

Mitigation Measures Table

planning&co

SSD- 79276958

Infill Affordable Housing

59-63 Trafalgar Avenue, and 1A & 1B Valley Road, Lindfield

Environmental Impact	Mitigation Measure	Residual Impact
<i>Traffic and Transport</i> (Updated Traffic Impact Assessment and Construction Traffic Management Plan)	Construction Traffic - Where possible, contractor parking is to be on site - Vehicle to enter and exit site in a forward direction - Use of an on-street Works Zone to accommodate for trucks during construction hours - Truck drivers to be notified of routes to use  Figure 5: Truck Routes	Low

	• Traffic Guidance Scheme to be prepared. • Maintenance of footpaths for public use with appropriate boarding during construction Operational Traffic • 317 parking spaces provided, greater than requirement.	
<i>Noise and Vibration (Revised Construction Noise & Vibration Management Plan and Revised Acoustic Design and Construction Advice)</i>	Construction Noise and Vibration The following mitigation measures will be implemented: • Use of noise-generating equipment only used Monday to Friday 7:00am-5:pm and Saturday 8:00am to 12:00pm, with no work on Sundays or Public Holidays. • All staff undertake Noise and Vibration induction • Implementation of appropriate community liaison procedure, including noise and vibration management and noise and vibration compliant procedure and continual liaison with potentially affected receivers. • Implementation of a noise and vibration monitoring and reporting programme, where necessary • Use of temporary noise barriers (where feasible and reasonable) • Use of quietest and lowest vibration generating available equipment (where feasible and reasonable) • Excavation methodology adopted for any required rock excavation • Dilapidation survey of adjacent buildings where there is any risk of damage • Periods of respite where activities produce noise exceeding 75 dB(A) at nearby residences • Engines switched off when vehicles are stopped for greater than 5 minutes. Operational Noise and Vibration The following mitigation measures will be implemented: • 6.38mm laminated glazing on all bedrooms and habitable areas, with standard glazing for all wet areas with airtight seals on airgaps around windows and sliding components • Building materials compliant with the BCA to ensure acoustic privacy with a full internal acoustic privacy assessment undertaken after construction • A full mechanical noise emission assessment undertaken after construction to certify noise emission levels will not exceed standards. • (For level 3 and below) Air condenser units must not exceed a sound pressure level of 50 dB(A) 1 metre from the unit. Units must be less than 1m in height and at least 2m from balconies with isolation from wall with rubber pads.	Low

	Balcony balustrades must be of solid construction, minimum 1.2m in height and surface density greater than 15 kg/sqm. • (For level 4 and above) Air condenser units must not exceed a sound pressure level of 53 dB(A) 1 metre from the unit. Units must be less than 1m in height and at least 2m from balconies with isolation from wall with rubber pads. • Fans must not exceed a sound pressure level of 50 dB(A) 1 metre from the unit and be isolated from the building structure. • Pumps should be the highest efficiency and use an efficient muffler or silencer. • All vibration generating equipment will be isolated from the building structure using impact isolation mounts. • Basement level carpark to be constructed in a manner which reduces noise and vibration through architectural features and material use. • A building noise management plan will be considered to protect the acoustic amenity • All building materials to be tested and certified.	
<i>Water Management (Revised Stormwater Management Report)</i>	Stormwater Management • Compliant 20kL rainwater tank and 126.04m³ on-site detention tank provided • Stormwater to be disposed into proposed kerb inlet pit connected to new pit downstream along 55 Trafalgar Avenue.	Low
<i>Ground and Groundwater Conditions (Geotechnical Investigation Report, Dewatering Management Plan and Hydrogeology Report)</i>	• Foundation design: - Unless an allowance for differential ground movement is included in the design of the proposed development, all new structures found on natural materials with comparable end bearing capacities and elastic moduli are recommended. - Where groundwater ingress is encountered during pile excavation, concrete is to be placed as soon as possible upon completion of pile excavation. Pile excavations should be pumped dry of water prior to pouring concrete, or alternatively a tremmie system could be used. • Excavation retention: - Where sufficient space for batters is not available a shoring system should be installed prior to excavation. Shoring systems in sandstone generally comprise anchored soldier pile walls with piles socketing below bulk excavation level (BEL). Unit 5 and Unit 6 Sandstone will be self-supporting and may be cut vertically provided that allowance is made for geotechnical inspections and spot bolting/shotcreting where required. Piles can be terminated within Class III Sandstone or better material above BEL provided that toe anchors are installed for lateral pile restraint. - For design of retaining walls: Appropriate surcharge loading from construction equipment, vehicular traffic and neighbouring structures at finished surface level.	Low

	- For design of retaining walls: Anchor design should ignore the contribution of any bonded length within a wedge which extends upwards at 45° from the top of Unit 6 to account for a failure wedge forming behind the shoring system. • Excavation vibration: - Safe working distances for typical items of vibration intensive plant are listed in the report. The safe working distances should be complied with at all times. Monitoring of vibration levels may be required to ensure vibrations levels remain below threshold values during the construction period. • Additional geotechnical input advised: - All excavated material transported off site should be classified in accordance with NSW EPA 2014 - Waste Classification Guideline Part 1; Classifying Waste. - A suitably qualified geotechnical engineer is to assess the condition of exposed material at foundation or subgrade level to assess the ability of the prepared surface to act as a foundation or as a subgrade. - Observation of the material within pile excavations should be undertaken at the start of piling works. - Regular inspections of battered and unsupported excavations, where proposed, to confirm geotechnical conditions and to assess the suitability of design assumptions and further advice. • Construction seepage inflows: Temporary construction dewatering is expected to occur for construction seepage inflows during the excavation program period. • Proposed dewatering schedule: Give the relatively low permeability of the sandstone profile encountered in the geotechnical investigation it is proposed to construct the basement as a drained soldier pile wall. Dewatering through spear points and pumping is not proposed for the construction period, rather any groundwater seepage will be allowed to drain through strip drainage installed behind shotcrete panels and collected by sump pits within the basement.	
Contamination and Remediation <i>(EIS Submission - Preliminary Site Investigation)</i>	• Before commencement of any demolition works, a hazardous materials survey should be completed by a suitably qualified consultant, to confirm the presence / location of any hazardous materials within the existing building fabrics. • Following building demolition and removal of associated wastes (including vegetation), an inspection of the exposed surface across the site, for ACM, should be performed as part of any asbestos clearance reporting. • All soils designated for off-site disposal, including any virgin excavated natural material (VENM), must be pre-classified in accordance with the EPA (2014) <i>Wast Classification Guidelines</i>. • Design a Sampling, Analysis and Quality Plan in accordance with the NSW EPA (2022) <i>Sampling Design Part 1 – Application guidelines</i>.	Low

	- Once appropriately classified, all waste materials are to be transported to EPA-licensed waste facilities by the appointed waste contractors. - Any materials being imported to the site should be validated as suitable for the intended land use, in accordance with EPA guidelines. EI emphasises that these recommendations can be managed post demolition and through the development approval process, as conditions of consent, in accordance with the SEPP R&H.	
<i>Trees and Landscaping (Revised Arboricultural Impact Statement)</i>	- All contractors must be made aware of the tree protection requirements prior to commencing works at the site. - All tree protection to be in accordance with tree protection specifications under section 11.6 of the AIA. - Prior to any works commencing at the site, a Project arborist should be appointed. - All tree work should be carried out by a qualified and experienced Arborist - The Project arborist is to hold a pre-construction site meeting with the principal contractor to discuss methods and importance of tree protection measures and resolve any issues in relation to tree protection that may arise. - The Project arborist should carry out regular site inspections to ensure works are carried out in accordance with the Arboricultural Impact Statement (AIA) throughout the development process. - Tree protection must not be moved without prior agreement of the Project arborist. The Project arborist must inspect that the tree protection has been installed in accordance with the AIA and AS4970-2025 prior to works commencing.	Low
<i>Biodiversity (EIS Submission - BDAR Report)</i>	NOTE: Case Party has been submitted to CPHR and will require review. Retain and restore native vegetation: The opportunities for retention of locally native trees are few, given their distribution across the development site. However, the opportunity for restoration and enrichment of native vegetation is afforded in the areas of deep soil to be the subject of the Landscape Plan. The planting palette will rely heavily on species characteristic of the CEEC STIF and PCT 3262. Importantly, a diverse understorey can be restored with all structural layers planted. This will deliver a significant qualitative improvement in the composition of PCT 3262 pre-development. Retain, replace, and enhance fauna habitat: The replacement plantings and enrichment plantings will provide long term habitat and the boundary plantings will connect with offsite vegetation, thus enhancing local connectivity. Protect resident fauna: The Project Ecologist will supervise the removal of all trees and potential fauna habitat. A thorough pre-clearing / pre-demolition inspection shall be undertaken prior to clearing. Fauna will be removed from harm's way, relocated into suitable on-site habitat, or placed into veterinarian care if injured. Erosion/ sedimentation: Standard sedimentation and erosion control measures will be installed and checked regularly.	Low

	• Exotic weed species: Due to its close horticultural management, few significant weeds occur on site. However, ongoing weed control must be implemented during all phases of development. Any weeds removed are not to be stockpiled but instead disposed of at a suitable green waste facility. All loads are to be covered during transportation to minimise the risk of spread. • Pathogens and disease: Although no pathogens were in evidence, to avoid the introduction and/or spread of soil borne pathogens and disease, appropriate hygiene procedures as recommended will minimise the risk of any significant impacts as a result of the proposal.	
<i>Waste Management (Revised Operational Waste Management Plan)</i>	• Operational waste management to be in line with the roles and responsibilities outlined in Section 6.0 of the OWMP • 41x660L general waste, 54x240L comingled recycling, 21x660L paper/carboard recycling and 23x240L FOGO bins collected weekly. • Area for residential bulky waste provided with minimum size of 26sqm • Bin moving paths are a minimum of 300mm wider than the widest bin used on site and at a gradient less than 1:14	Low
<i>Social Impact (EIS Submission - SIA)</i>	• Architectural window features provided to ensure privacy • Adequate lighting of building entrances and exits, paths, car parking area, and common open spaces at night along with clear signage. • Regular maintenance of common spaces and landscaping	Low
<i>Aboriginal Cultural Heritage (EIS Submission – AHIA)</i>	• It is advised that this AHIA does not constitute consent to harm Aboriginal objects, nor it is a ‘site clearance’ mechanism to allow activities to occur in an area where Aboriginal objects are likely or known to be present. • If Aboriginal objects are discovered during the proposed works, works must stop immediately and an assessment must be undertaken in accordance with Part 6 of the <i>National Parks and Wildlife Act 1974</i>. It is recommended that a stop-work procedure be developed to allow proper assessment and management of any unexpected Aboriginal objects. A sufficiently experience and qualified archaeologist should be engaged immediately to address the unexpected find and advise of further actions.	Low
<i>Environmental Heritage (Revised Heritage Impact Statement)</i>	• A heritage consultant is to be included in the final resolution of the below: - Detailed design resolution of the façade to be in line Heritage Impact Statement.	Low
<i>Wind (Wind Report)</i>	Lower ground level, Ground Level, Upper Ground Level and Level 1 – refer Figure 8, Figure 9, Figure 10 and Figure 11 • Uphold the proposed trees/landscaping within and on the sides of the development to mitigate the impact of local wind speeds. It is recommended that all recommended (or proposed) landscaping to be evergreen and densely foliating to maintain its effectiveness throughout the year.	Low

- Keep setbacks at ground-level entrances to reduce wind speeds from potential downwash and redirect airflow away from pedestrian paths.
- Introduce overhead canopies at ground-floor entry points to provide shelter from downwash effects and help deflect airflow away from pedestrian circulation areas.
- Ground-level seating in publicly accessible areas should be provided with overhead windbreak, such as pergolas or large-canopy trees, to mitigate wind level and minimise the impact of façade downwash.

Figure 8 Wind Mitigation for the Development – Lower ground level

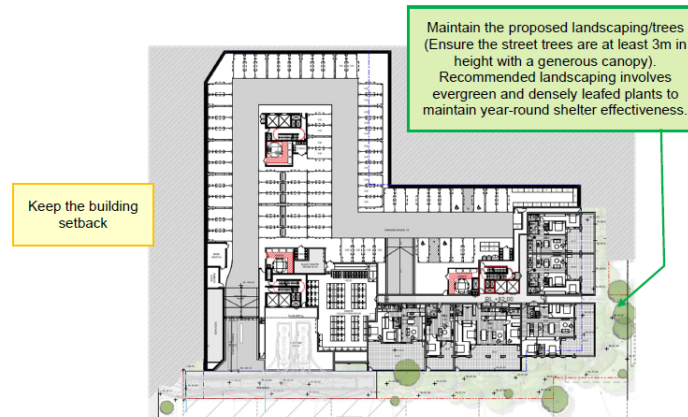


Figure 9 Wind Mitigation for the Development – Ground level

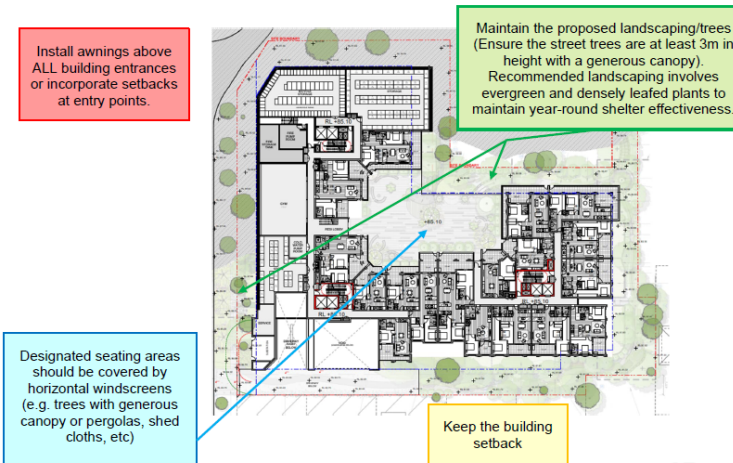


Figure 10 Wind Mitigation for the Development – Upper ground level

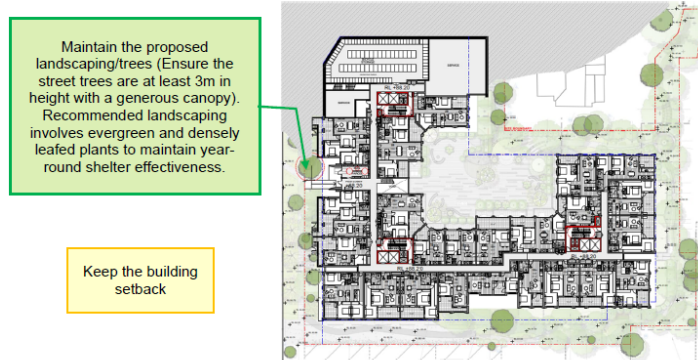
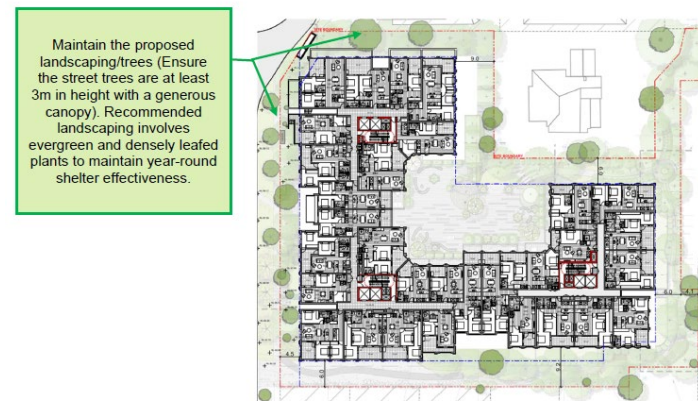


Figure 11 Wind Mitigation for the Development – Level 1



Elevated Communal open areas on ground level – refer Figure 12, Figure 13 and Figure 14

- It is recommended to incorporate 1.8m high vertical windbreaks around the perimeter of elevated communal spaces in Level 7, Level 8 and roof level. These windbreaks may consist of balustrades or a combination of walls and planters/trees of equivalent height, strategically placed around the edges.

Figure 12 Wind Mitigation for the Development – Level 7

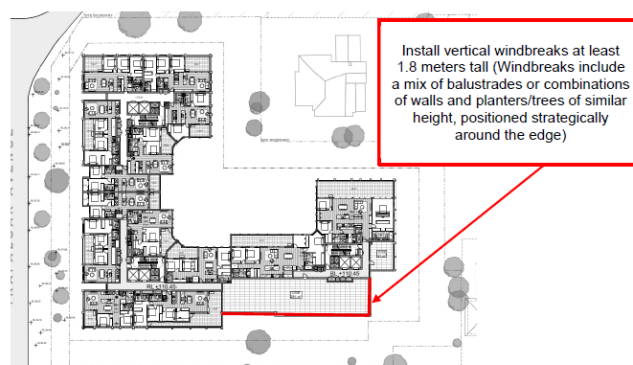
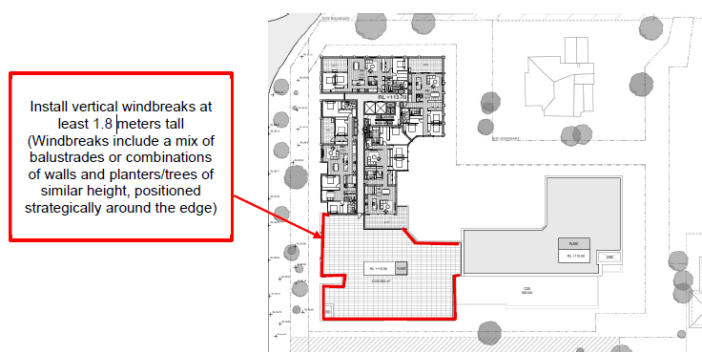


Figure 13 Wind Mitigation for the Development – Level 8



Elevate Private Balconies

- Ensure vertical windbreaks are installed around the edges of individual balconies. Additionally, retain a single open aspect for the elevated balconies.
- Incorporating a 1.1-meter solid balustrade involves non-adjustable vertical louvres or fixed glazing to offer screening on the northwest and south sides. This approach can be particularly effective, especially for the corner elevated balconies side most susceptible to wind exposure.
- Alternatively Incorporate 1.5m high vertical windscreens around the outer edge of these elevated corner balconies.

During the Detailed Design phase of the project, once the design of the various building facades is finalised, further modelling could be carried out to confirm zones of the building, by height and by plan view location (eg which building corners), where wind mitigation (ie beyond the standard balustrade height) may be beneficial IF it is intended for

	balconies to be used all year-round. The preference here would be for detailed 3D CFD Simulation Modelling rather than Wind Tunnel Testing, given the issue of balcony scaling at typical 1:400 wind tunnel test scales.	
--	--	--