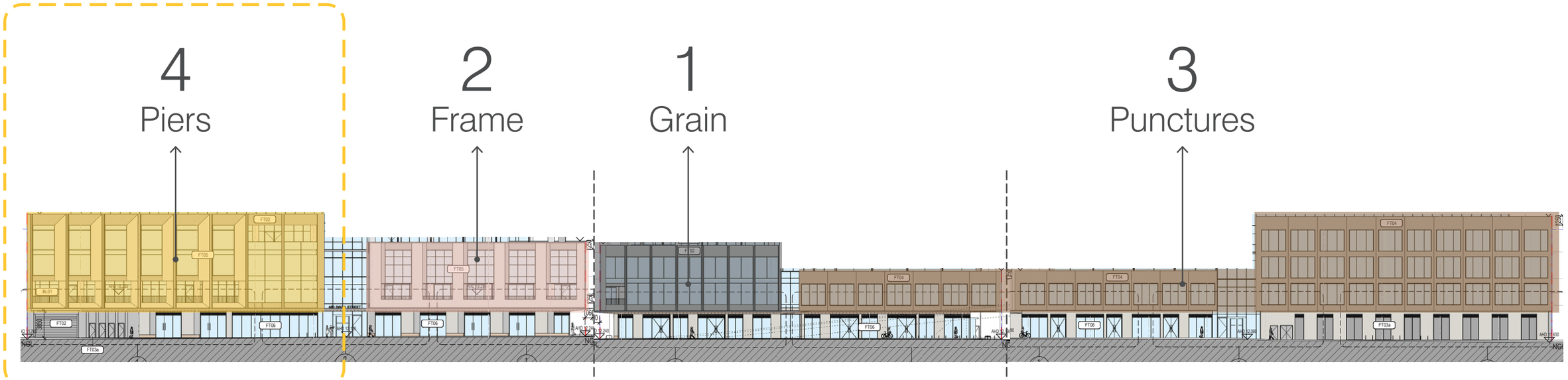

480


PEDERATION
TILES
FLOWE

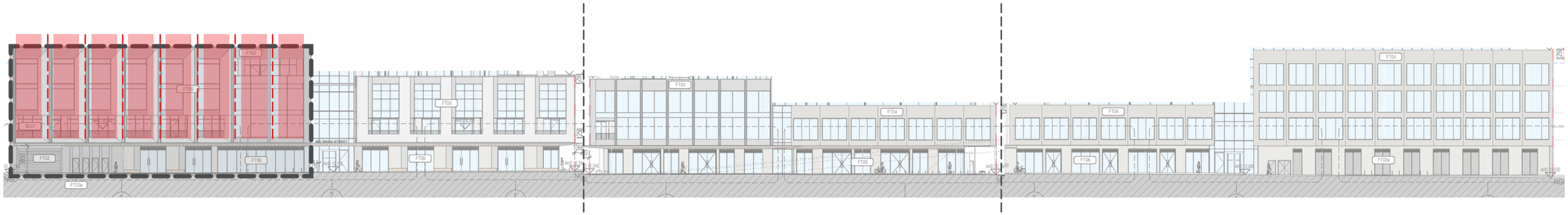




4 Additional Alternative Facade Type

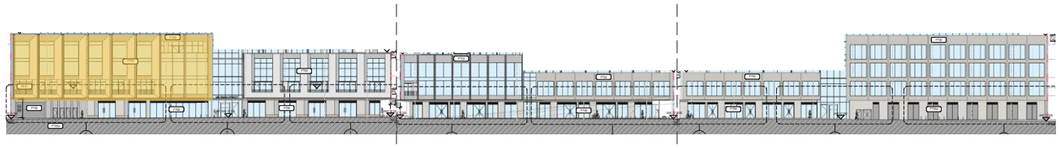

4
Piers
2
Frame
1
Grain
3
Punctures
SWAN STREET
BURNLEY STREET
SOUTH FACADE

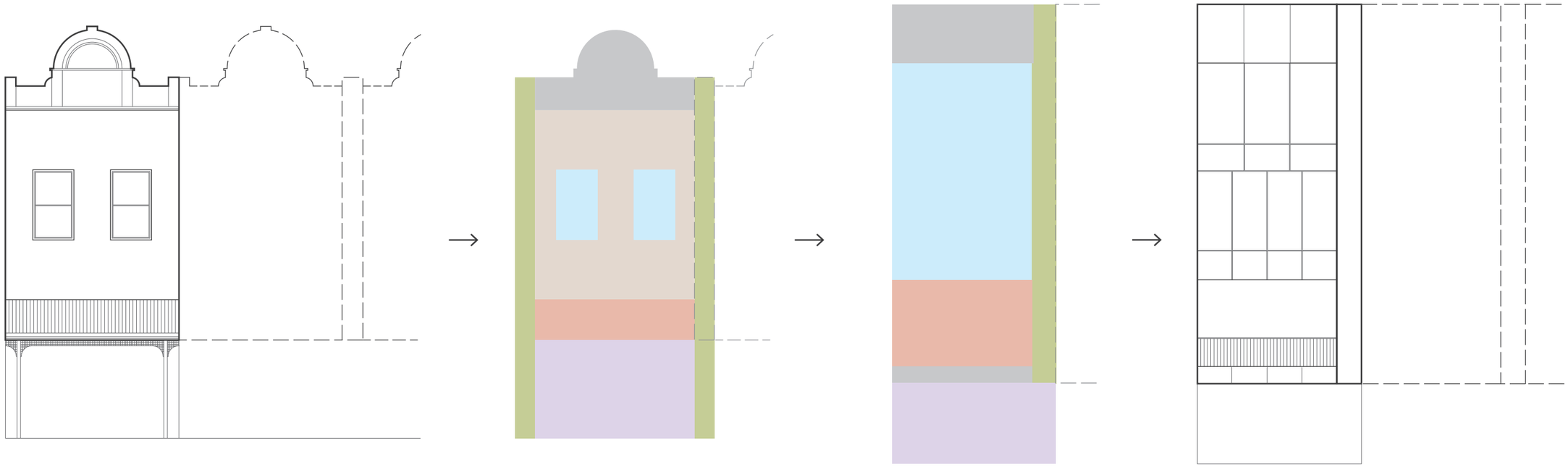
4
Piers



Expresses Original
Subdivision Pattern

Type 4 - Piers





Swan Street Elevation

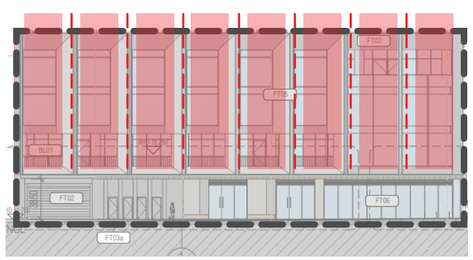
Sum of Parts

Translation

North-East Elevation

Facade Type 4 develops on the current facade proposal by emphasising the design principle, ‘Reflecting Local Grain,’ through masonry piers. These piers simultaneously reference both the pattern of subdivision on the existing site and the materiality of the historic Mills buildings.

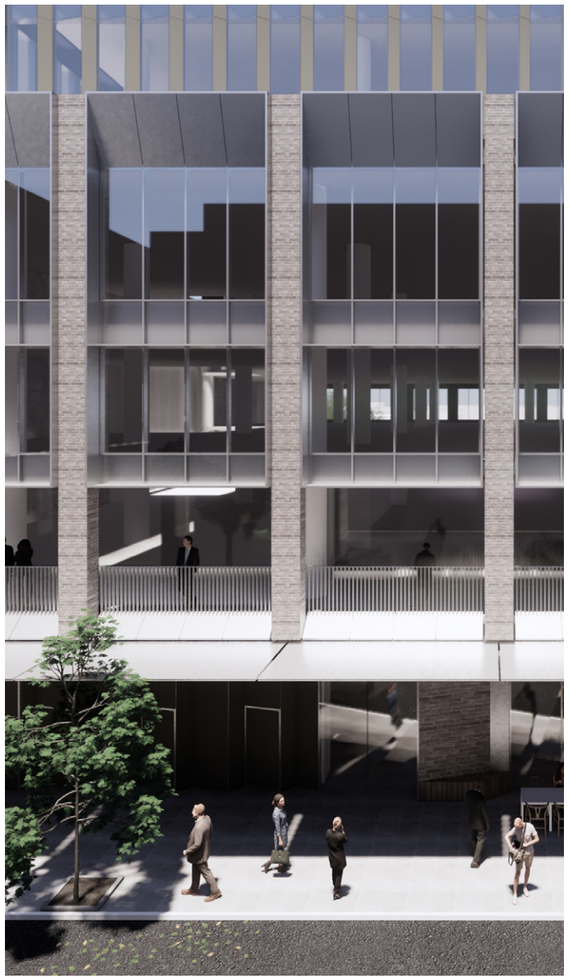
1 Reflecting Local Grain





View from Swan Street
looking West

*Achitectus Impression



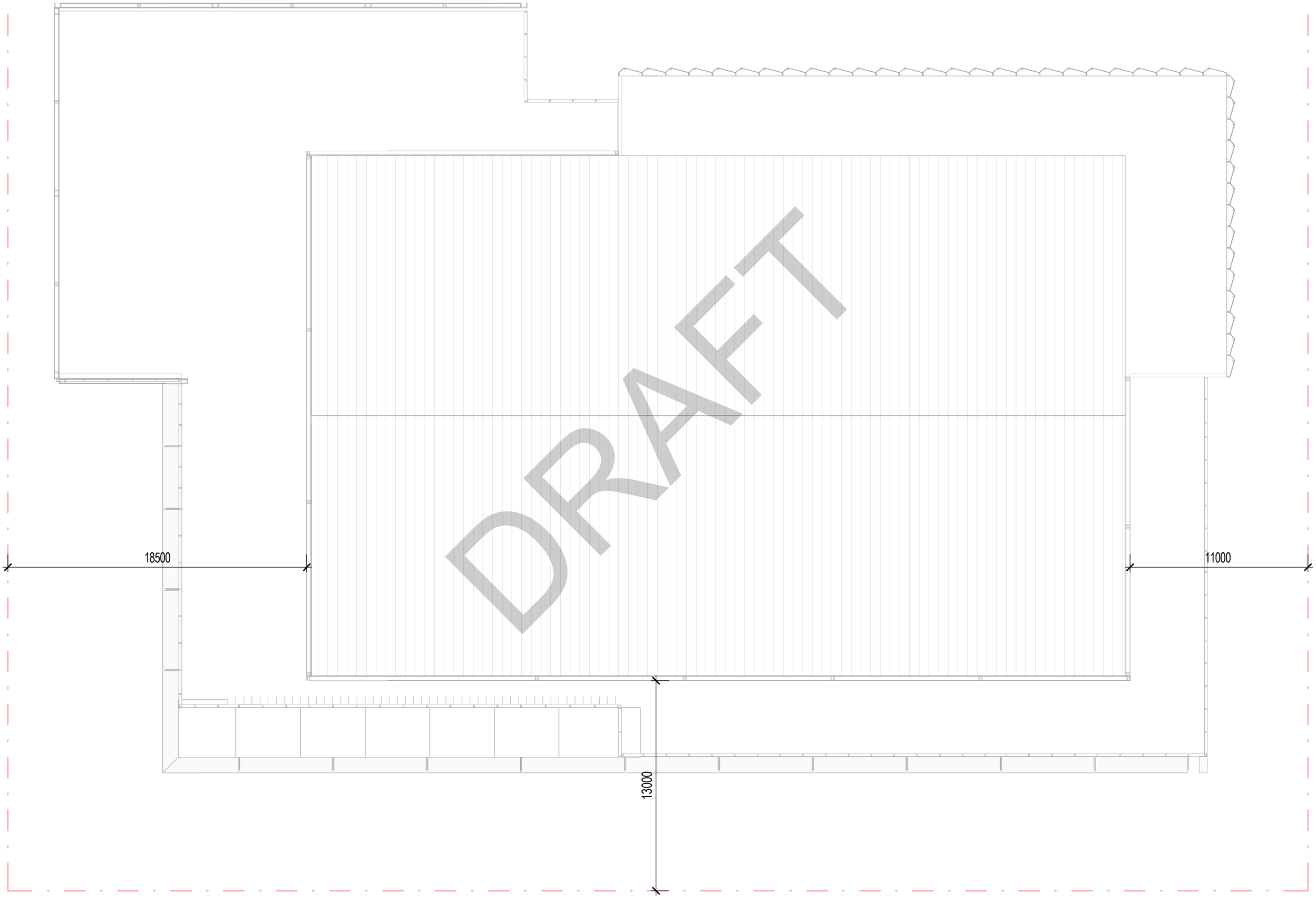


View from Swan Street
looking West

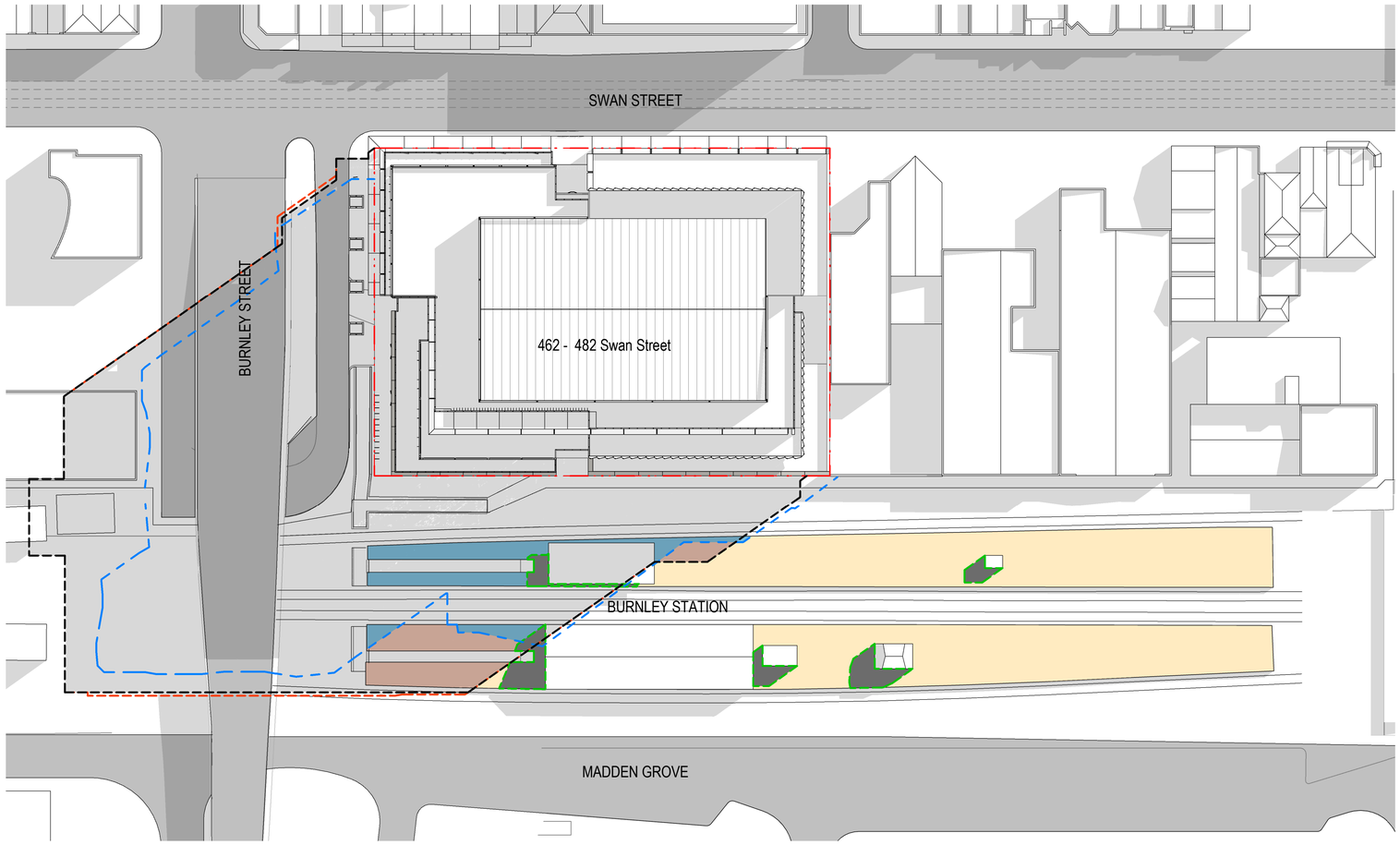
*Achitectus Impression

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PROPOSED SETBACKS



DRAFT



1 Revised vs Approved - 9am - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows (m2)	Revised Additional Shadows (m2)	Revised Unshadowed Area (m2)	New Net Additional Shadows (m2) 12.06.2020
North	1,247	41	1,206	196	1,010	226	980	30	226	980	30
South	1,166	117	1,049	42	1,007	231	818	189	231	818	189
Both	2,413	158	2,255	238	2,017	457	1,798	219	457	1,798	219

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference
Revised Additional Shadows - Approved Additional Shadows = New Net Additional Shadows

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	Issue for Information	12/06/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme RFI#2
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme
- Revised Scheme 12.06.2020

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ABN 90 131 245 684

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drawn	Author	project no	190060

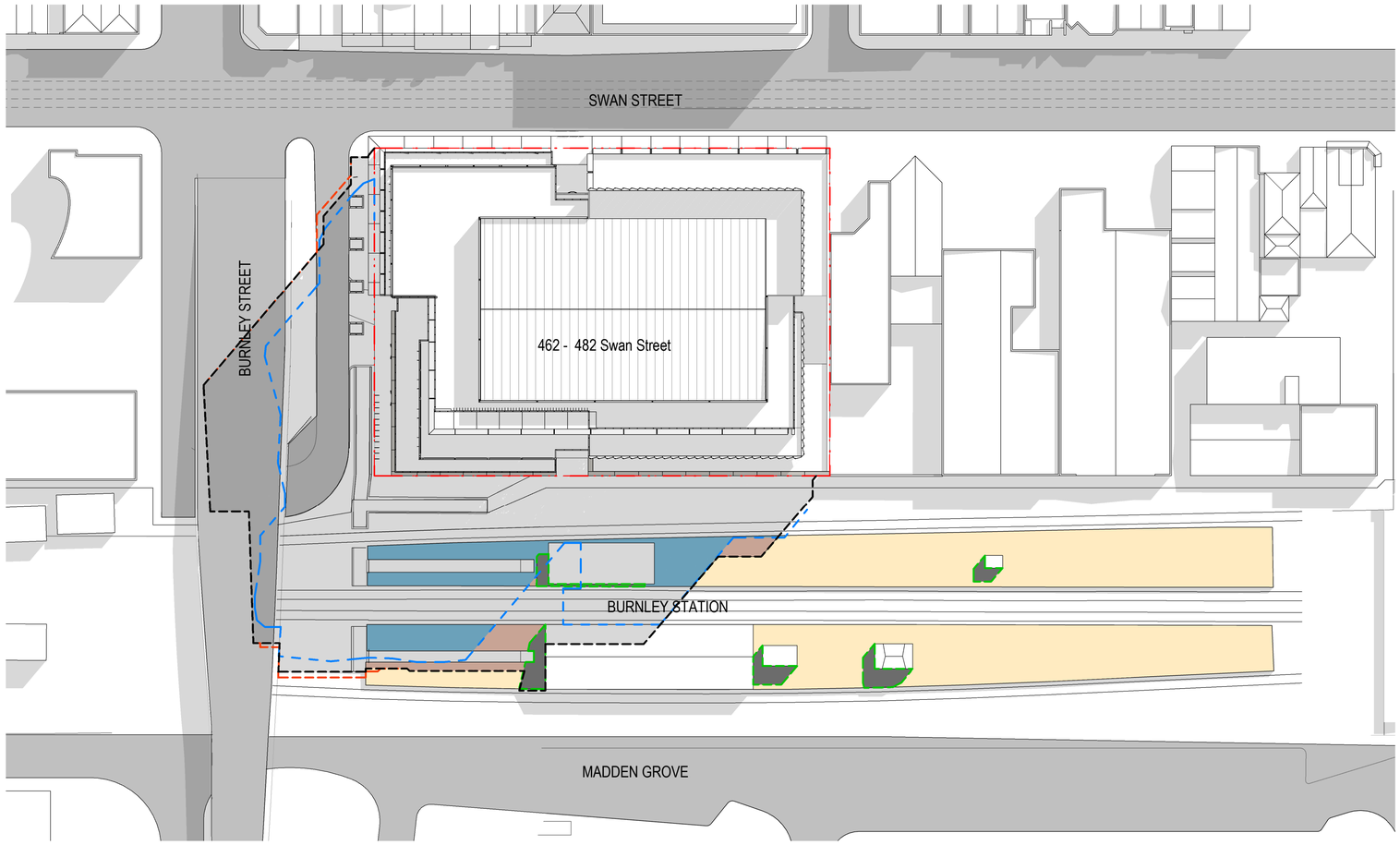
project
480 Swan Street

drawing
Shadow Studies - Revised vs Approved

drawing no. **DA0136**

issue **A**

15/06/20 4:20:46 PM



1 Revised vs Approved - 10am - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows (m2)	Revised Additional Shadows (m2)	Revised Unshadowed Area (m2)	New Net Additional Shadows (m2) 12.06.2020
North	1,247	31	1,216	270	946	298	918	28	298	918	28
South	1,166	88	1,078	97	981	180	898	83	179	899	82
Both	2,413	119	2,294	367	1,927	478	1,816	111	477	1,817	110

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference
Revised Additional Shadows - Approved Additional Shadows = New Net Additional Shadows

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Nominated Architect
Ray Brown, NSWARB 6359

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issue	amendment	date
A	Issue for Information	12/06/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme RFI#2
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme
- Revised Scheme 12.06.2020

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drawn	Author	project no	190060

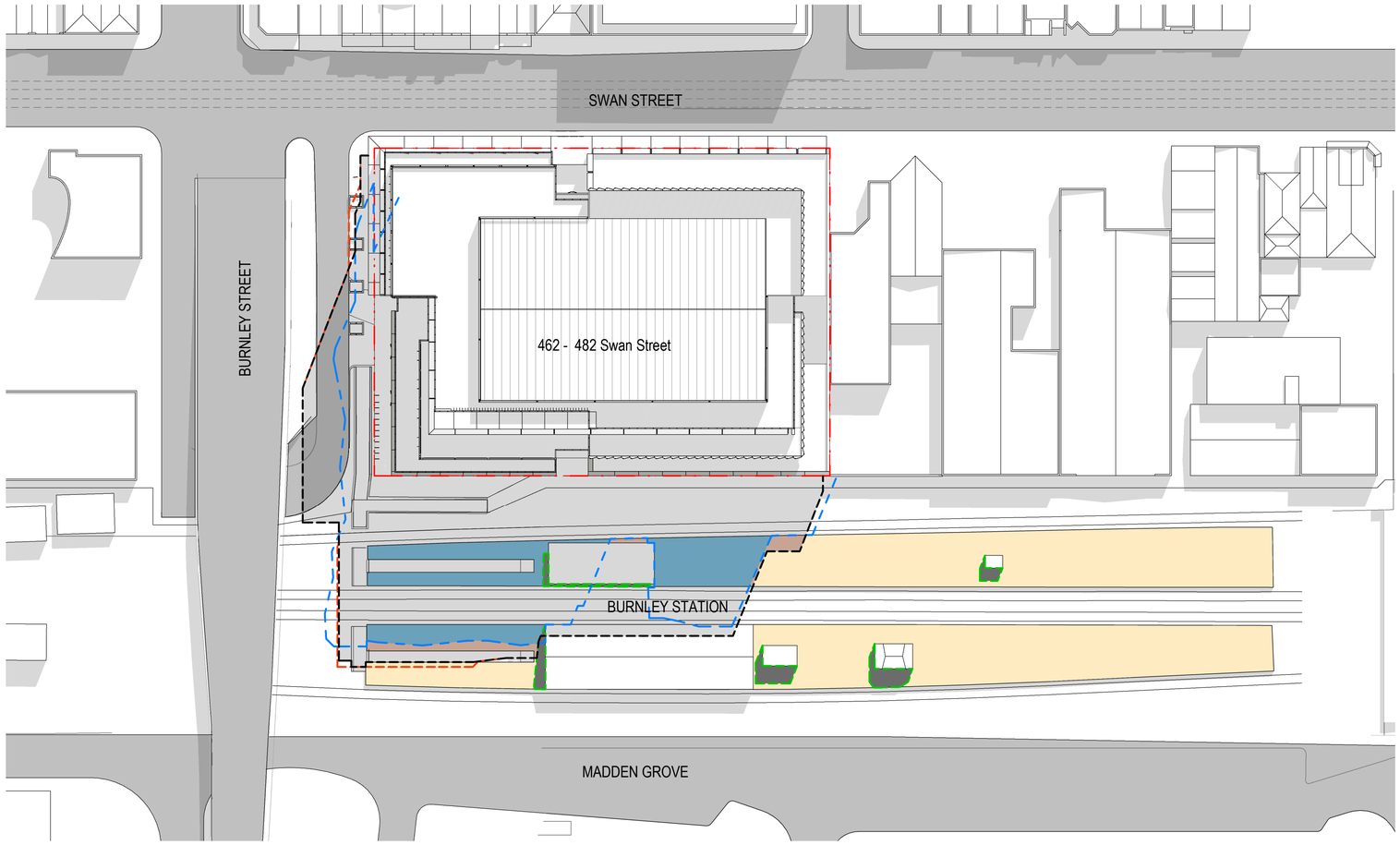
project
480 Swan Street

drawing
Shadow Studies - Revised vs Approved

drawing no. **DA0137**

issue **A**

15/06/20 4:21:06 PM



1 Revised vs Approved - 11am - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows (m2)	Revised Additional Shadows (m2)	Revised Unshadowed Area (m2)	New Net Additional Shadows (m2) 12.06.2020
North	1,247	22	1,225	343	881	369	855	26	369	855	26
South	1,166	64	1,102	101	1,001	160	942	59	144	958	43
Both	2,413	86	2,327	444	1,882	530	1,797	85	513	1,813	69

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference
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Nominated Architect
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issue	amendment	date
A	Issue for Information	12/06/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme RFI#2
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme
- Revised Scheme 12.06.2020

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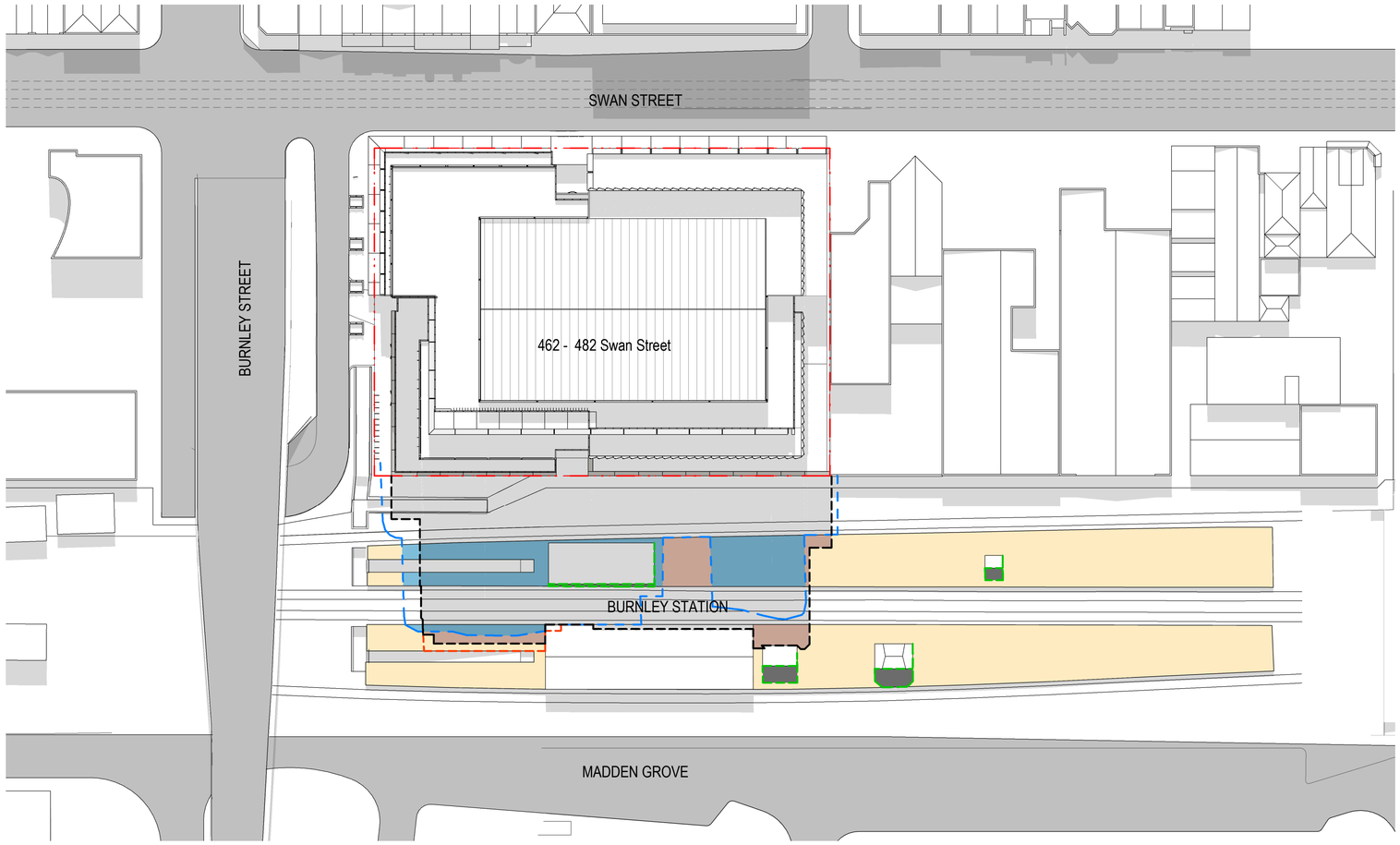
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drawn	Author	project no	190060

project
480 Swan Street

drawing
Shadow Studies - Revised vs Approved

drawing no. **DA0138**
issue **A**

15/06/20 4:21:26 PM



1 Revised vs Approved - 12pm - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows (m2)	Revised Additional Shadows (m2)	Revised Unshadowed Area (m2)	New Net Additional Shadows (m2) 12.06.2020
North	1,247	15	1,231	319	912	394	837	75	394	837	75
South	1,166	39	1,127	38	1,089	139	988	101	108	1,019	71
Both	2,413	54	2,358	357	2,002	534	1,825	177	502	1,856	146

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
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Nominated Architect
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issue	amendment	date
A	Issue for Information	12/06/2020

Shadow Diagram Legend

- Existing Conditions
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- Approved 484-486 Swan Street Scheme
- Revised Scheme 12.06.2020

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checked	Checker	scale	1 : 500@A1
drawn	Author	project no	190060

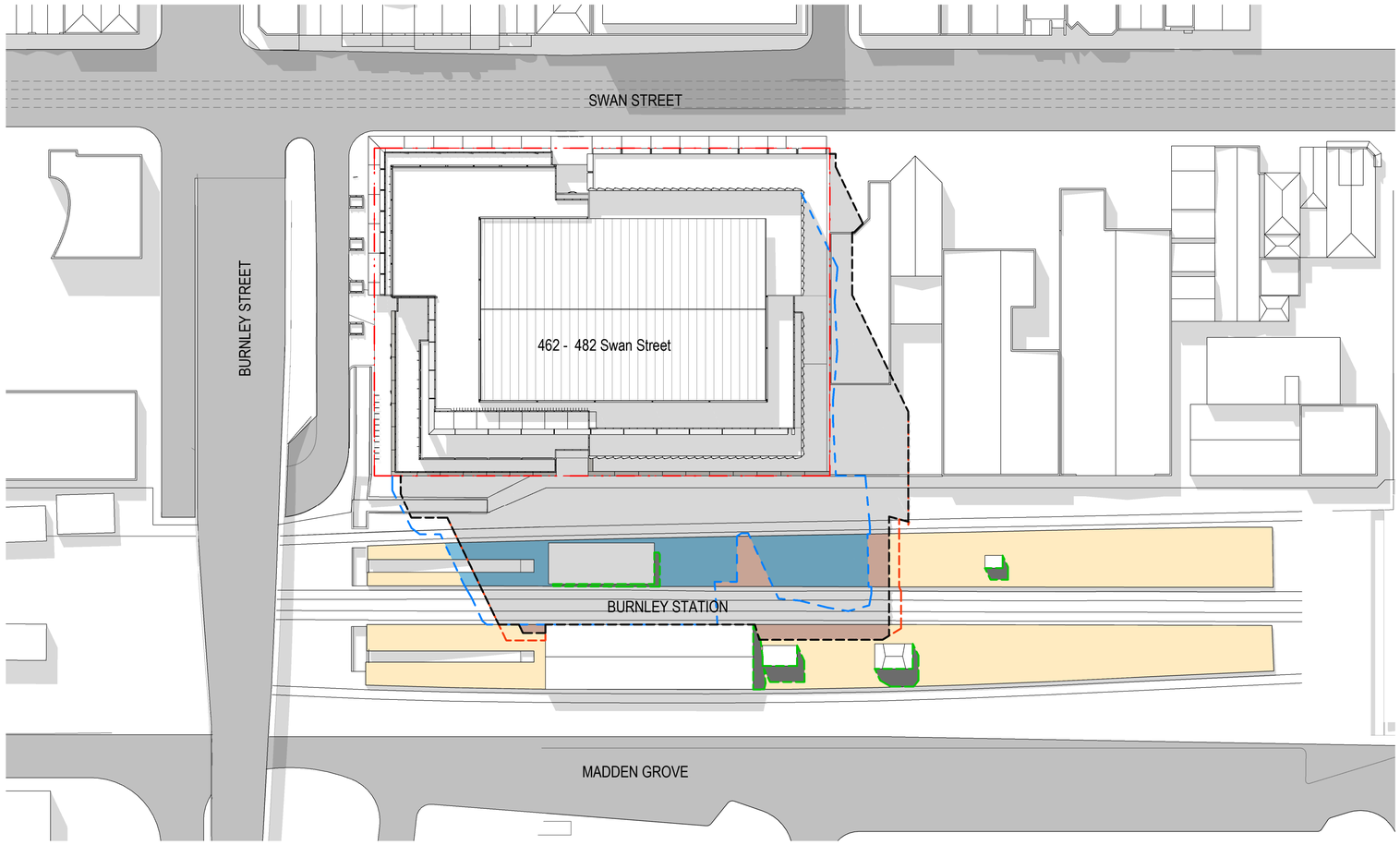
project
480 Swan Street

drawing
Shadow Studies - Revised vs Approved

drawing no. **DA0139**

issue **A**

15/06/20 4:21:45 PM



1 Revised vs Approved - 1pm - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows (m2)	Revised Additional Shadows (m2)	Revised Unshadowed Area (m2)	New Net Additional Shadows (m2) 12.06.2020
North	1,247	22	1,224	402	823	480	744	79	463	761	62
South	1,166	63	1,103	0	1,103	86	1,016	86	69	1,034	69
Both	2,413	86	2,327	402	1,925	567	1,760	165	532	1,795	131

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
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issue	amendment	date
A	Issue for Information	12/06/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme RFI#2
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- Approved 484-486 Swan Street Scheme
- Revised Scheme 12.06.2020

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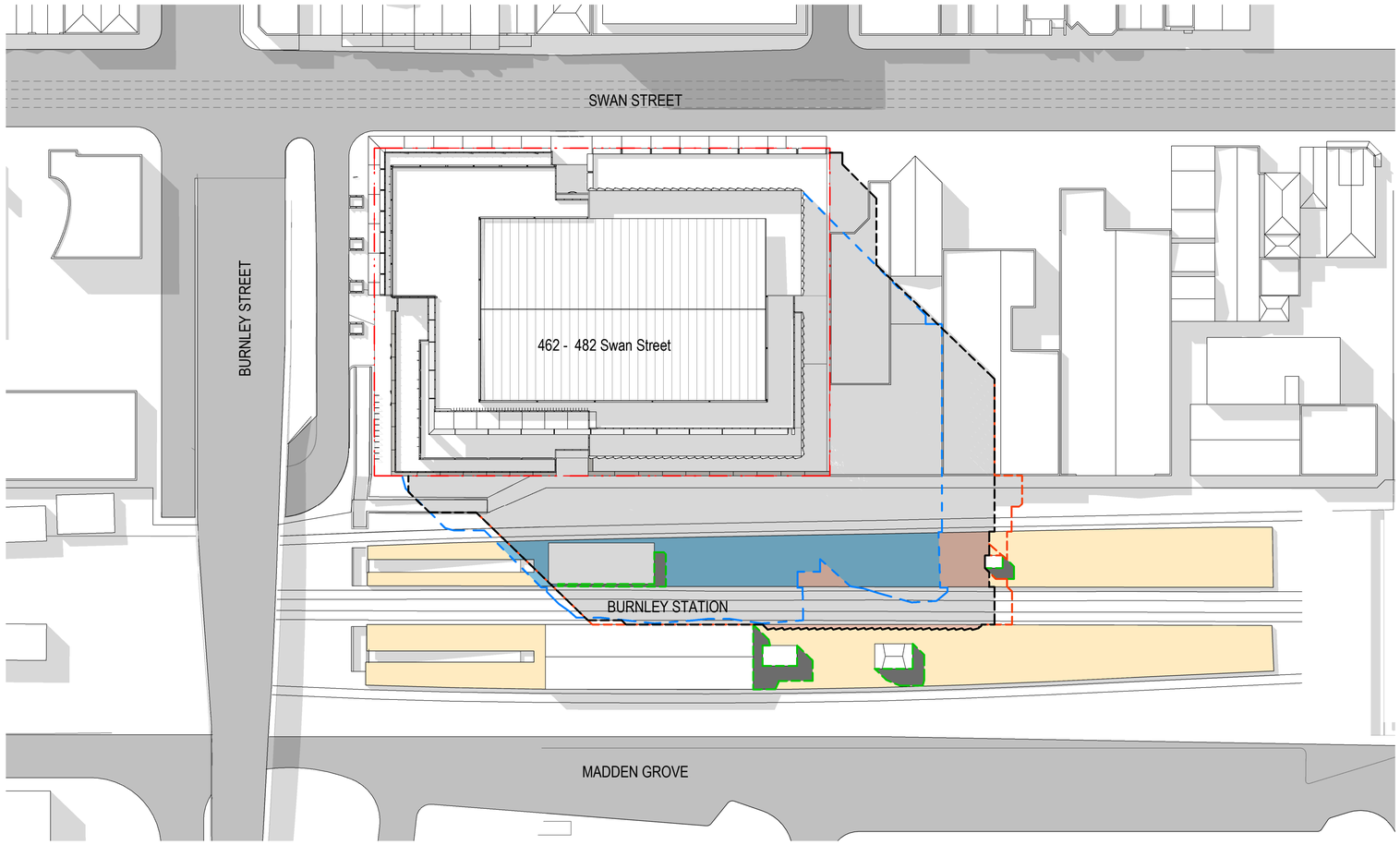
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drawn Author | project no 190060

project
480 Swan Street

drawing
Shadow Studies - Revised vs Approved

drawing no. **DA0140** | issue **A**

15/06/20 4:22:06 PM



1 Revised vs Approved - 2pm - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows (m2)	Revised Additional Shadows (m2)	Revised Unshadowed Area (m2)	New Net Additional Shadows (m2) 12.06.2020
North	1,247	30	1,216	472	744	585	631	113	566	650	95
South	1,166	81	1,085	0	1,085	29	1,056	29	29	1,056	29
Both	2,413	111	2,302	472	1,830	615	1,687	143	595	1,706	124

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference
Revised Additional Shadows - Approved Additional Shadows = New Net Additional Shadows

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	Issue for Information	12/06/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme RFI#2
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme
- Revised Scheme 12.06.2020

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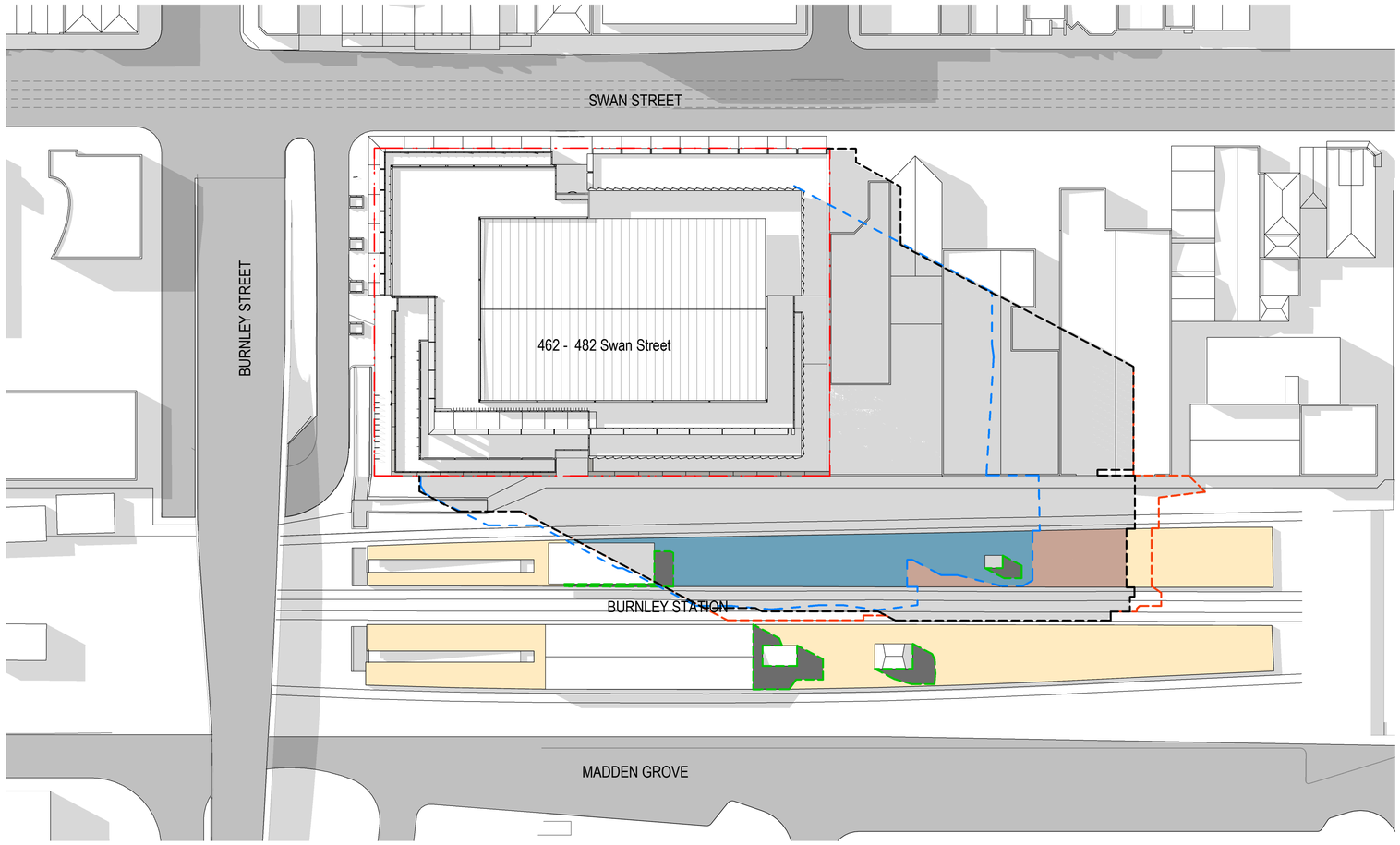
checked	Checker	scale	1 : 500@A1
drawn	Author	project no	190060

project
480 Swan Street

drawing
Shadow Studies - Revised vs Approved

drawing no. **DA0141**
issue **A**

15/06/20 4:22:26 PM



1 Revised vs Approved - 3pm - 22 September

SCALE: 1 : 500

Platforms	Total Platform Area (m2) Excluding Ramp and Station Buildings	Existing Building Shadows (m2)	Existing Unshadowed Area (m2)	Approved Additional Shadows (m2)	Approved Unshadowed Area (m2)	Proposed Additional Shadows (m2)	Proposed Unshadowed Area (m2)	Net Additional Proposed Shadows (m2)	Revised Additional Shadows (m2)	Revised Unshadowed Area (m2)	New Net Additional Shadows (m2) 12.06.2020
North	1,247	41	1,205	548	658	800	406	252	753	452	205
South	1,166	105	1,061	0	1,061	0	1,061	0	0	1,061	0
Both	2,413	146	2,267	548	1,719	800	1,467	252	753	1,513	205

NOTE:

Existing Building Shadows + Existing Unshadowed Area = Total Platform Area
Existing Building Shadows + Approved Additional Shadows + Approved Unshadowed Area = Total Platform Area
Existing Building Shadows + Proposed Additional Shadows + Proposed Unshadowed Area = Total Platform Area
Proposed Additional Shadows - Approved Additional Shadows = Proposed and Approved Difference
Revised Additional Shadows - Approved Additional Shadows = New Net Additional Shadows

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Nominated Architect
Ray Brown, NSWARB 6359

Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	Issue for Information	12/06/2020

Shadow Diagram Legend

- Existing Conditions
- Proposed Scheme RFI#2
- Approved PLN15/0057 Scheme
- Approved 484-486 Swan Street Scheme
- Revised Scheme 12.06.2020

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Brisbane

checked	Checker	scale	1 : 500@A1
drawn	Author	project no	190060

project
480 Swan Street

drawing
Shadow Studies - Revised vs Approved

drawing no. **DA0142**

issue **A**

15/06/20 4:22:49 PM

Attachment 13 - PLN20/0006 - 462 - 482 Swan Street Richmond - Head, Transport for Victoria referral response

King, Michelle

From: James Noy (DOT) <James.Noy@transport.vic.gov.au>
Sent: Friday, 12 June 2020 2:56 PM
To: King, Michelle
Cc: Joe Grech
Subject: FW: PLN20/0006 - 462-482 Swan Street, Richmond
Attachments: 462 482 Swan Street Richmond Delegate Response (final as at 10 June 2020)-WL18YN8S2.pdf; 462 482 Swan Street Richmnd Delegate Response (draft as at 9 June 2020).docx

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Michelle..... I was just talking to Joe regarding the conditions and they have requested a small change to our condition 1 (a) which is in red below. I have no objection to the rewording proposed below if you could please update in your report to Council

Thank You

James

James Noy
Senior Statutory Planner (Public Transport)
Metro North West (Surface Transport)
Department of Transport
Located: Level 23, 1 Spring Street
Melbourne Victoria 3000 Australia
PO Box 2392 Melbourne Victoria 3001
Telephone +61 3 8392 7984
Email james.noy@ecodev.vic.gov.au

From: Joe Grech <jgrech@humanhabitats.com.au>
Sent: Friday, 12 June 2020 2:10 PM
To: James Noy (DOT) <James.Noy@transport.vic.gov.au>; James Noy (DOT) <James.Noy@transport.vic.gov.au>
Subject: [EXTERNAL] RE: PLN20/0006 - 462-482 Swan Street, Richmond

Hi James

I've tried to call again as I am hoping to discuss the intent behind Condition 10:

> *Unless otherwise agreed in writing with TfV and VicTrack, windows, doors and balconies must not be placed on the title boundary with Railway Land and no windows or doors are permitted to pen beyond the Railway Land title boundary to the satisfaction of TfV and VicTrack*

And to discuss the wording of Condition 1(a), specifically if it were to be amend to the following:

Attachment 13 - PLN20/0006 - 462 - 482 Swan Street Richmond - Head, Transport for Victoria referral response

The installation of signs, line marking, splitter island and associated road works permitting only "left turn in" and left turn out" vehicular access from Swan Street ~~(informed by the Road Safety Audit)~~ unless otherwise recommend by the Road Safety Audit

Please give me a call on 0431 088 874 at your earliest convenience so that we can better understand what is required.

Kind Regards

JOE GRECH
SENIOR PLANNER
03 9909 2202
0431 088 874
jgrech@humanhabitats.com.au

HUMAN HABITATS
Level 4, Suite 424, 838 Collins Street
Docklands, VIC 3008, Australia

From: Joe Grech
Sent: Thursday, 11 June 2020 9:14 PM
To: james.noy@ecodev.vic.gov.au
Subject: PLN20/0006 - 462-482 Swan Street, Richmond

Hi James

I called and left a message for you earlier today. I was hoping to discuss the intent behind Condition 10:

Unless otherwise agreed in writing with TfV and VicTrack, windows, doors and balconies must not be placed on the title boundary with Railway Land and no windows or doors are permitted to pen beyond the Railway Land title boundary to the satisfaction of TfV and VicTrack

Please give me a call on 0431 088 874 at your earliest convenience so that we can better understand what is required.

Kind Regards

JOE GRECH
SENIOR PLANNER
03 9909 2202
0431 088 874
jgrech@humanhabitats.com.au

HUMAN HABITATS
Level 4, Suite 424, 838 Collins Street
Docklands, VIC 3008, Australia

Attachment 13 - PLN20/0006 - 462 - 482 Swan Street Richmond - Head, Transport for Victoria referral response

Department of Transport

GPO Box 2392
Melbourne, VIC 3001 Australia
Telephone: +61 3 9651 9999
www.transport.vic.gov.au
DX 201292

Ref: PPR 32739/20

Michelle King
Acting Principal Planner
Yarra City Council
PO BOX 168
Richmond VIC

email: michelle.king@yarracity.vic.gov.au

YARRA PLANNING SCHEME
PLANNING APPLICATION NO: PLN20/0006
PROPOSAL: CONSTRUCTION OF A THIRTEEN STOREY BUILDING, REDUCTION IN THE CAR PARKING REQUIREMENT, ALTERATION OF ACCESS TO A ROAD ZONE, CATEGORY 1.
ADDRESS: 462 – 482 SWAN STREET, RICHMOND

Thank you for your email dated 29th April 2020 referring the above application to the Head, Transport for Victoria (TfV) pursuant to Section 55 of the *Planning and Environment Act 1987*.

A key priority of the Department since the reform of the *Transport Integration Act 2010* on 1 January 2020 has been the integration of referral functions by the Head, Transport for Victoria for both former Vic Roads and Public Transport for Victoria. Considering this, please note that this response provides a whole of Department of Transport position including both Public Transport and Roads.

As Council will be aware, the Department have considered a previous application for this site through a Planning Scheme Amendment and Planning Panel several years ago. At the time, there was considerable debate at the Panel about the provision of traffic signals to access the site, delays to trams along Swan Street and public realm works to integrate Burnley Station and surrounds.

The new use and development has less car parking spaces and places emphasis on the site's public and active transport access which is welcomed. The Department have reviewed the new application and have concluded that traffic signals can be waived in this instance provided access is restricted to a left in left out arrangement like the application at the adjoining property to the east.

The Department have also recommended a detailed road safety audit for the site and public realm works to assess and improve pedestrian / cycle movements and traffic safety to and from the site and surrounds.

The Burnley Street underpass was also discussed during the Planning Panel and is currently used for Metro Trains bus replacements. The underpass is also slated for a bus terminal when

VICTORIA State Government

funding for a bus route becomes available. The space available in the underpass is already restrained and we would respectfully request Council use this opportunity to remove on street parking in this location for pedestrian improvements and protection of existing and future public transport requirements.

The Head, Transport for Victoria, pursuant to Section 56(1) of the *Planning and Environment Act 1987* **does not object** to the grant of a planning permit subject to the following conditions:

Conditions:

1. Before the development commences (excluding demolition), or other time agreed to in writing with Head, Transport for Victoria, amended plans to the satisfaction of the Head, transport for Victoria (TfV) must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and three copies must be provided. These plans must be generally in accordance with the plans submitted to TfV with the application but are to be modified to show:

   a) the installation of signs, line marking, splitter island and associated road works permitting only "left turn in" and "left turn out" vehicular access from Swan Street (informed by the Road Safety Audit);
   b) modification as required and/or removal of any existing car parking spaces, street tree/s and associated road works on the south side of Swan Street to accommodate the new vehicular access arrangement;
   c) retention of Metro Train bus replacement space in the Burnley Street underpass;
   d) tram shelter and associated works in an agree location on Swan Street;
   e) a landscaping plan and schedule;
   f) demonstrate compliance with air, light and fire requirements without reliance on railway land, and;
   g) any recommendations of the road safety audit,

   to the satisfaction of the TfV.

2. Before the development commences (excluding demolition), unless otherwise agreed in writing with TfV, the permit holder must submit a formal road safety audit, (including a function layout plan) by a suitable qualified consultant, to the satisfaction of TfV and the Responsible Authority. The audit must include, but not limited to:

   i) the function and layout of the left in left out Swan Street access,
   ii) pedestrian, cycle and vehicle access/egress arrangements (including pedestrian crossings at/in vicinity of the intersection of Swan & Burnley Streets)
   iii) loading arrangements,
   iv) buildings and works within the public realm,
   v) internal circulation/layout,
   vi) lighting and vegetation impact on adjoining roadway/s.

   The findings of the audit must be incorporated into the development and at the developer's expense.

3. Unless otherwise agreed in writing with TfV within six (6) months of the occupation of the development the permit holder must submit a post development road safety audit, to the satisfaction of TfV, demonstrating that all works associated with the approved road safety

audit have been tested and any reasonable alterations required are completed to the full cost of the permit holder and to the satisfaction of TfV.

4. Before the Development commences, unless otherwise agreed in writing with the Head Transport for Victoria, the permit holder must submit detailed plans (inclusive of materials and landscaping) to the satisfaction of the Head, Transport for Victoria (TfV), Vic Track and the Rail Operator (RO) showing the development interface improvements for the footpath to the south (directly abutting the subject site's boundaries and extending along the frontage to the railway land and connecting to the Burnley Station ramps as appropriate) being 'public realm works' on railway land. The plans must:

   (i) show lighting, landscaping, footpaths, bicycle parking, street furniture and associated infrastructure;
   (ii) meet Rail Operator specifications and standards; and
   (iii) demonstrate that the works are compliant with the Disability Standard for Accessible Public Transport 2002.

   a) A construction control agreement must be in place between the Permit Holder and RO prior to commencement of the Public Ream Works on Railway Land.

   b) The Public Realm Works outlined in the plans must be completed by the permit holder at their full cost and to the satisfaction of TfV, VicTrack & the RO.

5. Prior to the commencement of work on site (excluding demolition) detailed construction / engineering plans and computations for construction works abutting railway land, railway operations, and railway infrastructure assets must be submitted and approved by VicTrack, TfV and the Rail Operator (RO). The Plans must detail all excavation design and controls of the site adjacent to the railway corridor. The Design Plans must ensure compliance regarding:

   a. building clearances to aerial power lines as per the applicable Victorian Electrical Safety (Installations) Regulations;
   b. design loadings for the building include for:

      i) compliance with AS5100 Parts 1 and 2 for collision protection and impact loads from derailed trains,
      ii) compliance with AS1170 Part 4 - Earthquake Actions in Australia,

   c. working adjacent to overhead power to the satisfaction of the RO;
   d. demonstrate compliance with air, light and fire requirements without reliance on railway land; and
   e. demonstrates a design plan, and a maintenance and operations strategy for balconies and windows that will eliminate any risk of debris falling or being thrown onto railway land.

6. Unless otherwise agreed in writing with TfV, before the commencement of works (including demolition), a Construction Management Plan must be submitted to TfV and Vic Track for approval. The Construction Management Plan must designate operating hours and include details of (but not be limited to) management proposals and actions to protect Vic Track assets, rail infrastructure and the operation of the public transport network during construction and must set out objectives, performance and monitoring requirements to the satisfaction of Vic Track & TfV.

7 Unless otherwise agreed in writing with the TfV, before the commencement of works (including demolition), a Traffic Management Plan must be submitted to TfV which outlines how traffic will be managed throughout the construction of the development and mitigate impacts to public transport, including trains and trams. The Traffic Management Plan must be prepared and implemented to the satisfaction of TfV. All traffic management and mitigation costs will be at the full cost of the permit holder.

8. Unless otherwise agreed in writing with TfV, prior to construction commencing including demolition, a construction control and indemnity agreement as required by TfV must to be in place to the satisfaction of TfV at the full cost to the permit holder. Any costs required to review documents for the construction control and indemnity agreement must be met by the permit holder.

9. Unless otherwise agreed in writing with TfV, prior to the commencement of works (excluding demolition), the permit holder must prepare a report, to the satisfaction of TfV & the RO, by a suitable qualified consultant, which demonstrates that all building materials (including glass / window treatments) visible from the rail corridor are non-reflective such that it will not adversely impact on rail operations and driver safety. The development must avoid using red, green or yellow colour schemes that may interfere with driver operations.

10. Unless otherwise agreed in writing with TfV and VicTrack, windows, doors and balconies must not be placed on the title boundary with Railway Land and no windows or doors are permitted to open beyond the Railway Land title boundary to the satisfaction of TfV and VicTrack.

11. Prior to the occupation of the development, all works outlined on the endorsed plans for the left in left out only access must be completed with associated signs, to the satisfaction of TfV at the full cost to the permit holder.

12. The boundary wall must be treated with a graffiti proof finish and any graffiti that appears on the wall must be removed as soon as practicable to the satisfaction of VicTrack and the Rail Operator. Removal of graffiti must be undertaken at no cost to VicTrack or the Rail Operator.

13. Unless otherwise agreed in writing, permanent or temporary soil anchors must not be installed on railway land.

14. Prior to commencement of works, the Rail Operator must be contacted through the email address metrositeaccess@metrotrains.com.au to obtain the Rail Operator's conditions and safety requirements for works on, over or adjacent to railway land.

15. Any Rail Operator costs required to review documents or construction plan works within the rail environment must be met by the permit holder.

Attachment 13 - PLN20/0006 - 462 - 482 Swan Street Richmond - Head, Transport for Victoria referral response

16. Any damage to public transport infrastructure as a consequence of the construction works must be rectified to the satisfaction of TfV, at the full cost of the permit holder.

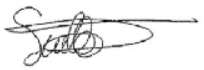
17. The permit holder must take all reasonable steps to ensure that disruptions to train and tram operation are kept to a minimum during the construction of the development, and in compliance with the Rail and Tram Safety and Environmental requirements.

18. No lighting is to be erected that throws light onto the railway tracks or which interferes with the visibility of signals and the rail lines by train drivers, to the satisfaction of the Rail Operator.

19. No drainage, effluent, waste, soil or other materials must enter or be directed to railway land or stored or deposited on railway land.

Should you require any further clarification, please feel free to contact myself or James Noy on telephone 03 8392 7984 or email james.noy@ecodev.vic.gov.au.

Yours sincerely



SIMON BASIC
Manager Transport Planning Metropolitan North West
Delegate of the Head, Transport for Victoria
10/06/2020

cc: wpearce@humanhabitats.com.au

Attachment 14 - PLN20/0006 - 462 - 482 Swan Street Richmond - Open Space referral response

Memo

To:	**Michelle King**
Cc:	
From:	**Julia Mardjuki**
Date:	**20 May 2020**
Subject:	**PLN20/0006 – 462 – 482 Swan Street Richmond – Open Space Referral**

Dear Michelle

Thank you for the opportunity to review this development proposal. I have considered the landscape plans from TCL dated April 2020 and compared them to the architectural plans provided by Architectus dated 16 April 2020.

The overall landscape concept is good and provides increased amenity to that section of Swan Street. There are a few items we would like addressed in the landscape concept plan:

- Ensure there is a 600mm set back between the proposed raised planters with custom seating along Burnley Street and the kerb.
- The awnings along Swan Street and Burnley Street will need to be adjusted to accommodate the canopy of the proposed tree planting.
- The paving materials outside the title boundary will need to be consistent with the wider precinct. Please ensure the urban design comments on this item are incorporated in future iterations of the plan.
- It would also be beneficial to have some consistency in the public realm between this and the adjoining development at 484 Swan Street, especially along Swan Street and the side facing Burnely Station.
- The tree selection in the public realm will need to be consistent with the advice from the Streetscapes and Natural Values team.
- The potential to modify the ramp to Burnely Station so it is complaint with DDA standards and meets a 1:14 grade should be considered.
- Given the traffic along the Burnley Street side is only to service this development and for cars to drop off at the station or turn out, can we investigate the development of a shared space where the public realm can stretch across to the verge of the overpass and potentially create some safe drop off zones for the development and to the station? This might also allow us meet the grade for access to the station while also accommodating the custom planters and awning along that side.
- What tree guards or treatments will be used around the proposed street trees on Burnley and Swan Streets? Please ensure these are consistent with the Yarra standard details.
- Can any landscape features be included in the walk through between the development that connects Swan Street to the train station, especially beneath the void spaces where there is

Attachment 14 - PLN20/0006 - 462 - 482 Swan Street Richmond - Open Space referral response

potential for some vertical greening? Or in the middle of the walkway which is quite generous at 7m.
- The widths and depths of the proposed planters are adequate to achieve the landscape proposal and we support them.
- Please ensure any proposed plants in the final plans do not appear on the DELWP advisory list of environmental weeds and will also be sun and shade tolerant as suited to the development.

I would like to request further information on:

The raised garden beds with custom furniture along Burnley Street:
- Provide clarity on the form and size as well as furniture around the edges of the planters. The plans provided in the concept section of the landscape report to those provided on LA301 show some inconsistencies.

The terrace area leading down to Burnley Station
- What are the levels through there?
- What materials are going to be used for the seating slabs?
- What is the relationship between the terrace and ramp into Burnley Station?
- Given this section is outside the title boundary, who will be responsible for the ongoing maintenance of this section?
- Does VicTrak need to provide approval for the proposed works in this section?

If a planning permit is issued, we will need to see:
- A detailed planting plan including a planting schedule so we can understand the landscape proposal. Please include the quantities, pot sizes, mature heights, botanical and common names.
- Provide a specification of works to be undertaken prior to planting.
- Provide information for ongoing maintenance, including for the façade planting.
- Provide details on the proposed methods for irrigation and drainage.

Please let me know if you require any further information from me or if you would like me to clarify my comments.

Sincerely

Julia Mardjuki
Open Space Planner

Attachment 15 - PLN20/0006 - 462 - 482 Swan Street Richmond - Streetscapes & Natural Values referral response

Memo

diverse
vibrant
exciting
inclusive

To: Michelle King

Cc:

From: Glen Williames

Date: 12 May 2020

Subject: PLN20/0006 – 462-482 Swan St Richmond

Michelle,

I have assessed the following plans:

- Landscape Management Plan Parts 1-3
- Plans Part 1-5

The proposal will have no effect on the existing vegetation located within the Burnley St u-turn side road.

The property frontage to the same road, proposes new garden beds x 4 with alternating *Zelkova* 'Green Vase' and Chinese Elm.

The Zelkova is an approved species and preferred as a single species along this frontage.

A review of the garden beds is recommended. Appropriate soil volumes to be calculated to support the proposed plantings, including consideration for passive irrigation or use of water captured by the subject site.

The necessary soil volume for a *Zelkova* 'Green Vase' using the *Elke Haege* calculation form is 13.35m3 per tree.

The development proposes planting of 6 London Plane along the Swan Street frontage. These are unsuitable and should be substituted with *Lagerstroemia indica* 'Natchez', constant with other plantings along Swan Street.

The plans show an awning along the same frontage at a height of 4.31m extending 2.12m from the building line over the footpath.

Lagerstroemia indica 'Natchez' are capable of reaching 6m height and 4m spread. This proposed canopy will directly impact any planting along Swan Street.

This awning contradicts the proposed plantings and is recommended to be removed.

Attachment 15 - PLN20/0006 - 462 - 482 Swan Street Richmond - Streetscapes & Natural Values referral response

Removal of the existing juvenile Lagerstroemia indica 'Natchez' within the footpath of Swan Street and the Planting of the 6 x Lagerstroemia indica 'Natchez' within the footpath are to be completed by council tree maintenance contractors at council's current schedule of rates. These cost are to be paid by the developer. The same applies for the planting and establishment maintenance of the 4 x Zelkova in the Burnley Street side of the property.

Attachment 16 - PLN20/0006 - 462 - 482 Swan Street Richmond - Internal Urban Design streetscapes referral response

CITY OF YaRRA

MeMO

TO:	Michelle King (Acting Principal Planner)
FROM	Daniel Perrone (Urban Design)
DATE:	20 May 2020
SUBJECT:	462-482 Swan St Richmond
APPLICATION NO:	PLN20/0006
DESCRIPTION:	Use and development of land for a commercial building, a reduction in the car parking requirements, buildings and works including alterations to a road in a Road Zone (Category 1).

COMMENTS SOUGHT

Urban Design comments have been sought on the development at the above address, in particular to the streetscape and any capital works affecting the site.

Comments are provided below and are based on the following plans:

DA1003 (Rev C)	Ground Floor Plan	dated 16.04.2020
DA2102 (Rev B)	Ground Elevation - North - Sheet 2	dated 16.04.2020
DA2103 (Rev B)	Ground Elevation - South - Sheet 1	dated 16.04.2020
DA2104 (Rev B)	Ground Elevation - South - Sheet 2	dated 16.04.2020
Landscape Report	by TCL Landscape Architecture	dated April 2020

In summary, the proposal is supported from an urban design perspective, however the following comments need to be incorporated into the drawings before endorsement. Detailed comments are provided below and we request that the applicant provides a response to each of these items. Note: The extent of this review is limited to the proposed development's integration with the streetscape and public realm.

Attachment 16 - PLN20/0006 - 462 - 482 Swan Street Richmond - Internal Urban Design streetscapes referral response

1. Capital works

There are no known capital works being led by the Urban Design team directly around the site.

2. Ground Floor Interface

- The proposed ground floor setbacks create a widened footpath space and improved pedestrian flow between the private and public domain and are supported from an urban design perspective.
- The north-south through link provided a break to the street wall and additional pedestrian access through the site. As such, this is supported from an urban design perspective.

3. Rail Footpath Link

- The footpath that runs between the development and Burnley Station is owned by VicTrack. Any works to this land, (including the below recommendations) will require VicTrack consent and a maintenance agreement between the applicant and VicTrack.
- Asphalt pavement is recommended along the full length of the rail path to provide a consistent surface.
- The long-term success and amenity of the landscaped terrace is questionable due to the area being completely shaded for most of the day.
- The rail path will require lighting to ensure safety at night. Lighting details should be provided for assessment by the relevant authority.

4. Surface materials

- The City of Yarra standard footpath treatment is asphalt. All footpath areas outside of the subject site's title boundary are to be surfaced in asphalt as per Yarra standard drawings. This is to provide clear delineation between public and private space, as well as for ease of maintenance of underground services.
- Whilst in some circumstances bluestone paving may be supported, this should only be used in special circumstances (such as squares and plazas). See comments in section 6 below relating to the Burnley Street interface.
- DDA compliant pram ramps (including TGSIs) need to be shown at the Burnley St/Swan St intersection as per Yarra standard drawings.
- Rail path; asphalt pavement is recommend along the full length of the rail path, and will require VicTrack consent and a maintenance agreement between the applicant and VicTrack.

5. Swan Street - Furniture and Fixtures

- An existing street litter bin and bench are located on the footpath near the north-western corner of the site, which service the adjacent tram stop. These fixtures are to be upgraded and located in accordance with the City of Yarra Public Domain Manual and Yarra Standard Drawings.

6. Burnley Street – Furniture and Fixtures

- Details of custom benches and raised planter need to be provided for assessment by relevant council units (Urban Design, Streetscapes and Natural Values, Open Space, cleaning and maintenance teams).
- 4no. existing bike hoops are located on Burnley Street near the corner of Swan St. The proposed drawings show the proposed northern-most planter box/seat to be almost hard against the existing bike hoops. The developer is to either remove the northern-most planter box/seat, or relocate the bike hoops to council's satisfaction (in accordance with Yarra standard drawings).

Attachment 16 - PLN20/0006 - 462 - 482 Swan Street Richmond - Internal Urban Design streetscapes referral response

- Ensure there is a 600mm set back between the proposed raised planters with custom seating along Burnley Street and the kerb.
- The additional provision of seating is likely to generate an abundance of litter (including cigarette butts) requiring additional street litter bins. This needs to be negotiated with Council's waste management unit. Any proposed street litter bins are to be in accordance with City of Yarra Public Domain Manual / Yarra Standard Drawings.
- There may be an opportunity to develop the eastern side of the Burnley Street service road into a shared space. This could provide many improved public realm benefits, including a safe drop off zone to the station, slowed traffic adjacent the proposed planter boxes/seating, as well improving the adjacent verge planting to soften the interface with the Burnley Street overpass. In this case, it would be beneficial to continue the proposed bluestone paving across the full width of the footpath and potentially the shared road space.

7. Other recommendations

- The previous proposal included the construction of new DDA compliant north-south and east-west pedestrian ramps to connect to the railway underpass. This new ramp would provide significant access improvements to Burnley Station and the applicant is strongly encouraged to pursue this option with VicTrack. (It should be noted that this would require a significant re-design of the Burnley St and southern rail path interfaces.)

Attachment 17 - PLN20/0006 - 462 - 482 Swan Street Richmond - Engineering referral response (1)

CITY OF YARRA

MEMO

To:	**Michelle King**	
From:	**Artemis Bacani**	
Date:	**18 May 2020**	
Subject:	**Application No:**	**PLN20/0006**
	Description:	**13 Storey Mixed-Use Building**
	Site Address:	**462-482 Swan Street, Richmond**

I refer to the above Planning Application received on 29 April 2020 in relation to the proposed development at 462-482 Swan Street, Richmond. Council's Civil Engineering unit provides the following information:

Drawings and Documents Reviewed

	Drawing No. or Document	Revision	Dated
Impact Traffic Engineering Pty Ltd	*Traffic and Transport Assessment*	Final 03	16 April 2020
Architectus Melbourne	*DA1001 Basement 02*	C	16 April 2020
	DA1002 Basement 01	C	16 April 2020
	DA1003 Ground Floor	C	16 April 2020
	DA2001 Context Elevation – North & East	C	16 April 2020
	DA2002 Context Elevation – South & West	C	16 April 2020
	DA2003 Building Elevation – North	C	16 April 2020
	DA2004 Building Elevation – South	C	16 April 2020
	DA2005 Building Elevation – East	C	16 April 2020
	DA2006 Building Elevation – West	C	16 April 2020
	DA2011 Section B-B	C	16 April 2020
	DA2102 Ground Elevation – North – Sheet 2	B	16 April 2020
	DA2103 Ground Elevation – South – Sheet 1	B	16 April 2020
	DA2105 Ground Elevation – West – Sheet 1	B	16 April 2020
WSP	*Waste Management Plan*	D	17 April 2020

Attachment 17 - PLN20/0006 - 462 - 482 Swan Street Richmond - Engineering referral response (1)

CAR PARKING PROVISION

Proposed Development

Under the provisions of Clause 52.06-5 of the Yarra Planning Scheme, the development's parking requirements are as follows:

Proposed Use	Quantity/ Size	Statutory Parking Rate*	No. of Spaces Required	No. of Spaces Allocated
Office	32,052 m²	3.0 spaces per 100 m² of net floor area	961	222
Retail	1,626 m²	3.5 spaces per 100 m² of leasable floor area	56	0
Food & Drink				
		Total	**1,017 Spaces**	**222 Spaces**

* Since the site is located within the Principal Public Transport Network Area, the parking rates in Column B of Clause 52.06-5 now apply.

To reduce the number of car parking spaces required under Clause 52.06-5 (including to reduce to zero spaces), the application for the car parking reduction must be accompanied by a Car Parking Demand Assessment.

Car Parking Demand Assessment

In reducing the number of parking spaces required for the proposed development, the Car Parking Demand Assessment would assess the following:

- *Parking Demand for the Retail/Food and Drink Premises Uses*.
  No on-site car parking will be provided for the retail/food and drink uses. To assess the likely parking demand for the retail/food and drink uses, a staff parking demand of 1.0 space per 100 square metres of floor area could be adopted. For this site, the retail/food and drink staff parking demand would be say, 16 spaces. Staff and customer parking would be accommodated on-street.

- *Parking Demand for Office Use*.
  The proposed office would provide on-site parking at a rate of 0.69 spaces per 100 square metres of floor area. Throughout the municipality, a number of developments have been approved with reduced office rates, as shown in the following table:

Development Site	Approved Office Parking Rate
60-88 Cremorne Street, Cremorne PLN17/0626 issued 21 June 2018	0.72 spaces per 100 m² (200 on-site spaces; 27,653 m²)
2-16 Northumberland Street, Collingwood PLN16/0435 issued 14 June 2017	0.89 spaces per 100 m² (135 on-site spaces; 15,300 m²)
51 Langridge Street PLN17/0332 (Amended) issued 18 May 2018	0.54 spaces per 100 m² (18 on-site space; 3,335 m²)

The proposed office parking rate of 0.69 spaces per 100 square metres of floor space is considered appropriate, as the proposal seeks to minimise private car dependency and promote more sustainable form of transportation.

- *Availability of Public Transport in the Locality of the Land.*
  The following public transport services can be accessed to and from the site by foot:
  - Swan Street trams – 5 metre walk
  - Burnley station – 100 metre walk
  - Swan Street trams – 800 metre walk
  - East Richmond station 840 metre walk

- *Multi-Purpose Trips within the Area.*
  Visitors, clients and customers to the site might combine their visit by engaging in other activities or business whilst in the area.

- *Convenience of Pedestrian and Cyclist Access.*
  The site is easily accessible by pedestrians and bicycles.

Appropriateness of Providing Fewer Spaces than the Likely Parking Demand
Clause 52.06 lists a number of considerations for deciding whether the required number of spaces should be reduced. For the subject site, the following considerations are as follows:

- *Availability of Car Parking.*
  The level of on-street parking that takes place in the vicinity of the site is very high. Any areas of unrestricted parking would be normally fully occupied from early morning periods. On-street parking for employees is not a practical or viable option. Much of the on-street parking is short-stay time restricted parking, which enables turnover of parking for customers and visitors to the Swan Street activity centre.

- *The Future Growth and Development of an Activity Centre.*
  Practice Note 22 – Using the Car Parking Provisions indicates that car parking should be considered on a centre-basis rather than on a site/individual basis. This is applicable to activity centres, such as the Swan Street retail precinct, where spare on-street car parking capacity would be shared amongst sites within the activity centre.

- *Other Relevant Considerations.*
  The scarcity of long-stay unrestricted parking in the area would be disincentive for employees to drive to the site. Employees would be inclined to make other travel arrangements to commute to the site by taking public transport or riding a bicycle.

- *Relevant Local Policy or Incorporated Document.*
  The proposed development is considered to be in line with the objectives contained in Council's *Strategic Transport Statement*. The site is ideally located with regard to sustainable transport alternatives and the reduced provision of on-site car parking would potentially discourage private motor vehicle ownership and use.

Adequacy of Car Parking
From a traffic engineering perspective, the waiver of parking associated with this development is considered appropriate in the context of the development and the surrounding area. Employees would commute to and from the site using more sustainable forms of transportation.

The Civil Engineering unit has no objection to the reduction in the car parking requirement for this site.

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TRAFFIC IMPACT

Trip Generation

A review of the Impact traffic report indicates that an intersection study of Burnley Street/Swan Street and the existing site access were undertaken over a three-day period. Data was provided for Tuesday 19 November 2019 and Wednesday 20 November 2019 only, but there is no information relating to the third day of the survey. Impact is to provide further details of the third survey day.

The traffic report also suggests that Swan Street carries in the order of 1,100 vehicle movements during the AM and PM peak periods.

Section 3.5.1 of the traffic report mentions that the gap analysis studies records gap capacities for Victoria Road (West). Impact is to confirm the location of Victoria Road (West) in relation to the site.

The dates shown on Table 5 and 6 are the same. Impact is to confirm the date of survey for these tables.

Impact has adopted a rate of 0.5 trips per space in each peak hour for the traffic generated by the office component. This is consistent with previous traffic reports we have reviewed and we are satisfied with this rate.

Based on the above, the trip generation as adopted by Impact is as follows:

Proposed Use	Adopted Traffic Generation Rate	Peak Hour	
		AM	PM
Office (222 spaces)	0.5 trips per space in each peak hour	111	111

The peak hour traffic volumes generated by the site are high and accounts to approximately 10 percent of existing traffic volumes along Swan Street, as confirmed in the Impact report.

Directional Split

Impact has developed the following split model for the office use.

90 % inbound and 10 % outbound during the AM peak hour.
10 % inbound and 90 % outbound during the PM peak hour.

Directional split in each peak hour for the office traffic –

- AM Peak – 10% outbound (11 trips), 90% inbound (100 trips); and
- PM Peak – 90% outbound (100 trips), 10% inbound (11 trips).

Impact of Development Traffic

All development traffic would enter and exit the development's car park via Swan Street, an Arterial Road.

The applicant's traffic report has indicated that Swan Street currently carries in the order of 1,100 vehicle movements during the peak periods. The proposed development would generate an additional 10 percent of existing traffic.

The gap analysis performed by Impact Traffic Engineering suggests that there is sufficient capacity to comfortably accommodate the development's traffic without impacting on the traffic operation along Swan Street.

The applicant should confirm how it was concluded that traffic exiting the development can satisfactorily enter the traffic stream of Swan Street. Impact should also clarify the figures in Tables 3 to 6 of the traffic report. How were the figures in Columns "AM Peak" and "PM Peak" derived?

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There is very little detail on the impact of traffic that would be queued at the Burnley Street signalised intersection. Given the site's car park access is located approximately 100 metres from Burnley Street, any stationary traffic queues extending back from Burnley Street could block access to the site.

Impact has recommended for a "Keep Clear" road marking treatment to be installed at the development's vehicle entrance. This would prevent any stationary traffic from blocking the car park entrance at the site. This recommendation is considered reasonable.

In addition to the above, the previous proposal for 462-482 Swan Street (Planning Permit PLN15/0057; issued 31 January 2018) was approved with the provisions of traffic signals to mitigate traffic movements into and out of the site off Swan Street. The removal of on-street car parking along the frontage of the site and along the north side of Swan Street, west of Cutter Street was also approved in the permit. Has Impact considered these options to improve traffic movements into and out of the development?

Impact is to confirm if the implementation of traffic signals at the car park entrance is appropriate to reduce the traffic delays along Swan Street and possible traffic queuing within the site. If the traffic signals at the development's entrance were to be approved, the traffic signals would need to be incorporated into the signals at the Swan Street/Burnley Street intersection. If this option were to be pursued, a functional layout plan for the signals would need to be developed by the applicant in conjunction with the Department of Infrastructure. The signals and any associated infrastructure works must be funded by the applicant if the proposal is accepted/approved. Impact is to also confirm if the removal of on-street car parking along the south side and north side of Swan Street is necessary to improve traffic movements along Swan Street.

DEVELOPMENT LAYOUT DESIGN
Layout Design Assessment

Item	Assessment
Access Arrangements	
Development Entrance	The development's entrance is 6.23 metres in width to satisfy both the *Design standard 1 – Accessways* of Clause 52.06-9 and *AS/NZS 2890.1:2004*.
Visibility	Visibility sight triangles are to be superimposed and dimensioned on the drawings as required by *Design standard 1*.
Headroom Clearance – Vehicle Entrance Security Gate	Not dimensioned on the plans.
Car Parking Modules	
Regular Car Spaces	The regular car spaces measuring 2.6 metre by 5.4 metre within the basement car park levels satisfy *AS/NZS 2890.1:2004*.
Accessible Parking Space	The 2.6 metre by 5.4 metre accessible car space and adjacent shared area satisfy *2890.6:2009*.
Aisles	Aisle widths measuring 5.8 metres, 6.4 metres, 6.54 metres and 8.4 metres have been provided inside the basement car park levels to satisfy *AS/NZS 2890.1:2004*.
Floor to Ceiling Height	The floor to ceiling clearance height within the basement car park levels have not be dimensioned on the plans.
Column Depths and Setbacks	The columns are setback 130 mm, 580 mm, 590 mm, 685 mm and 690 mm from the edge of the aisle.

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	The column depths are not dimensioned on the plans.

Layout Design Assessment

Item	Assessment
Car Parking Modules	
Blind Aisle	Blind aisle extensions of 1.04 metres have been provided throughout the basement level car parks.
Clearances to Walls	Car spaces adjacent to walls are provided with the minimum 300 millimetres clearance to satisfy *AS/NZS 2890.1:2004*.
Gradients	
Ramp Grade for First 5.0 metres inside Property	The accessway for the first 5.0 metres inside the property is flat to satisfy *Design standard 3 – Gradients*.
Ramp grades and Changes of Grade	The ramp grades and the changes of grade for the ramped accessway and the internal ramps satisfy *Design standard 3*.
Other	
Queuing Analysis	The AM peak hour would be the critical time for the operation of the security gate. The proposed security gate would be capable of servicing 144 vehicles per hour, based on a total service time of 25 seconds derived from our own calculation*. By conservatively assuming 109 vehicles per AM peak hour wishing to access the development, the utilisation ratio for the security gate (usage/capacity) would be 0.75 (109 vehicle trips per hour/144 vehicles per hour). To determine the storage queue of the security gate, guidance is sought from the Australian/New Zealand Standard AS/NZS 2890.1:2004. The mechanical device such as this security gate should have sufficient vehicle storage to accommodate the 98th percentile queue (the queue that will be exceeded on 2% of occasions). By knowing the utilisation ratio of the security gate (in this case, 0.75), the 98th percentile queue length can be calculated. Queue Length, $N = (\text{Log}_n \Pr(n>N) / \text{Log}_n \rho) - 1$ $\Pr(n>N) = \rho^{N+1}$ where ρ = r / s (utilisation factor) ρ = average arrival rate / average service rate = 109 / 144 = 0.75 $N = (\text{Log}_n 0.02 / \text{Log}_n 0.75) - 1$ = 12.5 car lengths, say 12 cars The 98th percentile queue length for the security gate during the AM peak hour would be 12 car lengths. The applicant should consider leaving the security gate open during the AM peak period to enable vehicles to enter the site without the operation of the security gate and prevent any queuing along Swan Street. * Calculation of boom gate service time: - Time to activate remote control – 5 seconds - Time for security gate to open – 20 seconds

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	- Total time taken – 25 seconds

Layout Design Assessment

Item	Assessment
Other	
Vehicle Turning Movements – Off Swan Street	The swept path diagrams for a B99 design vehicle entering the site and a B85 design vehicle exiting the site via Swan Street have not been provided.
Vehicle Turning Movements – Basement Levels	The vehicle turning movements within the basement car park levels are considered satisfactory.
Loading Bay	The loading bay measuring 5.68 metres by 6.5 metres is considered adequate to accommodate a 6.4 metre long small rigid vehicle.
Delivery Vehicle – Turning Movements	The swept path diagrams for a 6.4 metre long small rigid vehicle satisfactorily demonstrates entry and exit manoeuvres off Swan Street.

Design Items to be Addressed

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Item	Details
Median Traffic Island	Can the median traffic island inside the vehicle accessway as shown on the *Ground Floor* plan be removed to provide a wider carriageway?
Visibility	Visibility sight triangles are to be superimposed and dimensioned on the drawings as required by *Design standard 1*.
Headroom Clearance – Vehicle Entrance Security Gate	To be dimensioned on the plans. The headroom clearance is required to determine if there is sufficient headroom height for delivery and waste collection vehicles accessing the loading bay.
Floor to Ceiling Height	The floor to ceiling height clearance within the basement car park levels are to be dimensioned on the plans.
Column Depths and Setbacks	Columns setbacks are to be designed in accordance with *AS/NZS 2890.1:2004*. If the columns cannot be relocated, can the parking spaces adjacent to columns be widened to allow car doors to be opened or could the spaces adjacent to columns be allocated for small cars? The column depths are also to be dimensioned on the plans.
Queuing Analysis	The applicant is to consider leaving the security gate open during the AM peak period to allow vehicles to enter the site without the operation of the security gate.
Vehicle Turning Movements – Off Swan Street	The swept path diagrams for a B99 design vehicle and an oncoming B85 design vehicle entering and exiting the development via Swan Street are to be provided.

Design Items to be Addressed

Item	Details
Vehicle Crossing Ground Clearance Check	To assist the applicant, a Vehicle Crossing Information Sheet has been appended to this memo. The ground clearance check requires the applicant to obtain a number of spot levels which include the reduced level 2.0 metres inside the property, the property boundary level, the bottom of kerb (invert) level, the edge of the channel level and a few levels on the road pavement – in this case, for Swan Street. These levels are to be shown on a cross sectional drawings, with dimensions, together with the B99 design vehicle ground clearance template demonstrating access. Providing the ground clearance check early in the design phase can also determine whether further modification works are required, such as lowering the finished floor level inside the property or making any adjustments to Council's footpaths or road infrastructure.

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Bicycle Considerations	The bicycle requirements for this development are to be referred to Council's Strategic Transport unit for assessment.
Vehicle Turning Movements –	Swept path diagrams are to be provided to show a B85 design vehicle passing the B99 design vehicle at the corner of the basement car park levels.
Canopy – Swan Street and Burnley Street Frontages	The canopy along the site's Swan Street and Burnley Street road frontages must be setback 750 mm from the front of kerb to satisfy the *Building Regulations 2018*.
Waste Collection	Waste collection at the site is detailed in the Waste Collection Plan. Collection would be performed by using a private contractor using a Small Rigid Vehicle or smaller.

Section 173 Agreement (Footpath Widening along Swan Street and Burnley Street Road Frontages)
The developer must enter into an agreement with the Responsible Authority under Section 173 of the *Planning and Environment Act 1987*, for the proposed widening of the footpath along the northern and western boundary of the site.

The widened section of the footpath is to continue under private ownership and paved in a different material to the asphalt footpath to delineate private ownership of this widened footpath.

ENGINEERING CONDITIONS
Civil Works

Upon the completion of all building works and connections for underground utility services,

- The kerb and channel along the property's Swan Street and Burnley Street (service road) road frontages must be reconstructed to Council's satisfaction and at the Permit Holder's cost.
- The footpaths along the property's Swan Street and Burnley (service road) frontages must be reconstructed to Council's satisfaction and at the Permit Holder's cost. The footpath must have a cross-fall of 1 in 40 or unless otherwise specified by Council.
- The full-width road pavement of Burnley Street service road (from west kerb to east kerb line) from the southern limit of the development to Swan Street must be profiled and re-sheeted to Council standard. Any isolated areas of road pavement failure as a consequence of construction traffic impacts must be reconstructed. The costs associated with these road works shall be borne by the developer.

- The half-width road pavement of Swan Street (from south kerb to tramway tracks) from the western limit of the development to the eastern limit of he development must be profiled and re-sheeted to Council standard. Any isolated areas of road pavement failure as a consequence of construction traffic impacts must be reconstructed. The costs associated with these road works shall be borne by the developer.
- All road markings along the property's Swan Street frontages must be reinstated to Council's satisfaction and at the Permit Holder's cost.
- All redundant vehicle crossings must be demolished and reinstated with paving, kerb and channel to Council's satisfaction and at the Permit Holder's cost.

Vehicle Crossing

Before the development commences, or by such later date as approved in writing by the Responsible Authority, the new vehicle crossing must be designed and constructed:

- In accordance with any requirements or conditions imposed by Council.
- Demonstrating satisfactory access into and out of the site with a vehicle ground clearance check using the B99 design vehicle, and be fully dimensioned with actual reduced levels (to three decimal places) as per Council's Vehicle Crossing Information Sheet;
- At the Permit Holder's cost; and
- To the satisfaction of Council.
- The edge of the vehicle crossing must comply with the minimum setback from the two electrical poles as required by the relevant power authority and Yarra Trams. If there is a requirement to relocate the poles, The Permit Holder must obtain the consent of the relevant power authority and Yarra Trams. All costs associated with the relocation will be at the Permit Holder's cost
- The vehicle crossing shall be constructed in accordance with Department of Infrastructure's and City of Yarra's requirements and specifications.

Redundant Vehicle Crossings

- All redundant vehicle crossings along the property's road frontages must be demolished and reinstated with paving, kerb and channel to Council's satisfaction and the developer's cost.

Infrastructure and Streetscape Masterplan

- The applicant must prepare and develop an infrastructure and streetscape masterplan in conjunction with Council, Department of Infrastructure, VicTrack, Public Transport Victoria and all relevant service authorities for capital improvements in the roads surrounding the development. The Plan must include, but is not limited to, the interface with the Burnley railway station, the mitigation works at the Burnley Street/Swan Street intersection, the improvement to the Burnley Street service road and the streetscape along Swan Street. The extent and scope of the works must be clearly defined before approval is granted by Council. All traffic mitigation works, road infrastructure works and streetscape works shall be funded by the applicant.

Road Asset Protection

- Any damaged roads, footpaths and other road related infrastructure adjacent to the development site as a result of the construction works, including trenching and excavation for utility service connections, must be reconstructed to Council's satisfaction and at the developer's expense.

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Construction Management Plan

- A Construction Management Plan must be prepared and submitted to Council. The Plan must be approved by Council prior to the commencement of works. A detailed dilapidation report should detail and document the existing and post construction conditions of surrounding road infrastructure and adjoining private properties.

Impact of Assets on Proposed Development

- Any services poles, structures or pits that interfere with the proposal must be adjusted, removed or relocated at the owner's expense after seeking approval from the relevant authority.
- Areas must be provided inside the property line and adjacent to the footpath to accommodate pits and meters. No private pits, boundary traps, valves or meters on Council property will be accepted.

Discharge of Water from Development

- Only roof runoff, surface water and clean groundwater seepage from above the water table can be discharged into Council drains.
- Council will not permit clean groundwater from below the groundwater table to be discharged into Council's drainage system. Basements that extend into the groundwater table must be waterproofed/tanked.

Removal, Adjustment, Changing or Relocation of Parking Restriction Signs

- No parking restriction signs or line-marked on-street parking bays are to be removed, adjusted, changed or relocated without approval or authorisation from Council's Parking Management unit and Construction Management branch.
- Any on-street parking reinstated as a result of development works must be approved by Council's Parking Management unit.
- The removal of any kerbside parking sensors and any reinstatement of parking sensors will require the Permit Holder to pay Council the cost of each parking sensor taken out from the kerb/footpath/roadway. Any costs associated with the reinstatement of road infrastructure due to the removal of the parking sensors must also be borne by the Permit Holder.

ADDITIONAL ENGINEERING ADVICE FOR THE APPLICANT

Item	Details
Legal Point of Discharge	The applicant must apply for a Legal Point of Discharge under Regulation 133 – Stormwater Drainage of the *Building Regulations* 2018 from Yarra Building Services unit. Any storm water drainage within the property must be provided and be connected to the nearest Council pit of adequate depth and capacity (legal point of discharge), or to Council's satisfaction under Section 200 of the *Local Government Act* 1989 and Regulation 133.

Attachment 17 - PLN20/0006 - 462 - 482 Swan Street Richmond - Engineering referral response (1)

Clearances to Electrical Assets	Overhead power lines run along the south side of Swan Street, close to the property boundary. The developer needs to ensure that the building has adequate clearances from overhead power cables, transformers, substations or any other electrical assets where applicable. Energy Safe Victoria has published an information brochure, *Building design near powerlines*, which can be obtained from their website: http://www.esv.vic.gov.au/About-ESV/Reports-and-publications/Brochures-stickers-and-DVDs
Burnley Railway Station	VicTrack's draft Yarra Site Development Frameworks (June 2015), identified potential issues for pedestrians accessing the Burnley Station, particularly along the east side of the Burnley Street service road. The applicant must consult and liaise with VicTrack and Public Transport Victoria in relation to future redevelopment of the Burnley railway station and address any issues in relation to pedestrian movement and safety between Swan Street and the station.
Tree Protection	The applicant is to liaise with Council's Open Space unit regarding the protection of the street trees along the property's Swan Street frontage.

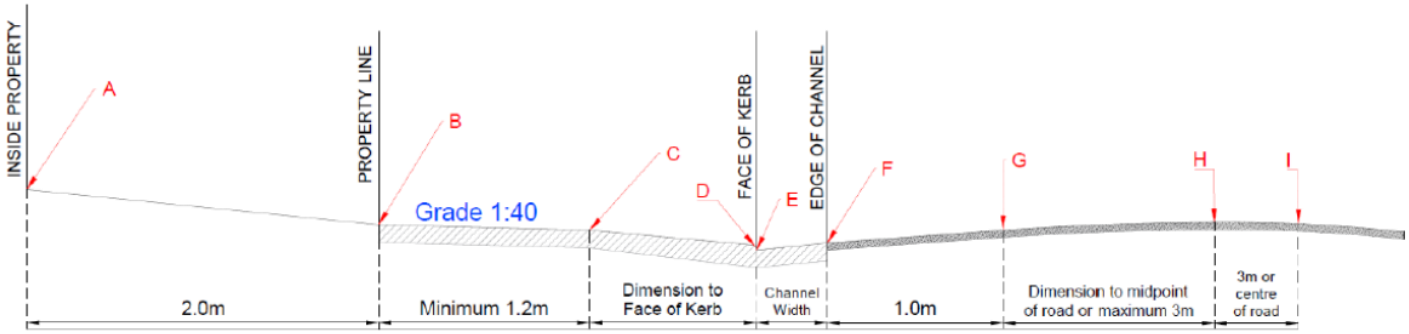
Attachment 17 - PLN20/0006 - 462 - 482 Swan Street Richmond - Engineering referral response (1)

Vehicle Crossing – Cross Section

The designer is to submit a 1:20 scale cross section for each proposed vehicle crossing showing the following items:

A. Finished floor level 2.0 metres inside property
B. Property line surface level
C. Surface level at change in grade (if applicable)
D. Bullnose (max height 60mm) – must be clearly labelled
E. Surface level at the bottom of the kerb
F. Surface level at the edge of channel
G. Road level 1.0 meter from the edge of channel
H., I. Road levels

- Please note the cross section must be fully dimensioned. As shown in the sketch below.
- Please show both the existing and proposed surface.
- The maximum allowable cross-fall between points B and C is 1:40 (2.5%).
- A bullnose (max 60mm) is permitted at point D, however not compulsory.
- The levels shown must be exact reduced levels, to three decimal points. Interpolation of levels is not acceptable.
- The designer must demonstrate that an 85th or 99th percentile vehicle profile can traverse the design cross section as per the Australian/New Zealand Standard ground clearance template (AS/NZS 2890.1:2004).
- Significant level changes to the existing footpath level B to C will require additional level design either side of the proposed crossing.
- Please include any additional levels or changes in grade that are not shown in the diagram.



Attachment 18 - PLN20/0006 - 462 - 482 Swan Street Richmond - Engineering referral response (2)

CITY OF YARRA

MEMO

To:	**Michelle King**	
From:	**Mark Pisani**	
Date:	**16 June 2020**	
Subject:	**Application No:**	**PLN20/0006**
	Description:	**Major Development; Response to Applicant's Comments**
	Site Address:	**462-482 Swan Street, Richmond**

I refer to the above Planning Application received on 12 June 2020 in relation to the proposed development at 462-482 Swan Street, Richmond. Council's Civil Engineering unit provides the following information:

Drawings and Documents Reviewed

	Drawing No. or Document	Revision	Dated
Impact Traffic	Response to Council RFI & DoT Conditions		12 June 2020

Response to Applicant's Comments

Item	Details
Traffic Impact	
Gap Acceptance Analysis	The additional comments provided by Impact Traffic Engineering satisfactorily explain how the results of their gap acceptance analysis were derived. We are satisfied with the results tabulated in the *Traffic and Transport Assessment* report of 16 April 2020. This item has been addressed.
'Keep Clear' Road Markings – Swan Street	We have no objection to the provision of 'Keep Clear' road markings on Swan Street outside the development entrance as originally suggested in the *Traffic and Transport Assessment* report. This item has been addressed.
Traffic Signalisation at Development Entrance – Swan Street	The Civil Engineering unit had requested the applicant to confirm whether the installation of signals at the development's entrance was appropriate. The peak hour volumes of the current development proposal are less than the volumes contemplated for the previous development proposal on the land. Impact Traffic has confirmed that the volumes generated by this site would not meet the minimum warrants specified in the Austroads *Guide to Traffic Management* for signals. It is understood that the Department of Transport also agree that signalisation of the development entrance is not warranted at this time. This item has been addressed.

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Item	Details
Design Items	
Median at Development Entrance	The Civil Engineering unit had requested the applicant to assess whether the median in the development entrance could be removed with the intent of facilitating vehicle turning movements. Impact Traffic has advised that the median in the accessway would accommodate a boom gate and controller and needed to be retained. To this end, Impact Traffic have also confirmed by way of swept path diagrams that simultaneous vehicle turning movements can be achieved with the presence of the median. This item has been addressed.
Pedestrian Sight Triangles IMP191103 – DG-01-01*	Impact traffic has superimposed pedestrian sight triangles (each measuring 2.0 metres by 2.5 metres) at the development entrance in accordance with *Design standard 1 – Accessways* of Clause 52.06-9. This item has been addressed. The applicant must depict the pedestrian sight triangles on the architectural drawings prior to endorsement.
Headroom Clearance at Development Entrance	To be depicted on the architectural drawings prior to endorsement and must satisfy *Design standard 1*.
Floor to Ceiling Height (Headroom Clearance within Basement Car Park)	To be depicted on the architectural drawings prior to endorsement and must be no less than 2.1 metres as per *Design standard 1*.
Column Depths and Setbacks	As indicated in our referral comments of 18 May 2020, column setbacks from the aisles range from 130 mm to 690 mm. Parking spaces have been designed in accordance with the Australian/New Zealand Standard AS/NZS 2890.1:2004 (2.6 metres by 5.4 metres). The clearance envelope for 5.4 metre long bays require columns to be set back from the aisles by 750 mm. A number of columns encroach the parking space clearances envelopes (these envelopes have been superimposed on the architectural drawings). To rectify non-compliance, it is recommended that the spaces adjacent to encroaching columns be by widened to 2.7 metres (the minimum width of a 5.4 metre long space in AS/NZS 2890.1:2004 is 2.4 metres for long-stay employee parking; the additional 300 mm to the space width is for clearance). A check of *Basement 01* drawing prepared by Architectus (Drawing No. DA1002 Revision C dated 16 April 2020) indicates that many of the spaces in between columns are clustered in groups of three spaces. If the two spaces adjacent to encroaching columns are widened to 2.7 metres, the middle space could be reduced in width to 2.4 metres – which satisfies AS/NZS 2890.1:2004. We do not accept that parking for single occupant vehicles is justification for retaining non-compliant columns. Therefore, we recommend that adjustments be made to the widths of the spaces in order to satisfy AS/NZS 2890.1:2004. For spaces that cannot be widened, the spaces should be designated as a Small Car Spaces.
Security Boom Gate	Impact Traffic has confirmed that the boom gate at the development entrance would remain open during the AM peak period. This item has been addressed.

* Impact Traffic drawing number

Attachment 18 - PLN20/0006 - 462 - 482 Swan Street Richmond - Engineering referral response (2)

Item	Details
Vehicle turning Movements via Swan Street IMP191103 – DG-01-03	The swept path diagrams for a B99 design vehicle entering the site via Swan Street and an oncoming/exiting B85 design vehicle are considered satisfactory. This item has been addressed.
Vehicle Crossing Ground Clearance Check	Impact Traffic has indicated that the vehicle crossing ground clearance check is to be done at the detailed design phase. This is not acceptable. The ground clearance check must be done much earlier to determine whether the finished floor level at the property line has been appropriately set to enable vehicles to enter and exit the site via Swan Street without scaping or bottoming out. As previously advised by the Civil Engineering unit, the applicant must obtain a number of spot levels out on site which includes the reduced level 2.0 metres inside the property, the property boundary level, the bottom of kerb (invert) level, the edge of the channel level and a few levels on the road pavement – in this case, for Swan Street. Before the proposal is endorsed, the applicant must accurately demonstrate that the vehicle crossing design and the finished floor level at the property boundary can accommodate the B99 design vehicle ground clearance without scraping or bottoming out.
Canopy – Swan Street and Burnley Street Frontages	The minimum 750 mm setback of the canopy from the face of kerb must be depicted on the architectural drawings prior to endorsement.

Additional Items

Item	Details
Numbering of Car Parking Spaces	It is recommended that the parking spaces in the architectural drawings be numbered for identification.

Attachment 19 - PLN20/0006 - 462 - 482 Swan Street Richmond - Strategic Transport referral response

Planning Referral

To:	Michelle King
From:	Chloe Wright
Date:	19/05/2020
Subject:	Strategic Transport Comments
Application No:	PLN20/0006
Description:	Construction of a thirteen-storey building (including one level of plant, plus two basement levels), reduction in the car parking requirement associated with the retail/food and drinks premises and office uses (no permit required for uses) and alteration of access to a Road Zone, Category 1.
Site Address	462 – 482 Swan Street, Richmond

I refer to the above Planning Application and the accompanying Traffic report prepared by Impact in relation to the proposed 13 storey office development at 462 – 482 Swan Street, Richmond. Council's Strategic Transport unit provides the following information:

Access and Safety

No access or safety issues have been identified.

Bicycle Parking Provision

Statutory Requirement

Under the provisions of Clause 52.34-3 of the Yarra Planning Scheme, the development's bicycle parking requirements are as follows:

Proposed Use	Quantity/ Size	Statutory Parking Rate	No. of Spaces Required	No. of Spaces Allocated
Office	32,052 sqm	1 employee space to each 300 sqm of net floor area if the net floor area exceeds 1000 sqm	107 employee spaces	282 employee spaces
		1visitor space to each 1000 sqm of net floor area if the net floor area exceeds 1000 sqm	32 visitor spaces	56 visitor spaces
Retail premises	1,626 sqm	1 employee space to each 300 sqm of leasable floor area	5 employee spaces	
		1visitor space to each 500 sqm of leasable floor area	3 visitor spaces.	
Bicycle Parking Spaces Total			**112 employee spaces**	**282 employee spaces**
			35 visitor spaces	**56 visitor spaces**
Showers / Change rooms		1 to the first 5 employee spaces and 1 to each additional 10 employee spaces	**12 showers / change rooms**	**28 showers / change rooms**

Adequacy of visitor spaces

The following comments are provided in relation to visitor bicycle parking:

- The Traffic report notes 64 visitor bicycle spaces are proposed at the street level, however the plans show 56 proposed visitor bicycle spaces and 4 existing bicycle hoops (providing 8 existing spaces) at the corner of Burnley and Swan Street.
- The 4 existing hoops at the corner of Burnley and Swan Street (shown in Figure 1 below) should be relocated to an alternative location, given the proposed tree and raised garden bed / seating within this area.
- Council's best-practice rate[1] generates a recommendation of 66 visitor spaces for the development. Given the 4 existing hoops are immediately outside the site, it is acceptable to include these hoops as part of the total provision of visitor spaces, if they are relocated to a suitable location.
- It is recommended that an additional 2 visitor bicycle spaces are provided to achieve the best practice rate of 66 spaces.
- 6 spaces are proposed at Swan Street, 22 spaces are located the southern side of the building and 28 are provided at Burnley Street. It is expected that most visitors cycling to the site would arrive via Swan Street or Burnley Street. The visitor spaces at the southern side of the building are not located in a visible area. As such, it is recommended that at least 4 hoops are relocated from the southern side of the building to Swan Street. It is also recommended that wayfinding signage is installed, to direct visitors to the visitor bicycle parking at the western and southern sides of the building.
- All visitor bicycle parking is provided as a horizontal at-grade bicycle rail as per requirements of AS2890.3.

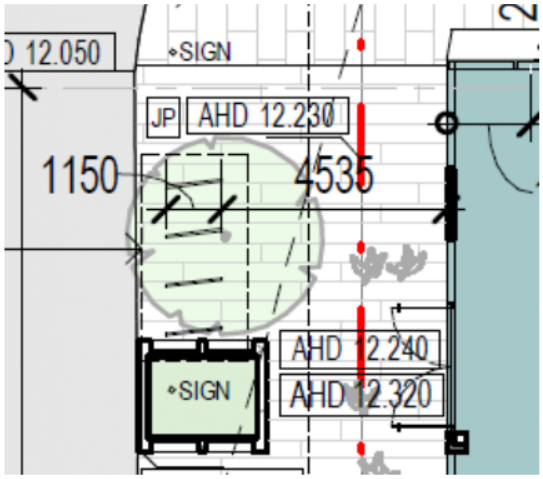


Figure 1 – four existing hoops at the corner of Burnley and Swan Street should be relocated.

Adequacy of employee spaces

Number of spaces

282 employee spaces are proposed, which does not meet Council's best-practice rate[2] of 326 spaces.

The following comments are provided in relation to the number of employee bicycle spaces:

---

[1] *Category 6 of the Built Environment Sustainability Scorecard (BESS) recommends 1 visitor space to each 500sqm of office floor space.*

[2] *Category 6 of the BESS offers the following for best-practice guidance for employee office rates: 'Non-residential buildings should provide spaces for at least 10% of building occupants.' Assuming a floor-space occupancy of 1 staff member to 10sqm (which is the maximum rate allowed under the National Construction Code for fire safety), providing bicycle spaces for 10% of occupants results in a rate of 1 space per 100sqm of floor area.*

- The subject site is located in an inner-urban area with already high cycling-to-work demand, and trends indicate demand will continue to increase;
- Both local and state planning policies include objectives to promote sustainable transport modes, including cycling.
- Based on the above, it is recommended that an additional 44 employee spaces are provided to provide a total of 326 employee spaces.

Design and location of employee spaces and facilities

The design and location of employee bicycle parking is adequate for the following reasons:

- All employee bicycle parking is provided within one secure facility at the ground floor.
- Employee bicycle spaces and access ways appear to be in accordance with the clearance requirements of AS2890.3.
- 72 horizontal at-grade bicycle rails are proposed which satisfies the requirement for at least 20% of employee bicycle spaces to be provided as horizontal at ground-level spaces. It is noted that the traffic report and Green Travel Plan note 118 wall racks and 64 horizontal racks, however the plans show 210 wall racks and 72 horizontal racks.
- 28 showers / change rooms are provided within the end of trip facilities, which meets Council's best practice standards.

Electric Vehicles

Council's BESS guidelines encourage the use of fuel efficient and electric vehicles (EV). Whilst it is acceptable no EV charging points are installed during construction, to allow for easy future provision for electric vehicle charging, car parking areas should be electrically wired to be 'EV ready' to enable future installation of EV chargers.

Green Travel Plan

It is noted the applicant has supplied a Green Travel Plan (GTP). The GTP is generally adequate, however should be modified to include:

(a) Security arrangements to access the employee bicycle storage spaces;
(b) The types of lockers proposed within the change-room facilities, with at least 50% of lockers providing hanging storage space; and
(c) Signage and wayfinding information for bicycle facilities and pedestrians pursuant to Australian Standard AS2890.3.

The GTP should also be updated to include the endorsed ground floor plan showing details of the bicycle parking and end of trip facilities.

Recommendations

The following should be shown on the plans before endorsement:

1. A minimum of 66 visitor bicycle spaces must be provided in a location easily accessible to visitors of the site. All visitor spaces should be provided as a horizontal bicycle rail and must meet clearance and access-way requirements of AS2890.3 or be otherwise to the satisfaction of the responsible authority.
2. A minimum of 326 employee bicycle spaces must be provided within a maximum of two secure compounds.

An updated Green Travel Plan should be provided with the information outlined previously.

Regards

Chloe Wright
Sustainable Transport Officer
Strategic Transport Unit

Attachment 20 - PLN20/0006 - 462 - 482 Swan Street Richmond - City Works referral response

King, Michelle

From: Athanasi, Atha
Sent: Monday, 1 June 2020 3:08 PM
To: King, Michelle
Subject: RE: HPE CM: RE: PLN20/0006 - 462 – 482 Swan Street, Richmond - Waste referral

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Michelle,

The waste management plan for 462 – 482 Swan Street, Richmond authored by WSP and dated 20/5/20 is satisfactory from a City Works Branch's perspective.

Regards,

Atha Athanasi
Contract Management Officer

City of Yarra – City Works Depot
168 Roseneath St CLIFTON HILL VIC 3068
T (03) 9205 5547 F (03) 8417 6666
Atha.Athanasi@yarracity.vic.gov.au
www.yarracity.vic.gov.au
Follow us on Facebook, Instagram and Twitter

Yarra City Council acknowledges the Wurundjeri Woi Wurrung as the Traditional Owners of this country, pays tribute to all Aboriginal and Torres Strait Islander people in Yarra, and gives respect to the Elders past and present.

From: King, Michelle
Sent: Thursday, 21 May 2020 4:04 PM
To: Athanasi, Atha <Atha.Athanasi@yarracity.vic.gov.au>
Subject: RE: HPE CM: RE: PLN20/0006 - 462 – 482 Swan Street, Richmond - Waste referral

Hi Atha,

Please find attached the updated WMP, sought to address your below comment.

If you could please let me know if this is satisfactory.

Many thanks,

Michelle

Attachment 20 - PLN20/0006 - 462 - 482 Swan Street Richmond - City Works referral response

Michelle King
Acting Principal Planner
Planning and Placemaking

PO BOX 168 Richmond VIC
T (03) 9205 5333
E michelle.king@yarracity.vic.gov.au
ABN 98 394 086 520

Follow us on Facebook, Instagram and Twitter

Yarra City Council acknowledges the Wurundjeri Woi Wurrung as the Traditional Owners of this country, pays tribute to all Aboriginal and Torres Strait Islander people in Yarra, and gives respect to the Elders past and present.

From: Athanasi, Atha
Sent: Friday, 8 May 2020 11:08 AM
To: King, Michelle <Michelle.King@yarracity.vic.gov.au>
Subject: HPE CM: RE: PLN20/0006 - 462 – 482 Swan Street, Richmond - Waste referral

Hi Michelle,

The waste management plan for 462 – 482 Swan Street, Richmond authored by WSP and dated 17/4/20 is not satisfactory from a City Works Branch's perspective.
Issues to be rectified include, but may not be limited to the following:

1. Please provide an explanation of how risk will be managed.

Regards,

Atha Athanasi
Contract Management Officer

City Works Services
Parks, Resource Recovery, Cleansing

City of Yarra – City Works Depot
168 Roseneath St CLIFTON HILL VIC 3068
T (03) 9205 5547 F (03) 8417 6666
Atha.Athanasi@yarracity.vic.gov.au
www.yarracity.vic.gov.au

From: King, Michelle
Sent: Wednesday, 29 April 2020 3:53 PM
To: Athanasi, Atha <Atha.Athanasi@yarracity.vic.gov.au>
Subject: PLN20/0006 - 462 – 482 Swan Street, Richmond - Waste referral

Morning Atha,

Attachment 20 - PLN20/0006 - 462 - 482 Swan Street Richmond - City Works referral response

Application No.: **PLN20/0006**
Address: **462 – 482 Swan Street, Richmond**

An application has recently been lodged for the *construction of a thirteen storey building (including one level of plant, plus two basement levels), reduction in the car parking requirement associated with the retail/food and drinks premises and office uses (no permit required for uses) and alteration of access to a Road Zone, Category 1.*

Could you please review the waste arrangements and let me know if the development is satisfactory from a waste perspective?

All documents can be found at the following web address:

https://www.yarracity.vic.gov.au/services/planning-and-development/planning-applications/advertised-planning-applications/2020/04/28/pln200006

If I could please get your comments by Wednesday 20th May that would be appreciated.

Please let me know if you require anything else,

Michelle

Michelle King
Acting Principal Planner
Planning and Placemaking

PO BOX 168 Richmond VIC
T (03) 9205 5333
E michelle.king@yarracity.vic.gov.au
ABN 98 394 086 520

Follow us on Facebook, Instagram and Twitter

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Sustainable Management Plan (SMP)
Referral Response by Yarra City Council



ESD in the Planning Permit Application Process

Yarra City Council's planning permit application process includes Environmentally Sustainable Development (ESD) considerations. This is now supported by the ESD Local Policy Clause 22.17 of the Yarra Planning Scheme, entitled *Environmentally Sustainable Development.*

The Clause 22.17 requires all eligible applications to demonstrate best practice in ESD, supported by the Built Environment Sustainability Scorecard (BESS) web-based application tool, which is based on the Sustainable Design Assessment in the Planning Process (SDAPP) program.

As detailed in Clause 22.17, this application is a 'large' planning application as it meets the category *Non-residential 2. 1,000m2 or greater of new floor area.*

What is a Sustainable Management Plan (SMP)?
An SMP is a detailed sustainability assessment of a proposed design at the planning stage. An SMP demonstrates best practice in the 10 Key Sustainable Building Categories and;

- Provides a detailed assessment of the development. It may use relevant tools such as BESS and STORM or an alternative assessment approach to the satisfaction of the responsible authority; and
- Identifies achievable environmental performance outcomes having regard to the objectives of Clause 22.17 (as appropriate); and
- Demonstrates that the building has the design potential to achieve the relevant environmental performance outcomes, having regard to the site's opportunities and constraints; and
- Documents the means by which the performance outcomes can be achieved.

An SMP identifies beneficial, easy to implement, best practice initiatives. The nature of larger developments provides the opportunity for increased environmental benefits and the opportunity for major resource savings. Hence, greater rigour in investigation is justified. It may be necessary to engage a sustainability consultant to prepare an SMP.

Assessment Process:

The applicant's town planning drawings provide the basis for Council's ESD assessment. Through the provided drawings and the SMP, Council requires the applicant to demonstrate best practice.
The following comments are based on the review of the architectural drawings, prepared by Architectus (prepared 16th April 2020, and the accompanying SMP, prepared by Floth (also prepared 16th April 2020).

Sustainable Management Plan (SMP)
Referral Response by Yarra City Council



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Attachment 21 - PLN20/0006 - 462 - 482 Swan Street Richmond - ESD referral response

Sustainable Management Plan (SMP)

Referral Response by Yarra City Council

Assessment Summary:

Responsible Planner:	Michelle King
ESD Advisor:	Euan Williamson
Date: 21.05.2020	Planning Application No: PLN20/0006
Subject Site:	462-482 Swan Street, Richmond
Site Area: Approx. 4,660m²	Site Coverage: 100%
Project Description:	Thirteen storey office building with ground floor retail.
Pre-application meeting(s):	None.

The standard of the ESD is close to meeting Council's Environmental Sustainable Design (ESD) best practice standard. Should a permit be issued, the following ESD commitments (1) and deficiencies (2) should be conditioned as part of a planning permit to ensure Council's ESD standards are fully met.

Furthermore, it is recommended that all ESD commitments (1), deficiencies (2) and the outstanding information (3) are addressed in an updated SMP report and are clearly shown on Condition 1 drawings. ESD improvement opportunities (4) have been summarised as a recommendation to the applicant.

(1) Applicant ESD Commitments:

- Commitment to 5 Star Green Star certified rating with the Green Building Council of Australia.
- A MUSIC modelling report demonstrating best practice has been submitted that relies on runoff from approximately 2,879m² of roof connected to 90,000 litres of rainwater storage for toilet flushing.
- 10% improvement in NCC energy efficiency requirements for the whole building.
- A solar PV array to contribute to onsite electricity consumption.
- Energy efficient heating/cooling, hot water and lighting.
- High efficiency centrifugal chillers with a minimum COP of 5.8.
- Access to natural ventilation is limited, however, fresh air intake rates to exceed As 1668 standards by at least 50%.
- Water efficient fixtures and taps.

(2) Application ESD Deficiencies:

- 10% improvement in energy efficiency (minimum), is the only clear commitment to an energy performance standard specified within the SMP. This standard just meets Council's best practice standard for thermal energy. Recommend that a large development like this demonstrates leadership with at least a minimum 20% improvement above NCC 2019 standards. Recommend that prior to commencement a completed JV3 energy report be submitted demonstrating the proposed energy performance standard.
- 282 bicycle parking spaces plus additional spaces for visitors. This falls short of our best practice standard for bicycle parking (10% of building users), which for 32,053m² NLA should be 320 bicycle spaces. Recommend increasing bicycle parking 320 spaces.
- Electric vehicle charging infrastructure is an option being considered. Recommend electric vehicle charging infrastructure for at least 5% of vehicle spaces is provided.

(3) Outstanding Information:

- No specific information on expected daylight performance standards has been submitted. Recommend that a daylight report be prepared using daylight modelling or GBCA Hand Calculation method demonstrating that at least 30% of NLA exceed a 2% daylight factor standard. Lower levels are split with a north-south internal atrium which will assist bring light into lower office

Sustainable Management Plan (SMP)
Referral Response by Yarra City Council



levels, but the upper levels enclosing the atrium will reduce this potential. A glazing VLT of 45% could be improved to increase daylight levels, as could the increase of the atrium over a greater number of levels.
- There is little detail on the size and capacity of the proposed solar PV array. Please update the SMP with approximate size (kWp).
- The notation on plans shows a 70,000 rainwater tank, not 90,000 as required by the stormwater and WSUD reports. Please update the architectural plans to be consistent with the SMP.

(4) ESD Improvement Opportunities
- There are large areas of east, west and north facing glazing exposed to summer sun angles and high levels of summer solar heat gain. Recommend additional external shading systems on all east, west and north facing facades exposed to summer sun angles to reduce cooling loads and improve thermal comfort. *See comments on energy efficiency above.*
- Recommend mixed mode HVAC to enable access to natural ventilation and reduce energy consumption for heating and cooling.
- Recommend that all engineered timber products to have low/no formaldehyde content.
- Strongly recommend providing a system for organic waste and separate waste streams for glass and paper also.
- Consider a rooftop terrace garden as a shared space for users of the building.

Further Recommendations:
The applicant is encouraged to consider the inclusion of ESD recommendations, detailed in this referral report. Further guidance on how to meet individual planning conditions has been provided in reference to the individual categories. The applicant is also encouraged to seek further advice or clarification from Council on the individual project recommendations.

1. Indoor Environment Quality (IEQ)

Objectives:

- to achieve a healthy indoor environment quality for the wellbeing of building occupants.
- to provide a naturally comfortable indoor environment will lower the need for building services, such as artificial lighting, mechanical ventilation and cooling and heating devices.

Issues	Applicant's Design Responses	Council Comments	CAR*
Natural Ventilation and Night Purging	Access to natural ventilation is limited. Fresh air intake rates to exceed As 1668 standards by at least 50%.	Recommend mixed mode HVAC.	1
Daylight & Solar Access	No specific information on expected daylight performance standards has been submitted.	Lower levels are split with a north-south internal atrium which will assist bring light into lower office levels, but the upper levels enclosing the atrium will reduce this potential. A glazing VLT of 45% could be improved to increase daylight levels, as could the increase of the atrium over a greater number of levels. Recommend that a daylight report be prepared using daylight modelling or GBCA Hand Calculation method demonstrating that at least 30% of NLA exceed a 2% daylight factor standard.	3
External Views	External views from most office areas.	-	1
Hazardous Materials and VOC	All interior paints, adhesives, sealants and carpets will be low-VOC type	Recommend that all engineered timber products to have low/no formaldehyde content.	4
Thermal Comfort	Good thermal comfort is determined through a combination of good access to ventilation, balanced passive heat gains and high levels of insulation. The application proposes: - Poor natural ventilation - Some shading proposed - Average thermal efficiency standards.	Please refer to section on, *NCC Energy Efficiency Requirements Exceeded* and *Effective Shading*	2

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 1. Indoor Environment Quality
Good Environmental Choice Australia Standards www.geca.org.au
Australian Green Procurement www.greenprocurement.org
Residential Flat Design Code www.planning.nsw.gov.au
Your Home www.yourhome.gov.au

2. Energy Efficiency

Objectives:

- to ensure the efficient use of energy
- to reduce total operating greenhouse emissions
- to reduce energy peak demand
- to minimize associated energy costs.

Issues	Applicant's Design Responses	Council Comments	CAR*
NCC Energy Efficiency Requirements Exceeded	10% improvement in energy efficiency (minimum), is the only clear commitment to an energy performance standard specified within the SMP.	This standard just meets Council's best practice standard for thermal energy performance. Recommend that a large development like this demonstrates leadership with at least a minimum 20% improvement above NCC 2019 standards. Recommend that prior to commencement a completed JV3 energy report be submitted demonstrating the proposed energy performance standard.	2
Hot Water System	Energy efficient gas hot water.	-	1
Peak Energy Demand	Peak demand reduced through various initiatives.	-	1
Effective Shading	There are large areas of east, west and north facing glazing exposed to summer sun angles and high levels of summer solar heat gain.	Recommend additional external shading systems on all east, west and north facing facades exposed to summer sun angles to reduce cooling loads and improve thermal comfort.	4
Efficient HVAC system	High efficiency centrifugal chillers with a minimum COP of 5.8	-	1
Efficient Lighting	Energy efficient LED lighting.		1
Electricity Generation	A solar PV array to contribute to onsite electricity consumption.	There is little detail on the size and capacity of the proposed solar PV array. Please update the SMP with approximate size (kWp).	3
Other	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 2. Energy Efficiency
House Energy Rating www.makeyourhomegreen.vic.gov.au
Building Code Australia www.abcb.gov.au
Window Efficiency Rating Scheme (WERS) www.wers.net
Minimum Energy Performance Standards (MEPS) www.energyrating.gov.au
Energy Efficiency www.resourcesmart.vic.gov.au

3. Water Efficiency

Objectives:

- to ensure the efficient use of water
- to reduce total operating potable water use
- to encourage the collection and reuse of rainwater and stormwater
- to encourage the appropriate use of alternative water sources (e.g. grey water)
- to minimise associated water costs.

Issues	Applicant's Design Responses	Council Comments	CAR*
Minimising Amenity Water Demand	Water efficient taps and fittings throughout, including: - 3 Star WELS showers - 4 Star WELS toilets - 6 Star WELS tapware - 6 Star WELS urinals	-	1
Water for Toilet Flushing	A 90,000 litre rainwater tank connected to all toilets for flushing.	-	1
Water Meter	Separate water metering for all major common area uses, tenancies and dwellings.	-	1
Landscape Irrigation	Water efficient drip irrigation	-	1
Other	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 3. Water Efficiency
Water Efficient Labelling Scheme (WELS) www.waterrating.gov.au
Water Services Association of Australia www.wsaa.asn.au
Water Tank Requirement www.makeyourhomegreen.vic.gov.au
Melbourne Water STORM calculator www.storm.melbournewater.com.au
Sustainable Landscaping www.ourwater.vic.gov.au

4. Stormwater Management

Objectives:

- to reduce the impact of stormwater runoff
- to improve the water quality of stormwater runoff
- to achieve best practice stormwater quality outcomes
- to incorporate Water Sensitive Urban Design principles.

Issues	Applicant's Design Responses	Council Comments	CAR*
STORM Rating	A MUSIC modelling report demonstrating best practice has been submitted that relies on runoff from approximately 2,879m² of roof connected to 90,000 litres of rainwater storage for toilet flushing.	The notation on plans shows a 70,000 tank, not a 90,000 as required by the stormwater and WSUD reports. Please update the architectural plans to be consistent with the SMP.	3
Discharge to Sewer	-	-	-
Stormwater Diversion	-	-	-
Stormwater Detention	20,000 litre OSD tank in addition to the 90,000 rainwater harvesting tank.	-	-
Stormwater Treatment	-	-	-
Others	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 4. Stormwater Management
Melbourne Water STORM calculator www.storm.melbournewater.com.au
Water Sensitive Urban Design Principles www.melbournewater.com.au
Environmental Protection Authority Victoria www.epa.vic.gov.au
Water Services Association of Australia www.wsaa.asn.au
Sustainable Landscaping www.ourwater.vic.gov.au

5. Building Materials

Objectives:

- to minimise the environmental impact of materials used by encouraging the use of materials with a favourable lifecycle assessment.

Issues	Applicant's Design Responses	Council Comments	CAR*
Reuse of Recycled Materials	No specific information has been provided.	Consider using recycled materials in products such as insulation across the project.	4
Embodied Energy of Concrete and Steel	30% reduction in Portland cement content in concrete.	-	1
Sustainable Timber	All feature timber will be FSC or AFS accredited, or reused.	-	1
Design for Disassembly	No information has been provided.	Consider a small pallet of materials and construction techniques that can assist in disassembly.	4
Other	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 5. Building Materials
Building Materials, Technical Manuals www.yourhome.gov.au
Embodied Energy Technical Manual www.yourhome.gov.au
Good Environmental Choice Australia Standards www.geca.org.au
Forest Stewardship Council Certification Scheme www.fsc.org
Australian Green Procurement www.greenprocurement.org

6. Transport

Objectives:

- to minimise car dependency
- to ensure that the built environment is designed to promote the use of public transport, walking and cycling.

Issues	Applicant's Design Responses	Council Comments	CAR*
Minimising the Provision of Car Parks	Car parking in basement levels.	-	1
Bike Parking Spaces	282 bicycle parking spaces plus additional spaces for visitors.	This falls short of our best practice standard for bicycle parking (10% of building users), which for 32,053m2 NLA should be 320 bicycle spaces. Recommend increasing bicycle parking 320 spaces.	2
End of Trip Facilities	End of trip facilities provided.	-	1
Car Share Facilities	Car share spaces are visible on plans.	-	1
Electric vehicle charging	Electric vehicle charging current an option under consideration.	Recommend electric vehicle charging infrastructure for at least 5% of vehicle spaces is provided.	2

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 6. Transport
Off-setting Car Emissions Options www.greenfleet.com.au
Sustainable Transport www.transport.vic.gov.au/doi/internet/icy.nsf
Car share options www.yarracity.vic.gov.au/Parking-roads-and-transport/Transport-Services/Carsharing/
Bicycle Victoria www.bv.com.au

7. Waste Management

Objectives:

- to ensure waste avoidance, reuse and recycling during the design, construction and operation stages of development
- to ensure long term reusability of building materials.
- to meet Councils' requirement that all multi-unit developments must provide a Waste Management Plan in accordance with the *Guide to Best Practice for Waste Management in Multi-unit Developments 2010*, published by Sustainability Victoria.

Issues	Applicant's Design Responses	Council Comments	CAR*
Construction Waste Management	A Construction Waste Management Plan does not have a firm target for construction and demolition waste.	Recommend a recycling/reuse target of at least 80% for construction and demolition waste.	4
Operational Waste Management	Little information has been included in the SMP.	Strongly recommend providing a system for organic waste and separate waste streams for glass and paper also.	4
Storage Spaces for Recycling and Green Waste	Area for bins and chutes can be identified on the plans.	-	1
Others	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 7. Waste Management
Construction and Waste Management www.sustainability.vic.gov.au
Preparing a WMP www.epa.vic.gov.au
Waste and Recycling www.resourcesmart.vic.gov.au
Better Practice Guide for Waste Management in Multi-Unit Dwellings (2002) www.environment.nsw.gov.au
Waste reduction in office buildings (2002) www.environment.nsw.gov.au

8. Urban Ecology

Objectives:

- to protect and enhance biodiversity
- to provide sustainable landscaping
- to protect and manage all remnant indigenous plant communities
- to encourage the planting of indigenous vegetation.

Issues	Applicant's Design Responses	Council Comments	CAR*
On Site Topsoil Retention	There is no productive topsoil on this site.	-	NA
Maintaining / Enhancing Ecological Value	Landscaping to terraces will enhance the ecological value of this site.	-	1
Heat Island Effect	No specific information has been submitted.	-	1
Communal Spaces	Little common areas or shared spaces	Consider a rooftop terrace garden as a shared space for users of the building.	4

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 8. Urban Ecology
Department of Sustainability and Environment www.dse.vic.gov.au
Australian Research Centre for Urban Ecology www.arcue.botany.unimelb.edu.au
Greening Australia www.greeningaustralia.org.au
Green Roof Technical Manual www.yourhome.gov.au

9. Innovation

Objective:

- to encourage innovative technology, design and processes in all development, which positively influence the sustainability of buildings.

Issues	Applicant's Design Responses	Council Comments	CAR*
Significant Enhancement to the Environmental Performance	-	-	-
Innovative Social Improvements	-	-	-
New Technology	-	-	-
New Design Approach	-	-	-
Others	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 9. Innovation
Green Building Council Australia www.gbca.org.au
Victorian Eco Innovation lab www.ecoinnovationlab.com
Business Victoria www.business.vic.gov.au
Environment Design Guide www.environmentdesignguide.com.au

10. Construction and Building Management

Objective:

- to encourage a holistic and integrated design and construction process and ongoing high performance

Issues	Applicant's Design Responses	Council Comments	CAR*
Building Tuning	Comprehensive independent commissioning and tuning of all major appliances and building services.	-	1
Building Users Guide	No specific information has been provided.	Recommend a Building Users Guide be provided to the residents and building users.	1
Contractor has Valid ISO14001 Accreditation	-	-	-
Construction Management Plan	An Environmental Management Plan will monitor and control activities undertaken during construction.	-	1
Others	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 10. Construction and Building Management
ASHRAE and CIBSE Commissioning handbooks
International Organization for standardization – ISO14001 – Environmental Management Systems
Keeping Our Stormwater Clean – A Builder's Guide www.melbournewater.com.au

Sustainable Management Plan (SMP)
for planning applications being considered by Yarra Council



Applicant Response Guidelines

Project Information:

Applicants should state the property address and the proposed development's use and extent. They should describe neighbouring buildings that impact on or may be impacted by the development. It is required to outline relevant areas, such as site permeability, water capture areas and gross floor area of different building uses. Applicants should describe the development's sustainable design approach and summarise the project's key ESD objectives.

Environmental Categories:

Each criterion is one of the 10 Key Sustainable Building Categories. The applicant is required to address each criterion and demonstrate how the design meets its objectives.

Objectives:

Within this section the general intent, the aims and the purposes of the category are explained.

Issues:

This section comprises a list of topics that might be relevant within the environmental category. As each application responds to different opportunities and constraints, it is not required to address all issues. The list is non-exhaustive and topics can be added to tailor to specific application needs.

Assessment Method Description:

Where applicable, the Applicant needs to explain what standards have been used to assess the applicable issues.

Benchmarks Description:

The applicant is required to briefly explain the benchmark applied as outlined within the chosen standard. A benchmark description is required for each environmental issue that has been identified as relevant.

How does the proposal comply with the benchmarks?

The applicant should show how the proposed design meets the benchmarks of the chosen standard through making references to the design brief, drawings, specifications, consultant reports or other evidence that proves compliance with the chosen benchmark.

ESD Matters on Architectural Drawings:

Architectural drawings should reflect all relevant ESD matters where feasible. As an example, window attributes, sun shading and materials should be noted on elevations and finishes schedules, water tanks and renewable energy devices should be shown on plans. The site's permeability should be clearly noted. It is also recommended to indicate water catchment areas on roof- or site plans to confirm water re-use calculations.

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MAY 2020



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BACKGROUND

1. In July 2015, I was asked by the City of Yarra to comment on the proposed rezoning and mixed use development of the site at 462-482 Swan Street Richmond and have evidence in the subsequent Panel for the proposed C185 Amendment.
2. Earlier this year I was asked to meet with council officers and the applicant for a revision ion the proposed site vision to accommodate a largely commercial development vision rather than the earlier mixed use and largely residential outcome.
3. Subsequently at the end of April I was asked to provide a review of the project with the scope agree in early May. In particular I have been asked to address the following:-

- Whether the height and setbacks/massing are acceptable with the policy and physical context, including DDO14.
- Whether the materials and finishes are acceptable with the policy and physical context.
- Appropriateness of the design at street level.
- Whether the design achieves a high architectural and urban design outcome.
- Any other matters relevant in my view.

SITE CONTEXT

4. The site sits to the immediate north of the Burnley Railway Station and at the eastern end of the Burnley Activity Centre in Swan Street.
5. A steeply graded realignment of Burnley Street over the adjacent railway line to the south has resulted in access to the railway station and indeed between both sides of the street, being via an underpass at the southern end of the Burnley Street alignment and its abutment to the rail reserve.
6. A pedestrian path also passes along the southern edge of the property linking through to Stawell Street to the east.
7. The site extends eastwards up to and inclusive of nearly half of the Cutter Street alignment opposite.
8. Swan Street is well serviced by trams running parallel to this rail alignment making this a very well serviced transit corridor.
9. As I asserted at the Planning Panel there is no doubt in my mind that there is a strong case for redevelopment of the site away from its industrial origins to a higher occupancy future. Such an outcome would better align uses on the site with the needs of commuters and the activities of the core retail centre and station environment and also invest the station environs with heightened safety and security arising from informal engagement with the surrounding areas from residential occupancies.
10. Additionally, the principle of transit oriented development is now well understood and its benefits evident in reduced congestion through the provision of choice and convenience to householders of public transport access in lieu of private car use.
11. Having said this as I noted in my earlier reports there are a range of issues that required very careful resolution within this site context.
12. Notably the following:
    a. Maintaining and enhancing the quality of pedestrian transit access between Swan Street and the railway entrances and underpass, ensuring that this interface is made safer, more direct and higher quality and that conflict between pedestrians and vehicles is minimised.
    b. Enhancing the quality of the railway walk and interface along the southern edge of the site linking adjoining areas to the station precinct and providing activation at upper levels in the interface with the station and reverse amenity principles in the design of built form to both the station and Burnley Street interfaces in recognition of the high noise attributes of these interfaces.
    c. Ensuring that the extent of activation of the Swan Street frontage is maximised; and
        i) That vehicle access is primarily located in the north-eastern corner of the site frontage.

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ii) To this end consideration should be given to an extension of the Cutter Street alignment to allow for potential future signalising of this interface in a logical manner.

iii) Ensuring that the built form height and organisation should both fit within a broader narrative of Swan Street's future built form and land uses but also developed in a way that delivers a high quality amenity for users of the precinct.

THE NEW ZONING OF THE SITE

13. In conjunction with the rezoning of the site to a Commercial 1 Zone (C!Z) two overlays were also added.:-
14. A Design and Development Overlay DDO 14 and given its former use an Environmental Overlay (EA0) over the land.
    a. Schedule 14 to 43.02 Design and Development Overlay outlines the following :

Design objectives

a) To provide for high density, taller development that delivers significant public realm outcomes.
b) To reinforce the corner of Swan Street and Burnley Street as a vibrant commercial, retail and residential location.
c) To strengthen connectivity to Burnley Station and establish a highly walkable and cycle friendly public realm.
d) To ensure new development provides well-located accessible and safe car parking areas that do not visually dominate the streetscape.
e) To ensure that new development does not result in unreasonable overshadowing of the public realm including the adjoining streets, the Burnley Railway Station or neighbouring residential areas.

15. The DDO sets out defined preferred built form outcomes for the development as follows:-

Buildings and Works

16. Buildings and works should be constructed in accordance with the following requirements:

Building heights

17. The building height should not exceed a maximum of 42 metres.
18. The maximum height does not include building services which should be hidden from view from any adjoining public space or designed as architectural roof top features. Building services include but are not limited to plant rooms, air conditioning, lift overruns and roof mounted equipment.
19. Buildings and works should be constructed in accordance with the following requirements:

Building setbacks

a. Reinforce the street wall height along Swan Street and Burnley Street to create a consistent 3 storey built form.
b. Upper levels should be setback from the podium at all site boundaries, except for façade articulation of up to 0.5m, as follows:
c. A minimum of 6m from Swan Street to provide upper level setbacks from the primary street frontage.
d. A 5m setback from the eastern boundary to provide upper level building separation between the subject site and any future redevelopment of the abutting property.
e. A minimum of 3m setbacks from the south (rail corridor) and west (Burnley Street).
f. Provide building separation between built form elements at upper levels.
g. Ensure that built form elements above the street wall are visually recessive and do not contribute to visual bulk.

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Building design

h. Provide active frontages at ground level and overlooking of the public realm, including station environs from upper levels.
i. Ensure development is of a high architectural standard in terms of its form, scale, massing, articulation and materials and that these design elements respond to the site context.
j. Ensure development is designed to ameliorate adverse wind conditions at street level, communal open spaces, balconies and adjoining properties.
k. Ensure building services are screened from the public realm and communal open spaces.

Traffic and access

l. Ensure convenient and adequate bicycle parking is provided at street level to cater for the general public.
m. Integrate carparking into the building design and conceal from the public realm.
n. Ensure vehicular access and egress and loading bay arrangements are designed to maximise pedestrian safety.

Public realm

o. Provide improved connectivity between Swan Street, Burnley Street and Burnley Station.
p. Improve the interface between the development and the east-west pedestrian link abutting the southern site boundary.
q. Enhance the amenity and appearance of the public realm along the Swan Street and Burnley
r. Street frontage and east-west pedestrian link, including elements such as improved footpath treatments, lighting, street trees and street furniture.
s. Ensure new or improved pedestrian links promote a sense of safety for day and night-time conditions.
t. Minimise overshadowing of adjoining streets, the public realm and existing residential areas.
u. Ensure no unreasonable overshadowing impact to Burnley Station.

Amenity

v. Provide acoustic treatments to address the impact of existing and potential noise from the rail corridor, the Burnley Street overpass and Swan Street.
w. Provide awnings over footpaths to Swan Street and Burnley Street to provide weather protection.
x. Ensure built form and internal building layout is designed to maximise solar access, access to daylight, ventilation and outlook.

20. As noted above the provisions allow some flexibility to consider alternative outcomes that vary from the specified height and /or setbacks specified above where the applicant can demonstrate all of the following would be satisfied:
    a. that the built form outcome as a result of the proposed variations satisfies the Design Objectives of this Schedule;
    b. That the proposal will achieve:
        i) An exemplary built form outcome;
        ii) An exemplary public realm outcome;
        iii) Innovative environmentally sustainable development;
        iv) Minimal additional overshadowing (beyond that which would be generated by a proposal that complies with the specified setback requirements) of the public realm;
        v) Minimal adverse amenity impacts to adjoining properties (beyond that which would be generated by a proposal that complies with the specified setback requirements).

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Decision guidelines

21. Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider:
    a. Any minor variations from the required setbacks resulting from façade articulation.
    b. How the proposal improves the pedestrian environment and other areas of the public realm.
    c. The effectiveness of new development in protecting the amenity of occupants from the off-site impacts of existing uses and activities.
    d. The views of relevant referral authorities.
    e. How a proposal to vary the specified heights and setbacks specified in this Schedule responds to the permit requirements outlined in Clause 2.0.

THE PROPOSAL

22. The proposed seeks to consider the application for permit for use and development of the land for a mixed use development upper level mid-rise commercial office tower form over a mixed use podium and inclusive of ancillary parking and loading areas.
23. The proposal is described in the planning report as inclusive of the following:
    a. Commercial office space totalling 32,052 sq.m.
    b. Retail space totalling 1626 sq.m.,
    c. Basement Parking for 445 spaces in two levels.
    d. Bicycle spaces for 339 bikes
    e. Streetscape and podium level placemaking and landscape improvements.

STATE PLANNING POLICY FRAMEWORK

Plan Melbourne

24. Plan Melbourne notes, "There are many areas in Melbourne's established middle and inner rings which have the capacity to substantially increase their population, which would further support business growth. These suburbs have excellent amenities such as transport infrastructure and access to health services, as well as commercial and recreational services. Melbourne has a unique competitive advantage over many other cities because it has access to large amounts of renewal area within close proximity to the central city. "
25. Key aspirations of Plan Melbourne are:
    > encouraging active forms of transport, such as walking and cycling
    > making neighbourhoods pedestrian-friendly
    > supporting local governments to plan and manage their neighbourhoods
    > creating more compact cities
    > making better use of transport infrastructure.

26. Strategies for urban renewal areas include: > To take advantage of underutilised land close to jobs, services and public transport infrastructure, to provide new housing, jobs and services
    > National employment clusters, metropolitan activity centres, expanded central city and transit-oriented development urban-renewal precincts are of state-significance because of their city-shaping outcomes
    > supporting the creation of new activity centres, with priority given to developments based on transit-oriented development principles
    > implementing new commercial zones to provide greater flexibility and employment growth opportunities in strategic locations that leverage off existing or planned infrastructure across Melbourne.

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27. Direction 1.2 of Plan Melbourne seeks to improve access to jobs across Melbourne and closer to where people live.
28. Direction 1.6 seeks to:
    a. Enable an investment pipeline of transit-oriented development and urban-renewal
29. This direction advocates transit-oriented development as a key way to achieve employment and population growth, as well as achieve a broad range of economic, social and environmental benefits from co-locating employment, population and public transport.
30. It notes that whilst some of these opportunities will come from major transport infrastructure, level crossing removals and associated land development, equally, opportunities can be harnessed from underutilised industrial land in proximity to existing infrastructure.
31. Initiative 1.6.1 seeks to:
    a. Identify new urban-renewal precincts and sites around the existing rail network, based on transit-oriented development principles
    b. It notes that, "Land around railway stations and train corridors can provide valuable development opportunities, due to the access to public transport. Existing stations and corridors will also be assessed for their development potential.
32. Clearly the proposal fulfils these descriptive criteria.
33. There are also a substantial number of State Planning Provisions also supportive.
34. In my area of expertise Clause 15 Built Environment and Heritage is particularly relevant.
35. **15.01-1S Urban design** notes as its objective the goal:
    a. To create urban environments that are safe, functional and provide good quality environments with a sense of place and cultural identity.
    b. Key strategies to implement this goal include:
        i) *Promote good urban design to make the environment more liveable and attractive.*
        ii) *Ensure new development or redevelopment contributes to community and cultural life by improving safety, diversity and choice, the quality of living and working environments, accessibility and inclusiveness and environmental sustainability*
        iii) *Ensure transport corridors integrate land use planning, urban design and transport planning and are developed and managed with particular attention to urban design aspects.*
    c. Relevant other guidelines referenced for consideration include: 1. Urban Design Guidelines Victoria (DEWLP, 2017)
36. 15.01-2S Building Design seeks to :-
    a. To achieve building design outcomes that contribute positively to the local context and enhance the public realm.
    b. Key Strategies include:
        i) Ensure a comprehensive site analysis forms the starting point of the design process and provides the basis for the consideration of height, scale and massing of new development.
        ii) Ensure development responds and contributes to the strategic and cultural context of its location.
        iii) Minimise the detrimental impact of development on neighbouring properties, the public realm and the natural environment.

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iv) Ensure the form, scale, and appearance of development enhances the function and amenity of the public realm.
v) Ensure buildings and their interface with the public realm support personal safety, perceptions of safety and property security.
vi) Ensure development provides safe access and egress for pedestrians, cyclists and vehicles.
vii) Ensure development provides landscaping that responds to its site context, enhances the built form and creates safe and attractive spaces.

37. 15.01-4 Design for safety seeks to improve community safety and encourage neighbourhood design that makes people feel safe. d) Key relevant strategies to achieve this are:

    • *Ensure the design of buildings; public spaces and the mix of activities contribute to safety and perceptions of safety*

    • *Support initiatives that provide safer walking and cycling routes and improved safety for people using public transport.*

38. Clause 15.02 Sustainable development seeks to: encourage land use and development that is consistent with the efficient use of energy and the minimisation of greenhouse gas emissions.
39. Strategies of relevance include:
    • *Promote consolidation of urban development and integration of land use and transport*
    • *Support low energy forms of transport such as walking and cycling.*
40. Clause 16.01-3 Strategic redevelopment sites acknowledges appropriate sites for strategic redevelopment as including:

    > In or within easy walking distance of Principal or Major Activity Centres

    > In or beside Neighbourhood Activity Centres that are served by public transport

    > On or abutting tram, train, light rail and bus routes that are part of the Principal Public Transport Network and close to employment corridors, Central Activities Districts, Principal or Major Activity Centres

    > In or near major modal public transport interchanges that are not in Principal or Major Activity Centres

    > Able to provide 10 or more dwelling units, close to activity centres and well served by public transport.

41. Clause 17 Economic Development notes a number of economic goals sought including the development of convenience retail activities and services clos and accessible e to neighbourhoods.
42. Clause 18 Transport and in particular Clause 18.01 Integrated Transport seeks to:
    a. Create a safe and sustainable transport system by integrating land-use and transport.
    b. Strategies of relevance include:
        i) *Coordinating improvements to public transport, walking and cycling networks with the ongoing development and redevelopment of the urban area*
        ii) *Concentrating key trip generators such as higher density residential development in and around Central Activities Districts, Principal, Major and Specialised Activity Centres on the Principal Public Transport Network.*
43. Plan Melbourne also outlines a vision for Melbourne: Melbourne will be a global city of opportunity and choice achieved by 5 key directions - relevant to this application:
    a. Developing in defined areas near services and infrastructure;
    b. Population estimates indicate Melbourne could grow to a city of around 7.7 million people and require an additional 1.6 million more dwellings
    c. Direction 2.2 seeks to reduce the cost of living by increasing housing supply near services and public transport.

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Other State Planning Policy Provisions

44. Clause 11of the SPPF encourages more intensive development in Activity Centres. Clause 11.01-2 'Activity Centre Planning' encourages the concentration of major retail, residential, commercial, administrative, entertainment and cultural developments into activity centres which provide a variety of land uses and are highly accessible to the community.
45. Strategies to achieve this include:
    > Undertake strategic planning for the use and development of land in and around the activity centres.
    > Encourage a diversity of housing types at higher densities in and around activity centres.
    > Reduce the number of private motorised trips by concentrating activities that generate high numbers of (non-freight) trips in highly accessible activity centres.
    > Improve access by walking, cycling and public transport to services and facilities for local and regional populations.
    > Broaden the mix of uses in activity centres to include a range of services over longer hours appropriate to the type of centre and needs of the population served.
    > Provide a focus for business, shopping, working, leisure and community facilities.
    > Encourage economic activity and business synergies.
    > Improve the social, economic and environmental performance and amenity of the centre.

LOCAL PLANNING POLICY FRAMEWORK

Relevant local policies are set out below.

46. Clause 21.02 'Municipal Profile'
47. Clause 21.03 'Vision'
48. Clause 21.04 'Land Use'
    a. This clause seeks to protect the character and historic integrity of the area by accommodating the majority of new development on strategic redevelopment sites located in proximity to activity centres and/or good access to transport and services.
    b. The objective of this policy is to conserve areas of heritage significance whilst providing for an adaptive reuse and change of buildings.
49. Clause 21.05 'Built Form' The clause covers Heritage, Urban Design, Built form character, and Public environment.
    a. It seeks to 'retain Yarra's identity through maintaining built and urban form as typically low-rise with pockets of higher development' and to enhance the built form character by considering the surrounding context and respecting (not dominating) existing built form.
    b. It also seeks 'to provide a public environment that encourages community interaction and activity', promoting universal access and ensuring that 'buildings have a human scale at street level'.
50. Clause 21.06 'Transport'
51. Clause 21.07 'Environmental Sustainability'
52. Clause 21.08 'Neighbourhoods', central Richmond area
53. Clause 22.02 'Development Guidelines for Sites Subject to the Heritage Overlay'
54. Clause 22-5-.7.1 New Development, Alterations and Additions General
55. Clause 22.07 Development abutting Laneways, seeks to ensure laneways and their interfaces are considered as an important part of the public realm and the lanes an important shared movement network that should enjoy informal surveillance and activation from development.
56. Clause 22.10 'Built Form and Design Policy'
    a. The objectives of this clause are to ensure that any new development positively responds to and contributes to the surrounding context, including streetscape and built form character, whilst having minimal impact on the amenity of the surrounding land. Its design objectives and guidelines include (but are not limited to) the following:
        • To ensure ground level façade and boundary treatments interface positively with the street

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- To provide pedestrian/human scaled design at street level
- Use appropriate materials, finishes and colours, which add visual interest and, assist in breaking up the mass and bulk of new development
- Matching ground floor level with street level
- New development provides an appropriate level of natural daylight into internal communal spaces and habitable rooms
- To minimise the use of energy and natural resources in the construction and operation of buildings
- To ensure that new residential development provides private and/ or communal open space that is well designed, functional, safe, solar oriented, well ventilated and meets the needs of residents.

THE PLANNING PERMIT APPLICATION

57. In its current form the development which is the subject of the Planning Permit Application incorporates the following:
    a. Basement 2 parking for 114 carspaces and storage and services with a stormwater harvesting 20kl detention tank.
    b. Basement 1 parking for 108 carspaces including 3 disability spaces and storage and services.
    c. Ground floor- 6 retail spaces with two larger spaces to the primary intersection and Burnley Street frontages and a cluster of smaller arcade based tenancies with one of these and a separate Swan Street fronted retail space to the eastern end of the site.
    d. Like the earlier development carparking is provided into the development at the NE end as sought in the DDO
    e. Substantial end of travel bicycle facility accessed from the southern upgraded path and railway walk accesses end of travel facilities.
    f. A new central generously scaled 3 level galleria is open during work hours accessing the central lift core.
    g. A central bridge at levels 1 and 2 above link the lift core and offices east of the galleria with upper level commercial space to the west
58. Setbacks to the west south and northern street and laneway interfaces provide opportunities for outside seating and an enhanced scale public realm.
59. Pathway enhancements are made to the Burnley Street, Swan Street and southern Railway walk interfaces.
60. At Level 1 development for commercial is positioned to either side of the Galleria and linked via a generously scaled bridge. Terraces opening to Swan Street are available to each of these wings.
61. A connecting stair links this upper level office to ground level retail space.
62. To the eastern block a mid-block light court and terrace of double height marks its eastern edge.
63. At level 3 the floor plate spans the entire site footprint with an expansive NW terrace and setback SW scale with the eastern interface continued to be marked by the multi-level void.
64. At level 4, in the eastern half of the site, the floor plate stepped back nearly 8m rom the Swan Street interface, 6,23m from the eastern commercial tower interface and 4.5m from the southern railway walk interface with non-trafficable roofs to these frontages.
65. A lesser 3m interface is established for the NW gateway form with the SW form setback 8m from the western edge and 3m from the south interface.
66. At level 5, the eastern half of the site overhangs by 1m the floor below and 1.73m the lower eastern floor with a net 4.5m setback.
67. To the south the overhang is uniformly expressed with a 3m setback. An increased setback to the NW form is provided to the western interface.

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68. The form is repeated on level s 6 to 8 and level 10 with minor planter differentiations save for the expansion to the NW.
69. At Level 9 the NW west façade and NE north façade invest the interfaces with modest setbacks for planters
70. Level 11 provides increased setbacks to 8.29m to the south glazed façade with projecting blade forms to the east end of the south boundary.
71. To the western half setbacks to the façade is setback 11.14m and a lesser with approximately 7m to the outer edge of the pergola structure.
72. The plantroom over is setback 11.3m from the southern edge and 26.34m from the western interface and from the Swan Street interface, with the north and eastern both east part of the site forming an extension of the facades below.
73. The elevations depict a building wherein the western wing wises to an overall height of RL 60.9 a height of 48.9 above the footpath. Whilst the more prominent eastern form rises to Rl 65.65 or 53.65m.
74. Podium forms of 2, 3 and 4 levels mark the interfaces to each of the primary Swan Street and Burnley Street and railway walk frontages. A 4 level blind wall is unadorned.
75. The eastern façade is uniformly expressed articulated only by variances in upper level roof form and plant edges.
76. The upper level form of the west façade sees two elements of stepped larger grid forms either side of a rebated vertical central zone.
77. Planters and their visual impacts shown in plan are not expressed in elevations.
78. Section AA describes the light court to the east overhang by form above and the treatments to the southwestern station gateway interface.
79. Section BB, illustrates the proposed relationship of the building with the Swan Street and Burnley Station interface.
80. Section DD describes the proposed galleria through the development and the interconnecting bridges and the recently developed apartment building on the northern side of Swan Street.
81. Detail elevations describe the street level materiality.
82. The subsequent shadow studies describe the proposed approved shadow diagrams protecting as they do the island platform and more than 50 % of the north platform.
83. The revised shadow impacts suggest substantial additional overshadow impacts particularly towards morning and afternoon peaks at the equinox with the cumulative additional impact being the effective floor area of the entire island platform. In the middle of the day the island after 12 is now impacted until nearly.
84. Pages 147 onwards of the plans report depict the visualisations of the proposal.
85. P151 disappointingly does not show the full extent of the proposal.
86. P153 depicts the development when seen from the overpass.

Attachment 22 - PLN20/0006 - 462 - 482 Swan Street Richmond - Urban Design referral response (MGS)

COMMENTARY AND RECOMMENDATIONS

Podiums and Street wall interfaces.

88. In the pre-application meeting with the applicant attention was brought to the emphasis council south in the response to key elements of Local Urban Design Policy and the site specific Design and Development overlay outlined in Schedule 14.
89. In particular I was keen to see responses to the following criteria through greater diversity of expression and scale.

Commentary and recommendations

90. The massing of street-wall lower tier elements is in my view appropriately stepped along the Swan Street corner to Burnley Street and down to the Station to the corner of Burnley Street and Swan Street and downwards to the east and South.
91. In my view the proposed scale of these elements is appropriate, and provide the framework for an appropriate response.
92. Of concern currently however, is the uniformity of the proposed treatment of these responses with the eastern end of the Swan Street frontage, a location in an infill setting, given the same design language and finish as the primary corner façade on Burnley Street at the principle interface of the two roads.
93. This continuity amplifies the notion of a single institution expression and conceptual solution rather than addressing the fine grain character, diversity and richness of detail and materiality characteristic of this part of Richmond.
94. The response is inconsistent with the richness of response to context sort in the Local Policy and DDO provisions in my view and as underlined in the report.



95. An opportunity for example may exist to draw on the earlier industrial history of the site as a Timber Yards and Mills in the hinterland Station interface expression noting the use in a more polished and corporate manner I n the soffit treatments of the projecting canopy corner.

Attachment 22 - PLN20/0006 - 462 - 482 Swan Street Richmond - Urban Design referral response (MGS)

Recommendation 1

I would invite the applicant to review the design expression east of the primary north south entrance in Swan Street for each of the podium levels and the Burnley Street zone south of the projecting corner form to explore opportunities to invest the narrative of the site with a deeper and more diversified response to the precinct, its subdivision character and its history consistent with the Objectives and Guidelines goals outlined in Cl *22.10-3.2 Urban form and character*.

Side and rear setbacks

East Facade

96. Similarly it is my view that the reduced setback proposed to the eastern façade combined with the absence of increased upper level setbacks have in combination failed to meet the necessary benchmarks by the provisions within local policy and the DDO without amendment for delivery of design excellence in outcome, visual break between forms and design interest and articulation in response to the site context.
97. The eastern façade is dependent on the adjoining proposed building being developed. Without this its uniform expression lets down what is otherwise generally a cleverly composed development.

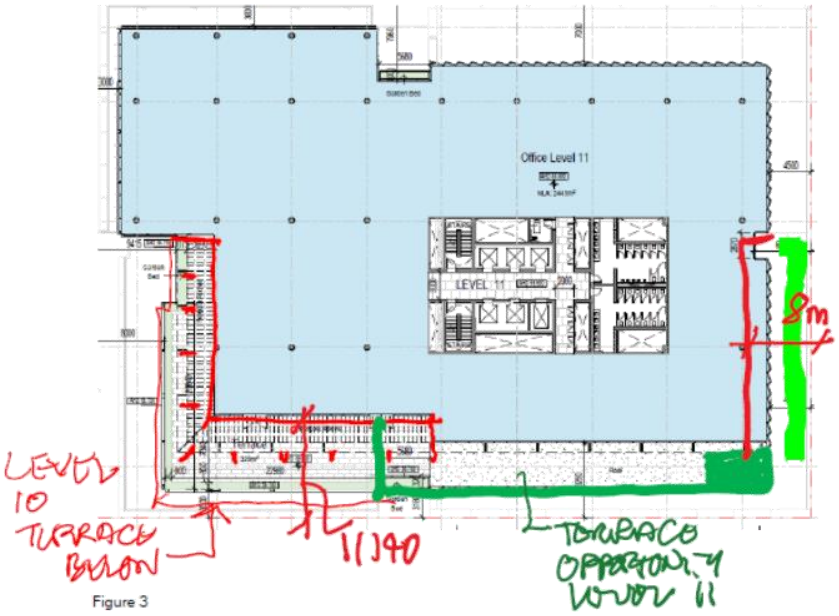


Figure 3

98. The east elevation also needs to consider the aspect of the built form when seen from more distant locations residential neighbourhoods to the SE and the eastern Swan Street corridor.

Recommendation 2

a. At Level 11 Setback the eastern façade 8m from the eastern boundary for the section from approximately 1m south of Gridline 3 to the to the south façade as shown in Figure 2 above.

b. Consider revising the south roof zone as a landscaped terrace.

Attachment 22 - PLN20/0006 - 462 - 482 Swan Street Richmond - Urban Design referral response (MGS)

South-west Interface

99. The proposed development as presented has fallen short of the standards outlined in DDO14 and the key policy provisions in Clause 22.10 that reward outcomes that enable increased density and scale only where the outcomes are able to mitigate offsite impacts.
100. Disappointingly the application demonstrates substantive additional overshadowing of the public realm most notably the station platform areas which were the basis of substantial scrutiny at the Panel. The argument that the application is only modestly increasing the loss of amenity is not in my view substantiated by the material provided which demonstrate considerable impact on the area of platform available to access sunlight.
101. In my view there needs to be significant erosion of the upper SW corner of the built form at levels 10 and 11 to mitigate these impacts.



77. Figure 1

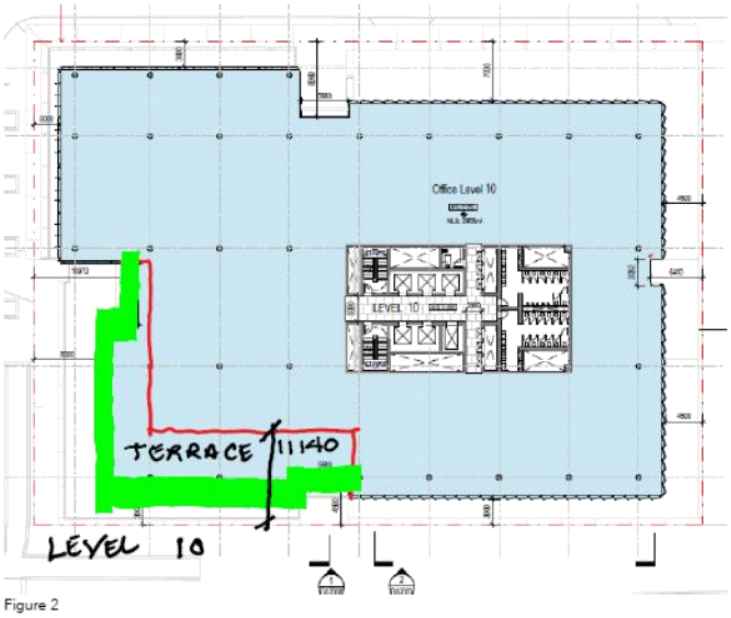


Figure 2

Attachment 22 - PLN20/0006 - 462 - 482 Swan Street Richmond - Urban Design referral response (MGS)

Recommendation 3

Reduce the scale of the SW corner by setting back the west and south façade of the SW tower on Level 10 as follows:-

a. **At Level 10, setback the west façade south of Gridline 13.5 m from the west façade from 1, south of gridline 3 to the south boundary.**
b. **At Level 10, setback the south façade 12 m west of Gridline E.**
c. **Relocate the south-western terrace at level 11 to level 10 as generally described in Figures 1 and 2.**
d. **Continue the revised setbacks established for level 10 at level 11 as described in Figures 1 and 3.**
e. **Reconfigure the roof plant room and south façade at level 11 scale and setback to reduce the impact of overshadowing on the central platform between 10am and 2pm at the September equinox to ensure there is no nett increase in platform overshadowing.**

Wind Report and public realm amenity

102. The quality and amenity of open spaces around the site as proposed reach a reduced level of amenity to that earlier sought and logically required to support the underlying potential land uses at street and upper levels.
103. Potential hospitality zones to the Hospitality uses are both supported and suggested to the south west and northern retail tenancy interfaces frontages.

Recommendation 3

a. **That the standard established for the south, west and north retail frontages achieve a generally acceptable amenity not exceeding 10 ms-1 for a 0.1% exceedance (annually) for stationary, long exposure activities (outdoor restaurants, theatres) if the peak gust speed during the hourly mean.**
b. **The standard set of standing at main entries to the Galleria is supported. However this should be expanded to the Bike arrival entries not exceed 13 ms-1 for a 0.1% exceedance (annually). i.e.. Generally acceptable for stationary short exposure activities (window shopping, standing or sitting in plazas) if the peak gust speed during the hourly mean.**
c. **The proposed standards established for the external terraces are less than that regularly agreed for new similar developments in the municipality and considered as good practice. \Logically the Level 1,2 and 3 terraces are critical elements in investing the precinct with vitality and amenity and will no doubt in a**

CONCLUSION

87. The development of the site for a high density employment focussed node is an appropriate outcome in strategic planning terms for the site.
1. The proposed public realm improvements are generally acceptable in resolution.
2. The podium treatments internal walk and retail configuration are well configured in a volumetric sense but the materiality and expression of the NE and SW elements require review to diversify the response to better reference the valued attributes of streetscape material diversity and history sought in policy..
3. The ground floor and railway walk interface of the bike arrival and EOT facilities are supported being both convenient and likely to support increased interface activity and safety.
4. The location of external shared spaces at upper levels contributes to both workplace enhancement and design response to context.
5. The provision of a taller built form and projecting expression for upper level form to the Burnley Street/Swan Street intersection is supported provided the response is also informed by an outcome to mitigate the impacts of offsite overshadowing in particular and delivery of high quality on site external space amenity.
6. The erosion of the built form at SE NE and proposed eastern sides of the building as a means to invest the building with visual interest, transition to surrounding areas and break down scale and bulk is supported as an approach.

Attachment 22 - PLN20/0006 - 462 - 482 Swan Street Richmond - Urban Design referral response (MGS)

7. The language of an interconnecting campus of upper level forms characterised by differing design detailing works successfully in my view for the south west and northern responses subject to the outcome also delivering enhanced offsite amenity to that currently proposed.
8. The concerns I have when measured against the outcomes sought of the site relate primarily to the scale of the SW corner tower and its consequent impacts and the southern and southeast corners at plant level and level 11 and their impacts and the uniformity of design language applied to the podium levels.
9. These substantial impacts used as measures against which any exceedance over the DDO must demonstrate alignment have clearly not been met in this instance at this stage but could in my view be resolved by negotiation.

Attachment 23 - PLN20/0006 - 462 - 482 Swan Street Richmond - Acoustic referral response (SLR consulting)

19 May 2020

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Yarra City Council
PO Box 168
RICHMOND 3121

Attention: Michelle King

Dear Michelle

462-482 Swan Street, Richmond
Development Application Acoustic Review
PLN 20/0006

SLR Consulting Pty Ltd (SLR) has been retained by the City of Yarra to provide a review of the acoustic assessment report prepared to support the application for a commercial development at 462-482 Swan Street, Richmond.

Details of the report are as follows:

- Title: 480 Swan Street Richmond, Town Planning Phase – Acoustic Report
- Reference: A-TR-0001
- Date: 17 April 2020
- Prepared for: Charter Hall
- Prepared by: Floth Pty Ltd

The report has been prepared to support the planning application for the project and addresses noise impacts to and from the development.

1 Background Information

(Sections 1 and 2 of the acoustic report)

The project is a commercial development plus basement carparking. The acoustically significant aspects of the proposal identified in the report are summarised below:

- The proposal includes:
  - Ground floor retail
  - Terraces on levels 1 and 2
  - Offices on levels 1 to 11
- Noise impacts to the subject development are identified as rail, including train horn noise (rail corridor on the southern boundary of the site) and road traffic (Burnley Street to the west and Swan Street to the north). Burnley station is located directly south of the development site.

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- The nearest noise sensitive receivers are noted to be opposite the site (the apartment development at 429-437 Swan Street). Sensitive receivers are also noted to be at 12-18 Madden Grove, approximately 65 m south of the development site. These receiver locations are single story dwellings.
- Potential noise impacts from the proposal are identified as noise from roof mounted mechanical plant and equipment, loading bay, carpark and rubbish collection noise and emissions from the retail premises.

***SLR Comments**: The acoustically significant aspects of the proposal, noise impacts to and from the development, and the nearest noise sensitive receivers have been identified.*

2 Noise to the subject development

2.1 Rail noise

2.1.1 Design criteria

(Section 4.2 of the report)

Rail noise is proposed to be assessed to internal targets of 60 dBA L_{max} in offices and 70 dBA L_{max} in retail areas. Details of the derivation of the targets are provided in the report, and the target is noted to represent a compromise between the highest and lowest design levels generally used for commercial spaces.

***SLR Comments**: Firstly, we note that there are no mandatory criteria or formal guidelines for rail noise ingress to commercial properties in the City of Yarra, so some flexibility is appropriate when considering the targets proposed by acoustically consultants.*

The design targets used by Floth are from our perspective reasonable, and represent an appropriate compromise for commercial spaces. Consideration is often also given to the average rail noise levels at commercial developments (e.g. the $L_{Aeq,1hr}$). This approach would be consistent with the current guidelines for rail noise to residences (e.g. the BADS targets as implemented in Clauses 55 and 58 of the planning scheme) and AS/NZS2107. Average noise targets can be more onerous on rail corridors affected by noise from a number of rail lines.

2.1.2 Quantification of rail noise impacts

(Section 2.1, 3.1 and 5.2 of the report)

There are noted to be approximately 160 passenger trains that stop at Burnley Station per day and an average of 11 trains per hour during business hours.

Measurements of rail noise were conducted at the southern boundary of the subject site from 19 to 26 September 2019. The façade corrected levels are presented in Table 6 of the report. The levels used in the rail noise assessment are reported in Table 14, and include:

- L_{max} = 90 dBA (average of 20 loudest passby events)
- $L_{eq,15hr}$ = 65 dBA
- $L_{eq,1hr}$ = 71 dBA (calculated from the 20 loudest passby events)

SLR Comments: *The measurement location and calculation methodologies are appropriate. The data is clearly documented. From the information provided it is evident that, if the L_{max} targets nominated in the acoustic report are met, appropriate average noise levels should also be achieved in commercial spaces.*

2.1.3 Assessment and advice for rail noise control

(Section 6 and Appendix A of the acoustic report)

A set of marked up plans are provided showing the recommended glazing configurations and their required acoustic ratings. Specifications are also provided for façade walls and the roof.

Glazing to offices exposed to rail noise is required to be not less than 6 mm glass, 12 mm air cavity, 13.5 mm laminated glass and to have an Rw rating of 43 dB.

SLR Comments: *We cannot carry out a full independent assessment of rail noise without the acoustic spectra used by Floth in their calculations. However, our indicative calculations based on a derived rail noise spectrum, indicate that the specified treatments will enable the nominated noise targets to be met.*

2.2 Rail Vibration

2.2.1 Design Criteria

(Section 4.3 of the acoustic report)

Vibration is proposed to be assessed to the targets provided in the British Standard BS 6472 Part 1, 2008. The criteria for offices are double the criteria for dwellings, and are equal to a vibration dose vale (VDV) of 0.4 to 0.8 $m.s^{-1.75}$.

SLR Comments: *The nominated criteria are appropriate.*

2.2.2 Quantification of impacts and assessment

(Section 7 of the acoustic report)

Floth have used the vibration measurements conducted by Acoustic Logic for a previous application for the site. The measurement results are reproduced in Table 15 of the report. The VDV results are in the range 0.11 to 0.56 $m.s^{-1.75}$. The presented levels are below the recommended maximum VDV of 0.8 $m.s^{-1.75}$ for offices.

Floth recommend remeasuring vibration once excavation of the site is complete, because excavation may alter the ground conditions and vibration levels.

SLR Comments: *The proposed approach is appropriate. We recommend that vibration is re-measured following excavation of the site, and that the VDV is measured directly, or that full details of the measurement results and conversion calculation to obtain the VDV is provided at that time (SLR requested this information in relation to the original Acoustic Logic assessment, however it was not provided). The VDV should be measured and/or calculated in accordance with the 2008 British Standard referenced by Floth (the 2015 Acoustic Logic assessment used the 1992 Standard, which referenced different weighting curves).*

2.3 Road Traffic Noise

2.3.1 Design Criteria

(Section 4.1 of the acoustic report)

Road traffic and tram noise is proposed to be assessed to the design sound levels provided in AS/NZS2107:2016. The ranges are provided in Table 8 of the report, and are equal to 40 to 45 dBA for general office spaces. The targets are proposed to be met taking into consideration the combine contributions of road traffic and mechanical plant noise.

SLR Comments: *The nominated criteria are appropriate.*

2.3.2 Quantification of impacts

(Sections 3.1 and 5.1 of the acoustic report)

Measurements of road traffic noise were conducted at the Swan Street boundary of the adjacent site, (immediately to the east pf 462-482 Swan Street), under free field conditions from 19 to 26 September 2019. The levels are presented in Table 5 of the report. The levels used in the traffic noise assessment are reported in Table 13, and include the following:

- $L_{eq,15hr}$ = 64 dBA
- $L_{10,1hr}$ = 72 dBA (loudest hour between 8:30 am and 3:30 pm)

SLR Comments: *The measurement location is reasonable for quantifying road traffic impacts to the site. The means by which the long term averages have been derived is not provided in the report and thee logging data has not been included. This information should ideally be provided for transparency.*

2.3.3 Assessment and advice for noise control

(Section 6 and Appendix A of the acoustic report)

The office levels most exposed to road traffic noise are proposed to be glazed with double glazed units comprising 6 mm float glass, 12 mm air cavity and 10 mm float glass, with an R_w rating of 35 dB.

SLR Comments: *We cannot carry out a full independent assessment of road noise ingress without the acoustic spectra used by Floth in their calculations. However, our indicative calculations based on an expected spectrum for Swan Street, indicates that the specified treatments should enable the nominated noise targets to be met.*

3 Noise from the subject site

3.1 SEPP N-1 assessable noise

(Section 4 of the report)

Mechanical plant noise is proposed to be assessed to SEPP N-1.

SLR Comments: *Agreed. However we note that noise from any deliveries and rubbish collection on private property is also assessable to SEPP N-1.*

3.1.1 SEPP N-1 Noise Limits

(Section 4.4 of the report)

Noise from mechanical plant is proposed to be assessed to SEPP N-1. SEPP N-1 limits have been calculated from the background noise data obtained at location 2 (overlooking the rail corridor) and from land use zoning. The identified limits are equal to the zoning levels and are 55 dBA (day), 49 dBA (evening) and 44 dBA (night).

***SLR Comments**: The use of the background noise data obtained at Location 2 is appropriate for setting noise limits at receivers in Madden Grove, and is also conservative (higher background noise levels and noise limits are likely to apply at apartments on the northern side of Swan Street).*

The receiver location for which the zoning levels have been calculated are not shown in the acoustic report. We have calculated zoning levels for 14 Madden Grove and they are slightly higher than Floth's.

Based on the above, Floth's noise limits are appropriately conservative.

3.2 Building services noise

(Section 8 of the report)

The design of building services to meet SEPP N-1 noise limits is proposed to be undertaken during the detailed design phase of the project, with input from the acoustic engineers.

***SLR Comments:** The proposed approach to mechanical plant noise is reasonable for the planning stage of the project. The risk of non-compliance is also reasonably low for this project, due to the distances of the nearest noise sensitive receivers from the subject development.*

3.3 Retail tenancy noise emissions

(Sections 4 and 9 of the report)

Music and patron noise from the retail tenancies proposed for the development is proposed to be assessed to SEPP N-2. Noise limits are not provided in the report, and Floth note that an assessment of noise from any retail premises may be required by Council.

***SLR Comments**: Music noise is assessable to SEPP N -2. While the policy does not strictly apply to patron noise, it can also be used to assess impacts. Yarra City Council also accepts assessments of patron noise to SEPP N-1 and the background based targets (background + 10 dB for the day and evening periods, and background + 5 dB at night). Where background based targets are used, the lowest representative background level for the proposed period of operation should be used to calculate noise limits (not long term averages).*

The requirement for the future occupants to provide a patron noise assessment is acceptable for this application, given that it is a reasonably low risk site. Negative impacts are unlikely to occur from standard daytime operations.

Attachment 23 - PLN20/0006 - 462 - 482 Swan Street Richmond - Acoustic referral response (SLR consulting)

4 Summary

A review of the acoustic report prepared for the commercial development proposed for 462-482 Swan Street is provided above. The report adequately addresses noise impacts to and from the subject development during the planning stage.

Floth propose that a reassessment of vibration impacts to the subject development be carried out once the site has been excavated. We agree that such an assessment should be conducted, and recommend that the VDV is measured directly, or that full details of the measurement results and conversion calculations used to obtain the VDV is provided at that time.

Regards,



Dianne Williams
Associate – Acoustics

Checked/Authorised by: JA

Attachment 24 - PLN20/0006 - 462 - 482 Swan Street Richmond - Wind referral response (Vipac)

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City of Yarra

333 Bridge Road

Richmond, Australia

7/05/2020

Ref: 30N-20-0092-GCO-6777848-0

Attention: Michelle King

Dear Michelle,

462-482 Swan Street, Richmond - Peer Review

This peer review of the MEL Consultants Environmental Wind Speed Measurements report (Report No 36-20-WT-ENV-03) is based on Vipac's experience as a wind-engineering consultancy.

Vipac have reviewed the wind tunnel test report and updated plans provided (see the list of files in the attachment). Our comments are as follows:

- The MEL Consultants Environmental Wind Speed Measurements report has been prepared based on a 1:400 scaled model wind tunnel test. The report includes the following main Sections: Introduction, Environmental Wind Criteria, Model and Experimental Techniques, Discussion of Results and Conclusions. Detailed test data were presented in the Figure section.

- We have no issue with the criteria for wind environmental conditions developed in 1978 by W. H. Melbourne, which was adapted in this report.

- In the Model and Experimental Techniques section, a minimum 500 m radius proximity model was used and is substantially sufficient. The Category 3 exposure was used in the assessment, which was also appropriate. Hot wire anemometers were used to measure the local wind speeds at various locations for the ground level and some selected open terraces.

- In the Discussion of Results section, the report clearly addressed the wind speed measurement results street by street around the development and selected open terraces.

- The test results indicated that most test locations fulfil the recommended wind criteria for the proposed configuration. The test identified problematic test locations of 4, 5, 6, 8, 9, 10, 11, 17, 24 and 26, where the walking criterion was exceeded. However, these locations will fulfil the recommended walking criterion or similar to existing conditions with the wind amelioration strategies developed during the test as cited as follows:

- Modification of the built form of the northwest and southwest corners of the proposed 480 Swan Street development;
- Canopy along Burnley Street near northwest corner at Level 1.

- The report stated that the above wind control measures are included in Figures 6a to 6f and have also been incorporated into the Architectus drawings dated 16 April, 2020 (Rev C).

- The test also showed that some critical locations at the selected terraces (Locations L6 at Level 2 and M3 at Level 3) exceeded the walking criterion for some prevailing direction winds. The report suggested that 1.5 m high balustrade could improve the wind conditions to within the walking criterion.

- The design was updated in April 2020 (see attached files received on 30/04/2020). Vipac have reviewed the updated drawings and can confirm that the recommended wind control measures for the ground level wind conditions have been incorporated in the design.

- Vipac note that there is an alfresco dining area proposed at the south side of the development close to southwest corner (see Figure 1 in the attachment). MEL Consultants test report has not assessed any outdoor seating areas. Test showed that the wind conditions at the close by location (Location 5) were within walking criterion for the updated design but well over the sitting comfort criterion. Vipac recommends that **MEL Consultants should provide additional assessment for this area**.

In conclusion, the MEL Consultants Environmental Wind Assessment used the proper model, experimental and analysis methodology to assess the wind effects on the pedestrian level spaces around the proposed development, as well as various open terraces in detail. The locations of high wind conditions have been identified and were rectified with wind control strategies. The conclusions are substantially valid.

Vipac note that there is an outdoor seated area proposed at the south side close to southwest corner (see Figure 1 in the attachment) which was not assessed. Vipac recommends that **MEL Consultants should provide additional assessment for this area**.

Yours sincerely,

Vipac Engineers & Scientists Ltd

Zhuyun Xu
Senior Wind Engineer

Sophie Lamande
Wind Group Leader

Attachment 24 - PLN20/0006 - 462 - 482 Swan Street Richmond - Wind referral response (Vipac)

Attachments:

File list received

Name	**date received**
Plan Part 1	30/04/2020
Plan Part 2	30/04/2020
Plan Part 3	30/04/2020
Plan Part 4	30/04/2020
Plan Part 5	30/04/2020
Wind Impact Assessment	30/04/2020

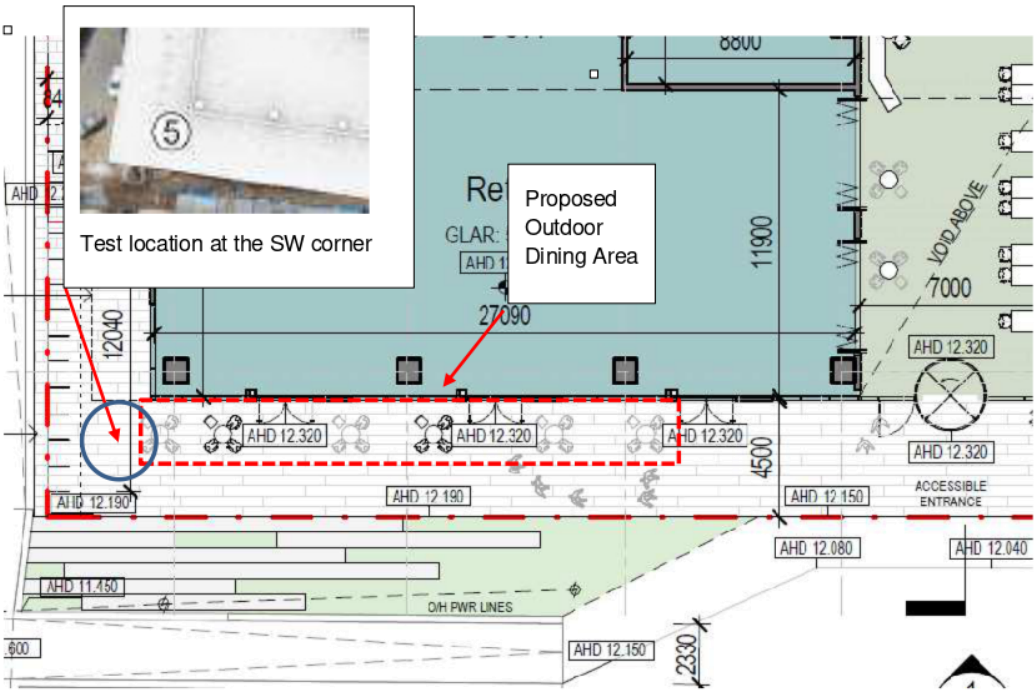


Figure 1 South west corner of the ground floor plan (dated 16/04/2020)