Agenda

Council Meeting

7.00pm, Tuesday 9 November 2021

MS Teams

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Council Meetings

Council Meetings are public forums where Councillors come together to meet as a Council and make decisions about important, strategic and other matters. The Mayor presides over all Council Meetings, and they are conducted in accordance with the City of Yarra Governance Rules 2020 and the Council Meetings Operations Policy.

Council meetings are decision-making forums and only Councillors have a formal role. However, Council is committed to transparent governance and to ensuring that any person whose rights will be directly affected by a decision of Council is entitled to communicate their views and have their interests considered before the decision is made.

There are two ways you can participate in the meeting.

Public Question Time

Yarra City Council welcomes questions from members of the community.

Ideally, questions should be submitted to Council in writing by midday on the day of the meeting via the form available on our website. Submitting your question in advance helps us to provide a more comprehensive answer. Questions that have been submitted in advance will be answered first.

Public question time is an opportunity to ask questions about issues for which you have not been able to gain a satisfactory response on a matter. As such, public question time is not:

- a time to make statements or engage in debate with Councillors;
- a forum to be used in relation to planning application matters which are required to be submitted and considered as part of the formal planning submission;
- a forum for initially raising operational matters, which should be directed to the administration in the first instance;

If you wish to raise matters in relation to an item on this meeting agenda, Council will consider submissions on these items in conjunction with and prior to debate on that agenda item.

When you are invited by the Mayor to ask your question, please come forward, take a seat at the microphone, state your name clearly for the record and:

- direct your question to the Mayor;
- refrain from making statements or engaging in debate
- don’t raise operational matters which have not previously been raised with the Council administration;
- not ask questions about matter listed on the agenda for the current meeting.
- refrain from repeating questions that have been previously asked; and
- if asking a question on behalf of a group, explain the nature of the group and how you are able to speak on their behalf.

Once you have asked your question, please remain silent unless called upon by the Mayor to make further comment or to clarify any aspects.

Public submissions

Before each item is considered, the meeting chair will ask people in attendance if they wish to make submission. If you want to make a submission, simply raise your hand and the Mayor will invite you to come forward, take a seat at the microphone, state your name clearly for the record and:

- Speak for a maximum of five minutes;
- direct your submission to the Mayor;
- confine your submission to the subject under consideration;
- avoid repetition and restating previous submitters;
- refrain from asking questions or seeking comments from the Councillors or other submitters;
- if speaking on behalf of a group, explain the nature of the group and how you are able to speak on their behalf.

Once you have made your submission, please remain silent unless called upon by the Mayor to make further comment or to clarify any aspects.

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.

Arrangements to ensure our meetings are accessible to the public

Council meetings are held at either the Richmond Town Hall or the Fitzroy Town Hall. The following arrangements are in place to ensure they are accessible to the public:

- Entrance ramps and lifts (off Moor Street at Fitzroy, entry foyer at Richmond).
- Interpreting assistance is available by arrangement (tel. 9205 5110).
- Auslan interpreting is available by arrangement (tel. 9205 5110).
- A hearing loop is available at Richmond only and the receiver accessory is available by arrangement (tel. 9205 5110).
- Proposed resolutions are displayed on large screen.
- An electronic sound system amplifies Councillors' debate.
- Disability accessible toilet facilities are available at each venue.

Recording and Publication of Meetings

An audio recording is made of all public Council Meetings and then published on Council's website. By participating in proceedings (including during Public Question Time or in making a submission regarding an item before Council), you agree to this publication. You should be aware that any private information volunteered by you during your participation in a meeting is subject to recording and publication.

Order of business

1. **Acknowledgement of Country**
2. **Attendance, apologies and requests for leave of absence**
3. **Announcements**
4. **Declarations of conflict of interest**
5. **Confidential business reports**
6. **Confirmation of minutes**
7. **Public question time**
8. **Council business reports**
9. **Notices of motion**
10. **Petitions and joint letters**
11. **Questions without notice**
12. **Delegates' reports**
13. **General business**
14. **Urgent business**

1. Acknowledgment of Country

"Yarra City Council acknowledges the Wurundjeri Woi Wurrung people as the Traditional Owners and true sovereigns of the land now known as Yarra.

We acknowledge their creator spirit Bunjil, their ancestors and their Elders.

We acknowledge the strength and resilience of the Wurundjeri Woi Wurrung, who have never ceded sovereignty and retain their strong connections to family, clan and country despite the impacts of European invasion.

We also acknowledge the significant contributions made by other Aboriginal and Torres Strait Islander people to life in Yarra.

We pay our respects to Elders from all nations here today—and to their Elders past, present and future."

2. Attendance, apologies and requests for leave of absence

Attendance

Councillors

- Cr Gabrielle de Vietri — Mayor
- Cr Claudia Nguyen — Deputy Mayor
- Cr Edward Crossland — Councillor
- Cr Stephen Jolly — Councillor
- Cr Herschel Landes — Councillor
- Cr Anab Mohamud — Councillor
- Cr Bridgid O'Brien — Councillor
- Cr Amanda Stone — Councillor
- Cr Sophie Wade — Councillor

Council officers

- Vijaya Vaidyanath — Chief Executive Officer
- Brooke Colbert — Group Manager Advocacy and Engagement
- Ivan Gilbert — Group Manager Chief Executive's Office
- Lucas Gosling — Director Community Wellbeing
- Gracie Karabinis — Group Manager People and Culture
- Chris Leivers — Director City Works and Assets
- Diarmuid McAlary — Director Corporate, Business and Finance
- Bruce Phillips — Director Planning and Place Making
- Rhys Thomas — Senior Governance Advisor
- Mel Nikou — Governance Officer

3. Announcements

An opportunity is provided for the Mayor to make any necessary announcements.

4. Declarations of conflict of interest (Councillors and staff)

Any Councillor who has a conflict of interest in a matter being considered at this meeting is required to disclose that interest either by explaining the nature of the conflict of interest to those present or advising that they have disclosed the nature of the interest in writing to the Chief Executive Officer before the meeting commenced.

5. Confidential business reports

The following items were deemed by the Chief Executive Officer to be suitable for consideration in closed session in accordance with section 66(2)(a) of the Local Government Act 2020. In accordance with that Act, Council may resolve to consider these issues in open or closed session.

RECOMMENDATION

1. That the meeting be closed to members of the public, in accordance with section 66(2)(a) of the Local Government Act 2020, to allow consideration of confidential information

Item

5.1 Yarra Energy Foundation – Appointment of Chairperson and Directors

This item is to be considered in closed session to allow consideration of personal information, being information which if released would result in the unreasonable disclosure of information about any person or their personal affairs.

These grounds are applicable because the report contains private information about the personal affairs of an individual.

5.2 Chief Executive Officer Employment and Remuneration Policy

This item is to be considered in closed session to allow consideration of legal privileged information, being information to which legal professional privilege or client legal privilege applies.

These grounds are applicable because the report contains privileged legal advice.

6. Confirmation of minutes

RECOMMENDATION

That the minutes of the Council Meeting held on Tuesday 19 October 2021 be confirmed.

7. Public question time

An opportunity is provided for questions from members of the public.

8. Council business reports

Item		Page	Rec. Page	Report Presenter
8.1	240 Wellington Street, Collingwood - Big Housing Build	8	82	Mary Osman – Manager Statutory Planning
8.2	Edinburgh Gardens Working Group - Report Back to Council	599	602	Ivan Gilbert - Group Manager - Chief Executive's Office
8.3	September 2021 Monthly Finance Report	612	614	Wei Chen – Chief Financial Officer

9. Notices of motion

Item		Page	Rec. Page	Report Presenter
9.1	Notice of Motion No.15 of 2021 – Open space and pop-up parks	626	627	Cr Edward Crossland

10. Petitions and joint letters

An opportunity exists for any Councillor to table a petition or joint letter for Council's consideration.

11. Questions without notice

An opportunity is provided for Councillors to ask questions of the Mayor or Chief Executive Officer.

12. Delegate's reports

An opportunity is provided for Councillors to table or present a Delegate's Report.

13. General business

An opportunity is provided for Councillors to raise items of General Business for Council's consideration.

14. Urgent business

An opportunity is provided for the Chief Executive Officer to introduce items of Urgent Business.

8.1 240 Wellington Street, Collingwood - Big Housing Build

Executive Summary

Purpose

Planning Scheme Amendment VC190 was gazetted into the Yarra Planning Scheme on 1 December 2020. The Amendment introduced a new particular provision, Victoria's Big Housing Build, at clause 52.20.

Clause 52.20 removes the need for a planning permit to be obtained to develop a housing project if it is funded under Victoria's Big Housing Build and supported by the Director of Housing. Amendment VC190 also amends clause 72.01 to specify the Minister for Energy, Environment, and Climate Change (Minister for EECC) to be the responsible authority.

Homes Victoria is a new government agency that has been established to work across government, industry and the social housing sector to fast-track and deliver the projects proposed under Victoria's Big Housing Build.

On 13 September 2021, Council was formally invited to comment on a proposal by Homes Victoria to redevelop the western end of the Collingwood Housing Estate for two eight-storey buildings, comprising 152 dwellings both for social and affordable housing with associated car and bicycle parking facilities and ground floor non-residential uses proposed.

Specifically, Homes Victoria is seeking the Council's advice and referral comments that address any requirements of the Council's services, infrastructure, and any impacts the proposal has on Council's assets. Draft conditions that should be applied to any decision made by the Minister were also requested.

Homes Victoria requested feedback be provided by 3 October 2021, however, given the ongoing conversations and requests for additional information, Homes Victoria were advised that the proposal would be heard at the 9 November 2021 Council Meeting.

The report assesses the proposal against the provisions of Clause 52.20 and the Yarra Planning Scheme and recommends general support for the proposal subject to a number of changes.

Following consultation, Homes Victoria intends to submit a Big Housing Build application concerning the Collingwood Housing Estate to the Minister for EECC (via the Department of Environment, Land, Water and Planning) for their assessment.

Key Planning Considerations

The key planning consideration for the proposal is the assessment of documents prepared by Homes Victoria in accordance with the provisions contained within Clause 52.20 – Victoria's Big Housing Build of the Yarra Planning Scheme.

Key Issues

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

(a) Policy and Strategic Support;

(b) Use of the land;

(c) Built form and urban design;

(d) Off-Site Amenity impacts;

(e) Development Standards for Dwellings and Buildings;

(f) Development Standards for Apartments;

(g) Car parking and traffic;

(h) Bicycle facilities and strategic transport; and

(i) Construction management; and

(j) Potentially contaminated land.

Conclusion

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) Clarification on a number of matters to ensure compliance with clause 52.20 (Victoria's Big Housing Build);

(b) Provision of a Façade Strategy and Materials and Finishes Plan; and

(c) Provision of an Operational Management Plan for the three non-residential ground floor uses to provide and oversee operational details.

CONTACT OFFICER: **Michelle King**
TITLE: **Principal Planner**
TEL: **9205 5333**

8.1 240 Wellington Street, Collingwood - Big Housing Build

Reference	D21/157421
Author	Michelle King - Principal Planner
Authoriser	Manager Statutory Planning

Ward:	Langridge Ward
Proposal:	Big Housing Build – 240 Wellington Street, Collingwood
Existing use:	Collingwood Public Housing Estate
Applicant:	Homes Victoria
Zoning / Overlays:	General Residential Zone – Schedule 3 Design and Development Overlay – Schedule 2 Development Contributions Plan Overlay – Schedule 1
Date of Application:	N/A
Application Number:	N/A

Planning History

1. Planning permit PL05/0279 was issued on 4 July 2005 for *alterations and additions, including a ground floor extension to the existing residential building*. Plans were amended on the 30 November 2006.
2. Planning permit PL05/1070 was issued on 30 January 2006 for *buildings and works including the construction of a generator*.
3. Planning permit PL07/0756 was issued on 9 November 2007 for *development of the land for buildings and works (installation of security barriers)*.
4. Planning Permit PL08/0682 was issued on 12 December 2008 for *construction of new entry to the residential building and extension of the ground floor.* An amendment to this permit was granted on 5 May 2010 to allow for the construction of a surveillance room.
5. Planning Permit PLN14/0277 was issued on 15 August 2014 for *development of land for buildings and works consistent of an outdoor sports court.*
6. Planning Permit PLN15/0804 was issued on 29 October 2015 for *development of the land for buildings and works for construction of outbuildings.*

Background

7. At the Council meeting held 20 July 2021, Council passed a resolution on the engagement process regarding the proposed development of the Collingwood Housing Estate as part of the Big Housing Build program. The resolution is provided below and was communicated to the Chief Executive Officer of Homes Victoria on 21 July 2021:

   That Yarra Council:

   (a) acknowledges and welcomes the significant state government investment in public and affordable housing as long overdue and going a long way towards meeting the housing needs of the 100,000 people on the public housing waiting list and addressing the lack of affordable housing for low to middle income earners;

   (b) also acknowledges the vital role of public housing in providing secure long-term housing for the most in need in our community and the lack of investment in public housing in recent decades;

(c) in relation to the proposed "build" at Collingwood, makes a submission which urges the state government to ensure that:

(i) this new housing is and remains public housing (government owned and managed);

(ii) no green open space is lost for this build and that any significant trees removed are offset on the estate;

(iii) the new development is of the highest ESD standards with high levels of thermal comfort and indoor air quality;

(iv) the existing car parking provision on site is maintained; and

(v) maintenance of the new buildings be of a high standard and that maintenance levels of existing public housing be improved; and

(d) requests Homes Victoria to seek advice from Yarra's Planning Officers on the design of any proposed development before finalising it, in order to benefit from their local experience on the best fit for the local context and to ensure the best ESD standards and internal amenity are achieved.

8. On 26 August 2021, Council was provided with a draft package of documents for review. The draft documents included the following:

(a) Draft Architectural Plans, prepared by Fieldwork Architects dated 25th August 2021;

(b) Draft Landscape Masterplan, prepared by Openwork no date;

(c) Draft Arboricultural Assessment and Report, prepared by Treelogic dated 19 April 2021;

(d) Draft Traffic and Transport Assessment, prepared by Traffix Group dated July 2021;

(e) Draft Waste Memorandum, prepared by Traffix Group dated 27 July 2021;

(f) Draft Sustainability Management Plan, prepared by ADP Consulting dated 29 July 2021;

(g) Draft Acoustic Report, prepared by Acoustic Logic dated 27 July 2021;

(h) Draft Wind Impact Assessment, prepared by Vipac dated 23 August 2021; and

(i) Draft Building Services Design Report, prepared by ADP Consulting dated 28 July 2021.

9. Comments from Council's internal departments and external consultants, listed below, were provided to Homes Victoria between 26 August 2021 and 3 September 2021:

(a) Statutory Planning Unit;

(b) Urban Design Unit (public realm only) and Open Space Unit;

(c) Streetscapes and Natural Values Unit;

(d) Compliance Unit;

(e) Engineering Services Unit;

(f) Strategic Transport Unit;

(g) City Works Unit;

(h) Environmentally Sustainable Design (ESD) Advisor;

(i) Social Strategy Unit;

(j) Acoustic Consultant (SLR Consultants);

(k) Wind Consultant (MEL Consultants); and

(l) Urban Design Consultant (Simon McPherson [Global South]).

10. On 13 September 2021, Council was formally invited to comment on the proposal by Homes Victoria to redevelop the western end of the Collingwood Housing Estate for two eight-storey buildings, comprising 152 dwellings both for social and affordable housing and associated car and bicycle parking and ground floor non-residential uses proposed. The formal consultation period for the project ran between 13 September 2021 and 3 October 2021.

11. Specifically, Homes Victoria sought the Council's advice and referral comments that address any requirements of the Council's services, infrastructure, and any impacts the proposal has on the Council's assets. Draft conditions that should be applied to any decision made by the Minister were also requested.

12. The documents provided to Council on 13 September 2021 were largely consistent with those provided on 26 August 2021 except for the architectural plans. An earlier revision of the architectural plans, dated 23 August 2021, was formally advertised. These plans differed from the draft plans received by Council on 26 August 2021 (and dated 25 August 2021) in that the materials legend had been deleted.

13. A copy of the plans and reports provided to Council on 13 September 2021 are available for download from the following web page: https://engage.vic.gov.au/collingwood-housing/online-survey-draft-planning-application.

14. On 4 October 2021, Council Officers were provided with apartment type layout plans that correspond with the floor plans dated 23 August 2021. Apartment type layout plans were not provided for all apartment types, with Types 1C, 1D, 1E, 1G, 2C and 2D omitted. Council Officers requested the outstanding apartment types be provided on 5 October 2021.

15. On 19 October 2021, following the conclusion of the formal consultation period, Council Officers were provided with the following updated documents:

    (a) Architectural Plans, prepared by Fieldwork Architects dated 10 October 2021;

    (b) Design Report, prepared by Fieldwork Architects dated 18 October 2021;

    (c) Landscape Report, prepared by Openwork no date;

    (d) Arboricultural Assessment and Report, prepared by Treelogic dated 15 October 2021;

    (e) Traffic and Transport Assessment, prepared by Traffix Group dated October 2021;

    (f) Waste Management Plan, prepared by Traffix Group dated October 2021;

    (g) Sustainability Management Plan, prepared by ADP Consulting dated 19 October 2021;

    (h) Acoustic Memo, prepared by Acoustic Logic dated 8 September 2021;

    (i) Acoustic Report, prepared by Acoustic Logic dated 12 October 2021; and

    (j) Wind Impact Assessment, prepared by Vipac dated 15 October 2021.

16. These documents are included as attachments to this report. The assessments made within this report are based on the post consultation plans and reports.

Planning Scheme Amendments

Proposed Amendment C269

17. Amendment C269 proposes to update the local policies in the Yarra Planning Scheme by replacing the Municipal Strategic Statement (MSS) at Clause 21 and Local Planning Policies at Clause 22 with a Municipal Planning Strategy and Local Policies within the Planning Policy Framework (PFF), consistent with the structure recently introduced by the State Government.

18. The amendment was on public exhibition between 20 August 2020 and 4 December 2020. Amendment C269 was adopted by Council on 3 August 2021 and is subject to a panel hearing set to conclude on 29 October 2021.

19. In relation to this current planning application, the following clauses are of most relevance:

(a) Clause 13.07-1L – Interfaces and Amenity;

(b) Clause 15.01-1L – Urban Design;

(c) Clause 15.01-2L – Building Design;

(d) Clause 15.01-2L – Landmarks;

(e) Clause 15.02-1L – Environmentally Sustainable Development;

(f) Clause 16.01-2L – Location of Residential Development;

(g) Clause 16.01-3L – Housing Diversity;

(h) Clause 16.01-4L – Housing Affordability;

(i) Clause 17.01-1L – Employment;

(j) Clause 18.02-1L – Sustainable Transport;

(k) Clause 18.02-3L – Road System;

(l) Clause 18.02-4L – Car Parking;

(m) Clause 19.02-6L – Public Open Space Contribution;

(n) Clause 19.03-2L – Development Contributions;

(o) Clause 19.03-3L – WSUD; and

(p) Clause 19.03-5L – Waste.

20. The above clauses are largely reflected in current planning policy and will not be contradictory to the proposed re-write of Clauses 21 and 22.

Aboriginal Cultural Heritage Significance

21. The subject site is not included in an area as having cultural heritage sensitivity.

Environmental Effects Statement

22. Homes Victoria has not provided Council with information on whether the proposed development activity requires an environment effects statement.

23. Applications for development that require an environment effects statement to be prepared pursuant to the *Environment Effects Act 1978* cannot be pursued pursuant to Clause 52.20.

24. In addition to the above, Clause 52.20-5 identifies that prior to the use or development commencing, a number of plans, documents and information must be prepared and submitted to the satisfaction of the responsible authority (the Minister for EECC).

25. Relevantly, the following is required to be submitted:

(a) *If the Minister for Planning has decided that an assessment through an environment effects statement under the Environment Effects Act 1978 is not required for the proposed development and the decision is subject to conditions:*

(i) *A report that details how each condition has been considered and addressed in the design, construction and operation of the proposed development.*

(ii) *A copy of any report, plan or other document required to be prepared under those conditions.*

26. As such, confirmation should be provided that an environmental effects statement is not required to be prepared under the *Environment Effects Act 1978.*

The Proposal

27. The application is for the development of the land to construct two buildings, each eight storeys in height with basement levels below, for use as social and affordable housing with associated car and bicycle parking and ground floor non-residential uses proposed.

28. Key features of the proposal include:

Demolition (no permit required)

29. Demolition of existing at-grade car parking, including those located on the western side of Emerald Street, the existing playground, sports court, internal pathways and park seating.

30. Removal of trees throughout (as identified within the post consultation Arboricultural Assessment and Report prepared by Tree Logic and dated 15 October 2021).

Existing residential tower

31. No works are proposed to the existing residential tower. The existing at-grade car parking currently utilised by residents of the building (total 145 spaces) will be removed with 124 car parking spaces proposed to be accommodated within the basement of Building B for residents within the existing residential tower.

32. Access between the basement car parking area and existing residential tower will be primarily be facilitated via stairs and a lift within the north-western corner of the basement which provides access to the ground floor in the location shown below:

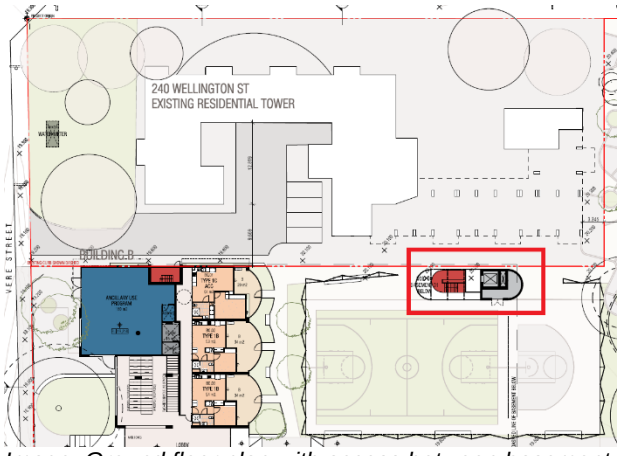


Image: Ground floor plan with access between basement and ground level highlighted in red
Source: Post consultation documentation provided by Homes Victoria

New Buildings

33. Construction of two eight-storey buildings to be utilised primarily as dwellings, known as Building A and Building B. Building A is proposed within the northern section of the allotment, with a frontage to Emerald Street. Building B is proposed within the southern section of the allotment, with a frontage to Vere Street, as shown below:

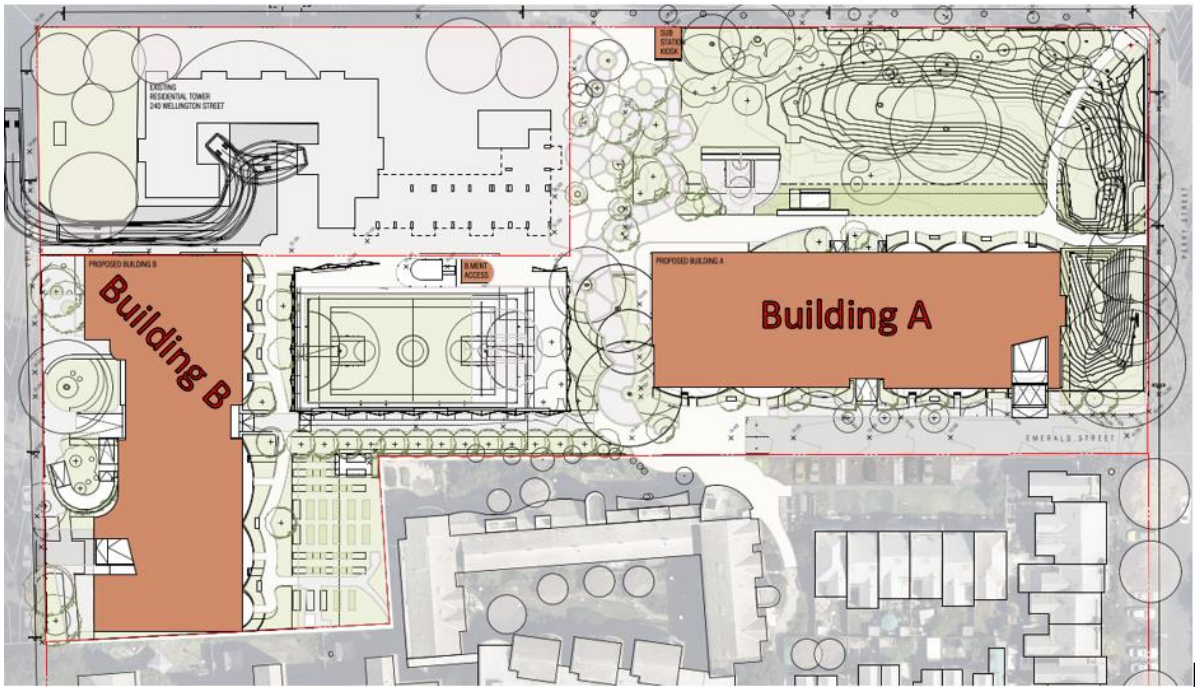


Image: Site Plan showing Building A and Building B
Source: Post consultation documentation provided by Homes Victoria

34. In addition to the proposed construction of two buildings, the following is also proposed:

(a) A substation/kiosk building of 24sqm is proposed along the Wellington Street frontage. No details of this building have been provided (e.g. materials showing height and materials). The following will therefore be required to be submitted via condition to ensure that the substation will be integrated into the overall development:

(i) Detailed elevations of the proposed substation, demonstrating that the proposed substation is of a height, massing and architectural language that integrates with the overall design of the buildings on-site;

(b) To the east of the substation/kiosk a dashed rectangle indicates that an 'optional food and drinks premises is shown here.' No further information has been provided on this aspect. The level of information provided on this aspect is insufficient and Council cannot proceed on the basis of an 'optional' building and use. As such, a condition will require this to be deleted;

(c) There are three 'voids' proposed over the basement levels. As previously identified, one void provides stair and lift access between the basement and ground floor. The other two voids provide light and air to the basements below. Limited detail on the structures at ground level have been provided, with the following images provided within the Design Report submitted post consultation:

Image: Renders of proposed voids over the basement car parking
Source: Post consultation documentation provided by Homes Victoria

(i) Limited details of these void buildings/structures have been provided. The following will therefore be required to be submitted via condition to ensure that the voids will be integrated into the overall development; and

(ii) Detailed elevations of the proposed three void structures, demonstrating that the proposed void structures are of a height, massing and architectural language that integrates with the overall design of the buildings on-site; and

(d) As shown within the Landscape Report, the grounds around the proposed buildings and the existing residential tower are proposed to be landscaped as follows including the re-establishment of an outdoor sport court:

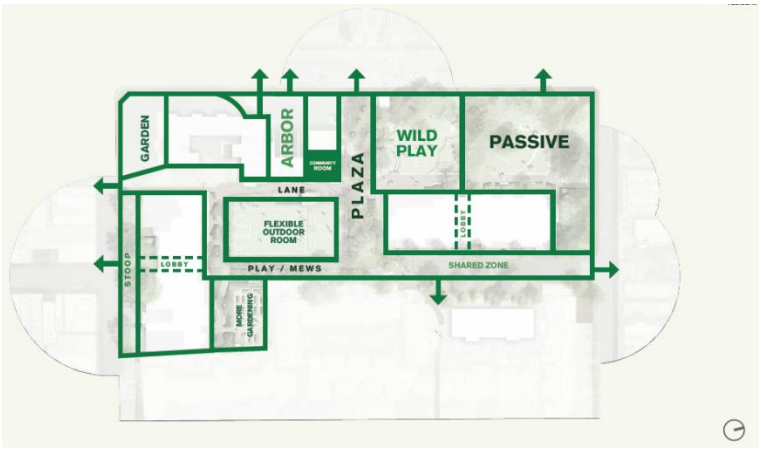


Image: Layout of landscaping/outdoor areas
Source: Post consultation documentation provided by Homes Victoria

Building A

35. Building A contains one basement level accessed from Emerald Street. Thirty-one car parking spaces are accommodated within the basement, four of these being accessible spaces. The basement areas house the rainwater tank and a range of service cupboards/rooms.

36. At ground level, the building will provide a lobby that can be accessed from Emerald Street to the east and the grounds to the west, seven dwellings oriented to face east and west, an 'ancillary use program' room of 252sqm facing west, bicycle parking for 110 bicycles and what appears to be 25 storage cages. The vehicle access is located within the north-eastern corner of the building fronting Emerald Street.

37. The upper levels contain the balance of the dwellings (total 72). The dwellings are provided in a northern and southern section, separated at the mid-point by the central stairwell and lift core with a void proposed facing east. As identified in earlier submissions, all dwellings in Building A are to be Affordable Housing.

38. The proposed Building A setbacks are as follows:

(a) Ground Floor / Level 1:

(i) 15.1m setback at Perry Street (13.1m setback to central stair);

(ii) 11.5m setback to eastern boundary (across Emerald Street, balconies encroaching into setback); and

(iii) 38.5m setback to Wellington Street (across park, balconies encroaching into setback).

(b) Levels 2-7:

(i) 15.6m setback at Perry Street (13.1m setback to central stair);

(ii) 13.9m setback to eastern boundary (across Emerald Street); and

(iii) 40.9m setback to Wellington Street.

39. The northern half of Building A will be eight-storeys with the southern half six storeys in height. The overall building height has not been dimensioned on the plans. Based on the Relative Levels (RLs) provided on the plans, the building will adopt an overall height to the top of the lift core of 27.85 metres from the finished ground level.

40. Building A comprises green glazed bricks in vertical and horizontal bonds, continuous concrete balustrades with vertical fluting or corrugations, green painted window frames, green cladding for shading screens, privacy screens and walls behind balconies and stainless steel mesh screens to open stairs and bridge links.

Image: Renders of proposed Building A (left: from corner Emerald and Perry Streets, right: internal view)
Source: Post consultation documentation provided by Homes Victoria

Building B

41. Building B contains two basement levels accessed from Vere Street. One-hundred and seventy car parking spaces are accommodated across the basement levels, four of these being accessible spaces. The basement areas house the rainwater tank and a range of service cupboards/rooms.

42. At ground level, the building will provide a lobby that can be accessed from Vere Street to the south and the grounds to the north, six dwellings oriented to face north, two 'ancillary use program' rooms of 93sqm and 180sqm facing south, bicycle parking for 74 bicycles and what appears to be 36 storage cages. The vehicle access is located to the east of the main entrance from Vere Street.

43. The upper levels contain the balance of the dwellings (total 67) facing north and south. The dwellings are provided in an eastern and western section, separated at the mid-point by a central pedestrian bridge. As identified in earlier submissions, all dwellings in Building B are to be Social Housing.

44. The proposed Building B setbacks are as follows:

    (a) Ground Floor / Level 1:

        (i) 8.2m setback to Vere Street (eastern end);

        (ii) 0m (zero) setback to western boundary adjacent existing tower and 9.7m separation to the existing tower;

        (iii) (Up to) 25.1m setback to northern boundary (balconies encroaching into setback);

    (b) Levels 2-7:

        (i) 13.9m (west) – 13.1m (east) setbacks to Vere Street (additional 6.3m – 4.9m approx. above lower levels);

        (ii) 0m (zero) setback to western boundary adjacent existing tower and 9.7m separation to the existing tower;

        (iii) (Up to) 27.7m setback to northern boundary (additional 2.6m above Ground Floor); and

    (c) To the east, the following setbacks are proposed:

(i) 0m – 1.4m (scaled);

(ii) 2.2m – 2.8m to the eastern boundary (scaled, levels 1 – 4); and

(iii) Minimum 6.3m (scaled, levels 5 – 7).

45. Whilst Building B will be predominately eight-storeys across the western and eastern halves, a portion of the building does step down to five-storeys and one-storey toward the eastern end. Based on the RLs provided on the plans, the building will adopt an overall height to the top of the lift core of 27.85 metres from the finished ground level.

46. Building B comprises red glazed bricks in vertical and horizontal bonds, continuous concrete balustrades with vertical fluting or corrugations, red painted window frames, red cladding for shading screens, privacy screens and walls behind balconies and stainless steel mesh screens to open stairs and bridge links.

Image: Renders of proposed Building B (left: from Vere Street, right: internal view)
Source: Post consultation documentation provided by Homes Victoria

Existing Conditions

Subject Site

47. The Collingwood Housing Estate is a large parcel of land generally bounded by Wellington Street to the west, Perry Street to the north, Hoddle Street to the east and Vere Street to the south, as shown below:

Image: Aerial imagery of the Collingwood Housing Estate
Source: NearMaps, Image Capture Date: 21 September 2021

48. The site accommodates three residential towers of approximately 21-storeys in height, one positioned within the south-west corner interfacing with Wellington Street and two at the eastern end of the precinct interfacing with Hoddle Street. In between the residential towers are a mix of two-three storey residential 'walk up' apartment buildings and townhouses.

49. The subject site is an irregularly shaped parcel of land at the western end of the Collingwood Housing Estate, between the existing residential tower fronting Wellington Street and the lower scale, two-three storey residences in the mid-section of the precinct and Emerald Street (a north-south private road providing access to an internal car park). The subject site is shown below:

Image: Aerial imagery of the subject site associated with the Big Housing Build
Source: NearMaps, Image Capture Date: 21 September 2021

50. The site contains open space areas (sports court, lawn areas, community garden, Emerald Street Playground), and surface car parking areas (total 50 car parks currently provided with access to/from Emerald Street/Perry Street and a total 96 car parks currently provided with access to/from Vere Street). The documents submitted indicate that the subject site has an overall area of 12,002 sqm.

Image: Vere Street frontage (left: view from south-east corner, right: view from south-west corner)
Source: Officer Image, taken October 2021

Image: Corner of Emerald Street and Perry Street
Source: Officer Image, taken October 2021

51. The site is government owned and operated by the Department of Health and Human Services (DHHS). No titles have been submitted to Council for their review. As such, it is recommended that Homes Victoria undertake an assessment of the full and recent copies of applicable Titles to ascertain whether there are any restrictions registered (i.e. Restrictive Covenants or Section 173 Agreement). Should there be a restriction registered on Title/s, Homes Victoria must ensure that the proposal will not result in a breach of the restriction, as this may require the need for planning approval.

Surrounding Land

52. The surrounding land is mixed between commercial, residential and industrial uses.

53. To the south of the site on the opposite side of Vere Street is a row of former factory/industrial properties.

Image: Southern side of Vere Street
Source: Officer Image, taken October 2021

54. To the west of the site on the opposite side of Wellington Street is a mixture of built forms featuring a car park, a small row of double storey shopfront properties, a purpose built church, and a school.

55. To the north of the site on the opposite side of Perry Street are predominantly single and double storey residential development, with a double storey shopfront building on the corner of Perry and Wellington Streets.

Image: Photomontage of northern side of Perry Street
Source: Officer Image, taken October 2021

56. To the east of the site where opposite the northern portion is Emerald Street, a private road that currently provides access to the at-grade car parking on-site and several low-rise dwellings on the eastern side of the Emerald Street.

Image: Eastern side of Emerald Street
Source: Officer Image, taken October 2021

57. To the east of the site toward the south, is further low-rise housing associated with No. 36 Vere Street. The secluded private open space of No. 36 Vere Street is located on the eastern side of the common boundary with the subject site.

Image: No. 36 Vere Street (left: taken from street, right: taken of the western elevation)
Source: Officer Image, taken October 2021

58. The subject site is located approximately 100m south of the Johnston Street Neighbourhood Activity Centre. Public transport is also located within close proximity along Hoddle Street and Victoria Parade, which contains a bus services and tram lines with access to central Melbourne.

Planning Scheme Provisions

Clause 52.20 – Victoria's Big Housing Build

59. This clause applies to the use or development of land that is:

    (a) Funded wholly or partly, under Victoria's Big Housing Build program; and

    (b) Carried out by or on behalf of the Director of Housing.

60. Pursuant to clause 52.20-2, applications made under clause 52.20 are exempt from any requirement of the Scheme to obtain a permit or any provision of the Scheme that prohibits the use or development of land, requires the use or development of land to be carried out in a particular manner, or requires a specified thing to be done to the satisfaction of a specified person or body, does not apply to any use or development this clause 52.20 applies to if requirements of clause 52.20 are met.

61. Whilst the above exemption does not apply to a requirement in clauses 44.06, 45.03, 45.07, 45.08, 51.03 or 52.02, or in any schedule to those clauses, none of those specific clauses would apply to the development proposed.

62. Pursuant to clause 52.20-3:

    (a) *The use and development of land must be carried out in accordance with the plans and documents approved under this clause, to the satisfaction of the responsible authority.*

    (b) *The use and development of land to be carried out to the satisfaction of the responsible authority must not commence until funding under Victoria's Big Housing Build program is approved.*

63. Pursuant to clause 52.20-4:

    (a) *Before the use or development commences:*

        (i) *Public consultation, and consultation with the relevant municipal council, must be undertaken.*

        (ii) *A report that summarises the consultation undertaken, feedback received, and explains how the feedback has been considered and responded to must be prepared to the satisfaction of the responsible authority.*

    The requirements of clause 52.20-4 must be undertaken to the satisfaction of the responsible authority and may be varied or waived by the responsible authority

64. Native Vegetation requirements are listed at clause 52.20-8. Homes Victoria confirmed on 19 October 2021 that the site falls outside of the levy area. This will be discussed further, later under clause 52.17 (native vegetation).

65. Before the use and development commences, a number of plans, documents and information must be prepared and submitted to the satisfaction of the responsible authority (the Minister for EECC). Council has not received a copy of all the plans, documents and information required to be submitted. This will be discussed within the report, where relevant.

66. In particular, however, a report that details how the proposed development responds to the development standards of clause 52.20-6 and clause 52.20-7 is required to be submitted. These clauses are embedded into the clause 52.20 provisions. The required report has not been provided to Council for their consideration. An assessment against these provisions is to be undertaken within this report by Council Officers.

67. Clause 52.20-6.7 provides modified car parking requirements. This will be discussed further, later under clause 52.06 (car parking).

68. Whilst the proposal is exempt from the Scheme requirements, the responsible authority (the Minister for EECC) must consider a submission prepared by Homes Victoria that addresses the proposed use or development and how it responds to purposes, objectives, or statements of significance or risk of any zone, overlay, or other provision that would apply to the use or development were it not for the exemptions in clause 52.20-2. This does not include clauses 54, 55, 58 and 59.

69. As such, it is considered that the following provisions of the Scheme are relevant in the consideration of this proposal.

Zoning

Clause 32.08 – General Residential Zone

70. The purposes of this zone are:

    (a) *To implement the Municipal Planning Strategy and the Planning Policy Framework;*

    (b) *To encourage development that respects the neighbourhood character of the area;*

    (c) *To encourage a diversity of housing types and housing growth particularly in locations offering good access to services and transport; and*

    (d) *To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.*

71. Pursuant to clause 32.08-4, the minimum percentage of the lot to be set aside for garden area is 35%. The development complies with this requirement.

72. Pursuant to clause 32.08-6, a permit is required to construct two or more dwellings on a lot.

73. Clause 32.08-6 states an apartment development of five or more storeys, excluding a basement, must meet the requirements of Clause 58.

74. Pursuant to clause 32.08-10, a building must not be constructed for use as a dwelling or residential building that exceeds a building height of 11 metres and 3 storeys.

75. It is unknown what use is proposed within the 525sqm of ground floor spaces noted as 'Ancillary Use Program' on the plans and as such, it is unclear whether the proposed uses would be no permit required, permit required or prohibited. Details of the ground floor non-residential uses were requested from Homes Victoria and have not been provided. This will be discussed further, later.

76. In addition to the decision guidelines listed at clause 32.08-13 of the General Residential Zone, Schedule 3 to the Zone also includes the following decision guidelines:

    (a) *Whether a loss of amenity would result in varying the requirements of part 2.0 of this schedule;*

    (b) *The amenity impact on surrounding land uses;*

    (c) *Whether opportunities exist to avoid a building being visually obtrusive through the use of alternative building designs, particularly for developments with overall building heights in excess of 9 metres;*

    (d) *Whether subdivision will result in development which is not in keeping with the character and appearance of adjacent buildings, the streetscape or the area; and*

    (e) *The layout and appearance of areas set aside for car parking, access and egress, loading and unloading and the location of any proposed off street car parking.*

Overlays

Clause 43.02 – Design and Development Overlay

(Schedule 2 – Main Roads and Boulevards) (DDO2)

77. The DDO2 applies to an approximate 30-metre-wide portion of land alongside Wellington Street, as shown below:

Image: Zoning map of the site and surrounds
Source: DELWP

78. 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.

79. 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; and*

    (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 45.06 – Development Contributions Plan Overlay (Schedule 1)

80. The Development Contributions Plan applies to the proposed additional office, retail and residential uses, requiring the developer to pay a cash contribution towards essential city infrastructure like roads and footpaths, as well as community facilities.

81. Pursuant to clause 4 of Schedule 1 to clause 45.06-1:

    (a) *No land or development is exempt from this Development Contributions Plan unless exempt by Legislation or Ministerial Direction or Legal Agreement with Yarra City Council or stated below. The following development is exempt from a development contribution:*

        …

        (i) *Land developed for housing by or for the Department of Health and Human Services, as defined in Ministerial Direction on the Preparation and Content of Development Contributions Plans of 11 October 2016. This applies to social housing development delivered by and for registered housing associations. This exemption does not apply to private dwellings developed by the Department of Health and Human Services or registered housing associations;*

        …

82. As such, the proposed development sought pursuant to Clause 52.20 would not trigger the requirements of the overlay.

Particular Provisions

Clause 52.06 – Car parking

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

84. Pursuant to Clause 52.06-5, Column B of Table 1 applies if any part of the land is identified 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.

85. 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. The provision of car parking is as follows:

Proposed Use	Quantity/ Size	Statutory Parking Rate*	No. of Spaces Required	No. of Spaces Allocated
One-bedroom dwelling	90	1 space per dwelling	90	
Two-bedroom dwelling	49	1 space per dwelling	49	
Three-bedroom dwelling	13	2 spaces per dwelling	26	
		Total	**165 Spaces**	**91 spaces**

86. In respect of the existing dwellings (total 208), it is unknown how many are one bedroom, two bedroom and three bedroom. As such, the rate of car parking required for the dwellings within the existing residential tower within the south-west corner of the site cannot be calculated. It is known, however, that of the 215 spaces proposed on site 124 of these will be allocated to the existing residential tower.

87. For the proposed dwellings, pursuant to Clause 52.06 the application would be required to seek a total reduction of 74 car spaces.

88. Clause 52.20-6.7, however, modifies the above car parking rates to the following:

    (a) *a minimum 0.6 car spaces should be provided to each dwelling. A minimum 1 car space should be provided to each 4 bedrooms of a residential building.*

89. This would result in the below requirement for car parking on the site in respect of the proposed dwellings:

Proposed Use	Quantity/ Size	Statutory Parking Rate	No. of Spaces Required	No. of Spaces Allocated
One-bedroom dwelling	90	A minimum of 0.6 spaces for each dwelling	91	215
Two-bedroom dwelling	49			
Three-bedroom dwelling	13			
Existing Dwellings	208	A minimum of 0.6 spaces for each dwelling	124	
		Total	**215 spaces**	**215 spaces**

90. The proposed development as it relates to the existing dwellings and proposed dwellings would therefore comply with the modified car parking requirements contained within clause 52.20-6.7.

91. It is unknown what use is proposed within the 525sqm of ground floor spaces noted as ‘Ancillary Use Program’ on the plans and as such, car parking requirements cannot be determined for this use. Whilst details of this were requested from Homes Victoria, these have not been provided.

Clause 52.34 – Bicycle Facilities

92. 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

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

Proposed Use	Quantity/ Size	Rate	No. of Spaces Required	No. of Spaces Allocated
Dwellings	152	1 resident space per 5 dwellings	30 resident spaces	184 resident spaces
		1 visitor space per 10 dwellings for visitors	15 visitor spaces	0 visitor spaces

94. The development satisfies the resident requirement, however, if this clause were applicable to the development a reduction of visitor spaces would be required to be pursued.

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

96. The Traffic and Transport Assessment submitted following consultation (prepared by Traffix Group and dated October 2021) identifies that *The Homes Victoria, Apartment Code – May 2020* (a document that has not been provided to Council) document sets out the following bicycle parking requirements:

    (a) *1 space for every dwelling without a car parking space;*

    (b) *1 space for every 5 dwellings for residents; and*

    (c) *1 space for every 10 dwellings for visitors.*

97. The required bicycle parking pursuant to the above is as follows:

Proposed Use	Quantity/ Size	Rate	No. of Spaces Required	No. of Spaces Allocated
Dwellings	152	1 resident space for every dwelling without a car parking space 1 resident space per 5 dwellings	78 resident spaces	184 resident spaces
		1 visitor space per 10 dwellings for visitors	15 visitor spaces	0 visitor spaces

98. This document has been requested by Council Officers; however, it has not been provided nor is referenced within Clause 52.20.

99. It is unknown what use is proposed within the 525sqm of ground floor spaces noted as 'Ancillary Use Program' on the plans and as such, bicycle parking requirements cannot be determined for this use. Whilst details of this were requested from Homes Victoria, these have not been provided.

Clause 52.17 Native Vegetation

100. Homes Victoria confirmed on 19 October 2021 that the proposed tree removal would be exempt from the requirements of this clause as the trees to be removed are considered to be 'planted vegetation' in accordance with the exemptions listed at clause 52.17-7.

101. As such, Homes Victoria also confirmed that the native vegetation requirements listed at clause 52.20-8 also do not apply to the proposal.

102. There is therefore no permit requirement nor assessment criteria for tree removal from the site pursuant to the Scheme.

Clause 58 - Apartment Developments

103. The provisions of Clause 58 apply to an application to construct or extend an apartment development if the development is five or more storeys within the General Residential Zone. A development must meet all of the objectives and should meet all of the standards of the Clause.

104. As identified earlier, the provisions of Clause 52.20 explicitly exempt an application from the requirements of Clause 58. Several standards of the clause have been embedded into Clause 52.20-7 and remain relevant to the assessment of the proposal.

Clause 53.18 – Stormwater Management in Urban Development

105. This clause applies to an application under a provision of a zone to construct a building or construct or carry out works. An application to construct a building or to construct or carry out works:

(a) *Must meet all of the objectives of Clauses 53.18-5 and 53.18-6; and*

(b) *Should meet all of the standards of Clauses 53.18-5 and 53.18-6.*

General Provisions

Clause 65 – Decision Guidelines

106. 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.

Clause 66.02-11 – Integrated public transport planning

107. In accordance with Clause 66.02-11 of the Yarra Planning Scheme, an application to construct a building or to construct or carry out works for a residential development comprising 60 or more dwellings or lots must be referred to the Head, Transport for Victoria. The Head, Transport for Victoria, is a determining referral authority for this application.

Planning Policy Framework (PPF)

108. Relevant clauses are as follows:

Clause 11 (Settlement)

Clause 11.01-1R (Settlement – Metropolitan Melbourne)

109. Relevant strategies include:

(a) Develop a network of activity centres linked by transport; consisting of Metropolitan Activity Centres supported by a network of vibrant major and neighbourhood activity centres of varying size, role and function; and

(b) Create mixed-use neighbourhoods at varying densities, including through the development of urban-renewal precincts that offer more choice in housing, create jobs and opportunities for local businesses and deliver better access to services and facilities.

Clause 11.02 (Managing Growth)

Clause 11.02-1S (Supply of Urban Land)

110. 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)

111. 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 13.04-1S (Contaminated and potentially contaminated land)

112. The relevant objective of this clause is:

(a) *To ensure contaminated and potentially contaminated land is used and developed safely.*

113. Relevant strategies are:

(a) *Ensure contaminated or potentially contaminated land is or will be suitable for the proposed use, prior to the commencement of any use or development;*

(b) *Protect sensitive uses including a residential use or use as childcare centre, kindergarten, pre-school centre, secondary school or children's playground from the effects of contamination; and*

(c) *Facilitate the remediation of contaminated land to make the land suitable for future intended use or development.*

Clause 13.05-1S (Noise abatement)

114. The relevant objective of this clause is:

(a) *To assist the control of noise effects on sensitive land uses.*

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

Clause 13.07 (Amenity and Safety)

Clause 13.07-1S (Land use compatibility)

116. The objective of this clause is:

(a) *To protect community amenity, human health and safety while facilitating appropriate commercial, industrial, infrastructure or other uses with potential adverse off-site impacts.*

Clause 15.01 (Built Environment and Heritage)

Clause 15.01-1S (Urban design)

117. 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)

118. The objective is:

    (a) *To create distinctive and liveable city with quality design and amenity.*

Clause 15.01-2S (Building design)

119. 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.*

120. Relevant strategies of this clause are:

    (a) *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;*

    (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; and*

    (i) *Encourage development to retain existing vegetation.*

121. This clause also states that planning must consider as relevant:

    (a) *Urban Design Guidelines for Victoria (UDGV) (Department of Environment, Land, Water and Planning, 2017); and*

    (b) *Apartment Design Guidelines for Victoria (ADGV) (Department of Environment, Land, Water and Planning, 2017).*

Clause 15.01-4S (Healthy neighbourhoods)

122. The objective is:

    (a) *To achieve neighbourhoods that foster healthy and active living and community wellbeing.*

Clause 15.01-4R (Healthy neighbourhoods - Metropolitan Melbourne)

123. 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)

124. The relevant objective of this clause is:

    (a) *To recognise, support and protect neighbourhood character, cultural identity, and sense of place.*

125. Relevant strategies are:

    (a) *Support development that respects the existing neighbourhood character or contributes to a preferred neighbourhood character;*

    (b) *Ensure the preferred neighbourhood character is consistent with medium and higher density housing outcomes in areas identified for increased housing; and*

    (c) *Ensure development responds to its context and reinforces a sense of place and the valued features and characteristics of the local environment and place by respecting the:*

        (i) *Pattern of local urban structure and subdivision;*

        (ii) *Underlying natural landscape character and significant vegetation; and*

        (iii) *Neighbourhood character values and built form that reflect community identity.*

Clause 15.02 (Sustainable Development)

Clause 15.02-1S (Energy and Resource Efficiency)

126. 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 16.01 Residential Development

Clause 16.01-1S – Housing Supply

127. The objective of this clause is '*To facilitate well-located, integrated and diverse housing that meets community needs.*'

Clause 16.01-1R (Housing Supply – Metropolitan Melbourne)

128. Strategies for this clause are:

    (a) *Provide certainty about the scale of growth by prescribing appropriate height and site coverage provisions for different areas; and*

    (b) *Allow for a range of minimal, incremental and high change residential areas that balance the need to protect valued areas with the need to ensure choice and growth in housing.*

Clause 16.01-2S (Housing Affordability)

129. The objective of this clause is '*to deliver more affordable housing closer to jobs, transport and services.'*

130. Strategies of this clause are:

    (a) *Improve housing affordability by:*

        (i) *Ensuring land supply continues to be sufficient to meet demand;*

        (ii) *Increasing choice in housing type, tenure and cost to meet the needs of households as they move through life cycle changes and to support diverse communities;*

        (iii) *Promoting good housing and urban design to minimise negative environmental impacts and keep costs down for residents and the wider community;*

        (iv) *Encouraging a significant proportion of new development to be affordable for households on very low to moderate incomes;*

    (b) *Increase the supply of well-located affordable housing by:*

        (i) *Facilitating a mix of private, affordable and social housing in suburbs, activity centres and urban renewal precincts.; and*

(ii) *Ensuring the redevelopment and renewal of public housing stock better meets community needs; and*

(c) *Facilitate the delivery of social housing by identifying surplus government land suitable for housing.*

131. This clause also states that planning must consider as relevant:

(a) *Homes for Victorians - Affordability, Access and Choice (Victorian Government, 2017).*

132. Affordable Housing and Social Housing are defined within the above document as follows:

Affordable Housing

Affordable housing is housing that is appropriate for the needs of a range of very low to moderate income households, and priced (whether mortgage repayments or rent) so these households are able to meet their other essential basic living costs.

Social Housing

Social housing is an umbrella term that includes both public housing and community housing. Its provision usually involves some degree of subsidy.

Public Housing

Housing owned and managed by the Director of Housing. The Government provides public housing to eligible disadvantaged Victorians including those unemployed, on low incomes, with a disability, with a mental illness or at risk of homelessness.

Community Housing

Housing owned or managed by community housing agencies for low income people, including those eligible for public housing. Community housing agencies are regulated by the Government.

Clause 16.01-4S – Housing affordability

133. The objective of this clause is *'to deliver more affordable housing closer to jobs, transport and services'.*

Clause 17.02 – (Commercial)

Clause 17.02-1S – (Business)

134. The relevant objective of this clause is:

(a) *To encourage development that meets the communities' needs for retail, entertainment, office and other commercial services.*

135. 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; and*

(c) *Locate commercial facilities in existing or planned activity centres.*

Clause 18.01 (Integrated Transport)

Clause 18.01-1S – (Land use and transport planning)

136. The objective of this clause is:

(a) *To create a safe and sustainable transport system by integrating land use and transport.*

137. 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; and*

(iii) *Requiring integrated transport plans to be prepared for all new major residential, commercial and industrial developments; and*

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

Clause 18.02 (Movement Networks)

Clause 18.02-1S – (Sustainable personal transport)

138. The relevant objectives of this clause is:

(a) *To promote the use of sustainable personal transport.*

139. 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; and*

(h) *Ensure provision of bicycle end-of-trip facilities in commercial buildings*

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

140. Strategies of this policy are:

(a) *Improve local travel options for walking and cycling to support 20 minute neighbourhoods; and*

(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)

141. 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)

142. 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)

143. The objective of this clause is:

    (a) *To ensure an adequate supply of car parking that is appropriately designed and located.*

144. 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)

Municipal Strategic Statement (MSS)

145. Relevant clauses are as follows:

Clause 21.02 Municipal Profile

146. As identified within the municipal profile, Yarra has the highest number of residents in public housing per capita in Victoria with 10.5% of the population in public housing.

147. The clause also identifies that in relation to built form *the large public housing estates provide a contrasting built form character of apartment buildings set in landscaped grounds.*

Clause 21.04-1 Accommodation and Housing

148. The objectives of this clause are:

    (a) *To accommodate forecast increases in population;*

    (b) *To retain a diverse population and household structure; and*

    (c) *To reduce potential amenity conflicts between residential and other uses.*

149. The clause acknowledges that the following forms of housing are currently under threat within Yarra, and where possible, must be retained:

    (a) *Housing appropriate for families with children;*

    (b) *A continued supply of good quality affordable housing;*

    (c) *This includes both existing housing stock and new development;*

    (d) *Rooming house accommodation; and*

    (e) *Private and public housing stock and residential care to cater for an ageing population.*

Clause 21.04-3 Industry, office and commercial

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

Clause 21.05-2 Urban design

151. 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 20 - To ensure that new development contributes positively to Yarra's urban fabric;*

(e) *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; and

(f) *Objective 22 - To encourage the provision of universal access in new development.*

Clause 21.05-3 Built form character

152. The general objective of this clause is:

(a) *To maintain and strengthen the identified character of each type of identified built form within Yarra.*

153. The subject site is located within a non-residential area, where the built form objective is to *"improve the interface of development with the street"*.

154. The strategies to achieve the objective are to:

(a) *Strategy 27.1 - Allow flexibility in built form in areas with a coarse urban grain (larger lots, fewer streets and lanes); and*

(b) *Strategy 27.2 - Require new development to integrate with the public street system.*

Clause 21.05-4 Public environment

155. 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 28.2 Ensure that buildings have a human scale at street level;*

(ii) *Strategy 28.3 Require buildings and public spaces to provide a safe and attractive public environment;*

(iii) *Strategy 28.5 Require new development to make a clear distinction between public and private spaces; and*

(iv) *Strategy 28.8 Encourage public art in new development.*

Clause 21.06 Transport

156. This clause builds upon the objectives outlined at clause 18, promoting cycling, walking and public transport as alternatives to private motor vehicle usage.

Clause 21.06-1 Walking and cycling

157. This clause builds upon the Objectives outlined at Clause 18, promoting cycling, walking and public transport as alternatives to private motor vehicle usage.

(a) *Objective 30 - To provide safe and convenient bicycle environments:*

(i) *Strategy 30.2 Minimise vehicle crossovers on street frontages;*

(b) *Objective 32 - To reduce the reliance on the private motor car; and*

(c) *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

158. 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 Neighbourhoods

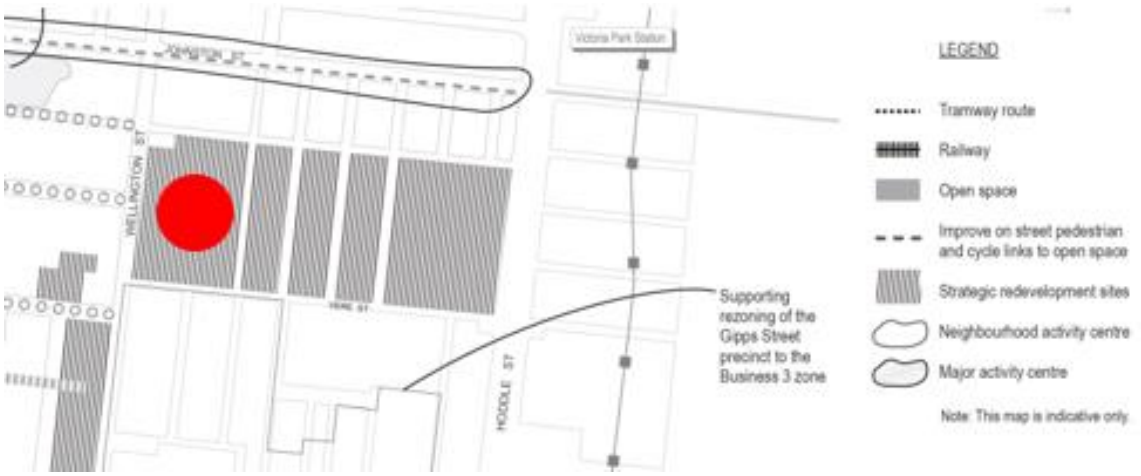
Clause 21.08-5 Collingwood

159. The following relevant commentary is offered at this clause:

(a) Much of Collingwood is industrial in character with the residential precincts surrounded by or interspersed with industrial buildings.; and

(b) South of Johnston Street is a large area of public housing generally comprising large blocks of apartments set in grounds.

160. As shown in the Collingwood Neighbourhood Map (Figure 13) of clause 21.08-5, the Collingwood Housing State is designated as a strategic redevelopment site. An extract of the Figure is provided below, with the subject site identified.



161. The Collingwood Built Form Character Map (Figure 14) of clause 21.08-5, identifies that the following built form outcomes are encouraged for the Collingwood Housing Estate:

(a) *Re-connect former public streets through the estate, where they have been closed; and*

(b) *Redevelop public street frontages with buildings that address the street, including location front doors and mail boxes on the street frontage where possible.*

162. The following relevant built form strategies in clause 21.05 include the following:

    (a) Supporting development that maintains and strengthens the preferred character of the relevant Built Form Character type;

    (b) Encouraging the redevelopment of the following sites in a way that contributes positively to the urban fabric and public domain of Yarra. Redevelopment should also protect the heritage of the site and of the area where subject to the Heritage Overlay and where relevant, maintain and reinforce the built form character of the area; and

    …

    (i) Site 6 - Collingwood Housing Estate, block bounded by Hoddle, Vere, Wellington and Perry Streets.

    (c) Strengthening the built form of:

    …

    (i) Collingwood Housing Estate

Relevant Local Policies

Clause 22.01 (Discretionary Uses in the Residential 1 Zone)

163. This policy applies to land in the Residential 1 Zone and the objective of the clause is: *to ensure that residential amenity is not adversely affected by non-residential uses*.

164. It is policy that:

    (a) *Existing buildings constructed for non-residential purposes are the preferred location for non-residential uses;*

    (b) *Food and drink premises, places of assembly, places of worship and plant nurseries should have access to and adjoin a road in a Road Zone;*

    (c) *Except on land adjoining and gaining direct access from a road in a Road Zone:*

        (i) *all required car parking should be on-site;*

        (ii) *the scale of the proposed use should be compatible with providing service to the local residential community;*

    (d) *Hours of operation should be limited to 8am to 8pm except for convenience shop;*

    (e) *New buildings and works should be consistent with the scale, bulk and character of the area; and*

    (f) *Noise emissions should be compatible with a residential environment.*

Clause 22.03 Landmarks and Tall Structures

165. 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

166. 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.

167. It is policy that:

    (a) *New residential use and development in or near commercial centres and activity centres and near industrial uses includes design features and measures to minimise the impact of the normal operation of business and industrial activities on the reasonable expectation of amenity within the dwellings; and*

(b) *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.*

168. Decision guidelines at clause 22.05-6 include:

(a) *Before deciding on an application for residential development, Council will consider as appropriate:*

(i) *The extent to which the proposed dwellings may be subject to unreasonable noise, fumes and air emissions, light spillage, waste management and other operational matters from the nearby business or industrial uses;*

(ii) *Whether the dwellings are designed or incorporate appropriate measures to minimise the impact of noise, fumes and air emissions, light spillage, waste management and other operational matters from the nearby business or industrial uses;*

(b) *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; and*

(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

169. 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 22.12 Public Open Space Contribution

170. The objectives of this clause are:

(a) *To implement the Yarra Open Space Strategy;*

(b) *To identify when and where land contributions for public open space are preferred over cash contributions; and*

(c) *To ensure that where appropriate, land suitable for public open space is set aside as part of the design of a development so that it can be transferred to or vested in Council, in satisfaction of the public open space contribution requirement.*

171. The subject site is in an area where land in lieu of cash is the preferred method of public open space contribution (area 3066C).

Clause 22.13 - Residential Built Form Policy

172. The subject site is identified as being located within a Residential in Grounds (Public Housing Estates) area which is described as *separate enclaves of residential development set in extensive grounds*. This area has the following design elements at Clause 22.13-3.4:

(a) *Re-connect former public streets through the estate, where safe and practicable;*

(b) *Redevelop public street frontages with buildings that address the street, including locating front doors and mail boxes on the street frontage where possible;*

(c) *Overlook the street with windows and attractively designed building frontages;*

(d) *Maintain line of sight between windows and the street; and*

(e) *Use front fences that allow views into the site from the street.*

Clause 22.16 Stormwater Management (Water Sensitive Urban Design)

173. 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

174. 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.

Advertising

175. Formal notice and review requirements are exempted under Clause 52.20-2, however, pursuant to Clause 52.20-4 the following is required before the use or development commences:

(a) *Public consultation, and consultation with the relevant municipal council, must be undertaken; and*

(b) *A report that summarises the consultation undertaken, feedback received, and explains how the feedback has been considered and responded to must be prepared to the satisfaction of the responsible authority.*

176. It is understood that during the formal consultation period (held 13 September 2021 – 3 October 2021) the owners/occupiers of properties within 150 metres of the development site were notified of the proposal via mail.

177. The final consultation report [to be provided to the responsible authority as identified above within paragraph 11, (b)] has not been provided to Council, however, the Phase 1 engagement report is available on the Engage Victoria website.

178. This report is dated 10 September 2021 and discusses the findings of earlier engagement on the project, held between 9 August 2021 and 29 August 2021. The report identified the following key themes of feedback were received:

(a) *Open space and landscape:*

(i) *Connection to Country through the landscape;*

(ii) *Multi-purpose sports courts are important to young people;*

(iii) *Nature play area for all ages;*

(iv) *Spaces for gathering, celebration and activities are needed;*

(v) *Community gardens are a valued local asset;*

(vi) *Fencing around the site boundaries;*

(b) *Ground floor 'non-residential' uses:*

(i) *A flexible communal space is needed;*

(ii) *Commercial spaces that respond to resident needs;*

(iii) *Potential new location for local community service providers and organisations;*

(iv) *A new space for the local creative sector;*

(c) *Connections to and through the site:*

(i) *All abilities need to be catered for;*

(ii) *Local car traffic around the site is an important consideration;*

(iii) *Secure bike storage would encourage more cycling;*

(iv) *Enhanced security measures are needed;*

(v) *Pedestrian connections for school children;*

(d) *Construction:*

(i) *Management of construction activities to reduce impacts, particularly to parking, sporting facilities and playground;*

(ii) *Creating engagement opportunities during construction process;*

(iii) *Creating local employment opportunities;*

(e) *Parking:*

(i) *Opportunities for replacement parking and pick up/drop off points during construction needs to be communicated early;*

(ii) *Management of new basement carparks is critical; and*

(iii) *Safety of underground car parking.*

179. On 20 October 2021, Council received a petition containing 82 signatures from the Collingwood public housing tenants on the proposal. The petition raised concerns with the proposed new social housing, specifically the loss of parking, trees and increased use of existing resources (e.g. playground).

Referrals

External Referrals

180. In accordance with *Clause 52.30-6 Other pre-commencement requirements,* before the use or development commences the following, relevantly, is required to be prepared and submitted to the satisfaction of the responsible authority (the Minister for EECC):

(a) *If the proposed use or development would require a permit but for the exemption in clause 52.30-3 and a copy of the application for that permit would be required to be given to a referral authority under section 55 of the Act, the comments of that referral authority on the proposed use or development.*

181. The Head, Transport for Victoria would have been a determining referral authority for this application, pursuant to the following:

(a) *In accordance with Clause 66.02-11 of the Yarra Planning Scheme, an application to construct a building or to construct or carry out works for a residential development comprising 60 or more dwellings or lots.*

182. On 28 September 2021, the Head, Transport for Victoria wrote to Homes Victoria providing the following assessment:

(a) *Thank you for your email dated 13th September 2021 referring the above pre-application to the Head, Transport for Victoria pursuant to Section 55 of the Planning and Environment Act 1987.*

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.

Internal Referrals

183. The consultation documentation and post consultation documentation received on 19 October 2021 was referred to the following units within Council:

(a) Urban Design Unit (public realm only) and Open Space Unit;

(b) Streetscapes and Natural Values Unit;

(c) Compliance Unit;

(d) Engineering Services Unit;

(e) Strategic Transport Unit;

(f) City Works Unit;

(g) Environmentally Sustainable Design (ESD) Advisor; and

(h) Social Strategy Unit.

External Consultants

(i) Acoustic Consultant (SLR Consultants).

(j) Wind Consultant (MEL Consultants); and

(k) Urban Design Consultant (Simon McPherson [Global South]).

184. Referral comments have been included as attachments to this report.

OFFICER ASSESSMENT

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

(a) Policy and Strategic Support;

(b) Use of the land;

(c) Built form and urban design;

(d) Off-Site Amenity impacts;

(e) Development Standards for Dwellings and Buildings;

(f) Development Standards for Apartments;

(g) Car parking and traffic;

(h) Bicycle facilities and strategic transport;

(i) Construction management; and

(j) Potentially contaminated land.

Policy and Strategic Support

186. Clause 52.20 Victoria's Big Housing Build has been implemented to streamline and prioritise social and affording housing developments in order to support economic recovery and the boost Victoria's social housing supply by 10 per cent. This clause applies to the use or development of land that is:

(a) Funded wholly or partly, under Victoria's Big Housing Build program; and

(b) Carried out by or on behalf of the Director of Housing.

187. Whilst the proposal is exempt from the Scheme requirements under the clause 52.20 pathway, subject to conditional confirmation of the above items, the responsible authority (the Minister for EECC) must consider a submission prepared by Homes Victoria that addresses the proposed use or development and how it responds to purposes, objectives, or statements of significance or risk of any zone, overlay, or other provision that would apply to the use or development were it not for the exemptions in clause 52.20-2. This does not include clauses 54, 55, 58 and 59. As such, an assessment of the proposal against state and local policy is required.

188. The proposed development has strong strategic support at State and local level for the construction of social and affordable housing. The subject site is located within the GRZ, that includes a key purpose *to encourage a diversity of housing types and housing growth particularly in locations offering good access to services and transport.*

189. Consistent with the zone, the use of the land for dwellings would not require a planning permit. The ground floor non-residential spaces will be discussed further, later in the report.

190. This indicates strong strategic support for the continued predominant residential land use on the site. The buildings have been sited upon the grounds to rationalise and conceal the existing at-grade car parking and to provide increased activation along both Emerald and Vere Streets and preserve the provision of communal outdoor spaces.

191. The site is well documented within local policy as being a strategic redevelopment site (Clause 21.08-5), with clause 21.04-1 identifying that higher density residential development are to be accommodated within strategic redevelopment sites. In direct support of the proposal, Clause 21.04-1 specifically supports the provision of affordable housing for people of all abilities in particular, in larger residential developments and on strategic redevelopment sites.

192. The proposal achieves a high level of compliance with the above with the subject site is well placed to accommodate increased housing growth.

193. As identified within Clause 21.02, Yarra has the highest number of residents in public housing per capita in Victoria with 10.5% of the population in public housing. Furthermore, the clause identifies that 85% of the additional housing growth to be accommodated within Yarra, as envisioned within Melbourne 2030, is to be provided on strategic redevelopment sites.

194. At a State level, Clause 16.01-2S encourages an increased supply of well-located affordable housing by facilitating a mix of private, affordable and social housing in suburbs, activity centres and urban renewal precincts. Whilst no private housing is provided within this proposal, it is considered that the delivery of 152 social and affordable dwellings is well located in proximity to various services, activity centres and public transport options.

195. Furthermore, the proposed design and siting of the two buildings continues to meet the build form character of public housing estates as identified within Clause 21.01 of the municipal profile, which identifies housing estates as providing a contrasting built form character of apartment buildings set in landscaped grounds.

196. In respect of Amendment C269, the proposal would achieve a high level of compliance with the following objectives proposed within clause 16.01-4L (Housing Affordability):

    (a) *To facilitate the provision of affordable housing for key workers and social housing (public and affordable community housing), including new social housing and upgrades to existing social housing; and*

    (b) *Support the provision of new public housing and upgrades to existing social housing (includes public housing).*

197. Having regard to the above, the proposed re-development of the site for the provision of social and affordable housing is considered to have strategic planning support, however regard must be had to the off-site amenity impacts and the appropriate scale of the proposal, based on the individual context and constraints of the land. This aspect will be discussed further, later in the report.

Use of the land

198. The General Residential Zone (GRZ) includes a key purpose *to allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.*

199. As previously identified, there are three non-residential spaces proposed at the ground floor level, as follows:
    (a) Building A – 252sqm within the ground floor south-western corner;
    (b) Building B – 180sqm within the ground floor south-western corner; and
    (c) Building B – 93sqm within the ground floor south-eastern corner.
200. All of the above spaces are notated on the plans as being 'Ancillary Use Program.' Whilst Council officers requested on 2 September 2021 that the use be finalised with details provided, no details have been provided by Homes Victoria.
201. In accordance with *Clause 52.30-6 Other pre-commencement requirements,* before the use or development commences the following, relevantly, is required to be prepared and submitted to the satisfaction of the responsible authority (the Minister for EECC):
    (a) *A description of the proposed use including:*
        (i) *The activities that will be carried out; and*
        (ii) *The likely effects, if any, on the site and surrounding land and land uses, including noise levels, traffic, air-borne emissions, emissions to land and water, light spill, glare, solar access and hours of operation.*
202. The above has not been provided to Council for their consideration.
203. The following information is included on the Engage Victoria website for the proposal:
    (a) *Non-housing ground floor uses:*
        (i) *Participants supported the inclusion of non-housing ground floor spaces in the 2 new buildings; and*
        (ii) *Some of the ideas for these spaces include:*
            - *flexible communal spaces to support the needs of different residents and the neighbourhood*
            - *commercial spaces that respond to resident and local needs*
            - *creative workspace that could be used as a gallery as well*
            - *space for service delivery for local organisations*
204. It is clear that the proposed use of these spaces is currently unresolved.
205. Clause 32.08-13 of the GRZ contains the following decision guidelines for non-residential uses and development:
    (a) *Whether the use or development is compatible with residential use;*
    (b) *Whether the use generally serves local community needs;*
    (c) *The scale and intensity of the use and development;*
    (d) *The design, height, setback and appearance of the proposed buildings and works;*
    (e) *The proposed landscaping;*
    (f) *The provision of car and bicycle parking and associated accessways;*
    (g) *Any proposed loading and refuse collection facilities; and*
    (h) *The safety, efficiency and amenity effects of traffic to be generated by the proposal.*
206. The relevant policies of the Discretionary Uses in the Residential 1 Zone at Clause 22.01-3 are as follows:
    (a) *It is policy that:*
        (i) *Existing buildings constructed for non-residential purposes are the preferred location for non-residential uses;*

(ii) *Food and drink premises, places of assembly, places of worship and plant nurseries should have access to and adjoin a road in a Road Zone;*

(iii) *Except on land adjoining and gaining direct access from a road in a Road Zone:*

- *all required car parking should be on-site;*
- *the scale of the proposed use should be compatible with providing service to the local residential community;*

(iv) *New buildings and works should be consistent with the scale, bulk and character of the area;*

(v) *Hours of operation should be limited to 8am to 8pm except for convenience shop; and*

(vi) *Noise emissions should be compatible with a residential environment.*

207. It is clear from the above that insufficient information has been provided for Council to undertake an assessment of the proposed non-residential uses.

208. As such, in lieu of information regarding the proposed type of use, hours and operation of the use it is recommended that an operational management plan and acoustic report be provided addressing the items discussed above.

209. Council's Social Strategy Unit also raised concern with the lack of information provided on the non-residential use spaces, recommending that the uses be available to be accessed by the entire surrounding community to ensure that the project objectives of improving opportunities for integration and interaction are met. Information on this aspect can also be requested to be provided within the Operational Management Plan.

210. Conditions should also require the uses to be finalised and shown on the plans, with the hours of operation limited to 8am to 8pm in accordance with the requirements of clause 22.01. The following standard conditions should also be included:

(a) The provision of music and entertainment on the land must be at a background noise level;

(b) Speakers external to the building must not be erected or used;

(c) The amenity of the area must not be detrimentally affected by the use or development, including through:

(i) the transport of materials, goods or commodities to or from land;

(ii) the appearance of any buildings, works or materials;

(iii) the emission of noise, artificial light, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil, or

(iv) the presence of vermin; and

to the satisfaction of the Responsible Authority.

(d) The use and development must at all times comply with the noise limits specified in the Environment Protection Regulations under the Environment Protection Act 2017 and the incorporated Noise Protocol (Publication 1826.4, Environment Protection Authority, May 2021).

211. In terms of the proposed buildings and works associated with the non-residential uses, given they are part of a larger building predominately for dwellings this will be discussed in the next section of the report. Similarly, waste requirements will also be discussed holistically later in the report. In regard to car parking requirements, traffic and bicycle parking will be discussed further, later in the report.

Built Form and Urban Design

212. It is pertinent that an assessment based upon the decision guidelines of the General Residential Zone at clause 32.08-13 and State and local planning policy at clauses 15.01-2 – Urban design principles; 21.05 – Urban design; 22.05 – Interface Uses Policy and 22.10 – Built form and design policy in addition to the relevant requirements of clause 52.20 – Victoria's Big Housing Build be undertaken.

213. 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.

Height, scale and massing of the development

214. Both buildings are proposed to achieve an overall height of eight storeys which equates to 27.85 metres (including lift core/services) above the finished ground level of each building. Building A, however, will scale down to six storeys within its southern half. The eastern edge of Building B will scale down to five storeys and then one storey. This is demonstrated within the below massing diagram:

Image: Massing diagram of the two proposed buildings
Source: Post consultation documentation provided by Homes Victoria

215. Whilst it is acknowledged that the buildings will be taller than adjoining developments to the east, the proposed buildings will be substantially lower in height than the existing high rise residential tower located within the south-western corner of the overall site and the two existing high rise residential towers located along the eastern edge of the overall site. These two portions of the overall site 'bookend' the lower scale development in between.

216. Furthermore, turning to the broader Collingwood precinct there are recent approvals for taller developments in this area, with some having already been constructed or under construction behind the main thoroughfare of Wellington Street.

217. Most notably, the Yorkshire Brewery building is located south of the subject site and located approximately 60 metres to the east of Wellington Street. This development is situated amongst existing low-rise building stock and adopts an overall height of approximately 50.4 metres (17 storeys).

218. More recently, on 15 June 2020, an eight storey office development was approved pursuant to Planning Permit PLN18/0183 at 19 Down Street. With a reduction in height of 2 metres required via condition, the resultant overall approved height of the development is 31.75 metres. An extract from the plans is shown below, with the existing high rise residential tower on the subject site shown in the foreground and the Yorkshire Brewery building also pictured in the background:

Image: Render of the proposed building at 19 Down Street, Collingwood
Source: Internal Development Approvals Committee Agenda, 13 May 2020

219. Council's external Urban Designer supported the above assertations, commenting that *Wellington Street is subject to extensive redevelopment of mid-rise scale buildings (approximately 6-14 levels), along with various redevelopment projects and proposals nearby in the Gipps Precinct, of similar scale.*

220. There is no doubt significant change will occur here with particular regard to the designation of the entire Collingwood Housing Estate as a strategic redevelopment site.

221. This current application is in-line with the emerging character of the area and generally consistent with local and State policy. The issue of development which is higher than surrounding built form was further discussed in the Red Dot Victorian Civil and Administrative Tribunal (VCAT) decision, *Pace Developments v Port Phillip CC* (includes Summary) (Red Dot) [2012] VCAT 1277:

    [58] We accept that the building will be taller and will be seen, but the notion of respectful development does not mean that new buildings must replicate that which exists nor does it imply that they will not result in change. As we have noted, change must be contemplated in an area where growth is encouraged by the MSS and chance to improve, or perhaps in this case repair, the urban environment.

222. Continuing the discussion regarding visibility of taller built form, the following comments were made by the Tribunal in *Rowcliffe Pty Ltd v Stonnington CC* [2004] VCAT 46 (29 January 2004):

    [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.

223. 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; and*

        (vi) *Provision of affordable housing.*

224. The site is designated as a strategic redevelopment site and therefore the above provides a benchmark against which the assessment of a permit application for a development of height above 5 – 6 storeys can be assessed against.

225. In terms of item (i) as listed above, the proposal provides extensive setbacks around the proposed buildings. Whilst the upper levels do not adopt significant setbacks from the lower levels in a traditional sense, Council's external Urban Designer identifies that this is beneficial in providing a clear visual relationship between the upper levels and the public realm, to support passive surveillance and visual interaction.

226. The new buildings continue to provide a campus style development, where the buildings are set into the landscape adopting generous setbacks to the surrounding streets. This reduces the visual impact of the development, meeting the following relevant decision guideline of the GRZ3:

    (a) *Whether opportunities exist to avoid a building being visually obtrusive through the use of alternative building designs, particularly for developments with overall building heights in excess of 9 metres.*

227. Council's external Urban Designer was also complementary of the height, commenting that the overall eight storeys proposed for each building was acceptable with regard to the following reasons:

    (a) *Extensive space around/between buildings, and substantial street setbacks;*

    (b) *Emerging mid-rise character in Collingwood;*

    (c) *Highly diverse built form context/character in this locality;*

    (d) *Presence of much higher built form nearby;*

    (e) *I consider 6-8 levels (as proposed) to be 'moderate' mid-rise scale;*

    (f) *The heights of approximately 27.4m are moderate in the context of:*

        (i) *38.5m setback from Building A to Wellington Street (across park);*

        (ii) *Street setbacks of approximately 8m-15m;*

        (iii) *Approximately 60m clearance between Buildings A and B; and*

        (iv) *25m approx. setback from Building B to north boundary to existing building.*

228. It is therefore considered that item (i) is met. In regards to (ii), (iii) and (v), these items are all considered to have been met and will be discussed later in the report. There is no existing heritage on site and as such item (iv) is not relevant to the proposal. As the development is exclusively for social and affordable housing it is considered that item (vi) is met.

229. It is considered that the proposed design response has considered all site constraints and opportunities, providing an overall height that will be complementary to the existing housing stock on site and making efficient use of the available area.

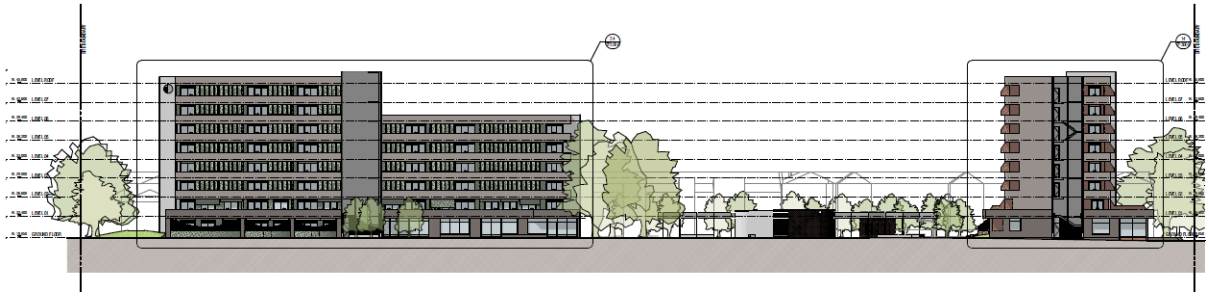


Image: Overall east elevation of the proposed buildings
Source: Post consultation documentation provided by Homes Victoria

Massing

Podium

230. Each building proposes a low scale podium base of one storey. This is considered to be low compared to the emerging character of the area and with regard to the sheer 21 storey form associated with the high rise residential tower to the west and the sheer 2 to 3 storey forms associated with the low-rise walk up residences to the east.

231. Council's external Urban Designer commented that this low scale base was unusual and that a 2 – 3 storey form would have been achievable in this location. Mr McPherson, however, did not deem this to be fatal to the overall design and commented that the single level base was supported and is a product of the programming for predominately residential uses.

Upper Levels - Building A

232. The setbacks adopted at Level 1 and above from the ground floor podium are considered acceptable and provide a distinction between the lower and upper levels. This is assisted through the proposed material palette, with the one storey podium clad in green glazed bricks providing a connection to the extensive landscaped communal open space area. The green colour palette is continued within the upper levels behind the solid concrete balustrading, providing privacy and definition to the dwellings within the upper levels. This distinction in design is supported.

233. Due to the north-south orientation of the building, views of Building A would be most prominent from Wellington Street and Emerald Street. These views are demonstrated below:

Image: Building A (left: from cnr Wellington & Perry Streets, right: from cnr Perry & Dight Streets)
Source: Post consultation documentation provided by Homes Victoria

234. Given the building is setback in excess of 38 metres from Wellington Street it is considered that the building would be viewed as a backdrop rather than an imposing form located on the main street frontage. In terms of the upper levels when viewed from the east, Emerald Street would provide adequate separation distance from the existing low-rise dwellings on the eastern side to assist in built form transition.

235. Council's external Urban Designer made the following assessments on the built form transition to the east, as follows:

    (a) *Building A will impact on the longer-range outlook from existing dwellings to the east (across Emerald Street), and will have a strong visual presence or 'visual bulk' as perceived from these dwellings. This mainly affects six (6) 2-storey townhouses facing Emerald Street. The three storey apartments further south face towards the east; and*

    (b) *However as noted above, the proposed building spacing is acceptable, and while these dwellings will be impacted, the extent of this impact and the contrast in building heights, is considered acceptable, given the substantial distance between the buildings.*

236. Council officers agree with the above assessment. Whilst views would be possible along Perry Street, it is considered that the setback of 13.1 metres to the central stair and position behind extensive mature trees would limit views and retain viewlines down the east-west aligned street.

237. The proposed stepping down to the south by two storeys is welcomed and provides a built form transition to acknowledge the proximity of the building to the more 'active' communal open space areas (the playground and the basketball/futsal court). The stepping down will also ensure that overshadowing to the adjacent communal open space areas is limited. Council's external Urban Designer has reviewed the proposed shadowing impact, commenting that it is acceptable.

    Upper levels - Building B

238. In terms of the distinction between the ground floor podium and the upper levels the assessments made in relation to Building A apply to Building B. The red glazed brick colour applied to Building B also provides a greater connection to the industrial precinct further south where red brick is common.

239. The red glazed brick one storey podium as it relates to the immediate context of the active communal open spaces and more robust Vere Street frontage provide a connection that is inherently more 'urban' than that associated with Building A. The red colour palette is again continued within the upper levels behind the solid concrete balustrading, providing privacy and definition to the dwellings within the upper levels. This distinction in design is supported.

240. Whilst sheer where opposite the existing high rise residential tower it is considered that Building B has taken design queues from this existing building. The width of the development at the western edge will be commensurate to that of the eastern edge of the high rise residential tower where opposite, ensuring that the forms are similar in composition, however, the glazed stair element and active balcony edges creates a positive interface with the existing tower.

241. In respect to the transition to the east, the proposed stepping down from the eight storey form to a five and then one storey form will ensure that the dwellings in proximity at No. 36 Vere Street will not be at odds with the new development. The massing at the eastern end provides an adequate transition to this lower scale existing development.

Image: Building B (left: front on from Vere Street, right: looking east down Vere Street)
Source: Post consultation documentation provided by Homes Victoria

Architectural Quality

242. The development is considered to be of high architectural quality and in that regard responds to the design objectives clauses 15.01-2 and 22.10-3.4. The contemporary design is appropriate and responds well to this part of Collingwood. Council's external Urban Designer was complementary of the proposed architectural design and quality, making the following assessment:

    (a) *I accept the references to the Collingwood context reflected in the selection or materials, including brickwork and corrugated surfaces, as well as the colour references to the local (heritage) context and natural setting of the Yarra River corridor;*

    (b) *The materials are robust and durable, and therefore responsive to the program and use of the buildings;*

    (c) *The intent to be 'honest in detailing and materiality' and the use of integral (rather than applied) finishes is supported; and*

    (d) *The facades reflect a high-level of design thinking and consideration, and makes clear reference to this varied context, incorporating:*

        (i) *Robust, 'grounded' form and expression;*

        (ii) *Strong horizontal façade bands;*

        (iii) *Regular vertical 'grain' or rhythm;*

        (iv) *Regularity or consistency in the facades;*

        (v) *Brickwork at lower levels;*

        (vi) *Varied colours, primarily red and green in response to the context;*

        (vii) *Corrugated surfaces;*

        (viii) *Vertical 'breaks' for circulation; and*

        (ix) *The façade design also responds to resident amenity considerations, including solar shading, visual privacy, extent of private open space, perception of interior space, and access for window cleaning.*

243. Council's external designer had reservations regarding the design expression of the buildings as earlier presented, opining that the proposed façade designs appear relatively austere in character with the visual primacy of the horizontal banding, the central core and wings providing an institutional character.

244. The post consultation plans sought to address these concerns and introduced vertical shading louvres to Building A and increased the curvature in the ground floor parapet of both buildings. Council's external Urban Designer has advised that these are positive changes to provide a vertical 'balance' to Building A and to soften the built form providing a more residential character at the ground level.

Image: Western elevation of Building A showing the vertical shading louvres
Source: Post consultation documentation provided by Homes Victoria

245. No vertical shading louvres have been introduced to Building B and as such the building remains overtly horizontal. Whilst Mr McPherson identifies that the continuous solid balustrade provides benefits in terms of passive surveillance and a balance of outlook and visual interaction potential with the public realm whilst protecting privacy of residents, the following recommendation was made:

    (a) *I would recommend further consideration of the frontage of Building B, to provide increased vertical expression and 'break up' in the facades.*

246. The above should form a condition.

247. The proposed materials are not labelled on the plans, rather, a materials legend with images of the proposed materials is provided. Some materials as shown on the elevations are not clear when reference is made to the materials legend and as such a condition should require the detailed building elevations (TP3004 – TP3009) to be updated to nominate the proposed materials of the building.

248. Furthermore, materials are not specified for all built form elements (e.g. car park entrance gate, internal fencing). These details can be requested via condition.

249. The building services screening has also not been shown. A condition should require the materiality of all plant screening to be shown and adequately integrated into the overall design of the building.

250. There is some concern with the extent of CF03 (concrete, corrugated form in light grey) proposed, giving rise to concerns regarding the seams and junctures of the building façade materials. The extensive use of concrete may also be problematic from a maintenance perspective, given its light colour and susceptibility to weathering including streaking caused by water. These items can be addressed via a façade strategy condition, discussed further below.

251. Whilst the proposed external materials schedule provided an indication of the different materials and finishes proposed throughout the design, it is considered that the descriptions of each material is too broad. A façade strategy and materials and finishes schedule is to be submitted via condition to demonstrate:

    (a) elevations at a scale of 1:20 illustrating typical podium details, entries and doors, and utilities and typical mid and upper level facade details;

    (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

    (d) a sample schedule and coloured drawings outlining colours, materials and finishes specifying the following:

        (i) Permeability of material MS01 and any other fencing/gate proposed;

(ii) Opacity of GS01; and

(iii) Maintenance requirements for the material CF03 demonstrating the durability of the material to retain its appearance over the long term.

252. This will ensure that the materials to be utilised for the development are reviewed prior to construction, with higher degree of detail provided to ensure they are of a high architectural quality in accordance with the plans submitted to date.

Landmarks, Views and Vistas

253. 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.

254. Clause 21.08-5 specifies that a built form strategy of clause 21.05 includes: *maintain the visual prominence of the Olympic Tyre Sign/ Porsche on Victoria Parade.* This sign has since been demolished and therefore no further consideration is required.

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

Light, Shade and Public Realm

256. 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.

257. The Collingwood Built Form Character Map (Figure 14) of clause 21.08-5, identifies that the following built form outcomes are encouraged for the Collingwood Housing Estate:

(a) *Re-connect former public streets through the estate, where they have been closed; and*

(b) *Redevelop public street frontages with buildings that address the street, including location front doors and mail boxes on the street frontage where possible.*

258. Council is supportive of the construction of the proposed buildings with centrally located dual ground floor lobbies, active tenancies and improved outdoor spaces. Through the activation of the ground floor to Vere and Emerald Streets, as well as where facing the internal open space, the buildings will provide interaction at street level where there currently is minimal.

259. In respect of the improvements along each frontage, Councils internal Urban Design Unit required the following changes which can be facilitated via condition:

(a) The western footpath of Emerald Street to accord with the landscape plans at the intersection with Perry Street;

(b) Further detail is required on the landscaping of the east and west sides of Building A and northern and southern sides of Building B between the balconies and pathway. Details of maintenance should also be provided;

(c) The standalone booster cupboard provided next to the car park entry should be integrated into the design of the building;

(d) The unit raised concerns with the water meter previously shown at the corner of Emerald and Perry Streets. This has now been relocated south of the existing high rise residential tower. The water meter should be relocated and redesigned to be integrated with the building;

(e) Internal footpath widths are to be dimensioned providing adequate width for passing;

(f) The ground floor non-residential uses are to be clarified and specified;

(g) The unidentified dashed box to the south of the storage area to Building B removed;

(h) Landscape plan updated to accord with the development plans, in particular the depicting of the footpaths along Perry Street and depiction of the ground floor interface;

(i) Further detail is required to be provided on the proposed fencing;

(j) Further details are required to be provided on the proposed lighting;

(k) Information on the design of all outdoor furniture proposed is to be provided, with chairs to incorporate backrests and armrests;

(l) Concerns were raised with the substation/service kiosk which have previously been addressed within this report. A further condition should require the doors to open within the subject site and not out onto Council's footpaths; and

(m) Locations of the bicycle repair stations referenced within the landscape report to be clearly shown.

260. Council's Social Strategy Unit was highly critical of the proposed design, identifying that the proposed wayfinding through the site was unclear with restricted permeability through the site due to restricted sightlines. The Unit has concern with the location of the programmed open space areas, commenting that they are concealed from the public realm and advising that *in short, it appears that it is quite an insular and privatised design with minimal focus on the wider context including integration with the precinct and surrounding community.*

261. Council's external Urban Designer reviewed the site organisation and built form siting in great detail. With particular regard to the information contained within the Design Report, the siting of the two buildings have been informed by the primary and secondary outlooks associated with the existing high rise residential tower, the existing mature trees on the site, opportunities for visual connections outside of the site, namely to Otter Street and solar access.

262. Council's external Urban Designer commended the analysis of the site constraints and opportunities results in design and siting of the buildings that provides the following benefits:

(a) *Potential for activation and passive surveillance to a street and the main public open space;*

(b) *Maintaining space between and around existing buildings, particularly the tower element;*

(c) *Establishing a grid-based layout which integrates with the surrounds, to support a permeable precinct;*

(d) *Limiting impacts to streets and public spaces (discussed in detail below); and*

(e) *Retaining extensive public/communal open space.*

263. Council planning Officers agree with the assessment of Mr McPherson. Whilst the communal open spaces will be concealed from Vere Street, Building B will offer a high level of interaction and passive surveillance to the communal spaces proposed to the north of it. As such, it is considered that the siting of the proposed buildings is acceptable.

264. Only one recommendation was made by Council's external Urban Designer in respect of the design/siting of the buildings. It was recommended that the undercroft area associated with the existing high rise residential tower be 'filled in' to create ground floor activation.

265. Whilst this recommendation has merit, it is considered to be outside the scope of works for this proposal. Whilst the new plaza will create clear pedestrian and visual connections from outside of the site, the undercroft area will allow increased movement to the stand-alone access to the basement car parking for existing residents.

266. In respect of the public realm, Council's external Urban Designer reviewed the proposed public realm interfaces and frontages and was largely supportive of the proposal, with one recommendation made, as follows:

(a) *I therefore recommend exploring the potential for additional windows to the new Ancillary Use Program space, facing east, to increase visual permeability and passive surveillance opportunities, and reduce the extent of blank/solid wall at this interface.*

267. Whilst the above would assist in providing increased activation toward the east, it is noted that No. 36 Vere Street, a residential walk-up development, is located opposing this interface. As shown below, the western elevation of No. 36 Vere Street includes windows facing the subject site:

Image: Western elevation of No. 36 Vere Street
Source: Officer Image, taken October 2021

268. The recommendation of Council's external Urban Designer will not be included as the additional windows may increase amenity impacts to the adjoining residential use from the non-residential ground floor space. Instead, it is recommended that a built form intervention be included, with the following condition implemented:

(a) *The eastern elevation of the Building B 'Ancillary Use Program' space modified to incorporate a pattern, finish or surface material to the ground floor eastern boundary wall to provide visual interest, this may include highlight glazing.*

269. In terms of light and shade, the shadow diagrams submitted indicate that parts of the western footpath of Wellington Street and the southern footpath of Vere Street would be in shadow at 9AM. Shadowing of Wellington Street would clear by 10AM with shadowing of Vere Street clearing by 1PM. The opposing side of Emerald Street would in shadow from 3PM.

270. Shadowing of the footpaths immediately outside of the subject site's boundaries are considered acceptable and a common occurrence. It would be difficult for any building of height to not result in additional overshadowing of the adjacent footpaths.

271. It is considered that the proposed overshadowing is acceptable, with regard to the immediate built up context along the Wellington Street spine and emerging character of taller forms. Whilst Vere Street will be impacted during the morning hours, given the generous setback of the development from the street frontage and positive contribution it provides in activation the street in this location this is considered to be acceptable.

272. No issue was raised with off-site overshadowing by Council's internal or external Urban Designers.

273. Lastly, Objective 5.1.4 of the UDGV requires new buildings, albeit within activity centres, to minimise adverse wind effects. The application was accompanied by a desktop wind assessment prepared by Vipac Engineers and Scientists (Vipac), who provided the following summary of findings:

(a) *Wind conditions in most of the ground level footpath areas and access ways would be expected to be within walking comfort criterion. Some areas may have uncomfortable wind conditions and need wind control measures;*

(b) *The bridges connected west and east of south building is expected to experience wind speeds within the walking comfort criterion with the porous screening;*

(c) *The main entrances would be expected to be within the standing comfort criterion; and*

(d) *All outdoor amenity areas are expected to be within the recommended walking comfort criterion. Some recommendations have been made if the more stringent standing comfort criterion is desired.*

274. Vipac also recommended that a wind tunnel test be conducted to quantify the wind conditions and determine wind control measures wherever necessary.

275. Council's Wind Consultant reviewed the proposal and generally agreed with the predictions and conclusions made, raising the following concerns:

(a) *Vipac have identified potential adverse wind effects around the South Building, including the adverse interaction with the existing 20 storey building and assessed the wind conditions close to or above the walking criterion between the buildings. Vipac have identified design features (2m setback along the east, a 6m setback along the west, and 1.2m deep canopy along the north edge). However, the separation between the South Building and the Existing Tower does not change with building height so it is not clear what Vipac are referring to for the 6m setback along the west. Furthermore, the drawings do not clearly show a 1.2m wide canopy along the northern edge, instead the drawings indicate a setback of the facade of the building above ground level. The setback forms the provide balconies for the upper level apartments. Vipac have recommended the wind conditions are quantified by wind tunnel model measurements and MEL Consultants agree with this recommendation. Vipac have assessed the area in front of the main entrances as satisfying the standing criterion, which would be agreed when the doors are closed. However, the design of south building has entrances and on the north and south sides of the development that would create adverse crossflow wind conditions through the lobby when both doors are open simultaneously, which is a common problem with these types of designs. Furthermore, the lobby doors should not be swing style doors due to the potential for door damage and user difficulty/injury;*

(b) *Vipac have identified locations of potential adverse wind effects around the North Building and identified design features that would mitigate the wind effects. MEL Consultants agree with this assessment and the recommendation to wind tunnel study the building. MEL Consultants comments regarding wind crossflow through the lobby entrances provided for the south building are applicable to the north building, but for the west to east direction; and*

(c) *Vipac have assessed the private balconies as satisfying the walking criterion. This would be expected for the balconies not located on the corners of the buildings. However, the corner balconies would be expected to have higher wind conditions and require taller balustrades along one edge so the balconies are only open to one aspect and mitigate wind acceleration around the building corners and across the balconies.*

276. Council's Wind Consultant agreed with the Vipac conclusion that a wind tunnel study must be taken. Council's Wind Consultant advised that given the issues raised above, this should be undertaken prior to the grant of a permit and not as a condition. It is considered, however, that this should form a condition, with the plans required to be updated if any changes to the built form are required. Any updated plans would be required to be reviewed for compliance prior to endorsement and as such this approach is considered reasonable.

277. This is considered to be the best approach, considering that the wind mitigation measures proposed within the Vipac report require confirmation prior to being shown on the plans.

278. In addition to the assessment made by Council's Wind Consultant, Officers have identified that there are significant gaps within the wind impact assessment submitted, as follows:

(a) Entrances of buildings within the surrounds have not been identified, nor assessed;

(b) The entrance to the car parking area from the stand-alone access has not been identified, nor assessed; and

(c) Secluded private open space areas within the surrounds have not been identified, nor assessed.

279. Conditions should require the above to be identified and addressed.

280. Lastly, Vipac recommends that the outdoor terraces/balconies achieve standing criterion, however, the discussion within the report identifies that walking criterion is expected to be achieved. The Vipac report also shows that walking criterion has been sought to be achieved for the communal open space areas which are intended to support a high level of recreational activities. The report prepared by Vipac also includes vague statements recommending porous high level screening without specifying where and how high.

281. With regard to the intended dwelling use of the private balconies and communal open space areas, it is considered that the development should meet sitting levels, rather than walking, within these spaces.

282. Wind impacts on a rooftop communal space were considered recently by the Tribunal in SMA *No. 17 Pty Ltd v Yarra CC* [2020] VCAT 1364. In that case, the Tribunal found:

> *The key concerns relating to the wind impacts are in respect of the rooftop communal open space area. The evidence is that walking criterion is an acceptable outcome for this area. The Council does not agree, arguing that sitting criterion should be achieved.*
>
> *The rooftop space is an important area and will make a notable contribution to residents' amenity given its size, proportions, landscaping, opportunity for views and solar access. It will provide an attractive option for occupants and their visitors as an alternative to the individual balconies.*
>
> *According to the evidence, it is possible to create areas within the rooftop communal open space that achieve the sitting criteria, with reference being made to the use of vegetation and screens. We consider that an acceptable outcome would be achieved by ensuring that the designated sitting area (comprising a table and seating) is designed to meet the sitting criterion in order for occupants to experience comfortable conditions while in this part of the rooftop open space. This outcome would be conducive to the intended use and provide an acceptable level of amenity to encourage residents to occupy this area.*

283. The above case directly discusses wind impacts to communal areas and demonstrates that the communal areas should be afforded greater wind comfort. Furthermore, it is considered that private areas are worthy of the same, if not greater, protection to allow for acceptable amenity. Conditions will require this to be provided.

Site Coverage

284. The level of site coverage proposed complies with the maximum of 80 percent as directed by clause 22.10-3.6, with 29% site coverage as identified by the applicant.

Landscape architecture

285. The proposal includes significant amounts of landscaping around the existing and proposed buildings at the western end of the Collingwood Housing Estate. Council's Open Space Unit have reviewed the Landscape Report submitted, providing the following overall assessment:

(a) *We note that there have been some changes to the landscape design – notably the realignment and widening of some pathways, updates to the design of the play area and half court adjacent to the Otter Street Plaza area, and an expansion of the sports courts between the two new buildings with an associated reduction in size of surrounding soft landscape areas. No information has been provided with regard to the outcomes of community consultation, so it is not possible to know where these decisions have been made in response to previous comments from Council or in response to community feedback; and*

(b) *We also note that due to the lack of spot levels and dimensions on these plans (or the previous landscape plans), and no landscape section drawings provided, it is difficult to properly understand and evaluate the design intent.*

286. With regard to the above, it is recommended that the Landscape Report be updated to show spot levels, dimensions and landscape section drawings. This will provide a greater level of detail to ensure that the open space provision is integrated throughout the grounds.

287. Council's Open Space Unit commented that overall they were supportive of the proposed landscaping for the following reasons:

(a) *The general principles used to establish the overall design;*

(b) *The removal of carparks on the ground floor and the general increase in the open space offering;*

(c) *Relocating the active recreation facilities so the more gardenesque and passive recreation spaces are presented along the Wellington Street interface. The Yarra community provided feedback that they appreciate these kinds of spaces most in the Yarra open space network during the survey conducted for the development of the Yarra Open Space Strategy 2020 (YOSS), and we think they will appreciate this gesture;*

(d) *The inclusion of private garden bed areas for the proposed new residential blocks which also provide public visual amenity;*

(e) *The expansion of the community garden facility; and*

(f) *Retaining many of the significant trees around the perimeter of the site.*

288. The Open Space Unit made a number of recommendations for Homes Victoria to consider in their finalised design, these are discussed in turn:

(a) The Unit requested that the cross walk across Wellington Street be relocated to align with the proposed Plaza on-site and Otter Street to the west. Whilst this would be advantageous to improve connections between the site and broader surrounding area including the Smith Street MAC and proposed Otter Street pocket park, it is considered that this is outside of the scope of what can be considered. To implement this via condition would require significant investigations into traffic and engineering that have not been undertaken to date. This was also flagged by Council's internal Urban Design Unit who acknowledged Traffic and Strategic Transport input would be required. Homes Victoria is therefore encouraged to consider this recommendation as part of the project;

(b) In respect of the Otter Street pocket park, the Open Space Unit has also recommended that the design language from the proposed park or artwork by Reko Rennie be replicated in the estate to create connections through the broader area. The park concept plan went on public consultation this year, concluding on 25 August 2021. The park plan is currently being finalised with regard to the comments received during consultation. It is understood that further consultation will take place, however, it is unknown when this will occur. Given the design of the Otter Street pocket park has not been finalised at this stage it would be unreasonable to require the proposal to incorporate elements of its design;

(c) A recommendation has been made for the playground and half court to sit closer to the northern side of the site and away from the main entrance point to improve solar amenity and mitigate perceived safety. Given the topography of the site, it is considered that relocation further north would be problematic. Furthermore, the location of the proposed playground will generally be in the location of the existing playground. The Unit identified that it was not possible to read the extent of fencing or planting that would help separate the play space from the road, these details will therefore be required via condition to ensure this aspect is addressed;

(d) Further to the above, the Unit requested the materiality and style of the boundary fencing be shown. This can be required via condition;

(e) Whilst recommendations have been made to extend landscaping down Vere Street to connect with Collingwood College this is outside of the scope of the proposal, however, these comments have been provided to Homes Victoria or their consideration;

(f) The Unit has indicated that they would like to start discussions with the Department around allowing residents of the broader area to access the open space within the Collingwood Housing Estate. This is outside of the scope of the proposal, however, these comments have been provided to Homes Victoria for their consideration; and

(g) Concerns regarding overshadowing of the communal open spaces and noise generated from communal open spaces have been raised by the Unit. These aspects will be discussed further, later in the report under clause 52.20-7.3 Solar access to communal outdoor open space and *clause 52.20-7.7 Noise impacts*.

289. In regards to tree removal Council's Compliance Unit have confirmed that no permit is required to be obtained pursuant to Council's General Local Law for the removal of any trees from the site, as follows:

(a) *Significant Tree permits issued under the General Local Law are only issued to private land owners (individual or company) who have trees contained on their land which fit the description of a Significant Tree. 240 Wellington Street, Collingwood is listed under the ownership of Department of Health and Human Services (State Government owned) and therefore they are exempt from the requirement of gaining local government approval to prune or remove trees on DHHS property.*

290. The Arboricultural Assessment and Report, prepared by Treelogic dated 15 October 2021 should be updated to recognise this, as it incorrectly states a permit pursuant to Council's General Local Law is required.

291. As previously identified, no permit is required for tree removal pursuant to clause 52.17 (native vegetation) as the vegetation to be removed is planted vegetation. This is explained further within the Arboricultural Assessment and Report, as follows:

(a) *Clause 52.20-8 is noted in Council feedback which refers to Native Vegetation requirements. There is no native vegetation that would trigger permit and offset requirement under the Native Vegetation Clause 52.17 since all Victorian Native species are not indigenous to this locale were either planted or grown as a result of direct seeding.*

292. Council's Streetscapes and Natural Values Unit have raised no concerns with regards to buildings and works in proximity to street trees. The Unit has not requested that any tree bonds be applied and has not requested any specific tree protection measures to be implemented during construction, commenting that the Arboricultural Assessment and Report, prepared by Treelogic dated 15 October 2021 includes satisfactory tree protection measures for Council street trees.

293. This report also includes tree protection measures for the retained trees on site to ensure compliance with Australian Standard AS4970 'Protection of trees on development sites.' The report identifies that minor encroachments will be experienced to five retained trees, major encroachments will be experienced to eleven retained trees and works within the structural root zone will occur to thirteen retained trees.

294. The report does not include specific tree protection measures to ensure the viability of all retained trees. As such, a further condition should require the report to be updated to include specific tree protection measures for all retained trees.

295. A further condition of permit will therefore require the development to comply with the requirements of this report.

Off-Site Amenity Impacts

296. The relevant policy framework for amenity considerations is contained within clause 22.05 (Interface uses policy) and the decision guidelines of the GRZ3. As the site surrounds description identifies, there are dwellings located directly abutting the subject site to the east at No. 36 Vere Street and within the existing high rise residential tower within the south-west corner of the site. Dwellings are also located on the opposing side of Emerald Street to the east and Perry Street to the north.

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

    (b) *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.*

298. The GRZ3 includes a decision guideline for the amenity impact on surrounding land uses to be considered.

    Noise

299. Homes Victoria submitted an acoustic report to address noise impacts from the proposal on surrounding residential properties, as well as the residences within the development. Council's Acoustic Consultant commented that the noise sensitive receivers in the surrounds have generally been identified.

300. In respect of noise generated from the non-residential uses, as previously discussed a separate Acoustic Report will be required to assess noise from these tenancies. Given no information has been provided on the intended future use this is considered reasonable to protect the surrounding residential amenity.

301. In respect of noise impacts from other sources, such as mechanical noise and the communal open spaces, this will be discussed further later in the report under clause 52.20-7.7 Noise impacts. In assessing noise to the proposed apartments it is considered that noise impacts to the surrounding area would also be addressed.

    Overshadowing and daylight to existing windows

302. Applicable to the application, clause 52.20-6.12 overshadowing open space requires:

    (a) *Where sunlight to the secluded private open space of an existing dwelling is reduced, at least 75 per cent, or 40 square metres with minimum dimension of 3 metres, whichever is the lesser area, of the secluded private open space should receive a minimum of five hours of sunlight between 9 am and 3 pm on 22 September; and*

    (b) *If existing sunlight to the secluded private open space of an existing dwelling is less than the requirements of this standard, the amount of sunlight should not be further reduced.*

303. On 2 September 2021, Council Officers requested that the shadow diagrams provided for 22 September be updated to clearly show the secluded private open space areas of all residences that experience increase overshadowing as a result of the proposal, with the square metres of unshadowed area for these residences notated for existing and proposed conditions throughout the day.

304. No updated shadow diagrams were provided.

305. With regard to the shadow diagrams that have been provided, it can be determined that shadowing of the secluded private open spaces of the properties highlighted below would occur at 2PM and 3PM.

Image: Aerial imagery of the potentially impacted adjacent secluded private open space area
Source: NearMaps, Image Capture Date: 21 September 2021

306. It is recommended that the development demonstrate compliance with clause 52.20-6.12 (overshadowing open space) to this property. This can be facilitated via condition.

307. Consideration must also be given to the impact of overshadowing on existing rooftop solar energy systems on dwellings on adjoining lots in a General Residential Zone, Mixed Use Zone, Neighbourhood Residential Zone, Residential Growth Zone or Township Zone.

308. A review of aerial imagery indicates that there are no existing rooftop solar energy facilities on adjoining residential allotments that would be impacted.

309. In respect of daylight to existing windows, *clause 52.20-6.10 daylight to existing windows requires the following:*

    (a) *Buildings opposite an existing habitable room window should provide for a light court to the existing window that has a minimum area of 3 square metres and minimum dimension of 1 metre clear to the sky. The calculation of the area may include land on the abutting lot; and*

    (b) *Walls or carports more than 3 metres in height opposite an existing habitable room window should be set back from the window at least 50 per cent of the height of the new wall if the wall is within a 55 degree arc from the centre of the existing window. The arc may be swung to within 35 degrees of the plane of the wall containing the existing window. Where the existing window is above ground floor level, the wall height is measured from the floor level of the room containing the window.*

310. The development meets (a) referenced above due to the setbacks provided to the adjoining buildings.

311. In respect of (b), the development with an overall height of 27.85 metres would be required to be setback a minimum of 13.93 metres from any opposing existing habitable room window.

312. On 2 September 2021, Council Officers requested that the plans be updated to show the location of surrounding windows with any habitable room windows clearly identified.

313. No updated plans to address this request were provided.

314. Building A is setback in excess of 13.93 metres from any adjoining building and would comply.

315. Building B is within 13.93 metres of the existing high rise residential tower within the south-west corner of the overall site (located 9.699 metres to the west) and the dwellings to the east at No. 36 Vere Street (located a minimum 5.8 metres to the east). Both residences have existing windows facing the proposed building. As previously identified, it is unknown whether the windows are habitable or not.

316. If these windows are habitable, it is clear that Building B would not comply with requirement (b) of clause 52.20-6.10 as it relates to the west. Given this is an interface with a high rise building of approximately 21 storeys this is considered acceptable with adequate separation distance provided to allow for access to daylight.

317. Furthermore, given the size of the existing windows of this building where opposite proposed Building B, it is likely that these are associated with a secondary or service outlook.

Image: Eastern elevation of existing high rise residential tower
Source: Officer Image, taken October 2021

318. In respect of the interface to the east, a more detailed assessment of the heights of the building where facing east is required, as follows:

    (a) The ground floor wall where facing east adopts a maximum height of 5.7 metres (scaled) and therefore requires a minimum setback of 2.85 metres to be provided to the opposing windows. This is met;

    (b) Levels 01 to 04 where facing east adopt a maximum height of 18.4 metres (scaled) and therefore requires a minimum setback of 9.2 metres to be provided to the opposing windows. This is met;

    (c) Levels 05 to 07 where facing east adopt a maximum height of 28.1 metres (scaled) and therefore requires a minimum setback of 14.05 metres to be provided to the opposing windows. This is met; and

    (d) The overall maximum height of 27.85 metres is associated with the central south-facing stair core. This will be located in excess of 13.93 metres from the opposing windows. This is met.

Fumes and air emissions, light spillage

319. Given the nature of the proposed buildings, the majority of the floor area is enclosed and the use conducted indoors (with the exception of the outdoor balconies associated with the individual dwellings at varying levels). The proposed dwelling use does not require a planning permit in the GRZ and would not result in unreasonable air emissions nor light spill beyond what would typically be expected from a dwelling use.

320. In respect of the non-residential uses, these spaces are enclosed with the uses conducted indoors. As previously recommended, a condition will require the uses to operate between 8am and 8pm, limiting potential for adverse air emissions and light spillage.

Visual bulk and overlooking

321. In regards to visual bulk impacts, the most sensitive interface are the dwellings directly to the east that have secluded private open space areas to the west of their building. It is considered that within this built form context, with the site and overall Collingwood Housing Estate forming part of a strategic redevelopment site, views from windows and open space areas to built form is not an unreasonable expectation.

322. Whilst views of the proposal will be possible from No. 36 Vere Street, where opposite the sensitive secluded private open space area the development increases its eastern setback at Levels 01 and again at Level 05. This graduation in height will ensure that the proposed development will not appear overbearing to the east.

323. In respect of visual bulk impacts to the existing high rise residential tower to the west, whilst it is unknown what rooms the east-facing windows of this building are associated with it is clear, as determined previously, that these windows are likely to provide a secondary or service outlook. In addition to this, given the form of the building itself and lower height of the proposed Building B the development would not result in adverse visual bulk impacts.

324. The separation distances to the north and south would provide an adequate buffer to ameliorate visual bulk. In respect of Building A, the separation distances to the north, west and south would again provide an adequate buffer to ameliorate visual bulk.

325. Visual bulk impacts to the existing buildings on the eastern side of Emerald Street have been considered under the preceding built form assessment where it was determined that the street width provided adequate separation to ameliorate visual bulk concerns. Further to this, the majority of the buildings along Emerald Street accommodate their secluded private open space on the eastern side of the dwelling.

326. In accordance with *clause 52.20-6.13 overlooking*, a habitable room window, balcony, terrace, deck or patio should be located and designed to avoid direct views into the secluded private open space and habitable room windows of an existing dwelling within a horizontal distance of 9 metres (measured at ground level) of the window, balcony, terrace, deck or patio. Views should be measured within a 45 degree angle from the plane of the window or perimeter of the balcony, terrace, deck or patio, and from a height of 1.7 metres above floor level.

327. Building A is not located within 9 metres of any existing windows, habitable or otherwise, and is not located within 9 metres of any existing areas of secluded private open space and as such would comply with the requirements of this clause.

328. Building B is separated from the windows, habitable or otherwise, and secluded private open space areas of the existing residential tower within the south-west corner of the site and proposed Building A by in excess of 9 metres.

329. Building B is, however, located within 9 metres of windows and secluded private open space areas associated with No. 36 Vere Street to the east and an assessment of potential overlooking to this property is warranted, and provided below:

    (a) Ground floor: there are no east-facing windows nor secluded private open spaces proposed. The north facing balcony will include a solid wall along the eastern edge with the scalloped portion also screened by fencing to be noted as being maximum 25% transparent as per a previous recommendation. There are no overlooking concerns from this level;

    (b) Level 01: there are no east-facing windows nor secluded private open space areas proposed. The south facing balcony will include screening to a height of 1.7 metres along the eastern edge. The north facing balcony will include screening predominately to a height of 1.7 metres along the eastern edge, however, there is a small portion that is unscreened. A condition will require this to be addressed;

    (c) Levels 02 – 04: there are no east-facing windows nor secluded private open space areas proposed. The north and south facing balconies will include screening to a height of 1.7 metres along the eastern edge. There are no overlooking concerns from these levels; and

    (d) Levels 05 – 07: there are east facing balconies and windows at this level. It is likely that the building setbacks below would obscure direct views to the east. This should be confirmed via condition and if overlooking concerns arise, additional screening is to be implemented.

Equitable Development

330. It is an accepted principle (such as referenced within Design and Development Overlay – Schedule 23 Collingwood Mixed Use Precinct) that upper level setbacks where a common boundary is shared should *be setback a minimum of 4.5m from the common boundary, where a habitable window or balcony is proposed.*

331. It is clear that the proposed setbacks of Building A would meet the above requirement, with setbacks to all boundaries exceeding 4.5 metres. In respect of Building B a setback of in excess of 4.5 metres is also provided to the north and south.

332. To the west, the building is proposed to be built against the site boundary and therefore the minimum 4.5 metre setback would not be provided. This is considered acceptable, however, given the siting of the development in excess of 9 metres from the existing high rise residential tower located within the south-west corner of the site. The overall 9 metre building separation sought to be achieved would be provided.

333. In respect of the setback to the east, there are no habitable room windows or balconies oriented to face east at the ground floor to level 04. At levels 05 – 07 there are east-facing windows and balconies, however, at these levels the building will be setback in excess of 4.5 metres and the development therefore complies.

Development Standards for Dwellings and Buildings

334. The following clauses have been considered within the preceding section of this report, under 'Off-Site Amenity impacts:'

    (a) Clause 52.20-6.10 Daylight to existing windows;

    (b) Clause 52.20-6.12 Overshadowing open space; and

    (c) Clause 52.20-6.13 Overlooking.

335. The remaining clauses are assessed with regards to the plans in detail below:

Clause 52.20-6.1 Infrastructure

336. The proposal is located within an established area with existing utility services and infrastructure; there is no evidence to suggest that the proposed development would unreasonably overload the capacity of these existing services. The clause requirements are met.

Clause 52.20-6.2 Street Setback

337. Where there is an existing building on one abutting allotment facing the same street and no existing building on the other abutting allotment facing the same street, and the site is not on a corner, a building is required to be setback the same distance as the setback of the front wall of the existing building on the abutting allotment facing the front street or 7 metres, whichever is the lesser.

338. Building A is setback in excess of 7 metres from Perry Street and would comply with the above requirement.

339. Where there is an existing building on both the abutting allotments facing the same street, and the site is not on a corner, a building is required to be setback the same distance as the setback of the front wall of either existing building on the abutting allotments facing the front street or 7 metres, whichever is the lesser.

340. Building B adopts a minimum street setback of 5.9 metres from Vere Street to the westernmost non-residential tenancy. As the adjoining property to the east is setback approximately 4.2 metres from Vere Street, the development complies.

341. Council's external Urban Designer reviewed the proposal street setbacks, commenting that they were acceptable.

342. The proposed substation/kiosk does not meet the front setback requirements. Whilst provided on the boundary with Wellington Street it is considered that given the relatively minor nature of the building (24sqm) and with the previously discussed condition requiring detailed elevations of the substation to ensure it is of a height, massing and architectural language that integrates with the overall design of the buildings on-site, it is acceptable.

Clause 52.20-6.3 Permeability

343. The clause requires the site area covered by pervious surfaces to be at least 20 per cent of the site. The documentation supplied with the application indicates that 71% of the 12,002sqm of total site area is permeable and as such the development complies.

Clause 52.20-6.4 Safety

344. The proposed primary residential entrances would be visible from Emerald Street and Vere Street. Whilst the buildings adopt generous setbacks from these streets, the entrances would not be obscured or isolated from these streets.

345. In addition to the lighting plan required via condition for the communal areas as previously discussed under public realm, light and shade, a condition will require adequate lighting be provided to all pedestrian and vehicular entrances. The requirements of the clause are met.

Clause 52.20-6.5 Access

346. This clause requires the width of an access way or car parking space that fronts an existing street to not to exceed 33% of the street frontage, with no more than a single-width crossover provided for each dwelling fronting a street, and encourages the retention of on-street car parking spaces.

347. The clause therefore allows for the width of the accessway to Vere Street to not exceed a width of approximately 21.71 metres. With a double-width crossover less than 6 metres in width proposed, the requirements of the clause are met.

348. Whilst Emerald Street is a private road, if considered under this clause a crossover with a width not exceeding approximately 22.67 metres would be required. With a double-width crossover approximately 5 metres in width proposed, the requirements of the clause would be met.

349. The double-width crossovers proposed are considered appropriate to service each apartment building.

Clause 52.20-6.6 Parking location

350. Each building includes basement car parking which are accessed via the aforementioned accessways. Access to the Building A and Building B apartments from the basement levels are via lifts/stairs with a separate stand-alone set of stairs and lift providing a central connection to the ground floor of the site to ensure convenient access is provided to the residents of the existing high rise residential tower. The parking provided is therefore considered to be conveniently located.

351. The GRZ3 requires consideration of the layout and appearance of areas set aside for car parking, access and egress, loading and unloading and the location of any proposed off street car parking. This aspect was reviewed by Council's external Urban Design Consultant who provided the following assessment:

    (a) *The location of car parking within basements below both buildings is strongly supported, recognising that this approach is likely to be more costly than above-ground parking. Basement parking reduces the building mass, and maximises opportunities for activation and passive surveillance at the lower levels of the buildings.*

Clause 52.20-6.7 Car Parking

352. This clause provides car parking requirements for dwellings, design standards for accessways, car parking spaces, gradients, mechanical car parking (not relevant), urban design, safety and landscaping in relation to car parking areas. These aspects will be discussed later in the report, under '*Car Parking and Traffic*.'

Clause 52.20-6.8 Side and rear setbacks

353. Homes Victoria identified on 19 October 2021 that it was implied in the exemption outlined in the 'pre-commencement requirement' (Clause 52.20-5) that an apartment development is not required to meet the requirements of this clause.

354. This is considered reasonable, with the building height, massing and setbacks previously discussed and deemed to be acceptable earlier in this report.

Clause 52.20-6.9 Walls on boundaries

355. To meet the clause, any new wall constructed on the boundary should not abut the boundary for a length more than 10m plus 25 per cent of the remaining length of the boundary of an adjoining lot or where there are existing or simultaneously constructed walls abutting the boundary on an abutting lot, the length of those walls. The clause also includes walls that are located within 200mm of the boundary.

356. Building B is located on its western boundary for a length of 26.8 metres (scaled). Whilst the void/car parking access building is also located in proximity to this boundary, it is located 400mm – 500mm away (scaled) and therefore is not considered an on boundary wall. This length of the boundary is approximately 90.4 metres and therefore the western on-boundary wall complies in terms of length.

357. Building B is also located on or within 200mm of the eastern boundary for a length of approximately 4.7 metres (scaled) and would therefore complies with the clause requirement.

358. In regards to height, any proposed wall on boundary should not exceed 3.2 metres in height with no part higher than 3.6 metres unless abutting a higher existing or simultaneously constructed wall.

359. Both the western and eastern on-boundary walls of Building B will exceed a height of 3.6 metres. As previously discussed under built form, the proposed massing of the development is considered to be acceptable with regard to the surrounding context and opportunities the large strategic redevelopment site presents.

Clause 52.20-6.11 North-facing windows

360. The proposed buildings are not positioned within 3 metres of any north-facing windows and as such, the requirements of this clause do not apply to the proposal.

Clause 52.20-6.14 Noise impacts

361. Homes Victoria identified on 19 October 2021 that it was implied in the exemption outlined in the 'pre-commencement requirement' (Clause 52.20-5) that an apartment development is not required to meet the requirements of this clause.

362. Noise impacts will be discussed further, later in the report under *Clause 52.20-7.7 Noise impacts.*

Clause 52.20-6.15 Daylight to new windows

363. This clause provides design standards to ensure adequate access to daylight is provided to new habitable room windows. This clause, however, is conducive to townhouse style development. As such, daylight access to new windows will be discussed further, later in the report under *clause 52.20-7.15 Windows.*

Clause 52.20-6.16 Private open space

364. This clause is applicable to a dwelling other than an apartment. As all dwellings proposed are apartments, the private open space provisions will be discussed further, later in the report under *clause 52.20-7.10 Private open space.*

Clause 52.20-6.17 Solar access to open space

365. The clause requires private open space to be located on the north side of the dwelling if appropriate and for the southern boundary of secluded private open space to be set back from any wall on the north of the space at least (1 + 0.9h) metres, where 'h' is the height of the wall.

366. In respect of Building A, the majority of the dwellings will be oriented to face east or west. This is considered acceptable and given the generous setbacks to each interface the apartments will receive adequate solar access throughout the day.

367. In respect of Building B, due to the east-west orientation of the building, the secluded private open space areas are located primarily to the north or south of the building. This is considered acceptable for the reasons previously advanced in support of the design, massing and siting of the proposed buildings.

Clause 52.20-6.18 Storage

368. Homes Victoria identified on 19 October 2021 that it was implied in the exemption outlined in the 'pre-commencement requirement' (Clause 52.20-5) that an apartment development is not required to meet the requirements of this clause.

369. Regardless, storage requirements for the apartments will be discussed further, later in the report under *clause 52.20-7.11 Storage.*

Clause 52.20-6.19 Front fence

370. No front fences are proposed for the development.

371. The ground floor plan indicates that the existing front fence along Vere Street would be retained. The fencing, however, is not shown on any elevation plans nor sections.

372. The fencing as shown on the ground floor plan would not only obstruct vehicle access to the vehicular access point but would also reduce accessibility to the building itself by pedestrians. As such, a condition will require the fencing to be deleted from the floor plans.

Clause 52.20-6.20 Common property

373. The common property areas within the development are generally clearly delineated and would not create areas which were difficult to maintain into the future. The lobby and vehicle access areas are well conceived, as are the communal outdoor areas.

Clause 52.20-6.21 Site Services

374. The location of site services including the booster cupboard, substation and water metres have previously been discussed and would be acceptable, subject to conditions.

375. In respect of mailboxes, these are located in the central lift lobby of each building. The location is considered acceptable, resulting in the mailboxes being unobstructed and easily accessible.

376. Bin and recycling enclosures are provided on each level and within the basement of each building. This will be discussed further, later in the report under *clause 52.20-7.12 Waste and recycling.*

Development Standards for Apartments

377. The applicant provided apartment types and an assessment table as part of the application to assist in the assessment of the application against the requirements of clause 52.20-7.

378. Whilst 13 apartment type layouts have been provided, a review of the plans shows that there are several more variations of apartments throughout the development. The following example is provided, of Apartment Type 1C in Building A and Building B:

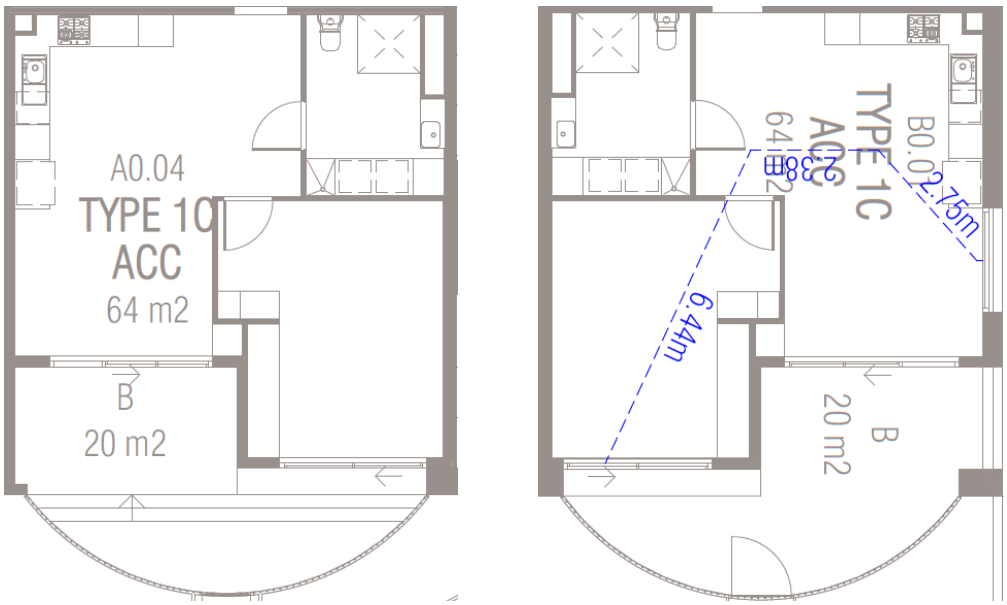


Image: Apartment Type 1C in Building A (left) and Building B (right)
Source: Post consultation documentation provided by Homes Victoria

379. As seen above, Apartment Type 1C is slightly different in each building. Apartment Type 1C as shown above is also not in accordance with the apartment type layout plan for Apartment Type 1C, as shown below:

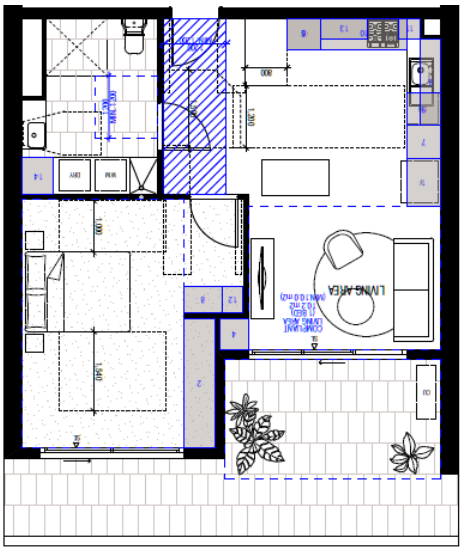


Image: Apartment Type 1C as provided within the Apartment Type Layouts
Source: Post consultation documentation provided by Homes Victoria

380. As can be seen above, the open space provision differs as does the number of windows proposed. A condition should require apartment type layout plans to be provided for each dwelling type, including variations, to ensure accurate and current information is provided.

381. The clauses are assessed in detail below:

Clause 52.20-7.1 Energy efficiency

382. Development of the site located in an existing built up area would make efficient use of existing infrastructure and services, and the proximity of the subject site to numerous public transport modes reduces staff and visitors from relying on private vehicles.

383. 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.

384. Council's ESD Advisor reviewed the post consultation SMP and development plans, identifying that there were three items to be addressed with regards to Stormwater Management and WSUD, Utility Metering and 100% Renewable Energy Purchasing. The first item will be discussed further later under *clause 52.20-7.5 Integrated water and stormwater management,* with the last two items discussed below.

385. In particular, Council's ESD Advisor raised the following concerns:

    (a) *Utility Metering*

        (i) *The response regarding individual metering in the SMP, does not make a clear commitment to individual metering for each dwelling, saying it's possible but one meter per level is still proposed; and*

        (ii) *Strongly recommend separate utility meters (electricity and water) for each dwelling. The proposal for meters on each level does not give adequate granularity for meaningful energy and water management over the life of the building; and*

    (b) *100% Renewable Energy Purchasing:*

        (i) *No commitment has been made to renewable energy purchasing the SMP. I note that the Victoria Government Embedded Networks review Draft Recommendations Report (June 2021) will ban all embedded networks except those that deliver renewable energy outcomes; and*

        (ii) *Therefore I strongly recommend that the energy procurement for the buildings via an embedded network be 100% renewable sources, (e.g. Green Power), to enable the building to operate as a zero carbon building.*

386. The above can be required to be rectified within an updated SMP via condition.

387. The preliminary NatHERS ratings provided within the SMP for both buildings demonstrate cooling loads for a sample of apartments do not exceed the 30MJ/m2 threshold. Council's ESD Advisor raised no issue with the sample of apartments provided and as such it is considered the requirements of the clause are met.

Clause 52.20-7.2 Communal open space

388. This clause requires a minimum area of 2.5sqm per dwelling or 250qm whichever is lesser.

389. The communal open space would service the residents of the existing high rise residential tower (208 dwellings) and the residents of the proposed Building A and Building B (152 dwellings).

390. As such, 250sqm of communal open space is required. As shown on the development summary, the useable communal open space is proposed to increase as a result of the proposal due to the removal of the extensive existing at-grade car parking.

391. Communal open space will increased from 67% of the total site area to 71% of the total site area, well exceeding the requirement to provide 250sqm of communal open space and also the 2.5sqm per dwelling, noting this higher requirement does not apply.

392. Furthermore, the clause requires communal open space to be located to:

    (a) *Provide passive surveillance opportunities, where appropriate;*

    (b) *Provide outlook for as many dwellings as practicable;*

    (c) *Avoid overlooking into habitable rooms and private open space of new dwellings;*

    (d) *Minimise noise impacts to new and existing dwellings;*

    (e) *Be designed to protect any natural features on the site;*

(f) *Maximise landscaping opportunities; and*

(g) *Be accessible, useable and capable of efficient management.*

393. The siting of the space ensures that there are multiple opportunities for passive surveillance of the space, including from non-residential uses that would provide increased activation during the day. Outlook is also maximised with the ground level dwellings provided with fencing achieving a minimum height of 1.7 metres (scaled) around their open spaces to limit opportunities for direct overlooking. The material and transparency of the fencing is not shown on the plans and will be required via condition.

394. Noise impacts are a concern and will be discussed later under clause 52.20-7.7 Noise impacts, otherwise the communal space is considered to be designed to protect natural features of the site, maximum landscaping opportunities and be accessible, useable and capable of efficient management.

Clause 52.20-7.3 Solar access to communal outdoor open space

395. The clause requires that:

(a) *The communal outdoor open space should be located on the north side of a building, if appropriate; and*

(b) *At least 50 per cent or 125 square metres, whichever is the lesser, of the primary communal outdoor open space should receive a minimum of two hours of sunlight between 9am and 3pm on 21 June.*

396. Council's Open Space Unit has queried whether the amount of overshadowing over the new basketball/futsal court and expanded community garden would be compatible with the intended future use.

397. On 2 September 2021, Council Officers requested that shadow diagrams taken on 21 June be supplied so that an assessment against this clause could be undertaken.

398. No shadow diagrams for 21 June were provided.

399. It is recommended that the development demonstrate compliance with this requirement. This can be facilitated via condition.

Clause 52.20-7.4 Deep soil and canopy trees

400. General landscaping has been addressed earlier in the report, within *Landscape Architecture* section.

401. In addition to general landscaping, the clause identifies that developments should provide the deep soil areas and canopy trees specified within Table 5 which equates to 15% of the site area with a minimum dimension of 6 metres (1,800sqm) and either 20 large trees capable of reaching 12 metres or 40 medium trees.

402. The applicant has identified on the plans that 43% of the site area (5,242sqm) is provided as deep soil area, exceeding the requirement of the clause.

403. In terms of the provision of trees, the Landscape Report identifies a number of large and medium tree species to be utilised within the landscaping of the site. No detail on the quantity of trees proposed has been provided.

404. The Arboricultural Assessment and Report identifies that 83 trees could be retained without impacts if appropriate tree protecting fencing is established and maintained throughout the process. Given impacts to existing trees on site requires further consideration, a condition will therefore require the Landscape Report to be updated to provide a Tree Plan demonstrating compliance with this clause.

Clause 52.20-7.5 Integrated water and stormwater management

405. According to the SMP, the application proposes the installation of a 32,000L (Building A) and 35,000L (Building B) rainwater collection tank which would be connected to the toilets for flushing and irrigation. Two raingardens are also proposed, with a volume of 17m2 (Building A) and 13m2 (Building B).

406. The water tank is located within the Basement 1 level of Building A and the Basement 2 level of Building B. Whilst the location of the tanks is shown on the plans, the capacity is not. A condition should require this to be shown. This was also recommended by Council's ESD Advisor.

407. Similarly, the location of the two raingardens has not been shown and a condition should require these to be shown. This was also recommended by Council's ESD Advisor.

408. The STORM reports provided achieve a score of 101% (Building A) and 100% (Building B), which is in line with the policy direction under clause 22.16 – Stormwater Management (Water Sensitive Urban Design).

409. Council's ESD Advisor raised no concern with the proposed stormwater management proposed, subject to the location of the rainwater tank capacity and raingardens being shown, and it is considered the requirements of clause 52.18 - Stormwater Management in Urban Development are met.

410. The proposal complies with the clause.

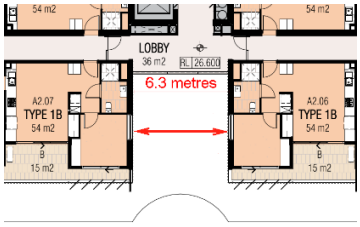
Clause 52.20-7.6 Building setback

411. As outlined earlier in this report the height and massing of the building are considered to achieve an acceptable design response to the character of the surrounding area. The orientation of the dwellings either facing surrounding streets of the internal communal open space provides a reasonable outlook from new dwellings as well as adequate daylight into habitable rooms. It also protects new dwellings from any future developments and provides appropriate internal amenity.

412. This clause aims to avoid direct views into habitable room windows and private open space of new and existing dwellings, thereby reducing the reliance on screening to inhibit these views. Overlooking concerns off-site have previously been discussed and deemed to be acceptable, via condition.

413. In relation to internal overlooking, there are concerns with the interface between:

(a) Apartments A1.07, A2.07, A3.07, A4.07, A5.07 and A1.06, A2.06, A3.06, A4.06, A5.06;



(b) Apartments A1.12 and A1.01; and

(c) Apartments B1.05, B2.05, B3.05, B4.05, B5.05, B6.05, B7.05 and B1.06, B2.06, B3.06, B4.06, B5.06, B6.06, B7.06.

414. Conditions should require the above interfaces to achieve compliance with clause 52.20-6.13 overlooking.

415. A further condition should also require all screening between balconies to be identified as achieving a minimum height of 1.7 metres and being obscure glazed or of a solid material.

416. Whilst there are some concerns with overlooking from upper level apartment balconies into lower level apartment balconies it is noted that the requirements of clause 52.20 specifically exempt the proposal from meeting all requirements of Clause 58, including the internal views provision, and as such an assessment against this provision cannot be undertaken. Each lower level apartment will still maintain a reasonable amount of open space that would not be visible from the apartments above.

Clause 52.20-7.7 Noise impacts

417. The proposed development would not be located in proximity to a noise influence area specified in Table 6 of this clause. Nevertheless, given the site's proximity to traffic noise along Wellington Street and live music noise from the Tote and Bendigo Hotels, it is considered that the new dwellings must be designed and constructed to include acoustic attenuation measures to reduce noise levels from these off-site noise sources.

418. The clause also requires noise sensitive rooms to be located to avoid noise impacts from mechanical plants, lifts, building services, non-residential uses, car parking, communal areas and other dwellings.

419. Dwellings on Level 1 are located above the ground floor non-residential spaces in both buildings with ground floor dwellings also in proximity, however, a previous recommended condition will require a specific acoustic report be prepared to address noise concerns from these spaces and as such, it is considered that this will be addressed.

420. Within Building A, Apartment A0.03 will be located adjoining the vehicular ramp with several ground floor apartments abutting storage cage areas, bin chutes or the exhaust room. Within the upper levels, several apartments are proposed against the lift core or bin cutes. Within Building B several apartments within the upper levels are proposed against the bin chutes.

421. Council's Acoustic Consultant raised a number of items to be addressed when assessing the draft Acoustic Report received on 26 August 2021. The post consultation Acoustic Report included a response to the concerns raised. This was reviewed by Council's external acoustic consultant, who identified there were still a number of items to be resolved, as follows:

    (a) *Environmental limits for apartment mechanical plant have not been provided because background noise measurements have not been conducted. It is recommended that the relevant noise limits be determined during the detailed design phase of the project, when background noise measurements can be conducted, and that that advice for complying with the limits be provided at that time.* ***These additional works should be undertaken in the future.***

    Background noise measurements could not previously be undertaken due to COVID19 restrictions. Given there are no longer any restrictions on reasons to leave one's home, it is considered the above can now be undertaken.

(b) *The report assesses noise from project mechanical plant to AS/NZS2107 internal levels. This noise is also assessable to the Noise Protocol (formerly SEPP N-1). Where noise is transmitted through a wall or floor, the effective noise limit is the external limit less 20 dB under the Noise Protocol. Equipment should be designed to comply with these limits.* ***The report should be updated to confirm that the Noise Protocol limits will be met on the project for sound transmitted into apartments***

Whilst the Acoustic Consultant for Homes Victoria argues that Noise Protocol is not applicable to the development, because the project predates the legislation changes made on 1 July 2021, the project has not been approved and as such would not be exempt from meeting the updated requirements of the Environmental Protection Authority (EPA) in respect of noise.

(c) *Some upper level apartments in Building A may be impacted by music noise from the Tote and Bendigo hotels. Given that the development is outside the 50 m radius for both venues, and is not formally required to comply with Clause 53.06 Live music and entertainment noise of the planning scheme, we have suggested moderate upgrades of bedroom windows in potentially impacted apartments to minimise the likelihood of nuisance. Alternatively, an assessment of music noise could be conducted post COVID-19 to more accurately quantify impacts.* ***This advice is provided to Council for consideration and is not required to be addressed in the acoustic report at this stage.***

Council's Acoustic Consultant has advised that based on data in their files, music from these venues could be non-compliant with the relevant legislation at the subject development and cause nuisance if not addressed. It would therefore be prudent for the above to be addressed to ensure appropriate acoustic attenuation measures are provided. In lieu of a formal music assessment, the following has been recommended to provide a 4 to 5 dB improvement in music noise reduction over the glazing currently proposed:

(i) The use of 10 mm – 12 mm thick float glass or a thermal double glazed unit with 6/12/10 mm glass to the north east and west facades of the Building A.

(d) *The proposed basketball court is in close proximity to existing and proposed dwellings that are otherwise shielded from ambient noise. We recommend that the court is relocated to the north west corner of the site, where it would be less overlooked and where the apartments potentially impacted by noise from its use will be exposed to higher levels of ambient noise, and have façade upgrades to address noise.* ***The above comment applies to the design, and is not required to be addressed in the acoustic report.***

This concern was also raised by Council's Open Space Unit, who raised concern with the location of basketball/futsal court and associated noise to the dwellings within Building B, recommending that sound proofing be explored. Given relocation of the sportscourt would be difficult to achieve given reasons previously advanced, it is considered that the Acoustic Report should be updated to address potential noise impacts from the sportscourt. Management strategies and acoustic attenuation measures to control noise are to be provided. This will ensure that the new and existing dwellings are not unduly impacted by noise from this facility.

422. The above should therefore be provided within an updated Acoustic Report to ensure that all matters of acoustic concern are resolved prior to the commencement of construction, given changes to the design or materials utilised may be required.

Clause 52.20-7.8 Accessibility

423. To ensure the design of dwellings caters for people with limited mobility, the clause requires that at least 50% of new dwellings should provide:

(a) A clear opening width of at least 850mm at the entrance to the dwelling and main bedroom;

(b) A clear path with a minimum width of 1.2m that connects the dwelling entrance to the main bedroom, an adaptable bathroom and the living area;

(c) A main bedroom with access to an adaptable bathroom; and

(d) At least one adaptable bathroom that meets all of the requirements of either Design A or Design B specified in Table 7.

424. The applicant's Clause 58 table identifies that 99% of dwellings meet the above requirements, all but Apartment Type 1G.

425. In respect of Item (a), the openings are not dimensioned. A condition will require this to be shown and to achieve a minimum opening width of 850mm to the entrance and main bedroom.

426. In respect of Item (b), the accessible path of Apartment Type 1A, 1C, 2B, 2D and 3A do not connect to the living room. The accessible path of Apartment Type 2A and 2G cannot be provided outside of the living room area. These apartments account for 46 apartments within the development. As such, compliance would be reduced from 99% to 69%.

427. In respect of Item (c) it appears that all bedrooms have access to bathrooms. In respect of Item (d), no bathrooms are shown to meet all of the requirements of Table 7.

428. A condition will therefore require the plans be updated to demonstrate compliance with this clause. This is considered to be achievable, subject to additional features being shown and annotated.

Clause 52.20-7.9 Building entry and circulation

429. As identified within the assessment made against *clause 52.20-6.4 Safety,* the proposed primary residential entrances would be visible from Emerald Street and Vere Street. Whilst the buildings adopt generous setbacks from these streets, the entrances would not be obscured or isolated from these streets.

430. The internal corridors of both buildings will receive substantial access to natural ventilation and light and be provided with an adequate minimum width.

Clause 52.20-7.10 Private open space

431. Of relevance to this development, a dwelling should have provided space consisting of:

(a) *An area of 25 square metres, with a minimum dimension of 3 metres at natural ground floor level and convenient access from a living room, or*

(b) *An area of 15 square metres, with a minimum dimension of 3 metres at a podium or other similar base and convenient access from a living room, or*

(c) *A balcony with an area and dimensions specified in Table 8 and convenient access from a living room, or*

432. The area and dimensions specified within Table D8, are as follows:

(a) *A one bedroom dwelling should have access to a balcony with a minimum area of 8sqm and minimum dimension of 1.8m, with convenient access from a living room*

(b) *A two bedroom dwelling should have access to a balcony with a minimum area of 8sqm and minimum dimension of 2m, with convenient access from a living room*

(c) *A three (or more) bedroom dwelling should have access to a balcony with a minimum area of 12sqm and minimum dimension of 2.4m, with convenient access from a living room.*

433. As a cooling unit is provided on most balconies, an additional 1.5sqm is required for these open space areas.

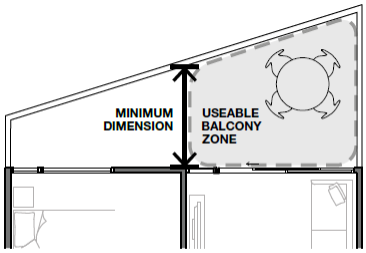
434. Guidance is also taken from the ADGV, which states:

(a) *The additional area for an air conditioning unit does not need to meet the minimum balcony area;*

(b) *The minimum area must be provided in a single useable space. Other balcony areas may be provided in addition; and*

(c) *Where irregular shaped balconies are proposed, only the portion of the balcony which meets the minimum dimension will be calculated towards the minimum area.*

435. The following infographic is contained within the ADGV to demonstrate the above.



Plan diagram. The minimum area provided in a single usable space.

436. As previously identified, the Apartment Type Layouts do not show the open space accurately for all dwellings throughout the development.

437. A review of the floor plans (as previously identified, the apartment type layout plans do not accurately show the secluded private open space areas for each dwelling) indicates that:

(a) Building A:

(i) Apartment A0.06 does not provide a minimum width of 2 metres. This is unacceptable and is required to be rectified;

(ii) Whilst Apartment A2.04, A3.04, A4.04, A5.04, A6.04 and A7.04 do not comply (providing 9sqm of useable area) there is 2.5sqm of additional space to the east and south of the nib wall and therefore this arrangement is considered acceptable; and

(iii) Whilst Apartment A2.10, A3.10, A4.10 and A5.10 do not comply (providing 12.5sqm of useable area) there is 1sqm of additional space to the south and west of the nib wall and therefore this arrangement is considered acceptable; and

(b) Building B:

(i) Apartment B0.05 does not provide a minimum width of 2 metres. This is unacceptable and is required to be rectified; and

(ii) Apartment B0.06 does not provide a minimum area of 9.5sqm. This is unacceptable and is required to be rectified.

Clause 52.20-7.11 Storage

438. Of relevance to this development, the total minimum storage space (including kitchen, bathroom and bedroom storage) should meet the requirements specified in Table 9 of this clause. This table specifies that:

(a) A one bedroom dwelling should have a total minimum storage volume of 10 cubic meters with a minimum storage volume within the dwelling of 5 cubic meters;

(b) A two bedroom dwelling should have a total minimum storage volume of 14 cubic meters with a minimum storage volume within the dwelling of nine cubic meters; and

(c) A three (or more) bedroom dwelling should have a total minimum storage volume of 18 cubic meters with a minimum storage volume within the dwelling of 12 cubic meters.

439. The applicant's Clause 58 table identifies that each dwelling type is provided with the following internal and external storage:

Apartment Type	Internal	External
1A – 1 bedroom	9sqm	2.96sqm
1B – 1 bedroom	10.32sqm	
1C – 1 bedroom	10sqm	
1D – 1 bedroom	10.20sqm	
1E – 1 bedroom	9.16sqm	2.69sqm
1G – 1 bedroom	8.43sqm	2.69sqm
2A – 2 bedroom	10.41sqm	3.69sqm
2B – 2 bedroom	11.14sqm	2.96sqm
2C – 2 bedroom	11.46sqm	2.98sqm
2D – 2 bedroom	11.14sqm	3sqm
2F – 2 bedroom	12.33sqm	2.63sqm
2G – 2 bedroom	16sqm	
3A – 3 bedroom	14.88sqm	3.33sqm

440. The development would comply with the requirements of the clause based on the information in the table. Conditions will require the internal volume of storage to be clearly shown on the apartment type layout plans, the volume of the external storage areas to be annotated and allocated to the applicable apartments.

Clause 52.20-7.12 Waste and recycling

441. The applicant submitted a Waste Management Plan (WMP) prepared by Traffix Group dated October 2021.that included the following key features:

Building A:

(a) Provision of a 45 sqm waste storage room within the basement level, including:

(i) 2 x 1,100litre bins for garbage, 3 x 660litre and 3 x 1,100litre bins for recycling, 6 x 240litre bins for FOGO and 2 x 1,100 litre bins for glass;

(ii) An area of 4sqm is provided for hard waste;

(b) A dual chute system for garbage and recycling waste will be used for the residential waste disposal and is available on all floors from basement level and above;

(c) All waste removal will be undertaken by a private contractor, once a week for recycling and glass and twice a week for garbage and FOGO. Waste collection will be undertaken on-site within the relevant basement level using a 6.4m long mini rear loader vehicle;

(d) A bin wash down area is to be provided on-site;

Building B:

(e) Provision of a 48 sqm waste storage room within the basement level, including:

(i) 2 x 1,100litre bins for garbage, 2 x 660litre and 3 x 1,100litre bins for recycling, 5 x 240litre bins for FOGO and 2 x 1,100 litre bins for glass.

(ii) An area of 4sqm is provided for hard waste

(f) A dual chute system for garbage and recycling waste will be used for the residential waste disposal and is available on all floors from basement level and above;

(g) All waste removal will be undertaken by a private contractor, once a week for recycling and glass and twice a week for garbage and FOGO. Waste collection will be undertaken on-site within the relevant basement level using a 6.4m long mini rear loader vehicle; and

(h) A bin wash down area is to be provided on-site.

442. Council's City Works Unit reviewed the submitted WMP, raising the following issues to be rectified:

(a) Glass in the recycling stream is approximately 30% by weight however is only generally found to be approximately 10% by volume;

(b) The proposed 1100 litre bins for glass may be inappropriate for this waste stream and may pose OHS issues for users and collectors. Strongly recommend engaging with private collection contractors that may service this site to ensure they can collect this size bin for the glass stream before committing as it will change the bin configuration, space requirements and design of the waste system;

(c) The swept path diagram was not attached; and

(d) Please provide an explanation of how risks associated with waste management will be managed and or provide any relevant risk assessments.

443. In addition to the above, the following is also required to be addressed:

(a) Waste generated by the non-residential uses;

(b) Location of the bin wash area;

(c) Details of how the chute system designed for both buildings will be linked to the waste room. The WMP indicates that: A dedicated chute will be provided for garbage and recycling which will terminate into the appropriate bins located in the waste area at basement level. This is not reflected on the plans; and

(d) The plans should be updated to accord with the WMP, such as showing the number and location of bins.

444. The above items can be addressed via conditions.

445. The Waste Memorandum, prepared by Traffix Group dated 27 July 2021 that formed part of the official consultation document raised the following concerns:

(a) The existing social housing tower (located at the corner of Wellington and Vere Street) includes loading and waste collection opportunities at ground level. Impact of the future scheme on the ability for these activities to be maintained will need to be confirmed. A strategy may need to be confirmed and ability for 10.5m long waste collection vehicle to continue to have access to these areas; and

(b) Waste collection to the existing Emerald Street townhouses due to the removal of the turning circle. If Council collection is to be relied upon please include a swept path diagram demonstrating how Council's waste collection vehicle will turn around in Emerald Court.

446. The updated WMP does not address the above concerns, conditions should therefore require it to do so.

Clause 52.20-7.13 Functional layout

Bedrooms

447. This clause requires that main bedrooms should have a minimum width of 3m and minimum depth of 3.4m, with other bedrooms to be 3m x 3m in dimensions (any wardrobes should be additional to this).

448. All bedrooms provided throughout the development comply. Areas in addition to the minimum internal room dimensions have also been provided to accommodate wardrobes.

Living areas

449. The clause states that living areas (excluding dining and kitchen areas) for a studio and one bedroom dwelling should have a minimum width of 3.3 metres and area of 10sqm, for two or more bedroom dwellings, a minimum width of 3.6 metres, with a minimum area 12sqm is to be provided.

450. The clause is informed by Standard D24 of Clause 58. The way in which Standard D24 is interpreted, with particular reference to living area dimensions, was discussed in 631 Plenty Road Preston Pty Ltd v Darebin CC (Red Dot) [2018] VCAT 1849, in which Member Blackburn noted that Standard D24 should be interpreted as requiring a living area envelope to be provided within the broader open plan room. This envelope can be of any size, shape or orientation so long as it is of the relevant area, has the relevant minimum width and does not include the kitchen or dining areas of the broader open plan room. In addressing particular questions raised in this case, the Tribunal stated the following:

[73] …

The area immediately in front of some of the proposed galley kitchens cannot be included in the 'living area' where this space is needed for the use of the kitchen (e.g. space to open cupboards, refrigerators, ovens, stand at the sink etc); and

The 'minimum width' of the living area is the smaller of the two dimensions of that area (e.g. where the living area is depicted as a rectangle of 3.3 x 3 metres, then the minimum width is 3 metres, irrespective of the way in which the living area is oriented within the open plan room).

451. A review of the apartment type layouts indicates the following non-compliances:

Apartment Types:	Non-compliances:
1A, 1C, 1G, 2A, 2C, 2F, 2G and 3A.	• Minimum width is not met on one aspect.
1B, 1D, 1E and 2D.	• Minimum width is not met on one aspect. • Conflicts with area utilised for kitchen
2B.	• Conflicts with area utilised for kitchen

452. No dwelling complies with the clause requirement in regards to living area. This is concerning as it will be to the future detriment of occupants. A condition should therefore require all apartment types to be updated to demonstrate compliance with this clause.

Clause 52.20-7.14 Room depth

453. This clause requires that single aspect habitable rooms should not exceed a room depth of 2.5 times the ceiling height.

454. Whilst the floor to ceiling height has been requested to be shown, this has not been provided. The applicant has not provided any information on whether the development would meet the requirements of this clause, or not.

455. When scaled, the floor to ceiling heights appear to be between 2.3 metres and 2.6 metres. This would require maximum room depths of 5.75 metres and 6.5 metres.

456. No single aspect bedroom exceeds a depth of 5.75 metres and all single aspect bedrooms are therefore compliant.

457. In respect of the living areas, this clause allows for open plan, habitable room depths to be increased to 9 metres if the kitchen is located furthest from the window and are within a combined living, dining area and kitchen and the ceiling height is at least 2.7m.

458. The above would not apply to the development, as the minimum floor levels do not achieve a height of 2.7 metres. The single aspect living, dining and kitchen rooms should therefore not exceed a room depth of 2.5 times the ceiling height.

459. There are eight apartment types that propose single aspect living, kitchen and dining areas. These are discussed below:

    (a) 1A – Depth of 6.4 metres (scaled);

    (b) 1B – Depth of 5.2 metres (scaled);

    (c) 1C – Depth of 6.4 metres (scaled);

    (d) 1D – Depth of 5.2 metres (scaled);

    (e) 1E – Depth of 5.2 metres (scaled);

    (f) 2A – Depth of 7 metres (scaled) with kitchen provided in an alcove;

    (g) 2B – Depth of 4.8 metres (scaled) with part of kitchen provided in an alcove; and

    (h) 2C – Depth of 7.6 metres (scaled) with kitchen provided in an alcove.

460. Based on the information provided it is clear that a number of apartments fail to meet the requirements of this clause. This is concerning as it will be to the future detriment of occupants. A condition should therefore require compliance with this clause.

Clause 52.20-7.15 Windows

461. Based on a review of the plans, all habitable rooms within the proposed development contain a window within an external wall to the building.

462. There are many instances where the habitable rooms face out onto a balcony which is covered above. Given the setback provided between the two buildings and any adjacent building, it is considered that sufficient daylight will reach the room beyond.

463. This is confirmed by Council's ESD Officer, who opined that the development exhibited good access to daylight and natural ventilation.

Clause 52.20-7.16 Natural ventilation

464. The clause requires that at least 40 percent of dwellings should be provided with effective crossover ventilation that has a maximum breeze path through the dwelling of 18m and a minimum breeze path of 5m. The breeze path is to be measured between the ventilation openings on different orientations of the dwelling.

465. The documentation provided on 19 October 2021 includes breeze path diagrams for each level of the building, indicating that 63 dwellings (41.45 per cent) would comply with the requirements of the clause.

466. A review of the plans confirms that the development complies with the requirements of this clause.

Clause 52.20-7.17 Integration with the street

467. The site would improve its integration with Vere Street and Emerald Street through the removal of at-grade car parking and provision of active frontages.

468. Council's external urban Designer was complementary of the integration with the streets providing the following assessment:

    (a) The proposal demonstrates particular design attention to the interface of Ground Floor dwellings to the public realm, through:

        (i) Elevated Ground Floor level relative to the external ground level in some locations (estimated up to approx. 0.6m);

(ii) *Graded landscape between the Ground Floor balcony balustrade and the public realm, creating a buffer;*

(iii) *Curved front fences (visually permeable) with curved height profile, from gate height (estimated 1.8m approx.) to soffit height; and*

(iv) *This approach creates an effective interface between dwellings and the public realm at Ground Floor level, which mediates between passive surveillance/visual interaction opportunities, and privacy/security considerations.*

Car Parking and Traffic

469. Under the provisions of Clause 52.20-5 of the Yarra Planning Scheme, the development's parking requirements are as follows:

(a) *A minimum 0.6 car spaces should be provided to each dwelling. A minimum 1 car space should be provided to each 4 bedrooms of a residential building;*

(b) *Car parking for other land uses must be to the satisfaction of the responsible authority.*

(c) *Car spaces may be covered or uncovered; and*

(d) *If in calculating the number of car parking spaces the result is not a whole number, the required number of car parking spaces is to be rounded down to the nearest whole number greater than 1.*

470. As such, the required car parking was determined to be as follows with consideration to the removal of the existing at-grade car parking as car parking for the existing high rise residential tower would be provided within the basement of Building B:

Proposed Use	Quantity/ Size	Statutory Parking Rate	No. of Spaces Required	No. of Spaces Allocated
One-bedroom dwelling	90	A minimum of 0.6 spaces for each dwelling	91	215
Two-bedroom dwelling	49			
Three-bedroom dwelling	13			
Existing Dwellings	208	A minimum of 0.6 spaces for each dwelling	124	
Total			**215 spaces**	**215 spaces**

471. The proposed development in respect of dwellings meets the requirements of clause 52.20-5, no reduction is sought. Council's Engineering Unit reviewed the revised rates provided within clause 52.20-5, providing the following assessment:

(a) *The car parking provisions for the dwellings are consistent with Clause 52.20-6.7. Traffix Group has sourced car ownership data from the 2016 ABS Census for Collingwood, for apartment type dwelling, including those from State Government housing. The data collated in Figures 6 and 7 of the Traffix Group report indicates that car ownership rates in Collingwood are low. The rate of 0.6 spaces per dwelling is considered appropriate.*

472. As previously identified, it is unknown what use is proposed within the 525sqm of ground floor spaces noted as 'Ancillary Use Program' on the plans and as such, car parking requirements cannot be determined for this use. Whilst details of this were requested from Homes Victoria, these have not been provided.

473. It is therefore considered appropriate that further car parking be provided for employees. As conditions will require further detail to be provided on the use, the following condition should be implemented:

    (a) *Provision of additional car parking for employees of the ground floor non-residential uses to the satisfaction of the responsible authority.*

Traffic

474. For the car parking spaces accommodated on-site, Council's Engineering Unit reviewed the trip generation rates provided by Traffix Group. The likely trip generation is outlined below:

Proposed Use	Adopted Traffic Generation Rate	Daily Traffic	Peak Hour	
			AM	PM
Residential (additional 81 spaces)	3.0 trips per dwelling per day (with a car space) 0.3 trips per space in each peak hour	243 trips	24 trips	24 trips

475. Council's Engineering Unit commented that the proposal would result in a net increase of 24 trips per peak hour, with the additional traffic utilising Vere Street. The traffic utilising Perry Street via Emerald Street would decrease in traffic by 2 trips in each peak hour due to the decrease in car parking utilising this access point.

476. Council's Traffic Engineers have confirmed that the traffic generated by the proposal is considered to be reasonable, is not unduly high and would not impact on the traffic operation of the surrounding road network.

477. The proposed landscaping report also indicates that Emerald Street would be modified to a shared zone. No details on the design of the shared zone have been provided and therefore will be requested via condition.

Access and layout

478. Clause 52.20-6.7 Car Parking of the Scheme relates to the design of car parking areas and contains standards and requirements relating to access way, car parking spaces, gradients, mechanical parking, urban design, safety and landscaping.

479. 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:

    (a) The pedestrian sight triangles (2.0 metres by 2.5 metres) for the exit lanes of the development entrances to be superimposed on the drawings;

    (b) Clearances for spaces abutting walls not less than 300 mm;

    (c) Transitional grades to be dimensioned on the drawings. At the bases of the 1 in 4 ramp sections, the 1 in 8 transition grades must have a length of at least 2.5 metres; and

    (d) A Ground Clearance Check for the proposed Vere Street vehicle crossing is required to be submitted.

480. All items can be addressed by conditions.

481. Furthermore, given the nature of the mixed-use development and also the relocation of car parking to service the existing high rise residential tower, a condition will require a car parking management plan to be submitted prior to the occupation of the development.

482. Several engineering conditions in regard to civil works, road asset protection, and construction management, impacts of assets on the proposed development and modification to car parking signage have been recommended. These conditions are considered standard and would have been included on any permit issued, if the development had been supported.

483. 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.

Loading and unloading

484. It is anticipated that loading and unloading for the non-residential uses would utilise either the existing on-street parking and loading bays, as identified within the applicants Traffic Report. Council's Engineering Unit raised no concern with the proposed loading and unloading arrangements.

Bicycle facilities and strategic transport

Bicycle parking and facilities

485. The application provides 184 resident bicycle spaces, exceeding the clause 52.34 statutory bicycle parking requirement (30 spaces required) and *The Homes Victoria, Apartment Code – May 2020* requirement (78 spaces required).

486. The application provides no visitor bicycle parking and would not meet the clause 52.34 statutory bicycle parking requirement nor the requirement referenced within *The Homes Victoria, Apartment Code – May 2020* which both require 15 visitor spaces to be provided.

487. The application was referred to Council's Strategic Transport Unit, who was supportive of the number of the bicycle spaces for the residents. The layout of bicycle parking was also deemed to be satisfactory. Concern was raised, however, with the bicycle parking not being provided in a secure facility as required by Clause 52.34-3 & Australian Standard AS2890.3.

488. Council's Strategic Transport Unit has recommended a condition be included requiring all resident bicycle spaces be provided within a maximum of 2 secure areas. With regard to the location of the resident bicycle spaces as shown on the ground floor plans, it is considered that a condition should be included requiring resident bicycle spaces in Building A to be provided within a maximum of 2 secure areas and the resident bicycle spaces in Building B to be provided within a maximum of 1 secure area. This will ensure that communal corridors are not 'blocked off' and are maintained for communal access.

489. In respect of the visitor bicycle parking spaces, Council's Strategic Transport recommended that a minimum of 12 visitor spaces (provided as 6 bicycle hoops) be provided. These spaces should be positioned in a location that is visible and easily accessible to visitors such as near the entrances at Perry Street, Wellington Street and Vere Street. The visitor spaces must be provided as a horizontal at-grade bicycle hoop and must be positioned in accordance with access and clearance requirements of AS2890.3. A condition can require this to be provided.

490. Whilst lower than the 15 visitor spaces required as referenced above, it is noted that clause 52.20 exempts the development from clause 52.34 and *The Homes Victoria, Apartment Code – May 2020* is not a document referenced within 52.20. Council's Strategic Transport Unit identified that 12 visitor spaces was reasonable, given the additional spaces provided for residents above best practice requirements.

491. As previously identified, it is unknown what use is proposed within the 525sqm of ground floor spaces noted as 'Ancillary Use Program' on the plans and as such, bicycle parking requirements cannot be determined for this use. Whilst details of this were requested from Homes Victoria, these have not been provided.

492. It is therefore considered appropriate that in addition to the above, further bicycle parking be provided for employees. As conditions will require further detail to be provided on the use, the following condition should be implemented:

(a) *Provision of additional bicycle parking for employees of the ground floor non-residential uses in accordance with the requirements of AS2890.3 and to the satisfaction of the responsible authority.*

493. The proposed bicycle parking and facilities would be satisfactory, subject to conditions.

Electric vehicles

494. Council's Strategic Transport Officer reviewed the proposal and encouraged the applicant to electrically wire the car parking areas to be 'EV ready'. With no EV charging stations provided within the car parking area, this would ensure that the building is fitted with infrastructure to ensure that the building remains adaptable and able to be retrofitted in the future, if required. It is recommended that this be implemented into the design, the following condition should therefore be included:

    (a) A notation indicating that the car parking area will be electrically wired to be 'EV ready.'

Construction Management

495. Clause 52.20-5 identifies that prior to the use or development commencing, a number of plans, documents and information must be prepared and submitted to the satisfaction of the responsible authority (the Minister for EECC).

496. Relevantly, the following is required to be submitted:

    (a) *A schedule of works and development including staging and the expected commencement and completion times; and*

    (b) *A plan for the management or mitigation of potential adverse effects or impacts on the environment or amenity from the proposed use or development, during and following construction.*

497. Council has not received any information in regard to the above. It is imperative that matters of construction management be reviewed prior to the construction commencing to ensure that the construction is managed appropriately and to avoid adverse impacts to Council infrastructure and the general amenity of the area.

498. As such, it is recommended that a construction management plan be required via condition.

Potentially contaminated land

499. Clause 52.20-5 identifies that prior to the use or development commencing, a number of plans, documents and information must be prepared and submitted to the satisfaction of the responsible authority (the Minister for EECC).

500. Relevantly, the following is required to be submitted:

    (a) *A report that demonstrates that the environmental conditions of the land are or will be suitable for the use and development including any significant effects which the use or development may have on the environment or which the environment may have on the use or development including water, noise, air or land pollution impacts on the environment, amenity or human health.*

501. Council has not received any information in regard to the above. A review of the sites history utilising Victoria Unearthed, a State Government tool designed to provide information about land, groundwater, past business listings and contamination, indicates that the previous uses of land may result in the land being potentially contaminated.

502. Historical business listings on the site, where the property address is known, include Coal and Wood Yards, Wood and Coal Merchants, Saddlers and Harness Manufacturers and Modellers, Moulders, Ornamental Metal Workers and Figure Makers.

503. The previous uses undertaken on the subject site from a desktop review may have resulted in soil contamination of the site. While the land is not included within an Environmental Audit Overlay, given the intended sensitive use (dwellings), it is considered reasonable to introduce conditions for investigations to be made and rectification works to occur, if required.

504. This will ensure that the objective of clause 13.04-1S (Contaminated and potentially contaminated land), to ensure that contaminated and potentially contaminated land is used and developed safely, is met.

505. It is recommended conditions be included to require a suitably qualified person to undertake preliminary investigations for the site with regard to the future use of the land and make recommendations accordingly.

Conclusion

506. It is recommended that Council advise Homes Victoria and the Department of Environment, Land, Water and Planning that the proposed development is supported, subject to several conditions as outlined below.

RECOMMENDATION

That the Council resolves to advise Homes Victoria and the Department of Environment, Land, Water and Planning that it supports the Big Housing Build proposal at 240 Wellington Street, Collingwood, subject to the following conditions:

1. Before the use and 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 decision plans prepared by Fieldwork Architects, dated 18 October 2021 but modified to show:

   Additional Documents

   (a) Written confirmation that the project will be:

      (i) Funded wholly or partly, under Victoria's Big Housing Build program; and

      (ii) Carried out by or on behalf of the Director of Housing;

   (b) Written confirmation that an Environment Effects Statement is not required to be prepared under the Environment Effects Act 1978;

   Layout

   (c) The use of the three non-residential ground floor tenancies finalised and shown;

   (d) Deletion of the 'optional f&b shown dashed' from all plans;

   (e) Front fencing along the Vere Street frontage to be deleted from the ground floor plan;

   (f) The western footpath of Emerald Street to accord with the landscape plans at the intersection with Perry Street;

   (g) All internal footpaths and pathways dimensioned, demonstrating adequate width for passing is provided;

   (h) The unidentified dashed box to the south of the storage area to Building B removed;

   (i) Apartment type layout plans to be provided for each dwelling type, including variations, demonstrating compliance with clause 52.20-7;

   (j) Apartment Type layout plans updated to clearly show the location and volume of all internal storage as identified within the 'ADG Compliance Schedule.';

   (k) The volume of all external storage cages/rooms annotated with the apartment they are allocated to identified. Storage cages/rooms must be provided in the same building as the apartment it is allocated to;

(l) Apartments A0.06, B0.05 and B0.06 updated to achieve compliance with clause 52.20-7.10 Private open space;

(m) The apartment type layout plans updated to demonstrate compliance with:

(i) Clause 52.20-7.8 Accessibility;

(ii) Clause 52.20-7.13 Functional Layout; and

(iii) Clause 52.20-7.14 Room depth;

(n) Building A and Building B rainwater tanks notated as having capacities of 32,000 litres and 35,000 litres respectively;

(o) The location of the 17m^2 raingarden provided for Building A and the location of the 13m^2 raingarden provided for Building B;

Built Form

(p) Detailed elevations of the proposed substation, demonstrating that the proposed substation is of a height, massing and architectural language that integrates with the overall design of the buildings on-site and demonstrating that the doors do not obstruct the public footpath;

(q) Detailed elevations of the proposed three void structures, demonstrating that the proposed void structures are of a height, massing and architectural language that integrates with the overall design of the buildings on-site;

(r) The frontages of Building B to provide increased vertical expression to 'break up' the horizontal design of the facades;

(s) The detailed building elevations (TP3004 – TP3009) to be updated to clearly nominate the proposed materials of all built form elements;

(t) The materiality of all plant screening to be shown and adequately integrated into the overall design of the building;

(u) The booster cupboard provided next to the car park entrance of Building A integrated into the design of the building;

(v) The water metre proposed to the south of the existing high rise residential tower integrated into the design of Building A or B;

(w) The eastern elevation of the Building B 'Ancillary Use Program' space modified to incorporate a pattern, finish or surface material to the ground floor eastern boundary wall to provide visual interest, this may include highlight glazing;

(x) Detailed diagrams demonstrating compliance with clause 52.20-6.13 overlooking from the Level 01 balconies and the Level 05 – 07 balconies and habitable room windows into the secluded private open space areas and habitable room windows within 9 metres. Any additional screening measures used to achieve compliance are to be shown;

(y) Shadow diagrams demonstrating compliance with the requirements of clause 52.20-6.12 (Overshadowing open space) with any modifications (including increased setback of the upper levels or a reduction in height) incorporated to achieve compliance shown;

(z) Shadow diagrams demonstrating compliance with the requirements of clause 52.20-7.3 (Solar access to communal outdoor open space) with any modifications (including increased setback of the upper levels or a reduction in height) incorporated to achieve compliance shown;

(aa) The materiality of the fencing around ground floor apartments secluded private open space areas indicated, with a 25% transparency achieved;

(bb) Detailed diagrams demonstrating compliance with clause 52.20-6.13 overlooking between:

(i) Apartments A1.07, A2.07, A3.07, A4.07, A5.07 and A1.06, A2.06, A3.06, A4.06, A5.06;

(ii) Apartments A1.12 and A1.01; and

(iii) Apartments B1.05, B2.05, B3.05, B4.05, B5.05, B6.05, B7.05 and B1.06, B2.06, B3.06, B4.06, B5.06, B6.06, B7.06; and

(cc) All screening between balconies to be identified as achieving a minimum height of 1.7 metres and being obscure glazed or of a solid material;

Car Parking and Services

(dd) Provision of additional car parking for employees of the ground floor non-residential uses to the satisfaction of the responsible authority;

(ee) Pedestrian sight triangles (2.0 metres by 2.5 metres) for the exit lanes of the development entrances to be superimposed on the drawings;

(ff) Clearances for spaces abutting walls not less than 300 mm;

(gg) Transitional grades to be dimensioned on the drawings. At the bases of the 1 in 4 ramp sections, the 1 in 8 transition grades must have a length of at least 2.5 metres;

(hh) The resident bicycle spaces in Building A to be provided within a maximum of 2 secure areas and the resident bicycle spaces in Building B to be provided within a maximum of 1 secure area;

(ii) A minimum of 12 visitor bicycle spaces 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;

(jj) Provision of additional bicycle parking for employees of the ground floor non-residential uses in accordance with the requirements of AS2890.3 and to the satisfaction of the responsible authority;

(kk) A notation included indicating that all car parking areas will be electrically wired to be 'EV ready.';

Reports and Plans

(ll) Any changes required by the Operational Management Plan (Ground Floor Non-Residential Uses) at Condition 10;

(mm) Any changes required by the amended Landscape Report at Condition 12;

(nn) Any changes required by the amended Arboricultural Assessment and Report at Condition 14;

(oo) Any changes required by the amended Sustainable Management Plan at Condition 16;

(pp) Any changes required by the amended Waste Management Plan at Condition 18;

(qq) Any changes required by the amended Acoustic Report at Condition 20;

(rr) Any changes required by the Non-Residential Uses Acoustic Report at Condition 22;

(ss) Any changes required by the amended Wind Report at Condition 24; and

(tt) Any changes required by the Lighting Plan at Condition 39.

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, and utilities and typical mid and upper level facade details;

(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

(d) a sample schedule and coloured drawings outlining colours, materials and finishes specifying the following:

(i) Permeability of material MS01 and any other fencing/gate proposed;

(ii) Opacity of GS01; and

(iii) Maintenance requirements for the material CF03 demonstrating the durability of the material to retain its appearance over the long term; and

(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 is to be provided through montages and renders from various vantage points.

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, Fieldwork Architects 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 non-residential uses authorised by this permit may only operate between the hours of 8am and 8pm.

6. The provision of music and entertainment on the land must be at a background noise level.

7. Speakers external to the building must not be erected or used.

8. 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.

9. The use and development must at all times comply with the noise limits specified in the Environment Protection Regulations under the Environment Protection Act 2017 and the incorporated Noise Protocol (Publication 1826.4, Environment Protection Authority, May 2021).

Operational Management Plan (Ground Floor Non-Residential Uses)

10. In conjunction with the submission of development plans under Condition 1, an Operational Management Plan for the three ground floor non-residential tenancies to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the Operational Management Plan will be endorsed and will form part of this permit. The Operational Management Plan must include or show but is not limited to, the following:

    (a) A description of the proposed uses including the activities that will be carried out;

    (b) The likely effects, if any, on the site and surrounding land and land uses, including noise levels, traffic, air-borne emissions, emissions to land and water, light spill, glare, solar access and hours of operation with details of how adverse impacts will be managed;

    (c) The management of each use including the management of patrons;

    (d) Demonstration that the use is compatible with residential use;

    (e) Demonstration that the use generally serves local community needs;

    (f) Discussion on the accessibility of the proposed non-residential spaces, providing details on how the spaces will improve opportunities for integration and integration with the surrounding area;

    (g) Details on the provision of car and bicycle parking associated with the uses;

    (h) Any proposed loading facilities required to support the uses; and

    (i) The safety, efficiency and amenity effects of traffic to be generated by the proposal.

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

Landscape Report and Tree Protection

12. In conjunction with the submission of development plans under Condition 1, an amended Landscape Report 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 Report must be generally in accordance with the Landscape Report prepared by Openwork and received by Council on 19 October 2019, but modified to include (or show):

    (a) Assess the proposal as amended pursuant to Condition 1;

    (b) Details of landscaping of the east and west sides of Building A and the northern and southern sides of Building B between balconies and the pathway;

    (c) Details and design of all outdoor furniture, with chairs to incorporate backrests and armrests;

    (d) Location of the bicycle repair stations;

    (e) Spot levels, dimensions and landscape section drawings;

    (f) Details of any fencing/planting that will be implemented to separate the play space from the road;

    (g) Details on the materiality and style of boundary fencing proposed, to ensure it provides adequate visual permeability and provides a high quality response;

    (h) Provide a plant and landscape maintenance schedule – including tasks and frequency to maintain the landscape following the maintenance period. If there are specific maintenance access issues the methodology for these should be included;

(i) The location of the 17m2 raingarden provided for Building A and the location of the 13m2 raingarden provided for Building B;

(j) Provide a Tree Plan demonstrating compliance with clause 52.20-7.4 Deep soil and canopy trees; and

(k) The design of the Emerald Street shared zone including details such as pavement widths, surface treatment, road infrastructure items and landscaping.

13. Before the buildings are 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.

14. In conjunction with the submission of development plans under Condition 1, an amended Arboricultural Assessment and Report to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Tree Management Plan will be endorsed and will form part of this permit. The amended Tree Management Plan must be generally in accordance with the Arboricultural Assessment and Report, prepared by Treelogic dated 15 October 2021, but modified to include (or show):

(a) Updated to indicate no permit is required for tree removal pursuant to Council's General Local Law; and

(b) Specific tree protection requirements to ensure the viability of all trees that will experience construction impacts as outlined within Table 5 and 6 of the report, including during:

(i) pre-construction;

(ii) during construction; and

(iii) post construction.

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

<u>Sustainable Management Plan</u>

16. In conjunction with the submission of development plans under 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 by ADP Consulting dated 19 October 2021., but modified to include or show:

(a) Assess the proposal as amended pursuant to Condition 1;

(b) Separate utility meters (electricity and water) for each dwelling to be provided; and

(c) The energy procurement for the buildings via an embedded network be 100% renewable sources, (e.g. Green Power), to enable the building to operate as a zero carbon building.

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

Waste Management Plan

18. In conjunction with the submission of development plans under 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 amended Waste Management Plan must be generally in accordance with the Waste Management Plan prepared by Traffix Group dated October 2021, but modified to include:

    (a) Assess the proposal as amended pursuant to Condition 1;

    (b) Calculations of glass in the recycling stream also to be measured by volume in addition to weight;

    (c) Confirmation from private collection contractor that the proposed 1,100 litre glass bins are suitable for collection;

    (d) Swept path diagrams included as an attachment;

    (e) An explanation of how risks associated with waste management will be managed and or provide any relevant risk assessments;

    (f) Waste generated by the non-residential uses and management of non-residential waste;

    (g) Location of the bin wash area for each building;

    (h) Details of how the chute system designed for both buildings will be linked to the waste room;

    (i) Discussion on the impact of the development on the ability for the waste collection and loading to the existing social housing tower to be maintained. A strategy is to be provided with the ability for 10.5m long waste collection vehicle to continue to have access to these areas demonstrated; and

    (j) Details of waste collection to the Emerald Street townhouses. If Council collection is to be relied upon, a swept path diagram demonstrating how the waste vehicle will turn around is to be provided.

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

Acoustic Report

20. In conjunction with the submission of development plans under 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 Acoustic Report, prepared by Acoustic Logic dated 12 October 2021, but modified to include (or show, or address):

    (a) Provision of environmental limits for apartment mechanical plant with background noise measurements conducted based on relevant noise limits. Any additional advice for complying with the limits must be provided;

    (b) Updated to assess all mechanical plant and equipment in accordance with the Environment Protection Regulations under the Environment Protection Act 2017 and the incorporated Noise Protocol (Publication 1826.4, Environment Protection Authority, May 2021);

(c) The use of 10 mm – 12 mm thick float glass or a thermal double glazed unit with 6/12/10 mm glass to the north east and west facades of the Building A to manage music noise from the surrounds or a formal music assessment could be undertaken to quantify music impacts, , along with any design treatments that may be required to mitigate these impacts; and

(d) Any potential noise impacts associated with the communal basketball/sports court that may affect existing and proposed dwellings, along with any design treatments or management strategies that may be required to mitigate these impacts.

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

22. In conjunction with the submission of development plans under Condition 1, a Non-Residential Uses Acoustic Report to the satisfaction of the Responsible Authority must be prepared by a suitably qualified acoustic engineer and must be submitted to and approved by the Responsible Authority. When approved, the Non-Residential Uses Acoustic Report will be endorsed and will form part of this permit. The report must assess the following:

(a) any potential off-site noise impacts associated with the non-residential uses that may affect the new dwellings and existing dwellings, along with any design treatments that may be required to mitigate these impacts; and

(b) The acoustic report must make recommendations to limit the noise impacts in accordance with the Environment Protection Regulations under the Environment Protection Act 2017 and the incorporated Noise Protocol (Publication 1826.4, Environment Protection Authority, May 2021) or any other requirement to the satisfaction of the Responsible Authority.

23. The provisions, recommendations and requirements of the endorsed Non-Residential Uses Acoustic Report must be implemented and complied with to the satisfaction of the Responsible Authority.

<u>Wind Report</u>

24. In conjunction with the submission of development plans under Condition 1, an amended Wind Assessment to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the amended Wind Assessment will be endorsed and will form part of this permit. The amended Wind Assessment must be generally in accordance with the Wind Assessment prepared by Wind Impact Assessment, prepared by Vipac dated 15 October 2021, but modified to include or show:

(a) Assess the proposal as amended pursuant to Condition 1;

(b) Wind tunnel modelling to be undertaken to verify the findings of the desktop study, and amended to include:

(i) Demonstrate standing criterion is achieved for all building entrances within the surrounds with all building entrances existing in the surrounds and proposed on-site clearly identified and shown;

(ii) Demonstrate sitting criterion is achieved for all dwelling balconies/terraces and communal open space areas; and

(iii) Demonstrate sitting criterion for open space areas dwellings within the surrounds, including No. 36 Vere Street, with all existing secluded private open space areas existing in the surrounds clearly identified and shown.

25. The provisions, recommendations and requirements of the endorsed Wind Assessment Report (including wind tunnel modelling) must be implemented and complied with to the satisfaction of the Responsible Authority.

Environmental Audit

26. Before the construction of the development authorised by this permit commences, an assessment of the land to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. The assessment must be prepared by an environmental professional with suitable qualifications to the satisfaction of the Responsible Authority and must include:

    (a) a description of previous land uses and activities on the land;

    (b) an assessment of the level, nature and distribution of any contamination within, or in close proximity to, the land;

    (c) details of any provisions, recommendations and requirements (including but not limited to, clean up, construction, ongoing maintenance or monitoring) required to effectively address and manage any contamination within the land; and

    (d) recommendations as to whether the land is suitable for the use for which the land is proposed to be developed and whether an Environmental Auditor should be appointed under section 53S of the Environment Protection Act 1970 (EP Act) to undertake an Environmental Audit in accordance with the provisions of the EP Act.

27. If the assessment required by condition 26 does not result in a recommendation that an Environmental Auditor be appointed under section 53S of the EP Act to undertake an Environmental Audit in accordance with the provisions of the EP Act, all provisions, recommendations and requirements of the assessment must be implemented and complied with to the satisfaction of the Responsible Authority.

28. If the assessment required by condition 26 results in a recommendation that an Environmental Auditor be appointed under section 53S of the EP Act to undertake an Environmental Audit in accordance with the provisions of the EP Act, before the construction of the development authorised by this permit commences, the Environmental Auditor appointed under section 53S of the EP Act must undertake an Environmental Audit in accordance with the provisions of the EP Act and issue:

    (a) a Certificate of Environmental Audit for the land in accordance with section 53Y of the EP Act (Certificate); or

    (b) a Statement of Environmental Audit for the land in accordance with section 53Z of the EP Act (Statement),

    and the Certificate or Statement must be provided to the Responsible Authority.

29. If, pursuant to condition 28, a Statement is issued:

    (a) the development authorised by this permit must not be undertaken unless the Statement clearly states that the land is suitable for the sensitive use for which the land is being developed;

    (b) the development authorised by this permit must not be undertaken until compliance is achieved with the terms and conditions that the Statement states must be complied with before the development commences (pre-commencement conditions);

    (c) before the construction of the development authorised by this permit commences, a letter prepared by the Environmental Auditor appointed under section 53S of the EP Act which states that the pre-commencement conditions have been complied with must be submitted to the responsible authority;

    (d) if any term or condition of the Statement requires any ongoing maintenance or monitoring, the owner of the land (or another person in anticipation of becoming the owner of the land) must enter into an agreement with the Responsible Authority pursuant to section 173 of the Planning and Environment Act 1987 (Agreement). The Agreement must:

(i) provide for the undertaking of the ongoing maintenance and monitoring as required by the Statement; and

(ii) be executed before the sensitive use for which the land is being developed commences; and

(e) the owner of the land, or other person in anticipation of becoming the owner, must pay all costs and expenses (including legal expenses) of, and incidental to, the Agreement (including those incurred by the Responsible Authority).

Car parking

30. Before the development is occupied, 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 and location of car parking spaces allocated to each tenancy;

(b) the number and location of car parking spaces allocated to the occupants of Building B and the occupants of the existing high rise residential tower at 240 Wellington Street;

(c) the management of the car parking spaces and security arrangements for occupants of the development;

(d) details of way-finding, cleaning and security of end of trip bicycle facilities;

(e) The number and allocation of storage spaces;

(f) policing arrangements and formal agreements;

(g) 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.;

(h) the collection of waste and garbage including the separate collection of organic waste and recyclables, which must be in accordance with the Waste Management Plan required by Condition 18; and

(i) details regarding the management of loading and unloading of goods and materials.

31. 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.

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.

Road Infrastructure

33. 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:

(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 Council.

34. 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 (including trenching and excavation for utility service connections) must be reinstated:

(a) at the permit holder's cost; and

(b) to the satisfaction of the Responsible Authority.

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

36. Prior to the completion of the development, subject to the relevant authority's consent, the relocation of any service poles, street line markings, car parking sensors, service structures or service 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.

37. 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.

Lighting

38. 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.

39. In conjunction with the submission of development plans under Condition 1, a Lighting Plan to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. The Lighting Plan must address lighting along the frontages of Building A and Building B as well as the internal communal open space areas. When approved, the Lighting Plan will be endorsed and will form part of this permit. The Lighting Plan must provide for:

(a) A lighting scheme designed for both public highway and new open public areas and open space within the curtilage of the property that complies with uniformity requirements as per standard AS1158.3.1;

(b) The control of light spillage into the windows of existing and proposed residences to comply with the requirements of AS 4282 – 2019," Control of the obtrusive effects of outdoor lighting";

(c) The locations of any new light poles so as not to obstruct access into private garages/off and on street parking places;

(d) Lighting to all primary pedestrian access points to a residential property to satisfy at least level P4 as per AS 1158.3.1;

(e) A maintenance regime for the lighting scheme within the curtilage of the property; and

(f) The use of energy efficient luminaries and/or solar lighting technologies to reduce carbon emission if possible.

40. The provisions, recommendations and requirements of the endorsed Public Lighting Plan must be implemented and complied with at no cost to Council and to the satisfaction of the Responsible Authority.

General

41. Delivery and collection of goods to and from the land may only occur between 7am and 10pm Monday to Saturday, or after 9am on a Sunday or public holiday except for those allowed under any relevant local law.

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

43. 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.

44. Before the buildings are 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.

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

46. 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.

47. Before the development is occupied, or by such later date as approved in writing by the Responsible Authority, all screening and other measures to prevent overlooking as shown on the endorsed plans must be installed to the satisfaction of the Responsible Authority. Once installed the screening and other measures must be maintained to the satisfaction of the Responsible Authority.

Construction Management Plan

48. 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; and

  (v) other relevant considerations;

(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.

49. The provisions, recommendations and requirements of the endorsed construction management plan must be implemented and complied with to the satisfaction of the Responsible Authority.

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

(a) Monday to Friday (excluding public holidays) before 7:00am or after 6:00pm.;

(b) Saturdays and public holidays (other than ANZAC Day, Christmas Day and Good Friday) before 9:00am or after 3:00pm; and

(c) Sundays, ANZAC Day, Christmas Day and Good Friday at any time.

Time expiry

51. 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; and

(c) the non-residential 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:

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

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 businesses and residents (whether as owners, lessees/tenants, occupiers) within the development approved under this permit, will not be permitted to obtain business, resident 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.

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.

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.

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.

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.

In accordance with the Yarra Planning Scheme, a 4.5 per cent public open space contribution will apply in the event of the subdivision of the land.

Attachments

1⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

2⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

3⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

4⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

5⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Wind Impact Assessment

6⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation WMP

7⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

8⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Traffic Report

9⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report

10⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Response

11⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design (public realm) and Open Space Referral

12⇩ Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Streetscape and Natural Values Referral

13 Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Compliance Referral

14 Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Engineering Services Unit Referral

15 Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Strategic Transport Unit Referral

16 Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - City Works Unit Referral

17 Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - ESD Referral

18 Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Social Strategy Unit

19 Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Acoustic Referral

20 Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Wind Referral

21 Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design Referral

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

HOMES VICTORIA - COLLINGWOOD

240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

TOWN PLANNING APPLICATION

DRAWING NUMBER	DRAWING NAME
TP0000	COVER SHEET
TP0001	DEVELOPMENT SUMMARY
TP0002	DEVELOPMENT SUMMARY
TP1000	EXISTING SITE PLAN
TP1001	PROPOSED SITE PLAN
TP1100	DEMOLITION PLAN
TP2098	FLOOR PLAN - BASEMENT 02
TP2099	FLOOR PLAN - BASEMENT 01
TP2100	FLOOR PLAN - GROUND LEVEL
TP2101	FLOOR PLAN - LEVEL 01
TP2102	FLOOR PLAN - LEVEL 02
TP2103	FLOOR PLAN - LEVEL 03
TP2104	FLOOR PLAN - LEVEL 04
TP2105	FLOOR PLAN - LEVEL 05
TP2106	FLOOR PLAN - LEVEL 06
TP2107	FLOOR PLAN - LEVEL 07
TP2108	FLOOR PLAN - ROOF
TP3000	OVERALL ELEVATION - NORTH
TP3001	OVERALL ELEVATION - SOUTH
TP3002	OVERALL ELEVATION - EAST
TP3003	OVERALL ELEVATION - WEST
TP3004	ELEVATION - BUILDING A - NORTH & SOUTH
TP3005	ELEVATION - BUILDING A - EAST
TP3006	ELEVATION - BUILDING A - WEST
TP3007	ELEVATION - BUILDING B - NORTH
TP3008	ELEVATION - BUILDING B - SOUTH
TP3009	ELEVATION - BUILDING B - EAST & WEST
TP3500	SECTION A
TP3501	SECTION B
TP3502	SECTION C
TP3503	SECTION D
TP3504	SECTION E & F
TP7001	ADG COMPLIANCE SCHEDULE
TP7002	ADG COMPLIANCE SCHEDULE

DRAWING NUMBER	DRAWING NAME
TP7050	BREEZEPATH PLAN - GROUND LEVEL
TP7051	BREEZEPATH PLAN - LEVEL 01
TP7052	BREEZEPATH PLAN - LEVEL 02
TP7053	BREEZEPATH PLAN - LEVEL 03
TP7054	BREEZEPATH PLAN - LEVEL 04
TP7055	BREEZEPATH PLAN - LEVEL 05
TP7056	BREEZEPATH PLAN - LEVEL 06
TP7057	BREEZEPATH PLAN - LEVEL 07
TP8001	TYPICAL APARTMENT PLANS 1 BEDROOM
TP8002	TYPICAL APARTMENT PLANS 1 BEDROOM
TP8003	TYPICAL APARTMENT PLANS 2 BEDROOM
TP8004	TYPICAL APARTMENT PLANS 2 BEDROOM
TP8005	TYPICAL APARTMENT PLANS 3 BEDROOM
TP9000	SHADOW DIAGRAM 9AM 22 SEP
TP9001	SHADOW DIAGRAM 10AM 22 SEP
TP9002	SHADOW DIAGRAM 11AM 22 SEP
TP9003	SHADOW DIAGRAM 12AM 22 SEP
TP9004	SHADOW DIAGRAM 1PM 22 SEP
TP9005	SHADOW DIAGRAM 2PM 22 SEP
TP9006	SHADOW DIAGRAM 3PM 22 SEP
TPRE01	TOWN PLANNING DESIGN REPORT

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, SCHEDULES AND DRAWINGS. DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES. DO NOT SCALE OFF DRAWINGS. USE FIGURED DIMENSIONS ONLY. CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK. CONTRACTOR TO NOTIFY ARCHITECT OF ANY DISCREPANCY IN DIMENSIONS FOUND, AND WAIT FOR INSTRUCTION PRIOR TO CONTINUING WITH WORK. BUILDING CONTRACTOR TO COORDINATE ALL SERVICES IN ACCORDANCE WITH SERVICES, SUBCONTRACTOR AND SHEET DRAWINGS. ALL DIMENSIONS TO BE CHECKED ON SITE BY BUILDER PRIOR TO THE COMMENCEMENT OF ANY WORK OR FOR SPECIAL AND MANUFACTURED ITEMS. NOT COMMENCED PRIOR TO THE RETURN OF THE DRAWINGS ISSUED BY THE ARCHITECT AND RELEVANT CONSULTANT. BUILDING TO BE SET OUT BY LICENSED LAND SURVEYOR WITH TITLE RED ESTABLISHMENT TO CARRIED OUT AT THE TIME OF SETOUT.

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FIELDWORK
100 WELLINGTON STREET COLLINGWOOD VICTORIA 3066 AUSTRALIA
ABN 27 163 632 939 ACN 163 632 939
T +61 3 9081 3400 E admin@fieldworkprojects.com.au

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name: COVER SHEET
Date: 18/10/2022
Status: WORK IN PROGRESS
Scale: @ A1
Drawing Number: TP0000
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

DEVELOPMENT SUMMARY

SITE AREA	AREA
	12,002

OPENSPACE (AS % OF SITE AREA)	
EXISTING	
OPEN SPACE	67%
CARPARK & ROAD	33%
PROPOSED	
OPEN SPACE	71%
CARPARK, ROAD & BUILDING	29%

DEEP SOIL ZONE OPPORTUNITY SCHEDULE	%	AREA
	43%	5,242

TOTAL GFA - EXCLUDING ROOF AREA		
	STOREY	AREA
BLD A (NORTH)		
	BASEMENT 01	2,041
	GROUND FLOOR	1,528
	LEVEL 01	1,530
	LEVEL 02	1,182
	LEVEL 03	1,182
	LEVEL 04	1,182
	LEVEL 05	1,182
	LEVEL 06	604
	LEVEL 07	604
		11,035 m²
BLD B (SOUTH)		
	BASEMENT 02	3,115
	BASEMENT 01	3,111
	GROUND FLOOR	1,514
	LEVEL 01	1,302
	LEVEL 02	998
	LEVEL 03	998
	LEVEL 04	998
	LEVEL 05	927
	LEVEL 06	934
	LEVEL 07	934
		14,831 m²
COMMON SERVICES		
	GROUND FLOOR	8
		8 m²
		25,874 m²

ROOF AREA SCHEDULE		
BUILDING	STOREY	AREA
BLD A (NORTH)		
	LEVEL 01	53
	LEVEL 06	566
	LEVEL ROOF	513
		1,132 m²
BLD B (SOUTH)		
	LEVEL 01	202
	LEVEL 05	72
	LEVEL ROOF	852
		1,126 m²
		2,258 m²

APARTMENT NSA SCHEDULE - EXCLUDES P.O.S		
BUILDING	STOREY	AREA
BLD A (NORTH)		
	GROUND FLOOR	487
	LEVEL 01	784
	LEVEL 02	766
	LEVEL 03	766
	LEVEL 04	766
	LEVEL 05	766
	LEVEL 06	364
	LEVEL 07	364
		5,063 m²
BLD B (SOUTH)		
	GROUND FLOOR	406
	LEVEL 01	655
	LEVEL 02	641
	LEVEL 03	641
	LEVEL 04	641
	LEVEL 05	587
	LEVEL 06	587
	LEVEL 07	587
		4,745 m²
		9,808 m²

NOTE: NET SALEABLE AREA (NSA) IS CALCULATED IN ACCORDANCE WITH THE PROPERTY COUNCIL OF AUSTRALIA METHOD OF MEASUREMENT FOR RESIDENTIAL PROPERTY AND IS MEASURED TO THE:

1. EXTERNAL FACE OF EXTERNAL WALLS
2. APARTMENT FACE OF ALL ABUTTING CORE/ STAIR/ SHAFT/ SERVICE RISER WALLS
3. CORRIDOR FACE OF ALL CORRIDOR WALLS
4. CENTRELINE OF ALL INTERTENANCY WALLS

NSA INCLUDES ALL ENGAGED COLUMNS, INTERNAL STAIRS AND MULLIONS TO GLAZED FACADES.

APARTMENT MIX SCHEDULE - TOTAL			
APARTMENT TYPE	SUB-TYPE	CONDITIONAL TYPE	QTY
1 BED			
	TYPE 1A		1
	TYPE 1A	ACCESSIBLE	1
	TYPE 1B		74
	TYPE 1B	FLEXIBLE	4
	TYPE 1C	ACCESSIBLE	2
	TYPE 1D		3
	TYPE 1E		4
	TYPE 1G		1
			90
2 BED			
	TYPE 2A	ACCESSIBLE	2
	TYPE 2B		11
	TYPE 2B	ACCESSIBLE	1
	TYPE 2C	ACCESSIBLE	2
	TYPE 2D		7
	TYPE 2F		7
	TYPE 2F	FLEXIBLE	11
	TYPE 2G		8
			49
3 BED			
	TYPE 3A		13
			13
			152

APARTMENT MIX SCHEDULE - BUILDING NORTH			
APARTMENT TYPE	SUB-TYPE	CONDITIONAL TYPE	QTY
1 BED			
	TYPE 1A		1
	TYPE 1B		38
	TYPE 1B	FLEXIBLE	4
	TYPE 1C	ACCESSIBLE	1
	TYPE 1D		3
		60%	47
2 BED			
	TYPE 2A	ACCESSIBLE	2
	TYPE 2B		5
	TYPE 2B	ACCESSIBLE	1
	TYPE 2D		7
	TYPE 2F		1
	TYPE 2F	FLEXIBLE	3
	TYPE 2G		8
		34%	27
3 BED			
	TYPE 3A		5
		6%	5
			79

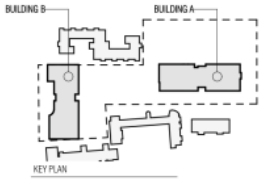
SCH02B1 APARTMENT MIX SCHEDULE - SOUTH			
APARTMENT TYPE	SUB-TYPE	CONDITIONAL TYPE	QTY
1 BED			
	TYPE 1A	ACCESSIBLE	1
	TYPE 1B		36
	TYPE 1C	ACCESSIBLE	1
	TYPE 1E		4
	TYPE 1G		1
		59%	43
2 BED			
	TYPE 2B		6
	TYPE 2C	ACCESSIBLE	2
	TYPE 2F		6
	TYPE 2F	FLEXIBLE	8
		30%	22
3 BED			
	TYPE 3A		8
		11%	8
			73

APARTMENTS PER FLOOR PLATE		
BUILDING	LEVEL	QUANTITY
BLD A (NORTH)		
	GROUND FLOOR	7
	LEVEL 01	12
	LEVEL 02	12
	LEVEL 03	12
	LEVEL 04	12
	LEVEL 05	12
	LEVEL 06	6
	LEVEL 07	6
BLD B (SOUTH)		
	GROUND FLOOR	6
	LEVEL 01	10
	LEVEL 02	10
	LEVEL 03	10
	LEVEL 04	10
	LEVEL 05	9
	LEVEL 06	9
	LEVEL 07	9
		152

AS14.28 ACCESSIBLE APARTMENTS		
APARTMENT TYPE	QUANTITY	%
ACCESSIBLE	8	5%

FLEXIBLE APARTMENTS		
APARTMENT TYPE	QUANTITY	%
FLEXIBLE	16	10%

NON RESIDENTIAL PROGRAM SPACE		
BUILDING	STOREY	AREA
NORTH		
	GROUND FLOOR	252
		252 m²
SOUTH		
	GROUND FLOOR	93
	GROUND FLOOR	180
		273 m²



FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name: DEVELOPMENT SUMMARY
Date: 08/10/2020
Status: WORK IN PROGRESS
Scale: 2:1 @ A1
Drawing Number: TP0001
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

DEVELOPMENT SUMMARY

CARPARKING REQUIREMENTS	
EXISTING SECURE CARPARKS ONSITE TO BE RELOCATED	
SOUTHERN ON-GRADE PARKING	95
CENTRAL ON-GRADE PARKING	32
EXISTING SUBTOTAL	**127**
EXISTING 240 WELLINGTON ST RESIDENT PARKING REQUIREMENTS	
208 APARTMENTS X 0.6 RATIO	**125**
NEW REQUIREMENTS	
NEW NORTH BUILDING - 79 UNITS AT 0.6	48
NEW SOUTH BUILDING - 72 UNITS AT 0.6	44
EXISTING 240 ST RESIDENTS SOUTH BUILDING	125
TOTAL REQUIRED	**217**

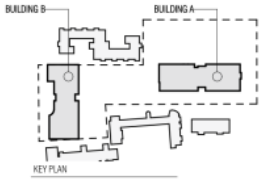
CARPARKS		
BUILDING	STOREY	QTY
BUILDING A		
	BASEMENT 01	45
BUILDING B		
	BASEMENT 02	88
	BASEMENT 01	82
		215

BICYCLE PARKING SCHEDULE		
	STOREY	QTY
BLD A (NORTH)	GROUND FLOOR	110
		110
BLD B (SOUTH)	GROUND FLOOR	76
		76
		186

STORAGE SCHEDULE		
BUILDING	STOREY	QTY
NORTH		
	GROUND FLOOR	25
		25
SOUTH		
	GROUND FLOOR	36
		36
		61

CARPARKING AREA EXC. CORES & SERVICES		
	STOREY	AREA
BLD A (NORTH)		
	BASEMENT 01	1,613
BLD B (SOUTH)		
	BASEMENT 02	2,821
	BASEMENT 01	2,765
		7,199 m²

SERVICE AND CIRCULATION SUMMARY	
STOREY	AREA
BASEMENT 02	294
BASEMENT 01	774
GROUND FLOOR	1,185
LEVEL 01	405
LEVEL 02	384
LEVEL 03	384
LEVEL 04	384
LEVEL 05	384
LEVEL 06	319
LEVEL 07	319
	4,832 m²



FIELDWORK

Project Number 200031
Client HOMES VICTORIA
Project Name HOMES VICTORIA COLLINGWOOD
Site Address 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name DEVELOPMENT SUMMARY
Date 08/10/2020
Status WORK IN PROGRESS
Scale @ A1
Drawing Number TP0002
Revision P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

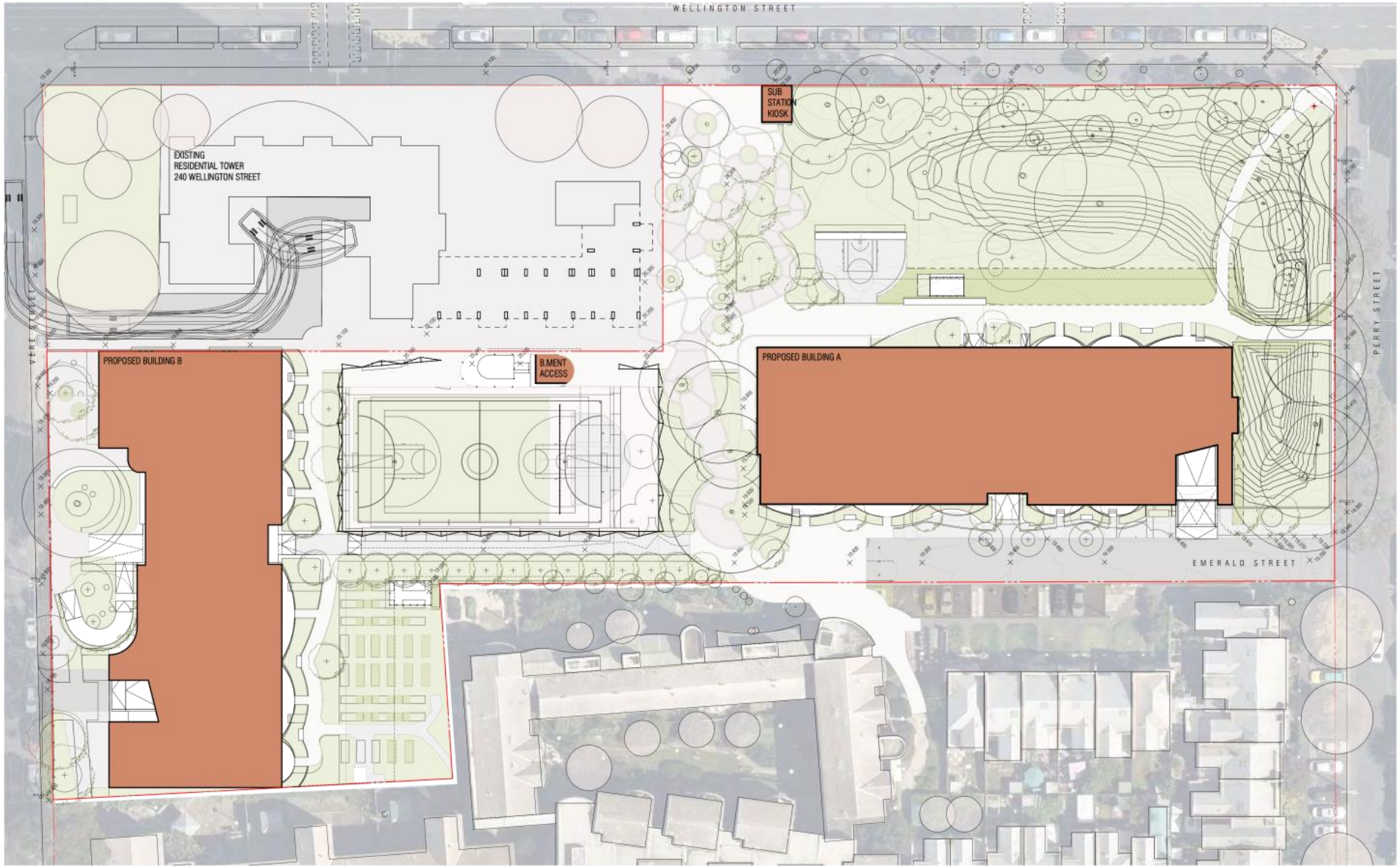
FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: EXISTING SITE PLAN
Date: 6/10/2022
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP1000
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



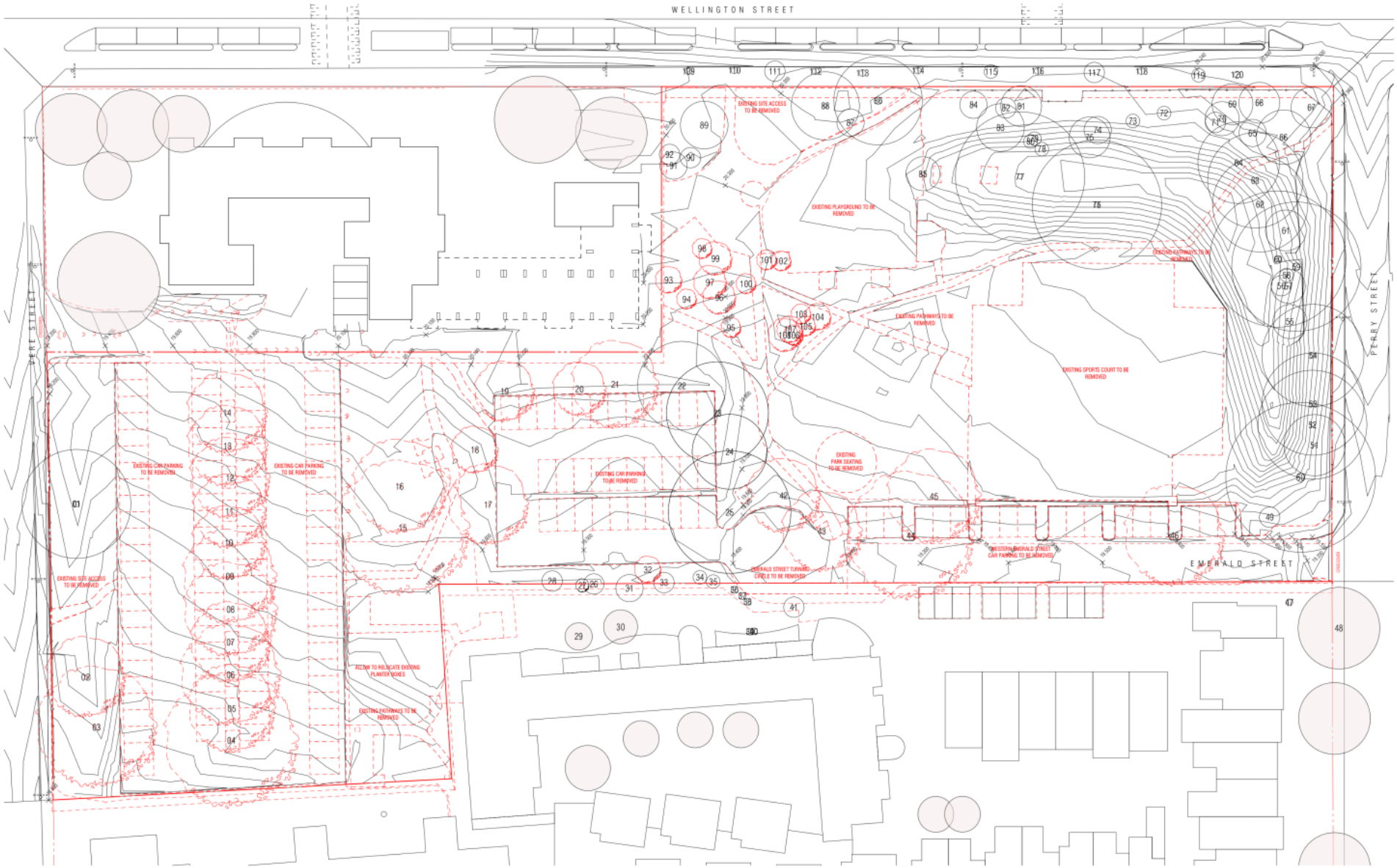
FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

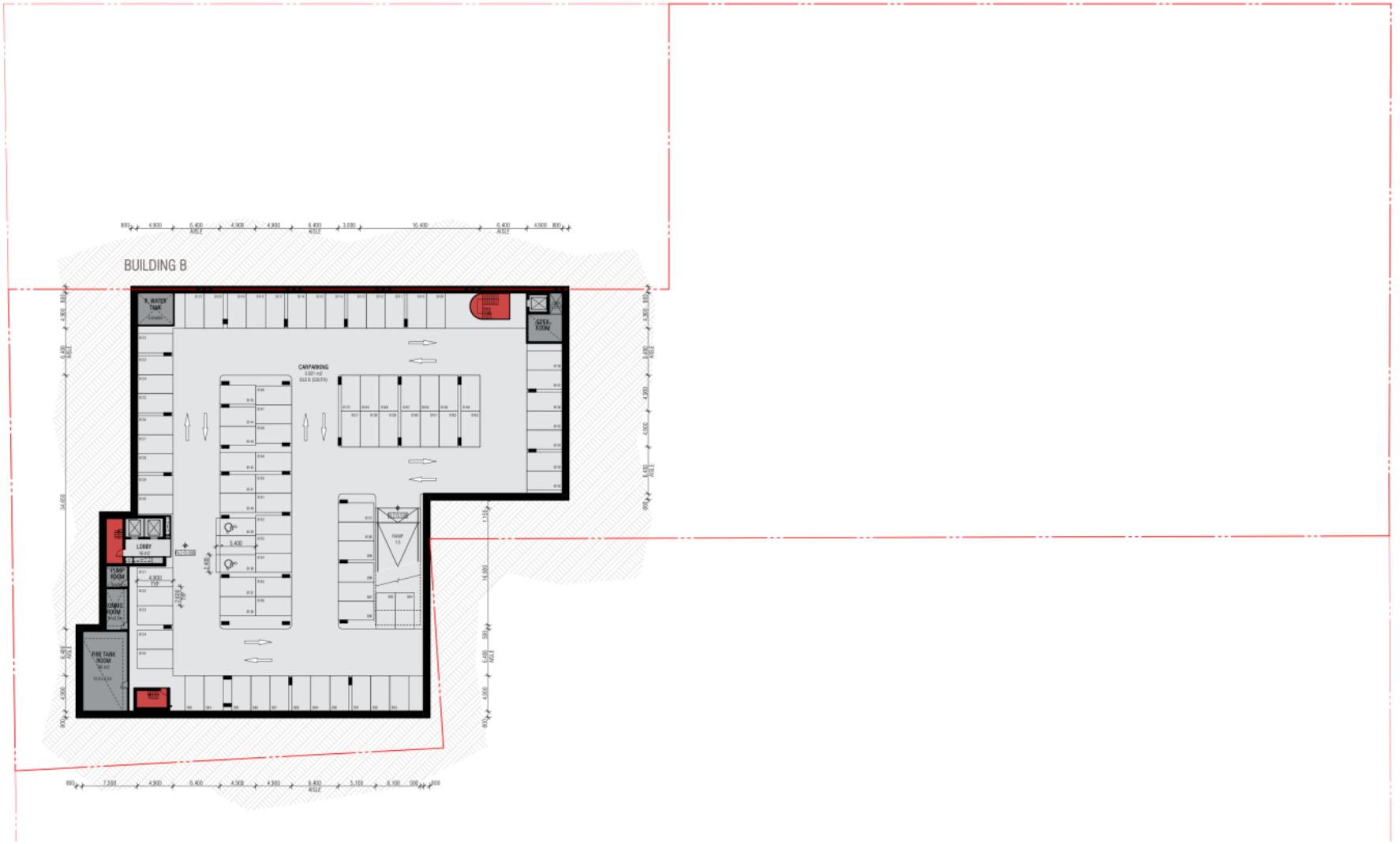
Drawing Name: PROPOSED SITE PLAN
Date: 6/10/2022
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP1001
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



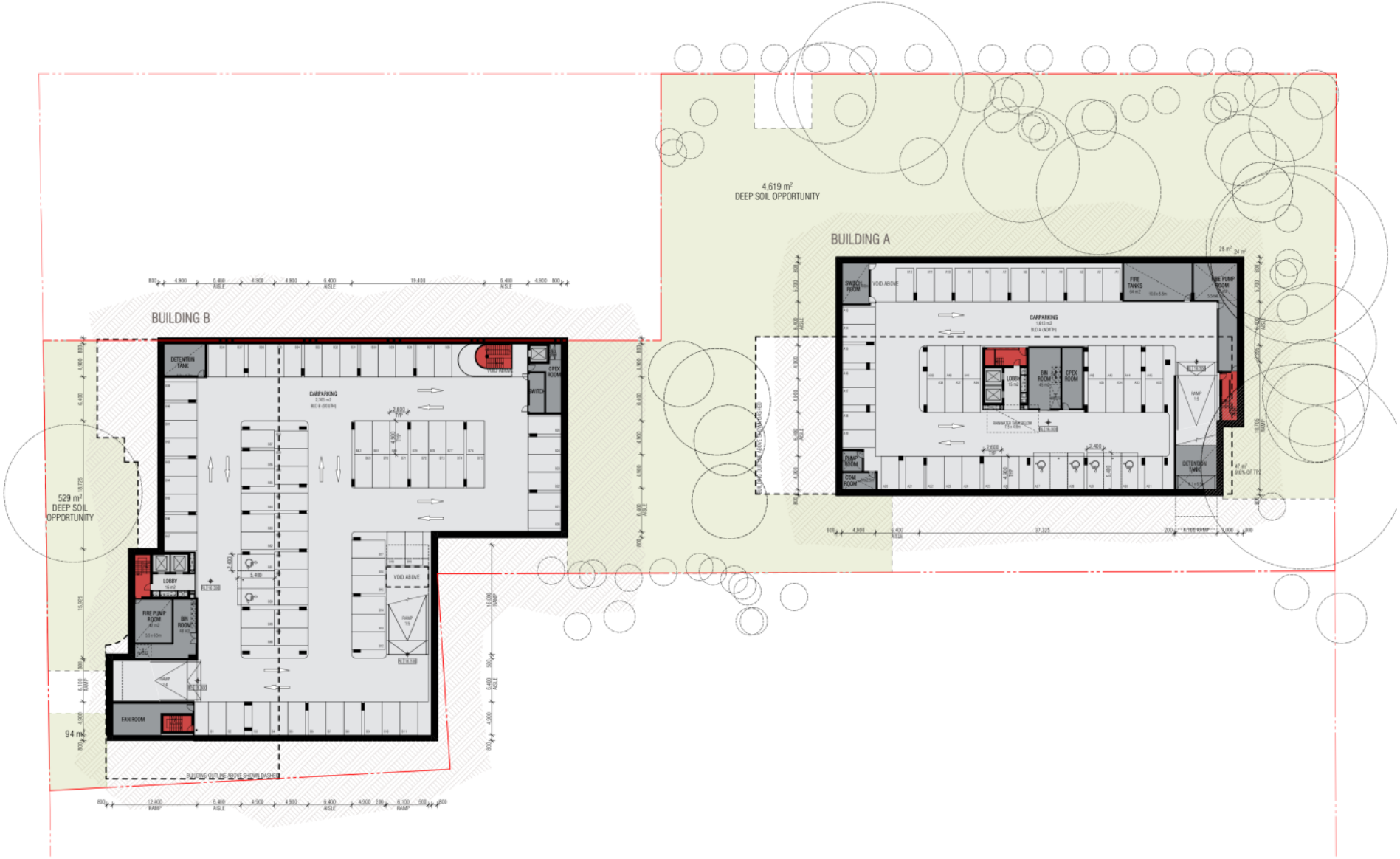
FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: FLOOR PLAN - BASEMENT 02
Date: 08/10/2020
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP2098
Revision: P01

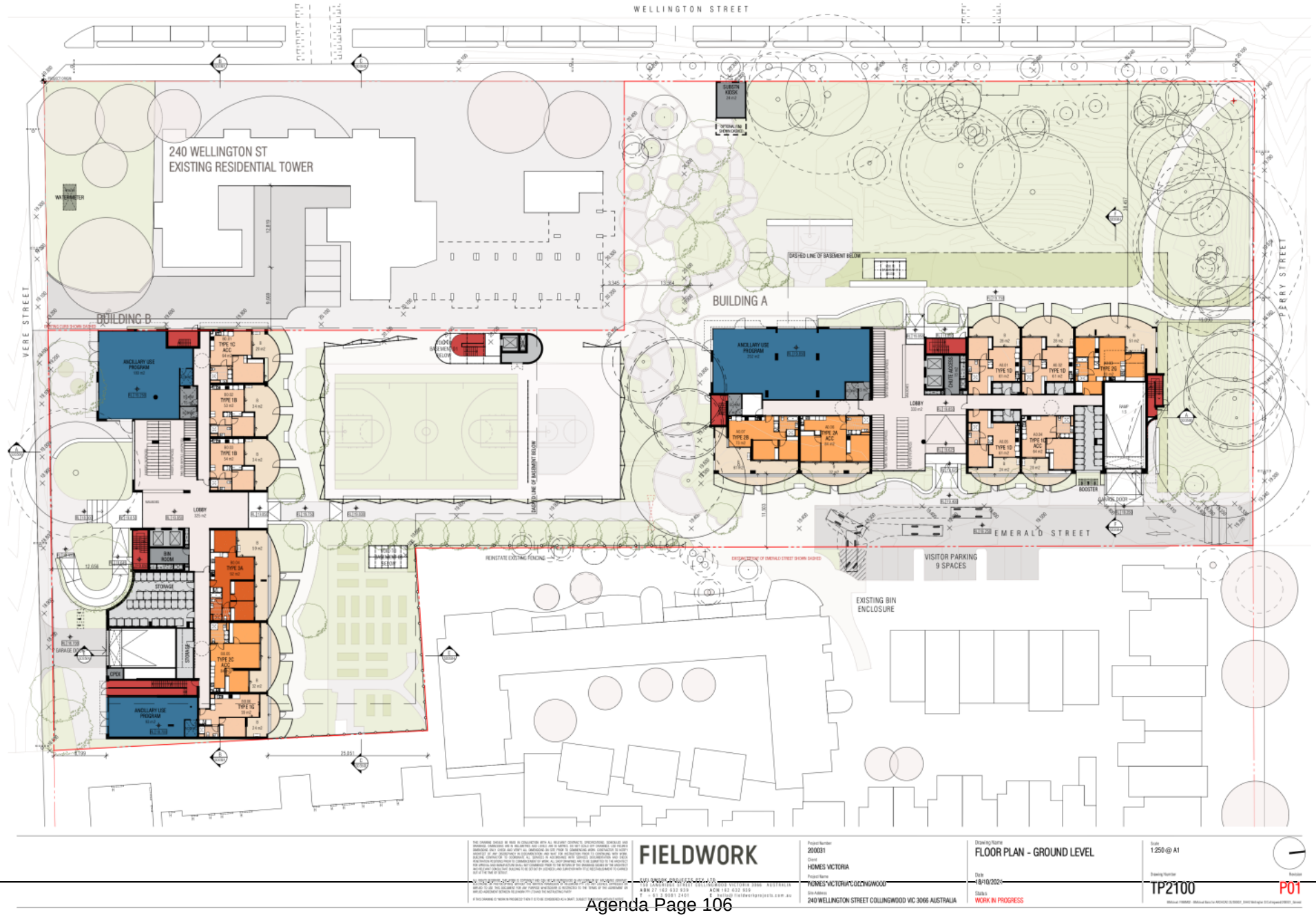
Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



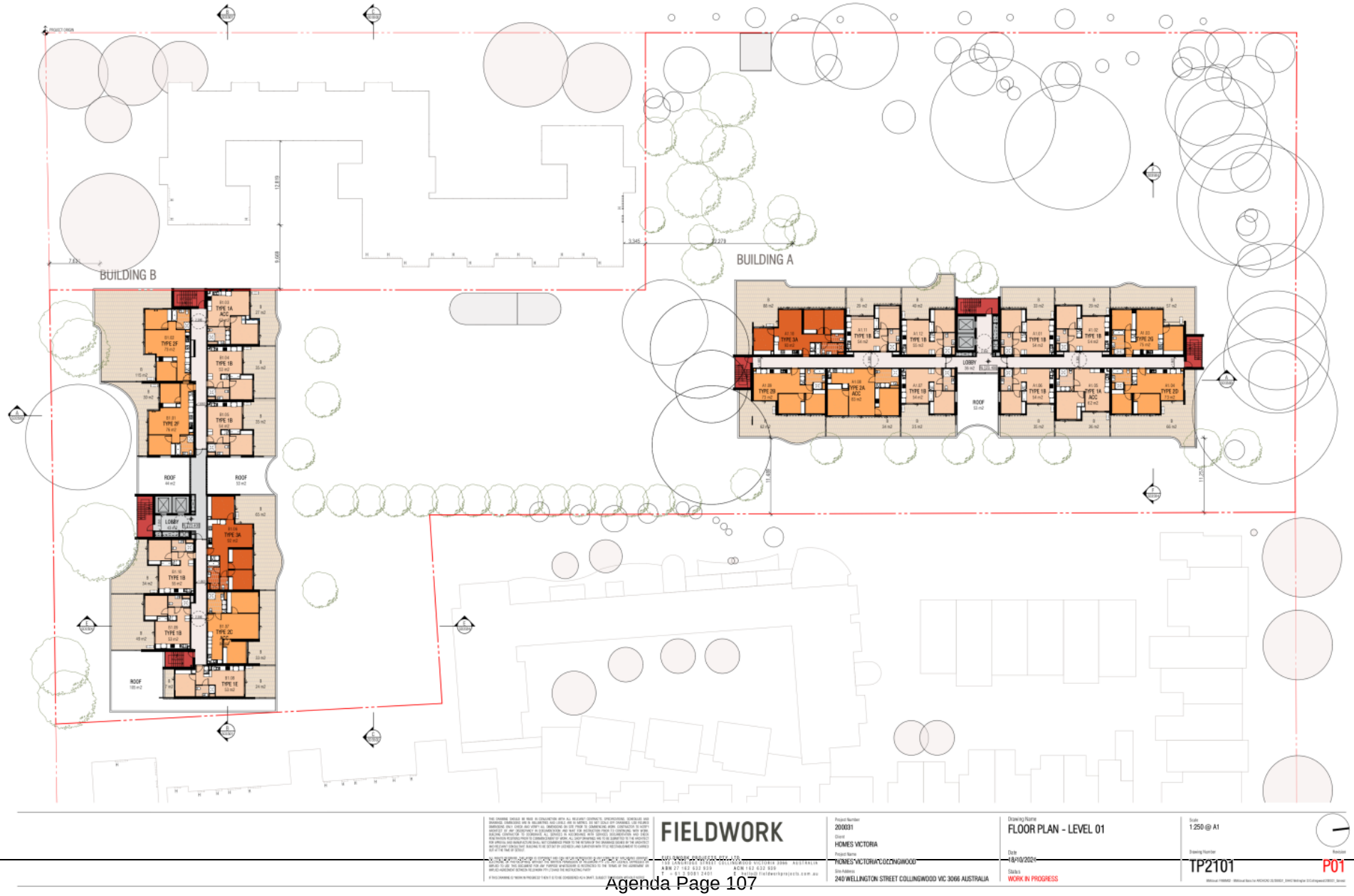
FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name: FLOOR PLAN - BASEMENT 01
Date: 04/10/2022
Status: WORK IN PROGRESS
Scale: 1:250 @ A1
Drawing Number: TP2099
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



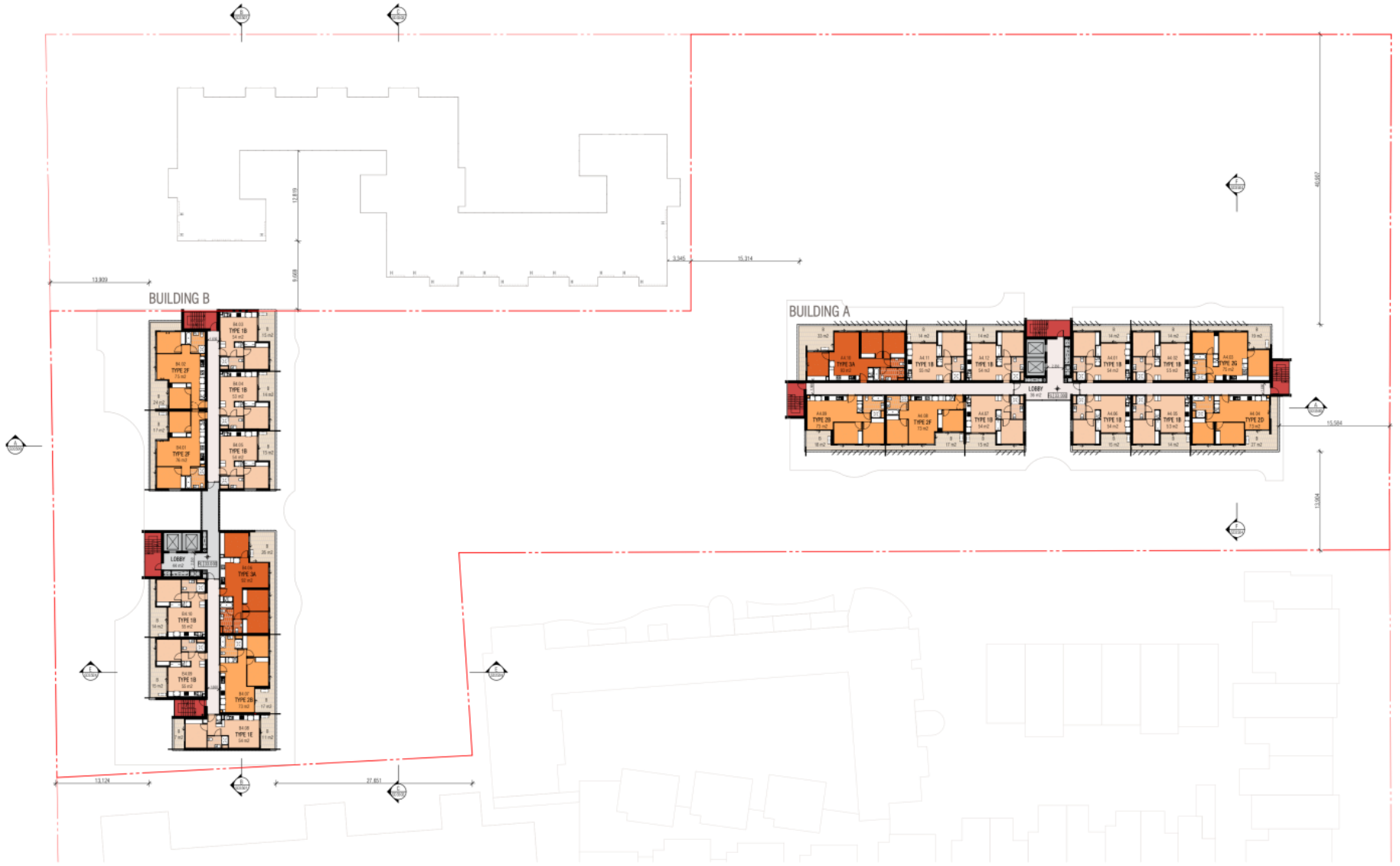
Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

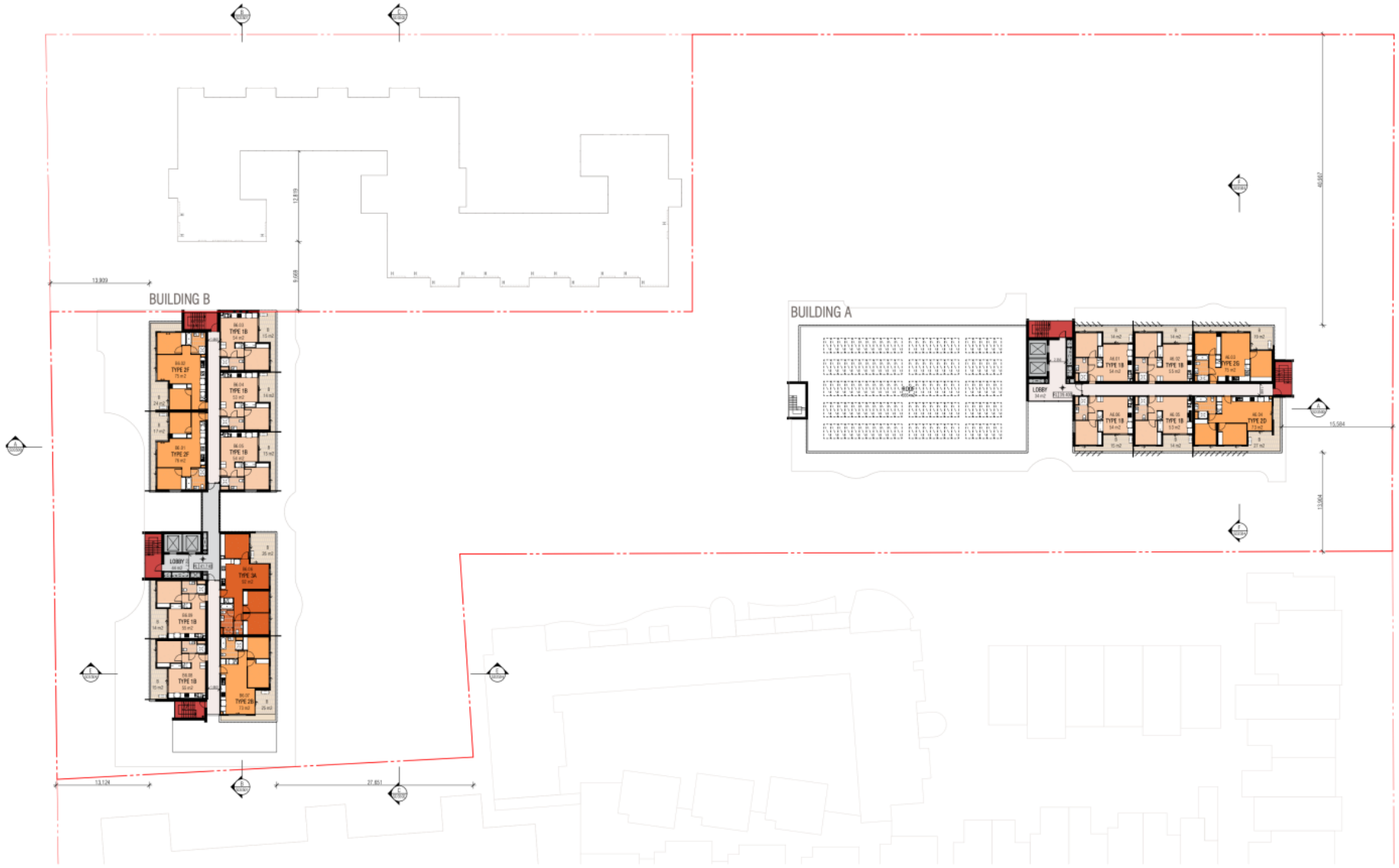
Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

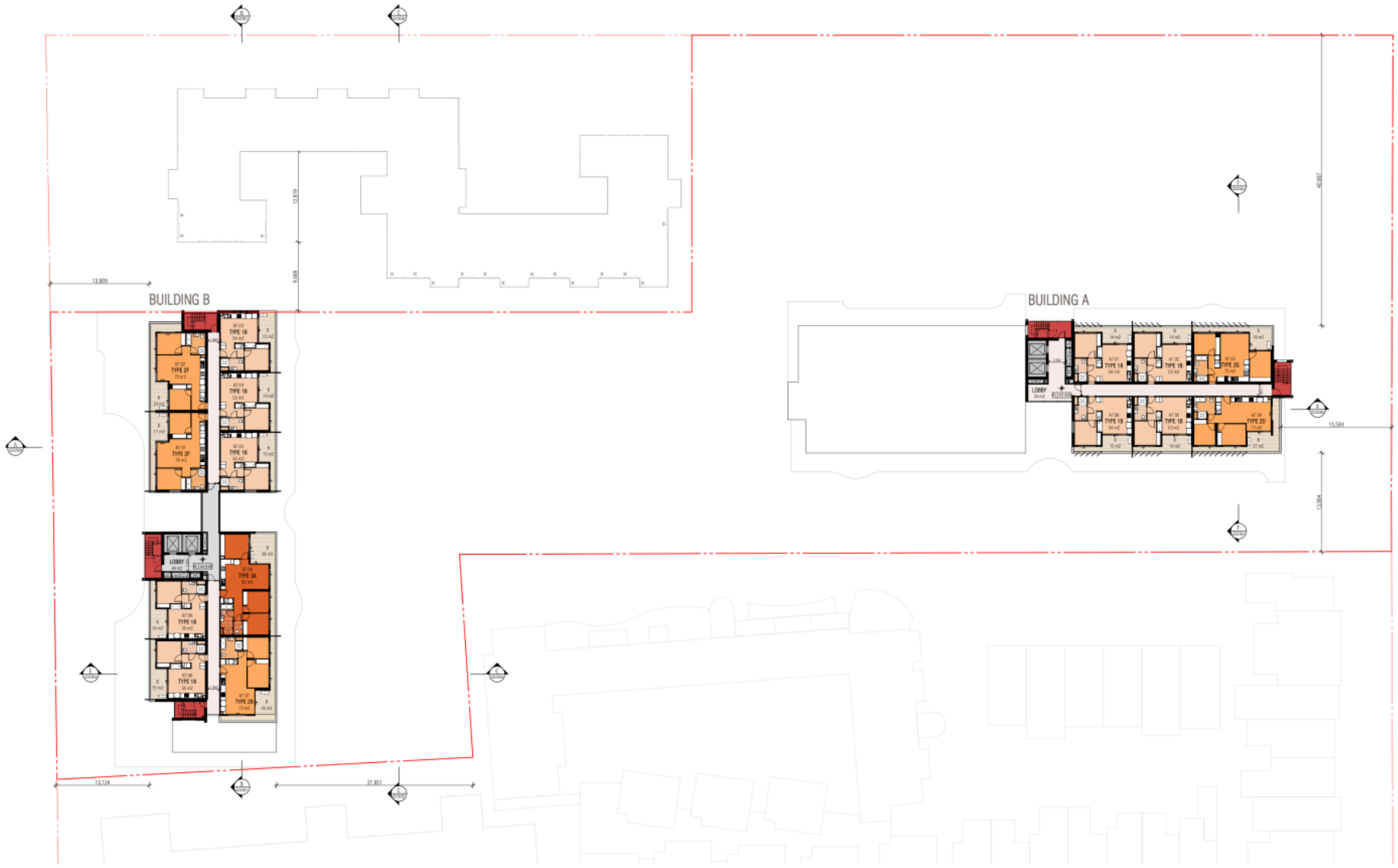


Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

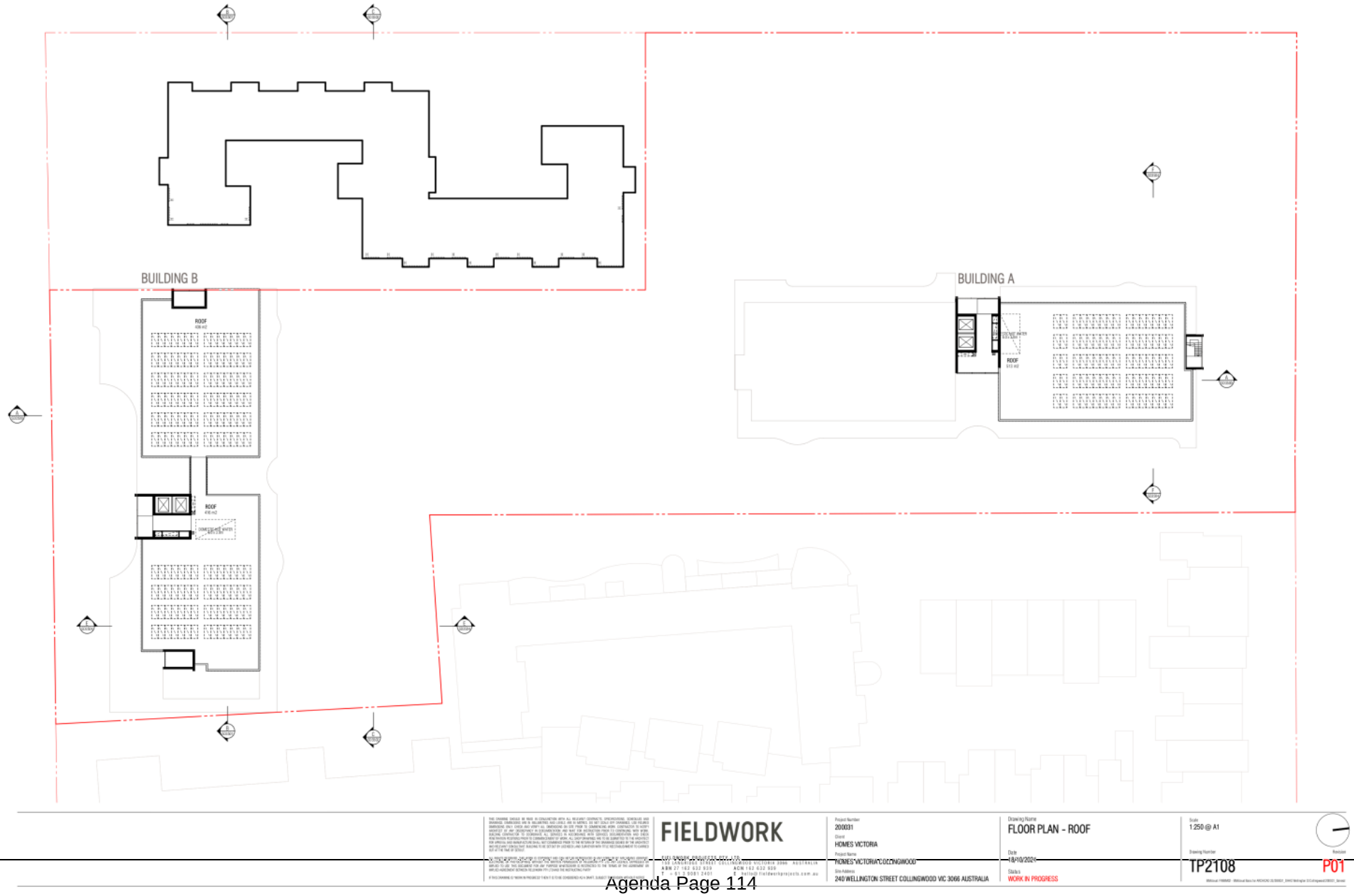
Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

01 ELEVATION - NORTH OVERALL
SCALE 1:250@A1

MATERIAL LEGEND

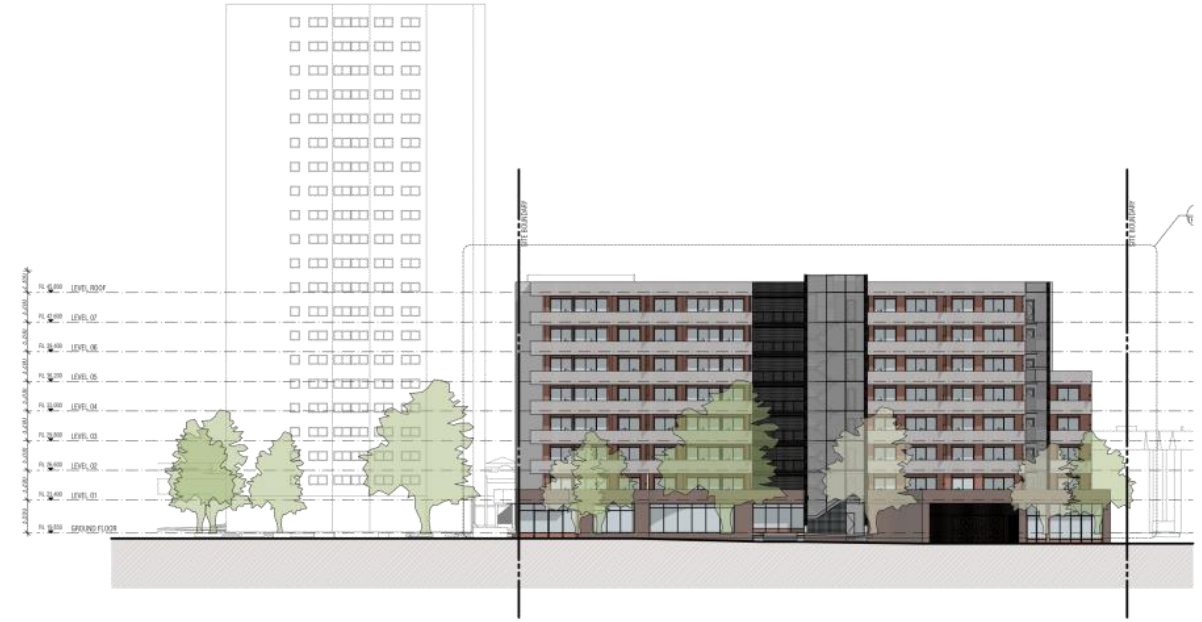
BR01	RED GLAZED BRICK (STACK BOND)	CF02	CONCRETE PRECAST (LIGHT GREY)	MS01	METAL CLADDING (SILVER FINISH)
BR02	GREEN GLAZED BRICK (STACK BOND)	CF03	CONCRETE - CORRUGATED FORM (LIGHT GREY)	MS01	MESH SCREEN (STAINLESS STEEL)
BR03	RED GLAZED BRICK (VERTICAL)	FC01	CLADDING (RED FINISH)	GS01	GLAZING FRAME (RED FINISH)
BR04	GREEN GLAZED BRICK (VERTICAL)	FC02	CLADDING (GREEN FINISH)	GS01	GLAZING FRAME (GREEN FINISH)

ELEVATION KEY PLAN

FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name: OVERALL ELEVATION - NORTH
Date: 04/10/2022
Status: WORK IN PROGRESS
Scale: 1:250 @ A1
Drawing Number: TP3000
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



02 ELEVATION - SOUTH OVERALL
SCALE 1:250@A1

MATERIAL LEGEND

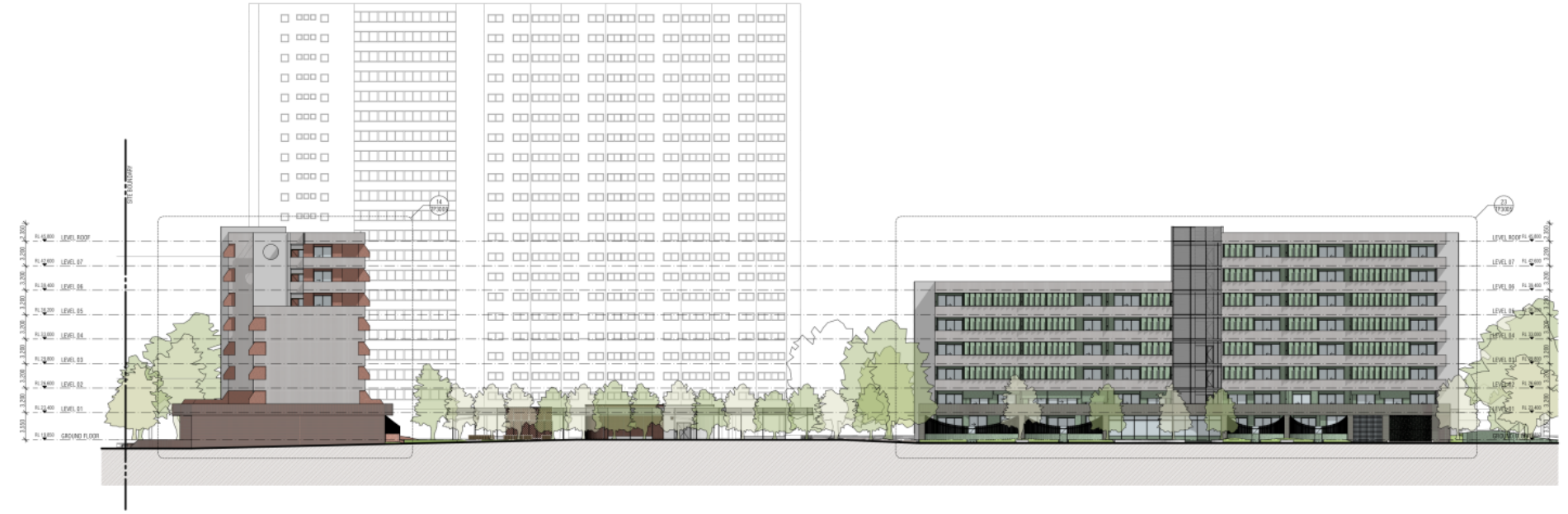
BR01	RED GLAZED BRICK (STACK BOND)	CF02	CONCRETE PRECAST (LIGHT GREY)	MS01	METAL CLADDING (SILVER FINISH)
BR02	GREEN GLAZED BRICK (STACK BOND)	CF03	CONCRETE - CORRUGATED FORM (LIGHT GREY)	MS01	MESH SCREEN (STAINLESS STEEL)
BR03	RED GLAZED BRICK (VERTICAL)	FC01	CLADDING (RED FINISH)	GS01	GLAZING FRAME (RED FINISH)
BR04	GREEN GLAZED BRICK (VERTICAL)	FC02	CLADDING (GREEN FINISH)	GS01	GLAZING FRAME (GREEN FINISH)

ELEVATION KEY PLAN

FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name: OVERALL ELEVATION - SOUTH
Date: 08/10/2020
Status: WORK IN PROGRESS
Scale: 1:250 @ A1
Drawing Number: TP3001
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



03 ELEVATION - EAST OVERALL
SCALE 1:250@A1

MATERIAL LEGEND

BR01	RED GLAZED BRICK (STACK BOND)	CF02	CONCRETE PRECAST (LIGHT GREY)	MS01	METAL CLADDING (SILVER FINISH)
BR02	GREEN GLAZED BRICK (STACK BOND)	CF03	CONCRETE - CORRUGATED FORM (LIGHT GREY)	MS01	MESH SCREEN (STAINLESS STEEL)
BR03	RED GLAZED BRICK (VERTICAL)	FC01	CLADDING (RED FINISH)	GS01	GLAZING FRAME (RED FINISH)
BR04	GREEN GLAZED BRICK (VERTICAL)	FC02	CLADDING (GREEN FINISH)	GS01	GLAZING FRAME (GREEN FINISH)

ELEVATION KEY PLAN

FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: OVERALL ELEVATION - EAST
Date: 04/10/2022
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP3002
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

04 ELEVATION - WEST OVERALL
SCALE 1:250@A1

MATERIAL LEGEND

BR01	RED GLAZED BRICK (STACK BOND)	CF02	CONCRETE PRECAST (LIGHT GREY)	MS01	METAL CLADDING (SILVER FINISH)
BR02	GREEN GLAZED BRICK (STACK BOND)	CF03	CONCRETE - CORRUGATED FORM (LIGHT GREY)	MS01	MESH SCREEN (STAINLESS STEEL)
BR03	RED GLAZED BRICK (VERTICAL)	FC01	CLADDING (RED FINISH)	GS01	GLAZING FRAME (RED FINISH)
BR04	GREEN GLAZED BRICK (VERTICAL)	FC02	CLADDING (GREEN FINISH)	GS01	GLAZING FRAME (GREEN FINISH)

ELEVATION KEY PLAN

FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: OVERALL ELEVATION - WEST
Date: 04/10/2022
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP3003
Revision: P01

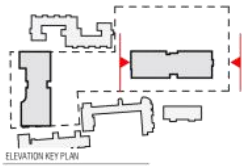
Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

21 ELEVATION - BUILDING A NORTH
SCALE 1:100@A1

22 ELEVATION - BUILDING A SOUTH
SCALE 1:100@A1

MATERIAL LEGEND

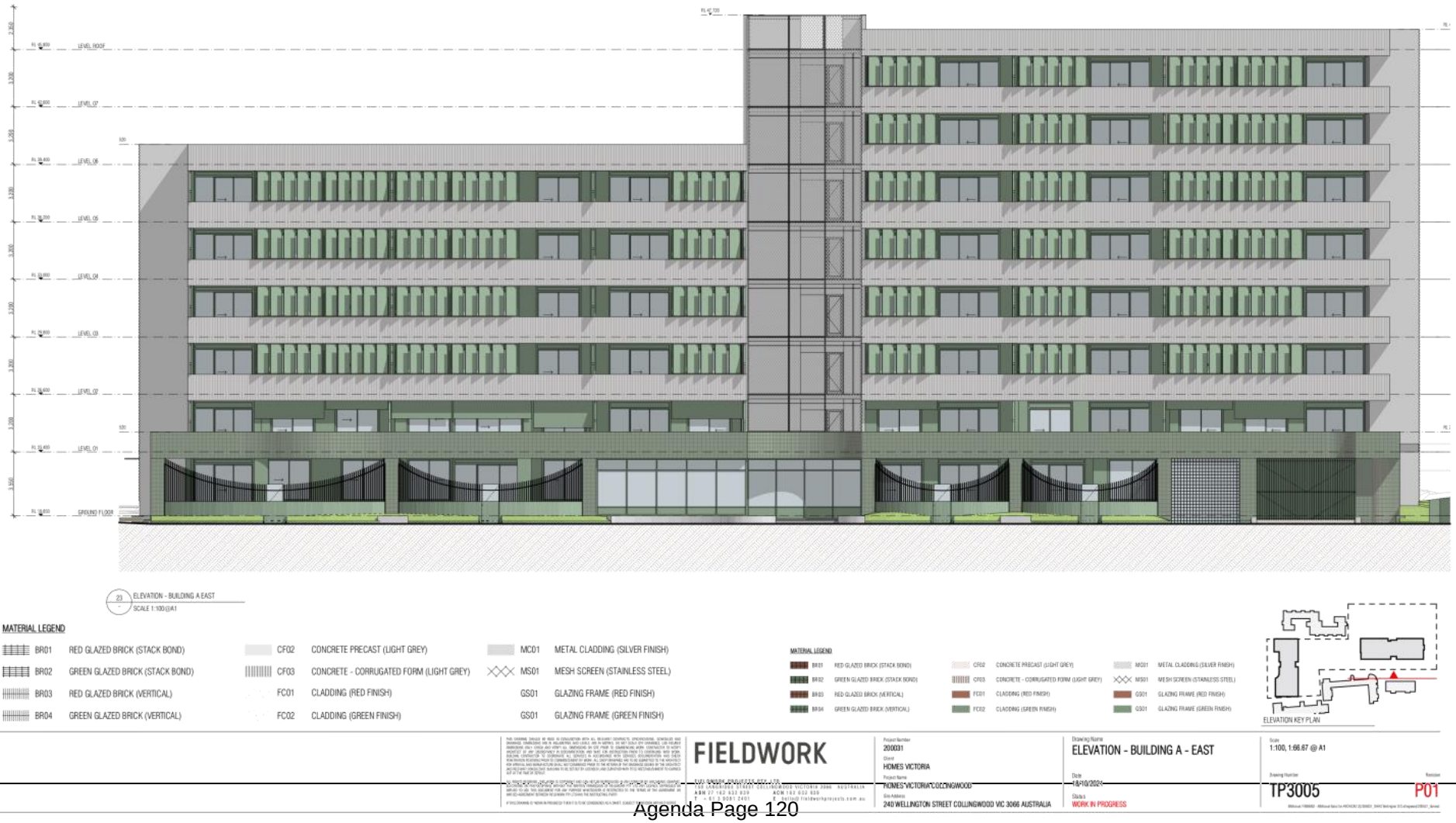
BR01	RED GLAZED BRICK (STACK BOND)	CF02	CONCRETE PRECAST (LIGHT GREY)	MC01	METAL CLADDING (SILVER FINISH)
BR02	GREEN GLAZED BRICK (STACK BOND)	CF03	CONCRETE - CORRUGATED FORM (LIGHT GREY)	MS01	MESH SCREEN (STAINLESS STEEL)
BR03	RED GLAZED BRICK (VERTICAL)	FC01	CLADDING (RED FINISH)	GS01	GLAZING FRAME (RED FINISH)
BR04	GREEN GLAZED BRICK (VERTICAL)	FC02	CLADDING (GREEN FINISH)	GS01	GLAZING FRAME (GREEN FINISH)



FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name: ELEVATION - BUILDING A - NORTH & SOUTH
Date: 18/10/2022
Status: WORK IN PROGRESS
Scale: 1:100, 1:66.67 @ A1
Drawing Number: TP3004
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

24 ELEVATION - BUILDING A WEST
SCALE 1:100@A1

MATERIAL LEGEND

BR01	RED GLAZED BRICK (STACK BOND)	CF02	CONCRETE PRECAST (LIGHT GREY)	MC01	METAL CLADDING (SILVER FINISH)
BR02	GREEN GLAZED BRICK (STACK BOND)	CF03	CONCRETE - CORRUGATED FORM (LIGHT GREY)	MS01	MESH SCREEN (STAINLESS STEEL)
BR03	RED GLAZED BRICK (VERTICAL)	FC01	CLADDING (RED FINISH)	GS01	GLAZING FRAME (RED FINISH)
BR04	GREEN GLAZED BRICK (VERTICAL)	FC02	CLADDING (GREEN FINISH)	GS01	GLAZING FRAME (GREEN FINISH)

MATERIAL LEGEND
BR01 RED GLAZED BRICK (STACK BOND)
BR02 GREEN GLAZED BRICK (STACK BOND)
BR03 RED GLAZED BRICK (VERTICAL)
BR04 GREEN GLAZED BRICK (VERTICAL)
CF02 CONCRETE PRECAST (LIGHT GREY)
CF03 CONCRETE - CORRUGATED FORM (LIGHT GREY)
FC01 CLADDING (RED FINISH)
FC02 CLADDING (GREEN FINISH)
MC01 METAL CLADDING (SILVER FINISH)
MS01 MESH SCREEN (STAINLESS STEEL)
GS01 GLAZING FRAME (RED FINISH)
GS01 GLAZING FRAME (GREEN FINISH)

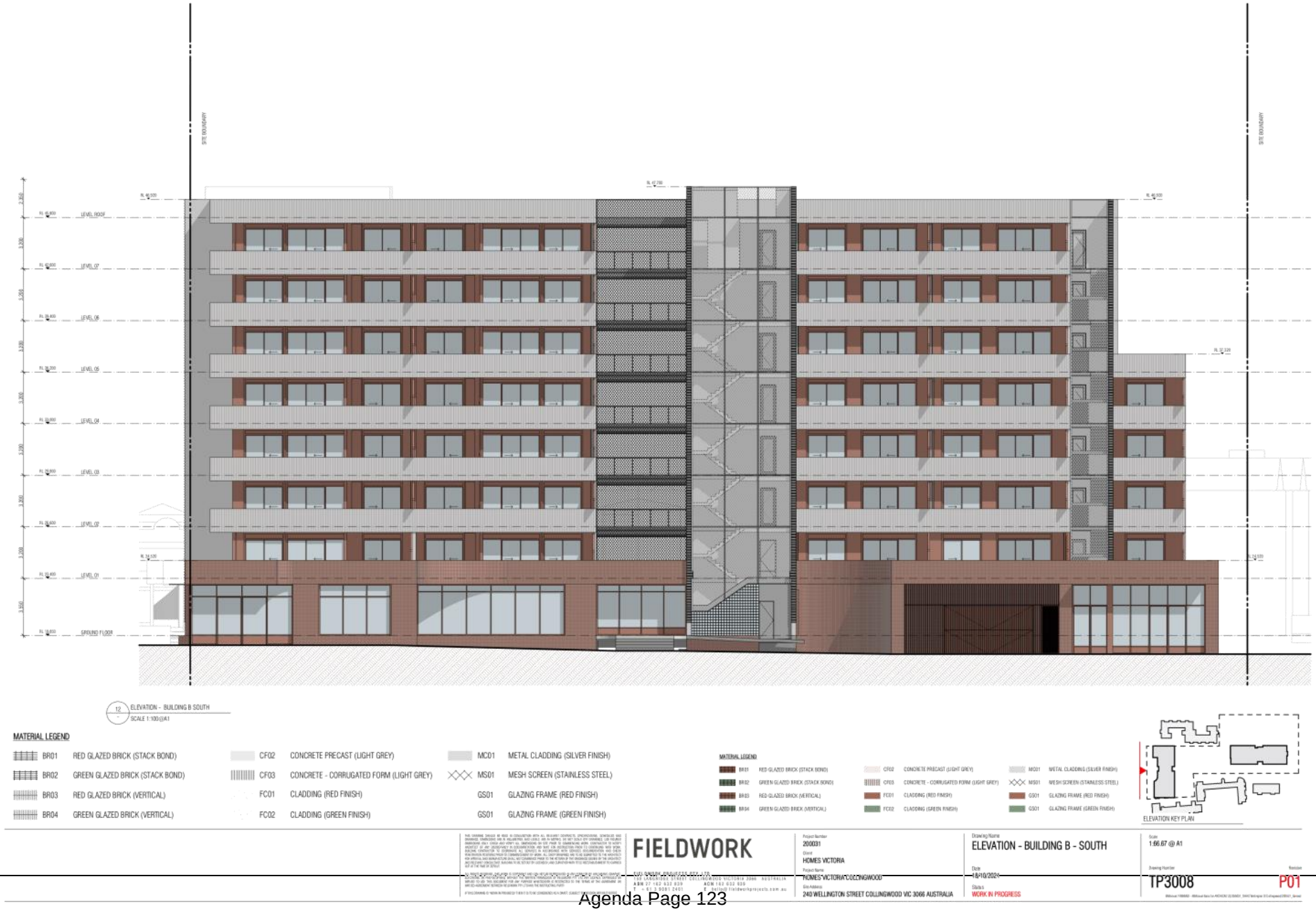
ELEVATION KEY PLAN

FIELDWORK

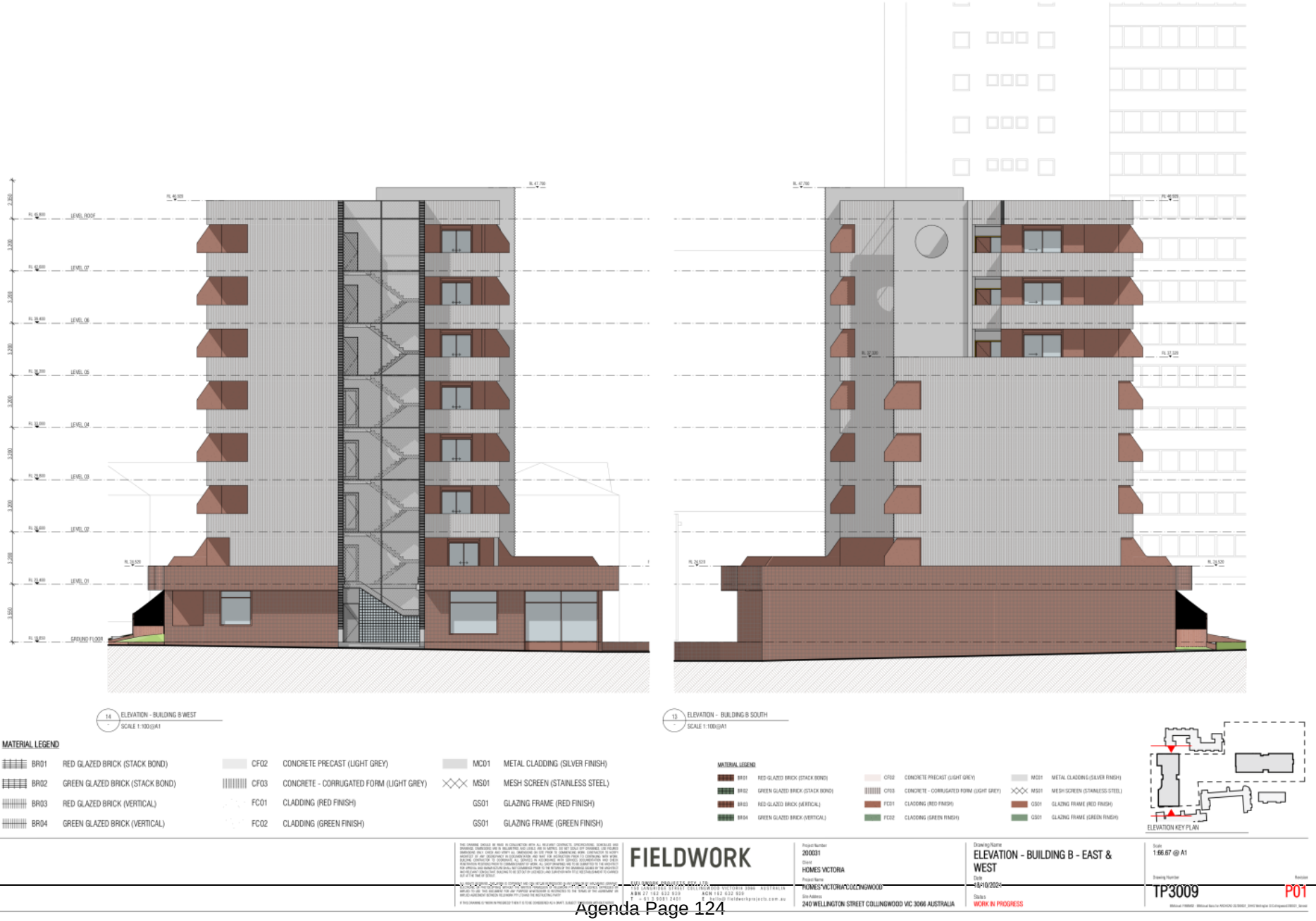
Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name: ELEVATION - BUILDING A - WEST
Date: 18/10/2022
Status: WORK IN PROGRESS
Scale: 1:100, 1:66.67 @ A1
Drawing Number: TP3006
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

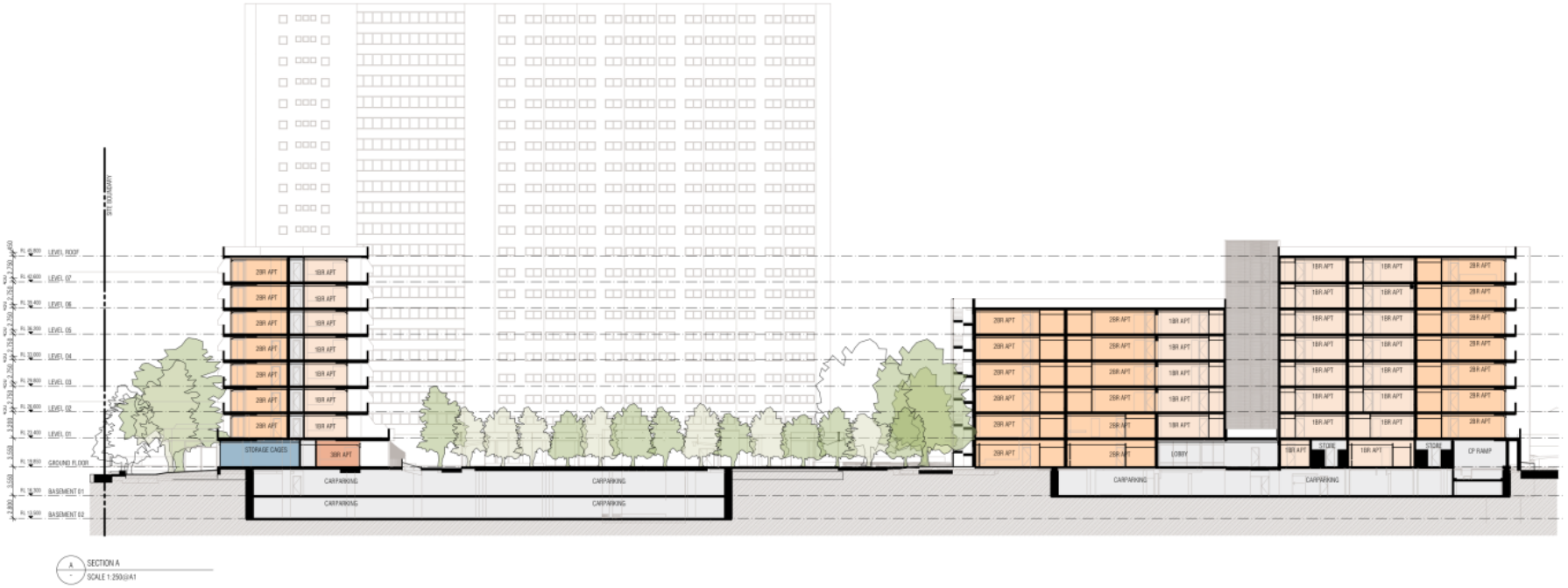
Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



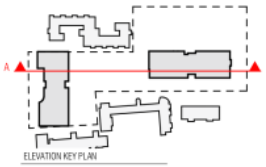
Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



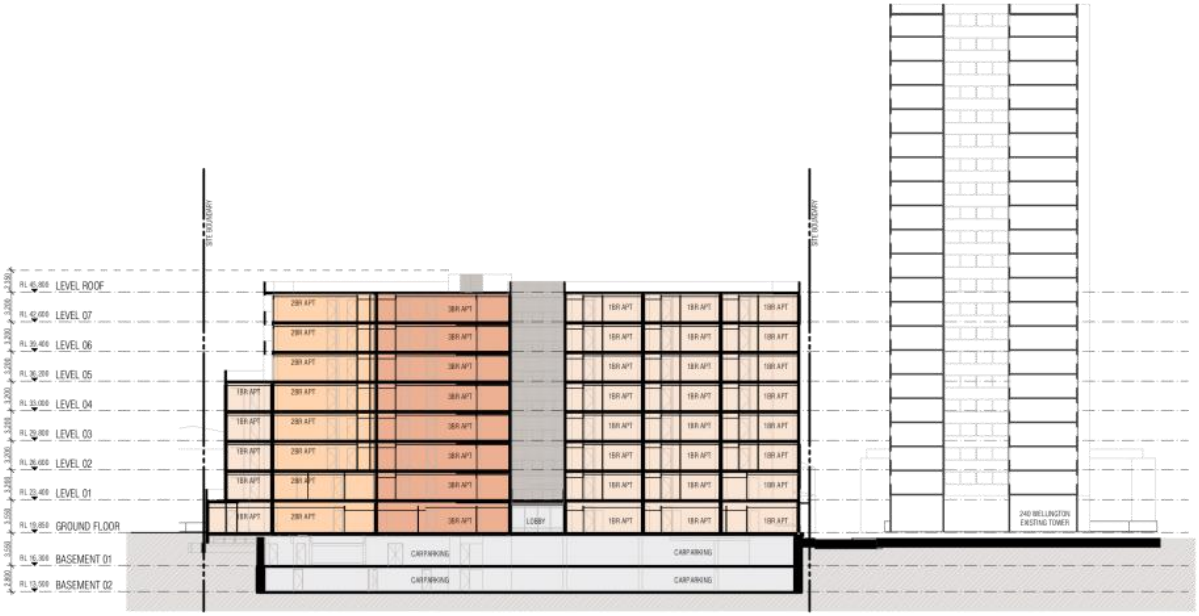
SECTION A
SCALE 1:250@A1



FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name: SECTION A
Date: 18/10/2022
Status: WORK IN PROGRESS
Scale: @ A1
Drawing Number: TP3500
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



B SECTION B
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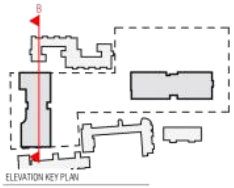
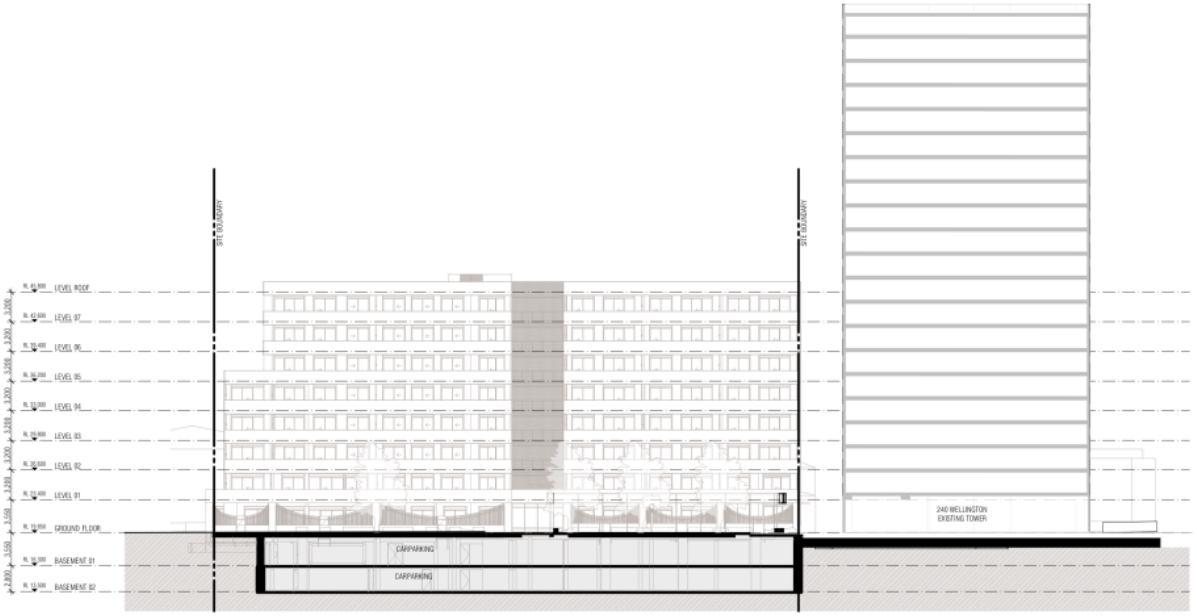


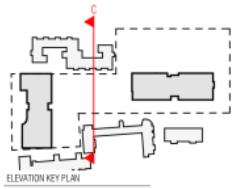
FIELDWORK

Project Number 200031
Client HOMES VICTORIA
Project Name HOMES VICTORIA COLLINGWOOD
Site Address 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name SECTION B
Date 08/10/2020
Status WORK IN PROGRESS
Scale @ A1
Drawing Number TP3501
Revision P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



C SECTION C
SCALE 1:250@A1



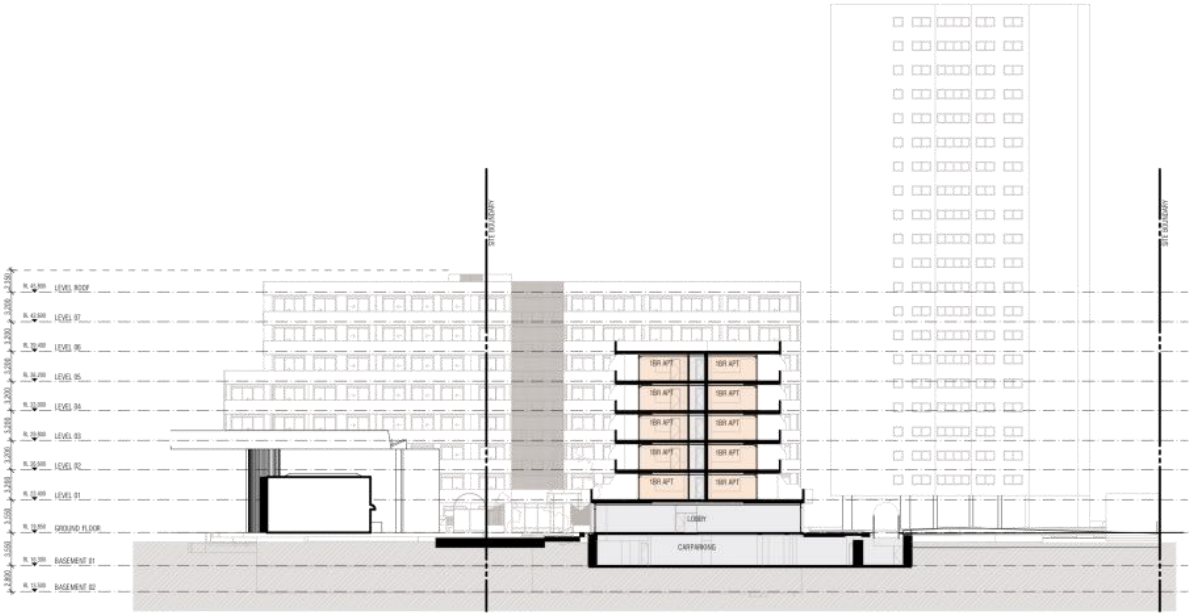
FIELDWORK

Project Number 200031
Client HOMES VICTORIA
Project Name HOMES VICTORIA COLLINGWOOD
Site Address 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

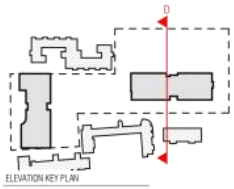
Drawing Name SECTION C
Date 08/10/2020
Status WORK IN PROGRESS

Scale @ A1
Drawing Number TP3502
Revision P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



SECTION D
SCALE 1:250@A1

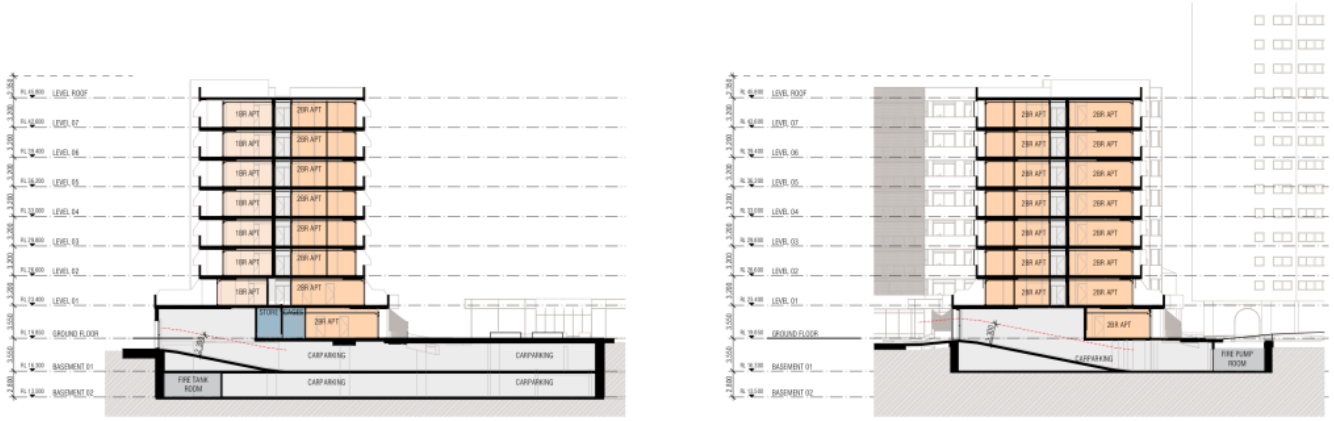


ELEVATION KEY PLAN

FIELDWORK

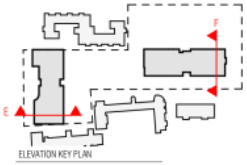
Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name: SECTION D
Date: 18/10/2022
Status: WORK IN PROGRESS
Scale: @ A1
Drawing Number: TP3503
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



E SECTION E
SCALE 1:250@A1

F SECTION F
SCALE 1:250@A1



ELEVATION KEY PLAN

FIELDWORK

Project Number 200031
Client HOMES VICTORIA
Project Name HOMES VICTORIA COLLINGWOOD
Site Address 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name SECTION E & F
Date 08/10/2020
Status WORK IN PROGRESS
Scale @ A1
Drawing Number TP3504
Revision P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

			Apartment Summary						BEDROOM 1			BEDROOM 2			BEDROOM 3			SADDLEBACK			Storage			Ventilation		Private Open Space			Adaptability			
			Area (m2)			Functional Layout															Storage Volume (m3)			Breeze Path		Balcony			1200mm Access Path		Bathroom			Apartment
						Living Area			Bedroom 1			Bedroom 2			Bedroom 3			Snorkel Area								Useable	Minimum						
Apartment Number	Apartment Category	Apartment Type	Internal	POS	Total	Dimension 1 (mm)	Dimension 2 (mm)	Area (m2)	Living Room Compliance	Dimension 1 (mm)	Dimension 2 (mm)	Bedroom Compliance	Dimension 1 (mm)	Dimension 2 (mm)	Bedroom Compliance	Dimension 1 (mm)	Dimension 2 (mm)	Bedroom Compliance	Dimension 1 (mm)	Dimension 2 (mm)	Compliance	Internal	External	Total	Compliance	Path Length (m)	Compliance	Area (m2)	Dimension (mm)	Compliance	Width (mm)	Path Compliance	Width (mm)	Length (m)	Bathroom Compliance	Compliance
A0.01	1 BED	1D	41	28	69	3000	3350	10	✔	3000	3400	✔										10.20	0.00	10.20	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A0.02	1 BED	1D	41	28	69	3000	3350	10	✔	3000	3400	✔										10.20	0.00	10.20	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A0.03	2 BED	2G	83	51	134	3000	4020	12	✔	3000	3700	✔	3000	3000	✔							16.00	0.00	16.00	✔	11.4	✔	10.0	5200	✔	1200	✔	1200	1200	✔	✔
A0.04	1 BED	1C	64	20	84	2760	3700	10	✔	3100	4800	✔										10.00	0.00	10.00	✔			10.0	2300	✔	1200	✔	1200	1200	✔	✔
A0.05	1 BED	1D	41	24	65	3000	3350	10	✔	3000	3400	✔										10.20	0.00	10.20	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A0.06	2 BED	2A	84	52	136	3300	3900	13	✔	3000	4100	✔	3150	3980	✔							10.41	5.69	14.10	✔			6.0	1790	✘	1200	✔	1200	1200	✔	✔
A0.07	2 BED	2B	73	61	134	3600	3650	13	✔	3000	3400	✔	3000	3000	✔							11.14	2.96	14.10	✔	11.71	✔	10.0	2800	✔	1200	✔	1200	1200	✔	✔
A1.01	1 BED	1B	54	33	87	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A1.02	1 BED	1B	54	29	83	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A1.03	2 BED	2G	75	57	132	3000	4020	12	✔	3000	3700	✔	3000	3000	✔							16.00	0.00	16.00	✔			10.0	5200	✔	1200	✔	1200	1200	✔	✔
A1.04	2 BED	2D	73	66	139	3450	3600	12	✔	3000	3400	✔	3000	3000	✔							11.14	3.00	14.14	✔	11.66	✔	10.0	2800	✔	1200	✔	1200	1200	✔	✔
A1.05	1 BED	1A	62	26	88	2760	3700	10	✔	3100	4100	✔										9.00	2.96	11.96	✔			10.0	2300	✔	1200	✔	1200	1200	✔	✔
A1.06	1 BED	1B	54	35	89	3250	3450	11	✔	3000	3600	✔										10.32	0.00	10.32	✔	9.62	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
A1.07	1 BED	1B	54	35	89	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.4	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
A1.08	2 BED	2A	83	34	117	3300	3900	13	✔	3000	4100	✔	3150	3980	✔							10.41	3.96	14.37	✔			34.0	3090	✔	1200	✔	1200	1200	✔	✔
A1.09	2 BED	2B	73	62	135	3600	3650	13	✔	3000	3400	✔	3000	3000	✔							11.14	2.86	14.00	✔			10.0	2800	✔	1200	✔	1200	1200	✔	✔
A1.10	3 BED	3A	93	88	181	3515	3600	13	✔	3000	3400	✔	3000	3000	✔	3010	3000	✔				14.30	4.05	18.35	✔	8.33	✔	13.0	3500	✔	1200	✔	1200	1200	✔	✔
A1.11	1 BED	1B	54	29	83	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A1.12	1 BED	1B	55	40	95	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A2.01	1 BED	1B	54	14	68	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A2.02	1 BED	1B	55	14	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A2.03	2 BED	2G	75	19	94	3000	4020	12	✔	3000	3700	✔	3000	3000	✔							16.00	0.00	16.00	✔			10.0	5200	✔	1200	✔	1200	1200	✔	✔
A2.04	2 BED	2D	73	27	100	3450	3600	12	✔	3000	3400	✔	3000	3000	✔							11.14	3.00	14.14	✔	11.66	✔	10.0	2800	✔	1200	✔	1200	1200	✔	✔
A2.05	1 BED	1B	53	14	67	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A2.06	1 BED	1B	54	15	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.62	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
A2.07	1 BED	1B	54	15	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.4	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
A2.08	2 BED	2F	73	17	90	3350	3600	12	✔	3000	3400	✔	3000	3000	✔							12.33	2.99	15.32	✔			10.0	2450	✔	1200	✔	1200	1200	✔	✔
A2.09	2 BED	2B	73	18	91	3600	3650	13	✔	3000	3400	✔	3000	3000	✔							11.14	2.99	14.13	✔			10.0	2800	✔	1200	✔	1200	1200	✔	✔
A2.10	3 BED	3A	93	33	126	3515	3600	13	✔	3000	3400	✔	3000	3000	✔	3010	3000	✔				14.30	4.03	18.33	✔	8.33	✔	13.0	3500	✔	1200	✔	1200	1200	✔	✔
A2.11	1 BED	1B	55	14	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A2.12	1 BED	1B	54	14	68	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A3.01	1 BED	1B	54	14	68	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A3.02	1 BED	1B	55	14	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A3.03	2 BED	2G	75	19	94	3000	4020	12	✔	3000	3700	✔	3000	3000	✔							16.00	0.00	16.00	✔			10.0	5200	✔	1200	✔	1200	1200	✔	✔
A3.04	2 BED	2D	73	27	100	3450	3600	12	✔	3000	3400	✔	3000	3000	✔							11.14	3.00	14.14	✔	11.66	✔	10.0	2800	✔	1200	✔	1200	1200	✔	✔
A3.05	1 BED	1B	53	14	67	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A3.06	1 BED	1B	54	15	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.62	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
A3.07	1 BED	1B	54	15	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.4	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
A3.08	2 BED	2F	73	17	90	3350	3600	12	✔	3000	3400	✔	3000	3000	✔							12.33	2.99	15.32	✔			10.0	2450	✔	1200	✔	1200	1200	✔	✔
A3.09	2 BED	2B	73	18	91	3600	3650	13	✔	3000	3400	✔	3000	3000	✔							11.14	2.99	14.13	✔			10.0	2800	✔	1200	✔	1200	1200	✔	✔
A3.10	3 BED	3A	93	33	126	3515	3600	13	✔	3000	3400	✔	3000	3000	✔	3010	3000	✔				14.30	4.81	19.11	✔	8.33	✔	13.0	3500	✔	1200	✔	1200	1200	✔	✔
A3.11	1 BED	1B	55	14	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A3.12	1 BED	1B	54	14	68	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A4.01	1 BED	1B	54	14	68	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A4.02	1 BED	1B	55	14	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A4.03	2 BED	2G	75	19	94	3000	4020	12	✔	3000	3700	✔	3000	3000	✔							16.00	0.00	16.00	✔			10.0	5200	✔	1200	✔	1200	1200	✔	✔
A4.04	2 BED	2D	73	27	100	3450	3600	12	✔	3000	3400	✔	3000	3000	✔							11.14	2.96	14.10	✔	11.66	✔	10.0	2800	✔	1200	✔	1200	1200	✔	✔
A4.05	1 BED	1B	53	14	67	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A4.06	1 BED	1B	54	15	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.62	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
A4.07	1 BED	1B	54	15	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.4	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
A4.08	2 BED	2F	73	17	90	3350	3600	12	✔	3000	3400	✔	3000	3000	✔							12.33	2.63	14.96	✔			10.0	2450	✔	1200	✔	1200	1200	✔	✔
A4.09	2 BED	2B	73	18	91	3600	3650	13	✔	3000	3400	✔	3000	3000	✔							11.14	2.99	14.13	✔			10.0	2800	✔	1200	✔	1200	1200	✔	✔
A4.10	3 BED	3A	93	33	126	3515	3600	13	✔	3000	3400	✔	3000	3000	✔	3010	3000	✔				14.30	4.76	19.06	✔	8.33	✔	13.0	3500	✔	1200	✔	1200	1200	✔	✔
A4.11	1 BED	1B	55	14	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A4.12	1 BED	1B	54	14	68	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A5.01	1 BED	1B	54	14	68	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A5.02	1 BED	1B	55	14	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A5.03	2 BED	2G	75	19	94	3000	4020	12	✔	3000	3700	✔	3000	3000	✔							16.00	0.00	16.00	✔			10.0	5200	✔	1200	✔	1200	1200	✔	✔
A5.04	2 BED	2D	73	27	100	3450	3600	12	✔	3000	3400	✔	3000	3000	✔							11.14	3.00	14.14	✔	11.66	✔	10.0	2800	✔	1200	✔	1200	1200	✔	✔
A5.05	1 BED	1B	53	14	67	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A5.06	1 BED	1B	54	15	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.62	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
A5.07	1 BED	1B	54	15	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.4	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
A5.08	2 BED	2F	73	17	90	3350	3600	12	✔	3000	3400	✔	3000	3000	✔							12.33	2.65	14.98	✔			10.0	2450	✔	1200	✔	1200	1200	✔	✔
A5.09	2 BED	2B	73	18	91	3600	3650	13	✔	3000	3400	✔	3000	3000	✔							11.14	2.96	14.10	✔			10.0	2800	✔	1200	✔	1200	1200	✔	✔
A5.10	3 BED	3A	93	33	126	3515	3600	13	✔	3000	3400	✔	3000	3000	✔	3010	3000	✔				14.30	4.17	18.47	✔	8.33	✔	13.0	3500	✔	1200	✔	1200	1200	✔	✔
A5.11	1 BED	1B	55	14	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A5.12	1 BED	1B	54	14	68	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A6.01	1 BED	1B	54	14	68	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A6.02	1 BED	1B	55	14	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A6.03	2 BED	2G	75	19	94	3000	4020	12	✔	3000	3700	✔	3000	3000	✔							16.00	0.00	16.00	✔			10.0	5200	✔	1200	✔	1200	1200	✔	✔
A6.04	2 BED	2D	73	27	100	3450	3600	12	✔	3000	3400	✔	3000	3000	✔							11.14	3.00	14.14	✔	11.66	✔	10.0	2800	✔	1200	✔	1200	1200	✔	✔
A6.05	1 BED	1B	53	14	67	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A6.06	1 BED	1B	54	15	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.62	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
A7.01	1 BED	1B	54	14	68	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A7.02	1 BED	1B	55	14	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A7.03	2 BED	2G	75	19	94	3000	4020	12	✔	3000	3700	✔	3000	3000	✔							16.00	0.00	16.00	✔			10.0	5200	✔	1200	✔	1200	1200	✔	✔
A7.04	2 BED	2D	73	27	100	3450	3600	12	✔	3000	3400	✔	3000	3000	✔							11.14	2.96	14.10	✔	11.66	✔	10.0	2800	✔	1200	✔	1200	1200	✔	✔
A7.05	1 BED	1B	53	14	67	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
A7.06	1 BED	1B	54	15	69	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.62	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
B0.01	1 BED	1C	64	20	84	2760	3700	10	✔	3100	4800	✔										10.00	0.00	10.00	✔	11.69	✔	10.0	2300	✔	1200	✔	1200	1200	✔	✔
B0.02	1 BED	1B	53	34	87	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
B0.03	1 BED	1B	54	34	88	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
B0.04	3 BED	3A	92	59	151	3515	3600	13	✔	3400	3600	✔	3000	3000	✔	3010	3000	✔				14.68	3.33	18.21	✔	11.99	✔	13.0	3500	✔	1200	✔	1200	1200	✔	✔
B0.05	2 BED	2C	84	52	136	3330	3850	12	✔	3370	4119	✔	3330	3000	✔							11.46	2.98	14.44	✔			10.0	2980	✔	1200	✔	1200	1200	✔	✔
B0.06	1 BED	1G	59	24	83	3000	3565	11	✔	3000	3400	✔										8.45	2.69	11.12	✔			10.0	3300	✔	1200	✔	950	1200	✘	✘
B1.01	2 BED	2F	76	30	106	3350	3600	12	✔	3000	3400	✔	3000	3000	✔							12.33	2.98	15.31	✔	8.09	✔	10.0	2450	✔	1200	✔	1200	1200	✔	✔
B1.02	2 BED	2F	73	115	188	3350	3600	12	✔	3000	3400	✔	3000	3000	✔							12.33	2.98	15.31	✔	8.84	✔	10.0	2450	✔	1200	✔	1200	1200	✔	✔
B1.03	1 BED	1A	62	27	89	2760	3700	10	✔	3100	4100	✔										9.00	2.69	11.69	✔			10.0	2300	✔	1200	✔	1200	1200	✔	✔
B1.04	1 BED	1B	53	35	88	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔			10.0	2300	✔	1210	✔	1200	1200	✔	✔
B1.05	1 BED	1B	54	35	89	3250	3450	11	✔	3000	3400	✔										10.32	0.00	10.32	✔	9.49	✔	10.0	2300	✔	1210	✔	1200	1200	✔	✔
B1.06	3 BED	3A	92	65	157	3515	3600	13	✔	3400	3400	✔	3000	3000	✔	3010	3000	✔				14.88	3.33	18.21	✔	12.52	✔	15.0	3500	✔	1200	✔	1200	1200	✔	✔

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100 WINDSOR AVENUE PRAHRAN VIC 3181
240 WELLINGTON STREET COLLINGWOOD VICTORIA 3066

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans

			Apartment Summary			BEDROOM 1	BEDROOM 2	BEDROOM 3	SADDLEBACK														
			Area (m2)			Functional Layout								Storage				Ventilation	Private Open Space		1200mm Access Path	Adaptability			Apartment
						Living Area	Bedroom 1	Bedroom 2	Bedroom 3	Snorkel Area				Storage Volume (m3)				Breeze Path	Balcony			Bathroom			
Apartment Number	Apartment Category	Apartment Type	Internal	POS	Total	Dimension 1 (mm)	Dimension 2 (mm)	Area (m2)	Living Room Compliance	Dimension 1 (mm)	Dimension 2 (mm)	Bedroom Compliance	Dimension 1 (mm)	Dimension 2 (mm)	Bedroom Compliance	Dimension 1 (mm)	Dimension 2 (mm)	Compliance	Internal	External	Total	Compliance	Path Length (m)	Compliance	Useable Area (m2)	Minimum Dimension (mm)	Compliance	Width (mm)	Path Compliance	Width (mm)	Length (m)	Bathroom Compliance	Compliance
01.07	2 BED	2C	86	33	117	3150	3850	12	✓	3170	4119	✓	3100	3000	✓				11.46	2.98	14.44	✓			27.0	2610	✓	1200	✓	1200	1200	✓	✓
01.08	1 BED	1E	53	24	77	3000	3350	10	✓	3000	3400	✓							9.16	2.69	11.85	✓	10.52	✓	10.0	2000	✓	1200	✓	1200	1200	✓	✓
01.09	1 BED	1B	53	49	102	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
01.10	1 BED	1B	55	34	89	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
02.01	2 BED	2F	76	17	93	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.98	15.31	✓	8.09	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
02.02	2 BED	2F	75	24	99	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.98	15.31	✓	9.17	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
02.03	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
02.04	1 BED	1B	53	14	67	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
02.05	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓	9.49	✓	10.0	2300	✓	1210	✓	1200	1200	✓	✓
02.06	3 BED	3A	92	26	118	3515	3600	13	✓	3400	3400	✓	3000	3000	✓	3010	3000	✓	14.88	3.40	18.28	✓	12.52	✓	15.0	3500	✓	1200	✓	1200	1200	✓	✓
02.07	2 BED	2B	75	17	90	3600	3650	13	✓	3000	3400	✓	3000	3000	✓				11.14	2.98	14.12	✓			10.0	2800	✓	1200	✓	1200	1200	✓	✓
02.08	1 BED	1E	54	11	65	3000	3350	10	✓	3000	3400	✓							9.16	2.69	11.85	✓	10.52	✓	10.0	2000	✓	1200	✓	1200	1200	✓	✓
02.09	1 BED	1B	55	15	70	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
02.10	1 BED	1B	55	14	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
03.01	2 BED	2F	76	17	93	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.98	15.31	✓	8.09	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
03.02	2 BED	2F	75	24	99	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.98	15.31	✓	9.17	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
03.03	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
03.04	1 BED	1B	53	14	67	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
03.05	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓	9.49	✓	10.0	2300	✓	1210	✓	1200	1200	✓	✓
03.06	3 BED	3A	92	26	118	3515	3600	13	✓	3400	3400	✓	3000	3000	✓	3010	3000	✓	14.88	3.40	18.28	✓	12.52	✓	15.0	3500	✓	1200	✓	1200	1200	✓	✓
03.07	2 BED	2B	75	17	90	3600	3650	13	✓	3000	3400	✓	3000	3000	✓				11.14	2.98	14.12	✓			10.0	2800	✓	1200	✓	1200	1200	✓	✓
03.08	1 BED	1E	54	11	65	3000	3350	10	✓	3000	3400	✓							9.16	2.69	11.85	✓	10.52	✓	10.0	2000	✓	1200	✓	1200	1200	✓	✓
03.09	1 BED	1B	55	15	70	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
03.10	1 BED	1B	55	14	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
04.01	2 BED	2F	76	17	93	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.98	15.31	✓	8.09	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
04.02	2 BED	2F	75	24	99	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.98	15.31	✓	9.17	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
04.03	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
04.04	1 BED	1B	53	14	67	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
04.05	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓	9.49	✓	10.0	2300	✓	1210	✓	1200	1200	✓	✓
04.06	3 BED	3A	92	26	118	3515	3600	13	✓	3400	3400	✓	3000	3000	✓	3010	3000	✓	14.88	3.40	18.28	✓	12.52	✓	15.0	3500	✓	1200	✓	1200	1200	✓	✓
04.07	2 BED	2B	75	17	90	3600	3650	13	✓	3000	3400	✓	3000	3000	✓				11.14	2.98	14.12	✓			10.0	2800	✓	1200	✓	1200	1200	✓	✓
04.08	1 BED	1E	54	11	65	3000	3350	10	✓	3000	3400	✓							9.16	2.69	11.85	✓	10.52	✓	10.0	2000	✓	1200	✓	1200	1200	✓	✓
04.09	1 BED	1B	55	15	70	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
04.10	1 BED	1B	55	14	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
05.01	2 BED	2F	76	17	93	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.98	15.31	✓	8.09	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
05.02	2 BED	2F	75	24	99	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.98	15.31	✓	9.17	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
05.03	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
05.04	1 BED	1B	53	14	67	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
05.05	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓	9.49	✓	10.0	2300	✓	1210	✓	1200	1200	✓	✓
05.06	3 BED	3A	92	26	118	3515	3600	13	✓	3400	3400	✓	3000	3000	✓	3010	3000	✓	14.88	3.12	18.00	✓	12.52	✓	15.0	3500	✓	1200	✓	1200	1200	✓	✓
05.07	2 BED	2B	73	18	91	3600	3650	13	✓	3000	3400	✓	3000	3000	✓				11.14	2.96	14.10	✓	11.89	✓	10.0	2800	✓	1200	✓	1200	1200	✓	✓
05.08	1 BED	1B	55	15	70	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
05.09	1 BED	1B	55	14	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
06.01	2 BED	2F	76	17	93	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.96	15.29	✓	8.09	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
06.02	2 BED	2F	75	24	99	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.96	15.29	✓	9.17	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
06.03	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
06.04	1 BED	1B	53	14	67	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
06.05	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓	9.49	✓	10.0	2300	✓	1210	✓	1200	1200	✓	✓
06.06	3 BED	3A	92	26	118	3515	3600	13	✓	3400	3400	✓	3000	3000	✓	3010	3000	✓	14.88	3.40	18.28	✓	12.52	✓	15.0	3500	✓	1200	✓	1200	1200	✓	✓
06.07	2 BED	2B	73	25	98	3600	3650	13	✓	3000	3400	✓	3000	3000	✓				11.14	2.96	14.10	✓	11.89	✓	10.0	2800	✓	1200	✓	1200	1200	✓	✓
06.08	1 BED	1B	55	15	70	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
06.09	1 BED	1B	55	14	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
07.01	2 BED	2F	76	17	93	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.96	15.29	✓	8.09	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
07.02	2 BED	2F	75	24	99	3350	3600	12	✓	3000	3400	✓	3000	3000	✓				12.33	2.96	15.29	✓	9.17	✓	10.0	2450	✓	1200	✓	1200	1200	✓	✓
07.03	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
07.04	1 BED	1B	53	14	67	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
07.05	1 BED	1B	54	15	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓	9.49	✓	10.0	2300	✓	1210	✓	1200	1200	✓	✓
07.06	3 BED	3A	92	26	118	3515	3600	13	✓	3400	3400	✓	3000	3000	✓	3010	3000	✓	14.88	3.40	18.28	✓	12.52	✓	15.0	3500	✓	1200	✓	1200	1200	✓	✓
07.07	2 BED	2B	73	25	98	3600	3650	13	✓	3000	3400	✓	3000	3000	✓				11.14	2.96	14.10	✓	11.89	✓	10.0	2800	✓	1200	✓	1200	1200	✓	✓
07.08	1 BED	1B	55	15	70	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
07.09	1 BED	1B	55	14	69	3250	3450	11	✓	3000	3400	✓							10.32	0.00	10.32	✓			10.0	2300	✓	1210	✓	1200	1200	✓	✓
152								152	✓			152	✓		62	✓		13	✓		0	✓	152			✓	65	✓		152		151	✓	152	✓		151	✓	152
								0	✗			0	✗		0	✗		0	✗		0	✗	0			✗				1		1	✗	0	✗		1	✗	1
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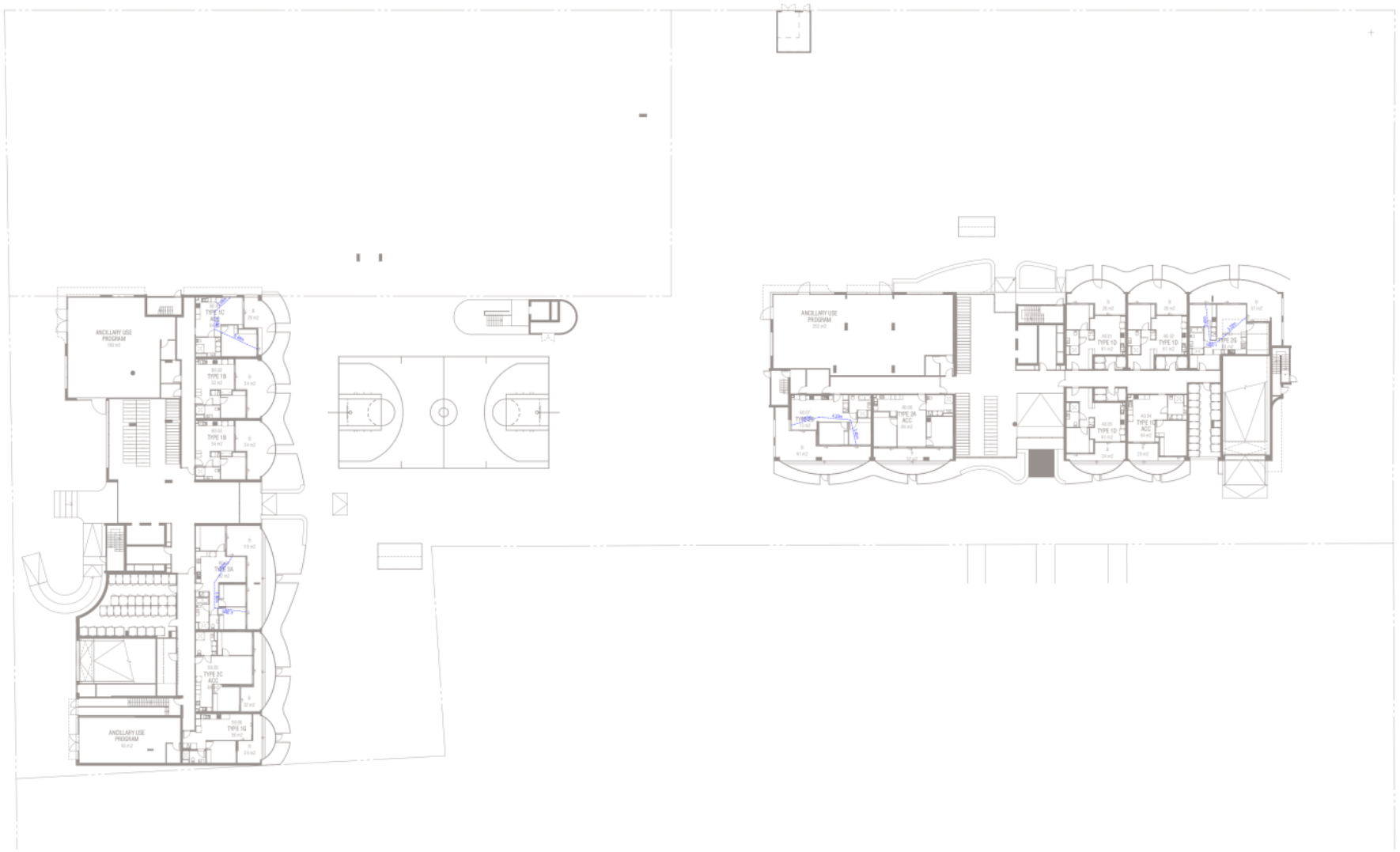
Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



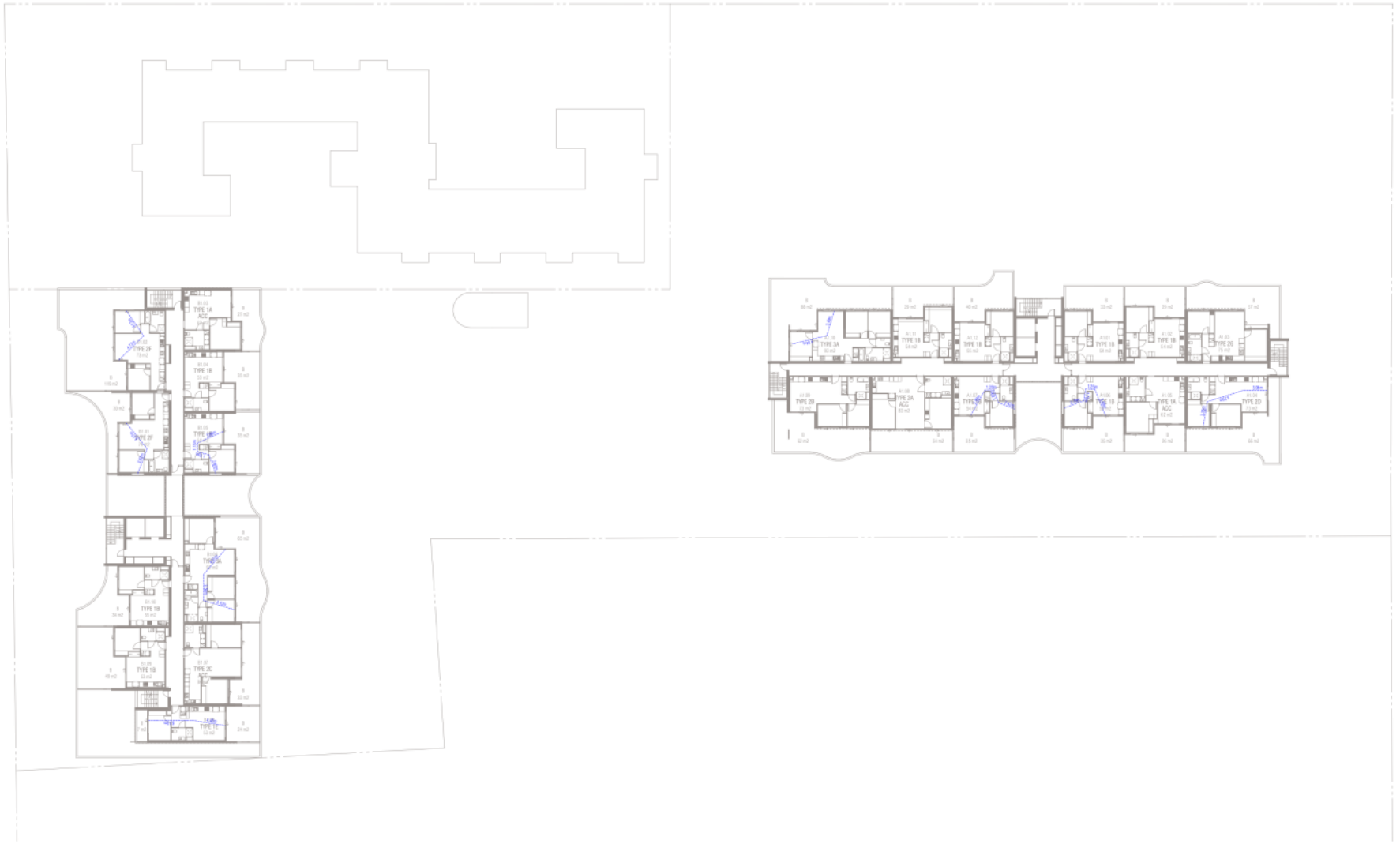
FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: BREEZEPATH PLAN - GROUND LEVEL
Date: 08/10/2020
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP7050
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



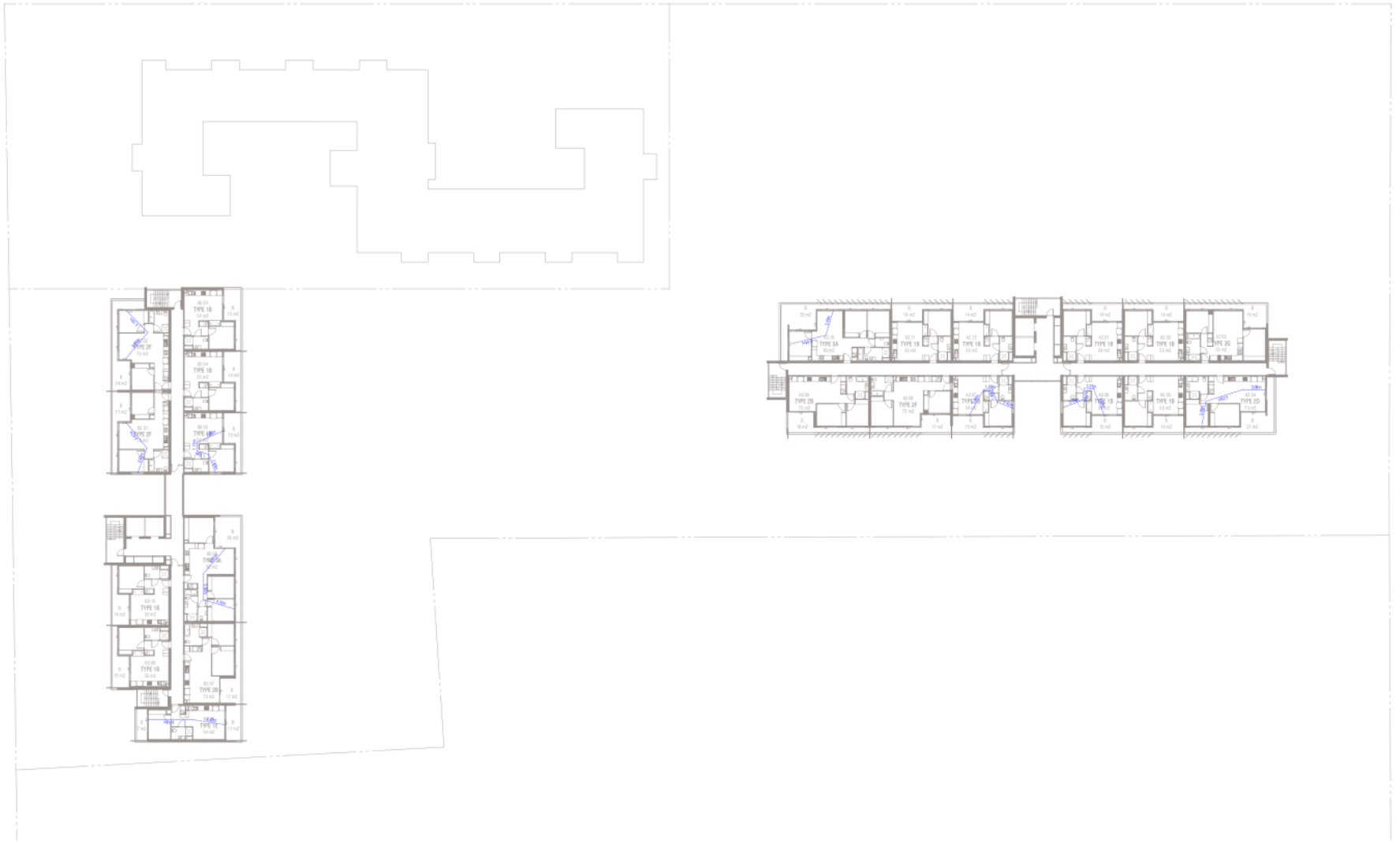
FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: BREEZEPATH PLAN - LEVEL 01
Date: 04/10/2022
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP7051
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



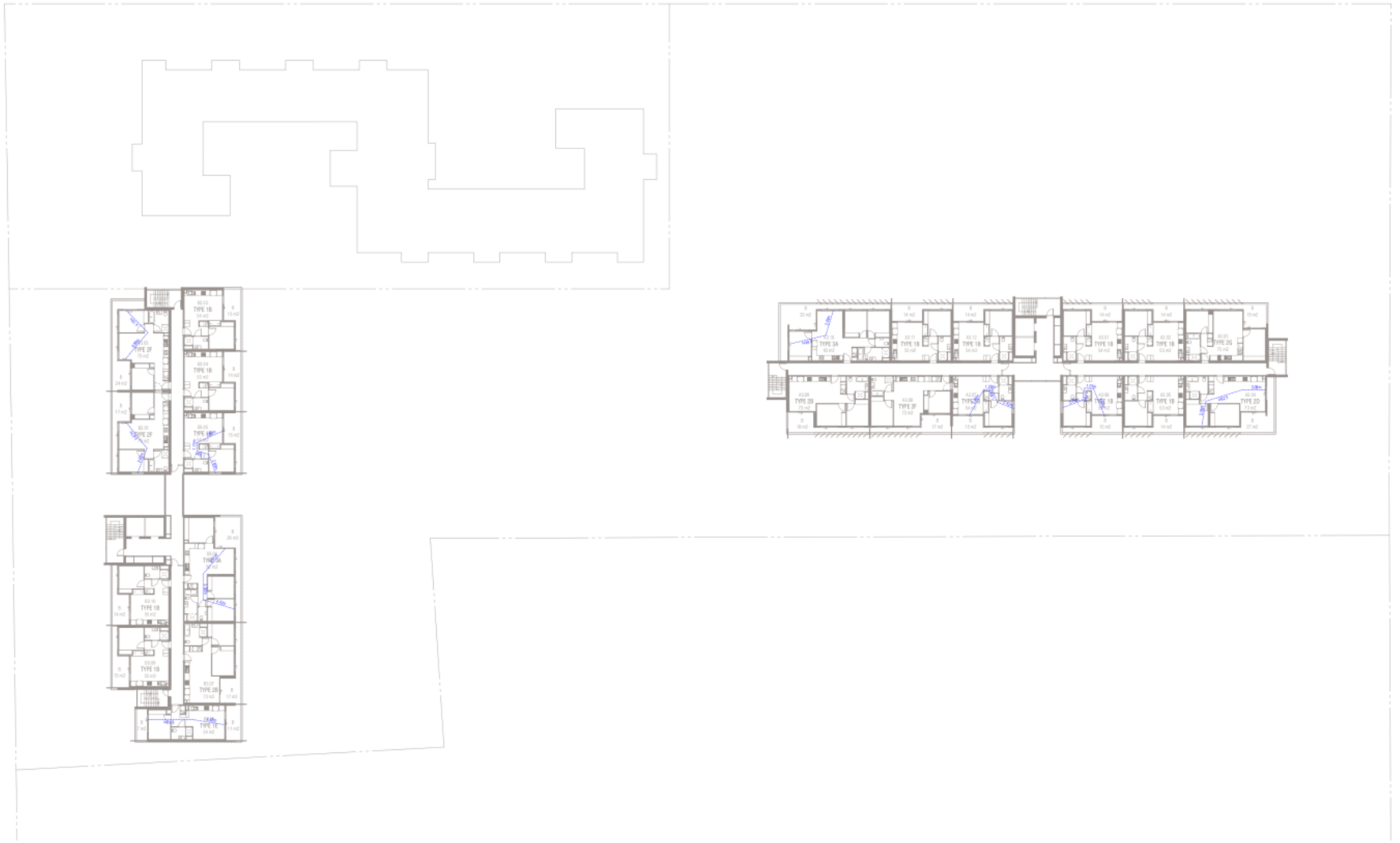
FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: BREEZEPATH PLAN - LEVEL 02
Date: 18/10/2022
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP7052
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



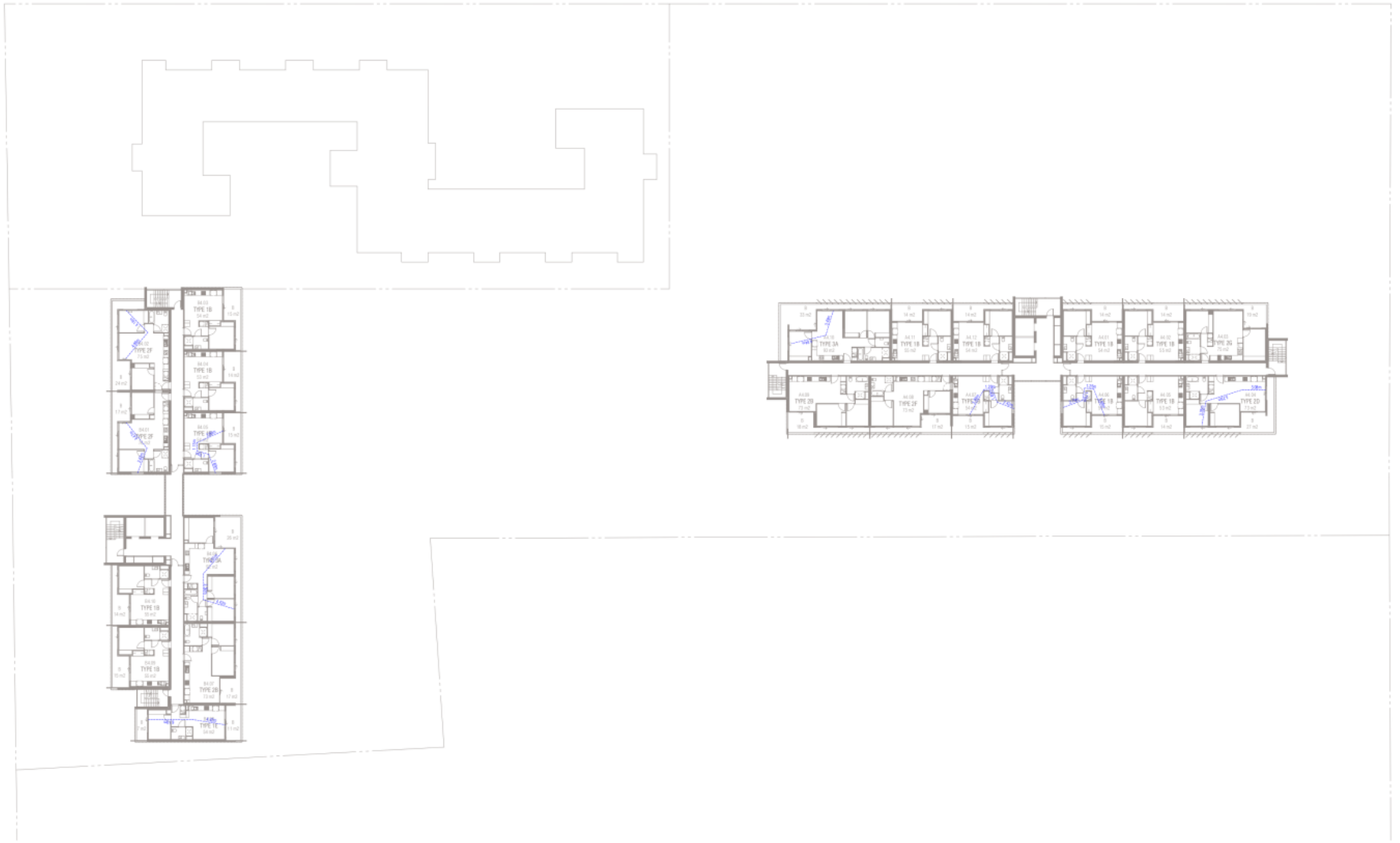
FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: BREEZEPATH PLAN - LEVEL 03
Date: 04/10/2022
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP7053
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



FIELDWORK

Project Number: 200031
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Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: BREEZEPATH PLAN - LEVEL 04
Date: 04/10/2022
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
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Revision: P01

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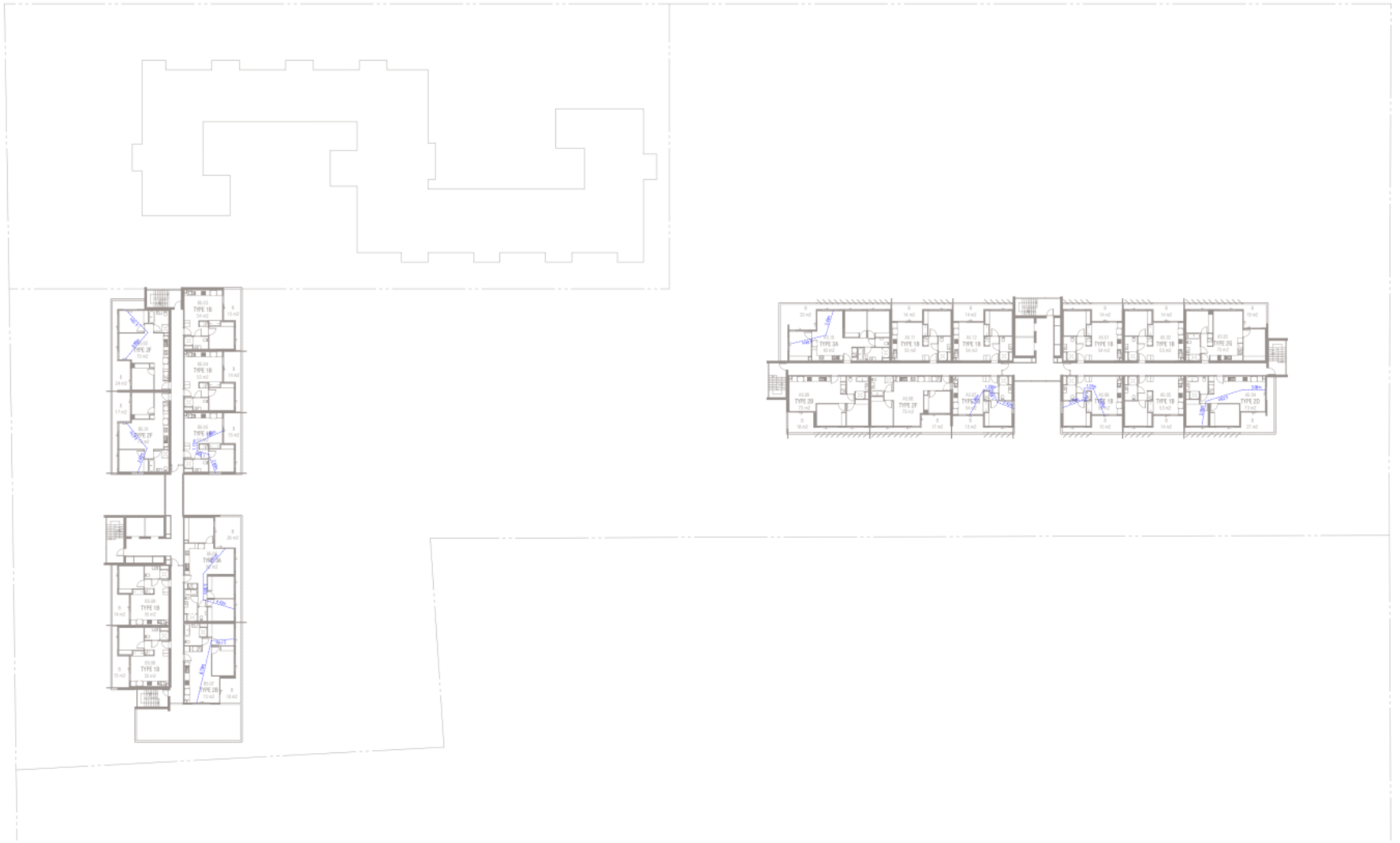

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Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: BREEZEPATH PLAN - LEVEL 05
Date: 18/10/2022
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Revision: P01

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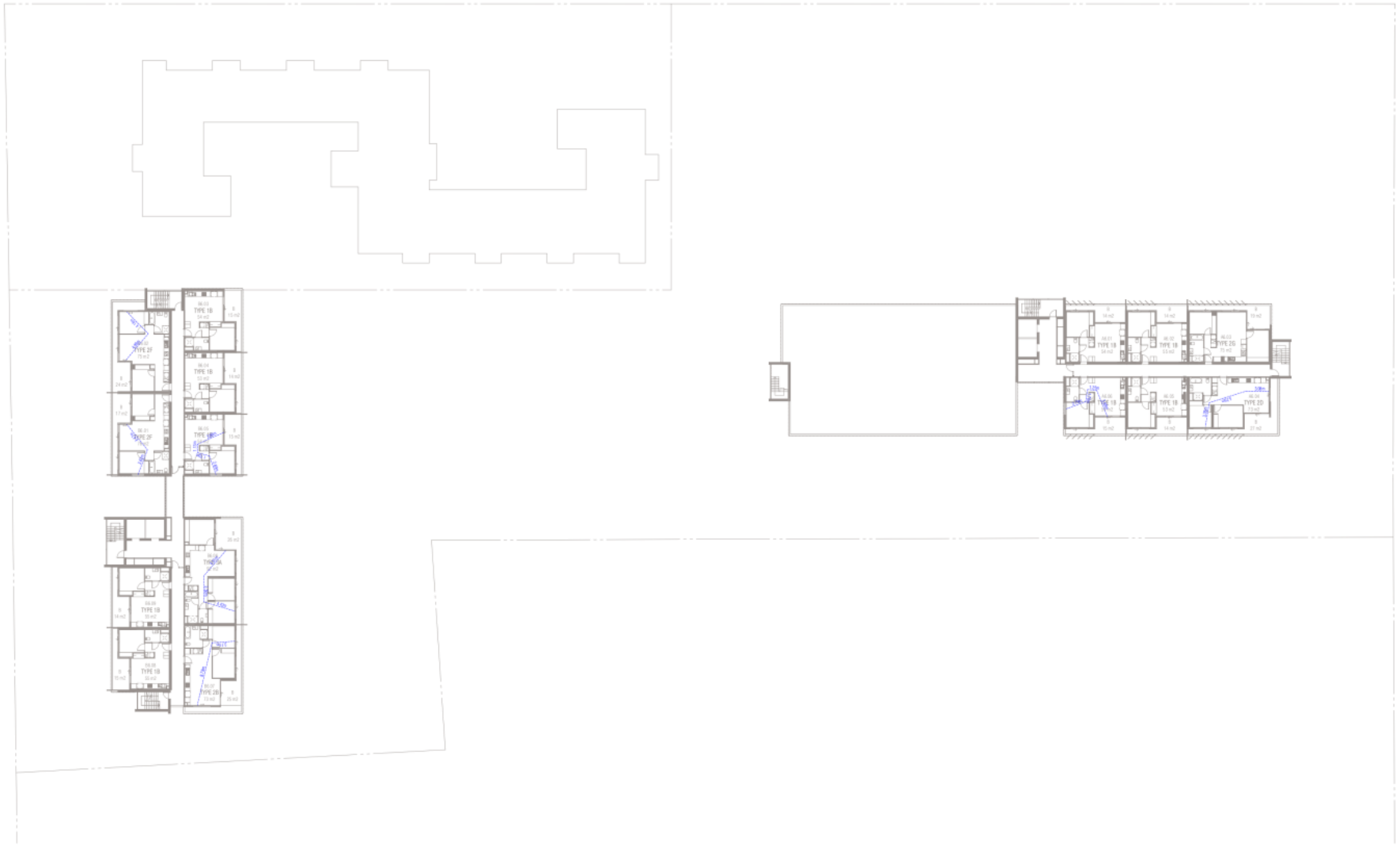

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Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: BREEZEPATH PLAN - LEVEL 06
Date: 18/10/2022
Status: WORK IN PROGRESS

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Revision: P01

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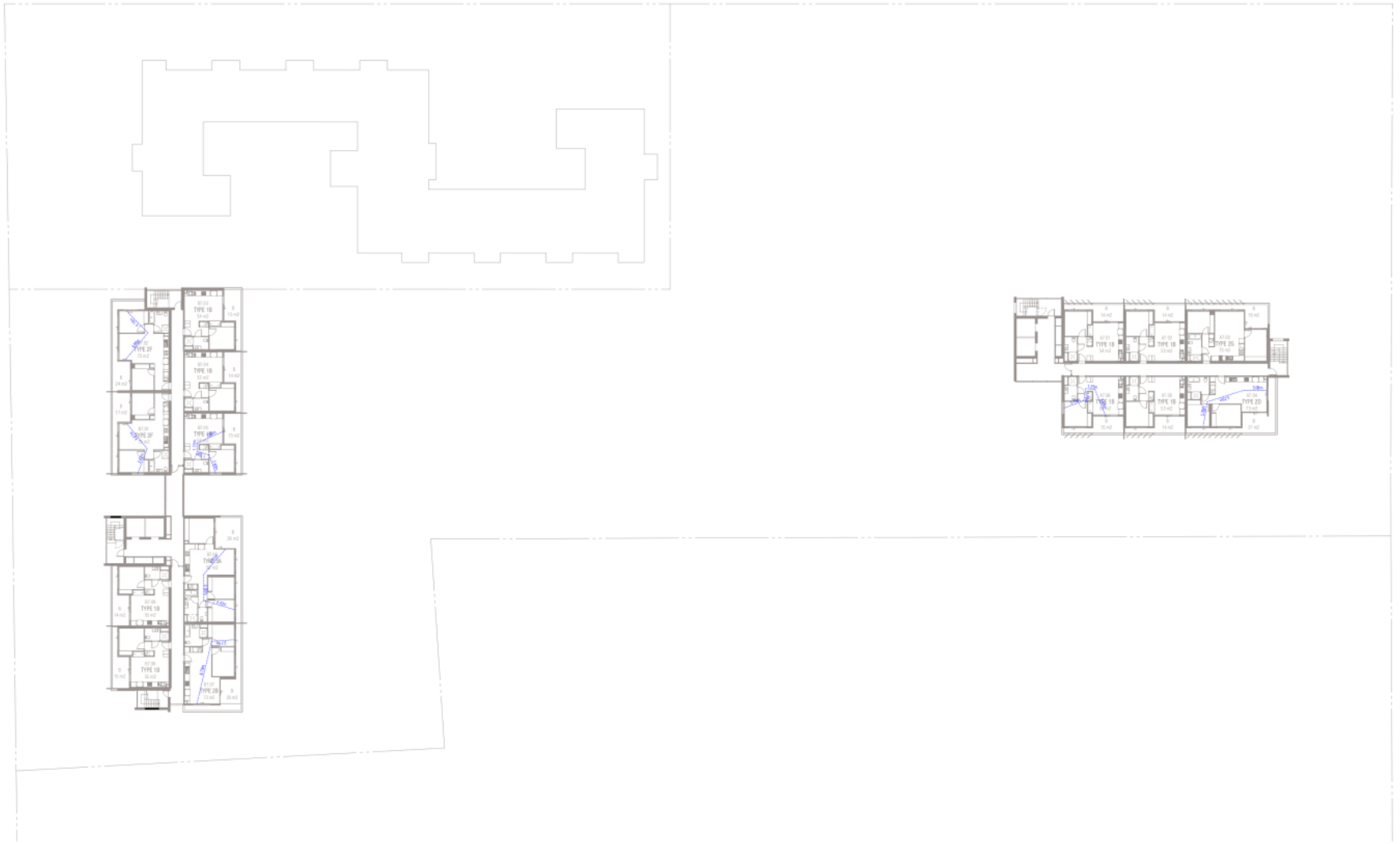


FIELDWORK

Project Number 200031

Client HOMES VICTORIA

Project Name HOMES VICTORIA COLLINGWOOD

Site Address 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name BREEZEPATH PLAN - LEVEL 07

Date 18/10/2022

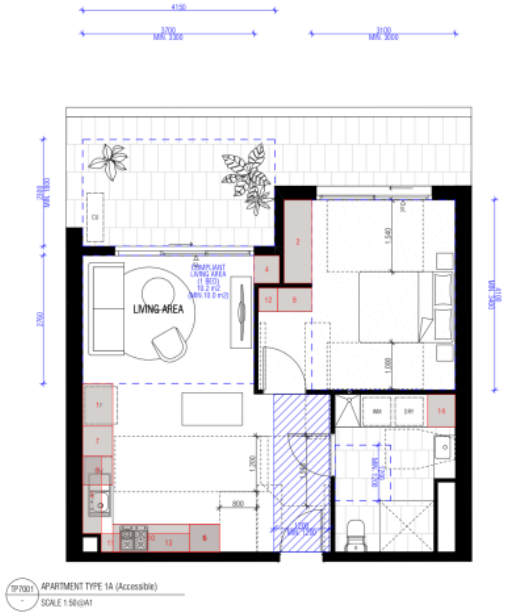
Status WORK IN PROGRESS

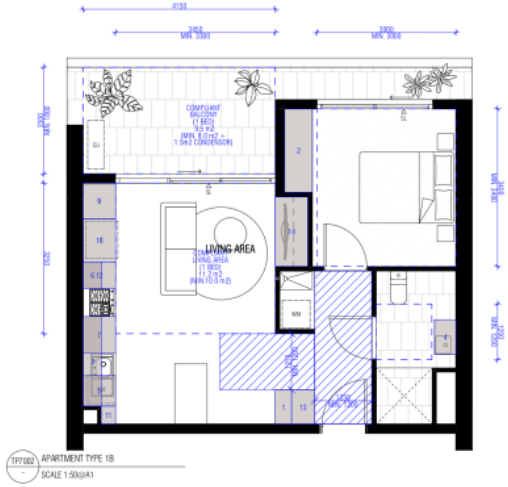
Scale 1:250 @ A1

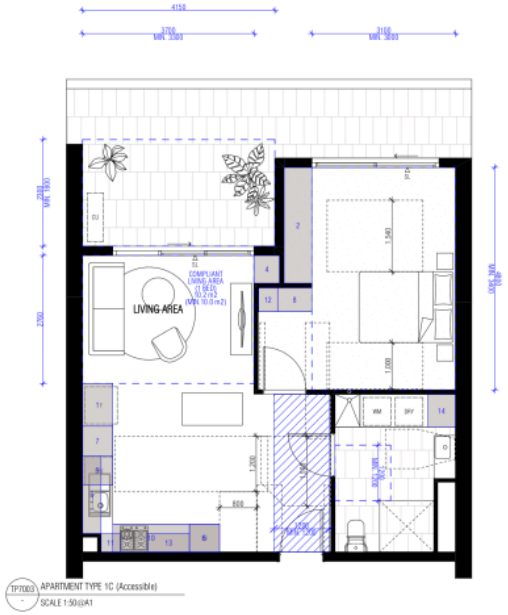
Drawing Number TP7057

Revision P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans







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Project Number 200031
Client HOMES VICTORIA
Project Name HOMES VICTORIA COLLINGWOOD
Site Address 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name TYPICAL APARTMENT PLANS 1 BEDROOM
Date 18/10/2023
Status WORK IN PROGRESS

Scale @ A1
Drawing Number TP8001
Revision P01

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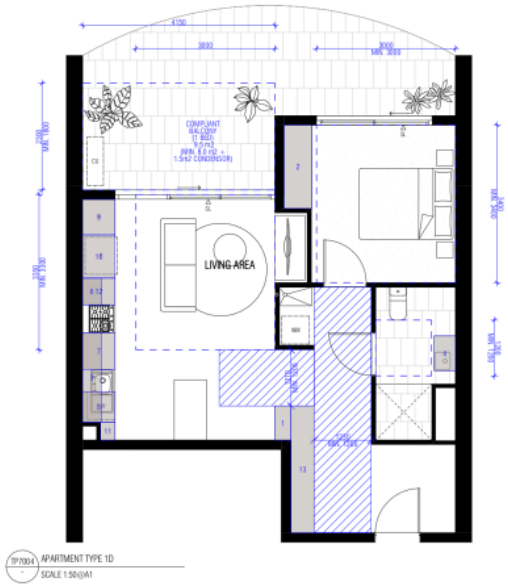

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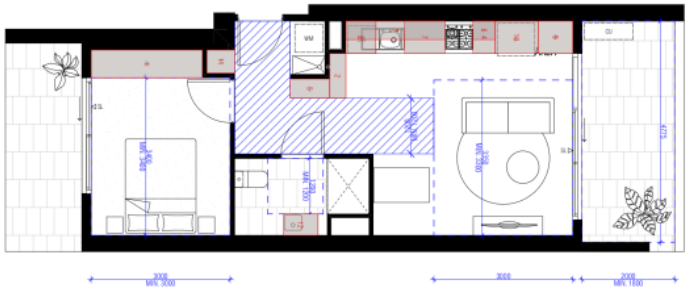

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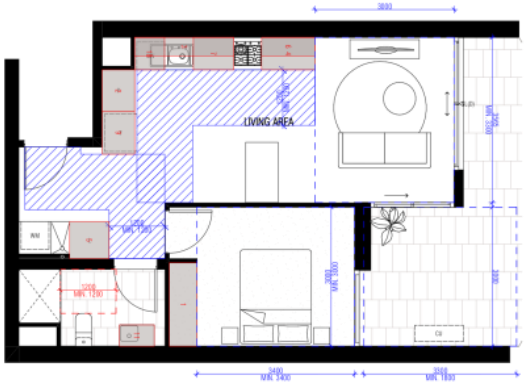

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FIELDWORK

Project Number 200031
Client HOMES VICTORIA
Project Name HOMES VICTORIA COLLINGWOOD
Site Address 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name TYPICAL APARTMENT PLANS 1 BEDROOM
Date 18/10/2023
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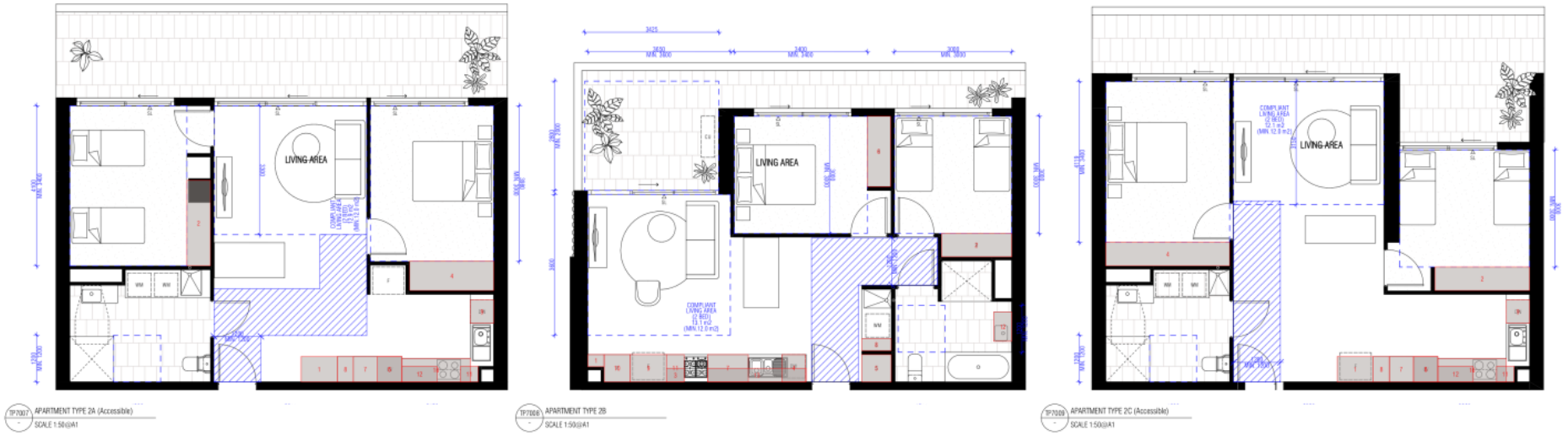
Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



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Project Number 200031
Client HOMES VICTORIA
Project Name HOMES VICTORIA COLLINGWOOD
Site Address 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name TYPICAL APARTMENT PLANS 2 BEDROOM
Date 18/10/2022
Status WORK IN PROGRESS
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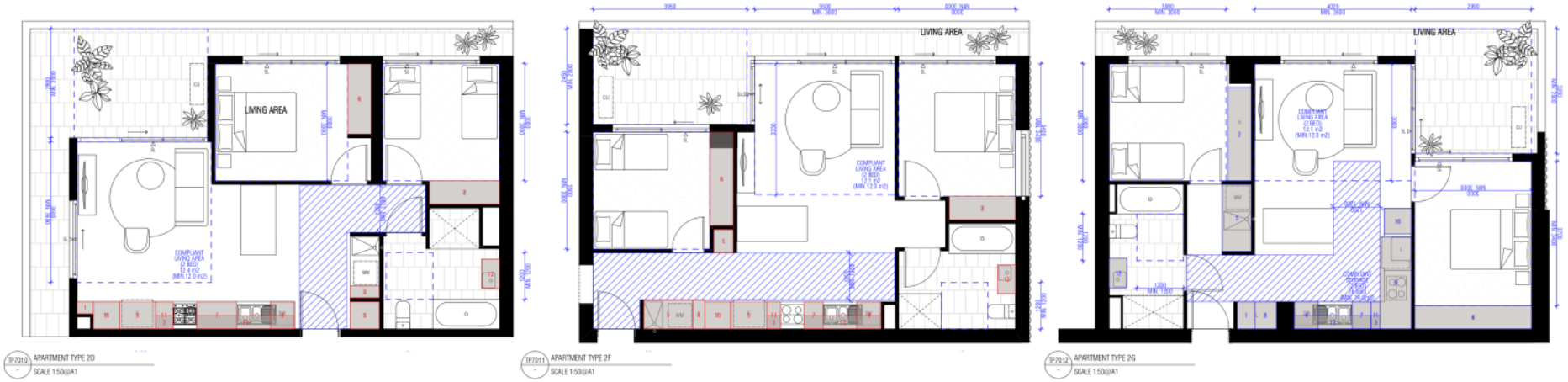
TP8003
P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



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SCALE 1:50@A1

TP7012 APARTMENT TYPE 2G
SCALE 1:50@A1

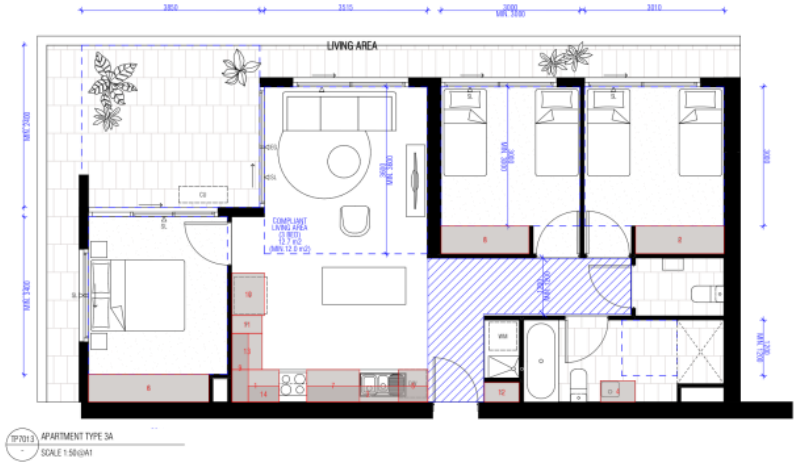
FIELDWORK

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES VICTORIA COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: TYPICAL APARTMENT PLANS 2 BEDROOM
Date: 18/10/2022
Status: WORK IN PROGRESS

Scale: @ A1
Drawing Number: TP8004
Revision: P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



FIELDWORK

Project Number 200031
Client HOMES VICTORIA
Project Name HOMES VICTORIA COLLINGWOOD
Site Address 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA
Drawing Name TYPICAL APARTMENT PLANS 3 BEDROOM
Date 18/10/2022
Status WORK IN PROGRESS
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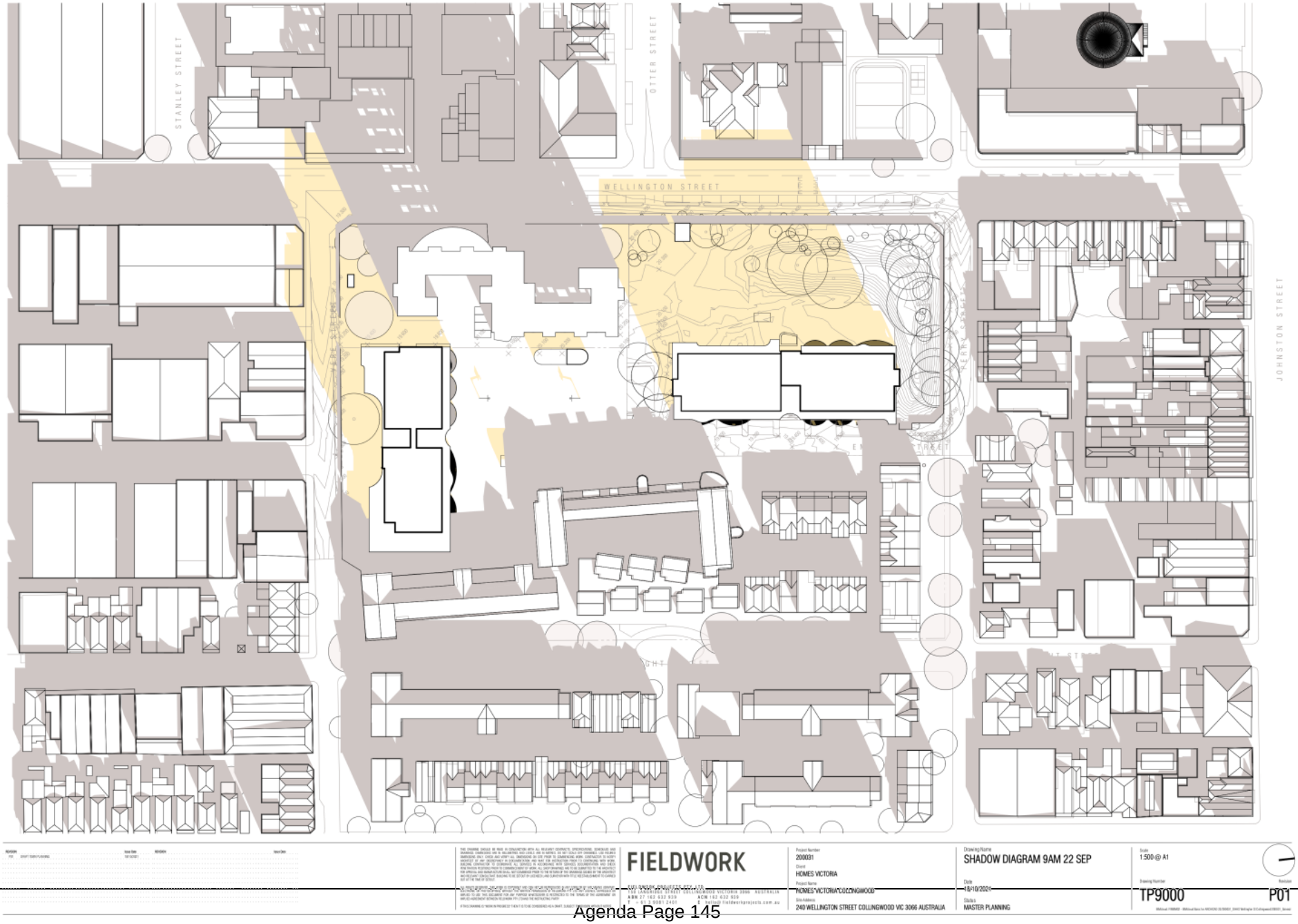
Drawing Number TP8005
Revision P01

Attachment 1 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Architectural Plans



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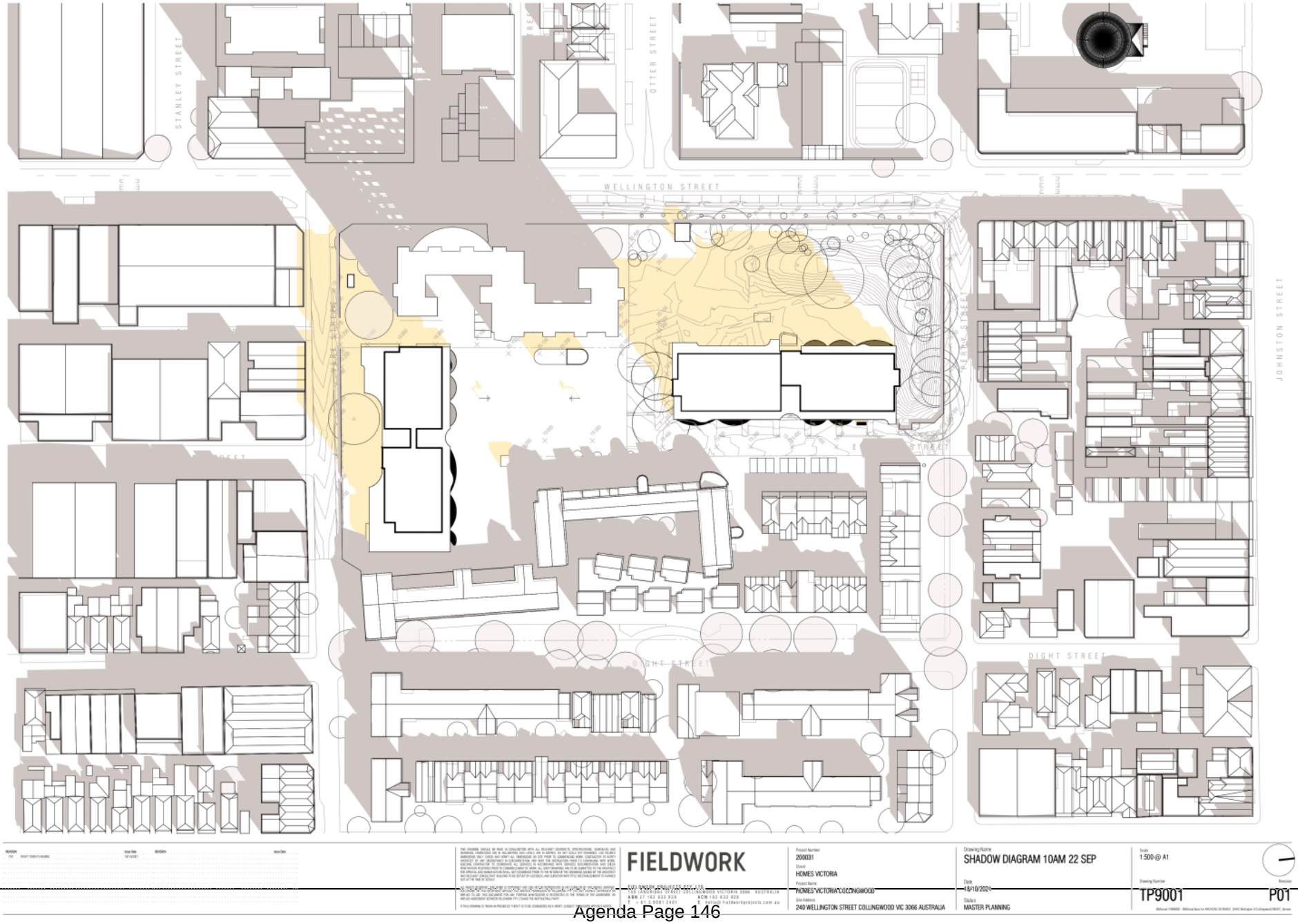

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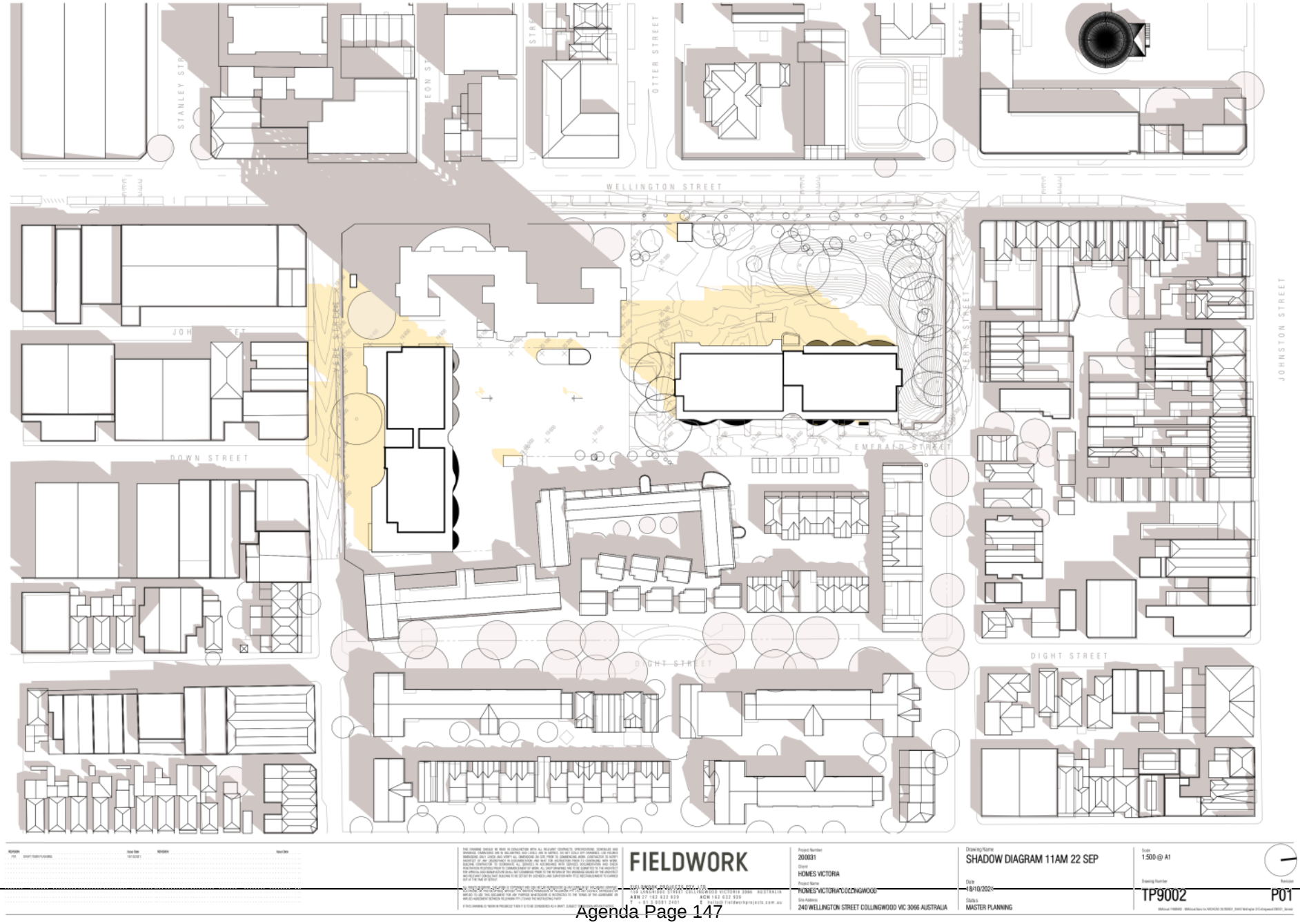

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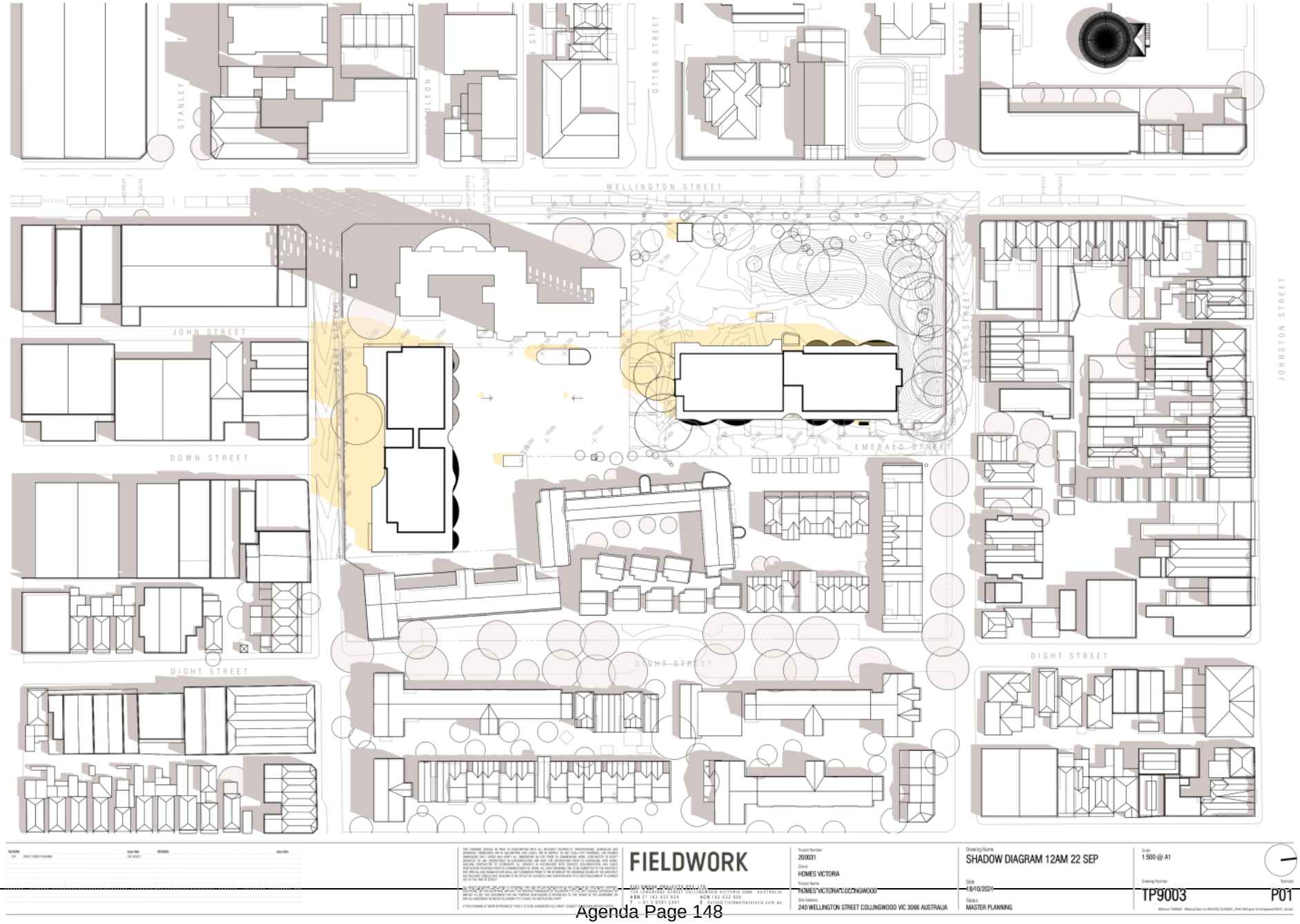

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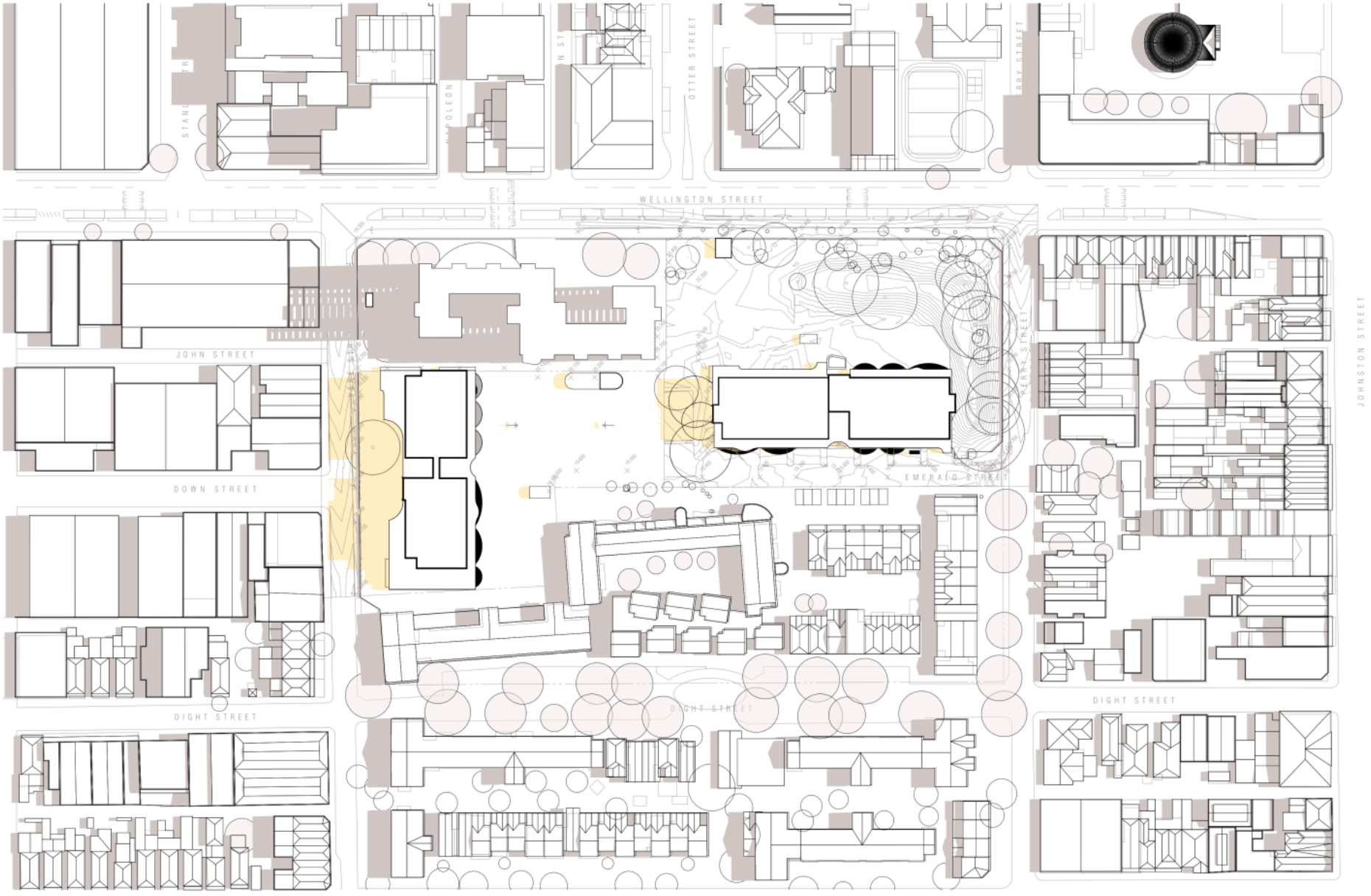

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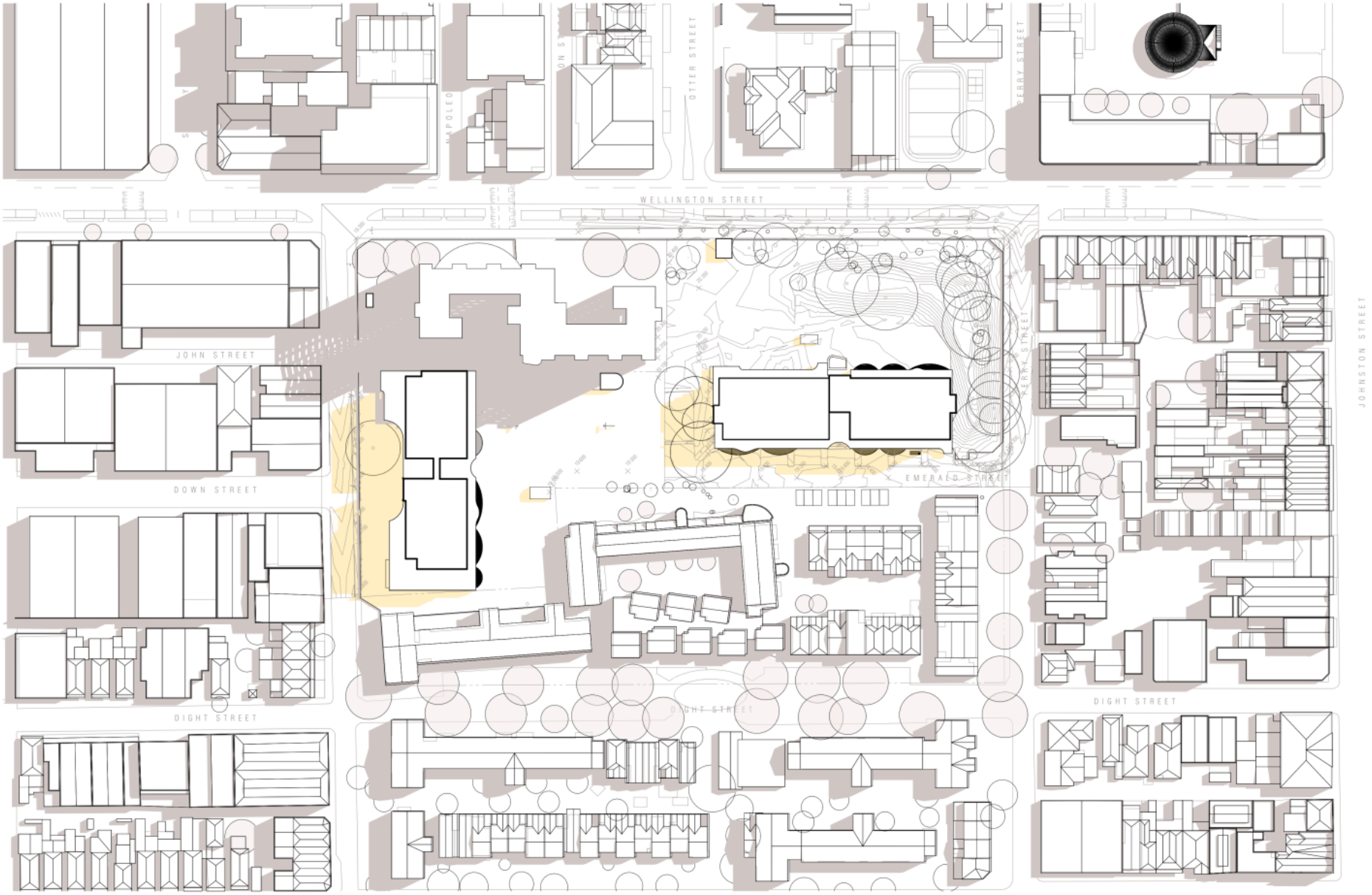

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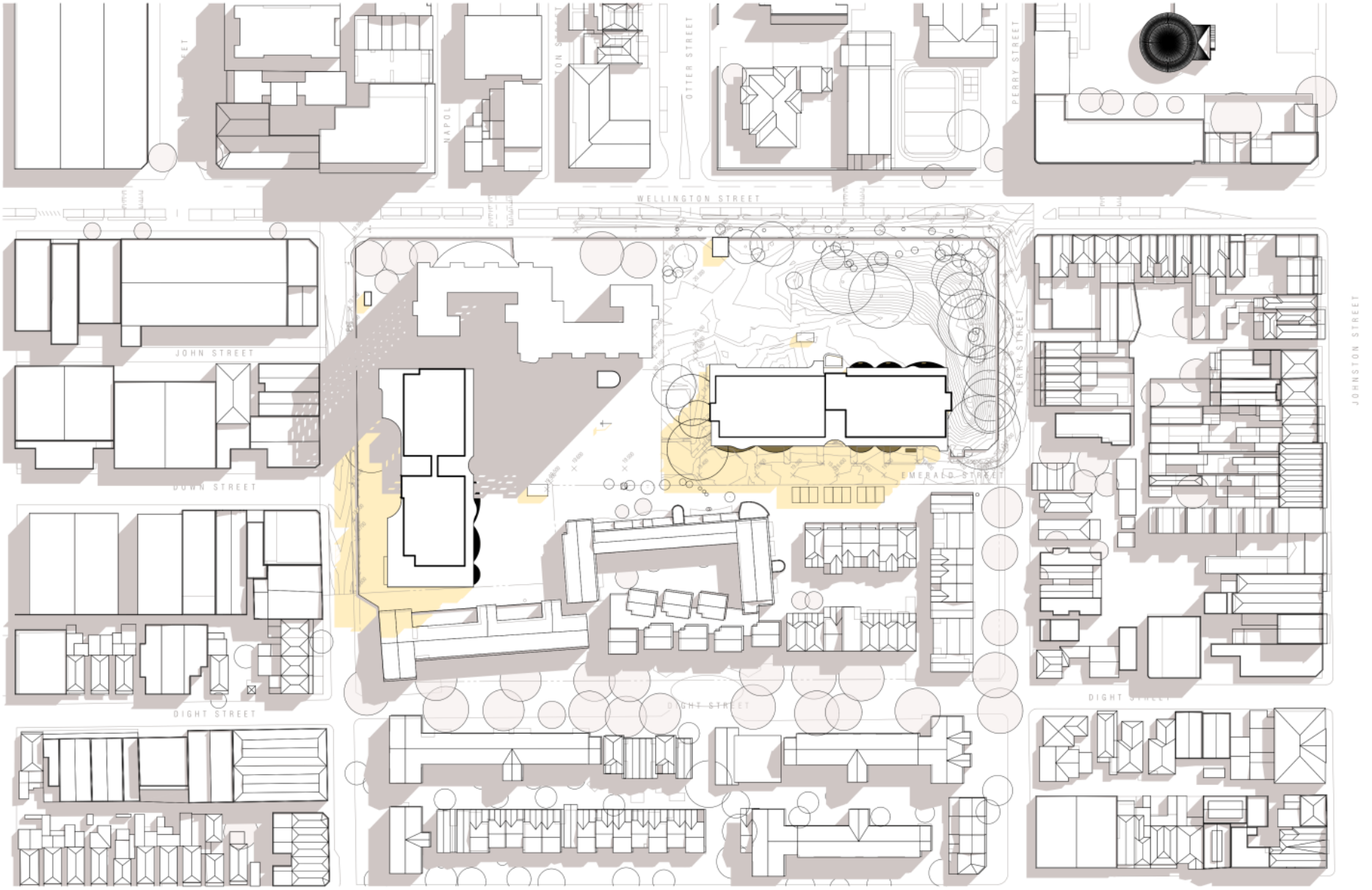
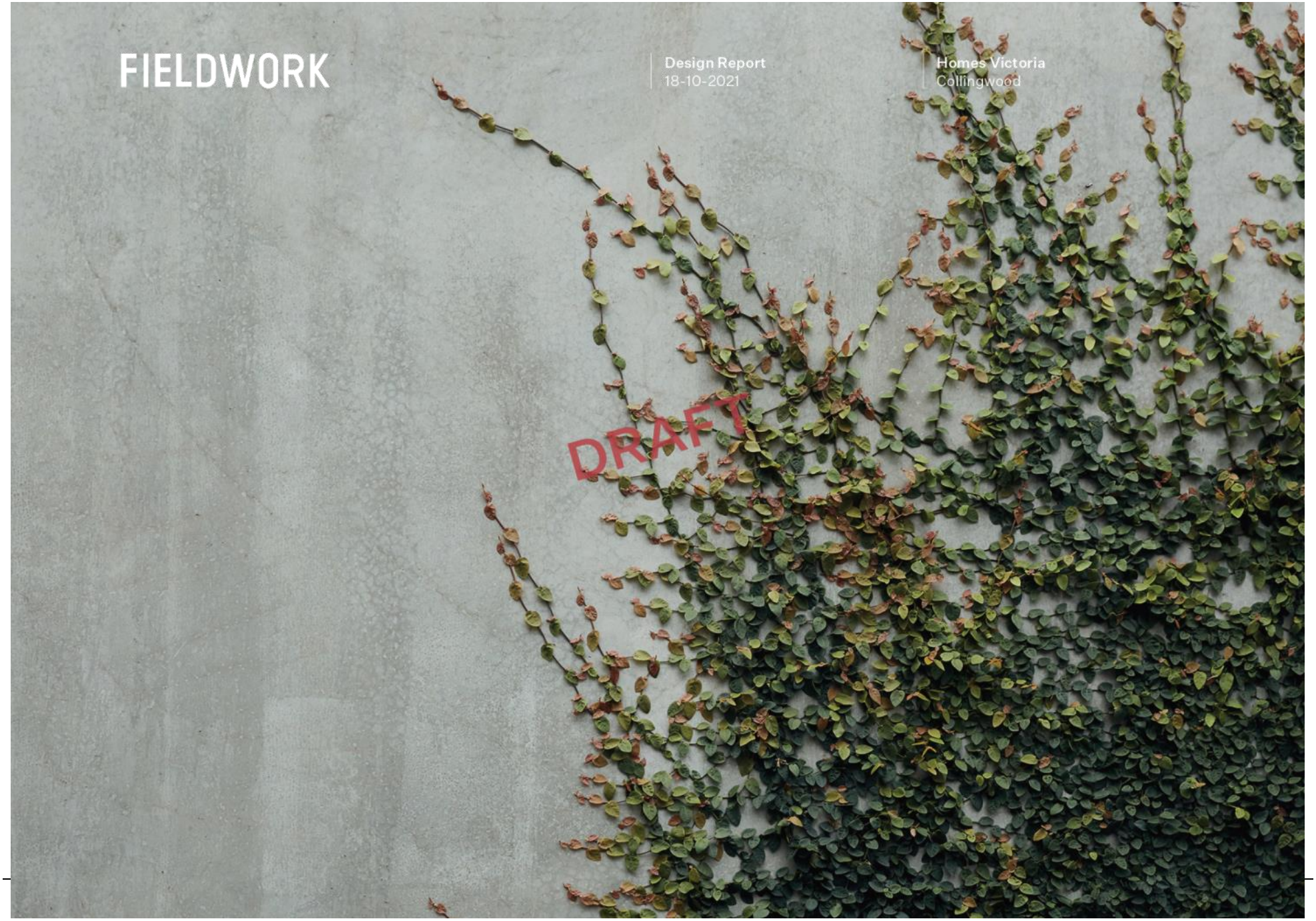


Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report



Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Project Team

Client
Homes Victoria

Project Manager
Ontoit

Architect
FIELDWORK
150 Langridge Street, Collingwood
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Landscape Architect
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NSW, 2571, Australia
yerrabingin.com.au

Interior Designer
FOWLER AND WARD
233 Abbotsford St, North Melbourne
Victoria, 3051, Australia
fowlerandward.com

Urban Planner
PLANNING & PROPERTY PARTNERS LAWYERS & CONSULTANTS
13/1 Collins Street, Melbourne
VIC, 3000, Australia
pppartners.com.au

Building Services & ESD
ADP

Fire Engineer
Stantec

Structural / Civil Engineer
Webber Design

Facade Engineer
Arup

Building Surveyor
McKenzie Group

DDA Consultant
Architecture & Access

Traffic Consultant
Traffix Group

Wayfinding and Signage Consultant
Diadem

Land Surveyor
Charter Keck Cramer

Acoustic Engineer
Acoustic Logic

Arborist
Tree Logic

Quantity Surveyor
Altus

Wind Engineer
VIPAC

Social Infrastructure and Planning Consultant
Public Place

Cultural Heritage Consultant
ACHM

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DRAFT

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Acknowledgement of Country

DRAFT

We acknowledge the Wurundjeri Woiwurrung Country that we are working upon,

We Acknowledge the custodianship of its people
and the privilege and responsibility to Connect with Country.

Often words of acknowledgment are given to Country. But to know and introduce yourself to Country you must first sense and feel its presence, the sounds, the colours, the smells and her spirit. It is not the words as ritual, but the feeling that connects us to her and each other, and reminds us of our custodial responsibility.

As a team we are guided by the inspiration of Wurundjeri Country, the stories and knowledge this place contains and has to share. We acknowledge its contribution to wellbeing both mental and physical, providing a refuge and safe place to learn and share.

Our Vision is that sensing and caring for Country is something that transcends cultural differences and highlights the many values that are similar across the cultures of our contemporary communities. Supporting a socially inclusive, resilient and innovative community based on, honouring the wisdom and kinship of all cultures, captured though the lens of custodianship.

– Christian Hampson

Andy Fergus
Urban Designer

DRAFT

Andy Fergus is an urban designer and design advocate, passionate about helping government, ethical developers and communities create successful places.

With experience across planning, urban design and architecture, Andy operates at all scales of the city from the urban plan to the individual building, often acting as a translator between disciplines and scales. His work is informed by the relationship between urban economics, planning frameworks and spatial design.

Andy's projects emphasise the role of prototypes to inspire positive change, and improve the standards of the basic building blocks that collectively shape our urban environment.

1. VMCH Studley Park Village, Kew - Woods Bagot, Oculus (Andy as Urban Design lead and Competition Juror)
2. Cope Street Co-operative rental housing prototype - City of Sydney (Andy as Design Lead)
3. Nightingale Village Precinct Masterplan (Andy as Urban Design Lead)

Openwork
Landscape Architect

DRAFT

Established in 2016, Openwork is a practice that has been formed to make great, well crafted communal and public spaces.

The studio is built around a small team of professionals with diverse skills and a track record of working across scales and across disciples. Staying small and agile enables the office to focus on work that it cares about and ensures that all members of the studio are close to the project, understand its context and are able to craft a unique and enduring response.

Openwork operates in four modes: as a landscape architectural consultancy providing design and documentation of public places; as an urban design studio providing input to plans and policies that will enable future public places; as a research lab, aligned with RMIT University's School of Architecture and Urban Design exploring counter-factual futures for the city and as a speculative office, investing consulting profits into undertaking the types of projects that no one has yet asked us to do.

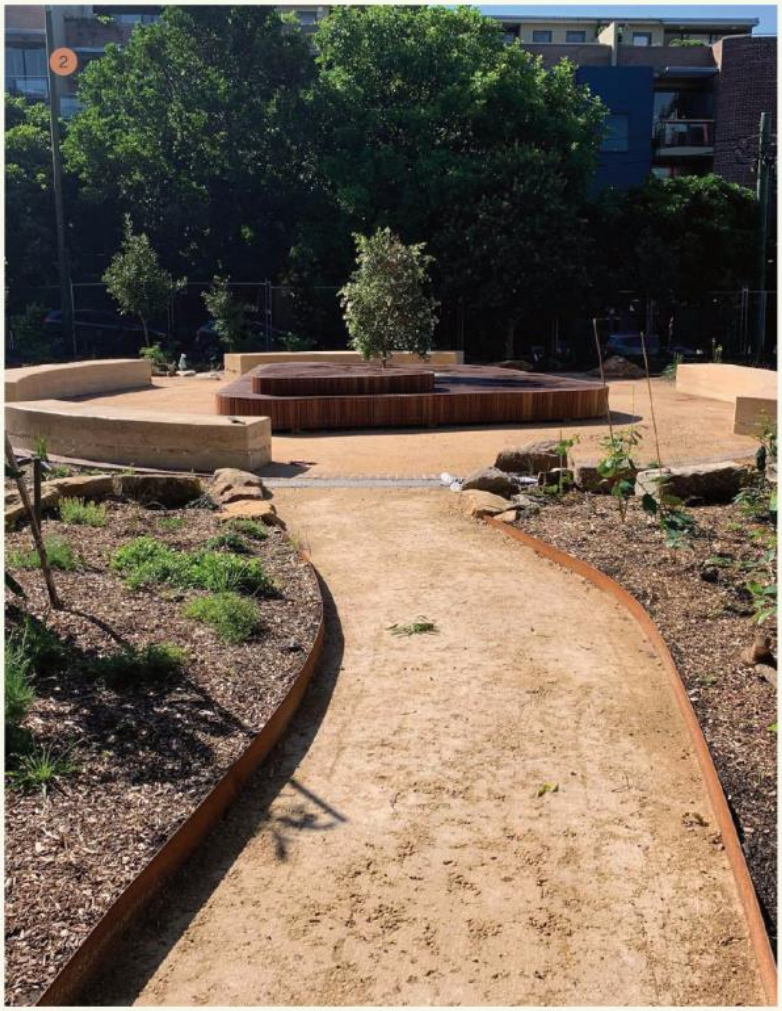
Through these various modes of practice, our ambition is to be urban citizens – active and agitating for public exchange.

1. NGV Pavilion 2018
2. Parks Victoria, Albert Park Office and Depot
3. NGV Pavilion 2016

Yerrabingin

Landscape Consultant

DRAFT



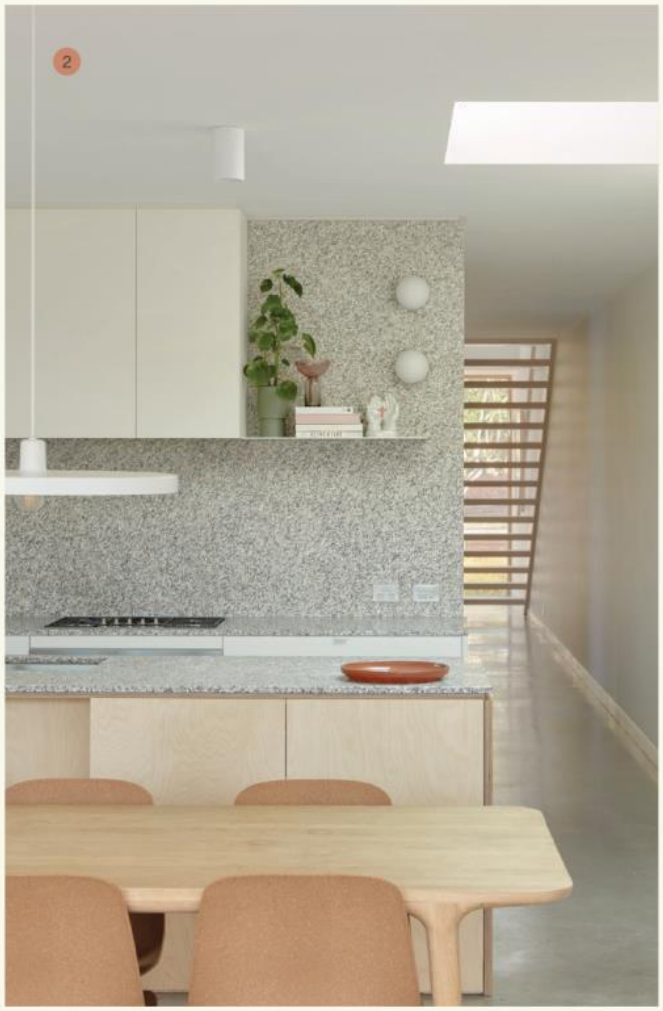
Yerrabingin was co-founded by Christian Hampson in 2018. Yerrabingin is a visionary start-up that seeks to disrupt conventional approaches to ending Indigenous disadvantage, and create intercultural opportunities for future generations to thrive.

With over 20 years of experience working in Indigenous Cultural Heritage, Christian sought to walk a new path by interweaving collaborative design thinking and Indigenous knowledge. Yerrabingin have become a leading force in the commercial design industry by delivering environmentally conscious native landscapes and place making designs enriched with Indigenous narratives.

1. South Eveleigh Native Rooftop Farm, South Eveleigh NSW
2. Indigenous Cultural Landscape Garden, South Eveleigh NSW
3. MAAS Powerhouse Precinct International Design Competition - Finalist, Parramatta NSW

Fowler and Ward
Interior Designer

DRAFT



Fowler and Ward is an emerging, Melbourne based practice that enjoys producing creative, liveable, and tailored responses to complex sites, interesting briefs and increased density.

Directors Jessie Fowler and Tara Ward met on the first day of Architecture School. Their 17 year friendship of aligned style and a shared interest in socially-minded design led them to establish Fowler and Ward in 2018. As proud alumni of leading Melbourne practices, and with multi-scale experience in Australia and the United States, the Directors draw on well-honed skills learnt in firms that define contemporary Australian design.

Fowler and Ward's passion lies in producing residential spaces that give back to the city they love: creating homes in small spaces, sensitive renovations that breathe life into tired buildings and new-builds that increase density without overwhelming neighbourhood character.

Fowler and Ward are committed to the belief that good design should be accessible and apply the same rigor to a small residential interior as a large commercial project. This ensures that the fundamentals of a healthy, sustainable and engaging space are applied regardless of size, context, budget or brief.

1. Bourke Street Apartment, Melbourne
2. Thornbury Townhouses, Thornbury
3. Kensington House, Kensington

Fieldwork
Architect

DRAFT

Fieldwork sees architecture as a social and civic practice.

From our homes to our schools, from our workplaces to our creative and civic spaces, we all engage with architecture on a daily basis. We believe architecture is a sensitive, spatial practice from which the entirety of life unfolds.

We are a Melbourne-based architecture and interior design studio founded in 2013. We have grown into a team of more than 25 practitioners from diverse cultures spanning expertise in the fields of architecture, commerce, design, urbanism, publishing and art.

We live in an urban age. At Fieldwork, we design for the city as the site from which to build a more equitable and environmentally conscious world. We believe in an active architecture that both shapes and is shaped by social, political, aesthetic, emotional and economic forces. We practice architecture as a living form that is agile and enduring, poetic and pragmatic, precise and optimistic: sensitive to the evolving needs of its inhabitants within a shifting local and global context.

Research, experimentation, materiality and modesty drive our design process. We imagine new ways of living, working and learning together. We believe that good architecture starts with deep listening.

Fieldwork has forged a strong reputation for its work across multi-residential housing, workplace design, education and spaces for the making and presentation of contemporary art. We apply rigorous thinking to our collaborative design process involving clients, community stakeholders and future inhabitants.

We acknowledge the First Australians: we practice and build upon the lands and culture of the Wurundjeri and Boon Wurrung people of the Kulin Nation.

Member Australian Institute of Architects

Fieldwork

Selected Project Examples

DRAFT

122 Roseneath Street, Clifton Hill

Status
Complete

This 49 apartment and 18 townhouse project is a collaboration between Assemble, Wulff Projects and Icon Developments. It is located on a former brownfield factory site and shares a streetscape with single and double storey Victorian terrace houses. The site sits on the interface between this traditional residential fabric and light industry, of which remnants can be seen in converted factory warehouses, now apartments dotted to the south and west.

Respecting the residential fabric of the area was of high importance and consequently resulted in the site being divided into three primary volumes. Each volume is separated by raised linear gardens, acting as open pedestrian streets and connecting into Roseneath Street via open staircases. The rows of townhouses, accessed via these linear gardens, flank each side of the development and provide a transition in scale from the traditional residential neighbours and the central 6 storey apartment building.

Key to the project was a strong focus on fostering a sense of community through the built environment. Prominently incorporated within the design is a multi-purpose workshop containing laundry facilities, a large workbench and bike repair facilities, while on the first floor a central multi-purpose room looks out to an adjacent outdoor barbeque and herb garden area.

Levels
6

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Fieldwork

Selected Project Examples

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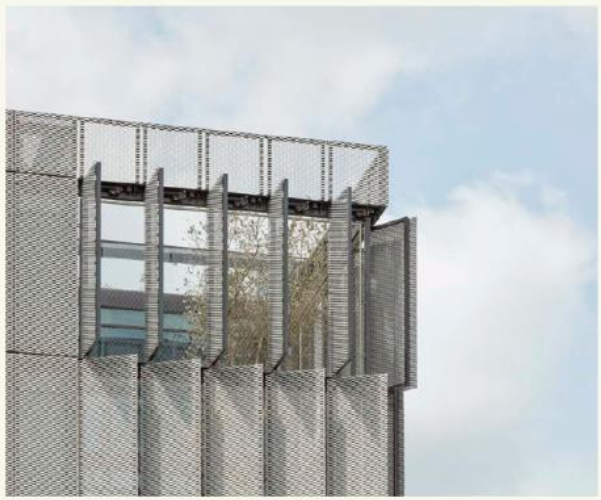


9 Cremorne Street, Cremorne

Status
Complete

9 Cremorne St was awarded the highest award at the 2020 Victorian Chapter Architecture Institute of Australia Awards – the Sir Osborn McCutcheon Award for Commercial Architecture. It utilizes the simple platonic geometry of the rectangular prism and imbues this with highly considered detailing and material choices to produce an object of beauty firmly based on the experience of the occupant.

The project was designed to 5 Star Greenstar standards, with building performance closely tied to the formal expression. The building is wrapped in mesh screens which provide protection from the Northern and Western sun. The angle of the expanded metal creates a series of micro sunshades while still allowing views through. The inner layer of glazing contains louvres for natural ventilation. Carparking numbers were reduced from statutory requirements by 78% with e-charging facilities provided, alongside end-of-trip facilities to promote active transport methods. Digital displays of water and energy use to each tenancy provide monthly reports on consumption trends. Solar photovoltaic panels contribute to the operation of the external screens. Water is captured from external terraces and filtered on site.

Levels
8

Fieldwork

Selected Project Examples

DRAFT

2 Barry Steet, Brunswick

Status
Complete

These townhouses are a celebration of Brunswick's existing local housing and industrial typologies, and present a flexible new model for inner-city medium-density living.

The two parallel sets of townhouses take their form and materiality from the surrounding vernacular, a homage to Brunswick's Victorian terraces and brick warehouses, utilising familiar spatial and tactile qualities in a contemporary way.

The project embraces natural landscaping as an integral design element. On-street planting as well as a generously landscaped elevated walkway provide ample opportunities for both public and private communal outdoor amenity. Rooftop winter gardens and external decks connect residents to their broader surroundings. Barry Street is one of the first townhouse projects in Australia to be built from Cross Laminated Timber.

Levels
3-4

Fieldwork

Selected Project Examples

DRAFT

90 Ruskin Street, Elwood

Status
Complete

The project is a series of townhouses in Elwood, that provide a new model of medium-density living in the area. Multigenerational living was considered in designing to Australia's Gold and Platinum standards and making provisions of lifts in each residence, while flexible internal layouts with a high degree of adaptability accommodate a variety of lifestyles and family structures.

Bordered by Ruskin Street and Elwood Canal, the design addresses the site's unique boundary conditions in a sympathetic and generous manner. The scale, setback and materiality of the Ruskin Street frontage sits comfortably within its domestic context, while the northern interface revitalises the canal-edge.

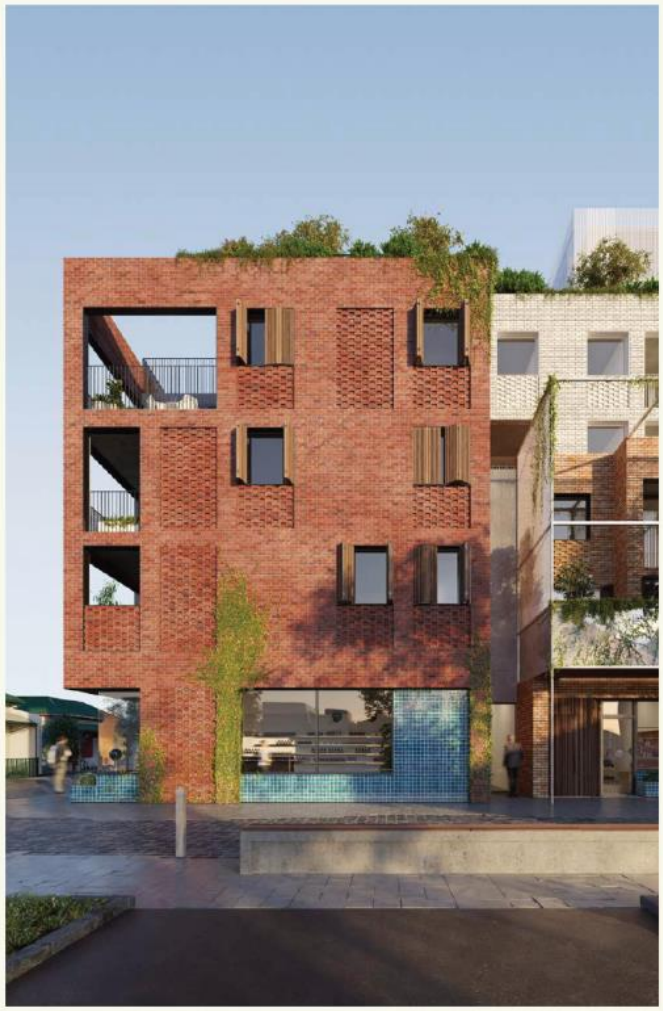
The project achieves 7 NatHERS energy rating and can be run through 100% renewable electric energy produced on site. The orientation allows a dual north-south aspect promoting cross-ventilation and solar penetration to habitable rooms. The project also incorporates a specified 19.72 KW rooftop solar array and Tesla battery storage enabling the townhouses to minimize required energy drawn during peak times. 2000L rainwater tanks service each townhouse's toilet systems and the development's irrigation system, while an electric heat pump services the hot-water requirements.

Levels
3-4

Fieldwork

Selected Project Examples

DRAFT



342 Victoria Street, Brunswick

Status
Design Development

Located in the heart of Brunswick, adjacent to Brunswick Train Station and the Upfield Bike Path, the project aims to make a positive contribution to the area through the provision of a generous public realm, the creation of key urban connections, and the introduction of a shared pedestrian and vehicular promenade. This is a genuinely mixed-use precinct with townhouses, home offices, a mix of apartments, shops and a substantial office building.

The project draws on the varied character of the surrounding context, introducing architectural strategies that keep with the placemaking objectives of the area. The ground floor will be activated with a diverse mix of fine grain home offices and larger commercial tenancies, with townhouses wrapping the edges of the site, responding in scale to the existing residential neighbourhood.

Furthering our interest in varied housing typologies, this project introduces the 'residence over shop' typology. The three-storey townhouses have a dual key arrangement, allowing residents to live and work with flexibility.

Levels
10

Key Project Features

Site Area:
12,002m²

Residential Area:
9,858m²
1 Bed: 90
2 Bed: 49
3 Bed: 13

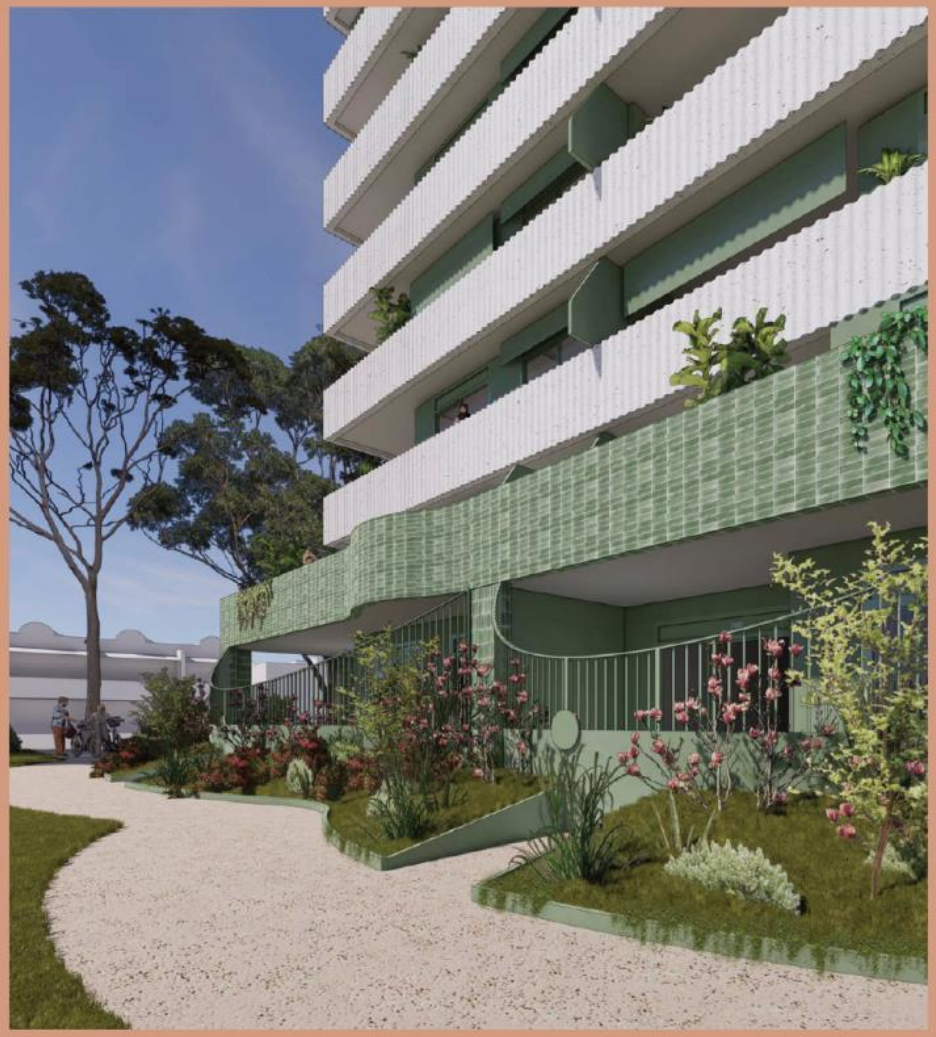
Total: 152

ESD Targets & Features:

- Number 01
- Number 02
- Number 03

Car Parking Spaces:
215 no.

Bicycle Spaces:
188 no.



Design Statement

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Principles & Objectives

Built Form

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Principle		Objective
1. Establish a new scale	1.a.	Establish a firm maximum building height consistent with the emerging scale of the Wellington Street precinct at 10-12 levels
	1.b.	Carefully transition built form along Vere Street to integrate between the low-rise walk-ups and the mid-rise scale of the 'Lantern' building
	1.c.	Ensure the S-plan Housing Commission tower remain as a distinct, prominent landmark with sufficient breathing space
2. Maximise sunlight to the Public Realm	2.a.	Taller built form should be oriented north-south, with a slender profile to promote good sunlight levels to the public realm
	2.b.	Where east-west built form is proposed, generally keep this to a lower-scale to promote good sunlight levels to the public realm
	2.c.	Adopt a 'tooth and gap' approach to built form along Vere Street to achieve good Equinox sunlight levels to at least 50% of the length of the frontage

Principles		Objectives
3. Enable exceptional amenity, comfortable homes	3.a.	Maximise north, east and west facing apartments to ensure sunlight to balconies
	3.b.	Minimise the number of single aspect south facing apartments
	3.c.	Ensure any south facing apartments have living areas to the facade line, and recessed balconies to promote oblique outlook
	3.d.	Avoid the use of multiple level 'podium' elements which compromise apartment plan depth and quality
4. Maintain amenity of existing resident	4.a.	Avoid built form directly interfacing with the primary outlook of dwellings in the high-rise S-tower
	4.b.	Any built form adjacent to the east facing windows of 240 Wellington Street should be low-rise, with a minimum separation of 15m
	4.c.	Offset new built form to the north, in order to maintain outlook to north-facing windows of 240 Wellington Street onto the neighbourhood park

Principles		Objectives
5. Frame new open spaces and public connections	5.a.	Establish a strong 'ground plane' architecture of single storey volumes that mediate between efficient elegant building forms and the human scale
	5.b.	Ensure ground plane materiality is robust and tactile, with an emphasis on finishes such as brick-work to integrate with the character of Collingwood
	5.c.	Promote simple elegant building forms that maximise sightlines from surrounding streets, and limit loss of public open space
	5.d.	Avoid L shape buildings which create entrapment areas without clear sightlines from the surrounding streets
6. Respond to mixed grain Collingwood Context	6.a.	Ensure that each building has a distinct architectural identity, within a common material palette to avoid visual monotony and stigma
	6.b.	Modulate long expanses of facades above 4 storeys with clear breaks and an emphasis on vertical proportions
	6.c.	Exploit the narrow elevation of tower forms and expressed corridor ends to provide modulation and slenderness

Site Analysis

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Current Urban Context

Collingwood

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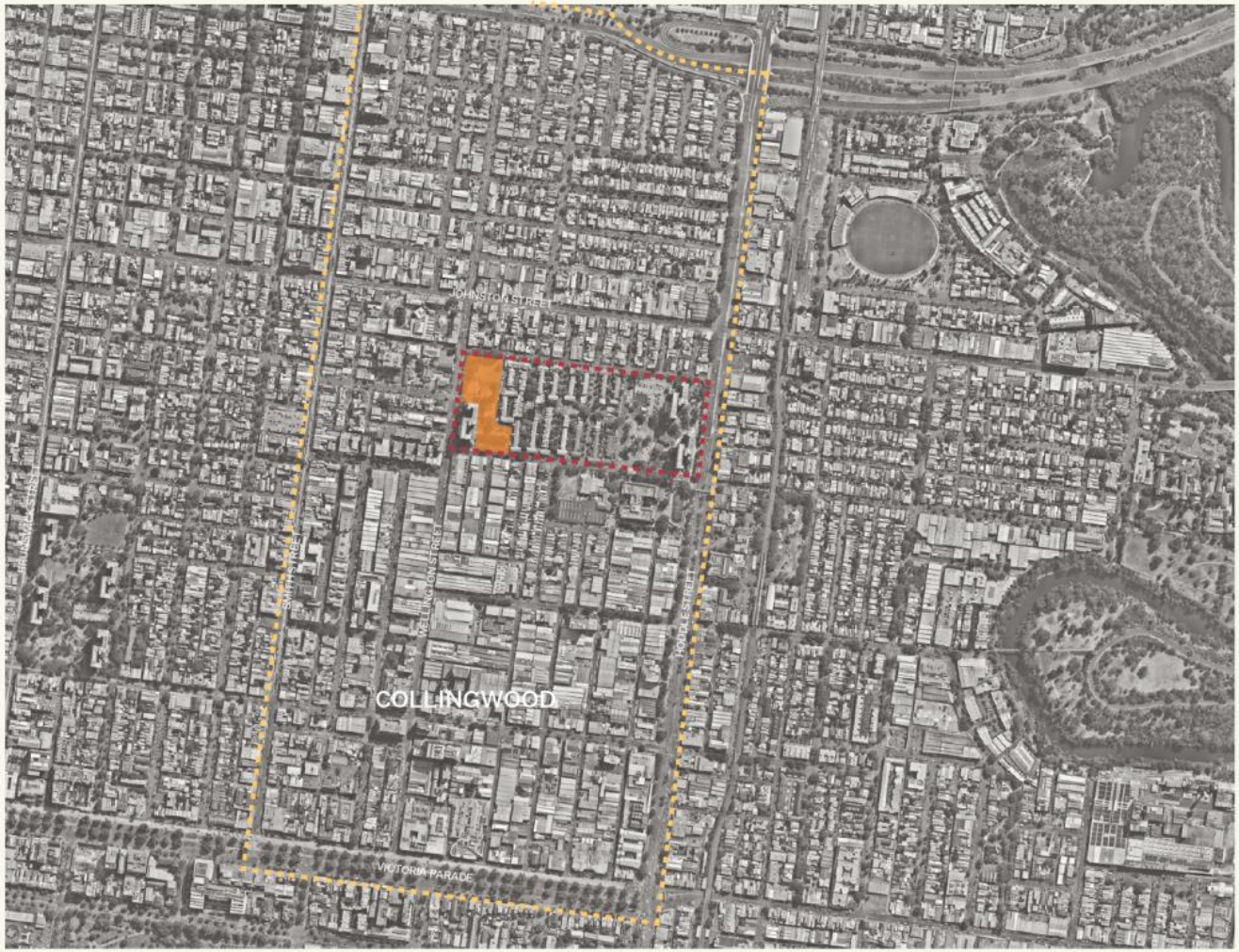

Collingwood

Located in the heart of Collingwood, our site is nested in the Housing Precinct bordered by Wellington St to the west and Hoddle Street to the east.

Collingwood
Suburb Boundry

Collingwood Estate Precinct
Wellington St to Hoddle St

Subject Site
147/240 Wellington St,
Collingwood

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Current Urban Context

Urban Structure / Transport / Movement Network

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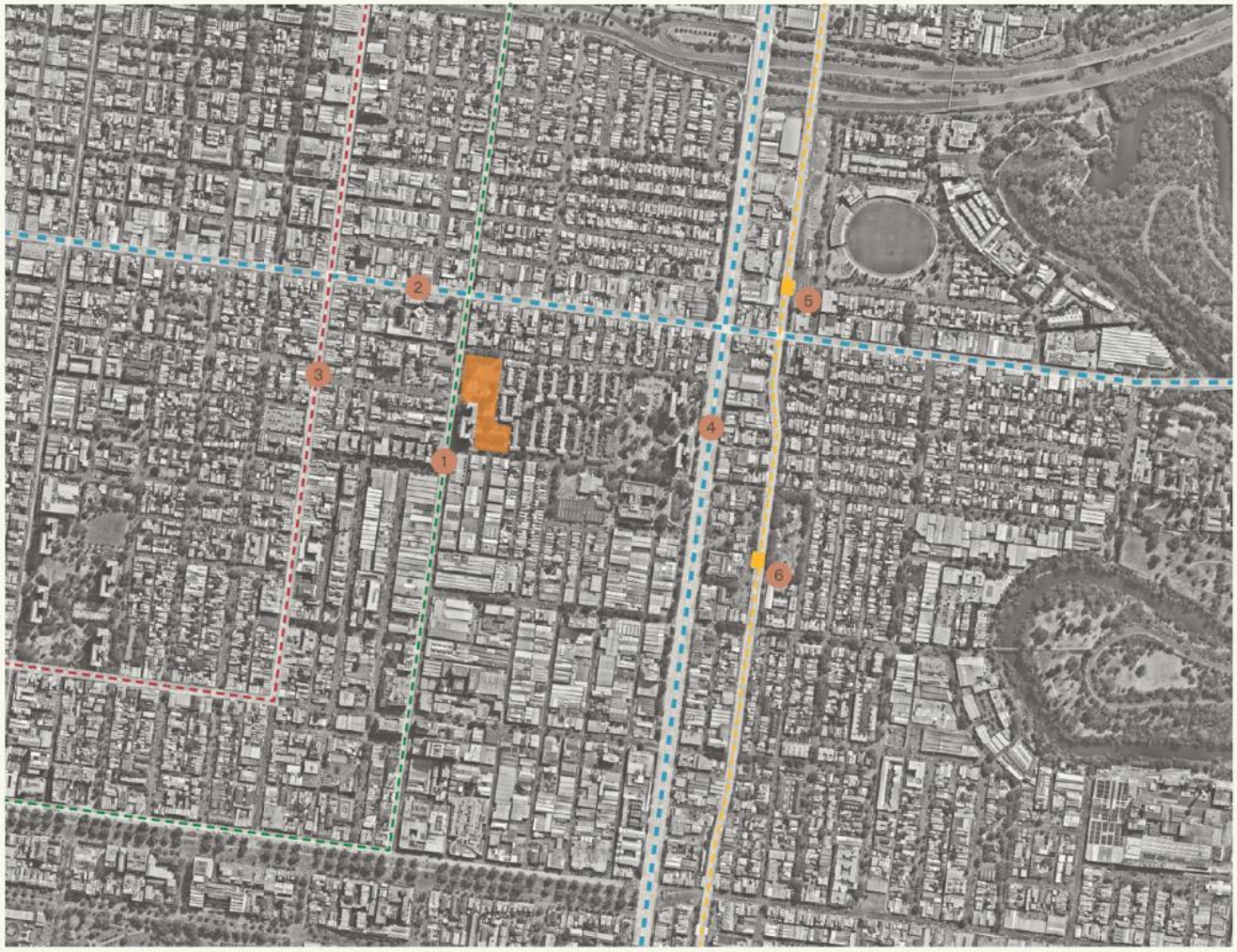

Green Travel Infrastructure

The subject site is located within 15 minutes walking distance from Victoria Park and Collingwood train stations via Perry St, and a short walk east to bus routes along Hoddle St. A brief walk to Smith St to join tram route 86 which connects to the CBD. Wellington St has a remarkable dedicated cycle path running adjacent.

1. Wellington St Bike Path
2. Bus Routes 200/207
3. Tram Line 86
4. Bus Corridor (+10 routes)
5. Victoria Park Station
6. Collingwood Station

- Tram Line
- Railway Line
- Bus Route
- Dedicated Bike & Pedestrian Path
- Subject Site 147/240 Wellington St, Collingwood

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Current Urban Context

Landscape / Open Space / Ecology

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Outdoor Amenity

The subject site is located within the direct vicinity of several outdoor and recreation activity areas, including Harmsworth Street Reserve and Victoria Park.

The site itself includes a generous open space completed with sports court and playground spaces.

1. Wellington St Corner Park
2. Harmsworth Street Reserve
3. Hood Street Reserve
4. Peel Street Park
5. Cambridge Street Reserve
6. Gahan Reserve
7. Victoria Park
8. Yarra Bend Park
9. Merri Creek Banks
10. Dight Falls Reserve
11. Atherton Reserve
12. Condell Street Reserve
13. Otter Street Pocket Park
14. Stanley Street Pocket Park
15. Collingwood Yards
16. Collingwood College

Subject Site
147/240 Wellington St, Collingwood

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Current Urban Context

Land Use / Key Local Anchors and Activity Generators

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Key Local Anchors

The neighbourhood surrounding the site is home to a rich ecosystem of cultural, educational, and community institutions, as well as a growing network of mission-driven businesses committed to positive social impact.

The southern edge of the site borders the Gipps Street Precinct, one of two major employment precincts in the City of Yarra, and an emerging hub for Melbourne's creative economy transforming a former industrial zone.

The site also lies in close proximity to a number of established and emerging retail strips, including Smith Street, Johnston Street, and Gertrude Street.

1. Collarts — Wellington St Campus
2. Collarts — Cromwell St Campus
3. Collarts — George St Campus
4. Collingwood Yards
5. Melbourne Polytechnic
6. The Wellington Collingwood Inc
7. Neighbourhood Justice Centre
8. Collingwood College
9. St Joseph's Primary School
10. Centre for Contemporary Photography
11. Yarra Youth Centre
12. Fitzroy Library
13. Abbotsford Convent
14. Collingwood Town Hall Precinct
15. Collingwood Estate Gym
16. Collingwood Library
17. Fitzroy Community Food Centre
18. Collingwood Neighborhood House

Retail Streets

Gipps Precinct

Local Key Anchors

Subject Site
147/240 Wellington St, Collingwood

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Collingwood Estate Precinct

from Wellington Street to Hoddle Street

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The geographical extent of the masterplan is bound by

Hoddle St to the east; Wellington St to the west; Perry St to the north and Vere St to the south

Of note also, is the internal east-west pedestrian link through the entire precinct which breaks down the effective block lengths and provides high pedestrian permeability for the estate residents

The existing estate precinct reflects a condition of urban evolution, replacement and repair over the course of many decades.

It is a holder of significant open green space within the greater precinct of Collingwood, a crucial amenity contribution to the neighbourhood for both residents, non-residents, and birdlife alike, of importance which cannot be underestimated.

Whilst open space is plentiful within this precinct boundary, there is a disconnect between the high-rise dwellings and the ground plane

Building Height

- 21 Storey
- 3 Storey
- 2 Storey
- 1 Storey
- Perpendicular Parking Streets
- Open Air Parking
- Outdoor Amenity
- Collingwood Estate Precinct Wellington St to Hoddle St
- Eastern Precinct Portion Wellington St to Dight St
- Subject Site 147/240 Wellington St, Collingwood

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Collingwood Estate

from Wellington Street to Dight Street

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The project site is located to the west end of the geographical extent of the project masterplan, with the primary street frontage to Wellington St, primary access points from Perry or Vere Streets, and interlocking to the east boundary with the existing low-rise 'walkup' social housing stock, and interlocking to the south-west with the existing high-rise social housing tower.

The site is at the juncture of many differing planning zones, built form character and uses.

The rich texture of the surrounding environment is reflective of previous development over generations, from the fine-grain of the quintessential Collingwood workers' cottages, to the low rise wide footprint warehouse stock, expansive lots belonging to educational and religious institutions, to the new emerging scale of the mid-rise multi residential developments as Collingwood undergoes a current gentrification transformation.

Surrounding Building Character

- Open Air Carpark
- Residential
- Commercial
- Retail & Hospitality
- 1-2 Storey Warehouse
- Education
- Community Amenity
- Cultural Amenity
- Eastern Precinct Portion Wellington St to Dight St
- Subject Site 147/240 Wellington St, Collingwood

Subject Site

Existing Conditions

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The map shows key functional components on site.

Secure existing on grade carparking and tower servicing is accessed from Vere St to the south, with secure connection through to Emerald St, accessed from Perry St to the north. Emerald St provides on-street parking, but is currently owned by the Department of Housing with no ability to manage or limit parking restrictions. These carspaces currently provide unlimited parking for the neighbouring residents, and also public/commuters alike.

Wind Speed

- 40+km/h
- 30-40km/h
- 20-30km/h
- 10-20km/h
- 0-10km/h

- Existing Trees
- Sports Court
- Playground
- Kitchen Garden
- Open Air Car Park
- Existing Lobby
- Cross Walk
- Services Access
- Entry Points
- Subject Site 147/240 Wellington St, Collingwood

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Existing Conditions

Site Photos

DRAFT

The following plan establishes the location in which the site photos on the following pages have been taken. Photographs show key features and vantage points of the existing site conditions from outside the site boundary.

1-4. Southern Boundary images

5-8. Eastern Boundary images

9-12. Northern Boundary images

13-16. Western Boundary images

17-20. On Site images

Subject Site
147/240 Wellington St, Collingwood

Existing Conditions

Southern Boundary

DRAFT

1. Existing crossover, and boom gate security access, to the existing carpark at the southern end of the site. This crossover also provides access to the back of house services at the base of the existing tower.
2. Row of existing native trees and shrubs along the southern edge of the site to Vere St. The existing tower in the southwest of the of the site is seen beyond. Existing perimeter fence to Vere St, set to the edge of the footpath boundary. Fence is generally in poor condition
3. Image shows view lookin west on Vere St, with parking on North side and access to John St and Down St on the South side.
4. At the south eastern interface with the adjoining walk up residences, the fence splays back towards to the front wall of the adjoining property. The footpath is set into the east where street parking transitions from parallel to 90 deg.

Existing Conditions
Eastern Boundary

DRAFT

5. The end of Emerald St is a small cul-de-sac for vehicle turning. Parking within the cul-de-sac is visible, outside of the marked car space lines. Picnic tables are located in close proximity to the carpark.

6. This connection leads to the eastern pedestrian connection to Dights St between the townhouses and walk up apartments. The access is marked by an open air bin collection point used by the townhouses.

7. Access is provided to the centrally located onsite carpark at the end of Emerald St via boom gates. Vehicle access is not linked between this carpark and the one on the south of the site. Emerald St is a private road.

8. Connection across Emerald St, through the 240 Wellington St open space is visible in this image.

Existing Conditions

Northern Boundary

DRAFT

9. Corner junction of the subject site at the intersection of Wellington and Perry St. Break in perimeter fence line shows very narrow access through to common outdoor amenity, with poor sightlines.

10. Existing landscape bund and significant native tree to the northern edge of the subject site. Meaningful landscape is offset from the existing perimeter fence.

11. View along Perry St looking east. Existing tress on the north east corner of the site visible, with views towards the townhouses on the east of Emerald St in the background.

12. Image shows view looking west at the corner of Perry St and Emerald St. Across Wellington St. Collingwood slope visible extending up towards Smith St.

Existing Conditions

Western Boundary

DRAFT

13. Image shows existing street edge to Wellington St at the northern end of the site, with landscape bund and significant trees within the site. Dedicated bicycle path separated from cars is visible in the foreground.

14. Existing fence to Wellington St extends into the site for small sections. Landscape void to footpath edge visible.

15. Small opening in perimeter fence connecting Wellington St to the footpath adjacent to the playground. Dedicated bicycle path separated from cars is visible in the foreground.

16. Sightline and connection from the Wellington St footpath to the existing under croft is obscured and blocked by the perimeter fence and landscape.

Existing Conditions

On Site

DRAFT

17. Image taken in the existing carpark accessed from Vere St. View is looking north towards the open space beyond the carparks. Sensitive east facing windows to the tower are visible on the right-hand side.

18. View within existing carparking looking west towards the existing tower service area.

19. View of 'Unity Park' within the project site boundary, looking Northeast

20. View on east-west pathway through the centre of the site, looking south towards the central car park.

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Collingwood Character

Residential

DRAFT

Images show the variation in Collingwood's residential streetscape character.

Our site is surrounded with testimonies from each of Melbourne's building period: single residential heritage housing, modernist high rise towers, late century walk-ups and emerging new mid-rise scale. The variety of typologies creates an immense palette of materiality, colour palette, shapes, volumes and spaces.

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Collingwood Character

Industrial Heritage

DRAFT

Collingwood's industrial past and present activities have left a strong presence in Collingwood.

Predominantly consisting of brick construction, most buildings are characterized by large doorways and small window punctuations. Façade details and embellishments consist of pragmatic screening, brick junctions details and colour variations form the bricks themselves.

Collingwood Character

Commercial

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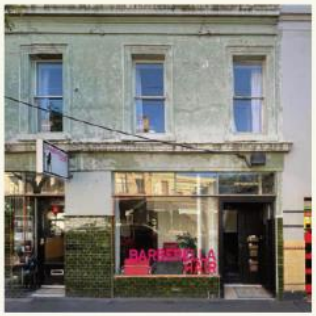
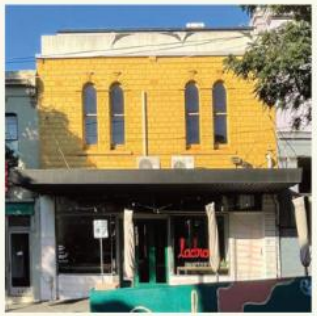

Collingwood's commercial character is largely identified by the retail frontages of Smith St and Gertrude St.

These retail and hospitality venues are single story, small grained, and characterised by framed and decorated shop windows. Warehouse conversions into office, café and entertainment spaces extend from the retail precinct's side streets permeating into the back streets of Collingwood's suburban and commercial realm.

Precinct Design Strategy

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Subject Site

Urban Connexions

DRAFT

1. Collingwood Arts Precinct
2. St Joseph's Catholic Primary School
3. Melbourne Polytechnic
4. Collingwood College Victoria
5. Collingwood Station

- Local Key Anchors
- Gipps Precinct
- Natural Corridor
- Collingwood Estate Precinct Wellington St to Hoddle St
- Subject Site 147/240 Wellington St, Collingwood

Subject Site Massing

Existing Conditions

DRAFT

The existing site is bound by Wellington St to the west, Perry St to the north and Vere St to the south. Emerald St is a small dead-end street on the east of the site.

On the southwest corner of the site, the existing tower sits on the corner of Wellington and Vere St, with service access on the building's eastern edge. Half the residents of the tower have their primary outlook facing east in the centre of the site.

Two carparks are located onsite, the larger one accessed from Vere St, and the centrally located one accessed from Emerald St.

To the eastern boundary, townhouses adjoin the site at the northern end, while low scale walk up apartments adjoin the site at the southern end.

A multipurpose sports court is at the northern end of the communal open space, with a playground along Wellington St.

- Eastern Precinct Portion Wellington St to Dight St
- Subject Site 147/240 Wellington St, Collingwood

Project History

Massing Iterations

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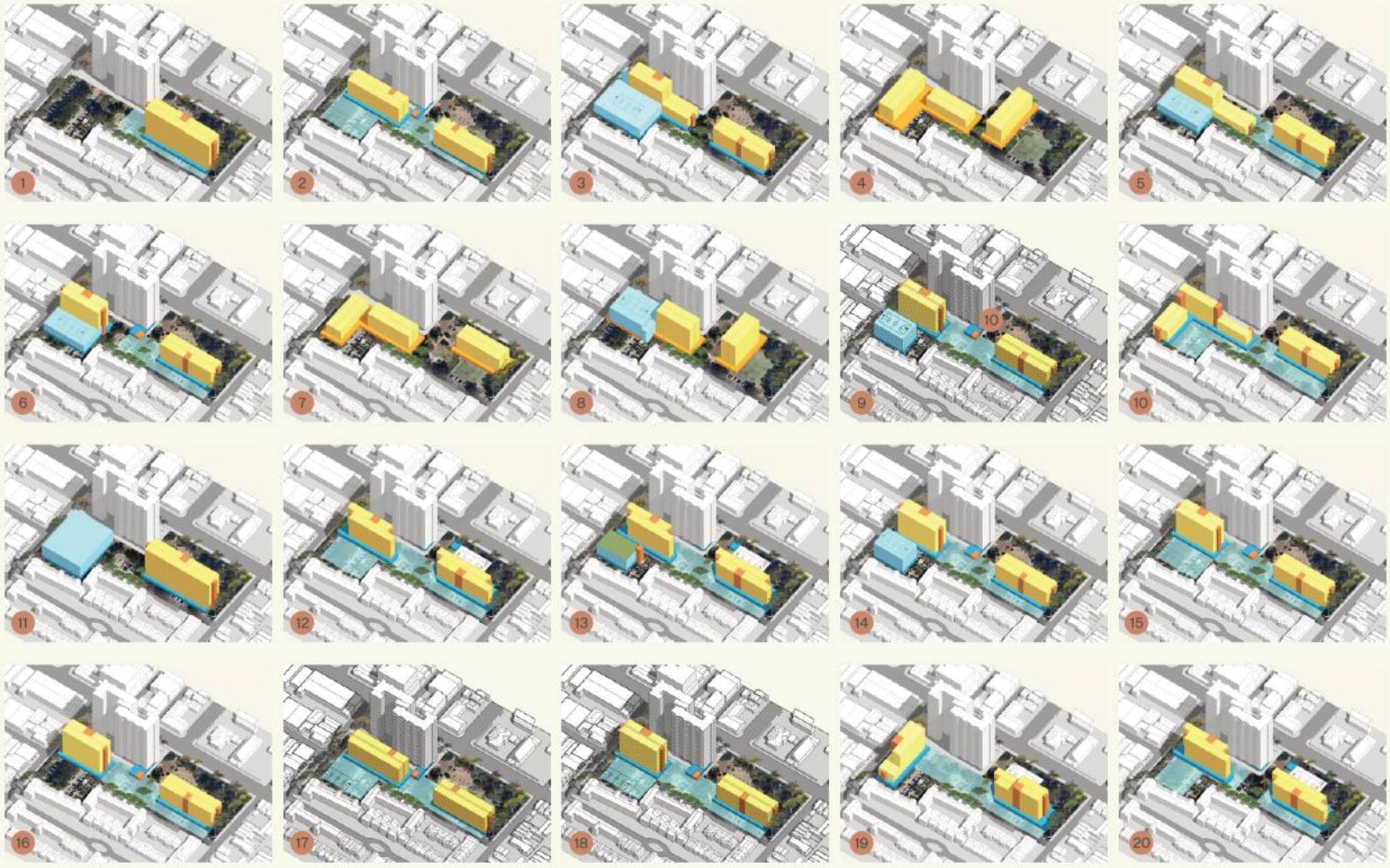

Project History

Massing Iterations

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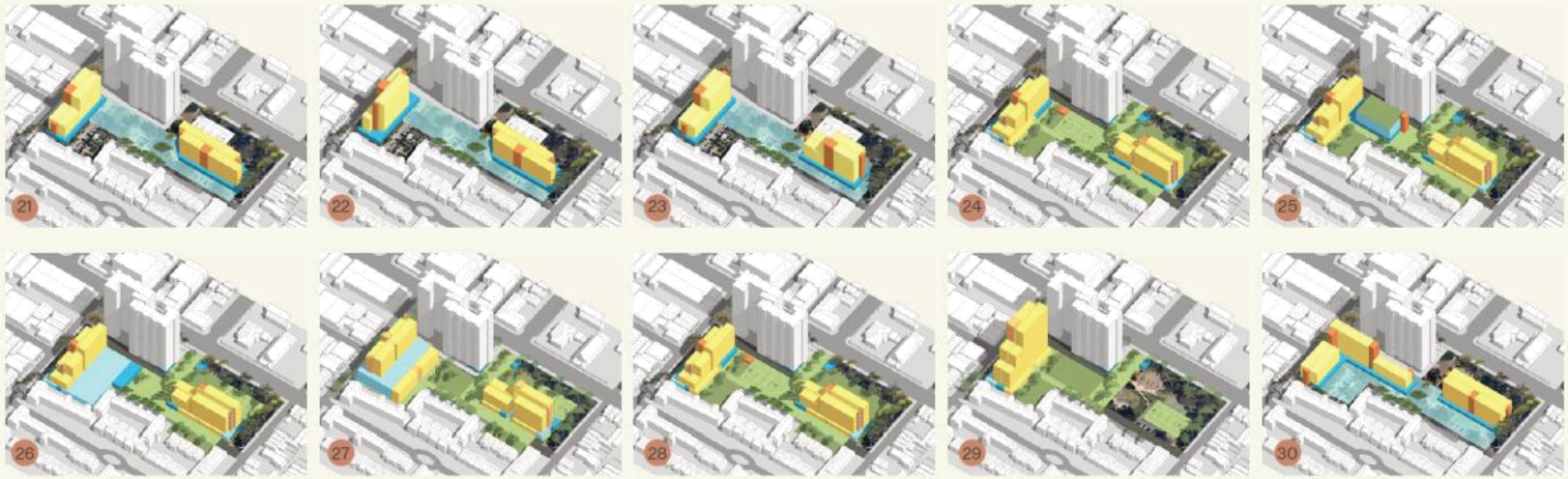


Project History

Considered Designs

DRAFT

1. SK34 Masterplan Submission Preferred Scheme

2. SK 27 Alternative Podium

3. SK 29 Single Tower

- Residential
- Core
- Ground Floor Program
- Car Parking
- Landscaped Public Realm

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Project History

Timeline

DRAFT

With consideration to numerous simultaneous workflows across the project, the Master Programme has had to remain flexible and adaptable to change, whilst maintaining clear sight of the critical milestones for approvals, planning and contract award.

Schematic Design proceeded at risk whilst the Business Case was finalised and Masterplan and Budget approvals were sought. Numerous value management initiatives were explored during the phase to align with budgetary constraints, in parallel with consultant coordination of the likely approved scheme.

The Engagement plan is confirmed to commence end of July, with a tight but solid framework to allow meaningful engagement from community stakeholders, and concluding in time for Resident Feedback loops and Final Reports to be produced prior to submission of the Planning Application to DELWP.

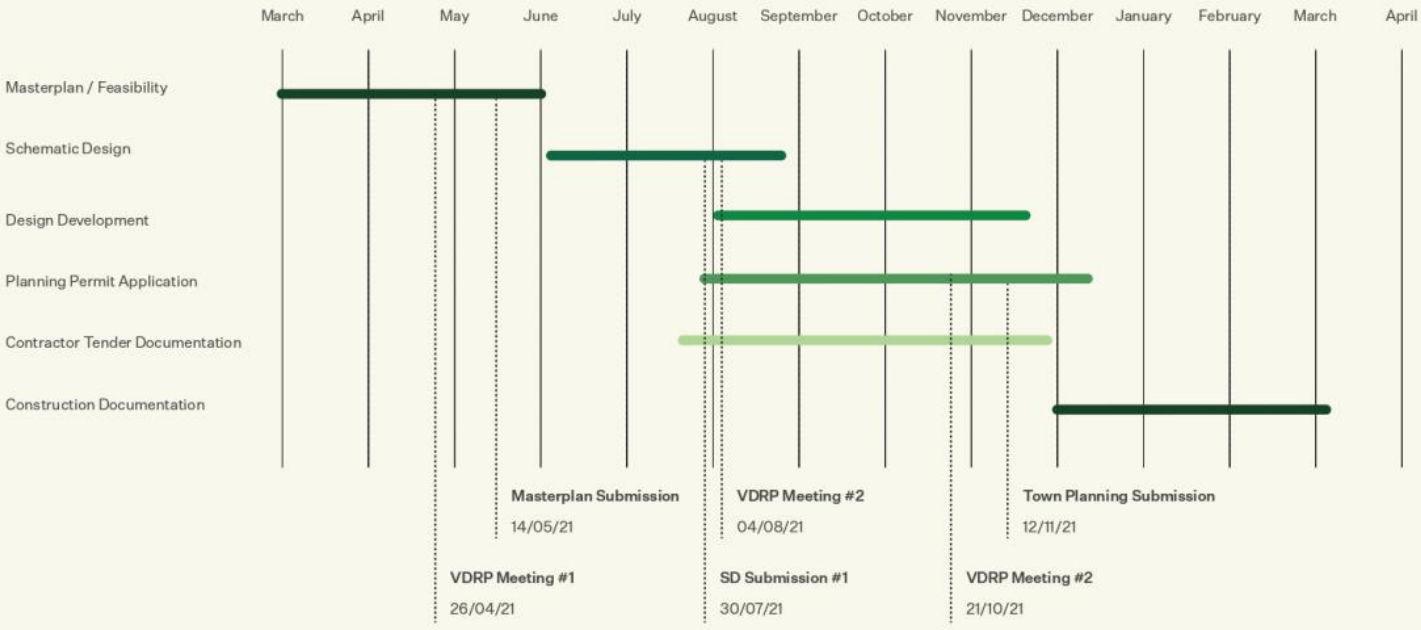
Whilst the OVGA review was postponed during schematic design, a meeting has been confirmed and coincides with the conclusion of Schematic Design phase and submission of the SD documentation. Feedback from OVGA will be considered and incorporated early in the following Design Development phase.

Approval from Homes Victoria to engage with the relevant council authority – being Yarra City Council – was not granted until end of schematic design phase, which raises some risk to the project timeline with regards to late feedback from statutory planning officers, and critical services departments, waste, traffic, civil, etc. A project introduction meeting is scheduled immediately following conclusion of Schematic Design phase, and the programme makes allowance for YCC feedback within a fair and reasonable timeframe. This consultation with YCC will dovetail with regular discussion points with DELWP, before a final pre-application scheduled one week prior to submission of the planning submission.

The date for submission of the planning application is a critical pathway, but makes allowance of a reasonable timeframe for DELWP review and approvals period. This approvals timeframe is not confirmed with DELWP, and receipt of application approval is assumed to fall after the tender is awarded.

Of note is the change to the Procurement methodology for engaging the Contractor. Whilst the tender award date has not moved from end of year, the method of tendering is no longer the more traditional/typical tendering process based on tender documentation and trade prices. A two part EOI & RFP process for Gross Maximum Price instead aims to optimise competitive bidding and desensitise delivery risk for the project.

The Design Development and Townplanning phases will occur in parallel with the Tender period, ensuring full completion of DD documentation and anticipated planning approval by end of tender phase. As the tenderer will be basing GMP on early masterplan documents, and may not be privy to documentation and design development, there is risk in misalignment of benchmarking expectations between contractor and client group which should be carefully managed during tender negotiation phase. The consultant team will be fully novated to the successful Contractor for commencement of Construction Documentation phase and completion of building permit packages.



Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Building Strategy

Diagrams

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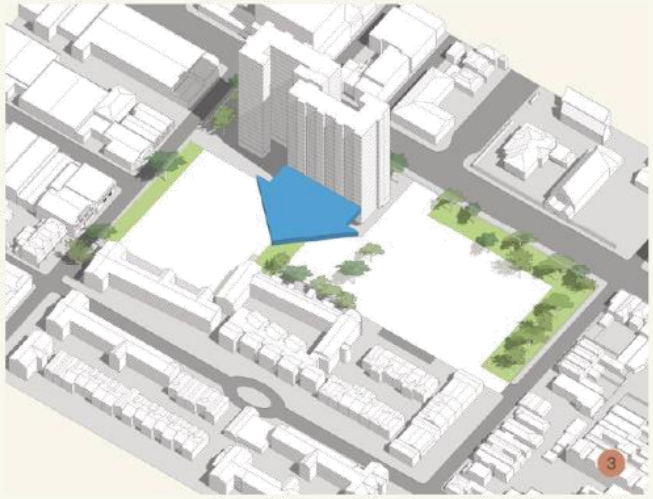

1. Perimeter Canopy Trees

Preserve healthy and culturally relevant native trees

- Preserved Trees
- Trees proposed to be removed

2. Primary and Secondary Outlooks

Identify sensitive interfaces

- Primary Outlook
- Secondary Outlook

3. Preserving Existing Views

Maintain clear open space in front of the primary outlook for the residents of the existing tower.

Provide a reasonable setback to the secondary outlook for the residents of the existing tower.

4. Undercroft Views

Maintain a consistent sightline from Wellington St through the existing under croft area.

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Subject Site Massing

Building Strategy

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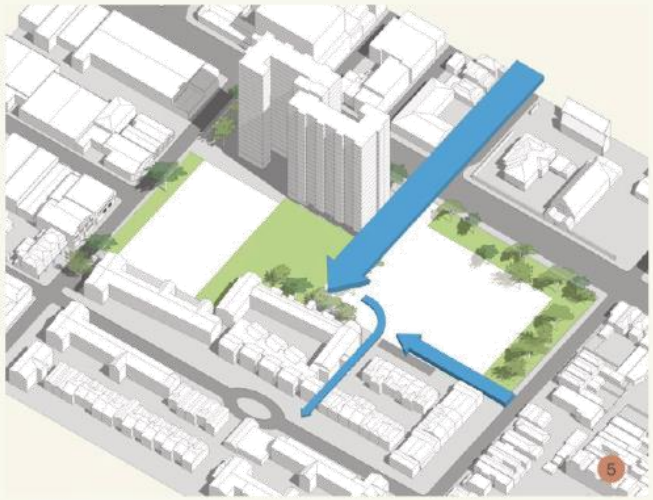
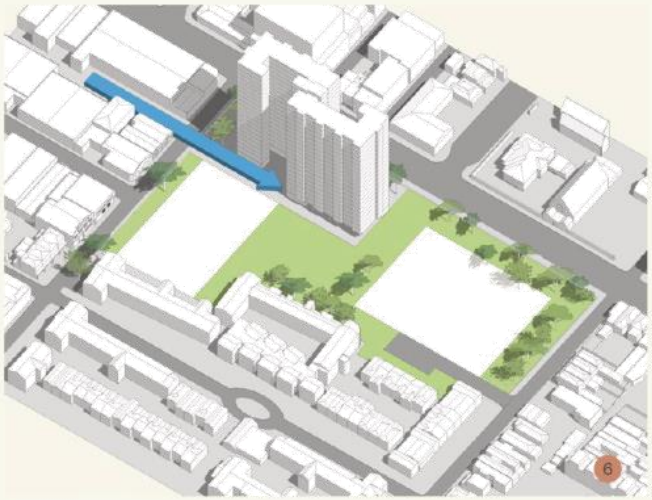




5. Otter Street Visa and Emerald Street Shared Zone

Create a visual, pedestrian and bicycle connection from Otter St to the centre of the site.

Reduce the length of Emerald St while maintaining access to the carpark for the townhouses and waste collecting vehicles.

6. John St Lane

Extend John St as an active pedestrian edge and preserve service access for existing tower.

7. Wellington Corner Park

Preserve and significantly improve the common outdoor amenity to the north west of the site. Repurpose the existing central carpark into common outdoor amenity while preserving existing significant trees to central plaza.

Preserved Trees and Open Space

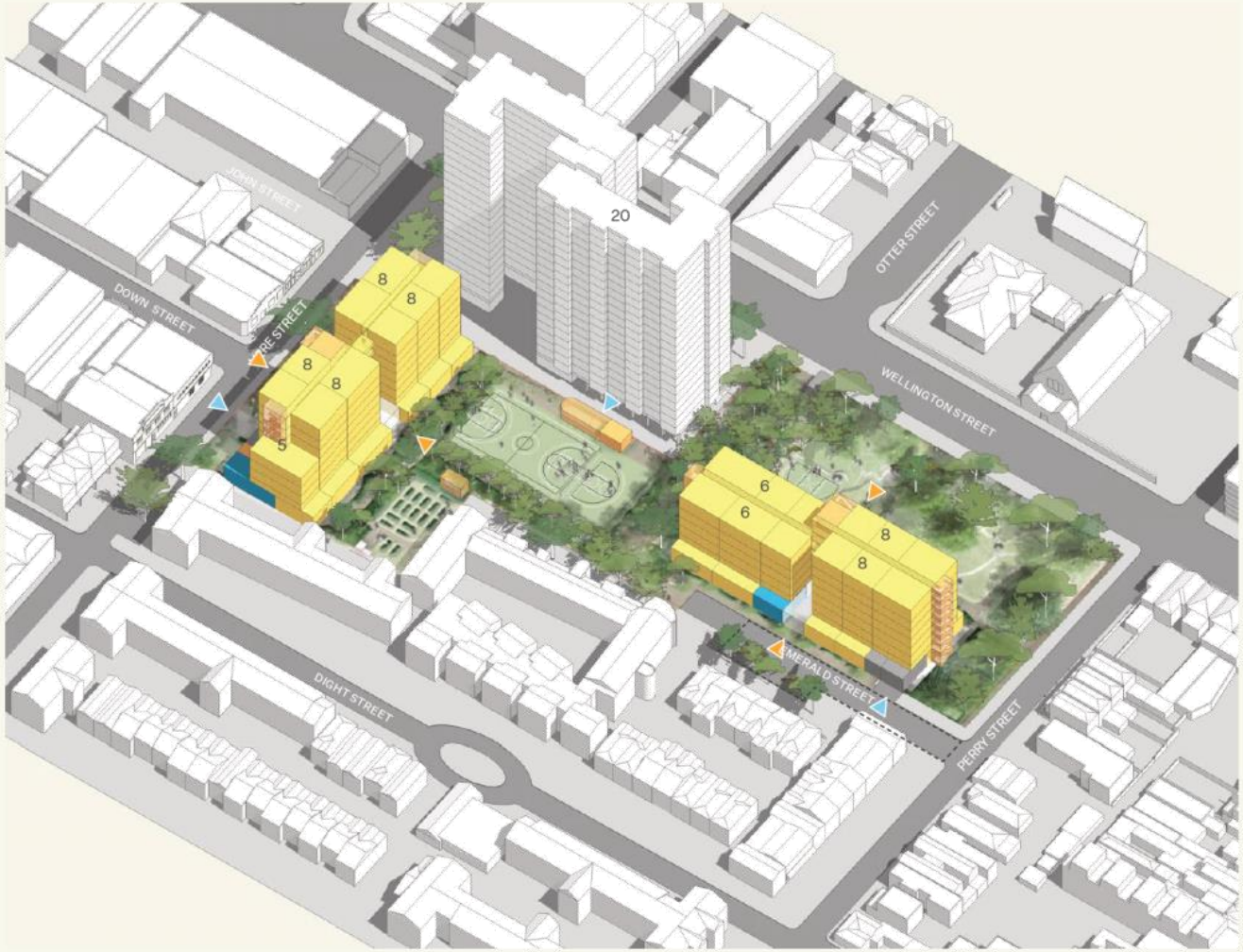
8. Porposed Built Form

Articulate building to minimise shadowing impacts to the south and to reduce sense of bulk. Introduce a finer grain.

Proposed Design

North-east Axo View

DRAFT



- Southern building is orientated east-west in order to maximise open space to the north.
- Gap located in southern building at the extension of Down Street, with circulation 'bridges' introduced. This reduces the grain size of the proposal, modulates long expanses of facades, and creates clear vertical breaks with an emphasis on vertical proportions.
- Built form steps down to address the lower scale buildings to the east.
- The existing tower, and the southern building, frames and define the public space to the north.
- Residential and non-residential uses proposed at the ground floor plane to both buildings.
- External staircases to prove activating and articulation.
- Pedestrian mews along the western side of Emerald St, leading to central lobby and ground floor bicycle storage.
- The vertical break in the northern building at the east improves cross ventilation to apartments and breaks down the built form mass, compared to the lower scale buildings to the east1

Basement/Carpark Access
Lobby Access
Residential
Core
Ground Floor Program
Car Parking & Services
Emerald St reduction

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Proposed Design

North-west Axo View

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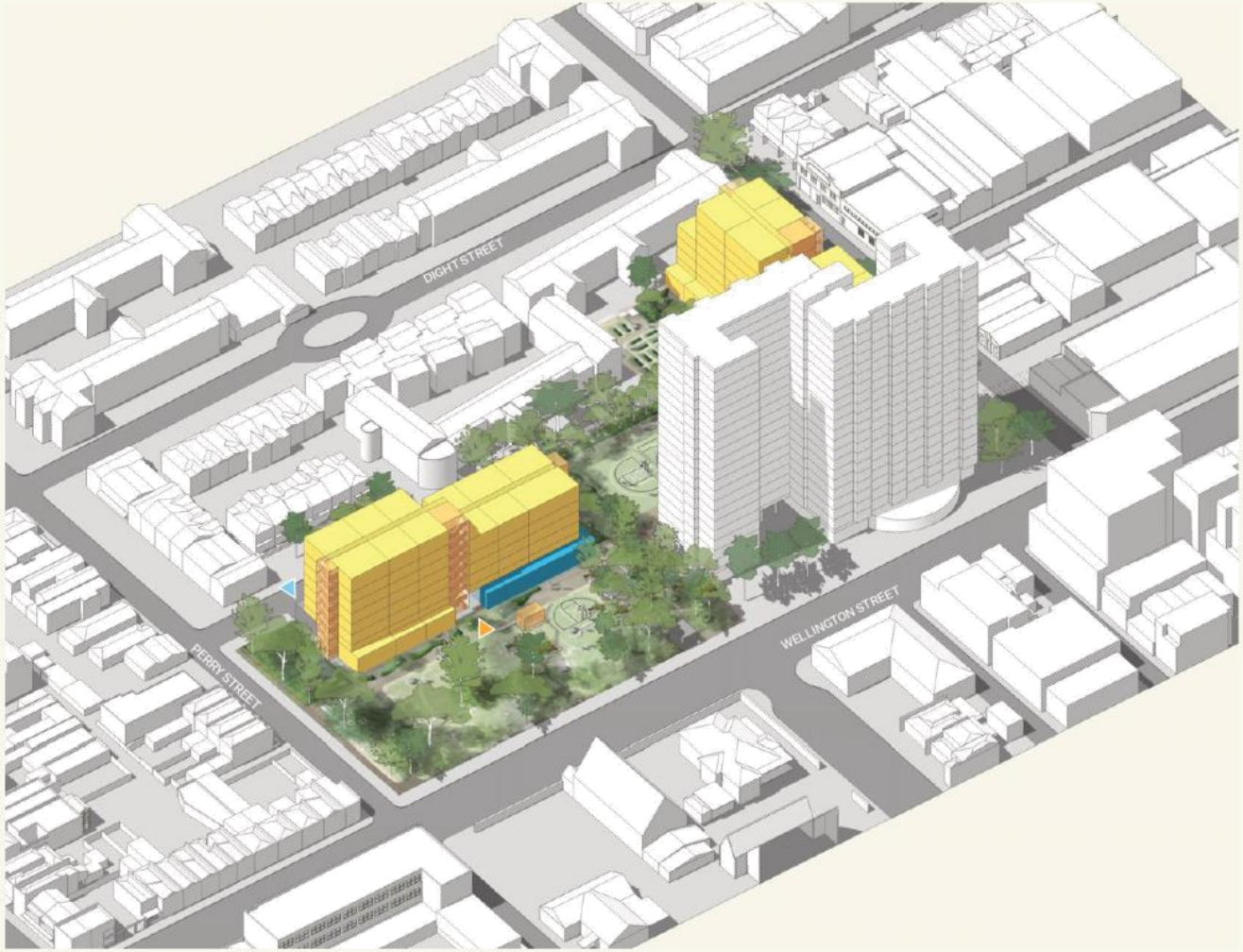

- Ground floor activation *through both residential and non-residential program* is proposed to front the north-western park
- External staircases provide activation and passive surveillance opportunities, encouraging residents to actively use the stairs.
- Building steps down to reduce overshadowing to the public realm at the south .

- Basement/Carpark Access
- Lobby Access
- Residential
- Core
- Ground Floor Program
- Car Parking
- Emerald St reduction

Proposed Design

South-west Axo View

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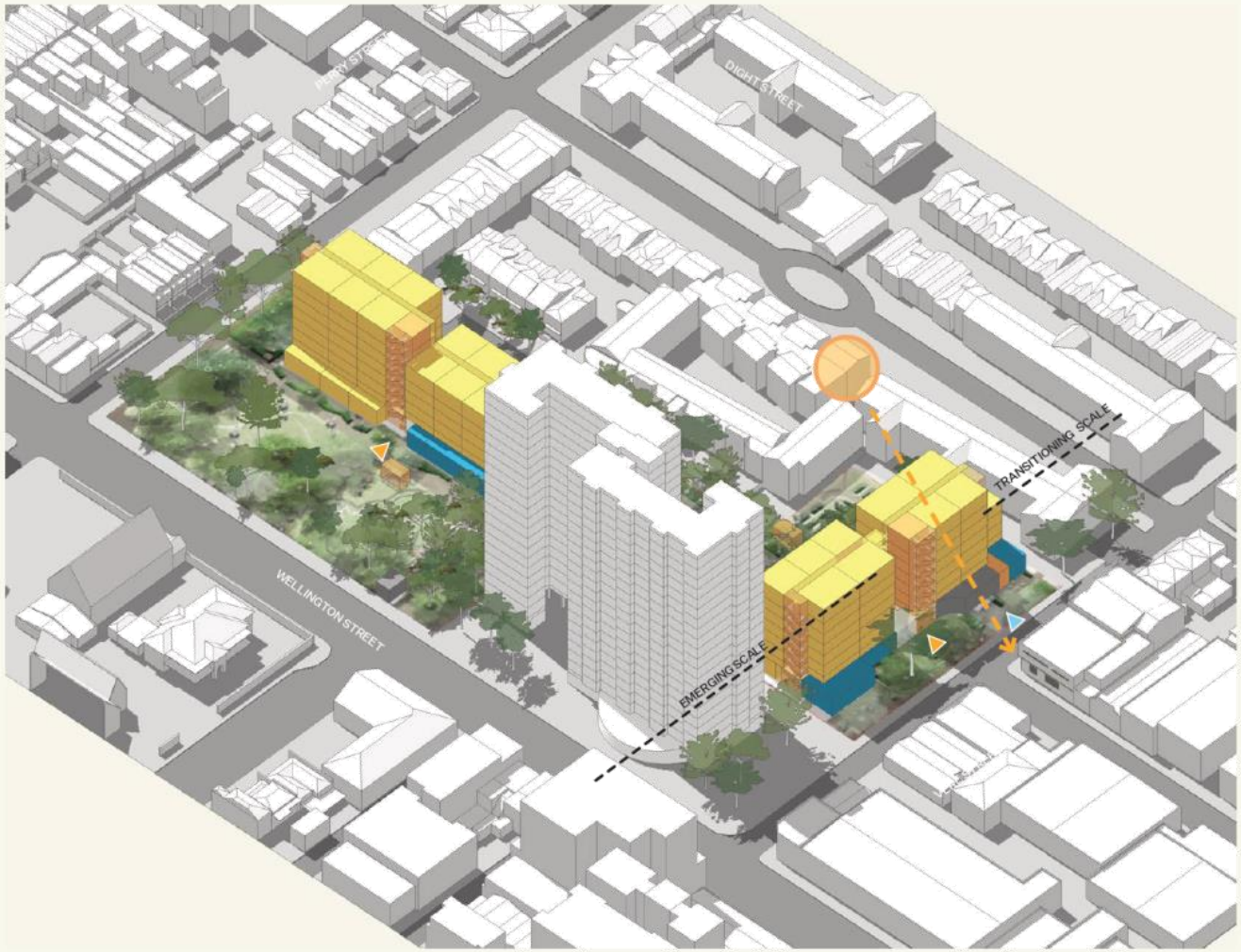

- Ground floor activation *non-residential program* is proposed to the south western corner fronting Vere St.
- External staircases provide activation and passive surveillance opportunities, encouraging residents to actively use the stairs.
- Built form is setback from Vere St to consider the sunlight opportunities to the Vere St footpath opposite.
- Setback also allows for the retention of the existing canopy tree to street, and setbacks the future residents balconies from the street edge.
- The vertical break in the built form creates south facing apartments which benefit from corner aspects, minimising the number of single aspect south facing apartments.
-

- Basement/Carpark Access
- Lobby Access
- Residential
- Core
- Ground Floor Program
- Car Parking
- Emerald St reduction

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Proposed Design

Public Realm Activation and CPTED

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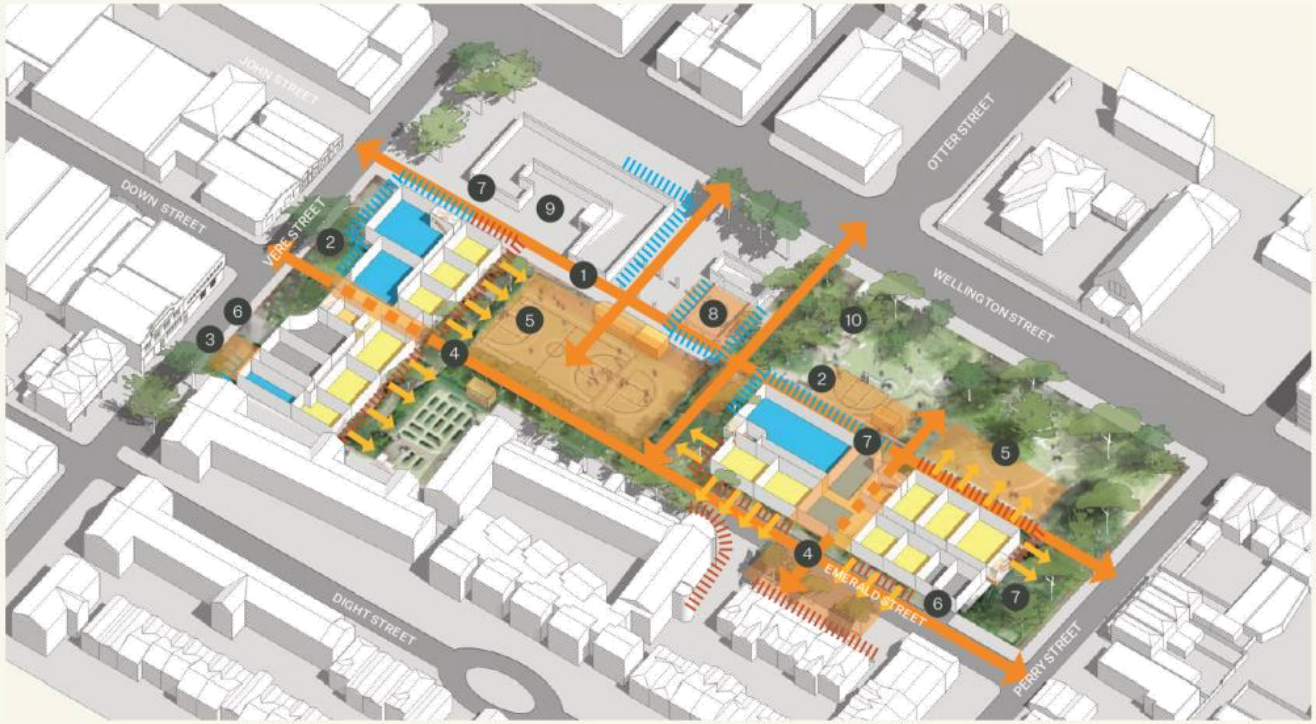

1. The 'urban promenade' and existing service laneway provides a long clear sightline north to south, through removal of the existing storage obstruction and a re-established pedestrian footpath. Building alignment and landscape edges have been carefully considered to promote safety.
2. Critical landscaped forecourts are integrated with the building entries and active ground level non-residential uses. Spillover from the tenancies is encouraged to claim and influence this space.
3. The Vere Street public realm alignment and safety is repaired through widening of the narrow existing footpath condition.
4. Gently ramped forecourts transition at lobby entries to mediate between two distinct site level alignments.
5. Pedestrian pathways are buffered from ground level residential dwellings, through deep raised garden beds and indented entry gates, providing privacy to bedrooms and screening to terraces.
6. Basement carpark access is purposefully located away from key pedestrian links, ensuring priority is given to pedestrian and bicycle movements within the site. Light spill and high visibility is maintained at carpark entries, with integrated signage and planting.
7. Open air egress stairs provide activated facades and passive surveillance opportunities. Secure and transparent stair enclosures provide high visibility, avoiding entrapment and concealment spaces.
8. Potential enhancement works to the existing undercroft can provide additional activation and community amenity to underutilised areas, whilst maintaining clarity of visual connection from Wellington St through to the central recreation court.
9. Potential enhancement works to secure the existing tower service area will play a crucial role in enhancing the promenade alignment (1).
10. Potential enhancement works to the substation kiosk could provide an expandable/flexible footprint with power and water provision, allowing for temporary food & beverage stands and community events, to influence the adjacent public realm and engage with Wellington St.

Proposed Design

Public Realm Plan

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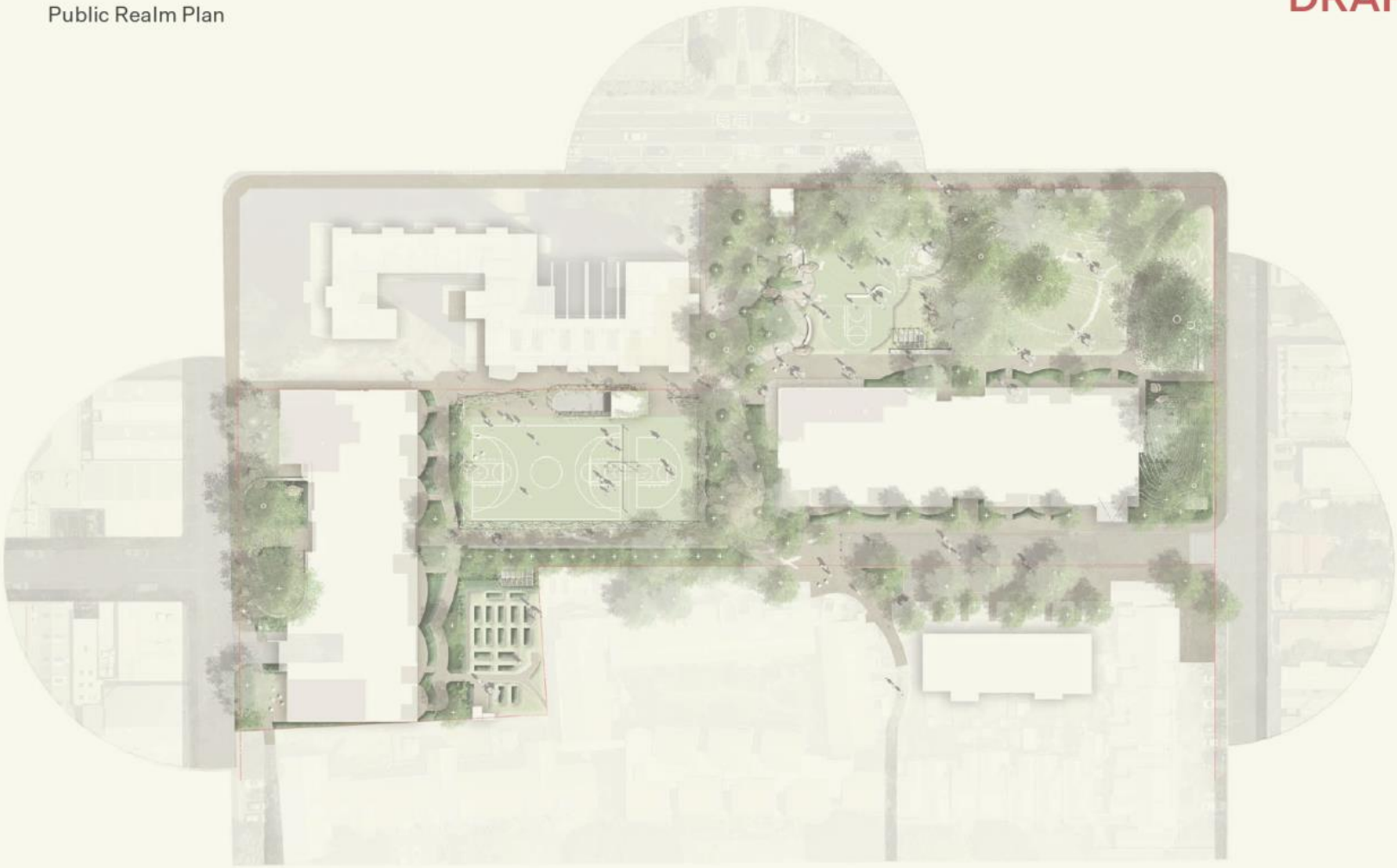

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Proposed Design

Access and Movement

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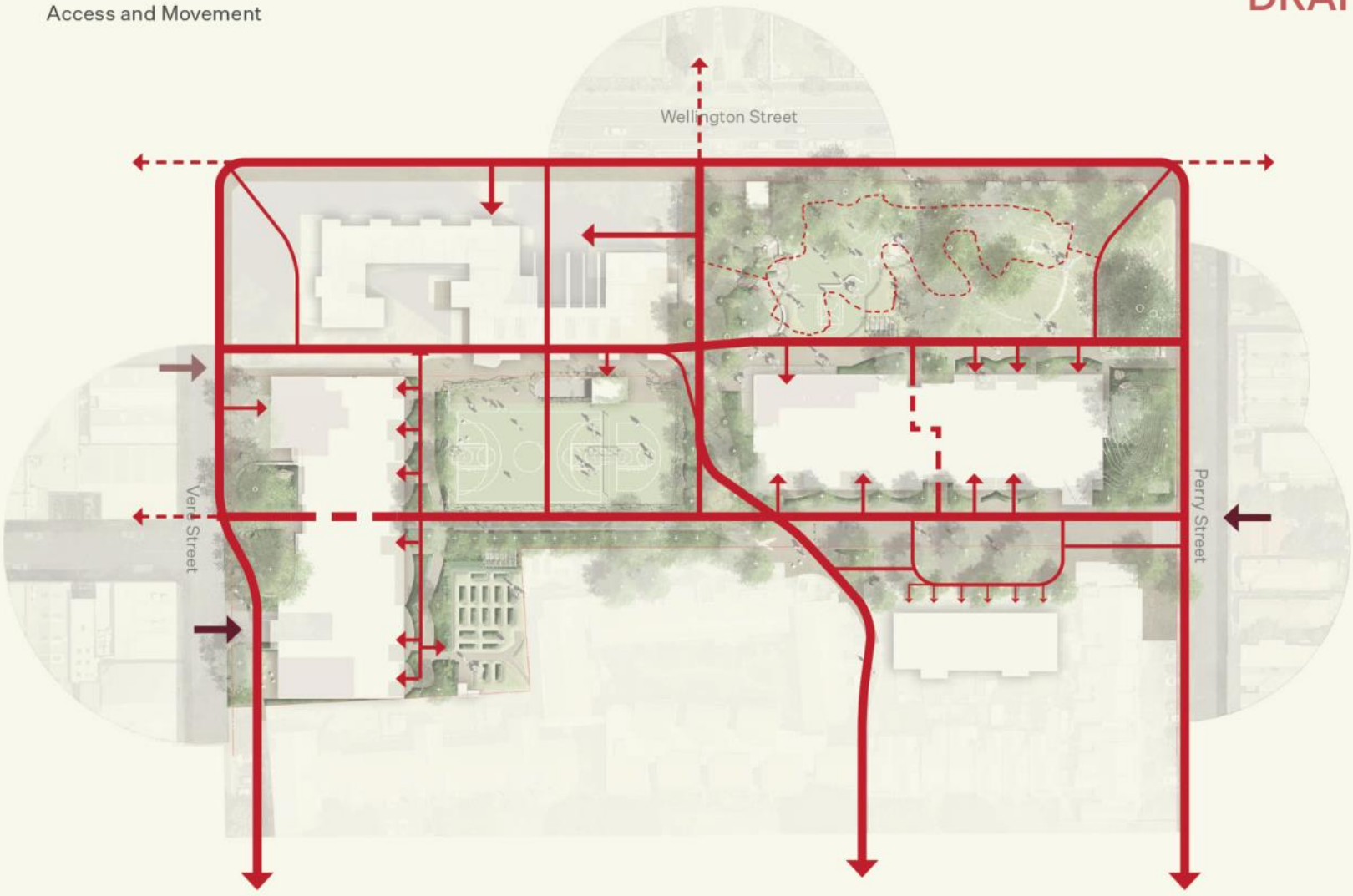

Design Anticipations

Future Precinct Extension

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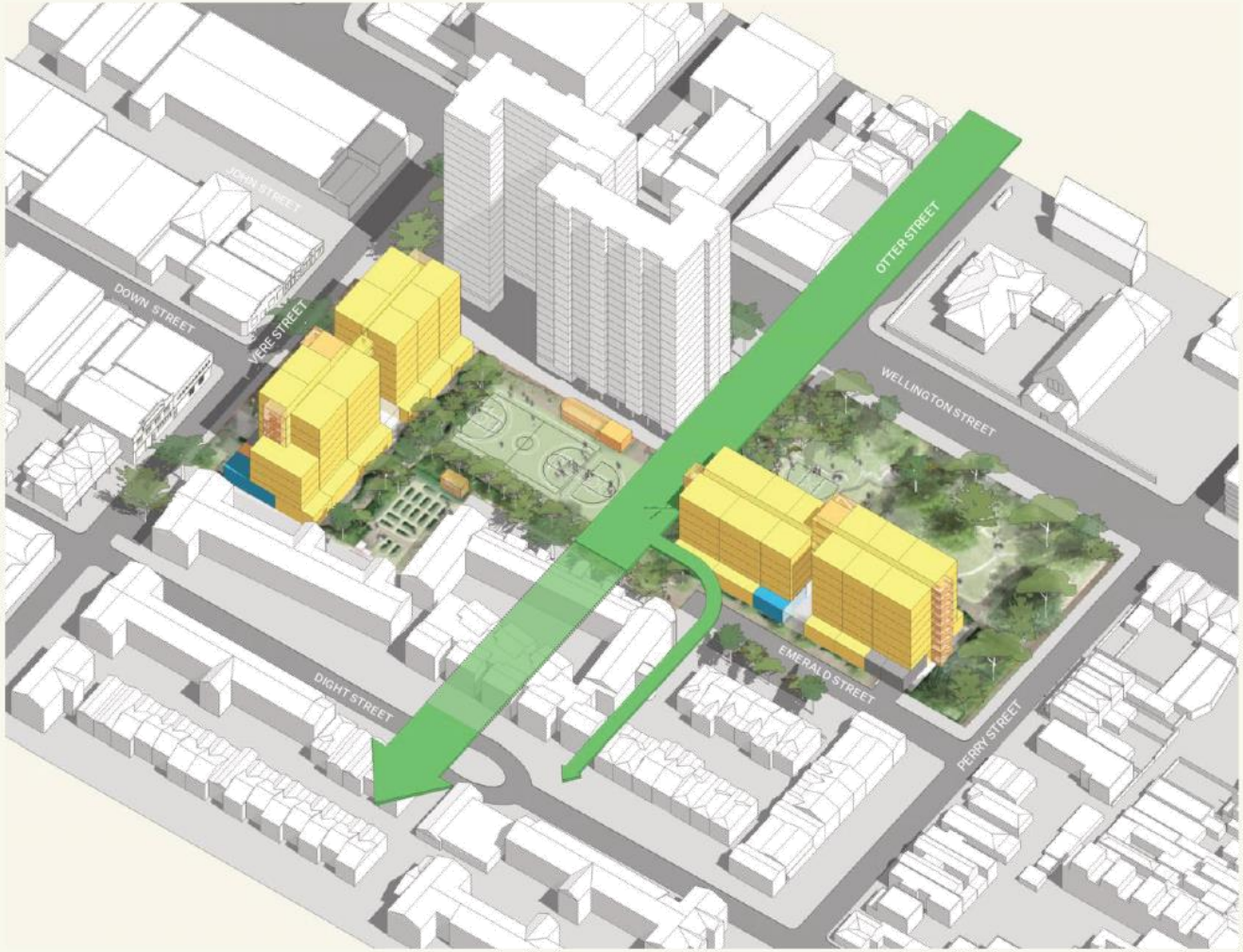

– Placeholder

Otter St Green Corridor

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Building Identity

Building Identity

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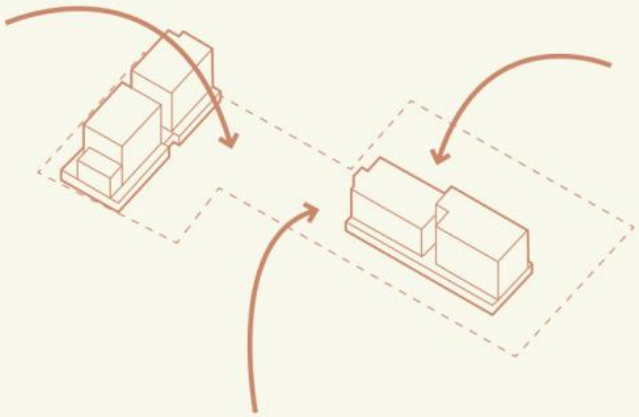
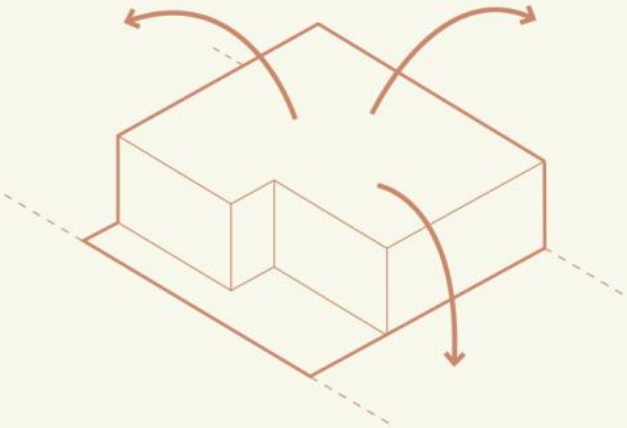
Determined from Context



Designed for Livability



From Context

Expressed Facade

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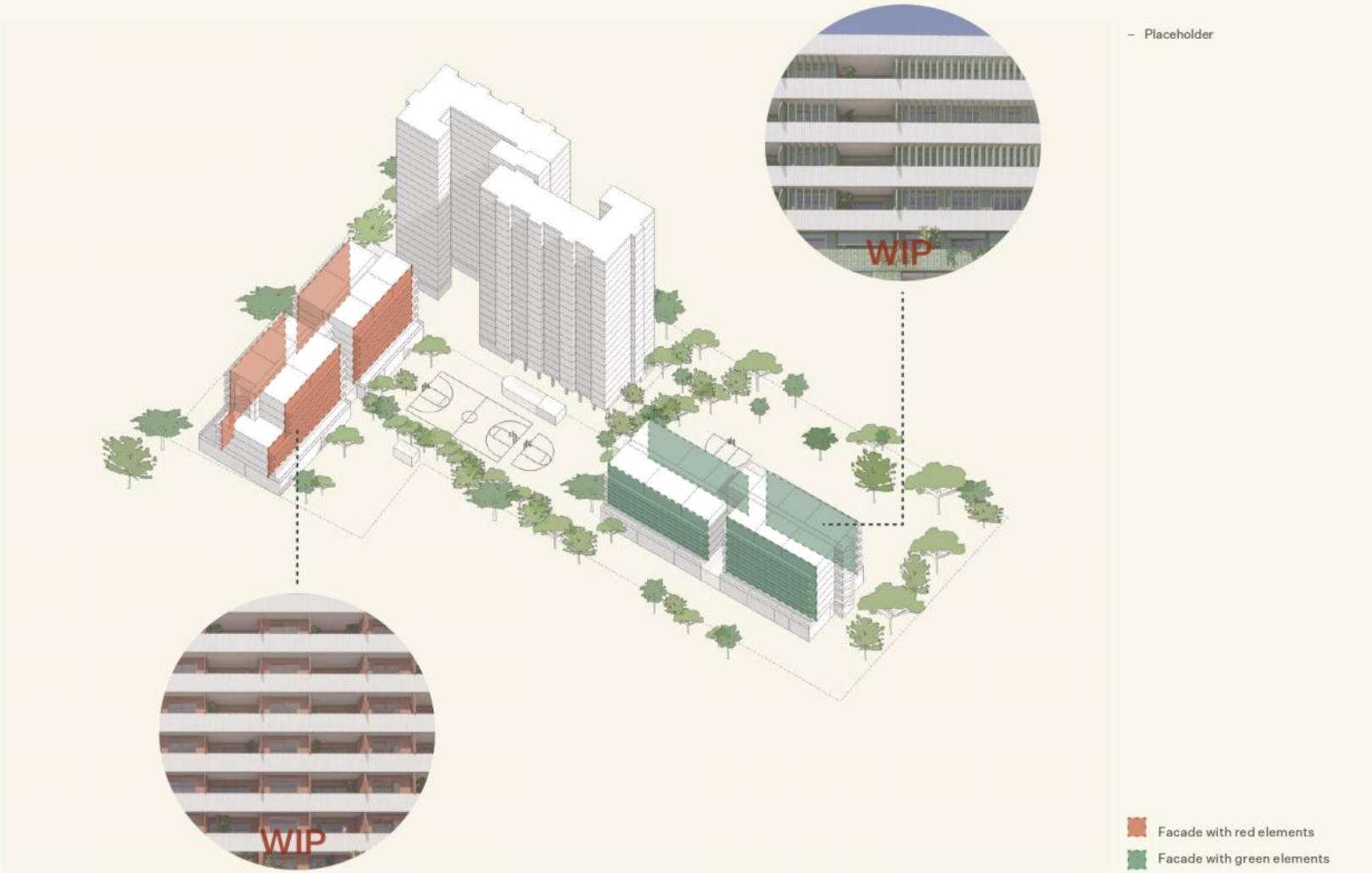

From Context

Volume Break

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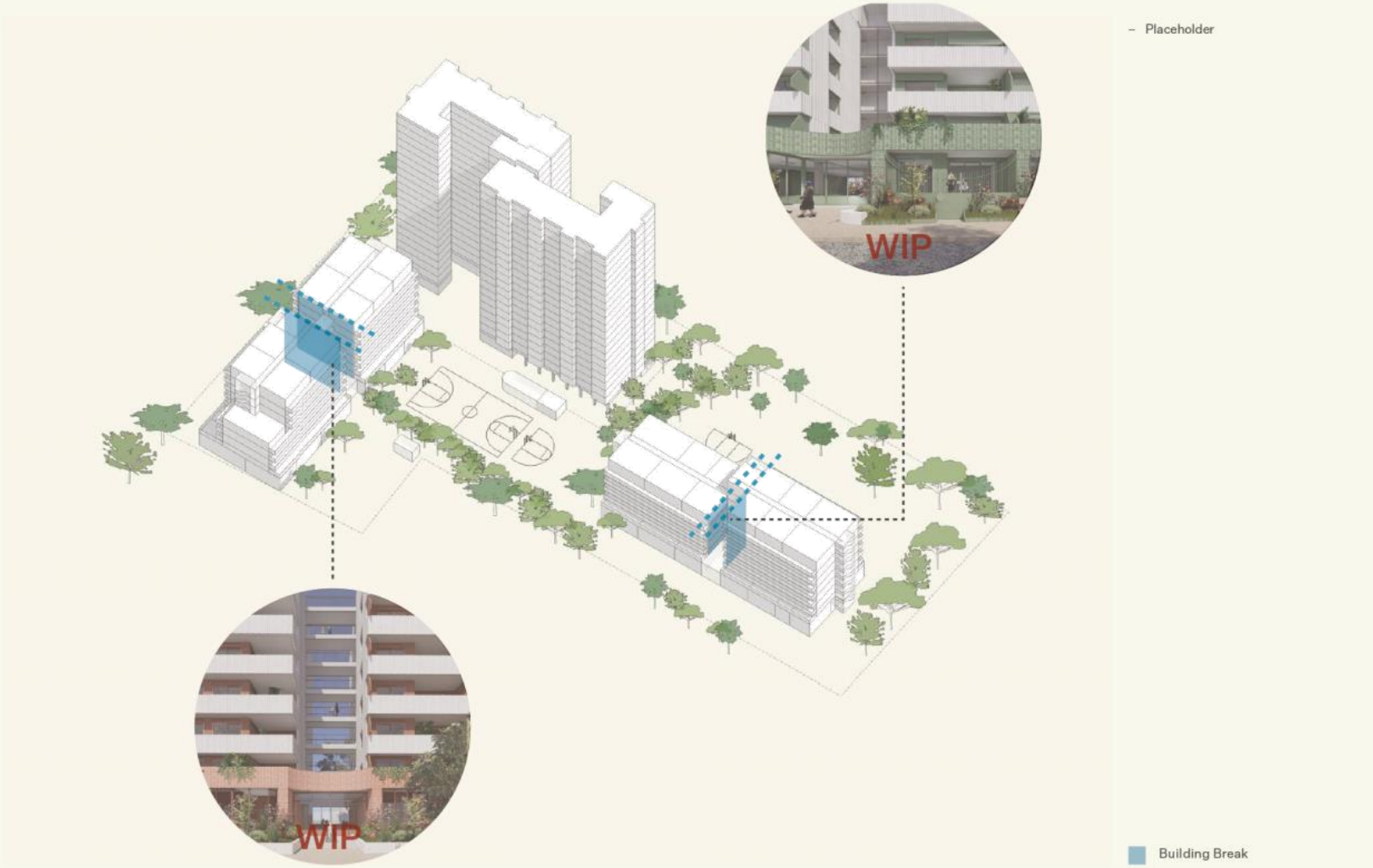

From Context

Expressed Staircases

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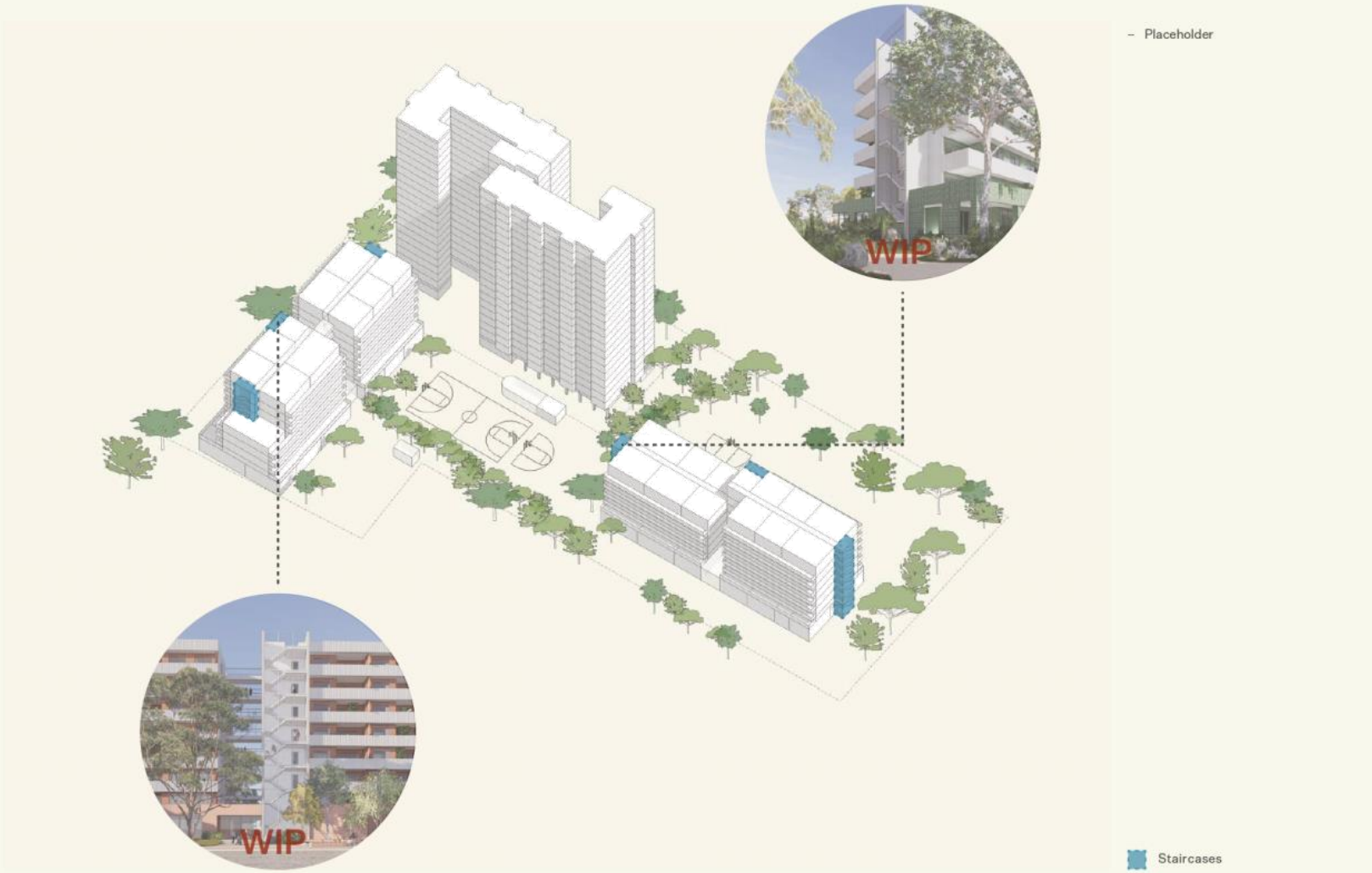

From Context

Plinth

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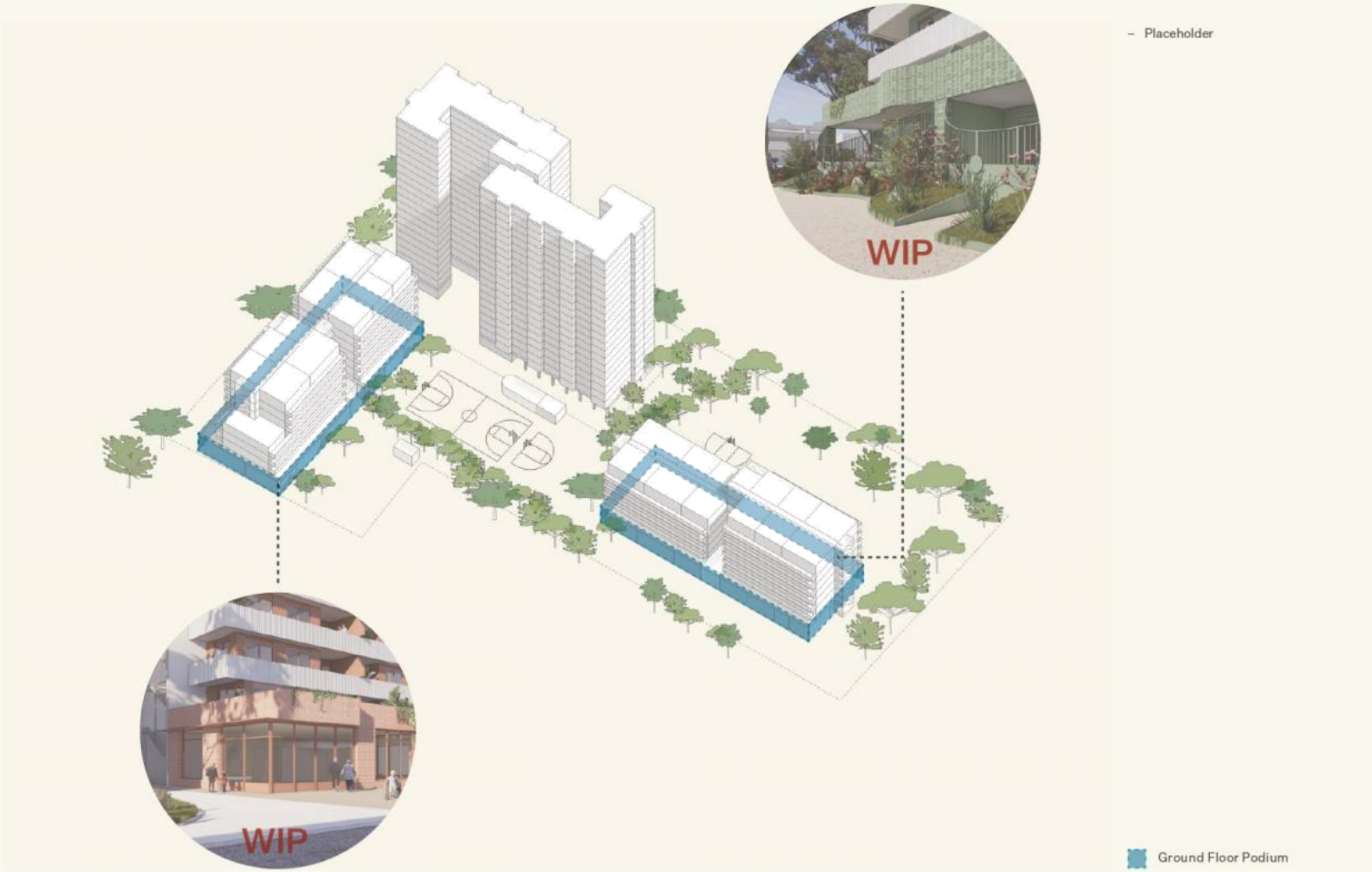

From Context

Oculus

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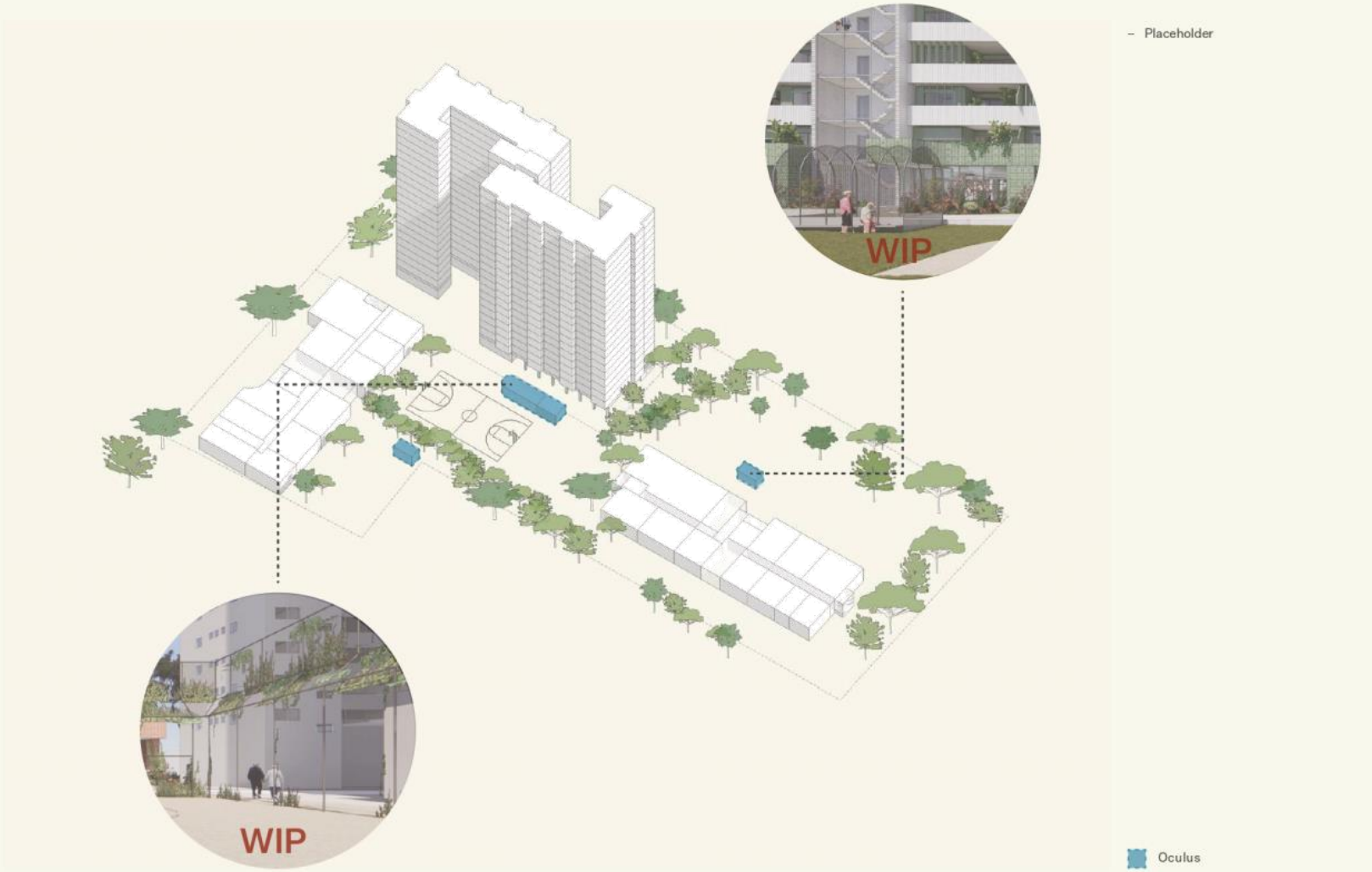

From Context

Continuous Balconies

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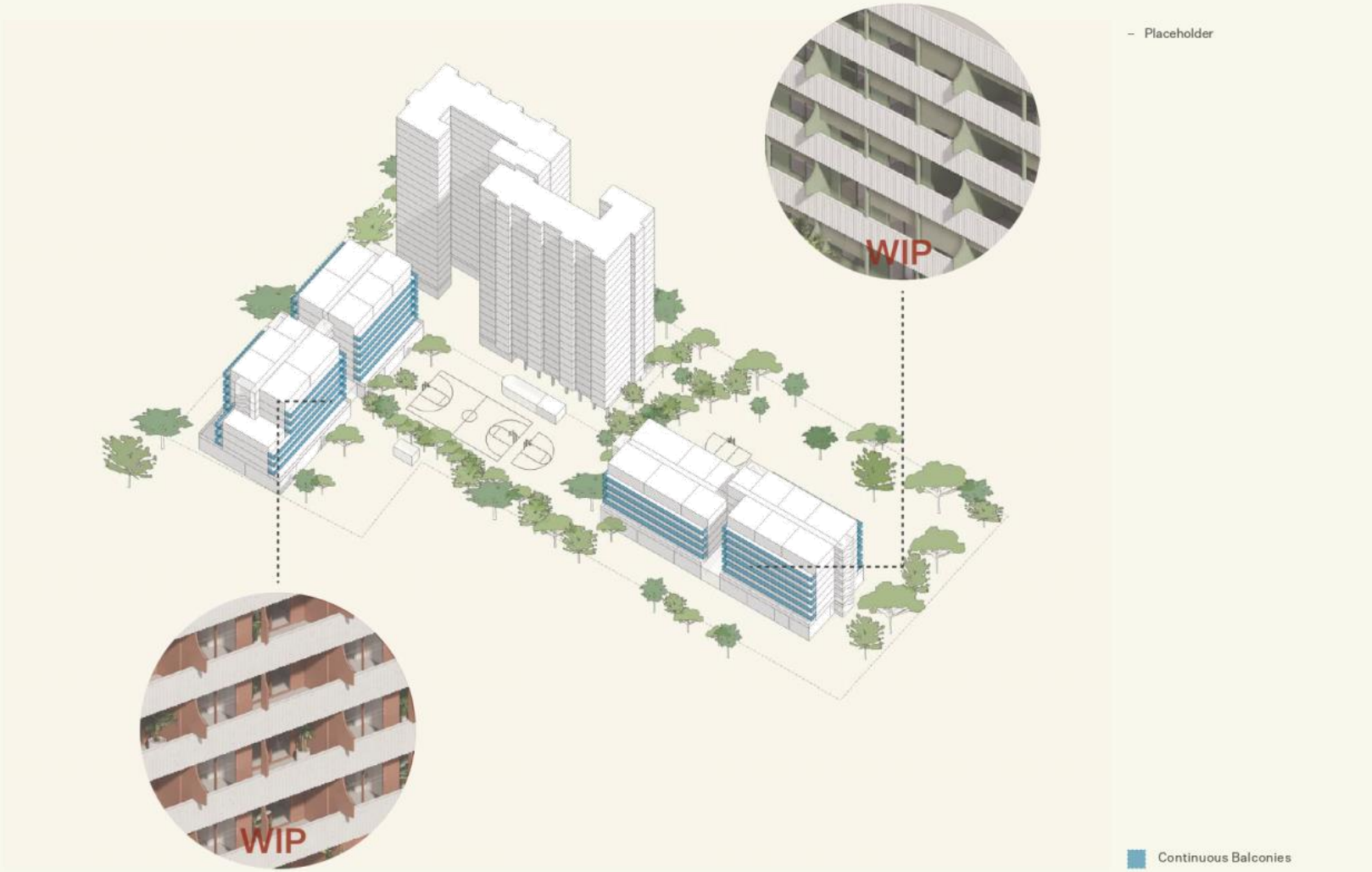


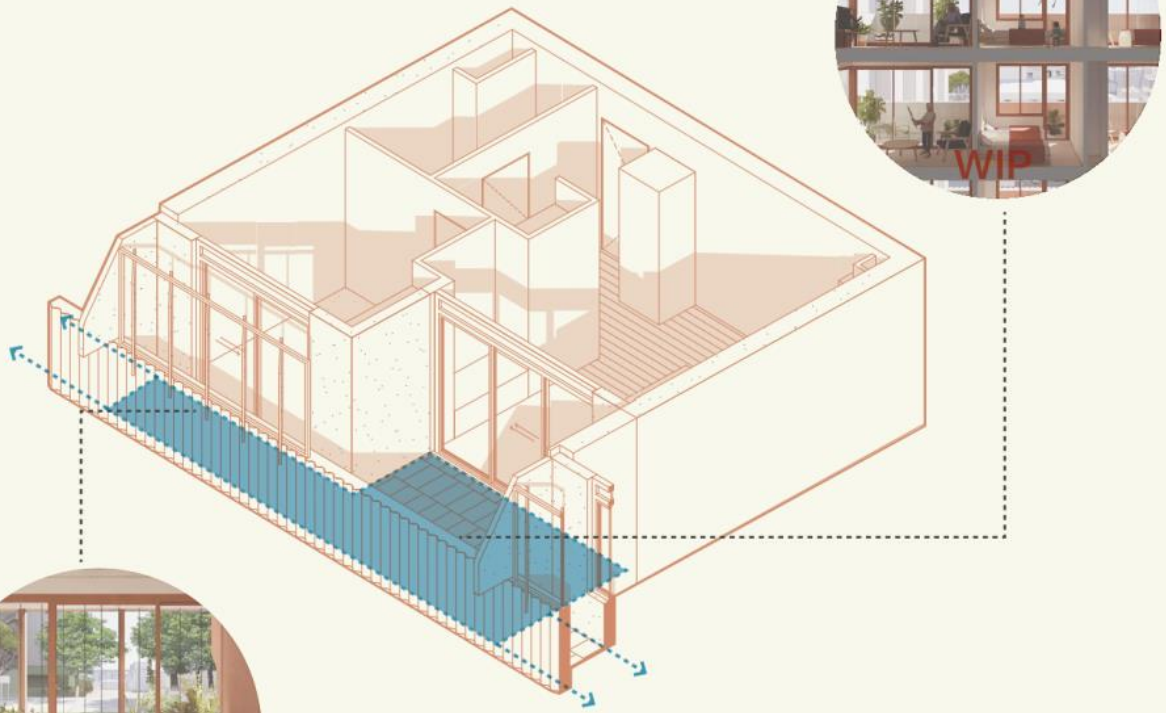
Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

For Livability

Continuous Balconies

DRAFT

– Placeholder



Continuous Balconies

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

For Livability

Glazing

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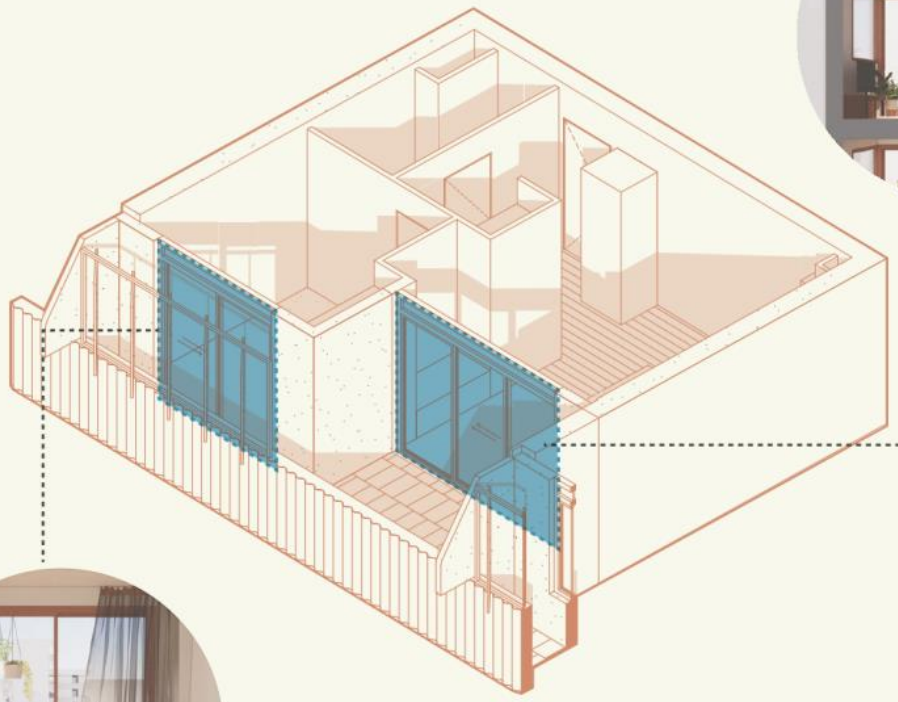
– Placeholder



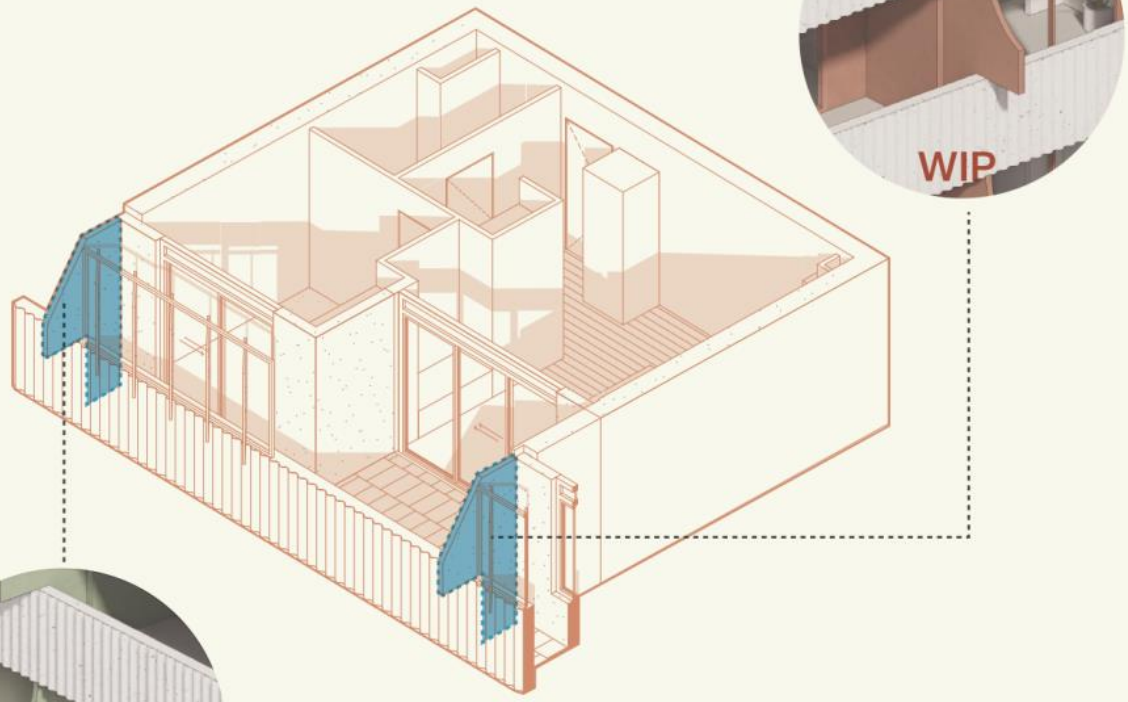
Full height windows

For Livability

Fins

DRAFT

– Placeholder



Dividing Screens

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View A

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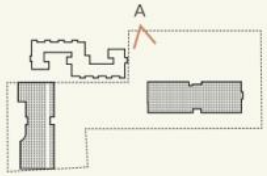

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View B

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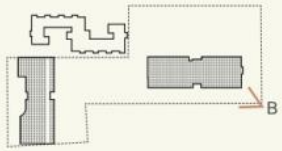

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View C

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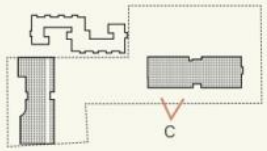

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View D

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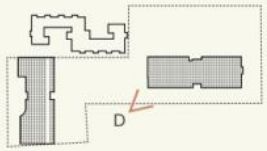

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View E

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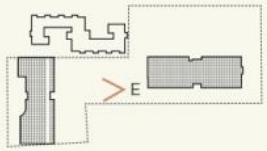

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View F

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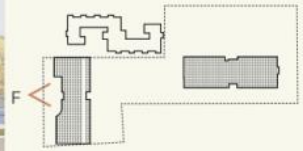

Render Views

View G

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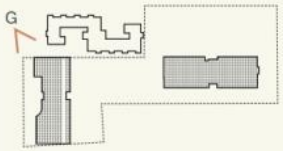

Render Views

View H

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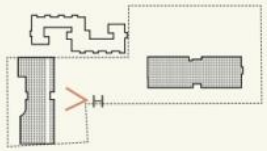

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View I

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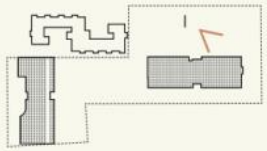
Gate and fence metalwork of residential building in Brunswick



Render Views

View J

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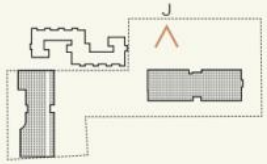

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View K

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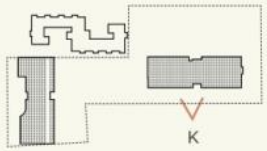
Ubiquitous corrugated rooves of Melbourne's inner suburbs

Glazed Bricks at Gif -sur-Yvette by Data Architectes



Render Views

View L

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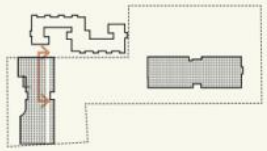

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View M - from corner of Dight St and Vere St

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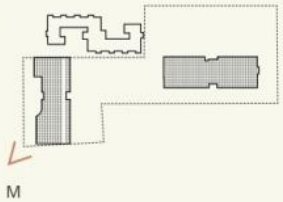

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View N - from Down St

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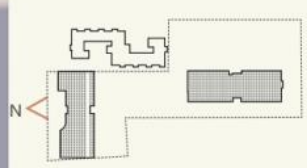

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View O - from corner of Vere St and Wellington St

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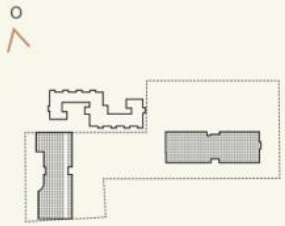

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View P - from Otter St

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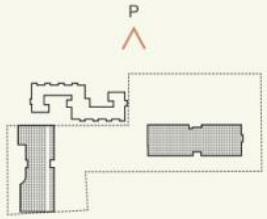
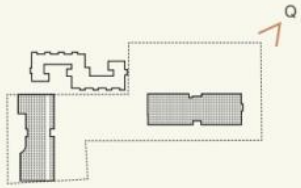


Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View Q - from corner of Wellington St and Perry St

DRAFT



Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Render Views

View R - from corner of Perry St and Dight St

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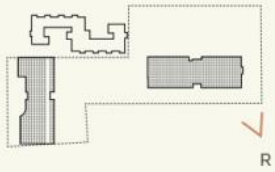

Architectural Features

Oculus

Precedents

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1-3. Scherf 13, SeARCH

4. Carpark in WA, Plan E Landscape Architects

Oculus

Main Oculus with Soccer Storage

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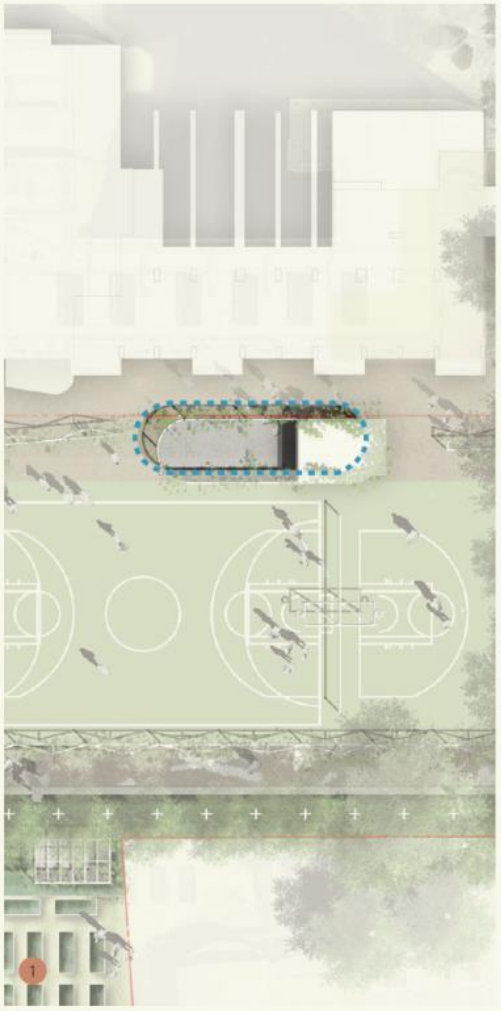

1. Ground Floor Plan Extract
2. Axonometric Views of Oculus

Oculus

Southern Oculus

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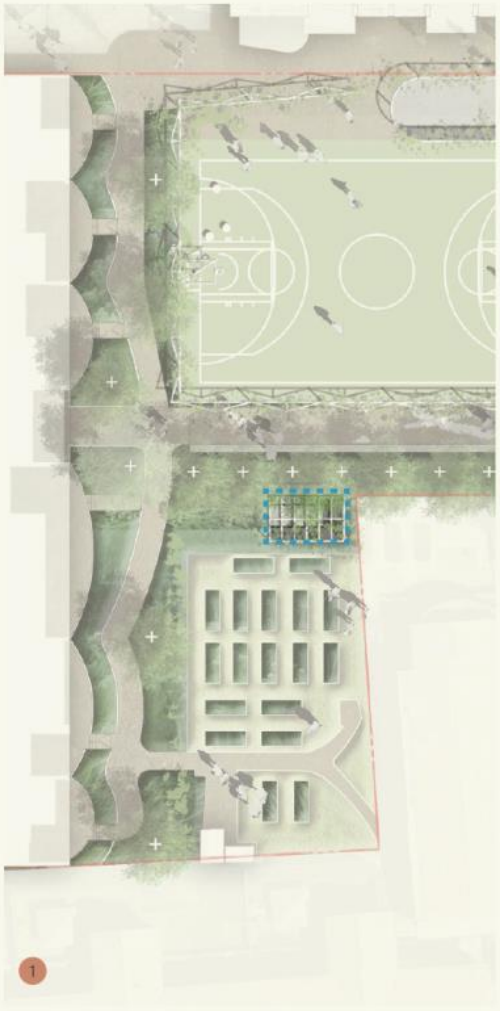

1. Ground Floor Plan Extract
2. Axonometric Views of Oculus

Oculus

Northern Oculus

DRAFT

1. Ground Floor Plan Extract
2. Axonometric Views of Oculus

Ground Floor Interfaces

Privacy Threshold

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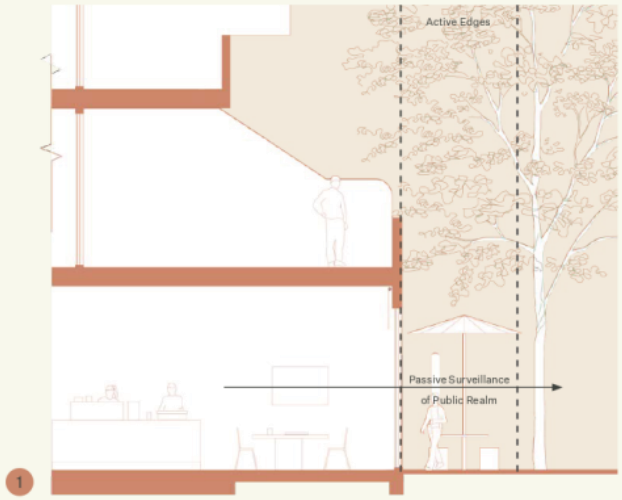
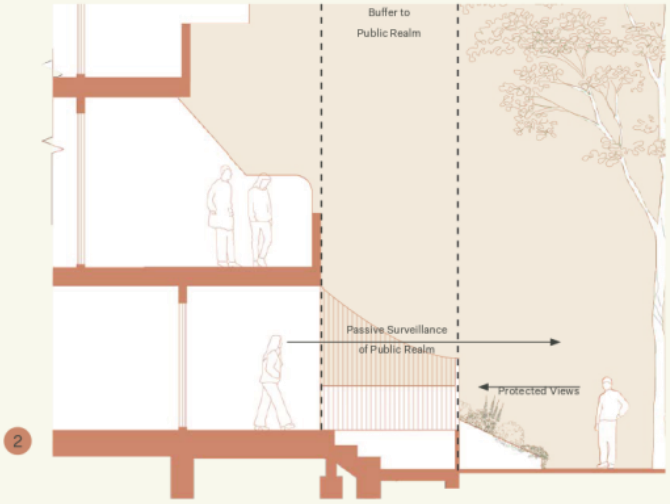
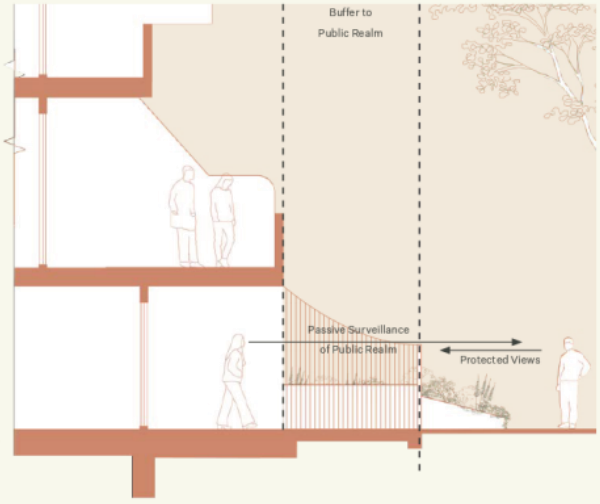


We propose different interface conditions to :

- mediate the interface between the tower and the public realm
- increase a sense of privacy and separation from the public realm by elevating the ground floor residences by 450mm,
- ensure the benefits of passive surveillance to the public realm





1. Ground Floor Public Program
2. Raised Ground Floor Residential
3. On Grade Ground Floor Residential

Shading and Privacy Strategies

Pivot Blades and Screening Fins

DRAFT

Shading Fins only

Shading Fins Combined with Blades

Glass Reinforced Concrete fins

- Inspired by the natural shapes of the Yarra waterways, riverbanks and rock-cuts, an organic series of repeated shapes will decorate the façade, offsetting the horizontal lines of the precast balustrades.
- The shapes themselves produce a visual dynamic across the façade, and doubling create a playful movement of shadows cast across the corrugated precast throughout the day.
- Functionally they act as shading devices to glazing and balconies, whilst acting also as security and privacy screens between balconies with adjacent habitable windows.
- Shapes are purposefully designed with angled curves to mitigate roosting of birds.

1. Northern Facade Shading Approach
2. Eastern & Western Facade Shading Approach

Material Palette

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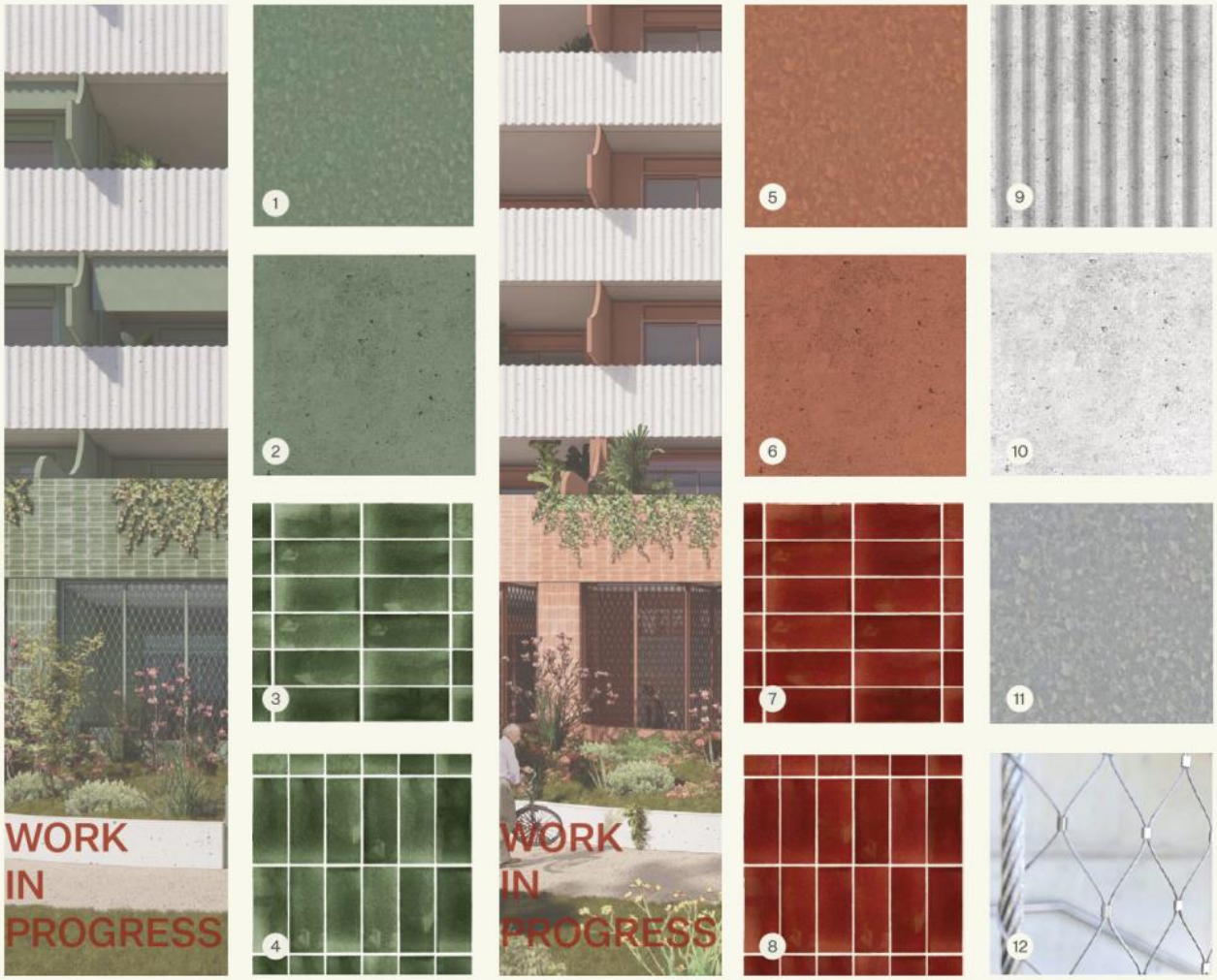

Designed to be honest in its detailing and materiality, the architecture draws upon the simple, robust, and somewhat eclectic language of Collingwood, as well as drawing inspiration from the natural colour palette of the Victorian landscape and Yarra waterways. The materiality focuses on integral finishes with long-term durability that will positively mark the passage of time and age gracefully.

1. GS01: Glazing Frame Green
2. FC02: Cladding Green Finish
3. BR02: Green Glazed Brick Finish (Horizontal Stack Bond)
4. BR04: Green Glazed Brick Finish (Vertical Stack Bond)
5. GS01: Glazing Frame Red
6. FC01: Cladding Red Finish
7. BR01: Red Glazed Brick Finish (Horizontal Stack Bond)
8. BR03: Red Glazed Brick Finish (Vertical Stack Bond)
9. CF02: Concrete Precast (Light Grey)
10. CF03: Concrete - Corrugated Form (Light Grey)
11. MC01: Metal Cladding (Silver Finish)
12. MS01: Mesh Screen (Stainless Steel)

Project Evaluation

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

Principles Evaluation

Principle 1 - Establish a new scale

DRAFT

1.a. Establish a firm maximum building height consistent with the emerging scale of the Wellington Street precinct at 10-12 levels

While a number of earlier proposals at the Masterplan stage included heavily modulated building forms with steps up to 11 levels in height, through iterative refinement both forms have been able to reduce to a more uniform 8 storey height. This ensures a familiar 'new Collingwood' scale while bringing significant cost and design benefits associated with being under 25m effective height from a fire code perspective.

1.b. Carefully transition built form along Vere Street to integrate between the low-rise walk-ups and the mid-rise scale of the 'Lantern' building.

The Vere Street building has been configured at 8 levels in height to transition between the 3 storey walk-ups to the east and the approximate 9 level height of the Lantern building. This overall scale is further modulated by a 5 storey flank on the eastern boundary which provides a transitional leading edge to the immediately adjacent 3 storey walkup. In addition, the 8 storey form has been setback both 7.5m and 14.5m at ground level to preserve a high value tree and active landscape forecourt, with a further setback of 14.5m above a prominent ground floor plinth to further ameliorate the effect of the scale in the street.

1.c. Ensure the S-plan Housing Commission tower remain as a distinct, prominent landmark with sufficient breathing space

Both through the siting, orientation, height and separation, the new 8 storey form to Vere Street does not compete with the primacy of the existing landmark tower at 20 levels. In a majority of views in the surrounding context, the new 8 storey form will not be prominent, with the exception of views along Vere Street. This ensures the two forms do not merge as a single skyline presence, and the slender slab silhouette at 20 storeys is maintained in views along Wellington Street.

Principles Evaluation

Principle 2 - Maximise sunlight to Public Realm

DRAFT

2.a. Taller built form should be oriented north-south, with a slender profile to promote good sunlight levels to the public realm

Through masterplan analysis of a range of options, the northern 8 storey form was sited north-south and stepped in height to provide good sunlight to the Wellington Street-facing open space and central sports court and community garden. This siting also maximises light and outlook to north-facing windows within the existing tower.

2.b. Where east-west built form is proposed, generally keep this to a lower-scale to promote good sunlight levels to the public realm

The Vere Street tower was oriented east-west to better 'repair' the urban block with a strong built form edge to define the streetscape and frame the new internal public realm, however the 8 storey height combined with the setback from Vere Street maintains good sunlight levels externally to the precinct.

2.c. Adopt a 'tooth and gap' approach to built form along Vere Street to achieve good Equinox sunlight levels to at least 50% of the length of the frontage

The intent of this guideline was to ensure that any higher built form against Vere Street would have sufficient separation from the S-tower and eastern neighbour to allow slivers of sunlight to the street. In the final form, the 8 storey tower through its height and street setback maintains good sunlight to the southern pavement at the Equinox, while the separation both to the east and west of the higher form is supported by the prominent break through the centre of the building, to admit some direct sunlight at times of the day in the winter months.

Principles Evaluation

Principle 3 - Enable exceptional amenity, comfortable homes

DRAFT

3.a. Maximise north, east and west facing apartments to ensure sunlight to balconies

The siting and orientation of both buildings ensures that only 4 apartments per level have a southerly aspect out of a typical 21 apartments per floorplate. Of these 4 apartments, the eastern-most southern apartment benefits from a corner balcony aspect which promotes some morning sunlight and oblique views. This low proportion of southerly oriented balconies is felt to be acceptable, given the significant precinct public realm benefits of the east-west alignment of the Vere Street building.

3.b. Minimise the number of single aspect south facing apartments

While 4 apartments per level of a typical 21 across both buildings have a primarily southerly aspect, 3 of these 4 apartments benefit from some degree of secondary outlook. This is achieved by introducing additional corners into the floorplate with a prominent central break in the southern building, allowing some secondary aspect and cross ventilation to the apartments through corner bedrooms.

3.c. Ensure any south facing apartments have living areas to the facade line, and recessed balconies to promote oblique outlook

This provision has not been achieved, however proved redundant given the generous balcony configuration employed to all apartments, whereby a narrow balcony in front of bedrooms is provided to augment the principle balcony to living areas. This has the positive effect of enhancing privacy, maximising usable outdoor space, passive shading on most orientations, as well as ease of maintenance.

3.d. Avoid the use of multiple level 'podium' elements which compromise apartment plan depth and quality

A prominent single level plinth has been adopted to provide a tactile, human-scaled built form element to interface with the public realm, with a more elegant, singular upper level form. This arrangement has allowed for ground and first floor accessible dwellings to benefit from the plinth condition, while avoiding the compromise of a higher podium and step back to upper level apartments.

Principles Evaluation

Principle 4 - Maintain amenity of existing residents

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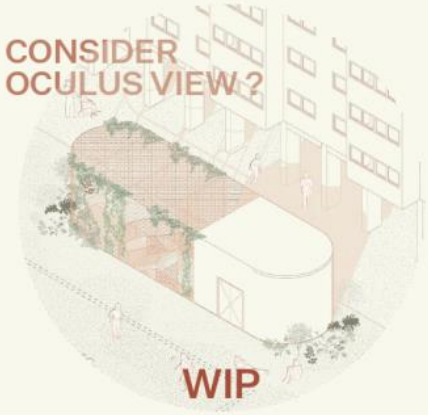

4.a. Avoid built form directly interfacing with the primary outlook of dwellings in the high-rise S-tower

The siting and orientation of the two new buildings has been carefully considered to preserve outlook to the existing tower. The nearest building to the south is orientated perpendicular adjacent to the fire-stair within the S-tower, preserving outlook to the 100 east facing apartments.

4.b. Any built form adjacent to the east facing windows of 240 Wellington Street should be low-rise, with a minimum separation of 15m

The only built form now located within this area comprises a small lift and stair element which is only a single storey in height, and clear of any views from the elevated first floor apartments above the pilotis. This is within 15m but low-rise in scale and does not have any negative impacts.

4.c. Offset new built form to the north, in order to maintain outlook to north-facing windows of 240 Wellington Street onto the neighbourhood park

The northern building is offset both 17m to the north and 6m to the east of 240 Wellington Street to preserve uninterrupted outlook to the north over the renewed Wellington Street open space. The northern offset is calibrated to the width of the Otter Street spine, promoting the legibility of this link when viewed on approach from Smith Street.

Principles Evaluation

Principle 5 - Frame new open spaces and public connections

DRAFT

5.a. Establish a strong 'ground plane' architecture of single storey volumes that mediate between efficient elegant building forms and the human scale

A strong glazed brick plinth has been adopted, with prominent entry lobby elements, projecting bays to visually augment the presence of ground floor non-residential uses, and prominent terrace bays provide presence and protection to ground floor apartments.

5.b. Ensure ground plane materiality is robust and tactile, with an emphasis on finishes such as brick-work to integrate with the character of Collingwood

The material palette has been developed with careful regard to the highly mixed character of the surrounding context, with playful reference to the flourishes of whimsy in the 1980s social housing townhouses within the estate to the east, with their occasional curved details, exaggerated bullnose veranda elements and projecting window bays. This playful, modulated base is unified within the singular glazed brickwork form, which is differentiated in tone between the northern and southern building.

5.c. Promote simple elegant building forms that maximise sightlines from surrounding streets, and limit loss of public open space

The building forms have been remarkably slender for a double loaded form by a simple, elegant and high amenity floorplate with wider than typical apartment modules. This ensures a slender building form, which will present as equivalent in width to the narrow elevation of 240 Wellington Street.

5.d. Avoid L shape buildings which create entrapment areas without clear sightlines from the surrounding streets

Both building forms adopt a simple slender slab configuration which avoids any L-shape forms. These forms are sited to promote sightlines through the precinct at ground and upper level to promote the legibility of the intended precinct movement network. This includes views under the pilotis from Wellington Street, views from Vere Street through to Perry, along with views down the Otter Street spine to the Dight Street connection beyond.

Principles Evaluation

Principle 6 - Respond to mixed grain Collingwood context

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6.a. Ensure that each building has a distinct architectural identity, within a common material palette to avoid visual monotony and stigma

A simple tactic of tonal difference is employed between each form to provide differentiation, with a red tone to the southern building and green tone to the northern achieving this objective. Further, the massing of each form and resolution of the lobby provides further differentiation in the plinth treatment. For example, the southern plinth is configured to preserve an existing tree and reaches out further at its edges to 'hug' the southern forecourt, while the northern plinth is more tightly defined to the slab proportion with more subtle breaks at the build entry.

6.b. Modulate long expanses of facades above 4 storeys with clear breaks and an emphasis on vertical proportions

Both building forms adopt a prominent break centrally within the form. In the northern building the expressed stair and open corridor segment divides the form centrally at a point where it transitions in scale, ensuring a volumetric shift, while the southern building retains a uniform scale, but a more prominent cut through the full building depth, with an expressed bridge element connecting across. This ensures that most façade expanses in public realm views are limited to between 15-25m in length.

6.c. Exploit the narrow elevation of tower forms and expressed corridor ends to provide modulation and slenderness

In the eventual form, the stairs are utilised at the ends of the form to achieve this effect, with an open stair configuration and mesh infill providing relief to the slender ends of the slab, while the more significant massing effect is achieved through the central breaks within the longer elevations.

Attachment 2 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Design Report

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Cover Image by Tom Ross

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Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

Objectives

Public Realm

Expanding the ecology of Collingwood

.a.

Establish an endemic design palette including species, ecologies and natural systems that embody local landscapes.

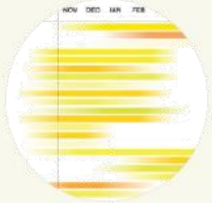
.b.

Create a diverse, tangible and intangible experience of place by evidencing endemic cultural knowledge, forms and textures.

.c.

Design for non-human occupation by creating places of natural diversity and refuge for visiting birds and native animals.

Express seasonality and time-telling



.a.

Develop a landscape network rich with local significant plants that will form a collaborative project for the community to propagate and share knowledge of plants endemic to the local country.

.b.

Express seasonality and time telling in the landscape design reflecting the changes of the upper Yarra Valley including Kangaroo Apple Season (December), Dry Season (Jan-Feb), Eel Season (March), Wombat Season (April-August), Orchid Season (September), Tadpole Season (October), Grass-flowering Season (November).

Provide uses that draw people together

.a.

Distribute and co-locate an archipelago of social uses across the site that encourage physical co-presence, incidental meeting and shared experience.0

.b.

Ensure a mix of uses that appeal to residents of the immediate site, the wider estate and the citizens of Collingwood.

.c.

Provide ample opportunity for seating and social gathering in the public realm that is both introspective and focused on resident amenity and outward looking to engage with the street.

Create invitation and soft boundary

.a.

Design the public realm as a place of connection. Ensure that the social, environmental and cultural richness of the site is accessible and readable across the entire project.

.b.

Create kindness and human scale at thresholds into the site that offer amenity to both residents and those outside the project.

.c.

Fences are a border. Use spatial design, material design, earthworks, planting and furniture to find alternatives to fences that edges and thresholds clear, but also allow for occupation, use and exchange.

Caring for Country

.a.

Design opportunities for ongoing custodial presence within the landscape that contribute to the broader mosaic of experiences and the identity of the site.

.b.

Provide infrastructure for ongoing propagation, maintenance and succession of planting.

.c.

Ensure space and infrastructure is provided to enable the hosting of friends groups, working groups and committees for ongoing maintenance, care and education.

Leaving space for other voices and hands

.a.

The necessity to start work on the project in advance of community engagement requires us to leave space in our planning for the contribution of others.

.b.

Ensure that spaces and built form in the Master Plan are customisable and allow for flexibility in use.

.c.

Allow for ongoing adaptation of spaces and built edges over time so that they anticipate changes of use.

Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

Landscape / Open Space / Ecology

Outdoor Amenity

The subject site is located within the direct vicinity of several outdoor and recreation activity areas, including Harmsworth Street Reserve and Victoria Park.

The site itself includes a generous open space completed with sports court and playground spaces.

1. Urban Climb Collingwood
2. Harmsworth Street Reserve
3. Anytime Fitness
4. Hood Street Reserve
5. Peel Street Park
6. Cambridge Street Reserve
7. Gahan Reserve
8. Victoria Park
9. Otter Street pocket park
10. Stanley Street pocket park
11. Collingwood Yards
12. Collingwood College

Subject Site
147/240 Wellington St, Collingwood

The No-Build Armature

The No-Build Armature

By figuring the important spaces, spatial connections and corridors between the site and its urban context, we are able to establish a armature of spatial preservation, which when inverted, defines sites for new buildings.

This armature (in green) consists of the:

- Otter Street corridor (20m);
- Vere Street setback (6m);
- Offset against adjacent residential development (min 9m);
- View line under the existing tower colonnade (8m);
- Emerald Street (14m); and
- the North west open space.

Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

Public Realm Plan

Public Realm Plan

This plan establishes a ground plane that is emphatically green, that offers invitation and that is carefully integrated into the surrounding urban context.

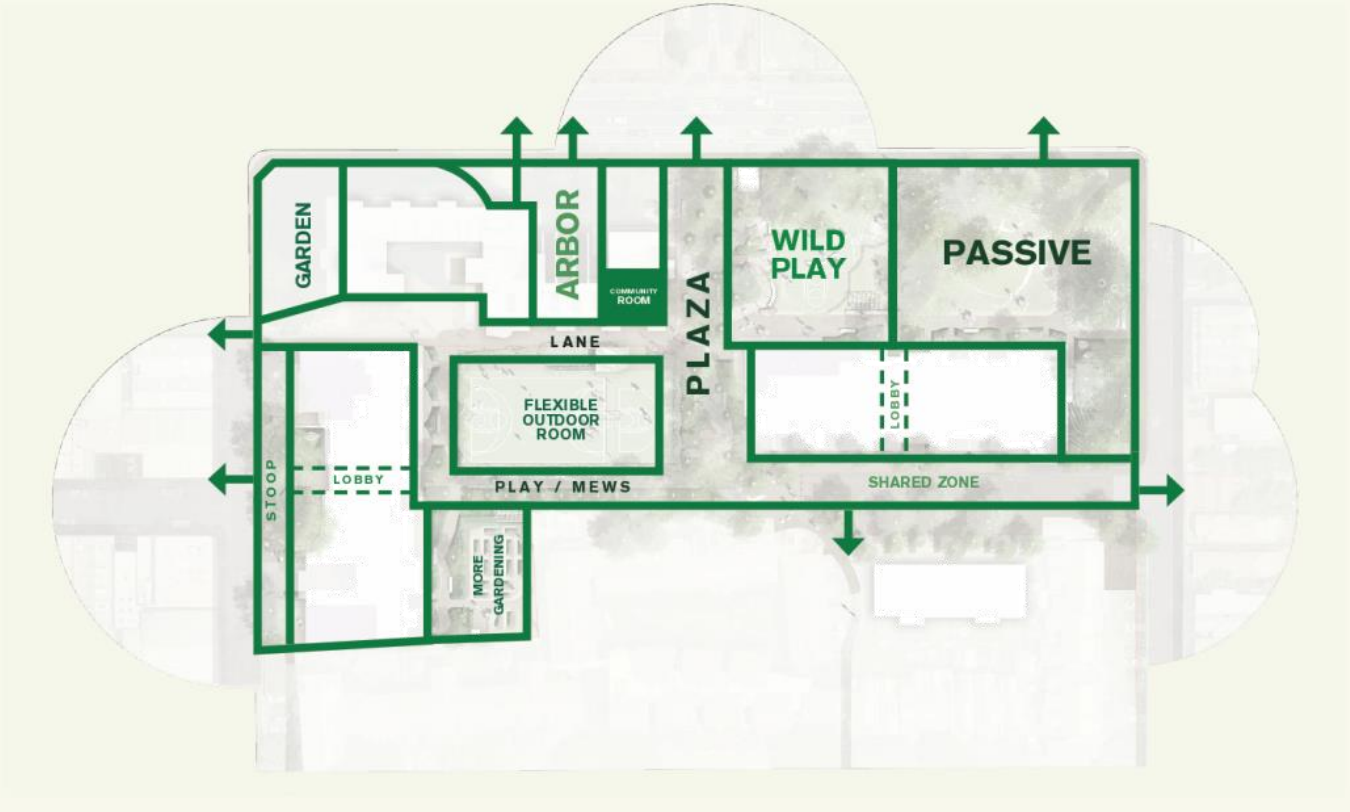
It establishes an endemic design palette including species, ecologies and natural systems that embody local landscapes to create a experience of place that builds on cultural knowledge, forms and textures.

In concert with the architecture and ground floor activation, the landscape distributes and co-locates an archipelago of social uses across the site that encourage physical co-presence, incidental meeting and shared experience.0

Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

A Landscape of Rooms



Unity Park 2

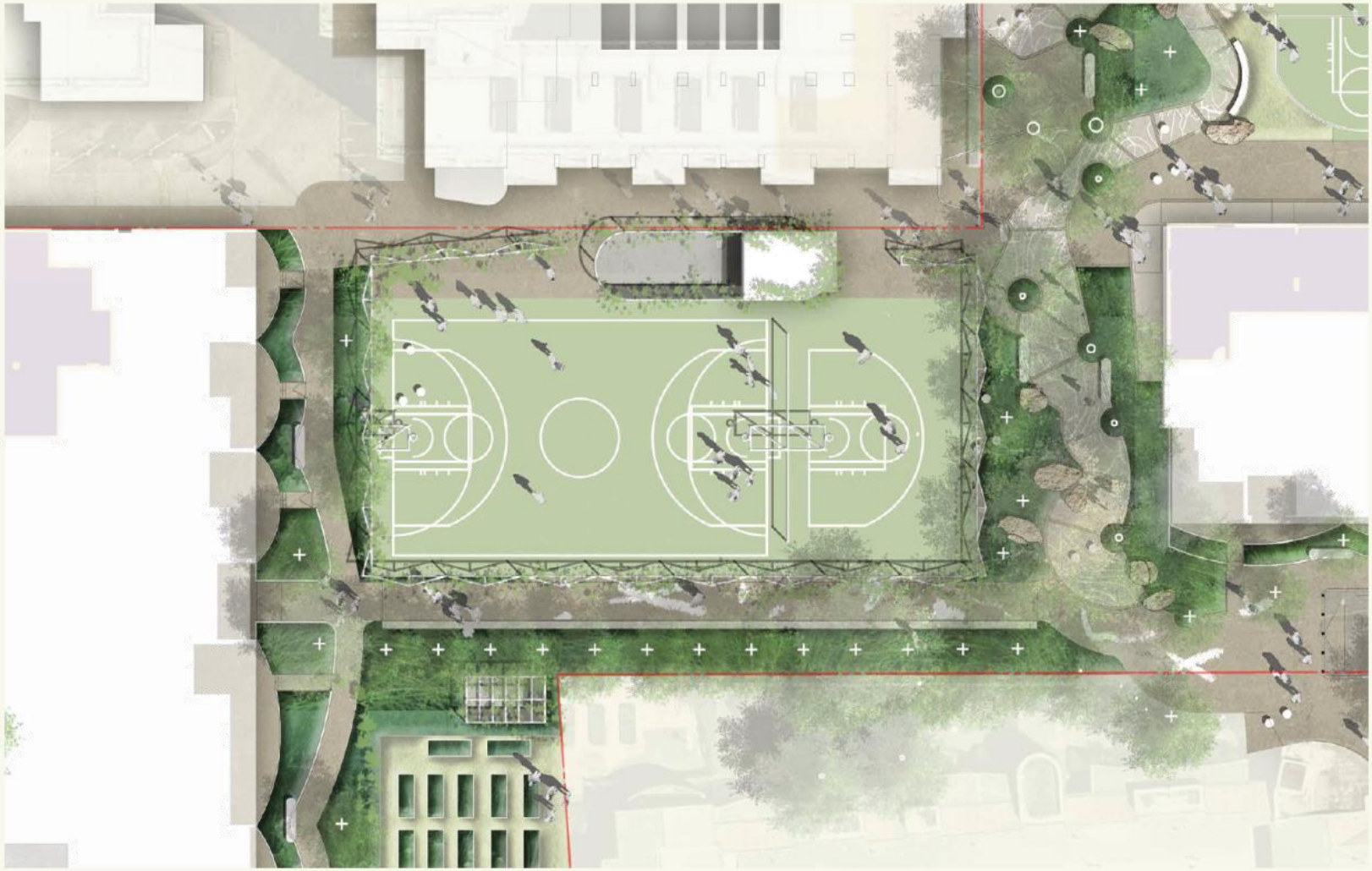
The Master Plan acknowledges the relatively recent development of Unity Park - a resident led initiative that transformed an open and undifferentiated oval into a series of different offers and uses in the landscape. We seek to expand the idea of Unity Park by designing external spaces as a series of landscape 'rooms' that invite use, allow for gathering and create things to do.

These rooms do not have hard boundaries, but slip and blur into each other, ensuring that the landscape feels green, expansive and generous.

Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

Public Realm

Central Court



Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

Public Realm

Central Court

Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

Compass Country / Landscape as Codex to Knowledge

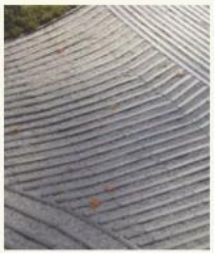
Compass Country

On the site, we are seeking to bring a cultural topography that is accessible to the residents and its visitors. This idea of 'Compass Country' is where the slope and the confluence of the landscape guides us towards Birrarung (the Yarra River) and the plant textures and forms allow the original grassy woodlands to again be in sight, to peel back the Urban landscape to reveal distant landforms on neighbouring Country, within the Kulin Nation.

The knowledge of this Ancient Landscape has been collected and nurtured through an oral tradition though dance, stories, song and art carefully designed and maintained. Country is the Codex that unlocks the largest and oldest environmental database in the world, it has millions of authors, rich with wisdom and a story that continues to grow with each new generation.

Public Realm

Compass Country: Collingwood Slope and Blind Creek



TREES

1 Eucalyptus camaldulensis	River Red Gum
2 Eucalytpus viminalis	Manna Gum

LARGE SHRUBS

3 Acacia pycnantha	Golden Wattle
4 Acacia paradoxa	Hedge Wattle

GRASSES

5 Austrostipa sp.	Spear Grass
6 Rytidosperma caespitosa	Common Wallaby grass
7 Themeda triandra	Kangaroo grass
8 Elymis scaber var. scaber	Com. Wheat grass
9 Microlaena stipoides var.	Weeping grass

SMALL FORBS

10 Pimelea humilis	Common Rice-flower
11 Astroloma humifusum	Cranberry-heath
12 Bossiaea prostrata	Creeping Bossiaea

HERBS

13 Oxalis perennans	Wood sorrel
14 Gonocarpus tetragynus	Common Raspwort
15 Dichondra repens	Kidney-weed

Blind Creek

The cultural topography and the actual topography of Collingwood including the alignment of Blind Creek, are interpreted and evidenced in the proposed plaza and wild play This 'compass' to the ideas and arrangement of the broader landscape is located at the site's primary entrance where it can be encountered by residents and visitors and located as the basis of play, where it can be explored and engaged with by the next generation of custodians.

Wildflower meadow

The wildflower meadow compliments the North facade of the southern building. The Northern aspect allows for these type of species to thrive. This environment will attract not only people but also native fauna, insects and birds.

Visitors will feel immersed in this vegetation as they walk through the space or sit amongst it. Users will be able to walk along and pick the flowers as well as experiencing the local endemic ecology of the surrounding area of Collingwood.

A space like this is an asset for residents to look onto and also people passing through the space - it entices people to stop and explore.

The palette has been designed so that there is colour all year round- presenting different personalities throughout the year. It is comprised of low shrubs and small flowering species.

ALL YEAR

1 Calotis scapigera — Tufted Burr-daisy
2 Chrysocephalum apiculatum — Common Everlasting
3 Brachysome ciliaris — Variable daisy
4 Vittadinia gracilis — Woolly New Holland Daisy
5 Wahlenbergia communis — Tufted Bluebell

GROUNDCOVER FILLER

6 Dichondra repens — Kidney-weed

SUMMER

7 Pycnosorus globosus — Billy Buttons
8 Thelymitra pauciflora — Slender Sun-orchid
9 Calotis cuneifolia — Blue Burr Daisy
10 Eryngium ovinum — Blue Devil
11 Goodenia gracilis — Slender goodenia
12 Enchylaena tomentosa — Ruby saltbush

AUTUMN

13 Tricoryne elatior — Yellow Autumn-lily
14 Brunonia australis — Blue Pincushion

WINTER

15 Minuria integerrima — Smooth Minuria
16 Swainsona procumbens — Broughton Pea
17 Convolvulus erubescens — Pink Bindweed
18 Geranium retrorsum — Common cranesbill

SPRING

19 Brachyscome basaltica var. gracilis — Swamp Daisy
20 Linum marginale — Native flax
21 Arthropodium fimbriatum — Chocolate Lily
22 Arthropodium minus — Small vanilla Lily
23 Arthropodium milleflorum — Pale Vanilla Lily
24 Wurmbea dioica ssp. Dioica — Early Nancy
25 Stypandra glauca — Nodding Blue Lily

26 Burchardia umbellate — Milkmaids

3/4 OF THE YEAR

28 Thysanotus tuberosus — Common Fringe Lily
27 Boronia nana var. hyssopifolia — Dwarf Boronia
28 Bulbine bulbosa — Bulbine Lily
29 Xerochrysum viscosum — Sticky Everlasting Daisy
30 Kennedia prostrata — Running Postman
31 Calocephalus citreus — Lemon Beauty-heads
32 Calocephalus lacteus — Milky Beauty-heads
33 Gonocarpus tetragynus — Rough Raspwort
34 Dipodium roseum — Rosy Hyacinth-orchid

Native Arbor

The native arbor brings a sculptural element to the space, casting interesting shadows onto the groundplane. A structure like this also acts like a proxy tree; descaling the buildings surrounding it, bringing a sense of shelter to users below.

The arbor can also be an edge treatment for the sports field and an extension of the wildflower garden; bringing nature planting up onto the structures.

CLIMBERS

1 Comesperma volubile	Love creeper
2 Eustrephus latifolius	Wombat berry
3 Hardenbergia volaea	Purple Coral pea
4 Pandorea pandoreana	Wonga wonga vine
5 Hibertia scandens	Guniea flower
GROUNDCOVERS	
6 Viola hederacea	Native violet
7 Wahlenbergia gracilis	Sprawling Bluebell
8 Dichondra repens	Kidney-weed
9 Persoonia chamaepeuce	Dwarf Geebung

Green Gully

The green gully explores a riparian planting scheme that engages with the texture, form and colour of the Emerald Street building.

The micro climate in this space will be cooler and well shaded in Summer and will also have similar qualities to a natural gully in light and shadow.

Grading and grooves in the pavement will be used here to bring rainwater to passivly irrigate the beds - enhancing the riparian feel of the corridor.

Manna Gum Riparian Forest

TREES	
1 Eucalyptus viminalis	Manna Gum
2 Eucalyptus ovata	Swamp Gum
3 Melaleuca ericifolia	Swamp Paperbark
4 Acacia dealbata	Silver Wattle
5 Acacia Melanoxylon	Blackwood
6 Prostanthera lasianthos	Victorian Christmas Bush
7 Leptospermum obovatum	River Teatree
SHRUBS	
8 Sambucus gaudichaudiana	White Elderberry
9 Ozothamnus ferrugineus	Tree everlasting
10 Olearia glandulosa	Swamp Daisy Bush
11 Bauera rubioides	Dog Rose
12 Dillwynia glaberrima	Heath Parrot-pea

FERNS	
13 Adiantum aethiopicum	Common Maidenhair
14 Blechnum cartilagineum	Gristle Fern
15 Blechnum nudum	Fishbone Water-fern
16 Blechnum parrisiae	Common Rasp-fern
17 Cyathea australis	Rough Tree-fern
18 Dicksonia antarctica	Soft Tree-fern
19 Pteridium esculentum	Austral Bracken
GRASSES	
20 Dianella longifolia	Pale Flax-lily
21 Dianella tasmanica	Tasman Flax-lily
GROUNDCOVER / HERBS	
22 Viola hederacea	Native violet
23 Wahlenbergia gracilis	Sprawling Bluebell

24 Dichondra repens	Kidney Weed
CLIMBERS / CREEPERS	
25 Billardiera mutabiliS	Common Apple-berry
26 Clematis aristata	Old Man's Beard

Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

Active Edges

Active Edges

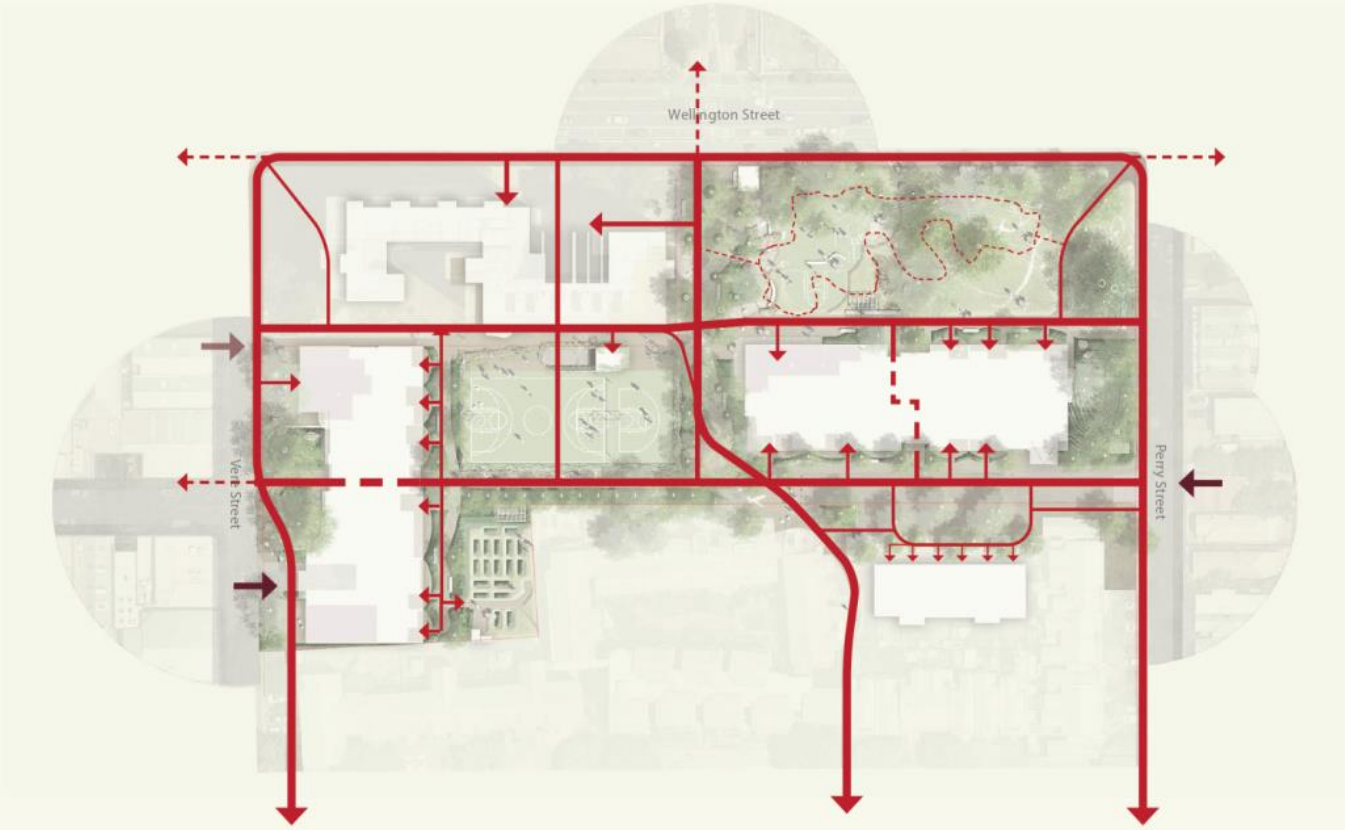
Public realm zones: activation by ground plane tenancies

Proposed ground floor active edges: high activity interface, operable facade, high intensity

Proposed ground floor active edges: daytime activity, fixed facade, low intensity

Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

Access and Movement Plan



Access and Movement

Vehicular access to the site is limited to its edge, with access to underground parking from Perry Street and Vere Street and access for service vehicles from Vere utilising the existing crossover.

This limits conflict between people and cars and allows for the establishment of a new pedestrian hierarchy with primary paths against built form on a north-south and est-west alignment. Secondary paths are provided at the north and south corners of Wellington Street. The strong alignment of the entry plaza to Otter Street allows for a clear central pedestrian connection which continues east to the wider estate.

Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

Planting Palette

EVC55, Plains Grassy Woodland is made up of plant communities including those shown adjecent. They constitute an open, eucalypt woodland with scattered tall trees and an understorey that is dominated by grasses or grass-like herbs (non-woody plants). Typically only a few sparse shrubs are present.

EVC 55 Plains Grassy Woodland

Trees

	Code	Species	Common Name
1	Aci	Acacia implexa	Lightwood
2	Acm	Acacia mearnsii	Black Wattle
3	Acm	Acacia melanoxylon	Blackwood
4	All	Allocasuarina littoralis	Black She Oak
5	Eut	Eucalyptus tereticornis ssp. mediana	Gippsland Red-gum
6	Euc	Eucalyptus camaldulensis	River Red Gum
7	Euo	Eucalyptus ovata	Swamp Gum
8	Euv	Eucalyptus viminalis	Manna Gum

Shrubs, Grasses, Grass like plants, Wildflowers

	Code	Species	Common Name
9	Ars	Arthropodium strictum	Chocolate lily
10	Aus	Austrodanthonia setacea	Bristly Wallaby-gras
11	Aur	Austrostipa rudis	Veined Spear-grass
12	Bop	Bossiaea prostrata	Creeping Bossiaea
13	Cab	Carex breviculmis	Short-stem Sedge
14	Crs	Crassula sieberiana	Common Grass-sedge
15	Dir	Dichondra repens	Kidney Weed
16	Gar	Gahnia radula	Thatch Saw-sedge
17	Hyg	Hypericum gramineum	Small St John's Wort
18	Bgc	Pimelea humilis	Common Rice-flower
19	Lof	Lomandra filiformis	Wattle Mat-rush
20	Mis	Microlaena stipoides var. stipoides	Weeping Grass
21	Oxe	Oxalis exilis	Grassland Wood-sorre
22	Oxp	Oxalis perennans	Yellow Wood-sorrel
23	Pom	Poranthera microphylla	Small Poranthera
24	Sca	Schoenus apogon	Common Bog-sedge
25	Tht	Themeda triandra	Kangaroo Grass
26	Veg	Veronica gracilis	Slender Speedwell
27	Wag	Wahlenbergia gracilis	Sprawling Bluebell

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External Landscaping

Nature Play

- Nature play is when children are provided with the opportunity to engage in unstructured play activities in outdoor settings where natural elements feature, such as logs, rocks and water, as opposed to conventional manufactured play equipment. It is when children create their own play using natural features

1. Pelzer Park, Pityarilla Adelaide, Aspect Studios
2. Return to Royal Park, City of Melbourne
3. Return to Royal Park, City of Melbourne

External Landscaping

Plaza

- Register 'Compass Country' into the fabric of the plaza and nature play by incorporating mappings and text into paving and finishes
- Evoke the water line of Blind Creek through visual proxies that can create shallow depressions to hold and retain rainfall

1. Cooperative Housing Katzenbach Zurich, Studio Vulkan Landschaftsarchitektur
2. Nearamew Melbourne, Paul Carter
3. Via Mazzini Verona, Boris Podrecca

External Landscaping

Soft Edges

- A fence and a sign are one way of making an edge, but there are others that explore ambiguity, generosity and negotiation that could be well used in Collingwood

1. Heller Street Brunswick, Six Degrees
2. Wellington Street Collingwood
3. McElhone Place Surry Hills, Claudette Roy et al.

External Landscaping

Cultural Gardens

- Principles of Indigenous knowledge, collaborative design and permaculture create gardens for urban food production
- These gardens become holders and teachers of knowledge, containing medicinal and culturally significant plants

1. Indigenous Cultural Garden Eveleigh, Yerrabingin
2. South Eveleigh Native Rooftop Farm, Yerrabingin
3. South Eveleigh Native Rooftop Farm, Yerrabingin

Attachment 3 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Landscape Report

External Landscaping

Arbor

- A simple armature that provides shade and scale while maintaining an open an flexible ground plane underneath
- Climbing plants selected for seasonal change

1-3. Pius Xii Square, Flores and Prats

External Landscaping

Mews

- While the clarity and legibility of the street is maintained, new offers make it a place for people, not cars
- Emerald Street south can become a pedestrian entry, an on-ground address and a social space that invites play and social exchange

1. Kings Crescent, MUF Architecture and Art
2. Kings Crescent, MUF Architecture and Art
3. Linden Alley, David Winslow

External Landscaping

Urban Furniture

- Public Fountains for both people and their companions
- Bike Repair Stands along Wellington St to provide amenities to riders
- Small seats for small gatherings
- Super-sized seats that allow strangers some room

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

ADP
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Social Housing Wellington Street, Collingwood

Sustainability Management Plan

Prepared for: Fieldwork Projects

Project No: MEL2513
Date: 19 October 2021
Revision: 03

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

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Creating great environments with great people

Project:	Social Housing Wellington Street, Collingwood
Location:	240 Wellington Street Collingwood, VIC, 3066
Prepared by:	ADP Consulting Pty Ltd Level 11, 60 Albert Road South Melbourne VIC 3205
Project No:	MEL2513
Revision:	03
Date:	19 October 2021

Rev	Date	Comment	Author	Signature	Technical Review	Signature	Authorisation & QA	Signature
01	14/07/21	For review	Vickie Huang	VH	David Mahony	DM	DM	DM
02	29/07/21	Amended STORM & daylight inputs	Vickie Huang	VH	David Mahony	DM	DM	DM
03	19/10/21	Response to council comments	Vickie Huang	VH	David Mahony	DM	DM	DM

Project Team	
Client / Principal	Fieldwork Projects
Architect	Fieldwork Projects
Building Services	ADP Consulting
ESD Consultant	ADP Consulting

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

ADP Consulting : Engineering

Creating great environments with great people

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Creating great environments with great people

Executive Summary

The following report provides an overview of the environmentally sustainable development (ESD) strategy for the proposed social housing development at 240 Wellington Street, Collingwood within the municipal boundaries of the City of Yarra.

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 Yarra City Council Planning Scheme.

Yarra Council Planning Scheme

The site is situated in Collingwood 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 Yarra City Council Planning Scheme. These policies and objectives have been taken into consideration throughout this assessment and in our advice given to the applicant.

The Planning Policy allows large scale buildings to demonstrate best practice ESD standards by using the Green Star rating tool through the Green Building Council Australia (GBCA).

Overall, the proposed ESD initiatives of this development will meet Council's overarching goal of promoting sustainable design and buildings.

Environmentally Sustainable Development (ESD) Approach

The project approach includes the following targets as identified in the policy requirements, statutory requirements and the project brief:

- A 5-Star certified Green Star Design and As Built v1.3 rating.
- An average NatHERS rating of 7-stars across the development, with no individual dwelling achieving less than 6 stars.
- Improved building fabric performance on NCC energy efficiency requirements for non-residential and residential common areas of the development.
- STORM assessment achieving minimum 100% score.

Green Star Benchmarking

Green Star has been utilised to benchmark the environmental performance of the project. The proposal has the preliminary design potential to achieve the following performance measures:

- 5-star rating under Green Star - Design & As Built v1.3.

Table 5 summarises the 5-Star Green Star points benchmarked for the project, with a full description of the Green Star pathway located in Appendix A. Points benchmarked are subject to change throughout the design development period, whilst maintaining a 5-star rating.

A 5-star rating requires a minimum 60 points to be awarded.

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

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Green Star Point Pathway

Green Star Category / Credit Target	Points
Management	14
Indoor Environment Quality	13
Energy	6.5
Transport	4
Water	5
Materials	7
Land Use and Ecology	4
Emissions	4
Innovation	6
Total Points Benchmarked	**64**

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Creating great environments with great people

1. Introduction

The following report provides an overview of the environmentally sustainable development (ESD) strategy for the proposed social housing development at 240 Wellington Street, Collingwood, within the municipal boundaries of the City of Yarra.

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 Yarra City Council Planning Scheme.

1.1 Project background

The proposed development is located at 240 Wellington Street, in close proximity to amenities and shops along Smith and Johnston streets. The development includes;

- Basement: Car parking
- Ground floor: non residential spaces, bicycle parks, apartments and shared outdoor communal facilities (eg. Gardens, play equipment and basketball court)
- Levels 01-07: apartments

Figure 1 Site location of the proposed development at 240 Wellington Street, Collingwood

1.2 Statutory context

1.2.1 Yarra City Council

The site is situated in Collingwood 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;

- Clause 21.07 Environmental Sustainability
- Clause 22.16 Stormwater Management (Water Sensitive Urban Design)
- Clause 22.17 Environmentally Sustainable Development

These policies and objectives have been taken into consideration throughout this assessment and in our advice given to the applicant.

The Planning Policy allows large scale buildings to demonstrate best practice ESD standards by using the Green Star rating tool through the Green Building Council Australia (GBCA).

Overall, the proposed ESD initiatives of this development will meet Council's overarching goal of promoting sustainable design and buildings.

1.2.1.1 Clause 21.07 Environmental Sustainability

21.07-1 Environmentally sustainable development

- **Objective 34 To promote environmentally sustainable development.**
  - 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.
  - Strategy 34.2 Apply the environmental sustainability provisions in the Built Form and Design policy at clause 22.10-3.5
  - Strategy 34.3 Apply the Environmentally Sustainable Development policy at clause 22.17
- **Objective 35 To protect wildlife habitat, provide habitat linkages and arrest the loss of biodiversity.**
  - Strategy 35.1 Apply the Protection of Biodiversity policy at clause 22.08.

1.2.1.2 Clause 22.16 Stormwater Management (Water Sensitive Urban Design)

22.16-2 Objectives

To achieve the best practice water quality performance objectives set out in the Urban Stormwater Best Practice Environmental Management Guidelines, CSIRO 1999 (or as amended). Currently, these water quality performance objectives require:

- Suspended Solids - 80% retention of typical urban annual load
- Total Nitrogen - 45% retention of typical urban annual load
- Total Phosphorus - 45% retention of typical urban annual load
- Litter - 70% reduction of typical urban annual load

- To promote the use of water sensitive urban design, including stormwater re-use.

- To mitigate the detrimental effect of development on downstream waterways, by the application of best practice stormwater management through water sensitive urban design for new development.
- To minimise peak stormwater flows and stormwater pollutants to improve the health of water bodies, including creeks, rivers and bays.
- To reintegrate urban water into the landscape to facilitate a range of benefits including microclimate cooling, local habitat and provision of attractive spaces for community use and well being.

1.2.1.3 Clause 22.17 Environmentally Sustainable Development

22.17-2 Objectives

The overarching objective is that development should achieve best practice in environmentally sustainable development from the design stage through to construction and operation.

In the context of this policy best practice is defined as a combination of commercially proven techniques, methodologies and systems, appropriate to the scale of development and site specific opportunities and constraints, which are demonstrated and locally available and have already led to optimum ESD outcomes. Best practice in the built environment encompasses the full life of the build.

It is a policy to encourage innovative technology, design and processes in all development, which positively influence the sustainability of buildings.

The following objectives should be satisfied where applicable:

- Energy performance
  - To improve the efficient use of energy, by ensuring development demonstrates design potential for ESD initiatives at the planning stage.
  - To reduce total operating greenhouse gas emissions.
  - To reduce energy peak demand through particular design measures (eg. appropriate building orientation, shading to glazed surfaces, optimise glazing to exposed surfaces, space allocation for solar panels and external heating and cooling systems).
- Water resources
  - To improve water efficiency.
  - To reduce total operating potable water use.
  - To encourage the collection and reuse of stormwater.
  - To encourage the appropriate use of alternative water sources (eg. greywater).
- Indoor Environment Quality
  - To achieve a healthy indoor environment quality for the wellbeing of building occupants, including the provision of fresh air intake, cross ventilation, and natural daylight.
  - To achieve thermal comfort levels with minimised need for mechanical heating, ventilation and cooling.
  - To reduce indoor air pollutants by encouraging use of materials with low toxic chemicals.
  - To reduce reliance on mechanical heating, ventilation, cooling and lighting systems.
  - To minimise noise levels and noise transfer within and between buildings and associated external areas.
- Stormwater Management
  - To reduce the impact of stormwater run-off.

- To improve the water quality of stormwater run-off.
- To achieve best practice stormwater quality outcomes.
- To incorporate the use of water sensitive urban design, including stormwater re-use.

> Transport

- To ensure that the built environment is designed to promote the use of walking, cycling and public transport, in that order.
- To minimise car dependency.
- To promote the use of low emissions vehicle technologies and supporting infrastructure.

> Waste management

- To promote waste avoidance, reuse and recycling during the design, construction and operation stages of development.
- To ensure durability and long term reusability of building materials.
- To ensure sufficientspace is allocated for future change in waste managenement needs, including (where possible) composting and green waste facilities.

> Urban Ecology

- To protect and enhance biodiversity within the municipality.
- To provide environmentally sustainable landscapes and natural habitats, and minimise the urban heat island effect.
- To encourage the retention of significant trees.
- To encourage the planting of indigenous vegetation

22.17-4 Application Requirements

An application must be accompanied by either a Sustainable Design Assessment or a Sustainability Management Plan as specified in Table 1, as appropriate.

Table 1 ESD Application Requirements

Type of Development	Application requirements	Example tools
Accommodation/Mixed Use with residential component of:		
> 2- 9 dwellings; or > Development of a building for accommodation STORM other than dwellings with a gross floor area between 100m2 and 1000m2	Sustainable Design Assessment (SDA)	BESS STORM
> Development of 10 or more dwellings. > Development of a building for accommodation Green Star other than dwellings with a gross floor area of more than 1000m2	Sustainability Management Plan (SMP)	BESS Green Star MUSIC STORM

A Sustainability Management Plan should:

- provide a detailed assessment of the development. It may use relevant tools from the examples listed in the table or an alternative assessment approach to the satisfaction of the responsible authority; and
- identify achievable environmental performance outcomes having regard to the objectives of this policy (as appropriate); and
- demonstrate that the building has the design potential to achieve the relevant environmental performance outcomes, having regard to the site's opportunities and constraints; and
- document the means by which the performance outcomes can be achieved.

Various assessment tools have been listed in Table 1 which may be used to assess how the proposed development addresses the objectives of this policy, as appropriate.

1.3 ESD approach

1.3.1 Project sustainability brief

The project approach includes the following targets as identified in the policy requirements, statutory requirements and the project brief:

- A 5-Star certified Green Star rating
- An average NatHERS rating of 7-stars across the development with no individual dwelling achieving less than 6-stars.
- Improved building fabric performance on NCC energy efficiency requirements for non-residential and residential common areas of the development.
- Best practice water quality performance objectives as demonstrated with either a STORM assessment or MUSIC modelling.

This report is based on the set of drawings dated 02/07/2021.

1.3.2 Green Star

Green Star has been utilised to benchmark the environmental performance of the project. The proposal has the preliminary design potential to achieve the following performance measures:

- 5-star rating under Green Star - Design & As Built v1.3.

The Green Star Pathway forms the approach and ESD targets contained within this SMP. A summary of the Green Star approach can be found in Section 3 and Appendix A.

The Green Star approach will be certified and minor changes to the outlined pathway contained within may change through the design development process, whilst maintaining a 5-star rating equivalent.

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1.4 Council response

The following table summarises comments from council's ESD offer per memo dated on 03/09/2021, and responses have been incorporated into this SMP report.

Table 2 Summary of council comments and response

Council comments	ADP Response
There is minor discrepancy between the plans and SMP in relation to WSUD and rainwater storage. Recommend that both rainwater tanks are clearly marked on plans for each building, consistent with the STORM reports: 32,000 litres in South Tower & 35,000 litres in North Tower.	Plans have been updated to show rainwater tanks with the following total capacities: > North tower = 32,000L > South tower = 35,000L See Section 2.8.1 Water Sensitive Urban Design (page 24)
Recommend that the two raingardens are clearly marked on both landscape and architectural drawings, consistent with the STORM report (North Tower 17m2 and South Tower 13m2).	The location of raingardens has been indicated on landscape and architectural plans. Raingardens will have the following total areas: > North tower = 17m2 > South tower =13m2 See Section 2.8.1 Water Sensitive Urban Design (page 24)
Recommend separate utility meters (electricity and water) for each dwelling. The proposal for meters on each level does not give adequate granularity for meaningful energy and water management or fault/leak detection over the life of the building.	Separate power, water and hot water meters can be provided for each dwelling in line with the Water and Power schematics. Leak detection can be achieved by checking that the quantities of the landlord plus tenant meters equals the bulk incoming meter reading. See Section 2.1.5 Metering (page 13)
Recommend that the energy procurement for the buildings via an embedded network be 100% renewable sources, (e.g. Green Power), to meet the current findings of the State Govt embedded network review and to enable the building to operate as zero carbon building.	In line with the project's functional brief, power to the site will be provided via an embedded network operator. Through the embedded network provider, there are opportunities to pursue a green power option. This is subject to agreement with the client and embedded network provided. See Section 2.3.6 Renewable Energy (page 18)

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2. ESD Initiatives

2.1 Construction and Building Management

2.1.1 Operational environmental management plan

An Owners Project Requirement (OPR) document will be produced which summarises the targets for the environmental performance of the project.

Environmental reporting goals will be set for the building, including greenhouse gas emissions, energy use and water use and shared with building users and tenants.

Best practice green lease agreements will be produced for all tenants to understand and comply with the commitment targets.

2.1.2 Building commissioning and tuning

2.1.2.1 Building Commissioning

A comprehensive services and maintainability review of the project will be performed during the design stage and prior to construction.

Pre-commissioning, commissioning and quality monitoring for all building services (BMS, mechanical, electrical and hydraulic) in accordance with CIBSE or ASHRAE will also be performed.

2.1.2.2 Building Systems Tuning

Following practical completion, full re-commissioning will be undertaken 12 months with monthly monitoring undertaken and outcomes reported including a quarterly tuning process.

2.1.2.3 Independent Commissioning Agent

An Independent Commissioning Agent (ICA) will advise, monitor and verify the commissioning and tuning of the nominated building systems throughout the design, tender construction, commissioning and tuning phases.

2.1.3 Building user's guide

Building operation and maintenance manuals and a CIBSE TM31 Building Logbook will be produced and made available to building owners and occupants.

Building user information will also be made available to all relevant tenants and further displayed on screens in real time to inform building users and visitors.

2.1.4 Commitment to performance

The development will commit to setting, measuring and reporting on environmental performance. Reporting goals may include greenhouse gas emissions, energy targets, water targets and waste targets.

Additionally, a formal commitment will be in place to reduce demolition waste at the end of life of an interior fitout or base building component.

2.1.5 Metering

Accessible metering to all energy and water common uses and major uses within the building will be provided. Additionally, separate power, water and hot water meters can be provided for each dwelling in line with the Water and Power schematics.

2.1.5.1 Energy Metering

Separate energy meters will be provided to monitor each of the following distinct uses:

- Each individual floor
- Each separate non-residential tenancy
- Residential common area lighting, heating, cooling and ventilation
- Vertical transport
- Photovoltaic system supply
- Any source of demand greater than 5% of the building's total energy use
- Any source of demand greater than 100kW

2.1.5.2 Water Metering

Separate water meters will be provided to monitor each of the following distinct uses:

- Each individual floor
- Irrigation
- Rainwater tank supply
- Common area amenities
- Any source of demand greater than 10% of the project's total water use

2.1.6 Monitoring

A Building Management System will be installed to monitor and control the building various systems.

The monitoring system will be capable of performing the following functions:

- Collecting data from all meters.
- Alerting to missing data due to failures.
- Recording energy use and water consumption and providing a reporting capability at user adjustable intervals.
- Raising an alarm when the energy or water use increase beyond certain parameters and automatically and instantly issue an alert the facilities manager. The process to assess, correct and validate alerts or faults must be detailed and contained in an accessible location.
- Providing a breakdown of the information by building system (mechanical, electrical, etc.), or by space (or by tenanted floor).
- Including the consumption water or energy, the load versus time (load profile), and the power factor (in the case of energy).
- Producing, as a minimum, a quarterly report that is automatically emailed to the facilities manager responsible for the building.

2.1.7 Construction environmental management plan

A project specific Construction Environmental Management Plan (EMP) will be developed and implemented by the Head Contractor. In addition to this, the builder will be required to have ISO 14001 Environmental Management System accreditation.

2.1.8 High quality staff support

Staff support programs will be implemented that promote positive mental and physical health outcomes as well as enhance worker's knowledge on sustainable practices.

2.1.8.1 Mental and Physical Health

At least three of the following must be addressed in the mental and physical health support programs:

- healthier eating and active living
- reduced harmful alcohol and drug and tobacco-free living
- increase social cohesion, community, and cultural participation
- understanding depression
- preventing violence and injury
- suicide prevention
- decrease psychological distress

2.1.8.2 Sustainable Practises

Training can be provided through one, or a combination of:

- On-site training, such as by including the items above as part of site induction practices.
- Off-site training, such as by providing sustainability training to site workers via a TAFE or similar program within the last 3 years.
- Online training, such as by a third-party service that can provide training on sustainability topics and track personnel who have taken the relevant materials within the last three years.

2.1.9 Waste Management

A specialist operational waste plan will be developed for the development and include garbage and recycling facilities as appropriate.

2.2 Indoor Environment Quality

2.2.1 Indoor Air Quality

2.2.1.1 Ventilation System Attributes

The ventilation system will be designed to mitigate the entry of outdoor pollutants, for ease of maintenance and cleaning and will be cleaned prior to occupation and use. The design will comply with ASHRAE 62.1-2003 regarding minimum separation distances between pollution sources and outdoor air intakes.

2.2.1.2 Provision of Outdoor Air

The apartments will be naturally ventilated in accordance with AS 1668.4:2012.

2.2.1.3 Kitchen exhausts

Exhaust fans serving residential kitchens will either exhaust to the outside, or if recirculating, have a filtration media that has been proven to effectively remove kitchen pollutants.

2.2.2 Acoustics

2.2.2.1 Internal noise level reduction

Internal noise levels will be no more than 5dB(A) above the "satisfactory" sound levels provided in Table 1 of AS/NZS 2107:2000.

2.2.2.2 Acoustic separation

For residential projects:

- The inter-tenancy apartment construction to habitable areas results in airborne noise isolation standard of Rw+Ctr > 55; and
- All inter-tenancy walls should include Discontinuous Construction as defined by the Building Code of Australia
- Walls between apartments and public corridors results in airborne noise isolation standard of Rw > 55; and
- The floor construction above habitable rooms and wet areas of adjacent dwellings (i.e. floor cover) results in an impact isolation standard of Ln,w + CI < 55.
- Apartment entry doors include acoustic seals and achieve laboratory acoustic rating of Rw 30.

For non-residential areas the acoustic consultant will select the most suitable pathway for compliance with the acoustic separation credit.

2.2.3 Artificial Lighting

2.2.3.1 Colour accuracy and flicker free

All lights on the project will be flicker free and accurately address the perception of colour in the space including products with electronic ballasts and a minimum colour rendering index (CRI) of 80.

2.2.3.2 General Illuminance and Glare Reduction

2.2.3.2.1 Dwellings

Lighting will be provided in living spaces, kitchens, bathrooms and bedrooms where:

- The lighting design includes or permits general fixed lighting that provides good maintained illuminance values for the entire room; and
- The installed fittings all have a rated colour variation not exceeding 3 MacAdam Ellipses (decorative fittings being exempt).

2.2.3.2.2 All other areas

Illuminance levels be provided as per best practice levels as per AS1680 depending on the activity performed in that space.

2.2.3.3 Occupant Lighting Control

Appropriate task-based lighting will be provided to kitchens, bathroom and services areas. In addition, sufficient power outlets will be provided around predicted furniture layouts to enable the use of lamps or any task-based lighting for home offices and the like.

2.2.4 Natural Light

2.2.4.1 Daylight Amenity

The design of the building and apartments layouts enable excellent natural daylight amenity to primary nominated spaces (ie. Living and dining areas). Daylight modelling has been conducted to predict the amount of natural light the apartments will receive. Appendix C provides detail of the modelling results and the inputs and assumptions.

Results from the preliminary daylight assessment can be found in Appendix C - Daylight Assessment.

2.2.4.2 Glare Prevention

Glare reduction will be achieved to all facades through a combination of blinds, screens and fixed devices.

2.2.5 Indoor pollutants

Indoor pollutants in the project will be reduced through;

- Reduced Volatile Organic Compounds (VOCs) in all paints, carpets, adhesives and sealants
- Low and no formaldehyde content in all engineered wood products including particleboard, plywood, veneer, MDF and decorative overlaid wood panels

2.2.6 Thermal comfort

- Targeting a 7-star average NatHERS rating, with no individual dwelling achieving less than 6-stars.

2.3 Energy Efficiency

2.3.1 Operational energy

2.3.1.1 Dwellings

The development will be committing to the following NatHERS star ratings:

- 7-star average across the whole development
- No individual apartment less than 6-stars

Additionally, dwellings are required to meet the maximum cooling allowance limits per the planning scheme Clause 58.03-1 for Yarra City Council is 30MJ/m2 (Climate zone 21 Melbourne).

Appendix B is the Preliminary NatHERS Summary which details the building fabric requirements to achieve a 7.0-star average. Preliminary energy ratings on a sample of 13 dwellings indicates the following U-value and SHGC values, along with standard assumed construction, are required to meet the above star rating targets and cooling load limits:

Table 3 Preliminary energy rating – glazing specifications.

Tower	U-value	SHGC
North	2.31	0.30
South	2.92	0.39

Final energy ratings of dwellings are to be confirmed when completing certified assessments at building permit stage.

2.3.1.2 Non-residential and Common Areas

The project will exceed Section J requirements of the NCC 2019 for the non-residential tenancies and common areas and target credit points under the Green Star Energy credit.

2.3.2 Lighting Efficiency and Controls

2.3.2.1 Power Density

The lighting power density is reduced by at least 10% below the maximum lighting power density in Table J6.2a. Applies to all areas of the building.

2.3.2.2 Independent Switching

Independent Light switching will be provided in each room of the SOU. In open plan, each functional area will be separately switched.

2.3.2.3 Dynamic Lighting Controls

All common areas accessible by residents will be provided with automated lighting control system(s), such as occupant detection and daylight adjustment.

2.3.3 Ventilation and Air Conditioning

For spaces provided with mechanical heating and cooling:

- The minimum cooling system energy rating for the air conditioning equipment is at least 3-star as per AS 3823.2-2013; and
- The rated cooling or heating capacity of the unit does not exceed the design cooling or heating load, whichever is greater, by more than 15%.

2.3.4 Domestic Hot Water

2.3.4.1 Dwellings

Hot water supply to dwellings will be from centralised hot water heat pump units.

2.3.4.2 Common Areas and Amenities

Hot water systems to future communal areas will be from electric based systems.

2.3.5 Appliances and Equipment

All appliances installed have a minimum Energy Star rating of 1-star below the maximum Energy Star rating available for that appliance type and capacity. Appliances include but are not limited to:

- Refrigerators/freezers;
- Dishwashers;
- Clothes washers; and
- Clothes dryers.

This requirement only applies to installed appliances; it does not require their installation.

2.3.6 Renewable Energy

The project will install solar PV to the rooftop of the development. The system will supply power to common areas, and potentially also supply electricity to dwellings as well as part of the embedded network.

Solar PV systems will be sized to take into consideration expected on-site consumption, available roof space, other services that require roof space and shading and overshadowing.

Additionally, there are opportunities to pursue a green power option through the embedded network provider. This is subject to agreement with the client and embedded network provided.

2.3.7 Vertical Transport

Lifts will be specified such that the energy associated with lift machinery or other vertical transportation complies with the following conditions:

- The minimum lift energy efficiency is class A or B in accordance with ISO 25745-2; and
- The lift idle and standby energy performance level is 1 in accordance with ISO 25745-2.

2.3.8 Peak energy demand reduction

Peak energy demand reduction will be reduced through a combination of passive and active energy means. This includes;

- High-performance façade
- Energy-efficiency building systems and appliances
- Photovoltaic PV system

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2.4 Transport

2.4.1 Access to public transport & walkability

The proposed development, located at 240 Wellington Street, Collingwood obtains a Walkscore of 98 'Walker's Paradise', meaning the access to shops and amenities is excellent and daily errands do not require the use of a car. The site also has a public transit score of 85 meaning access to excellent public transport facilities.

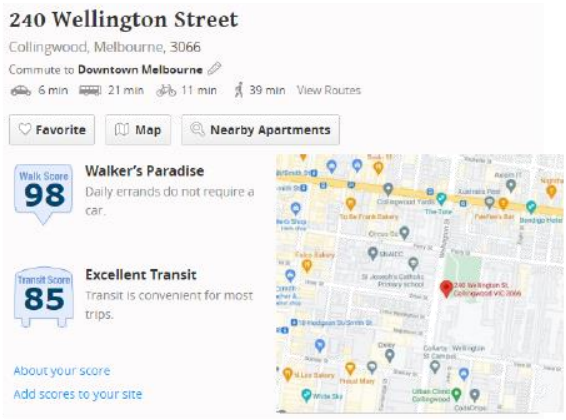

Figure 2 Project walk score and transit score

2.4.2 Bicycle storage

The current set of drawings is proposing at least 100 bicycle parking spaces across the whole development for residents. Bike parks will be located adjacent to each lobby, on the ground floor. Note that confirmation of final bicycle number is subject to further review during town planning and design development stages.

Figure 3 Bike parking facilities; North tower (left), South Tower (right)

2.5 Water Efficiency

2.5.1 Water efficient fittings and fixtures

The project will include best practice water efficient fixtures and fittings across the development including the following WELS ratings;

- Showers: 3 Stars or 4 Stars (7.5 L/min or lower)
- Toilets: 4 Stars
- Taps: 5 Stars
- Urinals: 6 Stars
- Dishwashers: 5 Stars

2.5.2 Rainwater harvesting

Rainwater tanks will capture rainwater from the non-trafficable roof areas of the development and be connected to all toilets in both towers, and all irrigation on the project. The rainwater tank capacity will take into consideration the expected on-site consumption and benefits towards potable water reduction and best practice stormwater objectives. Currently, the following rainwater tanks are proposed:

- North tower = 32,000L
- South tower = 35,000L

See Section 2.8.1 Water Sensitive Urban Design for proposed collected roof areas.

2.5.3 Landscape irrigation

All landscape areas will be irrigated using subsurface drip type irrigation systems.

2.5.4 Fire systems

Each tower will propose 2x 25kL tanks located in the basement, serving a combined hydrant and sprinkler system. During fire testing, expelled water will be reticulated back to the water tanks. A target of 80% of fire test water will be captured during the system testing.

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2.6 Building Materials

2.6.1 Concrete

2.6.1.1 Water Reduction

The mix water for all concrete used in the project will contain at least 50% captured or reclaimed water (measured across all concrete mixes in the project).

2.6.1.2 Aggregate Reduction

The project will seek to minimise the amount of virgin materials used for aggregates by ensuring either:

- At least 40% of coarse aggregate in the concrete will be crushed slag aggregate or another alternative materials (measured by mass across all concrete mixes in the project); OR
- At least 25% of fine aggregate (sand) inputs in the concrete will be manufactured sand or other alternative materials (measured by mass across all concrete mixes in the project).

2.6.2 Steel

2.6.2.1 Reinforcing Steel Reduction

There will be a 5% or more reduction in mass of steel framing, when compared to a suitable reference case building. The structural engineer will provide calculations to demonstrate the reduction.

2.6.2.2 Responsible Steel Sourcing

The steel maker must have the following:

- A currently valid and certified ISO 14001 Environmental Management System (EMS) in place, and
- a current membership with the World Steel Association's (WSA) Climate Action Programme (CAP)

2.6.3 Sustainable timber

The building's timber is to be certified by a forest certification scheme that meets the GBCA's 'Essential' criteria for forest certification.

2.6.4 Environmental toxicity

90% (by cost) of all cables, pipes, flooring and blinds in a project either:

- Do not contain PVC and have an Environmental Product Declaration (EPD); or
- Meet Best Practice Guidelines for PVC.

2.6.5 Environmental responsibility

3% of eligible products are required to meet the requirements of reused products, recycled content, environmental product declarations, third party certification, or stewardship programs.

2.6.6 Construction waste management plan

A construction waste management plan will be developed including a target of 90% of waste generated during construction and demolition to be diverted from landfill.

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2.7 Urban Ecology

2.7.1 Reuse of developed land

The proposed development is taking place on a completely developed piece of land. No critically endangered, endangered, vulnerable species, or ecological communities were present on the site at time of purchase.

2.7.2 Enhancing ecological value

The existing site currently has little to no existing vegetation or ecologically significant value. At least 50% of plants will be specified as Australian natives.

2.7.3 Urban Heat Island Effect

At least 75% of the total project site area to comprises building or landscaping elements that reduce the impact of heat island effect.

High Solar Reflective Index (SRI) roofing and paving materials will be utilised on all roofing areas where appropriate to reduce the UHI effect:

- Roofing materials, including shading structures will have the following:
  - For roof pitched <15°– a three year SRI of minimum 64 or initial SRI of minimum 82.
  - For roof pitched >15°– a three year SRI of minimum 34 or initial SRI of minimum 39.
- Unshaded hard-scaping elements with a three year SRI of minimum 34 or an initial SRI of minimum 39;

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2.8 Emissions

2.8.1 Water Sensitive Urban Design

2.8.1.1 Catchment & Treatment Plan

The catchment area markup below details the areas for each of the impervious surface.

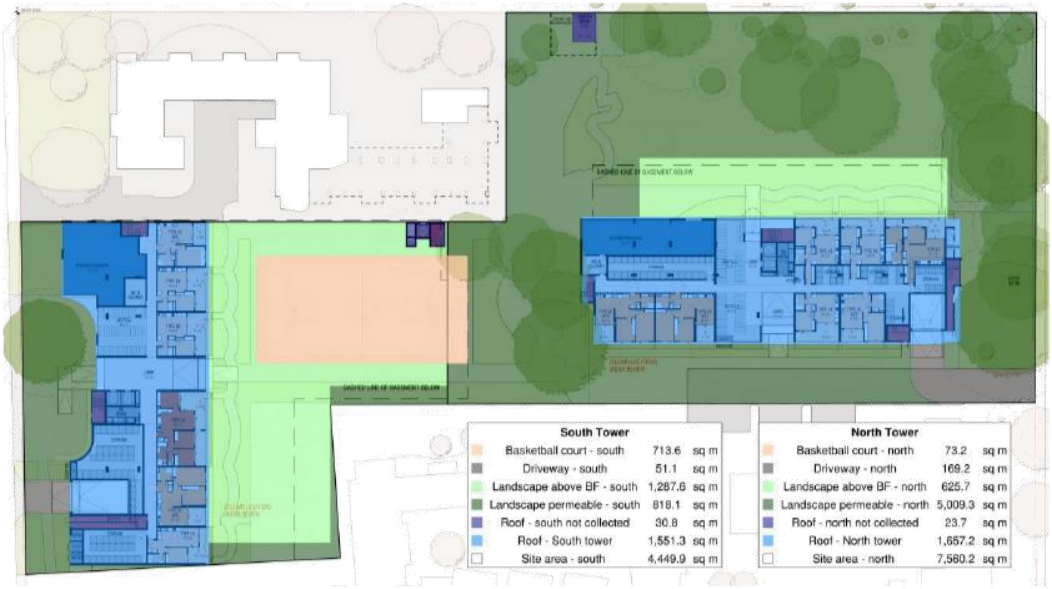

Figure 4 Rainwater tank catchment areas

Preliminary STORM report assessments are included below and is a potential pathway to demonstrating compliance with council's minimum best practice objectives. The final stormwater treatment proposals may change and may incorporate raingardens, proprietary devices etc, with compliance assessment options to also include MUSIC modelling.

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

Melbourne Water STORM Rating Report

TransactionID:	1199130
Municipality:	YARRA
Rainfall Station:	YARRA
Address:	240 Wellington St (north)
	Collingwood
	VIC
Assessor:	ADP Consulting
Development Type:	Residential - Multiunit
Allotment Site (m2):	7,560.20
STORM Rating %:	101

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Basketball	73.20	None	0.00	0	0.00	0.00
Driveway	169.20	None	0.00	0	0.00	0.00
Roof untreated	23.70	None	0.00	0	0.00	0.00
Roof treated	1,657.20	Rainwater Tank	32,000.00	80	154.60	76.00
Landscape above BF untreated (50%)	828.60	None	0.00	0	0.00	0.00
Landscape above BF treated (50%)	828.60	Raingarden 100mm	17.00	0	128.35	0.00

Figure 5 STORM Report – North tower

Melbourne Water STORM Rating Report

TransactionID:	1199128
Municipality:	YARRA
Rainfall Station:	YARRA
Address:	240 Wellington St (south)
	Collingwood
	VIC
Assessor:	ADP Consulting
Development Type:	Residential - Multiunit
Allotment Site (m2):	7,560.20
STORM Rating %:	100

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Basketball	713.60	None	0.00	0	0.00	0.00
Driveway	51.10	None	0.00	0	0.00	0.00
Roof untreated	30.80	None	0.00	0	0.00	0.00
Roof treated	1,551.30	Rainwater Tank	35,000.00	80	160.20	79.00
Landscape above BF untreated (25%)	321.90	None	0.00	0	0.00	0.00
Landscape above BF treated (75%)	965.70	Raingarden 100mm	13.00	0	120.30	0.00

Figure 6 STORM Report – South tower

2.8.1.2 Stormwater Quality

In order to demonstrate an improvement on minimum Best Practice Stormwater and Water Sensitive Urban Design (WSUD) requirements, a MUSIC model is to be completed, targeting the following pollutant removal outcomes.

Table 4 Green Star Design & As Built - Credit 26.2 Stormwater pollutant reduction targets (Table 26.2)

Pollutant	Reduction Target (% of the typical urban annual load)		
	A	B	C
Total suspended solids (TSS)	80%	80%	90%
Gross pollutants	85%	90%	95%
Total nitrogen (TN)	30%	45%	60%
Total phosphorus (TP)	30%	60%	70%
Total petroleum hydrocarbons	60%	90%	90%
Free oils	90%	90%	98%

2.8.1.3 Construction Site 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) to ensure that construction debris, litter, sediments, and pollution are prevented from entering the stormwater system.

Once installed, a systematic maintenance program will be implemented to ensure the rainwater harvesting system operates as designed and water quality is maintained. The scope of the maintenance program will include inspection and rectification of issues associated with:

- Roof gutters and downpipes
- First flush screens and filtration devices
- Pumps
- Distribution pipework and reticulation systems
- Overflow systems

Inspections of the system and any maintenance works required will be undertaken on a quarterly basis or as per manufacturer's instructions.

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

2.8.1.4 Rainwater Tank 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

2.8.2 Light Pollution

2.8.2.1 Minimising light pollution to neighbouring bodies

All outdoor lighting on the project will comply with AS 4282:1997 Control of the obtrusive effects of outdoor lighting.

2.8.3 Legionella Risk Management

Any water-based heat rejection systems will include measures for Legionella control and a Legionella Risk Management Plan has been provided for the system. Currently, no water-based heat rejection systems are proposed for the site.

2.9 Innovation

2.9.1 Ultra-low VOC paints

Over 50% of paint (by cost) are to have a Total Volatile Organic Compound (TVOC) content of less than 5 grams per litre.

2.9.2 Stormwater Pollution Targets

The project team will exceed the minimum Green Star requirements for achieving the credit 26.2 Stormwater Pollution Targets.

2.9.3 Local procurement

A target of 80% of skilled workers and labour to be sourced within 50km of the site areas.

2.9.4 Financial transparency

The project team will complete the Financial Transparency Disclosure Template which itemises design, construction documentation and project costs.

2.9.5 Affordable housing

The project aims to provide a mix of affordable, subsidised and social housing for low to moderate income households.

2.9.6 Universal Design

The development will review the Design for Dignity Guidelines (or similar) and identify the project's accessibility issues. An accessibility plan demonstrating how accessibility initiatives have been carried out in the project is to be prepared.

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3. Green Star Benchmarking

Green Star has been utilised to benchmark the environmental performance of the project. The proposal has the preliminary design potential to achieve the following performance measures:

> 5-star rating under Green Star - Design & As Built v1.3.

Table 5 summarises the 5-Star Green Star points benchmarked for the project, with a full description of the Green Star pathway located in Appendix A. Points benchmarked are subject to change throughout the design development period, whilst maintaining a 5-star rating.

A 5-star rating requires a minimum 60 points to be awarded. A 4-point buffer has been included and is currently targeting 64-points for the development.

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Table 5 Summary of Green Star credit points benchmarked for the development

Green Star Category / Credit Target	Points
Management	**14**
Accredited Professional	
1.0 Green Star Accredited Professional	1
Commissioning and Tuning	
2.0 Environmental Performance Targets	Complies
2.1 Services and Maintainability Review	1
2.2 Building Commissioning	1
2.3 Building Systems Tuning	1
2.4 Independent Commissioning Agent	1
Adaptation and Resilience	
3.0 Implementation of a Climate Change Adaptation Plan	2
Building Information	
4.0 Building Information	1
Commitment to Performance	
5.1 Environmental Building Performance	1
5.2 End of Life Waste Performance	1
Metering and Monitoring	
6.0 Metering strategy	Complies
6.1 Monitoring Systems	1

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

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Green Star Category / Credit Target	Points
Construction Environmental Management	
7.0 Environmental Management Plan	Complies
7.1 Environmental Management System	1
7.2 High Quality Staff Support	1
Operational Waste	
8A Specialist Plan	1
Indoor Environment Quality	**13**
Indoor Air Quality	
9.1 Ventilation System Attributes	1
9.2 Provision of Outdoor Air	1
9.3 Exhaust or Elimination of Pollutants	1
Acoustic Comfort	
10.1 Internal Noise Levels	1
10.3 Acoustic Separation	1
Lighting Comfort	
11.0 Minimum Lighting Comfort	Complies
11.1 General Illuminance and Glare Reduction	1
11.2 Surface Illuminance	1
11.3 Localised Lighting Control	1
Visual Comfort	
12.0 Glare Reduction	Complies
12.1 Daylight	1
12.2 Views	1
Indoor Pollutants	
13.1 Paints, Adhesives, Sealants and Carpets	1
13.2 Engineered Wood Products	1
Thermal Comfort	
14.1 Thermal Comfort	1

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Green Star Category / Credit Target	Points
Energy	**6.5**
Greenhouse Gas Emissions	
15B NatHERS Pathway 0.5-star Improvement	Complies
15B.1 Thermal and Energy Performance	3
15B.2 Building Services and Appliances	3.5
Transport	**4**
Sustainable Transport	
17B.1 Access by Public Transport	2
17B.4 Active Transport Facilities	1
17B.5 Walkable Neighbourhoods	1
Water	**5**
Potable Water	
18B Potable Water reductions	5
Materials	**7**
Life Cycle Impacts	
19B.1 Concrete	1
19B.2 Steel	1
Responsible Building Materials	
20.1 Structural and Reinforcing Steel	1
20.2 Timber Products	1
20.3 Permanent Formwork, Pipes, Flooring and Blinds	1
Sustainable Products	
21.1 Product Transparency and Sustainability	1
Construction and Demolition Waste	
22B Percentage Benchmark	1
Land Use and Ecology	**4**
Ecological Value	
23.0 Endangered, Threatened or Vulnerable Species	Complies
23.1 Ecological Value	1

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

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Green Star Category / Credit Target	Points
Sustainable Sites	
24.0 Conditional Requirement	Complies
24.1 Reuse of Land	1
24.2 Contamination and Hazardous Materials	1
Heat Island Effect	
25.0 Heat Island Effect	1
Emissions	**4**
Stormwater	
26.1 Reduced Peak Discharge	1
26.2 Reduced Pollution Targets	1
Light Pollution	
26.2 Reduced Pollution Targets	1
Microbial Control	
28.0 Legionella Impacts from Cooling Systems	1
Innovation	**6**
Exceeding Green Star Benchmarks	
Indoor Pollutants: Ultra-Low VOC paints	1
Stormwater Pollution Target	1
Innovation Challenge	
Local Procurement	1
Financial Transparency	1
Affordable housing	1
Universal Design	1
Total Points Benchmarked	**64**

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ADP
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Appendix A
Green Star Preliminary Matrix

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MEL2513: DHHS Wellington,Collingwood

Green Star Design & As Built v1.3 Credit Matrix

19/10/2021

	Points Available	Points Targeted	Targeted Rating
Core Credits	99	58	5-Star Design & As Built
Innovation Credits	10	6	
Total	110	64	60 Points

Credit not targeted or not applicable

Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Management								
Green Star Accredited Professional	1.0	Accredited Professional	1	1	GSAP to be appointed throughout project, from schematic design to construction to completion	Design	ADP ESD	Credit awarded with ADPs appointment as Green Star Accredited Professional (GSAP)
Commissioning and Tuning	2.0	Environmental Performance Targets	N/A	Complies	In order for the minimum requirement to be met, documented targets for the environmental performance of the project must be set.	Design	Project Developer ADP ESD	A performance target for both annual consumption of energy and water needs to be set for the base building systems and incorporated in an Owner's Project Requirements (OPR) type documents
	2.1	Services and Maintainability Review	1	1	A comprehensive services and maintainability review of the project to be performed during design stage and prior to construction.	Design	Head Contractor ICA	Either an ICA or the Head Contractor shall conduct a Services and Maintainability Review and produce a Services and Maintainability Report prior to construction.
	2.2	Building Commissioning	1	1	Pre-commissioning, commissioning and quality monitoring for all building services (BMS, mechanical, electrical and hydraulic) in accordance with CIBSE or ASHRAE.	Design Construction Handover	ICA ADP Consutling - All Services Head Contractor	Comprehensive pre-commissioning and commissioning activities required. Appointment of ICA for assistance with these activities recommended. Commissioning Plan and Specification Required as well as Air Permeability Testing.
	2.3	Building Systems Tuning	1	1	A tuning process is in place that addresses all nominated building systems. A building tuning commitment must be signed.	Handover	Project Developer Head Contractor	A building tuning commitment is required demonstrating that there is a requirement for a building tuning process. At a minimum, the commitment must include quarterly adjustments and measurement for the first 12 months after occupation and a review of building system manufacturer
	2.4	Independent Commissioning Agent	1	1	An ICA is required from beginning of schematic design through practical completion of the project.	Design Construction	ICA Project Developer	ICA greatly assists in the Commisioning and Services and Maintainability Review credits.
Adaptation and Resilience	3.0	Implementation of Project Specific Climate Adaptation Plan	2	2	2 points are available where: - A project-specific Climate Adaptation Plan has been developed in accordance with a recognised standard; and - Solutions have been included into the building design and construction that specifically address the risk assessment component of the plan.	Design	ADP ESD Project Team	ADP would provide a climate risk assessment of the design of the development and identify high risk areas. Subsequently a workshop would be held to develop solutions to mitigate these risks. This is best held as early as possible in the design process.

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Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Building Information	4.0	Building Information	1	1	1 point is available where: - Comprehensive operations and maintenance information is developed and made available to the facilities management team; and - Relevant and current building user information is developed and made available to all relevant stakeholders.	Design Construction	Project Developer	A building log book must be provided to the facilities management team that must: - Be developed in line with CIBSE TM31: Building Log Book Toolkit; - Cover all nominated building systems; and - Include links or references to all relevant operations and maintenance information
							Head Contractor	Building information must be provided to the users of the building in an updatable digital format. This may be: - digital signage - interactive info kiosks - website or intranet - app for mobile devices
Commitment to Performance	5.1	Environmental Building Performance	1	1	One (1) point is awarded where at least 80% of the project's gross floor area (GFA), excluding carparking areas, is covered by a commitment to set, measure and report on its environmental performance. A smaller proportion of compliant space may be rewarded partial points on a sliding-scaleto one decimal place, e.g. if 40% of the project's GFA is covered 0.5 points are awarded. Environmental reporting goals (2 at least) to be set for the building, including GHG / Energy Targets, Water targets and Waste targets in use	Design Operation	Project Developer	Project Developer to commit to energy and water targets through an internal requirement. Propose to implement an operational ESD management plan that outlines the targets. Would have to be developed and approved by Council prior to Green Star submission.
	5.2	End of Life Waste Performance	1	1	One (1) point is awarded where at least 80% of the project's GFA, excluding carparking areas, has a formal commitment in place to reduce demolition waste at the end of life of an interior fitout or base building component. A smaller proportion of compliant space may be rewarded partial points on a sliding-scale to one decimal place.	Design Operation	Project Developer	Project Developer commit to extending the life of the interior fitout or finishes to at least 10 years, barring minor wear and tear or minor repairs.
Metering and Monitoring	6.0	Metering strategy	N/A	Complies	Accessible metering be provided to monitor building energy and water consumption, including all energy and water common uses, major uses and sources. The metering is to be accurate and to inform energy consumption practices and reduce wasted energy.	Design Construction	Electrical Engineer	Showing the location of all energy and water meters in the project and the associated energy and water uses; showing how the system is easily accessible to the residents; and confirming the requirements for utility and non-utility meters.
							Mechanical Engineer	
							Hydraulic Engineer	
	6.1	Monitoring Systems	1	1	1 point is available where a monitoring strategy is addressed through a monitoring system, capable of capturing and processing the data produced by the installed energy and water meters, and accurately and clearly presenting data consumption trends.	Design Construction	Mechanical Engineer	The monitoring strategy must be developed in accordance with a recognised Standard, such as CIBSE TM39 Building Energy Metering. Although this Standard has been created to be used for developing energy metering and monitoring strategies, for the purpose of this credit, the same principles described in the Standard shall be used for developing water metering and monitoring strategies.
							Electrical Engineer	
							Hydraulic Engineer	

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Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Responsible Construction Practices	7.0	Environmental Management Plan	N/A	Complies	The conditional requirement for a project specific Environmental Management Plan (EMP) for construction to be developed and implemented.	Construction	Head Contractor	EMP must clearly demonstrate compliance with the requirements of the NSW Environmental Management System Guidelines. Important to establish this before works commence on site.
	7.1	Environmental Management System	1	1	Builder to have ISO 14 001 Environmental Management System	Construction	Head Contractor	Builder must have a valid ISO 14001 Certificate before works commence on site.
	7.2	High Quality Site Support	1	1	1 point is available where high quality staff support practices are in place that: - Promote positive mental and physical health outcomes of site activities and culture of site workers, through programs and solutions on site; and - Enhance site workers' knowledge on sustainable practices through on-site, off-site, or online education programs.	Construction	Head Contractor	Detailing the programs and policies implemented to promote health and wellbeing on site.
Operational waste management	8B	Prescriptive Pathway: Specialist Plan	1	1	1 point is available where a waste professional prepares and implements an Operational Waste Management Plan (OWMP) for the project in accordance with best practice approaches and this is reflected in the building's design.	Design	Waste Consultant Architect	As a minimum, the OWMP must: - Identify the site boundary, the waste streams relevant to the project, and the individual roles responsible for delivering and reviewing the OWMP; - Set diversion from landfill targets and/or targets for reducing total materials generation (general waste materials and recyclable/reusable materials), as well as monitoring and measurement procedures for waste and recycling streams by weight;
			14	14				
Indoor Environment Quality								
Indoor Air Quality	9.1	Ventilation System Attributes	1	1	The ventilation system to be designed to mitigate the entry of outdoor pollutants, for ease of maintenance and cleaning; and will be cleaned prior to occupation and use. Design to comply with ASHRAE 62.1-2003 in regards to minimum separation distances between pollution sources and outdoor air intakes.	Design Construction	Mechanical Engineer Head Contractor	Mechanical Engineer to specify equipment that can be maintaine don both sides of all moisture and debris-catching components within the air distribution system. Moisture-producing and debris-catching components include items such as cooling coils, heating coils, humidifiers and filters in the air handling system. Head Contractor must include requirement in the EMP that all ductwork is cleaned prior to occupation.
	9.2	Provision of Outdoor Air	2	1	For naturally ventilated spaces, two (2) points are awarded where the requirements of AS 1668.4-2012 are met. The nominated area must be provided with the quantity of outdoor air appropriate for the activities and conditions in the space.	Design Construction	Architect	This credit is achieved by providing the apartments with natural ventilation as classified by AS1668.4:2012. 5% operable window to total floor area in bedrooms and living rooms.
	9.3	Exhaust or Elimination of Pollutants	1	1	Nominated pollutants, such as those arising from printing equipment, cooking processes and equipment, and vehicle exhaust, are limited by either removing the source of pollutants from the nominated area, or exhausting the pollutants directly to the outside while limiting their entry into other areas of the project.	Design Construction	Mechanical Engineer	Kitchen exhausts must either be non-recirculating or recicurlating and filtered.

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Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Acoustic Comfort	10.1	Internal Noise Levels	1	1	Internal noise levels to be no more than 5dB(A) above the "satisfactory" sound levels provided in Table 1 of AS/NZS 2107:2000	Design Construction	Acoustic Consultant	Requires additional acoustic treatment to façade and internal walls.
	10.3	Acoustic Separation	1	1	Design to include acoustic separation to minimize crosstalk between rooms and between rooms and open areas	Design Construction	Acoustic Consultant	Requires additional acoustic treatment to façade and internal walls.
Lighting Comfort	11.0	Minimum Lighting Comfort	N/A	Complies	All lights on the project to be flicker free and accurately address the perception of colour in the space	Design Construction	Electrical Engineer	Lighting must be flicker free lighting and Colour Rendering Index (CRI) of 80
	11.1	General Illuminance and Glare Reduction	1	1	1 point is available where, in the nominated area: - Lighting levels and quality comply with best practice guidelines; and - Glare is eliminated.	Design Construction	Electrical Engineer	General Illuminance For residential spaces, the point is awarded where in living spaces, kitchen, bathrooms and bedrooms: - The lighting design includes or permits general fixed lighting that provides good maintained illuminance values for the entire room; and - The installed fittings all have a rated colour variation not exceeding 3 MacAdam Ellipses (decorative fittings being exempt). Glare Reduction - 2 compliance options Bare light sources must be fitted with baffles, louvers, translucent diffusers, ceiling design, or other means that obscures the direct light source from all viewing angles of occupants, including occupants looking directly upwards. For this option, the lighting system must comply with the Luminaire selection system as detailed in Clause 8.3.4 of AS/NZS 1680.1-2006.
	11.2	Surface Illuminance	1	1	Nominated areas to have a combination of lighting and surfaces to improve uniformity of lighting to give visual interest	Design Construction	Electrical Engineer	Credit requires wall and ceiling washing light fixtures to illuminate surfaces. Typically adds cost and complexity to design.
	11.3	Localised Lighting Control	1	1	Occupants to have the ability to control the lighting in their immediate environment	Design Construction	Electrical Engineer	In residential spaces, this requirement can be achieved through the provision of sufficient power outlets for future task lights / lamps around the predicted furniture layouts used in the space. In addition, appropriate task lighting must be provided for kitchens, bathrooms, and service areas.

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Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Visual Comfort	12.0	Glare Reduction	N/A	Complies	Compliance requirement for glare reduction to ALL facades through a combination of blinds, screens, fixed devices, or other means.	Design Construction	Architect	Compliance to be demonstrated through 12.0B Blinds or Screens pathway: All blinds or screens in the nominated area must meet the following criteria: - The blinds must provide glare reduction to at least 95% of the area of viewing façade and skylights; - Blinds must be controlled by all affected occupants within each individual space; and - Blinds must have a visual light transmittance (VLT) of ≤ 10%. Manual or automated internal, in-glazing, or external blinds can be used. Where automated blinds are used, they must be controlled either by a management system or by a manually-activated switch. If blinds and screens are automatically controlled, they must also be equipped with a manual override function accessible by occupants in each of the adjacent spaces served.
	12.1	Daylight	2	1	Indoor areas to have a Daylight Factor (DF) of at least 2.0% at finished floor level (FFL) under either a CIE overcast sky, or a CIE uniform sky: 40% => 1 point. 60% => 2 point	Design	ADP ESD	Daylight modelling required to demonstrate what percentage of living rooms are achieving 1.5% daylight factor. Current modelling results indicate 69% for both towers combined may be achievable
	12.2	Views	1	1	60% of nominated area to have clear line of sight to external view	Design	ADP ESD	Views assessment required
Indoor Pollutants	13.1	Paints, Adhesives, Sealants and Carpets	1	1	1 point is targeted for reduced VOCs (95% of all paints, carpets, adhesives and sealants meet the Total Volatile Organic Compound (TVOC) Content Limits outlined by Green Star	Design Tender Construction	Architect Building Services Engineers	Table of VOC limits included in Green Star Guidelines.
	13.2	Engineered Wood Products	1	1	All engineered wood products (particleboard, plywood, veneer, MDF and decorative overlaid wood panels) to have low formaldehyde emissions or contain no formaldehyde	Design Tender Construction	Architect	All proposed engineered wood products to be anticipated and confirmed for low formaldehyde specification as per ESD Specification
Thermal Comfort	14.1	Thermal Comfort	1	1	Can be achieved with a NatHERS 7-star rating. Alternatively thermal comfort modelling is required	Design Construction	ADP ESD	Homes Vic 7-star average for each bld, 6-star minimum for each apts. DGU to all apts regardless of rating
			16	13				
Energy								
	15B.0	Conditional Requirement	N/A	Complies	For each pathway a Conditional Requirement must be met in order for the project to be eligible for Green Star – Design & As Built rating. Additional requirements must be met to receive a 5 star or 6 star rating. Compliance with the Conditional Requirement is to be demonstrated as outlined within each of the five pathways described in this credit.	Design	ADP ESD	A 6.5-star average NatHERS Rating required to comply and a no apartment less than 5.5-stars.
	15B.1	Thermal and Energy Performance	6	3	Up to 6 points are awarded when NatHERS is used to predict the projects thermal and energy performance. Points are awarded based on the energy intensity reduction when compared to a 6.5-star NatHERS rating.	Design Construction	ADP ESD	NatHERS modelling required to demonstrate average rating achieved by the development. Fabric requirements for 7.0-star rating to be investigated.

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Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Greenhouse Gas Emissions: NatHERS Pathway	15B.2.1	Lighting	1	1	1 point is awarded where the following occurs: - The lighting power density is reduced by at least 10% below the maximum lighting power density in Table J6.2a. Applies to all areas of the building. - Independent Light switching must be provided in each room of the SOU. In open plan, each functional area must be separately switched. - All common areas accessible by residents must be provided with automated lighting control system(s), such as occupant detection and daylight adjustment.	Design Construction	Electrical Engineer	This is generally standard practice. Carefuly attention must be paid to the 10% reduction item as NCC2019 has made the baseline requirements of lighting power densities far more efficient.
	15B.2.3	Domestic Hot Water	2	0.5	Up to 2 points are awarded where the domestic hot water service complies with the following requirements: - A solar thermal heating system is provided which contributes at least 30% of the annual thermal energy requirement for water heating (1.5 points available); and - The primary non-renewable heat source for domestic hot water is either natural gas, an electric heat pump with a minimum COP of 3.5, or heat recovered from another process (0.5 points available).	Design Construction	Hydraulic Engineer	Un achievable due to lack of roof space to provide a large enough solar thermal heating system or Electrical heat pump DHW plant.
	15B.2.5	Fuel Switching	1	1	1 point is awarded where no fossil fuels are burned on site to generate electricity, heating, or cooling and either: - at least 15% of energy required by the building generated by on site renewable solutions; or - three points have been achieved from 15B.1	Design Construction	Project Developer	Requires the development to remove gas from the building and target a 7.5-star NatHERS average rating, OR to achieve the 15% of building energy sourced from renewables credit. Current preliminary NatHERS indicates 7.8 star average for Tower A, 8.2 stars for Tower B (subject to change).
	15B.2.7	Vertical Transport	1	1	1 point is awarded where the energy associated with lift machinery or other vertical transportation complies with the following conditions: - The minimum lift energy efficiency is class A or B in accordance with ISO 25745-2; and - The lift idle and standby energy performance level is 1 in accordance with ISO 25745-2.	Design Construction	Vertical Transport Engineer	Greater energy efficiency requirements of standard practive lifts
			22	6.5				
Transport								
Prescriptive Pathway	17B.1	Prescriptive Pathway - Access by Public Transport	3	2	Determined the by the Green Star Public Transport Calculator	Design	ADP ESD	TBC based on public transport calculator from GBCA
	17B.4	Prescriptive Pathway - Active Transport Facilities	1	1	No. of bicycle racks to be at least equal to Greenstar requirement.	Design	Architect	
	17B.5	Prescriptive Pathway - Walkable Neighbourhoods	1	1	Walk score = 98 (greater than minimum Green Star requirement of 80)	Design	ADP ESD	
			10	4				

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Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Water								
Prescriptive Pathway	18B	Fixtures and Fittings	12	5	Green Star requirements: 5 Star taps / urinals, 4 Star toilet, 3 Star showers, 5 Star dish washers	Design Construction	Architect	All water credits and points to be confirmed when completing potable water calculator Water efficient fittings, fixtures and appliances: - Showers: 4 Stars (>6L/min <7.5 L/min or lower) - Toilets: 4 Stars (4.5/3 L/flush or lower) - Taps: 5 Stars (6 L/min or lower) - Urinals: 6 Stars (if applicable) - Dishwashers: 4.5 Stars - Washing Machines: 4.5 Stars
		Rainwater Reuse			Collect and reuse rainwater	Design	Hydraulic Engineer	RWT size need to be confirmed.
		Heat Rejection			No water based heat rejection.	Design	Mechanical Engineer	HVAC System design TBC
		Landscape Irrigation			One (1) point is awarded where either drip irrigation with moisture sensor override is installed, or where no potable water is used for irrigation. The landscaping and associated systems must be designed to reduce the consumption of potable water required for irrigation through the installation of subsoil drip irrigation and moisture sensor controls.	Design	Hydraulic Engineer Landscape Consultant	Landscape irrigation should specify a subsurface irrigation system with moisture sensor override
		Fire System Test Water			Fire system to include temporary storage for 80% of the routine fire protection system test water and maintenance drain-downs for reuse on-site. If sprinkler systems are installed, each floor must be fitted with isolation valves or shut-off points for floor-by-floor	Design	Fire Protection Services Engineer	Fire tanks required to capture system test water. Current design includes Fire Tanks.
			12	5				

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Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Materials								
Life Cycle Impacts - Concrete	19B.1.2	Water Reduction	0.5	0.5	0.5 point is available where the mix water for all concrete used in the project contains at least 50% captured or reclaimed water (measured across all concrete mixes in the project).	Design Construction	Structural Engineer	Generally achievable without significant additional cost.
	19B.1.3	Aggregates Reduction	0.5	0.5	0.5 point is available where either: At least 40% of coarse aggregate in the concrete is crushed slag aggregate or another alternative materials (measured by mass across all concrete mixes in the project), provided that use of such materials does not increase the use of Portland cement by over five kilograms per cubic meter of concrete; OR At least 25% of fine aggregate (sand) inputs in the concrete are manufactured sand or other alternative materials (measured by mass across all concrete mixes in the project), provided that use of such materials does not increase the use of Portland cement by over five kilograms per cubic meter of concrete.	Design Construction	Structural Engineer	Generally achievable without significant additional cost.
Life Cycle Impacts - Steel	19B.2A	Reduced Mass of Steel Framing (Steel Framed Building)	1	1	Up to 1 point is available when there is a reduction in the mass of steel framing used when compared to standard practice.	Design Construction	Structural Engineer	Structural Engineer may need additional scope of works to perform these calculations. Either this pathway or concrete frame pathway, not both.
Responsible Building Materials	20.1	Structural and Reinforcing Steel	1	1	1 point is available where 95% of the building's steel (by mass) is sourced from a Responsible Steel Maker; and - For steel framed buildings, at least 60% of the fabricated structural steelwork is supplied by a steel fabricator/steel contractor accredited to the Environmental Sustainability Charter of the Australian Steel Institute (ASI); or - For concrete framed buildings, at least 60% (by mass) of all reinforcing bar and mesh is produced using energy-reducing processed in its manufacture (measured by average mass by steel maker annually).	Design Construction	Structural Engineer	Must check that steel suppliers can achieve this credit as part of the tendering process.
	20.2	Timber Products	1	1	One (1) point is awarded where project teams can demonstrate that, at least 95% (by cost) of all timber used in the building and construction works is either: A. Certified by a forest certification scheme, in accordance with 20.2A; OR B. From a reused source, in accordance with 20.2B.	Design Construction	Architect	FSC, PEFC or Reused Timber must be specified in the Architectural Specification and tracked throughout the project.
	20.3	Permanent Formwork, Pipes, Flooring, Blinds and Cables	1	1	90% (by cost) of all cables, pipes, flooring and blinds in a project either: - Do not contain PVC and have an Environmental Product Declaration (EPD); or - Meet Best Practice Guidelines for PVC.	Design Construction	Architect Mechanical Engineer Electrical Engineer Hydraulic Engineer Fire Protection Services Engineer Other Relevant Services	No PVC or GBCA Best Practice PVC to be specified. Vinyl Council of Australia has register of best practice products

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Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Sustainable Products	21.1	Product Transparency and Sustainability	3	1	3% of eligible products to meet the requirements of reused products, recycled content, Environmental Product Declarations, Third Party Certification, or Stewardship Programs.	Design Construction	Head Contractor	All products with any kind of sustainability credentials to be saved and collated for final calculation.
Demolition and construction waste	22B	Percentage Benchmark	1	1	For this option, one (1) point is awarded where the project team can demonstrate that at least 90% of the waste generated during construction and demolition has been diverted from landfill. Waste shall be reported in kilograms.	Construction	Head Contractor/Waste Contractor	Waste Contractor should ideally have Green Star experience or confirm they can adhere to Waste Auditing requirements
			14	7				
Land Use & Ecology								
Ecological Value	23.0	Endangered, Threatened or Vulnerable Species	N/A	Complies	No critically endangered, endangered, or vulnerable species, or ecological communities were present on the site at time of purchase	N/A	Project Developer	There is significant tree planting on the site, confirmation that these are not endangered or vulnerable is required.
	23.1	Ecological Value	3	1	Green Star Ecology Calculator will yield points for the project - based on a comparison of pre & post development landscaping details.	Design	Landscape Consultant	Score dependent on area of landscaping and % of native species specified.
Sustainable Sites	24.0	Conditional Requirement	N/A	Complies	The project site does not include old growth forest or wetland of 'High National Importance'	N/A	N/A	TBC. There is significant tree planting on the site, confirmation that these are not endangered or vulnerable is required.
	24.1	Reuse of Land	1	1	75% of the site was previously developed land at the date of site purchase or, for previously owned land, at the projects Green Star registration date.	N/A	Project Developer	Typically demonstrated with an aerial photograph at the time of purchase.
	24.2	Contamination and Hazardous Materials	1	1	The site, or an existing building, was previously contaminated and the site has been remediated in accordance with a best practice remediation strategy	Pre-construction	Environmental Auditor	Depending on the outcomes of a site assessment and/ or hazardous materials survey, the project may be eligible to achieve a point for remediating the site in accordance with a best practice remediation strategy.
Heat Island Effect	25.0	Heat Island Effect	1	1	At least 75% of the total project site area to comprises building or landscaping elements that reduce the impact of heat island effect. High SRI roofing materials required	Design	Architect	Architectural Specifications must include high SRI roofing and paving finishes which means light coloured finishes.
			6	4				
Emissions								
Stormwater	26.1	Stormwater Peak Discharge	1	1	Post-development peak event discharge from the site does not exceed the pre-development peak event discharge.	Design	Civil Engineer	Credit would be achieveable typically with a rainwater tank or detention tank or both.
	26.2	Stormwater Pollution Targets	1	1	Where the first point has been achieved and all stormwater discharged from site meets specified Pollution Reduction Targets.	Design Construction	ADP ESD Hydraulic Engineer	Stormwater modelling with MUSIC (modelling software) must be performed to demonstrate compliance credit. It is likely this project will need a stormwater treatment system to treat rainwater tank overflow and any cathcment areas in the site that arent collected by the rainwater tank.

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Light Pollution	27.0	Light Pollution to Neighbouring Bodies	N/A	Complies	The minimum requirement is met where the project complies with AS 4282:1997 Control of the obtrusive effects of outdoor lighting. The following values from Table 2.1 of AS 4282:1997 must be applied: For Class 2 buildings (residential), the values in Columns 5A and B;	Design	Electrical Engineer Lighting Designer	Generally achievable without significant additional cost.
	27.1	Light Pollution to Night Sky	1	1	One (1) point is awarded where it can be demonstrated that one of the following specified reductions in light pollution has been achieved by the project. A. Control of upward light output ratio (ULOR), in accordance with 27.1A; or B. Control of direct illuminance, in accordance with 27.1B. This credit covers all external lighting of a project. In addition to other types of external lighting, for the purposes of this credit, luminaries inside glazed atria and those on the uppermost (uncovered) deck of an outdoor car park are considered to be external.	Design	Electrical Engineer Lighting Designer	Generally achievable without significant additional cost. Submission Guidelines should be consulted for exact credit requirements. Dave (ADP) confirmed this is achievable.
Microbial Control	28.0	Legionella Impacts from Cooling Systems	1	1	This credit is achieved via one of the following: 1) Building is naturally ventilated and does not require a heat rejection system 2) Waterless heat rejection: no cooling tower, evaporative coolers 3) Any water-based heat rejection system includes measures for Legionella control and a Legionella Risk Management Plan has been provided for the system	Design Construction	Head Contractor	The legionella management plan is a legislative requirement. Waterless heat rejection proposed
			5	4				
Innovation								
30C Improving on Green Star Benchmarks	30C.1	Ultra-low VOC paints	1	1	Over 50% of paint (by volume) to have a TVOC content of <5g/L - confirmed within specification	Design	Architect	Generally achievable without significant additional cost by exceeding the specified limits in the Indoor Pollutants Credit.
	30C.2	Stormwater Pollution Targets	2	1	1 pt for stormwater discharge quality exceeding Column B pollution reduction targets. Additional 1 pt for stormwater discharge quality exceeding Column C pollution reduction targets.	Design	ADP ESD Hydraulic Engineer	TBC. Additional treatment system might be required to achieve this point.

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
30D Innovation Challenge	30D.1	Local Procurement	1	1	80% of all services and skilled labour will come from within 50km of the project site. This will be tracked through the induction process with site personnel required to provide their postcode of residents.	Construction	Head Contractor	Demonstrating 80% of workers living within the 50km radius of the site based on research developed from similar projects in a similar location. ADP recommend targeting this point - low to cost implication. Head Contractor to consider.
	30.D.3	Financial Transparency	1	1	To claim this Innovation Challenge, project teams must - Agree to complete the 'Financial Transparency Disclosure Template' that comprehensively itemises design,construction, documentation and project costs. In the case of building operations, the information providedwill relate to the cost of collecting documentation, building operations and any building upgrades. - Provide Disclosure Template in Excel format at the time of the project's Green Star submission. - Agree to participate in the yearly GBCA report, using anonymized data provided by project teams.	Design Construction	Project Developer Head Contractor	This credit is relatively simple to pursue but will add time in administration to track costs and justify how the Green Star Certification process has impacted that. Costs should be tracked by Project Developer and the Head Contractor Client to confirm
	30.D.1	Affordable housing	1	1	To claim this Innovation Challenge, your project must: • Demonstrate that the project contains a mix and diversity of lot sizes at an affordable purchase price for low to moderate income households. This may include the supply of social housing within the development, or through the provision of worker housing; • Establish partnerships between the project's owner and organisations dedicated to housing affordability to ensure the stock is allocated as intended; and • Provide an incentive program through rebates, free sustainability items, or reductions in the recommended retail price (RRP) for appliances to these occupants	Design	Project Developer	
	30.D.14	Universal Design	1	1	To claim this Innovation Challenge, project teams must • Review the Design for Dignity Guidelines, or similar guidelines for inclusive design and dignified access. • Perform a 'needs analysis' identifying the project's accessibility issues. See the Guidance section for additional detail. • Develop an 'accessibility plan' (or similar) that provides strategies to address the needs determined and identifies actions for how the project will incorporate inclusive design. • Implement the 'accessibility plan' and demonstrate that accessibility initiatives have been carried out for the project. While no specific benchmarks have been provided with regards to size or space definitions, it must be demonstrated that best practice initiatives tailored to the project have been implemented, in accordance with the aim of this Innovation Challenge	Marketing	Architect	TBC by architect Yes - confirm with architecture and access consultant

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Global Sustainability	30E.1	Green Cleaning	1	0	Cleaning services are delivered in accordance with a green cleaning policy or scope of works and are applicable to all common areas (i.e. areas controlled solely by the building owner).	Operation	Project Developer	Green Cleaning Policy document, standard Green Cleaning Scope of Works or other agreed process document(s) clearly outlining the scope of works, cleaning specifications, dates and any other information that substantiates the claim. TBC - Homes VIC opportunities to achieve
			10	6				

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

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Appendix B
NatHERS Report

B.1 North Tower – Preliminary energy ratings

Assumptions

- Insulation
  - External walls = R2.5
  - Internal walls = R1.5
  - Floors (between conditioned and unconditioned space) = R2.0
  - Ceilings (upper level) = R4.0
- Glazing specifications
  - U-value = 1.6
  - SHGC = 0.29

Table 6 North Tower – preliminary energy rating results

Apartment	Star	Heating	Cooling
GL Type 3A NW	7.2	59.4	16.8
L1 Type 1B	8.1	27.7	21.9
L1 Type 2D SE	8.7	16.5	17.8
L5 Type 2D SE	7.8	40.3	20
L7 Type 1B W	7.6	47.5	16.6
L7 Type 3A NW	7.3	56.5	18.7
Average	7.8	41.3	18.6
Max	8.7	59.4	21.9
Min	7.2	16.5	16.6

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B.2 South Tower – Preliminary energy ratings

Assumptions

- Insulation
  - External walls = R2.5
  - Internal walls = R1.5
  - Floors (between conditioned and unconditioned space) = R2.0
  - Ceilings (upper level) = R4.0
- Glazing specifications
  - U-value = 1.65
  - SHGC = 0.42

Table 7 South Tower – preliminary energy rating results

Apartment	Star	Heating	Cooling
G Type 2B SW	7.9	49.2	8.1
G Type 3D NW	8.7	24.4	9.6
G Type 3C E	8.3	27.7	18.3
L3 Type 2B SW	8.4	32.2	10.0
L5 Type 3C E	8.2	30.8	16.4
L7 Type 3D NW	8.1	32.2	18.5
L7 Type 2B SW	7.6	50.4	15.3
Average	8.2	35.3	13.7
Max	8.7	50.4	18.5
Min	7.6	24.4	8.1

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

ADP
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Appendix C
Daylight Assessment

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C.1 Introduction

A preliminary daylight assessment has been conducted using the Rhino modelling software in conjunction with Climate Studio. This has been used to assess the daylight amenity in the apartments and measure them against the Green Star criteria:

High Levels of daylight are deemed to have daylight factors above:

- 1.5% for living and dining rooms in nominated residential primary spaces.
  - 1 point is awarded where 40% of the floor area achieves a daylight factor above 1.5%.
  - 2 points are awarded where 60% of the floor area achieves a daylight factor above 1.5%.

Note residential kitchens are not considered part of the nominated primary space. Transient spaces that are part of an open plan layout should be included.

C.2 Model Inputs

The following inputs and assumptions were used for the daylight modelling.

Table 8 Parameter inputs and assumptions

Parameter	Input
Glazing visible light transmittance (VLT)	North tower = 64% South tower = 70%
Internal wall reflectance	80% - white plaster
Internal floor reflectance	34% - beige floor
Internal ceiling reflectance	86% - white plaster
Adjacent building external wall	33% - concrete wall
Daylight Modelling software	Climate Studio (Solemma)
Geometry software	Rhino3D – version 7
Sky conditions	CIE overcast sky – 10,000 lux
Daylight method	Daylight factor

Note that the daylight results may be reviewed and amended per any design amendments.

Figure 7 South-east perspective view of Rhino model used for daylight analysis

C.3 Results

The table of results below presents the numerical daylight results for a sample of 1, 2 and 3 bed dwellings across the north and south towers. With the above assumptions, the results indicate that six of the preliminary assessed dwellings were able to achieve a daylight factor of 1.5% for greater than 40% of the primary nominated space.

The table of results below presents the percentage of compliant daylit area across the tested levels. The north tower residential living spaces achieves a weighted average of 35.7% floor area above 1.5% daylight factor. The south tower living areas achieves a weighted average of 39.1% floor area above 1.5% daylight factor. With informed design changes, it is expected that the development will be able to achieve at least 40% floor area with a daylight factor of 1.5% or more across the development.

Note that these results are based on a previous set of working drawings dated 2/7/2021. With a number of optimisations to dwelling layouts, and floor plate design and optimisation expected to result in an improved daylight outcome.

Attachment 4 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation SMP

Table 9 Daylight results summary

Building	Apartment	Nominated Area (m2)	Compliant Daylight Area (m2)	Compliant Daylight Area (%)
North Tower	1F Type 1B – West	22.5	14.4	64.0%
	1F Type 2A – East	39.6	13.3	33.6%
	1F Type 2D - East	28.5	7.4	26.0%
	5F Type 1B – West	22.5	9.1	40.4%
	5F Type 2B - East	28.9	6.4	22.1%
	5F Type 2C – East	29.2	6.9	23.6%
	7F Type 3A – North / West	29.9	14.3	47.8%
South Tower	1F Type 1D - North	22.4	12.7	56.7%
	1F Type 2C - South	29.3	12.8	43.7%
	5F Type 1B - North	22.6	10	44.2%
	5F Type 2B - South	29.1	7.5	25.8%
	7F Type 3A – North / West	29.8	9.1	30.5%

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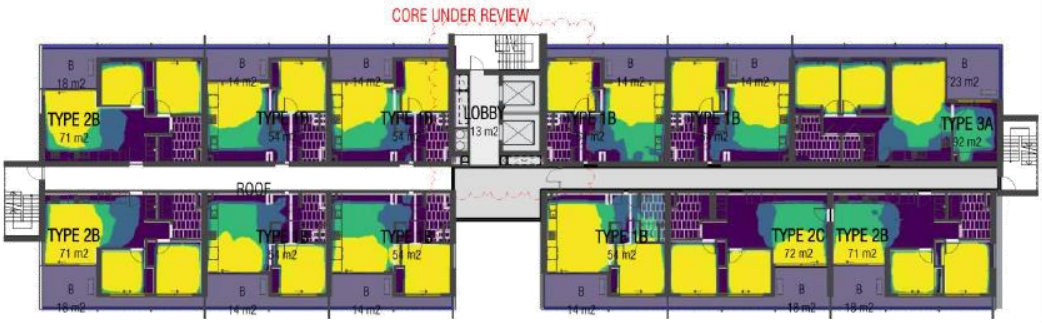
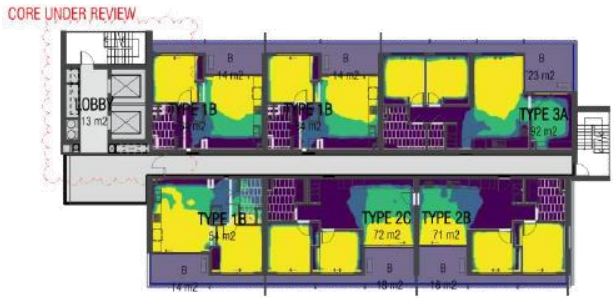
C.4 Daylight Contour Plots

C.4.1 Level 1 – North Tower

C.4.2 Level 5 – North Tower



C.4.3 Level 7 – North Tower



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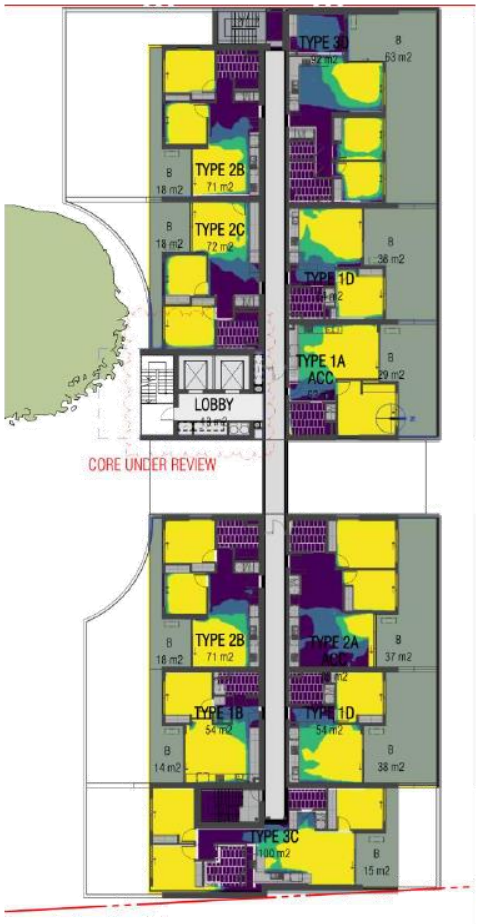
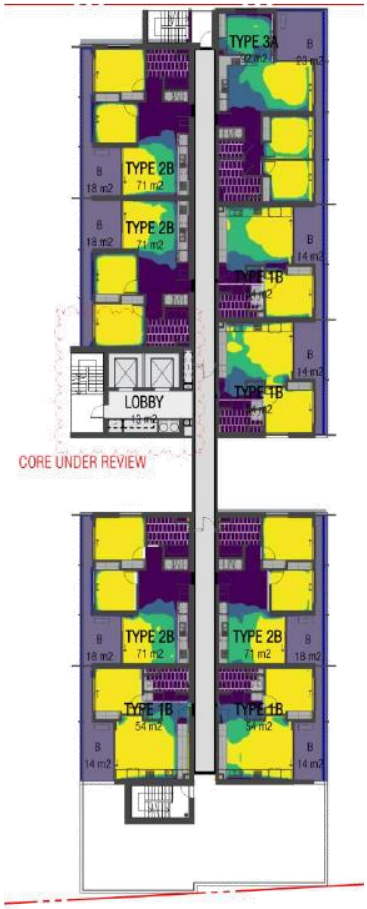
C.4.4 Level 1 – South Tower



C.4.5 Level 5 – South Tower



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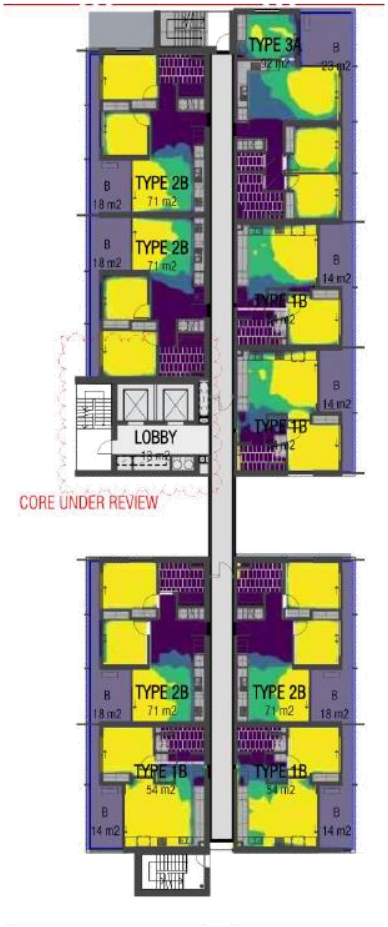
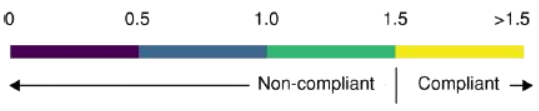
C.4.6 Level 7 – South Tower



Legend



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Attachment 5 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Wind Impact Assessment

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Fieldwork Projects

Homes Victoria Housing Development - Wellington Street, Collingwood

Wind Impact Assessment

30N-20-0232-TNT-17256-2

15 October 2021

Attachment 5 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Wind Impact Assessment

Job Title:	Homes Victoria Housing Development - Wellington Street, Collingwood
Report Title:	Wind Impact Assessment
Document Reference:	30N-20-0232-TNT-17256-2

Prepared For:	**Prepared By:**
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Issued By:	Eric Yuen 15 Oct 2021	Wind Team Leader

Revision History:

Rev. #	*Comments / Details of change(s) made*	*Date*	*Revised by:*
Rev. 00	Original issue	12 Jul 21	
Rev. 01	Minor Amendments	15 Oct 21	E.Yuen

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Attachment 5 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Wind Impact Assessment

Executive Summary

Fieldwork Projects commissioned Vipac Engineers and Scientists Ltd to prepare a statement of wind effects for the ground level areas adjacent to the proposed development at **Homes Victoria Housing Development - Wellington Street, Collingwood.** This appraisal is based on Vipac's experience as a wind-engineering consultancy.

Drawings of the proposed development were provided by **Fieldwork** in **October 2021**.

The findings of this study can be summarized as follows:

With proposed design:

- Wind conditions in most of the ground level footpath areas and access ways would be expected to be within the **walking** comfort criterion. Some areas may have uncomfortable wind conditions and need wind control measures.
- The bridges connected west and east of south building is expected to experience wind speeds within the **walking** comfort criterion with the porous screening.
- The main entrances would be expected to be within the **standing** comfort criterion;
- The balconies would be expected to be within the recommended **standing** comfort criterion;
- All outdoor amenity areas are expected to be within the recommended **walking** comfort criterion. Some recommendations have been made if the more stringent **standing** comfort criterion is desired.

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.

Vipac recommends a wind tunnel test be conducted to quantity the wind conditions and determine wind control measures wherever necessary.

Attachment 5 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Wind Impact Assessment

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Attachment 5 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Wind Impact Assessment

1 Introduction

Vipac Engineers and Scientists has been commissioned by **Fieldwork Projects** to carry out an appraisal of the pedestrian wind effects at the ground level of the proposed development at **Homes Victoria Housing Development** - Wellington **Street,** Collingwood**.**

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 consists two multi-storey residential buildings (N and S) with the max roof height 10 storeys above street level. The site is bounded by Perry Street to the north, Emerald Street and existing developments to the east, Wellington Street to the west and Vere Street to the south. A satellite image of the proposed development site and the eastern elevation of the building 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 **Fieldwork** in **September 2021.** A list of drawings supplied is provided in Appendix C of this report.

Figure 1: Aerial view of the proposed development site

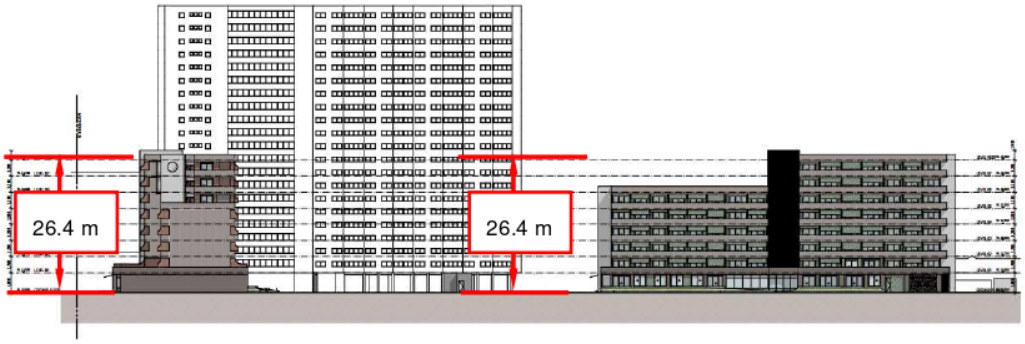


Figure 2: East Elevation the proposed development.

Attachment 5 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Wind Impact Assessment

2 Analysis Approach

In assessing whether a proposed development is likely to generate adverse wind conditions in ground level footpath areas, Vipac has considered the following 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; and
- 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 gust and mean wind speeds with a probability of 0.1% and 20% expected at that location. The location may be deemed generally acceptable for its intended use while gust and mean wind speeds are 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 located on a relatively flat terrain. The site is surrounded within an approximately 1.2 km radius predominately by low to mid-rise developments; with Yarra Bend to the east and Melbourne CBD to the southwest. A satellite image showing these site surroundings is shown in Figure 3.

Considering the immediate surroundings and terrain, for the purposes of this study, the site of the proposed development is assumed to be within Terrain Category 3 for all wind directions (Figure 3).

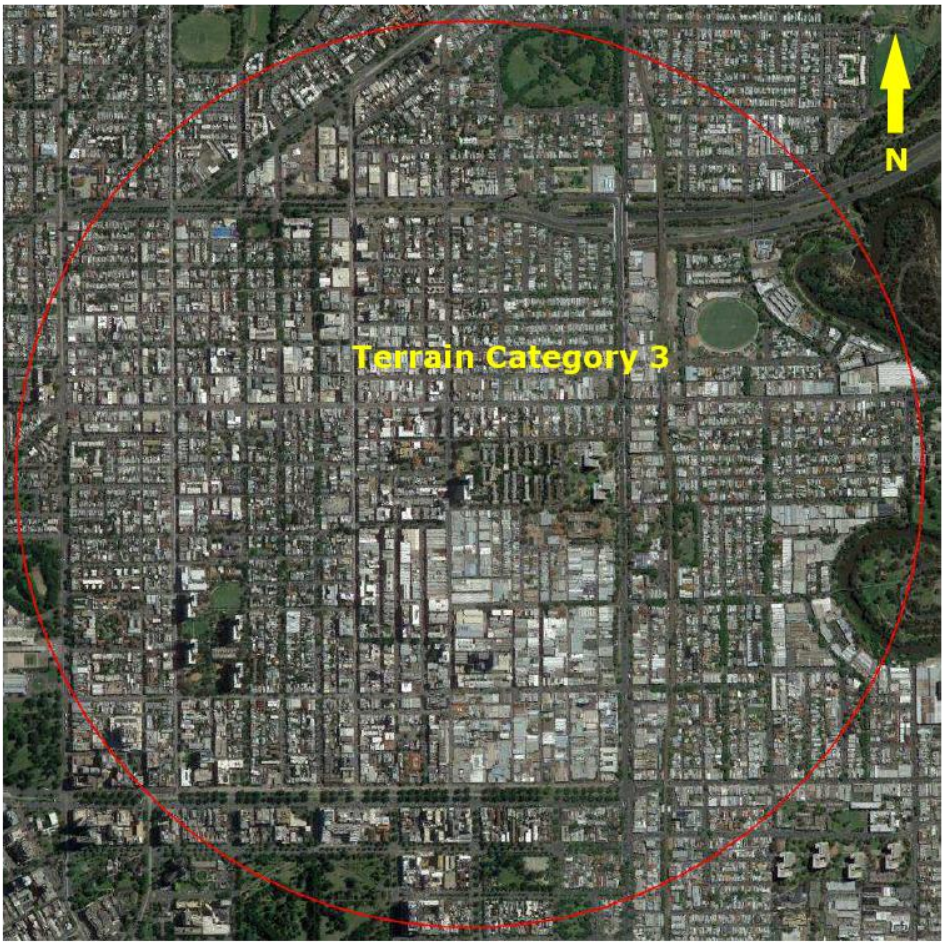


Figure 3: Assumed terrain categories for wind speed estimation.

2.2 Regional Wind Climate

The mean and gust wind speeds have been recorded in the Melbourne area for over 30 years. This data has been analysed and the directional probability distribution of wind speeds has been determined. The directional distribution of hourly mean wind speed at the gradient height, with a probability of 0.1% of time and 20% of time exceeded are shown in Figure 4. The wind data at this free stream height is common to all Melbourne city sites and may be used as a reference to assess ground level wind conditions at the site.

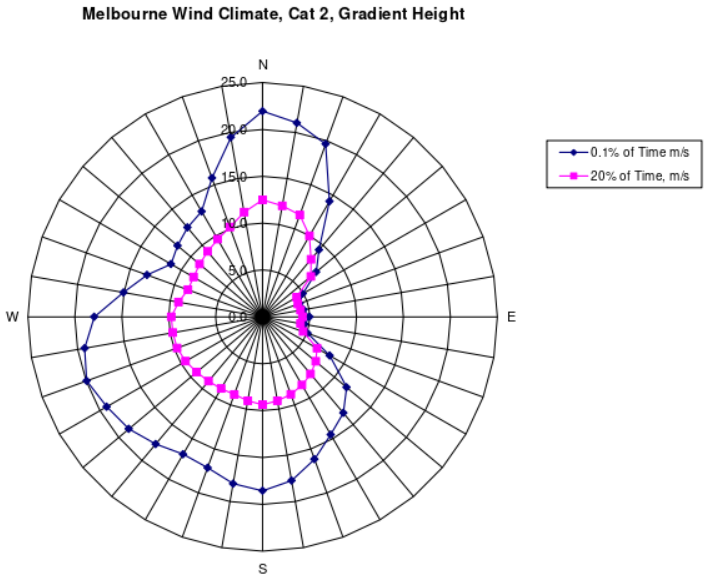


Figure 4: Directional Distribution of Mean Hourly Wind Velocities (m/s) for 0.1% and 20% exceeded at Gradient Height for Melbourne.

2.3 Building Geometry and Orientation

The proposed development consists two multi-storey mixed-use buildings. The overall plan-form dimensions are approximately 62 m x 30 m for south building and 28 m x 65 m for north building as shown in Figure 5. The main entry lobbies are located on the middle of the long axis for the two buildings. The development incorporates significant setbacks from all surrounding title boundaries for north building and setbacks from North and South boundaries for south building.

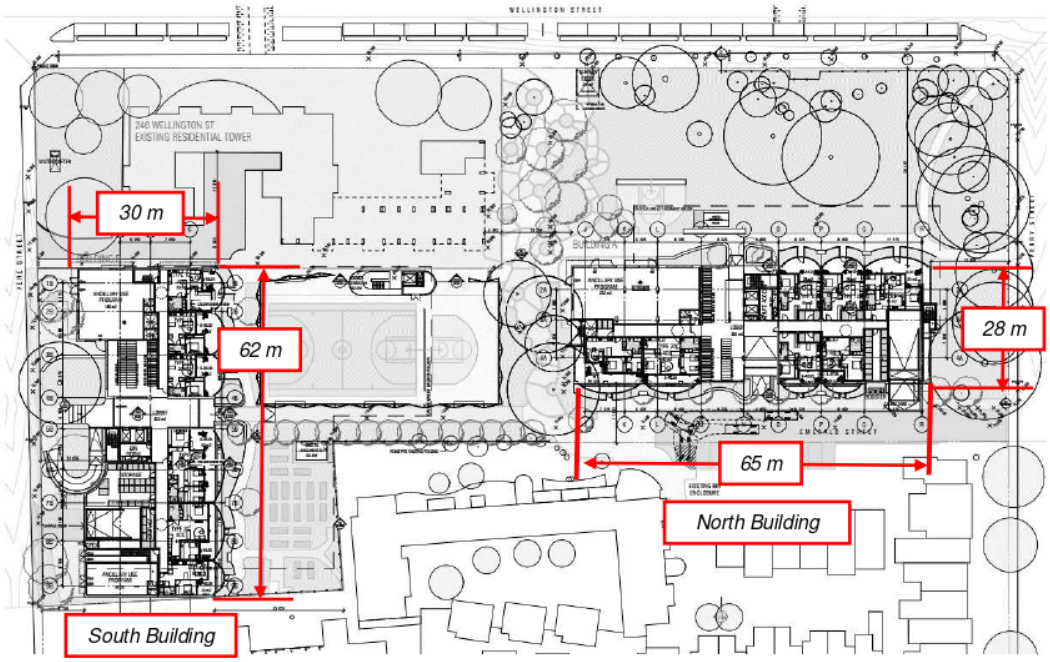


Figure 5: Ground floor plan with the overall dimensions overlaid.

2.4 Flow interactions with Adjacent Developments

The immediately adjacent developments are shown in Figure 6. At ground level, the south building site is well sheltered from the westerly winds while relatively exposed to south and east winds. The north building is exposed almost from all direction winds except the southwest sector.

Figure 6: A 3D view showing immediately adjacent surroundings and their approximate heights

2.5 Assessment Criteria

The following set of wind criteria is applied for this development (Table 1). This criterion is sufficiently fulfils the criterion set to Better Apartments Design Standard. These criteria are listed in

Table 1: Wind Comfort Criteria

Measurements	Result on Perceived Pedestrian Comfort
Maximum 3 second gust exceeds **20m/sec** ≤ 0.1% of the time from any direction.	Accepted international criterion for human safety, to avoid a healthy pedestrian losing balance
Mean wind velocity exceeds **5m/sec** ≤ 20% of the time	Acceptable for **walking** (steady steps for most pedestrians)
Mean wind velocity exceeds **4m/sec** ≤ 20% of the time	Acceptable for **standing** (window shopping, queuing)
Mean wind velocity exceeds **3m/sec** ≤ 20% of the time	Acceptable for **sitting** (outdoor cafés)

This criterion specifically calls for the safety criterion to be used to assess infrequent winds (e.g. peak event of ≤ 0.1% of the time); and the perceived pedestrian comfort to be assessed based on frequently occurring winds (e.g. winds that occurs 80% of the time).

In Table 1, the mean wind velocity is defined as the maximum of hourly mean or gust equivalent mean (Gust/1.85).

This criteria specifies that safe and comfortable wind conditions must be achieved in publicly accessible areas within a distance equal to half the longest width of the building measured from all facades or half the overall height of the building, whichever is greater, as shown in Figure 7.

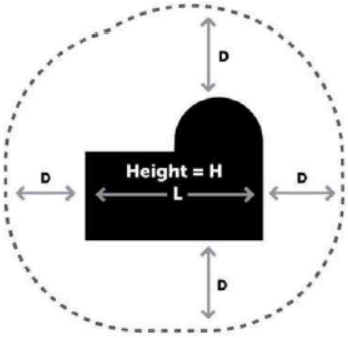


Figure 7: Assessment distance

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 2: Recommended application of criteria

Area	Specific location	Recommended Criteria
Public Footpaths, Access ways	Along Perry Street, Wellington Street, Vere Street and pathways and park around the proposed developments (Figure 8)	Walking
Building Entrances	Main Building Entrances in front of Lobbies (Figure 8)	Standing
Balcony/Terraces	Up the height of the buildings	Standing (See discussion below)

2.5.2 Terrace / Balcony Recommended Criterion Discussion

There are Private Balconies and Terraces located up the height of the development. Vipac recommends as a minimum that balcony/terrace areas meet the criterion for Standing since:

- these areas are not public spaces;
- the use of these areas is optional, and only intended to be used on fair weather days with calm winds;
- 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.

Figure 8: Ground floor with recommended wind criteria overlaid

3 Pedestrian Level Wind Effects

3.1 Discussion & Recommendations

The proposed design has a number of features that are expected to be beneficial to the pedestrian wind environment. This is inclusive but not limited to the following:

- Set back tower design from some sides of the buildings;
- Main entry lobbies at middle of the long axis and with setbacks;
- Raised garden beds along the ground level façade line with high porous privacy screens
- Porous screening around central basketball court.

The central outdoor amenity area features a porous high-level screening surrounding the outer perimeter. This is expected to break up channelling flows along the ground plane, such that these amenity areas are expected to meet the recommended walking comfort criterion. If more stringent criterion of standing is desire, we recommend that the porous screen be extended to the ground plane at key areas to provide additional shielding.

3.1.1 South Building

The footpath along Vere Street would be expected to have wind conditions within the walking criterion.

The walkway at two building corners (NW and NE) and west side between the existing 20-storey building and the proposed south building would be expected high wind conditions close to or over walking criterion. The proposed design features a 2m setback along the East, a 6m setback along the West, and a 1.2m deep canopy along the northern edge. These features may provide sufficient shielding to the pedestrian pathway below. Confirmation on the performance of these wind amelioration features can be determined by a scaled model wind tunnel test.

The bridges connected the west and east part of the building from level 1 and up wards are open to air but cladded in a micro-mesh. They are expected to have high wind conditions due to the channelling N-S direction winds. We recommended that the mesh material have a porosity of 50%

The main entrance lobby would be expected to have wind conditions within Standing criterion.

Considering the size and orientation of the South building; high northerly winds may be diverted towards the kitchen garden located on the eastern end of the site. As such, we recommended 1.8m high porous fencing around its perimeter if the more stringent standing comfort criterion is desired.

3.1.2 North Building

The footpaths along Perry Street and Wellington Street would be expected to have wind conditions within the walking criterion.

The walkway at two building corners (NW and SW) would be expected high wind conditions close to or over walking criterion (Figure 9). However, the proposed design features 2.5-2.7m tower setback from the ground level façade line. This setback is expected to be beneficial to the ground level environment. However, high winds are still expected to channel between the existing 20-storey development and the proposed. Wind control measures in the form of raised landscaping, arbour structures, or windscreens may be determined via a scaled wind tunnel test.

The main entrance lobby would be expected to have wind conditions within Standing criterion.

Considering the size and orientation of the North Building; the adjacent parklands directly north of the development are not expected to experience wind levels in excess of existing wind conditions.

3.1.3 Balconies

There are proposed balconies up to heights. The proposed private balconies are generally expected to fulfil walking criterion.

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 balcony areas of the proposed development at **Homes Victoria Housing Development** - **Wellington Street, Collingwood** 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 most of the ground level footpath areas and access ways would be expected to be within the **walking** comfort criterion. Some areas may have uncomfortable wind conditions and need wind control measures.
- The bridges connected west and east of south building is expected to experience wind speeds within the **walking** comfort criterion with the porous screening.
- The main entrances would be expected to be within the **standing** comfort criterion;
- The balconies would be expected to be within the recommended **standing** comfort criterion;
- All outdoor amenity areas are expected to be within the recommended **walking** comfort criterion. Some recommendations have been made if the more stringent **standing** comfort criterion is desired.

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.

Vipac recommends a wind tunnel test be conducted to quantity the wind conditions and determine wind control measures wherever necessary.

This Report has been Prepared

For

Fieldwork Projects

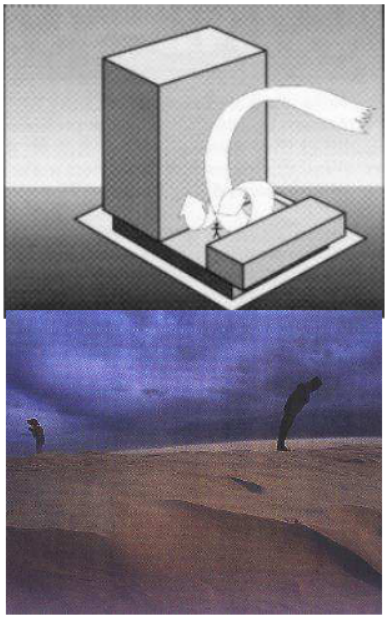
By

VIPAC ENGINEERS & SCIENTISTS PTY LTD.

Appendix A Environmental Wind Effects

References **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.

Attachment 5 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Wind Impact Assessment

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

Attachment 5 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Wind Impact Assessment

Appendix C Drawings List

Drawings Received: **July 2021**

A0000	COVER SHEET	A3022	BLDG A ELEVATION EAST
A0001	GENERAL NOTES	A3023	BLDG A ELEVATION WEST
A0100	DEVELOPMENT SUMMARY	A3024	BLDG A ELEVATIONS INTERNAL
A0101	DEVELOPMENT SUMMARY	A3041	BLDG B ELEVATION NORTH
A1000	SITE LOCALITY PLAN	A3042	BLDG B ELEVATION SOUTH
A1001	EXISTING CONDITIONS PLAN	A3043	BLDG B ELEVATION EAST & WEST
A1002	EXISTING SITE TITLES REFERENCE	A3044	BLDG B ELEVATIONS INTERNAL
A1003	EXISTING TREES - ARBORCULTURAL VALUE	A3101	SECTION A
A1004	EXISTING TREES - SPECIES DIAGRAM	A3102	SECTION B
A1005	EXISTING TREES - REMOVAL DIAGRAM	A3103	SECTION C
A1100	DEMOLITION PLAN	A3104	SECTION D
A1200	GRID SETOUT PLAN	A3105	SECTION E & F
A2001	WALL TYPES LEGEND PRIMARY SHEET 01		
A2002	WALL TYPES LEGEND PRIMARY SHEET 02		
A2011	WALL TYPES LEGEND SECONDARY SHEET 01		
A2012	WALL TYPES LEGEND SECONDARY SHEET 02		
A2021	CEILING - FLOOR TYPES SHEET 01		
A2098	FLOOR PLAN - BASEMENT 02		
A2099	FLOOR PLAN - BASEMENT 01		
A2100	FLOOR PLAN - GROUND		
A2119	BLDG A BASEMENT B1 GA PLAN		
A2120	BLDG A GROUND LEVEL GA PLAN		
A2121	BLDG A LEVEL 1 GA PLAN		
A2122	BLDG A LEVEL 2 GA PLAN		
A2123	BLDG A LEVEL 3 GA PLAN		
A2124	BLDG A LEVEL 4 GA PLAN		
A2125	BLDG A LEVEL 5 GA PLAN		
A2126	BLDG A LEVEL 6 GA PLAN		
A2127	BLDG A LEVEL 7 GA PLAN		
A2128	BLDG A ROOF LEVEL GA PLAN		
A2138-1	BLDG B BASEMENT B2 GA PLAN SHEET 01		
A2138-2	BLDG B BASEMENT B2 GA PLAN SHEET 02		
A2139-1	BLDG B BASEMENT B1 GA PLAN SHEET 01		
A2139-2	BLDG B BASEMENT B1 GA PLAN SHEET 02		
A2140	BLDG B GROUND LEVEL GA PLAN		
A2141	BLDG B LEVEL 1 GA PLAN		
A2142	BLDG B LEVEL 2 GA PLAN		
A2143	BLDG B LEVEL 3 GA PLAN		
A2144	BLDG B LEVEL 4 GA PLAN		
A2145	BLDG B LEVEL 5 GA PLAN		
A2146	BLDG B LEVEL 6 GA PLAN		
A2147	BLDG B LEVEL 7 GA PLAN		
A2148	BLDG B ROOF LEVEL GA PLAN		
A2220	BLDG A GROUND LEVEL CSP		
A2224	BLDG A LEVEL 4 CSP		
A2240	BLDG B GROUND LEVEL CSP		
A2244	BLDG B LEVEL 4 CSP		
A2320	BLDG A GROUND LEVEL PSP		
A2324	BLDG A LEVEL 4 PSP		
A2340	BLDG B GROUND LEVEL PSP		
A2344	BLDG B LEVEL 4 PSP		
A2420	BLDG A GROUND LEVEL RCP		
A2424	BLDG A LEVEL 4 RCP		
A2440	BLDG B GROUND LEVEL RCP		
A2444	BLDG B LEVEL 4 RCP		
A2521	BLDG A GLAZING TYPES SCHEDULE 01		
A2522	BLDG A GLAZING TYPES SCHEDULE 02		
A2523	BLDG A GLAZING TYPES SCHEDULE 03		
A2541	BLDG B GLAZING TYPES SCHEDULE 01		
A2542	BLDG B GLAZING TYPES SCHEDULE 02		
A2543	BLDG B GLAZING TYPES SCHEDULE 03		
A3001	SITE ELEVATION NORTH		
A3002	SITE ELEVATION SOUTH		
A3003	SITE ELEVATION EAST		
A3004	SITE ELEVATION WEST		
A3021	BLDG A ELEVATION NORTH & SOUTH		

Attachment 6 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation WMP

Traffix Group

Waste Management Plan

Proposed Social and Affordable Housing Development

240 Wellington Street, Collingwood

Prepared for
Fieldwork Architects

October, 2021

G29158R-03A(WMP)

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Appendix A Development Plans

Appendix B Swept Path Diagrams

1. Introduction

Traffix Group has been engaged by Fieldwork Architects to undertake a Waste Management Plan (WMP) for the proposed social and affordable housing development at 240 Wellington Street, Collingwood.

This Waste Management Plan is intended to act as a guideline for the proposed development and may be subject to ongoing updates, post-development.

2. Proposal

The proposal is for a social and affordable housing development comprising a total of 152 dwellings including:

North Building (79 dwellings)

- 47 x one-bedroom apartments,
- 27 x two-bedroom apartments, and
- 5 x three-bedroom apartments.

South Building (73 dwellings)

- 43 x one-bedroom apartments,
- 22 x two-bedroom apartments, and
- 8 x three-bedroom apartments.

Vehicle access for the south building is proposed near the eastern boundary of the site to Vere Street and vehicle access to the north building is proposed to Emerald Street.

A shared waste area is provided for each building adjacent to the lift/stairs core. A dual chute system is provided at each level and will terminate at the waste area in the basement level.

Waste collection is proposed to be undertaken onsite within basement level of each building via a private contractor using the 6.4m long mini rear loader vehicle.

A copy of the development plans prepared by Fieldworks Architects (dated October, 2021) is attached at Appendix A.

3. Waste Management Plan

3.1. Waste Generation

The following table sets out the expected waste generation for the proposed residential development. The waste generation rates adopted are based on rates specified under Sustainable Victoria's *Better Practice Guide for Waste Management and Recycling in Multi-unit Developments*.

Table 1: Waste Generation Rates

Waste Source	Garbage	Recycling
One-bedroom Dwelling	80L/dwelling per week	80L/dwelling per week
Two-bedroom Dwelling	100L/dwelling per week	100L/dwelling per week
Three-bedroom Dwelling	120L/dwelling per week	120L/dwelling per week

An estimate of the total waste generation for the development is detailed in Table 2.

Table 2: Expected Waste Generation for the Proposed Use

Waste Source	No.	Garbage	Recycling
North Building			
One-bedroom Dwelling	47	3,760L per week	3,760L per week
Two-bedroom Dwelling	27	2,700L per week	2,700L per week
Three-bedroom Dwelling	5	600L per week	600L per week
Subtotal	***79***	***7,060L per week***	***7,060L per week***
South Building			
One-bedroom Dwelling	43	3,440L per week	3,440L per week
Two-bedroom Dwelling	22	2,200L per week	2,200L per week
Three-bedroom Dwelling	8	960L per week	960L per week
Subtotal	***73***	***6,600L per week***	***6,600L per week***
TOTAL	**152**	**13,660L per week**	**13,660L per week**

In accordance with the Victorian Government's *Circular Economy Policy*, food organics green organics (FOGO) and glass waste have been considered separately in order to reduce landfill at the source or help separate commingled recycling.

Based on the Victorian Statewide Garbage Bin Audit – Food Waste 2016, approximately 35% of garbage waste from residential uses are organics. Approximately 30% of the recycling waste is adopted as glass waste.

Based on the above, the proposed residential development will generate the following waste streams:

North Building

- Garbage – 4,589L/week,
- Commingled Recycling – 4,942L/week,
- FOGO – 2,471L/week, and
- Glass – 2,118L/week.

South Building

- Garbage – 4,290L/week,
- Commingled Recycling – 4,620L/week,
- FOGO – 2,310L/week, and
- Glass – 1,980L/week.

3.2. Waste Equipment

Based on the determined waste generation, Table 3 provides a summary of the nominated waste storage area provisions and the frequency of collection.

Table 3: Waste Bins and Collection Frequencies

Waste Source	Waste Stream	Waste Volume (L/week)	Bin Capacity	No. of Bins Required	Collection Frequency (per week)
North Building	Garbage	4,589L	1,100L	2	2
	Recycling	4,942L	660L	3	1
			1,100L	3	
	FOGO	2,471L	240L	6	2
	Glass	2,118L	1,100L	2	1

Waste Source	Waste Stream	Waste Volume (L/week)	Bin Capacity	No. of Bins Required	Collection Frequency (per week)
South Building	Garbage	4,290L	1,100L	2	2
	Recycling	4,620L	660L	2	1
			1,100L	3	
	FOGO	2,310L	240L	5	2
	Glass	1,980 L	1,100L	2	1

Overall, the development requires the following bins:

- North Building – 6 x 240L bins, 3 x 660L bins and 7 x 1,100L bins
- South Building - 5 x 240L bins, 2 x 660L bins and 7 x 1,100L bins

Further details regarding the waste equipment required for the development are detailed in Table 4.

Table 4: Bin Details and Colours

Waste Stream	Bin Capacity	Dimensions (H x W x D)[1]	Bin Lid Colour[2]	Bin Body Colour[2]
Garbage	660L 1,100L	1,200 x 1,260 x 780mm 1,330 x 1,240 x 1,070mm	Red	Dark Green
Recycling	660L 1,100L	1,200 x 1,260 x 780mm 1,330 x 1,240 x 1,070mm	Yellow	Dark Green
FOGO	240L	1,060 x 585 x 730mm	Light Green	Dark Green
Glass	1,100L	1,330 x 1,240 x 1,070mm	Purple	Dark Green

Note 1. Bin capacity and dimensions are provided as an indicative dimension, sourced from Bin Supplier, 'Sulo'.

Note 2. Bin lid and body colours are based on the bin colour scheme set out within the *Better Practice Guide for Waste Management and Recycling in Multi-unit Developments*.

3.3. Waste Systems

The waste management systems of the proposed development comprise of the following components:

- Immediate smaller bins within individual dwellings for temporary storage of garbage, recycling, organics and glass waste,
- A dual-chute system for garbage and recyclable waste within each building, and
- Shared mobile garbage bins within the waste area of each building at basement level.

3.3.1. Waste Streams

The waste generated by the proposed development will be separated and managed into the following waste streams, as detailed below.

Table 5: Waste Streams

Waste Type	Waste Management
Garbage	Residents will dispose of general landfill waste in tied plastic bags and dispose of the bagged garbage directly to the appropriate chute in each building level.
Recycling	Residents will dispose of recyclable items directly to the appropriate chute in each building level. Cardboard items shall be folded where appropriate.
FOGO	Residents will dispose of organic waste directly into the organic bins within the waste area in the building at basement level. The property manager will be responsible for the collection and disposal of garden organics via a landscape maintenance contractor.
Glass Waste	Residents will dispose of glass waste directly into the glass bins within the waste area in the building at basement level.
Hard Waste	Residents shall dispose of hard waste including used furniture, white goods with the assistance of the property manager. A hard waste area is provided within the waste area at each building for temporary storage of any hard rubbish.
E-Waste	Residents shall dispose of any e-waste including batteries, phones, computers etc. with the assistance of the property manager or drop it off at Whelans Waste Transfer Station (Kirkdale Street, Brunswick East). E-waste must not be disposed in landfill.
Charity Goods	Residents can dispose of any charity goods at the local op shops or donation bins.

3.3.2. Dual Chute System

A dual chute system will be provided at each building for residents on each level. A dedicated chute will be provided for garbage and recycling which will terminate into the appropriate bins located in the waste area at basement level. Skirting/equivalent system should be provided at the termination of the chutes to reduce the impact of materials falling into the bins. Residential garbage and recycling bins can have reinforced bases to increase the durability of the bins.

The chutes shall be designed to the manufacturer's specifications and appropriate signage and instructions will be provided to residents to ensure correct and safe use of the chute system. Access to the chute outlet at basement level will be secured and accessible to trained personnel only. Bins would be rotated as required by trained personnel.

3.3.3. Waste Areas and Access

The proposed development provides a shared waste area within each building at basement level. Access to the waste area will be via the lift/stairs as required.

The waste areas and access routes are illustrated at Figure 1 and Figure 2.

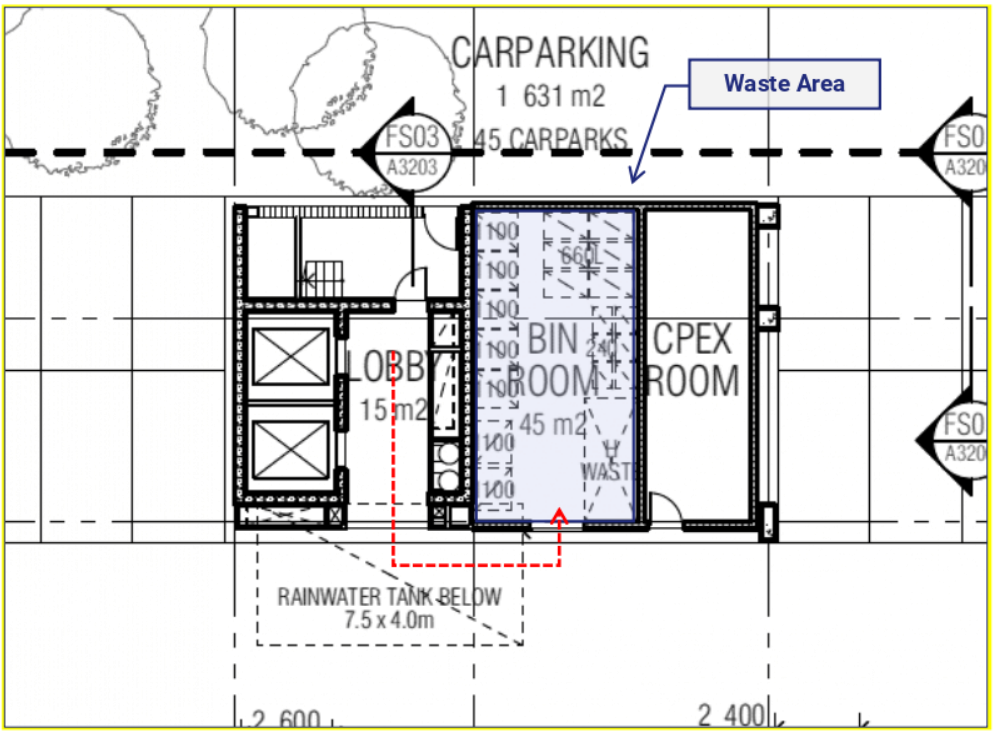


Figure 1: Proposed Waste Area & Access Route (North Building)

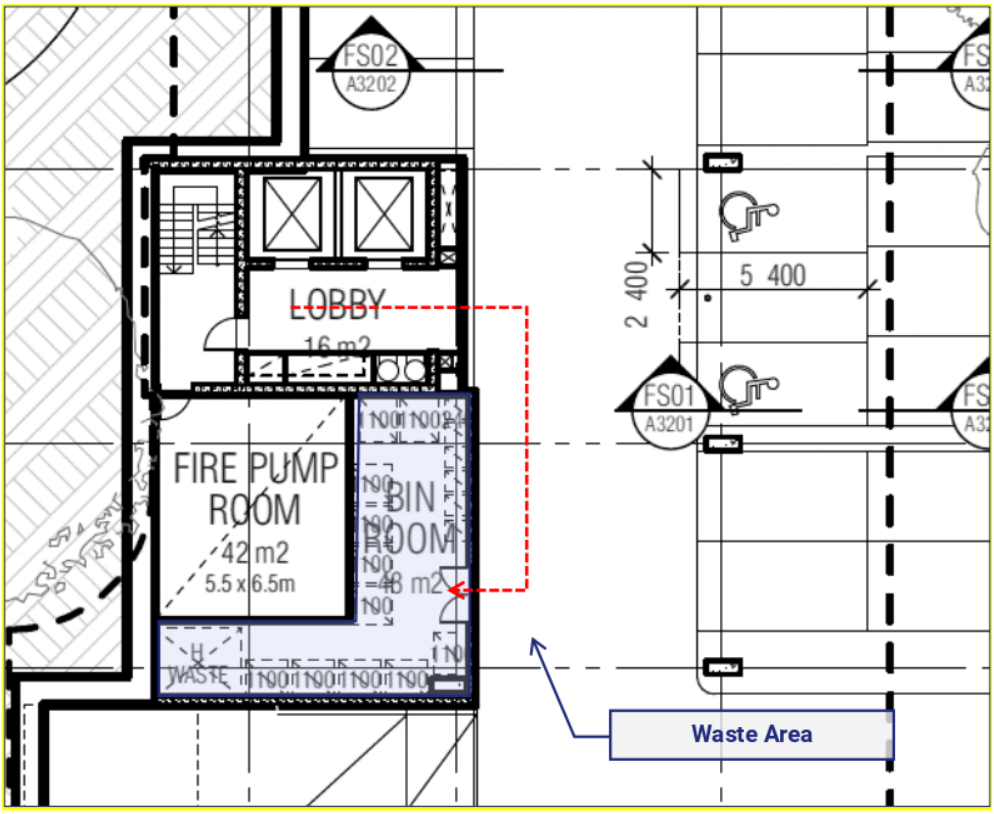


Figure 2: Proposed Waste Area & Access Route (South Building)

Table 6 details the storage area requirements based on the waste equipment proposed.

Table 6: Waste Area Requirements

Use	Waste Equipment	Net Area(1)	Quantity	Net Waste Area Required	Waste Area Provided
North Building	240L	0.43m²	6	2.58m²	45m²
	660L	1.00m²	3	3.00m²	
	1,100L	1.33m²	7	9.31m²	
	Hard waste	4m²	-		

Use	Waste Equipment	Net Area(1)	Quantity	Net Waste Area Required	Waste Area Provided
South Building	240L	0.43m²	5	2.15m²	48m²
	660L	1.00m²	2	2.00m²	
	1,100L	1.33m²	7	9.31m²	
	Hard waste	4m²	-		
Note 1: Net area required is calculated from the dimensions of the bins.					

Based on the above, sufficient space is provided for on-site waste storage within each building.

3.4. Signage

Appropriate signage in accordance with Sustainability Victoria will be displayed on the bins and the waste storage areas, as illustrated in Figure 2.

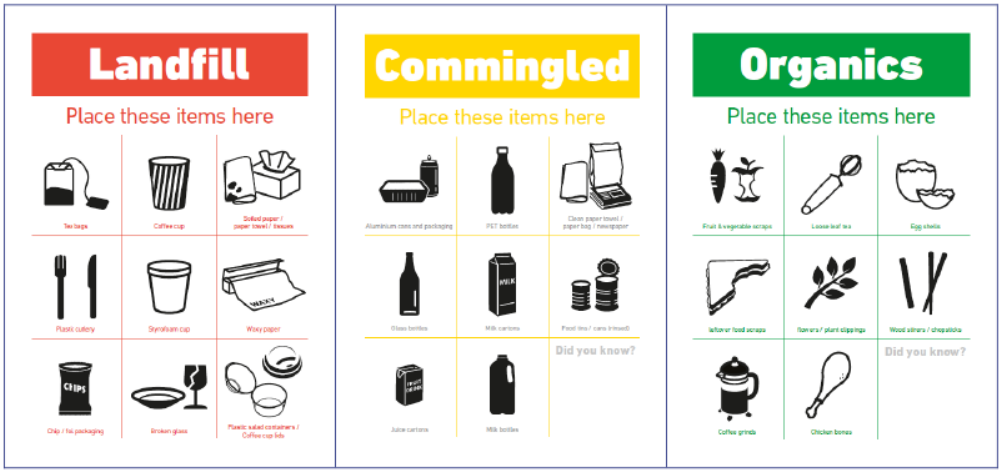


Figure 3: Waste Signage Examples

The signage will help guide and encourage residents to dispose of waste correctly into the appropriate waste streams. The posters are available for download from the Sustainability Victoria website.

3.5. Waste Collection Arrangements and Vehicle Access

It is proposed that waste collection will occur onsite within the basement level at each building. A private contractor will be engaged to collect the waste via a mini rear loader vehicle (typically 6.4m long with 2.2m headroom clearance along travel path).

The waste truck will prop temporarily within the accessway and transfer the bins within the waste area to and from the waste vehicle.

Traffix Group has provided advice to the project architect to accommodate vehicle access of the 6.4m long mini rear loader vehicle within the basement level. A minimum headroom clearance of 2.5m is provided within waste collection area to accommodate the rear lifting of the bins.

Swept path diagrams demonstrating vehicle access of the 6.4m long mini rear loader vehicle entering and exiting the basement level in a forward direction is attached at Appendix B.

4. Amenity Impacts

It is the responsibility of the property manager to carry out the ongoing maintenance of all waste areas to minimise the following amenity impacts:

Ventilation/Odour Prevention

For developments using forced ventilation or air-conditioning system, adequate ventilation will be provided within the waste area in accordance with AS1668.2 to ensure waste-related odours are minimised. Waste areas and chutes will be frequently cleaned to prevent the retainment of odours. This will include the provision of a spray nozzle at the head of each chute to assist with cleaning.

Noise Reduction

The waste facilities will comply with BCA and AS2107 acoustic requirements. Private waste collection will follow Council's and EPA guidelines to ensure acoustic impact is minimised.

Collection days and times will be determined following the confirmation of a specific private waste collection contractor by the property manager. Waste collection times should comply with the requirements under the EPA Noise Control Guidelines (Publication 1254):

Domestic Waste Collection

- *Collections occurring once a week should be restricted to the hours 6am — 6pm Monday to Saturday,*
- *Collections occurring more than once a week should be restricted to the hours 7 am —6 pm Monday to Saturday*

Vermin Prevention & Washing Facilities

All access doors and bin lids will be kept closed at all times to prevent vermin access to the waste areas.

Appropriate washing facilities including water supply and hose will be provided for the regular washing of the bins and waste area by the property manager.

Litter Management and Stormwater Pollution

Waste areas will be secured to prevent any unauthorised use. Waste areas will be monitored by the property manager to ensure that bins are not overfilled and any spillage resulting from waste collection is appropriately addressed.

5. Ongoing Maintenance and Sustainability Initiatives

5.1. Maintenance Management

Further to the occupation of the proposed development, it is the responsibility of the property manager for the ongoing operation and maintenance of the Waste Management Plan.

The property manager will ensure that maintenance work and upgrades are carried out on the waste storage areas and components of the waste system. When required, the property manager will engage an appropriate contractor to conduct maintenance services, replacements or upgrades.

All ongoing costs are to be fully met by the owner(s) of the building.

5.2. Waste Reduction Strategies

The property manager will be responsible to encourage the residents of the proposed development to reduce waste disposal and recycle materials based on the waste management hierarchy set out by Sustainability Victoria.

The hierarchy is detailed at Figure 3 below.

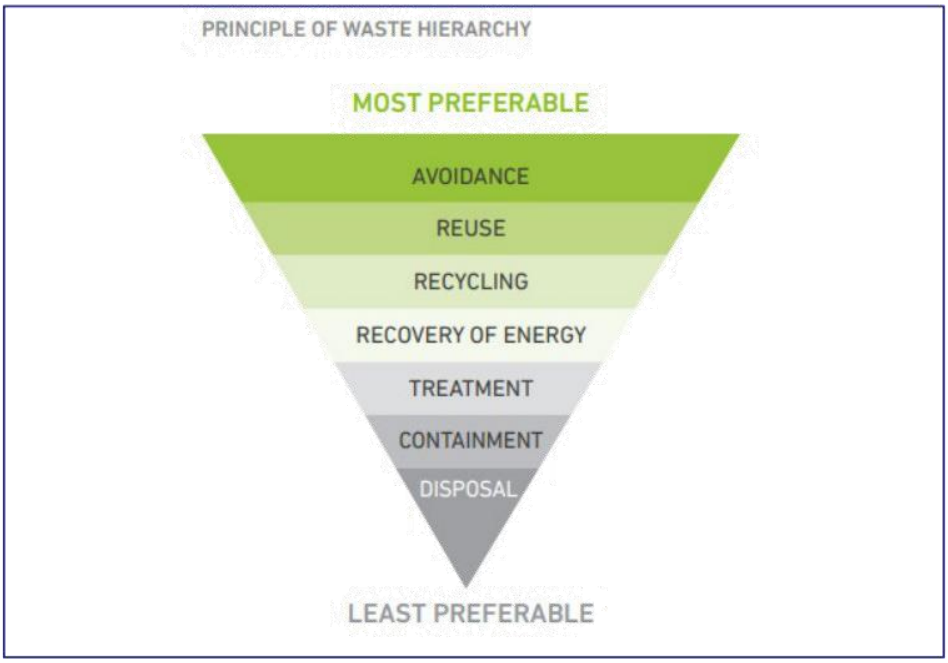


Figure 4: Sustainability Victoria's Waste Management Hierarchy

Additionally, the property manager can set targets and measures to reduce garbage going to landfill and increase recycling and choose to participate in Council's waste programs to promote sustainability initiatives.

5.3. Waste Management Rules

It will be the responsibility of the property manager to ensure all residents are provided with the relevant information and materials regarding the waste management system and sustainability strategies of the proposed development.

Relevant information will be provided at the waste storage areas to ensure that all users will operate and maintain safe practice when utilising the waste facilities.

5.4. Monitoring and Review

This Waste Management Plan should be monitored and reviewed on a regular basis to ensure that it meets the regulatory requirements and the expected waste generation rates outlined in Section 3.1. The property manager will be responsible for monitoring the Waste Management Plan. Where required, the property manager should undertake a waste audit to identify any modifications and/or improvements to the waste management system.

6. Contact Information

Below is a list of common waste collection service contractors and waste equipment suppliers. The property manager is not obligated to procure goods/services from the following suppliers and reserves the right to choose their own preferred suppliers. Traffix Group does not make representations for the goods/services provided by the suppliers listed below.

Table 7: Supplier Contact Information

Service Type	Business Name	Phone	Website
Private Waste Collectors	Citywide Waste	03 9261 5000	www.citywide.com.au
	SUEZ	13 13 35	www.suez.com.au
	Cleanaway	13 13 39	www.cleanaway.com.au
	Veolia	13 29 55	www.veolia.com/anz
	JJ Richards	03 9794 5722	www.jjrichards.com.au
	Waste Wise Environmental	1300 550 408	www.wastewise.com.au
	Kartaway	1300 362 362	www.kartaway.com.au
	iDump	1300 443 867	www.idump.com.au
	Waste Ninja	1300 648 088	www.wasteninja.com.au
E-Waste Collection	TechCollect	1300 229 837	www.techcollect.com.au
	ToxFree	1300 869 373	www.toxfree.com.au
Equipment Supplier	Sulo Australian (bin supplier)	03 9357 7320	www.sulo.com.au
	Mr Wheelie Bin (bin supplier)	03 9912 2850	www.mrwheeliebin.com.au
	Electrodrive (tug supplier)	1300 934 471	www.electrodrive.com.au
	Warequip (tug supplier)	1800 337 711	www.warequip.com.au
	Wastech Engineering (compactors & chutes)	1800 465 465	www.wastech.com.au

Service Type	Business Name	Phone	Website
	Elephants Foot (compactors & chutes)	1300 435 374	www.elephantsfoot.com.au
	ASI JD MacDonald (chutes)	1800 023 441	www.jdmacdonald.com.au
	Eco-safe Technologies (odour control system)	1300 135 039	www.eco-safe.com.au
Bin Washing Services	The Bin Butlers	1300 788 123	www.thebinbutlers.com.au
	WBCM Environmental Australia	1300 800 621	www.wbcm-aust.com.au
	Kerbside Clean-A-Bin	03 9588 1944	www.kerbsidecleanabin.com.au

Appendix A

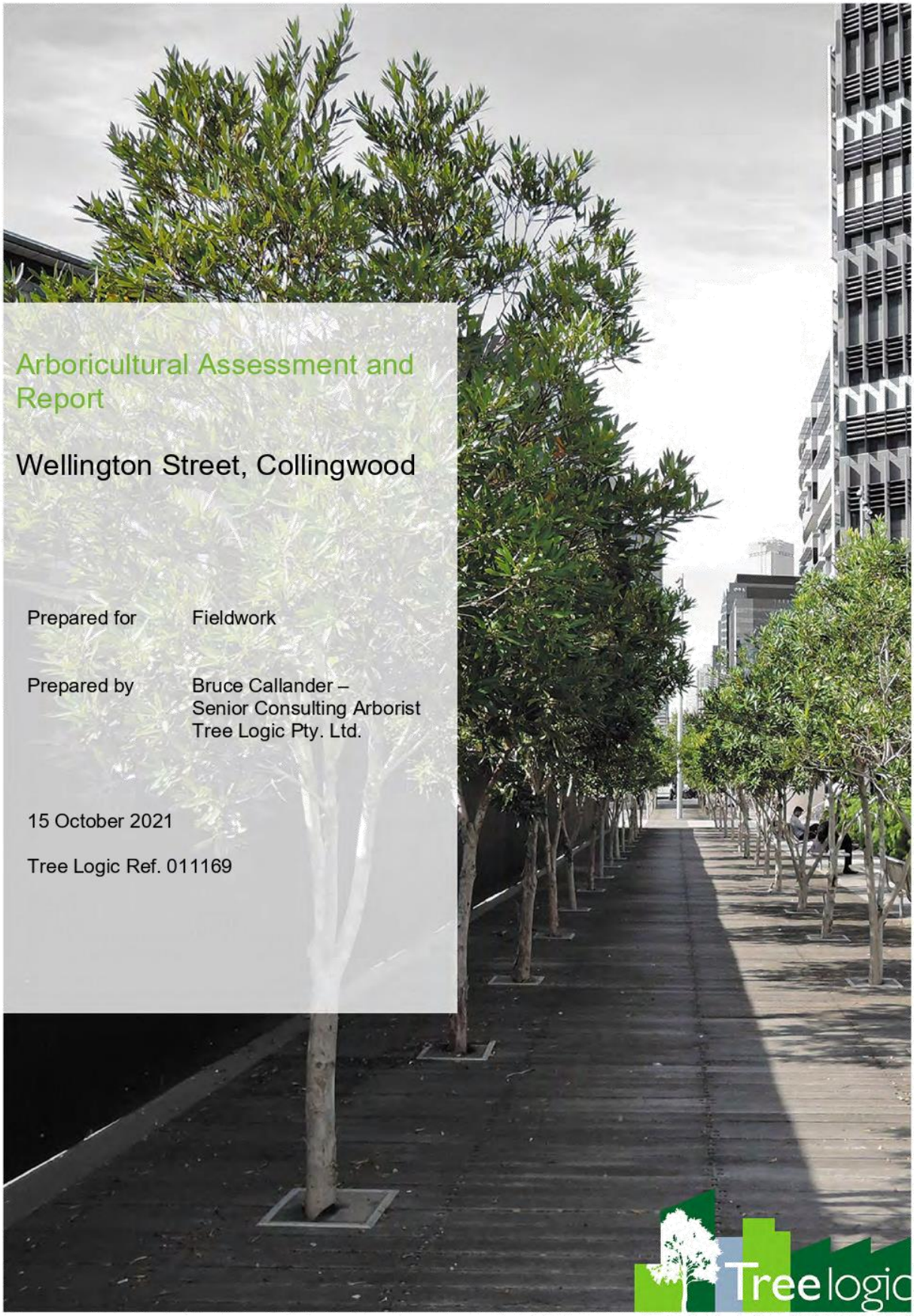
Development Plans

Appendix B

Swept Path Diagrams

Traffix Group G29158R-03A(WMP)

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment



Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

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Tree report_011169 - Wellington Street, Collingwood DHHS site-

File No.	Version	Author	Issue date	Edits	Issued by.
011169	V1	Bruce Callander	19/04/2021	Preliminary tree report	BC
011169	V2	Bruce Callander	22/08/2021	Design review & Tree Impact Report	BC
011169	V3	Bruce Callander	15/10/2021	Review of design revision & Tree Impact Report. Address 52.20-8	BC

1. Executive Summary

Objectives

Tree Logic was engaged by FIELDWORK to undertake an arboricultural assessment and prepare a preliminary arboricultural report for trees associated with Department of Health & Human Services Victoria (DHHS) site in Wellington Street, Collingwood.

The primary objectives of the arboricultural report include;

- Ascertain the species and origin of the subject trees and provide information including dimensions, health, structural condition and the arboricultural value of the trees.
- Determine appropriate tree protection zone dimensions compliant with Australian Standard AS4970 'Protection of trees on development sites'
- Identify if trees are subject to permit and / or offset requirement under various planning overlays.

Summary

1. A feature survey plan provided by VERIS was used as the basis of the tree assessment survey.
2. One hundred and twenty one (121) trees were identified on the survey plan that was used as the basis of the arboricultural survey and assessment.
3. Of these, thirty three (33) trees were planted specimens of Victorian Native origin, twenty nine (29) were Australian natives, twenty five (25) were Exotic deciduous trees, fifteen (15) were Exotic evergreen and fourteen were Exotic palms. Refer to Section 4.
4. The site falls within the City of Yarra Council Planning Scheme and is zoned as General Residential Zone - Schedule 3 (GRZ3).
    - A Local Law permit is required to remove any 'Significant' tree, being a tree with a trunk diameter of 40cm or more measured at the base or at 1.5 metres above ground level.
    - No specific environmental overlays apply to the site that would confer additional tree controls.
    - Naturally occurring trees native to Victoria may be subject to permit and offset requirements under Clause 52.17 - Native Vegetation if they were proposed to be removed. However, based on the species distribution, the generally linear spatial arrangement and the similar age range of the tree population it is concluded that all trees were either planted or grown as a result of direct seeding and are therefore exempt under Clause 52.17-7.
    - All trees located within the adjacent road reserve or in neighbouring properties that are under third party ownership must be appropriately protected to ensure they remain viable.
    - Refer to Table 1 in Section 3 for trees sorted by permit requirement.

5. Each tree feature was attributed an arboricultural rating which reflects the retention value of the trees.
    - Eighty five (85) trees were attributed a Moderate arboricultural rating including,
        - Nine (9) trees attributed an arboricultural rating of Moderate A, being a prominent trees in Fair or better condition and having a moderate to long useful life expectancy (ULE). These trees are considered most suitable to retain.
        - Thirty three (33) trees rated Moderate B, being middle of the range and typical of the species. These trees are worthy of retention.
        - Forty four (44) tree features rated Moderate C, being of either small size or displaying accumulated deficiencies that are tending towards becoming of Low arboricultural value. These trees can be considered suitable for retention but may require special management or additional space to grow into.
    - Thirty (30) trees were attributed an arboricultural rating of Low, displaying symptoms of decline and / or structural deficiencies. These trees do not generally warrant being a constraint on reasonable design objectives or outcomes but may be retained if not requiring disproportionate expenditure of resources or allocated space on site.
    - Five (5) trees were attributed a rating of Very Low due to being dead, being a weed species or because of hazard potential. These trees are generally unsuitable to retain.
    Refer to Table 4 at Section 4.8 for trees sorted by arboricultural rating.
6. Based on a preliminary review of the proposed design the following tree impacts have been identified.
    - Twenty two (22) trees exist within the construction impact zone and cannot be sustained.
    - Four (4) trees have construction impacts extending into the structural root zone that will result in tree decline and probable tree failure due to excessive loss of roots. These trees are also considered unsustainable.
    - Six (6) trees are perceived as having construction impacts to more than 10% of the TPZ. This is considered major encroachment and has the potential to cause irreversible tree decline.
        - The TPZ encroachment of Tree 1 and Tree 50 is less than 14% and it is possible the trees could be sustained with appropriate TPZ fencing & construction controls to minimize impacts.
        - Trees 23, 24, 44 and 106 are likely to cause irreversible tree decline and are considered unsustainable.
    - Four (4) trees will have minor TPZ encroachment and could be sustained with tree protection fencing established at the edge of the construction impact zone (CIZ) and must be maintained for the duration of the construction process to ensure these trees can be sustained.
    - Eighty three (83) trees could be retained without impacts if appropriate tree protection fencing is established and maintained for the duration of the construction process.
    Refer to Table 5 at Section 7.5 for tree numbers sorted by Tree impacts.

2. Method

1. A site inspection was carried out on Wednesday, April 14th, 2021, during mild conditions by Bruce Callander, Senior Consultant Arborist (Dip Hort. Cert 5 Arb. NMIT, TRAQ) and Kirsten Raynor, Consultant Arborist (BA, GCertAppSc(Hort), MUHort)
2. Tree locations were recorded on mobile field computers equipped with GIS software displaying the level and feature survey plan data including all tree point data, property cadastral data, GPS and geo-referenced aerial imagery.
   A unique tree numbering sequence from 1 to 120 inclusive has been implemented running generally anti-clockwise from south to north.
3. Observations were made of the assessed trees to determine the species, age category, and condition with measurements taken to establish tree crown height (measured with a height meter) and crown width (paced) and trunk dimensions (measured 1.4 metres above ground level with a diameter tape unless otherwise stated).
4. Assessment details of individual trees are listed in Appendix 1 and a copy of the tree location plan can be seen in Appendix 2.
   Descriptors used in the assessment can be seen in Appendix 3.
5. Photographs of trees and the environs were taken for further reference when preparing the report.
6. Each of the assessed trees was attributed an 'Arboricultural Rating'. The arboricultural rating correlates the combination of tree condition factors (health and structure) with tree amenity value. Definitions of arboricultural ratings can be seen in Appendix 3.
7. The assessed trees have been allocated tree protection zones (TPZ). The Australian Standard, AS 4970-2009, has been used as a guide in the allocation of TPZs for the assessed trees. This method provides a TPZ that addresses both the stability and growing requirements of a tree. TPZ distances are measured as a radius, from the centre of the trunk at (or near) ground level. All TPZ measurements for are provided in Appendix 1.

3. Documents reviewed:

- Planning Property reports for Lot 21 TP3310 - 147/240 Wellington Street, Collingwood 3066. Department of Planning & Community Development, dated 15/04/2021
- General Residential Zone - Schedule 3 (GRZ3)
- Design and Development Overlay - Schedule 2 (DDO2)
- Development Contributions Plan Overlay - Schedule 1 (DCPO1)
- Yarra City Council General Local Law -
  Part 14 – Tree Protection Clause 39. Clause 7.42 - Significant Trees
- Feature & Level Survey, Wellington Street, Collingwood. Prepared by Charter Keck Cramer. Ref: 10143171 FL (Ver 1 PRO). Date: 1/4/21. Survey Datum: MGA2020 Zone 55.
- Development plans prepared by Fieldwork provided for review
  Title: Homes Victoria Wellington Street. Site Address: 240 Wellington Street Collingwood 3066. (Project Number: 200031).
  - Drawing Name & number: MP-340. - Option 01 - Overall Development Schedule (SK34)
  - Drawing Name & number: SK34 Floor Plan - Basement 01 - Drawing Number MP-342
  - Drawing Name & number: SK34 Floor Plan - Ground Level - MP-343
- Development plans prepared by Fieldwork provided for review – October 12, 2021
  Title: Homes Victoria Wellington Street. Site Address: 240 Wellington Street Collingwood 3066. (Project Number: 200031).
  - Drawing number: Floor Plan - Ground Level – TP2100 Rev. PO1

4. Tree Permit Requirements

The site falls within the City of Yarra Council Planning Scheme and is zoned as General Residential Zone - Schedule 3 (GRZ3).

- A Local Law permit is required to remove any 'Significant' tree, being a tree with a trunk diameter of 40cm or more, either measured at the base or at 1.5 metres above ground level.
- No specific environmental planning overlays apply to the site that would confer additional tree controls.

52.17 - Native Vegetation.

Naturally occurring trees native to Victoria may be subject to permit and offset requirements under Clause 52.17 - Native Vegetation if they were proposed to be removed.
Based on the species distribution, the generally linear spatial arrangement and the similar age range of the tree population it is concluded that all trees were either planted or grown as a result of direct seeding and are therefore exempt under Clause 52.17-7.

Clause 52.20-8

Clause 52.20-8 is noted in Council feedback which refers to Native Vegetation requirements. There is no native vegetation that would trigger permit and offset requirement under the Native Vegetation Clause 52.17 since all Victorian Native species are not indigenous to this locale *were either planted or grown as a result of direct seeding.*

- This exemption does not apply to native vegetation planted or managed with public funding for the purpose of land protection or enhancing biodiversity unless the removal, destruction or lopping of the native vegetation is in accordance with written permission of the agency (or its successor) that provided the funding.

  Tree Logic considers this is not applicable since the trees are clearly specimens planted for garden and amenity purposes and not for land protection or enhancing biodiversity.

All trees located within the adjacent road reserve or in neighbouring properties that are under third party ownership must be appropriately protected to ensure they remain viable.

Refer to Table 1 for trees sorted by Permit Requirement and column titled 'Permit' in the tree assessment tables in Appendix 1 for trees that may or may not trigger permit requirement or are under third party ownership..

Table 1 for trees sorted by Permit requirement

City of Yarra Permit	Total	
Local Law (>40cm at 1.5m)	35	1, 2, 3, 4, 6, 7, 9, 14, 15, 16, 17, 21, 22, 23, 24, 25, 43, 44, 45, 46, 50, 52, 53, 54, 59, 60, 63, 64, 66, 75, 76, 77, 85, 86, 88
Local Law (>40cm at base)	9	5, 10, 11, 12, 13, 42, 51, 62, 67
No permit req'd	64	8, 18, 19, 20, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 47, 48, 49, 55, 56, 57, 58, 61, 65, 68, 69, 70, 71, 72, 73, 74, 78, 79, 80, 81, 82, 83, 84, 87, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108
Council Street tree	13	109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121
Total	121	

5. Observations

The subject study area is public open space within 147 - 240 Wellington Street, Collingwood.
Refer to aerial image of subject site below.

Plate 1. Aerial view of the defined tree study area within subject site
147 - 240 Wellington Street, Collingwood (Nearmap aerial imagery 11/03/2021).

The site is ostensibly flat and entirely modified by built form, access paths, internal roads, car parking and play spaces. There were no creeks or natural drainage lines within the study area, relying on constructed drainage systems.

Tree population

One hundred and twenty (120) trees were recorded in total.

Tree Origin

Based on observations of species diversity, similar age class and general spatial arrangement within various sections of the site it is apparent that the assessed trees are introduced specimens planted for visual screening, garden and amenity or windbreak purposes.
Refer to Table 2.

Table 2: Tree Origin	Total	% of trees
Victorian native	33	27.3%
Australian native	29	24.0%
Exotic deciduous	25	20.7%
Exotic evergreen	15	12.4%
Exotic palm	14	11.6%
Herbaceous perennial	5	4.1%
Total	121	100%

Thirty seven (37) different species were identified during the tree survey of which at least 4 species are shrubs or herbaceous plants that would not normally be collected in a tree assessment project. They are 3 x Glossy Abelia (Abelia Xgrandiflora), 5 x Jerusalem artichoke (Helianthus tuberosus), 1 x Myrtle-leaved Milkwort (Polygala myrtifolia) and 9 x Spineless Yucca (Yucca elephantipes).

The remaining trees vary in number and size from small to large specimens

Refer to Table 3 for predominant 15 species and origins.

Table 3: Botanic name	Common Name	Origin	No of trees
Platanus Xacerifolia	London Plane	Exotic deciduous	22
Tristaniopsis laurina	Kanooka	Australian native	12
Callistemon 'Kings Park Special'	King's Park Special Bottlebrush	Australian native	6
Phoenix canariensis	Canary Island Date Palm	Exotic palm	5
Eucalyptus bicostata	Victorian Blue Gum	Victorian native	5
Ulmus parvifolia	Chinese Elm	Exotic evergreen	4
Acacia melanoxylon	Blackwood	Victorian native	4
Corymbia maculata	Spotted Gum	Victorian native	4
Corymbia citriodora	Lemon-scented Gum	Australian native	3
Eucalyptus scoparia	Wallangarra White Gum	Australian native	3
Eucalyptus botryoides	Southern Mahogany	Victorian native	3
Casuarina cunninghamiana	River She-oak	Australian native	2
Eucalyptus globulus	Southern Blue Gum	Victorian native	1
Eucalyptus viminalis	Manna Gum	Victorian native	1
Eucalyptus cladocalyx	Sugar Gum	Australian native	1
Eucalyptus nicholii	Narrow-leaved Black Peppermint	Australian native	1

Tree health was assessed based on foliage colour, size and density as well as shoot initiation and elongation where possible.

- One hundred and ten (110) trees displayed Fair or better health considered typical for the species growing in this location under current conditions.
- Eight (8) trees displayed symptoms of Fair to Poor health such as reduced foliage size and density, minor dieback, competition from adjacent trees, vine infestation, waterlogging or drought stress.
- Three (3) trees displayed Poor health with declining, missing or dead main leaders.

Tree structure was assessed for structural defects and deficiencies, likelihood of failures and risk to potential targets.

- Sixty eight (68) trees displayed Fair and acceptable structural characteristics for the species and age of the trees.
- Forty (40) trees displayed Fair to Poor structure with dieback, deadwood, crown asymmetry, over-extended limbs, crossing / crowded branches, trunk or limb wounds, vine infestation, or previous lopping.
- Thirteen (13) trees displayed Poor or Very Poor structure due to factors including fungal trunk or limb decay, poor limb attachment, major asymmetry, past major limb failure, being lopped or being dead / brittle.

Arboricultural Rating

The assessed trees were attributed an arboricultural rating. This rating relates to the combination of tree condition factors, including health and structure (arboricultural merit), and also conveys an amenity value.

It should be noted that the arboricultural rating is different to the conservation / ecological values placed on trees by other professions. Refer to Table 4 for tree numbers sorted by Arboricultural rating

Table 4: Arboricultural rating	Total	Tree Numbers
Moderate A	9	4, 6, 23, 25, 52, 53, 54, 63, 66
Moderate B	33	1, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 21, 22, 24, 42, 46, 50, 51, 59, 62, 64, 68, 76, 77, 81, 88, 114, 115, 116, 117, 118, 119, 121
Moderate C	44	2, 3, 16, 17, 18, 19, 20, 26, 27, 28, 29, 30, 31, 33, 34, 35, 41, 43, 44, 45, 48, 55, 57, 60, 69, 70, 83, 86, 87, 91, 93, 94, 95, 96, 97, 100, 101, 102, 109, 110, 111, 112, 113, 120
Low	30	32, 36, 37, 38, 39, 40, 58, 61, 65, 67, 71, 72, 73, 74, 78, 79, 80, 82, 84, 85, 89, 92, 98, 99, 103, 104, 105, 106, 107, 108
Very Low	5	47, 49, 56, 75, 90
Total	120	

- Trees rated Moderate A are generally prominent trees that display fair and typical condition with medium to long useful life expectancy.
- Trees rated Moderate B are generally typical of the species growing in this area under prevailing conditions and are deemed suitable to retain in conjunction with development where possible.
- Trees rated Moderate C are either established smaller trees of Fair condition or maturing trees that might be accumulating deficiencies and trending towards becoming of Low arboricultural value.
- Trees attributed an arboricultural rating of Low are generally not considered worthy of being a constraint on reasonable design intent and outcome delivery due to either health and / or structural deficiencies, being a suckering specimen or being woody weed species.
- Trees attributed an arboricultural rating of Very Low are generally unsuitable to retain in conjunction with site redevelopment.

The linear arrangement of the trees along the northern boundary were generally growing in close proximity where each tree has influenced the growth rate and / or form of adjacent trees.
Fragmentation of these generally linear plantings to selectively retain isolated or individual trees could result in increased branch or limb failure if retained trees become exposed to the influence of wind forces that they may have been previously protected from by adjacent trees.
Hence consideration should be given to retaining intact rows of trees where possible.

Refer to Appendix 1 for individual tree data, Appendix 2 for Tree location plan sorted by Arboricultural rating and Appendix 3 for definitions of arboricultural ratings.

6. Tree Protection Zones

Typically tree roots spreading over a wide area often out to and beyond the edge of the tree canopy and they generally occur within the upper 300 to 500mm of the soil profile where the essential elements of soil water and oxygen are most abundant and gaseous exchange and nutrient cycling can occur. Trenching, raising or lowering soil levels within the Tree Protection Zones (TPZs) of retained trees can have deleterious impacts on the tree by either damaging, severing or smothering tree roots and reducing the functioning of the roots in the support of tree health and stability.

In order to sustain trees on a development site, consideration must be given to the establishment of Tree Protection Zones (TPZs).

The Tree Protection Zones provided for each tree in the Tree Assessment Table in Appendix 1 are calculated using the formula provided in the Australian Standard AS4970 where the Radial TPZ = Trunk diameter (DBH) measured at 1.4m above grade and multiplied by 12. TPZ distances are measured as a radius from the centre of the trunk at (or near) ground level. The method for calculating, applying and managing the tree protection zone is described in Appendix 4.

The TPZ forms an area around a tree or group of trees that addresses both the stability and growing requirements of a tree in which excavation or filling vehicle movements, installation of underground services and other construction activities are either excluded or controlled.

Minor encroachment, up to 10% of the TPZ area, is generally permissible provided encroachment is compensated for by recruitment of an equal area contiguous with the TPZ. Encroachment greater than 10% is considered major encroachment under AS4970 and is only permissible if it can be demonstrated that after such encroachment the tree would remain viable. Refer to Figure 2A and 2B.

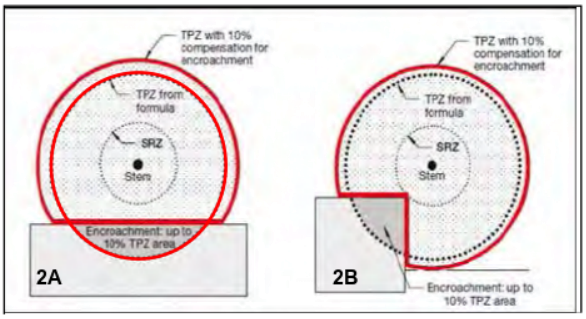

Figure 2: 2A & 2B - Examples of minor encroachment into a TPZ.
Extract from: AS4970-2009, Appendix D, pg. 30 of 32

The Structural Root Zone (SRZ) provided for each tree has been calculated using the method provided in AS4970. The SRZ is the area in which the larger woody roots required for tree stability are found close to the trunk and which then generally taper rapidly. This is the minimum area recommended to maintain tree stability but does not reflect the area required to sustain tree health. No works should occur within the SRZ radius as tree stability could be compromised.
TheTPZs for all trees to be retained must be transferred and overlaid on all design plans.
All TPZ measurements are provided in the tree assessment data in Appendix 1 and displayed on the tree location plan in Appendix 2. See Appendix 4 for TPZ establishment guidelines.

7. Design review and Tree impact assessment

The pre – development arboricultural inspection report provides planners and designers with information on whether trees are worthy or not of being a constraint on the proposed repurposing of the site.

It also provides a basis on which to identify when and where potential impacts to trees will occur from various design elements and evaluates the possible severity of the impact during the design phase of any site redevelopment.

Trees grow in a delicate balance with their environment and any changes to that balance must be minimised if a tree is to remain in a healthy state and fulfil its potential.
It is rarely possible to repair stressed and injured trees, so damage needs to be avoided during all stages of development and construction.
Tree protection cannot be achieved without a proactive approach. The planning and design stages of any construction project can be instrumental and determine the success of tree preservation.

The hierarchy of principles for tree protection are:

- Avoid damage to the subject trees
- Minimise damage to the subject trees
- Replace the subject trees and improve the landscape (as a last resort).

At the time of preparing the report development plans prepared by Fieldwork were provided for review.

- Development plans prepared by Fieldwork provided for review – October 12, 2021
  Title: Homes Victoria Wellington Street. Site Address: 240 Wellington Street Collingwood 3066. (Project Number: 200031). Drawing number: Floor Plan - Ground Level – TP2100 Rev. PO1

A preliminary design review and impact assessment was completed based on the proposed design footprint only of Buildings A and B and substation. It assumes that constructability is entirely contained within the design footprint.

Other potential construction impacts must be reviewed once the construction plans are prepared. Suffice to say that all paths of access & egress, gantries, scaffold, drainage and underground services, crane pads and lifting areas, site sheds and laydown areas must be excluded from the TPZs of any retained trees.

Based on a review of the design footprint the following tree impacts have been identified.

7.1. Twenty two (22) trees exist within the construction impact zone of Buildings A and B and cannot be sustained.

7.2. Four (4) trees have construction impacts extending into the structural root zone that will result in tree decline and probable tree failure due to excessive loss of roots. These trees are also considered unsustainable.

7.3. Six (6) trees are perceived as having construction impacts to more than 10% of the TPZ. This is considered major encroachment and has the potential to impact tree health to varying degrees.

7.3.1. The TPZ encroachment of Tree 1 and Tree 50 is less than 14% and it is possible the trees could be sustained with appropriate TPZ fencing & construction controls to minimize impacts.

7.3.1.1. The extent of pre-existing hardstand within the TPZ of Tree 1 is likely to have impeded root colonisation to the north. As such the level of encroachment under the new design is likely to be minor.

7.3.1.2. TPZ encroachment of Tree 50 is approximately 12.1% and into relatively undisturbed ground. All initial excavation works must be completed under Arborist supervision to identify the level of root disturbance or loss and determine the potential impacts to ongoing tree condition. It should be noted that the species is considered to have a moderate to low tolerance of site disturbance. No further TPZ encroachment is to occur beyond the design footprint for this tree.

7.3.2. Impacts to the TPZs of Trees 23, 24, 44 and 106 exceeds 20% and is likely to cause irreversible tree decline and may be considered unsustainable.

7.4. Five (5) trees will have minor TPZ encroachment and could potentially be sustained. Modified tree protection fencing must be established at the edge of the construction impact zone (CIZ) and must be maintained for the duration of the construction process to ensure these trees can be sustained.

7.5. Eighty three (83) trees could be retained without impacts if appropriate tree protection fencing is established and maintained for the duration of the construction process.

Refer to Table 5 for tree numbers sorted by Tree impacts

Table 5. Construction impacts	**Total**	**Tree numbers**
None	83	26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 47, 48, 49, 51, 52, 53, 54, 55, 56, 57, 58, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121
TPZ -Minor	5	22, 25, 59, 60, 88
TPZ -Major	6	1, 23, 24, 44, 50, 106
SRZ	4	3, 43, 107, 108
Within	22	2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 42, 45, 46
Total	**121**	

7.6. Further impacts may be associated with the construction of a network of paths through the north of the site adjacent to Building A that have the potential to impact up to 29 trees.
Preliminary information relating to the path construction indicates

- Paving is to be insitu concrete. 125mm depth concrete with additional 100mm gravel base is assumed. TBC pending Civil advice.
- Proposed and existing trees in path/paving will have a 1250mm radius of permeable paving or granitic sand TBC around the base of the tree.

- Proposed and existing trees located in mass planting are on natural ground with a 1150mm radius of planting round the base of the tree.

Refer to Table 6 for potential path impacts.

Table 6 Path impacts	Total	
TPZ -Major	5	59, 60, 62, 63, 64
SRZ	9	22, 23, 24, 25, 54, 55, 89, 91, 94
Within	15	90, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108
Grand Total	29	

7.6.1. Demolition of the existing paths and further excavation of 100mm for new gravel base has potential to sever structural roots of the larger trees such as Trees 22 to 25 and Trees 54 to 62.

7.6.2. Impacts associated with the path construction may be minimised if all works adopt a root sensitive approach to demolition works within the TPZ of any retained trees, adopting an above grade construction method and installing a porous pavement solution within the TPZs of retained trees.

7.6.3. Arborist consultation and supervision will be required where works are proposed within the SRZ of any trees to be retained.

7.6.4. It is recommended that demolition of paths in the TPZs of these trees be completed under arborist supervision and the existing gravel base be retained with new base material built up from existing. Any discrepancy between existing and finished levels would be made up with porous fill of granitic sand, mulch, topsoil or turf.

7.7. On the basis of future site safety and potential amenity, preference should be given to retaining trees of High and Moderate arboricultural value in built areas, or areas of increased target potential. Furthermore, trees attributed an arboricultural rating of Moderate A and B would be more appropriate to retain than Trees attributed a rating of Moderate C.

7.7.1. Trees of Low arboricultural value should not compromise reasonable design intent.

7.7.2. Small trees of Moderate C or Low arboricultural value that are otherwise in reasonable condition (Fair-poor or better Health and /or Structure) may offer a potential established tree resource, even if only as an interim measure.

7.7.3. Low rated trees with health or structural deficiencies (Poor or worse Health and/or Structure) or trees recognized as environmental weed species should generally be considered for removal based on sound arboricultural opinion.

7.7.4. Trees attributed and arboricultural rating of Very Low are not suitable to retain and should be removed.

7.8. Any trees that are to be retained in the vicinity of any proposed works will require Tree Protection Zones to be established prior to commencing any works onsite including demolition, bulk earthworks, trenching, construction, landscaping activity, delivery and storage of materials or placement of site sheds.

7.8.1. Tree protection must be incorporated into the design and appropriate construction controls, fencing and management practices must be implemented prior to commencing any construction related activity, including demolition, bulk earthworks construction of gantries, etc.

7.8.2. The tree protection zones for all trees to be retained within the site must be clearly shown on all design drawings and plans with appropriate notations so that all staff and contractors are aware of the responsibility to protect trees throughout the design, development and delivery of the project.

7.8.3. The TPZ fencing must be in the form of either temporary fencing panels with concrete block feet and locked together or water filled barriers with locking pins installed. Refer to Figure 1 for fencing example. TPZ fencing must be sufficiently robust to withstand knocks and bumps from plant and machinery, delivery vehicles, storage of materials and dumping of spoil.

Figure 1. Above left - Example of TPZ fencing above right -Example of TPZ signage.

7.8.4. Appropriate signage stating 'Tree protection Zone- No access' is to be fixed to the fencing to alert people as to importance of the tree protection zone. Refer to Figure 1 for signage example.

7.8.5. The following activities must be excluded from or controlled within the Tree Protection Zones (TPZ) unless otherwise approved by the relevant authority or the Project Arborist.

- Machine excavation (including trenching) for continuous strip footings or installation of underground services or road base
- Alteration of soil levels including placement of fill
- Storage of wastes or materials (including fuels, oils or chemicals)
- Preparation of or cleaning of any cement products
- Storage and or parking of vehicles or any plant/machinery within TPZ
- Washing down of equipment
- Installation of utilities

- Physical damage of any kind to the tree (including direct attachment of anything into the tree)
- Soil cultivation

7.8.6. No form of excavation for trenching for installation of underground services is permitted within the nominated TPZ areas for any retained trees without prior consultation with the council and / or site arborist, to avoid severing roots that could be vital to the stability and continued sustainability of the retained trees.

- Trenching for the installation of any and all underground services must be designed to avoid encroaching the TPZ of any retained trees.
- If it is unavoidable that an underground service must pass through a defined TPZ, the service must be installed via directional boring at a minimum depth of 750mm to the top of the bore head.
  All entry and exit points for the boring must be located beyond the TPZ radius.
- Lubricants or waste water from the boring process must not be permitted to enter or contaminate the soils within the TPZ.

7.8.7. Temporary facilities and site sheds may be established on existing hard stand if already present within a TPZ providing there is no physical impacts to the trees and no requirement to penetrate the surface within the TPZ for installation of footings or underground services. Access / egress to these facilities must not encroach or compact the native soil within the TPZ.

7.9. The linear arrangement of the trees along the northern boundary were generally growing in close proximity where each tree has influenced the growth rate and / or form of adjacent trees. Fragmentation of these generally linear plantings to selectively retain isolated or individual trees could result in increased branch or limb failure if retained trees become exposed to the influence of wind forces that they may have been previously protected from by adjacent trees.
Hence consideration should be given to retaining intact rows of trees where possible.

Refer to Appendix 1 for all tree data, Appendix 2 for tree location and TPZ maps and Appendix 3 for Tree Descriptors.

8. Conclusion.

1. In summary, one hundred and twenty one (121) trees were assessed.
   Approximately half of the trees are Victorian or Australian native species planted for screening, garden and amenity purposes. the other half comprises exotic evergreen, deciduous and palm tree species.
   Refer to Table 2 at Section 4.4 for species Origin and Table 3 at Section 4.5 for indication of species diversity.

2. The site is within the City of Yarra Planning scheme.
   The City of Yarra Local Law – Clause 39 Tree Protection applies tree controls on 'Significant Trees', being any trees with a basal diameter of 40cm or more or 40cm diameter measured at 1.5m
   There are no other environmental overlays that confer specific tree controls on the subject trees.
   All trees in adjoining land including street and freeway reserve trees must be adequately protected to ensure they remain viable.

   - Refer to Table 1 in Section 3 for trees sorted by Permit requirement
     and to the column titled Permit in tree assessment data tables in Appendix 1.

3. The trees generally displayed health and structure considered to be typical for these species and age growing in this area under prevailing conditions. Refer to Sections 4.6 and 4.7.

4. Each tree feature was attributed an arboricultural rating which reflects the retention value of the trees.

   - Eighty six (86) trees were attributed a Moderate arboricultural rating including,
     - Nine (9) trees attributed an arboricultural rating of Moderate A, being a prominent trees in Fair or better condition and having a moderate to long useful life expectancy (ULE). These trees are considered most suitable to retain.
     - Thirty three (33) trees rated Moderate B, being middle of the range and typical of the species. These trees are worthy of retention.
     - Forty four (44) tree features rated Moderate C, being of either small size or displaying accumulated deficiencies that are tending towards becoming of Low arboricultural value. Trees can be considered suitable for retention but may require special management or additional space to grow into.
   - Thirty (30) trees were attributed an arboricultural rating of Low, displaying symptoms of decline and / or structural deficiencies. The trees do not warrant being a constraint on reasonable design objectives or outcomes but may be retained if not requiring disproportionate expenditure of resources and allocated space on site.
   - Five (5) trees were attributed a rating of Very Low due to being dead, being a weed species or because of hazard potential. These trees are generally unsuitable to retain.
   - Refer to Table 4 - Section 4.8 for tree numbers sorted by arboricultural rating.

5. The preliminary tree assessment report provides information on the tree population associated with the site, its arboricultural value and the appropriate tree protection zones required to preserve trees in conjunction with future site redevelopment.

6. Based on a preliminary review of the proposed design the following tree impacts have been identified.

   - Twenty two (22) trees exist within the construction impact zone and cannot be sustained.
   - Five (5) trees have construction impacts extending into the structural root zone that will result in tree decline and probable tree failure due to excessive loss of roots. These trees are also considered unsustainable.
   - Six (6) trees are perceived as having construction impacts to more than 10% of the TPZ. This is considered major encroachment and has the potential to cause irreversible tree decline.
     - The TPZ encroachment of Tree 1 and Tree 50 is less than 14% and it is possible the trees could be sustained with appropriate TPZ fencing & construction controls to minimize impacts.
     - Trees 23, 24, 44 and 106 are likely to cause irreversible tree decline and are considered unsustainable.
   - Four (4) trees will have minor TPZ encroachment and could potentially be sustained. Modified tree protection fencing must be established at the edge of the construction impact zone (CIZ) and must be maintained for the duration of the construction process to ensure these trees can be sustained.
   - Eighty three (83) trees could be retained without impacts if appropriate tree protection fencing is established and maintained for the duration of the construction process.

   Refer to Table 5 at Section 7.5 for tree numbers sorted by Tree impacts

7. Further impacts associated with a new path network around Building A has the potential to impact approximately twenty nine (29) trees. Refer to Table 6 at Section 7.6.

8. On the basis of future site safety and potential amenity, preference should be given to retaining trees of Moderate arboricultural value in built areas, or areas of increased target potential.

   - Furthermore, trees attributed an arboricultural rating of Moderate B would be more appropriate to retain over trees attributed a rating of Moderate C.
   - Trees of Low arboricultural value are generally not worthy of being a constraint on reasonable design intent and outcomes.
   - However, Low rated trees can represent an established resource that can be retained as short to medium term tree cover as an interim measure or in areas where low development impacts are expected to occur.

9. Any trees that are to be retained in the vicinity of any proposed works will require Tree Protection Zones to be established prior to commencing any works onsite.

10. The tree protection zones for all trees to be retained within the site must be clearly shown on all design drawings and plans with appropriate notations so that all staff and contractors are aware of the responsibility to protect trees throughout the site redevelopment process.

11. Tree condition can change quickly in response to environmental conditions or altered landscape conditions. Retained trees should be re-inspected on a 3-5 year basis or following any locally damaging weather events and appropriate remedial works undertaken as required.

I am available to answer any questions arising from this report.

No part of this report is to be reproduced unless in full.

Signed

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(Dip Hort. Cert 5 Arb. NMIT, TRAQ trained and qualified)

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References and bibliography:

Australian Standard (4970-2009) Protection of Trees on development sites. Standards Australia, Sydney NSW Australia

Harris, R.W, Clark, J.R. & Matheny, N.P. (2004), *Arboriculture: Integrated Management of Landscape trees, shrubs and vines*, Prentice Hall, New Jersey.

Clark, J.R. & Matheny, N.P (1998), Trees and Development: A technical guide to preservation of trees during land development. ISA, Champaign, Illinois.

Standards Australia (2007), Australian Standard (4373-2007) - Pruning of Amenity trees, Standards Australia, Homebush.

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Appendix 1: Tree Assessment Data: Wellington Street, Collingwood

Refer to following 5 pages

Key: DBH = Diameter measured in centimetres at breast height (1.4m up trunk) unless otherwise indicated.

Arb. Rating = Arboricultural Rating. ULE = Useful Life Expectancy.

TPZ = Tree protection zone in radial metres. TPZ radius applies from centre of trunk.

SRZ = Structural root zone in radial metres. SRZ can be supplied on request

ULE = Useful Life Expectancy (Estimated)

Definition of the descriptor categories used in the assessment can be seen in Appendix 3.

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Appendix 1: Tree assessment Data **Wellington Street, Collingwood.** 15/10/2021

Tree No	Botanic name	Common Name	Age class	Impact extent	% TPZ impact	Impacted by	Conclusion	Origin	DBH (cm)	City of Yarra Permit	Height m	Width m	Health	Structure	Arb. rating	ULE yrs	Comments	TPZ rad m	SRZ rad m	Rec works2	Priority
1	*Eucalyptus botryoides*	Southern Mahogany	Maturing	TPZ-Moerate	12.19	Basement B - 2.64%,Groundfloor B - 11.31%	May be sustainable with TPZ fencing & construction controls.	Victorian native	84	Local Law	19	16	Fair	Fair	Mod.B	11-20 y	Deadwood, Minor dieback, Previously pruned to reduce over-extended limbs. In garden bed with Viburnum tinus, sm Canary Island Date Palm, Sweet Pittosporum	10.1	3.2	Regular inspection (<3yr cycle) Remove weed growth	Low
2	*Eucalyptus botryoides*	Southern Mahogany	Maturing	Within	100	Basement B - 54.82%,Groundfloor B - 31.85% / (Non-Contiguous Areas: Basement B - 45.18%)	Unsustainable	Victorian native	59	Local Law	17	12	Fair to Poor	Fair to Poor	Mod.C	6-10 y	Deadwood >50mm, Declining, Reduced foliage density, Partly suppressed - crown bias, West, in garden bed with Viburnum tinus	7.1	2.7		
3	*Eucalyptus botryoides*	Southern Mahogany	Maturing	SRZ	63.66	Basement B - 45.81%,Groundfloor B - 41.88% / (Non-Contiguous Areas: Basement B - 4.65%)	Unsustainable	Victorian native	88	Local Law	21	18	Fair to Poor	Fair to Poor	Mod.C	6-10 y	Basal wounds, Bracket fungi, Deadwood >50mm, Trunk decay, Trunk wounds, Swelling at wound at 4 m. in garden bed with Viburnum tinus	10.6	3.2		
4	*Platanus Xacerifolia*	London Plane	Maturing	Within	98.4	Basement B - 62.68%,Groundfloor B - 98.4%	Unsustainable	Exotic deciduous	63	Local Law	22	20	Fair	Fair	Mod.A	21-40 y	Over-extended limbs, developing	7.6	3.1	Regular inspection (<3yr cycle)	Low
5	*Platanus Xacerifolia*	London Plane	Maturing	Within	99.99	Basement B - 99.99%,Groundfloor B - 99.99%	Unsustainable	Exotic deciduous	39	Local Law (base)	21	13	Fair	Fair	Mod.B	11-20 y	Partly suppressed - crown bias, North-east	4.7	2.4		
6	*Platanus Xacerifolia*	London Plane	Maturing	Within	100	Basement B - 100.0%,Groundfloor B - 100.0%	Unsustainable	Exotic deciduous	55	Local Law	20	15	Fair	Fair	Mod.A	21-40 y		6.6	2.8		
7	*Platanus Xacerifolia*	London Plane	Early-mature	Within	100	Basement B - 100.0%,Groundfloor B - 100.0%	Unsustainable	Exotic deciduous	47	Local Law	20	12	Fair	Fair	Mod.B	11-20 y	Suppressed	5.6	2.6		
8	*Platanus Xacerifolia*	London Plane	Early-mature	Within	100	Basement B - 100.0%,Groundfloor B - 100.0%	Unsustainable	Exotic deciduous	31	No permit	20	11	Fair	Fair	Mod.B	11-20 y	Suppressed	3.7	2.2		
9	*Platanus Xacerifolia*	London Plane	Early-mature	Within	100	Basement B - 100.0%,Groundfloor B - 100.0%	Unsustainable	Exotic deciduous	40	Local Law	20	14	Fair	Fair	Mod.B	11-20 y	Included bark forks, Suppressed, 50 cm included bark, limb to south	4.8	2.5	Weight reduction	Med
10	*Platanus Xacerifolia*	London Plane	Early-mature	Within	99.99	Basement B - 99.99%,Groundfloor B - 99.99%	Unsustainable	Exotic deciduous	34	Local Law (base)	20	11	Fair	Fair	Mod.B	11-20 y	Suppressed, Limb to south beginning to over-extended	4.1	2.3	Regular inspection (<3yr cycle)	Med
11	*Platanus Xacerifolia*	London Plane	Early-mature	Within	100	Basement B - 100.0%,Groundfloor B - 100.0%	Unsustainable	Exotic deciduous	35	Local Law (base)	20	11	Fair	Fair	Mod.B	11-20 y	Suppressed	4.2	2.3		
12	*Platanus Xacerifolia*	London Plane	Early-mature	Within	100.01	Basement B - 100.01%,Groundfloor B - 100.01%	Unsustainable	Exotic deciduous	37	Local Law (base)	20	12	Fair	Fair	Mod.B	11-20 y	Suppressed	4.4	2.3		
13	*Platanus Xacerifolia*	London Plane	Early-mature	Within	99.99	Basement B - 99.99%,Groundfloor B - 99.99%	Unsustainable	Exotic deciduous	39	Local Law (base)	20	12	Fair	Fair	Mod.B	11-20 y	Suppressed	4.7	2.4		
14	*Platanus Xacerifolia*	London Plane	Early-mature	Within	100	Basement B - 100.0%,Groundfloor B - 100.0%	Unsustainable	Exotic deciduous	50	Local Law	20	12	Fair	Fair	Mod.B	11-20 y	Branch to north becoming over-extended, tending to horizontal	6	2.8	Regular inspection (<3yr cycle)	Med
15	*Eucalyptus bicostata*	Victorian Blue Gum	Maturing	Within	92.86	Basement B - 92.86%	Unsustainable	Victorian native	99	Local Law	24	20	Fair	Fair to Poor	Mod.B	11-20 y	Limb wounds, Over-extended limbs, Wounds	11.9	3.5	Weight reduction, Reduce over-extended branch, Regular inspection (<3yr cycle)	Med
16	*Eucalyptus bicostata*	Victorian Blue Gum	Early-mature	Within	100	Basement B - 100.0%	Unsustainable	Victorian native	52	Local Law	15	14	Fair	Fair to Poor	Mod.C	11-20 y	Epicormic shoots, Partly suppressed - crown bias- Sth. , Primary branch to South over-extended	6.2	2.8	Weight reduction, Regular inspection (<3yr cycle)	Med
17	*Platanus Xacerifolia*	London Plane	Early-mature	Within	99.99	Basement B - 99.99%	Unsustainable	Exotic deciduous	41	Local Law	14	12	Fair	Fair to Poor	Mod.C	11-20 y	Partly suppressed - crown bias, Trunk wound occluding	4.9	2.4		
18	*Platanus Xacerifolia*	London Plane	Early-mature	Within	99.99	Basement B - 99.99%	Unsustainable	Exotic deciduous	30	No permit	13	7	Fair	Fair	Mod.C	11-20 y	Limb wounds, Trunk wounds	3.6	2.2		
19	*Platanus Xacerifolia*	London Plane	Early-mature	Within	99.99	Basement B - 99.99%	Unsustainable	Exotic deciduous	27	No permit	10	9	Fair	Fair	Mod.C	11-20 y		3.2	2.1		

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Appendix 1: Tree assessment Data **Wellington Street, Collingwood.** 15/10/2021

Tree No	Botanic name	Common Name	Age class	Impact extent	% TPZ impact	Impacted by	Conclusion	Origin	DBH (cm)	City of Yarra Permit	Height m	Width m	Health	Structure	Arb. rating	ULE yrs	Comments	TPZ rad m	SRZ rad m	Rec works2	Priority
20	*Platanus Xacerifolia*	London Plane	Early-mature	Within	100	Basement B - 19.24%,Play courts - 79.47% / (Non-Contiguous Areas: Play courts - 20.53%)	Unsustainable	Exotic deciduous	28	No permit	9	8	Fair	Fair to Poor	Mod.C	11-20 y	Deadwood >50mm, Over-extended limbs, Partly suppressed - crown bias, Major limb to SE over-extended and tending to horizontal	3.4	2.1	Weight reduction, Regular inspection (<3yr cycle)	Med
21	*Platanus Xacerifolia*	London Plane	Early-mature	Within	79.76	Play courts - 79.76%	Unsustainable	Exotic deciduous	42	Local Law	12	13	Fair	Fair	Mod.B	11-20 y	Over-extended limbs, Partly suppressed - crown bias, developing east	5	2.4		
22	*Platanus Xacerifolia*	London Plane	Early-mature	TPZ-Minor	8.88	Play courts - 8.88%	Can be retained with TPZ fencing at edge of CIZ.	Exotic deciduous	40	Local Law	12	13	Fair	Fair	Mod.B	11-20 y		4.8	2.4		
23	*Eucalyptus nicholii*	Narrow-leaved Black Peppermint	Maturing	TPZ-Major	13.23	Groundfloor A - 13.23%	Likely to decline	Australian native	65	Local Law	18	15	Fair	Fair	Mod.A	21-40 y	Deadwood, Over-extended limbs, Partly suppressed - crown bias, developing to Nth	7.8	2.9		
24	*Platanus Xacerifolia*	London Plane	Early-mature	TPZ-Major	12.94	Groundfloor A - 12.94%	Likely to decline	Exotic deciduous	43	Local Law	16	11	Fair	Fair to Poor	Mod.B	11-20 y	Deadwood, Trunk wounds	5.2	2.5		
25	*Platanus Xacerifolia*	London Plane	Early-mature	TPZ-Minor	4.01	Groundfloor A - 4.01%	Can be retained with TPZ fencing at edge of CIZ.	Exotic deciduous	46	Local Law	15	18	Fair	Fair	Mod.A	21-40 y	Deadwood >50mm	5.5	2.5	Deadwood >50mm	Med
26	*Callistemon salignus*	Willow Bottlebrush	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	11	No permit	6	3	Fair	Fair	Mod.C	11-20 y	Pests	2	1.5		
27	*Callistemon salignus*	Willow Bottlebrush	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	6	No permit	4	2	Fair	Fair	Mod.C	11-20 y	Pests	2	1.5		
28	*Callistemon 'Kings Park Special'*	King's Park Special Bottlebrush	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	6 (at 1m)	No permit	4	3	Fair	Fair	Mod.C	11-20 y		2	1.5		
29	*Photinia serratifolia*	Chinese Hawthorn	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	11,10,9	No permit	7	4	Fair	Fair	Mod.C	11-20 y		2	1.6		
30	*Pittosporum tenuifolium 'Aureum'*	Kohuhu	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	16,11,8,6	No permit	10	5	Fair	Fair	Mod.C	11-20 y		2.3	1.8		
31	*Callistemon viminalis*	Weeping Bottlebrush	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	10 (at 1m)	No permit	5	4	Fair	Fair	Mod.C	11-20 y		2	1.6		
32	*Platanus Xacerifolia*	London Plane	Young	None	0	NA	Exclusion TPZ fencing req'd	Exotic deciduous	4	No permit	7	4	Fair	Poor	Low	6-10 y	Suckers, Multi-stemmed clump of vigorous suckers. No discernable stump (ie. doesn't appear to be stump regrowth)	2	1.5		
33	*Callistemon 'Kings Park Special'*	King's Park Special Bottlebrush	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	6,5,4	No permit	4	3	Fair	Fair	Mod.C	11-20 y		2	1.5		
34	*Callistemon 'Kings Park Special'*	King's Park Special Bottlebrush	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	5	No permit	4	2	Fair	Fair	Mod.C	11-20 y		2	1.5		
35	*Callistemon 'Kings Park Special'*	King's Park Special Bottlebrush	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	4,4	No permit	3	2	Fair	Fair	Mod.C	11-20 y		2	1.5		
36	*Helianthus tuberosus*	Jerusalem artichoke	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Herbaceous perennial	4	No permit	4	1	Fair	Poor	Low	11-20 y	Not a tree. Multi-stemmed herbaceous perennial. Jerusalem Artichoke?	2	1.5		
37	*Helianthus tuberosus*	Jerusalem artichoke	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Herbaceous perennial	4	No permit	4	1	Fair	Poor	Low	11-20 y	Multi-stemmed herbaceous perennial. Jerusalem Artichoke?	2	1.5		
38	*Helianthus tuberosus*	Jerusalem artichoke	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Herbaceous perennial	4	No permit	4	1	Fair	Poor	Low	11-20 y	Multi-stemmed herbaceous perennial. Jerusalem Artichoke?	2	1.5		
39	*Helianthus tuberosus*	Jerusalem artichoke	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Herbaceous perennial	4	No permit	4	1	Fair	Poor	Low	11-20 y	Multi-stemmed herbaceous perennial. Jerusalem Artichoke?	2	1.5		
40	*Helianthus tuberosus*	Jerusalem artichoke	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Herbaceous perennial	4	No permit	4	1	Fair	Poor	Low	11-20 y	Multi-stemmed herbaceous perennial. Jerusalem Artichoke?	2	1.5		
41	*Cercis siliquastrum*	Judas Tree	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic deciduous	12	No permit	4	3	Fair	Fair	Mod.C	11-20 y		2	1.5		
42	*Platanus Xacerifolia*	London Plane	Early-mature	Within	90.39	Groundfloor A - 90.39%	Unsustainable	Exotic deciduous	36	Local Law (base)	14	11	Fair	Fair	Mod.B	11-20 y	Limb wounds, Trunk wounds	4.3	2.3		
43	*Eucalyptus scoparia*	Wallangarra White Gum	Maturing	SRZ	27.17	Basement A - 3.79%,Groundfloor A - 27.17%	Unsustainable	Australian native	50	Local Law	17	12	Fair to Poor	Fair	Mod.C	6-10 y	Basal wounds, Deadwood, Minor dieback, Reduced foliage density, Confined rooting space	6	2.7	Regular inspection (<3yr cycle)	Low

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Appendix 1: Tree assessment Data **Wellington Street, Collingwood.** 15/10/2021

Tree No	Botanic name	Common Name	Age class	Impact extent	% TPZ impact	Impacted by	Conclusion	Origin	DBH (cm)	City of Yarra Permit	Height m	Width m	Health	Structure	Arb. rating	ULE yrs	Comments	TPZ rad m	SRZ rad m	Rec works2	Priority
44	*Eucalyptus scoparia*	Wallangarra White Gum	Maturing	TPZ-Major	22.1	Basement A - 17.8%,Groundfloor A - 22.09%	Likely to decline	Australian native	66	Local Law	17	19	Fair	Fair to Poor	Mod.C	6-10 y	Damage to infrastructure, Deadwood, Partly suppressed - crown bias, west. Side entry SW pit & bin lifted askew	7.9	3.1	Deadwood, Regular inspection (<3yr cycle)	Low
45	*Platanus Xacerifolia*	London Plane	Maturing	Within	67.33	Basement A - 65.22% ,Groundfloor A - 67.31%	Unsustainable	Exotic deciduous	47	Local Law	15	14	Fair	Fair to Poor	Mod.C	6-10 y	Trunk wounds, Crown bias east. Nearly touching fence Basal wound extends to 100cm circumfernce with 40cm live tissue.	5.6	2.6		
46	*Eucalyptus scoparia*	Wallangarra White Gum	Maturing	Within	41.21	Basement A - 33.81% ,Groundfloor A - 15.9%	Unsustainable	Australian native	46	Local Law	13	15	Fair	Fair	Mod.B	11-20 y	Damage to infrastructure, Limited rooting area	5.5	2.6	Regular inspection (<3yr cycle)	Low
47	*Lagerstroemia indica*	Crape Myrtle	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic deciduous	22 (at <=0.5m)	No permit	1	1	Poor	Poor	Very Low	<1 y	Stump	2.6	1.8		
48	*Quercus palustris*	Pin Oak	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic deciduous	31	No permit	8	12	Fair	Fair to Poor	Mod.C	11-20 y	Lopped, Past powerline clearance, Street tree	3.7	2.2		
49	*Pittosporum undulatum*	Sweet Pittosporum	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	4,4,3	No permit	2	3	Fair	Poor	Very Low	1-5 y	Suckering, Woody weed sp.	2	1.5		
50	*Eucalyptus bicostata*	Victorian Blue Gum	Maturing	TPZ-Moerate	12.08	Basement A - 9.64%,Groundfloor A - 11.61%	May be sustainable with TPZ fencing & construction controls.	Victorian native	125	Local Law	26	22	Fair	Fair to Poor	Mod.B	11-20 y	Deadwood, Exoess end weight, Ivy on trunk, Over-extended limbs, Past powerline clearance, Prune Lower Nth-east limbs over LV powerlines	15	3.8	Weight reduction, Reduce over-extended branch, Regular inspection (<3yr cycle)	High
51	*Corymbia maculata*	Spotted Gum	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	34	Local Law (base)	13	9	Fair	Fair	Mod.B	21-40 y	Past powerline clearance, Partly suppressed - crown bias, Nth. Over LV	4.1	2.3		
52	*Corymbia maculata*	Spotted Gum	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	60	Local Law	27	16	Fair	Fair	Mod.A	21-40 y	Over-extended limbs, Past powerline clearance, developing Nth	7.2	3	Weight reduction, Reduce over-extended branch	Low
53	*Corymbia maculata*	Spotted Gum	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	65	Local Law	27	15	Fair	Fair	Mod.A	21-40 y	Past powerline clearance	7.8	3.1	Regular inspection (<3yr cycle)	Low
54	*Corymbia maculata*	Spotted Gum	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	74	Local Law	26	15	Fair	Fair	Mod.A	21-40 y	Past powerline clearance	8.9	3.3	Regular inspection (<3yr cycle)	Low
55	*Melaleuca armillaris*	Bracelet Honey-myrtle	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	12,10,10	No permit	4	5	Fair	Fair to Poor	Mod.C	6-10 y	Acute forks, Subsiding limbs, Shrubs inc. Nandina 3m east, 2x Saltbush 3m west	2.2	1.9		
56	*Coprosma repens*	Mirror Bush	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	3,3,3 (at 0.8m)	No permit	2	3	Fair	Fair to Poor	Very Low	11-20 y	Woody weed sp.	2	1.5		
57	*Schinus areira*	Peppercorn Tree	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	14,13	No permit	4	5	Fair	Fair	Mod.C	11-20 y	Shrubs around base inc. Coprosma repens & CID Palm	2.3	1.8		
58	*Phoenix canariensis*	Canary Island Date Palm	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic palm	20 (at <=0.5m)	No permit	2	2	Fair	Fair to Poor	Low	11-20 y	Self sown weed	2	1.7		
59	*Eucalyptus bicostata*	Victorian Blue Gum	Maturing	TPZ-Minor	6.16	Basement A - 6.16%	Can be retained with TPZ fencing at edge of CIZ.	Victorian native	108	Local Law	24	19	Fair	Fair	Mod.B	11-20 y	Over-extended limbs, Past powerline clearance, Partly suppressed - crown bias, developing to Nth	13	3.6	Weight reduction, Reduce over-extended branch, Regular inspection (<3yr cycle)	Low
60	*Eucalyptus bicostata*	Victorian Blue Gum	Maturing	TPZ-Minor	7.71	Basement A - 7.71%	Can be retained with TPZ fencing at edge of CIZ.	Victorian native	91	Local Law	29	20	Fair to Poor	Fair to Poor	Mod.C	6-10 y	Deadwood, Over-extended limbs, Reduced foliage density, developing to Sth-east	10.9	3.4	Deadwood, Weight reduction, Reduce over-extended branch, Regular inspection (<3yr cycle)	Med
61	*Acacia floribunda*	Gossamer Wattle	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	12,9	No permit	4	6	Fair to Poor	Fair to Poor	Low	1-5 y	Declining	2	1.5		
62	*Corymbia citriodora*	Lemon-scented Gum	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	37	Local Law (base)	20	14	Fair	Fair	Mod.B	21-40 y	Past branch failure, Partly suppressed - crown bias, Sth	4.4	2.3	Regular inspection (<3yr cycle)	Low
63	*Corymbia citriodora*	Lemon-scented Gum	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	45	Local Law	24	14	Fair	Fair	Mod.A	21-40 y	Over-extended limbs, developing west	5.4	2.5		

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Appendix 1: Tree assessment Data **Wellington Street, Collingwood.** 15/10/2021

Tree No	Botanic name	Common Name	Age class	Impact extent	% TPZ impact	Impacted by	Conclusion	Origin	DBH (cm)	City of Yarra Permit	Height m	Width m	Health	Structure	Arb. rating	ULE yrs	Comments	TPZ rad m	SRZ rad m	Rec works2	Priority
64	*Corymbia citriodora*	Lemon-scented Gum	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	43	Local Law	24	12	Fair	Fair	Mod.B	21-40 y	Partly suppressed - crown bias, west	5.2	2.5		
65	*Ligustrum lucidum*	Shining Privet	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	10,9,8 (at 0.8m)	No permit	4	4	Fair	Fair to Poor	Low	6-10 y	Multi-stemmed, Woody weed sp.	2	1.5		
66	*Casuarina cunninghamiana*	River She-oak	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Australian native	45	Local Law	14	8	Good	Fair	Mod.A	21-40 y		5.4	2.5		
67	*Callistemon 'Kings Park Special'*	King's Park Special Bottlebrush	Over-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	30	Local Law (base)	6	6	Poor	Poor	Low	1-5 y	Basal decay, Bracket fungi, Deadwood >50mm, Main leader dead	3.6	2.3	Remove to cut stump	Med
68	*Acacia melanoxylon*	Blackwood	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	22	No permit	6	6	Fair	Fair	Mod.B	11-20 y	Partly suppressed - crown bias, west	2.6	1.9		
69	*Acacia melanoxylon*	Blackwood	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	25	No permit	7	6	Fair	Fair to Poor	Mod.C	11-20 y	Partly suppressed - crown bias, West	3	2.1		
70	*Acacia floribunda*	Gossamer Wattle	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	10,10,9	No permit	6	5	Fair	Fair to Poor	Mod.C	6-10 y		2	1.8		
71	*Cotoneaster glaucophyllus*	Grey-leafed Cotoneaster	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	4,3,3,2	No permit	2	3	Fair	Fair to Poor	Low	1-5 y	Woody weed sp., Group of ~8 multistemmed weeds w emerging CID Palms	2	1.5		
72	*Acacia floribunda*	Gossamer Wattle	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	13,11	No permit	3	5	Fair	Fair to Poor	Low	6-10 y	Active split, Basal wounds	2	2		
73	*Pittosporum undulatum*	Sweet Pittosporum	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	6 (at 0.8m)	No permit	2	2	Fair	Fair to Poor	Low	6-10 y	Woody weed sp.	2	1.5		
74	*Callistemon 'Kings Park Special'*	King's Park Special Bottlebrush	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Australian native	21	No permit	4	4	Fair to Poor	Fair to Poor	Low	6-10 y	Past stem failure, Partly suppressed - crown bias, west. Bracelet Honey-myrtle has collapsed onto this tree.	2.5	2		
75	*Melaleuca armillaris*	Bracelet Honey-myrtle	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	23,16,13 (at <=0.5m)	Local Law	5	6	Fair to Poor	Poor	Very Low	<1 y	Subsiding limbs, collapsing	3.7	2.3		
76	*Eucalyptus cladocalyx*	Sugar Gum	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Australian native	76	Local Law	30	19	Fair	Fair to Poor	Mod.B	11-20 y	Deadwood, Hangers, Included bark forks, Past limb failure	9.1	3.2	Deadwood >50mm, Remove hangers, Regular inspection (<3yr cycle)	Med
77	*Eucalyptus globulus*	Southern Blue Gum	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	71	Local Law	15	19	Fair	Fair	Mod.B	11-20 y	Excess end weight, Exposed roots	8.5	3.3	Weight reduction, Reduce over-extended branch	Med
78	*Abelia Xgrandiflora*	Glossy Abelia	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	1,1,1,1,1	No permit	1	2	Fair	Fair to Poor	Low	1-5 y	Shrub	2	1.5		
79	*Abelia Xgrandiflora*	Glossy Abelia	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	1,1,1,1,1	No permit	1	2	Fair	Fair to Poor	Low	1-5 y	Shrub	2	1.5		
80	*Abelia Xgrandiflora*	Glossy Abelia	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	1,1,1,1,1	No permit	1	2	Fair	Fair to Poor	Low	1-5 y	Shrub	2	1.5		
81	*Acacia melanoxylon*	Blackwood	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	26	No permit	6	6	Fair	Fair	Mod.B	11-20 y		3.1	1.9		
82	*Phoenix canariensis*	Canary Island Date Palm	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic palm	16	No permit	2	3	Fair	Fair to Poor	Low	11-20 y	Self-sown palm	2.5	1.7		
83	*Acacia melanoxylon*	Blackwood	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	22 (at 0.8m)	No permit	5	7	Fair	Fair to Poor	Mod.C	6-10 y	Abnormal lean	2.6	1.8		
84	*Phoenix canariensis*	Canary Island Date Palm	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic palm	25 (at <=0.5m)	No permit	2	4	Fair	Fair	Low	21-40 y	Self-sown palm	3	2		
85	*Phoenix canariensis*	Canary Island Date Palm	Young	None	0	NA	Exclusion TPZ fencing req'd	Exotic palm	60 (at <=0.5m)	Local Law	4	5	Fair	Fair	Low	11-20 y	Self-sown palm	3.5	2.7		
86	*Eucalyptus viminalis*	Manna Gum	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	104	Local Law	19	13	Fair	Fair to Poor	Mod.C	11-20 y	Over-extended limbs, Past powerline clearance, Subsiding limbs, Basal est.;powerline pruning causing crown bias to east;large, old wound on west of trunk at base of primary fork - past failure? possible decay;weight reduce subsiding, over-extended branches to N	12.5	3.6	Aerial inspection, Weight reduction. Other tasks - see comments	High
87	*Callistemon viminalis*	Weeping Bottlebrush	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	20	No permit	8	4	Fair	Fair to Poor	Mod.C	11-20 y	Partly suppressed - crown bias	2.4	1.9		
88	*Casuarina cunninghamiana*	River She-oak	Maturing	TPZ-Minor	8.72	Substation - 8.72%	Exclusion TPZ fencing req'd	Australian native	62	Local Law	20	10	Fair	Fair	Mod.B	21-40 y	Past powerline clearance, Crown bias to east due to powerline pruning	7.4	2.9		
89	*Ulmus parvifolia*	Chinese Elm	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	10,10,8,8	No permit	8	7	Fair	Poor	Low	11-20 y	Stump regrowth or dense suckering	2	1.8		

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Appendix 1: Tree assessment Data **Wellington Street, Collingwood.** 15/10/2021

Tree No	Botanic name	Common Name	Age class	Impact extent	% TPZ impact	Impacted by	Conclusion	Origin	DBH (cm)	City of Yarra Permit	Height m	Width m	Health	Structure	Arb. rating	ULE yrs	Comments	TPZ rad m	SRZ rad m	Rec works2	Priority
90	*Coprosma repens*	Mirror Bush	Over-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	10,8,8	No permit	3	3	Poor	Very Poor	Very Low	1-5 y	Mostly dead, some epicormic regrowth	2	1.7		
91	*Ulmus parvifolia*	Chinese Elm	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	11,10,8,8	No permit	6	4	Fair	Fair to Poor	Mod.C	11-20 y		2	1.5		
92	*Ulmus parvifolia*	Chinese Elm	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	6,5,4	No permit	4	3	Fair	Fair to Poor	Low	11-20 y		2	1.7		
93	*Yucca elephantipes*	Spineless Yucca	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic Palm	8	No permit	5	4	Fair	Fair	Mod.C	6-10 y	Multi-stemmed large clump.	2	1.9		
94	*Yucca elephantipes*	Spineless Yucca	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic Palm	8	No permit	4	3	Fair	Fair	Mod.C	6-10 y	Multi-stemmed large clump	2	1.9		
95	*Yucca elephantipes*	Spineless Yucca	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic Palm	8	No permit	3	1	Fair	Fair	Mod.C	6-10 y		2	1.8		
96	*Yucca elephantipes*	Spineless Yucca	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic Palm	14,12,12,10	No permit	4	5	Fair	Fair	Mod.C	6-10 y	Multi-stemmed large clump.	2.9	2.1		
97	*Yucca elephantipes*	Spineless Yucca	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic Palm	14,12,12,10	No permit	4	5	Fair	Fair	Mod.C	6-10 y	Multi-stemmed large clump.	2.9	2.1		
98	*Phoenix canariensis*	Canary Island Date Palm	Young	None	0	NA	Exclusion TPZ fencing req'd	Exotic palm	30	No permit	3	3	Fair	Fair	Low	6-10 y	Self-sown palm	2.5	2		
99	*Ulmus parvifolia*	Chinese Elm	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	4,6,6,8	No permit	2	5	Fair	Poor	Low	6-10 y	Stump regrowth or dense suckering	2	2		
100	*Yucca elephantipes*	Spineless Yucca	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic Palm	8	No permit	5	3	Fair	Fair	Mod.C	6-10 y		2	1.8		
101	*Yucca elephantipes*	Spineless Yucca	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic Palm	10	No permit	4	3	Fair	Fair	Mod.C	6-10 y	Large, dense, multi-stemmed clump	2	1.8		
102	*Yucca elephantipes*	Spineless Yucca	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic Palm	10	No permit	4	3	Fair	Fair	Mod.C	6-10 y	Large, dense, multi-stemmed clump	2	1.8		
103	*Acacia cognata*	Narrow-leaf Bower Wattle	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	5	No permit	2	3	Fair	Fair to Poor	Low	6-10 y	Shrub, Multi-stemmed, basal est.	2	1.5		
104	*Polygala myrtifolia*	Myrtle-leaved Milkwort	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Exotic evergreen	3,2,2,2	No permit	2	4	Fair	Fair to Poor	Low	1-5 y	Shrub, Woody weed sp.	2	1.5		
105	*Acacia cognata*	Narrow-leaf Bower Wattle	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Victorian native	5,3 (at <=0.5;MSm)	No permit	2	3	Fair	Fair to Poor	Low	1-5 y	Shrub	2	1.5		
106	*Acacia cognata*	Narrow-leaf Bower Wattle	Early-mature	TPZ-Majpr	23.37	Groundfloor A - 23.37%	Unsustainable	Victorian native	5,3	No permit	2	3	Fair	Fair to Poor	Low	1-5 y	Shrub	2	1.5		
107	*Yucca elephantipes*	Spineless Yucca	Early-mature	SRZ	3.02	Groundfloor A - 3.02%	Unsustainable	Exotic Palm	10,9,9,9,9	No permit	3	4	Fair	Fair	Low	1-5 y	Shrub	2	1.8		
108	*Acacia cognata*	Narrow-leaf Bower Wattle	Semi-mature	SRZ	21.87	Groundfloor A - 21.87%	Unsustainable	Victorian native	5	No permit	1	5	Fair	Fair to Poor	Low	6-10 y	Shrub	2	1.5		
109	*Tristaniopsis laurina*	Kanooka	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	7	Street tree	3	1	Fair	Fair to Poor	Mod.C	11-20 y	N bias due to main branch loss; suckering and epicormic growth	2	1.5		
110	*Tristaniopsis laurina*	Kanooka	Young	None	0	NA	Exclusion TPZ fencing req'd	Australian native	3	Street tree	1	1	Fair	Fair	Mod.C	11-20 y		2	1.5		
111	*Tristaniopsis laurina*	Kanooka	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	13	Street tree	5	3	Fair	Fair	Mod.C	11-20 y		2	1.6		
112	*Tristaniopsis laurina*	Kanooka	Young	None	0	NA	Exclusion TPZ fencing req'd	Australian native	5 (at <=0.5m)	Street tree	1	1	Fair	Fair to Poor	Mod.C	11-20 y	Lost main leader	2	1.5		
113	*Tristaniopsis laurina*	Kanooka	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	2	Street tree	2	1	Fair to Poor	Fair	Mod.C	11-20 y	Street tree	2	1.5		
114	*Tristaniopsis laurina*	Kanooka	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	4 (at 0.8m)	Street tree	1	1	Fair	Fair	Mod.B	11-20 y	Lost main leader, Street tree	2	1.5		
115	*Tristaniopsis laurina*	Kanooka	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	6	Street tree	3	2	Fair	Fair	Mod.B	11-20 y	Street tree	2	1.5		
116	*Tristaniopsis laurina*	Kanooka	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	3 (at 1m)	Street tree	2	1	Fair	Fair	Mod.B	21-40 y	Street tree	2	1.5		
117	*Tristaniopsis laurina*	Kanooka	Early-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	13	Street tree	4	3	Fair	Fair	Mod.B	11-20 y	Street tree	2	1.6		
118	*Tristaniopsis laurina*	Kanooka	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	3 (at 0.8m)	Street tree	2	1	Fair	Fair	Mod.B	21-40 y	Street tree	2	1.5		
119	*Tristaniopsis laurina*	Kanooka	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	9	Street tree	4	2	Fair	Fair	Mod.B	21-40 y	Street tree	2	1.5		
120	*Tristaniopsis laurina*	Kanooka	Semi-mature	None	0	NA	Exclusion TPZ fencing req'd	Australian native	3 (at 0.8m)	Street tree	2	1	Fair	Fair	Mod.C	11-20 y	Street tree	2	1.5		
121	*Eucalyptus mannifera*	Brittle Gum	Maturing	None	0	NA	Exclusion TPZ fencing req'd	Australian native	61	Street tree	13	10	Fair	Fair	Mod.A	11-20 y	Street tree. Side-entry pit within 2.0m SW. Past powerline clearance. Crown-bias - Nth. BoK <05m east	7.3	3		

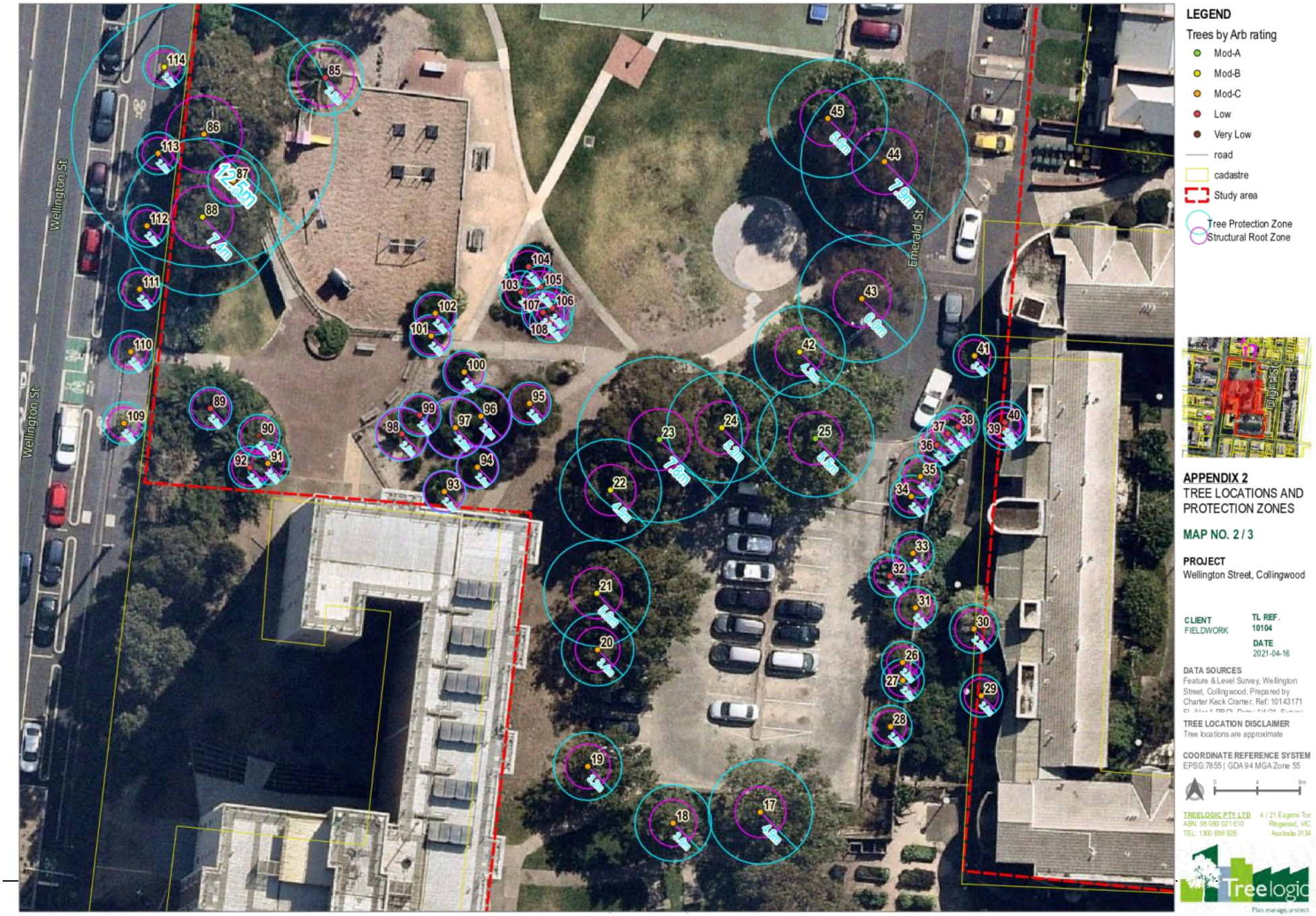
Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Appendix 2A: Tree Location and TPZ Plan: Wellington Street, Collingwood –

Refer to following 3 pages.

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment



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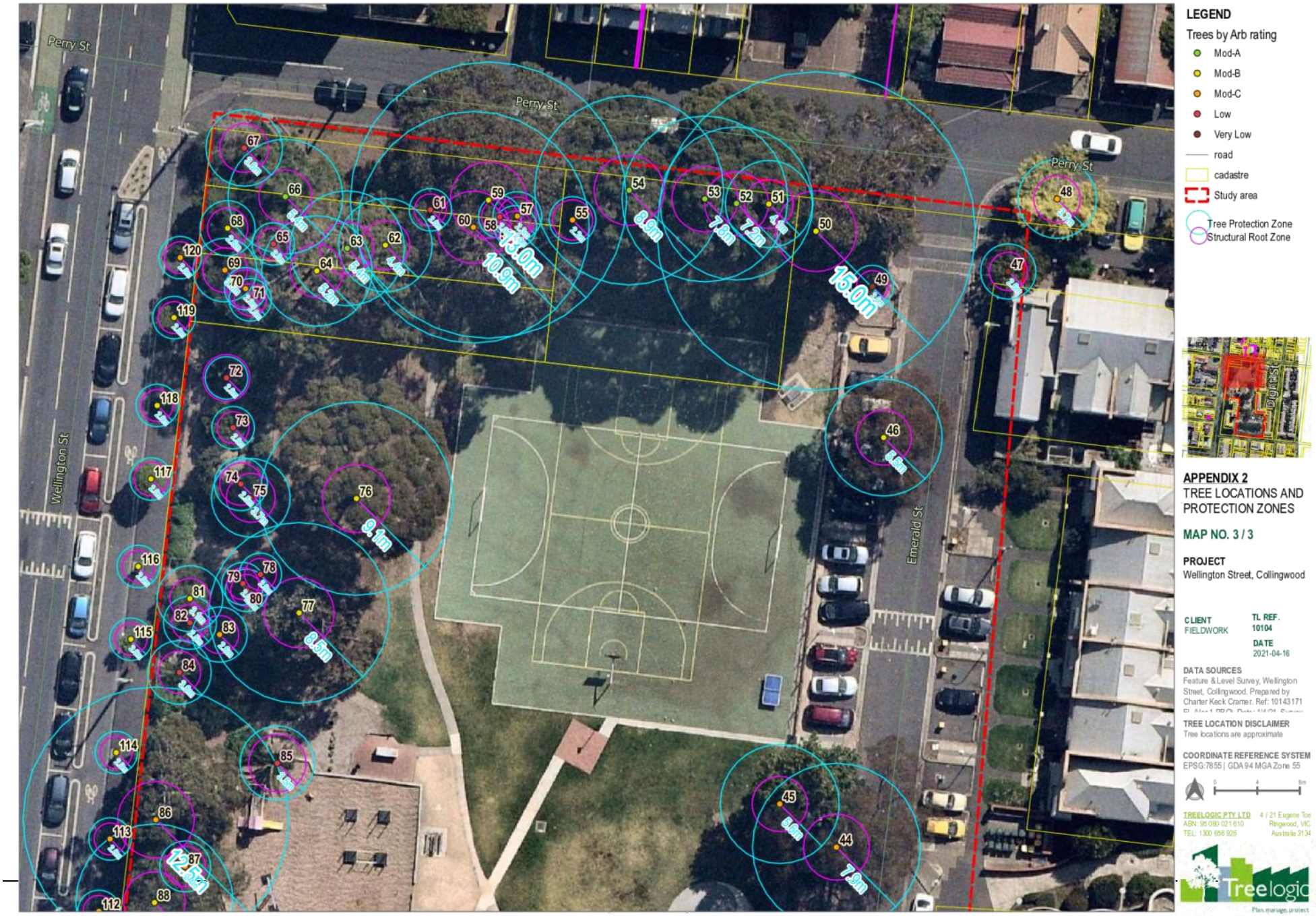

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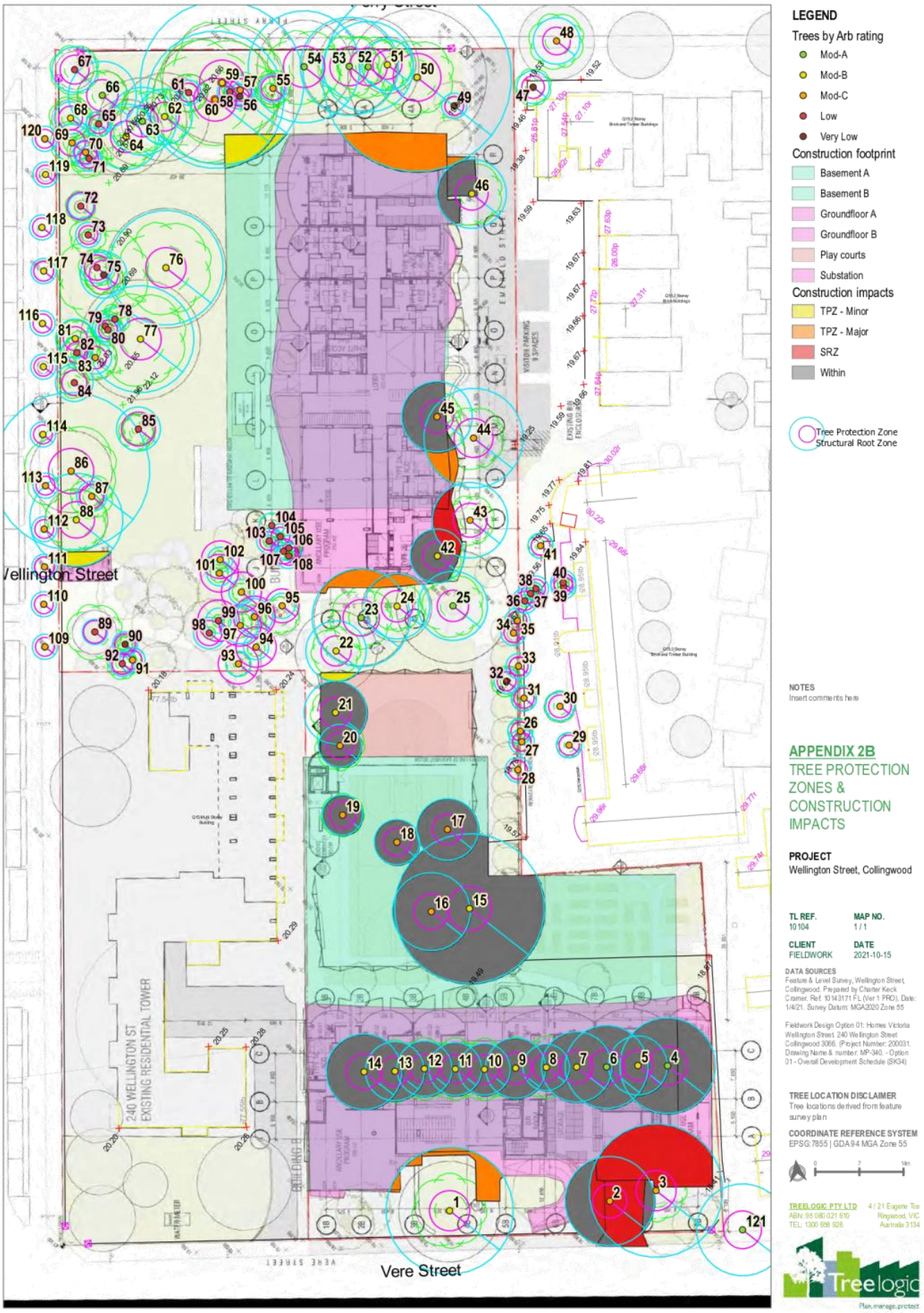


Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree pictures

Tree No: 1. Southern Mahogany (*Eucalyptus botryoides*). Arb. Rating: Mod.B.
Permit: Local Law. TPZ: 10.1m radius
Construction impact: TPZ - Major

Tree No: 3. Southern Mahogany (*Eucalyptus botryoides*). Arb. Rating: Mod.C.
Permit: Local Law. TPZ: 10.6m radius
Construction impact: SRZ

Tree No: 2. Southern Mahogany (*Eucalyptus botryoides*). Arb. Rating: Mod.C.
Permit: Local Law. TPZ: 7.1m radius
Construction impact: Within

Tree No: 4. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.A.
Permit: Local Law. TPZ: 7.6m radius
Construction impact: Within

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 5. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B. Permit: Local Law (base). TPZ: 4.7m radius Construction impact: Within

Tree No: 7. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B. Permit: Local Law. TPZ: 5.6m radius Construction impact: Within

Tree No: 6. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.A. Permit: Local Law. TPZ: 6.6m radius Construction impact: Within

Tree No: 8. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B. Permit: No permit. TPZ: 3.7m radius Construction impact: Within

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 9. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B. Permit: Local Law. TPZ: 4.8m radius Construction impact: Within

Tree No: 11. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B. Permit: Local Law (base). TPZ: 4.2m radius Construction impact: Within

Tree No: 10. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B. Permit: Local Law (base). TPZ: 4.1m radius Construction impact: Within

Tree No: 12. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B. Permit: Local Law (base). TPZ: 4.4m radius Construction impact: Within

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 13. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B.
Permit: Local Law (base). TPZ: 4.7m radius
Construction impact: Within

Tree No: 15. Victorian Blue Gum (*Eucalyptus bicostata*). Arb. Rating: Mod.B.
Permit: Local Law. TPZ: 11.9m radius
Construction impact: Within

Tree No: 14. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B.
Permit: Local Law. TPZ: 6m radius
Construction impact: Within

Tree No: 16. Victorian Blue Gum (*Eucalyptus bicostata*). Arb. Rating: Mod.C.
Permit: Local Law. TPZ: 6.2m radius
Construction impact: Within

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 17. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.C.
Permit: Local Law. TPZ: 4.9m radius
Construction impact: Within

Tree No: 19. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 3.2m radius
Construction impact: Within

Tree No: 18. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 3.6m radius
Construction impact: Within

Tree No: 20. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 3.4m radius
Construction impact: Within

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 21. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B. Permit: Local Law. TPZ: 5m radius Construction impact: Within

Tree No: 23. Narrow-leaved Black Peppermint (*Eucalyptus nicholii*). Arb. Rating: Mod.A. Permit: Local Law. TPZ: 7.8m radius Construction impact: TPZ - Major

Tree No: 22. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B. Permit: Local Law. TPZ: 4.8m radius Construction impact: TPZ - Minor

Tree No: 24. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B. Permit: Local Law. TPZ: 5.2m radius Construction impact: TPZ - Major

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 25. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.A.
Permit: Local Law. TPZ: 5.5m radius
Construction impact: TPZ - Minor

Tree No: 26. Willow Bottlebrush (*Callistemon salignus*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 27. Willow Bottlebrush (*Callistemon salignus*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 28. King's Park Special Bottlebrush (*Callistemon 'Kings Park Special'*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 29. Chinese Hawthorn (*Photinia serratifolia*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 31. Weeping Bottlebrush (*Callistemon viminalis*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 30. Kohuhu (*Pittosporum tenuifolium 'Aureum'*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2.3m radius
Construction impact: None

Tree No: 32. London Plane (*Platanus Xacerifolia*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 33. King's Park Special Bottlebrush (*Callistemon 'Kings Park Special'*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 35. King's Park Special Bottlebrush (*Callistemon 'Kings Park Special'*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 34. King's Park Special Bottlebrush (*Callistemon 'Kings Park Special'*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 36. Jerusalem artichoke (*Helianthus tuberosus*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 37. Jerusalem artichoke (*Helianthus tuberosus*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 38. Jerusalem artichoke (*Helianthus tuberosus*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 39. Jerusalem artichoke (*Helianthus tuberosus*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 40. Jerusalem artichoke (*Helianthus tuberosus*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 41. Judas Tree (*Cercis siliquastrum*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 42. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.B. Permit: Local Law (base). TPZ: 4.3m radius Construction impact: Within

Tree No: 44. Wallangarra White Gum (*Eucalyptus scoparia*). Arb. Rating: Mod.C. Permit: Local Law. TPZ: 7.9m radius Construction impact: TPZ - Major

Tree No: 43. Wallangarra White Gum (*Eucalyptus scoparia*). Arb. Rating: Mod.C. Permit: Local Law. TPZ: 6m radius Construction impact: SRZ

Tree No: 45. London Plane (*Platanus Xacerifolia*). Arb. Rating: Mod.C. Permit: Local Law. TPZ: 5.6m radius Construction impact: Within

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 46. Wallangarra White Gum (*Eucalyptus scoparia*). Arb. Rating: Mod.B.
Permit: Local Law. TPZ: 5.5m radius
Construction impact: Within

Tree No: 48. Pin Oak (*Quercus palustris*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 3.7m radius
Construction impact: None

Tree No: 47. Crape Myrtle (*Lagerstroemia indica*). Arb. Rating: Very Low.
Permit: No permit. TPZ: 2.6m radius
Construction impact: None

Tree No: 49. Sweet Pittosporum (*Pittosporum undulatum*). Arb. Rating: Very Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 50. Victorian Blue Gum (*Eucalyptus bicostata*). Arb. Rating: Mod.B.
Permit: Local Law. TPZ: 15m radius
Construction impact: TPZ - Major

Tree No: 52. Spotted Gum (*Corymbia maculata*). Arb. Rating: Mod.A.
Permit: Local Law. TPZ: 7.2m radius
Construction impact: None

Tree No: 51. Spotted Gum (*Corymbia maculata*). Arb. Rating: Mod.B.
Permit: Local Law (base). TPZ: 4.1m radius
Construction impact: None

Tree No: 53. Spotted Gum (*Corymbia maculata*). Arb. Rating: Mod.A.
Permit: Local Law. TPZ: 7.8m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 54. Spotted Gum
(*Corymbia maculata*). Arb. Rating: Mod.A.
Permit: Local Law. TPZ: 8.9m radius
Construction impact: None

Tree No: 56. Mirror Bush
(*Coprosma repens*). Arb. Rating: Very Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 55. Bracelet Honey-myrtle
(*Melaleuca armillaris*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2.2m radius
Construction impact: None

Tree No: 57. Peppercorn Tree
(*Schinus areira*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2.3m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 58. Canary Island Date Palm (*Phoenix canariensis*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 60. Victorian Blue Gum (*Eucalyptus bicostata*). Arb. Rating: Mod.C.
Permit: Local Law. TPZ: 10.9m radius
Construction impact: TPZ - Minor

Tree No: 59. Victorian Blue Gum (*Eucalyptus bicostata*). Arb. Rating: Mod.B.
Permit: Local Law. TPZ: 13m radius
Construction impact: TPZ - Minor

Tree No: 61. Gossamer Wattle (*Acacia floribunda*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 62. Lemon-scented Gum (*Corymbia citriodora*). Arb. Rating: Mod.B.
Permit: Local Law (base). TPZ: 4.4m radius
Construction impact: None

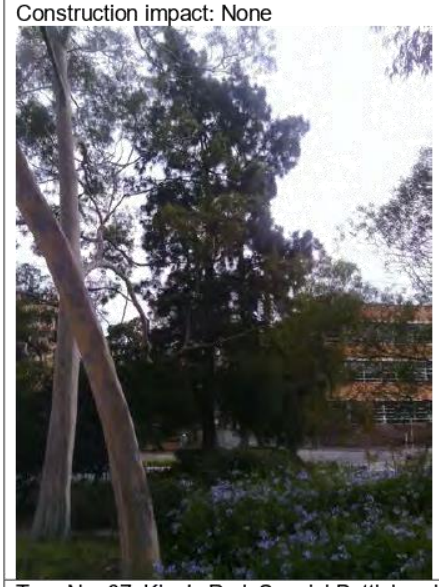
Tree No: 64. Lemon-scented Gum (*Corymbia citriodora*). Arb. Rating: Mod.B.
Permit: Local Law. TPZ: 5.2m radius
Construction impact: None

Tree No: 63. Lemon-scented Gum (*Corymbia citriodora*). Arb. Rating: Mod.A.
Permit: Local Law. TPZ: 5.4m radius
Construction impact: None

Tree No: 65. Shining Privet (*Ligustrum lucidum*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 66. River She-oak (*Casuarina cunninghamiana*). Arb. Rating: Mod.A.
Permit: Local Law. TPZ: 5.4m radius
Construction impact: None



Tree No: 67. King's Park Special Bottlebrush (*Callistemon 'Kings Park Special'*). Arb. Rating: Low.
Permit: Local Law (base). TPZ: 3.6m radius
Construction impact: None

Tree No: 68. Blackwood (*Acacia melanoxylon*). Arb. Rating: Mod.B.
Permit: No permit. TPZ: 2.6m radius
Construction impact: None

Tree No: 69. Blackwood (*Acacia melanoxylon*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 3m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 70. Gossamer Wattle (*Acacia floribunda*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 72. Gossamer Wattle (*Acacia floribunda*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 71. Grey-leafed Cotoneaster (*Cotoneaster glaucophyllus*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 73. Sweet Pittosporum (*Pittosporum undulatum*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 74. King's Park Special Bottlebrush (*Callistemon 'Kings Park Special'*). Arb. Rating: Low.
Permit: No permit. TPZ: 2.5m radius
Construction impact: None

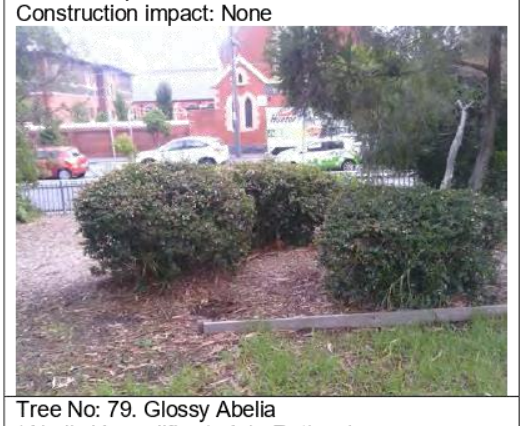
Tree No: 75. Bracelet Honey-myrtle (*Melaleuca armillaris*). Arb. Rating: Very Low.
Permit: Local Law. TPZ: 3.7m radius
Construction impact: None

Tree No: 76. Sugar Gum (*Eucalyptus cladocalyx*). Arb. Rating: Mod.B.
Permit: Local Law. TPZ: 9.1m radius
Construction impact: None

Tree No: 77. Southern Blue Gum (*Eucalyptus globulus*). Arb. Rating: Mod.B.
Permit: Local Law. TPZ: 8.5m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 78. Glossy Abelia (*Abelia Xgrandiflora*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None



Tree No: 79. Glossy Abelia (*Abelia Xgrandiflora*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 80. Glossy Abelia (*Abelia Xgrandiflora*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 81. Blackwood (*Acacia melanoxylon*). Arb. Rating: Mod.B.
Permit: No permit. TPZ: 3.1m radius
Construction impact: None

Tree No: 82. Canary Island Date Palm (*Phoenix canariensis*). Arb. Rating: Low.
Permit: No permit. TPZ: 2.5m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 83. Blackwood
(*Acacia melanoxylon*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2.6m radius
Construction impact: None

Tree No: 85. Canary Island Date Palm
(*Phoenix canariensis*). Arb. Rating: Low.
Permit: Local Law. TPZ: 3.5m radius
Construction impact: None

Tree No: 84. Canary Island Date Palm
(*Phoenix canariensis*). Arb. Rating: Low.
Permit: No permit. TPZ: 3m radius
Construction impact: None

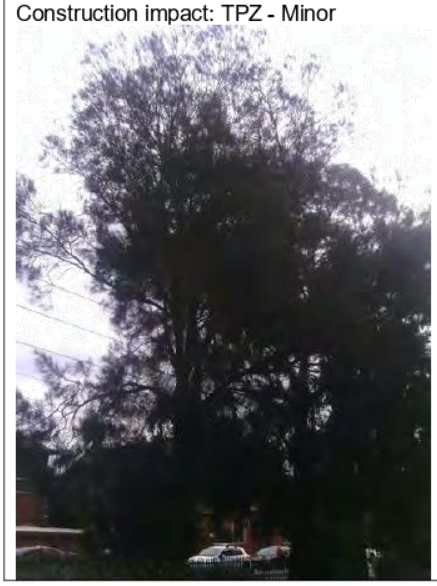
Tree No: 86. Manna Gum
(*Eucalyptus viminalis*). Arb. Rating: Mod.C.
Permit: Local Law. TPZ: 12.5m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 87. Weeping Bottlebrush (*Callistemon viminalis*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2.4m radius
Construction impact: None

Tree No: 89. Chinese Elm (*Ulmus parvifolia*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 88. River She-oak (*Casuarina cunninghamiana*). Arb. Rating: Mod.B.
Permit: Local Law. TPZ: 7.4m radius
Construction impact: TPZ - Minor



Tree No: 90. Mirror Bush (*Coprosma repens*). Arb. Rating: Very Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 91. Chinese Elm
(*Ulmus parvifolia*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 92. Chinese Elm
(*Ulmus parvifolia*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 93. Spineless Yucca
(*Yucca elephantipes*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 94. Spineless Yucca
(*Yucca elephantipes*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 95. Spineless Yucca (*Yucca elephantipes*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 97. Spineless Yucca (*Yucca elephantipes*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2.9m radius
Construction impact: None

Tree No: 96. Spineless Yucca (*Yucca elephantipes*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2.9m radius
Construction impact: None

Tree No: 98. Canary Island Date Palm (*Phoenix canariensis*). Arb. Rating: Low.
Permit: No permit. TPZ: 2.5m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 99. Chinese Elm (*Ulmus parvifolia*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 101. Spineless Yucca (*Yucca elephantipes*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 100. Spineless Yucca (*Yucca elephantipes*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 102. Spineless Yucca (*Yucca elephantipes*). Arb. Rating: Mod.C.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 103. Narrow-leaf Bower Wattle (*Acacia cognata*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 105. Narrow-leaf Bower Wattle (*Acacia cognata*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 104. Myrtle-leaved Milkwort (*Polygala myrtifolia*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: None

Tree No: 106. Narrow-leaf Bower Wattle (*Acacia cognata*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: TPZ - Major

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 107. Spineless Yucca (*Yucca elephantipes*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: SRZ

Tree No: 108. Narrow-leaf Bower Wattle (*Acacia cognata*). Arb. Rating: Low.
Permit: No permit. TPZ: 2m radius
Construction impact: SRZ

Tree No: 109. Kanooka (*Tristaniopsis laurina*). Arb. Rating: Mod.C.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

Tree No: 110. Kanooka (*Tristaniopsis laurina*). Arb. Rating: Mod.C.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 111. Kanooka (*Tristaniopsis laurina*). Arb. Rating: Mod.C.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

Tree No: 113. Kanooka (*Tristaniopsis laurina*). Arb. Rating: Mod.C.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

Tree No: 112. Kanooka (*Tristaniopsis laurina*). Arb. Rating: Mod.C.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

Tree No: 114. Kanooka (*Tristaniopsis laurina*). Arb. Rating: Mod.B.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 115. Kanooka (*Tristaniopsis laurina*). Arb. Rating: Mod.B.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

Tree No: 117. Kanooka (*Tristaniopsis laurina*). Arb. Rating: Mod.B.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

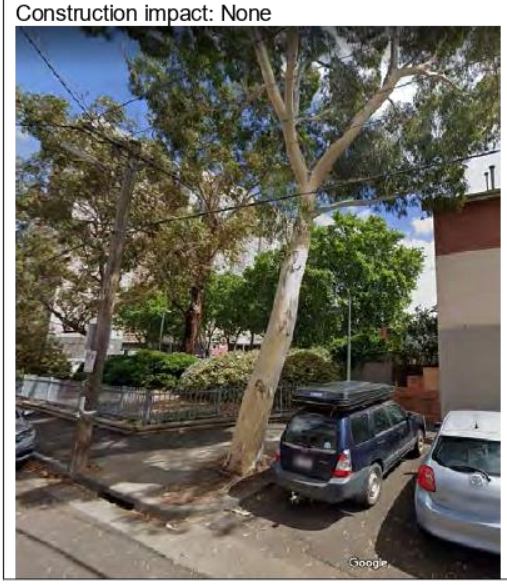
Tree No: 116. Kanooka (*Tristaniopsis laurina*). Arb. Rating: Mod.B.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

Tree No: 118. Kanooka (*Tristaniopsis laurina*). Arb. Rating: Mod.B.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Tree No: 119. Kanooka
(*Tristaniopsis laurina*). Arb. Rating: Mod.B.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

Tree No: 121. Brittle Gum
(*Eucalyptus mannifera*). Arb. Rating: Mod.A.
Permit: Street tree. TPZ: 6.6m radius
Construction impact: None



Tree No: 120. Kanooka
(*Tristaniopsis laurina*). Arb. Rating: Mod.C.
Permit: Street tree. TPZ: 2m radius
Construction impact: None

Appendix 3: Arboricultural Descriptors (June 2018)

Note that not all of the described tree descriptors may be used in a tree assessment and report. The assessment is undertaken with regard to contemporary arboricultural practices and consists of a visual inspection of external and above-ground tree parts.

1. Tree Condition

The assessment of tree condition evaluates factors of health and structure. The descriptors of health and structure attributed to a tree evaluate the individual specimen to what could be considered typical for that species growing in its location under current climatic conditions. For example, some species can display inherently poor branching architecture, such as multiple acute branch attachments with included bark. Whilst these structural defects may technically be considered arboriculturally poor, they are typical for the species and may not constitute an increased risk of failure. These trees may be assigned a structural rating of fair-poor (rather than poor) at the discretion of the assessor.

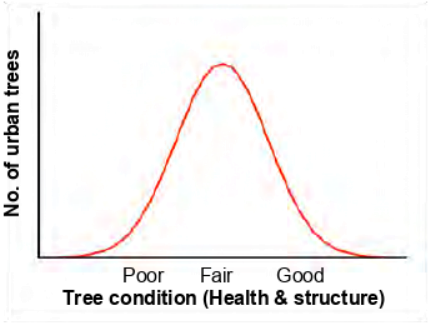


Diagram 1: Indicative normal distribution curve for tree condition

Diagram 1, provides an indicative distribution curve for tree condition to illustrate that within a normal tree population the majority of specimens are centrally located within the condition range (normal distribution curve). Furthermore, that those individual trees with an assessed condition approaching the outer ends of the spectrum occur less often.

2. Tree Name

Provides botanical name, (genus, species, variety and cultivar) according to accepted international code of taxonomic classification, and common name.

3. Tree Type

Describes the general geographic origin of the species and its type e.g. deciduous or evergreen.

Category	Description
Indigenous	Occurs naturally in the area or region of the subject site. Remnant.
Victorian native	Occurs naturally within some part of the State of Victoria (not exclusively) but is not indigenous (component of EVC benchmark). Could be planted indigenous trees.
Australian native	Occurs naturally within Australia but is not a Victorian native or indigenous
Exotic deciduous	Occurs outside of Australia and typically sheds its leaves during winter
Exotic evergreen	Occurs outside of Australia and typically holds its leaves all year round
Exotic conifer	Occurs outside of Australia and is classified as a gymnosperm
Native conifer	Occurs naturally within Australia and is classified as a gymnosperm
Native Palm	Occurs naturally within Australia. Woody monocotyledon
Exotic Palm	Occurs outside of Australia. Woody monocotyledon

4. Height and Width

Indicates height and width of the individual tree; dimensions are expressed in metres. Crown heights are measured with a height meter where possible. Due to the topography of some sites and/or the density of vegetation it may not be possible to do this for every tree. Tree heights may be estimated in line with previous height meter readings in conjunction with assessor's experience. Crown widths are generally paced (estimated) at the widest axis or can be measured on two axes and averaged. In some instances the crown width can be measured on the four cardinal direction points (North, South, East and West).

Crown height, crown spread are generally recorded to the nearest half metre (crown spread would be rounded up) for dimensions up to 10 m and the nearest whole metre for dimensions over 10 m. Estimated dimensions (e.g. for off-site or otherwise inaccessible trees where accurate data cannot be recovered) shall be clearly identified in the assessment data.

5. Trunk diameters

The position where trunk diameters are captured may vary dependent on the requirements of the specific assessment and an individual trees specific characteristics. DBH is the typical trunk diameter captured as it relates to the allocation of tree protection distances. The basal trunk diameter assists in the allocation of a structural root zone. Some municipalities require trunk diameters be captured at different heights, with 1.0 m above grade being a common requirement. The specific planning schemes will be checked to ascertain requirements.

Stem diameters shall be recorded in centimetres, rounded to the nearest 1 cm (0.01 m).

Diameter at Breast Height (DBH)

Indicates the trunk diameter (expressed in centimetres) of an individual tree measured at 1.4m above the existing ground level or where otherwise indicated, multiple leaders are measured individually. Plants with multiple leader habit may be measured at the base. The range of methods to suit particular trunk shapes, configurations and site conditions can be seen in Appendix A of Australian Standard *AS 4970-2009 Protection of trees on development site*s. Measurements undertaken using foresters tape or builders tape.

Basal trunk diameter

The basal dimension is the trunk diameter measured at the base of the trunk or main stem(s) immediately above the root buttress. Used to ascertain the Structural Root Zone (SRZ) as outlined in AS4970.

6. Age class

Relates to the physiological stage of the tree's life cycle.

Category	Description
Young	Sapling tree and/or recently planted. Approximately 5 or less years in location.
Semi-mature	Tree increasing in size and yet to achieve expected size in situation. Primary developmental stage.
Early-mature	Tree established, generally growing vigorously. > 50% of attainable age/size.
Mature	Specimen approaching expected size in situation, with reduced incremental growth.
Over-mature	Mature full-size with a retrenching crown. Tree is senescent and in decline. Significant decay generally present.

7. Health

Assesses various attributes to describe the overall health and vigour of the tree.

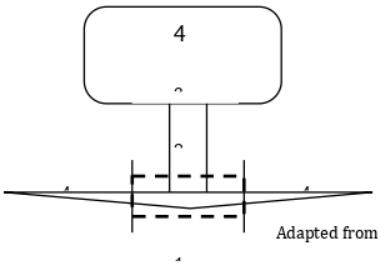
Health Category	Vigour, Extension growth	Decline symptoms, Deadwood, Dieback	Foliage density, colour, size, intactness	Pests and or disease
Good	Above typical. Excellent. Full canopy density	Negligible	Better than typical	Negligible
Fair	Typical vigour. >80% canopy density	Minor or expected. Little or no dead wood	Typical. Minor deficiencies or defects could be present.	Minor, within damage thresholds
Fair to Poor	Below typical - low vigour	More than typical. Small sub-branch dieback	Exhibiting deficiencies. Could be thinning, or smaller	Exceeds damage thresholds
Poor	Minimal - declining	Excessive, large and/or prominent amount & size of dead wood	Exhibiting severe deficiencies. Thinning foliage, generally smaller or deformed	Extreme and contributing to decline
Dead	N/A	N/A	N/A	N/A

8. Structure

Assesses principal components of tree structure (Diagram 2).
Structure ratings will also take into account general branching architecture, stem taper, live crown ratio, crown symmetry (bias or lean) and crown position such as tree being suppressed amongst more dominant trees.

Diagram 2: Tree structure zones

1. Root plate & lower stem
2. Trunk
3. Primary branch support
4. Outer crown & roots



Adapted from Coder (1996)

The lowest or worst descriptor assigned to the tree in any column could generally be the overall rating assigned to the tree. The assessment for structure is limited to observations of external and above ground tree parts. It does not include any exploratory assessment of underground or internal tree parts unless this is requested as part of the investigation. Trees are assessed and then given a rating for a point in time. Generally, trees with a poor or very poor structure are beyond the benefit of practical arboricultural treatments.

The management of trees in the urban environment requires appropriate arboricultural input and consideration of risk. Risk potential will take into account the combination of likelihood of failure and impact, including the perceived importance of the target(s). See table over page.

Structure Category	Zone 1 - Root plate & lower stem	Zone 2 - Trunk	Zone 3 - Primary branch support	Zone 4 - Outer crown and roots
Good	No obvious damage, disease or decay; obvious basal flare / stable in ground	No obvious damage, disease or decay; well tapered	Well formed, attached, spaced and tapered. No history of failure.	No obvious damage, disease, decay or structural defect. No history of failure.
Fair	Minor damage or decay. Basal flare present.	Minor damage or decay	Generally well attached, spaced and tapered branches. Minor structural deficiencies may be present or developing. No history of branch failure.	Minor damage, disease or decay; minor branch end-weight or over-extension. No history of branch failure.
Fair to Poor	Moderate damage or decay; minimal basal flare.	Moderate damage or decay; approaching recognised thresholds	Weak, decayed or with acute branch attachments; previous branch failure evidence.	Moderate damage, disease or decay; moderate branch end-weight or over-extension. Minor branch failure evident.
Poor	Major damage, disease or decay; fungal fruiting bodies present. Excessive lean placing pressure on root plate	Major damage, disease or decay; exceeds recognised thresholds; fungal fruiting bodies present. Acute lean. Stump re-sprout	Decayed, cavities or has acute branch attachments with included bark; excessive compression flaring; failure likely. Evidence of major branch failure.	Major damage, disease or decay; fungal fruiting bodies present; major branch end-weight or over-extension. Branch failure evident.
Very Poor	Excessive damage, disease or decay; unstable / loose in ground; altered exposure; failure probable	Excessive damage, disease or decay; cavities. Excessive lean. Stump re-sprout	Decayed, cavities or branch attachments with active split; failure imminent. History of major branch failure.	Excessive damage, disease or decay; excessive branch end-weight or over-extension. History of branch failure.

Useful life expectancy

Assessment of useful life expectancy provides an indication of health and tree appropriateness and involves an estimate of how long a tree is likely to remain in the landscape based on species, stage of life (cycle), health, amenity, environmental services contribution, conflicts with adjacent infrastructure and risk to the community. It would enable tree managers to develop long-term plans for the eventual removal and replacement of existing trees in the public realm. It is not a measure of the biological life of the tree within the natural range of the species. It is more a measure of the health status and the trees positive contribution to the urban landscape.

Within an urban landscape context, particularly in relation to street trees, it could be considered a point where the costs to maintain the asset (tree) outweigh the benefits the tree is returning.

The assessment is based on the site conditions not being significantly altered and that any prescribed maintenance works are carried out (site conditions are presumed to remain relatively constant and the tree would be maintained under scheduled maintenance programs). See table over page.

Useful Life Expectancy category	Typical characteristics
<1 year (No remaining ULE)	Tree may be dead or mostly dead. Tree may exhibit major structural faults. Tree may be an imminent failure hazard. Excessive infrastructure damage with high risk potential that cannot be remedied.
1-5 years (Transitory, Brief)	Tree is exhibiting severe chronic decline. Crown is likely to be less than 50% typical density. Crown may be mostly epicormic growth. Dieback of large limbs is common (large deadwood may have been pruned out). Tree may be over-mature and senescing. Infrastructure conflicts with heightened risk potential. Tree has outgrown site constraints.
6-10 years (Short)	Tree is exhibiting chronic decline. Crown density will be less than typical and epicormic growth is likely to present. The crown may still be mostly entire, but some dieback is likely to be evident. Dieback may include large limbs. Over-mature and senescing or early decline symptoms in short-lived species. Early infrastructure conflicts with potential to increase regardless of management inputs.
11-20 years (Moderate)	Tree not showing symptoms of chronic decline, but growth characteristics are likely to be reduced (bud development, extension growth etc.). Tree may be over-mature and beginning to senesce. Potential for infrastructure conflicts regardless of management inputs.
21-40 years (Moderately long)	Trees displaying normal growth characteristics but vigour is likely to be reduced (bud development, extension growth etc.). Tree may be growing in restricted environment (e.g. streetscapes) or may be in late maturity. Semi-mature and mature trees exhibiting normal growth characteristics. Juvenile trees in streetscapes.
>40 years (Long)	Generally juvenile and semi-mature trees exhibiting normal growth characteristics within adequate spaces to sustain growth, such as in parks or open space. Could also pertain to maturing, long-lived trees. Tree well suited to the site with negligible potential for infrastructure conflicts.

Note that ULE may change for a tree dependent on the prevailing climatic conditions, which can either increase or decrease, or sudden changes to a tree's growing environment creating an acute stress.

The ULE may not be applicable for trees that are manipulated, such as topiary, or grown for specific horticultural purposes, such as fruit trees.

There may be instances where remedial tree maintenance could be extend a tree's ULE.

9. Arboricultural Rating

Relates to the combination of tree condition factors, including health and structure (arboricultural merit), and also conveys an amenity value. Amenity relates to the trees biological, functional and aesthetic characteristics (Hitchmough 1994) within an urban landscape context. The presence of any serious disease or tree-related hazards that would impact risk potential are taken into account. See table over page.

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

Arboricultural rating Category	Description
High	Tree of high quality in good to fair condition; good vigour. Generally a prominent arboricultural/landscape feature. Particularly good example of the species; rare or uncommon. Tree may have significant conservation or other cultural value. These trees have the potential to be a medium- to long-term components of the landscape (moderately long to long ULE) if managed appropriately. Retention of these trees is highly desirable.
Moderate	*General* - Tree of moderate quality, in fair or better condition. Tree may have a condition, and or structural problem that will respond to arboricultural treatment. These trees have the potential to be a moderate- to long-term component of the landscape (moderate to long ULE) if managed appropriately. Retention of these trees is generally desirable. The following sub-categories relate predominately to age and size and amenity.
	A. Moderate to large, maturing tree. Contributes to the landscape character. Tree may have conservation or other cultural value.
	B. Moderate sized, established tree, > 50% of attainable age/size. Contributes to the landscape character. Maturing tree with amenity value but with identified deficiencies
	C. Small and/or semi-mature tree, established, >5 years in the location. May not be a dominant canopy. No special qualities. Maturing tree, accumulating deficiencies, trending towards being of Low arboricultural value.
Low	Unremarkable tree of low quality or little amenity value. Tree in either poor health or with poor structure or a combination. Short to transitory useful life expectancy. Tree is not significant because of either its size or age, such as young trees with a stem diameter below 15 cm. Trees regularly pruned to restrict size. These trees are easily replaceable. Tree (species) is functionally inappropriate to specific location and would be expected to be problematic if retained. Retention of such trees may be considered if not requiring a disproportionate expenditure of resources for a tree in its condition and location.
Very Low	Trees of low quality with an estimated remaining life expectancy of less than 5 years. Tree has either a severe structural defect or health problem or combination that cannot be sustained with practical arboricultural techniques and the loss of the tree would be expected in the short term. Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. Tree infected with pathogens of significance to either the health or safety of the tree or other adjacent trees. Tree whose retention would not be viable after the removal of adjacent trees (includes trees that have developed in close spaced groups and would not be expected to acclimatise to severe alterations to surrounding environment – removal of adjacent shelter trees). Tree has a detrimental effect on the environment, for example, the tree is a recognised environmental woody weed with potential to spread into waterways or natural areas. Unremarkable tree of no material landscape, conservation or other cultural value.

Trees have many values, not all of which are considered when an arboricultural assessment is undertaken. However, individual trees or tree group features may be considered important community resources because of unique or noteworthy characteristics or values other than their age, dimensions, health or structural condition. Recognition of one or more of the following criterion is designed to highlight other considerations that may influence the future management of such trees.

Significance	Description
Horticultural Value/ Rarity	Outstanding horticultural or genetic value; could be an important source of propagating stock, including specimens that are particularly resistant to disease or exposure. Any tree of a species or variety that is rare.
Historic, Aboriginal Cultural or Heritage Value	Tree could have value as a remnant of a particular important historical period or a remnant of a site or activity no longer in action. Tree has a recognised association with historic aboriginal activities, including scar trees. Tree commemorates a particular occasion, including plantings by notable people, or having associations with an important event in local history.
Ecological Value	Tree could have value as habitat for indigenous wildlife, including providing breeding, foraging or roosting habitat, or is a component of a wildlife reserve. Remnant Indigenous vegetation that contribute to biological diversity

Bibliography:

Coder, K D. (1996) Construction damage assessments: trees and sites, University of Georgia, USA

Hitchmough, J.D. (1994) Urban landscape management, Inkata Press, Australia

Gooding, R.F., Ingram, J.B., Urban, J.R., Bloch, L.B., Steigerwaldt, W.M, Harris, R.W. and Allen, E.N. (2000) Guide for plant appraisal, 9th edition, International society of Arboriculture, USA

Pollard, A. H. (1974) Introductory statistics: a service course, Pergamon Press Australia, Australia.

Standards Australia (2009) Australian Standard AS 4970-2009 Protection of trees on development sites.

Appendix 4: Tree protection zones.

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Introduction

In order to sustain trees on a development site consideration must be given to the establishment of tree protection zones.

The physical dimensions of tree protection zones can sometimes be difficult to define. The projection of a tree's crown can provide a guide but is by no means the definitive measure. The unpredictable nature of roots and their growth, differences between species and their tolerances, and observable and hidden changes to the trees growing environment, as a result of development, are variables that must be considered.

Most vigorous, broad canopied trees survive well if the area within the drip-line of the canopy is protected. Fine root density is usually greater beneath the canopy than beyond (Gilman, 1997). If few to no roots over 3cm in diameter are encountered and severed during excavation the tree will probably tolerate the impact and root loss. A healthy tree can sustain a loss of between 30% and 50% of absorbing roots (Harris, Clark, Matheny, 1999), however encroachment into the structural root system of a tree may be problematic.

The structural root system of a tree is responsible for ensuring the stability of the entire tree structure in the ground. A tree could not sustain loss of structural root system and be expected to survive let alone stand up to average annual wind loads upon the crown.

Allocation of tree protection zone (TPZ)

The method of allocating a TPZ to a particular tree will be influenced by site factors, the tree species, its age and developed form.

Once it has been established, through an arboricultural assessment, which trees and tree groups are to be retained, the next step will require careful management through the development process to minimise any impacts on the designated trees. The successful retention of trees on any particular site will require the commitment and understanding of all parties involved in the development process. The most important activity, after determining the trees that will be retained is the implementation of a TPZ.

The intention of tree protection zones is to:

- mitigate tree hazards;
- provide adequate root space to sustain the health and aesthetics of the tree into the future;
- minimise changes to the trees growing environment, which is particularly important for mature specimens;
- minimise physical damage to the root system, canopy and trunk; and
- define the physical alignment of the tree protection fencing

Tree protection

The most important consideration for the successful retention of trees is to allow appropriate above and below ground space for the trees to continue to grow. This requires the allocation of tree protection zones for retained trees.

The Australian Standard AS 4970-2009 Protection of trees on development sites has been used as a guide in the allocation of TPZs for the assessed trees.

The TPZ for individual trees is calculated based on trunk (stem) diameter (DBH), measured at 1.4 metres up from ground level. The radius of the TPZ is calculated by multiplying the trees DBH by 12. The method provides a TPZ that addresses both the stability and growing requirements of a tree. TPZ distances are measured as a radius from the centre of the trunk at (or near) ground level. The minimum TPZ should be no less than 2m and the maximum no more than 15m radius. The TPZ of palms should be not less than 1.0m outside the crown projection.

Encroachment into the TPZ is permissible under certain circumstances though is dependent on both site conditions and tree characteristics. Minor encroachment, up to 10% of the TPZ, is generally permissible provided encroachment is compensated for by recruitment of an equal area contiguous with the TPZ. Examples are provided in Diagram 1. Encroachment greater than 10% is considered major encroachment under AS4970-2009 and is only permissible if it can be demonstrated that after such encroachment the tree would remain viable.

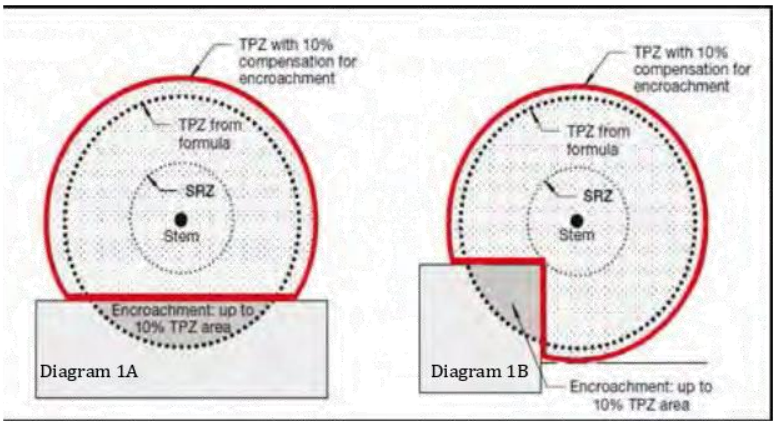


Diagram 1: Examples of minor encroachment into a TPZ.

(Extract from: AS4970-2009, Appendix D, p30 of 32)

The 10% encroachment on one side equates to approximately ⅓ radial distance. Tree root growth is opportunistic and occurs where the essentials to life (primarily air and water) are present. Heterogeneous soil conditions, existing barriers, hard surfaces and buildings may have inhibited the development of a symmetrically radiating root system.

Existing infrastructure around some trees may be within the TPZ or root plate radius. The roots of some trees may have grown in response to the site conditions and therefore if existing hard surfaces and building alignments are utilised in new designs the impacts on the trees should be minimal. The most reliable way to estimate root disturbance is to find out where the roots are in relation to the demolition, excavation or construction works that will take place (Matheny & Clark, 1998). Exploratory excavation prior to commencement of construction can help establish the extent of the root system and where it may be appropriate to excavate or build.

The TPZ should also give consideration to the canopy and overall form of the tree. If the canopy requires severe pruning in order to accommodate a building and in the process the form of the tree is diminished it may be worthwhile considering altering the design or removing the tree.

General tree protection guidelines

The most important factors are:

- Prior to construction works the trees nominated for tree works should be pruned to remove larger dead wood. Pruning works may also identify other tree hazards that require remedial works.
- Installation of tree protection fencing. Once the tree protection zones have been determined the next step is to mulch the zone with woodchip and erect tree protection fencing. This must be completed prior to any materials being brought on-site, erection of temporary site facilities or demolition/earth works. The protection fencing must be sturdy and withstand winds and construction impacts. The protection fence should only be moved with approval of the site supervisor. Other root zone protection methods can be incorporated if the TPZ area needs to be traversed.
- Appropriate signage is to be fixed to the fencing to alert people as to importance of the tree protection zone.
- The importance of tree preservation must be communicated to all relevant parties involved with the site.
- Inspection of trees during excavation works.

TPZ fencing

TPZ fencing must be in the form of either temporary fencing panels with concrete block feet and locked together or water filled barriers with locking pins installed. TPZ fencing must be sufficiently robust to withstand knocks and bumps from plant and machinery, delivery vehicles, storage of materials and dumping of spoil.

- Appropriate signage stating 'Tree protection Zone- No access' is to be fixed to the fencing to alert people as to importance of the tree protection zone.

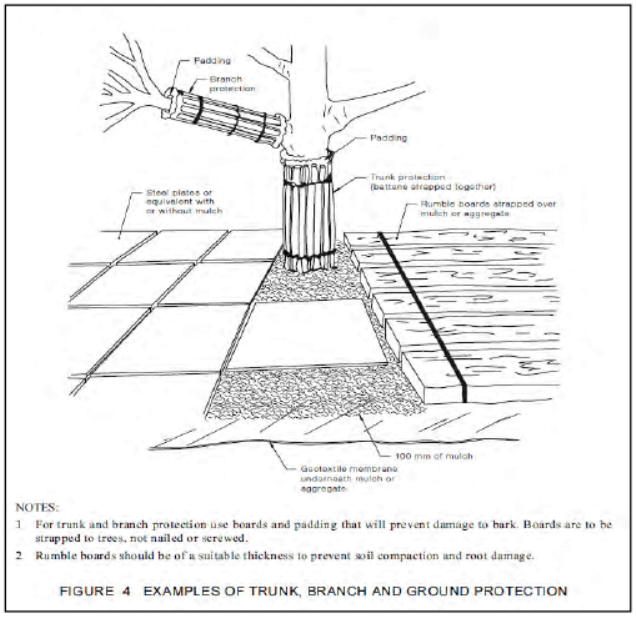
  Refer to Figure 1 for fencing example.

Figure 1. Above left - Example of TPZ fencing above right -Example of TPZ signage.

Ground buffering

Where works are required to be undertaken within the Tree root zone without penetration of the surface, ground buffering and trunk and limb protection must be provided to minimise the potential for soil to become compacted and avoid potential for impact wounds to occur to surface roots, trunk or limbs.
Refer to Diagram 2 below.

Diagram 2: Examples of ground buffering and trunk and limb protection.



(Extract from: AS4970-2009, Appendix D, pg17)

Exploratory excavation

The most reliable way to estimate root disturbance is to find out where the roots are in relation to the demolition, excavation or construction works that will take place (Matheny & Clark, 1998).

Exploratory excavation prior to commencement of construction can help establish the extent of the root system and where it may be appropriate to excavate or build. This also allows management decisions to be made and allows time for redesign works if required.

Any exploratory excavation within the allocated TPZ is to be undertaken with due care of the roots. Minor exploration is possible with hand tools. More extensive exploration may require the use of high pressure water or air excavation techniques. Either hydraulic or pneumatic excavation techniques will safely expose tree roots; both have specific benefits dependent on the situation and soil type. An arborist is to be consulted on which system is best suited for the site conditions.

Substantial roots are to be exposed and left intact.

Once roots are exposed decisions can be made regarding the management of the tree. Decisions will be dependent on the tree species, its condition, its age, its relative tolerance to root loss, and the amount of root system exposed and requiring pruning.

Other alternative measures to encroaching the TPZ may include boring or tunnelling.

How to determine the diameter of a substantial root

The size of a substantial root will vary according to the distance of the exposed root to the trunk of the tree. The further away from the trunk of a tree that a root is, the less significant the root is likely to be to the tree's health and stability.

The determination of what is a substantial root is often difficult because the form, depth and spread of roots will vary between species and sites. However, because smaller roots are connected to larger roots in a framework, there can be no doubt that if larger roots are severed, the smaller roots attached to them will die. Therefore, the larger the root, the more significant it may be.

Gilman (1997) suggests that trees may contain 4-11 major lateral roots and that the five largest lateral roots account (act as a conduit) for 75% of the total root system.

These large lateral roots quickly taper within a distance to the tree, this distance is identified as the Structural Root Zone (SRZ). Within the SRZ distance, all roots and the soil surrounding the roots are deemed significant.

No root or soil disturbance is permitted within the SRZ.
In the area outside the SRZ the tree may tolerate the loss of one or a number of roots. The table below indicates the size of tree roots, outside the SRZ that would be deemed substantial for various tree heights. The assessment of combined root loss within the TPZ would need to be undertaken by an arborist on an individual basis because the location of the tree, its condition and environment would need to be assessed.

Table 1: Estimated significant root sizes outside SRZ

Height of tree	Diameter of root
Less than 5m	≥ 30mm
Between 5m - 15m	≥ 50mm
More than 15m	≥ 70mm

References

Bernatzky, A. 1978. *Tree Ecology and Preservation.* New York: Elsevier Publishing.

British Standard 5837. 1991. *Guide for Trees in relation to construction*. British Standards Institute.

Gilman, E. F. 1997. *Trees for Urban and Suburban Landscapes*. Delmar.

Harris, R. W, Clark J.R. & Matheny N.P. 1999. *Arboriculture: Integrated Management of Landscape Trees, Shrubs and Vines, Third Edition*. Prentice - Hall, New Jersey.

Helliwell, D. R. 1985. Trees on Development Sites. Arboricultural Association UK.

Matheny, N. & Clark, J. R. 1998. Trees and development – A technical guide to preservation of trees during land development. International Society of Arboriculture, Publishers.

Mattheck, C. & Breloer, H. 1994. The Body Language of Trees HMSO

Mattheck C. 2002. Tree Mechanics, Forschungszentrum Karlsruhe GMBH

Tattar, T. A. 1989. Diseases of Shade Trees, 2nd ed. San Diego: Academic Press.

Watson, G. W. & Himelick, E. B. 1997. Principals and Practices of Planting Trees and Shrubs. International Society of Arboriculture.

Construction Guidelines

The following are guidelines that must be implemented to minimise the impact of the proposed construction works on the retained trees.

- The Tree Protection Zone (TPZ) is fenced and clearly marked at all times. The actual fence specifications should be a minimum of 1.2 - 1.5 metres of chain mesh or like fence with 1.8 meter posts (e.g. treated pine or star pickets) or like support every 3-4 metres and a top line of high visibility plastic hazard tape. The posts should be strong enough to sustain knocks from on site excavation equipment. This fence will deter the placement of building materials, entry of heavy equipment and vehicles and also the entry of workers and/or the public into the TPZ. Note: There are many different variations on the construction type and material used for TPZ fences, suffice to say that the fence should satisfy the responsible authority.
- Contractors and site workers should receive written and verbal instruction as to the importance of tree protection and preservation within the site. Successful tree preservation occurs when there is a commitment from all relevant parties involved in designing, constructing and managing a development project. Members of the project team need to interact with each other to minimise the impacts to the trees, either through design decisions or construction practices. The importance of tree preservation must be communicated to all relevant parties involved with the site.
- The consultant arborist is on-site to supervise excavation works around the existing trees where the TPZ will be encroached.
- A layer of organic mulch (woodchips) to a depth of no more than 100mm should be placed over the root systems within the TPZ of trees, which are to be retained so as to assist with moisture retention and to reduce the impact of compaction.
- No persons, vehicles or machinery to enter the TPZ without the consent of the consulting arborist or site manager.
- Where machinery is required to operate inside the TPZ it must be a small skid drive machine (i.e Dingo or similar) operating only forwards and backwards in a radial direction facing the tree trunk and not altering direction whilst inside the TPZ to avoid damaging, compacting or scuffing the roots.
- Any underground service installations within the allocated TPZ should be bored and utility authorities should common trench where possible.
- No fuel, oil dumps or chemicals shall be allowed in or stored on the TPZ and the servicing and re-fuelling of equipment and vehicles should be carried out away from the root zones.
- No storage of material, equipment or temporary building should take place over the root zone of any tree.
- Nothing whatsoever should be attached to any tree including temporary services wires, nails, screws or any other fixing device.
- Supplementary watering should be provided to all trees through any dry periods during and after the construction process. Proper watering is the most important maintenance task in terms of successfully retaining the designated trees. The areas under the canopy drip lines should be mulched with woodchip to a depth of no more than 100mm. The mulch will help maintain soil moisture levels. Testing with a soil probe in a number of locations around the tree will help ascertain soil moisture levels and requirements to irrigate. Water needs to be applied slowly to avoid runoff. A daily watering with 5 litres of water for every 30 mm of trunk calliper may provide the most even soil moisture level for roots (Watson & Himelick, 1997), however light frequent irrigations should be avoided. Irrigation should wet the entire root zone and be allowed to dry out prior to another application. Watering should continue from October until April.

Attachment 7 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Tree Impact Assessment

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Attachment 8 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Traffic Report

Traffix Group

Traffic and Transport Assessment

Proposed Social and Affordable Housing Development

240 Wellington Street, Collingwood

Prepared for
Fieldwork Architects

October, 2021

G29158R-02C

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1. Introduction

Traffix Group has been engaged by Fieldwork Architects to undertake a traffic and transport assessment for the proposed social and affordable housing development at 240 Wellington Street, Collingwood.

This report is based on the current work in progress plans prepared by Fieldwork Architects, dated 13th October, 2021.

2. Proposal

The proposal is for a social and affordable housing development on the existing social housing development site at 240 Wellington Street, Collingwood.

The development will include a north and a south bounding, and will occupy some of the areas not currently occupied by built form on the subject land.

We understand that the new buildings on the site will comprise the following dwelling types:

- A total of 152 additional units on the site, including:
  - 90 x one-bedroom apartments,
  - 49 x two-bedroom apartments, and
  - 13 x three-bedroom apartments.

In addition to the new buildings on the site, the existing tower will be retained in its current form with a total of 208 apartments.

A total of 215 car spaces will be provided on the site, within a single level basement for the north building, and a two-level basement carpark for the south building.

Vehicle access for the south building is proposed near the eastern boundary of the site to Vere Street and vehicle access to the north building is proposed to Emerald Street.

We understand that Emerald Street will be terminated south of the 90 degree car spaces located on its eastern side, with a turning bay to allow for a 6.4m long waste collection vehicle to turn around.

Vehicle access to the service area for the existing tower will be retained post-development.

Bicycle parking will be provided for both buildings, with a total of 186 bicycle spaces provided across both buildings.

Waste collection will be undertaken on-site within the basement levels, whilst loading will occur on-street.

3. Existing Conditions

3.1. Subject Site

The subject site is located at 240 Wellington Street, Collingwood. The study area is detailed at Figure 1. The areas surrounding the site generally consist of residential uses (including social, affordable and standard style dwellings) and community uses, including a primary school, high school, tertiary institution, Justice Centre, etc.

The site is bound by Vere Street to the south, Perry Street to the north and Wellington Street to the west. The site encompasses Emerald Street, which is a private road under the ownership of the Director of Housing. This road provides access to on-street car parking associated with the existing social housing.

Figure 1: Site Context

Vehicle access to the site is currently provided to Vere Street to the immediate west of the study area as well as to the end of Emerald Street. Boom gates control access to the site at both locations.

A total of 127 car spaces are currently provided on the site, plus 27 spaces provided along Emerald Street (18 on the west side and 9 spaces on the east side), for a total of 158 spaces.

3.2. Transport Network

3.2.1. Road Network

A summary of the local road network is provided in the table below.

Photos of the surrounding road network are presented following the table.

Table 1: Local Road Network

Road Name	Agency	Classification	Configuration
Wellington Street	Council	Local Road	One traffic lane in each direction. Parking lane on the east side of the road (southbound). Protected kerbside bicycle lane on each side.
Perry Street	Council	Local Road	6.1m carriageway Car parking provided on the south side only, and varies between kerbside, or indented 90 degree/parallel spaces.
Vere Street	Council	Local Road	6.4m carriageway Car parking not permitted on either side between Wellington Street and Down Street. To east of Down Street, car parking permitted on one side of the road.
Emerald Street	Private (Note 1)	Road	Carriageway width of 5.5m, with indented 90 degree car parking bays on both sides.

Note 1 We note that until the most recent update to Council's Register of Public Roads, Emerald Street was listed as a 'Private Road', with no manager listed. The most recent update to the Road Register (April, 2021) has removed Emerald Street. We understand that Emerald Street is a private road under the ownership of the Director of Housing.

3.3. Alternative Transport Modes

3.3.1. Public Transport

The site is well served by public transport services, with train, tram and bus services available. The site is located within the Principal Public Transport Network area (PPTN).

The diagram below illustrates the location of the nearest public transport services and the walking distance/time to these stops.

A summary is provided at Table 2 and map of the broader services provided at Figure 3. The PPTN network map is provided at Figure 3.

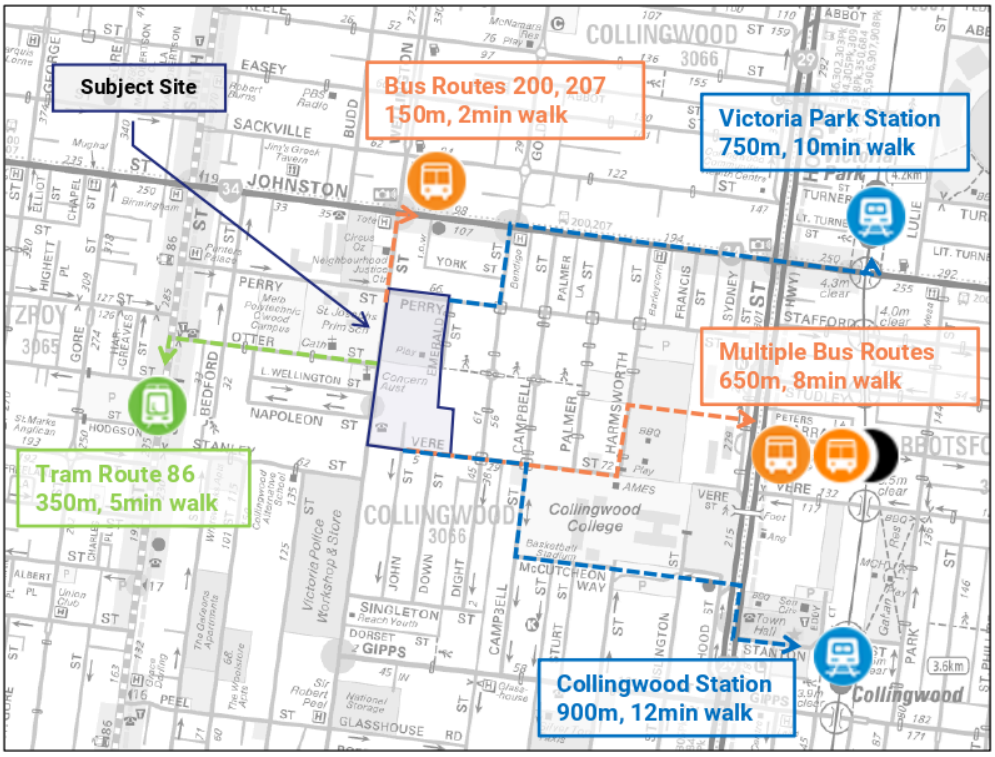


Figure 2: Walking Distance to Nearest Public Transport Stops (Source: Melway & PTV)

Table 2: Summary of Public Transport Services

Service	Between	Via
Victoria Park Railway Station – located approximately 750m north-east of the site		
Mernda Line	CBD & Mernda	Collingwood
Collingwood Railway Station – located approximately 900m south-east of the site		
Mernda Line	CBD & Mernda	Collingwood
Johnston Street – located approximately 150m north of the site		
Bus Route 200	City & Bulleen	Collingwood
Bus Route 207	City & Doncaster SC	Kew Junction
Smith Street – located approximately 350m west of the site		
Tram Route 86	Bundoora RMIT & Docklands	Collingwood & CBD
Hoddle Street – located approximately 650m east of the site		
Bus Route 246	Elsternwick & Clifton Hill	St Kilda
Bus Route 302	City & Box Hill Station	Belmore Road & Eastern Freeway
Bus Route 303	City & Ringwood North	Park Road
Bus Route 304	City & Doncaster SC	Belmore Road & Eastern Freeway
Bus Route 305	City & The Pines SC	Eastern Freeway
Bus Route 309	City & Donvale	Reynolds Road
Bus Route 318	City & Deep Creek	Collingwood
Bus Route 350	City & La Trobe University	Eastern Freeway
Bus Route 905 (SmartBus)	City & The Pines SC	Eastern Freeway & Templestowe
Bus Route 906 (SmartBus)	City & Warrandyte	The Pines SC
Bus Route 907 (SmartBus)	City & Mitcham	Doncaster Road
Bus Route 908 (SmartBus)	City & The Pines SC	Eastern Freeway

Figure 3: Public Transport Map (Source: PTV)

3.3.2. Bicycle Infrastructure

The site is well served by bicycle infrastructure with off-road trails, on-road bicycle lanes, and informal bicycle routes surrounding the site, as shown in the excerpt from the City of Yarra TravelSmart Map as shown in Figure 4.

Wellington Street and Gipps Street all provide on-road bicycle lanes, which connect to the nearby off-road trails. These trails include an off-road path along Hoddle Street, Capital City Trail and Main Yarra Trail.

Figure 4: Sustainable Transport Infrastructure (Source: Yarra City Council)

3.3.3. Walking

The site is located on the periphery of Johnston Street Activity Centre and Smith Street Activity Centre. Accordingly, the site has access to many everyday services located within walking distance of the site. Figure 5 below indicates the area that is within a 20-minute walk of the site.

The following significant uses and everyday are readily accessible via a 20-minute walk or bicycle ride:

- St Joseph's Catholic Primary School (50m),
- Australia Post Collingwood North (250m),
- Newton & Leung Pharmacy (300m),
- Bank of Queensland Collingwood (350m),
- Harmsworth Street Reserve (350m),
- Bank of Melbourne Fitzroy (400m),
- Victoria Park Railway Station (750m),
- Collingwood Railway Station (900m),
- various retail and restaurants within Johnston Street and Smith Street Activity Centre.

The land uses detailed above demonstrate that there are a high level of everyday land uses in close proximity to the site, which would reduce the dependence on vehicular travel within this area.

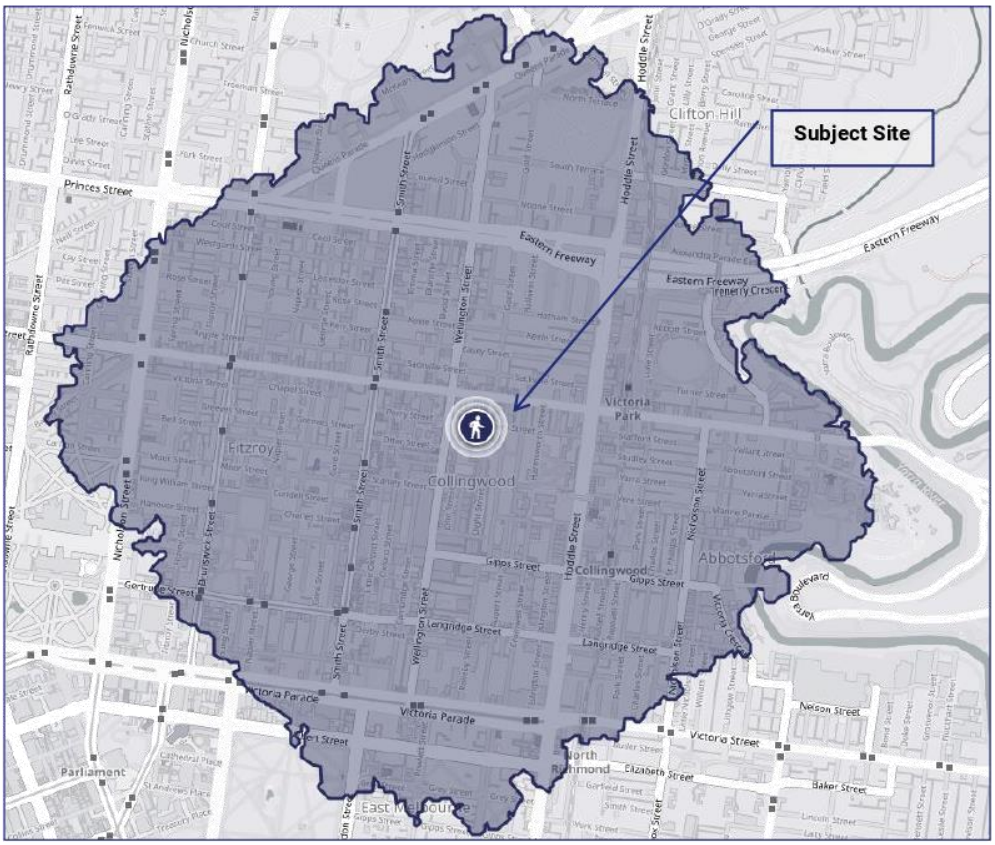


Figure 5: Map of 20-minute walking distance (Source: TravelTime)

3.3.4. Sustainable Transport Summary

Overall the site is well located with respect to public transport services, with access to train, tram and bus services. Bicycle infrastructure is also provided along a number of roads within close proximity to the site, including Wellington Street, Gipps Street and Langridge Street. The site is also located within a large number of services within a 20 minute walk.

Accordingly, the site is ideally placed to encourage sustainable travel modes within the planning for the site.

4. Traffic Engineering Assessment

4.1. Car Parking Provision Requirements

The proposed development falls under the land-use category of 'dwelling' under Clause 73.03 of the Planning Scheme. The Planning Scheme sets out the parking requirements for new developments under Clause 52.06.

Under Clause 52.20 (Victoria's Big Housing Build), this application will be assessed under the requirements of Clause 52.20-6.7, as the development satisfies the following criteria:

> *This clause applies to the use or development of land that is:*
>
> - *Funded wholly or partly, under Victoria's Big Housing Build program; and*
> - *Carried out by or on behalf of the Director of Housing.*

Accordingly, the following sets out the requirements from a car parking provision perspective:

> *A minimum 0.6 car spaces should be provided to each dwelling. A minimum 1 car space should be provided to each 4 bedrooms of a residential building.*
>
> *Car parking for other land uses must be to the satisfaction of the responsible authority.*
>
> *Car spaces may be covered or uncovered.*
>
> *If in calculating the number of car parking spaces the result is not a whole number, the required number of car parking spaces is to be rounded down to the nearest whole number greater than 1.*

Based on the above the following table sets out the car parking requirement for the development.

Table 3: Car Parking Requirement

Apartment Type	No.	Car Parking Requirement	No. of Spaces Required
New Buildings			
One-bedroom Apt	90	*A minimum 0.6 car spaces should be provided to each dwelling*	91
Two-bedroom Apt	49		
Three-bedroom Apt	13		
Subtotal	***152***	-	***91 spaces***
Existing Building			
Existing Apartments	208	*A minimum 0.6 car spaces should be provided to each dwelling*	124 spaces
TOTAL	**354**	-	**215 spaces**

As 215 car spaces are provided across the development, we are satisfied that the development complies with these car parking requirements.

Further to the above, The Homes Victoria, Apartment Code – May 2020 document sets out the following car parking rates for the types of dwellings provided on the site:

Car parking must be provided at a rate of:

- *Minimum 0.6 spaces per dwelling for social housing; and*
- *Minimum 1.0 space per dwelling for affordable housing.*

Similarly, the Functional Brief issued by Homes Victoria for this project states the following in relation to the requirements for car parking:

- *A minimum of 0.6 ratio should be adopted for the Social and Affordable Housing Dwellings in accordance with CL52.20, with final ratios for both social and affordable housing dwellings to be agreed with the Department and subject to:*
  - *i. Site specific parameters (ie. access to transport networks)*
  - *ii. Recommendation and justification by the Traffic Engineer, in consideration of car ownership trends in the area (cohort specific), ABS data for that income band, and on locational attributes/transport access of the site.*
  - *iii. Regard to underlying/ pre-existing planning controls and parking overlays that would have otherwise applied prior to the gazettal of CL52.20 and/or consultation with local council.*

Noting the above, final parking ratios may differ for the Social and Affordable Housing Dwellings.

- *Minimum visitor parking ratios are not mandated and will be considered on the basis of the following:*
  - *i. Site specific parameters (ie. access to transport networks, pre-existing site offering/replacement)*
  - *ii. Recommendation and justification by the Traffic Engineer, in consideration of capacity of local street networks*
  - *iii. Regard to underlying/ pre-existing planning controls and parking overlays that would have otherwise applied prior to the gazettal of CL52.20 and/or consultation with local council.*
- *Placement of visitor parking is not generally supported to be collocated in secure parking areas provided for tenants.*
- *Provide one car accessible space to AS/NZS 2890.06 (2009) for each accessible dwelling.*

4.1.1. Appropriateness of Car Parking Requirements

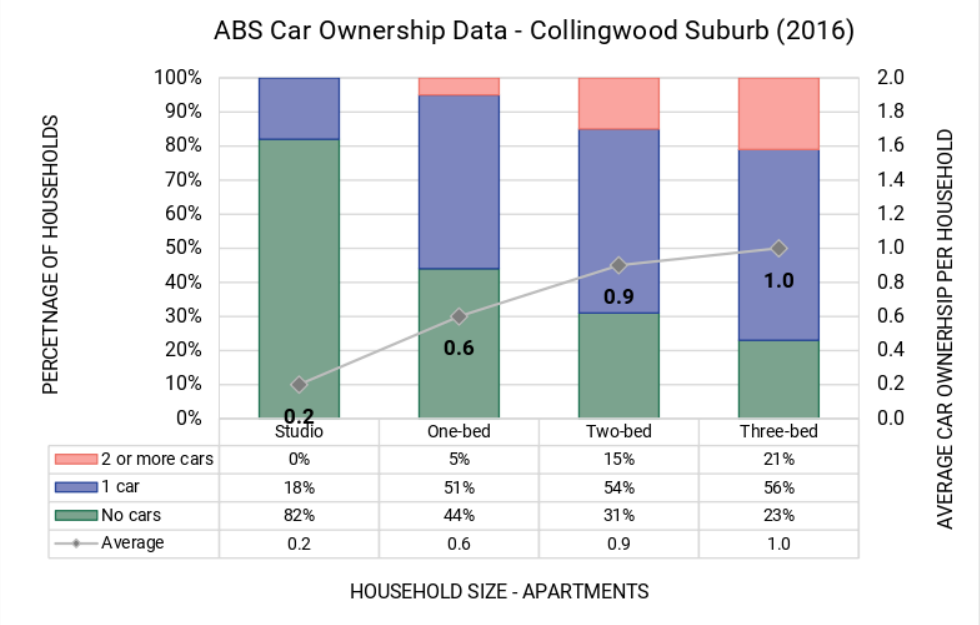
Resident Car Parking

We have undertaken a review of the car parking rate of 0.6 car spaces per apartment in the context of the existing car parking demand for standard type dwellings as well as social housing type dwellings.

Our review indicates that the Suburb of Collingwood has a demonstrated demand for low car parking ownership as recorded within the 2016 census, which would support the car parking provision of 0.6 car spaces per apartment.

The following figures set out the car ownership statistics for the suburb of Collingwood.

We note that the below figures relates to the whole of the suburb and includes areas with a lower level of access to public transport and services compared with the subject site. These also include owner occupied dwellings, rental properties.



	Studio	One-bed	Two-bed	Three-bed
2 or more cars	0%	5%	15%	21%
1 car	18%	51%	54%	56%
No cars	82%	44%	31%	23%
Average	0.2	0.6	0.9	1.0

Figure 6: ABS Statistics (all apartment types)– Collingwood Suburb

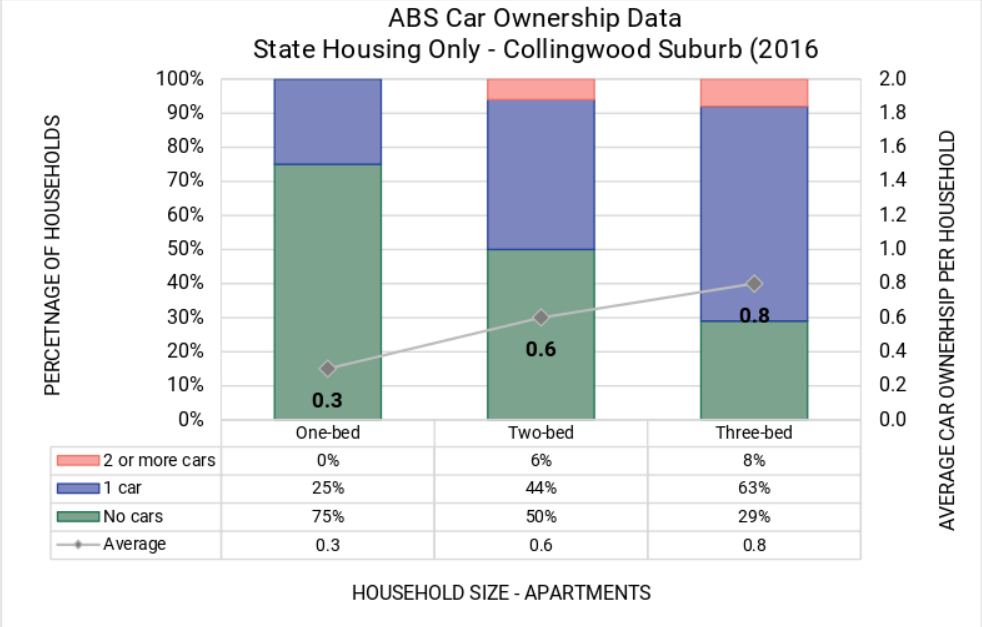


Figure 7: ABS Statistics (State Housing Only)– Collingwood Suburb

Visitor Car Parking

There is no specific rate provided within the functional brief for visitor car parking. Rather, it has been left to be determined based on the following factors:

i. *Site specific parameters (ie. access to transport networks, pre-existing site offering/replacement)*

ii. *Recommendation and justification by the Traffic Engineer, in consideration of capacity of local street networks*

iii. *Regard to underlying/ pre-existing planning controls and parking overlays that would have otherwise applied prior to the gazettal of CL52.20 and/or consultation with local council.*

From a statutory perspective, there is no requirement for visitor parking, as the site is located within the PPTN area and a zero requirement for visitor car parking exists. However, there will be a demand for visitor parking generated from the apartments.

Based on our experience with other residential apartment developments, the upper limit for visitor demands is in the order of 0.1 car spaces per dwelling. This rate is reflective of social visitors, tradespeople, deliveries etc.

In the case of this development, there is likely going to be a similar level of demand. Accordingly, 0.1 car spaces per dwelling represents the upper limit of visitor parking on the site, which would occur during evening and at times over the weekend. As well as the abovementioned social visitors, tradespeople, deliveries etc, given the vulnerability of the

residents of the development it is likely that a demand will exist for social workers, case workers, other allied health professionals and elderly visitors.

No designated visitor car parking is provided on the site. Visitor car parking could be located along Emerald Street within the existing car spaces to be retained.

Accessible Car Parking

The functional brief requires one accessible car space for each accessible dwelling.

There are currently 8 accessible dwellings provided within the breakdown, and accordingly the development requires 8 DDA compliant car spaces.

Eight accessible car spaces are currently provided, satisfying the requirement of the functional brief.

We are satisfied that a rate of 1 DDA compliant car space to each accessible apartment is appropriate.

4.2. Bicycle Parking

4.2.1. Bicycle Parking Provision

The Homes Victoria, Apartment Code – May 2020 document sets out the following bicycle parking requirements

- *1 space for every dwelling without a car parking space;*
- *1 space for every 5 dwellings for residents; and*
- *1 space for every 10 dwellings for visitors.*

If in calculating the number of bicycle facilities the result is not a whole number, the required number of bicycle facilities is the next whole number.

Based on number of dwellings and car parking allocation, a total of 93 bicycle spaces are required to be provided at a minimum for the new buildings, including 78 spaces for residents and 15 spaces for visitors.

The current plans detail 186 bicycle spaces, which is satisfactory to accommodate the bicycle parking for the proposed apartments.

4.2.2. Bicycle Parking Layout and Location

The bicycle parking spaces provided within the development consist of the following types of bicycle rails:

- Floor mounted spaces (flat top rails) - 1.8m long, 1.0m spacing and include a 1.5m wide access aisle.
- Two-tiered bicycle systems - 2.0m long, 0.4m spacing and include a 2.0m wide access aisle.

These bicycle spaces generally comply with the requirements of AS2890.3-2015. Consideration should be given to providing the spaces at 500mm centres, to be fully in

accordance with the Australian Standards. We note that 400mm spacing is considered acceptable as well.

Bicycle parking is located in a single consolidated bicycle room in the south building and two consolidated bicycle storage areas in the north building. Adequate security should be provided for these storage areas.

Overall, a minimum of 20% of the bicycle parking spaces provided on the site must be provided in a floor mounted arrangement (i.e. flat top rails) to meet the minimum requirements of the Australian Standards.

In this case, the development provides bicycle spaces in a floor mounted arrangement at a far higher rate than this.

4.3. Review of Carpark Layout and Vehicle Access Arrangements

The current proposed parking layout has been assessed under the following guidelines for the elements which have been resolved:

- Clause 52.06-9 of the Planning Scheme (Design standards for car parking),
- AS2890.1-2004 – Part 1: Off-Street Car Parking, where relevant, and
- AS2890.6-2009 – Part 6: Off-Street Parking for People with Disabilities

The key elements of the design include:

Clause 52.06-9 Design Standard 1 – Accessways

- Vehicle access to the site are provided at 6.1m wide in accordance with Clause 52.06-9 (Design Standard 1) AS2890.1-2004 for a two-lane, two-way accessway.
- The accessways throughout the basement car parking areas are provided at a minimum of 6.1m wide in accordance with the requirements of Clause 52.06-9 (Design Standard 1) and AS2890.1-2004 for a two-lane, two-way accessway.
- All vehicles will be able to enter and exit the basement carpark in a forwards direction in accordance with Clause 52.06-9 (Design Standard 1).
- A minimum headroom clearance of 2.2m is provided along the ramps, which satisfies the requirements of AS2890.1-2004.
- Pedestrian sight triangles should be provided on the exit side of each of the accessways.

Clause 52.06-9 Design Standard 2 – Car parking spaces

- Car space dimensions accord with Clause 52.06-9 (Design Standard 2) with minimum dimensions provided at 4.9m long x 2.6m wide, with a 6.4m wide access aisle.
- The proposal includes DDA compliant car spaces which are designed in accordance with the requirements of Clause 52.06-9 and AS2860.6-2009.
- Car spaces located adjacent to walls or obstructions are provided with 300mm clearance in accordance with Diagram 1 of Clause 52.06-9 (Design Standard 2). Similarly, the ultimate configuration of the columns within the basement also complies with this diagram.

Clause 52.06-9 Design Standard 3 – Gradients

- Ramp grades are designed in accordance with the requirements of Clause 52.06-9 (Design Standard 3).

4.4. Loading and Waste Collection Arrangements

4.4.1. Loading

Whilst the requirements of Clause 52.20 of the Planning Scheme applies to the site, Clause 65.01 of the Planning Scheme states that the Responsible Authority must consider a number of matters as appropriate, including:

- *The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.*

The development will rely on on-street loading for the purpose of moving into or out of apartments. We are satisfied that this is an acceptable arrangement.

Smaller type vans can be accommodated within the basement carpark for deliveries or for tradespeople when required within any on-site visitor car parking.

4.4.2. Waste Collection

A Waste Management Plan has been prepared by Traffix Group which details the waste management considerations for the site.

The proposed waste collection arrangements include on-site waste collections within the first basement levels for each carpark.

Waste will be collected within the basement via a 6.4m long Hino Mini Rear-loader, which will be able to circulate within the current accessways in the basement and turn around to exit the site in a forwards direction.

We understand that waste collection for the dwellings on the east side of Emerald Street will be collected by private collection service.

We are satisfied that given Emerald Street is a privately owned and the dwellings are under the control of Homes Victoria, that accommodating private collection is acceptable.

4.4.3. Emergency Services Access

Emergency vehicle access in the form of police would park on-street adjacent to the development site, including on Emerald Street. In the case of an ambulance emergency response, an ambulance would prop on any of the adjacent local roads or Wellington Street to attend emergency.

In the case of police vehicles and ambulances, there would be no accessibility issues for the surrounding local streets, as these vehicles do not exceed the size of a large passenger car or small truck.

In the case of an emergency response from the MFB, the fire truck would require access to the site's immediate surrounds. The MFB vehicle would be required to access all of Perry Street, Vere Street and Emerald Street. This is possible for each of these streets.

In the case of Emerald Street, the MFB vehicle would be required to reverse from Emerald Street following resolution of the emergency. Based on our experience on past projects, we understand that the MFB is comfortable with this type of arrangement given the short length of Emerald Street at less than 60m following development of the site.

4.5. Traffic Impacts

The following sets out our assessment of the increase in traffic to both Vere Street and Perry Street under post-development conditions.

Vere Street is currently accessed by 89 car spaces. Under the proposed operation of the site, a total of 170 car spaces are proposed to be accessed by Vere Street. This represents an increase of 81 car spaces.

Perry Street is currently accessed by 38 off-street car spaces and 18 on-street car spaces along the west side of Emerald Street which will not be retained post-development. Under the proposed operation of the site, a total of 45 car spaces will be accessed by Perry Street. This represents a net reduction in the number of car spaces accessed from Perry Street.

Assuming that each of the additional 81 spaces accessed from Vere Street are occupied by residents, the car spaces are expected to generate traffic at a rate of 3 vehicle movements per dwelling with a car space per day, including 0.3 vehicle movements per dwelling with a car space per peak hour. These traffic generation rates are consistent with the RTA guide to traffic generating developments.

Applying the above rate, the additional car parking is expected to generate an additional 243 vehicle movements per day, including 24 additional movements in each peak hour.

This level of traffic increase to Vere Street is considered to be low and will not have a detrimental impact to the safety or operation of Vere Street.

As there will be a net reduction in the level of car parking accessed from Perry Street, less traffic will be generated to Perry Street post-development.

5. Conclusions

Having undertaken a traffic engineering review of the proposed social and affordable housing development at 240 Wellington Street, Collingwood, we provide the following review summary:

a) the proposed development is required to provide 215 car spaces under Clause 52.20 of the Planning Scheme. As 215 car spaces are proposed, the development does not seek a reduction in car parking

b) no visitor car parking is required to be provided on the site. all visitor parking will be accommodated on-street in the nearby area, including within Emerald Street,

c) the bicycle parking provision currently exceeds the relevant requirements for the new apartment buildings, but should be increased if provision is being made for the existing apartments as well,

d) the design and location of bicycle parking is appropriate and generally in accordance with the requirements of the Australian Standards,

e) the design of the basements and the access arrangements comply with the relevant requirements of the Planning Scheme and Australian Standards,

f) loading will be accommodated on-street in the nearby area in accordance with instructions from Homes Victoria,

g) waste collection will be undertaken within the basement levels via a 6.4m long Hino Mini Rear-loader and is acceptable, and

h) emergency services can access the site appropriately.

Attachment 8 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Traffic Report

Traffix Group G29158R-02C

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report

ACOUSTIC LOGIC

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Schematic Design Report

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Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report

Project ID	20210345.2
Document Title	Schematic Design Report
Attention To	Fieldwork Projects Pty Ltd ATF Fieldwork Projects Unit Trust

Revision	Date	Document Reference	Prepared By	Checked By	Approved By	Reason for Revision
0	14/07/2021	20210345.2/1407B/R0/SG	SG	BAW	SG	
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2	12/10/2021	20210345.2/1210A/R2/SG	SG			

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Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report

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A APPLICATION OF THE SCHEMATIC DESIGN REPORT

The requirements or standards contained within this acoustic report are in addition to any other non-acoustic requirements such as structural integrity, fire rating, material compatibility, etc.

Where the acoustic requirements or standards contained in this specification exceed those stated in another specification or drawing then the requirements of this specification shall override the other requirement. Where multiple performance requirements are stated, the systems installed shall comply with all requirements.

The acoustic details indicated in Appendix 1 are in principal only for the purpose of acoustic performance. Refer to architectural documentation and manufacturer's recommendations/specification for construction detailing.

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B SITE DESCRIPTION

The development is located at 240 Wellington Street, Collingwood. The subject site is bounded by Wellington Street to the east, Perry Street to the north, 2-3 storey residencies to the east and Vere Street to the south. At the time of the site inspection, it was noted that noise levels at the subject site were dominated by vehicle movements on Wellington Street.

The proposed development will constitute 2 separate buildings 10 and 11-storeys in height. The two buildings will incorporate basement carparking, ground floor community program rooms and residential dwellings from ground floor up to levels 9 for the southern building and up to level 10 in the northern building. Figure 1 below details the subject site and the surrounding environment.

Figure 1: Subject Site and Surrounding Environment (Source: Google EarthTM)

C ENVIRONMENTAL NOISE DESCRIPTORS

Environmental noise constantly varies in level, due to fluctuations in local noise sources including traffic and rail. Accordingly, a 15-minute measurement interval is normally utilised. Over this period, noise levels are monitored on a continuous basis and statistical and integrating techniques are used to determine noise description parameters.

In the case of environmental noise three principle measurement parameters are used, namely L10, L90 and Leq.

The L10 and L90 measurement parameters are statistical levels that represent the average maximum and average minimum noise levels respectively, over the measurement intervals.

The L10 parameter is commonly used to measure noise produced by a particular intrusive noise source since it represents the average of the loudest noise levels produced by the source.

Conversely, the L90 level (which is commonly referred to as the background noise level) represents the noise level heard in the quieter periods during a measurement interval. The L90 parameter is used to set the allowable noise level for new, potentially intrusive noise sources since the disturbance caused by the new source depends on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the L90 level.

The Leq parameter represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the measurement period. Leq is important in the assessment of traffic and rail noise impact as it closely corresponds with human perception of a changing noise environment; such is the character of industrial noise.

The L1 parameter (or the noise level exceeded for 1% of the time) is used during the night period to assess potential sleep arousal effects due to transient noise sources.

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D NOISE LEVEL MEASUREMENTS

Attended noise level measurements were conducted to determine existing noise sources that will impact the subject site. At the time of the site inspection, it was noted that noise levels at the subject site were dominated by vehicle movements on Wellington Street.

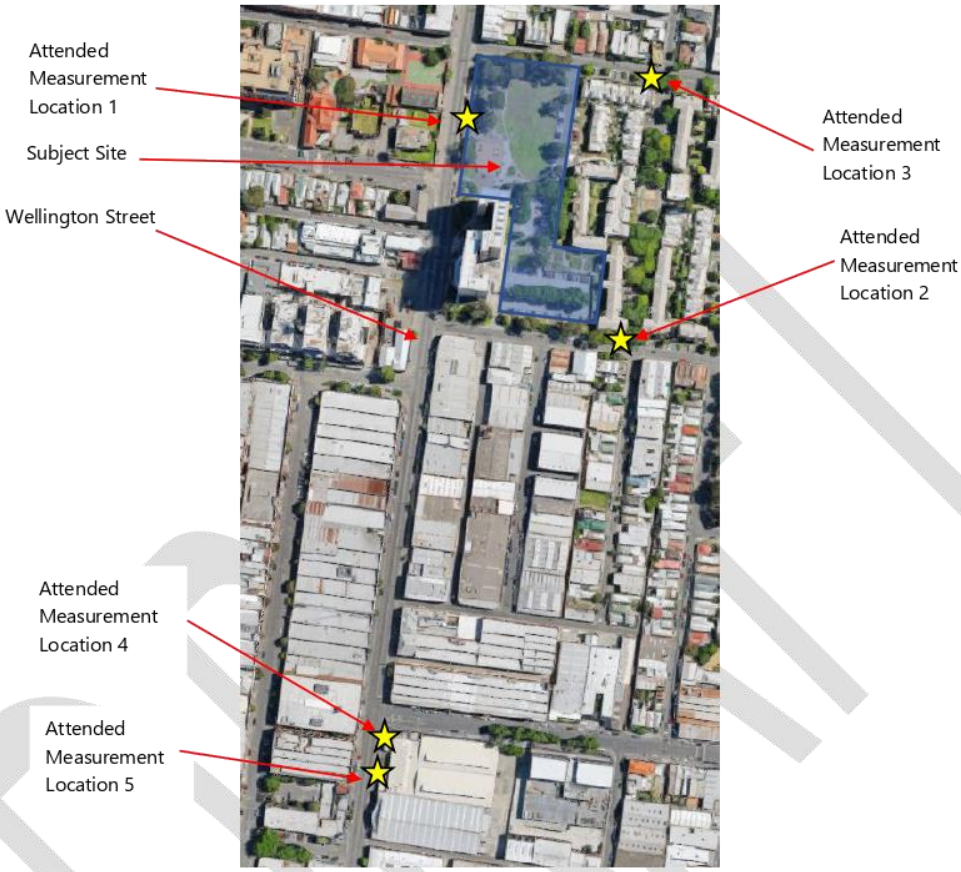

Figure 2 – Measurement Locations (Source: Google Earth™)

D.1 MEASUREMENT LOCATIONS

Attended noise measurements were conducted at the locations designated in Figure 2 above and detailed below

Table D-1 – Attended Measurement Locations

Location	Description
1	At western boundary of subject site along Wellington Street, facing west. Microphone of the sound level meter at approximately 1.5m above local ground level – Free field.
2	At southern boundary of subject site on the corner of Dight Street and Vere Street, facing south – Microphone of the sound level meter at approximately 1.5m above local ground level – Free field.
3	At northern boundary of subject site on the corner of Dight Street and Perry Street, facing north-Microphone of the sound level meter at approximately east – 1.5m above local ground level – Free field.

Location	Description
4	Attended noise level measurements were conducted at 128-144 Wellington Street with approximately 4m setback from the curb. The microphone of the sound level meter was located approximately 1.5 metres above grade. Measurements had full view of Wellington Street.
5	Attended noise level measurements were conducted at 128-144 Wellington Street with approximately 7m setback from the curb. The microphone of the sound level meter was located approximately 1.5 metres above grade. Measurements had full view of Wellington Street

D.2 MEASUREMENT DATE

Attended traffic noise measurements at Location 1, 2 and 3 were conducted on 29 April 2020 between 3:30pm and 5:00pm. While attended traffic measurements at Locations 4 and 5 were conducted on 28 October 2019 between 3:00pm and 5:00pm and on the 29 October 2019 between 6:00am and 7:00am.

D.3 MEASUREMENT EQUIPMENT

Measurements were conducted using a Norsonic 140 Sound Level Meter and Rion NL-42EX Sound Level Meter. The equipment was calibrated at the beginning and the end of the measurement using a Rion NC-75 Calibrator and a B&K Type 4231 Calibrator; no significant drift was detected. All measurements were taken on A weighted, fast response mode.

D.4 MEASUREMENT RESULTS

The attended measurements are presented in Table D-2 below.

Table 2 – Attended Noise Level Measurements - Traffic

Location[1]	Date	Time	Measured Noise Levels dB(A) $L_{eq(15min)}$
Location 1	29/4/2020	3:30pm - 3:35pm	58
Location 2		4:07pm - 4:22pm	51
Location 3		4:33pm - 4:48pm	51
Location 4	28/11/2019	3:30pm – 3:45pm	64[2]
		4:45pm – 5:00pm	63[2]
		6:30am – 6:45am	64[2]
Location 5	28/11/2019	3:15pm – 3:30pm	62[2]
		6:00am – 6:15am	59[2]

Note 1: Refer Figure 2 for measurement locations
Note 2: Noise levels have been corrected -2.5dB for façade reflection

E ENVIRONMENTAL NOISE EMISSIONS

Noise emissions from the proposed development from plant equipment will be assessed against EPA guidelines to ensure the development does not impact adversely on the amenity of existing noise sensitive receivers near the site.

E.1 EPA SEPP N-1 – PLANT AND EQUIPMENT NOISE

State Environment Protection Policy (SEPP) N-1 details the methodology to be used in assessing environmental noise emissions such that protection of residential amenity may be preserved. SEPP are statutory instruments that are required to be complied with both private individuals and public and private sector organisations. SEPP N-1 includes both Schedule A and B that provide procedures to measure noise from premises and to determine noise emission limits respectively. To determine the assessment criteria both the 'Zoning' level and background noise levels are required to determine if the background noise level is neutral, high or low.

The 'Zoning' level is determined by the Influencing Factor (IF) and is calculated by the formula nominated in B.2.4 of SEPP N-1. The IF is calculated from the proportion of industrial and commercial land around noise sensitive areas (in this case residential premises). Review of the surrounding area indicates an IF of approximately **0.09**. Table E-1 summarizes the environmental noise assessment criteria for this development.

Table E-1 – Environmental Noise Limits

Period	Time	Project Noise Limits L_{eq} dB(A)
Day	7am – 6pm (Mon – Fri) 7am – 1pm (Sat)	52
Evening	6pm – 10pm (Mon – Fri) 1pm – 10pm (Sat) 7am – 10pm (Sun)	46
Night	10pm – 7am	41

F ARCHITECTURAL ELEMENTS

F.1 GREENSTAR

Greenstar Credit 10.3 – Acoustic Separation is being targeted as part of Section 7.17.3 of the Functional Design Brief for Homes Victoria – Wave 2 (Rev 8 09 July 2021). This requires the following:

10.3C For Residential projects:

1. *The inter-tenancy apartment construction to habitable areas results in airborne noise isolation standard of Rw+Ctr>55; and*
2. *All inter-tenancy walls should include Discontinuous Construction as defined by the Building Code of Australia*
3. *Walls between apartments and public corridors results in airborne noise isolation standard or Rw>55; and*
4. *The floor construction above habitable rooms and wet areas of adjacent dwellings (i.e. floor cover) results in an impact isolation standard of Ln,w+CI<55.*
5. *Apartment entry doors include acoustic seals and achieve laboratory acoustic rating of Rw 30.*

Where:

$L_{n,w}+C_I$ is used to describe impact sound performance of floors. $L_{n,w}$ = Weighted Normalised Impact Sound Pressure Level and C_I = Spectrum Adaptation Term. The lower the $L_{n,w}+C_I$ the better the performance of the floor.

R_w+C_{tr} is used to describe the sound insulation performance. R_w = The Weighted Sound Reduction Index, and C_{tr} = A correction factor (and is a negative number). So if a building element has R_w of 60 and a C_{tr} of -10, its R_w+C_{tr} will equal 50. The addition of C_{tr} and R_w helps to account for lower frequency sounds, such as those created by modern home theatre systems and music equipment. The higher the R_w+C_{tr} number, the better the performance of the system.

Walls and floors separating apartments and separating apartments from common areas/services/lifts etc. shall be designed to ensure compliance with the requirements of Greenstar Credit 10.3 and Part F5 of the BCA/NCC 2019.

F.2 WALLS

F.2.1 Minimum R_w/R_w + C_{tr} Requirements

Following is list of minimum requirements.

Table F-1 – Wall Performance Requirements

Wall Type	Minimum Requirement[4]
Intertenancy Walls Dividing Apartments	R_w+C_{tr} 55 + Discontinuous Construction (slab to slab)
Walls Between Apartment and a Lift Shaft	R_w 50 + Discontinuous Construction (slab to slab)
Walls Between Apartment and a Building Entry, Lift Lobby, Common Corridor or Public Stairwell	R_w 55 (slab to slab)
Walls Between Apartments (Habitable Area) and Services Ducts/Risers	R_w + C_{tr} 40 (slab to slab)[1]
Walls Between Apartments (Wet Area) and Services Ducts/Risers	R_w + C_{tr} 25 (slab to slab)[1]
Perimeter walls around apartment bathrooms (within the same apartment)	At least one sheeting of bathroom wall constructed full height with gaps minimised. Refer AC010

Wall Type	Minimum Requirement[4]
Plant Rooms	R_w 50[2] (slab to slab)
Perimeter Walls to Common Areas	R_w 45[3] (slab to slab)

Note 1 – For hydraulics riser, the rating is a combination of riser construction coupled with acoustically lagged pipework
Note 2 – Confirmation subject to noise levels of mechanical plant and equipment
Note 3 – Confirmation subject to use of space
Note 4 - The field-tested performance shall generally be no less than 5 points below the tabled R_w requirement. We note that the ratings will not be achieved with glazed partitions or doors and as such field-tested performance applies only to walls that separate enclosed rooms without doors or glazed elements.

Unless stated otherwise all acoustically rated walls shall be installed slab-to-slab and sealed at the head and floor where nominated (refer Appendix 1 – Acoustic Details).

F.3 FLOORS

F.3.1 Minimum R_w/R_w+C_{tr} Requirements

Following is list of minimum requirements. The requirements listed below are the overall rating including ceiling where installed.

Table F-2 – Floor Performance Requirements

Floor Type	Minimum Rating
Floors Separating Apartments	$R_w + C_{tr}$ 55
Floor separating Apartments and Car Parks	$R_w + C_{tr}$ 55

The field-tested performance shall generally be no less than 5 points below the tabled R_w requirement.

Carry out the installation of floors in a manner that will not reduce the performance below the tabled R_w/R_w+C_{tr} requirements. This includes but not limited to the proper filling of joints, back filling with non-shrink grout any chasing, and installation of ceilings where required to comply with the overall floor/ceiling rating.

F.3.2 Minimum Impact Noise Requirements

Following is a list of minimum requirements. The requirements listed below are the overall rating including ceiling where installed.

Table F-3 – Hard Floor Surfaces Requirements

Floor Type	Minimum Requirement[1]
Apartment over Another Apartment (including bathroom except for shower)	$L_{n'w} \leq 62$ $L_{n'w} + C_1 \leq 55$ IIC $\geq$ 50
Balconies over Apartments (internal space and communal space of another apartment below. If the balcony is only partially located over the apartment below treat whole balcony area)	$L_{n'w} \leq 62$ $L_{n'w} + C_1 \leq 55$ IIC $\geq$ 50

F.4 CEILINGS

F.4.1 Minimum R_w Requirements

Following is list of minimum requirements.

Table F-4 – Ceiling Requirements

Ceiling Type	Minimum Construction
All apartment ceilings	Constructed from 1 layer of min 13mm thick plasterboard
Apartment ceilings below fan coil units	Constructed from 1 layer of 13mm thick plasterboard with 75mm thick 11 kg/m^3 glasswool insulation placed in the cavity generally within 2 metres of fan coil unit
Apartment ceilings generally within 500mm of waste or stormwater pipe	Constructed from 1 layer of 13mm thick plasterboard with a 500mm wide layer of 75mm thick 11kg/m^3 glasswool insulation placed in the cavity on either side of the pipework. Note externally lag waste and stormwater piping to achieve an overall $R_w + C_{tr}$ performance equal to 40
Apartment bathroom ceilings	Constructed from 1 layer of 13mm thick plasterboard with 75mm thick 11 kg/m^3 glasswool insulation placed in the cavity
Communal Program Areas	*Note these treatments are preliminary only and subject to final confirmation of the use of space(s):* Constructed from 1 layer of 13mm thick plasterboard with 75mm thick 11 kg/m^3 glasswool insulation placed in the cavity Install reverberation panelling below the plasterboard ceiling. The panelling shall achieve minimum NRC 0.65 and cover up minimum 60% ceiling area.

F.5 ACCESS PANELS

Install acoustically certified access panels to equal the acoustic performance of the element in which they are installed, typically that will require the use of R_w+C_{tr} 25 access panels in SOU's where waste/soil/stormwater pipework is located within the SOU. Where ***two-layer*** ceilings are installed the access panel shall be rated at R_w+C_{tr} of 30. Access panels for waste piping shall not be located on the sides of risers facing habitable rooms (Refer to BCA requirements).

F.6 DOORS

Following is list of minimum requirements.

Table F-5 – Door Requirements

Door	Minimum R_w / Construction Requirements
Apartment Entry Doors Generally	R_w 30 - Min 35mm solid core doors with acoustic seals equal to Raven RP-120 along the top and sides and RP-8Si along the bottom of the doors

Plant rooms	Min 45mm thick solid core doors with acoustic seals equal to Raven RP-10 to the sides and top and Raven RP-38 along the bottom.
Doors Generally	1. No door grilles permitted in doors unless specifically approved by project acoustic consultant. 2. Min 35mm thick solid core doors (excludes internal apartment doors unless otherwise nominated) 3. All gaps around perimeter of doors to be minimised

Carry out the installation of all doors and seals in a manner that will not reduce the performance of the doors including:

- Ensuring doors are installed without warps and hung with even gaps.
- For doors noted in the table above with acoustic seals
- Installing door with minimum gap at door bottom complying with manufacturer's requirement. Threshold under door seal is to be level and flat. Install aluminium threshold plate under door seals where door seals close onto carpet.
- Installing seals with minimum gaps at joints/junctions.
- Adjusting seals so that they are acoustically effective around the full perimeter without excessive effort required to close the doors.
- Ensure that the door hardware does not foul the seals and the seals form a continuous seal around the door perimeter.
- No door grilles permitted in doors unless specifically approved by project acoustic consultant.

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G MECHANICAL SERVICES - NOISE AND VIBRATION

G.1 PROJECT NOISE AND VIBRATION CRITERIA

G.1.1 Internal Noise Levels

Noise from mechanical plant inside the development shall not exceed the levels given below and shall note exceed SEPP N-1 requirements. Unless stated otherwise, the noise level criteria shall not be exceeded with the plant operating under normal operating conditions, and at start-up for intermittently operating plant items. Maximum noise levels in are listed in Table G-1 and G-2. Areas not listed in these tables shall be designed to comply with the relevant recommended design sound level as detailed in Australian/New Zealand Standard 2107:2016 'Acoustics – Recommended design sound levels and reverberation times for building interiors'.

Allow for any additional treatment to fully comply with the internal and external noise level requirements, including noise from diffusers, grilles and louvres, ductwork and risers notwithstanding the equipment noise ratings indicated in the mechanical services brief or the acoustic treatments indicated in the mechanical services specification or drawings. Noise within apartments shall be free of tones or other undesirable characteristics.

Table G-1 - Noise Criteria from Mechanical Plant (Apartment)

Space / Activity Type	Noise Level dB(A)
Bedrooms	30* 40 dB(A) for air conditioning unit operating on design speed[1]
Living / Dining / Study	35* 45 dB(A) for air conditioning unit operating on design speed[1]
Bathrooms / Toilets / Laundries	45*

Note * – Excludes individually controlled toilet exhaust fans and kitchen exhaust fans within the same unit that are under control of the unit that they serve.
Note 1 – Design speed shall be low or medium speed. Note this is not applicable for wall mounted AC units

Table G-2 - Noise Criteria from Mechanical Plant (Common Area)

Space / Activity Type	Noise Level dB(A)
Common Lift Lobby / Corridor	45
Carpark	65
Other Areas	As per AS2107:2016

G.1.2 Domestic Plant Noise Criteria

The EPA Noise Guidelines (Publication 1973, May 2021) requires the following (attached):

1. *Fixed Domestic Plant and Home Occupation Noise- (such as domestic air conditioners, swimming pool equipment, spas, ducted heating, internal vacuum systems and home occupation noise)*

....

Night operation

Noise from any fixed domestic plant must not be audible within a habitable room of any other residence (regardless of whether any door or window giving access to the room is open) during prohibited hours prescribed by the Environment Protection (Residential Noise) Regulations 2008.

*The following **prohibited hours** apply to air conditioners, swimming pool and spa pumps, ducted heating systems and the like:*

- *10 pm - 7 am Monday-Friday.*
- *10 pm - 9 am weekends & public holidays.*

Day/evening operation (non-prohibited times)

Where noise from any fixed domestic plant is audible beyond the boundary of the residential premises on which the plant is situated, the intrusive noise shall not exceed the background noise level by more than 5 dB at the measurement position.

Noise assessment must be made in accordance with noise assessment techniques listed in section 17 of these guidelines. Adjustment for tonality and/or impulsiveness must be included if applicable.

The criteria for noise emission from a domestic plant have been summarized in the Table D.3 below.

Table G-3 – EPA criteria

Noise Source	Period	Criteria
Domestic air conditioning unit	Daytime	Background L_{90} + 5dB(A)
	Night time	Inaudible within adjoining residence

G.1.3 Noise during a Fire Emergency

Noise from all plant during a fire emergency shall comply with the requirements of AS 1668. AS 1668 requires that noise levels during a fire emergency not exceed 80 dB(A) within fire isolated passageways or 65 dB(A) within occupied spaces. Noise levels inside the fire control room shall not exceed 65dB(A) during a fire emergency.

G.1.4 Plant Noise Levels

Adjust and balance all systems so that excessive noise is not created, and the scheduled internal and external noise levels are complied with.

G.1.5 Vibration Produced by Plant

Tactile structure vibration levels produced by the plant shall not exceed the criteria given in AS 2670.2-1990. Where the standard recommends a range of criteria for a particular occupancy, the low end of the range shall be used, except for residences where the base curve shall be used to assess vibration in all cases.

G.2 TESTING ON COMPLETION

Following installation, carry out random noise and vibration level tests to confirm compliance with the criteria given in Section D.1. The locations selected for measurement shall include all critical occupancies close to plant including: residences located near plant rooms; balconies; roof terraces; carpark areas, lobbies/corridors. Noise levels should be measured in the worst affected part of the room.

The sound level meter used for the noise tests shall comply with the type 2 instrument brief in AS 1259, Part 2 Sound Level Meters - Precision. Testing method shall be in accordance with AS 2107-2016 Clause 5 except that all openable windows shall be closed during the test.

If the noise or vibration levels exceed those specified carry out rectification work and remeasure noise levels to demonstrate compliance with the brief. Rectification work is at the Contractor's expense.

G.3 ANTI-VIBRATION MOUNTS AND ISOLATORS

G.3.1 Selection of Equipment Isolation Mounts

Select isolation mount type and minimum static deflection according to the following table (refer below for isolator types).

Table G-4 – Isolator Schedule

Plant	Isolator Type	Minimum Static Deflection
Large Fan Coil Units / PAC Units > 500 l/s	M3/H1	10 mm
In-line Centrifugal Fans and Small Axial Fans (up to 400 diameter)	M3/H1	10 mm
Axial Fans (>400mm diameter)	M4	25 mm
Centrifugal Fans and Pumps	M4 + isolated plinth	25 mm
Fan/coil units	M3/H1/HE1	5 mm
Condensing units	M3/H1	10 mm
Cooling Towers / Chillers	M4 + isolated plinth	25 mm
Boiler	M1	6 mm
Apartment condensing units	M1	2 mm
Water Sourced PAC Units <500 l/s	M3/H1/HE1	5 mm

G.3.2 Piping Isolation Mounts

Piping within 25m of the pumps, air cooled chillers (except small diameter piping runouts to fan/coil units shall be vibration isolated using type M4 or H2, 25mm static deflection isolators for piping fixed to the plant room floor slab or walls of the SOU's; type M3/H1, 10mm static deflection mounts elsewhere within 20m of the pumps or chillers.

Isolate any other small diameter piping runouts to fan coil units within 20m of the pumps or chillers using a flexible 12mm thick foam sleeve between the pipe and the clamp similar to Poron 4701-12-20250-1604 (2 layers) (suppliers: Mason Grogan, 02 9748 3838) fitted between the pipe and the clamp. The clamp should then be tightened just sufficiently to hold the pipe, but not over tightened.

Isolate piping within 20m of the air-cooled chillers or any other main piping runs fixed to the walls of the SOU's using type M4/H2, 25mm static deflection mounts.

G.3.3 Isolation Mount Types

G.3.3.1.1 Type M1 - Waffle Pad Mounts

Waffle pad mounts shall be: minimum 17mm thick neoprene rubber (nitrile rubber where oil contamination is possible); cross ribbed with alternately raised ribs on both faces of the pad; loaded within the load range of the isolator with a minimum static deflection of 1.5mm.

G.3.3.1.2 Type M2 - Multiple Layer Waffle Pad Mounts

Multiple layer waffle pad mounts incorporating; specified number of layers of Type M1 Waffle Pad Mount; 1.5mm thick metal shim plate between the pad layers; minimum 1.5mm static deflection per layer.

G.3.3.1.3 Type M3 - Neoprene Mounts

Neoprene mounts should be selected to give the static deflections under load nominated for the item of plant and incorporate: separate steel top and base plates completely embedded in elastomer; elastomer colour coded for identification of load rating; non-skid mounting surfaces; bolt holes for bolting down plant.

G.3.3.1.4 Type M4 - Spring/Neoprene Mounts

Spring/neoprene mounts should be selected to give the static deflections under load nominated for the item of plant and: be laterally stable without any housing or other lateral support; be capable of an additional travel to solid of at least 50% of the rated static deflection; incorporate a levelling facility; a spring diameter not less than 0.8 of the loaded height; incorporate a 6mm thick neoprene base pad to isolate acoustic frequencies. Isolators exposed to weather should have zinc plated springs and housings coated with a flexible epoxy to prevent corrosion.

G.3.4 Isolation Hanger Types

G.3.4.1.1 Type HE1 - Neoprene Hanger Elements

Neoprene hanger elements should be selected to give the static deflections under load nominated for the item of plant and incorporate: separate steel top and base plates completely embedded in elastomer which should interlock in the event of fire or mechanical failure; elastomer colour coded for identification of load rating; hole for locating hanger and a lip to locate the element within the mounting hole.

G.3.4.1.2 Type H1 - Neoprene Hangers

Neoprene hanger elements should be selected to give the static deflections under load nominated for the item of plant and incorporate: Type HE1 - Neoprene Hanger Element located within a galvanised steel cage with provision for threaded hanger rods to screw into the hanger element; provide sufficient clearance around the threaded hanger rod to ensure it cannot touch the hanger cage.

G.3.4.1.3 Type H2 - Spring/Neoprene Hangers

Spring/neoprene hangers should be selected to give the static deflections under load nominated for the item of plant and: be laterally stable without any housing or other lateral support; be housed in a galvanised steel cage; be capable of an additional travel to solid of at least 50% of the rated static deflection; incorporate a levelling facility; a spring diameter not less than 0.8 of the loaded height; incorporate a neoprene base pad to isolate acoustical frequencies. Isolators exposed to weather should have zinc plated springs and housings coated with a flexible epoxy to prevent corrosion, and self-draining cups.

G.3.5 Equipment Bases/Plinths

Mount equipment on rigid bases. The bases shall be sufficiently rigid not to deform under the weight of the machinery or during operation and reduce the effectiveness of the isolation mounts.

Where required, concrete inertia bases shall be installed. The mass of the base shall be at least 1.5 times the mass of the equipment being supported including pipe fittings, etc. Bases shall minimise the height of the centre of gravity of the machine/base.

All pumps (including fire pumps) and chillers shall be installed on concrete plinths, which are themselves isolated from the building structure on a layer of 10mm thick Acoustic Supplies Vibramat or equal.

G.4 PENETRATIONS

G.4.1 General

Duct, pipe and electrical penetrations through walls, floors etc. shall not:

1. Decrease the required sound rating isolation rating of the wall, floor, ceiling, etc.
2. Allow the transmission of vibration from pipes and ducts to the wall, floor, etc.

Flexible ducts shall not be taken through any full height walls. Where ducts pass through above ceiling barriers or full height walls, the main sheet metal duct should be taken through the penetration to over the room served by the flexible duct, and the flexible duct runout to the grille connected. Alternatively, the flexible duct may be drawn through a 700mm long sheet metal sleeve that is grouted into the wall. An insulated four zero fire rated flexible duct should be used and the outside diameter of the sleeve should be the same as the flexible duct outside diameter.

Penetrations through ceilings/ceiling bulkheads for air supply grilles connected to flexible ducts should be fitted with acoustic plenum boxes. The plenum boxes should be internally lined with 25 mm perforated foil faced glasswool insulation.

Penetrations in wet area ceilings having an acoustic rating as required by the Building Code of Australia shall be treated so as not to decrease the ceiling sound rating performance. This will require, as a minimum, the use of minimum 1m length of 25mm insulated four zero rated acoustic flexible ducting with an inner aluminium fabric core and outer aluminium wrapping to connect the rigid sheet metal ducting to the grille, with a ninety-degree 25mm perforated foil faced fibreglass internally insulated sheet metal plenum box fitted over the exhaust grilles.

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G.4.2 Pipe Penetrations

Seal pipes penetrating slabs or walls, as follows:

Table G-5 – Pipe Penetration Details

Project Noise Criterion within Adjacent Space	Seal Type	Acoustic Detail
Within 20m of a pump and condenser water pipes	Type PB seal.	AC017
Other pipes including hot and cold water	Type PA or PB seal.	AC017

Where the building element penetrated consists of one or more leaves then all leaves shall be acoustically sealed.

G.4.3 Duct Penetrations

Seal ducts penetrating slabs, walls and above ceiling baffles as follows:

Table G-6 – Duct Penetration Requirements

Spaces	Wall / Floor Construction	Seal Type	Acoustic Detail
All	Masonry	Type DA or DB seal	AC018

Where the building element penetrated consists of one or more leaves then all leaves shall be acoustically sealed.

G.4.4 Electrical Wiring

Individual electrical cables can be sealed with Selleys Pro Series Fireblock sealant or equal. Bunches of cables shall be drawn through a 5mm thick, 600mm long PVC conduit packed with polyester fibre, or glasswool insulation. Seal around the conduit by filling with a non-shrinking grout.

G.5 ELECTRICAL

G.5.1 Belt Driven Plant

Fit belt driven intermittently operating plant having motors rated at greater than 2.5kW with motor starters that limit the build-up in motor speed at start-up. These are required to eliminate the possibility (especially in the future after belt wear has occurred) of belt squeal being audible in occupied spaces having a noise criterion of 45dB (A) or lower, on adjacent properties and on residential terraces/external spaces.

G.5.2 Contactors/Starters/Controllers

Noise from contactors, starters and controllers shall be inaudible inside rooms having a noise of 45dB (A) or lower, on adjacent properties and on residential terraces/external spaces. Provide enclosures around these items and/or vibration isolate the items from building elements where they may give rise to the transmission of structure-borne noise.

G.6 ACOUSTIC TREATMENTS TO MECHANICAL PLANT AND EQUIPMENT

The acoustic treatment to mechanical plant and equipment shall be designed to ensure compliance with SEPP N-1 and the criteria is Section G.1.1 is achieved.

The following section provides a list of planned mechanical services equipment for the proposed development and preliminary acoustic treatment.

G.6.1 General

- Mechanical plant and equipment installed above lightweight roof construction shall be on a structural steel platform.
- All flexible duct to be acoustic insulated flexible duct.
- Install a minimum of 1 metre of insulated flexible duct both sides of apartment bathroom exhaust fans.
- Apartment bathroom exhaust fans and insulated flexible duct to be located in ceiling space above bathrooms.
- Ductwork outside of apartment bathroom ceiling space to be rigid sheet metal or pvc duct.
- Refer detail AC009 for apartment exhaust fan requirements.
- Flexible duct shall not penetrate full height walls.
- All mechanical risers are to contain sheet metal ductwork.
- Untreated grilles in apartment room ceilings will require additional treatment to waste/stormwater pipes in apartment ceilings refer Table E-5. Recommend backing ceiling grilles within apartment with 90-degree internally lined bends.
- All equipment shall be installed on vibration isolation mounts detailed in Table G.3.
- All apartment make-up (via corridor) shall be installed with minimum 1 metre of insulated flexible ductwork.
- Mechanical riser shall be constructed in accordance with detail AC015 or AC016.
- Non-active louvres at the façade shall be blanked off with min 0.8mm thick sheet metal or equivalent.

G.6.2 Carpark Exhaust/Supply Fans

- Carpark ventilation fans shall be acoustically treated with acoustic attenuators and lined ductwork to the discharge/intake side of the fan to ensure compliance with SEPP N-1 and internal noise limits.
- All fans shall be installed on 25mm thick static deflection spring mounts.
- All fans shall incorporate CO2 metre and variable speed drives.

G.6.3 Bin Room Exhaust

- Auxiliary fans associated with the development are to be installed within the rooftop plant area or within the basement levels.
- All fans will be acoustically treated with lined ductwork or acoustic attenuators to ensure compliance with SEPP N-1 and internal noise limits
- All fans with diameter less than 400mm to be installed on vibration isolation mounts with minimum 10mm static deflection.
- All fans with diameter more than 400mm to be installed on vibration isolation mounts with minimum 25mm static deflection.

G.6.4 Fire Pump Room Ventilation Fans

- Fire Pump fans shall be acoustically treated with acoustic attenuators and/or lined ductwork to the discharge/intake side of the fan to ensure compliance with SEPP N-1 and internal noise limits.
- All fans with diameter less than 400mm to be installed on vibration isolation mounts with minimum 10mm static deflection.
- All fans with diameter more than 400mm to be installed on vibration isolation mounts with minimum 25mm static deflection.
- All fans shall incorporate variable speed drives.

H HYDRAULIC SERVICES - NOISE AND VIBRATION

H.1 PROJECT NOISE AND VIBRATION CRITERIA

H.1.1 Internal Noise Level

Noise from hydraulics plant inside the development shall not exceed the levels given below and shall note exceed SEPP N-1 requirements. Unless stated otherwise, the noise level criteria shall not be exceeded with the plant operating under normal operating conditions, and at start-up for intermittently operating plant items. Maximum noise levels in residential SOU's and other areas are listed in Table H.1 and H.2. Areas not listed in these tables shall be designed to comply with the relevant recommended design sound level as detailed in Australian/New Zealand Standard 2107-2016 'Acoustics – Recommended design sound levels and reverberation times for building interiors'.

Allow for any additional treatment to fully comply with the internal and external noise level requirements notwithstanding the equipment noise ratings indicated or the acoustic treatments indicated in the hydraulics services specification or drawings. Noise within apartments shall be free of tones or other undesirable characteristics.

Table H.1 – Noise Criteria from Hydraulic Services (Apartment)

Space	Noise Level dB(A)
Bedrooms	30
Living / Dining / Study	35
Bathrooms / Toilets / Laundries	45

Table H.2 – Noise Criteria from Hydraulic Services (Common Area)

Space / Activity Type	Noise Level dB(A)
Common Lift Lobby / Corridor	45
Carpark	65
Other Areas	As per AS2107:2016

H.1.2 Plant Noise Levels

The contractor shall ensure that systems are installed, adjusted and balanced so that excessive noise is not created, and the scheduled internal and external noise levels are complied with.

H.1.3 Vibration Produced by Plant

Tactile structure vibration levels produced by the plant shall not exceed the criteria given in AS 2670.2-1990. Where the standard recommends a range of criteria for a particular occupancy, the low end of the range shall be used, except for residences where the base curve shall be used to assess vibration in all cases.

H.2 NOISE GENERATED BY THE HYDRAULICS SYSTEM

Noise from the hydraulics system should be minimised by:

1. Limiting pipe velocities in water systems to not more than 1.5m/s.

2. Laying out pipes to minimise the number of changes in direction and installing pipes so that the effective cross-sectional area of the pipe is maintained at pipe bends and junctions.
3. Selecting valves and fittings that minimise the generation of noise.
4. Installing pressure reducing stations as required to eliminate excessive pressure at the terminal valves.
5. Controlling structure-borne noise (i.e. plant and pipe vibration transmitted into the building structure) with the use of plant isolation mounts, resilient sleeves, etc.
6. Routing piping to avoid noise sensitive locations such as SOU bedrooms and living rooms.
7. Provision of water hammer arrestors in reticulation piping to dishwashers and washing machines.

H.3 STRUCTURE BORNE NOISE AND VIBRATION

Minimise the transmission of vibration to the building structure to ensure the noise and vibration criteria are achieved by:

1. Statically and dynamically balancing rotating plant and equipment to comply with AS3709-1989. Where specified, provide balancing test certificates.
2. Providing isolation mounts or hangers for vibrating plant and equipment.
3. Providing inertia blocks where required to limit the vibration amplitude.
4. Isolating piping, electrical conduit, etc. subject to vibration from the building structure.
5. Providing flexible connections where piping is connected to vibrating plant and machinery.

H.3.1 Equipment Bases

Mount equipment on rigid bases. The bases shall be sufficiently rigid not to deform under the weight of the machinery or during operation and reduce the effectiveness of the isolation mounts.

Where required, concrete inertia bases shall be installed. The mass of the base shall be at least 1.5 times the mass of the equipment being supported including pipe fittings, etc. Bases shall minimise the height of the centre of gravity of the machine/base. They shall be installed on a 10 mm thick layer of Acoustic Supplies Vibramat such that the base does not mechanically contact the supporting slab/ground.

All pumps (including fire pumps) shall be installed on concrete plinths, which are themselves isolated from the building structure on a layer of 10mm thick Acoustic Supplies Vibramat or equal.

H.3.2 Anti-Vibration Mounts and Isolators

H.3.3 Isolation Mounts and Hanger Types

Refer section G.3.3.

H.3.3.1 Selection of Equipment Isolation Mounts

Select isolation mount type and minimum static deflection according to the following table (refer above for isolator types).

Table H-3 – Isolator Schedule

Plant	Isolator Type	Minimum Static Deflection
Pumps (including fire pumps)	M4 + Isolated Concrete Plinth	25 mm
Water tanks	M1/H1/HE1	1 mm
Boilers	M2	6 mm

H.3.3.2 Piping Isolation Mounts

Piping within 25m of the pumps, air cooled chillers (except small diameter piping runouts to fan/coil units shall be vibration isolated using type M4 or H2, 25mm static deflection isolators for piping fixed to the plant room floor slab or walls of the SOU's; type M3/H1, 10mm static deflection mounts elsewhere within 20m of the pumps or chillers.

H.3.3.3 Resilient Pipe Sleeves

Where required, install resilient pipe sleeves between the pipe and pipe clamps to isolate pipe vibration from the clamps. Sleeves should be 12mm thick foam similar to Poron 4701-12-20250-1604 (2 layers) (suppliers: Mason Grogan, 02 9748 3838) fitted between the pipe and the clamp. The clamp should then be tightened just sufficiently to hold the pipe, but not over-tightened.

H.3.3.4 Flexible Pipe Connections

Flexible connections shall be fitted to all pump piping connections. These shall be twin sphere reinforced-rubber elements, be capable of withstanding internal pressure and other forces and be compatible with the fluid in the pipe.

H.3.4 Installation of Vibration Isolation Mounts

The mounts shall be levelled once the equipment is fully loaded in its operating condition with a minimum clearance between the machine and the structure of 15mm, and adjusted to ensure that the isolators are loaded correctly. Ensure that the isolators are not bridged by mounting bolts or contact between any part of the machine or an un-isolated part of the isolation mounts and the structure.

The number and spacing of the mountings shall be selected to minimise machine rocking. Static and dynamic forces during operation and start-up shall be considered when selecting the mounts.

During construction, pump isolation mounts shall be bridged with a timber block to prevent the possibility of overloading of the mounts during the installation of the piping.

Piping hangers and mounts shall be adjusted so that there is minimum strain on piping with the system operating in its normal condition.

Where there is a possibility of significant lateral loads occurring, use hold down bolts, lateral restraints, or housed mounts to locate equipment.

H.4 PENETRATIONS

H.4.1 General

Pipe and electrical penetrations through walls, floors etc. shall not:

1. Decrease the sound rating isolation rating of the wall, floor, etc.
2. Allow the transmission of vibration from pipes and ducts to the wall, floor, etc.

H.4.2 Pipe Penetrations

Seal pipes penetrating slabs or walls, as follows:

Table H-4 – Pipe Penetration Details

Project Noise Criteria in Adjacent Spaces	Seal Type	Acoustic Detail
Within 20m of a pump and condenser water pipes	Type PB seal.	AC018
Other pipes including hot and cold water	Type PA or PB seal.	AC018

Where the building element penetrated consists of one or more leaves then all leaves shall be acoustically sealed.

H.4.3 Electrical Wiring

Individual electrical cables can be sealed with Selleys Pro Series Fireblock sealant or equal. Bunches of cables shall be drawn through a 5mm thick, 600mm long PVC conduit packed with polyester fibre, or glasswool insulation. Seal around the conduit by filling with a non-shrinking grout.

H.4.4 Waste Pipes

Unless a higher standard is specified, all waste pipes shall be treated to comply with the requirements of the Building Code of Australia.

The following schedule lists the required minimum acoustic treatment to piping. Note that where waste/storm water pipework is located in risers outside bathrooms and laundries in SOU's where the riser construction achieves less than R_w+C_{tr} 40 then that pipework shall be wrapped with 8 kg/m2 loaded vinyl / 25mm thick foam sandwich.

It is noted that waste pipes that serve their own unit do not require lagging unless other SOU's use that pipework as part of their drainage.

Table H.5 – Acoustic Lagging Requirements

Service	Location	Pipe Treatment
Waste Piping / Stormwater Piping	Apartment outside of bathrooms and laundries within 3 metres of untreated return air grilles[1]	Pipes wrapped with **2 layers** of 25mm thick 5kg/m^2 foam backed loaded vinyl[2]
	Apartment generally including vertical risers within guestrooms/apartments	Pipes wrapped with 8kg/m^2 foam backed loaded vinyl
	Lobbies / common areas (including risers not acoustically treated to achieve acoustic rating of R_w+C_{tr} 40)	Pipes wrapped with 25mm thick 5kg/m^2 foam backed loaded vinyl
Hydraulic Services Pipework (which serves one apartment and is located above another apartment)	Apartment generally (including risers not acoustically treated to achieve acoustic rating of R_w+C_{tr} 40)	Pipes wrapped with 25mm thick 5kg/m^2 foam backed loaded vinyl

Note 1:

1. Bathroom and laundries wall are constructed full height as per detail AC010.
2. Refer detail AC012.

Pipes required to be externally lagged using 5 kg/m2 and 8 kg/m2 loaded vinyl shall have an outer aluminium foil backing equal to Acoustic Supplies Vibralag. The loaded vinyl shall be separated from the pipe with a layer of minimum 25mm thick open cell foam. Overlap all joints by minimum of 50mm and tape airtight with aluminium tape. **In addition, all pipes that are required to be lagged which penetrate slab soffits, walls, risers or like shall have** the pipe lagging flanged (minimum 50mm lap) to the meeting surface or sealed with a flexible sealant equal to Selleys Pro Series Fireblock. **Where the waste pipe that is lagged passes into a bathroom/laundry the lagging shall run continuously through the bathroom/laundry and run for an additional 100mm into the bathroom/laundry.**

All waste pipes/lagging shall be kept a minimum of 20mm clear of any part of the structure including walls, ceilings, ceiling hangers, etc. Waste pipe penetrations shall be sealed as recommended above for pipe penetrations. Mortar or render shall be kept clear of the penetrations to prevent any bridging between the pipe and the wall.

Cast in waste soil pipework shall be isolated from the building structure by wrapping the pipe where it is located within the concrete slab/column in a minimum layer of 6mm foam equal to Ableflex or Softlon 3000. A sample shall be submitted to the Acoustic Consultant prior to approval for use on site.

H.5 ELECTRICAL

H.5.1 Belt Driven Plant

Belt driven intermittently operating plant having motors rated at greater than 2.5kW shall be fitted with motor starters that limit the build-up in motor speed at start-up. These are required to eliminate the possibility (especially in the future after belt wear has occurred) of belt squeal being audible in occupied spaces having a noise criterion of 45dB(A) or lower, on adjacent properties and on residential terraces/external spaces.

H.5.2 Contactors/Starters/Controllers

Noise from contactors, starters and controllers shall be inaudible inside rooms having a noise of 45dB(A) or lower, on adjacent properties and on residential terraces/external spaces. Provide enclosures around these items and/or vibration isolate the items from building elements where they may give rise to the transmission of structure-borne noise.

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I ELECTRICAL SERVICES – NOISE AND VIBRATION

This section specifies the acoustic requirements for electrical services.

Penetrations in sound rated ceilings or walls or floors should maintain the acoustic performance of the ceiling. Where required provide acoustic boxes or other treatment.

Where penetrations are made in sound rated walls for either GPOs or light switches, these should be backed using the HPM 430 Fire/Acoustic wall box. It is noted that they will not be required in SOU to common corridor walls.

Light fittings penetrating sound rated ceilings over wet areas shall be treated with acoustic boxes if gimballed downlights are installed, alternatively non-gimballed downlights will be acceptable to maintain the acoustic performance of the ceiling.

Individual electrical cables can be sealed with Selleys Proseries Fireblock sealant or equal. Bunches of cables shall be drawn through a 5mm thick, 600mm long PVC conduit packed with polyester fibre, or glasswool insulation. Seal around the conduit by filling with a non-shrinking grout.

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J EXTERNAL NOISE INTRUSION CRITERIA

J.1 APARTMENT DESIGN GUIDELINES - STANDARD (D16 AND B40)

The Better Apartments Design Standards Standard D16 and B40 contains the following requirement:

To contain noise sources in developments that may affect existing dwellings.

To protect residents from external and internal noise sources.

Standard D16

Noise sources, such as mechanical plants should not be located near bedrooms of immediately adjacent existing dwellings.

The layout of new dwellings and buildings should minimise noise transmission within the site.

Noise sensitive rooms (such as living areas and bedrooms) should be located to avoid noise impacts from mechanical plants, lifts, building services, non-residential uses, car parking, communal areas and other dwellings.

New dwellings should be designed and constructed to include acoustic attenuation measures to reduce noise levels from off-site noise sources.

Buildings within a noise influence area specified in Table D3 should be designed and constructed to achieve the following noise levels:

- *Not greater than 35dB(A) for bedrooms, assessed as an LAeq,8h from 10pm to 6am.*
- *Not greater than 40dB(A) for living areas, assessed LAeq,16h from 6am to 10pm.*

Buildings, or part of a building screened from a noise source by an existing solid structure, or the natural topography of the land, do not need to meet the specified noise level requirements.

Noise levels should be assessed in unfurnished rooms with a finished floor and the windows closed.

Table D3 Noise influence area

Noise Source	***Noise influence area***
Zone interface	
Industry	*300 metres from the industrial 1, 2 and 3 zone boundary*
Roads	
Freeways, tollways and other roads carrying 40,000 Annual Average Daily Traffic Volume	*300 metres from the nearest trafficable lane*
Railways	
Railway servicing passengers in Victoria	*80 metres from the centre of the nearest track*

Railway servicing freight outside Metropolitan Melbourne	*80 metres from the centre of the nearest track*
Railway servicing freight in Metropolitan Melbourne	*135 metres from the centre of the nearest track*

Note: The noise influence area should be measured from the closest part of the building to the noise source.

Decision guidelines

Before deciding on an application, the responsible authority must consider:

- *The design response.*
- *Whether it can be demonstrated that the design treatment incorporated into the development meets the specified noise levels or an acoustic report by a suitably qualified consultant submitted with the application.*
- *Whether the impact of potential noise sources within a development have been mitigated through design, location and siting.*
- *Whether the layout of rooms within a dwelling mitigates noise transfer within and between dwellings.*
- *Whether an alternative design meets the relevant objectives having regard to the amenity of the dwelling and the site context.*

Based on these conditions, the subject site has been reviewed as follows:

1. The development is **not** within 300m of an industrial zone.
2. The development is **not** within 300m of a freeway or road carrying an AADT >40,000.
3. The subject site is **not** located within 80 metres of the centre of the nearest railway track.

As the criteria outlined in Standard D16 at Clause 58.04-3 is **not applicable** for this development, the internal traffic noise level criteria have been based on the criteria detailed in Australian/New Zealand Standard 2107:2016 (AS/NZS 2107:2016) detailed in Section 5.3 below.

J.2 VICTORIA'S BIG HOUSING BUILD – 52.20

Clause 52.20-7.7 references the same criteria set out in the section above (refer Appendix 3). As the site does not fall within the above zones referenced above, AS/NZS 2017:2016 will be used to assess external traffic noise intrusion.

J.3 AS/NZS 2107:2016 – TRAFFIC NOISE

As the requirements of Standard D16 of Clause 58.04-3 are not applicable for traffic noise at the subject site the following internal noise criteria for traffic noise are proposed based on Australian / New Zealand Standard 2107:2016 "Recommended Design Sound Levels and Reverberation Times for Building Interiors"

AS/NZS 2107:2016 sets out recommended design sound levels for residential developments depending on locality to minor or major roads. Wellington Street is considered a local road as such Table J-1 below details the criterion set for this development due to the proximity to minor roads.

Table J-1 – Traffic Noise Design Criteria

Location	Internal Design Noise Levels[1]	
	Day (7am – 10pm) dB(A) $L_{eq_1\ hour}$	Night (10pm-7am) dB(A) $L_{eq_1\ hour}$
Bedrooms	30-40	30-35
Living Rooms	30-40	N/A

Note 1: Based on apartment windows and doors closed and suitably furnished ready for occupation

J.4 EVALUATION OF EXTERNAL NOISE INTRUSION

Internal noise levels will primarily be as a result of noise transfer through the windows, doors and roof as these are relatively light building elements that offer less resistance to the transmission of sound. Walls that are proposed to be heavy masonry elements will not require upgrading.

The predicted noise levels through the windows, doors and roof are discussed below. The predicted noise levels have been based on the expected level and spectral characteristics of the external noise, the area of building elements exposed to noise, the absorption characteristics of the rooms and the noise reduction performance of the building elements.

Glazing/façade treatment was determined based on the measured noise levels, the predicted loss across the site, and the transmission loss of the façade. The constructions set out below are necessary for the satisfactory control of external noise.

J.4.1 Recommended Glazing

Refer to Table J-2 for minimum glazing thickness requirements. Thicker glazing may be required for structural, safety or other purposes. Where it is required to use thicker glazing than scheduled, this will also be acoustically acceptable. These additional considerations may require the glazing thickness to be increased beyond the acoustic requirement.

Table J-2 – Glazing Requirements

Location	Required Glazing Construction	Minimum R_w of Installed Window System	Acoustic Seals
Refer to Appendix 2	6mm glass or 6/12/6mm IGU	29	Yes
	8mm glass or 6/12/8mm IGU	31	Yes

Note 1 – Final glazing type and ratings to be determined during detailed design phase.
Note 2 – Assumes rooms suitably furnished ready for occupation with Bedrooms carpeted and living areas incorporating hard floor finish
Note that Mohair Seals in windows and doors are not acceptable where acoustic seals are required. Seals in these instances shall be equal to Schlegel Q-lon.

The glass thickness, design of the window mullions, perimeter seals of openable and fixed glazing, and the installation of the windows/doors in the building openings shall be selected so that the completed system reduces internal noise levels to at or below the scheduled maximum internal noise criteria requirements.

Final glazing requirements will be determined during detailed design phase. In all cases the selected glazing will ensure compliance with the internal traffic noise objectives detailed in Section J.3.

J.4.2 Roof / Ceiling

It has been assumed that the roof of the building is to be formed from minimum 150mm thick concrete slab construction with suspended plasterboard ceiling and will not require further upgrading acoustically. Any lightweight roof proposed would need to be reviewed during the detailed design of the development to ensure compliance with proposed internal noise criteria.

J.4.3 External Walls

External walls of concrete or masonry construction will not require any upgrading acoustically. Any non-glazed sections of the façade which are proposed to be constructed from lightweight materials shall be designed to ensure compliance with the nominated internal noise criteria in Table J-1. Penetrations in walls must be sealed gap free with a flexible sealant. Any ventilation openings in walls shall be acoustically treated to maintain the acoustic performance of the external wall construction.

K LIFT REQUIREMENTS

K.1 Common Lifts

K.1.1 Noise within Occupied Areas

Lifts motors and control equipment shall be vibration isolated from the building structure. The maximum noise level produced by the lift car operation shall not exceed 30 dB(A) when measured within a bedroom, 35 dB(A) when measured within a living room and 40 dB(A) within offices/meeting rooms. Lift motors and associated equipment shall be vibration isolated so that structure borne noise will not be audible within SOU's.

K.1.2 Lift Call Bells and Lobby Noise Levels

It is standard practice that when a lift arrives at a floor a bell or auditory call signal is activated to let the waiting passenger know of the lifts arrival. This type of lift call system can be highly annoying for SOU's located near the lifts. On this project, it is required that any auditory lift call system must be low in volume and dull in nature.

K.1.3 Noise within Lift Car

Maximum noise level within the lift car during operation of 55 dB(A).

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L CARPARK – NOISE AND VIBRATION

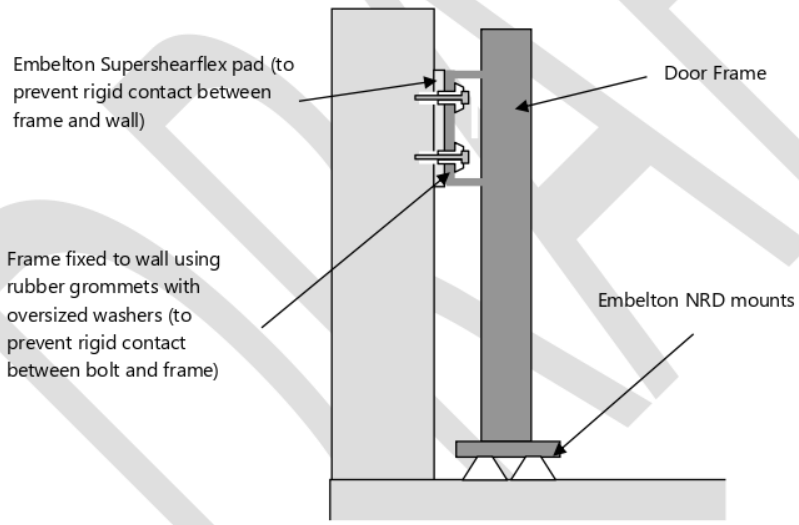
The following shall be implemented for the car park:

- The car park floor surface is to be finished to prevent tyre squeal e.g. broom finish.
- Car park shall have no speed bumps.
- Ramp finishes not to be corrugated to minimise regenerated tyre noise.

The following treatment is shall be implemented for car park entry doors:

- Automatic doors shall be vibration isolated from the building structure. Refer detail below.
- Doors shall be quiet in operation. Isolation of the door equal to Embelton NRD mounts shall be used where the motors are fixed to the structure.
- Teflon guides shall be installed in all rails.
- Ensure that door panels do not rattle, and the operation of any door guides, rollers, etc. is smooth.
- Door guides should be fitted with vibration isolated fixings where required to prevent door operation from being audible within occupied spaces.
- Door motors shall be fitted with a soft start/stop controller to minimise noise.
- The door shall be stopped approximately 5 mm from the slab/ground to ensure the base of the door does not contact the concrete surface.

Isolation of the door structure is shown in the schematic below -



M GARBAGE AND RECYCLING CHUTES

This section specifies the acoustic requirements for garbage and recycling chutes.

Structure-borne noise emanating from garbage chutes is generated by objects being dropped through the chute, striking the sides of the chute as they fall to the bottom. This impact causes vibration in the chute walls, which transmits through the building structure and is heard as noise.

To limit this source of noise, the garbage chutes shall be resiliently attached to the building structure. This can be achieved in the following manner, namely;

1. The isolation brackets used to support the chute should be set on neoprene isolation mounts equal to Embelton NRD mounts. The mounts should be designed to have a maximum static deflection of approximately 5mm when fully loaded.

2. Garbage chutes are normally contained in a fire rated compartment within the building. Hence, there is no requirement to seal the slab penetrations where the chute passes from floor to floor. In order to control the transmission of structure-borne noise a 10mm gap should be left around the entire perimeter of the chute.

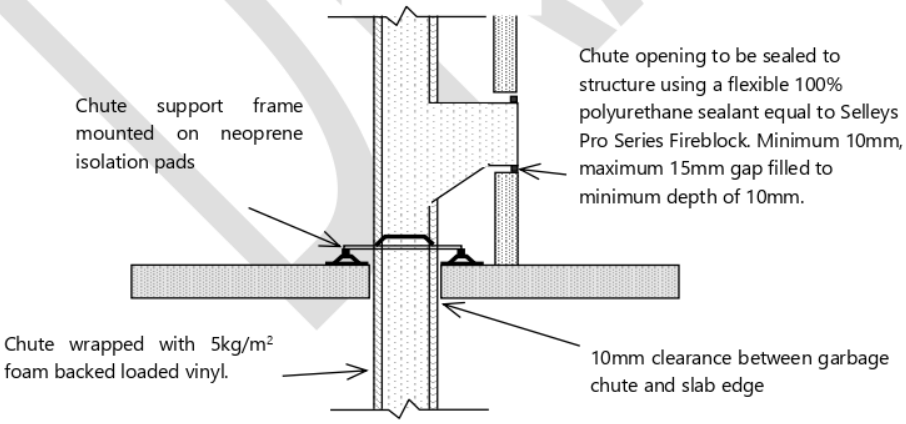
3. Alternatively, if it is required to seal the slab penetrations, then a resilient fire rated mastic compound, such as Selleys Pro Series Fireblock should be used. This should be applied to a 10mm gap, fitted with a backing rod.

4. Plastic garbage-only chutes running vertically through the building core do not require wrapping generally. Metal sections of the garbage chute and non-vertical transitions through the building in either metal or plastic should be externally wrapped with 25mm thick 5kg/m^2 foam backed loaded vinyl or other dampening material.

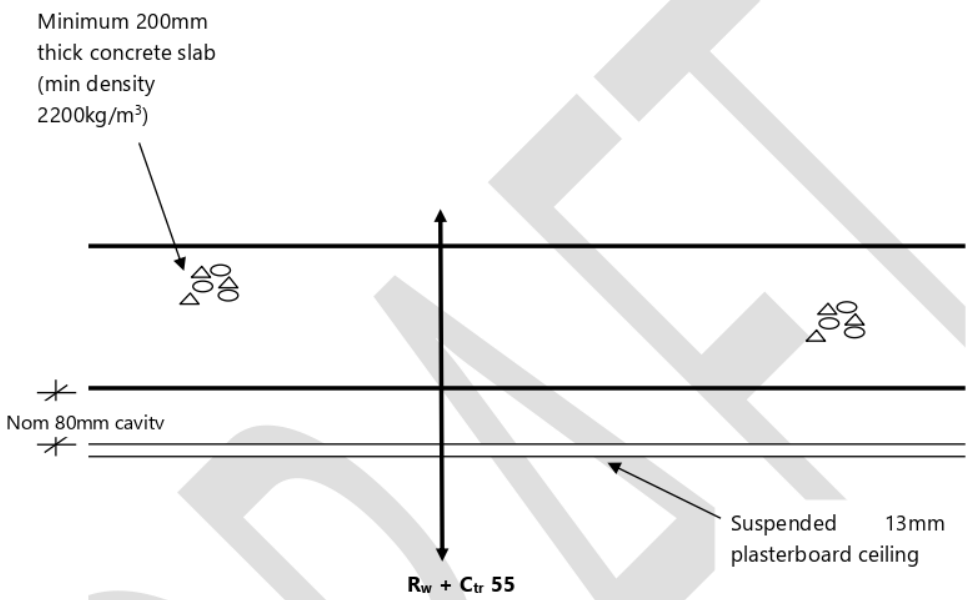
5. Recycling chutes running through the building core should be externally wrapped with 25mm thick 5kg/m^2 foam backed loaded vinyl or other dampening material.

6. The garbage compactor shall be vibration isolated from the building structure and shall incorporate Embelton NRD mounts with no mechanical bridging between the compactor mechanism and the building structure.

A schematic representation of the proposed treatment is shown below:



APPENDIX 1 – WALL/FLOOR CONSTRUCTION OPTIONS



Note - ceiling is not required within carpark to achieve BCA requirement of Rw + Ctr 50

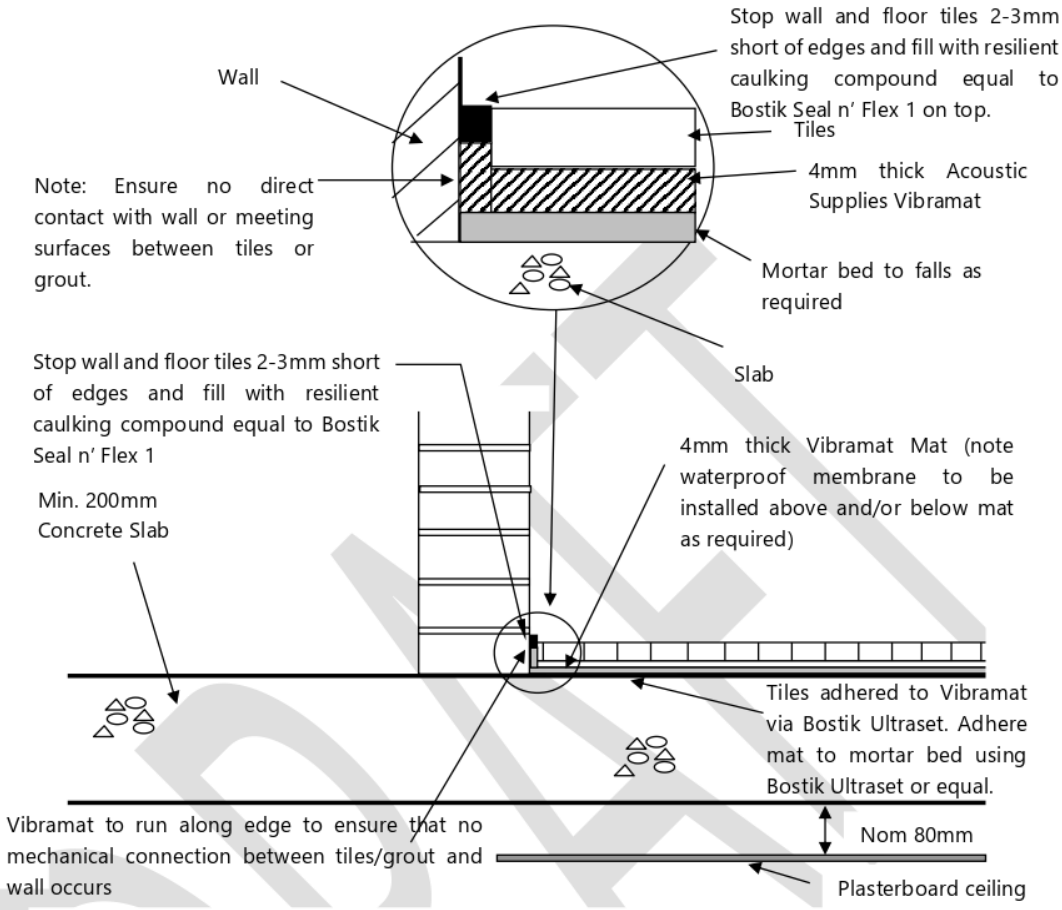
FLOOR CONSTRUCTION BETWEEN APARTMENTS
R_w + Ctr 55

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG		20210345.2	AC001
Issue:	**Scale:**	**Approved:**		
	NTS			

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Note

- For load bearing wall structures ensure a suspended plasterboard ceiling is installed within the apartment below with a minimum 80mm airgap between the ceiling and soffit.

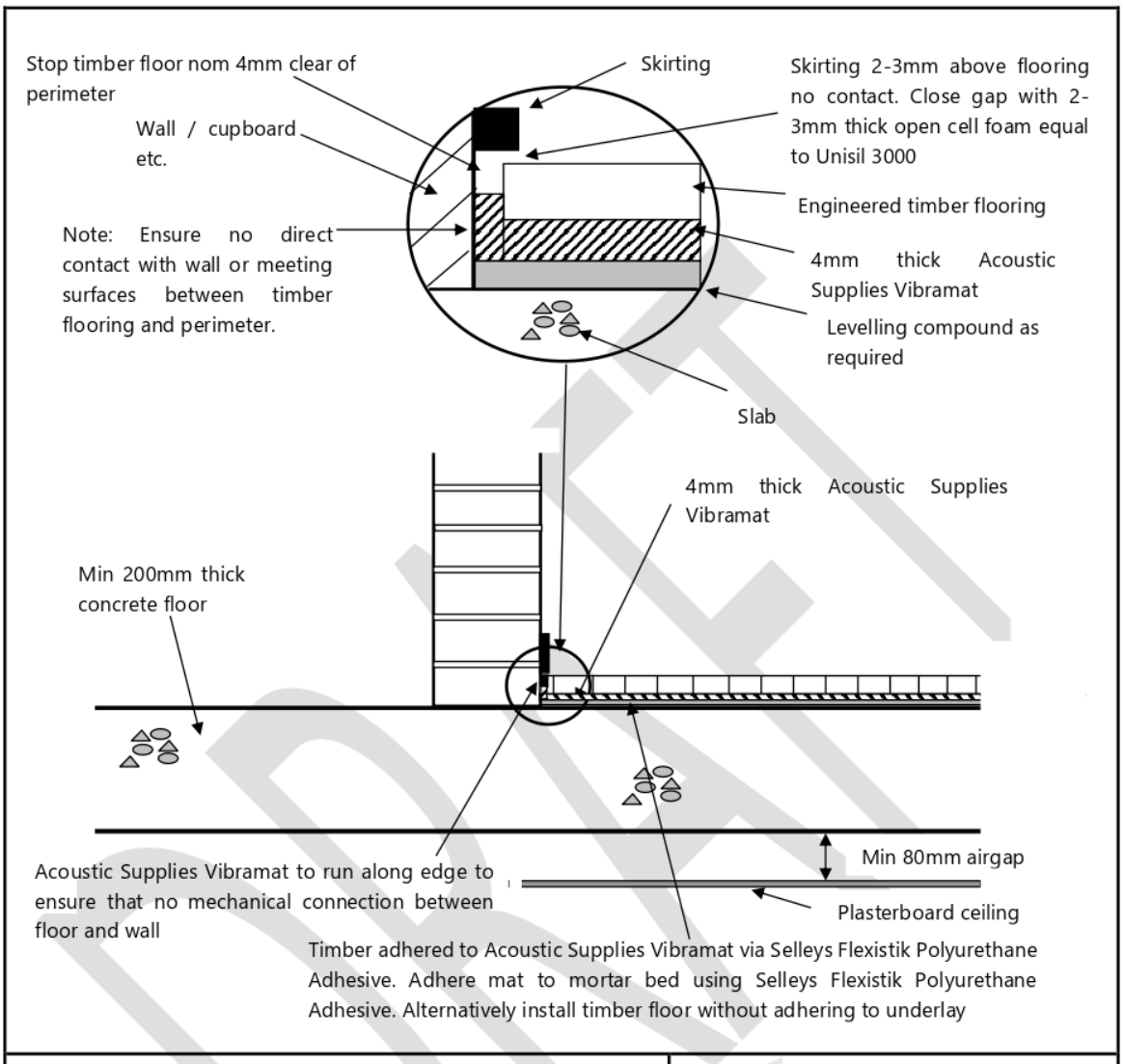
ACOUSTIC TREATMENT OF TILED FINISHES INCLUDING BALCONIES LOCATED ABOVE APARTMENT $L'_{n,w} + C_I$ <55

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021			20210345.2	AC007
Issue:	**Scale:**	**Approved:**		
	NTS			

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



ACOUSTIC TREATMENT OF TIMBER FINISHES LOCATED ABOVE APARTMENTS

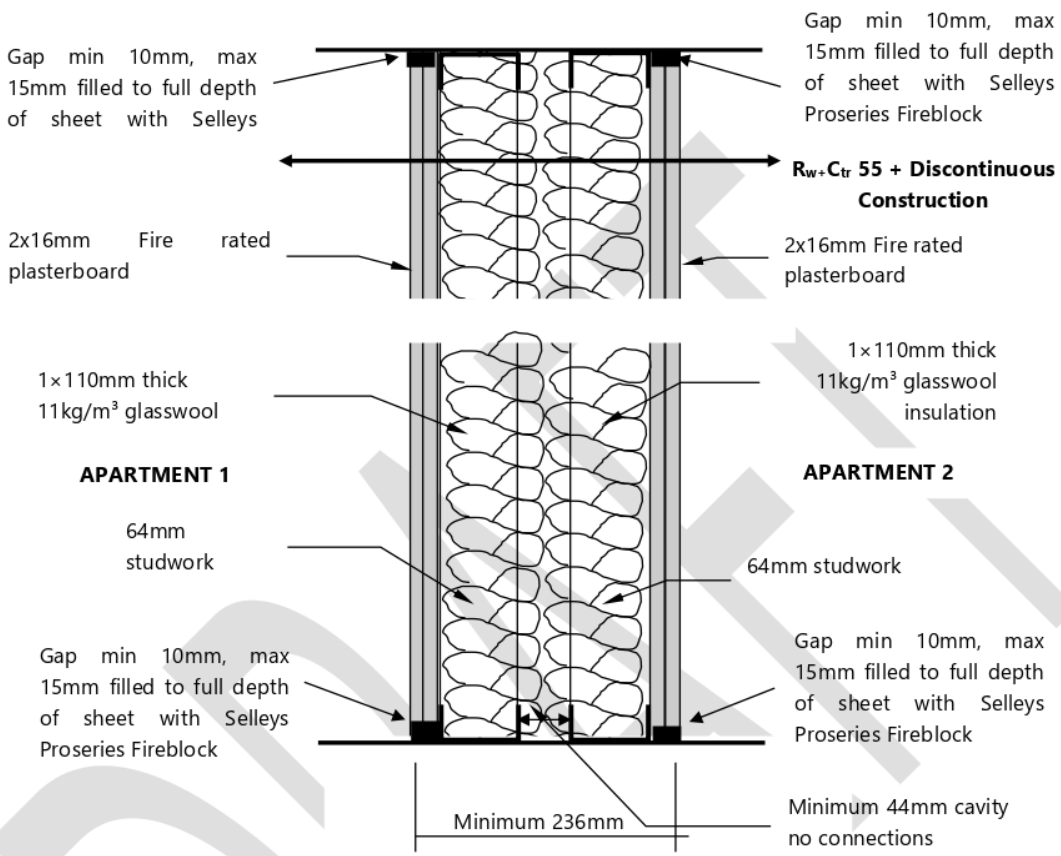
$L'_{n,w} + C_I < 55$

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG		20210345.2	AC008
Issue:	**Scale:**	**Approved:**		
	NTS			

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Note:

- GPO's shall be backed with fire/acoustic boxes equal to HPM430 manufacture caulked into the wall

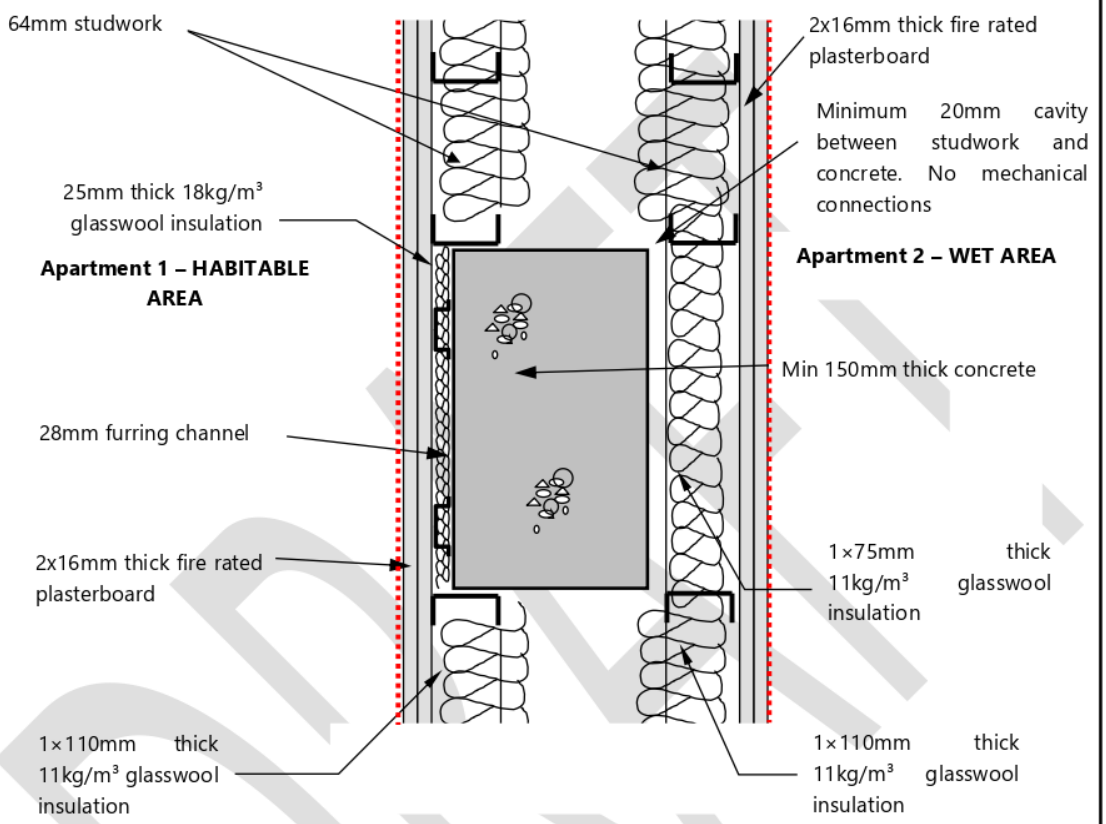
INTERTENANCY WALL APARTMENTS
R_w + C_{TR} 55 + Discontinuous Construction

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG		20210345.2	AC002
Issue:	**Scale:**	**Approved:**		
	NTS			

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



INTERTENANCY WALL APARTMENTS INCORPORATING CONCRETE COLUMN (PLAN VIEW)

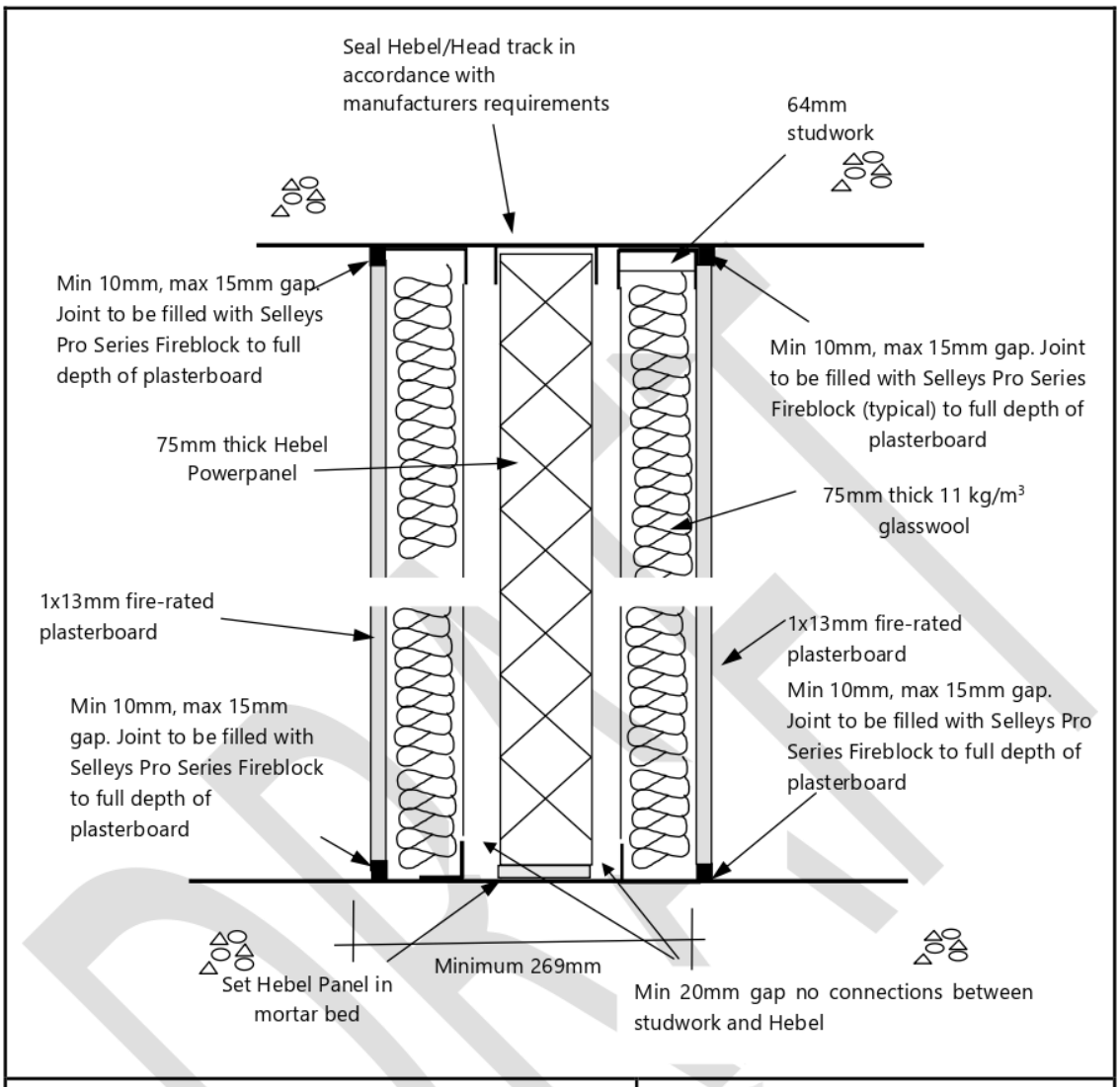
R_w + C_{TR} 55 + Discontinuous Construction

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG		20210345.2	AC003
Issue:	**Scale:**	**Approved:**		
	NTS			

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



INTERTENANCY WALL APARTMENTS

R_w + C_{TR} 55 + Discontinuous Construction

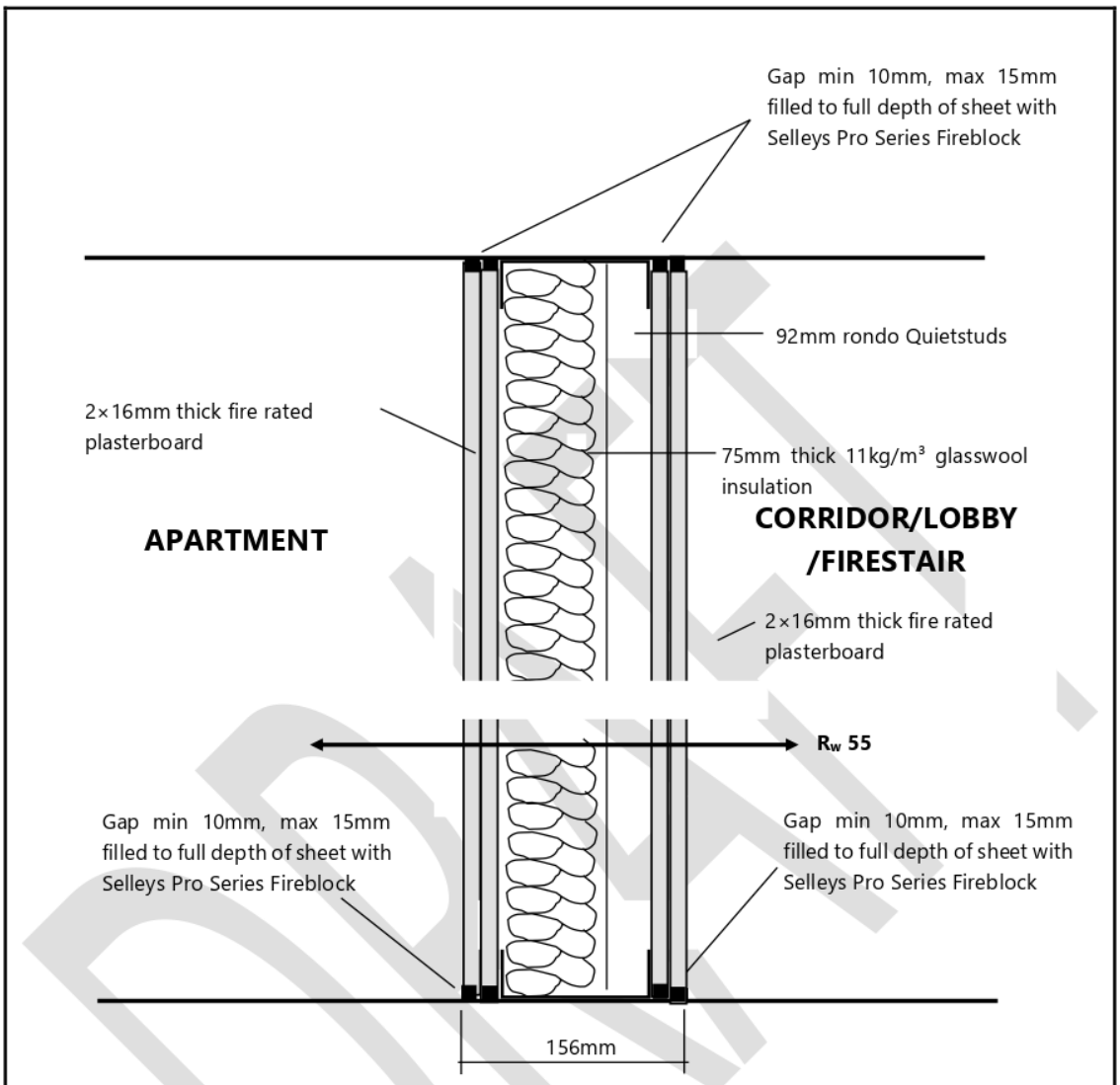
Hebel Option

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG		20210345.2	AC004
Issue:	**Scale:**	**Approved:**		
	NTS			

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



WALL BETWEEN APARTMENTS AND CORRIDORS/LOBBIES
R_w 55

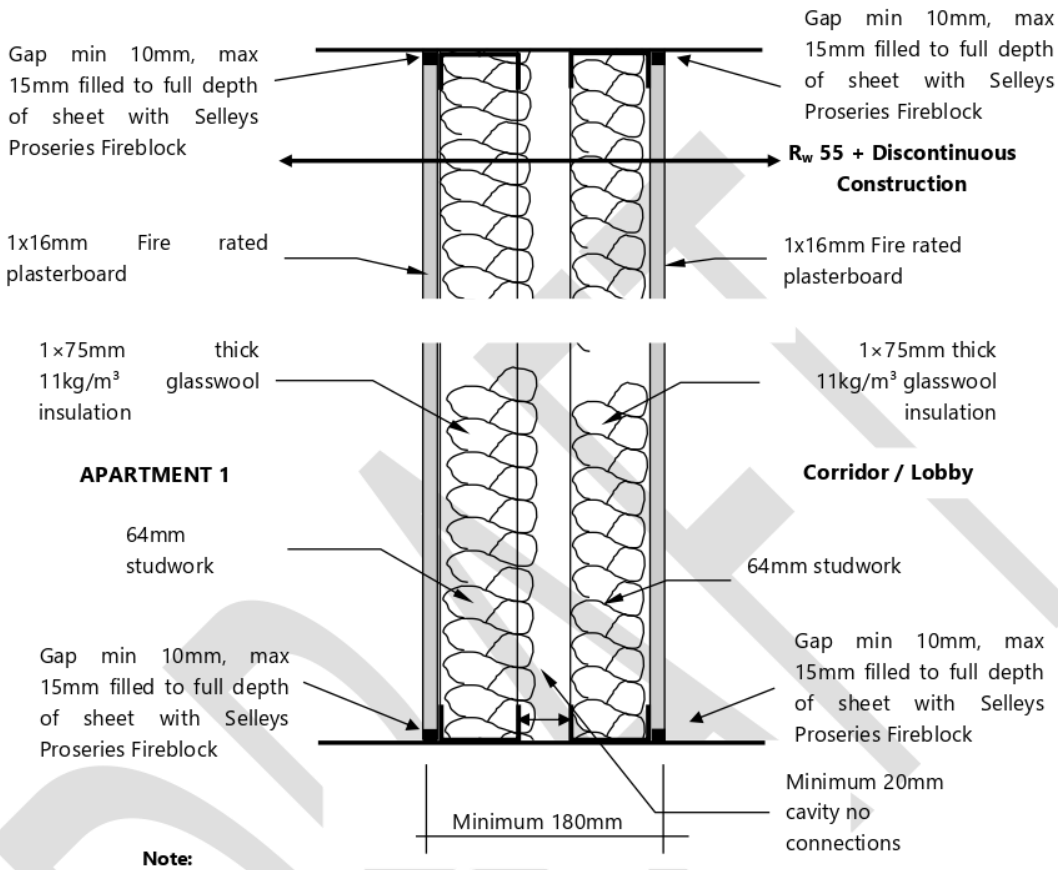
Quiet Stud Option

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG		20210345.2	AC005
Issue:	**Scale:**	**Approved:**		
	NTS			

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Note:

- GPO's shall be backed with fire/acoustic boxes equal to HPM430 manufacture caulked into the wall

WALL BETWEEN APARTMENTS AND CORRIDORS/LOBBIES

R_w 55 + Discontinuous Construction

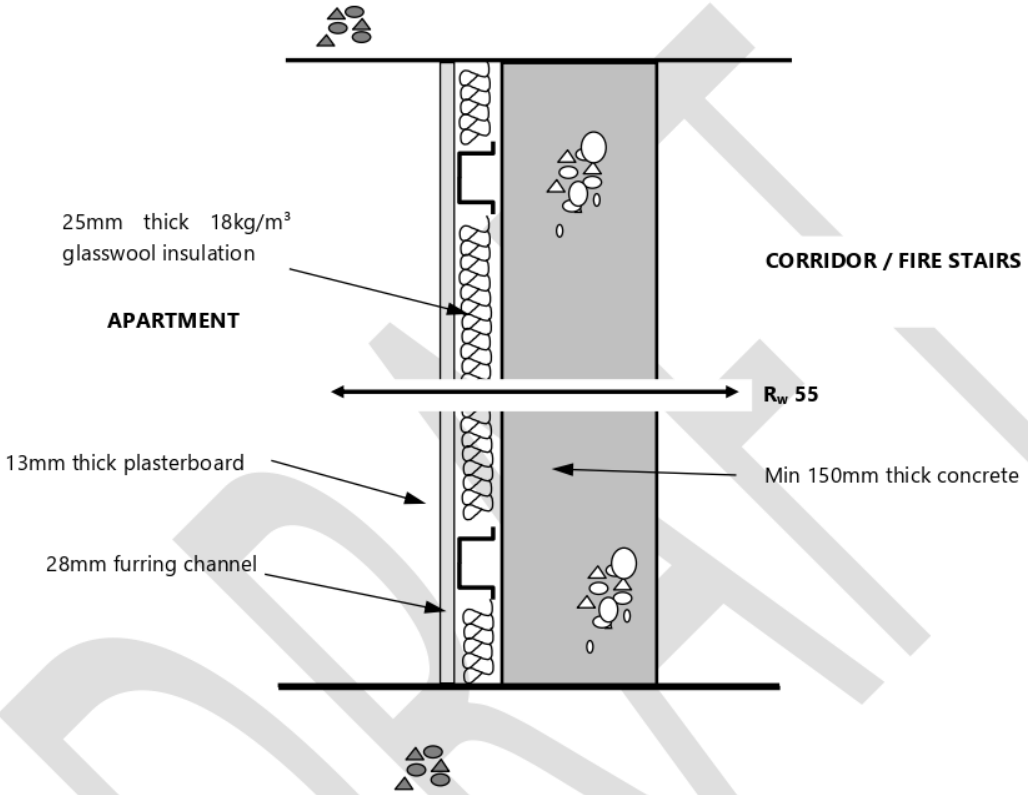
Double Stud Option

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG		20210345.2	AC06
Issue:	**Scale:**	**Approved:**		
	NTS			

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



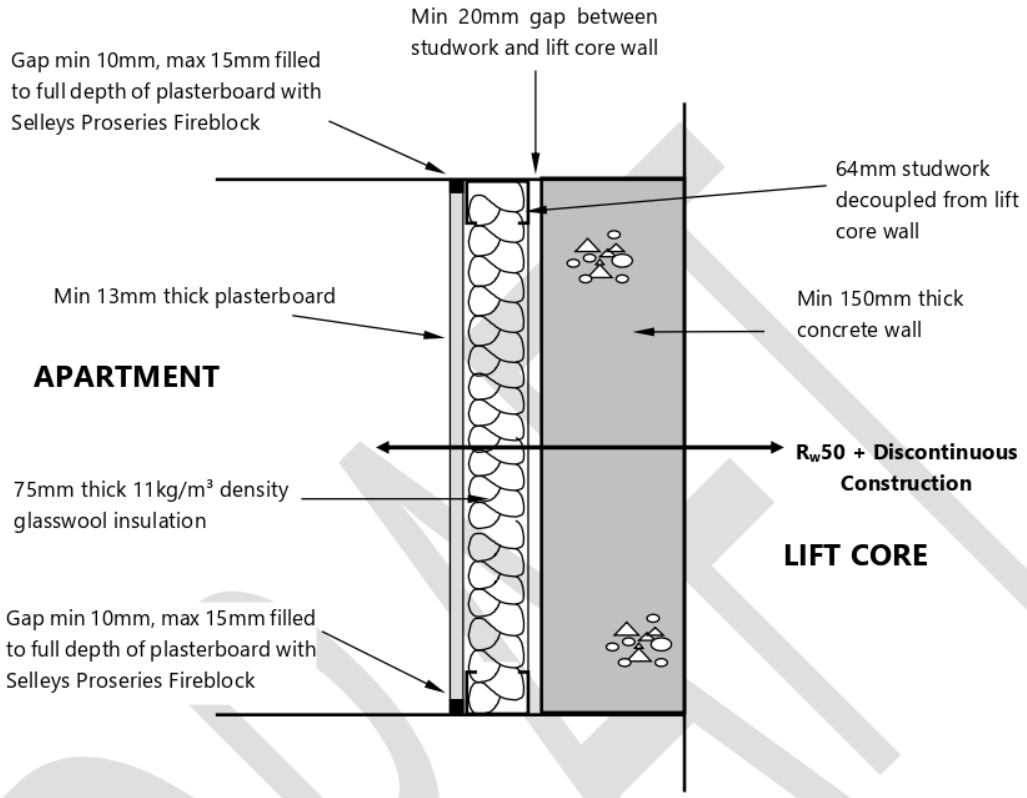
Wall Between Apartments and Corridors / Lobbies / Fire Stairs (Incorporating Column / Precast)
(Section View)
R_w 55

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	JT		20210345.2	AC07
Issue:	**Scale:**	**Approved:**		
	NTS			

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Note:

1. No mechanical connections are permitted between the lift core and stud work

DRAFT

LIFT CORE ADJACENT TO APARTMENTS

R_w 50 + DISCONTINUOUS CONSTRUCTION

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	JT		20210345.2	AC08
Issue:	**Scale:**	**Approved:**		
	NTS			

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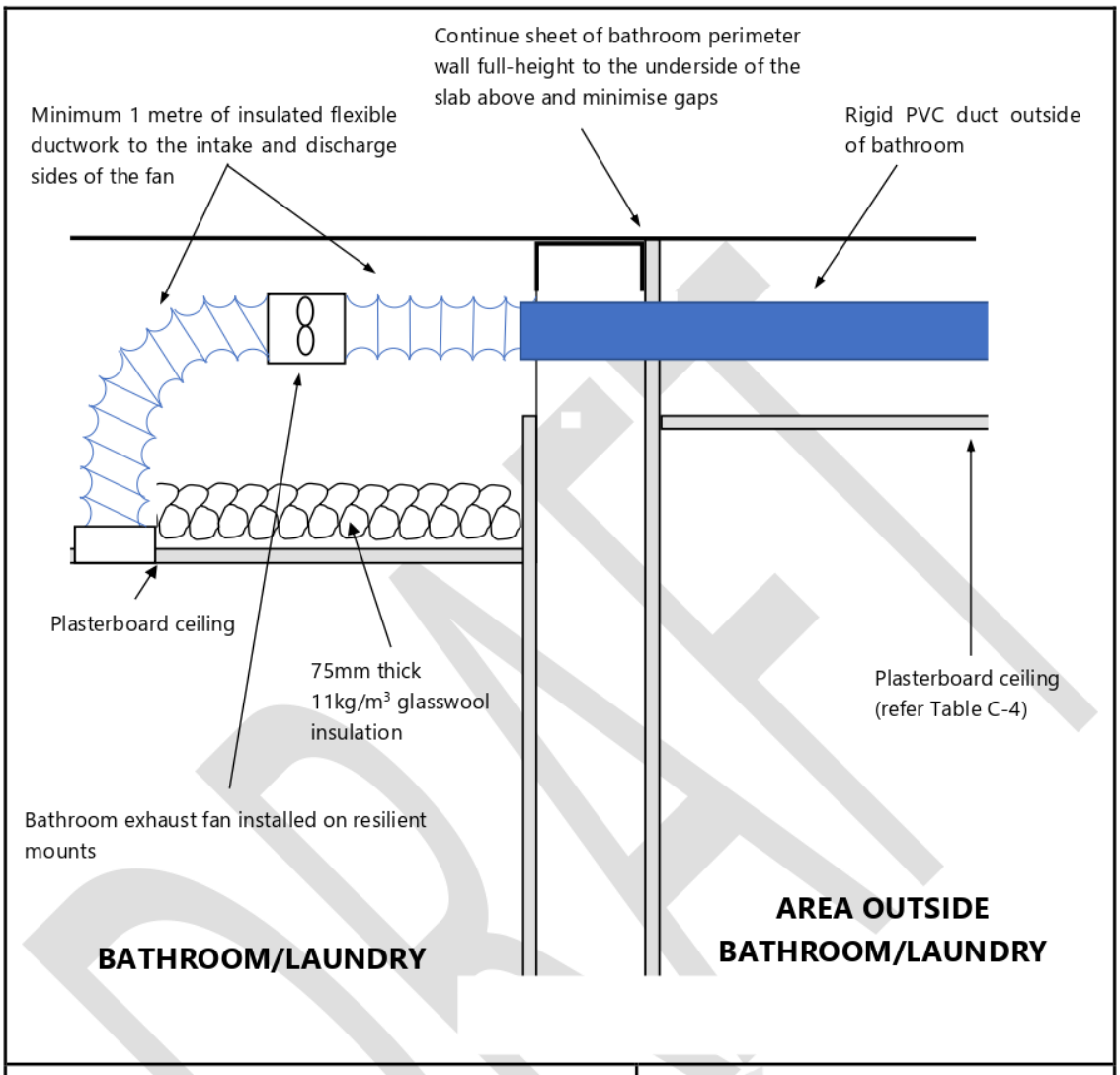


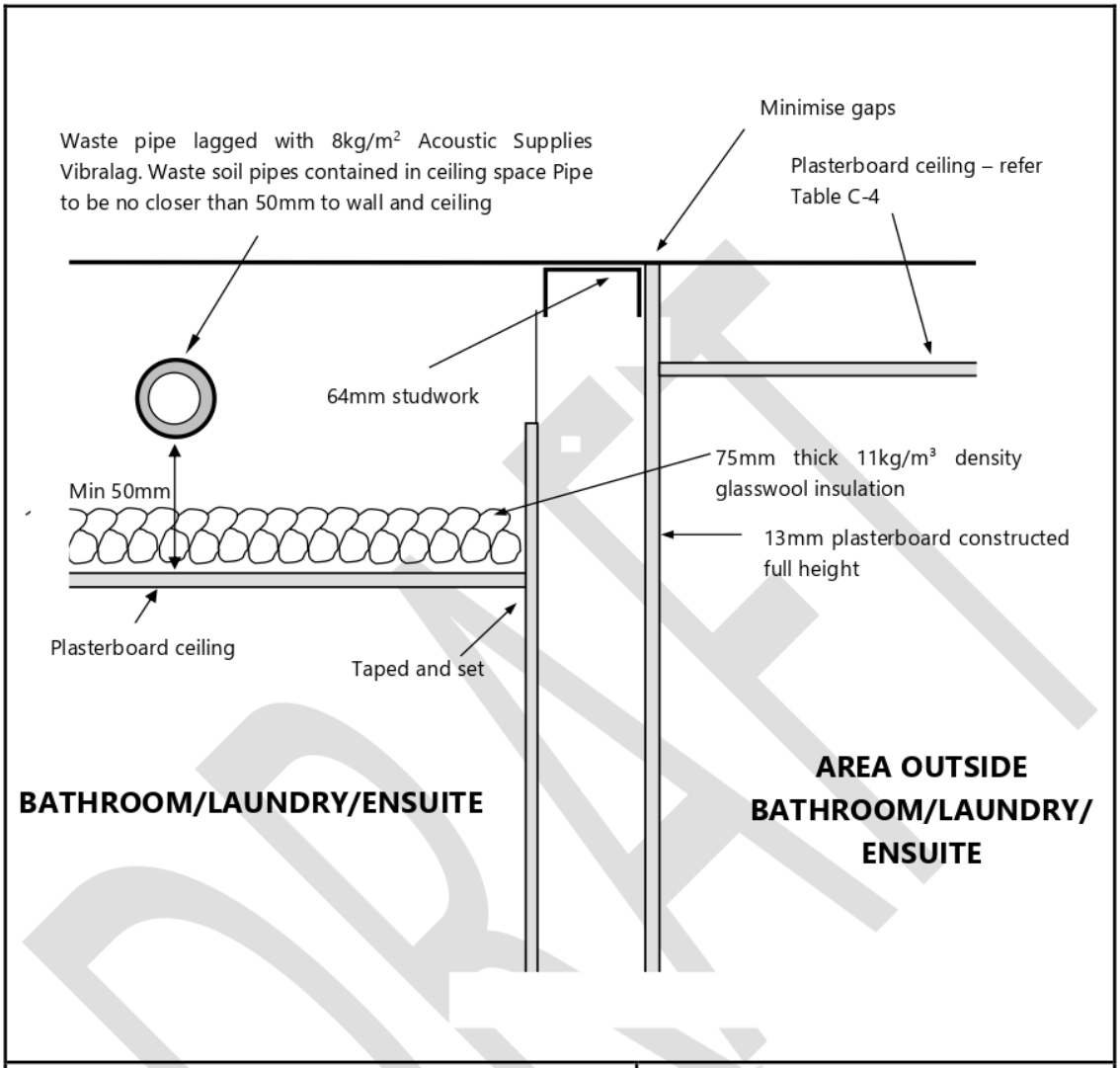
Sectional Elevation of Wall/Ceiling Requirements for Bathroom/Laundry within the Same Apartment

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG	MS	20210345.2	AC009
Issue:	**Scale:**	**Approved:**		
	NTS	MS		

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Sectional Elevation of Wall/Ceiling Requirements for Bathrooms/Laundries/Ensuites

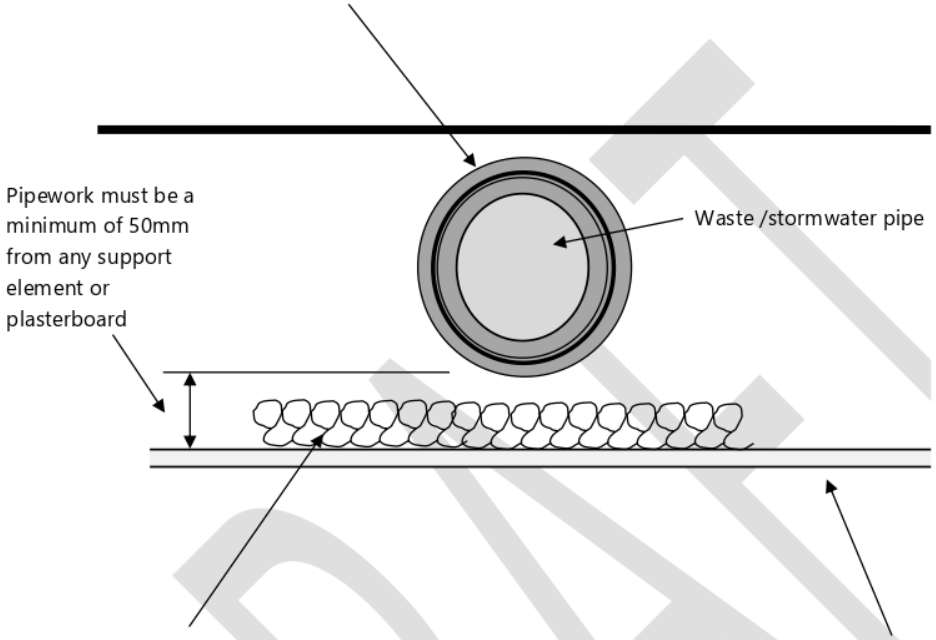
ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG	MS	20210345.2	AC010
Issue:	**Scale:**	**Approved:**		
	NTS	MS		

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report

Waste pipe lagged with 1 layer of 5kg/m² equal to Acoustic Supplies Vibralag.
Refer Table E.5 where 2 layers of 5kg/m³ Acoustic Supplies Vibralag.
Waste soil pipes contained in ceiling space Pipe to be no closer than 50mm to wall and ceiling.



Note:

- Non-gimballed downlights (fixed with no gaps) may be installed in the insulated zone however the insulation should be left minimum 50mm clear of the light fitting.

Ceiling Detail Treatment of Waste Pipe Work and Storm Water Pipe Work Within Apartments

ACOUSTIC LOGIC

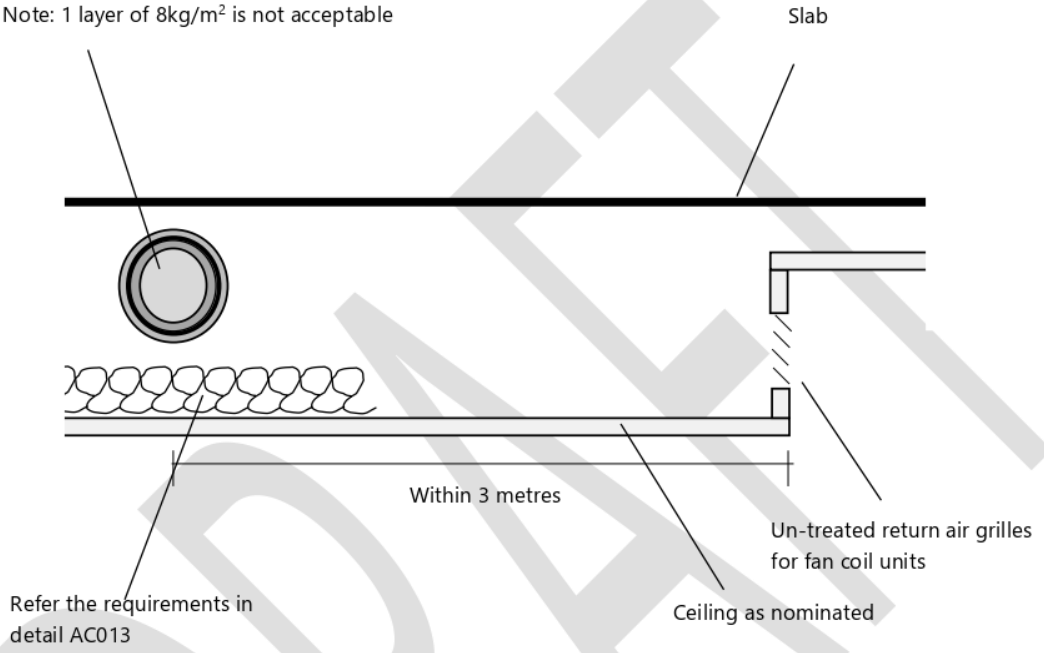
Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG	MS	20210345.2	AC011
Issue:	**Scale:**	**Approved:**		
	NTS	MS		

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report

Double lagged waste / storm water pipework – wrapped with 2 layers of 5kg/m² foam backed loaded vinyl equal to Acoustic Supplies Vibralag.

Note: 1 layer of 8kg/m² is not acceptable



DRAFT

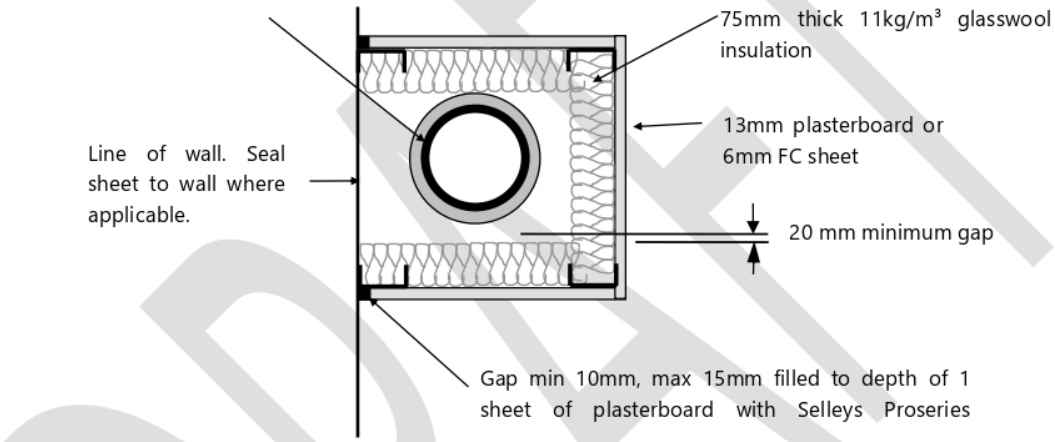
WASTE SOIL PIPE WORK AND STORM WATER PIPE WORK (WITHIN 3 METRES OF UN-TREATED RETURN AIR GRILLES) IN GUEST ROOMS OUTSIDE BATHROOMS/LAUNDRIES
R_W+C_{TR} 40

ACOUSTIC LOGIC

144-160 Keilor Road, Essendon
WALL/FLOOR/CEILING CONSTRUCTION

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG	SG	20210345.2	AC012
Issue:	**Scale:**	**Approved:**		
	NTS			

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



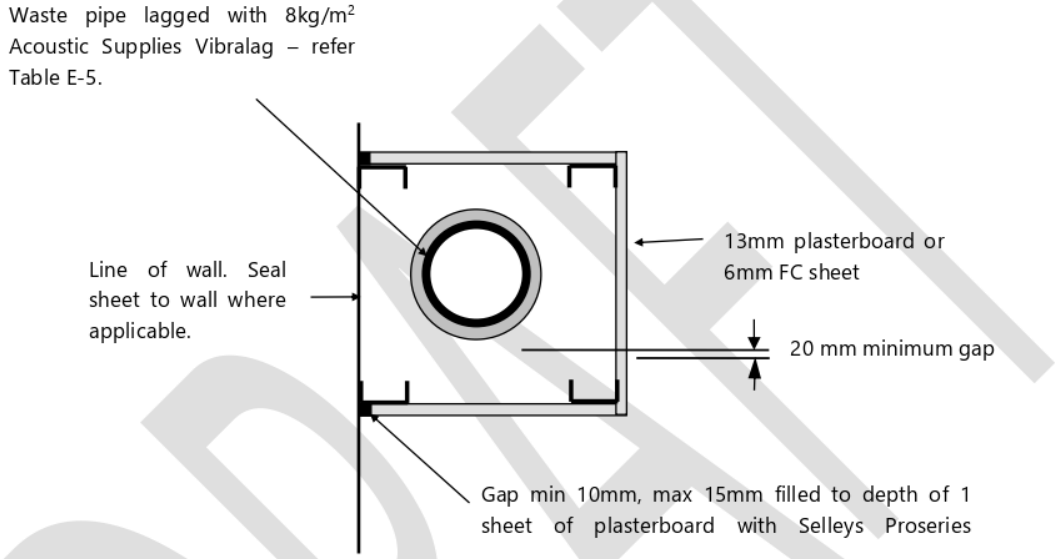
Hydraulic Riser Located Within Apartments
Performance Equal to $R_w + C_{tr}$ 40

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG	MS	20210345.2	AC013
Issue:	**Scale:**	**Approved:**		
	NTS	MS		

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



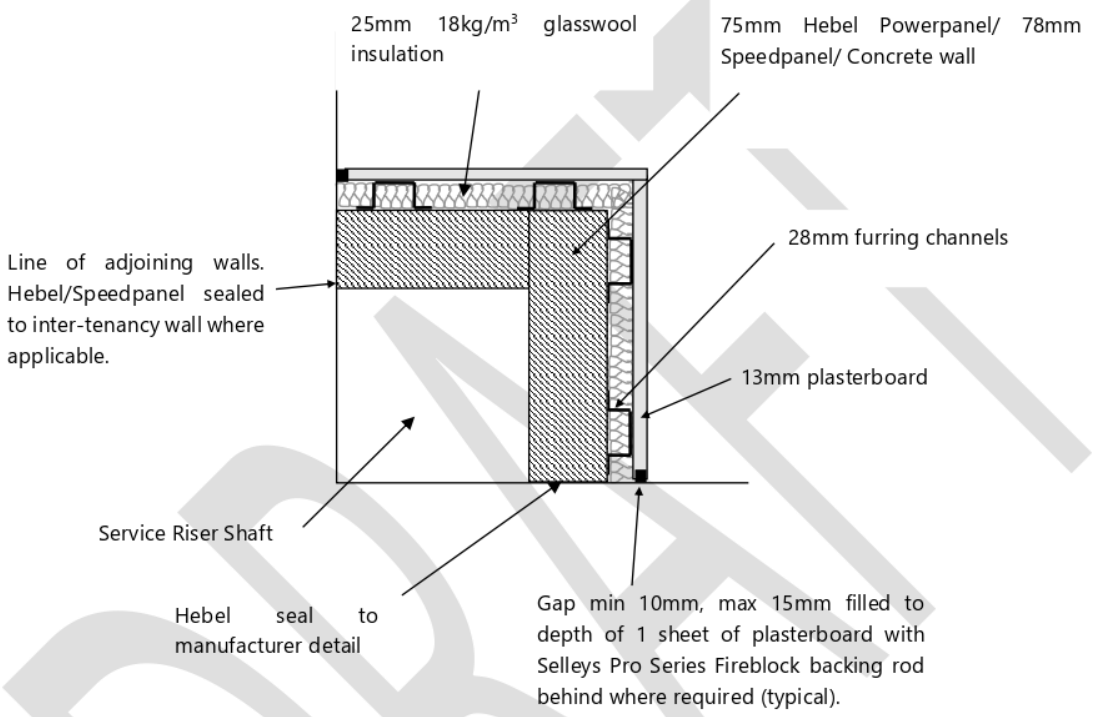
Hydraulic Riser Located Within Apartments
Performance Equal to $R_w + C_{tr}$ 25

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG	MS	20210345.2	AC014
Issue:	**Scale:**	**Approved:**		
	NTS	MS		

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Mechanical Services Riser Construction

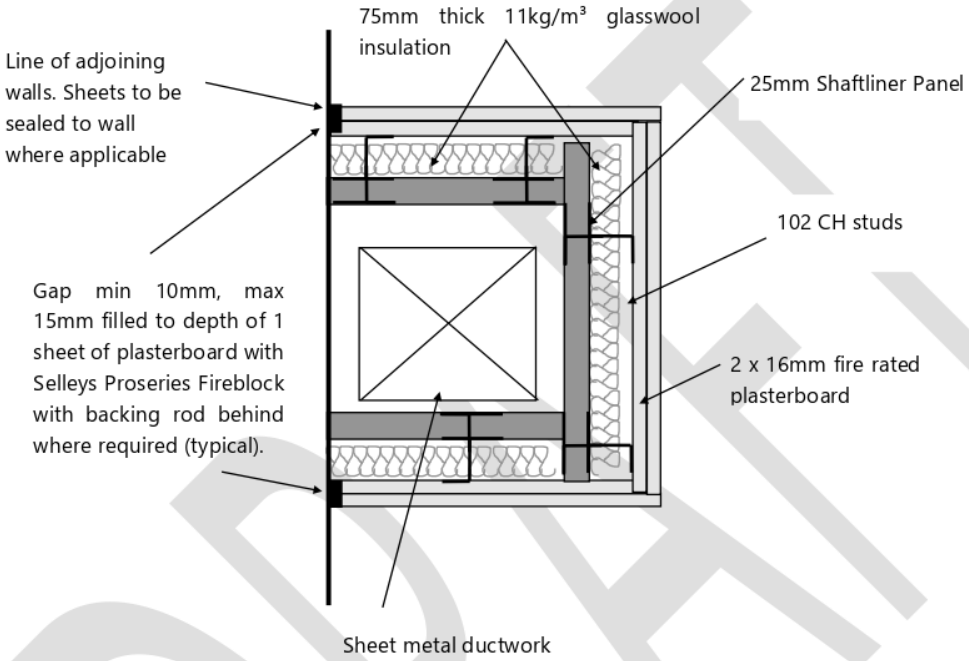
Option 1 – Hebel or Speed Panel Construction

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG	MS	20210345.2	AC015
Issue:	**Scale:**	**Approved:**		
	NTS	MS		

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



DRAFT

Mechanical Services Riser Construction

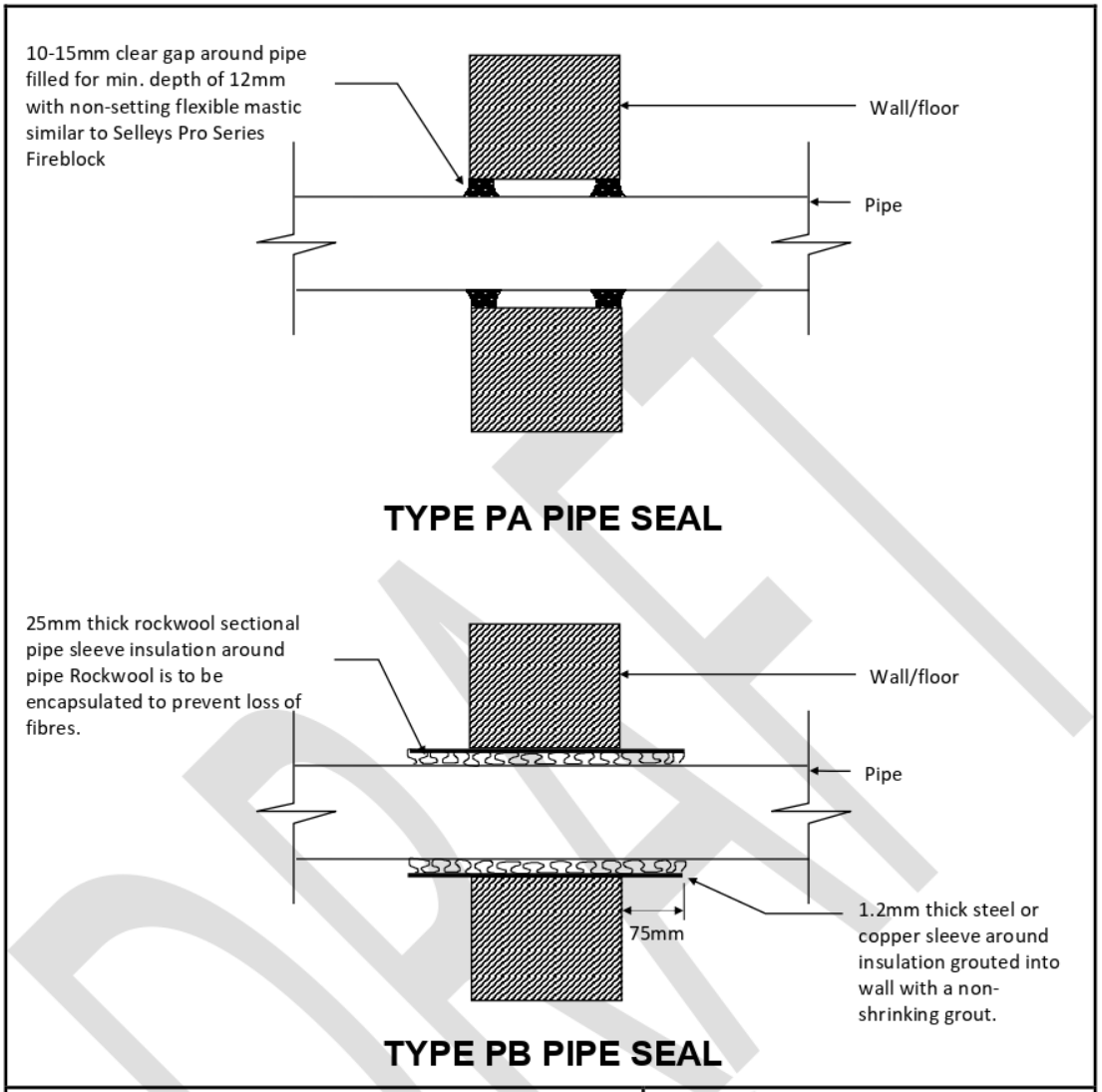
Option 2 – Shaftliner Construction

ACOUSTIC LOGIC

Wellington Street

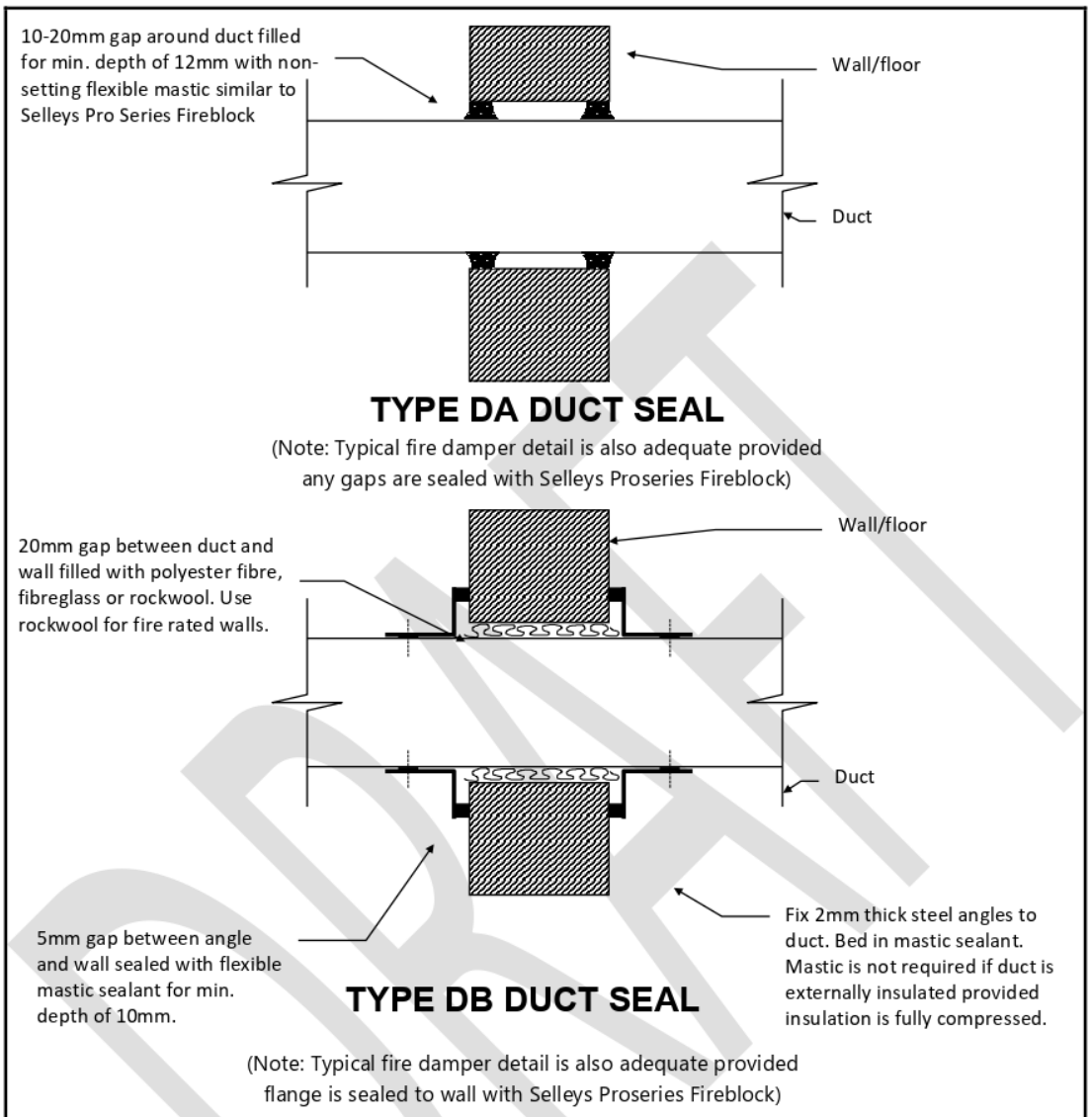
Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG	MS	20210345.2	AC016
Issue:	**Scale:**	**Approved:**		
	NTS	MS		

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Pipe Sealing Details			ACOUSTIC LOGIC	
			Wellington Street	
Date:	**Drawn:**	**Checked:**	**Project Number:**	**Drawing Number:**
14/07/2021	SG	MS	20210345.2	AC017
Issue:	**Scale:**	**Approved:**		
	NTS	MS		

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



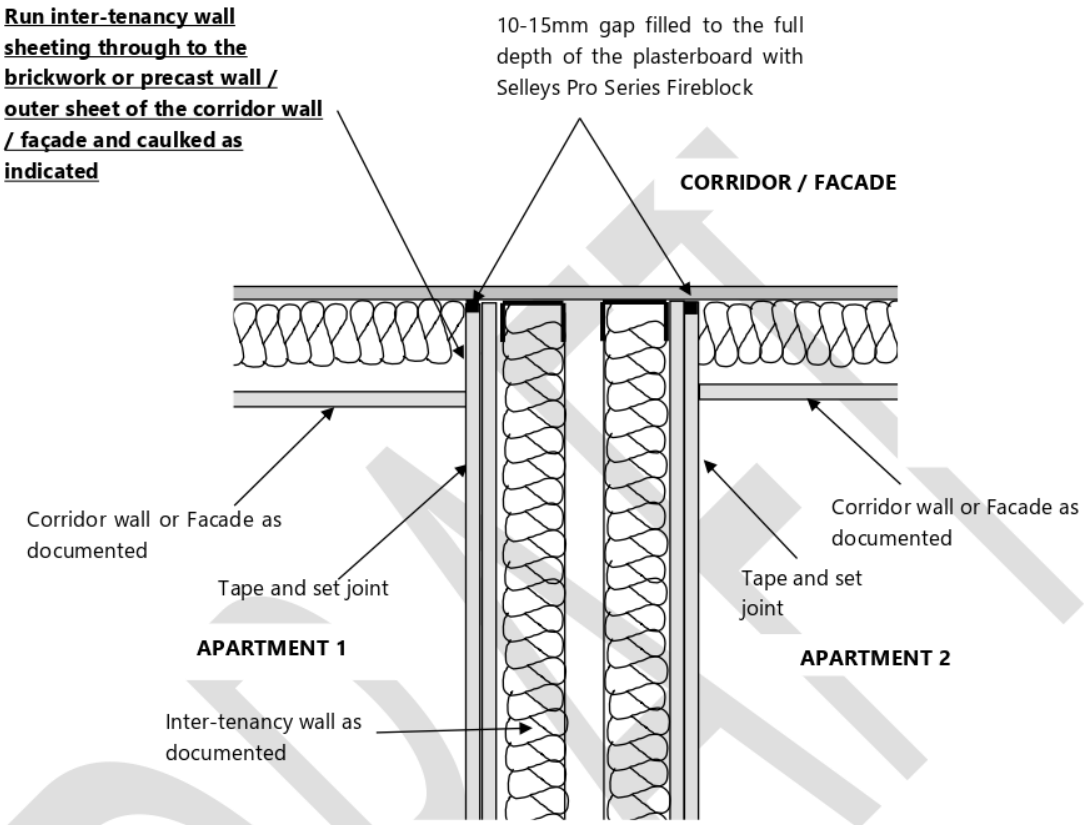
Duct Sealing Details

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	SG	MS	20210345.2	AC018
Issue:	**Scale:**	**Approved:**		
	NTS	MS		

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



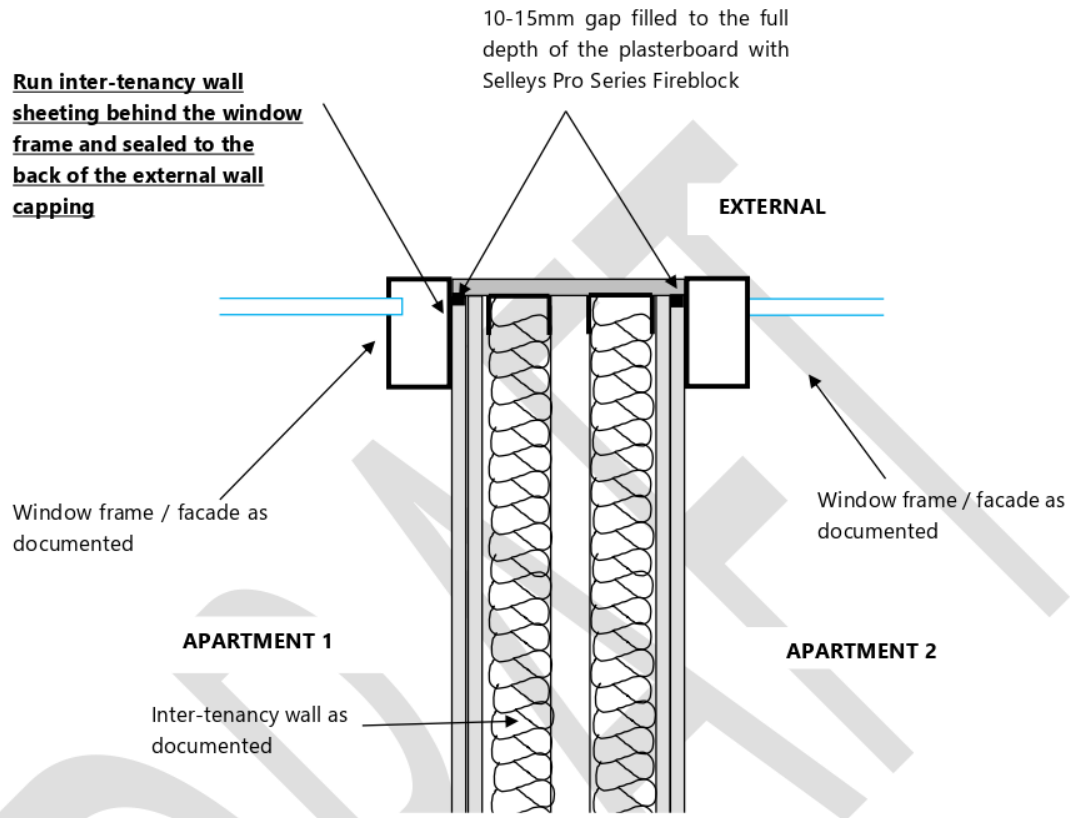
Intertenancy Wall – Corridor/Facade Junction Detail (Plan View)

ACOUSTIC LOGIC

Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	BAW	MS	20210345.2	AC019
Issue:	**Scale:**	**Approved:**		
	NTS	MS		

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Intertenancy Wall – Corridor/Facade Junction Detail (Plan View)

ACOUSTIC LOGIC

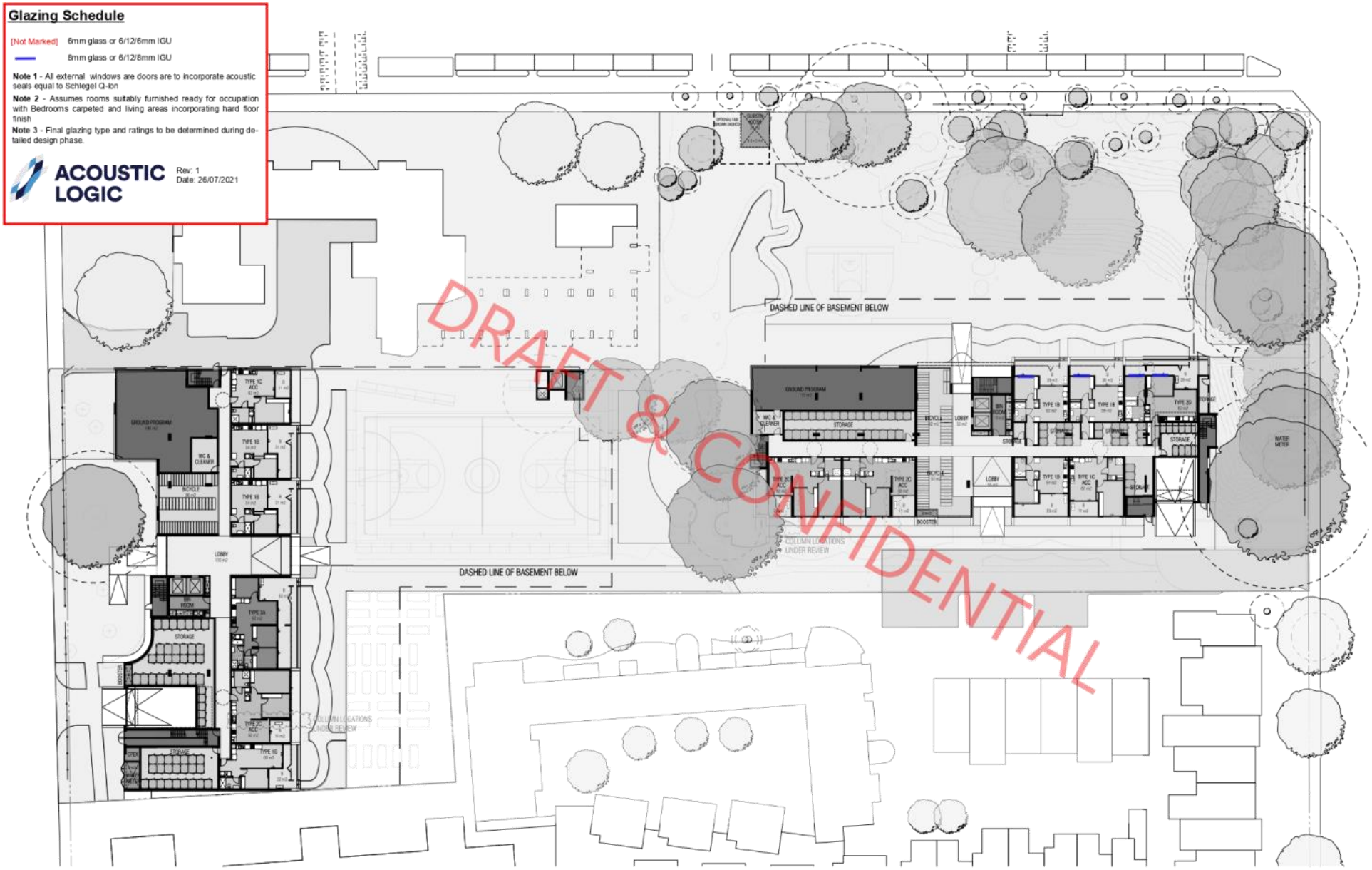
Wellington Street

Date:	Drawn:	Checked:	Project Number:	Drawing Number:
14/07/2021	BAW	MS	20210345.2	AC020
Issue:	**Scale:**	**Approved:**		
	NTS	MS		

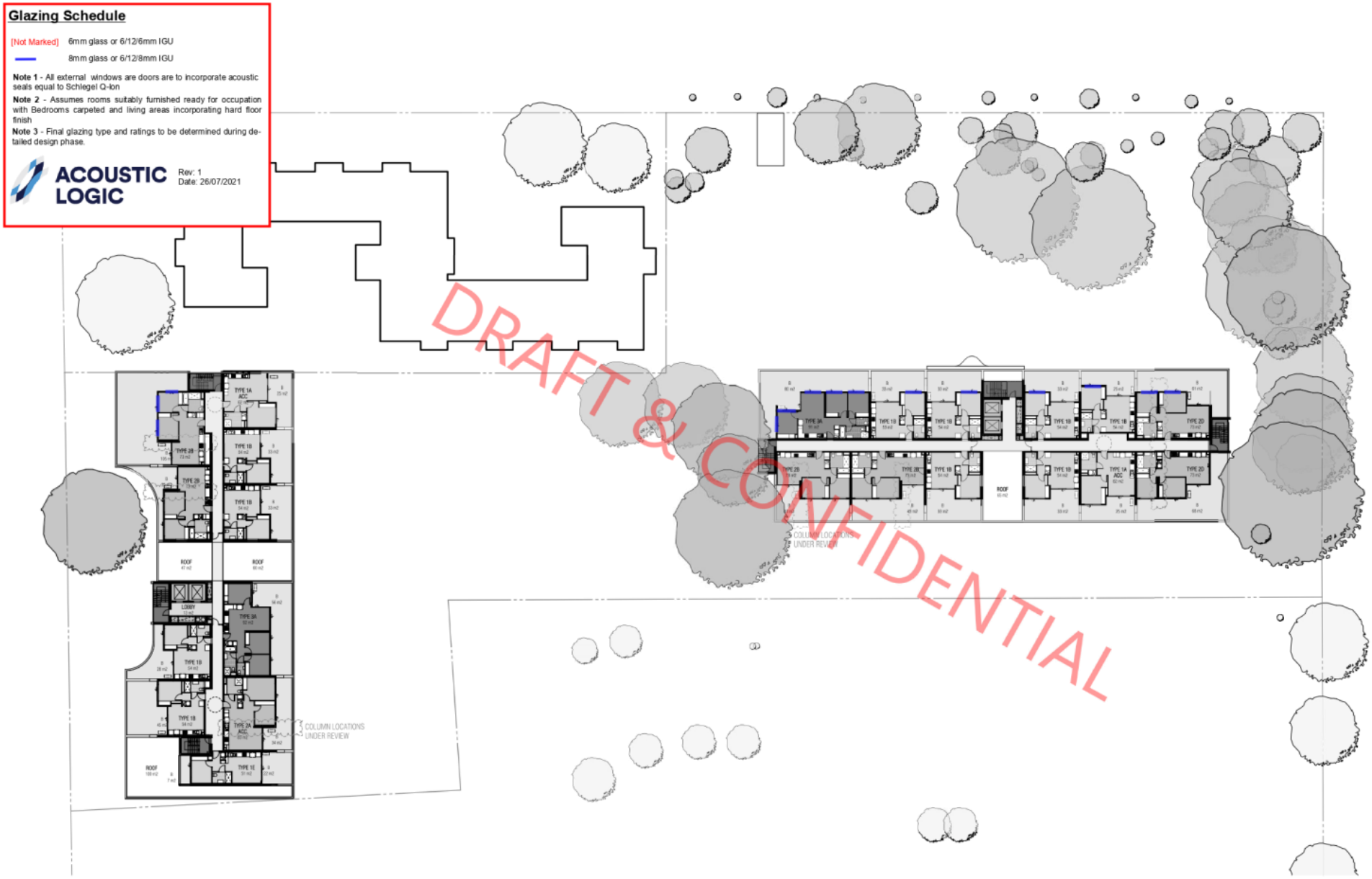
APPENDIX 2 – FAÇADE MARK UP

DRAFT

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report

Glazing Schedule

[Not Marked] 6mm glass or 6/12/6mm IGU

8mm glass or 6/12/8mm IGU

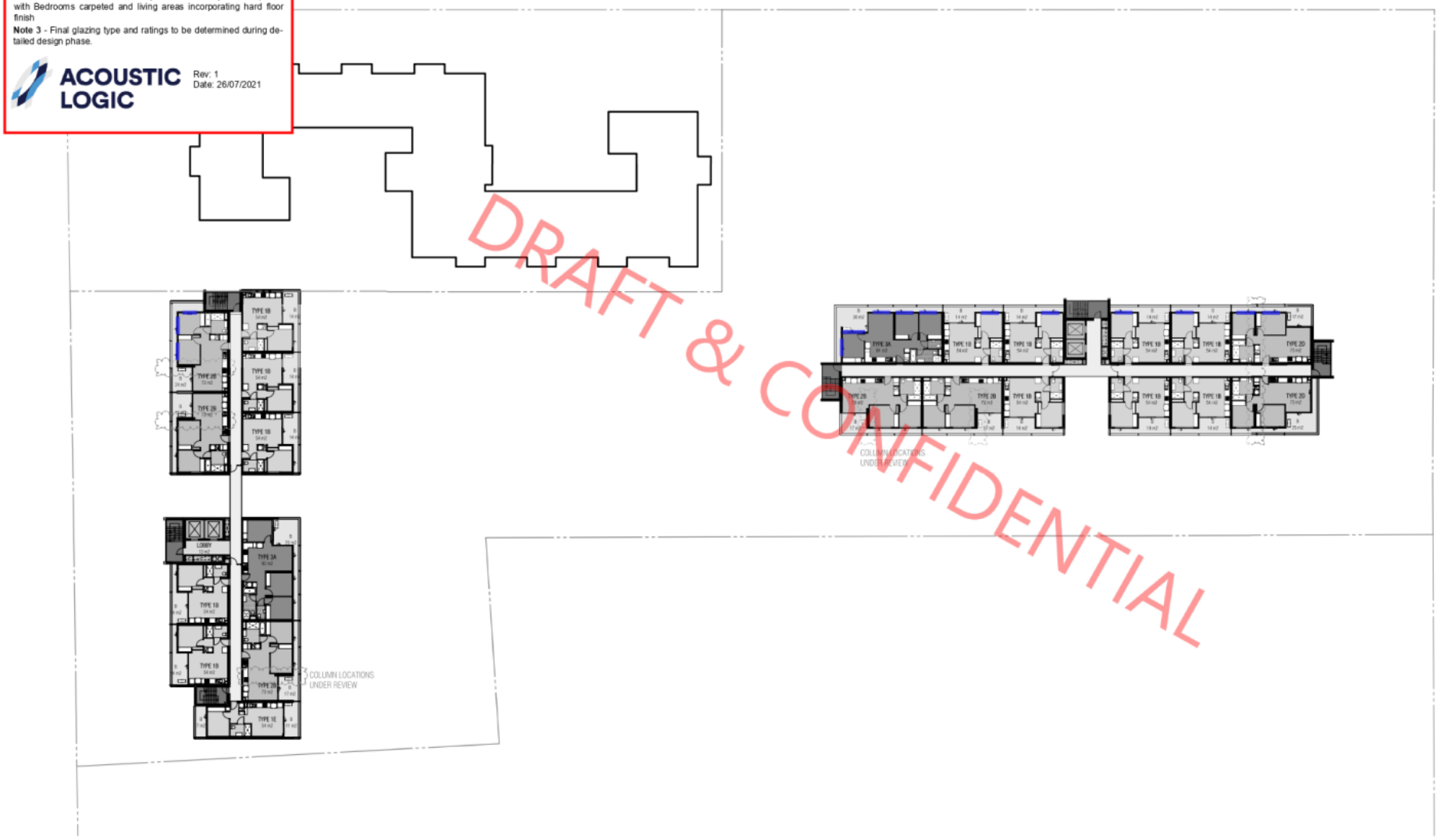
Note 1 - All external windows are doors are to incorporate acoustic seals equal to Schlegel Q-lon

Note 2 - Assumes rooms suitably furnished ready for occupation with Bedrooms carpeted and living areas incorporating hard floor finish

Note 3 - Final glazing type and ratings to be determined during detailed design phase.

ACOUSTIC LOGIC

Rev: 1
Date: 26/07/2021



DRAFT & CONFIDENTIAL

WORK IN PROGRESS

FIELDWORK

FIELDWORK PROJECTS PTY. LTD.
ABN 27 162 632 939 ACN 162 632 939

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES-VICTORIA-COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: FLOOR PLAN - LEVEL 02
Date: 21/07/2021
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP2102
Revision:

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report

Glazing Schedule

[Not Marked] 6mm glass or 6/12/6mm IGU

8mm glass or 6/12/8mm IGU

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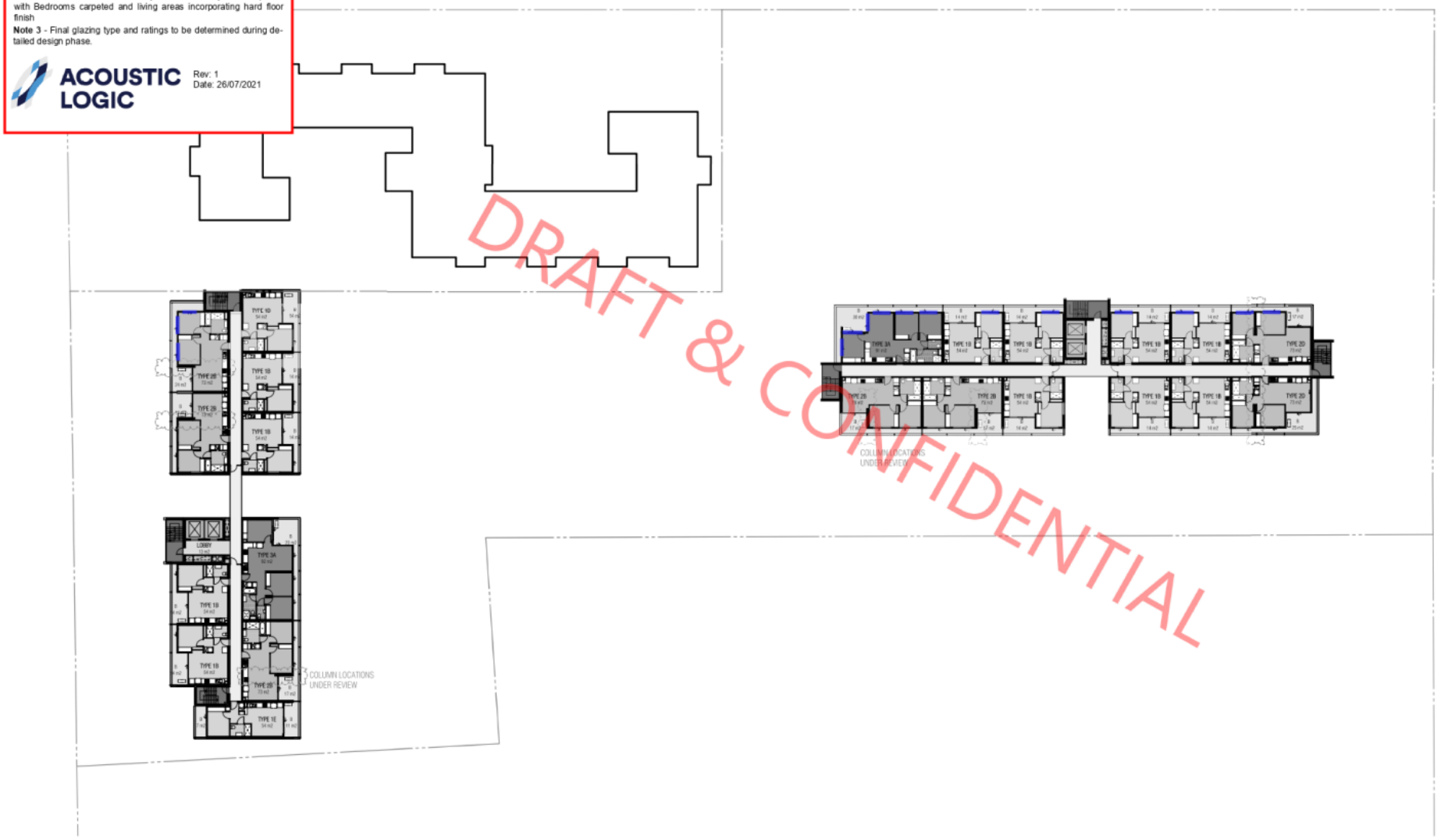
Note 2 - Assumes rooms suitably furnished ready for occupation with Bedrooms carpeted and living areas incorporating hard floor finish

Note 3 - Final glazing type and ratings to be determined during detailed design phase.

ACOUSTIC LOGIC

Rev: 1
Date: 26/07/2021



DRAFT & CONFIDENTIAL

WORK IN PROGRESS

FIELDWORK

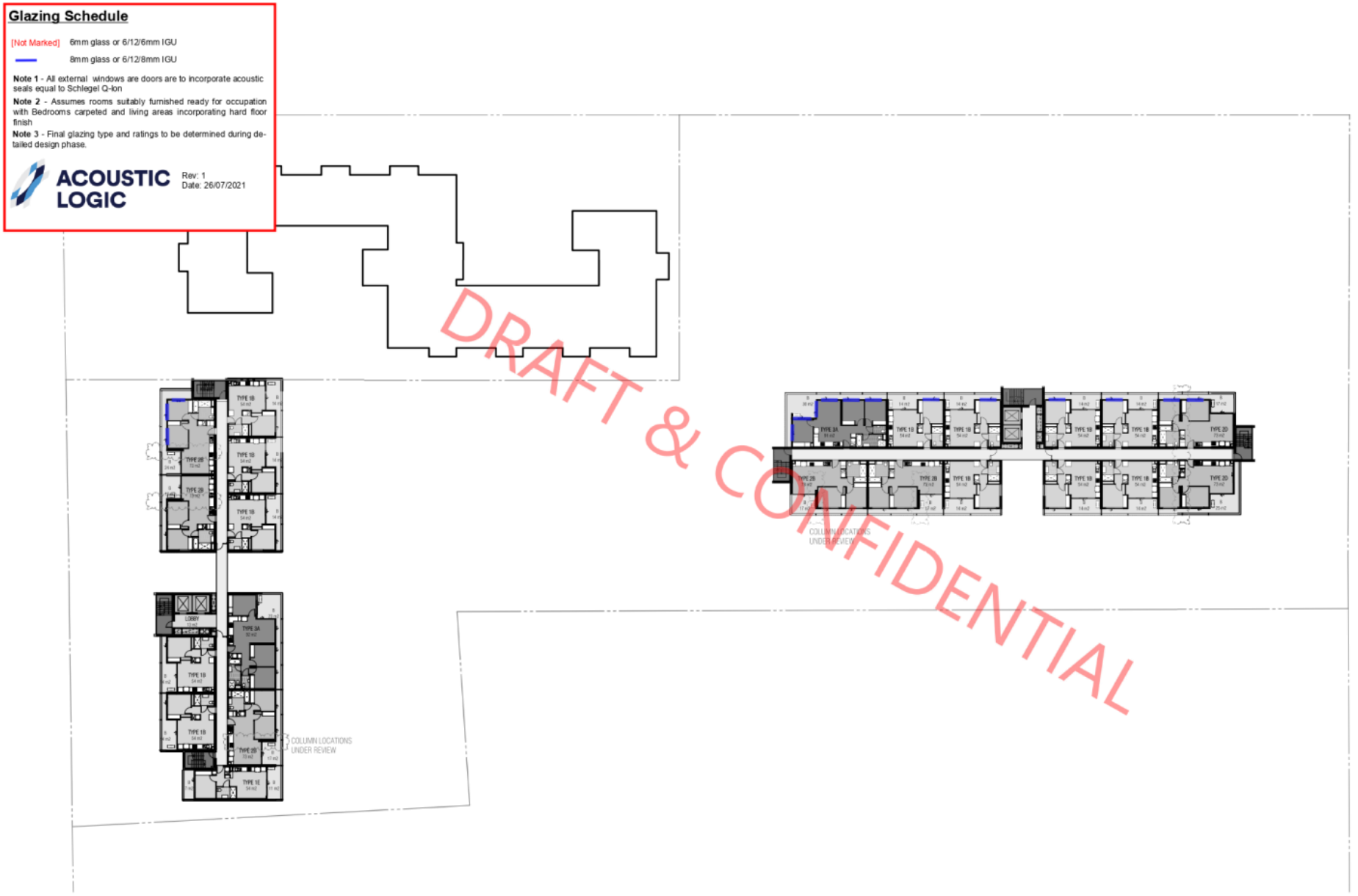
FIELDWORK PROJECTS PTY. LTD.

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES-VICTORIA-SOLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: FLOOR PLAN - LEVEL 03
Date: 21/07/2021
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP2103
Revision:

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



WORK IN PROGRESS

FIELDWORK

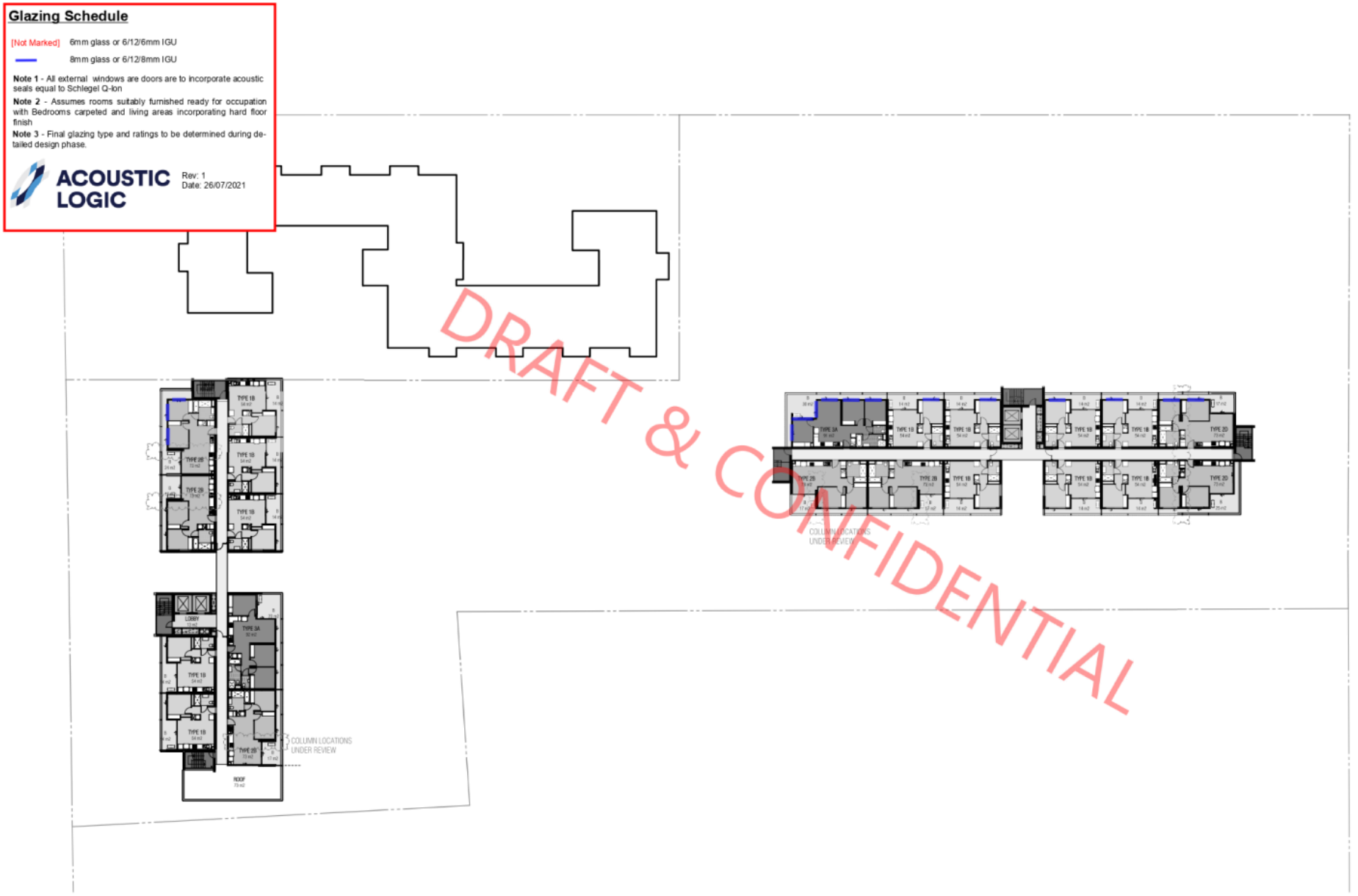
FIELDWORK PROJECTS PTY. LTD.

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES-VICTORIA-COLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

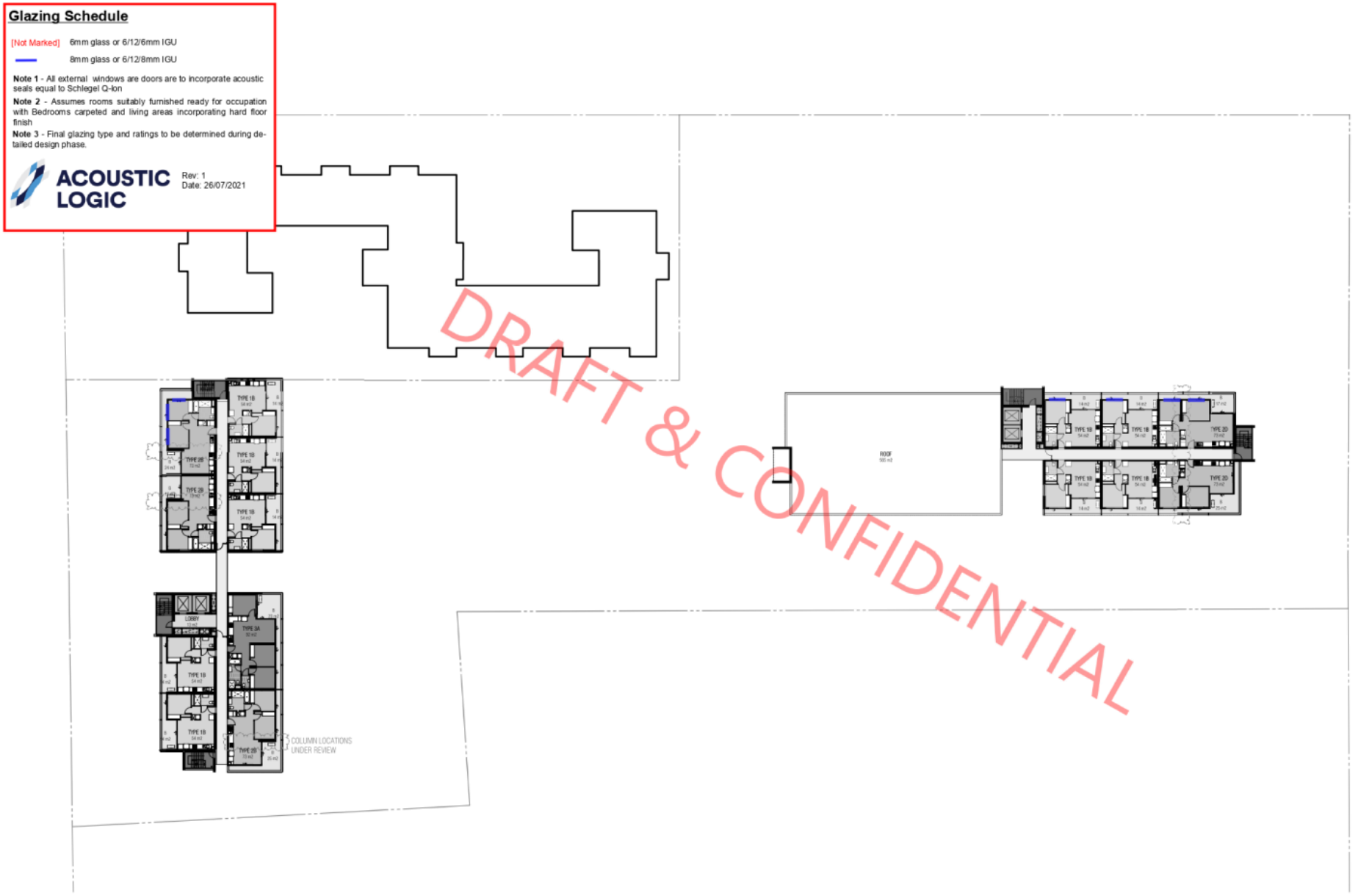
Drawing Name: FLOOR PLAN - LEVEL 04
Date: 21/07/2021
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP2104
Revision:

Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report



Attachment 9 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Report

Glazing Schedule

[Not Marked] 6mm glass or 6/12/6mm IGU

8mm glass or 6/12/8mm IGU

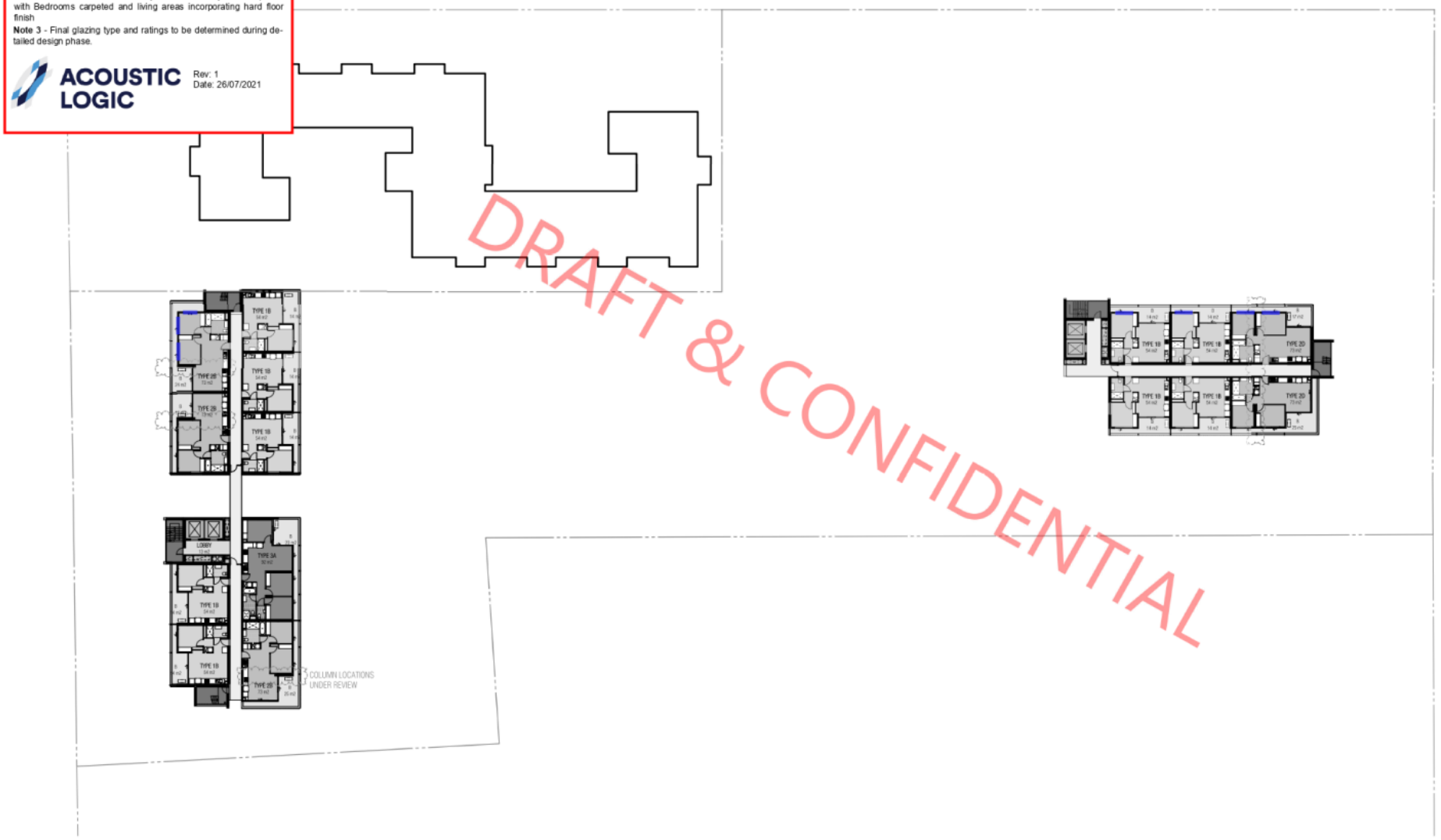
Note 1 - All external windows are doors are to incorporate acoustic seals equal to Schlegel Q-lon

Note 2 - Assumes rooms suitably furnished ready for occupation with Bedrooms carpeted and living areas incorporating hard floor finish

Note 3 - Final glazing type and ratings to be determined during detailed design phase.

ACOUSTIC LOGIC

Rev: 1
Date: 26/07/2021



WORK IN PROGRESS

FIELDWORK

FIELDWORK PROJECTS PTY. LTD.
ABN 27 162 632 939 ACN 162 632 939
T +61 3 8001 2401 E hello@fieldworkprojects.com.au

Project Number: 200031
Client: HOMES VICTORIA
Project Name: HOMES-VICTORIA-SOLLINGWOOD
Site Address: 240 WELLINGTON STREET COLLINGWOOD VIC 3066 AUSTRALIA

Drawing Name: FLOOR PLAN - LEVEL 07
Date: 21/07/2021
Status: WORK IN PROGRESS

Scale: 1:250 @ A1
Drawing Number: TP2107
Revision:

APPENDIX 3 – CLAUSE 52.20 – 7.7

52.20-7.7 Noise impacts

Noise sources, such as mechanical plants should not be located near bedrooms of immediately adjacent existing dwellings.

The layout of new dwellings and buildings should minimise noise transmission within the site.

Noise sensitive rooms (such as living areas and bedrooms) should be located to avoid noise impacts from mechanical plants, lifts, building services, non-residential uses, car parking, communal areas and other dwellings.

New dwellings should be designed and constructed to include acoustic attenuation measures to reduce noise levels from off-site noise sources.

Buildings within a noise influence area specified in Table 6 should be designed and constructed to achieve the following noise levels:

- Not greater than 35dB(A) for bedrooms, assessed as an LAeq,8h from 10pm to 6am.
- Not greater than 40dB(A) for living areas, assessed LAeq,16h from 6am to 10pm.

Buildings, or part of a building screened from a noise source by an existing solid structure, or the natural topography of the land, do not need to meet the specified noise level requirements.

Noise levels should be assessed in unfurnished rooms with a finished floor and the windows closed.

Table 6 Noise influence area

Noise Source	Noise influence area
Zone interface	
Industry	300 metres from the Industrial 1, 2 and 3 zone boundary
Roads	
Freeways, tollways and other roads carrying 40,000 Annual Average Daily Traffic Volume	300 metres from the nearest trafficable lane
Railways	
Railway servicing passengers in Victoria	80 metres from the centre of the nearest track
Railway servicing freight outside Metropolitan Melbourne	80 metres from the centre of the nearest track
Railway servicing freight in Metropolitan Melbourne	135 metres from the centre of the nearest track

Note: The noise influence area should be measured from the closest part of the building to the noise source.

Attachment 10 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Response

ACOUSTIC LOGIC

MATTHEW PALAVIDIS
VICTOR FATTORETTO
MATTHEW SHIELDS

20210345.2/0809A/R0/SG

8/09/2021

Fieldwork Projects Pty Ltd ATF Fieldwork Projects Unit Trust
150 Langridge Street
COLLINGWOOD VIC 3066

Attn: Ben Keck

Homes Victoria - 240 Wellington Street, Collingwood - Response to Peer Review

This letter provides our response to the letter prepared by SLR consulting dated 1 September 2021 with reference 640.10090.07060 240 Wellington St Richmond 20210831 (SLR Letter). The SLR Letter was in response to the Schematic Design Permit Report (ref: 20210345.2/2707A/R1/SG) prepared by Acoustic Logic (AL Report). Each section of the review is addressed below.

1 SECTION 1 – BACKGROUND INFORMATION

No comments

2 SECTION 2 - NOISE IMPACTS TO THE SUBJECT DEVELOPMENT (ROAD TRAFFIC NOISE)

2.1 SECTION 2.1 – CRITERIA

SLR Comments: *We note that while the site is not in a noise influence area, the City of Yarra 'Guidelines – managing noise impacts in urban development', October 2019, clarifies that the criteria provided in Standards D16 and D40 should be applied to all apartment developments impacted by road traffic noise in the City of Yarra.*

However, the design noise criteria nominated for this project will provide a better level of amenity than is required under Standards D16 and D40 due to the fact that the criteria for minor, rather than major roads has been nominated. On these grounds the proposed criteria are considered acceptable.

AL Response: No further comment.

MELBOURNE
41 Cobden St
NORTH MELBOURNE VIC 3051
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2.2 SECTION 2.2 – QUANTIFICATION OF EXTERNAL NOISE IMPACTS

SLR Comments: *The purpose of the measurements is not described in the report however we assume it was to assist in quantifying external noise impacts, given that only the LAeq data, which is used to quantify impacts, has been presented.*

The measurements were conducted while Melbourne was in lockdown for COVID-19, and are not likely to be representative of road traffic noise under normal conditions.

AL Response: Refer to section 2.3 for comments

2.3 SECTION 2.3 – ASSESSMENT

SLR Comment: *The report needs to provide further basis for the glazing selection presented. In particular, the road traffic noise at the façade of the building, and the basis for their selection, needs to be documented.*

AL Response: Measurements were conducted onsite to determine external noise source that will impact the development with traffic noise along Wellington Street found to be the main noise source affecting the subject site. In addition to measurements conducted at the subject site, previous measurements were conducted at 128-144 Wellington Street on the 28 and 29 November 2019 (Pre COVID). These measurements were also used for the assessment to determine glazing requirements. Noise levels based on those measured at 128-144 Wellington Street were used for the assessment and predicted back to the subject site with glazing recommendations provided in section J.4 to comply with the criteria in section J.3 of the AL Report.

AL Report will be updated to include the traffic noise measurements conducted at 128-144 Wellington Street.

3 SECTION 3 – ENVIRONMENTAL NOISE LIMITS

SLR Comments: *Subsequent to the report being issued, SEPP N-1 was replaced with Part I of the new 'Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues', Publication 1826 (the Noise Protocol). The EPA have confirmed to SLR that the Noise Protocol will be applied retrospectively.*

The setting of noise limits and assessment methodologies in the new Noise Protocol are the same as those in SEPP N-1 in most instances. However, the effective indoor limit for noise transmitted through a solid building element (e.g. wall or floor), is 5 dB lower than it was under SEPP N-1. This change has implications for the allowable levels of noise from commercial and communal mechanical plant.

With respect to the zoning levels provided, the actual receiver location for which they have been calculated is not stated in the report (zoning levels typically vary for different receiver locations on large sites such as this one). However, we have calculated the zoning level for one of the locations where the lowest levels are likely to apply (26 Emerald Street, east of the subject site) and our calculated levels are equal to those presented in Table E-1 of the report. On these grounds the presented levels provide a reasonably conservative estimation of zoning levels for all potential receivers.

The use of zoning levels as interim noise limits is acceptable on this project given that Melbourne was in lockdown when the report was prepared. However, noise from the site will need to comply with lower noise limits if low background levels are identified in future (when background noise monitoring can be undertaken).

AL Response: No further comment.

4 SECTION 4 – CONTROL OF NOISE WITHIN THE DEVELOPMENT

4.1 SECTION 4.1 - ARCHITECTURAL DESIGN CRITERIA

SLR Comments: *The presented criteria are correct.*

AL Response: No further comment.

4.2 SECTION 4.1 - ARCHITECTURAL DESIGN CRITERIA

SLR Comments: *The provided advice is reasonable and could be expected to achieve compliance with the identified criteria if implemented correctly.*

AL Response: No further comment.

4.3 SECTION 4.3 - BUILDING SERVICES NOISE CRITERIA

SLR Comment: *The design criteria for noise to an occupant's own apartment (e.g. apartment air conditioning and exhaust fan noise) are appropriate. The criteria for environmental noise from this plant to another apartment is correct, however the actual noise limits are not identified. This information is required for determining whether equipment is compliant.*

In order to identify limits, background noise monitoring would need to be conducted at the quieter times that the units are proposed to operate (e.g. late evening period and during the night). Due to COVID-19 restrictions, these measurements cannot currently be undertaken.

Nuisance noise from this equipment tends to be low risk, and it would be reasonable for the limits to be confirmed, and design advice provided, during the detailed design phase.

Noise from communal mechanical plant to apartments via common walls / floors etc, is also required to comply with the Noise Protocol effective indoor limits. These limits are equal to the external noise limit, less 20dB. These limits are lower than they would have been under SEPP N-1. It is also unclear from the report whether SEPP N-1 limits were proposed to be met by noise from communal mechanical plant to apartments.

AL Response: It is noted that work and reporting for the development work commenced before the 1 July 2021 where Noise Protocol 1826.4 applies. Therefore, internal noise from communal mechanical plant via common walls / floors will be assessed to SEPP N-1 internal noise limits, i.e., external noise limits minus 15dB. This will provide adequate amenity for future residents of the development.

4.4 SECTION 4.4 - BUILDING SERVICES ADVICE

SLR Comments: *The provided advice is reasonable and can generally be expected to address noise from these sources if implemented. We note that the advice is conceptual only, and will need to be reviewed during the detailed design to ensure that noise issues specific to the project are addressed.*

AL Response: No further comment.

4.5 SECTION 4.5 - HYDRAULIC NOISE CRITERIA

SLR Comment: *The nominated criteria are generally reasonable however we note that noise from pumps is also required to comply with the Noise Protocol effective indoor limits, being 20 dB less than the external noise limit.*

AL Response: Refer to comments in section 4.3

4.6 SECTION 4.6 - HYDRAULIC NOISE CONTROL ADVICE

SLR Comments: *The provided advice is conceptual and can be expected to address most noise from hydraulic services. The advice should be refined during the detailed design phase to address the specifics of the project.*

AL Response: No further comment.

5 SECTION 5 – OTHER MATTERS

5.1 SECTION 5.1 – BASKETBALL COURT

SLR Comments: *The design includes an outdoor basketball court in close proximity to existing and proposed dwellings and noise from use of the court has potential to cause nuisance. Noise associated with basketball courts include ball bouncing noise off both the ground and the hoop backboard, player and spectator voice noise and whistle noise if the court is used for competition. In its current location the court is overlooked by dwellings on three sides, and ambient noise at the overlooking dwellings from other sources is likely to be low. This scenario (nuisance noise in combination low background levels), increases the likelihood of nuisance.*

Ideally the court would be relocated to the northwest corner of the site, where it would be further from dwellings and the dwellings that did overlook it would have higher ambient noise (due to exposure to road traffic from Wellington Street) and façade upgrade treatments to address road traffic noise.

AL Response: No further comment.

5.2 SECTION 5.2 – TOTE AND BENDIGO HOTELS

SLR Comments: *The Tote and the Bendigo hotels are approximately 100 m north west and north east of the subject site and are both outside the 50 m radius within which music noise impacts are required to be considered under Clause 53.06 Live music and entertainment noise of the planning scheme.*

The issue is raised here because:

- *The apartment development proposed for 23-33 Johnston Street, which is also approximately 100 m from the Tote Hotel, was required to implement façade upgrade treatments to address music noise from the hotel.*
- *Based on data in our files, music from the hotels could be non-compliant with the relevant legislation at the subject development and cause nuisance if not addressed.*

However, we also note that:

- *The development proposed for 23-33 Johnston Street is a special case, as it overlooks the Collingwood Arts Precinct (CAP) which is recognised in the planning scheme as a cultural precinct of State significance. Noise from the Tote was addressed as part of the development's requirement to address music noise from the CAP site.*
- *There are closer dwellings to both venues that would be exposed to higher levels of music noise from the venues.*
- *The subject site and surrounds are all zoned residential (NRZ1).*

On balance, we are of the opinion that it is not appropriate to require the development to address music emissions from the venues in full accordance with the procedures laid out in Clause 53.06 of the planning scheme.

However, given there has been no acoustic assessment of music noise impacts, and given the likely risk, it would be desirable to optimise glazing for music noise control in the façade of apartment bedrooms overlooking these venues. The use of 10 mm – 12 mm thick float glass or a thermal double glazed unit with 6/12/10 mm glass would provide a 4 to 5 dB improvement in music noise reduction over the glazing currently proposed. This would be applicable to the north east and west facades of the Building A. Alternatively, a formal music assessment could be undertaken to quantify music impacts. This would not be possible during the current COVID-19 restrictions.

AL Response: It is noted that the subject site and surrounding area north of the subject site has existing residential receivers located closer to the Tote and Bendigo Hotels. Therefore, it is the responsibility of the operator to comply with SEPP N-2/Noise Protocol 1826.4 Part 2 at these existing residential receivers. Therefore, no further assessment is required to be undertaken.

5.3 SECTION 5.3 – OTHER AMENITY CONSIDERATIONS

5.3.1 Section 5.3.1 - Ground Level Community Room

SLR Comments: *There are large ancillary program rooms on the ground floor of both buildings. The primary access to these spaces appears to be via doors in the external façade, however the space in Building A includes an access door to a residential corridor. To minimise nuisance noise from through traffic, it is recommended that this door be used for emergencies only.*

AL Response: No further comment.

5.3.2 Section 5.3.2 - Ground Level Storage Cages

SLR Comments: *There are storage cages on the ground level of both buildings and these are accessed via residential corridors. In Building A, some cages are directly off residential corridors. This layout can be expected to cause nuisance due to the increased foot traffic between apartments and the storage cages and due to the potential for some of the corridors to be used as sorting places. Ideally, storage cages should not be accessed via corridors that have apartments off them.*

AL Response: No further comment.

6 CONCLUSION

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,

Acoustic Logic Pty Ltd
Sotirios Giannikopoulos

Attachment 10 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Post Consultation Acoustic Response

Attachment 11 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design (public realm) and Open Space Referral

MEMO

To: Michelle King (Statutory Planning)

From: Hayley McNicol (Urban Design)

Date: 21 October 2021

Site Address: 240 Wellington Street, Collingwood

Description: Big Housing Build

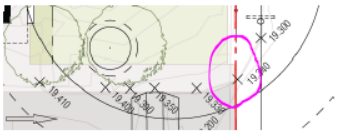
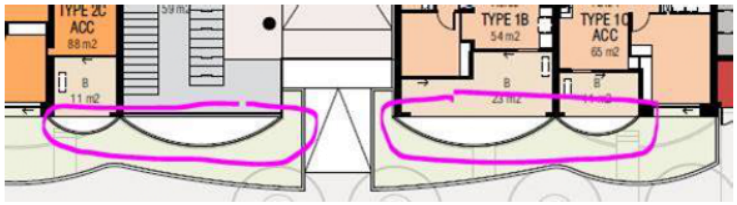
COMMENTS SOUGHT

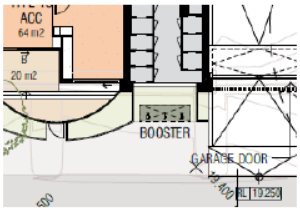
Urban Design and Open Space comments have been sought on the above proposal, including any capital works around the site.

Previous comments were provided on 3 September 2021. Comments on the revised plans are set out below, in blue next to the original comments. These relate to the updated Landscape Plan (Openwork) and Architectural Plans (Fieldwork), both dated 18 October 2021

Previous Urban Design comments – 3 September 2021	Updated notes – 21 October 2021
Building A (north) – Emerald Street frontage	
1. Building A is orientated to face Emerald Street and we understand its location has been determined by the need to retain the perimeter trees along Perry/Wellington Street frontages.	-
2. It is important for this building to have a positive and active frontage to Emerald Street and the western open space, and avoid ambiguity in terms of public/private/communal land (a common issue for these types of housing estates). With this in mind, we have the following comments:	-
• The building provides apartments that face both Emerald Street and the open space, and services such as storage and bike parking have been well integrated in the ground floor. This provides opportunities for passive surveillance to the east and west which is supported.	-

Attachment 11 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design (public realm) and Open Space Referral

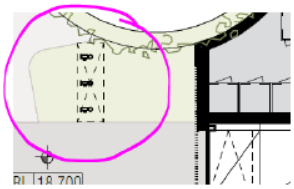
• There should be a continuous footpath provided on the west side of Emerald Street along Building A and linking Perry Street to the basketball courts. The current path is disjointed and requires people to walk on the road.	Addressed, but clarification required. A footpath has been provided; however, both sets of plans should demonstrate that there is adequate footpath width at the northern end. The Architectural Plans (below) show the footpath being narrowed by the kerb radius, however the Landscape Plan (below) shows that the north-east corner of the green space is rounded off which might resolve the issue. 
• Further detail needed on landscaping on the east and west sides of the building (between the balconies and path) – the renders look good but need to make sure that these areas are well maintained. Who would be responsible for maintaining the plantings and is there an ongoing budget for this? This comment also relates to Building B.	Further detail not provided – comment still remains as ongoing maintenance of the gardens is important.
• Clarification is required on the white scalloped/curved shapes between the balconies and the landscaping (see screenshot below). This comment also relates to Building B. 	Addressed – further detail provided on Architectural Plans to show it is paved with steps.
3. The paths along the west and east sides of the building have a scalloped/curved edge. This creates a couple of issues:	-

• In particular, the western path does not allow people to walk in a straight direction which can be less comfortable for users. The eastern path in some ways could allow for people to walk in a straight direction (as one edge of the path is straight), however it is important to provide a generous footpath width.	Addressed. Straight edge provided on one side to provide a more comfortable walking path.
• The curved (raised) edge along the eastern path creates a narrow footpath outside the entrance to Building A. We recommend realigning this curved edge to provide a more generous entrance.	Addressed. More footpath space provided at entrance.
4. A booster cabinet is located next to the car park entry – recommended that this is integrated with the façade of the building.	Doesn't appear to be addressed. Booster cabinet appears to be freestanding on plans and limited details provided on elevation. Would be useful to see clearer details on the plans/elevations. 
5. A freestanding water meter is located at the corner of Emerald and Perry Streets – can this structure be integrated with the northern side of the building?	May be addressed but clarification required. Water meter has been removed from Architectural Plans – clarification needed on where it has been relocated to. Also note that Landscape Plan still shows the structure.
6. The raised landscaping could provide informal seating opportunities along the low wall. Could be explored as the landscape plans are developed further, and important to consider preferred places for seating and any potential sensitive locations (i.e. avoiding seating directly next the private dwelling entries on the western side). Also need to consider width of footpath and allowing enough space for both someone sitting and someone walking past.	Addressed in part. Appears that seating opportunities have been considered and marked on the drawings. Unclear what the footpath widths are.

Attachment 11 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design (public realm) and Open Space Referral

Building B (south) – Vere Street frontage	
7. A continuous footpath should be provided along the site's Vere Street frontage directly next to the road. The proposed path is convoluted and requires people to navigate the forecourt space. The plans should show how the proposed footpath alignment meets the footpath further east along Vere Street, which we know is set back from the street behind the parking.	Addressed – a continuous path is provided along the majority of the site frontage. Understand that the path diverges at the eastern end (past the garage access) to meet the existing footpath alignment beyond the site, and note Council may wish to construct a footpath next to the road here in future.
8. It appears there is some landscaping on council land where there was a footpath – as mentioned above this should just be a standard footpath which allows for easy maintenance by Council.	Addressed – see previous note.
9. Opportunity to provide bike parking in the forecourt.	No bike parking provided. Refer to any advice provided by the Strategic Transport team about visitor bike parking.
10. Recommend providing a footpath on western side of building to connect Vere Street to the basketball court and through the site. Would also support idea to continue John Street as an active pedestrian edge (set out in page 43 of the pre-app presentation).	Addressed but clarification required. Footpath provided but would be useful to see footpath widths.
11. Limited active uses at ground floor facing Vere Street. Suggest providing some additional active uses to sleeve a portion of the bike parking/storage areas. Where this is not possible then the façade design and materials should provide visual interest and be engaging, through elements such as depth and shadow, some subtle variations in colour and also greenery.	Addressed – ground floor programme has been improved with a better balance of uses.
12. A ground floor accommodates an 'ancillary use program'. Clarification is needed on what this space is and if the space is available to the public. It will be important for this space to be regularly used to help activate this frontage. This comment applies to Building A too.	Comment still applies – have not seen additional information.

Attachment 11 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design (public realm) and Open Space Referral

13. Additional comment from new detail on the plan.	Unclear what this detail is (refer plan below). If it is a water meter/booster cabinet or similar it should be integrated with the building façade. 
Perry Street	
14. The existing footpaths along this frontage are narrow and obstructed by the power poles. It is recommended that the proposal provides a small setback so that a more accessible path can be provided along the southern footpath along Perry Street, linking Wellington Street and Building A. The architectural plans appear to show a setback but this is not depicted on the landscape plans – clarification is required.	Comment may still apply. If Architectural Plans take precedence, then this has been addressed as a setback has been provided (and the Landscape Plan needs to be updated). Would be useful to see footpath widths on plan.
15. Perry Street (between Wellington and Palmer Streets) has been identified as a high priority area for future on-street tree planting, as part of Council's ongoing tree planting programme. Our team will be undertaking site visits in the coming weeks to determine potential locations for on-street planting, and can update you on this work if needed. At this stage it is intended that any tree planting will happen this financial year, but will depend on the on-site inspections.	Note still applies.
General	
16. Further details are required on any fencing proposed, including locations and design. Refer also to Open Space comments below.	Doesn't appear to be addressed. Comment still applies.
17. Are the spaces publicly accessible or for residents only? Refer also to Open Space comments below.	Doesn't appear to be addressed. Question still applies.
18. Further details needed on the proposed lighting.	Doesn't appear to be addressed. Comment still applies.

Attachment 11 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design (public realm) and Open Space Referral

19. The landscape plans show that inset seating would be provided along the Wellington Street, Perry Street and Vere Street frontages which is supported and would provide resting points along these streets. Consideration should be given to providing some backrests and armrests to improve accessibility. Along Vere Street, consider providing a seat closer to the street to feel more public (this ties in with other comments above about providing a footpath directly next to the street).	Partly addressed – seating is provided closer to Vere Street. Doesn't appear to be additional detail to specify the seat design and whether armrests and backrests are provided.
20. The Open Space team has provided further comments below on the open spaces, and we add that it is important for these spaces to welcoming and multifunctional to help activate these areas and the Wellington and Perry Street frontages.	Refer to any advice from Open Space team.
21. General comment following additional information	Note that some of the Landscape Plan images should be updated (e.g. pg 14-15) as the ground floor programme of Building B has changed.
Wellington Street frontage	
22. What is the services kiosk? This structure would impact the vista down Otter Street into the site. If this is a substation or something similar, we suggest relocating elsewhere if possible. If it is not possible, then the material and design of the structure is crucial to ensure it provides a positive contribution to the street and surrounding open spaces.	Doesn't appear to be addressed. Comment still applies. If the structure cannot be moved then it may be worth speaking to Arts and Culture to see if they have some suggestions for a mural or similar treatment on this structure.
23. Potential opportunity for improved pedestrian link over Wellington Street to Otter Street (although understand there is a signalised crossing nearby). Would need to be discussed with Traffic and Strategic Transport teams.	Note still applies.
24. Additional comment	Page 23 of the Landscape Report suggests that bike repair stations are proposed on Wellington Street. Further detail is needed – is this on Council footpaths or within the site boundary? Further detail required, and if on Council footpaths, clear details should be shown on the plans for our approval.

Attachment 11 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design (public realm) and Open Space Referral

Previous Open Space Planning and Design comments – 3 September 2021	**Updated notes – 21 October 2021**
Overall comments	We note that there have been some changes to the landscape design – notably the realignment and widening of some pathways, updates to the design of the play area and half court adjacent to the Otter Street Plaza area, and an expansion of the sports courts between the two new buildings with an associated reduction in size of surrounding soft landscape areas. No information has been provided with regard to the outcomes of community consultation, so it is not possible to know where these decisions have been made in response to previous comments from Council or in response to community feedback. We also note that due to the lack of spot levels and dimensions on these plans (or the previous landscape plans), and no landscape section drawings provided, it is difficult to properly understand and evaluate the design intent.
25. Overall we are supportive of the proposal and we think there will be an improvement to the open space offering in the estate through this proposal. We are supportive of:	-
• The general principles used to establish the overall design.	
• The removal of carparks on the ground floor and the general increase in the open space offering.	
• Relocating the active recreation facilities so the more gardenesque and passive recreation spaces are presented along the Wellington Street interface. The Yarra community provided feedback that they appreciate these kinds of spaces most in the Yarra open space network during the survey conducted for the development of the *Yarra Open Space Strategy 2020* (YOSS), and we think they will appreciate this gesture.	
• The inclusion of private garden bed areas for the proposed new residential blocks which also provide public visual amenity.	

Attachment 11 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design (public realm) and Open Space Referral

• The expansion of the community garden facility. • Retaining many of the significant trees around the perimeter of the site	
Some general comments and queries we have around the masterplan:	
26. Is there opportunity to relocate cross walk to Otter Street intersection, as the main entry to the estate seems to be at this point now and this will provide a better connection to the new proposed park we are developing at the intersection of Otter and Smith? It will also provide direct access to the Smith Street Activity Centre.	For Homes Victoria/Council to consider: While the design of the "Otter Street Plaza" area within the site has been updated, the revised plans do not appear to consider any improved connection to Otter Street.
27. Relocation of playground and half court so they sit closer to the northern side of the site and away from a main entry point. This could provide improved solar amenity for these spaces and also mitigate any perceived safety concerns e.g kids running out to the street, interactions with strangers entering etc.	Does not appear to have been addressed. The revised plans retain the play space and half court near Otter Street entry. While the design of the play space has been updated and seems to better integrate the half court, it is not possible to read the extent of fencing or planting that would help to separate the play space from the road on these plans.
28. Materiality of the fence and permeability of the landscape features for both visual and physical access to the site. We are hoping for a high quality material which continues the design language of the new open spaces and is not an ARC fence which is more utilitarian and compromises the overall amenity of the spaces.	This has not been addressed – the furniture palette does not indicate the proposed materiality or style of boundary fencing.
29. Connection of entry treatment to new proposed open space at Otter Street? There is now an axis from the estate to Otter Street. Can any of the design language from the proposed park or the artwork by Reko Rennie be replicated so we create connections through the broader area and a sense of belonging, connection and community in the urban fabric.	Comment still applies – for Homes Victoria/Council to consider.
30. We would like to get a better understanding of the levels and topography of the site, especially along the northern frontage and lawn where contours seem to be reflected on the plan.	This has not been addressed – drawings don't have any spot levels or sections which makes them difficult to interpret.

Attachment 11 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design (public realm) and Open Space Referral

31. Is the amount of overshadowing over the new basketball/futsal court and expanded community garden tenable for their use?	No further detail has been provided to address this, however as we only have shadow diagrams for September it is hard to fully evaluate.
32. Although not reflected in this plan, there is also opportunity to connect to Collingwood College and extend some of the landscape treatments proposed down Vere Street to create a broader sense of community and connection there as well.	Comment still applies – for Homes Victoria/Council to consider.
Access to open spaces	
33. A high level principal of the YOSS is that the broader community gain access to the open spaces provided in the estates to supplement their open space needs, and to improve the sense of connection between disparate sections of our community members. We would like to start discussions with the Department around JUA's for use so the estates can service both residents as well as the broader community, especially given the distinct lack of open space in the Collingwood precinct.	Comment still applies – for Homes Victoria/Council to consider.
34. Additional comment	The revised plans show an enlarged footprint for the multi-courts and an associated reduction in size of the garden areas at either end. This may cause noise issues for adjacent apartments – especially on the ground and first floor of the Vere St building, particularly in regard to the noise of basketballs rebounding off the back board. Consideration should be given to sound proofing where possible along this boundary and/or through the use of sound-dampening materials on the court surface and back board.

Attachment 12 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Streetscape and Natural Values Referral

King, Michelle

From: Williames, Glen
Sent: Thursday, 21 October 2021 2:06 PM
To: King, Michelle
Subject: RE: Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Open Space and Streetscapes & Natural Values Referral

Hi Michelle,

After review of the most recent Tree Impact Assessment, there are no changes to tree protection measures related to the Council owned street trees at this site.

Glen Williames
Coordinator - Open Space Services
City Works

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Attachment 12 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Streetscape and Natural Values Referral

King, Michelle

From: Williames, Glen
Sent: Friday, 27 August 2021 2:34 PM
To: King, Michelle; Mardjuki, Julia
Subject: RE: Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Open Space and Streetscapes & Natural Values Referral

Follow Up Flag: Follow up
Flag Status: Completed

Hi Michelle,

I called Local Laws/compliance (Darcy Riddle) and she confirmed that no local law will apply to state gov land around trees. She also mentioned that she would be happy to put this into an email for you if you need it.

Regarding the Arborist report, this is more a tree survey of what's on site, the author was not provided any construction plans so cannot comment on any impact that may occur. He has provided general protection measures and referenced the Australian Standard for protection of trees on development sites AS 4970-2009.
I agree with all the measures detailed within this report regarding tree protection measures that should be adopted to ensure retained tree remain viable.

> 7.7 At the time of preparing the report no development plans were available to be reviewed. In the absence of specific site design plans, it is not appropriate to speculate on which trees are most appropriate for retention, beyond the general guide provided by the arboricultural ratings attributed to each tree feature. Ultimately, tree retention suitability will be dependent on the proposed landscape setting in which trees are intended to be retained.

They should adopt a formal tree impact statement and protection plan for the trees they intend to retain. Their Arborist would need access to demo plans and construction drawing to adequately provide advice on weather or not the trees they intend to retain could actually be retained.

Glen Williames
Coordinator - Open Space Services
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Attachment 13 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Compliance Referral

King, Michelle

From: Riddle, Darcy
Sent: Wednesday, 1 September 2021 12:15 PM
To: King, Michelle
Cc: Williames, Glen
Subject: RE: Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Open Space and Streetscapes & Natural Values Referral

Follow Up Flag: Follow up
Flag Status: Completed

Good afternoon Michelle,

I am very sorry for my delay. I was off work Monday and Tuesday and returned to many meetings this morning.

I have included a snippit below of the General Local Law Part 14 – Tree Protection.

Section 39.3 states:

The requirement to obtain a permit under sub-clause 39.1 does not apply:

39.3.1 Where a person cuts, trims or prunes a tree to ensure compliance with any other provision of this or *any other statutory authority*

Yarra City Council

PART 14 – TREE PROTECTION

39. Significant Trees

39.1 A person must not, without a permit, remove, damage, destroy or lop a *significant tree*.

39.2 In deciding whether to grant a permit under sub-clause 39.1, the Council must have regard to the *procedure and protocols manual*.

39.3 The requirement to obtain a *permit* under sub-clause 39.1 does not apply:

39.3.1 where a person cuts, trims or prunes a tree to ensure compliance with any other provision of this or any other statutory authority; or

39.3.2 where Council is lopping, destroying, damaging or removing a significant tree that is a Council tree.

39.4 If a significant tree is removed, damaged, destroyed or lopped, the owner of the land on which the significant tree is located is guilty of an offence, whether or not the person who actually interfered with the tree is identified or prosecuted.

To clarify this, State Government (or in this instance, Department of Health and Human Services) is a Statutory Authority in which does not require the Significant Tree Removal/Pruning Permit.

Significant Tree permits issued under the General Local Law are only issued to private land owners (individual or company) who have trees contained on their land which fit the description of a Significant Tree.
240 Wellington Street, Collingwood is listed under the ownership of Department of Health and Human Services (State Government owned) and therefore they are exempt from the requirement of gaining local government approval to prune or remove trees on DHHS property.

If you require any further information, please do not hesitate to contact me.

Kind Regards

Attachment 13 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Compliance Referral

Darcy Riddle (she/her)
Compliance Administration Officer
Compliance and Parking Services
Work days: Monday to Friday 7.00am-4.00pm

PO Box 168 Richmond VIC 3121
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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 14 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Engineering Services Unit Referral

CITY OF YARRA

MEMO

To: **Michelle King**

From: **Mark Pisani**

Date: **20 October 2021**

Subject: **Application No:** **Not Provided**
Description: **'Big Housing Build'**
Site Address: **240 Wellington Street, Collingwood**

I refer to the above Planning Application received on 19 October 2021 in relation to the proposed development at 240 Wellington Street, Collingwood. Council's Engineering Referral team provides the following information:

Drawings and Documents Reviewed

	Drawing No. or Document	Revision	Dated
Fieldwork	TP0001 *Development Summary*	P01	18 October 2021
	TP0002 Development Summary	P01	18 October 2021
	TP1000 Existing Site Plan		18 October 2021
	TP1001 *Proposed Site Plan*	P01	18 October 2021
	TP2098 *Floor Plan – Basement 02*	P01	18 October 2021
	TP2099 *Floor Plan – Basement 01*	P01	18 October 2021
	TP2100 *Floor Plan – Ground Level*	P01	18 October 2021
	TP3504 *Section E & F*	P01	18 October 2021
Traffix Group	*Traffic and Transport Assessment* report	C	18 October 2021

CAR PARKING PROVISION
Proposed Development
Under the provisions of Clause 52.20-6.7 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
One-bedroom dwelling	90	A minimum of 0.6 spaces for each dwelling	91	215
Two-bedroom dwelling	49			
Three-bedroom dwelling	13			
Existing Dwellings	208	A minimum of 0.6 spaces for each dwelling	124	
		Total	**215 spaces**	**215 spaces**

Attachment 14 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Engineering Services Unit Referral

Car Parking Demand Assessment

Parking Demand Consideration	Details
Parking Demand for the Dwellings	The car parking provisions for the dwellings are consistent with Clause 52.20-6.7. Traffix Group has sourced car ownership data from the 2016 ABS Census for Collingwood, for apartment type dwelling, including those from State Government housing. The data collated in Figures 6 and 7 of the Traffix Group report indicates that car ownership rates in Collingwood are low. The rate of 0.6 spaces per dwelling is considered appropriate.

- *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:
    - Smith Street trams – 350 metre walk
    - Johnston Street buses – 150 metre walk
    - Hoddle Street buses – 850 metre walk
    - Victoria Park railway station – 750 metre walk
- *Convenience of Pedestrian and Cyclist Access*. The site has good pedestrian access to public transport services, shops, supermarkets, essential facilities, places of employment and education. The site also has very good connectivity to the on-road bicycle network.

Adequacy of Car Parking
From a traffic engineering perspective, the provision of parking for the proposed apartment development is considered appropriate in the context of the site and the surrounding area.

The Engineering Referral team has no objection to the proposed car parking provision for this site.

TRAFFIC IMPACT
Trip Generation
The trip generation for the site adopted by Traffix Group is as follows:

Proposed Use	Adopted Traffic Generation Rate	Daily Traffic	Peak Hour	
			AM	PM
Residential (additional 81 spaces)	3.0 trips per dwelling per day (with a car space) 0.3 trips per space in each peak hour	243 trips	24 trips	24 trips

Vere Street Access
Some 96 spaces are contained in the existing at-grade car park off Vere Street. The new basement car park for Building B would contain 170 spaces.

Perry Street-Emerald Street Access
Currently, the Perry Street-Emerald Street access to the site services 50 spaces. The existing at-grade spaces would be removed and be replaced with the new basement car park (Building A) of 45 spaces.

Attachment 14 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Engineering Services Unit Referral

Net Additional Traffic
The redevelopment of the site would result in a net increase of 24 trips in each peak hour. This additional traffic would use Vere Street. Perry Street-Emerald Street would experience a decrease in traffic by 2 trips in each peak hour or 15 trips per day (due to the decrease in on-site parking by 5 spaces). The additional traffic using Vere Street is not unduly high and should not adversely impact the traffic operation of Vere Street or any of the nearby roads.

DEVELOPMENT LAYOUT DESIGN
Layout Design Assessment

Item	Assessment
Access Arrangements	
Development Entrance	The basement entrances into Buildings A and B have entrance widths of 6.1 metres, which satisfy the Australian/New Zealand Standard AS/NZS 2890.1:2004.
Visibility	Both vehicular entrances are set back from pedestrian footways and provide sight lines for the exit lanes.
Headroom Clearances	Headroom clearances have been provided at no less than 2.3 metres, which satisfy AS/NZS 2890.1:2004.
Internal Ramped Accessways	Internal ramped accessways have wall-to-wall widths of 6.1 metres, which satisfy AS/NZS 2890.1:2004.
Car Parking Modules	
At-grade Parking Spaces	The dimensions of the car parking spaces (2.6 metres by 4.9 metres) satisfy Clause 52.20-6.7 – *Car parking spaces*.
Accessible Parking Space	The dimensions of the accessible parking spaces and shared area (each 2.4 metres by 5.4 metres) satisfy the Australian/New Zealand Standard AS/NZS 2890.6:2009. The shared areas have not been hatch line marked.
Aisles	Aisle widths range from 6.4 to 6.45 metres and satisfy *Table 2: Minimum dimensions of car parking spaces and accessways* in Clause 52.20-6.7.
Column Depths and Setbacks	The positions of the columns are outside the space clearance envelopes and satisfy Diagram 1 Clearance to car parking spaces of Clause 52.20-6.7.
Clearances to Walls	Not dimensioned on the drawings.
Gradients	
Ramp Grades and Changes of Grade	The ramp grades and changes of grade satisfy *Table 3 Ramp Gradients* of Clause 52.20-6.7.
Transition Grades	Lengths of transition grades have not been dimensioned on the drawings.

Attachment 14 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Engineering Services Unit Referral

Item	Assessment
Other Items	
Vehicle Crossing – Vere Street	A vehicle crossing ground clearance check is to be undertaken by the applicant's designer to confirm that a B99 design vehicle can enter and exit the property without scraping out (Please see under '*Engineering Advice for Design Items to be Addressed by the Applicant*' section).

Engineering Advice for Design Items to be Addressed by the Applicant

Item	Details
Visibility	Pedestrian sight triangles (2.0 metres by 2.5 metres) for the exit lanes of the development entrances should be superimposed on the drawings.
Clearances	Clearances for spaces abutting walls should not be less than 300 mm.
Transition Grades	To be dimensioned on the drawings. At the bases of the 1 in 4 ramp sections, the 1 in 8 transition grades must have a length of at least 2.5 metres.
Vehicle Crossing – Vere Street	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 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, Vere Street. These levels are to be shown on a cross sectional drawing, with dimensions, together with the B99 design vehicle ground clearance template demonstrating access into and out of the development. 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.

GENERAL ENGINEERING CONDITIONS
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.

Attachment 14 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Engineering Services Unit Referral

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, 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

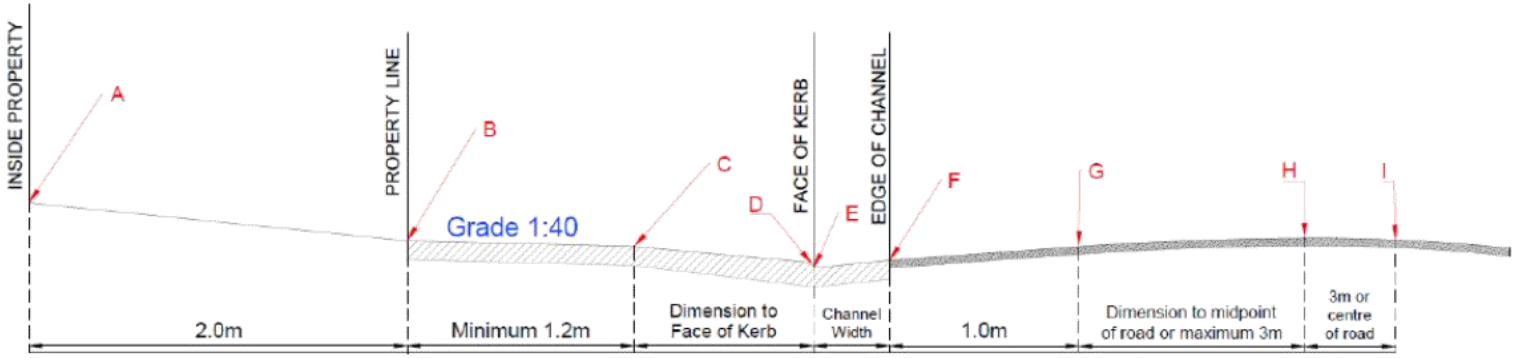
Item	Details
Legal Point of Discharge	The applicant must apply for a Legal Point of Discharge under Regulation 133 – Stormwater Drainage of the *Building Regulations* 2018 from Yarra Building Services unit. Any storm water drainage within the property must be provided and be connected to the nearest 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.

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 15 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Strategic Transport Unit Referral

Planning Referral

To:	Michelle King
From:	Chloe Wright
Date:	21/10/2021
Subject:	Strategic Transport Comments
Application No:	Big Build Housing
Description:	Comments re Big Build Housing at Collingwood Housing Estate
Site Address	240 Wellington Street, Collingwood

I refer to the proposed plans and Traffic report prepared by Traffix Group in relation to the social and affordable housing development at 240 Wellington Street, Collingwood. Council's Strategic Transport unit provides the following comments:

Bicycle Parking Provision

The Homes Victoria, Apartment Code – May 2020 document sets out the following bicycle parking requirements for the development:

Proposed Use	Quantity/ Size	Rate	No. of Spaces Required	No. of Spaces Allocated
Dwellings	152	1 resident space for every dwelling without a car parking space 1 resident space per 5 dwellings	78 resident spaces	
		1 visitor space per 10 dwellings for visitors	15 visitor spaces	
Bicycle Parking Spaces Total			**78 resident spaces**	**184 resident spaces**
			15 visitor spaces	**0 visitor spaces**

Adequacy of visitor spaces

The following comments are provided in relation to the provision of visitor spaces:

- No visitor bicycle spaces are proposed. The Homes Victoria, Apartment Code requires a minimum of 15 visitor spaces and Council's best practice rate[1] generates a recommendation of 38 visitor bicycle spaces.
- Given additional resident spaces are provided above Council's best practice recommendation (as noted in the section below), a provision of at least 12 visitor spaces (provided as 6 bicycle hoops) at the ground floor is recommended. Visitor bicycle spaces should be positioned in a location that is visible and easily accessible to visitors e.g. near entrances at Perry Street, Wellington Street and Vere Street.
- All visitor bicycle spaces must be provided as a horizontal at-grade bicycle hoop and must be positioned in accordance with access and clearance requirements of AS2890.3.

[1] *Category 6 of the Built Environment Sustainability Scorecard (BESS) recommends a rate of 0.25 visitor spaces to each dwelling.*

Adequacy of resident spaces

Number of spaces

Council's best practice rate[2] recommends a total of 152 resident spaces. The best practice rates for bicycle parking are recommended for multi-residential development in Yarra to support local and state planning policies and objectives to promote sustainable transport modes, including cycling. Additionally, the subject site is located in an inner-urban area with high cycling-to-work demand and is also located adjacent to a strategic cycling corridor (Wellington Street protected bicycle lanes).

The revised plans and Traffic Report confirm a total of 184 resident bicycle spaces are provided, including 110 spaces at Building A and 74 spaces at Building B. 184 resident spaces exceeds Council's best practice recommendation and is supported.

Design and location of resident spaces

The following comments are provided in relation to the location and design of resident bike parking:

- All resident spaces are provided at the ground floor of Building A and B, with access via lobby entrances/ramps – locating bicycle parking at the ground floor is supported.
- Bicycle parking in Building A and B is not provided within a secure facility. Pursuant to Clause 52.34-3 & Australian Standard AS2890.3 bicycle spaces must be provided in a bicycle locker or in a lockable compound (i.e. access is with a swipe card or key).
- Resident bicycle spaces are provided as flat top rails and two-tier bicycle racks, which satisfies the AS2890.3 requirement for at least 20% of bicycle storage spaces to be provided as horizontal at ground-level spaces.
- Dimensions of bicycle spaces are not shown on the plans, however, the layout of bicycle spaces has been amended and appears to be in accordance with access and clearance requirements of AS2890.3.
- Given Building A includes 79 units and Building B includes 72 units, a distribution of 110 bicycle spaces at building A and 74 bicycle spaces at building B is acceptable.

Electric Vehicles

Council's BESS guidelines encourage the use of fuel efficient and electric vehicles (EV). To allow for easy future provision for EV charging, it is recommended that all car parking bays should be electrically wired to be 'EV ready'. This does not mean car parking bays must be fitted with chargers, but that the underlying wiring infrastructure is in place to allow future owners and tenants to easily install a charger. For this purpose, the following should be installed:

a) One or more distribution boards within each car parking basement level, with capacity to supply 1 x 7kW (32amps) electric vehicle charger for each parking space.
b) A scalable load management system. This will ensure that electric vehicles are only charged when the building electrical load is below the nominated peak demand. Building electrical peak demand calculations can therefore be undertaken using the assessment methodology (AS/NZS3000:2018, clause 2.2.2.b.i), thus not increasing building electrical peak demand requirements beyond business as usual.

Recommendations

The following should be shown on the plans:

1. A minimum of 12 visitor bicycle spaces 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. All resident bicycle spaces provided within a maximum of 2 secure areas.

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[2] *Category 6 of the Built Environment Sustainability Scorecard (BESS) offers the following for best-practice guidance for resident bicycle parking rates: "As a rule of thumb, at least one bicycle space should be provided per dwelling for residential buildings".*

3. Electrical infrastructure to ensure car parking areas are 'electric vehicle ready', including:
    a. One or more distribution boards within each car parking basement level, with capacity to supply 1 x 7kW (32amps) electric vehicle charger for each parking space.
    b. A scalable load management system to ensure that electric vehicles are only charged when the building electrical load is below the nominated peak demand.

Regards

Chloe Wright

Sustainable Transport Officer
Strategic Transport Unit

Attachment 16 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - City Works Unit Referral

King, Michelle

From: Athanasi, Atha
Sent: Thursday, 21 October 2021 3:16 PM
To: King, Michelle
Subject: RE: Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Engineering / Strategic Transport / Waste Referral

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Michelle,

The waste management plan for Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood authored by Traffix Group and dated 18/10/21 is not satisfactory from a City Works Branch's perspective. Issues to be rectified include, but may not be limited to the following:

1. Glass in the recycling stream is approximately 30% by weight however is only generally found to be approximately 10% by volume.
2. The proposed 1100 litre bins for glass may be inappropriate for this waste stream and may pose OHS issues for users and collectors. Strongly recommend engaging with private collection contractors that may service this site to ensure they can collect this size bin for the glass stream before committing as it will change the bin configuration, space requirements and design of the waste system.
3. The swept path diagram was not attached.
4. Please provide an explanation of how risks associated with waste management will be managed and or provide any relevant risk assessments.

Regards,

Atha Athanasi
Contract Management Officer

Service Contracts and Waste Services - City Works Branch
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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.

1

Attachment 17 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - ESD Referral

CITY OF YaRRA

MeMO

TO:	**Michelle King**
cc:	
FROM:	**Euan Williamson, ESD Advisor**
DATE:	**21.10.2021**
SUBJECT:	**240 Wellington Street Social Housing Proposal**

Michelle,
I have reviewed the SMP from ADP Consulting (Rev3 19th October) and architectural drawings prepared by Fieldwork (prepared 18th October). Previous concerns have been not been thoroughly addressed, therefore I have a few minor comments of areas that should be addressed.

Stormwater Management and WSUD

- The STORM reports and WSUD response is acceptable, however the plans show rainwater tanks noted with m^2 dimensions only. Please update the architectural drawings to note the tank volumes (in litres) on plans.
- The two raingardens cannot be identified on the architectural plans or on the landscape plans. Recommend that the two raingardens are clearly marked on both landscape and architectural drawings, consistent with the STORM report (North Tower 17m^2 and South Tower 13m^2).

Utility Metering

- The response regarding individual metering in the SMP, does not make a clear commitment to individual metering for each dwelling, saying it's possible but one meter per level is still proposed.

  Strongly recommend separate utility meters (electricity and water) for each dwelling. The proposal for meters on each level does not give adequate granularity for meaningful energy and water management over the life of the building.

100% Renewable Energy Purchasing

- No commitment has been made to renewable energy purchasing the SMP. I note that the Victoria Government Embedded Networks review Draft Recommendations Report (June 2021) will ban all embedded networks except those that deliver renewable energy outcomes.
  Therefore I strongly recommend that the energy procurement for the buildings via an embedded network be 100% renewable sources, (e.g. Green Power), to enable the building to operate as a zero carbon building.

If you or the applicants would like to discuss this further, please contact me.

Euan Williamson
Environmentally Sustainable Development Advisor
Planning and Place Making

Attachment 18 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Social Strategy Unit

CITY OF YaRRA

MeMO

TO:	Statutory Planning (Michelle King)
FROM:	Social Strategy (Malcolm McCall and Julia Bennett-Mitrovski)
DATE:	21 October 2021
ADDRESS:	240 Wellington Street, Collingwood
DESCRIPTION:	The Victorian Government's Big Build Project – Collingwood Housing Estate

Social Strategy has been requested to comment on the amended proposal:

COMMENTS (21 October 2021)

- Yarra City Council has a longstanding interest in and commitment to increasing and improving social and affordable housing and will continue to position itself as a leading local government in this space.
- Social Strategy supports the provision of additional social housing, including in its capacity as a partner and facilitator and through strategic advocacy to State and Commonwealth governments.
- Council's overarching strategy related to social and affordable housing is to ensure a diverse population by increasing the supply of social and affordable housing suitable to households at various income levels and requirements.
- Upon reviewing the amended documents, it appears that the only major change (since reviewing the plans and providing the previous referral comments on 3 September) is to include an additional ancillary use program space in Building B. There appears to be minimal alterations proposed to the setbacks/overall built form. While the inclusion of an additional ancillary use program space at the ground level is welcomed, the comments provided in our original referral remain, as the layout, configuration and permeability opportunities of the design remain limited. The addition of an ancillary use program space is positive; however, it remains unclear as to whether these spaces (and any programs offered) are intended to be accessible to the surrounding community. It also remains unclear as to the mixture of uses intended for the identified 'ancillary use' floor areas included in the ground floor of each new building – i.e. if some of the objectives of the project include greater integration of the use and built form with the surrounds, improved opportunities for interaction, and improved general accessibility and permeability, it is recommended that these uses be available to be accessed by the entire surrounding community.
- The proposed wayfinding through the site remains unclear and potentially a missed opportunity to promote greater integration, passive surveillance and the generation of positive activity throughout the site and general precinct. Restricted permeability (and accessibility) to the site poses some concern from a community safety perspective. The design appears to have given minimal attention to improving or 'opening up' sightlines throughout the site from surrounding streets, with lots of hard and narrow edges remaining, minimising the opportunity for peripheral views (and potentially detrimentally impacting upon perceptions of safety).

- There is a missed opportunity with the proposed positioning of the programmed open spaces – including the community gardens and basketball court – as they remain entirely concealed from the public realm (behind the new and existing buildings). In lieu of relocating these spaces entirely (noting their strategic orientation to the north), the design could be more responsive to enable positive 'glimpses' of these assets from the streets surrounding the site with the potential generation of positive sentiment from the visual perception of activity in these spaces.
- The current proposal misses some opportunities to facilitate positive activity, interactions, and general social cohesion through its approach to design, way-finding and place-making. In short, it appears that it is quite an insular and privatised design with minimal focus on the wider context including integration with the precinct and surrounding community.

PREVIOUS COMMENTS (3 September 2021)

- Yarra City Council has a longstanding interest in and commitment to increasing and improving social and affordable housing and will continue to position itself as a leading local government in this space.
- Social Strategy supports the provision of additional social housing, including in its capacity as a partner and facilitator and through strategic advocacy to State and Commonwealth governments.
- Council's overarching strategy related to social and affordable housing is to ensure a diverse population by increasing the supply of social and affordable housing suitable to households at various income levels and requirements.
- In relation to the proposal at Collingwood, Social Strategy suggest the following for consideration and further investigation:
    - The redevelopment should ensure an adequate mixture of dwelling types are included in the new build, including in relation to bedrooms, to secure suitability for a range of occupants, from single households through to large families.
    - Adequate design and layout of each dwelling should meet and exceed minimum accessibility requirements. It is also strongly advocated that each dwelling should be equipped with an area of private open space, a laundry situated within the dwelling, access to at least one onsite car space*, adequate access to daylight and be responsive to best practice environmentally sustainable design (including with regard to climate control).
    - When considering the integration of the development and site with the peripheral and wider Collingwood community, consideration should be made to the provision of community spaces and whether they are intended to be accessible to the general public.
    - It remains unclear as to the mixture of uses intended for the identified 'ancillary use' floor areas included in the ground floor of each new building – i.e. if some of the objectives of the project include greater integration of the use and built form with the surrounds, improved opportunities for interaction, and improved general accessibility and permeability, it is recommended that these uses be available to be accessed by the entire surrounding community.
    - It remains unclear as to the proposed wayfinding through the site, including in relation to general connectivity north to south and particularly south-east to north/north-west. There is an opportunity to offer a communal pathway through the development providing connectivity from the south-eastern corner of the site through to Otter or Perry Streets, to the west/north-west. Consideration could also be made to the presentation of Building B to Vere Street (south elevation) – it appears unresponsive and uninviting to allow general surveillance or activity within the setback, limiting opportunities for integration and interaction. It is noted that Vere Street is quite narrow and from a community safety perspective, a hard-built edge in close proximity to the boundary (Building B), which is south-facing and will cast a shadow for the majority of the day may exacerbate this perception (especially with limited opportunities to access the site).

- The limited publicly accessible components of the development along with narrow pedestrian zones (i.e. directly to the west of Building B) and what appears to be an internally accessible lobby to Building B (only accessible to tenants?) results in restrictive permeability and poses some concern from a community safety. perspective. There are limited open sightlines throughout the site, and lots of 'hard edges,' minimising peripheral views. Officers would recommend enabling additional opportunities for open activity spaces which are not 'boxed in' or narrow, including potentially in the front/side setbacks to the proposed new buildings. It remains unclear why the positive open spaces, including the community gardens and basketball court, will be entirely 'hidden' from the public realm (while comprehending their northern orientation to make the most of access to daylight). This reduces opportunities for positive 'glimpses' of these assets and the potential generation of positive sentiment from the perception of activity, and misses an opportunity to facilitate positive interactions, and general social cohesion

Attachment 19 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Acoustic Referral

King, Michelle

From: Dianne Williams <dwilliams@slrconsulting.com>
Sent: Wednesday, 20 October 2021 10:46 AM
To: King, Michelle
Cc: Jim Antonopoulos
Subject: RE: Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - SLR Acoustic Review

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Michelle,
I've had a look at the Acoustic Logic response and the updated plans, and a brief look at the acoustic report. Our comments on specifics are provided below.
The main issue with the acoustic report is the reference to SEPP N-1. Given that lower noise limits will apply under the Noise Protocol, and that the new legislation will apply to this development, the report should be updated to reflect that.
The main issue with the layout is the location of the basketball court. This is not ideal for acoustic amenity at existing and proposed dwellings. However it is also not a matter that is formally regulated, and that may be able to be managed, to some extent, by body corporate rules.
Regards,
Dianne.

SLR summary review comments, with comments on latest information in red

- The road traffic noise assessment is incomplete. The report should include the predicted road traffic noise at the façade of the development, and the basis for this data. **The report should be updated with the information.** This has been done. – addressed
- Environmental limits for noise from commercial and communal mechanical plant have been determined from land use zoning. This is an acceptable interim noise approach however the equipment must be designed to comply with the actual limits, which may be lower. **This is statement of fact. No modification to the report required.**
- Environmental limits for apartment mechanical plant have not been provided because background noise measurements have not been conducted. It is recommended that the relevant noise limits be determined during the detailed design phase of the project, when background noise measurements can be conducted, and that that advice for complying with the limits be provided at that time. **These additional works should be undertaken in the future.**
- The report assesses noise from project mechanical plant to AS/NZS2107 internal levels. This noise is also assessable to the Noise Protocol (formerly SEPP N-1). Where noise is transmitted through a wall or floor, the effective noise limit is the external limit less 20 dB under the Noise Protocol. Equipment should be designed to comply with these limits. **The report should be updated to confirm that the Noise Protocol limits will be met on the project for sound transmitted into apartments.** Acoustic Logic state that SEPP N-1 limits apply to this application rather than the Noise Protocol, because the project predates the legislation changes. However the EPA have confirmed to use that the new legislation will be applied retrospectively. Given this, the report should be updated to reflect the new legislation.
- Some upper level apartments in Building A may be impacted by music noise from the Tote and Bendigo hotels. Given that the development is outside the 50 m radius for both venues, and is not formally required to comply with *Clause 53.06 Live music and entertainment noise* of the planning scheme, we have suggested moderate upgrades of bedroom windows in potentially impacted apartments to minimise the likelihood of nuisance. Alternatively, an assessment of music noise could be conducted post COVID-19 to more accurately quantify impacts. **This advice is provided to Council for consideration and is not required to be addressed**

in the acoustic report at this stage. No changes to the design are proposed to address music noise. However we raised this as an optional upgrade to provide improved amenity – it was optional due to the fact that there are no formal requirements, and there are closer dwellings. Council should determine whether it needs to be pursued.

- The proposed basketball court is in close proximity to existing and proposed dwellings that are otherwise shielded from ambient noise. We recommend that the court is relocated to the north west corner of the site, where it would be less overlooked and where the apartments potentially impacted by noise from its use will be exposed to higher levels of ambient noise, and have façade upgrades to address noise. **The above comment applies to the design, and is not required to be addressed in the acoustic report.** Not addressed in the AL memo or in the plans. Basketball court is in the same location (there may be a fence around it now, however it doesn't seem to be specified as acoustic).
- Storage cages are accessed off some apartment corridors and some are effectively in apartment corridors. This layout is not desirable from an acoustic perspective, however there are no formal requirements to address the acoustic impacts. This issue has largely been rectified in the current plans.

SLR

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Attachment 19 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Acoustic Referral

1 September 2021

640.10090.07060 240 Wellington St Richmond 20210831.docx

Yarra City Council
PO Box 168
RICHMOND 3121

Attention: Michelle King

Dear Michelle

240 Wellington Street, Richmond
Development Application Acoustic Review

SLR Consulting Pty Ltd (SLR) has been retained by the City of Yarra to provide a review of the acoustic assessment report for the proposed development at 240 Wellington Street, Richmond.

Details of the report are as follows.

- Title: Homes Victoria – 240 Wellington Street, Collingwood; Schematic Design Report
- Reference: 20210345.2
- Date: 27 July 2021
- Prepared for: Fieldworks Projects Pty Ltd
- Prepared by: Acoustic Logic Pty Ltd (AL)

The report has been prepared to support the planning application for the project and to provide preliminary design advice.

1 Background Information

(Sections B the acoustic report)

The acoustically significant aspects of the proposal are identified as:

- Residential development comprising 2 separate buildings, 10 and 11 storeys in height
  - Basement carparking
  - Ground level community program rooms
  - Residential dwellings on all levels
- The subject development is in a residential area and has 2-3 level dwellings to the east
- Potential noise impacts to the subject development are identified as vehicle movements on Wellington Street (the proposed buildings are set back approximately 40 m from Wellington Street).

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SLR Comments: *The proposal, site context and nearest noise sensitive receivers have generally been identified. The proposed development is on the same site as an existing 21 level residential tower. The proposal also includes an outdoor basketball court in close proximity to both the new buildings, the residential tower and existing 2-3 level dwellings.*

The subject buildings are approximately 100 m south east of the Tote Hotel.

The proposal is part of the Victoria's Big Housing Build.

2 Noise impacts to the subject development (road traffic noise)

2.1 Criteria

(Sections J.1 to J.3 of the report)

Road traffic noise is proposed to be assessed to levels of 40 dB $L_{Aeq,1hr}$ in habitable rooms during the day period, and up to 35 dB $L_{Aeq,1hr}$ in bedrooms at night. These levels are the maximum recommended levels provided in AS/NZS2107:2016 for apartment on minor roads.

AL note that the criteria provided in both Standards D16 and D40 and Victoria's Big Housing Building project specific criteria, which references Standard D16, do not apply to this project because the site is not in a noise influence area.

SLR Comments:

We note that while the site is not in a noise influence area, the City of Yarra 'Guidelines – managing noise impacts in urban development', October 2019, clarifies that the criteria provided in Standards D16 and D40 should be applied to all apartment developments impacted by road traffic noise in the City of Yarra.

However, the design noise criteria nominated for this project will provide a better level of amenity than is required under Standards D16 and D40 due to the fact that the criteria for minor, rather than major roads has been nominated. On these grounds the proposed criteria are considered acceptable.

2.2 Quantification of external noise impacts

(Section D of the acoustic report)

Attended measurements of noise were conducted on Wednesday 29 April 2020 between 3:30 and 5 pm at three locations in the vicinity of the subject site (W, NE, SE). The western measurement was overlooking Wellington Street. The other measurements were on quieter streets, in the residential area. The measured Leq noise levels are presented in the report and were 59 dB L_{Aeq} (overlooking Wellington Street) and 51 dB L_{Aeq} (in the residential area).

SLR Comments: *The purpose of the measurements is not described in the report however we assume it was to assist in quantifying external noise impacts, given that only the L_{Aeq} data, which is used to quantify impacts, has been presented.*

The measurements were conducted while Melbourne was in lockdown for COVID-19, and are not likely to be representative of road traffic noise under normal conditions.

2.3 Assessment

(Section J.4 and Appendix 2 of the acoustic report)

The report states that the predicted noise levels have been based on the 'expected levels and spectral characteristics of the noise'. It is not stated that the measured road traffic noise level of 59 dB LAeq (obtained during a lockdown) has been used, however the actual data used in calculating noise impacts is not presented.

Recommended façade upgrade treatments are provided in Table J-2 of the report, and comprise systems rated Rw 29 or Rw 31 dB. The higher rated glazing is shown on bedrooms and living rooms with large areas of glazing that are exposed to road traffic noise from Wellington Street.

***SLR Comment**: The report needs to provide further basis for the glazing selection presented. In particular, the road traffic noise at the façade of the building, and the basis for their selection, needs to be documented.*

3 Environmental Noise Limits

(Section E of the report)

The SEPP N-1 Zoning Levels have been calculated and are presented in the report as the relevant limits for noise from commercial sources and communal mechanical plant.

Background noise data (which is also required to formally determine noise limits) does not appear to have been presented or considered.

***SLR Comments:** Subsequent to the report being issued, SEPP N-1 was replaced with Part I of the new 'Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues', Publication 1826 (the Noise Protocol). The EPA have confirmed to SLR that the Noise Protocol will be applied retrospectively.*

The setting of noise limits and assessment methodologies in the new Noise Protocol are the same as those in SEPP N-1 in most instances. However, the effective indoor limit for noise transmitted through a solid building element (e.g. wall or floor), is 5 dB lower than it was under SEPP N-1. This change has implications for the allowable levels of noise from commercial and communal mechanical plant.

With respect to the zoning levels provided, the actual receiver location for which they have been calculated is not stated in the report (zoning levels typically vary for different receiver locations on large sites such as this one). However, we have calculated the zoning level for one of the locations where the lowest levels are likely to apply (26 Emerald Street, east of the subject site) and our calculated levels are equal to those presented in Table E-1 of the report. On these grounds the presented levels provide a reasonably conservative estimation of zoning levels for all potential receivers.

The use of zoning levels as interim noise limits is acceptable on this project given that Melbourne was in lockdown when the report was prepared. However, noise from the site will need to comply with lower noise limits if low background levels are identified in future (when background noise monitoring can be undertaken).

4 Control of Noise within the Development

4.1 Architectural design criteria

(Section F of the report)

The project is proposed to be designed to achieve the Greenstar credit point for Acoustic Separation (Credit 10.3C) and to meet the requirements of the National Construction Code (NCC) / Building Code of Australia (BCA).

The criteria are presented Tables F-2 to F-4.

***SLR Comments**: The presented criteria are correct.*

4.2 Architectural advice

(Sections F4-F6 and Drawings AC01 to AC20)

Advice is provided for wall and floor constructions to comply with the identified design criteria.

***SLR Comments**: The provided advice is reasonable and could be expected to achieve compliance with the identified criteria if implemented correctly.*

4.3 Building services noise criteria

(Sections E.1 and G.1.1 of the report)

Design criteria for noise from project mechanical plant to the residential units it serves is provided in Table G-1, and to common areas in Table G-2.

Mechanical plant serving other apartments is noted to be required to be inaudible in an apartment during the night period, in accordance with the EPA Residential Noise Regulations. During the day and evening period, the plant is required to comply with background based targets of 'background + 5 dB'.

Although not explicitly stated, AL have confirmed that mechanical plant in communal areas is required to comply with SEPP N-1 / Noise Protocol (interim zoning level limits are provided in Section E.1).

***SLR Comment**: The design criteria for noise to an occupant's own apartment (e.g. apartment air conditioning and exhaust fan noise) are appropriate. The criteria for environmental noise from this plant to another apartment is correct, however the actual noise limits are not identified. This information is required for determining whether equipment is compliant.*

In order to identify limits, background noise monitoring would need to be conducted at the quieter times that the units are proposed to operate (e.g. late evening period and during the night). Due to COVID-19 restrictions, these measurements cannot currently be undertaken.

Nuisance noise from this equipment tends to be low risk, and it would be reasonable for the limits to be confirmed, and design advice provided, during the detailed design phase.

Noise from communal mechanical plant to apartments via common walls / floors etc, is also required to comply with the Noise Protocol effective indoor limits. These limits are equal to the external noise limit, less 20 dB. These limits are lower than they would have been under SEPP N-1. It is also unclear from the report whether SEPP N-1 limits were proposed to be met by noise from communal mechanical plant to apartments.

4.4 Building services advice

(Sections G.1.4, G.1.5, G.2, G.3, G.4, G.5, G.6 of the report)

Conceptual advice for addressing noise from building services is provided in these sections of the report.

SLR Comments: *The provided advice is reasonable and can generally be expected to address noise from these sources if implemented. We note that the advice is conceptual only, and will need to be reviewed during the detailed design to ensure that noise issues specific to the project are addressed.*

4.5 Hydraulic noise criteria

(Section H.1.1 and H.1.3 of the report)

Criteria for noise and vibration from hydraulic equipment, including pumps, water supply and drainage pipes are provided in these sections.

SLR Comment: *The nominated criteria are generally reasonable however we note that noise from pumps is also required to comply with the Noise Protocol effective indoor limits, being 20 dB less than the external noise limit.*

4.6 Hydraulic noise control advice

(Sections H.2 to H.4 of the report)

Advice is provided for controlling noise from hydraulic services.

SLR Comment: *The provided advice is conceptual and can be expected to address most noise from hydraulic services. The advice should be refined during the detailed design phase to address the specifics of the project.*

5 Other Matters

The following issues were not addressed in the acoustic report for the application.

5.1 Basketball Court

The design includes an outdoor basketball court in close proximity to existing and proposed dwellings and noise from use of the court has potential to cause nuisance. Noise associated with basketball courts include ball bouncing noise off both the ground and the hoop backboard, player and spectator voice noise and whistle noise if the court is used for competition. In its current location the court is overlooked by dwellings on three sides, and ambient noise at the overlooking dwellings from other sources is likely to be low. This scenario (nuisance noise in combination low background levels), increases the likelihood of nuisance.

Ideally the court would be relocated to the north west corner of the site, where it would be further from dwellings and the dwellings that did overlook it would have higher ambient noise (due to exposure to road traffic from Wellington Street) and façade upgrade treatments to address road traffic noise.

5.2 Tote and Bendigo hotels

The Tote and the Bendigo hotels are approximately 100 m north west and north east of the subject site and are both outside the 50 m radius within which music noise impacts are required to be considered under Clause 53.06 Live music and entertainment noise of the planning scheme.

The issue is raised here because:

- The apartment development proposed for 23-33 Johnston Street, which is also approximately 100 m from the Tote Hotel, was required to implement façade upgrade treatments to address music noise from the hotel.
- Based on data in our files, music from the hotels could be non-compliant with the relevant legislation at the subject development and cause nuisance if not addressed.

However, we also note that:

- The development proposed for 23-33 Johnston Street is a special case, as it overlooks the Collingwood Arts Precinct (CAP) which is recognised in the planning scheme as a cultural precinct of State significance. Noise from the Tote was addressed as part of the development's requirement to address music noise from the CAP site.
- There are closer dwellings to both venues that would be exposed to higher levels of music noise from the venues.
- The subject site and surrounds are all zoned residential (NRZ1).

On balance, we are of the opinion that it is not appropriate to require the development to address music emissions from the venues in full accordance with the procedures laid out in Clause 53.06 of the planning scheme.

However, given there has been no acoustic assessment of music noise impacts, and given the likely risk, it would be desirable to optimise glazing for music noise control in the façade of apartment bedrooms overlooking these venues. The use of 10 mm – 12 mm thick float glass or a thermal double glazed unit with 6/12/10 mm glass would provide a 4 to 5 dB improvement in music noise reduction over the glazing currently proposed. This would be applicable to the north east and west facades of the Building A. Alternatively, a formal music assessment could be undertaken to quantify music impacts. This would not be possible during the current COVID-19 restrictions.

5.3 Other amenity considerations

We provide comment on the following potential amenity impacts of the design, noting that there are no formal requirements for addressing them.

5.3.1 Ground Level Community Room

There are large ancillary program rooms on the ground floor of both buildings. The primary access to these spaces appears to be via doors in the external façade, however the space in Building A includes an access door to a residential corridor. To minimise nuisance noise from through traffic, it is recommended that this door be used for emergencies only.

5.3.2 Ground Level Storage Cages

There are storage cages on the ground level of both buildings and these are accessed via residential corridors. In Building A, some cages are directly off residential corridors. This layout can be expected to cause nuisance due to the increased foot traffic between apartments and the storage cages and due to the potential for some of the corridors to be used as sorting places. Ideally, storage cages should not be accessed via corridors that have apartments off them.

6 Summary

SLR Consulting Australia has reviewed the acoustic report prepared to support the application for a residential development proposed for 240 Wellington Street. The following summarises the acoustic issues on the project:

- The road traffic noise assessment is incomplete. The report should include the predicted road traffic noise at the façade of the development, and the basis for this data. **The report should be updated with the information.**
- Environmental limits for noise from commercial and communal mechanical plant have been determined from land use zoning. This is an acceptable interim noise approach however the equipment must be designed to comply with the actual limits, which may be lower. **This is statement of fact. No modification to the report required.**
- Environmental limits for apartment mechanical plant have not been provided because background noise measurements have not been conducted. It is recommended that the relevant noise limits be determined during the detailed design phase of the project, when background noise measurements can be conducted, and that that advice for complying with the limits be provided at that time. **These additional works should be undertaken in the future.**
- The report assesses noise from project mechanical plant to AS/NZS2107 internal levels. This noise is also assessable to the Noise Protocol (formerly SEPP N-1). Where noise is transmitted through a wall or floor, the effective noise limit is the external limit less 20 dB under the Noise Protocol. Equipment should be designed to comply with these limits. **The report should be updated to confirm that the Noise Protocol limits will be met on the project for sound transmitted into apartments.**
- Some upper level apartments in Building A may be impacted by music noise from the Tote and Bendigo hotels. Given that the development is outside the 50 m radius for both venues, and is not formally required to comply with *Clause 53.06 Live music and entertainment noise* of the planning scheme, we have suggested moderate upgrades of bedroom windows in potentially impacted apartments to minimise the likelihood of nuisance. Alternatively, an assessment of music noise could be conducted post COVID-19 to more accurately quantify impacts. **This advice is provided to Council for consideration and is not required to be addressed in the acoustic report at this stage.**
- The proposed basketball court is in close proximity to existing and proposed dwellings that are otherwise shielded from ambient noise. We recommend that the court is relocated to the north west corner of the site, where it would be less overlooked and where the apartments potentially impacted by noise from its use will be exposed to higher levels of ambient noise, and have façade upgrades to address noise. **The above comment applies to the design, and is not required to be addressed in the acoustic report.**
- Storage cages are accessed off some apartment corridors and some are effectively in apartment corridors. This layout is not desirable from an acoustic perspective, however there are no formal requirements to address the acoustic impacts.

Attachment 19 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Acoustic Referral

This comment pertains to the general layout, and is not required to be addressed by the acoustic consultant.

Regards,

Reviewed by JA

Dianne Williams
Principal – Acoustics

Attachment 20 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Wind Referral

MEL CONSULTANTS

(ACN 004 230 013)

22 CLEELAND ROAD
SOUTH OAKLEIGH VIC 3167
AUSTRALIA

Ref: 128-21-DE-REV-02

21 October 2021

City of Yarra
PO Box 168
Richmond VIC 3121

Attn: Michelle King

Dear Michelle,

240 Wellington Street, Collingwood
Review of Vipac Wind Impact Assessment
Vipac Document Number: 30N-20-0232-TNT-17256-2 dated 15 October 2021

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 recent Vipac Wind Impact Assessment dated 15 October, 2021, was an update of the previous assessments as the design has evolved with the community consultation.

- The Vipac Wind Impact Assessment 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.

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- 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 240 Wellington Street, Collingwood, development has been provided along with reference drawings are listed in the Appendix of the report.

- Vipac have discussed the shielding for the two buildings and MEL Consultants generally agree with the discussion. However, the South Building would have exposure to the strong and prevailing north sector wind directions on to the broad north face of the building.

- The pedestrian safety and comfort criteria are the Capital City Zone and upcoming Better Apartment Design Standards and MEL Consultants have no issue with these criteria. 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 Vipac desktop assessment of the wind conditions along Vere, Wellington, and Perry Streets would satisfy the walking criterion and MEL Consultants would agree with this assessment since the proposed buildings will be well set back from these streets.

- Vipac have identified potential adverse wind effects around the South Building, including the adverse interaction with the existing 20 storey building and assessed the wind conditions close to or above the walking criterion between the buildings. Vipac have identified design features (2m setback along the east, a 6m setback along the west, and 1.2m deep canopy along the north edge). However, the separation between the South Building and the Existing Tower does not change with building height so it is not clear what Vipac are referring to for the 6m setback along the west. Furthermore, the drawings do not clearly

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show a 1.2m wide canopy along the northern edge, instead the drawings indicate a setback of the facade of the building above ground level. The setback forms the provide balconies for the upper level apartments. Vipac have recommended the wind conditions are quantified by wind tunnel model measurements and MEL Consultants agree with this recommendation. Vipac have assessed the area in front of the main entrances as satisfying the standing criterion, which would be agreed when the doors are closed. However, the design of south building has entrances and on the north and south sides of the development that would create adverse crossflow wind conditions through the lobby when both doors are open simultaneously, which is a common problem with these types of designs. Furthermore, the lobby doors should not be swing style doors due to the potential for door damage and user difficulty/injury.

- Vipac have identified locations of potential adverse wind effects around the North Building and identified design features that would mitigate the wind effects. MEL Consultants agree with this assessment and the recommendation to wind tunnel study the building. MEL Consultants comments regarding wind crossflow through the lobby entrances provided for the south building are applicable to the north building, but for the west to east direction.

- Vipac have assessed the private balconies as satisfying the walking criterion. This would be expected for the balconies not located on the corners of the buildings. However, the corner balconies would be expected to have higher wind conditions and require taller balustrades along one edge so the balconies are only open to one aspect and mitigate wind acceleration around the building corners and across the balconies.

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 agree with the Vipac assessment of the expected wind conditions along Vere, Wellington and Perry Streets.

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MEL Consultants have queried the design features identified by Vipac for the South Building as these are not clear in the drawings provided for this review. Vipac do identify potential adverse wind conditions around the two buildings and recommend that a wind tunnel model study be undertaken to quantify and compare the wind conditions against the recommended pedestrian safety and comfort criteria. MEL Consultants agree a wind tunnel study must be undertaken and recommend this be undertaken prior to the grant of the permit i.e. not as a condition of permit.

Yours sincerely,

M. Eaddy

M. Eaddy
MEL Consultants Pty Ltd

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Attachment 21 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design Referral

Global South

Urban Design Review

Homes Victoria, 240 Wellington Street, Collingwood (Post-Consultation Submission)

Prepared by Simon McPherson

21 October 2021

Attachment 21 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design Referral

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1.0 Introduction

1.1 Process and involvement

In August 2021 I was engaged by Yarra City Council and briefed by Council officers to prepare a report comprising urban design review and advice, regarding the proposed Homes Victoria development at 240 Wellington Street Collingwood.

I prepared a Draft Urban Design Review (dated 02 September 2021) addressing the Draft Submission planning package.

On 6 October 2021 I received from Council officers plans and reports comprising the Final Submission, which I understand were at that time being used for formal consultation purposes. These plans remained largely unchanged from the previous Draft Submission.

On 19 October 2021 I received modified plans and documents comprising the Post-Consultation package.

This updated Urban Design Review addresses the Post-Consultation documents.

In preparing this review, I have:

- Received and reviewed the Post-Consultation plans and documents, as follows:
  - Architectural plans (Fieldwork, dated 18/10/2021);
  - Design Report (Fieldwork, dated 18/10/2021);
  - Pre-Application Meeting presentation (Fieldwork, dated 20/08/2021);
  - Landscape Report (Openwork / Yerrabingin, not dated);
  - Landscape Master Plan (Openwork, not dated).
- Reviewed **Clause 52.20 - Victoria's Big Housing Build** of the Yarra Planning Scheme, which applies to the review site and proposal;
- Visited the review site and locality on 14 October 2021, having been prevented from visiting previously due to COVID19 restrictions. The photographs in this report are my own, except where noted otherwise.

1.2 Project context discussion

I regularly prepare independent urban design reviews and advice for Yarra City Council, other Councils and private organisations, and each project/proposal is considered in its strategic and physical context.

However this Homes Victoria proposal has particular characteristics which distinguish it from most development applications, as follows:

- The proposed buildings are set within an existing public housing estate, amongst established buildings, open spaces and vegetation; rather than directly interfacing a streetscape and other privately-owned buildings, for example;
- The proposed residential use is specifically for social and affordable housing;
- It is a government project and not (presumably) driven by commercial/financial imperatives – i.e., the dwellings will not be sold privately and so are not targeted at the private market.

These characteristics inform the urban design response, in the way the buildings occupy the land, the configuration of spaces within buildings, the building forms and the external design expression.

I therefore make this review in recognition of these distinctive characteristics.

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1.3 Qualifications and experience to prepare this Review

1.3.1 Qualifications and registrations

My academic qualifications are as follows:

- **Executive Masters (MSc) in Cities (Distinction),** inaugural programme (September 2016 - completed February 2018), London School of Economics and Political Sciences (LSE Cities), UK;
- **Master of Science (MSc): Built Environment - Urban Design (Distinction),** The Bartlett School, University College London, 2005-06, UK;
- **Bachelor of Architecture (BArch) (First Class Honours),** The University of Melbourne, 1996-97;
- Bachelor of Planning and Design (BPD) (Architecture), The University of Melbourne, 1992-94.

My professional registrations and memberships are as follows:

- **Registered Architect**, Architects Registration Board of Victoria: individual registration number 15838;

I am engaged on the following professional organisations:

- Member, inaugural **Melbourne Design Review Panel** (City of Melbourne, 2021);
- Member, **Victorian Design Review Panel** (OVGA, since 2016);
- Member, **South Australian Design Review Panel** (ODASA, since 2011);
- Member, Latrobe University Design Review Panel (currently inactive);
- Global Advisor, United Nations Global Compact – Cities Programme (discontinued);
- Member, Built Environment Task Force, Smart Cities Council – Australia/New Zealand (discontinued).

1.3.2 Experience

Professional experience

I hold over 15 years of dedicated professional experience in urban design, including:

- Urban Designer, Victorian State Government (2002-2007, including study leave);
- Director, SJB Urban (2007-2016);
- Director, Global South (2016-present).

I hold approximately 5 years of prior experience in architectural practice, in Australia and the UK.

Project experience

My urban design experience includes the following projects:

- Policy and guidelines:
  - Author/contributor, *Better Placed*, NSW Architecture and Urban Design Policy, Government Architect NSW (2016-17). Benchmark design policy, winner Australia Award for Urban Design 2017;
  - Contributor (State Government employee), Design Guidelines for Higher Density Residential Development, Activity Centre Design Guidelines;
  - Contributor, SA Medium-Density Design Guidelines;
  - Lead consultant, Urban Design Guidelines, Bowden, SA (SJB Urban, 2015).

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- Urban Design Advice:
  - Eden/Haven/Sanctuary on the River, Abbotsford, for HAMPTON (complete), (SJB Urban, 2010). High-density, mid-rise (9-11 storeys) permeable courtyard development, winner UDIA President's Award, High-Density Housing Award (National, Victoria), Masterplanned Development Award (Victoria);
  - Richmond Plaza redevelopment, for Coles (SJB Urban, 2014);
  - Grocon FCAD redevelopment, Footscray Station Precinct (SJB Urban, 2011).
- Independent reviews:
  - Regular independent reviews of permit applications, for Councils including Melbourne, Yarra, Port Phillip, Banyule, Brimbank, Manningham and Casey.
- Strategic plans, structure plans and Urban Design Frameworks:
  - Sunshine NEIC Urban Design Analysis and Framework Plans, for Brimbank City Council, in collaboration with Kinetica;
  - Footscray Built Form Review 2020, for Maribyrnong City Council;
  - Tarneit Major Town Centre: Economic Impact Assessment and Design Review 2018, for Wyndham City Council;
  - Oakleigh Activity Centre Transport Precinct: Design Review 2018, for Monash City Council;
  - 1160 Sayers Road, Tarneit, Structure Plan for Wyndham City Council (landowner) (SJB Urban 2014-15). Innovative, integrated plan for high-density, walkable precinct in greenfield setting;
  - Footscray Station Precinct Planning and Urban Design Framework (SJB Urban, 2008-09). Winner, PIA Transport Planning Award 2008;
  - Brighton Toyota Site UDF, for LEFTA Corporation;
  - Frankston Transit Interchange Precinct UDF and Master Plan, for DPCD (SJB Urban 2009-2012);
  - Wise Foundation 'Wellness Village' UDF, Mulgrave, for landowners (SJB Urban, 2015-16).
- Master Plans and Concept Designs
  - Sunshine Station Master Plan 2021, for Department of Transport, in collaboration with Development Victoria;
  - Revitalising Central Dandenong (Sites 11-15) Master Plan/Development Plan, for Capital Alliance and Development Victoria, 2021;
  - Caulfield Village Master Plan, for Beck Property / Probuild (SJB Urban, 2012);
  - Greensborough Activity Centre Concept Master Plan, for Banyule City Council (2017);
  - 433 Smith Street (Fitzroy Gasworks) Master Plan, for Places Victoria (SJB Urban, 2015);
  - Master Plan, Binks Ford Site and over-rail deck, Footscray, for Places Victoria (SJB Urban, 2012);
  - Caulfield-Dandenong corridor concept/feasibility studies, for VicTrack (SJB Urban, 2015).

Experience preparing expert evidence

I have presented evidence at VCAT and Planning Panels Victoria on numerous occasions.

2.0 Context

2.1 Strategic context

2.1.1 Zoning

The review site is located on the eastern side of Wellington Street, approximately 100m south of Johnston Street and approximately 400m west of Hoddle Street. It forms part of the extensive Office of Housing precinct, which is bounded by Wellington Street, Hoddle Street, Perry Street to the north and Vere Street to the south. This block comprises two (2) residential towers fronting Hoddle Street, and another tower fronting Wellington Street (all 21 storeys approx.), with generally 2-3-storey 'walk-up' apartment buildings and townhouses in between.

The land is situated within the **General Residential Zone – Schedule 3 (GRZ3) – Office of Housing Sites Over 2500sq.m & Selected Main Road Sites.**

2.1.2 Design and Development Overlay – Schedule 2 (DDO2)

The Wellington Street frontage is affected by **DDO2 – Main Roads and Boulevards** which includes Design Objectives as follows:

- *To recognise the importance of main roads to the image of the City.*
- *To retain existing streetscapes and places of cultural heritage significance and encourage retention of historic buildings and features which contribute to their identity.*
- *To reinforce and enhance the distinctive heritage qualities of main roads and boulevards.*
- *To recognise and reinforce the pattern of development and the character of the street, including traditional lot width, in building design.*
- *To encourage high quality contemporary architecture.*
- *To encourage urban design that provides for a high level of community safety and comfort.*
- *To limit visual clutter.*
- *To maintain and where needed, create, a high level of amenity to adjacent residential uses through the design, height and form of proposed development.*

2.1.3 Heritage Overlays

The review site is not within a Heritage Overlay, but various Heritage Overlays exist opposite the site, across Wellington Street, Perry Street and Vere Street.

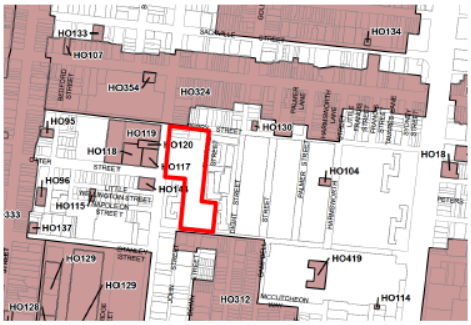

Figure 01: Excerpt from Heritage Overlay map, with review site indicated in red outline.

2.2 Review site

2.2.1 Existing conditions

The review site is an irregularly-shaped parcel between the existing residential tower to the south-west, and existing low-scale residential buildings to the east, with frontages to Wellington Street, Perry Street, Vere Street, and Emerald Street which runs along the inside of the site's eastern boundary.

The site contains open space areas (sports court, lawn areas, Emerald Street Playground), and surface car parking areas.

Figure 02: Residential tower on the review site, at corner Wellington and Vere Streets.

Figure 03: Residential tower on the review site, at corner Wellington and Vere Streets, with mural on southern wall.

Figure 04: Existing arcade/undercroft below tower, viewed from Wellington Street.

Figure 05: Existing low-rise housing within the Office of Housing precinct fronting Vere Street.

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Figure 06: Existing low-rise housing within the Office of Housing precinct fronting Harmsworth Street (looking west), with Wellington Street tower visible beyond.

Figure 07: Existing towers fronting Hoddle Street.

Figure 08: Emerald Street, looking south from Perry Street, with the review site/development land at right.

Figure 09: Existing Emerald Street open space (Unity Park), with Wellington Street to the right.

2.2.2 Interfaces

The site's interfaces are as follows:

- North:
  - Perry Street (approx. 15.5m wide);
  - Low-scale (1-2 levels), fine-grain, residential setting, with small landscaped setbacks typically;
  - Terrace shop buildings fronting Wellington Street are in the Heritage Overlay;
- East (north): Emerald Street, with 2-3 storey brick residential buildings with garden setbacks;
- East (south): 2-3 storey brick residential buildings with garden setbacks.
- South:
  - Vere Street (approx. 15.5m wide);
  - Low-scale (1-2 levels) brick commercial/warehouse buildings.

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- West: Wellington Street:
  - Heritage church/school buildings;
  - 3-storey residential building near Vere Street;
  - 2-storey terrace shop/residential buildings near Vere Street.

Figure 10: Wellington Street looking north from in front of the review site. (at right).

Figure 11: Wellington Street looking south from in front of the review site.

Figure 12: Educational building (centre) and church building (right) on Otter Street, west of the review site.

Figure 13: Vere Street, looking east, with review site at left.

Figure 14: Collingwood College, south-east of the review site, near Hoddle Street.

Figure 15: Perry Street, looking west, opposite the review site.

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2.3 The proposal

2.3.1 Outline

The proposed development comprises two new buildings of 6-8 levels in height, surrounded by a range of public realm/landscape initiatives.

2.3.2 Land use distribution

Building A is positioned in the northern part of the site, close to Perry Street, and fronting the existing park space, and is oriented north-south. It comprises a 6-8-level building as follows:

- Basement: One (1) level for car parking and building services;
- Ground Floor:
  - 'Ancillary Use Program' space;
  - Entry lobby;
  - Bike storage and other storage;
  - Residential dwellings.
- Levels 1-5: Residential dwellings around central lift/stair core;
- Levels 6-7 Residential dwellings (northern component only) adjoining central lift/stair core.

Building B is positioned in the southern part of the site, fronting Vere Street, and is oriented east-west. It comprises an 8-level building as follows:

- Basement: Two (2) levels for car parking and building services;
- Ground Floor:
  - 'Ancillary Use Program' spaces (2);
  - Entry lobby;
  - Bike storage and other storage;
  - Residential dwellings.
- Levels 1-7: Residential dwellings around central lift/stair core.

2.3.3 Heights

Overall building heights are not dimensioned on the elevation drawings. From the RLs shown in the Elevations, I derive that both Buildings A and B extend to approximately 27.0-27.5m in height to parapet level.

Ground Floor is 3.55m (floor to floor), and all other levels are 3.2m in height (floor to floor).

The Ground Floor height has been reduced since the previous plans, by 0.45m, leading to the equivalent overall building height reduction.

2.3.4 Setbacks

The proposed Building A setbacks are unchanged from the previous plans, as follows:

- Ground Floor / Level 1:
  - 15.1m setback at Perry Street (13.1m setback to central stair);
  - 11.5m setback to eastern boundary (across Emerald Street);
  - 38.5m setback to Wellington Street (across park);
- Levels 2-7:
  - 15.6m setback at Perry Street (13.1m setback to central stair);
  - 13.9m setback to eastern boundary (additional 2.4m above Ground Floor);

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- 40.9m setback to Wellington Street (additional 2.4m above Ground Floor).

The proposed Building B setbacks are as follows:

- Ground Floor / Level 1:
  - 8.2m setback to Vere Street (eastern end);
  - 0m (zero) setback to western boundary adjacent existing tower;
  - (Up to) 25.1m setback to northern boundary;
- Levels 2-7:
  - 13.9m (west) – 13.1m (east) setbacks to Vere Street (additional 6.3m – 4.9m approx. above lower levels);
  - 0m (zero) setback to western boundary adjacent existing tower;
  - (Up to) 27.7m setback to northern boundary (additional 2.6m above Ground Floor).

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3.0 Review of the proposed development

3.1 Is the site organisation and built form siting appropriate?

3.1.1 Guidance

Clause 52.20 provides minimum setbacks from front streets and side streets, including for corner sites.

3.1.2 Assessment

The foundational premise of the site organisation appears to be about retention and enhancement of outdoor spaces between buildings.

The Pre-Application Presentation sets out numerous site layout elements, which predominantly focus on conservation (of trees, public open space, views etc.) and integration (with surrounds through visual and physical links which largely define the site layout), by defining "no-build" areas. These include (with my commentary):

- Perimeter canopy trees and tree protection zones (based on arboriculturally assessments):
  - This is clearly beneficial in retaining existing natural assets and a sense of greenery.
  - The proposed landscape approach is shaped by an Indigenous based 'Compass Country' framework. I lack the knowledge to comment on this, but strongly support the initiative to embed these principles and approaches in the project.
- 9m offsets from existing residential buildings to the east;
  - 9m is a widely accepted minimum separation for habitable rooms;
  - **Clause 52.20-6.13** reinforces this 9m separation requirement.
- Extension of the Otter Street alignment as a 'vista' into the review site;
  - This will support a visually and physically permeable site;
  - Large Office of Housing sites are recognised as lacking integration with their surrounds. Extending surrounding streets (at as paths and view corridors) into sites supports integration and connectivity.
- Street setbacks: Vere Street;
  - This setback generally corresponds to existing housing to the east, and exceeds the minimum requirements in **Clause 52.20;**
  - The corresponding setback to Perry Street is generally created through retention of trees along this interface;
- View through the existing colonnade at the base of the existing tower building;
  - It is difficult to assess the value of this link/colonnade, or the quality of the space below the tower building.

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Recommendation 1:

Subject to further information and consideration, I would consider this project an opportunity to 'infill' this arcade or colonnade/undercroft (See Figure 04, above) and create ground-floor activation, to Wellington Street and to the rear, given the 'new' Otter Street link. I recognise, however that works to the existing tower building are potentially outside the scope of the current proposal.

- Retention of Emerald Street within the site:
  - This is seen as necessary for site access and circulation, and retains site permeability.
- Retention of the park:
  - This is clearly an important asset for the site and wider neighbourhood. Its position at two street frontages prevents a continuous built form edge, but makes it more publicly accessible. Its location north of the tower ensures it receives full solar access;
- Protecting outlook from main tower façade:
  - This supports existing amenity (outlook and solar access).

The resultant positioning of two elongated buildings fronting the retained park with outlook across to Wellington Street (Building A), and fronting a street (Building B) provides a range of urban design benefits, including:

- Potential for activation and passive surveillance to a street and the main public open space;
- Maintaining space between and around existing buildings, particularly the tower element;
- Establishing a grid-based layout which integrates with the surrounds, to support a permeable precinct;
- Limiting impacts to streets and public spaces (discussed in detail below);
- Retaining extensive public/communal open space.

The resultant footprint of new built form is relatively small within the extent of the site, delivering a substantial increase in useable open space (from 67% currently, to 78% proposed), through retention of the park and removal of car parks to basement levels.

This extent of open space, and the arrangement of buildings and frontages, should be considered in the context of the larger Office of Housing site, which includes extensive high-density development and limited open space.

I therefore support the site arrangement and building positioning as proposed.

Details of setbacks and frontages are considered further below.

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3.2 Is the land use mix appropriate?

3.2.1 Guidance

The General Residential Zone encourages a diversity of housing types and housing growth in well-serviced locations, alongside community-focussed non-residential uses.

3.2.2 Assessment

Residential apartments

Building A is allocated for affordable housing, and includes 47 no. 1-bedroom units (60%), 27 no. 2-bedroom units (34%) and 5 no. 3-bedroom units (6%).

Building A is allocated for social housing, and includes 43 no. 1-bedroom units (59%), 22 no. 2-bedroom units (30%) and 8 no. 3-bedroom units (11%).

I recognise that this provision responds to specific identified needs from Homes Victoria. I also consider that the buildings reflect an acceptable level of housing diversity.

The proposed development represents housing growth, and provides for mixed apartments in mid-rise scale buildings, adjacent to existing low-rise townhouses and apartments ,and high-rise apartments. Therefore, the buildings increase the diversity of housing within this precinct.

Ancillary uses

The actual proposed uses of these Ground Floor spaces in both buildings are not specified in the plans. I assume they will be for community uses (e.g. meetings, classes and group activities).

I recognise that this type of flexible community-focused space can perform an important function in high-density settings, and that this location is not suited to retail or hospitality tenancies.

Car parking

The location of car parking within basements below both buildings is strongly supported, recognising that this approach is likely to be more costly than above-ground parking. Basement parking reduces the building mass, and maximises opportunities for activation and passive surveillance at the lower levels of the buildings.

I therefore consider the proposed land uses to be appropriate and responsive to the location and context.

I consider active frontages and interfaces in more detail below.

3.3 Is the built form height and massing appropriate?

3.3.1 Guidance

Clause 52.20 seeks to facilitate development of housing projects, while avoiding unreasonable impacts on adjoining dwellings.

The **General Residential Zone** encourages development that respects the neighbourhood character, and encourages housing growth and diversity in well-serviced locations, alongside community-focussed non-residential uses.

3.3.2 Assessment: building height

The proposal incorporates predominantly 8-storey buildings.

As discussed above, the immediate context contains both low-rise buildings and high-rise towers (although the towers are an 'exception' to general built form conditions in this locality).

Wellington Street is subject to extensive redevelopment of mid-rise scale buildings (approximately 6-14 levels), along with various redevelopment projects and proposals nearby in the Gipps Precinct, of similar scale

I consider the proposed height of 8-storeys to be acceptable, in the context of:

- Extensive space around/between buildings, and substantial street setbacks;
- Emerging mid-rise character in Collingwood;
- Highly diverse built form context/character in this locality;
- Presence of much higher built form nearby;
- I consider 6-8 levels (as proposed) to be 'moderate' mid-rise scale;
- The heights of approximately 27.4m are moderate in the context of:
  - 38.5m setback from Building A to Wellington Street (across park);
  - Street setbacks of approximately 8m-15m;
  - Approximately 60m clearance between Buildings A and B;
  - 25m approx. setback from Building B to north boundary to existing building.

The height of Building A steps down to 6-storeys for its southern component, presumably to limit overshading to open space to the south of the building. The shadow diagrams demonstrate that equinox shadows from Building A will affect the small park area (identified in the Landscape Plan as 'park with trees and seating' and in the Landscape Report as Plaza, directly south of the building, on alignment with Otter Street, and will affect the Wild Play area (existing Unity Park) in the morning, but will not affect the proposed sports court further south. I consider these impacts acceptable.

Building A will impact on the longer-range outlook from existing dwellings to the east (across Emerald Street), and will have a strong visual presence or 'visual bulk' as perceived from these dwellings. This mainly affects six (6) 2-storey townhouses facing Emerald Street. The three-storey apartments further south face towards the east.

However as noted above, the proposed building spacing is acceptable, and while these dwellings will be impacted, the extent of this impact and the contrast in building heights, is considered acceptable, given the substantial distance between the buildings.

I therefore consider the proposed building heights to be appropriate in this context.

3.3.3 Assessment: frontage height

Buildings A and B present single-level frontages, with setbacks from Level 1. This low-scale frontage is relatively unusual for mid-rise buildings, where 2-4 level frontages are more typical.

The low-scale frontage is a result of the building program, where car parking is at basement level and there are no commercial/retail spaces within the buildings.

As noted above, the street interfaces surrounding the review site contain 1-3-level buildings.

The existing 2-3-storey residential buildings within this Office of Housing precinct provide varied setbacks but are generally recessive in form and profile.

I also note that the limited upper-level setbacks ensure a clear visual relationship between the upper levels and the public realm, to support passive surveillance and visual interaction opportunities.

While I consider that higher (2-3-storey) frontages are achievable in this setting, I accept the single-level frontages as proposed.

3.3.4 Assessment: setbacks

Street setbacks

The Vere Street setbacks (Building B) of approximately 7.6m (dimensioned on previous plans, but not current plans) to 8.2m generally aligns with the existing buildings to the east, and meets the minimum 7m recommended in Clause 52.20. The upper levels are setback substantially further (13m – 14m approx. from boundary).

This setback profile (and the building height) ensures very limited shadow impacts to land across Vere Street (which is in the Commercial 2 Zone, so cannot contain residential uses).

The setback profile is considered adequate relative to the building height and the street width. The upper levels (up to approximately 27.4m in height) are positioned almost 30m from the opposite boundary across Vere Street.

Render Views M and O in the Design Report indicate this proportional relationship and the presentation of building form in the streetscape, including with the existing large trees.

The Perry Street setback is also set behind existing trees. Building A is positioned approximately 13m-15m from the street boundary, for the full height of the building.

I consider these street setback conditions to be acceptable.

Upper-level setbacks

Buildings A and B incorporate a wider Ground Floor (and Level 1 terraces above), with setbacks of approx. 2.4m to upper levels.

I consider this setback profile acceptable. It reinforces the Ground Floor level form/frontages, and presents a single-level frontage to the public realm, which moderates the scale of the upper-level forms above.

3.3.5 Assessment: building separation

Building A

Building A is positioned approximately 11.5m from the review site's eastern boundary (across Emerald Street), with existing buildings to the east set further back, by approximately 3m, 5m and 12+m.

This separation is acceptable and appropriate, in providing for visual separation and privacy, and limiting overlooking potential.

Building A does not overshadow existing residential buildings at the equinox before 3pm.

Building B

Building B is positioned on the western site boundary interfacing with the existing tower, which provides a separation of approximately 9.7m from the tower.

This wing of the tower contains only small secondary windows. The proposed Building B also presents a secondary frontage to this interface.

On that basis, and given the narrow frontage of Building B at this interface, I consider the proposed separation to be acceptable.

3.4 Are the public realm interfaces / frontages appropriate?

3.4.1 Ground Floor active frontage extent

The Ground Floors of both Buildings A and B contain dwellings, Ancillary Use spaces, and storage for bikes and other storage, as well as service spaces and vehicle access.

The Pre-Application Package ('Active Edges', part 1, page 29) notes that the dwellings provide a high activity interface, which the Ancillary spaces provide low-intensity, daytime activity.

I cannot definitively predict the extent of activation and passive surveillance from dwellings, but I support the initiative to provide dwellings at Ground Floor in a residential setting.

The extent of Ground Floor active edges to Building B is quite limited, particularly to the Vere Street frontage, as shown below. While the bike store has a glazed frontage, it is expected to provide limited activation. Otherwise, just the ancillary use space provides potential (limited) activation, for approximately 20% of the street frontage length.

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Previous recommendation 2:

Investigate opportunities to increase the extent of active frontage to Vere Street at Ground Floor level.

Response in Post-Consultation Plans:

The Ground Floor layout of Building B has been modified to include an additional Ancillary Use Program space at the eastern end of the frontage, providing the potential for active frontage at both ends/corners of the building, addressing Vere Street.

The other Ancillary Use Program space is retained but slightly reduced in width. The remainder of the frontage is occupied by bike storage, other storage, stairs and the central entrance lobby, which I recognise will generate extensive pedestrian movement to/from and through the building.

I consider this design change to be a significant improvement to the street interface conditions, and consider the revised proposal acceptable.

I note that the norther Ancillary Use space incorporates windows facing north towards the existing tower (see Overall Elevation – West, drawing TP3003-P01), even though it is located on the site boundary.

The east-facing Ground Floor wall does not include windows to the Ancillary Use space, even though it is (slightly) set back from the boundary, but I recognise it is relatively close to the existing residential building to the east

New recommendation 2A:

I therefore recommend exploring the potential for additional windows to the new Ancillary Use Program space, facing east, to increase visual permeability and passive surveillance opportunities, and reduce the extent of blank/solid wall at this interface.

3.4.2 Ground Floor residential frontages

The proposal demonstrates particular design attention to the interface of Ground Floor dwellings to the public realm, through:

- Elevated Ground Floor level relative to the external ground level in some locations (estimated up to approx. 0.6m);
- Graded landscape between the Ground Floor balcony balustrade and the public realm, creating a buffer; and
- Curved front fences (visually permeable) with curved height profile, from gate-height (estimated 1.8m approx.) to soffit height.

This approach creates an effective interface between dwellings and the public realm at Ground Floor level, which mediates between passive surveillance/visual interaction opportunities, and privacy/security considerations.

3.4.3 Upper level frontages

The proposed buildings incorporate continuous balconies with solid balustrades across the main facades. This provides a main balcony, plus narrower (700mm wide) balcony space spanning the full width of each unit. This approach is designed to provide:

- Continuous shading eve to level below;

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- Access for external window cleaning;
- Full height glazing for maximum daylight, balanced with visual privacy from the balustrade;
- Sense of visual extension to internal rooms.

I consider the continuous solid balustrade acceptable in terms of passive surveillance opportunities, in that it provides a balance of outlook and visual interaction potential with the public realm, with enclosure and a sense of privacy for residents.

I therefore support the public realm interfaces as proposed.

3.5 Is the architectural expression appropriate?

3.5.1 Outline description

Buildings A and B are divided into two 'wings' with a central 'core', comprising:

- Building A: Open /expressed stair behind mesh screen (with lifts behind) facing the park, and open central link behind mesh screen facing east;
- Building B: Open 'void' behind mesh screen between the two wings, with bridge links across at each floor level.

This layout drives the external expression for both buildings, of central core, building wings to each side, and end stair cores.

The proposed external design comprises the following components (noting the materials are not labelled on the elevations, but are referenced by a legend of materials/finishes):

- Ground Floor 'podium' in masonry:
  - Building A: green glazed bricks, vertical and horizontal bonds;
  - Building B: red glazed bricks, vertical and horizontal bonds.
- Continuous concrete balustrades with vertical fluting or corrugations, creating a visually strong 'banded' expression to the facades;
- Painted (or similar) window frames – green or red;
- Cladding (green or red) for shading screens (Building A, east and west facades), privacy screens and walls behind balconies;
- Wire mesh screens to open stairs and bridge links.

The Post-Consultation Plans reflect revised façade designs, with the removal of the previously-proposed pull-down blinds, and introduction of regularly spaced vertical, angled shading panels rather than the previous varied, curved profile vertical 'fins'.

3.5.2 Assessment

Materials and colours

I accept the references to the Collingwood context reflected in the selection or materials, including brickwork and corrugated surfaces, as well as the colour references to the local (heritage) context and natural setting of the Yarra River corridor.

The materials are robust and durable, and therefore responsive to the program and use of the buildings.

The intent to be 'honest in detailing and materiality' and the use of integral (rather than applied) finishes is supported.

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Facade configuration

The Design Report (pages 33-35) provides contextual images as follows:

- 'Collingwood Character – Residential', showing generally smaller scale forms brickwork, corrugated verandah roofs, curved balcony profiles and open vertical circulation spines, as well as nearby contemporary buildings.
- 'Collingwood Character – Industrial Heritage', showing warehouses, commercial and institutional buildings, with extensive red brickwork.
- 'Collingwood Character – Commercial', showing varied shopfronts, diverse façade colouring and a range of frontage materials and textures at building entries.

The facades reflect a high-level of design thinking and consideration, and makes clear reference to this varied context, incorporating:

- Robust, 'grounded' form and expression;
- Strong horizontal façade bands;
- Regular vertical 'grain' or rhythm;
- Regularity or consistency in the facades;
- Brickwork at lower levels;
- Varied colours, primarily red and green in response to the context;
- Corrugated surfaces;
- Vertical 'breaks' for circulation

The façade design also responds to resident amenity considerations, including solar shading, visual privacy, extent of private open space, perception of interior space, and access for window cleaning.

I previously opined that the proposed façade designs appear relatively austere in character, and the visual primacy of the strong horizontal bands, central core and wings and expressed stairs, create a somewhat institutional character. I stated that they could be perceived as commercial or university buildings, for example, given the 65-70m lengths of the buildings.

I consider that this is still the case.

The revised façade designs feature potentially less animation and vertical break-up, through reduction of the previously proposed varied shading fins, and removal of the external pull-down blinds.

However, the new vertical shading louvres to Building A provide a strong vertical 'balance' to the horizonal bands of the balcony balustrades.

Further, the revised Ground Floor frontages incorporate increased curvature in the parapet alignment and front courtyard fences, creating an increased residential 'feel' and softer impression, as well as expression of defined frontages and 'grain' at the direct interfaces to the public realm.

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Attachment 21 - Big Housing Build (Collingwood) - 240 Wellington Street, Collingwood - Urban Design Referral

Previous recommendation 3:

Review the main façade designs to increase the vertical grain and rhythm, balanced with the current horizontal emphasis, towards a more granular presentation and residential character.

Response in Post-Consultation Plans:

I note that the perspective renders in the Post Consultation Plans are labelled 'work in progress' and do not fully reflect the design modifications shown in the plans (such as removal of pull-down blinds, and addition of vertical angled shading louvres), so I have not relied on these in making this assessment.

The expressed horizontal bands remain the predominant visual element of the upper-level facades, but I consider that the new vertical angled louvres provide an effective vertical emphasis in Building A. These are not provided in Building B because of its orientation to the north and south (so north shading is provided by balcony overhangs), but the vertical alignment of protruding privacy screens between apartments provides a limited expression of vertical 'grain'.

The Ground Floor expression in both buildings is effective in expressing a regular grain or rhythm in the residential frontages.

The approach to providing greater texture, tactile materials and softer expression at the Ground Floor frontages, with less detail at the upper levels, is appropriate and supported.

Therefore, on balance, and in recognising the particular nature of these buildings, I consider the proposed expression to be acceptable generally.

New recommendation 3A:

I would recommend further consideration of the frontage of Building B, to provide increased vertical expression and 'break up' in the facades.

In making the above comments and recommendation, I recognise the potential and value of relatively simple, refined, unadorned design, and robust responses to the building program and local context. The design team's aptitude in this regard is demonstrated in the Pre-Application Presentation.

Further, as noted above, the integrated design approach for the facades is strongly supported, in balancing contextual responsiveness with amenity considerations.

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4.0 Conclusion

The proposed Homes Victoria development at 240 Wellington Street, Collingwood reflects a highly considered proposal for built form and public realm/landscape works in a complex, diverse urban context and in response to a distinct building program.

The proposal incorporates numerous benefits for the resident community and public, and effective design initiatives, ranging from the site configuration and public space improvements, to residential amenity strategies.

The proposal represents a comprehensive design approach which is demonstrably responsive to context on various levels, and which balances a specific brief/program, site challenges and design aspiration.

I have made limited recommendations to further refine some aspects of the design.

Apart from these recommended refinements, I consider the proposal to be supportable from an Urban Design perspective.

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8.2 Edinburgh Gardens Working Group - Report Back to Council

Reference	D21/149980
Author	Ivan Gilbert - Group Manager Chief Executive's Office
Authoriser	Group Manager Chief Executive's Office

Purpose

1. For Council to consider the report back from the appointed Edinburgh Gardens Working Group.

Critical analysis

History and background

2. Council will recall that it specifically established the Working Group to advise and inform Council on matters relating to the future management of the Gardens, especially in peak periods over summer and public holidays and to include comments on:
   (a) any types of activities suggested as not considered appropriate to be held at the gardens and reasons for same;
   (b) any special conditions considered applicable to particular uses / activities at the gardens;
   (c) the review of the Consumption of Liquor in a Public Place Local Law;
   (d) any considerations which would come under the Council's General Local Law; and
   (e) the Council Order under the Domestic Animals Act 1994.
3. The Working Group's objectives were to seek to achieve an arrangement at Edinburgh Gardens which will establish an environment for all community to have respectful and safe access to visit the gardens for recreation and / or leisure purposes:
   (a) without the need for Council to introduce additional alcohol bans;
   (b) in a manner which will see all users respect the rights and desires of other users to enjoy the gardens peacefully; and
   (c) in a manner which will respect the gardens and local environment including adjacent residents, their properties and the surrounding public laneways and, to properly use the gardens and provided facilities.
4. The goal for the Working Group was to strive for an arrangement that ensures respect for human rights and maximises safety for all users and visitors to the gardens.
5. The Working Group comprised twelve members as follows:
   (a) four local residents;
   (b) one representative from the Fitzroy North Primary School;
   (c) two members drawn from the Edinburgh Gardens sporting community;
   (d) two casual park users; and
   (e) three Councillors.
6. Importantly, the Working Group members included at least three under 35 years of age, persons with differing viewpoints and persons who had been involved in recent representations to the Council regarding management of the Edinburgh Gardens.

7. The Working Group met on a number of occasions and each member was specifically invited to raise any issues which they considered relevant and important to the management and use of the Gardens as referenced in clause 2 above.

8. The Working Group discussed a range of matters with a number of Council representatives and were also able to question Officers and obtain advice on a range of matters which were of particular interest and concern to the members in relation to management of the Gardens.

9. The Working Group was then invited to prepare a listing of issues which they particularly wished to have reported back to the Council. The listing of issues were grouped into subject categories as follows:

   (a) Toilet facilities;

   (b) Management of rubbish;

   (c) Inappropriate activities in adjacent laneways and resident's gardens;

   (d) Signage;

   (e) Disability access issues;

   (f) Ground management;

   (g) Domestic animals and doggy bags;

   (h) Crowd management issues;

   (i) Liquor management;

   (j) Communications/publicity; and

   (k) Miscellaneous items.

10. The specific issues raised by the Working Group members are detailed in **Attachment One** to this report.

Discussion

11. As noted above, the Working Group members at the meetings, were specifically invited to raise any issues of particular concern and to also present questions directly to Council representatives on matters of particular interest or concern in relation to the overall management of the Edinburgh Gardens.

12. In this regard the Members raised a broad range of issues for discussion and presented a range of innovative suggestions for consideration which are summarised in the Attachment hereto. The issues as listed were based upon Member's observation of activities in the Gardens, issues which were considered to be of an overall community concern and in particular, enthusiastically presented a number of suggestions which they wished Council to consider to assist in addressing matters of current concern. The contributions by the Working Group Members is greatly appreciated.

13. The Attachment lists the key items as raised by the Members and also includes a number of responses to those suggestions/requests noting that some matters are now already being addressed with additional resources and servicing levels and a number of other suggestions are now being investigated.

14. Whilst this report focuses on the Edinburgh Gardens Working Group discussions, it is particularly appropriate to note that since the COVID-19 restrictions came into place, park patronage has increased significantly across metropolitan Melbourne.

15. This was notably evidenced over recent week-end activities right across Melbourne with very large crowds gathering in parks, reserves and indeed some grassed centre median spaces to, enjoy the good weather, catch up with friends and family following the COVID lock-down constraints and also take advantage of the outdoor open spaces. Yarra City similarly experienced very large gatherings at a number of its parks, reserves and median lawn areas, including at Edinburgh Gardens, Barkly Gardens and Darling Gardens, each recording large numbers of people and incurring a number of the issues as referenced within this report.

16. Council has as noted in the attachment, already introduced a number of measures to respond to the increased patronage and to address concerns raised by neighbouring residents around noise, public urination and excessive drinking in Edinburgh Gardens and other Yarra locations.

17. These measures include weekend patrols by parks ambassadors, increased cleansing, additional toilets and a proactive communications campaign around appropriate park user behaviour.

18. Council is also currently exploring options for increased park signage to remind visitors about the local laws in place in our Parks. This also includes reviewing innovative signage which will seek to remind people about appropriate behaviours and to be respectful of neighbours when entering and exiting the park, appropriate disposal of rubbish, etc.

19. The referenced communications and education campaign will focus on the following channels:- social media, website, resident groups, radio/print, signage and broader community messaging through letters.

20. With the easing of COVID restrictions and the understandable desire for community to spend more time outdoors with the good weather conditions, Officers are specifically working through what occurred across Yarra over some recent weekends and this will further influence decisions including, the need for additional temporary public toilets, a slightly different approach to bin servicing, the disinfection of laneways, signage at the laneways, increased signage at toilets and messages encouraging people to take their rubbish home with them, etc.

21. The above considerations had also led to the increasing of service levels (e.g. bin clearances and cleaning of public toilets) at other locations across Yarra including such as Barkly Gardens, Darling Gardens, etc.

Options

22. To note the report and the actions in progress to address issues referenced.

Community and stakeholder engagement

23. The members appointed to the Working Group were selected from a listing of community members who had earlier responded to a public invitation to lodge expressions of interest to participate in the Group.

Policy analysis

Alignment to Community Vision and Council Plan

24. The respectful and responsible use of community facilities and services and the saving of expenditure on what may be described as “avoidable works”, would be expected by the wider community

Climate emergency and sustainability implications

25. Respectful and proper use of the gardens and its facilities and the surrounding areas would positively contribute to ensuring a minimum impact on climate emergency related subjects, e.g. the management of waste and rubbish, limiting the need to use chemicals in undertaking extensive cleaning works in adjacent laneways and properties, etc.

Community and social implications

26. Appropriate and respectful use of the gardens and its environs is highly important for the benefit of all users and the adjacent residents.

Economic development implications

27. Not relevant to this report.

Human rights and gender equality implications

28. Appropriate and respectful use of the gardens and its environs is highly important for the benefit of all users and the adjacent residents alike.

Operational analysis

Financial and resource impacts

29. The Council and community have had to incur very substantial costs in requiring to undertake such as:- massive clean-ups after inappropriate and dis-respectful use of facilities and surrounding laneways and private property; the non-responsible disposal of rubbish and damage to facilities. Such costs would be significantly reduced if all visitors to the gardens were to adopt a responsible and respectful approach to conducting their activities whilst at the gardens.

Legal Implications

30. Not relevant to this report.

Conclusion

31. That Council note the report and extend appreciation to the Working Group members for their contributions.

RECOMMENDATION

1. That Council:

   (a) note the Report;

   (b) extend appreciation to the Working Group members for their participation and especially their enthusiasm and the wide range of ideas /suggestion presented back to Council; and

   (c) note actions implemented and in progress to address issues as raised.

Attachments

1⇩ Report from Edinburgh Gardens Working Group

Attachment 1 - Report from Edinburgh Gardens Working Group

Attachment 1

Yarra City Council -- Edinburgh Gardens Working Group

Issues Raised by the Working Group to be Referred to Council:….and Responses / Comments thereon…..

1. ***Toilet Facilities:***

No.	Issue Raised	Response / Update
a	Suggestion that Plans for new toilets be again checked by a consultant for disability compliance and overall population growth perspectives, possible bathrooms needed for disabled persons.	The designs for the new toilets have been prepared with regard to the requirements of AS1428.1 being the relevant accessibility standard required by the National Construction Code. Compliance with the Standard will be confirmed via the Building Survey prior to issuing a building permit. This project will expand the existing capacity of 11 pans in the Park by an additional 17 additional toilet spaces, providing a meaningful boost to public toilet capacity, whilst avoiding new permanent standalone structures at the expense of public open space. This will increase the service level to the community and reduce the need for temporary public toilets. Staff will continue to monitor demand into the future. Additional public toilets, including a Changing Places facility are proposed in facilities to be delivered within Edinburgh Gardens as part of the Brunswick Street Oval precinct redevelopment – and these additional facilities should further help with any future demand.
b	Frequency of cleaning toilets during peak periods;	During the 2020/21 peak periods cleaning services was on-call 8am-8pm. We are planning a similar response in 2021/22.
c	Adequate checking and provision of hand washing detergents, especially during COVID.	During the 2020/21 peak periods cleaning services was on-call 8am-8pm. We are planning a similar response in 2021/22.

Attachment 1 - Report from Edinburgh Gardens Working Group

2. Management of Rubbish:

No.	Issue Raised	Response / Update
a	Possible provision of appropriate "Glass Recycling" Bins;	Recycling bins in parks are regularly contaminated. Unfortunately, on that basis, the effort and expense to collect separately for material that cannot be recycled in not warranted. Rather, we are encouraging Park users to take their waste home with them and will be promoting that option in 2021/22.
b	Improved signage re encouragement to and management of recycling (references made to "*the London experience*");	As noted, we are encouraging Park users to take their waste home with them, and we will be promoting that process in 2021/22. We will be promoting both messages of waste reduction and recycling.
c	Bins being appropriately accessible for persons in wheelchairs or with disability constraints;	This will be assessed as part of the proposed DDA audit of the park – **refer Section 5 below**. If however there are urgent or specific issues, community members are invited to please let Council know and the item can be investigated.
d	Review monitoring of and increasing the frequency of, clearing bins in the peak periods;	Bins are cleared daily and monitored between 12.00 – 9.00 pm on weekends and public holidays.
e	More regular clearing of the Rubbish Collection area near the entrance to the Tennis Courts, not just at peak periods.	Staff are exploring the ability to install sensors on all Park bins and endeavouring to have this system in place during Summer 2021/22. In the meantime, officers will service bins daily during weekdays and monitor same between 12.00 -9.00 pm weekends and public holidays.
f	Monitoring and cleaning up around the bin area re broken glass or other spilt refuse after the bins are cleared;	This is monitored as per (e) above, and as requested.
g	Reference made to Melbourne City Council se of bins being of the "compact recycling" models?	Compacting bins compact material to a point of not being able to be recycled; all materials in such bins thus goes to landfill. Council is exploring options for compacting bins and intend to trial these in Edinburgh Gardens, once a suitable solution is identified. A supplier was engaged previously however they were unable to fulfil their obligation. We are continuing to explore this matter.

Attachment 1 - Report from Edinburgh Gardens Working Group

3. *Inappropriate Activities in Adjacent Laneways and Resident's Gardens:*

No.	Issue Raised	Response / Update
a	This needs to have greater attention, including linking with other items which might/will assist in overcoming the problem – e.g. more toilets... appropriately placed.....	Additional Public Toilets are under construction and additional temporary toilets have been installed around the Park as necessary, to meet demand. Officers will continue to monitor the use of the laneways. If cleansing of the lanes is required, this will be undertaken as was the case in 2020/21. Any property damage or inappropriate behaviour in the laneways should be reported to the Police.

4. *Signage:*

No.	Issue Raised	Response / Update
a	Need to consider people with visual impairment;	This matter will be considered as a component of the Independent Audit referenced in **Section** 5 below.
b	Needs to be attractive, easily understood;	This issue is noted and supported.
c	Temporary and NOT permanent;	The indication was that signage should be temporary in order to avoid clutter, to avoid unsightly signage and importantly and temporary signage is suggested to be more noticeable than permanent signage is, acknowledged and supported.
d	Not too much signage (otherwise people just "don't see" it).	Reference is made to item 4.c above.

5. *Disability Access Issues:*

No.	Issue Raised	Response / Update
a	Audit of the Gardens to review a range of issues impacting access by disabled persons to different sectors in the Gardens and to facilities (*this to be addressed by an Audit*);	**NOTE**: Arrangements are in hand to undertake an independent Audit of the overall Park site in order to identify any issues which do not comply with standards.
b	The need for separate designated (and signed) "drop off" points around the Gardens for disabled drivers and non-disabled drivers.	Officers will investigate if there is adequate disabled parking around the Edinburgh Gardens.

Attachment 1 - Report from Edinburgh Gardens Working Group

6. Ground Management:

No.	Issue Raised	Response / Update
a	The question of a QR Code system being in place to assist in the identification of attendees and also their home suburb and also as to numbers and capacity to communicate warnings if for example, a COVID need arose. etc;	The comments are noted and being investigated.
b	The use or otherwise of "Event Managers", "Park Ambassadors" or possibly an "RSA Officer" system to better plan for and manage crowds and inappropriate behaviour;	Park Ambassadors are being deployed again this season in order to encourage a positive culture, to identify and refer issues for resolution and overall, to assist patrons in the Park.

7. Domestic Animals and Doggy Bags:

No.	Issue Raised	Response / Update
a	Doggy Bag supplies are located to be easily accessible to disabled persons;	Dog owners are required under Council's Local Law to bring their own doggie bags. Only relying on bags provided by Council can encourage people not to carry their own bags and can thus lead to them being "caught out" on the way to or from the Park. All dog owners are encouraged to provide their own doggie bags.

8. Crowd Management Issues:

No.	Issue Raised	Response / Update
a	For possible further consideration? E.g. the setting of behaviour expectations including such as: (i) respect for other Park users; (ii) correct use of toilet facilities (and not local laneways); (iii) appropriate disposal of rubbish; etc through appropriate messaging / signage, and appropriate low key monitoring by Park Ambassadors and Police;	• The Park Ambassador Program will continue to be provided as part of the Parks management approach, to be operationalised from October until end of January 2022. • Council will review public messaging format to seek to support a positive culture in the Park:- e.g. more visibility, more nuanced messaging. • Council will continue to seek collaboration with other Authorities.

Attachment 1 - Report from Edinburgh Gardens Working Group

9. Liquor Management:

No.	Issue Raised	Response / Update
a	**The question of designated zones within the Gardens as "alcohol permitted" and "alcohol free", to assist visitors who may prefer a particular designated area;**	The Local Law and related provisions concerning Public drinking are not drafted in a way to have differing zones within a particular park. Drinking alcohol is allowed between 9am and 9pm in parks. There would also be great difficulty in enforcing zones; it is a very large Park and people can freely move to desired locations as they wish. Footnote: • The option of zones was explored in 2020 and not pursued due to the logistics involved in managing such a scheme – e. g. Capacity of spaces and how to manage them. • If this was a priority direction for Council – would suggest commissioning of a report from an external consultant.
b	**The question of better management of liquor supplies via seeking to limit the delivery of liquor to the Gardens by liquor outlets, including Council seeking co-operation to not enable delivery of alcohol to intoxicated groups;**	This is a liquor licencing issue about deliveries of alcohol and the Council has no specific control or authority
c	**The establishment of identified "delivery areas" to overcome people merely using nearby private property addresses as identification for Uber drivers... delivering food or alcohol...**	This carries a risk of further congregation and may encourage increased alcohol deliveries.
d	**Appropriate persons to manage alcohol consumption issues;**	The Local Law addresses the matter of alcohol consumption within the municipality. Edinburgh Gardens is a public free open space. The Council is not able to manage the sale or delivery of alcohol.

Attachment 1 - Report from Edinburgh Gardens Working Group

10. Communications/Publicity:

No.	Issue Raised	Response / Update
a	The various methods of and opportunities for communicating information about activities scheduled, the "do's and don'ts", signage styles;	One suggestion raised by the Working Group was a QR code on signage which promotes appropriate behaviours at the park, the history of the park, recycling messaging etc. We have started investigations on whether this is a feasible and viable option. QR codes have been installed at Ed Gardens.
b	Structuring communications to reach the desired audience?	This is constantly being monitored and tailored advertising across all digital channels and media outlets is underway (including community radio).
c	Timing of publicity;	To align with the warmer months / busy season.
d	The tried and the proven methods....??	We are constantly investigating different and effective community engagement methods and channels.
e	Should Edinburgh Gardens have its own Social Media platform?	As discussed at the Working Group meeting, a separate platform would dilute the social media audience we have been steadily building over a period of time.

Attachment 1 - Report from Edinburgh Gardens Working Group

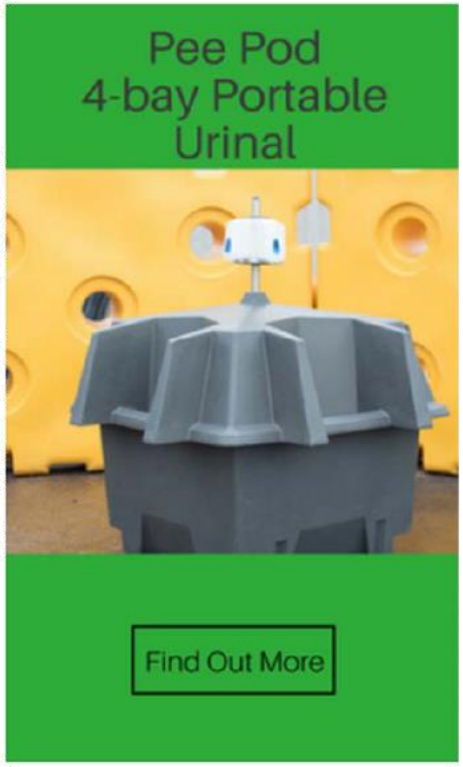
11. Additional Items Raised at Final Meeting:

No.	Issue Raised	Response / Update
a	The placement of portable toilets to: -not be on the soft boggy ground of the oval; AND -not be on sloping sites . There have been issues of toilets being knocked over.	Toilets have been placed in areas suitable to be serviced by maintenance vehicles. This will reduce the nuisance to the park users and the residents when they are being serviced. Toilets are placed on ground as level as possible. Council will monitor the toilet locations Toilets that were intentionally pushed over during the night were a result of vandalism. These incidents have been recorded and the information is been made available to the police.
b	Having regard to lengthy queues and noting the benefits of the following units in many overseas cities, an Investigation into the possibility of installing the innovative "Festival Queue Buster Pee Pod 4 toilets" is requested. *(Refer picture on last page.)*	Council has installed an additional 4-person urinal unit near the tennis courts. The number of toilets and urinals will be monitored on an ongoing basis and additional units will be installed if require. This will be considered as we progress into summer dependant on park numbers as COVID restrictions ease.
c	Request to review the Best Street entry, where additional directional signage to the toilets could be made more visible.	Officers will review this matter.
d	Request for signage to incorporate MAPS for clearer directing.	Officers note that some existing signage does maps. This will be further reviewed.
e	Request to review the car parking arrangements in the Alfred Crescent vicinity such as, to remove all-day parking and to apply controlled timing to parking on week-ends, public holidays and other specified times. Some suggestion was that such timing should apply all year around, as parents and children visiting the park often incur difficulties.	Officers will investigate and consider in the introduction of time restrictions in line with the Council guidelines around any unrestricted parking directly adjacent to Edinburgh Gardens.
f	Investigation into installation of a QR Code system together with placement of innovative specific signage on pathways across the Park, encouraging attendees to observe respectful use of the area and to report inappropriate activities, including such as: - Not playing loud music; - Correct disposal of rubbish;	Officers noted that will be setting out some 10 "A" Frames across the Gardens to display the QR Code. Additionally, intending to modify Bin Sleeves to accommodate the QR Code and this would be expected for next year.

Attachment 1 - Report from Edinburgh Gardens Working Group

g.	Distribution of flyers to nearby residents setting out details of appropriate park use and contact details, phone numbers, etc, of persons / authorities to contact if incidents occur.	Letter to residents, including escalation phone numbers and pathways distributed on week of 27 October 2021.
h	The subject of the placement of some unauthorised advertising signage re the ordering and delivery of alcohol - Uber style to the Park.	Officers noted that the non-authorised signage has been removed. Officers will make contact with the business understood to have placed the signs and request that to be ceased.
i	**The inappropriate use of laneways as toilets was raised again.**	Officers advised that are ramping up cleaning, bin cleaning, sweepers and in addition, staff are on-call all day to observe laneways and to clean up as required.

Attachment 1 - Report from Edinburgh Gardens Working Group



Festival Queue Buster Pee Pod 4

8.3 September 2021 Monthly Finance Report

Reference	D21/162240
Author	Dennis Bastas - Manager Financial Services
Authoriser	Director Corporate, Business and Finance

Purpose

1. For Councillors to note the September 2021 Finance Report and 2021/22 forecast adjustments.

Critical analysis

History and background

2. The report provides the financial performance for Yarra City Council for the period ending 30 Sep 2021 and 2021/22 forecast adjustments.

3. The September 2021 Finance report is provided at **Attachment 1** for noting and discussion.

Discussion

Pandemic COVID-19 Impact on Council Budget

4. Since the inception of the Pandemic COVID-19 to the current date, Council's operating environment and financial position has been, and will continue to be impacted. The impact on Council's financial position, which includes decreased Statutory Fees and Fines (decreased Infringement Notices), User fees (decreased Leisure and Recreational Fees) and the COVID-19 Community Relief package is estimated to now be in the order of $50 million.

Forecast 2021/22

5. During September 2021, management reviewed identified impacts of the COVID-19 pandemic on Council's operating environment. Restrictions on operational capacity identified Council is now forecast to incur a $2M operating loss for 2020/21. This varies significantly from the operating surplus of $8M reported in the 2021/22 adopted budget.

6. The forecast operating loss is primarily driven in the following key areas:

   (a) Statutory Fees and Fines - a reduction in forecast revenue of $9.2M, because of decreased revenue from parking meters and infringement notices;

   (b) User Fees – a reduction in forecast revenue of $4.9M because of closures to Leisure & Recreational facilities; and

   (c) Offset by:

      (i) Provision for Doubtful debts reduced by $1.4M, driven by reduced forecast in infringements;

      (ii) Unbudgeted grants forecast to increase by $0.9M; and

      (iii) Proceeds from disposal of assets forecast to increase from a road discontinuance of $0.6M.

Income Statement 2021/22

7. Variance analysis is prepared based on a comparison of YTD actuals and YTD budget.

8. YTD actual results to YTD budget is unfavourable by $4.6M. This result is driven by the following:

   (a) Statutory fees and fines lower than budget revenue received of $5.1M as a result of reduced traffic activity during the COVID-19 pandemic;

(b) User Fees lower than budgeted of $2.2M as a result of closure of key Recreation and Leisure facilities as required by government restrictions during the COVID-19 pandemic; and

(c) Offset by:

(i) Unbudgeted Operating grants $0.8M higher than budgeted, partially due to the Working for Victoria program; and

(ii) A reduction in the provision of doubtful debts of $0.7M driven by reduced infringement revenue.

September 2021 Capital Works Program

9. The capital works program is subject to regular adjustments by Executive in response to various issues including variations to current projects, substitution in response to changing priorities and urgent new works being identified, and additional external funding obtained for projects.

10. As at 30 September 2021, YTD actuals $4.2M is significantly less than YTD budget of $7.3M driven by constraints in operating capacity as a result of COVID-19 and some delays in the supply chain of materials.

Comments/Discussion

11. Forecasts will be monitored and adjusted throughout 2021/22.

Options

12. No options

Community and stakeholder engagement

13. No external consultation was required.

Policy analysis

Alignment to Council Plan

14. No implications

Climate emergency and sustainability implications

15. No implications

Community and social implications

16. No implications

Economic development implications

17. No implications

Human rights and gender equality implications

18. No implications

Operational analysis

Financial and resource impacts

19. As at 30 September 2021, from a forecast year-end position, Council is anticipating a full year operating deficit of $2M.

Legal Implications

20. No implications

Conclusion

21. As at 30 September 2021, from a forecast year-end position, Council is anticipating a full year operating deficit of $2M.

RECOMMENDATION

1. That Council note the September 2021 Finance Report.

Attachments

1⇩ Finance Report - September 2021

Attachment 1 - Finance Report - September 2021

Finance Report

for the period
1 July 2021 to 30 September 2021

Attachment 1 - Finance Report - September 2021

YARRA CITY COUNCIL
FINANCIAL REPORT
1 July 2021 to 30 September 2021
Dashboard

Income Statement	20/21 YTD Actuals	Full Year Adopted Budget	YTD Budget	YTD Actuals	YTD Variance Fav/(Unfav)	YTD Variance Fav/(Unfav)	Full year forecast	Variance to Full Year Budget Fav/(Unfav)	Forecast variance Fav/(Unfav)
	$'000	$'000	$'000	$'000	$'000	%	$'000	$'000	%
Revenue from ordinary activities									
Rates and charges	115,396	119,991	119,024	119,382	358	0.3%	119,991	-	0.0%
Statutory fees and fines	2,352	34,240	8,937	3,802	(5,135)	(57.5%)	25,040	(9,200)	(26.9%)
User Fees	3,819	32,786	7,457	5,259	(2,198)	(29.5%)	27,821	(4,964)	(15.1%)
Reimbursements	278	1,066	385	480	95	24.7%	1,066	-	0.0%
Grants - Operating	4,007	15,356	4,196	4,992	796	19.0%	16,315	959	6.2%
Grants - Capital	133	3,052	13	238	225	1730.8%	3,052	-	0.0%
Contributions - OSR	45	4,500	1,125	832	(293)	(26.0%)	4,500	-	0.0%
Contributions - Other monetary	290	1,906	434	144	(290)	(66.8%)	1,906	-	0.0%
Net gain/(loss) on disposal	2,446	50	-	-	-	0.0%	650	600	1200.0%
Other Income	222	1,079	250	303	53	21.2%	1,079	-	0.0%
Total Revenue	**128,988**	**214,026**	**141,821**	**135,432**	**(6,389)**	**(4.5%)**	**201,422**	**(12,604)**	**(5.9%)**
Expenses from ordinary activities									
Employee Costs	23,659	96,635	25,343	24,819	524	2.1%	96,654	(20)	(0.0%)
Materials and services	15,729	75,720	18,952	18,476	476	2.5%	75,499	222	0.3%
Bad and doubtful debts	409	5,000	1,360	661	699	51.4%	3,561	1,439	28.8%
Depreciation	5,807	24,550	6,194	6,033	161	2.6%	24,550	-	0.0%
Amortisation - right of use assets	263	1,145	259	289	(30)	(11.6%)	1,145	-	0.0%
Borrowing costs	475	1,387	466	463	3	0.6%	1,287	100	7.2%
Interest Expenses - Leases	35	119	30	36	(6)	(20.0%)	119	-	0.0%
Other Expenses	69	631	80	81	(1)	(1.3%)	631	-	0.0%
Total Expenses	**46,446**	**205,188**	**52,684**	**50,858**	**1,826**	**3.5%**	**203,446**	**(1,742)**	**(0.8%)**
Net Result	**82,542**	**8,838**	**89,137**	**84,574**	**(4,563)**	**(5.1%)**	**(2,024)**	**(10,862)**	**(122.9%)**

Cash Position	Full year Budget Target	Current period Result	Forecast result
Liquidity Ratio	1.9	2.1	1.7

Greater detail is included in the VAGO Indicators section on page 14

VAGO Ranges for Liquidity

Low Risk	Medium Risk	High Risk
> 1	0.75 - 1	< 0.75

Transfers to/from the Open Space Reserve	Balance as at 30/06/2021 $'000	Current period balance $'000	Movement Inc/(Dec) $'000	Comments
Open Space Reserve	18,871	19,673	802	Movement in contributions received to fund development of specific community assets YTD.

Greater detail is included in the Open Space Reserves section on page 12

Borrowings	Balance as at 30/06/2021 $m	Current period balance $m	Movement Inc/(Dec) $m	Comments
Total Borrowings	41.2	40.9	(0.3)	$32.5M borrowings, due to expire November 2021.

Greater detail is included in the Borrowings section on page 13

Debtors	Balance as at 30/06/2021 $'000	Current period balance $'000	Movement Inc/(Dec) $'000	Comments
Total Debtors	18,984	119,732	100,748	Debtors have increased due to the raising of 2021/22 Rates Notice and 1st quarter Fire Services Levy. Balance will progressively reduce throughout the year and convert to cash as rate instalments are paid.

Greater detail is included in the Debtors section on page 10-11

Legend:

> (100,000) and (5%)	Unfavourable variance
> = 100,000 and 5%	Favourable variance

No highlight indicates that the item is within tolerance

Attachment 1 - Finance Report - September 2021

YARRA CITY COUNCIL
FINANCIAL REPORT
1 July 2021 to 30 September 2021

Income Statement by Revenue and Expenditure with Variance Commentary

Income Statement	20/21 YTD Actuals	YTD Budget	YTD Actuals	YTD Variance Fav/(Unfav)	YTD Variance Fav/(Unfav)	Full Year Adopted Budget	Full Year Forecast	Variance to Full Year Budget Fav/(Unfav)	Forecast variance Fav/(Unfav)	Variance Comments (including variance comments for forecast changes)
	$'000	$'000	$'000	$'000	%	$'000	$'000	$'000	%	
Revenue from ordinary activities										
Rates and charges	115,396	119,024	119,382	358	0.3%	119,991	119,991	-	0.0%	
Statutory fees and fines	2,352	8,937	3,802	(5,135)	(57.5%)	34,240	25,040	(9,200)	(26.9%)	YTD unfavourable variance to budget is driven by the COVID-19 pandemic. COVID-19 restrictions have reduced parking activity resulting in decreased revenue from parking meters and infringement notices. Full year forecast is expected to finish under budget and normal activity levels are not anticipated to reach budgeted activity levels until December 2021.
User Fees	3,819	7,457	5,259	(2,198)	(29.5%)	32,786	27,821	(4,965)	(15.1%)	YTD unfavourable variance to budget is driven by the COVID-19 pandemic. COVID-19 restrictions resulted in closure of Leisure & Recreational facilities, reducing user fees significantly. Full year forecast is expected to finish under budget and normal activity levels are not anticipated to reach budgeted activity levels until April 2022.
Reimbursements	278	385	480	95	24.7%	1,066	1,066	-	0.0%	
Grants - Operating	4,007	4,196	4,992	796	19.0%	15,356	16,315	959	6.2%	YTD favourable variance driven by timing of grants and unbudgeted grants received that will be offset directly by employee costs and materials and services. Full year forecast was adjusted to reflect unbudgeted grants received.
Grants - Capital	133	13	238	225	1730.8%	3,052	3,052	-	0.0%	YTD favourable variance due to one-off unbudgeted capital grants for Fitzroy Bowl revitalisation, Alphington Park and Ramsden reserve.
Contributions - OSR	45	1,125	832	(293)	(26.0%)	4,500	4,500	-	0.0%	YTD unfavourable variance to budget is due to timing.
Contributions - Other monetary	290	434	144	(290)	(66.8%)	1,906	1,906	-	0.0%	YTD unfavourable variance driven by Developer Contribution being lower than expected as a result of timing.
Net gain/(loss) on disposal	2,446	-	-	-	0.0%	50	650	600	1200.0%	Variance to forecast from expected payment for road discontinuance.
Other Income	222	250	303	53	21.2%	1,079	1,079	-	0.0%	
Total Revenue	**128,988**	**141,821**	**135,432**	**(6,389)**	**(4.5%)**	**214,026**	**201,422**	**(12,604)**	**(5.9%)**	
Expenses from ordinary activities								-		
Employee Costs	23,659	25,343	24,819	524	2.1%	96,635	96,654	(19)	(0.0%)	
Materials and services	15,729	18,952	18,476	476	2.5%	75,720	75,499	221	0.3%	
Bad and doubtful debts	409	1,360	661	699	51.4%	5,000	3,561	1,439	28.8%	YTD favourable variance to budget driven by the COVID-19 pandemic reducing the volume of parking infringements issued YTD, also reducing the level of doubtful debts expense. Variance to the forecast is proportionate to expected reduction in statutory fees collected for the remainder of the year.
Depreciation	5,807	6,194	6,033	161	2.6%	24,550	24,550	-	0.0%	
Amortisation - right of use assets	263	259	289	(30)	(11.6%)	1,145	1,145	-	0.0%	
Borrowing costs	475	466	463	3	0.6%	1,387	1,287	100	7.2%	Variance to the forecast due to delay in refinance and potential lower interest rate than budgeted.
Interest Exp - Leases	35	30	36	(6)	(20.0%)	119	119	-	0.0%	
Other Expenses	69	80	81	(1)	(1.3%)	631	631	-	0.0%	
Total Expenses	**46,446**	**52,684**	**50,858**	**1,826**	**3.5%**	**205,188**	**203,446**	**(1,742)**	**(0.8%)**	
Net Result	**82,542**	**89,137**	**84,574**	**(4,563)**	**(5.1%)**	**8,838**	**(2,024)**	**(10,862)**	**(122.9%)**	

Legend:

> (100,000) and 5%	Unfavourable variance
> = 100,000 and 5%	Favourable variance

Attachment 1 - Finance Report - September 2021

YARRA CITY COUNCIL
FINANCIAL REPORT
1 July 2021 to 30 September 2021
Debtors

Rate Debtors					
Aging (years)	Total $'000	<1 $'000	1 $'000	2 $'000	3+
Residential	74,176	67,705	3,389	1,482	1,600
Commercial	19,182	17,800	976	296	109
Industrial	5,677	5,278	264	106	29
FSL - Residential	6,260	5,730	303	116	111
FSL - Commercial	7,188	6,687	355	109	37
FSL - Industrial	2,750	2,578	26	109	36
FSL - Public Benefit	86	80	2	4	1
FSL - Vacant	57	53	3	0	1
FSL - Interest	47	-	8	22	17
Legal Fees	61	-	5	31	26
Bridge Road Special Charge	123	116	5	2	0
Garbage & Other	37	32	2	1	1
Sub Total	**115,216**	**105,816**	**5,338**	**2,279**	**1,783**

Parking Debtors	Balance as at 30/06/2021 $'000	Current period balance $'000	Movement Inc/(Dec) $'000	Comments
	1,581	855	(726)	Movement in additional parking infringement debtors raised less payments received and debt provision.

Parking Debtors Aging

Aging (days)	Total	Current	30	60	90+
	855	262	265	372	(44)

General/Sundry Debtors	Balance as at 30/06/2021 $'000	Current period balance $'000	Movement Inc/(Dec) $'000	Comments
	4,135	3,661	(474)	Movement in additional debtors raised less payments received. No adjustment to debt provision at this time.

General/Sundry Debtors Aging

Aging (days)	Total $'000	Current $'000	30 $'000	60 $'000	90+ $'000
Sundry Debtors	1,226	530	96	367	233
Provision for Doubtful Debt	(2,616)	0	0	0	(2,616)
Property development applications	1,102	393	25	65	619
Animal Debtors	32	9	3	0	19
Misc. permits for advertising and footpath occupation	39	(2)	3	0	39
Local Laws Debtors	11	0	6	0	5
Salary Sacrifice	2	2	0	0	0
Fines and Costs	1,593	1,593	0	0	0
Asset Protection applications	490	(3)	36	14	443
MCC Superannuation	0	0	0	0	0
GST Clearing	1,309	1,309	0	0	0
Workcover wages claims	45	45	0	0	0
Fines Victoria Cheques - Parking	427	427	0	0	0
S/Total	**3,661**	**4,304**	**168**	**447**	**(1,258)**

Attachment 1 - Finance Report - September 2021

YARRA CITY COUNCIL
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1 July 2021 to 30 September 2021
Open Space Reserve

Council receives contributions specifically for Open Space as part of development permits. This reserve is then expended on eligit open space projects. Contributions are received into Council's income statement first, as they are required to be recognised as rev before being transferred into the reserve.

Open Space Reserve Account	Amount $'000
Opening Balance as at 30 June 2021	18,871

Funds Received (Transfers to Reserve)	Amount $'000
8 Hunter St Richmond	74
10 Valiant St Abbotsford	55
32-34 Bedford St Collingwood	182
210 Alexandra Pde Clifton Hill	172
20 Tyson St Richmond	66
245-251 Swan St Richmond	284
Total	**832**

Projects (transfers from Reserve)	Amount $'000
Park extension and redevelopment - Gwynne Street, Cremorne	10
Park extension and redevelopment - Stephenson Reserve, Cremorne	10
Citizens Park, Richmond - New playground	8
Atherton Reserve, Fitzroy - Fitness equipment	0
Alphington Park - Playground	1
Total	**29**

Open Space Reserve Account	Amount $'000
Closing balance as at September	19,673

Attachment 1 - Finance Report - September 2021

YARRA CITY COUNCIL
FINANCIAL REPORT
1 July 2021 to 30 September 2021
Financial Sustainability Indicators

VAGO Indicators			VAGO Ranges			Commentary
Indicator/Description	**Formula**	**Current Period Result**	**Low Risk**	**Medium Risk**	**High Risk**	**It should be noted that all Financial sustainability indicators are intended to be measured on an annual basis to ensure an accurate picture is presented.**
Net Result (%)	**Net Result / Total Revenue**	**62.4%**	> 0%	-10% - 0%	< -10%	YTD result ahead of budget due to the annual rates being raised in August 2021. The forecast final result is expected be less than zero and fall in the medium risk range.
A positive result indicates a surplus, and the larger the percentage, the stronger the result. A negative result indicates a deficit. Operating deficits cannot be sustained in the long term. The net result and total revenue are obtained from the comprehensive operating statement.						
Liquidity (ratio)	**Current assets / Current liabilities**	**2.1**	> 1.0	0.75 - 1.0	< 0.75	YTD result ahead of budget due to the annual rates being raised in August 2021. The forecast final result expected to be unfavourable to budget but still in the low risk range.
This measures the ability to pay existing liabilities in the next 12 months. A ratio of one or more means there are more cash and liquid assets than short-term liabilities.						
Internal financing (%)	**Net operating cash flow / Net capital expenditure**	**37%**	> 100%	75% - 100%	< 75%	YTD result in the high risk range as the net capital expenditure is high in comparison to the net operating cash flow. The forecast final result is expected to be in the medium risk range.
This measures the ability of Council to finance capital works from generated cash flow. The higher the percentage, the greater the ability for Council to finance capital works from their own funds. Net operating cash flow and net capital expenditure are obtained from the cash flow statement.						
Indebtedness (%)	**Non-current liabilities / own-sourced revenue**	**8.1%**	< 40%	40% - 60%	> 60%	YTD result in the low risk range with the forecast final result expected to stay in the low risk range after the refinancing of Council's borrowings.
Comparison of non-current liabilities (mainly comprising borrowings) to own-sourced revenue. The higher the percentage, the less Council is able to cover non-current liabilities from the revenues Council generates itself. Own-sourced revenue is used, rather than total revenue, because it does not include grants or contributions.						
Capital replacement (ratio)	**Cash outflows for property, plant and equipment / Depreciation**	**1.3**	>1.5	1.0 - 1.5	< 1.0	YTD result under budget. Capital spend is expected to increase to exceed depreciation although COVID-19 restrictions are expected to impact to capital expenditure during the first half of 2021/22.
Comparison of the rate of spending on infrastructure with depreciation. Ratios higher than 1:1 indicate that spending is faster than the depreciation rate. This is a long-term indicator, as capital expenditure can be deferred in the short term if there are insufficient funds available from operations, and borrowing is not an option. Cash outflows for infrastructure are taken from the cash flow statement. Depreciation is taken from the comprehensive operating statement.						
Renewal gap (ratio)	**Renewal and upgrade expenditure/ Depreciation**	**0.6**	>1.0	0.5 - 1.0	<0.5	YTD result in the medium risk range as renewal and upgrade expenditure under budget. Forecast full year result expected to improve with capital spend increasing. COVID-19 restrictions are expected to impact renewal and upgrade expenditure during the first half of 2021/22.
Comparison of the rate of spending on existing assets through renewing, restoring, and replacing existing assets with depreciation. Ratios higher than 1.0 indicate that spending on existing assets is faster than the depreciation rate. Similar to the investment gap, this is a long-term indicator, as capital expenditure can be deferred in the short term if there are insufficient funds available from operations, and borrowing is not an option. Renewal and upgrade expenditure are taken from the statement of capital works. Depreciation is taken from the comprehensive operating statement.						

Local Government Performance Reporting Framework Indicators					
Indicator/Description	**Measure**	**2020-21 Result**	**Current Period Result**	**Variance**	**Commentary**
Liquidity					
L1	Current assets compared to current liabilities	123.4%	212.7%	89.3%	YTD result higher than budget due to rates being raised in August 2021. Forecast full year expected to be less than budget but above the target in the LTFP of 140%.
L2	Unrestricted cash compared to current liabilities	13.3%	19.9%	6.7%	YTD result impacted negatively by the capital works carried forward from 2020/21 as well as the significant balance of grants received where the funding obligations have not been met. Forecast full year result expected to be unfavourable to budget due the decrease in cash to be received from operations.
Obligations					
O1	Asset renewal as a % of depreciation	107.3%	62.6%	(44.7%)	YTD result in the high risk range as renewal and upgrade expenditure under budget. Full year result expected to improve with capital spend increasing. COVID-19 restrictions are expected to impact renewal and upgrade expenditure during the first half of 2021/22.
O2	Loans and borrowings as a % of rates	35.5%	34.2%	(1.2%)	YTD result in line with prior year's result.
O3	Loans and borrowings repayments as a % of rates	2.7%	0.9%	(1.8%)	YTD result impacted by rates raised in August 2021 and the full year result will be impacted by the repayment of $32.5 million in November and be in line with budget.
O4	Non-current liabilities as a % of own source revenue	7.9%	8.1%	0.2%	YTD result impacted by timing of revenues from operations. Forecast full year result expected to be unfavourable to budget due to the decrease in own source revenue.
Operating Position					
OP1	Adjusted underlying surplus (or deficit) as a % of underlying revenue	(9.0%)	56.0%	65.0%	YTD result impacted by rates being raised in August 2021. Indicator will reduce progressively over the course of the financial year with forecast full year result expected to be unfavourable to budget due to the forecast decrease in revenue.

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YARRA CITY COUNCIL
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Borrowings

Amount $m	Lender	Type	Term years	Maturity Date	Balance as at 30/06/2021 $m	Current period balance $m	Movement Inc/(Dec)	Comments
$32.5M	NAB	Interest only	7	2021	32.5	32.5	-	Interest only, expires November 2021
$13.5M	CBA	Principal and interest	10	2027	8.7	8.4	(0.3)	YTD repayments made (approx. $300k per quarter)
					41.2	**40.9**	**(0.3)**	

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YARRA CITY COUNCIL
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Capital Works Program with Variance Commentary

Adopted Budget Classification	Full Year Adopted Budget	Full year Adjusted Budget	YTD Budget	YTD Actuals	YTD Variance Fav/(Unfavourable)	YTD Variance Fav/(Unfavourable)	Full year forecast	Variance to Full Year Adjusted Budget Fav/(Unfavourable)	Forecast variance Fav/(Unfavourable)	Variance Analysis/Comments (including explanation of budget movements)
	$'000	$'000	$'000	$'000	$'000	%	$'000	$'000	%	
Property										
Buildings	15,850	17,257	3,836	1,165	2,672	69.6%	17,237	20	0.1%	The construction industry shutdown from 20 September to 01 October 2021, as per government directive. All works stopped during this period. All scoping works requiring on site investigations also stopped. Contractors and Sub contractors have a set number of sites per week. This reduces capacity at each site due to availability and can extend the program dates. Supply chain disruption (materials in short supply) has and will continue to occur. Some subcontractors are re-negotiating signed contract with the head contractor- claiming financial losses as a result of restrictions. Replacement sub-contractors are quoting higher costs. This may translate to project cost over-runs.
Total buildings	**15,850**	**17,257**	**3,836**	**1,165**	**2,672**	**69.6%**	**17,237**	**20**	**0.1%**	
Total property	**15,850**	**17,257**	**3,836**	**1,165**	**2,672**	**69.6%**	**17,237**	**20**	**0.1%**	
Plant and equipment										
Computers and telecommunications	1,906	2,664	250	68	182	72.9%	2,664	-	0.0%	Orders have been placed however, suppliers are struggling to obtain equipment (as most equipment is sourced from overseas). On site access/restrictions to Council buildings may also delay delivery.
Fixtures, fittings and furniture	532	150	-	5	(5)	0.0%	150	-	0.0%	
Library books	630	630	183	84	99	54.2%	630	-	0.0%	Orders have been placed however, suppliers are struggling to obtain books and equipment.
Plant, machinery and equipment	2,204	3,021	15	594	(579)	(3861.0%)	3,024	(3)	(0.1%)	The allocation for passenger cars has been paid earlier than expected (hence the unfavourable variance).
Total plant and equipment	**5,272**	**6,465**	**448**	**751**	**(303)**	**(67.7%)**	**6,468**	**(3)**	**(0.0%)**	
Infrastructure										
Bridges	110	110	-	-	-	0.0%	110	-	0.0%	
Drainage	3,190	3,956	112	248	(136)	(122.2%)	3,956	-	0.0%	Refer note for roads
Footpaths and cycleways	3,691	3,666	427	390	37	8.6%	3,559	107	2.9%	Refer note for roads
Other infrastructure	4,015	3,942	291	132	160	54.8%	3,942	(0)	(0.0%)	LAPM and other transport projects have been delayed due to the industry shutdown from 20 September to October 1st. Shortage of available contractors and materials will translate to procurement delays and likely increase in costs.
Parks, open space and streetscapes	10,129	10,186	1,272	175	1,097	86.2%	10,189	(3)	(0.0%)	The construction industry shutdown from 20th September to October 1st. With reduced capacity limits, supply chain issues and contractor availability further delay in works is expecting to program delivery dates.
Roads	6,009	6,268	930	1,366	(436)	(46.9%)	6,163	105	1.7%	The roads program at this point in time is ahead of projections but this is expected to change due to the shutdown during 20th September to 01 October 2021. The approvals process (from external bodies e.g. VicRoads) in the past normally was two weeks, now takes two months. There is a looming shortage of materials (especially drainage) which will impact project delivery. The price for construction materials has increased. Contractor crews have reduced on jobsites. This will push out delivery times as access to specialist crews is restricted.
Waste management	75	75	-	-	-	0.0%	75	-	0.0%	
Total infrastructure	**27,220**	**28,204**	**3,032**	**2,311**	**721**	**23.8%**	**27,995**	**209**	**4.6%**	
Total capital works expenditure	**48,342**	**51,925**	**7,317**	**4,227**	**3,090**	**42.2%**	**51,700**	**226**	**0.4%**	

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YARRA CITY COUNCIL
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For Period 03 - September

	Current Month			YTD				Full Year		
	September Actual	September Budget	September Variance Fav/(Unfav)	20/21 CL Actuals YTD	21/22 CL Actuals YTD	21/22CL Bud YTD	Actuals vs Budget YTD Variance	21/22 CL Bud Adopted Full Year	Current Forecast Full Year	Budget vs Forecast Full Year Variance
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Revenue from ordinary activities										
Rates and charges	(62)	(4)	(58)	115,396	119,382	119,024	358	119,991	119,991	0
Statutory fees and fines	600	3,412	(2,812)	2,352	3,802	8,937	(5,135)	34,240	25,040	(9,200)
User Fees	328	2,509	(2,180)	3,819	5,259	7,457	(2,198)	32,786	27,821	(4,964)
Reimbursements	57	119	(61)	278	480	385	95	1,066	1,066	0
Grants - Operating	1,379	1,676	(296)	4,007	4,992	4,196	796	15,356	16,315	959
Grants - Capital	78	4	74	133	238	13	225	3,052	3,052	0
Net gain/(loss) on disposal of property, infrastru	0	0	0	2,446	0	0	0	50	650	(3,850)
Other Income	63	19	45	222	303	250	53	1,079	1,079	(826)
Contributions - OSR	702	375	327	45	832	1,125	(293)	4,500	4,500	4,450
Contributions - monetary	53	128	(75)	290	144	434	(290)	1,906	1,906	826
	3,199	8,237	(5,038)	128,988	135,432	141,821	(6,389)	214,026	201,422	(12,606)
Expenses from ordinary activities										
Employee Costs	10,354	10,684	330	23,659	24,819	25,343	524	96,635	96,654	(19)
Materials and services	7,278	6,247	(1,031)	15,729	18,476	18,952	476	75,720	75,499	221
Bad and doubtful debts	126	315	189	409	661	1,360	699	5,000	3,561	1,439
Depreciation	1,971	2,013	42	5,807	6,033	6,194	161	24,550	24,550	0
Amortisation - right of use assets	94	81	(13)	263	289	259	(30)	1,145	1,145	0
Borrowing costs	152	229	77	475	463	466	3	1,387	1,287	100
Interest Exp - Leases	12	10	(2)	35	36	30	(6)	119	119	0
Other Expenses	27	(16)	(43)	69	81	80	(1)	631	631	0
	20,014	19,563	(451)	46,446	50,858	52,684	1,826	205,188	203,445	1,742
	(16,815)	(11,326)	(5,489)	82,542	84,574	89,137	(4,563)	8,838	(2,023)	(10,864)

Attachment 1 - Finance Report - September 2021

YARRA CITY COUNCIL
FINANCIAL REPORT
1 July 2021 to 30 September 2021
Balance sheet

	Balance as at 30/06/2021 $'000	Balance as at period end $'000	Movement Inc/(Dec) $'000	Comments
ASSETS				
Current Assets				
Cash and cash equivalents	78,930	82,655	3,725	
Other financial assets	10,000	-	(10,000)	Term deposit redeemed.
Receivables - Rates	13,268	115,216	101,948	Rates for 2021/22 were raised in August 2021. Receivable reduces with each payment instalment received. Balance expected to significantly reduce by 30 June 2022.
Receivables - Parking	1,581	855	(726)	Infringement debtors raised less payments and debt provision.
Receivables - Other	4,135	3,661	(474)	
Accrued income	14	27	13	
Prepayments	1,389	67	(1,322)	
Inventories	96	96	(0)	
Assets Held for Resale	-	-	-	
Total Current Assets	**109,412**	**202,577**	**93,165**	
Non-Current Assets				
Non-current receivables	-	-	-	
Financial assets	5	5	(0)	
Property, infrastructure ,plant and equipment	2,025,671	2,023,924	(1,747)	Movement due to work in progress less depreciation expense for PPE YTD.
Right-of-use assets	2,374	2,085	(289)	Movement due to additional right of use assets less YTD depreciation expense.
Total Non-Current Assets	**2,028,050**	**2,026,014**	**(2,036)**	
TOTAL ASSETS	**2,137,462**	**2,228,591**	**91,129**	
LIABILITIES				
Current Liabilities				
Payables	11,240	1,321	(9,919)	Payments have been made which reduce the payables owing amount. This will vary during the financial year.
Fire Services Levy	6,026	21,798	15,772	Raised at the same time as Rates for the financial year. Payments made quarterly to the SRO which will reduce the liability.
Trust funds	5,828	6,796	968	The movement is mainly due to holding trusts and bonds.
Accrued Expenses	6,752	5,794	(958)	Accruals raised for expenditure not yet paid. This will vary during the financial year. Accruals mainly include contract payments and utilities.
Income in advance	5,703	5,554	(149)	Movement mainly due to a grant income unspent year to date.
Employee benefits	18,139	19,616	1,477	Increase in employee benefits liability due to less leave being taken during COVID-19.
Interest-bearing liabilities	33,818	33,493	(325)	Reduction in the loan due to the repayment of the loan principal.
Lease liabilities	1,165	880	(285)	Reduction in lease liabilities as a result of lease payments.
Total Current Liabilities	**88,670**	**95,252**	**6,582**	
Non-Current Liabilities				
Non-current employee benefits	1,435	1,407	(28)	
Non-current interest bearing liabilities	7,385	7,385	0	
Non-current lease liabilities	1,347	1,347	0	
Non-current Trust Liability	377	379	2	
Total Non-Current Liabilities	**10,544**	**10,518**	**(26)**	
TOTAL LIABILITIES	**99,214**	**105,770**	**6,556**	
NET ASSETS	**2,038,247**	**2,122,821**	**84,575**	
Represented by:				
Accumulated surplus	666,789	655,859	(10,930)	
Asset revaluation reserves	1,362,635	1,362,635	(0)	
Other reserves	18,950	19,752	802	
Suspense Accounts	(0)	-	0	
Retained Earnings	(10,127)	84,575	94,702	Net result for the year YTD.
EQUITY	**2,038,247**	**2,122,821**	**84,574**	

Attachment 1 - Finance Report - September 2021

YARRA CITY COUNCIL
FINANCIAL REPORT
1 July 2021 to 30 September 2021
Cash Flow Statement

	Balance as at period end $'000
Cash Flows from Operating Activities	
Rates and charges	31,806
Statutory fees and fines	6,753
User fees	2,327
Grants - operating	4,992
Grants - capital	238
Contributions - monetary	976
Interest received	46
Trust funds and deposits taken	6,231
Other receipts	1,739
Net GST refund/(payment)	1,486
Payments to Employees	(23,370)
Payments to Suppliers	(25,811)
Trust funds and deposits repaid	(4,441)
Net Cash Provided by Operating Activities	**2,972**
Cash Flows from Investing Activities	
Payments for property, infrastructure, plant and equipment	(8,079)
Proceeds from sale of property, infrastructure, plant and equipment	(59)
Payments for investments	-
Proceeds from sale of investments	10,000
Net Cash (Used in) Investing Activities	**1,862**
Cash Flows from/(used in) Financing Activities	
Finance costs	(463)
Repayment of borrowings	(325)
Interest paid - lease liability	(36)
Repayment of lease liabilities	(285)
Net Cash (Used In) Financing Activities	**(1,109)**
Cash Balances	
Change in Cash Held	3,725
Cash at beginning of year	78,930
Cash at the End of the Financial Period	**82,655**

Council needs to fund the following items from the current cash balance. This may include expenses associated with revenue received in a previous financial year (e.g.: grants)

Future items to be funded	$'000
Capital Carry Forwards	8,173
Capital Grants	21,232
Other Grant Carry Overs	2,001
Trust Funds and deposits	12,585
Open Space Reserve to be cash backed	19,673
Total	**63,664**

9.1 Notice of Motion No.15 of 2021 – Open space and pop-up parks

Reference	D21/164357
Author	Ivan Gilbert - Group Manager Chief Executive's Office
Authoriser	Group Manager Chief Executive's Office

I, Councillor Edward Crossland, hereby give notice that it is my intention to move the following motion at the Ordinary Meeting of Council to be held on 9 November 2021:

"1. That Council:

(a) acknowledges the need for a significant increase in open space to meet current and future community needs, and looks forward to the delivery of new open spaces in line with the Open Space Strategy and Council Plan 2021 - 2025;

(b) recognises that in light of the pandemic and the emphasis on the importance of open space to the health and wellbeing of the community, that where possible, opportunities to bring forward and or different ways of delivering new and expanded open space, including the importance of retaining existing open space, should be considered;

(c) request officers to bring a report to Council this calendar year, outlining potential options to establish a number of pop-up parks/ park extensions as soon as possible, either on Council, State, or private land (subject to negotiation) on a temporary or permanent basis; and

(d) request officers to update Council as soon as possible on the development of an Acquisition Policy for future open space and community facilities."

Background

The City of Yarra has a significant shortfall of open space to meet current and future community needs, which is captured in the Yarra Open Space Strategy 2020, with Collingwood, Fitzroy, Richmond, and Cremorne having the greatest shortfall.

The Yarra Open Space Strategy 2020 provides an overarching vision and direction for the future provision, planning, design, and management of open space in Yarra. It considers current challenges and pressures and establishes how these can be addressed with an expanded and improved open space network.

In response to the pandemic, open space is more important than ever, and greater efforts are required to bring forward the provision of open space in the local area.

Pop-up parks/ park extensions can be facilitated by utilising low-cost treatments to allow for rapid implementation, such as has been facilitated in numerous locations locally and internally, with some local examples in Yarraville, West Footscray, and adjacent to Queen Victoria Market.

RECOMMENDATION

1. That Council:

   (a) acknowledges the need for a significant increase in open space to meet current and future community needs, and looks forward to the delivery of new open spaces in line with the Open Space Strategy and Council Plan 2021 - 2025;

   (b) recognises that in light of the pandemic and the emphasis on the importance of open space to the health and wellbeing of the community, that where possible, opportunities to bring forward and or different ways of delivering new and expanded open space, including the importance of retaining existing open space, should be considered;

   (c) request officers to bring a report to Council this calendar year, outlining potential options to establish a number of pop-up parks/ park extensions as soon as possible, either on Council, State, or private land (subject to negotiation) on a temporary or permanent basis; and

   (d) request officers to update Council as soon as possible on the development of an Acquisition Policy for future open space and community facilities.

Attachments

There are no attachments for this report