

PENRITH CITY COUNCIL

MAJOR ASSESSMENT REPORT

Application number:	DA20/0367
Proposed development:	Demolition of Existing Structures & Construction of Seniors Housing Development including Five (5) Self-Contained Dwellings
Property address:	8 Linksvie Avenue, LEONAY NSW 2750
Property description:	Lot 69 DP 218969 Lot 68 DP 218969
Date received:	22 June 2020
Assessing officer	Lauren Van Etten
Zoning:	Zone R2 Low Density Residential - LEP 2010
Class of building:	Class 1a
Recommendations:	Approve

Executive Summary

Council is in receipt of a development application for the construction of 5 seniors living townhouses at 6-8 Linksview Avenue, Leonay. The subject site is zoned R2 Low Density Residential under the provisions of Penrith Local Environmental Plan 2010. The proposal is a permissible land use under the provisions of the State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004.

A previous application by the same applicant for 6 villas was refused (DA18/1253). Key reasons for refusal included the unsuitable pathway to the bus stop on River Road, access and maneuvering issues, and amenity and character impacts from the built form, incompatible setbacks and extensive tree removal.

Key issues identified for the subject proposed development and site include:

- Inadequate detail regarding the suitability of the access pathway to the bus stop on Leonay Parade in accordance with the SEPP requirements;
- Inadequate assessment regarding the impacts of proposed retaining walls, storm water infrastructure and hardstand surfaces on the trees to be retained;
- Poor streetscape presentation given the proposed filling and boundary retaining walls;
- Inappropriate principal private open space locations within the front setback with a steep slope and without landscaping;
- Landscape design relative to the character of the area;
- Water sensitive urban design; and
- Storm water design details.

The applicant was advised of the key issues and Council received amended plans and reports in response. The key issues were addressed.

The proposed development was advertised and notified in accordance with Penrith Development Control Plan 2014. Affected property owners and occupiers were notified in the surrounding area and invited to make a submission of the proposal during the exhibition period from 13 July to 27 July 2020. Council received fourteen (14) submissions in response, 10 of which were unique.

As the development application is the subject of 10 unique submissions by way of objection, the development application is to be determined by the Penrith Local Planning Panel as per the Local Planning Panels Direction issued by the Minister for Planning under Section 9.1 of the Environmental Planning and Assessment Act 1979.

An assessment under Section 4.15 of the *Environmental Planning and Assessment Act 1979* has been undertaken and the application is recommended for approval.

Site & Surrounds

The subject site is located on the south western corner of the intersection of Linksview Avenue and Fairways Avenue. The site has a total area of 1725m², is irregular in shape and currently occupied by a dwelling house, pool and 15 trees. The site slopes 3 metres from west to east, towards Linksview Avenue with the majority of the fall concentrated within the landscaped front setback to Linksview Avenue.

Adjoining the site is low density residential development and Leonay Public School 40m to the west. Leonay Golf Club is 300m to the west and neighbourhood shops are approximately 350m to the south-west. While Nepean River is approximately 200m to the east, the site is not affected by mainstream or local flooding and has a flood free evacuation route.

The site is serviced by the Route 689 Penrith bus loop service, providing links to the Penrith CBD. The nearest bus stop along Leonay Parade is within 400m of the site and currently comprises a sign post alone. This bus stop is adjacent the Leonay Golf Club and, in particular, in front of an area of the golf course recently approved for seniors development under DA18/0663. Construction has not yet commenced on this development.

Proposal

The proposed development involves:

- Demolition of existing structures.
- Construction of a seniors living development consisting of 5 self contained dwellings (4 x 1 storey dwellings and 1 x 2 storey dwelling);
- Each dwelling will accommodate 2 bedrooms, a living room, kitchen, laundry, bathroom and single car garage. A patio is directly accessible from the living areas of each unit.
- 5 car parking spaces within single car garages..
- Associated drainage, landscaping and earthworks.
- Removal of 9 existing trees.
- Retention of 6 existing trees on the subject site and 2 on the neighbouring property.
- Upgrade works along Linksvue Avenue, Fairways Avenue and Leonay Parade to provide a suitable pathway to the existing bus stop on Leonay Parade. These works include upgrades to the bus stop as well.

Plans that apply

- Local Environmental Plan 2010 (Amendment 4)
- Development Control Plan 2014
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
- State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004
- State Environmental Planning Policy No 55—Remediation of Land
- Sydney Regional Environmental Plan No.20 - Hawkesbury Nepean River

Planning Assessment

• Section 4.15 - Evaluation

The development has been assessed in accordance with the matters for consideration under Section 4.15 of the Environmental Planning and Assessment Act 1979, and having regard to those matters, the following issues have been identified for further consideration.

Section 4.15(1)(a)(i) The provisions of any environmental planning instrument

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 aims to ensure consistency in the implementation of the BASIX scheme throughout the States and achieves its aim by overriding provisions of other environmental planning instruments and development control plans that would otherwise add to, subtract from or modify any obligations arising under the BASIX scheme.

The Policy requires certain kinds of residential development to be accompanied by a list of commitments to be carried out. This application is subject to these requirements as it involves the construction of dwellings. BASIX Certificate 1046653M_02 was submitted with the development application demonstrating compliance with set sustainability targets for water and energy efficiency and thermal comfort and the information submitted with the development application and accompanying BASIX certificate were assessed to satisfy the provisions of the Policy.

As revisions were made to the plans, a revised BASIX Certificate was provided to reflect the amendments. The proposal complies with the Policy.

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004

The development is proposed under the provisions of *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (SEPP Seniors)*, which applies to the subject land by virtue of Clause 4(1)(a)(i), as development for the purpose of dwelling houses is permitted within the R2 Low Density Residential zone under *Penrith Local Environmental Plan 2010*. Pursuant to Clause 16, development for seniors housing under SEPP Seniors may be carried out with consent on any land to which the SEPP applies.

The development is categorised as "*self-contained dwellings*", more specifically "*infill self care housing*".

The relevant provisions of SEPP Seniors are addressed below.

GENERAL CONSIDERATIONS			
DEVELOPMENT STANDARD	SEPP REQUIREMENT	PROPOSED DEVELOPMENT	COMPLIANCE
Permissibility	Land zoned primarily for urban purposes or adjacent to urban land.	The site is zoned R2 Low Density Residential under LEP 2010.	Yes
Site Compatibility Certificate (Clause 24)	Not required for urban zoned (unless a vertical village is proposed)	N/A	N/A

Location, facilities and support services such as (Clause 26)	Max 400m from shops, banks, retail, community services and medical services being no more than 1:14 gradient or as otherwise stipulated within Clause 26(2)	The site is located within 400m of a bus stop on Leonay Parade. The applicant has proposed footpath upgrades along Fairways Avenue and Leonay Parade, including passing bays, kerb ramps and a provision of a DDA compliant boarding point at the bus stop. Initially these details were not shown on the plans. This detail was then provided and various options considered to demonstrate that these services are available via a suitable access pathway to a bus stop. All infrastructure will be provided to Council's requirements as per recommended conditions of consent.	Yes
Water and Sewer (Clause 28)	Housing will be connected to a reticulated water system with adequate waste water disposal.	Services are currently available within the surrounding locality. A standard condition for obtaining a Section 73 Certificate is recommended.	Yes
Site Capability Criteria (Clause 29)	If Clause 24 is not applicable, the consent authority is to consider the requirements within Clause 25 (5) (b)(i), (ii) and (v) being natural environment and existing uses in immediate locality, impact of proposed works on future uses of that land (being more than the subject site) and impact of bulk, scale and built form on character of area.	Developments in the area are predominantly low density residential. It is considered that the bulk, scale, built form and character of the proposed development will result in negligible impacts upon the amenity of the streetscape and that of adjacent residential dwellings. Refer to discussion in Part 3, Division 2.	Yes
PART 3 - DIVISION 1 - GENERAL DESIGN REQUIREMENTS			
DEVELOPMENT STANDARD	SEPP REQUIREMENT	PROPOSED DEVELOPMENT	COMPLIANCE

Site Analysis (Clause 30)	Site Analysis required by Applicant	The application was accompanied by a site analysis prepared in accordance with this Clause.	Yes
Design Consideration (Clause 31)	Assessment Against Seniors Living Policy – Urban Design Guideline for Infill Development (DOP March 2004)	The development is consistent with the Seniors Living Policy which is further discussed below.	Yes
PART 3 - DIVISION 2 - DESIGN PRINCIPLES			
DEVELOPMENT STANDARD	SEPP REQUIREMENT	PROPOSED DEVELOPMENT	COMPLIANCE
Neighbourhood Amenity & Streetscape (Clause 33)	Recognize and respond to area character and consider heritage items, maintain reasonable amenity and character through setbacks, height, fencing, planting and retaining vegetation where reasonable.	Refer to the Seniors Living Policy discussion below the table for further information. It is considered that the sympathetic setbacks, building siting, response to topography, tree retention and landscaping renders this proposal compatible with the character of the area.	Yes
Visual & Acoustic Privacy (Clause 34)	Appropriate site planning, consider location of windows and balconies, use of screening devices, landscaping and noise generation by locating paths, parking and driveways away from new dwellings.	The proposal is not considered to affect the visual and acoustic privacy of the adjoining property to the west due to the varying side setback proposed, with at least 2.5m alongside the adjoining dwelling. Further, given the closest unit to the western property (Unit 5) is cut 600mm into the site, any overlooking is considered negligible. It is noted that the area shown as a private courtyard along the western boundary will be screened as an amendment in red on the stamped plans.	Yes
Solar Access (Clause 35)	Adequate solar access to living areas and POS of neighbour's and reduce energy use by locating windows of living and dining areas north.	The shadow diagrams that accompany the DA have indicated that neighbouring properties will experience minimal overshadowing in mid winter. The orientation of the site ensures adequate solar access to the living area and private open space of the proposed dwellings.	Yes
Stormwater (Clause 36)	Control and minimize storm water runoff and include (where practical) OSD.	The application was accompanied by a Stormwater drainage plan which has demonstrated that	Yes

		stormwater could be appropriately managed on the site. Council's Development Engineer raised no objections subject to conditions of	
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		consent.	
Crime Prevention (Clause 37)	Ensure passive surveillance and lockable shared entries and see people coming.	The units are designed to provide passive surveillance.	Yes
Accessibility (Clause 38)	Safe pedestrian links to public transport and facilities and safe and convenient access and parking.	An amended survey was provided which detailed a revised crossing location and bus stop location, while also detailing the surrounding trees, the driveways from DA18/0663 adjacent the bus stop and any services. The kerb ramped crossing point across Leonay Parade is located clear of nearby driveways and street trees. The proposal also includes passing bays along Fairways Avenue and ramps crossing north to Leonay Parade. Council's Traffic and Development Engineers reviewed the proposal and raised no objections subject to conditions of consent.	Yes
Waste Management (Clause 39)	Provide waste facilities that maximize recycling.	The development bin bay maximises recycling as it meets Council's waste requirements for multi-dwelling housing. Refer to the appendix of this report for further details.	Yes
PART 4 - DIVISION 1 – GENERAL STANDARDS TO BE COMPLIED WITH			
DEVELOPMENT STANDARD	SEPP REQUIREMENT	PROPOSED DEVELOPMENT	COMPLIANCE
Site Area * does not apply to social housing provider	Min 1,000m ²	1725m ² ,	Yes
Frontage * does not apply to social housing provider	Min 20 metres	31m at minimum along Fairways Avenue	Yes
Building Height * Rear 25% control does not apply to social housing provider	Height not to exceed 8m metres. Adjacent to boundary must be not more than 2 storeys in height Rear 25% to be single storey	8m 4 of the 5 dwellings are single storey Rear 25% is single storey	Yes Yes
PART 7 – DIVISION 1 – GENERAL (CANNOT BE GROUNDS FOR REFUSAL)			
General Consent Restriction	Cannot grant consent if site analysis considerations are not satisfactory.	Satisfactory	Yes
DIVISION 4 – SELF CONTAINED DWELLINGS (CANNOT BE GROUNDS FOR REFUSAL)			

DEVELOPMENT STANDARD	SEPP REQUIREMENT	PROPOSED DEVELOPMENT	COMPLIANCE
Height	8m (max two storeys at rear)	8m	Yes
FSR	0.5:1	0.32:1	Yes
Landscaped Area	A minimum 30% of the area of the site is to be landscaped	32%	Yes
Deep Soil zones	A minimum of 15% of the site	32%. While two thirds is not within the rear of the site, 40% of the deep soil is within the rear and given there are two street frontages with deep soil setbacks, there are ample deep soil zones spread across the site.	Yes
Solar Access	70% solar access to living areas for 3 hrs between 9am and 3pm	3 hours of solar access is provided to all units.	Yes
POS (Infill)	Single Storey: 15m ² of POS per unit being min 3 x 3 POS. accessed off living area	All units have in excess of 15m ² . Each is provided with an area of 3m x 3m. The POS for each unit is accessible directly off the living areas.	Yes Yes
Parking	Parking – 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider.	5 spaces required and proposed.	Yes

SCHEDULE 3 – SELF CONTAINED DWELLING STANDARD

All proposed parking spaces should comply with SEPP Housing for Seniors or People with a Disability Schedule 3 Clause 5 (a) regarding parking spaces complying with the requirements for parking for persons with a disability set out in AS 2890. All spaces should be at least 3.8m wide and this has been provided.

The application was accompanied by Access Review Report which confirms that the development could comply with the design requirements outlined in Schedule 3. These recommendations form a condition of consent.

*** Seniors Living Policy - Urban Design Guidelines for Infill Development**

The development is considered acceptable as it is consistent with the following sections of the Seniors Living Policy:

Responding to Context, Site Planning and Design

The development is considered to complement the surrounding locality of detached dwellings with sympathetic landscaped front setbacks and established canopy cover along front and rear setbacks and generous side setbacks with optimal planting opportunities.

While the existing pattern of planting is extensive across the site, the new development does protect the existing natural features that contribute to neighbourhood character to an extent in retaining 6 trees while providing new deep soil zones to compensate for what is inevitably lost across the site. The development does allow for the retention of existing trees which are healthy and mature which are valued for shade and to soften the built form along the site's frontage.

Further, the proposal has appropriately responded to the topography of the site, with a greater front setback so the slope can naturally fall as is.

The built form, while being rows of townhouses, is considered to be consistent with the surrounding area given it is predominantly single storey and the materials and finishes effectively break up the built form as does the stepped floor plate. It is noted that timber paling fences will be required via a recommended condition of consent, rather than the metallic ones proposed to better blend with the character of the area.

Impacts on Streetscape

The development is considered to complement the surrounding dwellings. The front setback is sympathetic to that of neighbouring properties in size and in its landscaped use with existing trees and proposed landscaping. This results in a scale and massing that is appropriate in relation to the existing streetscape. Further, variation in materials and colours has been provided to order building facades with scale and proportions that respond to the contextual character. Consequently, the proposal responds to the earthy tones and predominant use of brick and render in the surrounding area.

The length of buildings has been broken up via various steps in the floor plates and via reorienting Unit 5 minimizing the building massing and visual impacts of the proposal. Given the above the proposed development will achieve a harmonious fit with the existing streetscape.

Impacts on Neighbours

The visual impact as viewed from neighboring site to the west is lessened by a 4 metre open space corridor between the two building blocks, coupled with the deep soil pockets and a 500mm drop in the buildings along the western edge of Units 1 and 5. Further, the western side setback complies with the Guidelines rule of thumb that side setbacks shall not be less than 1.2m for more than 50% of the development. Only 1 metre of the western boundary is less than 1.2m and the majority of the side boundary provides a suitable interface ranging from 2-6 metres. The amenity of the neighbouring property to the south is also maintained by the 3-4m landscaped buffer/barrier between the units and the southern boundary and locating private open space in the primary and secondary street frontages.

State Environmental Planning Policy No 55—Remediation of Land

SEPP 55 aims to provide a framework for the assessment, management and remediation of contaminated land throughout the State. Clause 7 of SEPP 55 prevents consent authorities from consenting to a development unless it has considered whether the land is contaminated and is satisfied that the land is suitable (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out.

Council's Environmental Management Officer reviewed the proposal and stated that there is no significant change in land use and a review of the property file and historical aerial imaging does not raise any suspicion of land contamination.

Having regard to the above, it is considered that the site is suitable for the proposed development.

Sydney Regional Environmental Plan No.20 - Hawkesbury Nepean River

SREP 20 integrates planning with catchment management to protect the Hawkesbury-Nepean river system, requiring the impact of future land use to be considered in a regional context. The plan covers water quality and quantity, environmentally sensitive areas, riverine scenic quality, agriculture and urban and rural-residential development. It controls development that has the potential to impact on the river environment. The plan applies to all parts of the catchment in the Sydney region (15 local government areas), except for land covered by Sydney Regional Environmental Plan No. 11 - Penrith Lakes Scheme (SREP 11).

The proposal is in accordance with the general planning considerations set out in SREP 20 as well as relevant specific planning policies and related recommended strategies contained in SREP 20. In particular, provision will be made for adequate erosion and sediment control measures. Council's Development Engineers have reviewed the application and subject to recommended conditions of consent relating to stormwater, erosion and sediment controls have no objections to the proposal.

Local Environmental Plan 2010 (Amendment 4)

Provision	Compliance
Clause 2.3 Permissibility	Complies - See discussion
Clause 2.3 Zone objectives	Complies - See discussion
Clause 2.7 Demolition requires development consent	Complies
Clause 4.3 Height of buildings	Complies - See discussion
Clause 4.4 Floor Space Ratio	N/A
Clause 7.1 Earthworks	Complies - See discussion
Clause 7.2 Flood planning	N/A
Clause 7.4 Sustainable development	Complies
Clause 7.7 Servicing	Complies

Clause 2.3 Permissibility

The subject site is zoned R2 Low Density Residential under Penrith Local Environmental Plan 2010. The proposed 'multi-dwelling housing' is a prohibited form of development in the R2 zone.

Notwithstanding the LEP provisions, seniors housing (in this case self-contained dwellings) is a permissible form of development on land zoned for urban purposes under Clause 16 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004.

Clause 2.3 Zone objectives

The proposal is consistent with the objectives of the R2 zone as discussed within this report, specifically:

- *To promote the desired future character by ensuring that development reflects features or qualities of traditional detached dwelling houses that are surrounded by private gardens.*
- *To enhance the essential character and identity of established residential areas.*
- *To ensure a high level of residential amenity is achieved and maintained.*

As discussed elsewhere in this report, given the design proposed, tree retention, and similar landscaped setbacks relative to those in the area, the resultant bulk and scale is appropriately setback and screened to retain the character of the area and maintain a high level of residential amenity as well.

Clause 4.3 Height of buildings

The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map, which is 8.5 metres. The proposed building height reaches 8 metres at maximum and therefore complies.

Clause 7.1 Earthworks

(1) The objectives of this clause are as follows—

- (a) *to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land,*
- (b) *to allow earthworks of a minor nature without separate development consent.*

As per Clause (3) (d), before granting consent the consent authority must consider the effect of the proposed development on the existing and likely amenity of adjoining properties. Given the proposal includes a pier and beam arrangement, rather than fill, the front setback falls naturally from the units towards the road with the only alterations proposed around the driveway. It is therefore considered that the proposal does minimize the earthworks within the front setback with negligible impacts upon streetscape character and residential amenity.

Section 4.15(1)(a)(ii) The provisions of any draft environmental planning instrument

Draft Environment SEPP

The Draft Environment SEPP was exhibited from 31 October 2017 to 31 January 2018. This consolidated SEPP proposes to simplify the planning rules for a number of water catchments, waterways, urban bushland, and Willandra Lakes World Heritage Property.

Changes proposed include consolidating the following seven existing SEPPs:

- State Environmental Planning Policy No. 19 – Bushland in Urban Areas
- State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011
- State Environmental Planning Policy No. 50 – Canal Estate Development
- Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment
- Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River (No.2-1997)
- Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005
- Willandra Lakes Regional Environmental Plan No. 1 – World Heritage Property.

The proposal is not inconsistent with the provisions of this Draft Instrument.

Draft Remediation of Land SEPP

The Department of Planning and Environment has announced a Draft Remediation of Land SEPP, which will repeal and replace the current State Environmental Planning Policy No 55—Remediation of Land.

The main changes proposed include the expansion of categories of remediation work which requires development consent, a greater involvement of principal certifying authorities particularly in relation to remediation works that can be carried out without development consent, more comprehensive guidelines for Councils and certifiers and the clarification of the contamination information to be included on Section 149 Planning Certificates.

Whilst the proposed SEPP will retain the key operational framework of SEPP 55, it will adopt a more modern approach to the management of contaminated land. The Draft SEPP will not alter or affect the findings in respect to contamination of the Site. Appropriate conditions are included in respect to any potential asbestos removal and an expected finds condition will ensure that if any traces of contamination is found appropriate measures in accordance with EPA requirements are implemented.

Section 4.15(1)(a)(iii) The provisions of any development control plan

Development Control Plan 2014

Provision	Compliance
C1 Site Planning and Design Principles	Complies - see Appendix - Development Control Plan Compliance
C2 Vegetation Management	Complies - see Appendix - Development Control Plan Compliance
C3 Water Management	Complies
C4 Land Management	Complies
C5 Waste Management	Complies - see Appendix - Development Control Plan Compliance
C6 Landscape Design	Complies
C7 Culture and Heritage	N/A
C8 Public Domain	N/A
C9 Advertising and Signage	N/A
C10 Transport, Access and Parking	Complies - see Appendix - Development Control Plan Compliance
C11 Subdivision	Complies
C12 Noise and Vibration	Complies
C13 Infrastructure and Services	Complies
D2.1 Single Dwellings	N/A
D2.2. Dual Occupancies	N/A
D2.3 Secondary Dwellings	N/A
D2.4 Multi Dwelling Housing	Does not comply - see Appendix - Development Control Plan Compliance
D2.5 Residential Flat Buildings	N/A
D2.6 Non Residential Developments	N/A

Section 4.15(1)(a)(iv) The provisions of the regulations

The relevant prescribed conditions of the Regulations, such as the requirement for compliance with the Building Code of Australia and fire safety requirements, will be imposed as conditions of consent where applicable. Subject to the recommended conditions of consent, the proposed development complies with the requirements of the *Environmental Planning and Assessment Regulation 2000*.

Section 4.15(1)(b) The likely impacts of the development

Local Character

As previously stated, the built form character of the area is a mix of one and two store residential dwellings of mixed architectural styles. The attached dwellings remain distinctive given their varying layouts, the tree retention surrounding them and the retention of physical breaks between the built forms. The development has incorporated a range of architectural measures to ensure that the development will positively contribute to the residential character of the surrounding locality.

Accessibility

The application has been accompanied by an Access Report which provides a review of the proposed development with regard to relevant accessibility requirements and standards. A recommended condition of consent will ensure that such documentation is provided prior to the issue of a Construction Certificate to ensure all dwellings satisfactorily achieve compliance with the access provisions of the BCA and Seniors Living SEPP.

Biodiversity Impacts

Council's Biodiversity Officer reviewed the application and noted that as the existing vegetation is exotic there is no objection to the proposed removal of some of these trees.

A recommended condition is incorporated to ensure a fauna inspection, assessment and implementation plan for the safe identification, removal and translocation of all protected native fauna within the existing structures and vegetation (according to governing Legislation, policy and guidelines) is to be submitted to Council for approval prior to the issue of a Construction Certificate.

Social and Economic Impacts

The proposal poses no potential adverse social or economic impacts. The proposed development is in close proximity to services and public transport options to cater for seniors.

Safety

Concerns were raised during the assessment in relation to the slope within the front and secondary street frontage where private open space had been located. The private open space areas were then re-located/reconfigured to be level for equitable access and accessible directly from the living areas. While the setbacks still slope to the street, the principal private open space is level and surrounded by a balustrade. An amendment in red pen on the stamped approved plans will add a balustrade for Unit 3.

Section 4.15(1)(c) The suitability of the site for the development

The site is considered suitable for the development for the following reasons:

- The grade of the site is suitable for the design proposed.
- The site is able to drain to Council's satisfaction.
- The site is not flood prone nor bushfire prone.
- The site is within 400m of a bus stop, a golf course and neighbourhood shops.
- The site, being 1725m², is of a sufficient size and width to accommodate the proposal.
- The site, being a corner lot, has dual street frontages to allow for various access arrangements.
- The site includes existing vegetation which can be managed.

Section 4.15(1)(d) Any Submissions

Community Consultation

The development application was advertised in the local newspaper and notified to owners and occupiers of adjoining and nearby properties pursuant to the requirements of the Regulations and in accordance with Council's Community Participation Plan. Affected property owners and occupiers were notified in the surrounding area and invited to make a submission on the proposal during the exhibition period from 13 July to 27 July 2020.

Submissions

The following issues were raised in the submissions received and have formed part of the assessment.

<i>Issue Raised</i>	<i>Comments</i>
<i>Traffic Congestion</i>	Council's Traffic Engineers have assessed the development and raise no objections to the proposal. The proposed traffic generation can be accommodated within the local road network.
<i>Redacted Information</i>	Floor Plans were submitted with the application however cannot be publicly viewed and hence were redacted due to copyright provisions. The Government Information (Public Access) Act 2009 (GIPA Act) details the obligations of agencies such as Council to provide access to certain information held. Certain restrictions apply to the type of information one can view and receive a copy of. The floor plans are not 'open access' information already available on our website. The release of this information is generally restricted due to considerations such as commercial confidence, legal privilege, security concerns and protection of privacy. Having said that, each dwelling will accommodate 2 bedrooms, a living room, kitchen, laundry, bathroom and single car garage. A patio is directly accessible from the living areas of each unit.

Access to Public Transport

A new DDA boarding point (boarding point, kerbed slab and connection to path, TGSIS and signs) is proposed as part of this application.

Kerb ramps and footpath connections shall be provided on both sides of Leonay Parade near the tangent point of the kerb return from Fairways Avenue to Council requirements. All new footpaths that are to be provided shall be 1.5 metres wide concrete footpaths and include a footpath along the full frontage of the development site to Council requirements.

The residents of the proposed development will have access, by a suitable access pathway, to a bus stop which is located within 400m of the development site to the north-west as required by Clause 26 of the State Environmental Planning Policy (Housing for Seniors or people with a Disability) 2004.

As such, recommended conditions of consent will require that all associated footpath and bus stop works to be constructed prior to the issue of the Occupation Certificate for this development.

Regarding the width of the existing path relative to the width of the proposed path along Fairways Avenue, given the limited scale of the DA and the existing 1.2m path along the frontage of the school in Fairways Ave, it would not be reasonable to require removal and replacement with a 1.5m path.

It is, however, considered reasonable and necessary to require the provision of a widened concrete passing areas along the footpath at no more than 50m intervals in order to provide for opposing wheeled chairs to pass.

This would require widening the existing footpath to provide a 2.0m long and 2.0m wide footpath passing area approximately midway between the existing 1.2m path near the school's eastern side boundary and the existing widened concrete footpath fronting the children's/pedestrian crossing. Providing 3 x 2.0m long and 2.0m wide concrete footpath passing areas at approximately 42m intervals between the existing widened concrete footpath fronting the children's / pedestrian crossing and Leonay Parade. Also providing at least a 2.0m x 2.0m widening footpath area fronting the proposed kerb ramp on the south east corner of Fairways Ave and Leonay Parade.

As to the request to provide pedestrian crossings, the warrants for marked pedestrian crossings are set by Transport for NSW and require a higher number of pedestrians than would be crossing Leonay Parade near the Fairway Ave intersection. The Access Consultant Report submitted states that crossing Leonay Parade is acceptable for a SEPP complying accessible path of travel with kerb ramps and pathway widening (without a pedestrian crossing or pedestrian refuge). The Access Report is supported by Council's Traffic Engineer.

<i>Owner's Consent for the Bus Stop</i>	As the bus stop is within Council's road verge, landowners adjoining the bus stop do not need to consent to this proposal. The proposal has also been designed to retain the surrounding trees.
<i>Parking Requirements including Visitor Parking</i>	Clause 50 of the SEPP requires 0.5 spaces per bedroom. Each dwelling has 2 bedrooms. With a garage available for each unit, 5 spaces are provided on site. Therefore, no resident parking is to rely upon the street. Visitor parking, however, will utilise on-street parking. Under Clause 50 there are no explicit numeric requirements for visitor parking on-site, although clause 38 does require convenient access and parking for visitors. It is acknowledged that the senior's guidelines states that on visitor parking space is to be provided for 6 or less dwellings, however the SEPP control reference has been superseded. As there are 2 street frontages, the site facilitates a capacity for a visitor parking space. It is appreciated that there is a higher level of school activity generated kerbside parking in Fairways Avenue and Linksvie Avenue before and after school. Even during these busier times of day there is generally parking available nearby along the street frontages and along the opposing sides. The requirement for any on street parking generated by the development is considered relatively moderate. Convenient visitor parking is considered available and satisfies Clause 38 of the SEPP. In accordance with the Road Rules, drivers must park at least 10m clear of the opposing street kerb line at the corner of Linksvie Ave/Fairways Ave. This would leave parking kerbside length in Fairways Ave for approximately 3 cars. Likewise, even with the driveway in Linksvie there would still be kerbside parking for 3 cars available. Lastly, it is noted that in accordance with Clause 50 (h)(i) of the SEPP, a consent authority must not refuse consent to a development application for the purpose of such dwellings if 0.5 car spaces for each bedroom is provided where the development application is made by a person other than a social housing provider. The subject development is not made by a social housing provider and complies with the parking requirement as previously stated. Therefore, as the proposal is in accordance with the requirements of the SEPP, Council cannot refuse consent of the development on the grounds of car parking.

<i>Tree Impacts</i>	The proposal was redesigned to ensure tree retention as far as reasonably possible, with 6 trees to be retained, including large trees within the front setback, secondary street setback and south-western rear setback. It is noted that an arborist report was submitted. Initially, Council's Tree Management Officer raised concerns that the impacts of the proposed works had been underestimated as the report did not address the retaining walls in close proximity to the trees to be retained (Tree 7 and Tree 2), nor was there any mention of the loss of permeable surfaces and the increase in hardstand areas in close proximity to trees to be retained on the adjoining property (N1 and N3). The underground rainwater tank for Unit 3 also compromised Tree 1. Subsequently, additional information was submitted relocating the rainwater tank to retain T1 and noting that the design of any retaining wall can be tree sensitive. More specifically, design of the retaining walls should minimise and avoid any continuous footing. A recommended condition of consent will require plinths and piers. In addition, fill soil used needs to be coarser than the underlying soil and organic material must not be buried. Regarding N1 and N2, the waste storage area and bulky waste area was separated further to reduce encroachment upon the Tree Protection Zones. The letterbox was relocated outside of the TPZ. Please find attached the revised site plan. The amended design for the bin store the bulky goods storage and other hard surface will result in some relatively minor excavation in order to achieve the required levels. This will result in some minor root loss as well as some reduced infiltration. On the other hand, these structures are quite small and the loss of infiltration will in part be compensated for by reduced evapotranspiration and lateral movement of soil moisture. Irrigation could also be installed to address this issue however it is noted that this species prefers well drained soils. Lastly, this species transplants well and is highly tolerant of root damage. Council's Tree Management Officer reviewed the additional information and found it satisfactory to preserve said trees, subject to relevant conditions of consent requiring the arborists' recommendations to be adhered to, requiring retaining walls to be of plinths and piers and conditions regarding tree protection plans and root mapping details.
<i>Request for Tree Removal</i>	Given Tree 10 (<i>Nysa Sylvatica</i>) is in good health, Council cannot support its removal. The arborist report, which outlines the condition of the tree, is available on Council's website via the DA Tracking Service. It is acknowledged that there are pools on adjoining properties and existing issues with falling leaves and shade to solar panels.

	However, Council's Development Control Plan 2014 C2 Vegetation Management requires developments to recognise the importance and function of trees and other vegetation for Cooling our City and preserving amenity. The siting and layout of development has considered the location of trees and favoured their retention on the subject property. It is noted this tree is part of the existing character of the area as well, which is to be preserved by any new development in accordance with Clause 33 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (SEPP Seniors). It is acknowledged that any tree requires maintenance however it is not considered that such maintenance is burdensome to the intended occupants. A recommended condition of consent can ensure that any branches overhanging adjoining properties can be pruned. It was noted that if the issues stem from the tree, rather than the seniors proposal, that this is separate to the application and can be dealt with via a vegetation removal permit, granted owner's consent is provided.
<i>Scale of Proposal and Inconsistencies in Supporting Documents</i>	The proposed development involves the demolition of existing structures and the construction of a seniors living development consisting of 5 self-contained dwellings. It is acknowledged the BASIX Certificate had some inconsistencies therein. The BASIX Certificate has been amended to reflect the updated proposal. Each unit includes 2 bedrooms as detailed within the amended certificate.
<i>Evacuation Routes Concern</i>	The site has a flood free evacuation route to the M4 should there be a flood event up to and including the 1%AEP. Council's Development Engineers reviewed the proposal and raised no objections.
<i>Need for Seniors Developments</i>	The development is proposed under the provisions of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (SEPP Seniors), which applies to the subject land by virtue of Clause 4(1)(a)(i), as development for the purpose of dwelling houses is permitted within the R2 Low Density Residential zone under Penrith Local Environmental Plan 2010. Pursuant to Clause 16, development for seniors housing under SEPP Seniors may be carried out with consent on any land to which the SEPP applies. In accordance with Clause 50 of the SEPP, a consent authority must not refuse consent to a development application made pursuant to this Chapter for the carrying out of development for the purpose of a self-contained dwelling (including in-fill self-care housing) on several grounds, including building height, density, scale, landscaped area, deep soil zones, solar access, private open space and parking. While there are senior's developments approved and under construction within Leonay, the proposal is permissible and complies with the relevant objectives and controls within the SEPP and the other heads of consideration under 4.15 of

	the Environmental Planning and Assessment Act 1979.
<i>Access Report</i>	The Access Report was revised to reflect the amended proposal, noting that additional information was provided regarding levels along the footpath to the Leonay Parade proposed bus stop location.
<i>Metal Fence</i>	As indicated on the revised architectural plans, a metal fence along all boundaries has now been proposed
<i>Senior Design Guidelines separation requirements from habitable areas to driveways</i>	There is a rule of thumb within the urban design guidelines which intends to ensure adequate separation is provided between habitable internal areas and driveways. As can be seen on the landscape plan, the design has separated the dwellings via pathways and various sized garden beds. While the floor plans are redacted due to copyright provisions. Passive areas (i.e. bedrooms) have also been separated away from the driveways.

Further Submissions

A response was sent to submitters on November 20, 2020 discussing the issues above. Further submissions were then received in response raising further concerns about the safety of the path of travel to the bus stop, particularly from the crossing of Leonay Parade. In total, Council received fourteen (14) submissions throughout the assessment in opposition to the application, 10 of which were unique. While some of the further submissions relayed issues noted above, additional concerns raised are noted below with Council's Traffic Engineer providing the following comments:

<i>Issue Raised</i>	<i>Comments</i>
<i>Inconsistencies and inaccuracies between plans and reports</i>	While there were inconsistencies between the access report and survey plans regarding the pathway to the bus stop and crossing locations, all inconsistencies have been rectified in the amended survey. In addition, the bus stop plan in the architectural plans was also amended as the existing footpath was previously inaccurate as it is 1.5m not 1.2m. In addition, adjustments were made to fit in a kerb ramp and landing area to connect to the bus stop boarding point

<i>Safety of pedestrians crossing Leonay Parade</i>	Council's Traffic Engineer reviewed further options proposed by the applicant for the crossing point along Leonay Parade. An optimal alternative was provided, further north, away from the bend in Leonay Parade to reduce crossing sight distance time for slower pedestrians i.e. those on a wheelchair. It is noted that alternative bus stops i.e. on River Road could not be utilised due to unsuitable gradients along the path of travel. A proposed pedestrian crossing point across Leonay Parade is at a proposed kerb ramp each side of Leonay Parade. This pedestrian crossing point will not be a marked pedestrian crossing but rather a point for pedestrians to cross the road when it is clear of approaching traffic. This kerb ramped crossing point will be located clear of nearby driveways and significant street trees. It is noted one crepe myrtle will be affected however on balance this is considered acceptable. An amended survey and bus stop plan was provided which detailed a revised crossing location and bus stop location, while also detailing the surrounding trees, the driveways from DA18/0663 and any services. These plans also detailed proposed infrastructure at the boarding point. Council's Traffic Engineer raised no objection to the revised proposal, albeit requiring further detail regarding the bus stop upgrades as per a condition of consent.
<i>Widening the footpath on Fairways Avenue to 1.5m</i>	To elaborate upon what was previously stated, the 1.2m wide existing footpath along Fairways Ave is adequate subject to wider sections to allow wheelchairs to pass for the following reasons. Austroads, Australian Standards including AS 1428 and other guides of best practice set out that: • A 1200mm wide footpath is acceptable for people who use wheelchairs. • A 1500mm wide footpath allows a wheelchair and a pram to pass. • A 1800mm wide footpath allows two wheelchairs to pass comfortably. Although Council now generally require new footpaths to be 1500mm wide, the existing footpath complies with Council's previous practice of providing 1200mm wide paths and is compliant for wheelchair access provided that there are passing bays of at least 1800mm wide and 2000mm long at regular intervals.
<i>Bus shelter</i>	A shelter itself is not required. A Disability Discrimination Act (DDA) compliant bus stop, as proposed, is to include accessible paths of travel to it (footpaths and kerb ramps) and a bus stop boarding point slab of complying width, length and cross fall for wheelchair manoeuvring with tactile ground surface indicators (TGSIs).
<i>Request for pedestrian crossing</i>	To clarify, Council's Traffic Engineer noted that the warrants for marked pedestrian crossings are set by Transport for NSW and require a higher number of pedestrians than would be crossing Leonay Parade near the Fairway Ave

	intersection.
<i>Request to remove existing bus stop</i>	Given the bus stop to be upgraded is an existing bus stop, it cannot be removed as was requested nor is this request subject to this application. As for this application, the proposal to upgrade the bus stop is considered in the public interest as it improves public infrastructure in accordance with the Disability Discrimination Act.

Re-notification

The Community Participation Plan which is now in effect guides how Council engages with the community on planning and development matters and supports Council's broader community engagement strategy. This plan notes that 'other' development not listed can be notified at the discretion of the assessing officer considering the following:

"having regard to the scale and nature of the proposed development, the potential for adverse impact resulting from the development, compliance with the applicable development standards within Penrith Local Environmental Plan 2010, compliance with the applicable development controls with Penrith Development Control Plan 2014 and compliance with the applicable development policies and specifications of Council."

As detailed above, the path to the bus stop and the precise bus stop location and design were amended further to ensure a suitable path of travel is provided as the SEPP requires. The upgrades, however, are considered to result in negligible visual impacts for the following reasons. While the bus stop will be upgraded with an accessible DDA compliant footpath and landing, no bus shelter is proposed. In addition, the existing bus stop is adjacent a golf course, across the street from any existing residential properties. The only works adjacent residential properties include additional pram ramps on the eastern side of Leonay Parade and passing bays along Fairways Avenue. Given the absence of a shelter and the distance of the existing bus stop to residential properties the visual impacts of the bus stop upgrade works are considered negligible. Re-notification based on pram ramps alone was not considered necessary.

Referrals

The application was referred to the following stakeholders and their comments have formed part of the assessment:

Referral Body	Comments Received
Building Surveyor	No objections - subject to conditions
Development Engineer	No objections - subject to conditions
Environmental - Environmental management	No objections - subject to conditions
Environmental - Waterways	No objections - subject to conditions
Environmental - Biodiversity	No objections - subject to conditions
Waste Services	No objections - subject to conditions
Traffic Engineer	No objection subject to conditions
Tree Management Officer	No objections - subject to conditions

Section 4.15(1)(e)The public interest

The site is suitable for the proposed development. The proposed development is permissible with consent and the proposal meets the aims and objectives of the relevant environmental planning instruments. The development proposal will provide for a public benefit in terms of improving accessibility to existing public transport and catering for the needs of an aging population, including the provision of ageing in place housing options within Leonay. For these reasons, the proposal is in the public interest.

Section 94 - Developer Contributions Plans

Calculation for Seniors Living Development x 5 units

Open Space

No. of units	x	Rate	-	Credit for existing dwelling/s	Contribution rate
5	x	1.5	-	3.1	4.4

City wide

No. of units	x	Rate	-	Credit for existing dwelling/s	Contribution rate
5	x	1.5		3	4.5

AMOUNT

S.94 Contribution Plan	Contribution Rate x Calculation rate	Total
	4.4 x \$2042	\$8,985
District Open Space		
Local Open Space	4.4 x \$ 738	\$3,248
Cultural Facilities	4.5 x \$ 187	\$ 842
	NET TOTAL	\$13,075

Conclusion

The proposed development is in accordance with the relevant provisions of the environmental planning instruments and Development Control Plan pertaining to the land. The proposed development is unlikely to have a negative impact on the surrounding environment through the appropriate conditioning of the development consent.

The proposed development has been assessed against the relevant heads of consideration contained in Section 4.15 of the Environmental Planning and Assessment Act 1979 and has been found to be satisfactory. The site is suitable for the proposed development and the proposal is in the public interest. Matters raised in submissions have been given due consideration and addressed in the assessment and through recommendations. The proposal is therefore worthy of support, subject to the conditions of consent.

Recommendation

That DA20/0367 for Demolition of Existing Structures & Construction of Seniors Housing including 5 x 2 Bedroom Villas at 8 Linksvie Avenue, Leonay be approved subject to the attached conditions.

General

1 A001

The development must be implemented substantially in accordance with the plan numbers tabled below and stamped approved by Council, the application form, BASIX Certificate No. 1046653M_02, and any supporting information received with the application, except as may be amended in red on the attached plans and by the following conditions.

Drawing	Drawing Ref	Revision	Prepared By	Dated
Site Plan	0100	AG	Integrated Design Group	01/10/20
Basix Commitments	0005	AC	Integrated Design Group	01/10/20
Bus stop Compliance	9203 and 9204	AA and AC	Integrated Design Group	10/03/21
Architectural Plans	1100-9602		Integrated Design Group	12/08/20
Landscape Plans	L1- L4	B	Nicholas Bray Landscapes	12/08/20
Stormwater Concept Design	H01-H05	I	Abel & Brown PTY Ltd	September 20

2 A008 - Works to BCA requirements (Always apply to building works)

The work must be carried out in accordance with the requirements of the Building Code of Australia. If the work relates to a residential building and is valued in excess of \$20,000, then a contract of insurance for the residential development shall be in force in accordance with Part 6 of the Home Building Act 1989.

{Note: Residential building includes alterations and additions to a dwelling, and structures associated with a dwelling house/dwelling such as a carport, garage, shed, rural shed, swimming pool and the like}.

3 A019 - OCCUPATION CERTIFICATE (ALWAYS APPLY)

The development shall not be used or occupied until an Occupation Certificate has been issued.

4 A038 - LIGHTING LOCATIONS

Prior to the issue of an Occupation Certificate, a lighting system shall be installed for the development to provide uniform lighting across common areas and driveways. Exterior lighting shall be located and directed in such a manner so as not to create a nuisance to surrounding land uses. The lighting shall be the minimum level of illumination necessary for safe operation. The lighting shall be in accordance with AS 4282 "Control of the obtrusive effects of outdoor lighting" (1997).

5 A039 - Graffiti

The finishes of all structures and buildings are to be maintained at all times and any graffiti or vandalism immediately removed/repaired.

6 A046 - Obtain Construction Certificate before commencement of works

A **Construction Certificate** shall be obtained prior to commencement of any building works.

7 [A Special](#)

Prior to the erection of any crane or any temporary construction structure at a height greater than the roof of the subject development, written notice shall be provided to Council and the Nepean Blue Mountains Local Health District at least 21 days prior to the erection, indicating at least the following:

- Name of responsible company and relevant contact details.
- Dimensions (height, length, etc.).
- Position and orientation of boom/jib and counterboom/jib.
- Length of time that such a crane or structure will be erected on site.
- The management plan and measures that will ensure that the crane or structure will be of least possible impact on flight operations for Ambulance NSW.

Any crane or any temporary construction structure erected at a height greater than the roof of the subject development shall comply with the following:

- Be equipped with medium intensity steady red lighting positioned at the highest point and both ends of the boom/jib and counterboom/jib, such that the lighting will provide an indication of the height of the crane and the radius of the crane boom/jib. Such lighting, which should be displayed at night, should be positioned so that when displayed it is visible from all directions.
- When a crane is unattended for an extended period of time ensure the crane's boom is retracted and lowered as far as possible.
- No part of the crane or structure shall extend beyond the boundaries of the subject development site unless approved by Penrith City Council in consultation with the Nepean Blue Mountains Local Health District. Any encroachment beyond the boundaries of the subject site shall be the minimum amount required to facilitate construction and access all parts of the construction site.

8 [A Special \(SEPP - Restriction on title\)](#)

In accordance with Clause 18 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004, a restriction as to user must be registered against the title of the property on which the development is to be carried out, in accordance with Section 88E of the *Conveyancing Act 1919*, limiting the use of any accommodation to which the development relates to the kinds of people referred to in subclause (1) of Clause 18. The restriction shall be registered on the land title **prior to the issue of an Occupation Certificate.**

9 [A Special \(SEPP detailed design requirements\)](#)

Prior to the issue of a Construction Certificate, documentation shall be submitted to, and approved by, the principal certifying authority demonstrating compliance with the requirements of Schedule 3 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004.

10 [A Special \(SEPP requirements for occupants\)](#)

In accordance with Clause 18 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004, the development can only be occupied by the following people:

- (a) seniors or people who have a disability,
- (b) people who live within the same household with seniors or people who have a disability,
- (c) staff employed to assist in the administration of and provision of services to housing provided under this Policy.

Demolition

11 [B002 - AS FOR DEMOLITION AND DISPOSAL TO APPROVED LANDFILL SITE](#)

Any demolition works are to be conducted in accordance with the provisions of AS 2601-1991 "The Demolition of Structures". **Prior to demolition**, all services shall be suitably disconnected and capped off or sealed to the satisfaction of the relevant service authority requirements.

All demolition and excavated material shall be disposed of at a Council approved site or waste facility. Details of the proposed disposal location(s) of all excavated material from the development site shall be provided to the Principal Certifying Authority **prior to commencement of demolition.**

12 B003 - ASBESTOS

You should read Council's Fact Sheet titled "Handling and Disposal of Fibrous Cement Products" **before any demolition works commence on the site.**

Prior to commencement of demolition works on site, a portaloo with appropriate washing facilities shall be located on the site and the Principal Certifying Authority is to be satisfied that:

- Measures are in place so as to comply with the WorkCover Authority's "Short Guide to Working with Asbestos Cement" and
- The person employed to undertake the works is a licensed asbestos removal contractor and is holder of a current WorkCover Asbestos Licence.

Any demolition works involving the removal of all asbestos shall only be carried out by a licensed asbestos removal contractor who has a current WorkCover Asbestos Licence.

All asbestos laden waste, including asbestos cement flat and corrugated sheeting must be disposed of at a tipping facility licensed by the Environmental Protection Authority to receive asbestos wastes.

13 B004 - Dust

Dust suppression techniques are to be employed during demolition to reduce any potential nuisances to surrounding properties.

14 B005 - Mud/Soil

Mud and soil from vehicular movements to and from the site must not be deposited on the road.

15 B006 - Hours of work

Demolition works will be restricted to the following hours in accordance with the NSW Environment Protection Authority Noise Control Guidelines:

- Mondays to Fridays, 7am to 6pm
- Saturdays, 7am to 1pm (if inaudible on neighbouring residential premises), otherwise 8am to 1pm
- No demolition work is permitted on Sundays and Public Holidays.

In the event that the demolition relates to works inside the building and do not involve external walls or the roof, and do not involve the use of equipment that emits noise then the demolition works are not restricted to the hours stated above.

The provisions of the Protection of the Environment Operations Act, 1997 in regulating offensive noise also apply to all construction works.

Heritage/Archaeological relics

16 C003 - Uncovering relics

If any archaeological relics are uncovered during the course of the work no further work shall be undertaken until further directed by Penrith City Council or the NSW Heritage Office.

The applicant is advised that depending on the possible significance of the relics, an archaeological assessment and an excavation permit under the Heritage Act, 1977 may be required before any further work can be recommenced in that area of the site.

Environmental Matters

17 D001 - Implement approved sediment& erosion control measures

Erosion and sediment control measures shall be installed **prior to the commencement of works on site** including approved clearing of site vegetation. The erosion and sediment control measures are to be installed and maintained in accordance with the Department of Housing's "Managing Urban Stormwater: Soils and Construction" 2004.

(Note: To obtain a copy of the publication, you should contact Landcom on (02) 98418600).

The approved sediment and erosion control measures are to be installed **prior to and maintained throughout the construction phase of the development until the land, that was subject to the works, have been stabilised and grass cover established.**

18 D002 - Spraygrass

All land that has been disturbed by earthworks is to be spray grassed or similarly treated to establish a grass cover.

19 **D009 - Covering of waste storage area**

All waste materials stored on-site are to be contained within a designated area such as a waste bay or bin to ensure that no waste materials are allowed to enter the stormwater system or neighbouring properties. The designated waste storage areas shall provide at least two waste bays / bins so as to allow for the separation of wastes, and are to be fully enclosed when the site is unattended.

20 **D010 – Appropriate disposal of excavated or other waste**

All excavated material and other wastes generated as a result of the development are to be re-used, recycled or disposed of in accordance with the approved waste management plan.

Waste materials not specified in the approved waste management plan are to be disposed of at a lawful waste management facility. Where the disposal location or waste materials have not been identified in the waste management plan, details shall be provided to the Certifying Authority as part of the waste management documentation accompanying the Construction Certificate application.

All receipts and supporting documentation must be retained in order to verify lawful disposal of materials and are to be made available to Penrith City Council on request.

21 **D Special BLANK**

Prior to the issue of an Occupation Certificate the following is to be submitted to and approved by Penrith City Council

- The developer is to enter into a formal agreement with Penrith City Council for the utilisation of Councils Waste Collection Service. This is to include Council being provided with indemnity against claims for loss and damage.
- Note: By entering into an agreement with Council for Waste Collection, the development will be required to operate in full compliance with Penrith City Councils Waste Collection and Processing Contracts for Standard Waste Collection. The provision of Councils waste collection service will not commence until formalisation of the agreement.
- Councils Waste and Resource Recovery Department to conduct a site inspection to ensure all on-site infrastructure has been provided to permit a safe and efficient waste collection service.

22 **D Special Fauna protection**

A fauna inspection, assessment and implementation plan for the safe identification, removal and translocation of all protected native fauna within the existing structures and vegetation (according to governing Legislation, policy and guidelines) is to be submitted to Council for approval. The plan should define (but not be limited to):

- the response should threatened species be identified during the inspection
- management of injured wildlife
- care / translocation of wildlife to ensure its long term persistence
- the timing for the plan to be effected (for example immediately in advance of works commencing)
- reporting to Council

The plan is to be prepared by a qualified (minimum 5 years experience), licensed fauna ecologist and the safe removal, handling and translocation of fauna is to be conducted by a suitably experienced and licensed wildlife handler.

BCA Issues

23 **E001 - BCA compliance**

All aspects of the building design shall comply with the applicable performance requirements of the Building Code of Australia so as to achieve and maintain acceptable standards of structural sufficiency, safety (including fire safety), health and amenity for the on-going benefit of the community. Compliance with the performance requirements can only be achieved by:

(a) complying with the deemed to satisfy provisions, or

(b) formulating an alternative solution which:

- complies with the performance requirements, or
- is shown to be at least equivalent to the deemed to satisfy provision, or

(c) a combination of (a) and (b).

24 **E004 - Floor wastes**

Access for persons with disabilities is to be provided in accordance with Schedule 3 of SEPP (Housing for Senior's or People with a Disability) 2004.

25 **E006 - Disabled access and facilities**

Access and sanitary facilities for persons with disabilities are to be provided and maintained in accordance with the requirements of the Building Code of Australia and AS 1428 "Design for Access and Mobility". Details of compliance are to be provided in the relevant plans and specifications accompanying the Construction Certificate application.

Health Matters and OSSM installations

26 **F006 - Water tank & nuisance**

The rainwater tank must be maintained so as not to create a nuisance and it must be protected against mosquito infestation.

Utility Services

27 **G002 - Section 73 (not for**

A Section 73 Compliance Certificate under the Sydney Water Act 1994 shall be obtained from Sydney Water. The application must be made through an authorised Water Servicing Coordinator. Please refer to "Your Business" section of Sydney Water's website at www.sydneywater.com.au then the "e-developer" icon, or telephone 13 20 92.

The Section 73 Compliance Certificate must be submitted to the Principal Certifying Authority **prior to the issue of an Occupation Certificate.**

28 **G004 - Integral Energy**

Prior to the issue of a Construction Certificate, a written clearance is to be obtained from Endeavour Energy stating that electrical services have been made available to the development or that arrangements have been entered into for the provision of services to the development.

In the event that a pad mounted substation is necessary to service the development, Penrith City Council shall be consulted over the proposed location of the substation before the Construction Certificate for the development is issued as the location of the substation may impact on other services and building, driveway or landscape design already approved by Council.

29 **G006 -**

Prior to the issue of a Construction Certificate, the Principal Certifying Authority shall be satisfied that telecommunications infrastructure may be installed to service the premises which complies with the following:

- The requirements of the Telecommunications Act 1997:
- For a fibre ready facility, the NBN Co's standard specifications current at the time of installation; and
- For a line that is to connect a lot to telecommunications infrastructure external to the premises, the line shall be located underground.

Unless otherwise stipulated by telecommunications legislation at the time of construction, the development must be provided with all necessary pits and pipes, and conduits to accommodate the future connection of optic fibre technology telecommunications.

Prior to the issue of an Occupation Certificate, written certification from all relevant service providers that the telecommunications infrastructure is installed in accordance with the requirements above and the applicable legislation at the time of construction, must be submitted to the Principal Certifying Authority.

Construction

30 H001 - Stamped plans and erection of site notice

Stamped plans, specifications, a copy of the development consent, the Construction Certificate and any other Certificates to be relied upon shall be available on site at all times during construction.

The following details are to be displayed in a maximum of 2 signs to be erected on the site:

- the name of the Principal Certifying Authority, their address and telephone number,
- the name of the person in charge of the work site and telephone number at which that person may be contacted during work hours,
- that unauthorised entry to the work site is prohibited,
- the designated waste storage area must be covered when the site is unattended, and
- all sediment and erosion control measures shall be fully maintained until completion of the construction phase.

Signage but no more than 2 signs stating the above details are to be erected:

- at the commencement of, and for the full length of the, construction works onsite, and
- in a prominent position on the work site and in a manner that can be easily read by pedestrian traffic.

All construction signage is to be removed when the Occupation Certificate has been issued for the development.

31 H002 - All forms of construction

Prior to the commencement of construction works:

(a) Toilet facilities at or in the vicinity of the work site shall be provided at the rate of one toilet for every 20 persons or part of 20 persons employed at the site. Each toilet provided must be:

- a standard flushing toilet connected to a public sewer, or
- if that is not practicable, an accredited sewage management facility approved by the council, or
- alternatively, any other sewage management facility approved by council.

(b) All excavations and backfilling associated with the erection or demolition of a building must be executed safely and in accordance with the appropriate professional standards. All excavations associated with the erection or demolition of a building must be properly guarded and protected to prevent them from being dangerous to life or property.

(c) If an excavation associated with the erection or demolition of a building extends below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation to be made:

- must preserve and protect the building from damage, and
- if necessary, must underpin and support the building in an approved manner, and
- must, at least 7 days before excavating below the level of the base of the footings of a building on an adjoining allotment of land, give notice of intention to do so to the owner of the adjoining allotment of land and furnish particulars of the excavation to the owner of the building being erected or demolished. The owner of the adjoining allotment of land is not liable for any part of the cost of work carried out for the purposes of this condition, whether carried out on the allotment of land being excavated or on the adjoining allotment of land, (includes a public road and any other public place).

(d) If the work involved in the erection or demolition of a building is likely to cause pedestrian or vehicular traffic in a public place to be obstructed or rendered inconvenient, or involves the enclosure of a public place, a hoarding or fence must be erected between the work site and the public place:

- if necessary, an awning is to be erected, sufficient to prevent any substance from, or in connection with, the work falling into the public place,
- the work site must be kept lit between sunset and sunrise if it is likely to be hazardous to persons in the public place, and
- any such hoarding, fence or awning is to be removed when the work has been completed.

32 [H006 - Submission of and implement waste management plan](#)

A completed waste management plan shall be submitted to Penrith City Council for consideration and approval. Council must approve the plan before a Construction Certificate can be issued for the approved development.

The waste management plan shall be prepared in accordance with the Waste Planning Development Control Plan (2004), and shall address all waste materials likely to result from the proposed development, with details of the estimated waste volumes, onsite storage and management, proposed re-use of materials, designated waste contractors, recycling outlet and / or landfill site.

The approved waste management plan must be implemented on-site and adhered to throughout all stages of the development including demolition, with supporting documentation / receipts retained in order to verify the recycling and disposal of materials in accordance with the approved plan.

33 [H033 – Clothes line](#)

Clothes drying facilities are to be positioned and screened from public view.

34 [H036 - Rainwater Tank \(Also impose H037, H038, H039, G005 & Q010\)](#)

The rainwater tank(s) is to be:

- erected on a self-supporting base in the approved location on the property in accordance with the stamped-approved site plans for the development,
- structurally sound and constructed in accordance with AS/NZS 3500 1.2- 1998: National Plumbing and Drainage - Water Supply - Acceptable Solutions,
- fully enclosed and all openings sealed to prevent access by mosquitoes,
- fitted with a first flush device,
- fitted with a trickle system to top up from mains water,
- provided with an air gap, and
- installed by a licensed plumber in accordance with Sydney Water's "Plumbing requirements Information for rainwater tank suppliers and plumbers April 2003" and the NSW Code of Practice: Plumbing and Drainage.

Additionally, the following are to be provided:

- A back flow prevention device shall be provided at the water meter in accordance with Sydney Water requirements.
- In the event of a power failure, a back up supply of mains water shall be provided to at least one toilet in the dwelling.
- The rainwater tank(s) and associated piping is to be labelled 'Rainwater - Not for Drinking' in accordance with Sydney Water requirements.
- The rainwater tank and pipework is to be painted in colours matching the external finishes of the dwelling and is to be of non-reflective finish.
- The overflow for the rainwater tank is to be connected into the existing stormwater disposal system on the site.

Before a rainwater tank(s) can be used, a certificate or suitable document is to be submitted to the Principal Certifying Authority stating that the rainwater tank has been installed in accordance with:

- the Manufacturer's Specifications, and
- Sydney Water and NSW Health requirements.

This certificate or documentation is to be provided by the licensed plumber who installed the rainwater tank on the property, and is to be submitted prior to the issue of the Occupation Certificate.

35 [H037 - Safe supply of water from catchment areas \(Also impose H036, H038 & H039\)](#)

The catchment area (for the rainwater tank) includes the parts of the roof of the dwelling(s) from which water is collected and includes gutters. To ensure a safe supply of water:

- roof catchment areas must be kept clear of overhanging vegetation,
- gutters must have sufficient fall to downpipes to prevent pooling of water,
- overflow, discharge from bleed off pipes from roof mounted appliances such as airconditioners, hot water services and solar heaters must not discharge into the rainwater catchment area,
- for roofs containing lead based, tar based or asbestos material the tank supply must not be connected to drinking, bathing and gardening tap water outlets,
- appropriate measures must be installed to prevent foreign materials from contaminating the water which enters the rainwater tank.

36 [H038 - Connection of rainwater tank supply \(Also impose H036, H037 & H039\)](#)

The rainwater tank supply must not be connected to drinking and bathing water tap outlets.

37 [H039 - Rainwater tank pumps \(Also impose H036, H037 & H038\)](#)

The rainwater tank pump must not exceed 5dBA above ambient background noise level at the nearest residential property boundary. The provisions of the Protection of the Environment Operations Act 1997 apply to the development, in terms of regulating offensive noise.

Engineering

38 [K101 - Works at No Cost to Council](#)

All roadworks, stormwater drainage works, signage, line marking, associated civil works and dedications required to effect the consented development shall be undertaken by the applicant at no cost to Penrith City Council.

39 [K201 - Infrastructure Bond](#)

An Infrastructure Restoration Bond is to be lodged with Penrith City Council for development involving works around Penrith City Council's Public Infrastructure Assets. The bond is to be lodged with Penrith City Council prior to commencement of any works on site or prior to the issue of any Construction Certificate or Subdivision Works Certificate, whichever occurs first. The bond and applicable fees are in accordance with Council's adopted Fees and Charges.

An application form together with an information sheet and conditions are available on Council's website.

Contact Penrith City Council's Asset Management Department on 4732 7777 or visit Penrith City Council's website for more information.

40 K203 - S138 Roads Act - Roadworks Requiring Approval of Civil Drawings

Prior to the issue of any Construction Certificate or Subdivision Works Certificate, the Certifier shall ensure that a Section 138 Roads Act application, including payment of application and inspection fees, has been lodged with and approved by Penrith City Council (being the Roads Authority under the Roads Act) for provision of;

- A 1.5m wide concrete footpath shall be provided along the site frontage verge on Linksvie Avenue and along the site frontage verge on Fairways Avenue and connect with the existing 1.2m wide concrete footpath on Fairways Avenue. Kerb ramps, with connection to path on southern side, shall be provided on both sides of Fairways Avenue near the Linksvie Avenue kerb returns.
- The existing footpath along Fairways Avenue shall also be provided with three concrete footpath passing areas that are at least 2.0m long and 2.0m wide and spaced at approximately 42m intervals between the existing widened concrete footpath fronting the children's / pedestrian crossing and Leonay Parade. A passing area must also be located approximately midway between the existing 1.2m path near the school's eastern side boundary and the existing widened concrete footpath fronting the pedestrian crossing.
- Kerb ramps with connections to paths and 2.0m X 2.0m pathway landings (with 2% cross fall) shall be provided on both sides of Leonay Parade near the northern kerb return of Fairways Avenue at a location that is clear of the approved one in association with DA18/0663. Provide accessible grades and cross falls for the kerb ramps, connections, landings, bus stop boarding points, footpaths and driveways including at desirably a 1.5m wide (minimum 1.0m wide) wheelchair accessible 2% cross fall sections across driveways that align with the footpath. The works shall also be clear of public utilities, Council identified trees.
- Adjustments to the existing 1.5m wide footpath along the eastern side of Leonay Parade shall be provided for a Disability Discriminations Act (DDA) complying accessible path, with DDA complying grades and cross falls, 2.0m X 2.0m pathway wheelchair manoeuvring landings and DDA complying bus stop concrete boarding point at the existing bus stop on the western side of Leonay Parade between Fairways Avenue and Linksvie Avenue. The works shall also be clear of public utilities and Council identified trees
- Vehicular crossings (including kerb reinstatement of redundant vehicular crossings)
- Road opening for utilities and stormwater (including stormwater connection to Penrith City Council roads and other Penrith City Council owned drainage)

Engineering plans are to be prepared in accordance with the development consent, Penrith City Council's Design Guidelines for Engineering Works for Subdivisions and Developments, Engineering Construction Specification for Civil Works, Austroads Guidelines, and best engineering practice.

Contact Penrith City Council's Development Engineering Department on 4732 7777 to obtain a formal fee proposal prior to lodgement and visit Penrith City Council's website for more information.

Note:

- Where Penrith City Council is the Certifier for the development, the Roads Act approval for the above works may be issued concurrently with the Construction Certificate or Subdivision Works Certificate.
- Separate approval may be required from the Transport for NSW for classified roads.
- All works associated with the Roads Act approval must be completed prior to the issue of any Occupation Certificate or Subdivision Certificate as applicable.

41 **K210 - Stormwater Management**

The stormwater management system shall be consistent with plan/s lodged for development approval, prepared by Abel & Brown Pty Ltd, reference number 2918 H-01 to H-05, revision I, dated Sep.20.

Prior to the issue of any Construction Certificate or Subdivision Works Certificate, the Certifier shall ensure that the stormwater management system has been designed in accordance with Penrith City Council's Stormwater Drainage Specification for Building Developments and Water Sensitive Urban Design (WSUD) Policy.

Engineering plans and supporting calculations for the stormwater management system are to be prepared by a suitably qualified person and shall accompany the application for a Construction Certificate or Subdivision Works Certificate.

42 **K222 - Access, Car Parking and Manoeuvring - General**

Prior to the issue of any Construction Certificate or Subdivision Works Certificate, the Certifier shall ensure that vehicular access, circulation, manoeuvring, pedestrian and parking areas associated with the subject development are in accordance with AS2890.1, AS2890.2, AS2890.6 and Penrith City Council's Development Control Plan.

43 **K225 - Performance Bond**

Prior to the issue of a Roads Act Approval, a Performance Bond is to be lodged with Penrith City Council for footpath works in Fairways Avenue.

The value of the bond shall be determined in accordance with Penrith City Council's adopted Fees and Charges.

Note:

- Contact Penrith City Council's Development Engineering Department on 4732 7777 for further information relating to bond requirements.

44 **K405 - Turf to Verge**

Upon completion of all works in the road reserve, all verge areas fronting and within the development are to be turfed. The turf shall extend from the back of kerb to the property boundary, with the exception of concrete footpaths, service lids or other infrastructure which is not to be turfed over. Turf laid up to concrete footpaths, service lids or other infrastructure shall finish flush with the edge.

45 **K501 - Penrith City Council Clearance - Roads Act / Local Government Act**

Prior to the issue of any Occupation Certificate, the Principal Certifier shall ensure that all works associated with a S138 Roads Act approval have been inspected and signed off by Penrith City Council.

46 **K503 - Works As Executed - Stormwater Management**

Prior to the issue of any Occupation Certificate, Works As Executed drawings, final operation and maintenance management plans and any other compliance documentation for the stormwater management system shall be submitted to the Principal Certifier in accordance with Penrith City Council's Engineering Construction Specification for Civil Works, Stormwater Drainage Specification for Building Developments and WSUD Technical Guidelines.

An original set of Works As Executed drawings and copies of the final operation and maintenance management plans and compliance documentation shall also be submitted to Penrith City Council with notification of the issue of the Occupation where Penrith City Council is not the Principal Certifier.

47 **K504 - Stormwater Compliance**

Prior to the issue of any Occupation Certificate, the Principal Certifier shall ensure that the:

- a) Stormwater management systems (including on-site detention and water sensitive urban design)
 - have been satisfactorily completed in accordance with the approved Construction Certificate or Subdivision Works Certificate and the requirements of this consent;
 - have met the design intent with regard to any construction variations to the approved design, and;
 - Any remedial works required to be undertaken have been satisfactorily completed.

Details of the approved and constructed system/s shall be provided as part of the Works As Executed drawings.

48 **K505 - Restriction on the Use of Land and Positive Covenant**

Prior to the issue of any Occupation Certificate, a restriction on the use of land and positive covenant relating to the:

- a) Stormwater management systems (including on-site detention and water sensitive urban design)

shall be registered on the title of the property. The restriction on the use of land and positive covenant shall be in Penrith City Council's standard wording as detailed in Council's Stormwater Specification for Building Developments - Appendix F.

49 **K601 - Stormwater Management System Operation and Maintenance**

The stormwater management system shall continue to be operated and maintained in perpetuity for the life of the development in accordance with the final operation and maintenance management plan.

Regular inspection records are required to be maintained and made available to Penrith City Council on request. All necessary improvements are required to be made immediately upon awareness of any deficiencies in the stormwater management systems.

50 **K Special (BLANK)**

Prior to the issue of any Construction Certificate the Principal Certifying Authority shall ensure that a detailed plan and documentation is provided to include a 1.5m wide concrete footpath along the site frontage verge on Linksvie Avenue and along the site frontage verge on Fairways Avenue and extend to connect with the existing 1.2m wide concrete footpath on Fairways Avenue. Kerb ramps, with connection to the path on the southern side, shall be provided on both sides of Fairways Avenue near the Linksvie Avenue kerb returns. These works shall be to Council specifications and requirements.

51 **K Special (BLANK)**

Prior to the issue of any Construction Certificate the Principal Certifying Authority shall ensure that a detailed plan and documentation is provided with at least a 2.0m long and 2.0m wide footpath passing area located along Fairways Avenue, approximately midway between the existing 1.2m path near the school's eastern side boundary and the existing widened concrete footpath fronting the children's / pedestrian crossing. The existing footpath along Fairways Avenue shall also be provided with three concrete footpath passing areas that are at least 2.0m long and 2.0m wide and spaced at approximately 42m intervals between the existing widened concrete footpath fronting the children's/pedestrian crossing and Leonay Parade. These works shall be to Council specifications and requirements.

52 **K Special (BLANK)**

Prior to the issue of any Construction Certificate the Principal Certifying Authority shall ensure that a detailed plan and documentation is provided to include kerb ramps with connections to paths and 2.0m X 2.0m pathway landings (with 2% cross fall) on both sides of Leonay Parade near the northern kerb return of Fairways Avenue. This it to be at a location that is clear of the approved driveways approved under DA18/0663 and co-ordinate with the driveway locations, grades, cross falls and the footpath, grade and cross fall adjustments that may be required for these driveways. This includes providing accessible grades and cross falls for the kerb ramps, connections, landings, bus stop boarding points, footpaths and driveways including a 1.5m wide (minimum 1.0m wide) wheelchair accessible 2% cross fall sections across driveways that align with the footpath. The works shall also be clear of public utilities, trees and shall be to Council specifications and requirements.

53 **K Special (BLANK)**

Prior to the issue of any Construction Certificate the Principal Certifying Authority shall ensure that a detailed plan and documentation is provided of adjustments to the existing 1.5m wide footpath along the eastern side of Leonay Parade to ensure it is a Disability Discriminations Act (DDA) complying accessible path, with DDA complying grades and cross falls, 2.0m X 2.0m pathway wheelchair manoeuvring landings and DDA complying bus stop concrete boarding point at the existing bus stop on the western side of Leonay Parade between Fairways Avenue and Linksvie Avenue. These works shall be at least 1.0m clear of and compatible with the approved 1 driveways under DA18/0663 and co-ordinate with any footpath, grade and cross fall adjustments that may be required for these driveways. This includes providing accessible grades and cross falls for the kerb ramps, connections, wheelchair manoeuvring landings, bus stop boarding points, footpaths and driveways including at desirably a 1.5m wide (minimum 1.0m wide) wheelchair accessible 2% cross fall sections across driveways that align with the footpath. The works shall also be clear of public utilities and trees and shall be to Council specifications and requirements.

Landscaping

54 **L000 Landscape Design**

Additional trees are to be provided within the southern setback which will reach 8m in height. These trees are to be deciduous to limit the shade in winter particularly to adjoining properties. All boundary fencing shall be timber paling and all balustrade fencing shall be timber picket fences. A balustrade shall be provided to the private open space of Unit 2. **These details shall be shown on the Construction Certificate plans.**

55 **L001 - General**

All landscape works are to be constructed in accordance with Appendix F5, Section 2.9 Landscape Technical Specifications of the Penrith Development Control Plan 2014.

Landscaping shall be maintained:

- in accordance with the approved plan, and
- in a healthy state, and in perpetuity by the existing or future owners and occupiers of the property.

If any of the vegetation comprising that landscaping dies or is removed, it is to be replaced with vegetation of the same species and, to the greatest extent practicable, the same maturity as the vegetation which died or was removed.

56 **L002 - Landscape construction**

The approved landscaping for the site must be constructed by a suitably qualified and experienced landscape professional.

57 **L003 - Report requirement**

The following series of reports relating to landscaping are to be submitted to the nominated consent authority at the appropriate time periods as listed below. These reports shall be prepared by a suitably qualified and experienced landscape professional.

i. Implementation Report

Upon completion of the landscape works associated with the development and prior to the issue of an Occupation Certificate for the development, an Implementation Report must be submitted to the Principal Certifying Authority attesting to the satisfactory completion of the landscaping works for the development. The report is to be prepared by a suitably qualified and experienced landscape professional.

An Occupation Certificate should not be issued until such time as a satisfactory Implementation Report has been received. If Penrith City Council is not the Principal Certifying Authority, a copy of the satisfactory Implementation Report is to be submitted to Council together with the Occupation Certificate for the development.

ii. Maintenance Report

On the first anniversary of the date of the Occupation Certificate issued for the development, a Landscape Maintenance Report is to be submitted to Penrith City Council certifying that the landscape works are still in accordance with the development consent and the plant material is alive and thriving.

This report is to be prepared by a suitably qualified and experienced landscape professional.

iii. 3 Year Landscaping Report

Three years after an Occupation Certificate was issued for the development, a suitably qualified and experienced landscape professional shall prepare a Landscaping Report for Council's consideration and approval, certifying to one of the following:

- (a) The landscaping on site has matured and is in accordance with the original landscape approval.
- (b) The landscaping on site has not matured in accordance with the original design philosophy and requires significant restoration.

In this case, restoration plans are to be submitted to Council for its consideration and approval. The approved plans shall be implemented at the expense of the property owners.

58 **L005 - Planting of plant**

All plant material associated with the construction of approved landscaping is to be planted in accordance with Appendix F5, Landscape Technical Specifications of the Penrith Development Control Plan 2014.

59 **L006 - Aust Standard**

All landscape works are to meet industry best practice and the following relevant Australian Standards:

- AS 4419 Soils for Landscaping and Garden Use,
- AS 4454 Composts, Soil Conditioners and Mulches, and
- AS 4373 Pruning of Amenity Trees.

60 **L008 - Tree Preservation Order**

No trees are to be removed, ringbarked, cut, topped or lopped or wilfully destroyed (other than those within the proposed building footprint or as shown on the approved plans) without the prior consent of Penrith City Council and in accordance with Council's Tree Preservation Order and Policy.

61 **L Special (Arborist Report)**

Prior to the issue of the construction certificate, an amended arborist's report is to be submitted to and endorsed by Council. The report is to detail how the driveway, retaining wall and waste area construction will be undertaken and the methodology is to be informed by a root mapping survey accompanying the report. The arborist is to provide detail as to how the trees will be protected throughout the development.

62 **L Special (Tree protection)**

The applicant shall engage a qualified arborist - minimum AQF (Australian Qualification Framework) Level 5 to prepare a site-specific Tree Protection Plan and Drawing in accordance with AS4970 – 2009, Protection of trees on development sites and any other relevant conditions of consent. Prior to commencement of any works the site specific Tree Protection Plan and Drawing must be submitted to Council for approval. The plan must include the following:

- Tree protection measures shall comply with Australian Standard AS4970-2009
- The Plan must cover all stages of the proposed works as outlined in Table 1 of AS 4970 – 2009, Protection of Trees on development sites [i.e. Pre-construction (Section 4 & 5), Construction Sections 4 & 5), Post Construction Sections 4 & 5)] including the installation of the landscaping works.
- All trees to be retained and protected shall be provided with a Tree protection Zone (TPZ) of 12 x trunk diameter when measured at 1.4 metres from ground level.
- Intrusion into the TPZ by up to 10% may be supported providing that:
 - i. The work is outside the Structural Root Zone (SRZ) of any tree to be retained on the subject or neighbouring site;
 - ii. The area lost to encroachment is compensated for elsewhere and contiguous with the TPZ;
 - iii. Ground protection in accordance with AS4970 – 2009, Protection of trees on development sites is provided in the full TPZ;
 - iv. Tree protection fences can be installed at the extremity of the TPZ or 10% modified TPZ;
 - v. The posts for the tree protection fences are secured in the ground so that they cannot be removed during the approved works.

63 **L Special BLANK**

An Arborist with a minimum AQF (Australian Qualification Framework) Level 5 shall be engaged for the duration of the approved works to ensure that tree protection measures on the site are implemented and complied with as per the approved Tree Protection Plan and Drawing and the conditions contained in this consent. The arborist shall also be present on site when:

- There are works within a Tree protection zone
- Any in ground work within a TPZ is to be undertaken
- There is a requirement for a change to the alignment of tree protection fences, and
- At any other times that the approved site-specific Tree Protection Plan and Drawing prescribes.

Development Contributions

64 **N001 - Section 94 contribution (apply separate condition for each Contribution Plan)**

This condition is imposed in accordance with Penrith City Council's Section 7.11 Contributions Plan for Local Open Space. Based on the current rates detailed in the accompanying schedule attached to this Notice, \$3,248.00 is to be paid to Council prior to a Construction Certificate being issued for this development (the rates are subject to quarterly reviews). If not paid within the current quarterly period, this contribution will be reviewed at the time of payment in accordance with the adopted Section 7.11 plan. The projected rates of this contribution amount are listed in Council's Fees and Charges Schedule.

Council should be contacted prior to payment to ascertain the rate for the current quarterly period. The Section 7.11 invoice accompanying this consent should accompany the contribution payment. The Section 7.11 Contributions Plan for Local Open Space may be inspected at Council's Civic Centre, 601 High Street, Penrith.

Note: The timing of contributions payable may be otherwise affected in accordance with Planning Circular PS20-003 dated 3 July 2020 and the associated NSW Government Ministerial Direction - Infrastructure Contributions.

65 **N001 - Section 94 contribution (apply separate condition for each Contribution Plan)**

This condition is imposed in accordance with Penrith City Council's Section 7.11 Contributions Plan for District Open Space. Based on the current rates detailed in the accompanying schedule attached to this Notice, \$8,985.00 is to be paid to Council prior to a Construction Certificate being issued for this development (the rates are subject to quarterly reviews). If not paid within the current quarterly period, this contribution will be reviewed at the time of payment in accordance with the adopted Section 7.11 plan. The projected rates of this contribution amount are listed in Council's Fees and Charges Schedule.

Council should be contacted prior to payment to ascertain the rate for the current quarterly period. The Section 7.11 invoice accompanying this consent should accompany the contribution payment. The Section 7.11 Contributions Plan for District Open Space may be inspected at Council's Civic Centre, 601 High Street, Penrith.

Note: The timing of contributions payable may be otherwise affected in accordance with Planning Circular PS20-003 dated 3 July 2020 and the associated NSW Government Ministerial Direction - Infrastructure Contributions.

66 **N001 - Section 94 contribution (apply separate condition for each Contribution Plan)**

This condition is imposed in accordance with Penrith City Council's Section 94 Contributions Plan for Cultural Facilities. Based on the current rates detailed in the accompanying schedule attached to this Notice, \$842.00 is to be paid to Council prior to a Construction Certificate being issued for this development (the rates are subject to quarterly reviews). If not paid within the current quarterly period, this contribution will be reviewed at the time of payment in accordance with the adopted Section 94 plan. The projected rates of this contribution amount are listed in Council's Fees and Charges Schedule.

Council should be contacted prior to payment to ascertain the rate for the current quarterly period. The S94 invoice accompanying this consent should accompany the contribution payment. The Section 94 Contributions Plan for Cultural Facilities may be inspected at Council's Civic Centre, 601 High Street, Penrith.

Payment of Fees

67 **P001 - Costs**

All roadworks, dedications and drainage works are to be carried out at the applicant's cost.

68 **P002 - Fees associated with Council land (Applies to all works & add K019)**

Prior to the commencement of any works on site, all fees associated with Penrith City Council-owned land and infrastructure shall be paid to Council. These fees include Road Opening fees and Infrastructure Restoration fees.

Certification

69 **Q01F - Notice of Commencement & Appointment of PCA2 (use for Fast Light only)**

Prior to the commencement of any earthworks or construction works on site, the proponent is to:

- (a) employ a Principal Certifying Authority to oversee that the said works carried out on the site are in accordance with the development consent and related Construction Certificate issued for the approved development, and with the relevant provisions of the Environmental Planning and Assessment Act and accompanying Regulation, and
- (b) submit a Notice of Commencement to Penrith City Council.

The Principal Certifying Authority shall submit to Council an "Appointment of Principal Certifying Authority" in accordance with Section 81A of the Environmental Planning and Assessment Act 1979.

Information to accompany the Notice of Commencement

Two (2) days before any earthworks or construction/demolition works are to commence on site (including the clearing site vegetation), the proponent shall submit a "Notice of Commencement" to Council in accordance with Section 81A of the Environmental Planning and Assessment Act 1979.

70 **Q05F - Occupation Certificate**

An Occupation Certificate is to be obtained from the Principal Certifying Authority on completion of all works and prior to the occupation/use of the buildings.

The Certificate shall not be issued if any conditions of this consent, but not the conditions relating to the operation of the development, are outstanding.

A copy of the Occupation Certificate and all necessary documentation supporting the issue of the Certificate is to be submitted to Penrith City Council, if Council is not the Principal Certifying Authority.

Appendix - Development Control Plan Compliance

Development Control Plan 2014

Part C - City-wide Controls

C1 Site Planning and Design Principles

The surrounding area is characterised by low density residential development which consists of single and two storey detached dwellings and generous landscaped areas with substantial canopy cover. The proposed townhouses retain sympathetic setbacks with existing vegetation therein, which is compatible with the surrounding area.

Initially it was unclear how much fill was proposed particularly to the units along the eastern end of the site. The proposal was then amended to remove filling for Units 2 and 3 and only requires a compliant retaining wall height along part of the driveway giving the development a desirable presentation as viewed especially from the streetscape. Given there are several retaining walls within the surrounding properties' front setbacks and front boundaries, the presence of retaining walls at a compliant height with a picket fence design on top is considered compatible. Coupled with 3-4m side setbacks allowing for additional vegetation buffers, the proposal is considered to result in negligible impacts upon the amenity of the streetscape and that of adjacent residential dwellings.

C2 Vegetation Management

The arborist report notes the trees are generally in a healthy condition and recommends consideration of retaining some trees. 6 trees are proposed for retention on site. In addition, two neighbouring trees will not be adversely affected by the proposal.

Initially, the impacts of the proposed works had been underestimated as the arborist report did not address the retaining walls in close proximity to the trees to be retained (T7 and T2), nor was there any mention of the loss of permeable surfaces and the increase in hardstand areas in close proximity to trees to be retained (N1 and N3). The underground rainwater tank for Unit 3 also compromised T 1.

Additional information was then submitted relocating the rainwater tank to retain T1 and noting that the design of the retaining wall should be tree sensitive. More specifically, the arborist noted the following:

"The design of the retaining wall should minimise and ideally avoid any continuous footing. In addition, fill soil used needs to be coarser than the underlying soil and organic material must not be buried

Tree 7

The amount of encroachment on what the Standard refers to as the "Idealised" Tree Protection Zone of Tree 7 is considerable. However, this species is highly tolerant of root damage. The mean annual rainfall for the natural distribution of Tree 7 is 400 to 600 ml per year. Even if the work resulted in the loss of 50% of the absorbing roots, it would still be in a better net environment than it would be in its natural distribution.

Tree N1 and N3

It is acknowledged that the new design for the bin store the bulky goods storage and other hard surface will result in some relatively minor excavation in order to achieve the required levels. This will result in some minor root loss as well as some reduced infiltration.

On the other hand, these structures are quite small and the loss of infiltration will in part be compensated for by reduced evapotranspiration and lateral movement of soil moisture. Irrigation could also be installed to address this issue however it is noted that this species prefers well drained soils. Lastly, this species transplants well and is highly tolerant of root damage."

Council's Tree Management Officer reviewed the additional information and found it satisfactory

to preserve said trees, subject to relevant conditions of consent requiring retaining walls to be of plinths and piers and requiring root mapping to be undertaken.

Therefore, the siting and layout of development has considered the location of trees and favored their retention (DCP Section C2.1(6)(a). The objectives of this section are to promote the benefits of trees and other vegetation, protect and enhance native vegetation, habitat for fauna and manage non-native vegetation in accordance with its cultural and landscape significance. Trees and vegetation must also be retained where they form part of the landscape character of an area. The proposal is considered to comply with this requirement.

C5 Waste Management

The DCP specifies that developments must provide a waste bin storage/collection area that is of a sufficient size to accommodate all required waste bins associated with the development. The plans show a communal waste storage areas and bulky waste area. Council's Waste Department reviewed the proposal and raised no objections.

C10 Transport, Access and Parking

Council's Traffic Engineer reviewed the proposal and raised no objections subject to standard conditions of consent.

The application has demonstrated that there is adequate space within the site to facilitate vehicle manoeuvring. Turning paths have been provided to demonstrate suitable access into all parking areas as per Council's Section DCP 10.5.1.

While the SEPP does not specify visitor parking requirements, Council's DCP notes that 1 space should be provided per 5 dwellings or part thereof. No visitor parking has been proposed on-site however there is ample room along both street frontages for one visitor space.

D2 Residential Development

The proposed development is consistent with the following sections of the DCP:

2.4.5 Front and Rear Setbacks

The DCP specifies that a development must adopt a front setback that is the average of the setbacks of the immediate neighbours or a 5.5m minimum whichever is the greater.

The front setbacks of the adjoining dwelling along Linksvue Avenue from 5-8m at a minimum and from 7m to 9.5m along Fairways Avenue. The proposal is predominantly setback 5.8m along Linksvue Avenue, varying up to 10m in part and 3.6m at the corner with Fairways Avenue. The proposal is setback 5.6m along Fairways Avenue.

The proposal does not comply with these controls however it does still relate to the adjoining setbacks and positively contributes to the streetscape with the existing vegetation within the front setback. This setback is sympathetic rather than the same, which is what the SEPP and associated guidelines requires, as discussed elsewhere within this report. Further, given the landscaped nature of the front setback, the proposal does reflect the character to the established garden suburb and allow for the development of flora and fauna corridors.

2.4.6 Building Envelope and Side Setbacks

The DCP restricts cut and fill to a maximum of 500mm and floors to be no higher than 1m above natural ground level. The proposed retaining walls along the front boundary are low level and compliant and consistent with other boundary retaining walls in the area, notably on the property directly to the south.

Regarding level differences, Units 1, 4 and 5 are compliant in this regard. However the plans indicate that more than 1m of fill was originally required along the eastern edge of Unit 3, that being 1.1m. Additional information confirmed that a pier and beam method is utilized rather than fill for Unit 2 and 3. It is also noted that there are drop edge beams and subfloor walls within the immediate area as well as a response to topography, i.e. 2 Linksvue Avenue which has a subfloor wall approximately 1.3m high. Therefore the proposed level differences are not out of character within the area. In addition, a change in level from the footpath to a ground floor by up to 1.1m enhances privacy while allowing surveillance of the public domain.

Notwithstanding the above, the level difference is a minor non-compliance confined to a portion of the front setback; the built form and siting overall does relate to the site's land form and minimises disturbance to existing topography as the DCP requires. Therefore the design responds to the constraints of the site in relation to slope.

2.4.16 Garden Design

The DCP specifies that gardens should be landscaped according to the function of each area, including conservation of any existing corridor of mature trees. The proposal involves the retention of 6 healthy trees and therefore the proposal reflects the established garden suburb. The landscaped plan was amended to remove trees within the southern setback that may add shade to the neighbouring pool; deciduous species are recommended as a condition of consent. Gardens with a variety of plantings in the street setbacks will enhance the quality of the public domain, soften the building edge and provide privacy and amenity benefits to apartment residents.

2.4.18 Fences and Retaining Walls

The DCP states that fences and boundary retaining walls should be compatible with neighbourhood character and should be integrated with the design of buildings and garden areas. Retaining walls generally should be no taller than 500mm and be separated from any associated fence by a planter-bed at least 500mm wide, minimising the apparent overall height of fencing. In this regard, the proposed retaining wall along the eastern street frontage is 500mm. It is not separate from the fence but is rather proposed on top of the retaining wall in order to stay outside of the tree protection zones of the trees to be retained. Given the optimal landscape outcome afforded by retaining trees and the low height proposed, the cumulative visual impact from the street remains compatible with the character of the area.

seniors living development

8 linksview avenue, LEONAY
for GLENSTONE CONSTRUCTIONS



drawing No.	drawing name	revision	drawing No.	drawing name	revision	drawing No.	drawing name	revision	drawing No.	drawing name	revision	drawing No.	drawing name	revision
0001	cover page	AC	0006	SEPP Seniors Compliance	AB	1101	level 1 plan	AB	3000	sections 1	AC	9202	tree sections	AB
0002	location plan	AC	0100	site plan	AF	1102	roof plan	AB	3001	sections 2	AC	9203	bus stop compliance	AA
0003	site analysis - environmental	AB	0101	erosion & sediment control	AB	2000	north & south elevation	AC	9100	shadow diagrams	AB	9600	finishes schedule	AC
0004	site analysis - context	AA	0200	demolition plan	AB	2001	east & west elevation	AC	9200	driveway section	AB	9601	finishes schedule 2	AC
0005	BASIX commitments	AB	1100	ground floor plan	AE	2002	internal site elevations	AC	9201	threshold sections	AC	9602	finishes schedule 3	AC

architect	general notes	finishes	fixtures	date	issue	amendment	title
integrated DESIGN group architects bathurst penrith sydney copyright IntegratedDESIGNgroup p/l abn 84 116 006 329 nominated architects tony mckumey reg#5273 simon thorne reg#7098 bathurst 02 6332 6206 penrith 02 4732 4430 sydney 02 9784 6100 info@idgarchitects.com.au www.idgarchitects.com.au	1. figured dimensions take precedence over scaled drawings	BDRY boundary	FB face brick	b basin	rn	rangehood	22/5/20 AA issue for consultant co-ordination
	2. contractors to check and verify all levels datum and dimensions on site	BOE brick on edge	FC fibre cement	b/head bulkhead	sc solid core door		
	3. all materials and workmanship to be in accordance with current written manufacturers instructions local regulations and SAA codes	BPB bagged paint brickwork	FFL finished floor level	cs cavity sliding door	sh soap holder		12/8/20 AC revised issue for DA
	4. conflicting information to be brought to notice of the architect and clarification sought before proceeding with any works	CCR corrugated steel roof	F fixed glass	dry dryer	ss stainless steel sink		
	5. all drawings are not for construction and are subject to further design development, consultant input, council and legislative requirements.	CF colorbond fascia	FGL finished ground line	dw dishwasher	st stove		
		CFC comp. fibre cement	GM gas meter	exh exhaust fan	shwr shower		
		CONC concrete	HWS hot water service	fr freezer	t tub		
		CJ control joint	PB plasterboard	fw floor waste	tr towel rail		
		CT ceramic tile	PCR painted cement render	hc hollow core door	tri toilet roll holder		
		CPT carpet	PFB painted face brick	hr handrail	typ. typical		
		CRT concrete roof tile	PFC painted fibre cement	lb letterbox	wc water closet		
		COG colorbond quad gutter	PWB painted weatherboard	m mirror	wm washing machine		
		DP downpipe	SC soldier course	mw microwave	v vinyl		
		EP&S downpipe & spreader	TFB timber floor boards	oh overhead	vp vent pipe		
		EGL existing ground line	TTC tarmacotta roof tile	p pantry	uo under bench oven		
		EMB electrical meterboard	WM water meter	ref refrigerator	wo wall oven		

cover page

multi-dwelling development

glenstone group | 8 linksview ave, LEONAY

project ref: GLE18074

drawn: TG | SL

checked: AE

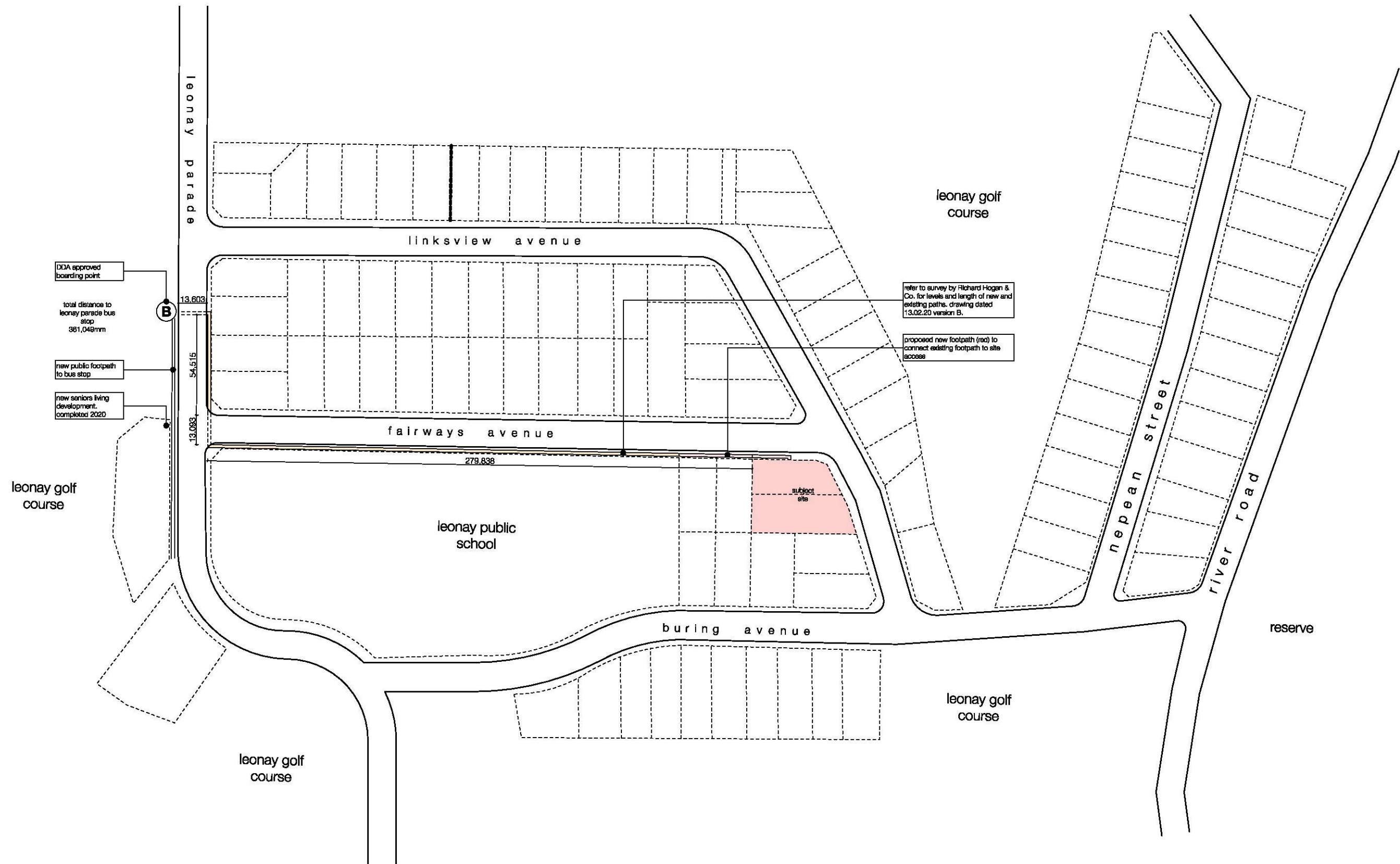
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DA

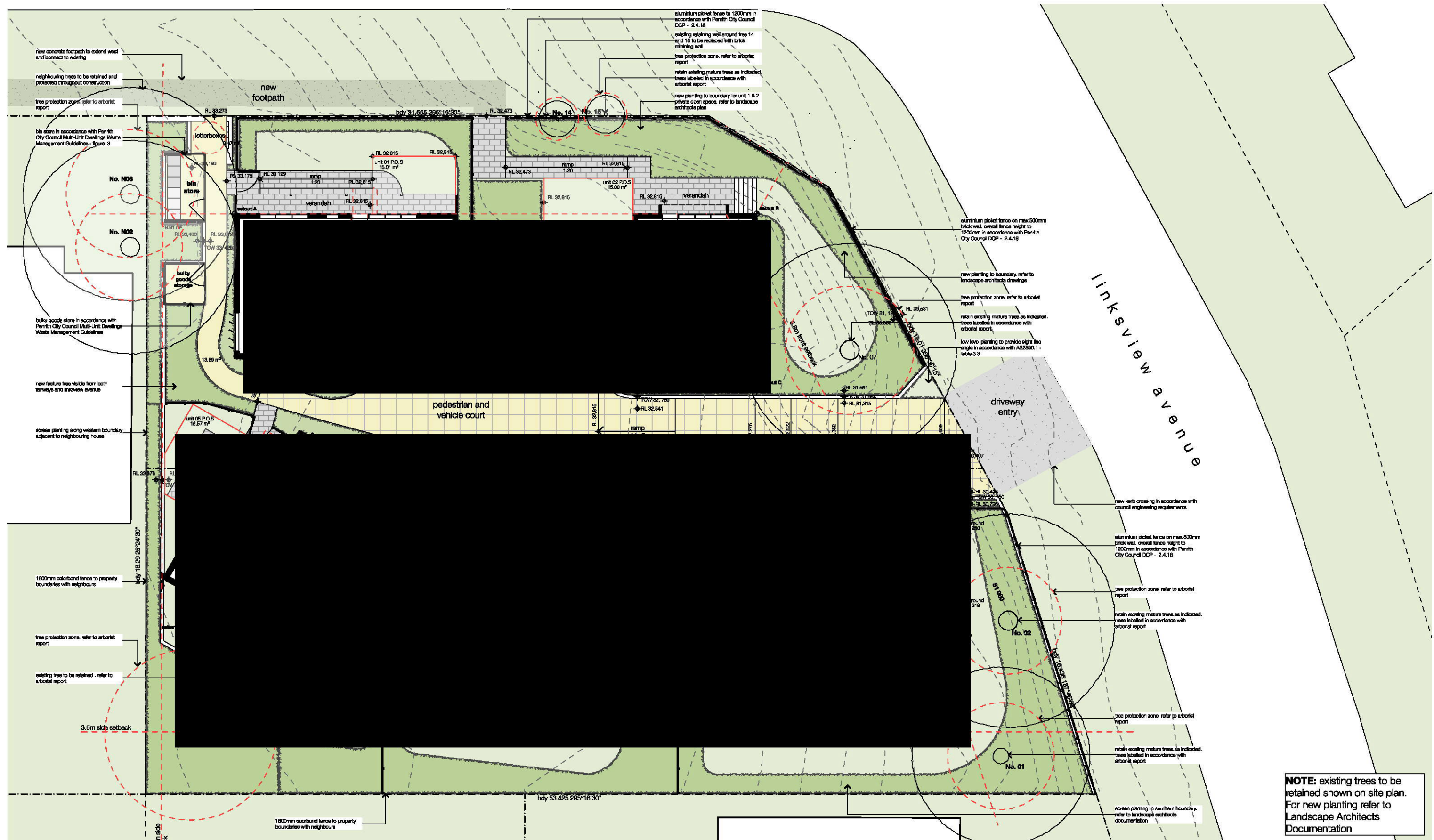
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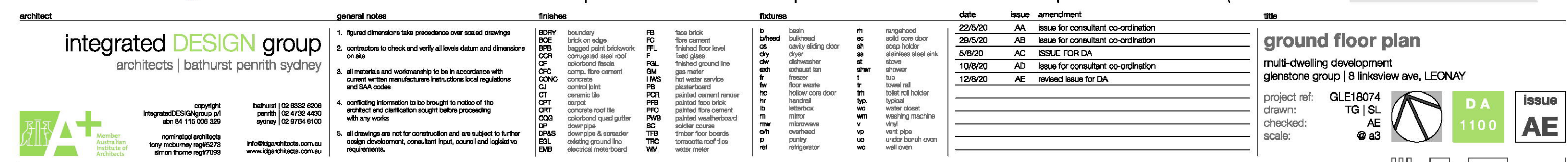
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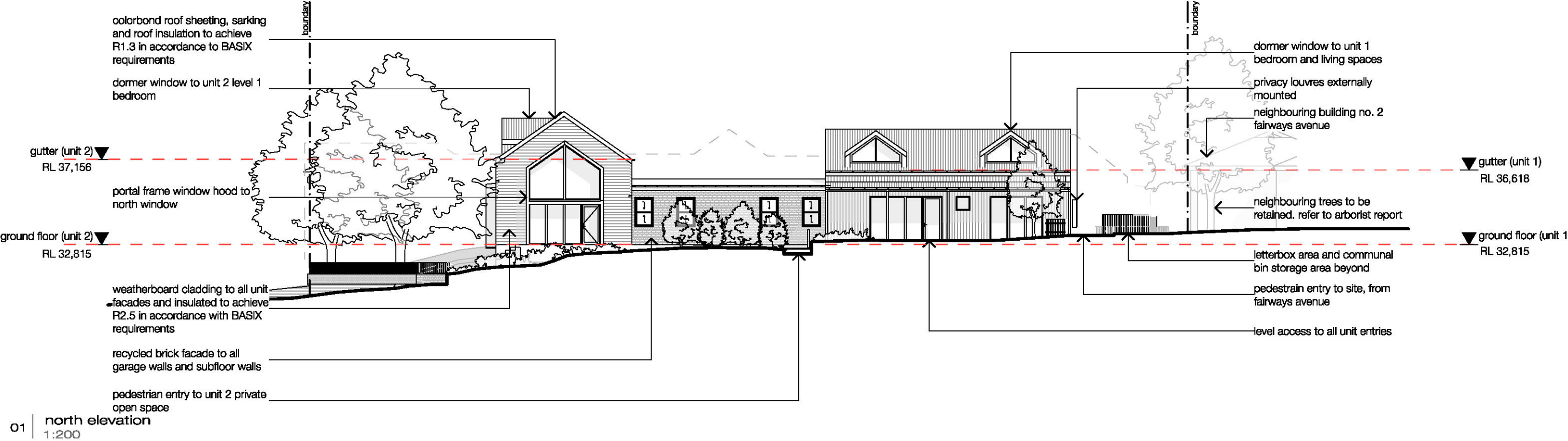
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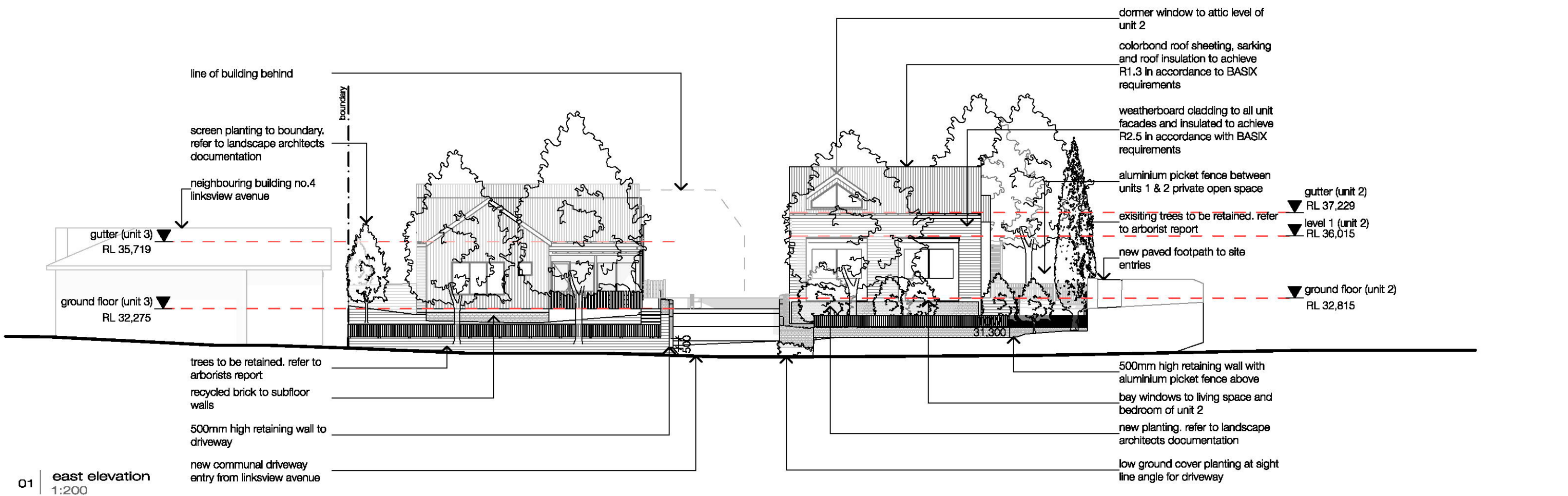
architect	general notes	finishes	fixtures	date	issue	amendment	title
integrated DESIGN group architects bathurst penrith sydney Member Australian Institute of Architects copyright IntegratedDESIGNgroup p/l abn 84 116 006 329 bathurst 02 6332 6206 penrith 02 4732 4430 sydney 02 9784 6100 nominated architects tony mcburney reg#5273 simon thorne reg#7093 info@idgarchitects.com.au www.idgarchitects.com.au	1. figured dimensions take precedence over scaled drawings	BDRY boundary	b basin	22/5/20	AA	issue for consultant co-ordination	location plan multi-dwelling development glenstone group 8 linksview ave, LEONAY project ref: GLE18074 drawn: TG SL checked: AE scale: 1:2000 @ a3 DA 0002 issue AB
	2. contractors to check and verify all levels datum and dimensions on site	BOE brick on edge	b/head bulkhead	5/6/20	AB	ISSUE FOR DA	
	3. all materials and workmanship to be in accordance with current written manufacturers instructions local regulations and SAA codes	BPB bagged paint brickwork	ca cavity sliding door				
	4. conflicting information to be brought to notice of the architect and clarification sought before proceeding with any works	CCR corrugated steel roof	ch dryer				
	5. all drawings are not for construction and are subject to further design development, consultant input, council and legislative requirements.	CF colorbond fascia	cl dishwasher				
		comp. fibre cement	ed exhaust fan				
		CONC concrete	fr freezer				
		CJ control joint	fw floor waste				
		CT ceramic tile	hc hollow core door				
		CPT carpet	hr handrail				
		CRT concrete roof tile	lb letterbox				
		COG colorbond quad gutter	m mirror				
		DP downpipe	mw microwave				
		EP&S downpipe & spreader	o/h overhead				
		ESL existing ground line	p pantry				
		EMB electrical meterboard	ref refrigerator				
		FB face brick	rh rangehood				
		FC fibre cement	sc solid core door				
		FFL finished floor level	sh soap holder				
		F finished glass	ss stainless steel sink				
		FGL finished ground line	st stove				
		GM gas meter	shwr shower				
		HWS hot water service	t tub				
		PB plasterboard	tr towel rail				
		PCR painted cement render	tri toilet roll holder				
		PFB painted face brick	typ. typical				
		PFC painted fibre cement	wc water closet				
		PWB painted weatherboard	wm washing machine				
		SC soldier course	v vent pipe				
		TFB timber floor boards	uo under bench oven				
		TMC terracotta roof tile	wo well oven				
		WM water meter					







architect	general notes	finishes	fixtures	date	issue	amendment	title
integrated DESIGN group architects bathurst penrith sydney Member Australian Institute of Architects copyright IntegratedDESIGNgroup p/l abn 84 116 006 329 nominated architects tony mcburney reg#5273 simon thorne reg#7093 bathurst 02 8332 6208 penrith 02 4732 4430 sydney 02 9784 6100 info@idgarchitects.com.au www.idgarchitects.com.au	1. figured dimensions take precedence over scaled drawings	BDRY boundary	b basin	22/5/20	AA	issue for consultant co-ordination	north & south elevation multi-dwelling development glenstone group 8 linksview ave, LEONAY project ref: GLE18074 drawn: TG SL checked: AE scale: 1:200 @ a3 DA 2000 issue AC
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	3. all materials and workmanship to be in accordance with current written manufacturers instructions local regulations and SAA codes	BPB bagged paint brickwork	cs cavity sliding door	12/8/20	AC	revised issue for DA	
	4. conflicting information to be brought to notice of the architect and clarification sought before proceeding with any works	CF colorbond fascia	dw dishwasher				
	5. all drawings are not for construction and are subject to further design development, consultant input, council and legislative requirements.	CF conc comp. fibre cement	exh exhaust fan				
		CONC concrete	fr freezer				
		CJ control joint	fw floor waste				
		CT ceramic tile	hc hollow core door				
		CPT carpet	hr handrail				
		CRT concrete roof tile	lb letterbox				
		COG colorbond quad gutter	m mirror				
		DP downpipe	mw microwave				
		EP&S downpipe & spreader	o/h overhead				
		EGL existing ground line	p pantry				
		EMB electrical meterboard	ref refrigerator				
		FB face brick	rh rangehood				
		FC fibre cement	sc solid core door				
		FFL finished floor level	sh soap holder				
		F finished glass	ss stainless steel sink				
		FGL finished ground line	st stove				
		GM gas meter	shwr shower				
		HMS hot water service	t tub				
		PB plasterboard	tr towel rail				
		PCR painted cement render	tri toilet roll holder				
		PFB painted face brick	typ. typical				
		PFC painted fibre cement	wc water closet				
		PWB painted weatherboard	wm washing machine				
		SC soldier course	v vent pipe				
		TFB timber floor boards	uo under bench oven				
		TTC tarmac roof tile	wo wall oven				
		WM water meter					



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general notes

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finishes

BDRY	boundary	FB	face brick
BOE	brick on edge	FC	fibre cement
BPB	bagged paint brickwork	FFL	finished floor level
CCR	corrugated steel roof	F	finished floor level
CF	colorbond fascia	FGL	finished ground line
CONC	concrete	GM	gas meter
CONC	concrete	HWS	hot water service
CT	control joint	PB	plasterboard
CPT	carpet	PCR	plasterboard
CRT	concrete roof tile	PFC	plasterboard
COG	colorbond quad gutter	PWB	plasterboard
DP	downpipe	SC	solid core door
ESL	existing ground line	TFC	timber floor boards
EMB	electrical meterboard	WM	water meter

fixtures

b	basin	rh	rangehood
b/head	bulkhead	sc	solid core door
cs	cavity sliding door	sh	soap holder
dy	dryer	ss	stainless steel sink
dw	dishwasher	st	stove
exh	exhaust fan	shwr	shower
fr	freezer	t	tub
fw	floor waste	tr	towel rail
hc	hollow core door	tri	toilet roll holder
hr	handrail	typ	typical
lb	letterbox	wc	water closet
m	mirror	wm	washing machine
mw	microwave	v	vent pipe
o/h	overhead	uo	under bench oven
p	pantry	wo	well oven
ref	refrigerator		

date

date	issue	amendment
22/5/20	AA	issue for consultant co-ordination
5/6/20	AB	ISSUE FOR DA
12/8/20	AC	revised issue for DA

title

east & west elevation
multi-dwelling development
glenstone group | 8 linksview ave, LEONAY

project ref: GLE18074
drawn: TG | SL
checked: AE
scale: 1:200 @ a3



DA
2001

issue
AC



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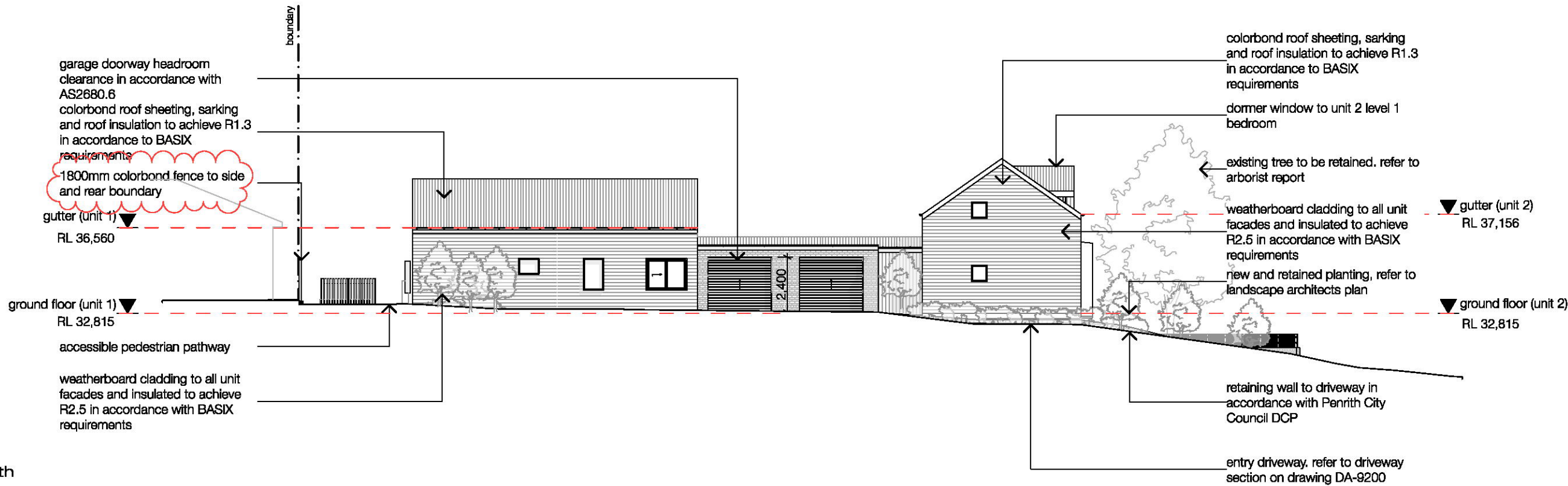
nominated architects
tony mckinney reg#5273
simon thorne reg#7098

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01 | int north
1:200



02 | int south
1:200



architect

02 | int south
1:200

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nominated architects
tony mckimney reg#5273
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general notes

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finishes

BDRY	boundary	FB	face brick
BOE	brick on edge	FC	fibre cement
BPB	bagged paint brickwork	FFL	finished floor level
CCR	corrugated steel roof	F	floor
CF	colorbond fascia	FGL	finished ground line
CFC	comp. fibre cement	GM	gas meter
CONC	concrete	HWS	hot water service
CT	control joint	PB	plasterboard
CJ	ceramic tile	PCR	pointed cement render
CPT	carpet	PFB	pointed face brick
CRT	concrete roof tile	PFC	pointed face brick
COG	colorbond quad gutter	PWB	pointed weatherboard
DP	downpipe	SC	solid core door
DP&S	downpipe & spreader	TFC	timber floor boards
EGL	existing ground line	TTC	tarmac roof tile
EMB	electrical meterboard	WM	water meter

fixtures

b	basin	rh	rangehood
b/head	bulkhead	sc	solid core door
ca	cavity sliding door	sh	soap holder
cd	dryer	ss	stainless steel sink
cdw	dishwasher	st	stove
edh	exhaust fan	shwr	shower
fr	freezer	t	tub
fw	floor waste	tr	towel rail
hc	hollow core door	trh	toilet roll holder
hr	handrail	typ.	typical
lb	letterbox	wc	water closet
m	mirror	wm	washing machine
mw	microwave	v	vent pipe
o/h	overhead	uo	under bench oven
p	pantry	wo	well oven
ref	refrigerator		

date

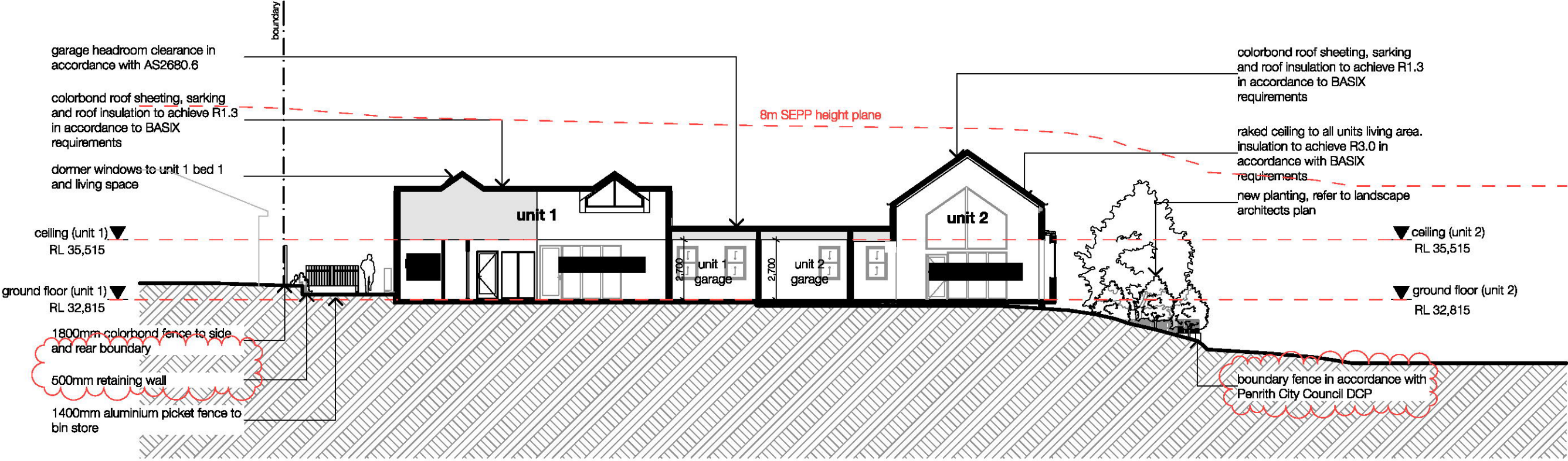
date	issue	amendment
22/5/20	AA	issue for consultant co-ordination
5/6/20	AB	ISSUE FOR DA
12/8/20	AC	revised issue for DA

title

internal site elevations
multi-dwelling development
glenstone group | 8 linksview ave, LEONAY

project ref: GLE18074
drawn: TG | SL
checked: AE
scale: 1:200 @ a3

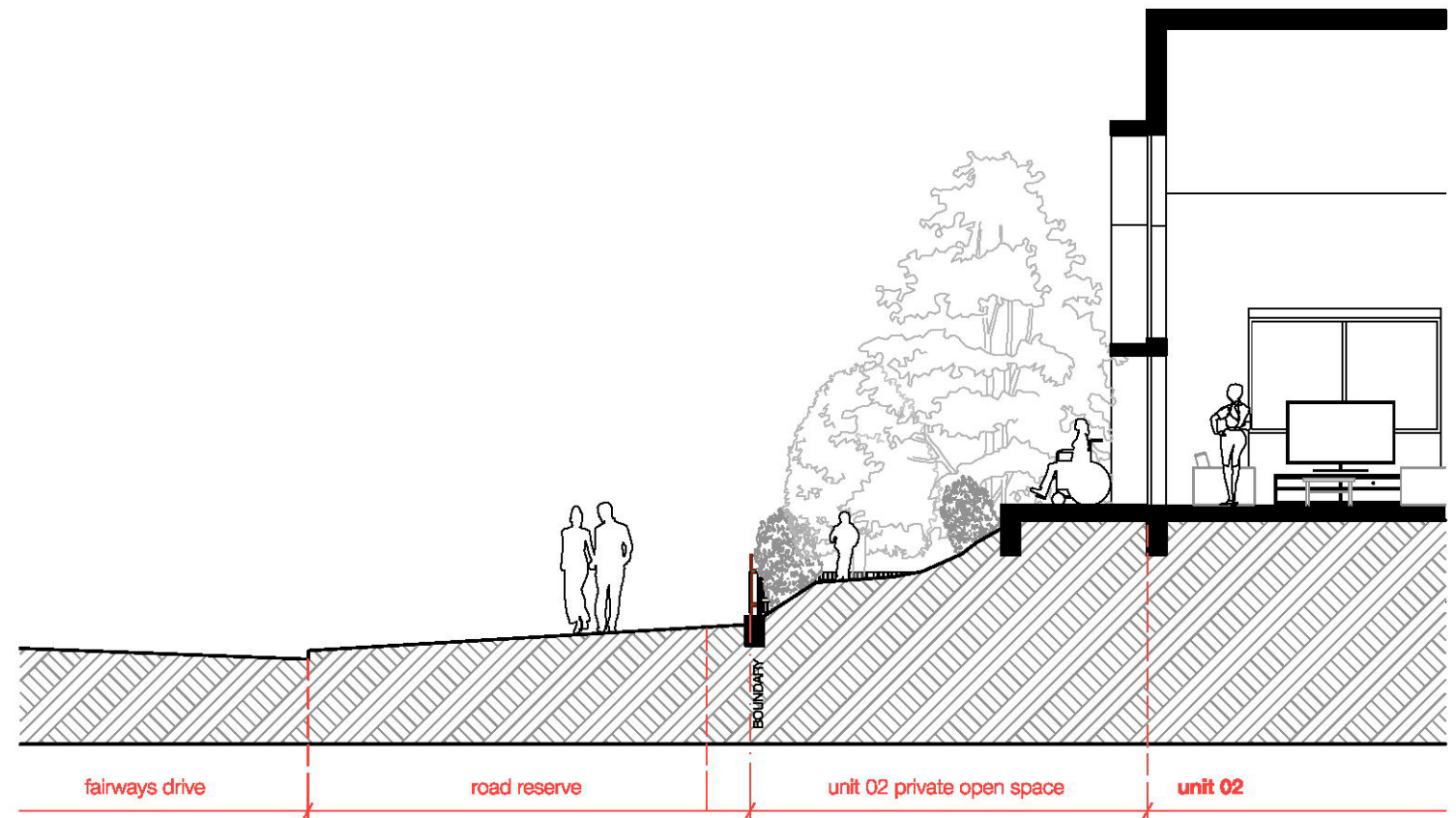
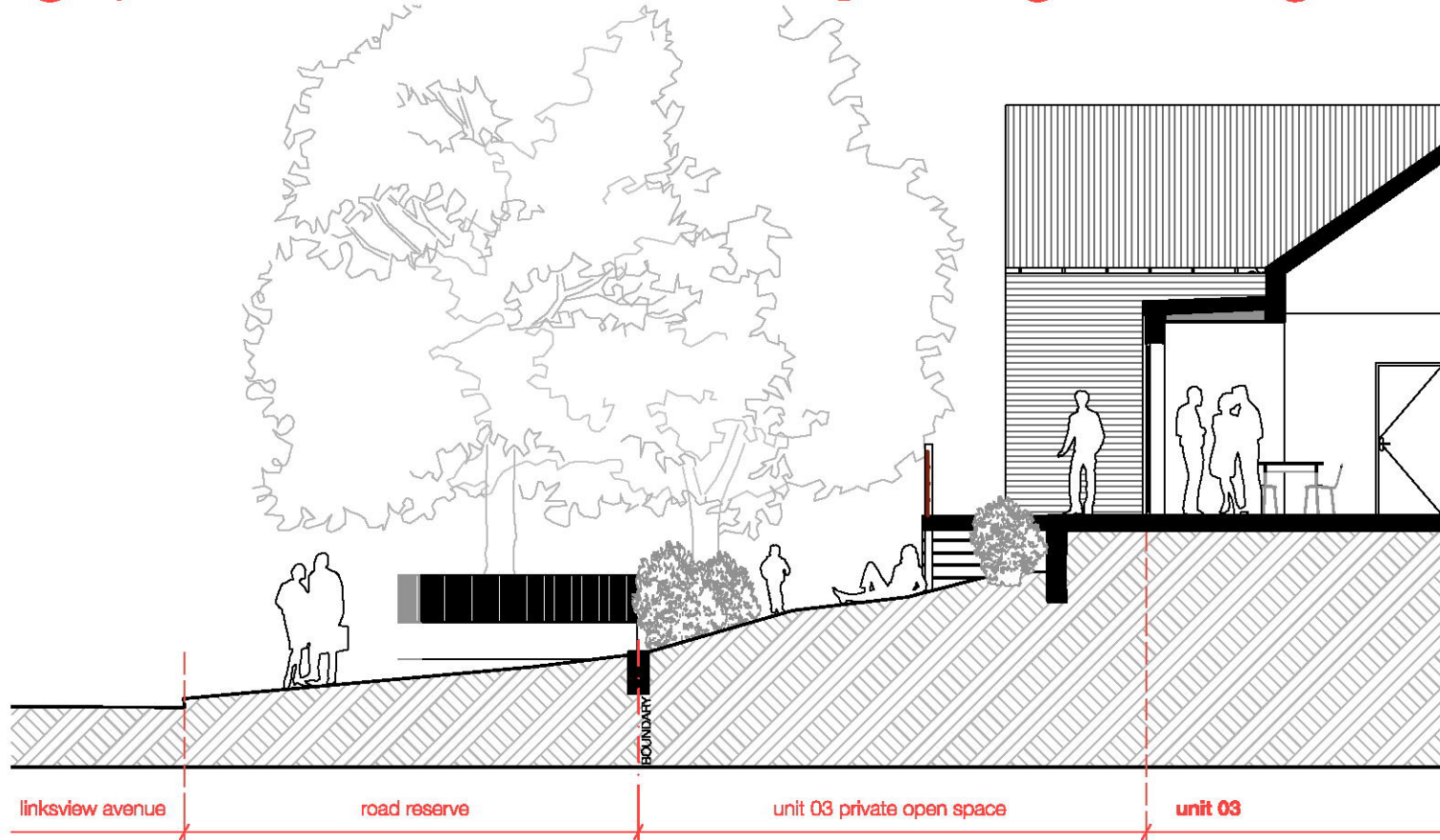
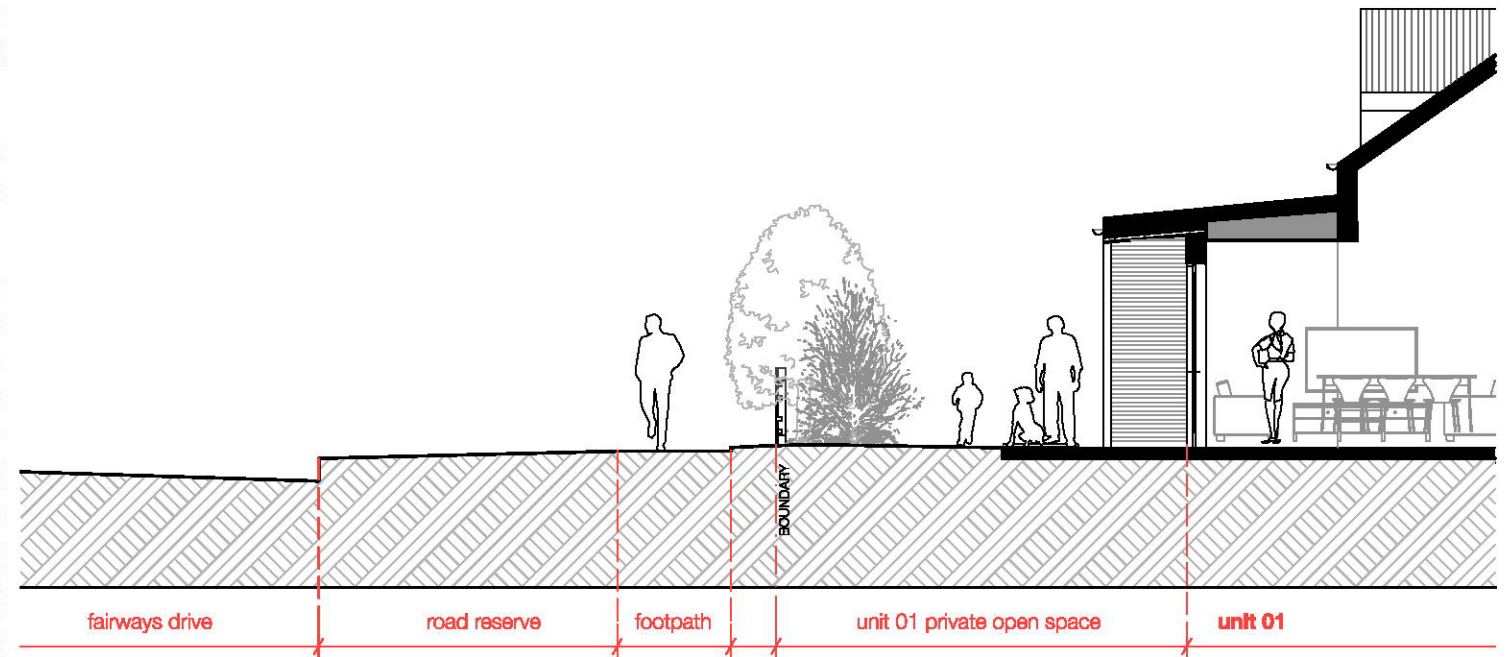
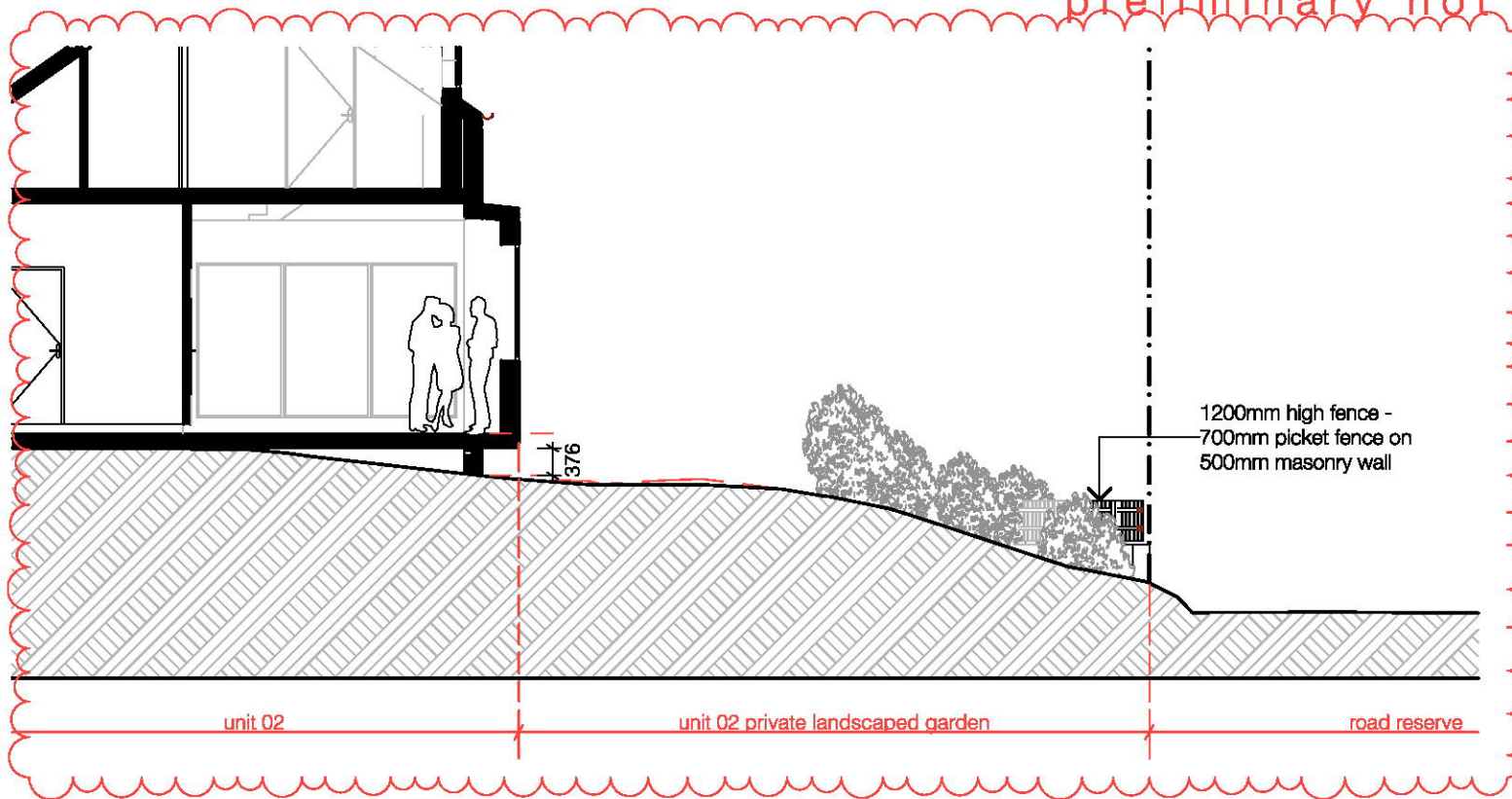




01 | section c
1:200

architect	general notes	finishes	fixtures	date	issue	amendment	title
integrated DESIGN group architects bathurst penrith sydney Member Australian Institute of Architects copyright IntegratedDESIGNgroup p/l abn 84 116 006 329 bathurst 02 6332 6206 penrith 02 4732 4430 sydney 02 9784 6100 nominated architects tony mcburney reg#5273 simon thorne reg#7093 info@idgarchitects.com.au www.idgarchitects.com.au	1. figured dimensions take precedence over scaled drawings	BDRY boundary	b basin	22/5/20	AA	issue for consultant co-ordination	sections 2 multi-dwelling development glenstone group 8 linksview ave, LEONAY project ref: GLE18074 drawn: TG SL checked: AE scale: 1:200 @ a3 DA 3001 issue AC
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	3. all materials and workmanship to be in accordance with current written manufacturers instructions local regulations and SAA codes	BPB bagged paint brickwork	cs cavity sliding door	12/8/20	AC	revised issue for DA	
	4. conflicting information to be brought to notice of the architect and clarification sought before proceeding with any works	CCR corrugated steel roof	dw dryer				
	5. all drawings are not for construction and are subject to further design development, consultant input, council and legislative requirements.	CF colorbond fascia	dwh dishwasher				
		CF comp. fibre cement	ed exhaust fan				
		CONC concrete	fr freezer				
		CJ control joint	fw floor waste				
		CT ceramic tile	hc hollow core door				
		CPT carpet	hr handrail				
		CRT concrete roof tile	lb letterbox				
		COG colorbond quad gutter	m mirror				
		DP downpipe	mw microwave				
		EP&S downpipe & spreader	o/h overhead				
		EGL existing ground line	p pantry				
		EMB electrical meterboard	ref refrigerator				
		FB face brick	rh rangehood				
		FC fibre cement	sc solid core door				
		FFL finished floor level	sh soap holder				
		F finished ground line	ss stainless steel sink				
		GM gas meter	st stove				
		HWS hot water service	shwr shower				
		PB plasterboard	t tub				
		PCR painted cement render	tr towel rail				
		PFB painted face brick	tri toilet roll holder				
		PFC painted fibre cement	typ. typical				
		PWB painted weatherboard	wc water closet				
		SC soldier course	wm washing machine				
		timber floor boards	v vinyl				
		tamara roof tile	vp vent pipe				
		water meter	uo under bench oven				
			wo wall oven				

preliminary not for construction



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finishes

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BOE	brick on edge	FC	fibre cement
BPB	bagged paint brickwork	FFL	finished floor level
CCR	corrugated steel roof	F	finished ground line
CF	colorbond fascia	FGL	finished ground line
CFC	comp. fibre cement	GM	gas meter
CONC	concrete	HWS	hot water service
CONC	concrete	PB	plasterboard
CT	control joint	PCR	plasterboard
CT	control joint	PCR	plasterboard
CPT	carpet	PFC	plasterboard
CRT	concrete roof tile	PFC	plasterboard
COG	colorbond quad gutter	PWB	plasterboard
DP	downpipe	SC	solid core door
EP&S	downpipe & spreader	TFB	timber floor boards
ESL	existing ground line	TTC	timber roof tile
EMB	electrical meterboard	WM	water meter

fixtures

b	basin	rh	rangehood
b/head	bulkhead	sc	solid core door
ce	cavity sliding door	sh	soap holder
ch	chiller	ss	stainless steel sink
ch	chiller	st	stove
ch	chiller	shwr	shower
ch	chiller	t	tub
ch	chiller	tr	toilet roll holder
ch	chiller	typ.	typical
ch	chiller	wc	water closet
ch	chiller	wm	washing machine
ch	chiller	v	vent pipe
ch	chiller	uo	under bench oven
ch	chiller	wo	well oven

date

date	issue	amendment
22/5/20	AA	issue for consultant co-ordination
5/6/20	AB	ISSUE FOR DA
12/8/20	AC	revised issue for DA

title

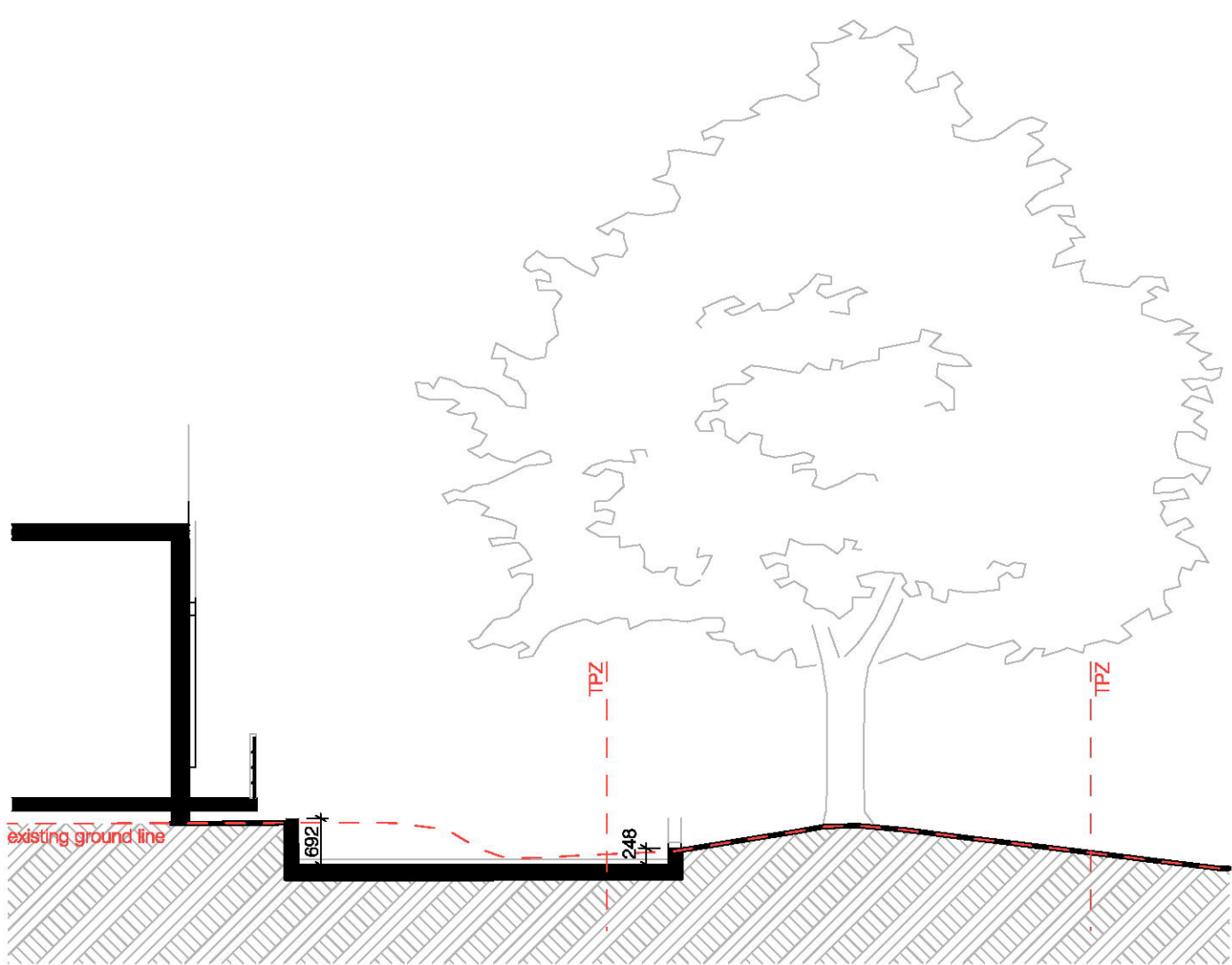
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multi-dwelling development
glenstone group | 8 linksview ave, LEONAY

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drawn: TG | SL
checked: AE
scale: @ a3

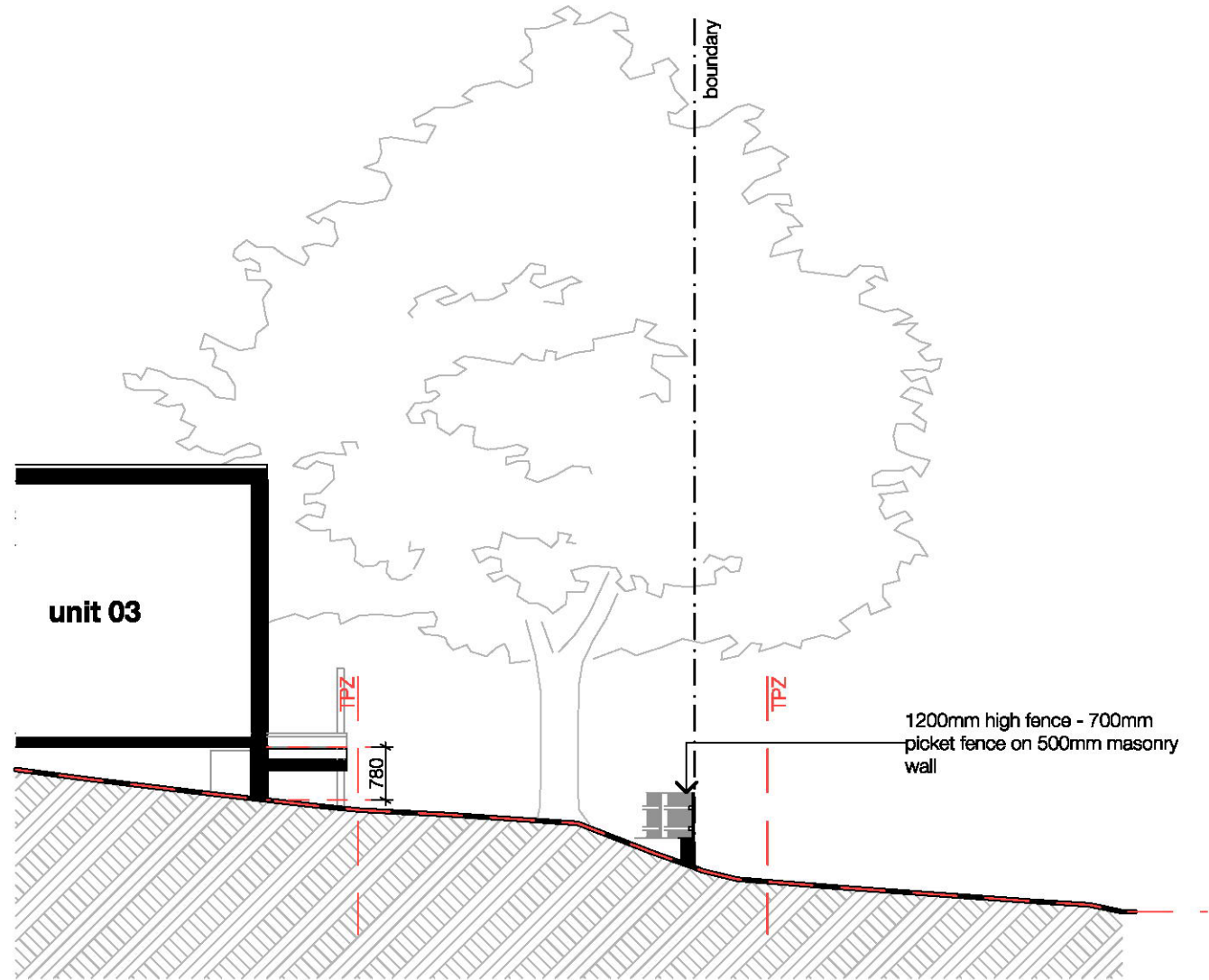


DA
9201

issue
AC



01 | tree No. 7



02 | tree No. 2

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finishes

BDRY	boundary	FB	face brick
BOE	brick on edge	FC	fibre cement
BPB	bagged paint brickwork	FFL	finished floor level
CCR	corrugated steel roof	F	floor
CF	colorbond fascia	FGL	finished ground line
CFC	comp. fibre cement	GM	gas meter
CONC	concrete	HWS	hot water service
CJ	control joint	PB	plasterboard
CT	ceramic tile	PCR	plasterboard render
CPT	carpet	PFB	plasterboard brick
CRT	concrete roof tile	PFC	plasterboard floor
COG	colorbond quad gutter	PWB	plasterboard wall
DP	downpipe	SC	solid core
DP&S	downpipe & spreader	TFB	timber floor boards
EGL	existing ground line	TRC	terrazzo roof tile
EMB	electrical meterboard	WM	water meter

fixtures

b	basin	rh	rangehood
b/head	bulkhead	sc	solid core door
ca	cavity sliding door	sh	soap holder
cd	dryer	ss	stainless steel sink
dw	dishwasher	st	stove
exh	exhaust fan	shwr	shower
fr	freezer	t	tub
fw	floor waste	tr	towel rail
hc	hollow core door	tri	toilet roll holder
hr	handrail	typ.	typical
lb	letterbox	wc	water closet
m	mirror	wm	washing machine
mw	microwave	v	vinyl
o/h	overhead	vp	vent pipe
p	pantry	uo	under bench oven
ref	refrigerator	wo	well oven

date

7/8/20 AA Issue for consultant co-ordination
12/8/20 AB revised issue for DA

issue

7/8/20 AA Issue for consultant co-ordination
12/8/20 AB revised issue for DA

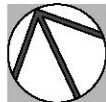
amendment

7/8/20 AA Issue for consultant co-ordination
12/8/20 AB revised issue for DA

title

tree sections
multi-dwelling development
glenstone group | 8 linksview ave, LEONAY

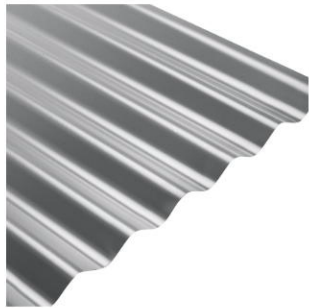
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drawn: TG | SL
checked: AE
scale: @ a3



DA
9202

issue
AB

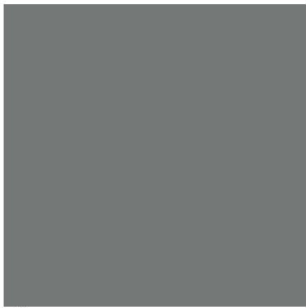




01
grey custom orb roof sheeting



02
white weatherboard cladding



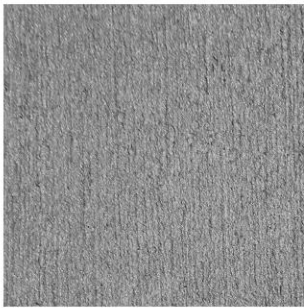
03
dark grey finish



04
grey FC cladding



05
recycled brick
external walls & subfloor



06
concrete



07
external pavers

architect

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info@idgarchitects.com.au

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general notes

1. figured dimensions take precedence over scaled drawings

2. contractors to check and verify all levels datum and dimensions on site

3. all materials and workmanship to be in accordance with current written manufacturers instructions local regulations and SAA codes

4. conflicting information to be brought to notice of the architect and clarification sought before proceeding with any works

5. all drawings are not for construction and are subject to further design development, consultant input, council and legislative requirements.

finishes

BDRY	boundary	FB	face brick
BOE	brick on edge	FC	fibre cement
BPB	bagged paint brickwork	FFL	finished floor level
CCR	corrugated steel roof	F	fixed glass
CF	colorbond fascia	FGL	finished ground line
CFC	comp. fibre cement	GM	gas meter
CONC	concrete	HWS	hot water service
CT	control joint	PB	plasterboard
CJ	ceramic tile	PCR	pointed cement render
CPT	carpet	PFB	pointed face brick
CRT	concrete roof tile	PFC	pointed fibre cement
COG	colorbond quad gutter	PWB	pointed weatherboard
DP	downpipe	SC	solder course
DP&S	downpipe & spreader	TFB	timber floor boards
EGL	existing ground line	TRC	tarmacite roof tile
EMB	electrical meterboard	WM	water meter

fixtures

b	basin	rh	rangehood
b/head	bulkhead	sc	solid core door
cs	cavity sliding door	sh	soap holder
dry	dryer	ss	stainless steel sink
dw	dishwasher	st	stove
exh	exhaust fan	shwr	shower
fr	freezer	t	tub
fw	floor waste	tr	towel rail
hc	hollow core door	tri	toilet roll holder
hr	handrail	typ.	typical
lb	letterbox	wc	water closet
m	mirror	wm	washing machine
mw	microwave	v	vinyl
o/h	overhead	v	vent pipe
p	pantry	uo	under bench oven
ref	refrigerator	wo	well oven

date

date	issue	amendment
22/5/20	AA	issue for consultant co-ordination
5/6/20	AB	ISSUE FOR DA
12/8/20	AC	revised issue for DA

title

finishes schedule

multi-dwelling development

glenstone group | 8 linksview ave, LEONAY

project ref:

GLE18074

drawn:

TG | SL

checked:

AE

scale:

@ a3

DA

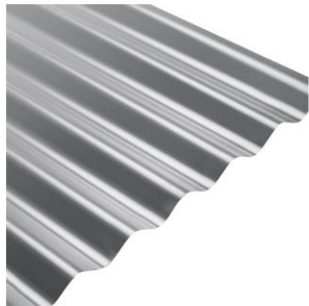
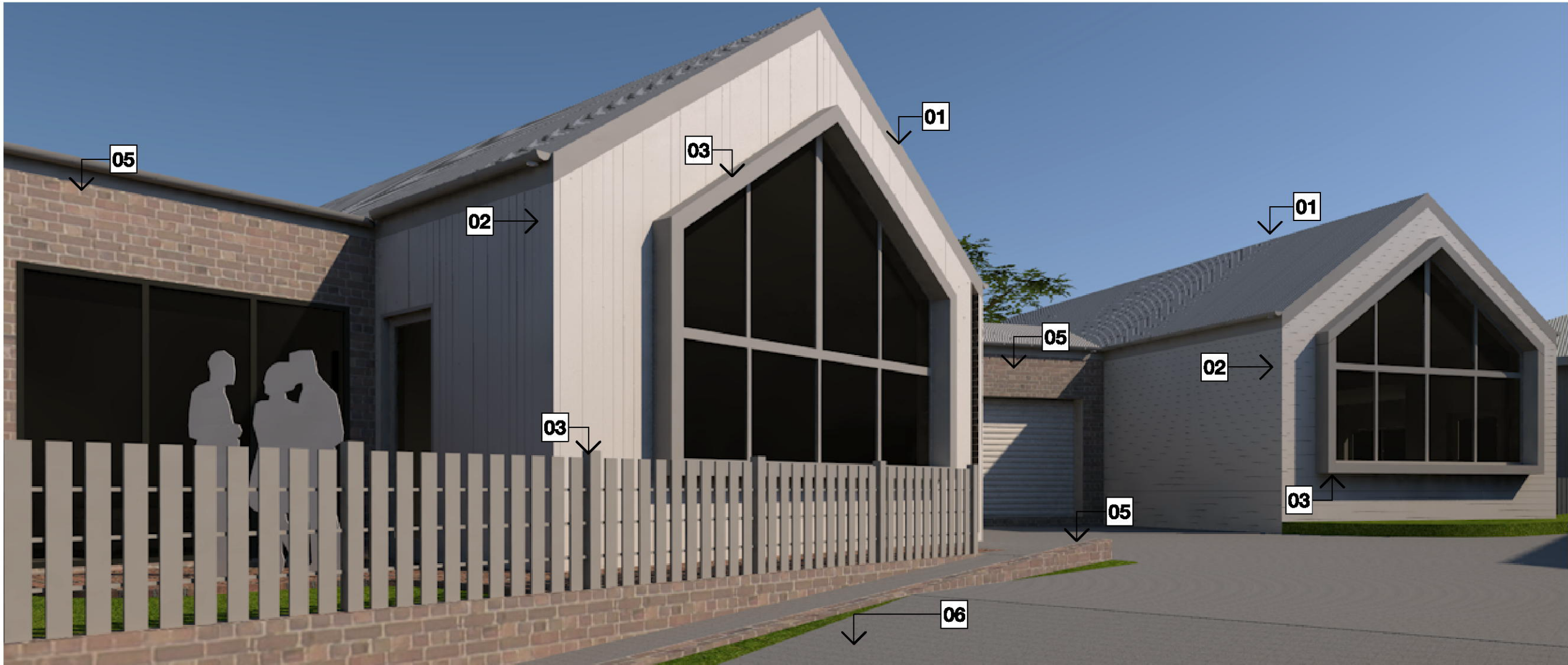
9600

issue

AC

Document Set ID: 9533588
Version: 1, Version Date: 01/04/2021

Page 55 of 62



01
grey custom orb roof sheeting



02
white weatherboard cladding



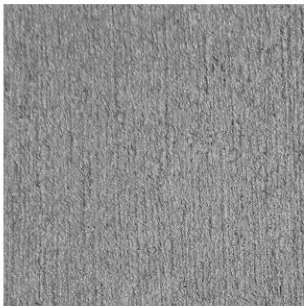
03
dark grey finish



04
grey FC cladding



05
recycled brick
external walls & subfloor



06
concrete



07
external pavers

architect

integrated **DESIGN** group
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finishes

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COG	colorbond quad gutter	PWB	pointed weatherboard
DP	downpipe	SC	solid core door
DP&S	downpipe & spreader	TFB	timber floor boards
EGL	existing ground line	TRC	terracotta roof tile
EMB	electrical meterboard	WM	water meter

fixtures

b	basin	rh	rangehood
b/head	bulkhead	sc	solid core door
ca	cavity sliding door	sh	soap holder
cl	clay	ss	stainless steel sink
clw	clay washer	st	stove
exh	exhaust fan	shwr	shower
fr	freezer	t	tub
fw	floor waste	tr	towel rail
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o/h	overhead	v	vent pipe
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date	issue	amendment
22/5/20	AA	issue for consultant co-ordination
5/6/20	AB	ISSUE FOR DA
12/8/20	AC	revised issue for DA

title

finishes schedule 3

multi-dwelling development
glenstone group | 8 linksview ave, LEONAY

project ref: GLE18074
drawn: TG | SL
checked: AE
scale: @ a3

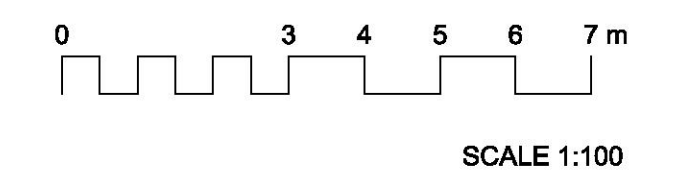
DA
9602

issue
AC



No	Scientific Name	Health	Height (m)	Spread (m)	DBH (cm)	ITPZ (m)	MTPZ (m)	TIME (m)	Retention Value	Comments	Retain / remove
1.	<i>Liquidambar formosana</i>	Good	18	9	E50	6.0	2.5	4.2	Moderate	Species prone to branch shed	Retain and protect
2.	<i>Cedrus deodara</i>	Good	18	12	50	6.0	2.5	4.2	High	Of significant visual impact	Retain and protect
3.	<i>Cedrus atlantica glauca</i>									Tree has been removed	
4.	<i>Tiadolia sebifera</i>	Good	15	12	40	4.8	2.0	3.4	Nil		Remove.
5.	<i>Cryptomeria japonica 'Elegans'</i>	Fair	12	5	15/18/45	6.1	2.6	4.3	Nil	DBH calculated as 51cm	Remove.
6.	<i>Cedrus deodara</i>	Good	20	16	95	11.4	4.8	8.0	Low		Remove.
7.	<i>Cupressus arizonica</i>	Fair	12	12	E60	7.2	3.0	5.0	Moderate	This species is highly tolerant of root loss	Retain and protect
8.	<i>Cupressus macrocarpa 'saligna'</i>	Fair	14	14	75	9.0	3.8	6.3	Low	Reverted/ some damage	Remove.
9.	<i>Pyrus ussuriensis</i>	Good	10	8	E30	3.6	1.5	2.5	Low		Remove.
10.	<i>Nyssa sylvatica</i>	Good	16	12	80	9.6	4.0	6.7	Low		Remove.
11.	<i>Cedrus deodara</i>	Good	18	12	90	10.8	4.5	7.6	Low		Remove.
12.	<i>Fraxinus griffithii</i>	Good	7	8	E35	4.2	1.8	2.9	Nil		Remove.
13.	<i>Juniperus</i> sp.	Good	6	6	20	2.0	0.8	1.3	Nil		Remove.
14.	<i>Cupressus sempervirens 'Swane's golden'</i>	Good	10	3	20	2.4	1.0	1.7	Low	Able to be retained of minor visual impact	Retain and protect
15.	<i>Cupressus sempervirens 'Swane's golden'</i>	Good	10	3	20	2.4	1.0	1.7	Low	Able to be retained of minor visual impact	Retain and protect
N1	<i>Liquidambar styraciflua</i>	Good	14	12	50	6.0	2.5	4.2	Essential		Retain and protect
N2	<i>Thuja plicata</i>	Good	12	12	50	6.0	2.5	4.2	Essential		Retain and protect
N3	<i>Thuja plicata</i>	Good	12	12	60	7.2	3	5	Essential		Retain and protect

LEGEND



B	12/8/20	SITE DESIGN CHANGES
---	---------	---------------------

NOTE DO NOT SCALE FROM DRAWING. USE FIGURED DIMENSIONS ONLY.
CHECK ALL DIMENSIONS ON SITE BEFORE ANY MANUFACTURE OR CONSTRUCTION

FILE NAME
NBL_Leonay_200812.vwx

PROJECT
NBL Leonay 2020

ADDRESS
8 Linksview Ave, Leonay, NSW

CLIENT
Glenstone Group

DRAWING

Overall Landscape Layout



PROJECT #
NBL_Leonay_2020

DATE	12/8/20	DWG #	REV
SCALE @ A1	1:100	L1	B
DRAWN JJ	CHKD NB		

Nicholas Bray Landscapes 471 Argyle Street Moss Vale
PO Box 323 Moss Vale NSW 2577 Australia ABN: 25001055205
M: 0417 278 267 W: www.nicholasbray.net.au E: contact@nicholasbray.net



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ID	Botanical Name	Common Name	Qty
Trees			
LINa	Lagerstroemia indica 'Natchez'	Crepe Myrtle	4
TAI	Tibouchina leipdota	Tibouchina Alstonville	4
LIoS	Lagerstroemia indica 'Sioux'	Sioux Crepe Myrtle	2
FR	Fraxinus raywoodii	Claret Ash	1
Shrubs			
MurrJess	Murraya paniculata	Orange Jessamine	62
VOd	Viburnum odoratissimum	Viburnum	21
PMM	Pittosporum tobira	Pittosporum 'Miss Muffets'	26
ETT	Euonymus 'Tom Thumb'	Euonymus 'Tom Thumb'	39
RI	Rapheolepis indica 'Oriental Pearl'	Dwarf White Indian Hawthorn	11
RBL	Rosmarinus officinalis 'Blue Lagoon'	Rosemary 'Blue Lagoon'	13
Ground Covers			
HSc	Hibbertia scandens	Golden Guinea Flower, Snake Vine	54
Cdb	Correa 'Dusky Bells'	Correa 'Dusky Bells'	29
MPar	Myoporum parvifolium	Carpet Spreading Myoporum	28
Grass			
PYW	Phormium 'Yellow Wave'	Yellow Wave New Zealand Flax	127
DiaC	Dianella caerulea	Blue Flax-lily	58
Climbers			
TJA	Trachelospermum jasminoides	Star Jasmine	107
Other			586

0 3 4 5 6 7 m

SCALE 1:100



	LAWN		VEHICLE AND PEDESTRIAN ROADWAY		MINIMUM TREE PROTECTION ZONE
	GARDEN BEDS		TREES TO BE REMOVED		PROPOSED TREES
	PAVING		EXISTING TREES		EXISTING LEVELS
	PATH		TREE PROTECTION ZONE		RETAINING WALL

**GARDEN BEDS BELOW RETAINED TREES
WITHIN THE TPZ WILL NOT BE PLANTED AND
WILL BE MULCHED ONLY**

FAIRWAYS

STORM WATER
OUTLET 32.88

BENCHMARK
DH IN TOP KERB
R.L. = 32.30

STORM WATER
OUTLET 30.95

AVENUE

LINKSVIEW
AVENUE

- PENRITH CITY COUNCIL STORMWATER DRAINAGE SPECIFICATION FOR BUILDING DEVELOPMENTS
- 5.1.1 KERB AND GUTTER
- Stormwater discharge to the kerb must meet the following criteria:
- a) Each development site shall generally have one (1) stormwater drainage connection point to the kerb. However, where the site frontage exceeds 15m, Council may permit maximum two (2) connection point;
- b) Each stormwater drainage connection point shall be minimum 15m apart from any existing or proposed kerb outlet;
- c) The maximum discharge to the kerb at any single point shall be 25L/s for 10% AEP storm events. Where this cannot be achieved, site drainage will need to be connected to Council underground pipe system or OSD provided;
- d) Where gutter flow widths do not exceed 2m in front and downstream of the development, and pedestrian and vehicular safety is maintained, a higher discharge to the gutter may be permissible subject to the discretion of Council's Engineer;
- e) Where possible, the location of existing kerb outlets shall be used for stormwater discharge from the proposed development;
- f) The kerb outlet shall be located within the site frontage and laid across the road verge at an angle no less than 45 degrees to the kerb line in the direction of flow in the gutter;
- g) Stormwater pipes crossing the road verge to kerb outlet shall be in 90mm diameter heavy duty sewer grade uPVC pipe, with approved galvanised steel section fabricated stormwater kerb adaptors to match the kerb profile for the full height of the kerb;
- h) Stormwater pipes crossing the road verge shall keep clear from utility services within the road verge; and
- i) The invert of the kerb outlet shall be 10mm above the invert of the gutter.

BENCHMARK
CUT IN TOP KERB
R.L. = 29.98

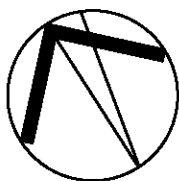
Allow to connect new stormwater drainage 200x100x5mm. galv. steel RHS to proposed new kerb at IL 29.800 approx. Flow restricted to 25 l/sec by OSD in accordance with Penrith City Council Stormwater Drainage Specification for Building Developments cl 5.1.1.1(c). Refer to Drains file for on site detention calculations. Connections to kerb more than 15m apart in accordance with Penrith City Council Stormwater Drainage Specification for Building Developments cl 5.1.1.1(b).

Allow to connect new stormwater drainage (100x100x5mm. galv. steel RHS) to proposed new kerb at IL 29.840 approx. Connections to kerb more than 15m apart in accordance with Penrith City Council Stormwater Drainage Specification for Building Developments cl 5.1.1.1(b). Discharge less than 25l/sec in 10yr ARI storm in accordance with Penrith City Council Stormwater Drainage Specification for Building Developments cl 5.1.1.1(c)

4
DP 232920

E	Apr. 19	DA Issue
I	Sep. 20	DA Issue
H	Aug. 20	DA Issue
G	May. 20	DA Issue
F	Oct. 19	DA Issue
REV	DATE	NOTATION/AMENDMENT
DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.		

PROJECT ARCHITECT
integrated DESIGN group
architects | bathurst penrith sydney



ENGINEER

ABEL & BROWN PTY. LTD.
23 WARUNG STREET, YAGOONA, NSW 2199
M: 0403 390 810 T: 9709-5705 FAX: 9796-2272
E: mail@abelbrown.com.au W: www.abelbrown.com.au



CLIENT:

GLENSTONE GROUP

PROJECT:

PROPOSED MULTI UNIT DELOPMENT
at
8 LINKSVIEW AVENUE,
LEONAY

TITLE:

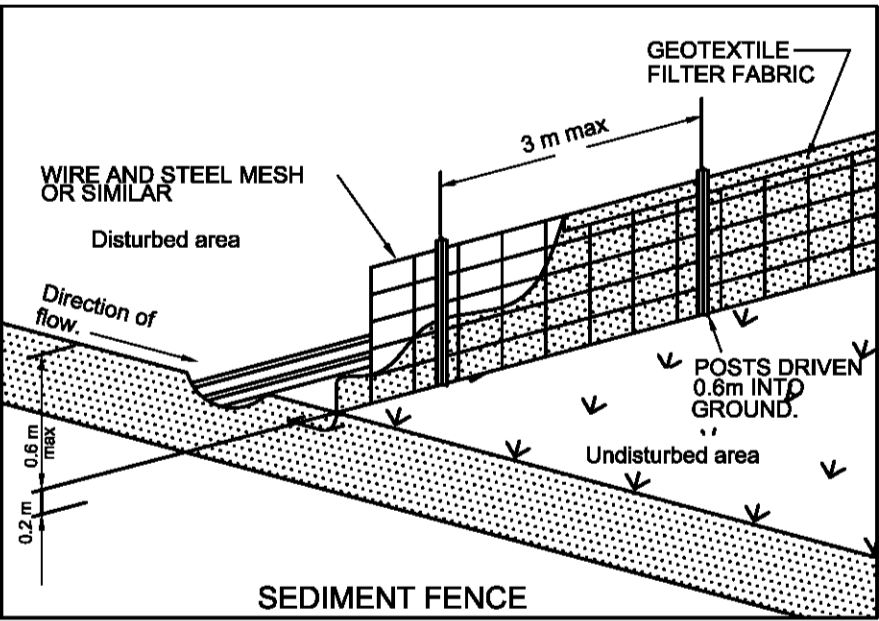
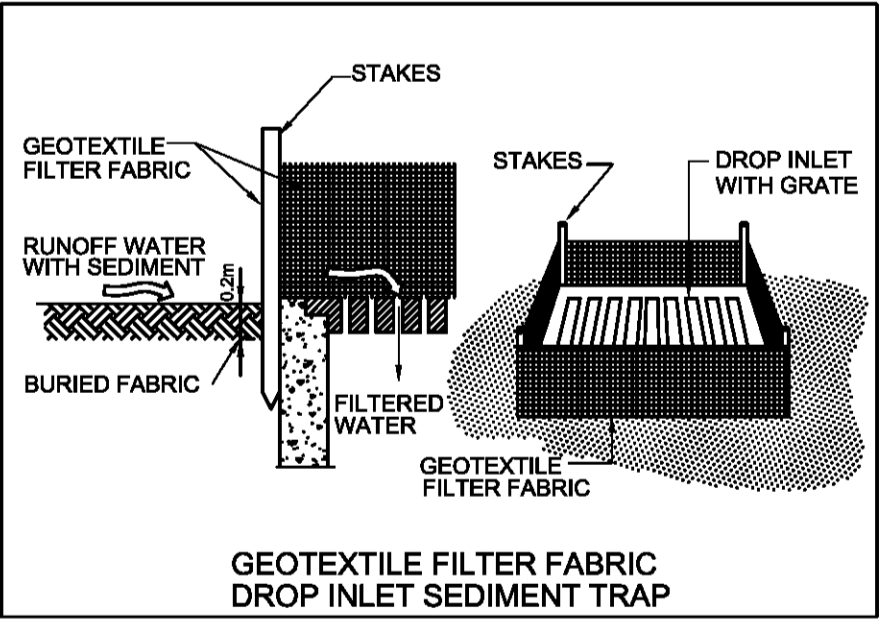
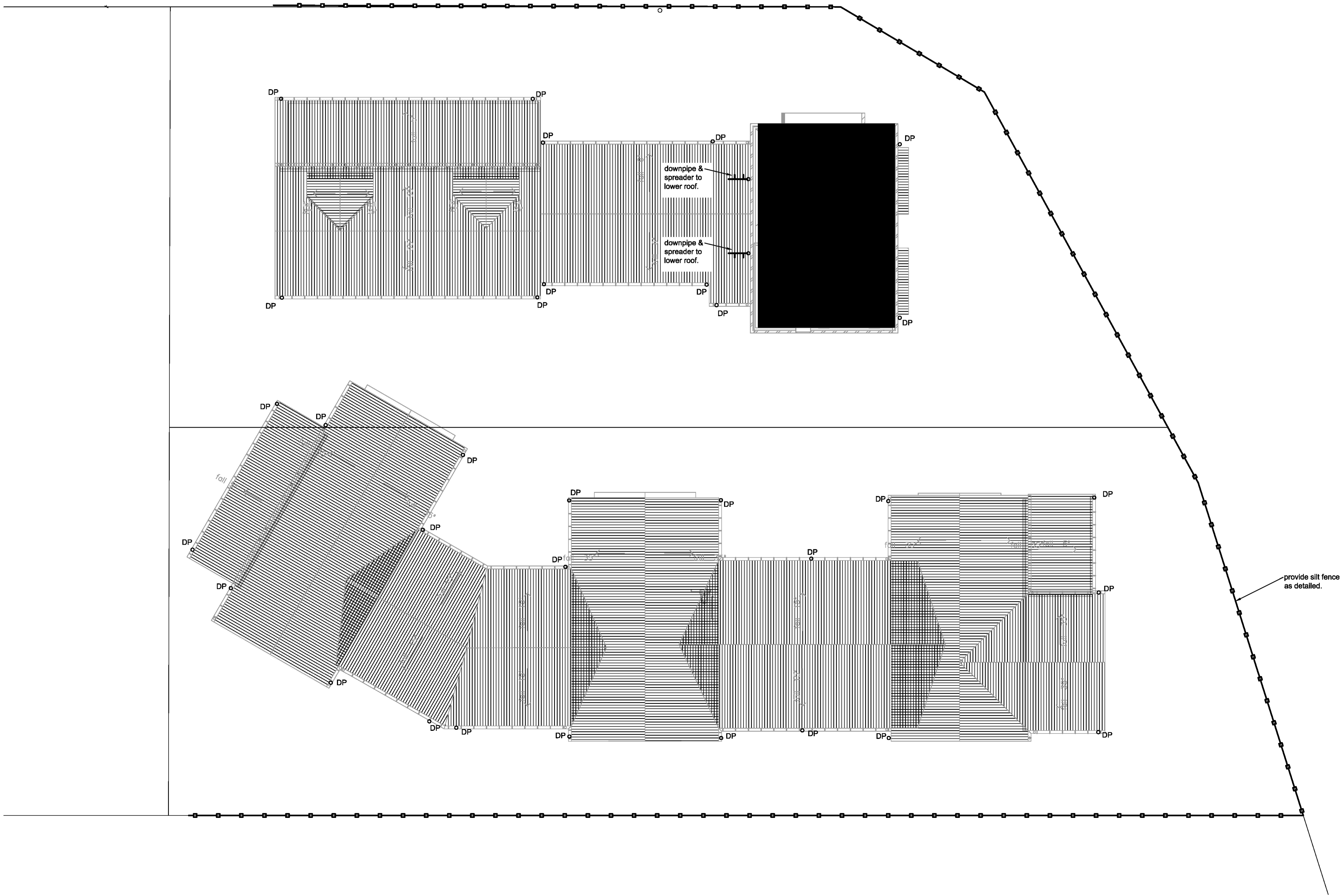
STORMWATER CONCEPT PLAN
SITE/GROUND FLOOR PLAN

FILE:

PLOTTED:

STATUS:

DA ISSUE
DATE: DEC. 18
SCALE: 1:100@A1
PROJ: 2918
NO TM SET: 5
DRAWN: SB
CHECKED: RB
APPROVED: NB
REV: 1



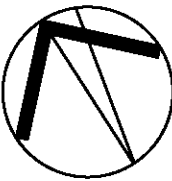
Sediment & Erosion Control Notes

1. The contractor shall implement all soil erosion and sediment control measures relating to a particular upstream catchment prior to stripping of topsoil from that catchment. Where it is necessary to undertake stripping in order to construct a sediment control device only sufficient ground shall be stripped to allow construction.
2. All soil erosion and sediment control measures shall be constructed and maintained as indicated on these drawings. Location and extent of soil and water management devices is diagrammatic only.
3. Conformity with this plan shall in no way reduce the responsibility of the contractor to protect against water damage during the course of the contract. It shall be the contractors responsibility to ensure that any necessary control is in place even though such control may not be shown on the plan.
4. The contractor shall inform all subcontractors and all employees of their responsibility in minimising the potential for soil erosion and pollution to downstream areas.
5. The contractor shall regularly maintain sediment and erosion control structures and desilt such structures prior to the reduction in capacity of 30% due to accumulated silt. The sediment shall be disposed of on site in a manner approved by the Penrith Council Erosion and Sediment Control Policy.
6. Topsoil and spoil shall be stockpiled in non hazardous areas and protected from surface runoff by diversion drains or similar. Stockpiles shall be surrounded on downstream sides by silt fencing. Stockpiles shall be suitable compacted to inhibit erosion. Where the stockpiling period exceeds four(4) weeks, the stockpile shall be seeded to encourage vegetation growth.
7. Topsoil shall be respread and stabilised as soon as possible.
8. The contractor shall temporarily rehabilitate within 40 days any disturbed areas. Where final shaping has occurred the contractor shall provide final rehabilitation within 20 days.
9. The contractor shall provide a turf strip behind all kerb and gutter at completion of footpath formation.
10. The contractor shall maintain gross cover until all works have been completed, including the maintenance period, by frequent watering and mowing where required. Plant machinery and vehicles shall not be driven over grassed areas unless on an approved haulage route.
11. Seed mixtures and stabilisation procedures shall be in accordance with the NSW department of housing "Soil and water management for Urban Development ", January 1993 and construction specification.
12. The contractor shall provide inlet sediment traps at all pits during construction.
13. All drainage works shall be constructed and stabilised as quickly as possible to minimise risk of erosion.
14. Vehicular traffic shall be controlled during construction confining access where possible to proposed or existing road alignments plus 3 metres where necessary areas to be left undisturbed shall be marked off.
15. Site access shall be restricted to a nominated point. The construction of a shake down area may be required depending upon soil conditions.
16. The contractor shall maintain dust control throughout the duration of the project.



E	Apr. 19	DA Issue
I	Sep. 20	DA Issue
H	Aug. 20	DA Issue
G	May. 20	DA Issue
F	Oct. 19	DA Issue
REV	DATE	NOTATION/AMENDMENT
DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE.		
FIGURED DIMENSIONS TAKE PRECEDENCE.		

PROJECT ARCHITECT	integrated DESIGN group architects bathurst penrith sydney
copyright	bathurst 02 6332 6206 penrith 02 6732 4430 sydney 02 9796 8100
integrated architects	integrated architects bathurst penrith sydney www.integratedarchitects.com.au



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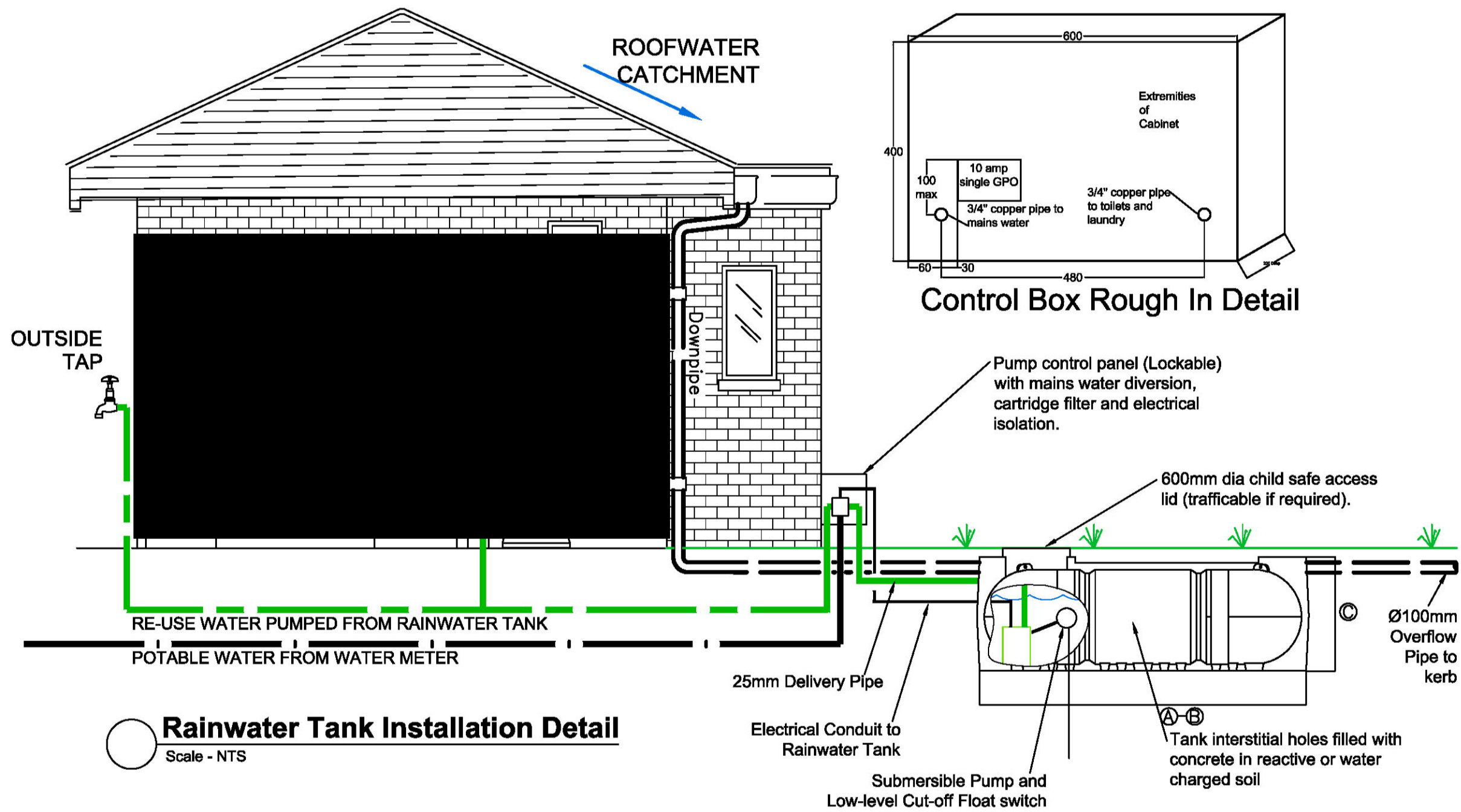
CLIENT:	GLENSTONE GROUP
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PROJECT:	PROPOSED MULTI UNIT DELOPMENT at 8 LINKSVIEW AVENUE, LEONAY
----------	--

TITLE:	STORMWATER CONCEPT PLAN DETAIL SHEET
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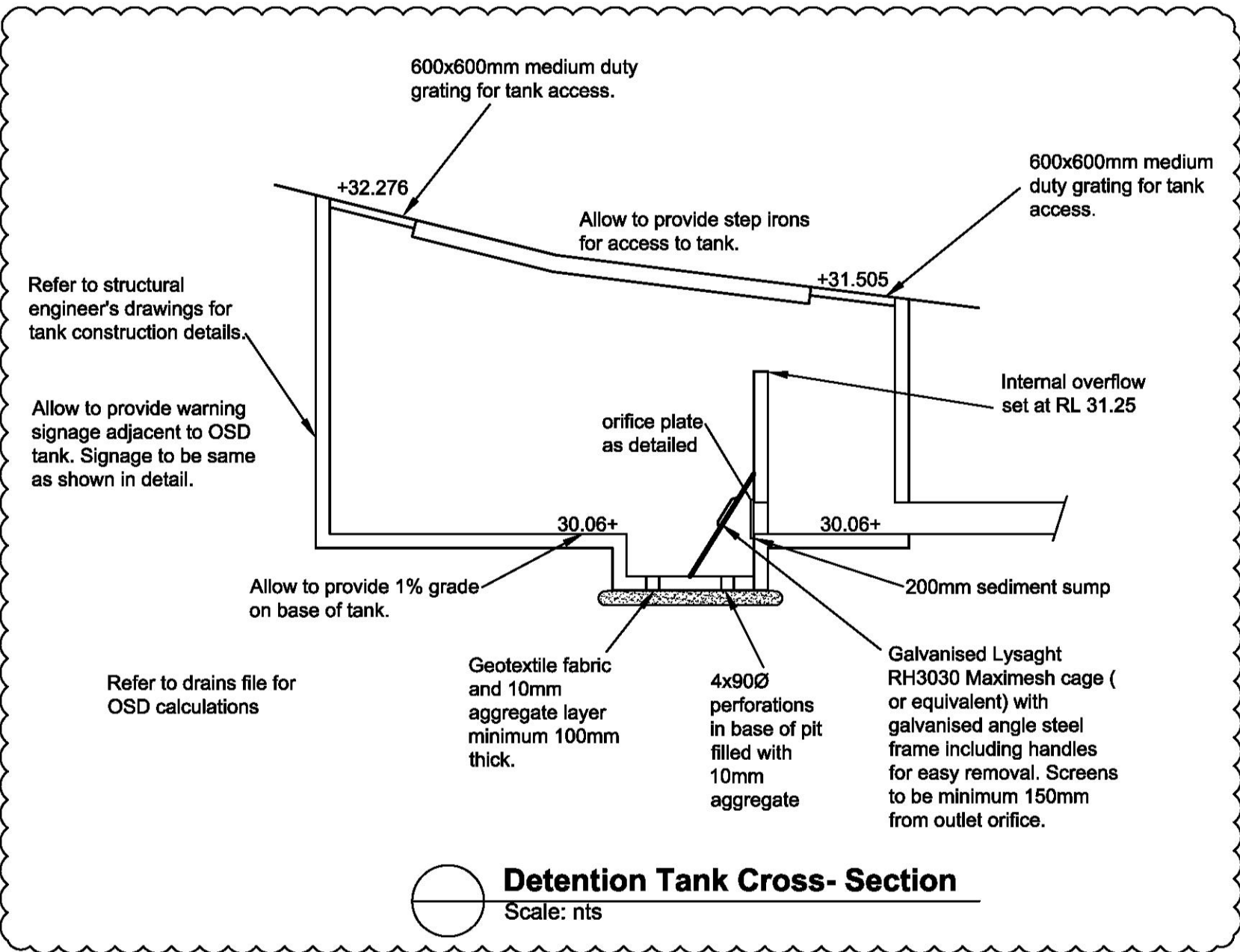
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STATUS:	DA ISSUE
DATE:	DEC. 18
SCALE:	1:100@A1
PROJ:	2918
NO IN SET:	5
DRAWN:	SB
CHECKED:	RB
APPROVED:	NB
SHEET:	H-02
REV:	I



OSD Maintenance Requirements

Maintenance Action	Frequency	Responsibility	Procedure
Discharge Control Pit			
Inspect D walls for cracks or spalling	Annually	Maintenance Contractor	Remove grate to inspect internal walls. Repair as required. Clear vegetation from external walls and repair as required.
Inspect D sump & remove any sediment	Six monthly	Owner	Remove grate and screen. Remove sediment and check orifice and flap valve are clear.
Inspect grate for damage or blockage	Six monthly	Owner	Check both sides of the grate for corrosion, damage or blockage.
Inspect return pipe from storage & remove any blockage.	Six monthly	Owner	Remove grate and screen. Ventilate underground storage if present. Open flap valve and remove any blockages in return line. Check for any sediment on upstream side of return line.
Inspect outlet pipe & remove any blockage	Six monthly	Maintenance Contractor	Remove grate and screen. Ventilate underground storage if present. Check orifice and remove any blockages in outlet pipe. Flush outlet pipe to confirm it drains freely. Check for sludge on upstream side of outlet pipe.
Check step irons for corrosion	Annually	Maintenance Contractor	Remove grate. Examine step irons and repair any corrosion or damage.
Check fixing of step irons is secure	Six monthly	Maintenance Contractor	remove grate and ensure fixings are secure prior to placing weight on step irons.
Storage			
Inspect return pit & remove any sediment in pit.	Annually	Maintenance Contractor	Remove Grate. Remove built up sediment.
Inspect internal return pit walls for cracks or spalling	Annually	Maintenance Contractor	Remove grate to inspect internal walls. Repair as required. Clear vegetation from external walls and repair as required.
Inspect and remove any debris blocking grates of pits.	Six monthly	Owner	Remove blockages from grate and check if pit is blocked.



Rainwater Tank Installation requirements

Administrative requirements
The plumber is required to apply to Sydney Water for a permit to do the work as they would when connecting any house service plumbing.

Sydney Water's plumbing inspector must be contacted when work is completed to carry out a final inspection of the property before the Certificate of Compliance is submitted to Sydney Water and the customer.

Rainwater tank plumbing regulatory requirements
All plumbing work is to be done or supervised by a licensed plumber in compliance with these guidelines and the NSW Code of Practice: Plumbing and Drainage.

Under no circumstances is there to be direct connection between the rainwater service and the drinking water service.

Approved materials
Materials used in the rainwater tank plumbing must comply with AS/NZS 3500 Part 1 Water Supply Section 2 Materials and Products

Pipes and labelling
Pipe materials to be used for rainwater need to be approved products and be clearly and permanently identified 'RAINWATER' continuously along the length. This can be done for below ground pipes by using identification tape (made in accordance with A52648) or for above ground pipes by using adhesive pipe markers (made in accordance with A51345).

Identification tape marked 'RAINWATER' must be at least 75mm wide. The identification tape is to be installed on top of the rainwater pipeline, running longitudinally, and fastened to the pipe at not more than 3 metre intervals.

Every rainwater tank outlet must be labelled 'RAINWATER' on a permanent sign. An example is shown in Figure 2. A51319 provides direction as to appropriate layout, size and face materials for signs.

Proximity to other services
Rainwater pipes must be separated from any parallel drinking water service.

Above ground pipes
Any rainwater pipe installed above ground must be a minimum of 100mm away from any drinking water pipe.

Below ground pipes
Any rainwater pipe installed below ground must be a minimum of 300mm away from any drinking water pipe.

Main Kerb Discharge - Drains Summary				
Post Development Discharge - OSD				
ARI (yr)	Storm Duration (min)	OSD (L/sec)	OSD Bypass (L/sec)	Total Post Development (L/sec)
10	5	13	6	19
10	10	15	6	21
10	15	16	7	23
10	25	17	8	25
10	45	16	5	21
10	60	17	7	24

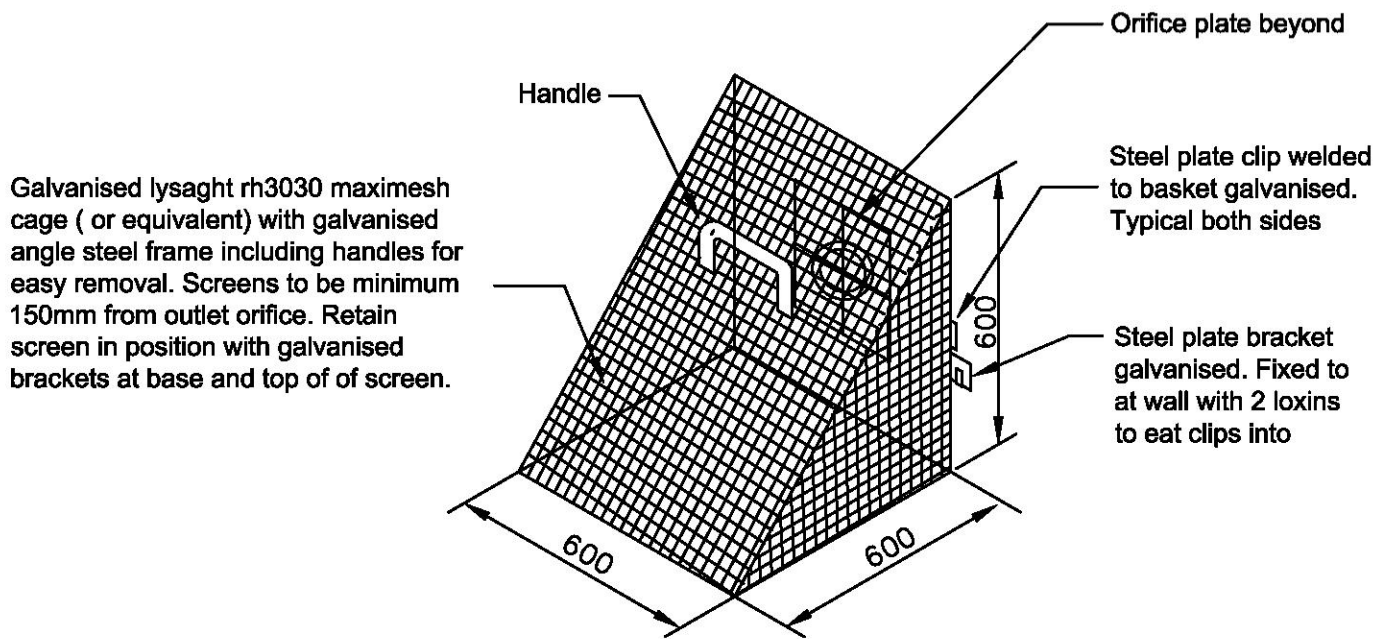
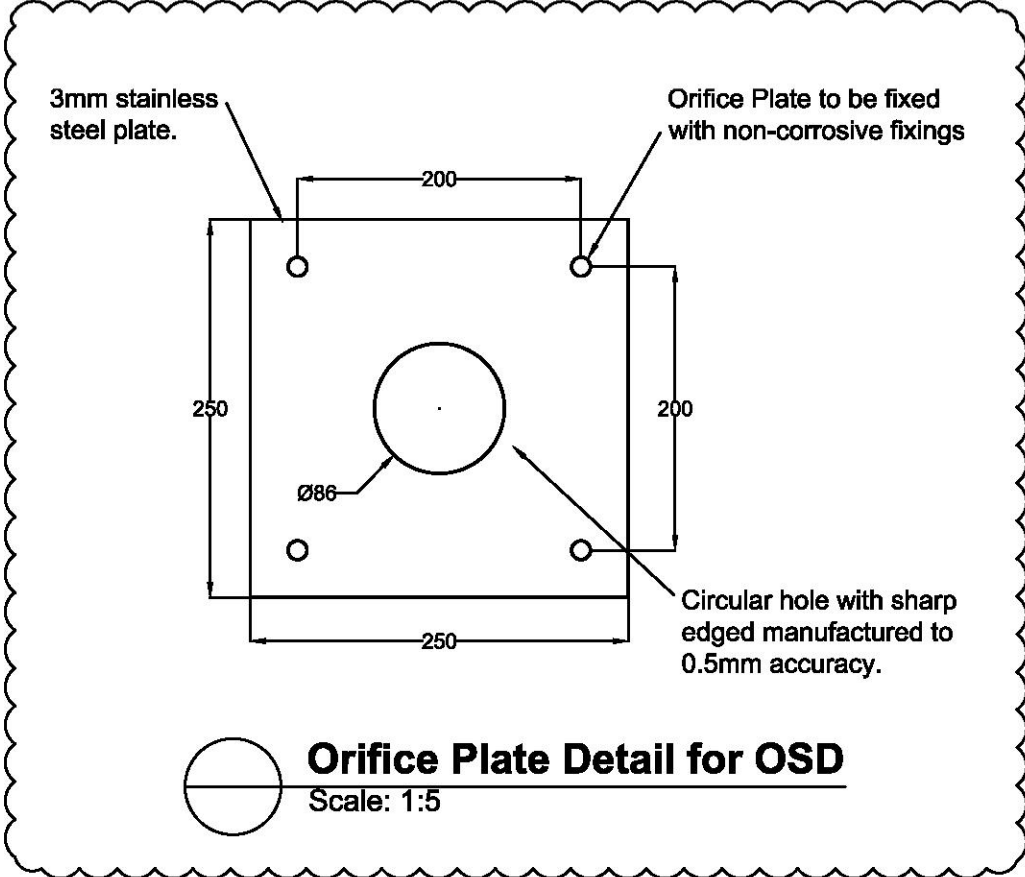
OSD Tank Volume Calcs					
Level (m)	Bottom	Stage 1	Stage 2	Stage 3	Top of slab low end
Area (sq.m)	30.060	30.10	30.74	31.385	31.505
	0.36	0.36	21.84	21.84	
Stage Vol (cu.m)	0.00	0.02	7.12	14.01	
Cum. Vol (cu.m)	0.00	0.02	7.14	21.15	
Internal Tank Dimensions					
Length	5.2 m				
Width	4.2 m				
Tank Base Area	21.84 Sqm				
Depth	1.445 m				
Internal Depth	1.325 m				

OSD Tank Signage

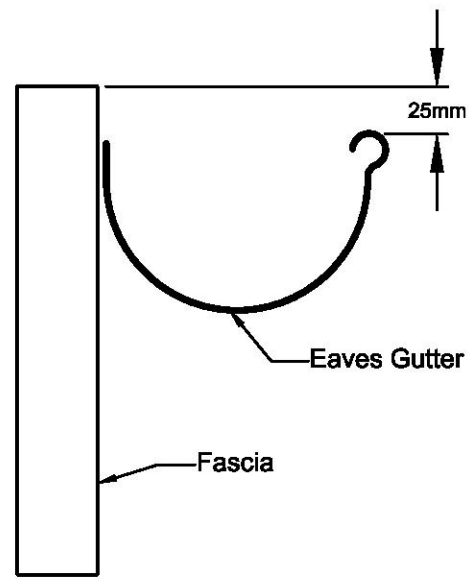


Colours
"DANGER" and background - White
Elliptical area - Red
Rectangle containing elipse - Black
Other lettering and border - Black

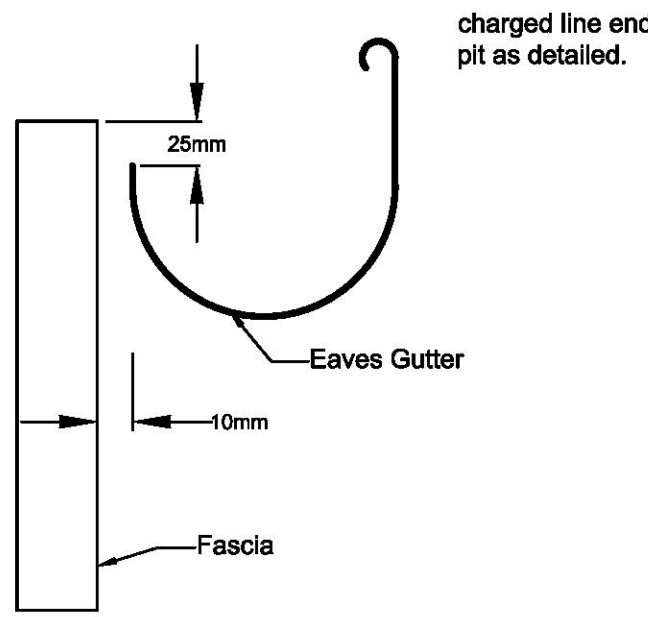
Minimum Size - 187.5 mm x 250mm



Trash Rack Detail for OSD Basin
Scale - NTS



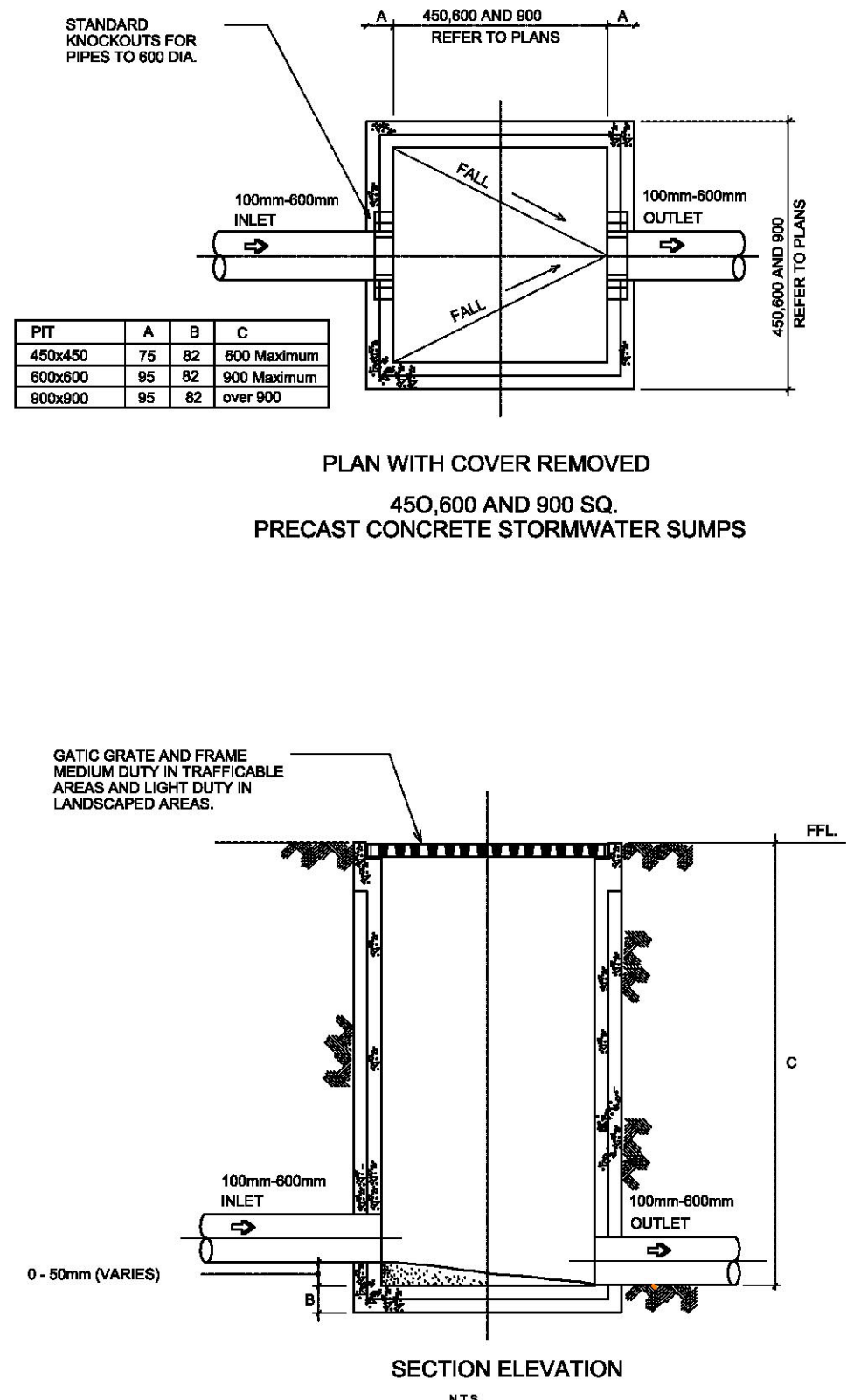
(a) Eaves Gutter with low front; or



(b) Eaves Gutter with high front and min. 10mm gap to fascia.

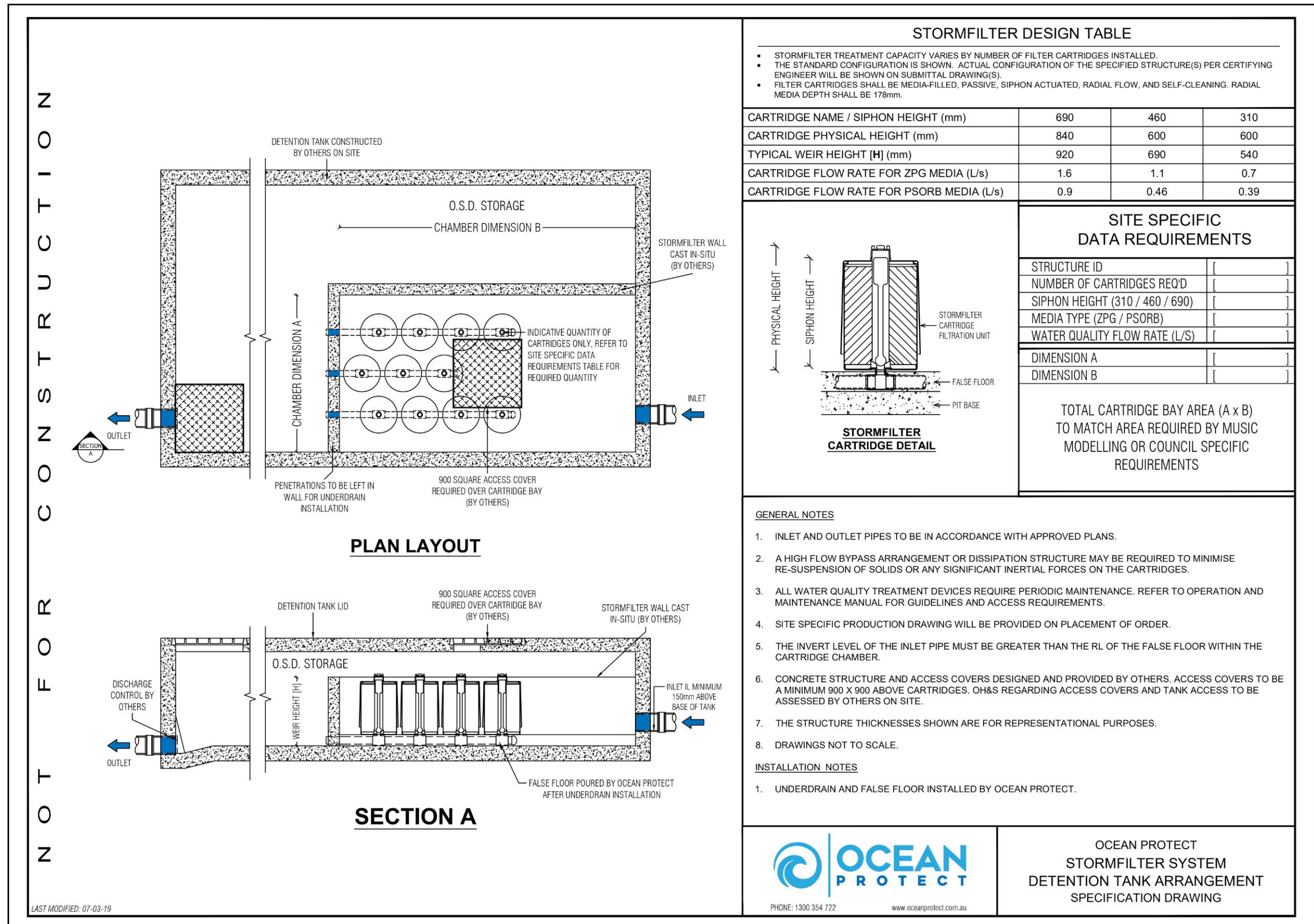
EAVES GUTTER OVERFLOW DETAIL

Scale - NTS



Stormwater Pit Detail

Scale: NTS



Stormfilter in OSD Tank Detail

Scale: nts

PENRITH
CITY COUNCIL

music^olink

MUSIC-link Report

Project Details		Company Details			
Project:	8 Linksview Rd, Leonay	Company:	Abel & Brown Pty Ltd.		
Report Export Date:	19/12/2018	Contact:	Skart Brown		
Catchment Name:	8 Linksview Rd	Address:	23 Waring Street, Yagoona, N.S.W. 2199		
Catchment Area:	0.179ha	Phone:	02 9709 5705		
Impervious Area:	82.85%	Email:	mail@abelandbrown.com.au		
Rainfall Station:	67113 PENRTH				
Modeling Time-step:	6 Minutes				
Modeling Period:	10/11/1999 - 31/12/2008 11:54:00				
Mean Annual Rainfall:	691mm				
Evapotranspiration:	1156mm				
MUSIC Version:	6.3.0				
MUSIC-link data Version:	6.31				
Study Area:	Penrith				
Scenario:	Permit Development				
* takes into account area from all source nodes that link to the chosen reporting node, excluding Import Data Nodes					
Treatment Train Effectiveness		Treatment Nodes		Source Nodes	
Node: Receiving Node	Reduction	Node Type	Number	Node Type	Number
Flow	16.5%	Rain Water Tank Node	2	Urban Source Node	8
TSS	87.6%	Sedimentation Basin Node	1		
TP	60.7%	Generic Node	1		
TN	50.6%	GPT Node	2		
CP	98.6%				
Comments					
- Roof node base flow values are as per the MUSIC modelling guidelines which indicate base flow has no effect for impervious areas and therefore no value is needed.					
- The 'SF Chamber' detention node has been modified to represent a tank to hold volume for use with the Stormwater360 filter. k values have been set to 1 to prevent the tank from 'treating' the flow as it would within a grassed above ground OSD					

NOTE: A successful self-validation check of your model does not constitute an approved model by Penrith City Council
MUSIC-link now in MUSIC by eWater - leading software for modelling stormwater solutions

1 of 3

PENRITH
CITY COUNCIL

music^olink

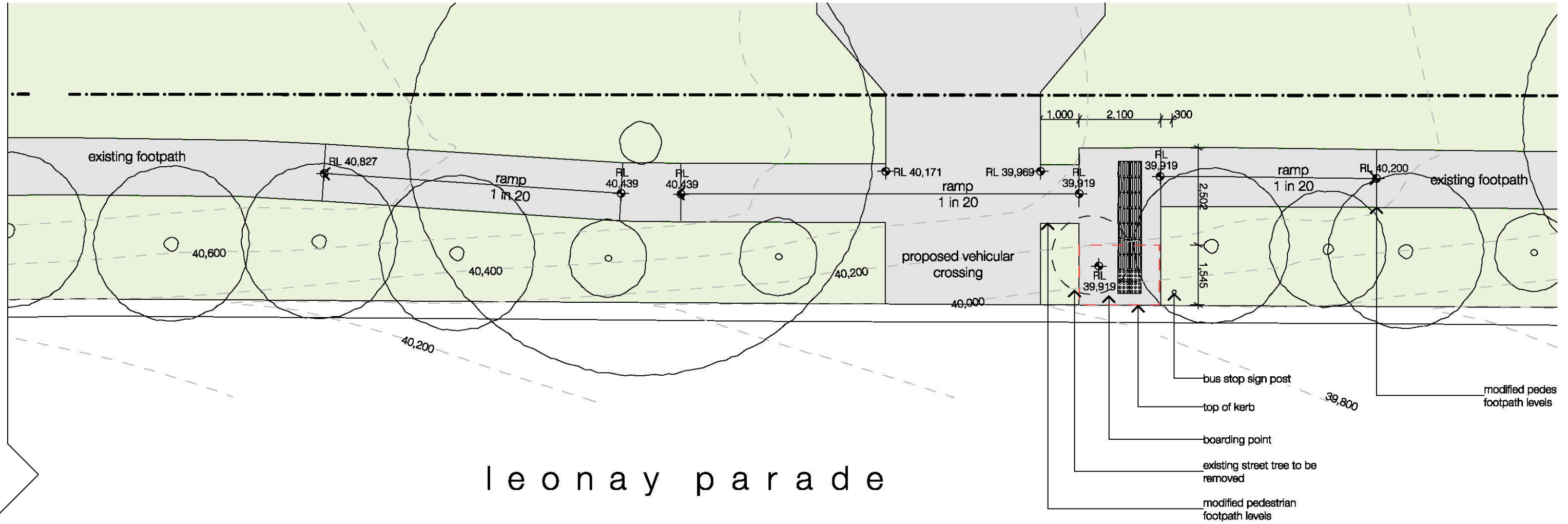
Passing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
GPT	Enviropod 200 (Or Eqp)	H-flow bypass rate (cumicred)	None	99	0.04
GPT	Enviropod 200 (Or Eqp)	H-flow bypass rate (cumicred)	None	99	0.04
Receiving	Receiving Node	% Load Reduction	None	None	16.5
Receiving	Receiving Node	GP % Load Reduction	90	None	98.6
Receiving	Receiving Node	TN % Load Reduction	45	None	50.6
Receiving	Receiving Node	TP % Load Reduction	60	None	60.7
Receiving	Receiving Node	TSS % Load Reduction	85	None	87.6
Sedimentation	SF Chamber 6m	High Flow Bypass Out (ML/yr)	None	None	0
Urban	Driveway - 225m ² (100% Imp.)	Area Impervious (ha)	None	None	0.023
Urban	Driveway - 225m ² (100% Imp.)	Area Peniculous (ha)	None	None	0
Urban	Driveway - 225m ² (100% Imp.)	Total Area (ha)	None	None	0.023
Urban	Driveway - 225m ² (100% Imp.)	Area Impervious (ha)	None	None	0.024
Urban	Driveway - 225m ² (100% Imp.)	Area Peniculous (ha)	None	None	0
Urban	Driveway - 225m ² (100% Imp.)	Total Area (ha)	None	None	0.024
Urban	Landscape - 189m ² (100% Imp.)	Area Impervious (ha)	None	None	0.019
Urban	Landscape - 189m ² (100% Imp.)	Area Peniculous (ha)	None	None	0
Urban	Landscape - 189m ² (100% Imp.)	Total Area (ha)	None	None	0.019
Urban	Landscape - 259m ² (100% Penv)	Area Impervious (ha)	None	None	0
Urban	Landscape - 259m ² (100% Penv)	Area Peniculous (ha)	None	None	0.033
Urban	Landscape - 259m ² (100% Penv)	Total Area (ha)	None	None	0.033
Urban	Roof - 121m ² (100% Imp.)	Area Impervious (ha)	None	None	0.012
Urban	Roof - 121m ² (100% Imp.)	Area Peniculous (ha)	None	None	0
Urban	Roof - 121m ² (100% Imp.)	Total Area (ha)	None	None	0.012
Urban	Roof - 220m ² (100% Imp.)	Area Impervious (ha)	None	None	0.002
Urban	Roof - 220m ² (100% Imp.)	Area Peniculous (ha)	None	None	0.002
Urban	Roof - 220m ² (100% Imp.)	Total Area (ha)	None	None	0.002
Urban	Roof - 220m ² (100% Imp.)	Area Impervious (ha)	None	None	0
Urban	Roof - 220m ² (100% Imp.)	Area Peniculous (ha)	None	None	0
Urban	Roof - 220m ² (100% Imp.)	Total Area (ha)	None	None	0.002
Urban	Roof - 220m ² (100% Imp.)	Total Area (ha)	None	None	0.002
Urban	Roof - 220m ² (100% Imp.)	Total Area (ha)	None	None	0.003
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Urban	Roof - 220m ² (100% Imp.)	Total Area (ha)	None	None	0.003
Urban	Roof - 220m ² (100% Imp.)	Total Area (ha)	None	None	0.003
Urban	Roof - 220m ² (100% Imp.)	Total Area (ha)	None	None	0.003
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Urban	Roof - 220m ² (100% Imp.)	Total Area (ha)	None	None	0.003
Urban	Roof - 220m ² (100% Imp.)	Total Area (ha)	None	None	0.003
Urban	Roof - 220m ² (100% Imp.)	Total Area (ha)	None	None	0.003

[illegible]

Document Set ID: 9533588
Version: 1, Version Date: 01/04/2021

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preliminary not for construction
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l e o n a y p a r a d e

architect

general notes

finishes

fixtures

date

issue

amendment

title

integrated **DESIGN** group
architects | bathurst penrith sydney

1. figured dimensions take precedence over scaled drawings
2. contractors to check and verify all levels datum and dimensions on site
3. all materials and workmanship to be in accordance with current manufacturers instructions local regulations and SAA codes
4. conflicting information to be brought to notice of the architect and clarification sought before proceeding with any works
5. all drawings are not for construction and are subject to further design development, consultant input, council and legislative requirements.

BDfy	boundary	FB	face brick
BOE	brick on edge	FC	face cement
BPB	bagged paint brickwork	FFL	finished floor level
CCR	corrugated steel	FG	fixed glass
CF	colorbond fascia	FGJL	finished ground level
CFC	concrete fibre cement	GM	gas meter
CNC	control joint	GW	hot water service
CJ	control joint	PB	plesterboard
CT	ceramic tile	PCR	painted cement render
CPT	carpet	PFB	painted face brick
CRT	concrete roof tile	PFC	painted face cement
CG	colorbond gable gutter	PWB	painted weatherboard
COF	downdrip	SC	solder course
DPBS	downdrip & spreader	TB	timber floor boards
ESL	existing ground level	TRC	tarmac roof tile
EMB	electrical meterboard	WM	water meter

b	basin	ri	rangehood
b/need	bulhead	sc	solid core door
os	avity sliding door	sh	spok holder
dy	dryer	ss	stainless steel sink
dw	dishwasher	st	stove
edn	exhaust fan	st	shower
fr	freezer	stwr	stubs
fw	floor waste	tr	towel rail
hc	hollow core door	trt	toilet roll holder
hr	handrail	typ.	typical
tr	tetrahbox	wc	water closet
m	mill	w	washing machine
mw	microwave	v	vinyl
oh	overhead	vp	vent pipe
p	pantry	uo	under bench oven
ref	refrigerator	wo	well oven

[illegible]

bus stop compliance 2

multi-dwelling development
glenstone group | 8 linksview ave, LEONAY

project ref: GLE18074
drawn: TG | SL
checked: AE
scale: 1:100 @ a3

DA
9204

issue
AA



Arborist Network

Connecting people and trees™

Arboricultural Impact Assessment Report

2020 redesign

Site Address:	6 - 8 Linksview Avenue Leonay NSW
Prepared For:	Dominic Hogan Glenstone Constructions Unit 3 152 Old Bathurst Road EMU PLAINS NSW 2750
Prepared On:	9 th June 2020
Report Number:	CD2001B
Prepared By:	Mark Hartley Senior Consulting Arborist- AQF Level 8 Grad Cert Arboriculture (1st Class Honours) Dip Hort (Arboriculture) with Distinction Dip Arboriculture, Dip Horticulture LMAA; LMISA; LMIPS ISA Certified Arborist WC-0624 (since 1990) Registered Consulting Arborist™ #0005 ISA Tree Risk Assessment Qualified Registered QTRA user (No. 807) Member - Society of Risk Analysis Australia & NZ
Prepared on behalf:	The Arborist Network 58 South Creek Road Shanes Park NSW 2747 Phone (+612) 9835 1234 Email: reports@arboristnetwork.com.au

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The licensee, its employees, agents, and subcontractors and the consent authority are authorised to use this document in relation to the site and proposed development. The use of any or all clauses contained in the Tree Protection Plan (recommendations) in this report in any conditions of consent prepared for this site is permissible under the terms of this licence.

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Executive Summary

A proposal exists to demolish an existing cottage and associated infrastructure and to then construct five villas along with access driveway and landscaping. The development has had one minor redesign and one major redesign. The development as currently proposed shows the retention of six trees on the site. In addition, it may be possible to retain a seventh tree (an evergreen ash).

A detailed set of specifications (Tree Protection Plan) have been developed for the proposed development along with a supporting drawing, and these are included as a part of this report. The specifications include design changes to reduce the impact on neighbouring trees (Trees N1 & N2). Provided that these specifications are followed there is no reason to believe that the proposed development will have any significant long-term impact on trees that are to be retained.

Brief

The author has been asked to;

- visit the site,
- identify the trees present and within 10 metres of the development,
- assess existing site conditions,
- assess the current health of the trees,
- undertake a Preliminary Tree Assessment,
- consider and address the impact of the proposed development under the Biodiversity Conservation Act 2016
- assess and discuss the impact of the proposed development on the trees,
- produce a Tree Protection Plan (specifications) and a Tree Protection Plan (drawing),
- compile an Arboricultural Impact Assessment Report.

Information Provided

Plan Name	Plan No.	Drawn By	Date	Revision
Plan of Details and Levels	18732	Richard Hogan and Co	23/10/2018	A
Ground Floor Plan	DA1100	Integrated Design Group	29/5/2020	AB
Site Plan	DA0100	Integrated Design Group	29/5/2020	AB
Level 1 Plan	DA1101	Integrated Design Group	22/5/2020	AA
North & South Elevation	DA2000	Integrated Design Group	22/5/2020	AA
East & West Elevation	DA2001	Integrated Design Group	22/5/2020	AA
Internal Site Elevation	DA2002	Integrated Design Group	22/5/2020	AA

Method

A site inspection was carried out on the 4th December 2018 and the site related observations contained in this report arise from the inspection on that date.

This report considers trees that are covered by the Tree Preservation Order and relies on the definition and exemptions contained in the Tree Preservation Order in determining what constitutes a tree, and which trees are exempt. This report also considers all trees on the neighbouring properties that are likely to be impacted by the proposed development regardless of the definition contained in the Tree Preservation Order.

All trees were inspected from the ground and involved inspection of the external features only. Inspection of trees on the neighbouring property was from the client's property and or the public footpath. The inspection included the performance of a Visual Tree Assessment (VTA)^{1,2}. This inspection did not include any invasive, diagnostic or laboratory testing.

The identification of the trees was made on broad the features visible from the ground at the time of inspection. It was not based upon a full taxonomical identification or comparison against a herbarium specimen. The genus and probable species are provided – wherever possible.

The trees that were not located on the survey plans provided are shown with their approximate centres marked on the Tree Location Plan (See Appendix 2).

Only the plans referred to above, have been used in assessing the impact of the proposed DA on the trees. Where recommendations are made in this report including those recommendations contained in the Tree Protection Guidelines it is essential that these recommendations be able to be implemented. Any additional drawings, details or redesign that impact on the ability to do so may negate the conclusions made in this report.

¹ VTA – Visual Tree Assessment, as referenced below, is a systematic inspection of a tree for indicators of structural defects that may pose a risk due to failure. The first stage of this assessment is made from ground level and no aerial inspection is undertaken unless there are visual indicators to suggest that this is merited. Details of the visual indicators are contained in *The Body Language of Trees* by Mattheck & Breloer (1994). The use of a Visual Tree Assessment is widely used and standardised approach. Invasive and other diagnostic fault detection procedures will generally only be recommended when visual indicators of potential concern are observed.

² Mattheck, C & Breloer, H 1994 *Field guide for visual tree assessment (VTA)*, Arboriculture Journal 18:1-23

Observations

For details of individual trees, see the Tree Schedule attached as Appendix 1.

The trees are all exotic and have been planted by the current owner over the last five decades. They comprise a mix of conifers and broadleaf trees. The trees are mostly in good health.

The site is a large residential corner lot. It slopes to the south at about 5 % and to the east by about 1 to 2%. The site has a small drop-off adjacent to Linksvie Avenue.

The proposed design is for five units with the vehicular access handle coming from Linksvie Avenue and a pedestrian access from Fairways Avenue.

The plans differ from earlier plans with a letterbox, bin area, and bulky goods storage area being adjacent to N2 and N3. In addition, Unit 5 has been rotated to provide greater clearance from Tree 10, allowing for its retention.

Discussion

Biodiversity impact

Concerns have been raised by the Council about appropriate consideration of the Biodiversity Conservation Act 2016.

Each Arboricultural Impact Assessment Report that has accompanied the development has included a Tree Schedule (Appendix 1). This schedule contains the genus and species of every tree on the site. In addition, the second paragraph of the observations in that report starts with the phrase “*the trees are all exotic.*” The site does not contain any endemic or native trees. The nearest intact native vegetation is located on the nearby golf course.

It is hard to see how the Biodiversity Conservation Act 2016 applies to the development. It seems unfathomable that a “Test of Significance” could be required or that the development would need to be accompanied by a “Biodiversity Assessment Report.”

Tree Removal and Retention

The proposed development was redesigned, in part, aimed at retaining Tree 10 (a *Nyssa sylvatica*) and to reduce the impact on Trees N2 and N3. By its nature, infill development usually involves tree loss. In this instance six trees will need to be removed to allow the works to proceed.

The current design results in the retention of six trees, being Trees 1, 2, 7, 10, 14 & 15. A seventh tree (Tree 12 – an Evergreen Ash) may be retainable however, the level of stress may be more than the Council finds acceptable and they may require its removal. Development will take place adjacent to these trees and therefore it is important to provide appropriate protection and care during the works.

It is suggested that Tree 12 be retained even if consent is granted to remove the tree. If the tree survives the works in good condition it will add value to the development and if it does not survive the works then nothing is really lost by attempting to retain the tree. The tree will need to be pruned to allow for the proposed works

The construction impact on all the trees will be minimised by using protective fences and load sharing surfaces as indicated in the Tree Protection Plan (drawing). Some works will occur closer to the trees than the Idealised Tree Protection Zone suggested in the Standard and the Tree Protection Plan specifications provided address this issue.

Impact on Trees N2 and N3

There are three trees on adjacent properties (Trees N1, N2, & N3) that could be impacted by the proposed works. The impact of the works on Tree N1 will be negligible but the proximity of Trees N2 and N3 to the works mean that they are at much greater risk

Unit 1 has been moved to the east to minimise the impact on Trees N2 and N3. The letterbox area, the bin storage, and a bulky goods storage area have been relocated adjacent to these trees. As currently shown, this design will have even greater impact on these two trees than the previous design. The reason for this is the need to excavate to a depth of around 40 to achieve the levels shown.

The finished level on these items should be altered to allow them to be constructed with the slab on grade and excavation can be kept to less than 10 cm. The western wall of the letterbox area should be redesigned to ensure

These trees are both Thujas. This genus has rapidly dividing fibrous roots often of three metres in length or less (Minore 1983)³. Excavation to a depth of 10 cm is unlikely to have any perceivable impact on these two trees and therefore design changes are discussed below and are included in the Tree Protection Plan (specifications).

Hamilton (1989)⁴ states that horizontal roots can usually be cut up to the zone of rapid taper and advises that caution should be exercised when cutting large sinker roots close to the tree. Furthermore, excavation is not likely to cause a structural issue for most trees if it occurs as close as two to three times trunk diameter away from the tree, provided that the excavation is limited to one side only Smiley (2017)⁵.

Hamilton summarises the impact of severe root cutting as follows:

Severe root pruning of landscape trees does not adversely affect the value of the tree to the general public. Growth reduction and unacceptable appearance from root severance can be of a relatively short duration if the tree has strong vigour and vitality. Trees re-establish their root-shoot balance by enhancing root generation at

³ **Minore, D.**, 1983. Western redcedar—a literature review. Gen. Tech. Rep. PNW-GTR-150. US Department of Agriculture, Forest Service, Pacific Northwest Research Station.

⁴ **Hamilton WD**, 1989 Significance of Root Severance on Performance of Established Trees, Arboricultural Journal, 13:3, 249-257

⁵ **Smiley ET**, 2017 *Root and stem cutting and its impact on tree stability* Proceedings of Arboriculture Australia May 2017 Canberra

the expense of shoot growth. With the development of new roots, water imbalances in the tree improve and photosynthesis and shoot growth rates increase.

If the design, changes specified in this report are implemented the extent of root damage to Trees N2 and N3 would not constitute severe root pruning as discussed by Hamilton. As a result, provided the Tree Protection Plan is followed there is every reason to believe that the impact of the suggested design will be minimal.

The root-shoot balance can be artificially biased using supplementary irrigation. Given that most common limiting chemical in soils is water, the appropriate provision of supplementary irrigation can result in increased root function and water uptake immediately offsetting any root loss.

Design Issues

Works adjacent to Trees N2 and N3

The finished level on the letterbox area, the bin storage, and a bulky goods storage area needs to be altered to allow them to be constructed with the slab on grade (excavation can be kept to less than 10 cm). The western wall of the letterbox area should also be redesigned to ensure that it can be built on the slab or the use of some form of fence constructed on piers.

Gutters

The cleaning of gutters on a multistorey building is becoming more problematic due to Work Health and Safety requirements. Because there are several larger trees on and adjacent to the site, consideration should be given to installing a gutter system that will not be significantly impacted by leaves. This could include one or more of the following

- installing a quality leaf screening system that is installed over the lower portion of the roof and the top of the gutters, and
- installing ‘Tornado Rain Heads’ to increase the flow and reduce the likelihood of any blockages, and
- installing one or more syphon-based diverters such as Gutter Pumper®, and
- installing overflow spouts that allow for the discharge of water in the event of a blockage taking place. (Spouts prevent damage to the building and make it clear that there is a blockage – see <http://tinyurl.com/ycrortww>).

Root systems

It is important that all parties dealing with trees on development sites understand how tree roots function. Doing so will help reduce unintended damage and result in a better end outcome for the trees that are retained.

All roots start as '**pioneer roots**', pushing their way through the soil in order to take advantage of newly available soil moisture and solutes that are in the zone that they have entered (hence the term pioneer). Cell division at the tip of the root and cell elongation behind this tip creates the pressure to push the roots. This '**zone of elongation**' is typically a few millimetres to less than 100 mm in length.

Cell elongation uses water, and the presence or readily available water, solutes (soluble nutrients), and soil temperature (generally around 16 °C for most temperate trees) stimulates root growth. Whilst elongating cells can absorb some water, at best, they only take up sufficient to meet the water needs associated with cell elongation.

Once the roots have fully elongated single-celled hairs develop on the surface of the root and these roots with '**root hairs**' to form '**absorbing roots**.'

'**Absorbing roots**' are responsible for the uptake of nearly all the water and the majority of solutes used by the tree. They are highly ephemeral, often lasting only a few weeks. However, in association with beneficial fungi, they can last a year or more.

Where trees are already growing well, we can typically assume that soluble nutrients are present at satisfactory levels. Likewise, we can assume that the soil surface temperature often exceeds 16 degrees Celsius most of the year and that at depth, the soil temperature does not vary significantly throughout the year. The biggest limiting factor, therefore, is usually the ready availability of water.

A percentage of these pioneer/absorbing root structures survive the various environmental stresses and within a few weeks or so they become woody.

'**Woody roots**' are effectively underground branches. These roots can be a little under a millimetre in diameter and can grow to be hundreds of millimetres in diameter over time. Their bark prevents them from drying out, but as a result, they are restricted from being able to absorb water and solutes from the soil to any great extent.

While many young woody roots die as a result of disease, environmental damage or competition; they have the potential to be long-lived, sometimes lasting for hundreds of years. Woody roots act as the connection between the absorbing roots and the rest of the tree

'**Structural roots**' make up only a small portion of the woody roots. These roots provide physical support for the tree. They grow directly from the trunk (first-order lateral roots) or are roots that branch close to the trunk. These roots provide support in compression and tension. They have a greater content of lignified cells and, as a result, tend to be much thicker to allow for strength, as well as transport.

In response to the forces of compression and/or tension, these structural roots develop an asymmetric shape rather than the normal circular shape. As the roots grow further from the trunk, they get rapidly thinner (zone of rapid taper) and more circular in shape.

In moderately quick growing soils, such as is the case on this site, the majority of roots are likely to occur in the first metre or so of soil depth.

Damage to roots

Damage to larger roots inside the zone of rapid taper is extremely undesirable and, in most circumstances, should be avoided. These are woody roots, and therefore excavation is more significant in its impact than careful constructing over the top of these roots.

Depending on the amount of root division, the cutting of a woody root with a diameter of 25mm could conceivably result in the death of many millions of root hairs. This loss of absorbing roots has a direct impact on a tree's ability to absorb water and solutes. In addition, it can impact on hormone production, resulting in reduced growth above ground until the root/foilage ratio is restored to its ideal levels.

The loss of roots can result in wilting or thinning of the foliage, the loss of foliage and death of smaller branchlets and sometimes the death of specific larger branches. The ready availability of soil moisture is important in minimising this impact.

Not only do higher soil moisture levels, reduce the energy expended to absorb water, it also stimulates new root development. The faster that sufficient new roots are developed, the less the impact on normal function

Roots are often close to the surface, and therefore construction activity can indirectly impact on the health of roots through direct damage or soil compaction. Even regular pedestrian activity has an effect on the roots close to the surface. In addition, altering of levels by adding fill has the potential to alter the movement of water into the soil and in some circumstances, can cause the soil to become anoxic, in turn causing the death of the roots and potentially the death of the tree.

By far the easiest and most efficient way of limiting construction damage to trees is to establish and enclose a Root Protection Area (RPA) using a rigid fence. The function of this fence is to protect the tree, and the roots in particular, by eliminating or restricting all construction activity in this area.

Methods of Tree Protection

It is important that we understand the processes and methods of tree protection. For that reason, a number of images have been included in Appendix 5 along with the information in this section to assist in ensuring that appropriate implementation of tree protection.

Protect the roots

As already explained the purpose of establishing a Tree Protection Zone is more than concerned with protecting the trunk of the tree. A Tree Protection Zone's primary function is the protection of the roots of the tree.

The most appropriate method of protecting a tree is to establish an exclusion zone using some form of rigid temporary fence (a Tree Protection Zone or TPZ). While it may seem easier to use a flexible fabric barrier fence, these products tend to fail over time and are easily pushed out of the way or damaged. In comparison, damaging a rigid fence requires more of a hit can damage machinery and involves the cost of repair or replacement of the damaged fence.

Sometimes, however, it may become necessary to work within or to gain access through a Tree Protection Zone. To do this, we need to develop a method to stop soil compaction and prevent direct physical damage to roots. A simple action such as walking on the same spot half a dozen times or more can lead to soil compaction. Pushing a full wheelbarrow will cause compaction in the first instance. It does not take long for that damage to accumulate and harm the roots of a tree.

There are a number of ways to protect roots against compaction and physical damage. We can divide these into two simple groups;

- Systems that share the load and
- Systems that are fully load bearing.

Load-sharing surfaces are temporary and usually lightweight systems. Load-sharing surfaces sometimes can be as simple as mulch beneath plywood or planks or the use of scaffolding, to heavier duty systems such as the use of plastic or metal road plates or even rail decking. Photographs in Appendix 4 show that these can be enough to protect a delicate egg from breaking.

Fully load-bearing structures include finished structures such as the slab of a building, a driveway or a pathway. Obviously, each of these has a limit to the weight that it can bear and if this is exceeded the structure and things beneath it can be damaged. Load bearing systems can also include scaffolding and temporary bridging structures.

Protect the trunk

In most instances, enclosing of the Tree Protection Zone ensures that the trunk of a tree cannot be damaged. Sometimes, however, work needs to take place within the Tree Protection Zone and, as a result, there is a risk of impact to the trunk. Damage to the trunk is extremely undesirable. Where it is possible to treat the wound treatment is time critical and is

very expensive. When treatment is not possible or is ineffective, a trunk injury can lead to long-term structural and physiological problems.

Where possible operating machinery or performing activities that may result in an impact to the trunk of the tree should be avoided. Where this is not possible, it is important to protect the trunk. Strapping pieces of timber to the trunk of the tree has been the traditional method for achieving this task.

Conservation of Momentum (as demonstrated by Newton's cradle) tells us that this force is basically transferred through the pieces of timber to the trunk of the tree often providing little to no protection and in some circumstances actually resulting in increased damage.

In response to the failure of timber to absorb impact, hessian or carpet underlay was used and whilst these improved the situation the timber still lacked the ability to absorb any of the energy. The use of fabric wraps also carried new problems; in particular, they often held moisture, and this moist material was in constant contact with the trunk.

A more appropriate system needs a hard, but flexible outer surface bonded to a soft impact absorbing material that has a low water holding capacity. This system is better at absorbing the energy of an impact like a bicycle helmet. Just as with a bicycle helmet, if the impact damages the protection system it needs to be repaired or replaced, and at the same time, the trunk of the tree needs inspecting.

Lastly, prevention is the best process. When machinery is operating near the trunk using an observer can greatly reduce the likelihood of impact. To be effective, the observer should maintain direct visual contact with the tree and the machine and should have direct audio contact with the operator. (Two-way earmuff systems are useful for this task).

Protection of the canopy

The canopy of the tree is often the part of the tree that is least harmed in the construction process. Even so, there are two ways that the construction process can harm the canopy. The first is by direct impact between the equipment and the branches of the tree, and the second is from incorrect or excessive tree pruning.

Avoiding impact between machinery and branches simply requires care. When machinery needs to operate near branches, an independent observer should be used. The observer should maintain direct visual contact with the machine and the branches of the tree and should have direct audio contact with the operator.

All pruning cuts should be made as illustrated in the Australian Standard AS 4373-2007 "Pruning of Amenity Trees." Anyone who does not fully understand this standard or who has not had the proper training to perform pruning should not attempt this work. The project arborist may instruct site personnel to make temporary cuts for later rectification by an arborist. These instructions should be carefully followed.

Tree Protection Plan (Specifications)

Design Issues

#	Recommendation	Reason
1	Consider the retention of Tree 12 even if consent is granted to remove the tree	To maximise retention of trees suitable for the site
2	Redesign the levels of the three structures immediately adjacent to Trees N1 & N2 so that no more than 10 cm excavation is required	Lifting the levels will reduce the extent of excavation and root loss associated with these structure
3	All copies of the plans should include a copy of the Tree Protection Plan (drawing) and a note on each and every plan or drawing to " <u>check the Tree Protection Plan (drawing)</u> "	Tradespeople often read plans rather than written details. Including the Tree Protection Plan (drawing) in the plan set will help the awareness of all tradespeople

Pre-construction

4	Appoint a project arborist to oversee and certify all works in the Tree Protection Zones	A project arborist is needed to supervise and oversee the care and protection of the trees.
5	Establish a 'tree protection' policy document for inclusion as a part of the site induction.	This ensures that all site personnel are aware of the tree protection requirements.
6	A copy of this Tree Protection Plan including the Tree Protection Plan (drawing) must be on site before <u>any</u> work commences on the site - AS 4970-2009 (5.2)	To ensure that documentation is present and available as a reference for all site personnel. Note: The Tree Protection Plan (drawing) can be found in Appendix 2
7	Prior to commencing work on the site, establish Tree Protection Zones around the trees using a 1.8-metre high rigid temporary fence.	Fences create "no-go" zones, show the importance of the trees and help prevent soil compaction and root damage.
8	Apply a 15 - 20 cm layer of arborist mulch over the surface of each Tree Protection Zone	Mulch provides some protection to the roots and helps to manage soil moisture
9	Use a geotextile fabric below the mulch where the mulch is to be removed at a later time.	To allow mulch to be removed by hand and to limit root growth into the overlying mulch.
10	Attach two (2) signs to each Tree Protection Zone as detailed in section 5 of the Generic Tree Protection Guidelines attached as Appendix 4	Signs help to remind people why the fence is there and what should not be happening in that zone
11	Correct and complete installation of Tree "Protection measures are to be certified by the project arborist" AS 4970-2009 (5.3.2).	This ensures the tree protection is correct and completed in accordance with the Tree Protection Plan
12	An AQF Level 3 Arborist must perform any canopy pruning with all final cuts made in accordance with AS4373-2007. The arborist must not use climbing spikes.	To ensure the arborist makes correct cuts and that the tree is not unnecessarily damaged. It is preferable to use an AQF Level 5 arborist for this work.

During site works

13	Have the project arborist perform inspection not less than monthly and at the critical checkpoints listed below as per AS 4970-2009 (5.4.1)	To monitor tree health, to be present at critical checkpoints, and to ensure that the Tree Protection Plan is being followed.
14	Where there is a breach of the Tree Protection Plan, the project arborist must specify any remedial works and the timeframe in which these works must be completed.	To ensure that problems are rectified, that any remedial works required are carried out in a timely manner, and the extent of any damage is minimised.
15	If an inspection reveals that there has been a significant breach of the Tree Protection Plan (specifications), inspections then on must be carried out weekly.	This is to provide additional supervision to help avoid repeat problems and to ensure the correct and timely performance of remedial works.
16	Maintain natural ground level within the Tree Protection Zones. Do not trench, stockpile materials or change grades within this zone.	To prevent unnecessary or unauthorised damage to the trunk, roots, and branches of the tree
17	Install a load a load sharing surface where pedestrian or machinery access (up to 2 tonnes) is required through a Tree Protection Zone.	This is to protect the soil from compaction which in turn inhibits root growth and to prevent direct mechanical damage to roots
18	Where truck or heavy machinery access is required within a Tree Protection Zone a Load Bearing Surface must be in place.	This is to protect the soil from compaction which in turn inhibits root growth and to prevent direct mechanical damage to roots
19	Maintain the Tree Protection Zones until construction work is completed.	To provide protection for the duration of the works that impact on the tree.
20	Machinery access is not permitted in the Tree Protection Zone to perform landscaping works	To avoid damage caused by machinery as a part of landscaping activities.
21	An observer must be present during excavation or the demolition of any structure within 3 metres of the Tree Protection Zone.	This reduces the likelihood of accidental impact to the tree. Note: Using the project arborist is strongly recommended.
22	Cleanly cut any root that, is greater than 25 mm in diameter, and that need to be cut or removed	This is to avoid tearing of roots and helps improve new root generation.
23	Where roots are cut as a part of item 22 the cut end should be kept moist using a root oasis, temporary hoarding, or a root curtain.	This is to ensure that cut roots do not dry out and stimulates new root generation.
24	Irrigate the Tree Protection Zones at 1litre / m ² for every 2 mm shortfall in the rainfall during the previous week: • If less than 20 mm of rain has fallen in the previous week from October to March or • If less than 10 mm of rain has fallen in the previous week from April to September.	This is to ensure healthy root growth and to ensure higher levels of readily available water to minimise stress. (Note: It may be easier to install a temporary irrigation system prior to installing any load sharing surface.)
25	An irrigation log must be maintained, kept on site and record the weekly rainfall and the date and duration of any manual irrigation event.	To ensure appropriate records are available for monitoring and reporting.
26	Notify the Site Arborist, any consent authority, and the Certifier not less than 7 days before removing Tree Protection devices.	This allows a check to be undertaken to determine if the remaining works are likely to adversely impact on the trees

Critical checkpoints

27	Have the project arborist present at the following checkpoints: • Before demolition of the existing structures with 5 metres of any tree • Before backfilling of any trench dug for underground services • During excavation in the Tree Protection Zone adjacent to Trees N1 and N2 • After excavation but before installing any footing within 1 metre of a tree • Prior to cutting any root greater than 15 cm in diameter Note: These can form part of the periodic inspections specified in item 10
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Load sharing and load-bearing surfaces

28	Any load sharing surface for pedestrian and light machinery access must be comprised of plastic road plate on top of a 10 – 15 cm mulch layer.	To allow for suitable load sharing. Note: 19 mm may be used where only pedestrian access is required.
29	Use a geotextile fabric below the mulch to allow for the later removal of the mulch, in areas where turf will be laid.	To allow mulch to be removed by hand and to limit root growth into the overlying mulch.
30	Remove all much by hand starting from closest to the tree and moving outwards.	To minimise the impact on roots as a result of the removal of the load sharing surface.
31	A load bearing surface shall be constructed using Megadecking, Durabase mats, JLA bogmat. or continuous dragline	This is to ensure that the surface is sufficiently robust to share the load of heavy equipment
32	Where the surface levels below a Temporary Load Bearing Surface needs to be adjusted this shall be achieved using sand or other suitable material applied to the surface.	This is to ensure that excavation does not take place in order to install a Temporary Load Bearing Surface
33	Once a road or parking bay has been completed it shall be deemed to be a Load Bearing Surface	This means that these finished surfaces can be used as an alternative.
Note: If concerns exist that the works will damage the finished surface the same work will almost certainly damage the tree roots, and a temporary surface must be used		

Post Construction

34	At practical completion, the project arborist should “assess tree condition and provide certification” that the tree protection works have been in accordance with the Tree Protection Plan.	This is to provide a completion to the document trail for the certifier and or the certifying authority.
35	“Certification should include a statement on the condition of the retained trees, details of the deviations from the approved tree protection measures and their impacts on [the] trees” and provide specifications for any remedial or rectification work required.	This is to comply with AS 4970-2009 (5.5.2). It provides a documented record of the final condition of the tree. It audits and certifies the correction of any problems.

Should you require any further information, do not hesitate to call our office for assistance.



Mark Hartley

Senior Consulting Arborist- AQF Level 8

Grad Cert Arboriculture (1st Class Honours)

Dip Hort (Arboriculture) with Distinction

Dip Arboriculture, Dip Horticulture

LMAA; LMISA; LMIPS

ISA Certified Arborist WC-0624 (since 1990)

Registered Consulting Arborist™ #0005

ISA Tree Risk Assessment Qualified

Registered QTRA user (No. 807)

Member - Society of Risk Analysis Australia & New Zealand

Appendix 1:

Tree Schedule

Client Name: Dominic Hogan, Glenstone Constructions

Site Address: 6 - 8 Linksvie Avenue, Leonay

No	Scientific Name	Health	Height (m)	Spread (m)	DBH (cm)	ITPZ (m)	MTPZ (m)	TI/ME (m)	Retention Value	Comments	Retain / remove
1.	<i>Liquidambar formosana</i>	Good	18	9	E50	6.0	2.5	4.2	Moderate	Species prone to branch shed	Retain and protect
2.	<i>Cedrus deodara</i>	Good	18	12	50	6.0	2.5	4.2	High	A significant visual impact	Retain and protect
3.	<i>Cedrus atlantica glauca</i>	Tree has been removed									
4.	<i>Triadica sebifera</i>	Good	15	12	40	4.8	2.0	3.4	Nil		Remove.
5.	<i>Cryptomeria japonica</i> 'Elegans'	Fair	12	5	15/18/4 5	6.1	2.6	4.3	Nil	DBH calculated as 51cm	Remove.
6.	<i>Cedrus deodara</i>	Good	20	16	95	11.4	4.8	8.0	Low		Remove.
7.	<i>Cupressus arizonica</i>	Fair	12	12	E60	7.2	3.0	5.0	Moderate	This species is highly tolerant of root loss	Retain and protect
8.	<i>Cupressus macrocarpa</i> 'saligna'	Fair	14	14	75	9.0	3.8	6.3	Low	Reverted/ some damage	Remove.
9.	<i>Pyrus ussuriensis</i>	Good	10	8	E30	3.6	1.5	2.5	Low		Remove.
10.	<i>Nyssa sylvatica</i>	Good	16	12	80	9.6	4.0	6.7	High	Able to be retained	Retain and protect
11.	<i>Cedrus deodara</i>	Good	18	12	90	10.8	4.5	7.6	Low		Remove.
12.	<i>Fraxinus griffithii</i>	Good	7	8	E35	4.2	1.8	2.9	Nil	Retention may be possible – very tolerant of root damage – slower growing	Consider retention and protection
13.	<i>Juniperus</i> sp.	Good	6	6	20	2.0	0.8	1.3	Nil		Remove.
14.	<i>Cupressus sempervirens</i> 'Swane's golden'	Good	10	3	20	2.4	1.0	1.7	Low	Able to be retained of minor visual impact	Retain and protect
15.	<i>Cupressus sempervirens</i> 'Swane's golden'	Good	10	3	20	2.4	1.0	1.7	Low	Able to be retained of minor visual impact	Retain and protect
N1	<i>Liquidambar styraciflua</i>	Good	14	12	50	6.0	2.5	4.2	Essential		Retain and protect
N2	<i>Thuja plicata</i>	Good	12	12	50	6.0	2.5	4.2	Essential		Retain and protect
N3	<i>Thuja plicata</i>	Good	12	12	60	7.2	3	5	Essential		Retain and protect

Notes on Tree Schedule

Number (No)	N – Neighbours tree within proximity of the development
Scientific Name	Identification is made on the basis of visual features visible from ground level at the time of inspection
Health	Good – In good health with no significant faults or defects Fair – Some faults or health problems. Not likely to cause short-term problems, generally able to be managed. Poor – Significant health or structural defects with management likely to be inadequate or inappropriate
Height (m)*	Palm height is given for trunk only and does not include the height of the fronds.
Spread (m)*	The average diameter of the canopy unless the asymmetry of the canopy is noted or is critical to the design process
DBH (cm)*	Trunk diameter - measured or approximated at 1.4m above ground as outlined in “Appendix A” AS 4970 – 2009 E – Estimated equivalent trunk diameter where multiple trunks and branching exist.
ITPZ	The Indicative Tree Protection Zone radius specified by section 3.2 of AS 4970 -2009 and rounded up to one decimal place
TI/ME	The minimum radius for a Tangential Incursion into the TPZ yet still be a Minor Encroachment using AS 4970 - 2009
TPZM	The suggested Tree Protection Zone Minimum radius determined following the process for reducing the TPZ outlined in AS 4970 – 2009. The TPZM usually requires moderate to extensive arboricultural input along with ongoing maintenance for some time
Retention Value	E = Essential - Site suitability 40 plus years, good condition, able to be retained without design changes H = High - Site suitability 40 plus years fair condition or better able to be retained with minor design changes M = Moderate - Site suitability 20 - 40 years, or only retainable with moderate impact on the development of the site L = Low - Site suitability less than 20 years, or retention impacts significantly on development of the site N = Nil - Site suitability less than 5 years, or retention sterilises development of site Note: Site suitability considers health, life expectancy, the risk of harm, the desirability of species and impacts on current and proposed land use. Impact on development needs to be considered throughout the planning stage
Recommendations	Unless otherwise stated trees are to be retained.

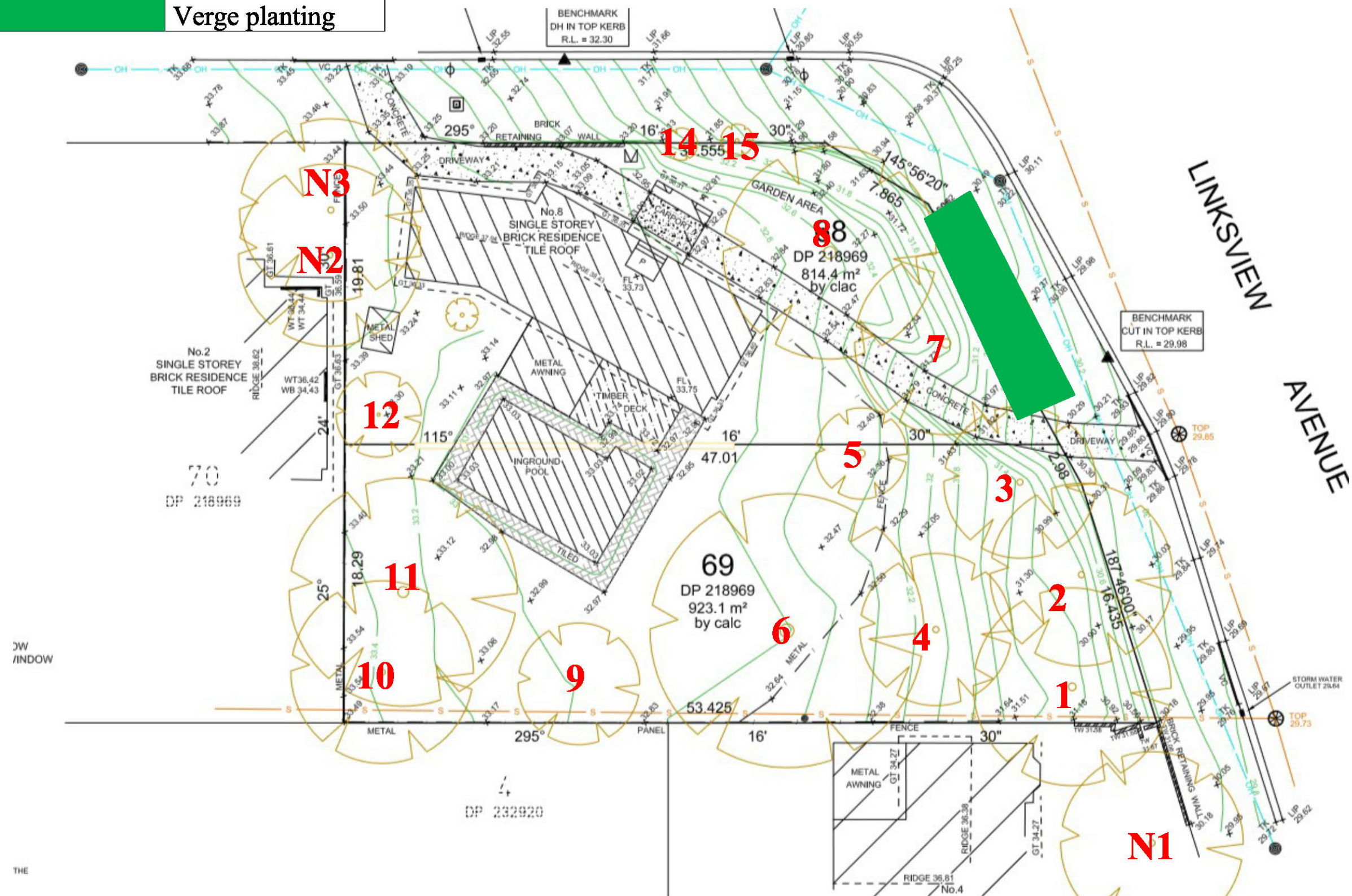
* All dimensions are approximate.

Appendix 2:

Tree Protection Plan (drawing)

Key	
	Load sharing surface.
	Tree Protection Zone
	Tree Protection Fence

Tree Location	Key
	Verge planting



Appendix 3:

Determining the Tree Protection Area

A simple solution

Over the last two decades, there has been an increasing awareness of the need to protect appropriately and care for trees on development sites. There have been conferences, workshops as well as publications written on the subject. Most notably these include British Standard BS 5837: 2005, “Trees and Development” by Matheny N & Clark J and “Protection of Trees on Construction Site” by Hartley M. These publications all focus on minimising damage to the root system of the tree by establishing appropriate Tree Protection Zones (TPZ).

The British Standard provides Matheny and Clark as the source of the formula for calculating the radius of the tree protection zone. Interestingly Matheny and Clark site the British Standard as the source of the formula. Such a circular argument is of concern, particularly when the Matheny and Clark include many examples of their successful encroachment of their Tree Protection Zone in their text.

Matheny said, *“It is not that common that we get that much space.”* and *“With tolerant species, we can squeeze that down by half or two-thirds”*. (ISA Annual Conference 2007) Mathematically that suggests that the Tree Protection Zone could potentially contain as little as 12% of the root volume provided for using either formula.

Calculations and tables in the first two publications aimed at providing a Tree Protection Zone sufficiently large enough to ensure that the health of the tree is not adversely impacted and achieves this without the need for arboricultural input other than ensuring the maintenance of the protection zones. The British Standards or Trees and Development are ideal documents to be applied by anybody regardless of their understanding of plant physiology.

Matheny rightly states, *“Because the tree is an individual the table is not enough. You need to consider all the factors.”* (ISA Annual Conference 2007) If we are to find benefit in the TPZ given in either the British Standard or Trees and Development, it is that this is a TPZ that can be determined by any person and without any arboricultural input since it is a simple formula. Anyone able to measure the trunk diameter and follow the formula can calculate the TPZ.

A suitably experienced consulting arborist is often able to support a smaller TPZ when combined with appropriate arboricultural care, and some provision is given in the British standard for this to take place. This makes no sense unless the formula for calculating the TPZ in the British Standard is prefaced with a note saying that this is the point at which arboricultural input is required. Regrettably the British standard does not say this, and as a result, it becomes overly prescriptive.

An arboricultural solution

Land and development costs along with the environmental impact of urban sprawl make it undesirably burdensome to sterilise vast areas of land to enclose an optimum **TPZ**. It is often far more cost effective to provide even the highest level of Arboricultural care possible to a tree to ensure that it thrives and prospers in the long term than to establish a **TPZ** that is unnecessarily large.

It makes logical sense to adopt a **Minimum Tree Protection Zone** that is based on the size of a root plate required to transplant the same tree. Transplanting of large and even very old trees has been carried out with enough frequency and over such a long period that we have a good understanding how transplanted trees respond to root loss. A success rate of 97% can be expected when a transplant is properly undertaken with appropriate ongoing care.

Perhaps the 3% failure rate could be considered as unacceptable, but it is likely that a percentage of these would have died within a few years in any case. Matheny again points out *“Transplanting is a far greater impact – if we are going to transplant it, we might as well keep it where it is and squeeze the protection zone.”* (ISA Annual Conference 2007) A transplanted tree will undoubtedly undergo a greater degree of stress than a tree that is retained with an identically sized root plate that is appropriately protected and cared for.

The site constraints, more often than not, are likely to benefit from a **TPZ** that is smaller than that specified by the British Standard and Trees and Development. Using a smaller **TPZ** means that there will be a requirement for appropriate levels of arboricultural care. This approach may give rise to the question “What is the minimum area required by the tree?” There is, unfortunately, no absolute answer to this question but there are some important benchmarks to be considered.

- The protection should be sufficient to allow the maintenance of the tree, with appropriate arboricultural input. In the past, this was called the **Critical Root Zone (CRZ)** and frequently relates to the size of the root plate that would be required to transplant the tree successfully. In most instances is an area with a radius of 5 times the trunk diameter. This document refers to this at the **Minimum Tree Protection Zone (MTPZ)**.
- Depending on the tree's response to root damage, it is possible to come even closer to the tree particularly when construction impact is going to be limited to one side or better still to one quadrant of the Critical Root Zone and the provision of an additional area around the remaining area of the root zone can be protected.
- The extent of any excavation should not result in the structural instability of the tree. A number of formula and test exist to determine the size of the **Structural Root Zone (SRZ)**. There is however generally no need to consider the issue of structural stability if work is performed outside the **MTPZ**. In most circumstances, it is undesirable and often unwise to cut roots located in the Structural Root Zone.

There must be sufficient soil volume to allow the tree to grow to maturity with appropriate ongoing care. If the goal is to have little ongoing care, this will undoubtedly take a greater soil volume than a tree that will be extensively maintained (such as a tree growing in a rooftop planting).

The approach of AS 4970-2009

In August 2009, Standards Australia released AS4970-2009 Protection of Trees on Development Sites. In its preface, this document acknowledges its reliance on the British Standard and Matheny and Clark. This standard suggests an “*Indicative*” TPZ with a radius 12 times trunk diameter. As already discussed, there is no question that this will provide adequate protection of the tree in almost all conceivable situations. It achieves this by suggesting an ITPZ encloses and potentially sterilises an enormous area.

The standard does acknowledge that it may be possible to encroach on this ITPZ if the project arborist can demonstrate that the “*trees will remain viable*.” As already stated, we can successfully transplant most trees in good health and vigour, so the use of a reduced sized TPZ when combined with appropriate care, has been demonstrated by several hundred years of successful tree transplanting. (Mathematically the standard sized root plate for a transplant has less than 20% of the root area of the ITPZ specified in the AS 4970-2009.)

Of equal concern is the impact of the insistence of a TPZ with a radius of 12 times trunk diameter may have on tree retention and urban sprawl. Where there is a conflict between development and tree retention, a decision will need to be made to refuse the development (potentially increasing urban sprawl) or to reduce the size of the TPZ.

If the development is acceptable, then we need to answer the question “should we be removing trees that cannot be given the ITPZ given in AS 4970-2009?” The answer should be “No!” whenever there is adequate potential for retention the tree with appropriate arboricultural input.

Given that the standard has some significant issues and seeks to be “informative,” it is essential the standard is not viewed as prescriptive or normative. The standard does consider some important issues such as the timing of the work, the importance of preventative maintenance and ensuring appropriate monitoring of the trees. As far as practical this document forms an important part of that process.

There is no doubt that establishing and maintaining a TPZ around a tree is the most important thing that a developer can do to protect a tree. In the same manner, perhaps the most significant arboricultural input that can be provided is the management of soil moisture levels. The sooner soil moisture is managed the lower the impact on a tree. Ideally, management would start before any work starts on the development.

Appendix 4:

Generic Tree Protection Guidelines

1. Pre-Construction:

- 1.1. Prior to the commencement of construction, the consulting Arborist will issue a report outlining the following:
 - 1.1.1. The trees that have been protected, the maintenance activities (if any) for each tree that have already been performed, that the protective fence or fences have been installed in accordance with the Arborist's Report.
 - 1.1.2. A statement that the physical protection (items 7 and 8 of the POTOCS standards) of the trees has been performed, to the above standards or if not, any non-conformances and why. e.g. the fence around trees is incomplete because of boundary fences.
 - 1.1.3. All trees to be removed are to be marked with a single white line around the trunk. No tree shall be so marked until council consent for its removal has been given.
 - 1.1.4. Prior to removal one of the following will confirm the tree is to be removed by marking the tree with a single horizontal yellow or orange line. One of the following persons, Surveyor, Landscape Architect, Arborist, Project Manager, and Tree Preservation Officer, should do this.

2. Tree Protection Zones:

- 2.1. The trees are to be protected by a 1.8-metre high fence to be constructed within 500mm of any construction activity and to include as much of the Primary Root Zone as possible.
- 2.2. Where the Tree Protection Zone occurs impart on the adjacent property, the fence will stop at the boundary lines.
- 2.3. Provision will be made to these protection zones for pedestrian access only.

3. Maintenance activities:

Timing: Maintenance activities are to be at the commencement of the construction process by qualified Arborists and then as required during the construction period.

- 3.1. The following maintenance activities may be required for this site:
 - Irrigation – by hand to comply with current specifications
 - Soil Amelioration
 - Mulching
 - Crown cleaning in accordance with AS 4373-2007 *Pruning of Amenity Trees*,
 - removal of trees by sectional felling and stump grinding.

3.2. Irrigation

- 3.2.1. Soil moisture during construction shall be maintained at not less than 60% of field capacity.
- 3.2.2. Irrigation is to be applied by hand. No construction activities are to take place within the Primary Root Zone until irrigation has been initiated and soil moisture reaches 70% of field capacity at a depth of 300mm.
- 3.2.3. On each visit, the consulting arborist shall check the soil moisture and manually check the irrigation system, when installed.
- 3.2.4. Soil moisture levels should be checked by physical touch or with a tensiometer.

3.3. Soil amelioration

- 3.3.1. An application of rooting hormones, humic acids, soil micro-flora and mycorrhizae may be applied by an arborist in accordance with the manufacturer's instructions.
- 3.3.2. Chemical fertilizers are to be used only after representative soil testing and based on the soil scientist's recommendations.

3.4. Mulching

- 3.4.1. The fenced area should be mulched with seed-free mulch to a depth of at least 50mm.

3.5. Weed Control

- 3.5.1. Weed control shall be by hand pulling, wiping or spraying with a glyphosate-based herbicide. Material likely to be root grafted to trees to be retained shall be removed manually.
- 3.5.2. Weed control shall not be performed by mechanical cultivation or by scraping or back burning.

3.6. Crown cleaning

- 3.6.1. Crown cleaning (AS4373-1996, Pruning of Amenity Trees) shall be performed in accordance with the standard, by an arborist and in compliance with the appropriate occupational health and safety regulations. All branches down to 50mm in size shall be inspected and appropriately treated.
- 3.6.2. Any concerns about health or safety that are observed by the arborist on the site will be reported in writing within 7 days to the superintendent/principal/client and/or head contractor.
- 3.6.3. The use of spurs on live trees and internodal cutting is strictly prohibited.

3.7. Tree Removal and Stump Grinding

- 3.7.1. Remove trees in a controlled or sectional felling to avoid any damage to the trees to be retained.
- 3.7.2. All shrubs, under-scrub and woody weeds that are to be removed shall be removed by hand as per 3.4 above.
- 3.7.3. No tree shall be removed unless it has been marked with a horizontal white and yellow/orange line around the trunk.

4. Fences:

- 4.1. The fencing of the Tree Protection zone as defined in section 8.0 of the POTOCS standards should be commenced prior to the commencement of ANY work, including demolition and land clearing by earth moving machinery but may be erected after tree maintenance activities.
- 4.2. The fence surrounding the Tree Protection Zone must be a rigid fence not less than 1.8m high.

5. Signs:

- 5.1. At least every 25 metres attached to all tree protection fence there shall be a sign, a minimum of 600mm x 600mm, bearing the following phrase in red letters on a white background at least 50mm in height:

“TREE PROTECTION ZONE - KEEP OUT”

- 5.2. On the same sign above or on a separate sign attached adjacent, in red lettering on a white background not less than 25mm in height is to be the following:

“PROHIBITED ACTIVITIES”

Followed by the list below in black letters not less than 15mm in height.

- a) Entry of machinery or people.
- b) Storage of building materials.
- c) Parking of any kind.
- d) Erection or placement of site facilities.
- e) Removal or stockpiling of soil or site debris.
- f) Disposal of liquid waste including paint and concrete wash.
- g) Excavation or trenching of any kind (including irrigation or electrical connections).
- h) Attaching any signs or any other objects to the tree.
- i) Placing of waste disposal or skip bins.
- j) Pruning and removal of branches, except by a qualified Arborist.

- 5.3. In letters, not less than 25mm in height on the above sign should be the name of the supervising Arborist or arboricultural company or other appropriate contact and a contact phone number.

6. Root Cutting

- 6.1. All roots greater than 50mm in diameter that need to be removed shall be cleanly cut and kept moist at all times and shall not be left exposed to the air for more than 10 to 15 minutes.

7. Maintenance Reports:

- 7.1. Weekly inspections and monthly reports should be made until the end of construction.
- 7.2. A consulting Arborist should be on site during any excavation work within the Critical Root Zone and will report on that work in the monthly report.
- 7.3. A site log shall be maintained and include the date of each inspection, the person who performed the inspection, the items inspected or tested, the maintenance activities performed, any repairs undertaken or required to be undertaken, and any substantial breaches or non-conformances.
- 7.4. The arborist performing the inspection should sign the entries in the logbook
- 7.5. The log shall be maintained on the site or alternatively copies of the log entries for the month shall be submitted each month with the monthly report.
- 7.6. All maintenance shall continue for the 3 months after completion of construction

8. Non-Conformance Reports:

- 8.1. The following are non-conformances that need to be managed when they occur.
 - 8.1.1. The removal or relocation closer to the tree of all or part of any protective fence prior to landscaping.
 - 8.1.2. The performing of any activity noted as prohibited on protection zone signage
 - 8.1.3. The failure to maintain adequate soil moisture or the failure in the operation of the irrigation system.
 - 8.1.4. Mechanical damage to the trunk, stems, branches, or retained roots.
 - 8.1.5. The sudden and abnormal or premature shedding or decline of the tree.
- 8.2. **Substantial breaches and non-conformances:**
 - 8.2.1. Any breach or non-conformance of the tree protection zone, by any party, shall be notified in writing within 2 working days of it being first observed.
 - 8.2.2. Notification of any non-conformance should be made in writing to the site foreman, the consent authority, and any independent certifier.

Appendix 5:

Protection of Trees on Construction Sites

Establishing a Tree Protection Zone

Good Work



Photo 1: The fence should be rigid and hard to move.



Photo 3: The TPZ is mulched where appropriate and weed free.



Photo 5: The purpose of the fence is to isolate the tree from the works and to protect the roots.

Poor Work



Photo 2: This style of fence is too easily damaged and collapses when hit.



Photo 4: Put the fence where it should be! The TPZ is not for storage.



Photo 6: Woven fences seldom work particularly when space is limited.

Protecting the Roots

Good Work



Photo 7: Like an egg tree roots are delicate and easily damaged.

Poor Work



Photo 8: A single movement of a truck can cause significant damage to the absorbing roots.



Photo 9: The load-sharing surfaces should be designed to take the load that will travel over it.



Photo 10: Without appropriate protection, the soil is compacted, and roots are broken and damaged.



Photo 11: The goal is to ensure that there is minimal impact on the roots that are being protected.



Photo 12: Keep equipment away from the tree by using appropriate tree protection.

Trunk Protection

Good Work



Photo 13: TrunkGuard is designed to absorb impact just like a bicycle helmet.

Poor Work



Photo 14: Trunk damage is usually irreparable and frequently causes long-term problems!



Photo 15: It is flexible for a better fit and is attached using screws to avoid even light impact.



Photo 16: Even the installation of a poorly designed system can injure a tree!



Photo 17: Able to withstand and absorb moderate construction impact - not that this should happen!



Photo 18: This serves little purpose at all! It does not protect the roots or the trunk of the tree.

Our reference: CD2001

Wednesday, 12 August 2020

Dominic Hogan
Glenstone Constructions
Unit 3 152 Old Bathurst Road
Emu Plains NSW 2750

Re: response to recent design changes at 8 Linksvie Avenue Leonay

Dear Dominic,

Here are my comments relating to the current design changes. These should be read in conjunction with the last report.

Tree 1

The only issue that the council have raised is stormwater tank. If this is moved out of this area this should resolve the issue. Design of the retaining wall should minimise and ideally avoid any continuous footing. In addition, fill soil used needs to be coarser than the underlying soil and organic material must not be buried.

Tree 2

It appears that the only issue here is the retaining wall. Retaining walls often require footings and footings mean cutting into the soil which means root cutting. Design of the retaining wall should be tree sensitive as discussed for Tree 1

Tree 7

The amount of encroachment on what the Standard refers to as the “*Idealised*” Tree Protection Zone of Tree 7 is considerable. However, this species is highly tolerant of root damage. The mean annual rainfall for the natural distribution of Tree 7 is 400 to 600 ml per year. Even if the work resulted in the loss of 50% of the absorbing roots, it would still be in a better net environment than it would be in its natural distribution.
(<https://www.cabi.org/isc/datasheet/17083>)

The level of impact is less than that discussed by the authors referenced in my report. The Council has dismissed the peer reviewed papers and has provided no other rationale or reference to peer-reviewed papers or to the standard to support that opinion.

Tree N1 and N3

It is acknowledged that the new design for the bin store the bulky goods storage and other hard surface will result in some relatively minor excavation in order to achieve the required levels. This will result in some minor root loss as well as some reduced infiltration.

On the other hand, these structures are quite small, and the loss of infiltration will in part be compensated for by reduced evapotranspiration and lateral movement of soil moisture. Irrigation could also be installed to address this issue; however, it is noted that this species prefers well drained soils.

Lastly, as has previously been pointed out in earlier reports this Genus prefers well drained soils, transplants well and is highly tolerant of root damage.

<http://hort.ufl.edu/trees/THUOCCA.pdf>,
<https://www.fs.fed.us/database/feis/plants/tree/thuocc/all.html>,
<https://www.mortonarb.org/trees-plants/tree-plant-descriptions/eastern-arborvitae>,

The amount of root loss proposed is significantly less than suggested by Hamilton as not causing long term impact for most trees.

Should you require any further information, do not hesitate to call our office for assistance.



Mark Hartley

Senior Consulting Arborist- AQF Level 8
Grad Cert Arboriculture (1st Class Honours)
Dip Hort (Arboriculture) with Distinction
Dip Arboriculture, Dip Horticulture
LMAA; LMISA; LMIPS
ISA Certified Arborist WC-0624 (since 1990)
Registered Consulting Arborist™ #0001
ISA Tree Risk Assessment Qualified
Registered QTRA user (No. 807)
Member - Society of Risk Analysis Australia & NZ



11 August, 2020

Penrith City Council
PO Box 60
Penrith
NSW 2571

Attention: Lauren Van Etten, Environmental Planner

Dear Madam,

PASSENGER VEHICLE MANOEUVRING & PARKING SERVICING
PROPOSED SENIORS LIVING RESIDENTIAL DEVELOPMENT
8 LINKSVIEW AVENUE, PENRITH

Reference is made to your correspondence dated 22 July, 2020 to Glenstone Group Pty. Ltd. requesting additional information in relation to the abovementioned seniors living development at 8 Linksview Avenue, Penrith.

Stanbury Traffic Planning prepared a passenger vehicle manoeuvring assessment dated 28 May 2020 in support of the subject development application.

Following receipt of your correspondence, a number of minor alterations have been made to the development application plans, which are detailed within amended architectural plans prepared by Integrated Design Group, copies of which are submitted under separate cover. These alterations do not impact the originally assessed site access and internal circulation arrangements addressed within our submission dated 28 May 2020. Notwithstanding this, to ensure consistency, the originally submitted swept path plans have been amended to utilise the updated architectural plans as a base, copies of which are attached to this correspondence as **Appendix 1**.

This Practice has been retained by the applicant to address Item 12 of your letter relating to visitor parking, as follows:

12. *It is noted that no visitor parking is proposed. On-street parking can be relied upon for visitors in this instance if the above requests can be incorporated and if your traffic report can address this matter without adverse consequences upon the road network.*

Comment

It is acknowledged that the parking provision for this site does not include a visitor parking space. However, allocating a separate parking space for the use of visitor parking is not physically possible within this site. In reference to the provided architectural plans, the only possible space within the site with the capacity for visitor parking would be in the north-eastern corner adjoining the internal access roadway. The presence of a ramp with a 12.5% grade provided for access onto the site from the driveway however prevents this area from being a viable option for visitor parking due to AS2890.1:2004 stating the maximum grade allowable for a parking space is 5%.

Notwithstanding the above, reference is made to State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004, which provides state-wide relevant parking requirements for self-contained seniors living dwellings. Clause (50)(h)(i) of the Senior Living SEPP states the following with respect to car parking:

50. Standards that cannot be used to refuse development consent for self-contained dwellings

A consent authority must not refuse consent to development applications made pursuant to this Chapter for the carrying out of development for the purpose of a self-contained dwelling (including in-fill self-care housing and serviced self-care housing) on any of the following grounds:

(h) Parking if at least the following is provided:

- (i) 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider; or*
- (ii) 1 car space for each 5 dwellings where the development application is made by, or is made by a person jointly with, a social housing provider.*

The subject development is not made by a social housing provider, therefore the following parking rates from Clause 14(2)(a)(ii) apply:

$$(10 \times 0.5) = 5 \text{ spaces}$$

State Environmental Planning Policy (Housing for Seniors or People with a Disability) states no requirement for the presence of visitor parking to be provided. Therefore, as the proposed development provides five on-site parking spaces and is in accordance with the requirements of the SEPP, Council (being the consent authority) cannot refuse consent of the development on the grounds of car parking.

In any case, in the event that the proposed development generates a minor extent of additional on-street parking demand associated with visitors (most likely to be limited to an occasional single vehicle), the following is stated:

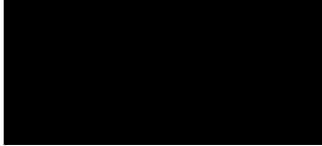
- The considerable frontage of the site facilitates a capacity for the following:
 - Up to five casually parked visitor vehicles in a parallel arrangement along the southern kerb alignment of Fairways Avenue, immediately adjacent to the subject site; and
 - Up to four casually parked visitor vehicles in a parallel arrangement along the western kerb alignment of Linksview Avenue (three to the south of the development driveway and one to the north), immediately adjacent to the site.
- Recent observations have indicated that demand for kerb-side parking is low within the immediate vicinity of the site is low, indicating that there is ample capacity within Fairways Avenue and Linksview Avenue to a minor level of accommodate additional parking demand.

In consideration of the above, it is not anticipated that the proposed development will result in any unreasonable impacts on surrounding residential amenity or public road safety and efficiency.

It would be appreciated if Council could consider the additional information contained within and attached to this correspondence to assist in its ongoing assessment of the subject development application.

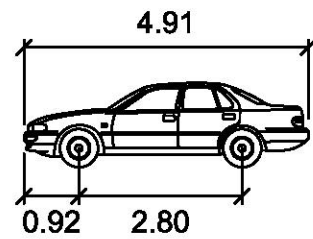
Submitted for your consideration.

Yours sincerely,



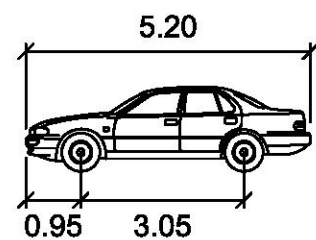
Morgan Stanbury
Director
Traffic Engineer

APPENDIX 1



B85

Width : 1.87 meters
Track : 1.77
Lock to Lock Time : 6.0
Steering Angle : 34.1

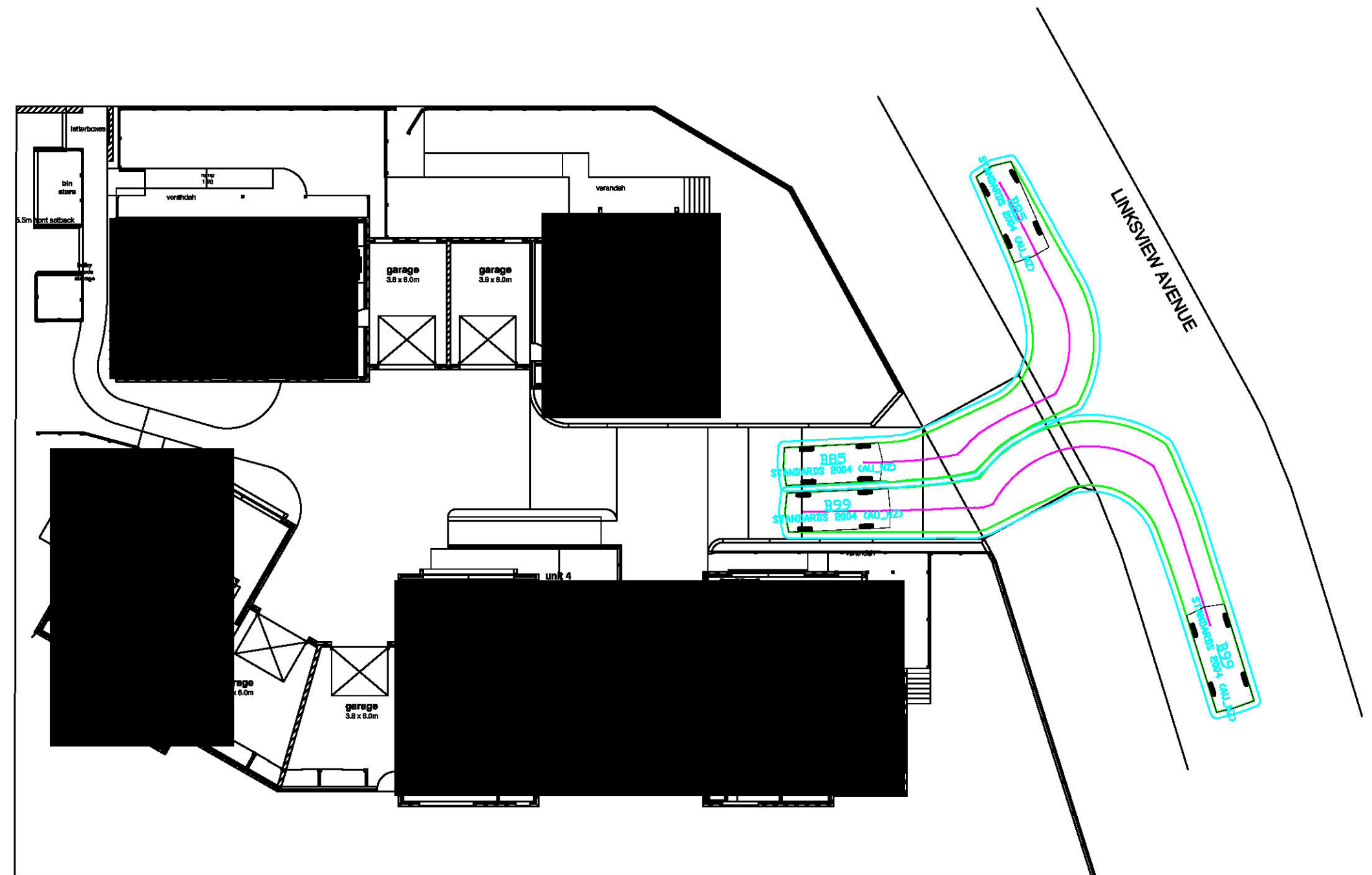


B99

Width : 1.94 meters
Track : 1.84
Lock to Lock Time : 6.0
Steering Angle : 33.9

LEGEND

- VEHICLE BODY PATH (INCLUDING OVERHANG)
- MANOEUVRING CLEARANCE (300mm)



STANBURY TRAFFIC PLANNING
ADDRESS: 302/168 GLEBE POINT RD, GLEBE
PH: (02) 8971 8314
MOB: 0410 561 848
EMAIL: info@stanburytraffic.com.au
WEBSITE: www.stanburytraffic.com.au

NOTES:
1. THIS PLAN IS BASED ON ARCHITECTURAL PLANS PREPARED BY INTEGRATED DESIGN GROUP.
2. THE SWEEP PATHS PROVIDED ON THIS PLAN HAVE BEEN GENERATED UTILISING AUTOTURN PRO VERSION 10 IN CONJUNCTION WITH B99 & B85 PASSENGER VEHICLE MANOEUVRING SPECIFICATIONS IN ACCORDANCE WITH THE AUSTRALIAN STANDARD FOR PARKING FACILITIES PART 1: OFF-STREET CAR PARKING (AS2890.1:2004).

STANBURY TRAFFIC PLANNING
PASSENGER VEHICLE SWEEP PATHS
SITE INGRESS / EGRESS MOVEMENTS
PROPOSED SENIORS LIVING RESIDENTIAL DEVELOPMENT
8 LINKSVIEW AVENUE, LEONAY

SCALE: 1:250 AT A3

FILE: 20-102

DATE: 11/08/2020

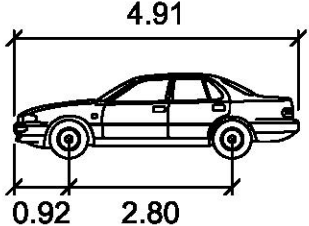
SUPERSEDES SHEET/ISSUE -

ISSUE

A

SHEET

1

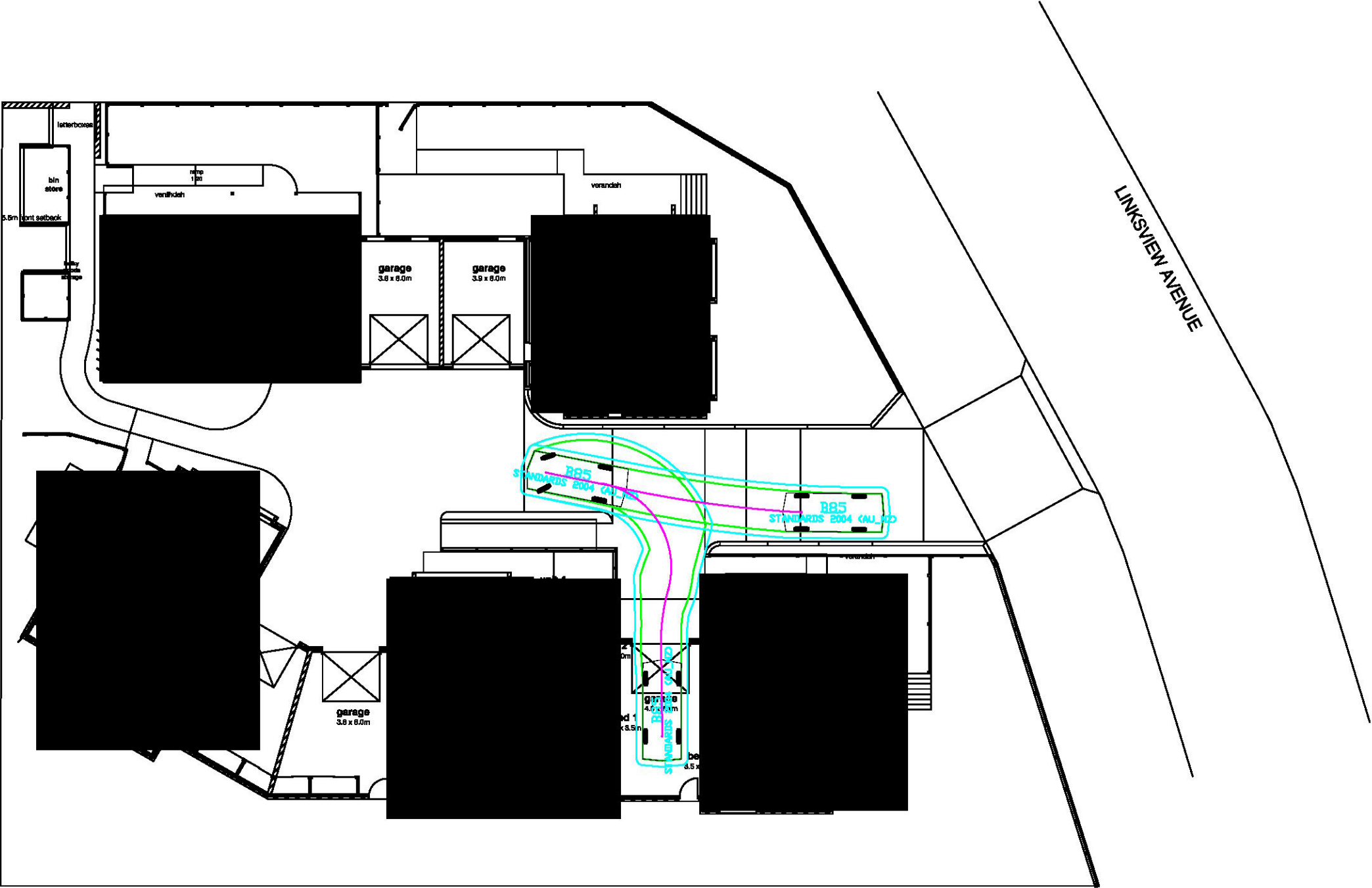


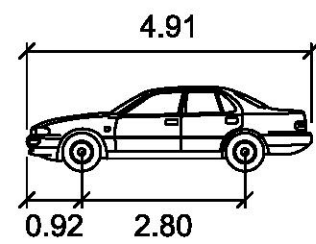
B85

Width : 1.87 meters
Track : 1.77
Lock to Lock Time : 6.0
Steering Angle : 34.1

LEGEND

- VEHICLE BODY PATH (INCLUDING OVERHANG)
- MANOEUVRING CLEARANCE (300mm)



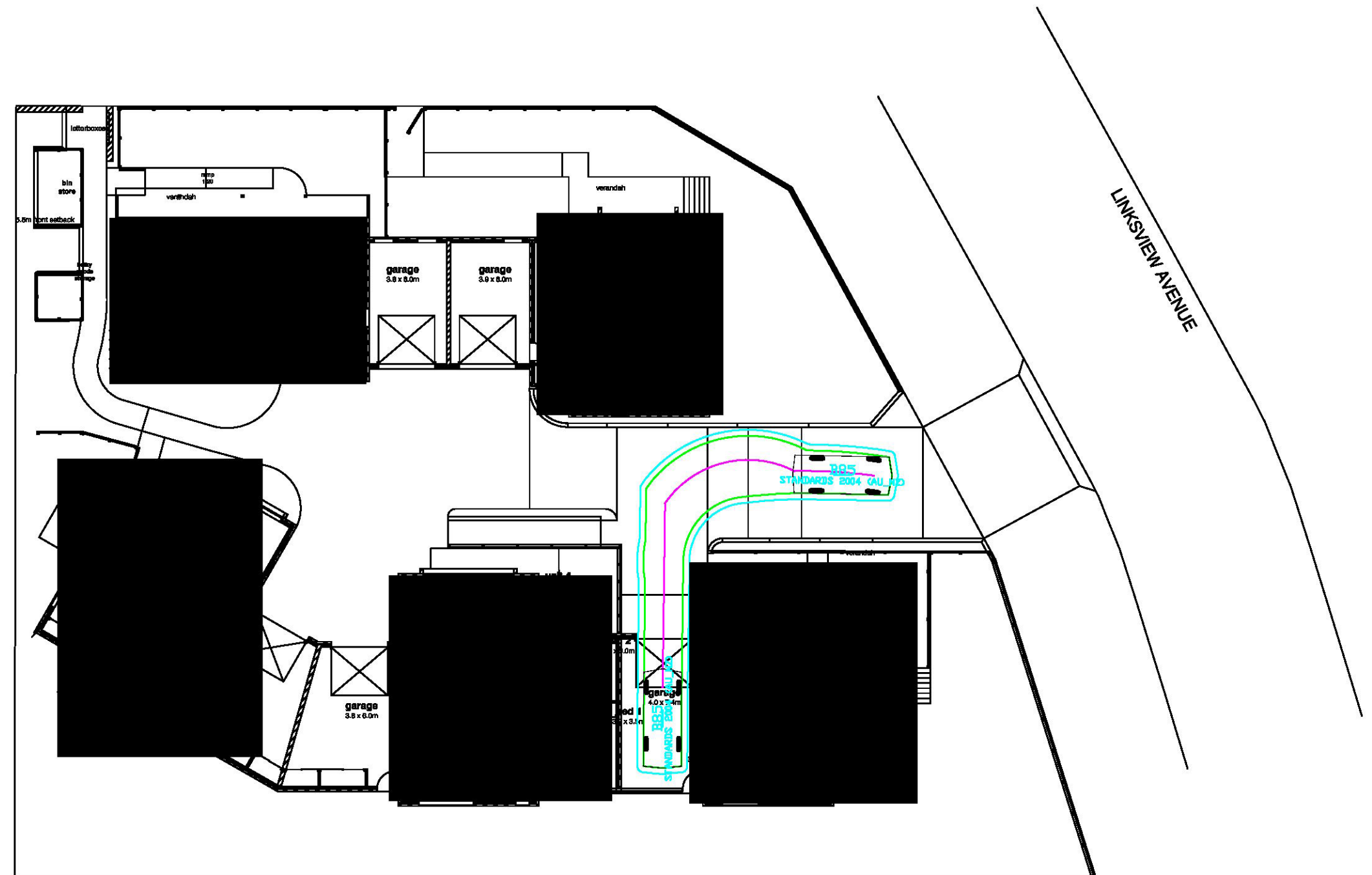


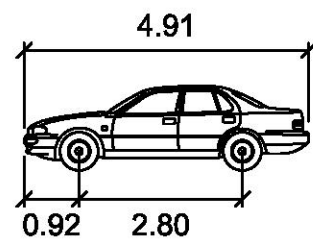
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Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND

- VEHICLE BODY PATH (INCLUDING OVERHANG)
- MANOEUVRING CLEARANCE (300mm)



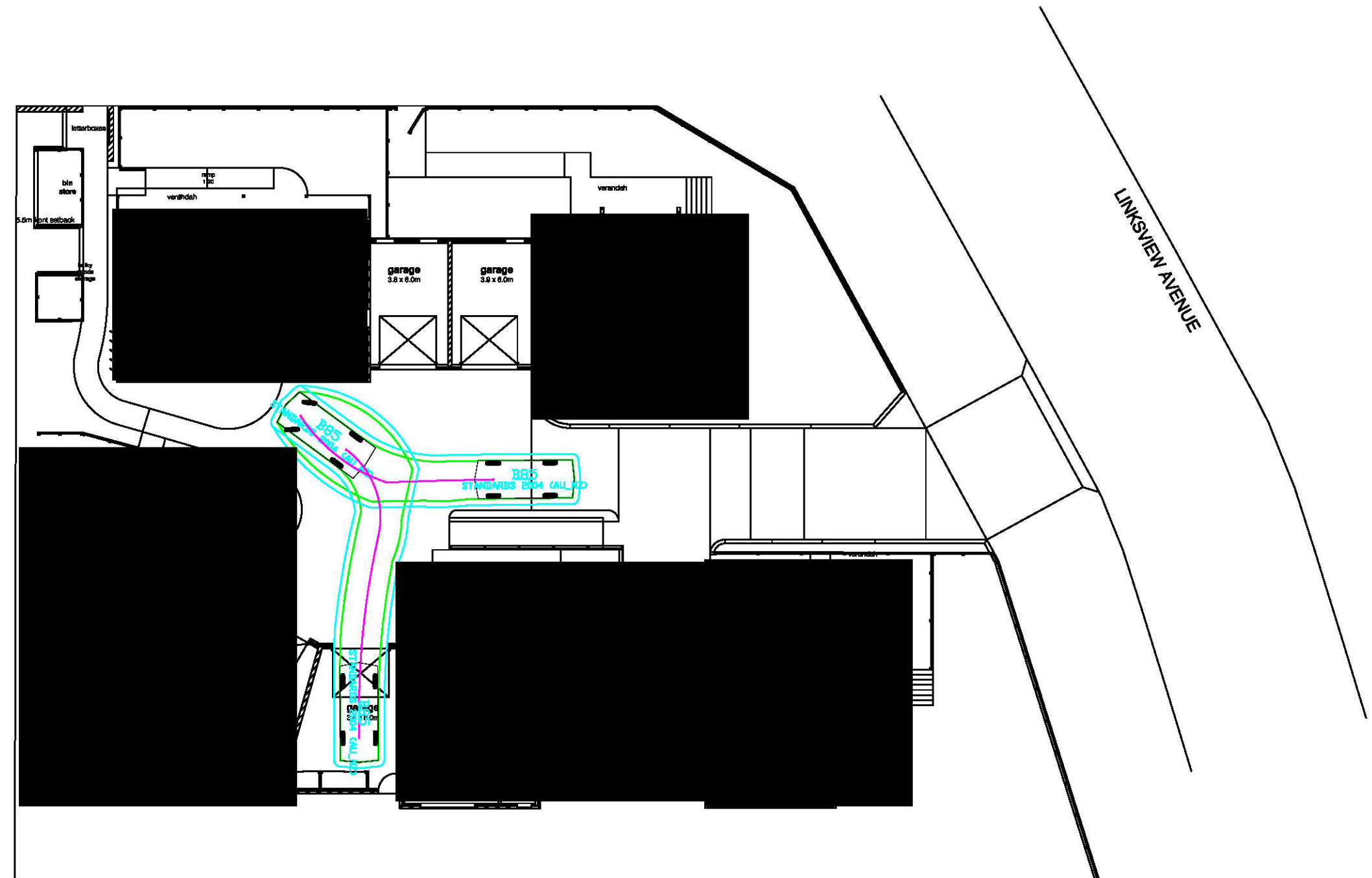


B85

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Steering Angle : 34.1

LEGEND

- VEHICLE BODY PATH (INCLUDING OVERHANG)
- MANOEUVRING CLEARANCE (300mm)



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STANBURY TRAFFIC PLANNING
PASSENGER VEHICLE SWEEP PATHS
UNIT 4 GARAGE SPACE INGRESS MOVEMENT
PROPOSED SENIORS LIVING RESIDENTIAL DEVELOPMENT
8 LINKSVIEW AVENUE, LEONAY

SCALE: 1:250 AT A3

FILE: 20-102

DATE: 11/08/2020

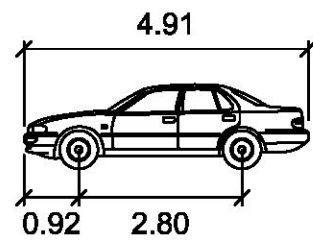
SUPERSEDES SHEET/ISSUE -

ISSUE

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SHEET

4

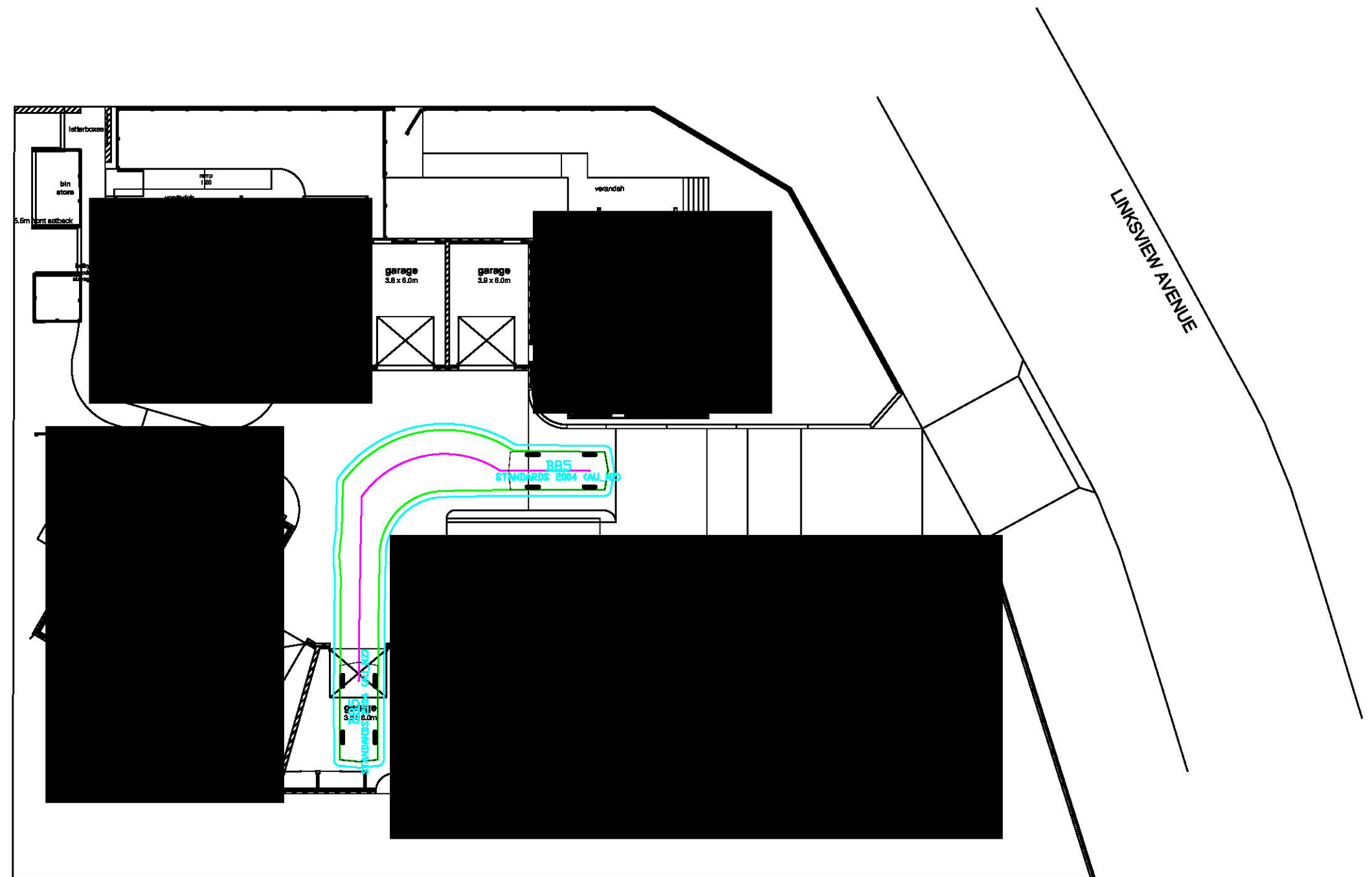


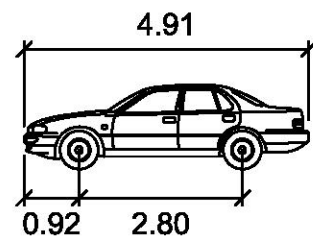
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Lock to Lock Time : 6.0
Steering Angle : 34.1

LEGEND

- VEHICLE BODY PATH (INCLUDING OVERHANG)
- MANOEUVRING CLEARANCE (300mm)



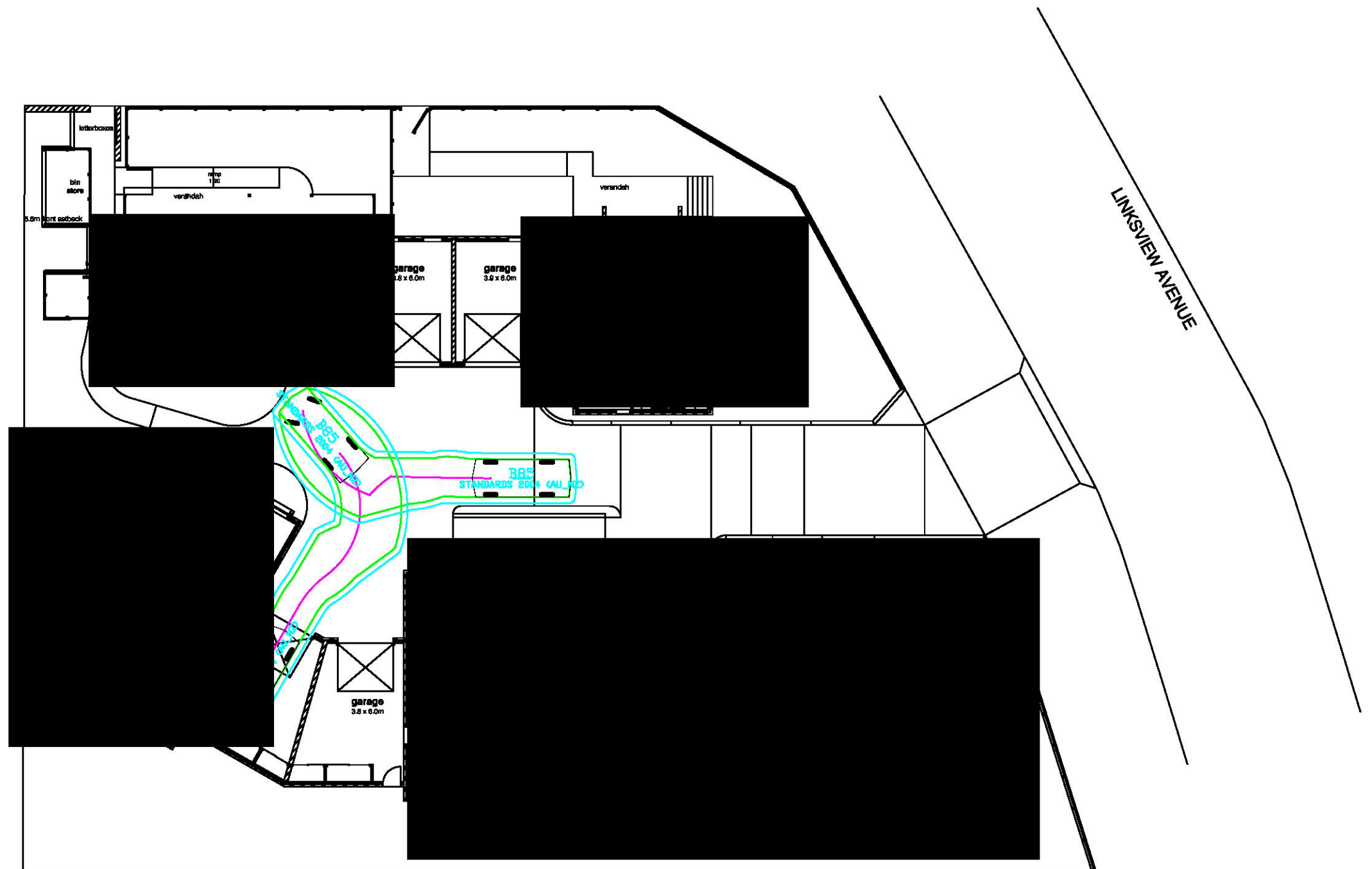


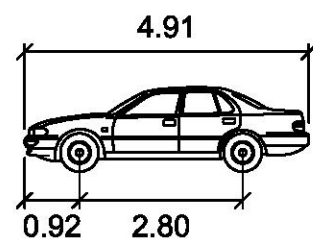
B85

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Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND

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- MANOEUVRING CLEARANCE (300mm)



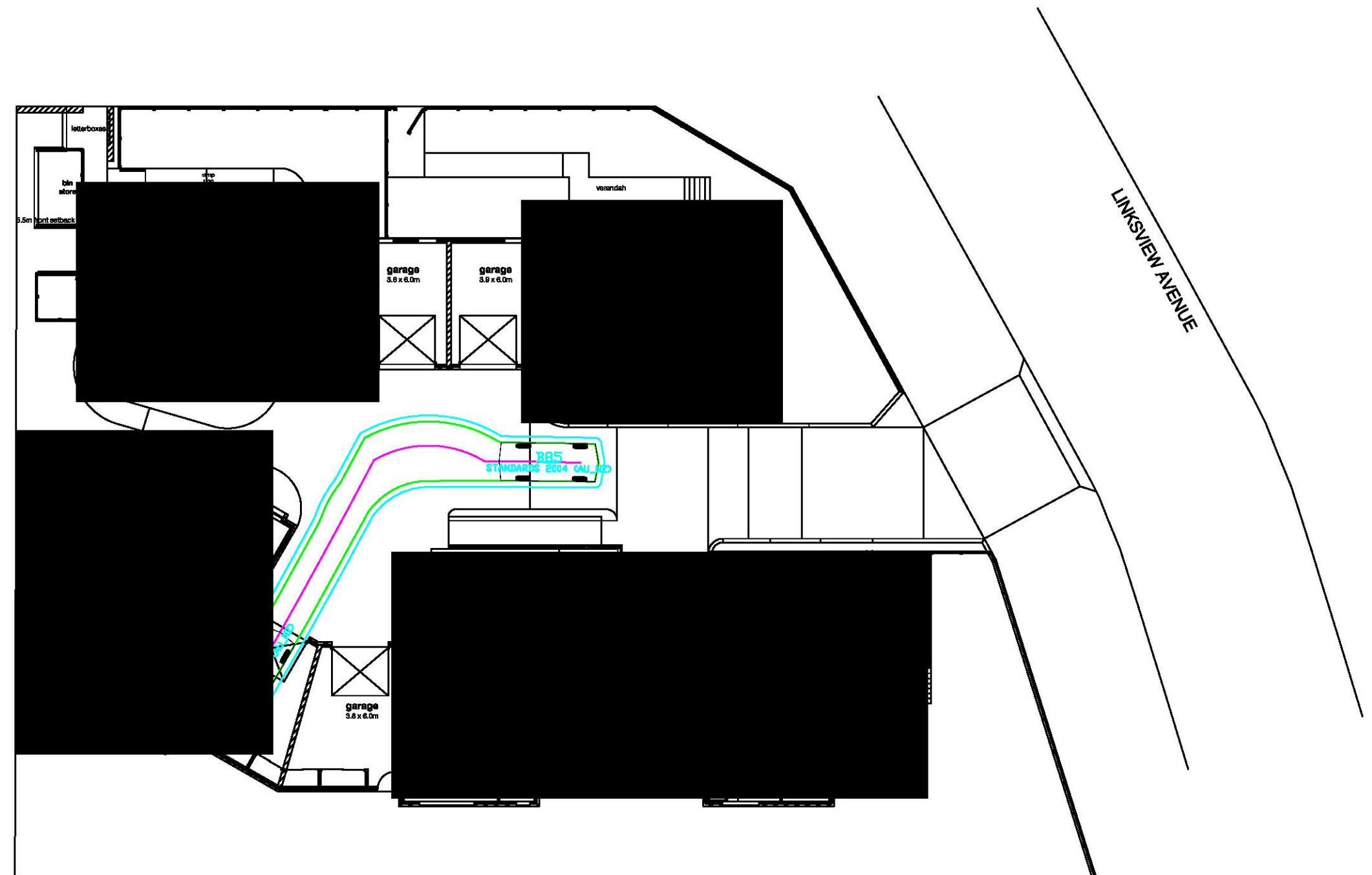


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LEGEND

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STANBURY TRAFFIC PLANNING
PASSENGER VEHICLE SWEEP PATHS
UNIT 5 GARAGE SPACE EGRESS MOVEMENT
PROPOSED SENIORS LIVING RESIDENTIAL DEVELOPMENT
8 LINKSVUE AVENUE, LEONAY

SCALE: 1:250 AT A3

FILE: 20-102

DATE: 11/08/2020

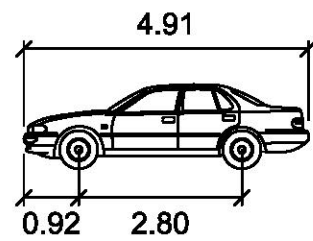
SUPERSEDES SHEET/ISSUE -

ISSUE

A

SHEET

7

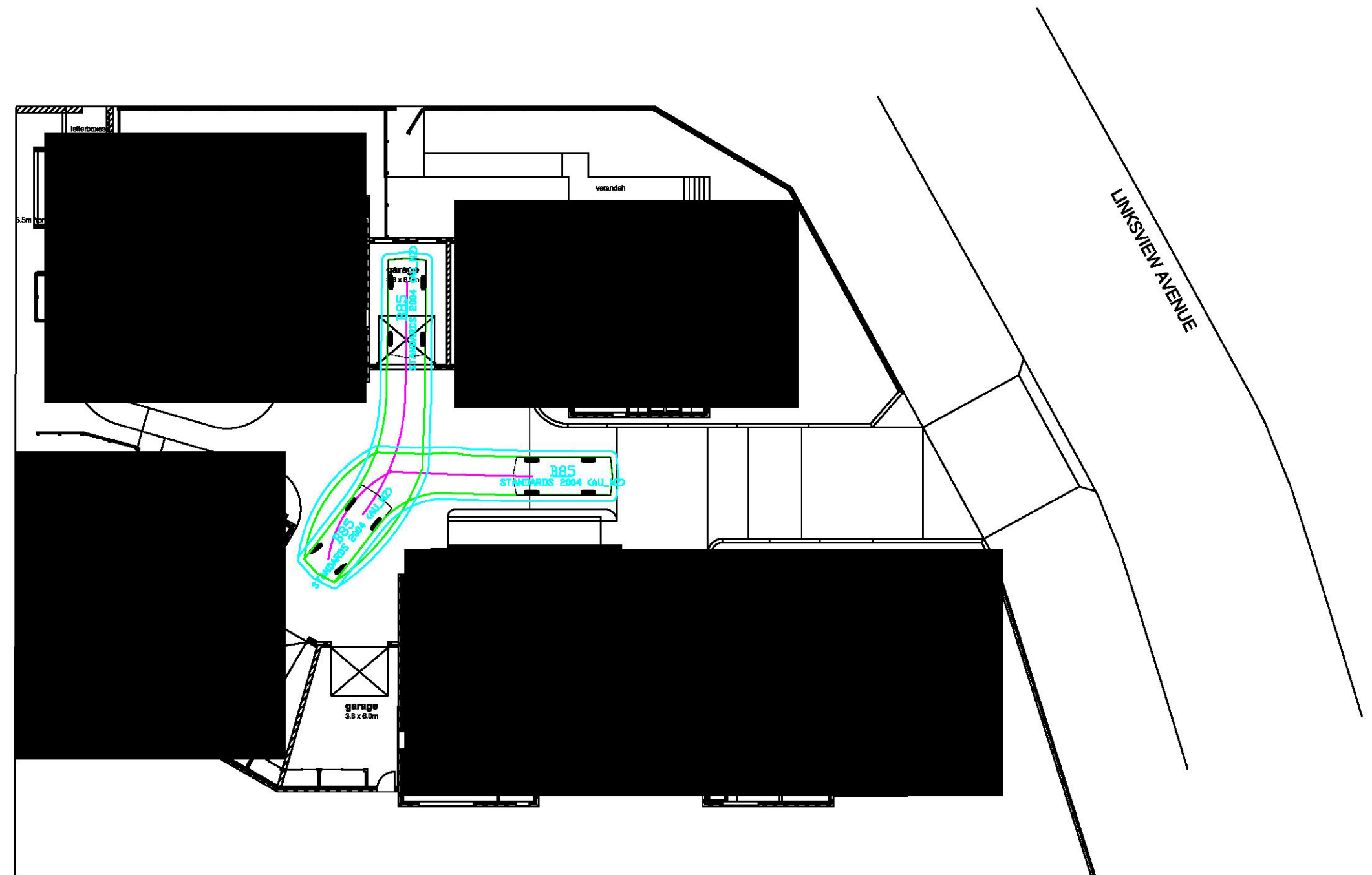


B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND

- VEHICLE BODY PATH (INCLUDING OVERHANG)
- MANOEUVRING CLEARANCE (300mm)



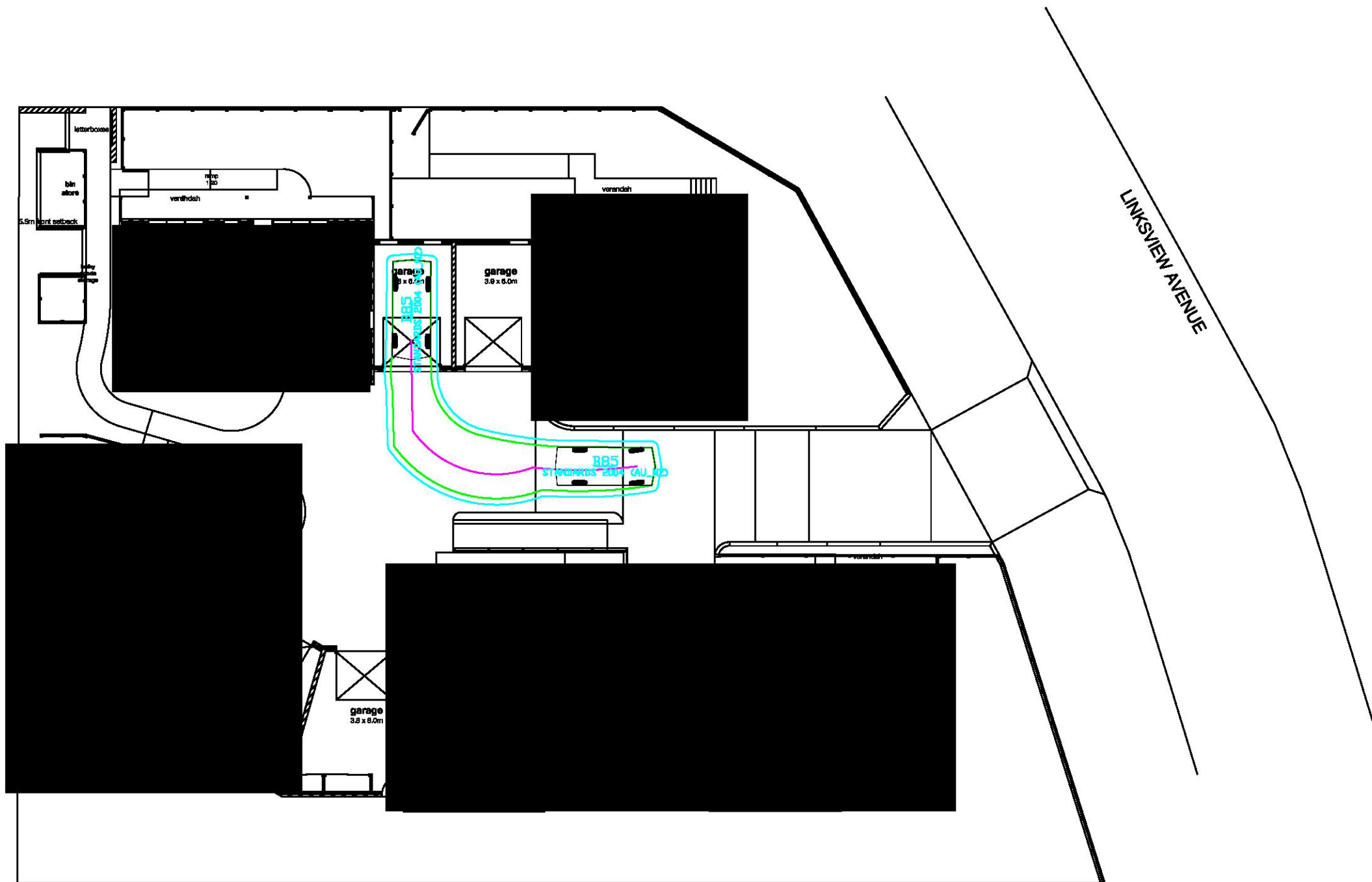
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	metres
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Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND

— VEHICLE BODY PATH (INCLUDING OVERHANG)

— MANOEUVRING CLEARANCE (300mm)



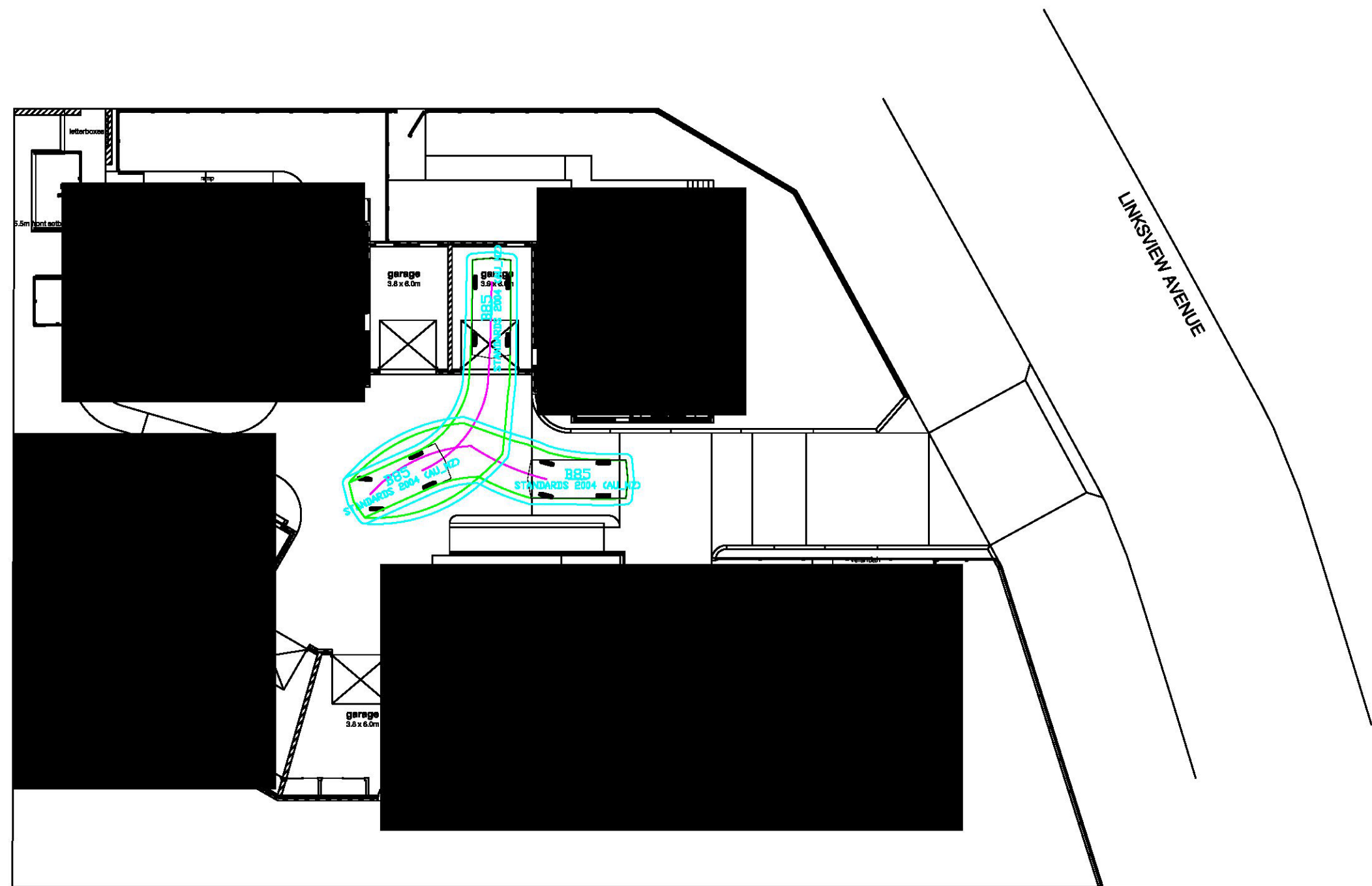
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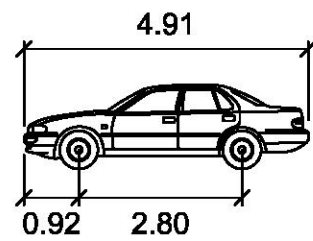
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Steering Angle	: 34.1

LEGEND

— VEHICLE BODY PATH (INCLUDING OVERHANG)

— MANOEUVRING CLEARANCE (300mm)



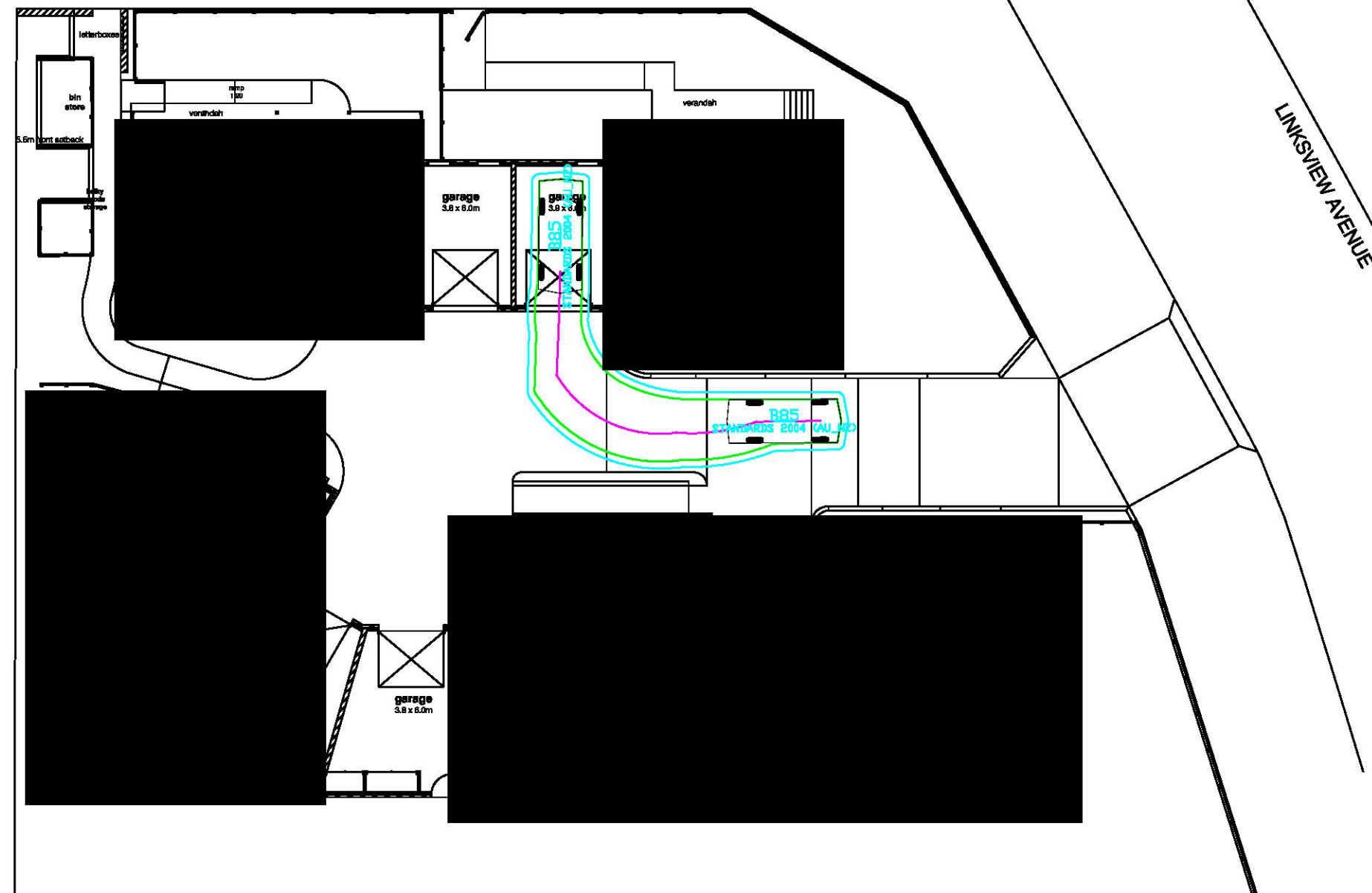


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LEGEND

- VEHICLE BODY PATH (INCLUDING OVERHANG)
- MANOEUVRING CLEARANCE (300mm)





STATEMENT OF ENVIRONMENTAL EFFECTS

DEMOLITION OF EXISTING STRUCTURES AND CONSTRUCTION OF PROPOSED

SENIORS DEVELOPMENT

6-8 LINKSVIEW AVE, LEONAY

JUNE 2020

GLENSTONE CONSTRUCTIONS

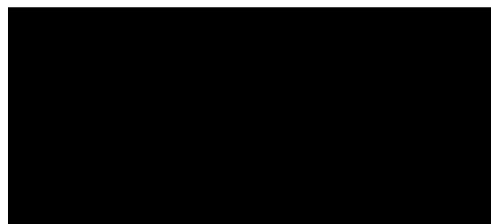
STATEMENT OF ENVIRONMENTAL EFFECTS

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Client and Land Details

Client: Glenstone Constructions
Subject Site: Lot 68 DP218969, Lot 69 DP218969, 6-8 Linksvie Ave, Leonay
Proposal: Demolition of Existing Structures and Construction of Proposed Seniors Development



Warwick Stimson RPIA
Director



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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Stimson & Baker Planning has been engaged by Glenstone Group to prepare a Statement of Environmental Effects in relation to a proposed Seniors Development on the property known as 6-8 Linksvie Ave, Leonay.

The proposed development includes the demolition of all existing structures on the site, and construction of five, two-bedroom seniors housing dwellings.

The site is zoned R2 Low Density Residential under Penrith Local Environmental Plan 2010 with the proposal being permissible with consent. State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies to the assessment of this application.

The proposal is defined as development in Section 4 of the Environmental Planning and Assessment Act 1979 (EPA Act). The EPA Act stipulates that the development must not be carried out on the subject site until consent has been obtained. Furthermore, the application does not trigger any of the 'integrated development' provisions of the Act and so no third-party approvals are required.

This report describes the proposed development and subject site in detail and undertakes an assessment of the proposal against the relevant aims, objectives, and development provisions of Council's LEP and DCP, and Section 4.15 of the EPA Act.

1.2 REPORT STRUCTURE

This Statement of Environmental Effects is structured as follows:

- Section 1: Introduction – provides an overview of the proposal, planning history for the site and background to the application.
- Section 2: The Site and Surrounds – provides an analysis of the subject site, development within the locality and a consideration of the local and regional context.
- Section 3: Project Description – provides a detailed description of the proposed development and its characteristics.
- Section 4: Statutory Considerations – provides for an assessment of the proposal against the specific planning instruments and policies that are applicable.
- Section 5: Key Planning Issues – provides an assessment of the key issues identified in the preparation of the application.
- Section 6: Section 4.15 Assessment – provides an assessment against section 4.15 of the EPA Act.
- Section 7: Conclusion and Recommendation – summarises the report and presents a recommendation.

1.3 HISTORY OF THE APPLICATION

Applications for the development of the site for seniors housing has been considered by Council previously.

DA18/1253 was refused by Council on 8 May 2019. This proposal was for six dwellings and the consent authority for that decision was the Local Planning Panel. Since that time, a number of meetings have occurred between the proponent and Council staff,

Design amendments that have been made, as well as other considerations since DA18/1253, have been detailed in the Architectural Design Statement appended to this report. That Statement also responds specifically to a pre-DA meeting that was held on 20 March 2020.

1.4 SUPPORTING DOCUMENTATION

The proposed is accompanied by the following documentation:

Documentation	Prepared by
Survey	Richard Hogan and Co
Architectural Drawings	Integrated Design Group
Hydraulic Report/Stormwater Plans	Abel and Brown
Erosion and Sediment Control Plan	Abel and Brown
Landscape Plan	Nicholas Bray Landscapes
Arborists Report	Arborist Network
Access Report	Funktion
BASIX/NatHERs	ESD Synergy
Traffic Manoeuvring Report	Stanbury Traffic Planning

1.5 LEGISLATION, ENVIRONMENTAL PLANNING INSTRUMENTS AND POLICIES TO BE CONSIDERED

- *Biodiversity Conservation Act 2016*
- *Sydney Regional Environmental Plan No 20 – Hawkesbury Nepean River*
- *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004*
- *Penrith Local Environmental Plan 2010*
- *Penrith Development Control Plan 2014*

1.6 CONSENT AUTHORITY

The consent authority for this application is Penrith City Council.

2 THE SITE AND SURROUNDS

The subject site and its surrounds have the following characteristics.

Site Address	6-8 Linksview Ave, Leonay
Lot/DP	Lot 68 DP 218969, Lot 69 DP 218969
Site Area	1746 sqm approx
Local Government Area	Penrith City Council
Zoning	R2 Low Density Residential
Current Land Use	Residential
Proposed Land Use	Residential
Surrounding Land Uses	Low density residential
Topography	Gently sloping west to east
Terrestrial Biodiversity	Not mapped in LEP
Vegetation	Not mapped in LEP
Heritage	Not mapped in LEP
Bushfire	Not mapped



Figure 1 Site Plan – Cadastre



Figure 2 Site Plan – Aerial

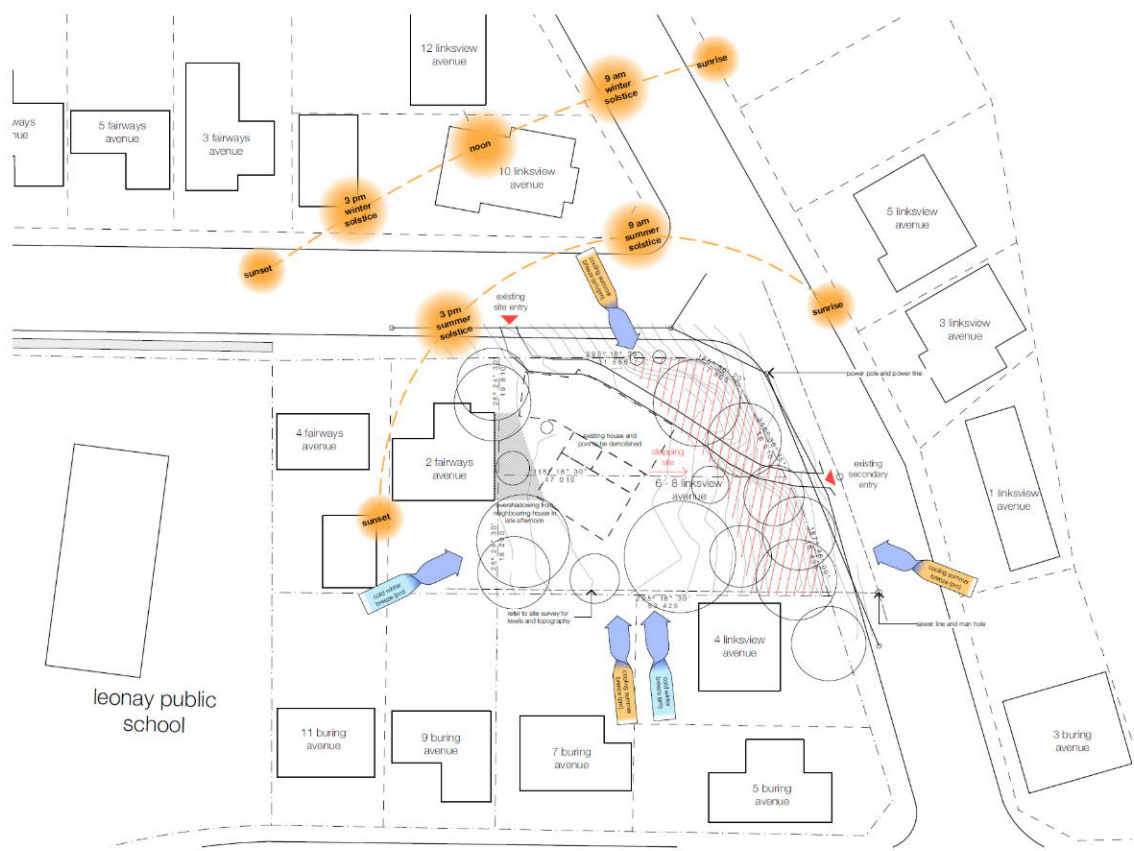


Figure 3 Site Analysis – Environmental

2.1 SURROUNDING CONTEXT

The surrounding area is characterised by a diverse range of housing types, sizes and of building materials. A detailed Contextual Analysis is provided within the set of architectural plans. The proposal is of a scale and bulk that is not inconsistent with the range of buildings within the locality.

The primary setback from Linksvue Avenue is consistent with that of the dwelling to the south. The secondary frontage setback is also consistent with the secondary setback on the property to the north (opposite Fairways Avenue).

The contribution of the development to the character of the locality has been considered later in this report.

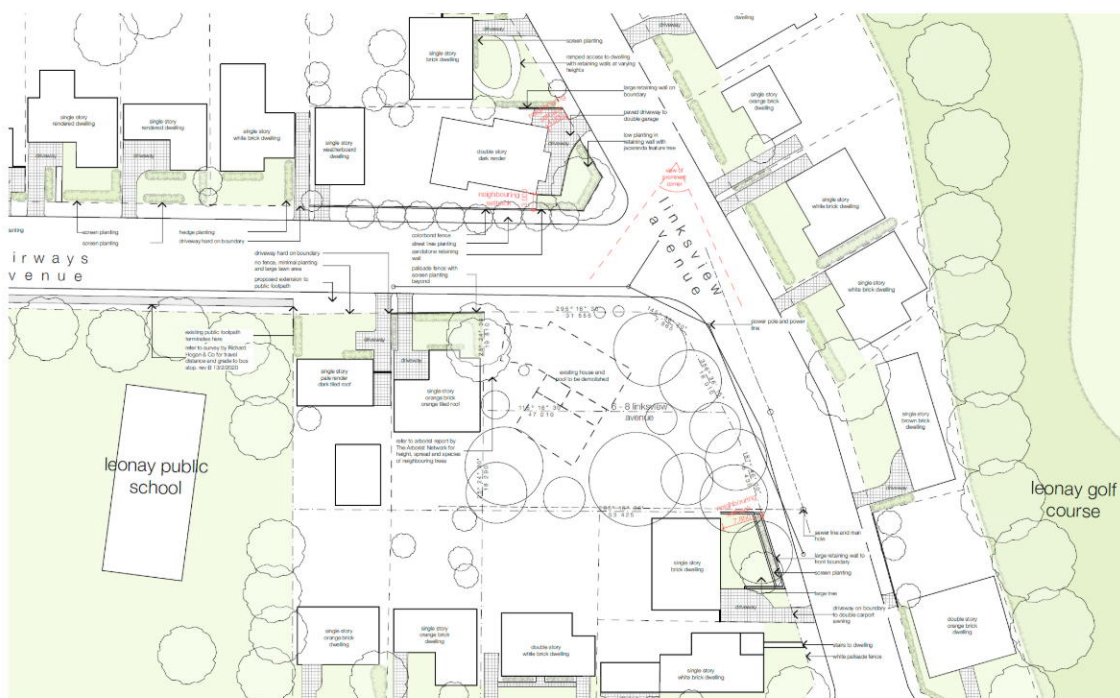


Figure 4 Site Analysis - Context

2.2 TRANSPORT NETWORK

The site is well serviced by the Route 689 Penrith bus service, providing links to the Penrith CBD. The nearest bus stop satisfies the locational requirements of the SEPP(Seniors) 2004 as detailed in the submitted survey plans.



Figure 5 Bus Route – Route 689 (Subject site circled)

3 PROJECT DESCRIPTION

3.1 OVERVIEW

This application seeks approval for a seniors housing development, comprising 5 x 2 bedroom villas. Associated parking, hardstand, landscaping and stormwater infrastructure is also proposed.

The demolition of all existing structures on the site is included within this application.

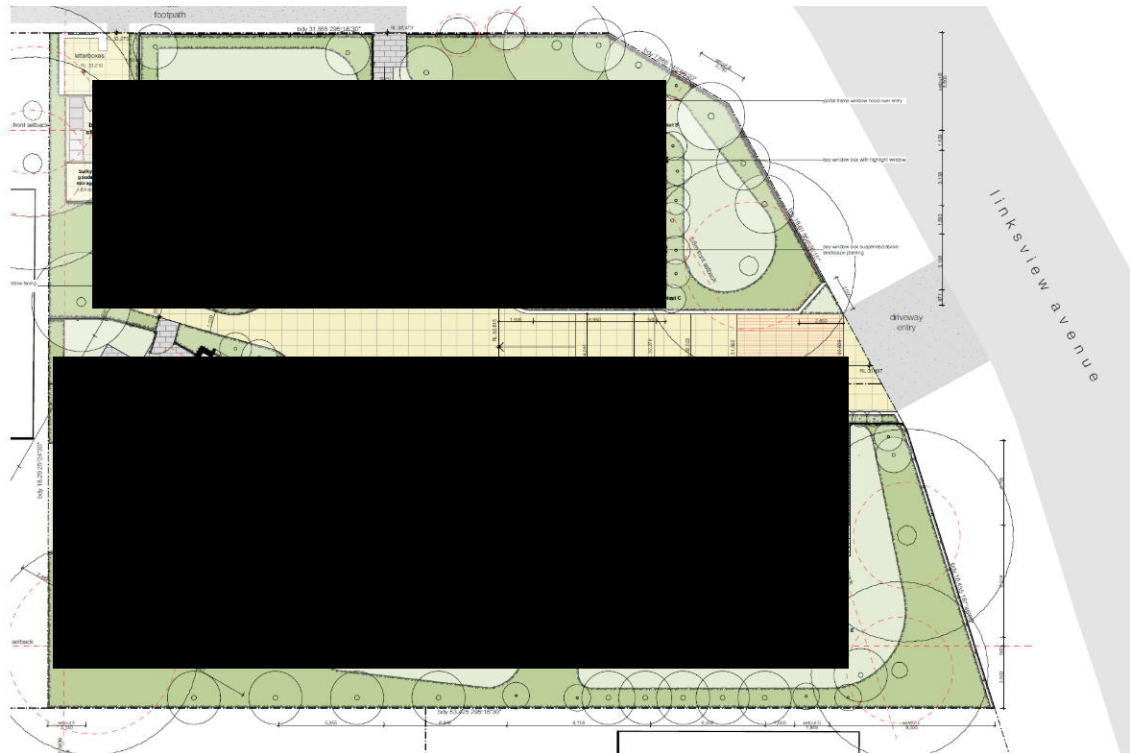


Figure 6 Proposed Ground Floor Plan

The following has been included in the plans and details the compliance of the development.

area schedule

	GFA* (m ²)	private open space (m ²)	bedrooms		parking
			2B	3B	
unit 1	101.56	80.99	1		1
unit 2	118.63	178.57	1		1
unit 3	105.59	188.53	1		1
unit 4	112.15	91.56	1		1
unit 5	100.82	139.81	1		1
total	538.75	679.46	5	0	5

totals

site area (m ²)	1,762 m ²	total dwellings	5
total GFA	538.75 m ²	total adaptable dwellings	5
total landscape	632.11 m ²	total car parks	5
total deep soil	511.77 m ²		

SEPP compliance

proposed FSR	0.31	:1	0.5:1 allowable	complies
private open space	>15m ²	m ²	15m ² per dwelling	complies
landscape area	35.87%	%	33% of site area	complies
deep soil	29.04%	%	15% of site area	complies
parking	5	spaces	0.5 per bedroom	complies
allowable height	<8	m	8m ceiling level above NGL	complies

Figure 7 Development Details and Compliance Tables

3.2 BUILT FORM

The development comprises a contemporary built form with a high level of quality materials and finishes proposed. The low scale villas will present as a minor built element within this locality where larger homes are found. The high level of landscaping will assist in further breaking down the built form of the development.

It is also noted that the built form generally follows the topography of the site. This assists where street and secondary street setbacks contain access to the site and also some open space. As a result of this, car storage and manoeuvring has been internalised within the development ensuring minimal, if not imperceptible vehicular areas.



Figure 8 Elevational Perspective



Figure 9 Materials and Finishes

The contemporary mix of materials and finishes that are proposed as part of the development will provide a significant positive impact on the existing local streetscape, and also contribute important elements to the landscape setting of the development.

3.3 VEHICULAR ELEMENTS

One entry point is provided from Linksvie Avenue for the development that opens up into an internalised car court providing access to each of the dwelling garages and visitor parking.

One covered space is provided for each dwelling. On street parking is also available within this locality.

The parking and access arrangements have been considered by the project traffic engineer and their assessment, including swept paths, accompanies the application.

3.4 LANDSCAPING AND OPEN SPACE

A Landscape Plan accompanies the application and demonstrates high quality landscaping outcomes. Landscaping contributes to breaking down the mass of the development and improving the relationship with adjoining properties. Importantly, landscaping has been used within the street frontages to assist in enhancing the landscape setting of the locality.

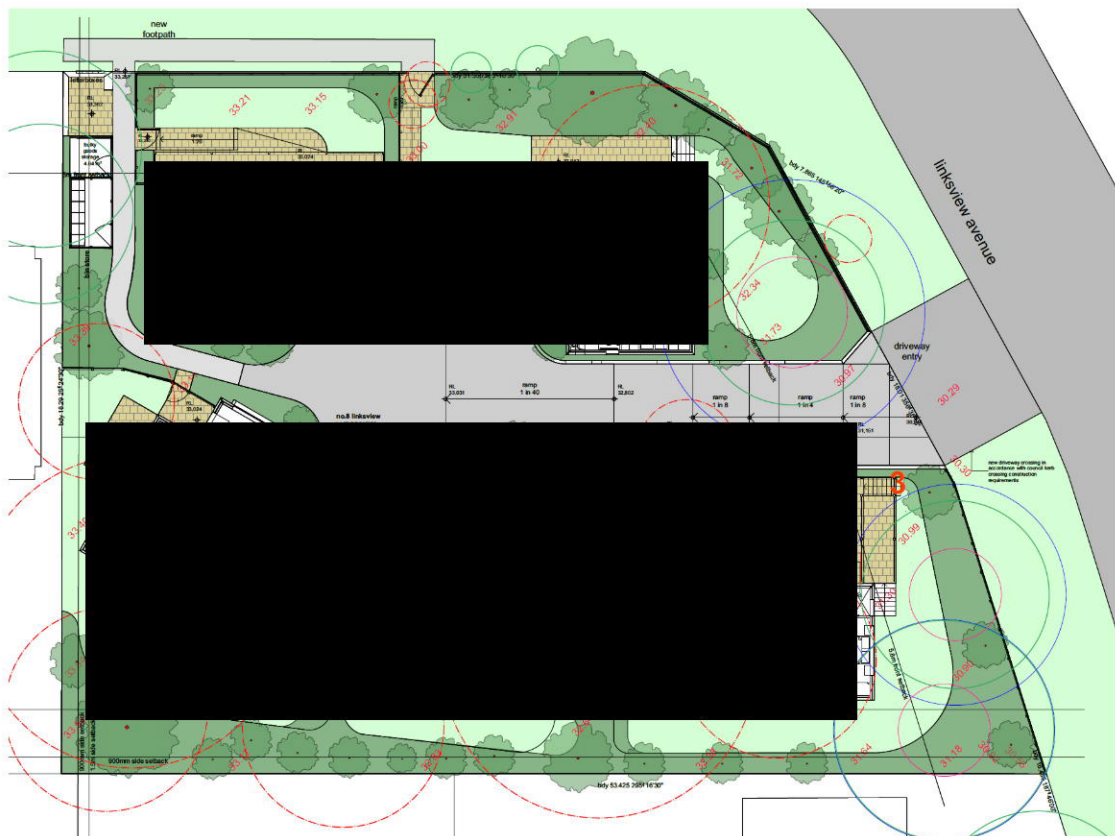


Figure 10 Landscape Plan extract

3.5 STORMWATER DRAINAGE

A stormwater drainage concept plan accompanies the application and demonstrates compliance with Council's controls. Stormwater will be managed on site and directed to Linksvue Avenue where it is proposed to be connected to Council's system.

Further information is appended to this report in regard to the stormwater management on the site. MUSIC modelling has been carried out and accompanies the application.

3.6 UTILITIES

The site will be appropriately serviced to accommodate the proposed use. Some utility upgrades are likely to be required and will be confirmed with the relevant service authority.

3.7 WASTE MANAGEMENT STRATEGY

Waste bins will be provided for each of the dwellings in dedicated waste storage areas shown below. Waste will be collected by Council and organised through the owners/managers of the building or the body corporate if subject to strata subdivision in the future.

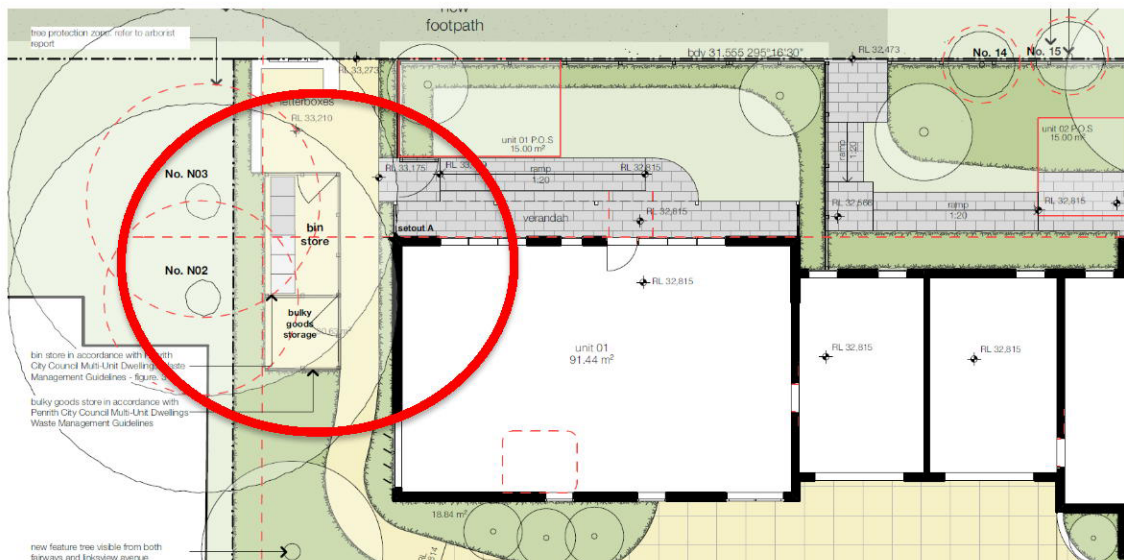


Figure 11 Site plan showing garbage storage area

3.8 CONTAMINATION

The site has historically been used for residential purposes. The risk of the site being contaminated is negligible.

3.9 NATIONAL CONSTRUCTION CODE COMPLIANCE

All works will be carried and comply with the National Construction Code (now incorporating the BCA). A Construction Certificate will be required in relation to the proposal and it is expected that Council will require matters relating to NCC compliance.

3.10 TREE REMOVAL

Some vegetation is proposed to be removed and are indicated on the plans. An Arborist Report accompanies the application in support of their removal. Six significant trees are proposed to be retained to continue contributing to the landscape setting of the locality. The reduction in yield of development proposed on the site will now mean there is no reason to believe the development would result in any long term negative impacts on those trees to be retained.

Importantly, none of the trees proposed to be removed are native species.

4 STATUTORY CONSIDERATIONS

The applicable statutory planning instruments and relevant guidelines have been considered below.

4.1 BIODIVERSITY CONSERVATION ACT 2016

The NSW *Biodiversity Conservation Act 2016* (BC Act) commenced on 25 August 2017. The Act applies to all of NSW.

The Biodiversity Offsets Scheme (BOS) applies to local developments assessed under Part 4 of the EPA Act that trigger the BOS threshold or that are likely to have a significant effect on threatened species based on the 'test of significance' at s7.3 of the BC Act.

Amongst other changes, the Act introduced new mandatory requirements for biodiversity assessment and reporting and requires proponents to offset biodiversity impacts by retiring biodiversity credits through the BOS. This is a significant change to the previous legislation where non-significant impacts did not require offsets.

As part of the biodiversity reforms, the State Government established the Biodiversity Assessment Method (BAM) which replaces previous assessment methodologies such as the BioBanking Assessment Methodology. The BAM is an evolution of these previous methodologies and determines the number and type of credits required at a development site, and the number and type of credits created at a Biodiversity Stewardship Site (offset site).

The key principle of BAM is 'no net loss', where impacts of development are offset by improving the condition of vegetation or habitat at a Biodiversity Stewardship Site. Importantly, developments cannot proceed simply by securing the required offsets, they are required to firstly demonstrate avoidance, minimisation and mitigation of impacts through reasonable measures prior to offsets being used.

For Local Development (i.e. Part 4 Development Applications under the EP&A Act) the BC Act and BAM apply. There are three ways in which detailed assessment through BAM and the Biodiversity Offset Scheme are triggered:

1. Proposed clearing for your project exceeds the thresholds for minimum lot size in the relevant Local Environmental Plan (LEP)
2. Sensitive Biodiversity Values have been mapped within your project area (as mapped by the State Government); or
3. Impacts on threatened species, populations or communities are likely to be 'significant' as determined through the new 'five part test'

For this proposal, no native vegetation clearing is proposed, and the site is not mapped on the NSW Sensitive Biodiversity Values map. Given there is no significant vegetation on the development area of the site, it is highly unlikely that any impact on any threatened species will occur.

Accordingly, we submit that no further consideration of this Act is required for this type of application.

4.2 SYDNEY REGIONAL ENVIRONMENTAL PLAN NO 20 – HAWKESBURY NEPEAN RIVER

The aim of SREP 20 is to protect the Hawkesbury-Nepean River system by ensuring that the impacts of future land uses are considered in a regional context.

Appropriate conditions of consent would normally be applied to any approval to ensure the health of the river system is not compromised by way of sediment or erosion from the works or use.

4.3 STATE ENVIRONMENTAL PLANNING POLICY (HOUSING FOR SENIORS OR PEOPLE WITH A DISABILITY) 2004

The proposed development is permissible through the provisions of SEPP Seniors. The SEPP also contains development standards for a proposal of this nature, as well as design criteria.

A full assessment against the relevant provisions of the SEPP is provided at Appendix A. The proposed development satisfies the provisions of the SEPP, and the Seniors Living Urban Design Guidelines, that are also called up.

4.4 PENRITH LOCAL ENVIRONMENTAL PLAN 2010

The Penrith LEP is the main environmental planning instrument applicable to the subject site. The objectives of the LEP are as follows:

- (a) to provide the mechanism and planning framework for the management, orderly and economic development, and conservation of land in Penrith,
- (b) to promote development that is consistent with the Council's vision for Penrith, namely, one of a sustainable and prosperous region with harmony of urban and rural qualities and with a strong commitment to healthy and safe communities and environmental protection and enhancement,
- (c) to accommodate and support Penrith's future population growth by providing a diversity of housing types, in areas well located with regard to services, facilities and transport, that meet the current and emerging needs of Penrith's communities and safeguard residential amenity,
- (d) to foster viable employment, transport, education, agricultural production and future investment opportunities and recreational activities that are suitable for the needs and skills of residents, the workforce and visitors, allowing Penrith to fulfil its role as a regional city in the Sydney Metropolitan Region,
- (e) to reinforce Penrith's urban growth limits by allowing rural living opportunities where they will promote the intrinsic rural values and functions of Penrith's rural lands and the social well-being of its rural communities,
- (f) to protect and enhance the environmental values and heritage of Penrith, including places of historical, aesthetic, architectural, natural, cultural, visual and Aboriginal significance,
- (g) to minimise the risk to the community in areas subject to environmental hazards, particularly flooding and bushfire, by managing development in sensitive areas,

- (h) **to ensure that development incorporates the principles of sustainable development through the delivery of balanced social, economic and environmental outcomes, and that development is designed in a way that assists in reducing and adapting to the likely impacts of climate change**

It is submitted that the proposed development is not inconsistent with these objectives.

The subject site is zoned R2 Low Density Residential with the following zone objectives applying to that zone.

- **To provide for the housing needs of the community within a low density residential environment.**
- **To enable other land uses that provide facilities or services to meet the day to day needs of residents.**
- **To promote the desired future character by ensuring that development reflects features or qualities of traditional detached dwelling houses that are surrounded by private gardens.**
- **To enhance the essential character and identity of established residential areas.**
- **To ensure a high level of residential amenity is achieved and maintained.**

The proposed development is consistent with the objectives of the zone in that:

- The proposed development is consistent with the objectives of the zone in that:
- Seniors housing is in significant demand within the Penrith LGA, but also within Leonay specifically. The site and this development present an opportunity to provide this form of housing in an appropriate location that satisfies the relevant controls.
- The proposal will contribute to the housing needs of the community.
- The scale of the proposed building will not negatively impact on the existing or future character of the locality. The landscaping proposed will result in a unique development that will be dominated by landscaping when viewed from the public domain.
- A high level of architectural design is evident within the proposal and it is considered that this will contribute to the visual amenity of the locality.

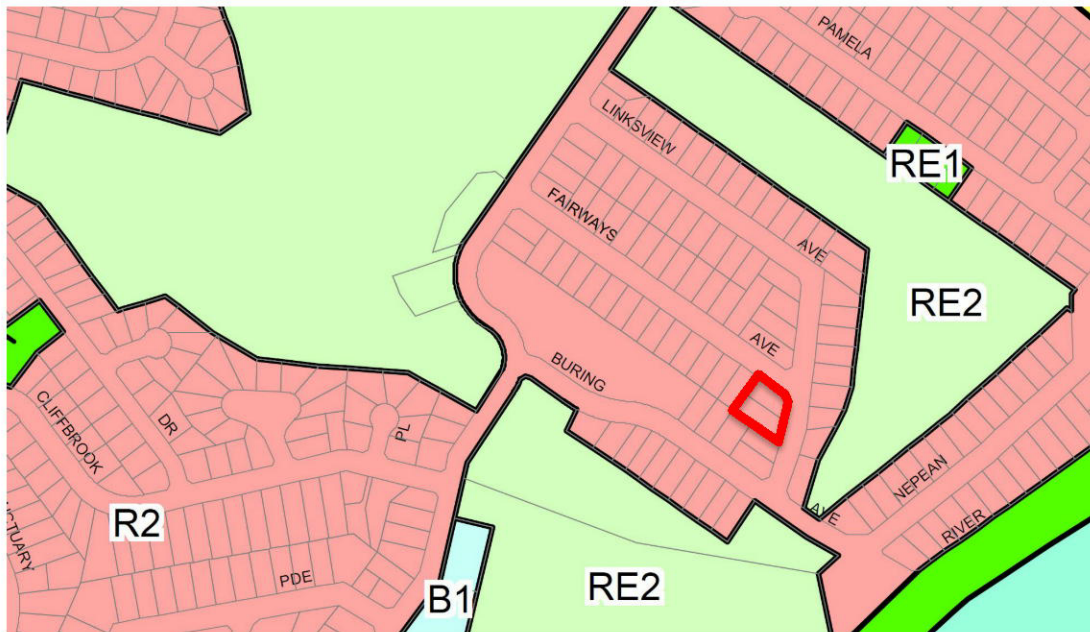


Figure 12 Land use zoning map

The following relevant clauses have also been considered in respect of this development proposal.

Part 4 Principal Development Standards:				
Standard		Permitted	Proposed	Comment
4.3	Height of Buildings:	8m	<8m	Complies
4.4	Floor Space Ratio	See SEPP Assessment		Complies

Part 5 Miscellaneous Provisions		
Provision		Comment
5.1	Relevant acquisition authority	N/A
5.2	Classification and reclassification of public land	N/A
5.3	Development near zone boundaries	N/A
5.4	Controls relating to miscellaneous permissible uses	N/A
5.5	Development within the coastal zone	N/A
5.6	Architectural roof features	N/A
5.7	Development below mean high water mark	N/A
5.8	Conversion of fire alarms	N/A
5.10	Heritage conservation	N/A
5.11	Bush fire hazard reduction	N/A

5.12	Infrastructure development and use of existing buildings of the Crown	N/A
5.13	Eco-tourist facilities	N/A
5.14	Siding Spring Observatory—maintaining dark sky	N/A
5.15	Defence communications facility	N/A
5.1	Relevant acquisition authority	N/A
5.2	Classification and reclassification of public land	N/A
5.3	Development near zone boundaries	N/A

Part 7 Additional Local Provisions

Provision		Comment
7.1	Earthworks	N/A
7.2	Flood planning	N/A
7.3	Development on natural resources sensitive land	N/A
7.4	Sustainable development	The proposal incorporates appropriate sustainable development characteristics and design elements. These contribute to the accompanying BASIX assessment.
7.5	Protection of scenic character and landscape values	N/A
7.6	Salinity	N/A
7.7	Servicing	The site is appropriately serviced to accommodate the proposal.
7.8	Active street frontages	N/A
7.9	Development of land in the flight paths of the site reserved for the proposed Second Sydney Airport	N/A
7.10	Dual occupancies and secondary dwellings in certain rural and environmental zones	N/A
7.11	Penrith Health and Education Precinct	N/A
7.12	Maximum gross floor area of commercial premises	N/A
7.13	Exhibition homes limited to 2 years	N/A
7.14	Cherrywood Village	N/A
7.15	Claremont Meadows	N/A
7.16	Glenmore Park Stage 2	N/A
7.17	Dwelling houses on certain land in Castlereagh, Cranebrook, Llandilo, Londonderry, Kemps Creek and Mulgoa	N/A

7.18	Mulgoa Valley	N/A
7.19	Villages of Mulgoa and Wallacia	N/A
7.20	Orchard Hills	N/A
7.21	Twin Creeks	N/A
7.22	Waterside	N/A
7.23	Location of sex services premises and restricted premises	N/A
7.24	Sydney Science Park	N/A
7.25	Warehouses and distribution centres on land zoned B7 Business Park	N/A
7.26	Serviced apartments	N/A

The provisions of the LEP have been satisfied for this development proposal.

4.5 PENRITH DEVELOPMENT CONTROL PLAN 2014

The following assessment has been made in respect of the general development controls within the DCP.

Part C1: Site Planning and Design Principles

The design methodology is explained on the accompanying plans and accompanying Architectural Design Statement. The site has been responded to with the proposed development and a Context and Site Analysis Plan accompanies the application.

The location of the bulk of the building element towards the external boundaries of the site is preferred as it internalises the majority of vehicular movements and storage. From an urban design aspect, this will more positively contribute to the streetscape and the visual amenity of the locality, particularly given the substantial landscaping proposed.

Part C2: Vegetation Management

A Landscape Concept Plan accompanies the application and provides for a mix of planting that integrates with the development and surrounding area. Good deep soil areas can accommodate deep rooted tree planting. Several significant trees have been retained to ensure the development will contribute to the landscape setting of the locality.

Part C3: Water Management

Appropriate initiatives are proposed for on-site stormwater management and a BASIX assessment has been carried out. These have been incorporated into the design of the development. A Stormwater Concept Plan accompanies the application demonstrating suitable management of stormwater quality and quantity.

Part C4: Land Management

Appropriate measures will be put in place to ensure the site is protected from erosion and sedimentation. An erosion and sedimentation control plan is provided. It is submitted that there are no concerns around potential contamination of the site given the historical residential use.

Part C5: Waste Management

The provision for waste management on site is considered satisfactory. A Waste Management Plan accompanies the application outlining the waste requirements.

C6: Landscape Design

A detailed Landscape Concept Plan accompanies this application.

The plants that will be used in the landscaping will be varieties that require low levels of maintenance and are drought resistant to reduce water use within the development.

C7: Culture and Heritage

The site is not a heritage item and does not adjoin a heritage item or precinct.

C10: Transport, Access and Parking

The proposal is considered to be acceptable in this regard. The site is within acceptable proximity of public transport options for residents. Appropriate access and manoeuvring has been provided to the site.

C12: Noise and Vibration

There is no anticipated noise or vibration generated from the proposed development. The proposal is considered to be satisfactory.

C13: Infrastructure and Services

As stated previously, the subject site is already serviced to accommodate the proposed development and any augmentation required will be confirmed with the relevant service providers.

The proposal is consistent with the provisions of the DCP.

5 KEY PLANNING ISSUES

The following impacts have been considered in the preparation of this development proposal.

5.1 FLORA AND FAUNA

Some trees are proposed to be removed as part of this application and an Arborist Report accompanies this application responding to this. Six significant trees are proposed to be retained that will continue to contribute to the landscape setting on the site and locality. No native vegetation is proposed to be removed.

5.2 TRAFFIC GENERATION AND PARKING

The proposed development does not propose any significant increase in parking demand or traffic generation. It is considered acceptable in this regard. Appropriate vehicle access and manoeuvring has been demonstrated.

5.3 COMPATIBILITY OF THE PROPOSAL ON THE LOCALITY

We note the NSW Land and Environment Court has published a planning principle in relation to locating seniors developments within low density zones. The issue of compatibility between a seniors development and a surrounding low-density zones arises in the majority of such applications. This is because the Policy allows development with different physical characteristics to what is permissible under the zoning. It is therefore useful to state some planning principles for assessing compatibility. The case of *GPC No 5 (Wombarra) Pty Ltd v Wollongong City Council [2003] NSWLEC 268 at 14-18*, cites the following principles to be considered in this scenario. We have provided commentary in response to those principles (the Principles cite the old SEPP 5 Policy).

Principle	Response
The first principle is that buildings in a SEPP 5 development do not have to be single-storey to be compatible with the streetscape even where most existing buildings are single-storey. The principle does not apply to conservation areas where single-storey dwellings are likely to be the major reason for conservation.	The majority of the proposed development is single storey in height with only 1 dwelling being two storeys in height. All built form on the site is within the applicable height limit. The site is not within a conservation area. The surrounding locality is characterised by a mix of 1 and 2 storey dwellings. The proposal is therefore not in conflict with this Principle.
The second principle is that where the size of a SEPP 5 development is much greater than the other buildings in the street, it should be visually broken up so that it does not appear as one building. Sections of a building, or separate buildings should be separated by generous breaks and landscaping.	The proposed development is spread over 2 building elements and is largely single storey in nature. The size and scale of the development is considered to be small. In addition to that, whilst the SEPP allows for a FSR of up to 0.5:1 to be built, the proposal is closer to 0.3:1. Substantial perimeter planting is proposed around the site to create a garden setting that is improved on the current streetscape presentation.
The third principle is that where a site has existing characteristics that assist in reducing the visual dominance of development, these characteristics should be preserved. Topography that makes development appear smaller should not be modified. It is preferable to preserve existing vegetation around a site's edges to destroying it and planting new vegetation.	Leonay is characterised as a suburb within a landscaped setting. Accordingly, this proposal includes increased landscaping, and a retention of existing significant trees that were proposed to be removed in the previous application. Once completed, the landscaping proposed will itself contribute to the landscape setting of the site.

The fourth principle is that a SEPP 5 development should aim to reflect the materials and building forms of other buildings in the street. This is not to say that new materials and forms can never be introduced, only that their introduction should be done with care and sensitivity.

Built form in the locality is currently characterised by a mix of materials and finishes and the proposed development is not inconsistent with that, nor would it be considered to offend the locality.

When considered against the Planning Principle, the proposed development is not offensive or in conflict with the outcomes sought by them. It is submitted that the development satisfies the Principles and that it can be supported on that basis.

The site is therefore considered suitable for the proposed development.

5.4 VISUAL IMPACT

The proposed development is designed with a high level of architectural merit that exceeds that of nearby and adjoining properties. Its visual impact will be positive on the streetscape and the design of the development is expected to contribute to the visual amenity of the locality.

5.5 SERVICES

The site is appropriately serviced to allow for the proposed development.

5.6 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

The consideration of CPTED issues has been prepared having regard to various published CPTED literature and academic works, and specifically includes the *"Crime Prevention and Assessment of Development Application Guidelines under Section 4.15 of the Environmental Planning and Assessment Act 1979"* published by the former Department of Urban Affairs and Planning.

The advice is structured in accordance with Part B of the above guidelines – *Principles for Minimising Crime Risk*. In this regard, the advice considers the responsiveness of the proposed design to each of the adopted four principles for CPTED (surveillance; access control; territorial reinforcement and space management).

CPTED principles have been adopted by the NSW Police Force, based on recognition that the design of spaces plays a pivotal role in facilitating the safety and security of its users. The NSW Police Force has identified key principles of CPTED being:

- Establish opportunities for **good surveillance**, both casually and technically.
- Provide legible barriers for **access control** for spatial definition.
- Create a sense of ownership over spaces that are also clearly demarcated between public and private ownership for **territorial reinforcement**.
- Establish spaces that are utilised appropriately through **proper space management**, relating to litter and graffiti removal, and ensuring lighting fixtures are working.

When implemented, these measures are likely to reduce opportunities for crime by using design and place management principles.

Surveillance

The proposed development will provide numerous opportunities for surveillance. The following casual surveillance opportunities have been provided through the design of the project:

- Opportunities for visual observance through a high percent of transparent glazing along all frontages allow normal space users to see and be seen by others.
- Entries are located in highly visible locations.
- Active communal areas are well positioned.
- Clear visual pathways within resident areas as well as from public streets to private entrances.
- Areas of entrapment are limited due to multiple exit points from around the development.

Access Control

Access control to public, semi public and private areas of the development is considered to be well managed and effective. Access control to the dwellings can be effectively managed through lockable entry doors.

Overall access to the development will be managed by the body corporate and residents on a day to day basis, mainly through passive surveillance.

Territorial Reinforcement

Clear separation exists between public and private space in terms of the relationship between the proposal and the public domain. Appropriate landscaping, site furnishings and paving will provide good environmental cues about the transition or movement from public to private domain.

Space Management

For most modern residential developments, space management is increasingly carried out in a professional manner, often by third party specialist building management businesses. Therefore, the effectiveness of management systems will influence the perceived level of care of the project. In this case, the body corporate will ensure that processes are established to respond to and fix services and structures and under whose responsibilities these services are assigned.

5.7 WASTE MANAGEMENT

Appropriate waste management measures would be put in place on the site that are consistent with Council's requirements and those arrangements in place for established residential areas.

6 SECTION 4.15 ASSESSMENT

An assessment of the proposal has been undertaken in accordance with the statutory requirements of the EPA Act. The following assessment against Section 4.15 of the EPA Act has been undertaken.

6.1 SECTION 4.15(1)(A)(I) – ANY ENVIRONMENTAL PLANNING INSTRUMENTS

The relevant environmental planning instruments have been considered earlier in this report. These include the following:

- *Biodiversity Conservation Act 2016*
- *Sydney Regional Environmental Plan No 20 – Hawkesbury Nepean River*
- *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004*
- *Penrith Local Environmental Plan 2010*
- *Penrith Development Control Plan 2014*

The proposal is permissible with consent and is considered satisfactory when assessed against the relevant controls.

6.2 SECTION 4.15(1)(A)(II) – ANY PROPOSED INSTRUMENT THAT IS OR HAS BEEN THE SUBJECT OF PUBLIC CONSULTATION UNDER THIS ACT AND THAT HAS BEEN NOTIFIED TO THE CONSENT AUTHORITY

There are no known draft Environmental Planning Instruments applicable that will alter this assessment of the development.

6.3 SECTION 4.15(1)(A)(III) – ANY DEVELOPMENT CONTROL PLAN

Compliance against the relevant DCP's has been considered earlier in this report.

6.4 SECTION 4.15(1)(A)(IIIA) – ANY PLANNING AGREEMENT OR DRAFT PLANNING AGREEMENT ENTERED INTO UNDER SECTION 7.4

There are no known planning agreements that apply to the site or development.

6.5 SECTION 4.15(1)(A)(IV) – THE REGULATIONS

There are no sections of the regulations that are relevant to the proposal at this stage.

6.6 SECTION 4.15(1)(A)(V) – ANY COASTAL ZONE MANAGEMENT PLAN

Not relevant to the proposed development.

6.7 SECTION 4.15(1)(B) – THE LIKELY IMPACTS OF THAT DEVELOPMENT

6.7.1 Natural Environment Impacts

The proposal will result in the removal of exotic vegetation from the site, as well as the retention of six significant trees. Substantial perimeter planting is also proposed that will provide an improved streetscape presentation.

All other environmental impacts associated are considered to be mitigated as per the information supporting this application.

6.7.2 Social and Economic Impacts

The additional seniors housing is considered to be a positive result of this proposal. No negative economic or social impacts are expected.

6.7.3 Built Environmental Impacts

The scale and bulk of the development is considered to be minor in the context of the surrounding diverse range of housing that currently exists.

There will be no unacceptable impacts arising from this permissible development.

6.8 SECTION 4.15(1)(C) – THE SUITABILITY OF THE SITE FOR THE DEVELOPMENT

The proposal is generally consistent with the planning controls that apply in this zone. Moreover, the objectives of the zone have been satisfied, ensuring that the development would not result in any unacceptable impact on any adjoining landowners or buildings.

For the reasons outlined in this report the site is considered suitable for this development proposal.

The site is considered to be suitable for the development for the reasons outlined below:

- The proposal is permissible with consent in the zone.
- The proposal represents an appropriate land use and built form located on an appropriately serviced site that is in an accessible location.
- The proposal is compatible with surrounding land and surrounding built elements.
- The proposal represents an increase in seniors housing in Leonay.

6.9 SECTION 4.15(1)(D) – ANY SUBMISSION MADE

Council will undertake a notification process in accordance with its controls and policies. We welcome the opportunity to provide additional information in response to any submissions that might be made.

6.10 SECTION 4.15(1)(E) – THE PUBLIC INTEREST

Given the type of development, its general compliance with the planning controls, how the objectives are satisfied and the suitability of the site it is considered that the public interest would not be jeopardised as a result of this development.

7 CONCLUSION AND RECOMMENDATION

The proposed development has been assessed against the requirements of the Penrith LEP and DCP and is considered to represent a form of development that is acceptable. The proposal also satisfies the provisions of the SEPP(Seniors).

The proposed seniors development would not result in any unacceptable impact on the locality, will contribute to the visual amenity of the locality, and the supply of much needed seniors housing in the Penrith LGA.

The site is considered quite suitable for a use of this nature and is consistent with the character sought in this area. The site is unique in that it presents an opportunity within an established residential area to provide high quality seniors housing within a development that is of an appropriate scale that will not impact on the amenity of nearby and adjoining development.

An assessment against Section 4.15 of the EPA Act has not resulted in any significant issues arising.

Accordingly, it is recommended that the proposed development of seniors housing at 6-8 Linksvie Ave, Leonay be approved.



APPENDIX A

SEPP (Housing for Seniors or People with a Disability) 2004 and
Seniors Living Urban Design Guidelines

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004

The relevant clauses of the SEPP have been considered as follows:

Chapter 1 Preliminary	
Provision	Comment
2 Aims of Policy	
(1) <i>This Policy aims to encourage the provision of housing (including residential care facilities) that will:</i>	
(a) <i>increase the supply and diversity of residences that meet the needs of seniors or people with a disability, and</i>	Satisfied
(b) <i>make efficient use of existing infrastructure and services, and</i>	Satisfied
(c) <i>be of good design.</i>	Satisfied
4 Land to which Policy applies	
(1) General <i>This Policy applies to land within New South Wales that is land zoned primarily for urban purposes or land that adjoins land zoned primarily for urban purposes, but only if:</i>	
(a) <i>development for the purpose of any of the following is permitted on the land:</i>	
(i) <i>dwelling-houses,</i>	Satisfied
(ii) <i>residential flat buildings,</i>	
(iii) <i>hospitals,</i>	
(iv) <i>development of a kind identified in respect of land zoned as special uses, including (but not limited to) churches, convents, educational establishments, schools and seminaries, or</i>	
(b) <i>the land is being used for the purposes of an existing registered club.</i>	
Chapter 2 Key Concepts	
Provision	Comment
10 Seniors housing	
<i>In this Policy, seniors housing is residential accommodation that is, or is intended to be, used permanently for seniors or people with a disability consisting of:</i>	
(a) <i>a residential care facility, or</i>	
(b) <i>a hostel, or</i>	
(c) <i>a group of self-contained dwellings, or</i>	The proposal is for a group of self-contained dwellings.
(d) <i>a combination of these but does not include a hospital.</i>	
Chapter 3 Development for seniors housing	
Part 1 General	
Provision	Comment
14 Objective of Chapter	
<i>The objective of this Chapter is to create opportunities for the development of housing that is located and designed in a manner particularly suited to both those seniors who are independent, mobile and active as well as those who are frail, and other people with a disability regardless of their age.</i>	
	Satisfied

18 Restrictions on occupation of seniors housing allowed under this Chapter

- (1) Development allowed by this Chapter may be carried out for the accommodation of the following only:
- (a) seniors or people who have a disability, Noted.
 - (b) people who live within the same household with seniors or people who have a disability, Noted.
 - (c) staff employed to assist in the administration of and provision of services to housing provided under this Policy. Noted.
- (2) A consent authority must not consent to a development application made pursuant to this Chapter unless:
- (a) a condition is imposed by the consent authority to the effect that only the kinds of people referred to in subclause (1) may occupy any accommodation to which the application relates, and Noted.
 - (b) the consent authority is satisfied that a restriction as to user will be registered against the title of the property on which development is to be carried out, in accordance with section 88E of the Conveyancing Act 1919, limiting the use of any accommodation to which the application relates to the kinds of people referred to in subclause (1). Noted.

Part 2 Site-related requirements

Provision	Comment
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26 Location and access to facilities

- (1) A consent authority must not consent to a development application made pursuant to this Chapter unless the consent authority is satisfied, by written evidence, that residents of the proposed development will have access that complies with subclause (2) to:
- (a) shops, bank service providers and other retail and commercial services that residents may reasonably require, and
 - (b) community services and recreation facilities, and
 - (c) the practice of a general medical practitioner.

(2) Access complies with this clause if:

- (a) the facilities and services referred to in subclause (1) are located at a distance of not more than 400 metres from the site of the proposed development that is a distance accessible by means of a suitable access pathway and the overall average gradient for the pathway is no more than 1:14, although the following gradients along the pathway are also acceptable:
 - (i) a gradient of no more than 1:12 for slopes for a maximum of 15 metres at a time,
 - (ii) a gradient of no more than 1:10 for a maximum length of 5 metres at a time,
 - (iii) a gradient of no more than 1:8 for distances of no more than 1.5 metres at a time, or
- (b) in the case of a proposed development on land in a local government area within the Greater Sydney (Greater Capital City Statistical Area)—there is a public transport service available to the residents who will occupy the proposed development:
 - (i) that is located at a distance of not more than 400 metres from the site of the proposed development and the distance is accessible by means of a suitable access pathway, and

Site complies. See survey accompanying this application.

(ii) <i>that will take those residents to a place that is located at a distance of not more than 400 metres from the facilities and services referred to in subclause (1), and</i> (iii) <i>that is available both to and from the proposed development at least once between 8am and 12pm per day and at least once between 12pm and 6pm each day from Monday to Friday (both days inclusive), and the gradient along the pathway from the site to the public transport services (and from the public transport services to the facilities and services referred to in subclause (1)) complies with subclause (3), or</i>	The relevant bus service provides access to the Penrith CBD where these services can be found. Bus services are provided throughout each day servicing the Leonay community providing a connection to the Penrith CBD.
(3) <i>For the purposes of subclause (2) (b) and (c), the overall average gradient along a pathway from the site of the proposed development to the public transport services (and from the transport services to the facilities and services referred to in subclause (1)) is to be no more than 1:14, although the following gradients along the pathway are also acceptable:</i> (i) <i>a gradient of no more than 1:12 for slopes for a maximum of 15 metres at a time,</i> (ii) <i>a gradient of no more than 1:10 for a maximum length of 5 metres at a time,</i> (iii) <i>a gradient of no more than 1:8 for distances of no more than 1.5 metres at a time.</i>	Refer to the survey attached to this assessment. Compliance is achieved.
28 Water and sewer (1) <i>A consent authority must not consent to a development application made pursuant to this Chapter unless the consent authority is satisfied, by written evidence, that the housing will be connected to a reticulated water system and have adequate facilities for the removal or disposal of sewage</i>	Connections will be confirmed at the time of obtaining a Construction Certificate however the level of existing development in the area suggests that this will be acceptable.
Part 3 Design requirements Division 1 General	
30 Site analysis (1) <i>A consent authority must not consent to a development application made pursuant to this Chapter unless the consent authority is satisfied that the applicant has taken into account a site analysis prepared by the applicant in accordance with this clause.</i>	A Site Analysis Plan is within the set of architectural plans.
31 Design of in-fill self-care housing <i>In determining a development application made pursuant to this Chapter to carry out development for the purpose of in-fill self-care housing, a consent authority must take into consideration (in addition to any other matters that are required to be, or may be, taken into consideration) the provisions of the Seniors Living Policy: Urban Design Guideline for Infill Development published by the Department of Infrastructure, Planning and Natural Resources in March 2004.</i>	The Guidelines have been considered at the end of this assessment.
32 Design of residential development <i>A consent authority must not consent to a development application made pursuant to this Chapter unless the consent authority is satisfied that the proposed development demonstrates that adequate regard has been given to the principles set out in Division 2.</i>	The proposal can satisfy the principles.

Part 3 – Division 2 Design principles

Provision	Comment
33 Neighbourhood amenity and streetscape <i>The proposed development should:</i> (a) <i>recognise the desirable elements of the location's current character (or, in the case of precincts undergoing a transition, where described in local planning controls, the desired future character) so that new buildings contribute to the quality and identity of the area, and</i> (b) <i>retain, complement and sensitively harmonise with any heritage conservation areas in the vicinity and any relevant heritage items that are identified in a local environmental plan, and</i> (c) <i>maintain reasonable neighbourhood amenity and appropriate residential character by:</i> (i) <i>providing building setbacks to reduce bulk and overshadowing, and</i> (ii) <i>using building form and siting that relates to the site's land form, and</i> (iii) <i>adopting building heights at the street frontage that are compatible in scale with adjacent development, and</i> (iv) <i>considering, where buildings are located on the boundary, the impact of the boundary walls on neighbours, and</i> (d) <i>be designed so that the front building of the development is set back in sympathy with, but not necessarily the same as, the existing building line, and</i> (e) <i>embody planting that is in sympathy with, but not necessarily the same as, other planting in the streetscape, and</i> (f) <i>retain, wherever reasonable, major existing trees, and</i> (g) <i>be designed so that no building is constructed in a riparian zone.</i>	The neighbourhood amenity and streetscape principles have been considered in the design. The proposal is a high-quality designed development that will positively contribute to the amenity of the locality. The siting of buildings on the site are considered to be the most appropriate and are sympathetic to the adjoining properties. Existing vegetation has been retained where possible and this is reflected in the accompanying landscape plan.
34 Visual and acoustic privacy <i>The proposed development should consider the visual and acoustic privacy of neighbours in the vicinity and residents by:</i> (a) <i>appropriate site planning, the location and design of windows and balconies, the use of screening devices and landscaping, and</i> (b) <i>ensuring acceptable noise levels in bedrooms of new dwellings by locating them away from driveways, parking areas and paths.</i>	The proposal is considered acceptable in this regard. There will be negligible acoustic and visual impacts arising from this low impact development.
35 Solar access and design for climate <i>The proposed development should:</i> (a) <i>ensure adequate daylight to the main living areas of neighbours in the vicinity and residents and adequate sunlight to substantial areas of private open space, and</i> (b) <i>involve site planning, dwelling design and landscaping that reduces energy use and makes the best practicable use of natural ventilation solar heating and lighting by locating the windows of living and dining areas in a northerly direction</i>	The proposal has considered these principles, and these are reflected in the plan set.
36 Stormwater <i>The proposed development should:</i> (a) <i>control and minimise the disturbance and impacts of stormwater runoff on adjoining properties and receiving waters by, for example, finishing driveway surfaces with semi-pervious material, minimising the width of paths and minimising paved areas, and</i>	The accompanying stormwater concept plan reflect these principles.

- (b) include, where practical, on-site stormwater detention or re-use for second quality water uses.

37 Crime prevention

The proposed development should provide personal property security for residents and visitors and encourage crime prevention by:

CPTED and Safer by Design principles have been considered within the SEE.

- (a) site planning that allows observation of the approaches to a dwelling entry from inside each dwelling and general observation of public areas, driveways and streets from a dwelling that adjoins any such area, driveway or street, and
- (b) where shared entries are required, providing shared entries that serve a small number of dwellings and that are able to be locked, and
- (c) providing dwellings designed to allow residents to see who approaches their dwellings without the need to open the front door.

38 Accessibility

The proposed development should:

Appropriate access has been provided around the site, as well as into and out of it.

- (a) have obvious and safe pedestrian links from the site that provide access to public transport services or local facilities, and
- (b) provide attractive, yet safe, environments for pedestrians and motorists with convenient access and parking for residents and visitors.

39 Waste management

The proposed development should be provided with waste facilities that maximise recycling by the provision of appropriate facilities.

Noted. Site can comply.

Part 4 Development standards to be complied with

Division 1 General

Provision

Comment

40 Development standards—minimum sizes and building height

(1) General

A consent authority must not consent to a development application made pursuant to this Chapter unless the proposed development complies with the standards specified in this clause.

(2) Site size

Site complies.

The size of the site must be at least 1,000 square metres.

(3) Site frontage

Site complies.

The site frontage must be at least 20 metres wide measured at the building line.

(4) Height in zones where residential flat buildings are not permitted

If the development is proposed in a residential zone where residential flat buildings are not permitted:

- (a) the height of all buildings in the proposed development must be 8 metres or less, and

Site complies.

- (c) a building located in the rear 25% area of the site must not exceed 1 storey in height.

Site complies.

Division 3 Hostels and self-contained dwellings—standards concerning accessibility and useability

Provision	Comment
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41 Standards for hostels and self-contained dwellings

(1) A consent authority must not consent to a development application made pursuant to this Chapter to carry out development for the purpose of a hostel or self-contained dwelling unless the proposed development complies with the standards specified in Schedule 3 for such development.	The proposed development can comply.
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Part 7 Development standards that cannot be used as grounds to refuse consent

Division 4 Self-contained dwellings

Provision	Comment
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50 Standards that cannot be used to refuse development consent for self-contained dwellings

A consent authority must not refuse consent to a development application made pursuant to this Chapter for the carrying out of development for the purpose of a self-contained dwelling (including in-fill self-care housing and serviced self-care housing) on any of the following grounds:

(a) building height: if all proposed buildings are 8 metres or less in height (and regardless of any other standard specified by another environmental planning instrument limiting development to 2 storeys),	Proposal complies.
(b) density and scale: if the density and scale of the buildings when expressed as a floor space ratio is 0.5:1 or less,	Proposal complies.
(c) landscaped area: if:	
(i) in the case of a development application made by a social housing provider—a minimum 35 square metres of landscaped area per dwelling is provided, or	N/A
(ii) in any other case—a minimum of 30% of the area of the site is to be landscaped,	Proposal complies.
(d) deep soil zones: if, in relation to that part of the site (being the site, not only of that particular development, but also of any other associated development to which this Policy applies) that is not built on, paved or otherwise sealed, there is soil of a sufficient depth to support the growth of trees and shrubs on an area of not less than 15% of the area of the site (the deep soil zone). Two-thirds of the deep soil zone should preferably be located at the rear of the site and each area forming part of the zone should have a minimum dimension of 3 metres,	Proposal complies.
(e) solar access: if living rooms and private open spaces for a minimum of 70% of the dwellings of the development receive a minimum of 3 hours direct sunlight between 9am and 3pm in mid-winter,	Proposal complies.
(f) private open space for in-fill self-care housing: if:	Proposal complies.
(i) in the case of a single storey dwelling or a dwelling that is located, wholly or in part, on the ground floor of a multi-storey building, not less than 15 square metres of private open space per dwelling is provided and, of this open space, one area is not less than 3 metres wide and 3 metres long and is accessible from a living area located on the ground floor, and	
(ii) in the case of any other dwelling, there is a balcony with an area of not less than 10 square metres (or 6 square metres for a 1-bedroom dwelling), that is not less than 2 metres in either length or depth and that is accessible from a living area,	N/A
(g) (Repealed)	
(h) parking: if at least the following is provided:	
(i) 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider, or	Satisfactory parking provided for the development.

- (ii) 1 car space for each 5 dwellings where the development application is made by, or is made by a person jointly with, a social housing provider. Satisfactory visitor parking provided for the development.

Seniors Living Urban Design Guidelines

Seniors Living Policy	
Rules of Thumb	Comment
Site Planning and Design	
The proportion of the site given to landscaped area and deep soil should be increased in less urban areas, on large lots, and in areas already characterized by high proportion of open space and planting.	A high proportion of the site is provided as open space, supported by the percentage of landscaped area exceeding the controls within the SEPP. Landscaping of the site will be high quality and significantly contribute to the appearance of the development when viewed in the streetscape.
Impacts on Streetscape	
Respond to council planning instruments that specify the character or desired character for the area.	The proposal is not considered to represent a negative element in the streetscape.
Where there is a consistent front building alignment, new development should not encroach on the front setback.	The proposal would see appropriate setbacks established on this unique corner block. It is considered that the Guidelines have been appropriately responded to.
Driveways or basement car park entries should not exceed 25% of the site frontage.	Proposal complies.
Garage doors should be set back a minimum of 1metre behind the predominant building façade on both the street frontage and common driveways.	Proposal complies.
Impacts on Neighbours	
Where side setbacks are less than 1.2m, a maximum of 50% of the development should be built to this alignment.	Proposal complies in terms of unit numbers. The western boundary is a side boundary for the adjoining property and the setback arrangements proposed are considered to be acceptable, allowing for the entire site to be developed in an orderly fashion, maximising the outcome on the site for this seniors development.
The length of unrelieved walls along narrow side or rear setbacks should not exceed 8 metres	Minor articulation is provided along all elevations that cannot be viewed from the public domain. Those that face the public domain contain significant articulation and landscaping.
Living rooms of neighbouring dwellings should receive a minimum 3 hours direct sunlight between 9.00-3.00 in mid-winter neighbouring dwellings.	Can comply.
Solar access to the private open space of neighbouring dwellings should not be unreasonably reduced.	Can comply.
Internal Site Amenity	
- Separation of 1.2 metres should be achieved between habitable rooms and driveway or car parks of other dwellings: - This can be reduced if adequate screening is provided.	Proposal complies.



APPENDIX B

Architectural Design Statement

architect's design statement

date: 5 June 2020

project: Seniors Living Development

address: 8 Linksview Avenue, Leonay

This statement is prepared with regard to the proposed development at 8 Linksview Avenue, Leonay and outlines the amendments to the plans for Development Application to address the issues raised by Council in their pre-DA advice dated 20 March 2020.

planning

- Consideration made to previous refused proposal under DA18/1253. A key aspect of the Council's feedback on the previous refused proposal was the loss in vegetation, the impact on privacy to the neighbours, and clarification on compliance with Clause 26 of the Seniors Living SEPP with regard to access to services or transport to services within 400m of the subject site. These issues have been addressed in the revised proposal.
- SEPP Seniors compliance table is located on drawing DA-0005, addressing the requirements specific to this development for self-contained dwellings and indicates full compliance.
- Included in the revised application is a survey of the path to the nominated bus stop on Leonay Parade that is located within 400m of the subject site, in accordance with Seniors SEPP clause 26. Survey prepared and by Richard Hogan & Co. This has resulted in the main entry to the development being located to the northern corner and accessible from all units with minimal impact to existing mature trees.
- Where applicable this development has been designed to comply with the Penrith Development Control Plan 2014, under the D2.4 Multi-Dwelling Housing.
- Setbacks for adjacent neighbouring sites have been measured on site and documented on drawing DA-0003. In accordance with DCP Clause 2.4.5 B) c) the proposal nominates an average setback of 5.8m along Linksview Avenue which is consistent with neighbouring buildings and the prevailing streetscape character. In accordance with Clause 2.4.11 b) 3) (a), we have incorporated a setback of 5.5m along Fairways Avenue (which is an increase on the existing building 2.2m setback. With the retention and setback around the existing trees we believe this setback provides for a consistent streetscape (see 3D perspective images in Statement of Environmental Effects).
- Character of the immediate area - the revised design has maintained significant trees along the Linksview and Fairways front boundary and at the south western corner of the site to minimise the impact on the neighbouring properties backyards. There is also additional screen planting provided to the boundaries

adjacent to neighbouring dwellings, and a feature tree (Crepe Myrtle) has been planted midway along the western boundary which is visible from the pedestrian entry from Fairways Avenue and the vehicle entry from Linksvue Avenue (refer to the landscape architects drawings).

- Communal area has been removed to accommodate additional landscaping as suggested by council. Furthermore, the bin store has been relocated to the north western boundary behind the letterboxes, which is easily accessible from the pedestrian entry and to Linksvue for collection and sheltered from view by screen fencing and existing neighbours trees.
- Additional windows have been incorporated into the Fairways avenue facade in the brick garage walls. In addition to this a landscape bed has been incorporated into the design in front of the garage walls with screen planting to soften the impact to the street (refer to the landscape plan).
- Retaining walls along the boundary have been restricted to 500mm in height in accordance with the Penrith DCP requirements. These retaining walls are appropriately designed to the heights required to adequately maintain the landscaping between the site and the nature strip. The TOW heights are nominated on the architectural site plan DA 0100 and east & west elevations DA 2001.
- The southern boundary setback is a minimum of 3m (in accordance with SEPP Seniors deep soil requirements) allows for substantial planting along the entire length of the southern setback is. At the western end this setback is increased to 6-9m in order to retain the existing mature tree in the south west corner of the site.
- The design has been modified so that the building length along the western boundary is no longer than 8.12m (unit 1) and Unit 5 has been re-designed on an angle to step it away from the boundary. The length of building along the southern boundary is more than 20m, however it is stepped to provide relief in the facade to provide relief and it designed within a significant setback (as noted above) which allows for additional privacy and screen planting of mature trees mitigating the impact of the development on the streetscape.
- Hardstand areas have been reduced slightly, but still provide adequate turning space for all vehicles (refer to traffic engineer report). Hard paved access ramps and bin storage areas have been removed along Linksvue Avenue and replaced with significant landscaping.
- Finishes selected are consistent with the character with surrounding development (face brick and weatherboard). The proposal includes a mix between brick and weatherboard finishes, and the building form is broken down into smaller elements consistent with the local residential development. Refer to photomontage image.
- Study rooms have been modified and incorporated as alcoves to open plan living spaces.

- Private open space fronting Fairways and Linksvue Avenue has been documented in drawing DA-9201, indicating the use of screen planting along the boundary to allow for safe surveillance to and from the street and a level of screened privacy for the unit occupants. We note that the Seniors Living Policy Urban Design Guidelines for Infill Development suggest the use of street frontages to be used as private open space on Northern Facing sites, as noted in Figure 02, Page 6.
- Equitable access is provided throughout the site to all units and car spaces.
- All car spaces are now within garages and accessible directly from units.
- Refer to updated Arborist report with regard to comment on necessity of biodiversity Act and test of significance.

Environmental Management

- We note council's comments about the trees providing significant value to the local streetscape and have amended the design to maintain significant trees along the street boundaries.
- We note the retention of significant trees 1, 2, 7, 10, 14 & 15 due to the increased setbacks to Linksvue Avenue, the southern boundary, and the design of the building in the south-west corner of the site. Please refer to the amended architectural site plan DA 0100 and the amended arborist report.
- Tree 10 retained to benefit neighbours, and buildings have been setback from western boundary to allow protection of neighbours trees on Fairways Avenue frontage.
- Arborist report submitted with Development Application.
- The new dwellings have been designed to ensure that the proposed buildings do not intrude on the TPZ of retained trees or the existing neighbours trees. TPZ information is and SRZ are indicated on the site and ground floor plans.

Engineering

- Stormwater drawings submitted in Development Application from Abel and Brown
- MUSIC modelling submitted electronically.
- Traffic Impact Statement prepared by Stanbury Traffic Planning.
- Internal dimensions for all garages are documented on Drawing DA-1100, complying with 3.8m x 6.0m
- Accessible path of travel to be constructed from the site to connect to the existing path which terminates at the end of Leonay Public School. This footpath leads to the existing bus stop on Leonay Parade which is currently in use of the Seniors Development on Leonay Parade and as we understand is DDA compliant.

- Retaining walls have been designed to be in accordance with Penrith DCP 2014.

Traffic and Parking

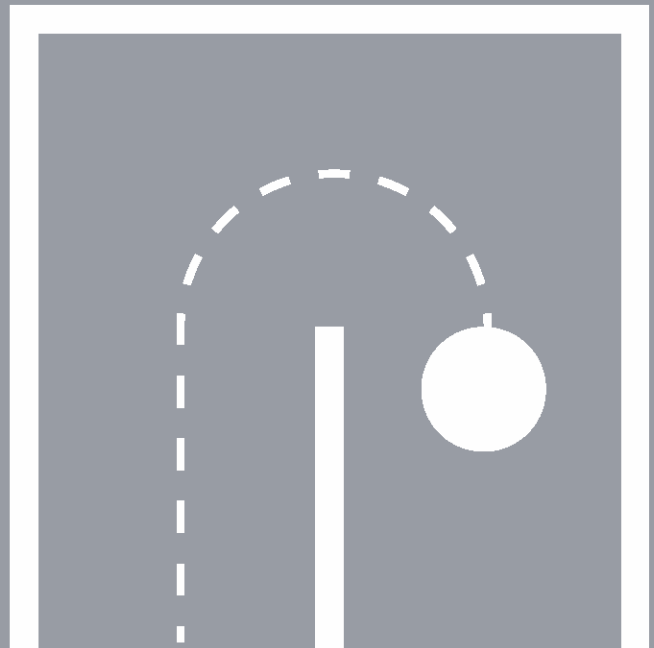
- Parking spaces all have a minimum dimension of 3.8 x 6.0m in accordance with AS2890.6
- Headroom clearance of 2.6m is documented on drawing DA-3000 and DA-3001 in compliance with AS2890.6
- Garage doorway clearance of 2.4m is documented on drawing DA-2002 in compliance with AS2896.0
- Each unit is 2 bed and has a garage each to complying with SEPP seniors requirements of 0.5 spaces per bedroom
- Driver sightline of 2.5 x 2.0m at the exit of the driveway in accordance with AS2890.1
- Driveway sections have been documented on drawing DA-9200
- Concrete footpath connect to the main pedestrian entry and to the unit 2 pedestrian entry along Fairways Avenue

Accessibility

- Paths of travel which service the building comply with AS1428.1-2009, all relevant accessible concerns are addressed in the access reports submitted in this DA prepared by Funktion.

Waste

- Communal waste collection has been designed in accordance with Penrith Councils Multi-Unit Dwelling Waste Management Guidelines, this area stores 6 x 240L bins and as been configured in a way that refers to Fig 3 in this document, this configuration integrates into the design more efficiently than the suggested dimensions in council feedback, which refers to fig. 2 in the same document.
- Bin store has been set back from the boundary by 1m, with screen planting in this setback area to create a buffer between the neighbouring property and the bin store
- A 1200mm wide access path from the boundary to the bin store with a grade of less than 1:24 has been provided
- 1.2m wide doorway to the bin store has been documented
- Bulky goods store provided with separate access, with a volume of 4.6m



Access Review

Multi-dwelling Development
8 Linksview Avenue Leonay
Report Issue 5
31/03/21



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Document Author: J Barling

Reviewed by: M Jack

Document History:

Issue 1: 18/12/18

Issue 2: 10/10/19

Issue 3: 29/05/20

Issue 4: 11/08/20

Issue 5: 31/03/21



Introduction

Background

This proposed development at 8 Linksview Avenue Leonay is being undertaken by Glenstone Group and consists of 5 independent living units.

This review of the design documents for DA addresses the requirements for access by people with a disability or who are older, to the proposed villas (ILUs) and communal facilities for residents and visitors.

The development is reviewed for compliance with the Disability (Access to Premises - Buildings) Standards 2010, relevant sections of the Building Code of Australia (BCA), Australian Standards on Access and Mobility and State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (Amendment No 2) 12 October 2007 - Standards concerning access and useability.

The key issue in the provision of appropriate access for all people to the ILUs and communal facilities is the provision of a continuous accessible path of travel:

- (i) from points of arrival and links from public transport (bus) to the building entrances and each ILU
- (ii) from resident and accessible visitor parking to the principal entrance and throughout the facilities
- (iii) to all common use facilities

We have reviewed the architectural drawings listed to assess the level of accessibility and compliance with the relevant standards for access and mobility.

The designs have been assessed for the provision of equitable and dignified access for people with disabilities and older people. In carrying out an accessibility assessment, the main objective is to ensure access is provided through the provision of accessible facilities and continuous paths of travel to and within resident areas, public visitor areas and staff areas.

In accordance with the principles of the Disability Discrimination Act 1992 (DDA) best practice is to be emphasised in the design.



Context for Planning & Design

Legislation & Standards

The new work is subject to access provisions in the following documents:

- Disability (Access to Premises - Buildings) Standards 2010
- Building Code of Australia (2019) Part D3 & F2.4
- AS1428.1 (2009) (Incorporating Amendment No 1): Design for access and mobility Part 1: General requirements for access – New building work.
- AS1428.2 (1992) Design for access and mobility Part 2: Enhanced and Additional requirements-Buildings and facilities
- AS1428.4 (2009) (Incorporating Amendment No 1): Design for access and mobility Part 4.1: Means to assist the orientation of people with vision impairment -tactile ground surface indicators
- State Environmental Planning Policy (Housing for seniors or people with a disability) 2004 (Amendment No 2) 12 October 2007 - Standards concerning access and useability; at gazettal date 18.01.08
- AS2890.6 (2009) Parking Facilities - Off-street parking for people with disabilities
- AS3745 (2009) Planning for Emergencies in Facilities (referenced)
- AS1428.5 (2010) Design for access and mobility Part 5: Communications for people who are deaf or hearing impaired (referenced)
- Australian Human Rights Commission Guideline on the Application of the Premises Standards (2013)
- Commonwealth Disability Discrimination Act (DDA) (1992)
- The Disability Standards for Accessible Public Transport (2002) as amended. Compilation prepared on 1 May 2011.



Context for Planning & Design

Legislation & Standards

DDA

The objectives of the Disability Discrimination Act 1992 (DDA) – section 23, focus on the provision of equitable, independent and dignified access to services and facilities for people with mobility, sensory and cognitive disabilities. The DDA covers existing premises, including heritage buildings, those under construction and future premises. It extends beyond the building itself to include outdoor spaces and within, to address furniture, fittings and practices.

Premises Standards

Disability (Access to Premises - Buildings) Standards (Premises Standards) 2010 which commenced on 01 May 2011, has been incorporated into the BCA (2019) to ensure that access provisions for people with disabilities more fully meet the intent of the DDA. Meeting the Premises Standards ensures fulfilment of obligations under the Disability Discrimination Act in relation to physical access within the buildings. Schedule 1 of the Premises Standards contains the Access Code for Buildings and is equivalent to the BCA provisions for access.

BCA

The Building Code of Australia (BCA)(2019) applies to new buildings and existing buildings that undergo refurbishment. In this report the description of the level of accessibility throughout the new work is generally measured against the Deemed-to-Satisfy Provisions of the BCA, in particular Parts D3 and H2.

AS1428 – Standards for Access

The Australian Standards design for access and mobility are a suite of standards relating to the inclusion of features in the built environment that improve access and mobility for people with a disability.

AS1428.1 (2009) sets out minimum requirements for design of buildings and facilities, while AS1428.2 includes enhanced and additional requirements that are not covered in AS1428.1, such as street furniture and reach ranges.

AS1428.4.1 (2009) Design for access and mobility Part 4.1: Means to assist the orientation of people with vision impairment primarily details the requirements for the application of tactile ground surface indicators (TGSI).

State Environmental Planning Policy - (Housing for Seniors or People with a Disability) 2004

To meet the requirements set out in the State Environmental Planning Policy - (Housing for Seniors or People with a Disability) the proposed development should:

- have obvious and safe pedestrian links from the site boundary that provides access to public transport services or local facilities, and
- provide attractive, yet safe, environments for pedestrians and motorists with convenient access and parking for residents and visitors.



Context for Planning & Design

Documentation

This assessment is based on discussion with the design team and review of the following architectural documentation prepared by Integrated Design Group, issued to funktion on 05th August, 2020 & 31/03/21:

0001 cover page issue AB
0002 location plan issue AB
0003 site analysis issue AB
0004 BASIX commitments issue AC
0005 SEPP seniors compliance issue AA
0100 site plan issue AG
0101 erosion and sediment control issue AB
0200 demolition plan issue AB
1100 ground floor plan issue AE
1101 level 1 plan issue AA
1102 issue AA roof plan issue AA
2000 north & south elevation issue AC
2001 east & west elevation issue AC
2002 internal site elevations issue AC
3000 sections 1 issue AC
3001 sections 2 issue AC
9100 shadow diagrams issue AA
9200 driveway section issue AA
9201 threshold sections issue AC
9600 finishes schedule issue AC
9601 finishes schedule 2 issue AC
9602 finishes schedule 3 issue AC
9901 notification plan
DA 9203 bus stop compliance 1
DA9204 bus stop compliance 2

Survey of footpath gradient from proposed development to bus stop on Leonay Parade prepared by RHCO, dated 13/02/20

Survey of footpath gradient to bus stop on Leonay Parade prepared by RHCO, dated 19/01/21



Design Review

Accessibility Assessment

Proposed New Buildings

Independent Living Units

- Unit 1 – 2 bed room
- Unit 2 – 2 bed room
- Unit 3 – 2 bed room
- Unit 4 – 2 bed room
- Unit 5 – 2 bed room

Communal Facilities

- Footpaths and ramps linking ILUs to site entry
- Communal area
- Bin store
- Letterboxes
- Central driveway / shared area / vehicle court



Design Review

Accessibility Assessment

Proposed New Work

Public Transport

Paths of travel are available to link the entry of the development and ILUs with the street frontage on Fairways Avenue to the local transport services (bus stop on Leonay Parade) via existing public footpaths and a proposed new section of footpath on Fairways Avenue linking to the existing footpath. A new accessible boarding point at the bus stop is proposed to be provided as part of the development, with features that comply with the Disability Standards for Accessible Public Transport.

Accessible transport services operate from the bus stop on River Road (361m from the pedestrian entrance to the site):

- 689 to Emu Plains Station, Nepean Square & Westfield Penrith

The Transport NSW Info website indicates the following scheduled services from the stop:

2 hours ago 5:51 689 Emu Plains Station Leonay Pde opp Linksview Ave (2750302)	
1 hour ago 6:21 689 Nepean Square Leonay Pde opp Linksview Ave (2750302)	
1 hour ago 6:52 689 Nepean Square Leonay Pde opp Linksview Ave (2750302)	
40 min ago 7:22 689 Nepean Square Leonay Pde opp Linksview Ave (2750302)	
4 min 8:07 689 Nepean Square Leonay Pde opp Linksview Ave (2750302)	7 hours 15:29 689 Emu Plains Station Leonay Pde opp Linksview Ave (2750302)
22 min 8:25 689 Westfield Penrith Leonay Pde opp Linksview Ave (2750302)	8 hours 16:29 689 Emu Plains Station Leonay Pde opp Linksview Ave (2750302)
1 hour 9:32 689 Penrith Panthers Leonay Pde opp Linksview Ave (2750302)	8 hours 16:59 689 Emu Plains Station Leonay Pde opp Linksview Ave (2750302)
2 hours 10:29 689 Westfield Penrith Leonay Pde opp Linksview Ave (2750302)	9 hours 17:34 689 Emu Plains Station Leonay Pde opp Linksview Ave (2750302)
3 hours 11:18 689 Westfield Penrith Leonay Pde opp Linksview Ave (2750302)	10 hours 18:04 689 Emu Plains Station Leonay Pde opp Linksview Ave (2750302)
4 hours 12:29 689 Westfield Penrith Leonay Pde opp Linksview Ave (2750302)	10 hours 18:32 689 Emu Plains Station Leonay Pde opp Linksview Ave (2750302)
5 hours 13:25 689 Westfield Penrith Leonay Pde opp Linksview Ave (2750302)	11 hours 19:52 689 Westfield Penrith Leonay Pde opp Linksview Ave (2750302)
6 hours 14:29 689 Westfield Penrith Leonay Pde opp Linksview Ave (2750302)	12 hours 20:52 689 Westfield Penrith Leonay Pde opp Linksview Ave (2750302)

Accessibility Assessment

Document Set ID: 9533588
Version: 1, Version Date: 01/04/2021

Accessibility Assessment

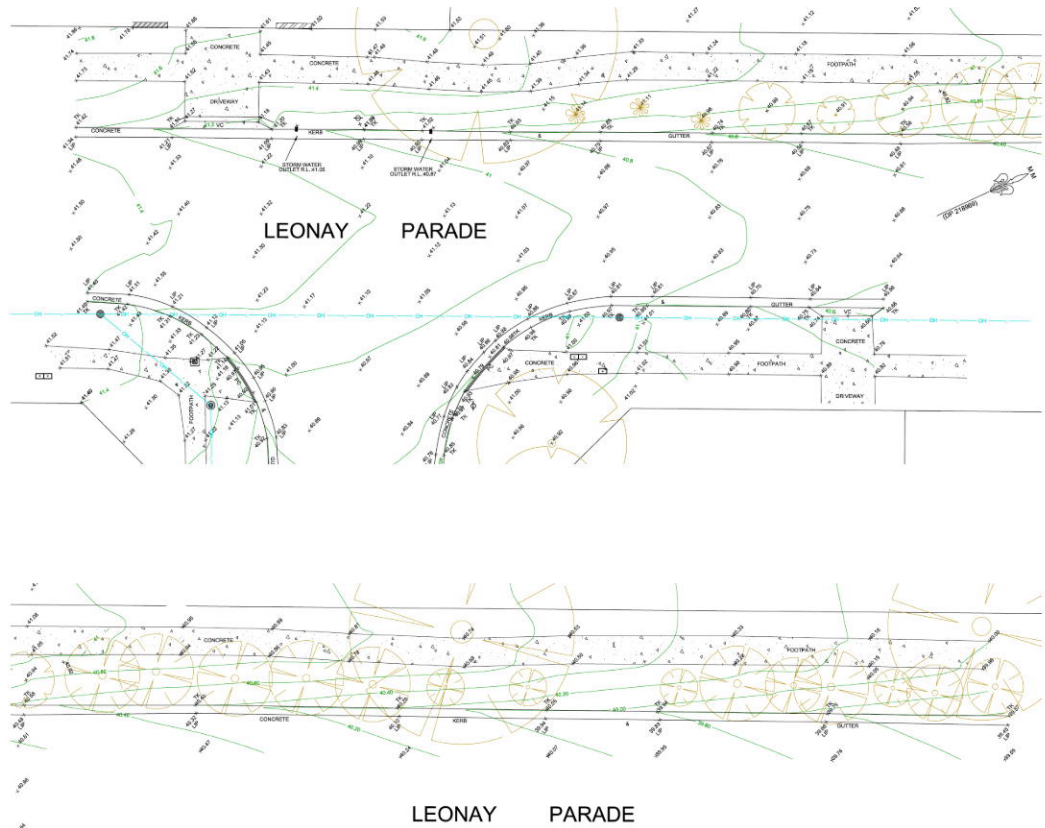




Design Review

Accessibility Assessment

Proposed New Work



Footpath levels on Leonay Parade

Excerpt from Survey of footpath gradient to bus stop on Leonay Parade prepared by RHCO, dated 19/01/21



Design Review

Accessibility Assessment

Proposed New Work

Link to Property Boundary

To meet BCA D3.2 and to facilitate access to the principal ILU pedestrian entrances for people who use wheelchairs and people who have ambulant disabilities, the northern side of the development is proposed to include a pathway linking to the property boundary on Fairways Avenue. Unit 2 is proposed to have a separate 1:20 pathway linking to the new footpath on Linksview Avenue. Access to the footpath from units 3, 4 and 5 is via the proposed shared area and a 1:14 ramp.

The ramp to is indicated to meet the requirements of AS1428.1 clause 10.3 and figures 13-19; including the following features:

- A maximum slope of 1:14
- A constant gradient between level landings
- An unobstructed/clear width minimum 1000mm
- Appropriate sized landings
- Handrails on both sides that include a 300mm horizontal extension at the top and bottom

Parking

To meet the objectives and intent of the SEPP Schedule 3 clause 5 (b), all the units are provided with a garage, with minimum dimensions 3.8m x 6m (except unit 3 which is 4m x 7.4m).

ILUs

To meet the State Environmental Planning Policy (Housing for Seniors or people with a Disability) 2004 - standards concerning access and useability, all units are proposed to include:

- Entrance gates and doorways with 850mm clear width doors with suitable latch side clearances in accordance with AS1428.1-2009 clause 13 and figure 31
- A minimum 1000mm clear width path of travel throughout the units
- Accessible paths of travel and door approaches compliant with AS1428.1 to the master bedroom, kitchen, living room and garage
- The accessible ensuite with suitable clearances including 1900mm x 2300mm clearance around the pan, located 450-460mm from the side wall, in accordance with AS1428.1 clause 15
- Shower with minimum 1600mm x 1400mm clearance including the shower recess and circulation area (with accessible basin installed).
- The adapted basin is indicated to be located outside these circulation areas and offset a minimum 425mm (to centre line) from the internal corner.
- Adequate circulation space around the bed in the master bedroom – 1000mm both sides of the bed and 1200mm at the foot of the bed.

Requirements for Ongoing Design

The following table sets out the requirements that must be considered in ongoing design, to comply with the State Environmental Planning Policy (Housing for Seniors or people with a Disability) 2004 - standards concerning access and useability.



Design Review

Accessibility Assessment

Clause	Access Requirements	Comment
Schedule 3 SEPP (Housing for Seniors or People with a Disability) 2004		
Clause 2 Siting Standards	(i) Wheelchair access 100% if site has gradient of less than 1:10 (ii) If the whole of the site does not have a gradient of less than 1:10: a) the percentage of dwellings that must have wheelchair access must equal the proportion of the site that has a gradient of less than 1:10, or 50%, whichever is the greater, and b) the wheelchair access provided must be by a continuous accessible path of travel (within the meaning of AS 1428.1) to an adjoining public road or an internal road or a driveway that is accessible to all residents.	Indicated on plans – via proposed ramps and access ways
Common areas	Access must be provided in accordance with AS 1428.1 so that a person using a wheelchair can use common areas and common facilities associated with the development.	Indicated on plans
Clause 3 Security	Pathway lighting: (a) must be designed and located so as to avoid glare for pedestrians and adjacent dwellings, and (b) must provide at least 20 lux at ground level.	Lighting levels tbc, capable of complying
Clause 4 Letterboxes	(a) must be situated on a hard standing area and have wheelchair access and circulation by a continuous accessible path of travel (within the meaning of AS 1428.1), and (b) must be lockable, and (c) must be located together in a central location adjacent to the street entry or, in the case of self-contained dwellings, must be located together in one or more central locations adjacent to the street entry	Indicated on plans
Clause 5 Private Car Accommodation	If car parking (not being car parking for employees) is provided: (a) car parking spaces must comply with the requirements for parking for persons with a disability set out in AS 2890, and (b) 5% of the total number of car parking spaces (or at least one space if there are fewer than 20 spaces) must be designed to enable the width of the spaces to be increased to 3.8 metres.	Indicated on plans



Design Review

Accessibility Assessment

Clause	Access Requirements	Comment
Clause 6 Accessible Entry	Every entry (whether a front entry or not) to a dwelling, not being an entry for employees, must comply with clauses 4.3.1 and 4.3.2 of AS 4299.	Indicated on plans
Clause 7 Interior: general	1) Internal doorways must have a minimum clear opening that complies with AS1428.1. (2) Internal corridors must have a minimum unobstructed width of 1,000 millimetres. (3) Circulation space at approaches to internal doorways must comply with AS 1428.1.	Indicated on plans
Clause 8(a) Bedroom	At least one bedroom within each dwelling must have: in the case of a self-contained dwelling—a queen-size bed, and an area sufficient to accommodate a wardrobe and a bed sized as follows:	Indicated on plans
Clause 8(b) Bedroom	a clear area for the bed of at least: 1200 millimetres wide at the foot of the bed, and 1000 millimetres wide beside the bed between it and the wall, wardrobe or any other obstruction, and	Indicated on plans
Clause 8(c)(d) Bedroom	2 double general power outlets on the wall where the head of the bed is likely to be, and at least one general power outlet on the wall opposite the wall where the head of the bed is likely to be, and a telephone outlet next to the bed on the side closest to the door and a general power outlet beside the telephone outlet, and wiring to allow a potential illumination level of at least 300 lux.	Capable of complying – tbc in detailed design
Clause 9 Bathroom	At least one bathroom within a dwelling must be on the ground (or main) floor and have the following facilities arranged within an area that provides for circulation space for sanitary facilities in accordance with AS 1428.1: a slip-resistant floor surface, a washbasin with plumbing that would allow, either immediately or in the future, clearances that comply with AS 1428.1	Indicated on plans Capable of complying - tbc Indicated on plans
Clause 9 Bathroom	a shower that complies with AS 1428.1, except that the following must be accommodated either immediately or in the future: c) a grab rail, (b) portable shower head, (c) folding seat, (b) a wall cabinet that is sufficiently illuminated to be able to read the labels of items stored in it, (b) a double general power outlet beside the mirror. Subclause (1) (c) does not prevent the installation of a shower screen that can easily be removed to facilitate future accessibility.	Indicated on plans Capable of complying - tbc in detailed design



Design Review

Accessibility Assessment

Clause	Access Requirements	Comment
Clause 10 Toilet	A dwelling must have at least one toilet on the ground (or main) floor and be a visitable toilet that complies with the requirements for sanitary facilities of AS 4299.	Indicated on plans
Clause 11 Surface finishes	External paved areas must have slip-resistant surfaces.	Tbc in detailed design
Clause 12 Door Hardware	Door handles and hardware for all doors (including entry doors and other external doors) must be provided in accordance with AS 4299.	Tbc in detailed design
Clause 13 Ancillary items	Switches and power points must be provided in accordance with AS 4299.	Tbc in detailed design
Clause 14 Part 2 Additional Standards for self-contained dwellings		
Clause 15 Living room and dining room	Living room and dining room must have: (a) circulation space (i) min 2250mm diameter and (ii) as set out in clause 4.7 of AS4299 (b) telephone adjacent to GPO Living room & dining room to have wiring to allow for potential illumination of 300 lux	Indicated on plans Tbc in detailed design
	(iii) circulation space to meet AS4299 clause 4.5.2 to facilitate access to the sink and appliances and to allow a 180° turn by a person using a wheelchair including a width of at least 2070mm and a clear space between benches of at least 1550mm is required at the outset (iv) width at door approaches complying with AS1428.1 (v) (c) the following fitting as per AS4299 clause 4.5: (vi) (i) benches that include at least one work surface that is at least 800mm in length and that can be adjusted or replaced as a unit at variable heights within the range of 750mm to 850mm above the finished floor surface (ii) a tap set that is located within 300mm of the front of the sink and that is a capstan tap set or that comprises lever handles or a lever mixer	Kitchens can be adapted to meet this requirement; tbc in detailed design



Design Review

Accessibility Assessment

Clause	Access Requirements	Comment
Clause 16 Kitchen	(vii) "D" pull cupboard handles that are located towards the top of below-bench cupboards and towards the bottom of overhead cupboards (viii) general power outlets: (ix) (i) at least one of which is a double general power outlet within 300mm of the front of a work surface, and (x) (ii) one of which is provided for a refrigerator in such a position as to be easily accessible after the refrigerator is installed. d) Wall oven located next to adjustable height work bench minimum 800mm width and where oven is hinged, the clear work surface is to be on the opposite side of the hinge.	Tbc in detailed design
Clause 17 Access to kitchen, main bedroom, bathroom & toilet	Must all be located on entry level	Indicated on plans
Clause 18 Lifts in Multi-storey buildings	Must be provided to self-contained dwellings in a multi-storey building	n/a
Clause 19 Laundry	A self-contained dwelling must have a laundry that has: a door width complying with AS1428.1 provision for the installation of an automatic washing machine and clothes dryer a clear space in front of appliances of at least 1300mm a slip-resistant floor surface an accessible path of travel to any clothes line provided in relation to the dwelling	Indicated on plans Tbc in detailed design
Clause 20 Storage for linen	A self-contained dwelling must have a linen storage that is at least 600mm wide and has adjustable shelving	Indicated on plans
Clause 21 Garbage	A garbage storage area must be provided in an accessible location.	Indicated on plans



Design Review

Accessibility Assessment

Recommendations

In ongoing design, to comply with the Disability (Access to Premises - Buildings) Standards 2010 and BCA, include the following in the communal areas (vehicle court, ramps, accessways, letterbox access and bin store):

- i. Parking space related walking and wheelchair unloading areas comprise a slip-resistant, firm plane surface with a fall not exceeding 1:40 in any direction or 1:33 if the surface is a bituminous seal.
- ii. Slip resistant surfaces on accessways that are traversable by people who use a wheelchair and those with an ambulant or sensory disability.



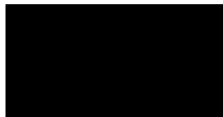
Conclusion

Conclusion

This review addresses the functional requirements for access by people with a disability or who are older, to the proposed new seniors living units for residents and visitors and is reviewed for compliance with the Disability (Access to Premises - Buildings) Standards 2010, relevant sections of the Building Code of Australia (BCA) 2019 and Australian Standards on Access and Mobility.

Provided the accessible features and recommendations are demonstrated in ongoing design, it is our opinion that the proposed ILUs and common facilities at 8 Linksview Avenue Leonay, can comply with the accessibility requirements of Disability (Access to Premises - Buildings) Standards 2010, relevant sections of the Building Code of Australia (BCA), Australian Standards on Access and Mobility and State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (Amendment No 2) 12 October 2007 - Standards concerning access and useability.

I certify that I am an appropriately qualified and competent person practising in the relevant area of work. I have recognised relevant experience in the area of work being certified and I hold appropriate current insurance policies.

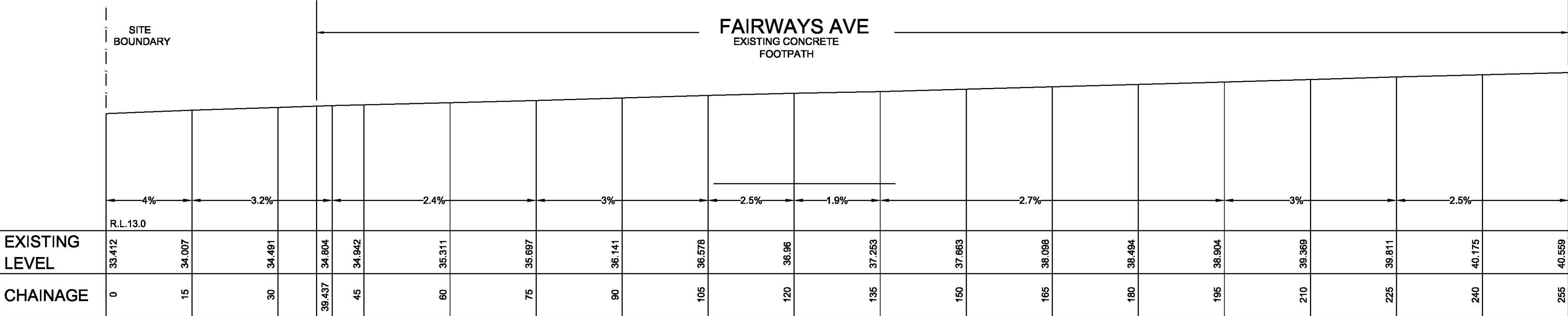


Jen Barling | Access + Inclusion Consultant

Qualifications: Bachelor of Applied Science (Occupational Therapy) (1999)

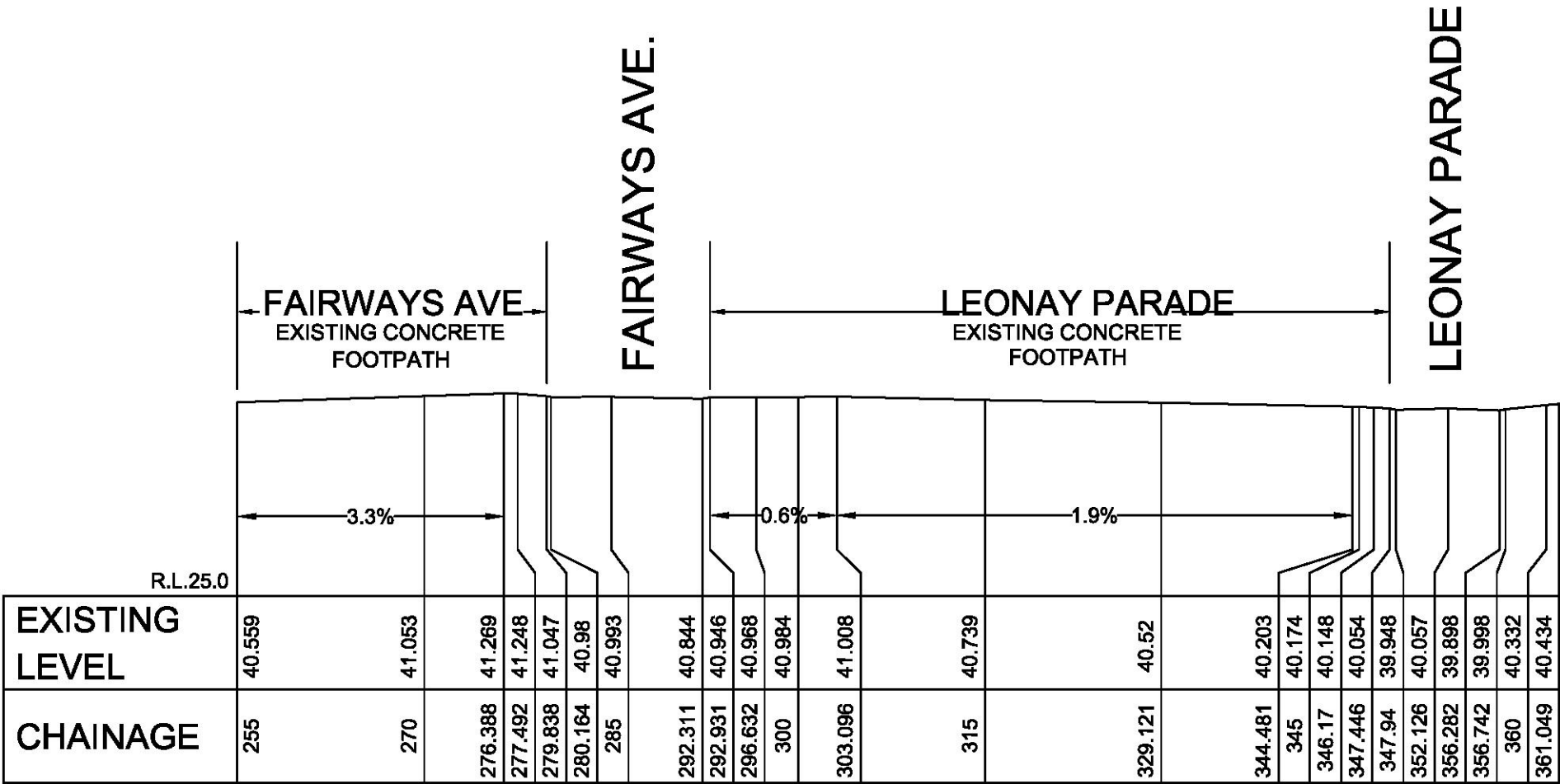
Affiliations: Accredited with Association of Consultants in Access, Australia (No.300)

Registered Occupational Therapist (no: OCC0001724072)



EXISTING FOOTPATH
H=1:500 V=1:500

LOCATION DIAGRAM



EXISTING FOOTPATH
H=1:500 V=1:500

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SURVEYOR: SR
DRAWN: SR
REDUCTION RATIO: 1:500 nat
CONTOUR INTERVAL: N/A
SHEET 2 OF 2

ORIGIN OF LEVELS:
BENCHMARK DH&W IN TOP KERB
RL = 32.30 (GNSS)
DATUM: AUSTRALIAN HEIGHT DATUM
DATE: 13.02.2020
VERSION No.: B

PLAN OF LONGSECTION OF FOOTPATH FOR PROPOSED DEVELOPMENT AT No.8 LINKSVIEW AVENUE, LEONAY

CLIENT: GLENSTONE GROUP	
L.G.A.: PENRITH	JOB REF: 18732